

**EXHIBIT A**

**2013 UNIFORM GENERAL CONDITIONS**

**FOR**

**UNIVERSITY OF TEXAS SYSTEM BUILDING CONSTRUCTION CONTRACTS**

**2013 Uniform General Conditions**  
**for**  
**University of Texas System Building Construction Contracts**  
*For use on all UT System and Institution Construction Projects*

**Last Revision: 06/20/2018 ems**

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## Article 1. Definitions

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

- 1.1 *Application for Payment* means Contractor's monthly partial invoice for payment that includes any portion of the Work that has been completed for which an invoice has not been submitted and performed in accordance with the requirements of the Contract Documents. The Application for Payment accurately reflects the progress of the Work, is itemized based on the Schedule of Values, bears the notarized signature of Contractor, and shall not include subcontracted items for which Contractor does not intend to pay.
- 1.2 *Application for Final Payment* means Contractor's final invoice for payment that includes any portion of the Work that has been completed for which an invoice has not been submitted, amounts owing to adjustments to the final Contract Sum resulting from approved change orders, and release of remaining Contractor's retainage.
- 1.3 *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 Tex. Occ. Code Ann., Chapter 1001, and/or a firm employed by Owner or 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.
- 1.4 *Baseline Schedule* means the initial time schedule prepared by Contractor for Owner's information and acceptance that conveys Contractor's and Subcontractors' activities (including coordination and review activities required in the Contract Documents to be performed by A/E and ODR), durations, and sequence of work related to the entire Project to the extent required by the Contract Documents. The schedule clearly demonstrates the critical path of activities, durations and necessary predecessor conditions that drive the end date of the schedule. The Baseline Schedule shall not exceed the time limit current under the Contract Documents.
- 1.5 *Certificate of Final Completion* means the certificate issued by A/E that documents, to the best of A/E's knowledge and understanding, Contractor's completion of all Contractor's Punchlist items and pre-final Punchlist items, final cleanup and Contractor's provision of Record Documents, operations and maintenance manuals, and all other Close-Out documents required by the Contract Documents.
- 1.6 *Change Order* means a written modification of the Contract between Owner and Contractor, signed by Owner, Contractor and A/E.
- 1.7 *Close-out Documents* mean the product brochures, submittals, product/equipment maintenance and operations instructions, manuals, and other documents/warranties, record documents, affidavit of payment, release of lien and claim, and as may be further defined, identified, and required by the Contract Documents.
- 1.8 *Contract* means the entire agreement between Owner and Contractor, including all of the Contract Documents.
- 1.9 *Contract Date* is the date when the agreement between Owner and Contractor becomes effective.
- 1.10 *Contract Documents* mean those documents identified as a component of the agreement (Contract) between Owner and Contractor. These may include, but are not limited to, Drawings; Specifications; General Conditions and Owner's Special Conditions; and all pre-bid and/or pre-proposal addenda.
- 1.11 *Contract Sum* means the total compensation payable to Contractor for completion of the Work in accordance with the terms of the Contract.

- 1.12 *Contract Time* means the period between the 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 a Change Order.
- 1.13 *Contractor* means the individual, corporation, limited liability 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 a general or prime Contractor. The Contract Documents refer to Contractor as if singular in number.
- 1.14 *Construction Documents* mean the Drawings, Specifications, and other documents issued to build the Project. Construction Documents become part of the Contract Documents when listed in the Contract or any Change Order.
- 1.15 *Construction Manager-at-Risk*, in accordance with Tex. Educ. Code § 51.782, means a sole proprietorship, partnership, corporation, or other legal entity that assumes the risk for construction, rehabilitation, alteration, or repair of a facility at the contracted price as a general contractor and provides consultation to Owner regarding construction during and after the design of the facility.
- 1.16 *Date of Commencement* means the date designated in the Notice to Proceed for Contractor to commence the Work.
- 1.17 *Day* means a calendar day unless otherwise specifically stipulated.
- 1.18 *Design-Build* means a project delivery method in which the detailed design and subsequent construction is provided through a single contract with a Design-Build firm; a team, partnership, or legal entity that includes design professionals and a builder. The Design-Build Project delivery shall be implemented in accordance with Tex. Educ. Code § 51.780.
- 1.19 *Drawings* mean that product of A/E which graphically depicts the Work.
- 1.20 *Final Completion* means the date determined and certified by A/E and Owner on which the Work is fully and satisfactorily complete in accordance with the Contract.
- 1.21 *Final Payment* means the last and final monetary compensation made to Contractor for any portion of the Work that has been completed and accepted for which payment has not been made, amounts owing to adjustments to the final Contract Sum resulting from approved change orders, and release of Contractor's retainage.
- 1.22 *Historically Underutilized Business (HUB)* pursuant to Tex. Gov't Code, Chapter 2161, means a business that is at least 51% owned by an Asian Pacific American, a Black American, a Hispanic American, a Native American and/or an American Woman; is an entity with its principal place of business in Texas; and has an owner residing in Texas with proportionate interest that actively participates in the control, operations, and management of the entity's affairs.
- 1.23 *Notice to Proceed* means written document informing Contractor of the dates beginning Work and the dates anticipated for Substantial Completion.
- 1.24 *Open Item List* means a list of work activities, Punchlist items, changes or other issues that are not expected by Owner and Contractor to be complete prior to Substantial Completion.
- 1.25 *Owner* means The Board of Regents of The University of Texas System, acting through the responsible entity of The University of Texas System or one of its Institutions as identified in the Contract as Owner.
- 1.26 *Owner's Designated Representative (ODR)* means the individual assigned by Owner to act on its behalf and to undertake certain activities as specifically outlined in the Contract. ODR is the only party

authorized to direct changes to the scope, cost, or time of the Contract.

- 1.27 *Owner's Special Conditions* mean the documents containing terms and conditions which may be unique to the Project. Owner's Special Conditions are a part of the Contract Documents and have precedence over the Uniform General Conditions
- 1.28 *Project* means all activities necessary for realization Owner's desired building or other structure including all ancillary and related work. This includes design, contract award(s), execution of the Work itself, work by Owner's forces and/or other contractors and fulfillment of all Contract and warranty obligations.
- 1.29 *Progress Assessment Report (PAR)* means the monthly compliance report to Owner verifying compliance with the HUB subcontracting plan (HSP).
- 1.30 *Proposed Change Order (PCO)* means a document that informs Contractor of a proposed change in the Work and appropriately describes or otherwise documents such change including Contractor's response of pricing for the proposed change.
- 1.31 *Punchlist* means a list of items of Work to be completed or corrected by Contractor before Final Completion. The Punchlist(s) indicates items to be finished, remaining Work to be performed, or Work that does not meet quality or quantity requirements as required in the Contract Documents.
- 1.32 *Record Documents* mean the drawing set, Specifications, and other materials maintained by Contractor that documents all addenda, Architect's Supplemental Instructions, Change Orders and postings and markings that record the as-constructed conditions of the Work and all changes made during construction.
- 1.33 *Request for Information (RFI)* means a written request by Contractor directed to A/E or ODR for a clarification of the information provided in the Contract Documents or for direction concerning information necessary to perform the Work that may be omitted from the Contract Documents.
- 1.34 *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.
- 1.35 *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.
- 1.36 *Shop Drawings* mean the drawings, diagrams, illustrations, schedules, performance charts, brochures, and other data prepared by Contractor or its agents which detail a portion of the Work.
- 1.37 *Site* means the geographical area of the location of the Work.
- 1.38 *Specifications* mean the written product of 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.
- 1.39 *Subcontractor* means a business entity that enters into an agreement with Contractor to perform part of the Work or to provide services, materials, or equipment for use in the Work.
- 1.40 *Submittal Register* means a list provided by Contractor of all items to be furnished for review and approval by A/E and Owner and as identified in the Contract Documents including anticipated sequence and submittal dates.
- 1.41 *Substantial Completion* means the date determined and certified by 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.

- 1.42 *Unit Price Work* means the Work, or a portion of the Work, paid for based on incremental units of measurement.
- 1.43 *Unilateral Change Order (ULCO)* means a Change Order issued by Owner without the complete agreement of Contractor, as to cost and/or time.
- 1.44 *Work* means the administration, procurement, materials, equipment, construction and all services necessary for Contractor, and/or its agents, to fulfill Contractor's obligations under the Contract.
- 1.45 *Work Progress Schedule* means the continually updated time schedule prepared and monitored by Contractor that accurately indicates all necessary appropriate revisions as required by the conditions of the Work and the Project while maintaining a concise comparison to the Baseline Schedule.

## **Article 2. Wage Rates and Other Laws Governing Construction**

- 2.1 Environmental Regulations. 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, Owner is responsible for obtaining and maintaining permits related to stormwater run-off. 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 Contractor. 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 request for Substantial Completion inspection.
- 2.2 Wage Rates. Contractor shall not pay less than the wage scale of the various classes of labor as shown on the prevailing wage schedule provided by Owner in the bid or proposal specifications. The specified wage rates are minimum rates only. 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. Contractor shall post the prevailing wage schedule in a place conspicuous to all workers on the Project Site and 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 Owner, Contractor shall furnish evidence of compliance with the Texas Prevailing Wage Law and the addresses of all workers.
    - 2.2.1.1 Contractor shall submit a copy of each worker's wage-rate notification to 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 Owner in compliance with Tex. Gov't Code, Chapter 2258. Should Contractor at any time become aware that a particular skill or trade not reflected on Owner's prevailing wage schedule will be or is being employed in the Work, whether by Contractor or by Subcontractor, Contractor shall promptly inform ODR of the proposed wage to be paid for the skill along with a justification for same and ODR shall promptly concur with or reject the proposed wage and classification. 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.

- 2.2.2 Penalty for Violation. Contractor, and any Subcontractor, will pay to the State a penalty of sixty dollars (\$60) for each worker employed for each day, or portion thereof, that the worker is paid less than the wage rates stipulated in the prevailing wage schedule.
- 2.2.3 Complaints of Violations.
  - 2.2.3.1 Owner's Determination of Good Cause. Upon receipt of information concerning a violation, Owner will conduct an investigation in accordance with Tex. Gov't Code, Chapter 2258 and make an initial determination as to whether good cause exists that a violation occurred. Upon making a good cause finding, 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.
  - 2.2.3.2 No Extension of Time. If Owner's determination proves valid that good cause existed to believe a violation had occurred, Contractor is not entitled to an extension of time for any delay arising directly or indirectly from the arbitration procedures.
- 2.3 Venue for Suits. The venue for any suit arising from the Contract will be in a court of competent jurisdiction in Travis County, Texas, or as may otherwise be designated in the Owner's Special Conditions.
- 2.4 Licensing of Trades. 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 Contractor, or one of its Subcontractors, loses its license during the term of performance of the Contract, Contractor shall promptly hire or contract with a licensed provider of the service at no additional cost to Owner.
- 2.5 Royalties, Patents, and Copyrights. Contractor shall pay all royalties and license fees, defend suits or claims for infringement of copyrights and patent rights, and shall hold Owner harmless from loss on account thereof, but shall not be responsible for such defense or loss when a particular design, process or product of a particular manufacturer or manufacturers is required by the Contract Documents, or where the copyright violations are contained in Drawings, Specifications or other documents prepared by Owner or A/E. However, if Contractor has reason to believe that the required design, process, or product is an infringement of a copyright or a patent, Contractor shall be responsible for such loss unless such information is promptly furnished to A/E.
- 2.6 State Sales and Use Taxes. Owner qualifies for exemption from certain State and local sales and use taxes pursuant to the provisions of Tex. Tax Code, Chapter 151. Upon request from Contractor, Owner shall furnish evidence of tax exempt status. Contractor may claim exemption from payment of certain applicable State taxes by complying with such procedures as prescribed by the State Comptroller of Public Accounts. Owner acknowledges not all items qualify for exemption. Owner is not obligated to reimburse Contractor for taxes paid on items that qualify for tax exemption.

### **Article 3. General Responsibilities of Owner and Contractor**

- 3.1 Owner's General Responsibilities. 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 Notice to Proceed with construction, a conference will be convened for attendance by 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 Owner's Designated Representative (ODR), who has the express authority to act and bind Owner to the extent and for the purposes described in the various Articles of the Contract, including responsibilities for general administration of the Contract.

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

3.1.2.2 All directives on behalf of Owner will be conveyed to Contractor and A/E by ODR in writing.

3.1.2.3 Owner will furnish or cause to be furnished, free of charge, the number of complete sets of the Drawings, Specifications, and addenda as provided in the Agreement or Special Conditions.

3.1.3 Owner Supplied Materials and Information.

3.1.3.1 Owner will furnish to 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 Owner will provide information, equipment, or services under Owner's control to Contractor with reasonable promptness.

3.1.4 Availability of Lands. 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 Contractor. Contractor shall comply with all Owner identified encumbrances or restrictions specifically related to use of lands so furnished. 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 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. Owner is not responsible for any failure of Contractor to comply with laws and regulations applicable to the Work. Owner is not responsible for the failure of Contractor to perform or furnish the Work in accordance with the Contract Documents. Except as provided in Section 2.5, 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 Contractor.

3.1.5.2 Owner will not take any action in contravention of a design decision made by A/E in preparation of the Contract Documents, when such actions are in conflict with statutes under which A/E is licensed for the protection of the public health and safety.

3.2 Role of Architect/Engineer. Unless specified otherwise in the Contract between Owner and Contractor,

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

3.2.1 Site Visits.

3.2.1.1 A/E will make visits to the Site at intervals as provided in the A/E's Contract (or the Design/Build Contractor's Contract, if applicable) with Owner, to observe the progress and the quality of the various aspects of Contractor's executed Work and report findings to Owner.

3.2.1.2 A/E has the authority to interpret Contract Documents and inspect the Work for compliance and conformance with the Contract. Except as referenced in Paragraph 3.1.5.2, 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 ODR, such clarifications or interpretations will be provided by A/E consistent with the intent of the Contract Documents. A/E will issue these clarifications with reasonable promptness to Contractor as A/E'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, Contractor shall so notify Owner in accordance with the provisions of Article 11.

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

3.2.3.1 Contractor's means, methods, techniques, sequences, procedures, safety, or programs incident to the Project, nor will 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 the furnishing or performing the Work;

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

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

3.3 Contractor's General Responsibilities. 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. Contractor is solely responsible for all construction means, methods, techniques, safety, sequences, coordination and procedures.

Contractor shall visit the Site before commencing the Work and become familiar with local conditions such as the location, accessibility and general character of the Site and/or building.

3.3.1 Project Administration. 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 A/E and ODR in accordance with these general conditions, Division 1 of the Specifications and other provisions of the Contract, and as outlined in the pre-construction conference.

- 3.3.1.1 At the request of Owner and at no additional cost, Contractor shall furnish to the ODR one copy of the current edition of the RSMeans Facilities Construction Cost Data Book in hard copy format or digital medium as directed by the ODR.
- 3.3.2 Contractor's Management Personnel. Contractor shall employ a competent person or persons who will be present at the Project Site during the progress of the Work to supervise or oversee the work. The competent persons are subject to the approval of ODR. Contractor shall not change approved staff during the course of the project without the written approval of ODR unless the staff member leaves the employment of Contractor. Contractor shall provide additional quality control, safety and other staff as stated in the Contract Documents.
- 3.3.3 Labor. 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, 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 Contractor General Responsibility. For Owner furnished equipment or material that will be in the care, custody, and control of Contractor, Contractor is responsible for damage or loss.
- 3.3.6 Non-Compliant Work. Should A/E and/or ODR identify Work as non-compliant with the Contract Documents, A/E and/or ODR shall communicate the finding to Contractor, and Contractor shall correct such Work at no additional cost to the Owner. The approval of Work or the failure to find non-compliant Work by either A/E or ODR does not relieve Contractor from the obligation to comply with all requirements of the Contract Documents.
- 3.3.7 Subcontractors. Contractor shall not employ any Subcontractor, supplier or other person or organization, whether initially or as a substitute, against whom Owner shall have reasonable objection. Owner will communicate such objections in writing within ten (10) days of receipt of Contractor's intent to use such Subcontractor, supplier, or other person or organization. Contractor is not required to employ any Subcontractor, supplier or other person or organization to furnish any of the work to whom Contractor has reasonable objection. Contractor shall not substitute Subcontractors without the acceptance of Owner.
- 3.3.7.1 All Subcontracts and supply contracts shall be consistent with and bind the Subcontractors and suppliers to the terms and conditions of the Contract Documents including provisions of the Contract between Contractor and Owner.
- 3.3.7.2 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 Contractor. Require all Subcontractors, suppliers and such other persons and organizations performing or furnishing any of the Work to communicate with Owner only through Contractor. Contractor shall furnish to Owner a copy, at Owner's request, of each first-tier subcontract promptly after its execution. Contractor agrees that Owner has no obligation to review or approve the content of such contracts and that providing Owner such copies in no way relieves 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 Contractor in the same manner in which Contractor is bound to Owner.

- 3.3.8 Continuing the Work. Contractor shall carry on the Work and adhere to the progress schedule during all disputes, disagreements, or alternative resolution processes with Owner. Contractor shall not delay or postpone any Work because of pending unresolved disputes, disagreements or alternative resolution processes, except as Owner and Contractor may agree in writing.
- 3.3.9 Cleaning. Contractor shall at all times, keep the Site and the Work clean and free from accumulation of waste materials or rubbish caused by the construction activities under the Contract. 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 inspection.
- 3.3.10 Acts and Omissions of Contractor, its Subcontractors and Employees. Contractor shall be responsible for acts and omissions of his employees and all its Subcontractors, their agents and employees. Owner may, in writing, require Contractor to remove from the Project any of Contractor's or its Subcontractor's employees whom ODR finds to be careless, incompetent, unsafe, uncooperative, disruptive, or otherwise objectionable.
- 3.3.11 Ancillary Areas. 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 All Contractor operations, including storage of materials and employee parking upon the Site of Work, shall be confined to areas designated by Owner.
- 3.3.11.2 Contractor may erect, at its own expense, temporary buildings that will remain its property. Contractor shall remove such buildings and associated utility service lines upon completion of the Work, unless Contractor requests and Owner provides written consent that it may abandon such buildings and utilities in place.
- 3.3.11.3 Contractor shall use only established roadways or construct and use such temporary roadways as may be authorized by Owner. Contractor shall not allow load limits of vehicles to exceed the limits prescribed by appropriate regulations or law. Contractor shall provide protection to road surfaces, curbs, sidewalks, trees, shrubbery, sprinkler systems, drainage structures and other like existing improvements to prevent damage and repair any damage thereto at the expense of Contractor.
- 3.3.11.4 Owner may restrict Contractor's entry to the Site to specifically assigned entrances and routes.
- 3.3.12 Separate Contracts. Owner reserves the right to award other contracts in connection with the Project under the same or substantially similar contract terms, including those portions related to insurance and waiver of subrogation. Owner reserves the right to perform operations related to the Project with Owner's own forces.
- 3.3.13 Under a system of separate contracts, the conditions described herein continue to apply except as may be amended by change order.
- 3.3.14 Contractor shall cooperate with other contractors or forces employed on the Project by Owner, including providing access to Site, integration of activities within Contractor's Work Progress Schedule and Project information as requested.
- 3.3.15 Owner shall be reimbursed by Contractor for costs incurred by Owner which are payable to a separate contractor because of delays, improperly timed activities, or defective construction by Contractor. Owner will equitably adjust the Contract by Change Order for costs incurred by Contractor because of delays, improperly timed activities, damage to the Work or defective construction by a separate contractor.

3.4 Indemnification of Owner.

- 3.4.1 Contractor covenants and agrees to **FULLY INDEMNIFY and HOLD HARMLESS**, Owner and the elected and appointed officials, employees, officers, directors, volunteers, and representatives of 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 or property damage, made upon 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, or any agent, officer, director, representative, employee, consultant or the 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.**
- 3.4.2 Contractor shall protect and indemnify the 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 the 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 Project Architect'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 parties shall be entitled, in connection with any such litigation, to be represented by counsel at their own expense.
- 3.4.3 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.
- 3.4.4 Contractor shall promptly advise Owner in writing of any claim or demand against Owner or against Contractor which involves Owner and known to Contractor and related to or arising out of Contractor's activities under this Contract.
- 3.4.5 These indemnity provisions shall survive the termination of this Agreement regardless of the reason for termination.

#### **Article 4. Historically Underutilized Business (HUB) Subcontracting Plan**

- 4.1 General Description. The purpose of the Historically Underutilized Business (HUB) program is to promote equal business opportunities for economically disadvantaged persons (as defined by Tex. Gov't Code, Chapter 2161) to contract with the State of Texas in accordance with the goals specified in the State of Texas Disparity Study. The HUB program annual procurement utilization goals are defined in 34 T.A.C. § 20.13(b).
- 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 T.A.C. § 20.13(b) outlines the State's policy to encourage the 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 greater is required to make a good faith effort to award subcontracts to HUBs in accordance with 34 T.A.C. § 20.14(a)(2)(A) by submitting a HUB subcontracting plan within twenty-four (24) hours after the bid or response is due and complying with the HUB subcontracting plan after it is accepted by Owner and during the term of the Contract.
- 4.2 Compliance with Approved HUB Subcontracting Plan. Contractor, having been awarded this 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 adding or substituting a Subcontractor, promptly notify 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 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 plans as 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 Owner that demonstrates Contractor's performance of the HUB subcontracting plan.
    - 4.2.5.1 Progress Assessment Report (PAR): monthly compliance reports to Owner (contracting agency), verifying their compliance with the HUB subcontracting plan, including the use/expenditures they have made to Subcontractors. (The PAR is available at <http://www.window.state.tx.us/procurement/prog/hub/hub-forms/progressassessmentrpt.xls>).
  - 4.2.6 Promptly and accurately explain and provide supplemental information to Owner to assist in Owner's investigation of Contractor's good-faith effort to fulfill the HUB subcontracting plan and the requirements under 34 T.A.C. § 20.14(a)(1).
- 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, Owner may, in addition to all other remedies available to it, report the failure to perform to the Comptroller of Public Accounts, Texas Procurement and Support Services Division, Historically Underutilized Business Program and may bar Contractor from future contracting opportunities with Owner.

## **Article 5. Bonds and Insurance**

- 5.1 Construction Bonds. 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. On Construction Manager-at-Risk and Design-Build Projects the Owner shall require a security bond, as described in Subsection 5.1.2 below.
  - 5.1.1 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 Owner, on Owner's form, and in

compliance with the relevant provisions of the Texas Insurance Code. If any bond is for more than ten (10) percent of the surety's capital and surplus, 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 ten (10) percent of its capital and surplus. If a surety upon a bond loses its authority to do business in the State, Contractor shall, within thirty (30) days after such loss, furnish a replacement bond at no added cost to Owner.

5.1.1.1 A Performance bond is required if the Contract Sum is in excess of \$100,000. The performance bond is solely for the protection of 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 Office of the Attorney General of Texas. The performance bond shall be effective through Contractor's warranty period.

5.1.1.2 A Payment bond is required if the Contract price is in excess of \$25,000. The payment bond is to be for the Contract Sum and is payable to Owner solely for the protection and use of payment bond beneficiaries. The form of the bond shall be approved by the Office of the Attorney General of Texas.

5.1.2 Security Bond. The security bond provides protection to Owner if Contractor presents an acceptable guaranteed maximum price ("GMP") to Owner but is unable to deliver the required payment and performance bonds within the time period stated below.

5.1.3 When Bonds Are Due

5.1.3.1 Security bonds are due before execution of a Construction Manager-at-Risk or Design-Build Contract.

5.1.3.2 Payment and performance bonds are due before execution of a contract on competitively bid or competitively sealed proposal projects or before execution of a GMP proposal on Construction Manager-at-Risk projects or Design-Build projects.

5.1.4 Power of Attorney. Each bond shall be accompanied by a valid power of attorney (issued by the surety company and attached, signed and sealed with the corporate embossed seal, to the bond) authorizing the attorney-in-fact who signs the bond to commit the company 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, CONTRACTOR SHALL FULLY INDEMNIFY AND HOLD 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 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 Contractor on such Contract, and that reliance on notices sent to Owner may result in loss of their rights against Contractor and/or his surety. 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 Owner and Contractor is less than \$25,000.00. These provisions set out the requirements for filing a valid lien on funds unpaid to Contractor as of the time of filing the claim, actions necessary to release the lien and satisfaction of such claim.
- 5.1.9 Sureties. A surety shall be listed on the US Department of the Treasury's Listing of Approved Sureties maintained by the Bureau of Financial Management Service (FMS), [www.fms.treas.gov/c570](http://www.fms.treas.gov/c570), stating companies holding Certificates of Authority as acceptable sureties on Federal bonds and acceptable reinsuring companies (FMS Circular 570).
- 5.2 Insurance Requirements. 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 prior to construction, during construction and during the warranty period. The insurance shall be evidenced by delivery to 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, Owner, and/or its agents, shall be entitled to receive without expense, copies of the policies and all endorsements. 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 Owner.
- 5.2.1 Contractor, consistent with its status as an independent contractor, shall provide and maintain all insurance coverage with the minimum amounts described below until the end of the warranty period unless otherwise stated in Owner's 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 by any means deemed appropriate by 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 and rated A-, VII or better by A.M. Best Company or similar rating company or otherwise acceptable to Owner.
- 5.2.2.1 Insurance Coverage Required.
- 5.2.2.1.1 Workers' Compensation. Insurance with limits as required by the Texas Workers' Compensation Act and Employer's Liability Insurance with limits of not less than:
- \$1,000,000 each accident;
- \$1,000,000 disease each employee; and
- \$1,000,000 disease policy limit.
- Policies must include (a) Other States Endorsement to include TEXAS if business is domiciled outside the State of Texas, and (b) a waiver of all rights of subrogation in favor of Owner.
- 5.2.2.1.2 Commercial General Liability Insurance, including premises, operations, 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 Subcontractor's) liability for bodily injury (including death) and property damage with a minimum limit of:

\$1,000,000 per occurrence;

\$2,000,000 general aggregate;

\$2,000,000 products and completed operations aggregate; and

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 of Aggregate Limits of Insurance (per Project) or its equivalent.

If the Work involves any activities within fifty (50) feet of any railroad, railroad protective insurance as may be required by the affected railroad, written for not less than the limits required by such railroad.

- 5.2.2.1.3 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.

Employer’s liability limits for asbestos abatement will be:

\$1,000,000 each accident;

\$1,000,000 disease each employee; and

\$1,000,000 disease policy limit.

**If this Contract is for asbestos abatement only, the All-Risk Builder’s Risk or all-risk installation floater (5.2.2.1.5.e) is not required.**

- 5.2.2.1.4 Business Automobile Liability Insurance, covering all owned, hired, and non-owned vehicles, with a minimum combined single limit for bodily injury (including death) and property damage 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.

Contractor or any subcontractor responsible for transporting asbestos or other hazardous materials defined as asbestos shall provide

pollution coverage for any vehicle hauling asbestos containing cargo. The policy must include a MCS 90 endorsement with a \$5,000,000 limit and the CA 9948 Pollution Endorsement, or its equivalent.

- 5.2.2.1.5 All-Risk Builder's Risk Insurance, if applicable (or all-risk installation floater for instances in which the project involves solely the installation of material and/or equipment). Coverage is determined by the Contract Sum, as detailed, below.

**BUILDERS RISK REQUIREMENT FOR PROJECTS WITH A CONTRACT SUM <\$20 MILLION**

- 5.2.2.1.5.1 Contractor shall purchase and maintain in force builders risk insurance on the entire Work. Such insurance shall be written in the amount of the original contract, plus any subsequent change orders and plus the cost of materials supplied or installed by others, comprising Total Value for the entire Project at the site. The insurance shall apply on a replacement cost basis with no coinsurance provision. A sublimit may be applicable to flood coverage, but sublimit must be at least 20% of the Total Value of the Project. The limit for all other perils, including Named Windstorm, Wind, and Hail, must be equal to the Total Value for the entire Project at the site. (If Installation Floater, limit shall be equal to 100 percent of the contract cost.)
- 5.2.2.1.5.2 This insurance shall name as insureds the Owner, the Contractor, and all subcontractors and sub-subcontractors in the Work.
- 5.2.2.1.5.3 Builders risk insurance shall be on an "all risk" or equivalent policy form and shall include, without limitation, insurance against fire and extended coverage perils, theft, vandalism, malicious mischief, collapse, earthquake, flood, windstorm, boiler and machinery/mechanical breakdown, testing and startup, and terrorism.
- 5.2.2.1.5.4 This insurance shall cover the entire work at the site as required in 5.2.2.1.5.1, including, but not limited to, the following:
- Temporary works including but not limited to scaffolding, form work, fences, shoring, hoarding, falsework and temporary buildings
  - Offsite Storage
  - Portions of the work in transit
  - Debris removal
  - Extra Expense
  - Expediting Expenses
  - Demolition and Increased Cost of Construction
  - Pollutant Clean-Up and Removal
  - Trees, Shrubs, Plants, Lawns and Landscaping (if applicable)
  - Errors & Omissions (applicable to purchase of Builders Risk policy only)
- 5.2.2.1.5.5 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.
- 5.2.2.1.5.6 This insurance shall be specific as to coverage and shall be primary to any permanent insurance or self-insurance that may be maintained on the property by Owner.
- 5.2.2.1.5.7 This insurance shall include a waiver of subrogation in favor of Owner, the Contractor, and all subcontractors and sub-subcontractors in the work.
- 5.2.2.1.5.8 As applicable, Flood deductible shall not exceed \$250,000 for Zone A, \$100,000 for Zone B and \$50,000 for all other Zones. For Tier 1 and Tier 2, Named Windstorm deductible shall not exceed 2% of the project values in place at the time of the loss.

- 5.2.2.1.5.9 Before the commencement of the work, Contractor shall provide to Owner an accurate certificate of insurance that provides specific evidence of all requirements outlined in Section 5.2.2.1.5. A copy of the policy itself shall be provided to Owner within 30 days after Notice to Proceed.
- 5.2.2.1.5.10 Refer to Owner's Special Conditions for possible additional Builders Risk insurance requirements.

**BUILDERS RISK REQUIREMENT FOR PROJECTS WITH A CONTRACT SUM ≥\$20 MILLION**

- 5.2.2.1.5.1 Contractor shall purchase and maintain in force builders risk insurance on the entire Work. Such insurance shall be written in the amount of the original contract, plus any subsequent change orders and plus the cost of materials supplied or installed by others, comprising Total Value for the entire Project at the site. The insurance shall apply on a replacement cost basis with no coinsurance provision and shall include a margin clause of plus/minus 10% on project value. A sublimit may be applicable to flood coverage, but sublimit must be at least 20% of the Total Value of the Project. A sublimit of \$50 million or the Total Value of the Project, whichever is less, is acceptable for Earthquake. The limit for all other perils, including Named Windstorm, Wind, and Hail, must be equal to the Total Value for the entire Project at the site. (If Installation Floater, limit shall be equal to 100 percent of the contract cost.)
- 5.2.2.1.5.2 This insurance shall name as insureds the Owner, the Contractor, and all subcontractors and sub-subcontractors in the Work.
- 5.2.2.1.5.3 Builders risk insurance shall be on an "all risk" or equivalent policy form and shall include, without limitation, insurance against fire and extended coverage perils, theft, vandalism, malicious mischief, collapse, earthquake, flood, windstorm, boiler and machinery/mechanical breakdown, testing and startup, and terrorism.
- 5.2.2.1.5.4 This insurance shall cover the entire work at the site as required in 5.2.2.1.5.1, including, but not limited to, the following:

Coverage	Minimum Limit Required
Temporary works including but not limited to scaffolding, form work, fences, shoring, hoarding, falsework and temporary buildings	\$1 million
Offsite Storage	Sufficient to cover the anticipated maximum values stored offsite
Portions of the work in Transit	Sufficient to cover the anticipated maximum values in transit
Debris Removal	25% of Physical damage amount subject to maximum of \$5 million or 25% of Total Value of Project whichever is higher
Expediting Expenses	\$1 million
Extra Expense	\$5 million
Demolition and Increased Cost of Construction	\$2 million or 10% of Total Value of Project whichever is higher
Pollutant Clean-Up and Removal	\$250,000
Trees, Shrubs, Plants, Lawns and Landscaping (if applicable)	\$2,500 per item subject to a maximum of \$1 million
Errors & Omissions (applicable to purchase of Builders Risk policy only)	\$2.5 million

- 5.2.2.1.5.5 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.
- 5.2.2.1.5.6 This insurance shall be specific as to coverage and shall be primary to any permanent insurance or

self-insurance that may be maintained on the property by Owner.

- 5.2.2.1.5.7 This insurance shall include a waiver of subrogation in favor of Owner, the Contractor, and all subcontractors and sub-subcontractors in the work.
- 5.2.2.1.5.8 As applicable, Flood deductible shall not exceed \$250,000 for Zone A, \$100,000 for Zone B and \$50,000 for all other Zones. For Tier 1 and Tier 2, Named Windstorm deductible shall not exceed 2% of the project values in place at the time of the loss.
- 5.2.2.1.5.9 Before the commencement of the work, Contractor shall provide to Owner an accurate certificate of insurance that provides specific evidence of all requirements outlined in Section 5.2.2.1.5. A copy of the policy itself shall be provided to Owner within 30 days after Notice to Proceed.
- 5.2.2.1.5.10 Refer to Owner's Special Conditions for possible additional Builders Risk insurance requirements.

5.2.2.1.6 "Umbrella" Liability Insurance. On Projects that are not insured under the Owner's Revolving Owner Controlled Insurance Program (ROCIP) or any project requiring demolition services, Contractor shall obtain, pay for and maintain umbrella liability insurance during the Contract term, insuring Contractor (or Subcontractor) that provides coverage at least as broad as and applies in excess and follows form of the primary liability coverages required above. The policy shall provide "drop down" coverage where underlying primary insurance coverage limits are insufficient or exhausted.

5.2.2.1.7 "Umbrella" Liability Insurance coverage shall be in the following amounts:

- If Contract sum is \$1,000,000 or less:  
No Umbrella Required
- If Contract Sum is greater than \$1,000,000 up to \$3,000,000:  
\$1,000,000 each occurrence and \$2,000,000 annual aggregate
- If Contract Sum is greater than \$3,000,000 up to \$5,000,000:  
\$5,000,000 each occurrence and \$5,000,000 annual aggregate
- If Contract Sum is greater than \$5,000,000:  
\$10,000,000 each occurrence and \$10,000,000 annual aggregate

5.2.3 All Policies must include the following clauses, as applicable:

- 5.2.3.1 Contractor must provide to Owner immediate notice of cancellation, material change, or non-renewal to any insurance coverages required herein above. This requirement may be satisfied by the Contractor providing a copy of the notice received by the insurer to Owner within two business days of date of receipt or by Endorsement of the policies that require Insurer to provide notice to Owner.
- 5.2.3.2 It is agreed that Contractor's insurance shall be deemed primary with respect to any insurance or self-insurance carried by Owner for liability arising out of operations under the Contract with Owner.
- 5.2.3.3 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 Owner. The additional insured status must cover completed operations as well. This is not applicable to workers' compensation policies.
- 5.2.3.4 A waiver of subrogation in favor of Owner shall be provided in all policies.

- 5.2.3.5 If Owner is damaged by the failure of Contractor (or Subcontractor) to maintain insurance as required herein and/or as further described in Owner's Special Conditions, then Contractor shall bear all reasonable costs properly attributable to that failure.
- 5.2.4 Without limiting any of the other obligations or liabilities of Contractor, Contractor shall require each Subcontractor performing work under the Contract, at 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, Contractor may include its Subcontractors as additional insureds on its own coverage as prescribed under these requirements. Contractor's certificate of insurance shall note in such event that Subcontractors are included as additional insureds and that Contractor agrees to provide workers' compensation for Subcontractors and their employees. Contractor shall obtain and monitor the certificates of insurance from each Subcontractor in order to assure compliance with the insurance requirements. Contractor must retain the certificates of insurance for the duration of the Contract plus five (5) years and shall have the responsibility of enforcing these insurance requirements among its Subcontractors. 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 specific to construction projects for public entities as required by Tex. Lab. Code § 406.096.
  - 5.2.5.1 Definitions:
    - 5.2.5.1.1 Certificate of coverage ("certificate")- A copy of a certificate of insurance, a certificate of authority to self-insure issued by the commission, or a coverage agreement (DWC-81, DWC-82, DWC-83, or DWC-84), showing statutory workers' compensation insurance coverage for the person's or entity's employees providing services on a project, for the duration of the project.
    - 5.2.5.1.2 Duration of the project - includes the time from the beginning of the work on the project until the contractor's/person's work on the project has been completed and accepted by the governmental entity.
    - 5.2.5.1.3 Persons providing services on the project ("subcontractor" in §406.096) – includes all persons or entities performing all or part of the services the contractor has undertaken to perform on the project, regardless of whether that person contracted directly with the contractor and regardless of whether that person has employees. This includes, without limitation, independent contractors, subcontractors, leasing companies, motor carriers, owner-operators, employees of any such entity, or employees of any entity which furnishes persons to provide services on the project. "Services" include, without limitation, providing, hauling, or delivering equipment or materials, or providing labor, transportation, or other service related to a project. "Services" does not include activities unrelated to the project, such as food/beverage vendors, office supply deliveries, and delivery of portable toilets.
  - 5.2.5.2 The contractor shall provide coverage, based on proper reporting of classification codes and payroll amounts and filing of any coverage agreements, which meets the statutory requirements of Texas Labor Code, Section 401.011(44) for all employees of the contractor providing services on the project, for the duration of the project.
  - 5.2.5.3 The Contractor must provide a certificate of coverage to the governmental entity prior to being awarded the contract.

- 5.2.5.4 If the coverage period shown on the contractor's current certificate of coverage ends during the duration of the project, the contractor must, prior to the end of the coverage period, file a new certificate of coverage with the governmental entity showing that coverage has been extended.
- 5.2.5.5 The contractor shall obtain from each person providing services on a project, and provide to the governmental entity:
- (1) a certificate of coverage, prior to that person beginning work on the project, so the governmental entity will have on file certificates of coverage showing coverage for all persons providing services on the project; and
  - (2) no later than seven days after receipt by the contractor, a new certificate of coverage showing extension of coverage, if the coverage period shown on the current certificate of coverage ends during the duration of the project.
- 5.2.5.6 The contractor shall retain all required certificates of coverage for the duration of the project and for one year thereafter.
- 5.2.5.7 The contractor shall notify the governmental entity in writing by certified mail or personal delivery, within 10 days after the contractor knew or should have known, of any change that materially affects the provision of coverage of any person providing services on the project.
- 5.2.5.8 The contractor shall post on each project site a notice, in the text, form and manner prescribed by the Texas Department of Insurance Division of Workers' Compensation, informing all persons providing services on the project that they are required to be covered, and stating how a person may verify coverage and report lack of coverage.
- 5.2.5.9 The contractor shall contractually require each person with whom it contracts to provide services on a project, to:
- (1) provide coverage, based on proper reporting of classification codes and payroll amounts and filing of any coverage agreements, which meets the statutory requirements of Texas Labor Code, Section 401.011(44) for all of its employees providing services on the project, for the duration of the project;
  - (2) provide to the contractor, prior to that person beginning work on the project, a certificate of coverage showing that coverage is being provided for all employees of the person providing services on the project, for the duration of the project;
  - (3) provide the contractor, prior to the end of the coverage period, a new certificate of coverage showing extension of coverage, if the coverage period shown on the current certificate of coverage ends during the duration of the project;
  - (4) obtain from each other person with whom it contracts, and provide to the contractor:
    - (a) a certificate of coverage, prior to the other person beginning work on the project; and
    - (b) a new certificate of coverage showing extension of coverage, prior to the end of the coverage period, if the coverage period shown on the current certificate of coverage ends during the duration of the project;
  - (5) retain all required certificates of coverage on file for the duration of the project and for one year thereafter;

- (6) notify the governmental entity in writing by certified mail or personal delivery, within 10 days after the person knew or should have known, of any change that materially affects the provision of coverage of any person providing services on the project; and
  - (7) contractually require each person with whom it contracts, to perform as required by paragraphs (1) - (7), with the certificates of coverage to be provided to the person for whom they are providing services.
- 5.2.5.10 By signing this contract or providing or causing to be provided a certificate of coverage, the contractor is representing to the governmental entity that all employees of the contractor who will provide services on the project will be covered by workers' compensation coverage for the duration of the project, that the coverage will be based on proper reporting of classification codes and payroll amounts, and that all coverage agreements will be filed with the appropriate insurance carrier or, in the case of a self-insured, with the commission's Division of Self-Insurance Regulation. Providing false or misleading information may subject the contractor to administrative penalties, criminal penalties, civil penalties, or other civil actions.
- 5.2.5.11 The contractor's failure to comply with any of these provisions is a breach of contract by the contractor which entitles the governmental entity to declare the contract void if the contractor does not remedy the breach within ten days after receipt of notice of breach from the governmental entity.

## **Article 6. Construction Documents, Coordination Documents, and Record Documents**

### **6.1 Drawings and Specifications.**

- 6.1.1 Copies Furnished. Contractor will be furnished, free of charge, the number of complete sets of the Drawings, Specifications, and addenda as provided in the Agreement or the Owner's Special Conditions. Additional complete sets of Drawings and Specifications, if requested, will be furnished at reproduction cost to the entity requesting such additional sets. Electronic copies of such documents will be provided to Contractor without charge.
- 6.1.2 Ownership of Drawings and Specifications. All Drawings, Specifications and copies thereof furnished by 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 the Contract record set and electronic versions needed for warranty operations, 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 Contract between Owner and Contractor are complementary, 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 within the Contract Documents, the documents shall govern in the following order: (a) Change Orders, addenda, and written amendments to the Contract; (b) the Contract; (c) Drawings; (d) Specifications (but Specifications shall control over Drawings as to quality of materials and installation); and (e) other Contract Documents. Among other categories of documents having the same order of precedence, the term or provision that includes the latest date shall control. Contractor shall notify A/E and 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 commencing the Work, Contractor shall examine and compare the Contract

Documents, information furnished by Owner, relevant field measurements made by 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 Promptly report to ODR and to 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 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 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 or a Construction Manager-at-Risk.
- 6.1.6.4 When performing as a Design-Build firm, 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, Contractor has a shared responsibility with A/E for discovery and resolution of discrepancies, errors, and omissions in the Contract Documents. In such case, Contractor's responsibility pertains to review, coordination, and recommendation of resolution strategies within budget constraints.
- 6.1.6.6 Contractor has no liability for errors, omissions, or inconsistencies unless Contractor knowingly failed to report a recognized problem to Owner or the Work is executed under a Design-Build or Construction Manager-at-Risk Contract as outlined above. Should Contractor fail to perform the examination and reporting obligations of these provisions, Contractor is responsible for avoidable costs and direct and/or consequential damages.
- 6.1.6.7 Owner does not warrant or make any representations as to the accuracy, suitability or completeness of any information furnished to Contractor by Owner or its representatives.

6.2 Requirements for Record Documents. Contractor shall:

- 6.2.1 Maintain at the Site one copy of all Drawings, Specifications, addenda, approved submittals, Contract modifications, and all Project correspondence. 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. Provide Owner and A/E access to these documents.
- 6.2.2 Maintain the Record Documents which reflect the actual field conditions and representations of the Work performed, whether it be directed by addendum, Change Order or otherwise. Make available the Record Documents and all records prescribed herein for reference and examination by Owner and its representatives and agents.
- 6.2.3 Update the Record Documents at least monthly prior to submission of periodic partial pay estimates. Failure to maintain current Record Documents constitutes cause for denial of a progress payment otherwise due.

- 6.2.4 Prior to requesting Substantial Completion inspection Contractor shall furnish a copy of its marked-up Record Documents 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 and as described in the Contract Documents.
- 6.2.5 Once determined acceptable by ODR with input from A/E, provide one (1) reproducible copy and one (1) electronic media copy in a format acceptable to the ODR of all Record Documents, unless otherwise required by the Owner's Special Conditions.
- 6.2.6 Contractor shall be responsible for updating the Record Documents for all Contractor initiated documents and changes to the Contract Documents due to coordination and actual field conditions, including RFIs.
- 6.2.7 A/E shall be responsible for updating the Record Documents for any addenda, Change Orders, A/E supplemental instructions and any other alterations to the Contract Documents generated by A/E or Owner.

## **Article 7. Construction Safety**

- 7.1 General. It is the duty and responsibility of Contractor and all of its Subcontractors to be familiar with, enforce and comply with all requirements of Public Law No. 91-596, 29 U.S.C. § 651 et. seq., the Occupational Safety and Health Act of 1970, (OSHA) and all amendments thereto. Contractor shall prepare a safety plan specific to the Project and submit it to ODR and A/E prior to commencing Work. In addition, 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. 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, and access to their facilities and/or utilities.
  - 7.2.2 Coordinate the exchange of material safety data sheets (MSDSs) 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 MSDSs for all materials in use on site throughout the construction phase and make such file available to Owner and its agents as requested.
- 7.3 Emergencies. In any emergency affecting the safety of persons or property, 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 any time 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 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 Owner within seventy-two (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 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 ODR and other parties as may be directed promptly, but no later than twenty-four (24) hours after Contractor learns that an event required medical care.
  - 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 ODR and A/E with an incident report no later than thirty-six (36) hours after the occurrence of the event. In the event of a catastrophic incident (one (1) fatality or three (3) 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 within one (1) week after occurrence, unless otherwise directed by legal counsel. Contractor shall provide ODR with written notification within one week of such catastrophic event if legal counsel delays submission of 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 ODR immediately.
  - 7.5.1 Bind all Subcontractors to the same duty.
  - 7.5.2 Upon receiving such notice, 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, ODR will issue a written report to 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 Owner may hire third-party contractors to perform any or all such steps.
  - 7.5.4 Should compliance with ODR's instructions result in an increase in Contractor's cost of performance, or delay the Work, Owner will make an equitable adjustment to the Contract Sum and/or the time of completion, and modify the Contract in writing accordingly.
- 7.6 Trenching Plan. When the project requires excavation which either exceeds a depth of four (4) feet, or results in any worker's upper body being positioned below grade level, Contractor is required to submit a trenching plan to ODR prior to commencing trenching operations unless an engineered plan is part of the Contract Documents. The plan is required to be prepared and sealed by a professional engineer registered in the State of Texas, and hired or employed by Contractor or Subcontractor to perform the work. Said engineer cannot be anyone who is otherwise either directly or indirectly engaged on this project.

## **Article 8. Quality Control**

- 8.1 Materials & Workmanship. Contractor shall execute Work in a good and workmanlike matter in accordance with the Contract Documents. Contractor shall develop and provide a quality control plan specific to this Project and acceptable to Owner. Where Contract Documents do not specify quality standards, complete and construct all Work in compliance with generally accepted construction industry standards. Unless otherwise specified, incorporate all new materials and equipment into the Work under the Contract.
- 8.2 Testing.

- 8.2.1 Owner is responsible for coordinating and paying for routine and special tests required to confirm compliance with quality and performance requirements, except as stated below or otherwise required by the Contract Documents.
- 8.2.2 Contractor shall provide the following testing as well as any other testing required of Contractor by the Specifications:
  - 8.2. 2.1 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. 2.2 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. 2.3 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. 2.4 All subsequent tests on original or replaced materials conducted as a result of prior testing failure.
- 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 Owner. Results of all tests shall be provided promptly to ODR, A/E, and 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 proof remains with Contractor, subject to:
  - 8.2. 4.1 Contractor selection and submission of the laboratory for Owner acceptance.
  - 8.2. 4.2 Acceptance by Owner of the quality and nature of tests.
  - 8.2. 4.3 All tests taken in the presence of A/E and/or ODR, or their representatives.
  - 8.2. 4.4 If tests confirm that the material/systems comply with Contract Documents, Owner will pay the cost of the test.
  - 8.2. 4.5 If tests reveal noncompliance, Contractor will pay those 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 Contractor liable for any corrective action which ODR determines appropriate, including complete removal and replacement of non-compliant work or material.
- 8.2. 5 Notice of Testing. Contractor shall give ODR and A/E timely notice of its readiness and the date arranged so ODR and A/E may observe such inspection, testing, or approval.
- 8.2. 6 Test Samples. Contractor is responsible for providing Samples of sufficient size for test purposes and for coordinating such tests with their Work Progress Schedule to avoid delay.
- 8.2. 7 Covering Up Work. If Contractor covers up any Work without providing Owner an opportunity to inspect, Contractor shall, if requested by ODR, uncover and recover the work at Contractor's expense.

8.3 Submittals.

- 8.3.1 Contractor's Submittals. Contractor shall submit with reasonable promptness consistent with the 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, Contractor shall review each submittal for general compliance with Contract Documents and approve submittals for review by A/E and Owner by an approval stamp affixed to each copy. Submittal data presented without Contractor's stamp of approval will be returned without review or comment. Any delay resulting from Contractor's failure to certify approval of the Submittal is Contractor's responsibility.
- 8.3.1.1 Contractor shall within twenty-one (21) days of the effective date of the Notice To Proceed with construction, submit to ODR and A/E, a submittal schedule/register, organized by specification section, listing all items to be furnished for review and approval by 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 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 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. Contractor's Submittal Register must be reasonable in terms of the review time for complex submittals. Contractor's submittal schedule must be consistent with the Work Progress Schedule and identify critical submittals. Show and allow a minimum of fifteen (15) days duration after receipt by A/E and ODR for review and approval. If re-submittal required, allow a minimum of an additional fifteen (15) days for review. Submit the updated Submittal Register with each request for progress payment. Owner may establish routine review procedures and schedules for submittals at the preconstruction conference and/or elsewhere in the Contract Documents. If Contractor fails to update and provide the Submittal Register as required, Owner may, after seven (7) days notice to Contractor withhold a reasonable sum of money that would otherwise be due Contractor.
- 8.3.1.3 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. Revise and/or update both schedules monthly to ensure consistency and current project data. Provide to ODR the updated Submittal Register and schedule with each application for progress payment. Refer to 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, Contractor represents 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 Contractor of responsibility for any deviation from the requirements of the Contract unless Contractor informs 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 Owner's written specific approval of the particular deviation.

- 8.3.3 Correction and Resubmission. 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. Direct attention in writing to A/E and ODR, when applicable, to any new revisions other than the corrections requested on previous submissions.
- 8.3.4 Limits on Shop Drawing Review. Contractor shall not commence any Work requiring a submittal until review of the submittal under Subsection 8.3.2. Construct all such work in accordance with reviewed submittals. Comments incorporated as part of the review in Subsection 8.3.2 of Shop Drawings and Samples is not authorization to Contractor to perform extra work or changed work unless authorized through a Change Order. A/E's and ODR's review, 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. ODR and A/E may receive and consider Contractor's request for substitution when Contractor agrees to reimburse Owner for review costs and satisfies the requirements of this section. If Contractor does not satisfy these conditions, ODR and A/E will return the request without action except to record noncompliance with these requirements. Owner will not consider the request if Contractor cannot provide the product or method because of failure to pursue the Work promptly or coordinate activities properly. Contractor's request for a substitution may be considered by ODR and A/E when:
- 8.3.5.1 The Contract Documents do not require extensive revisions; and
  - 8.3.5.2 Proposed changes are in keeping with the general intent of the Contract Documents and the design intent of A/E and do not result in an increase in cost to Owner; and
  - 8.3.5.3 The request is timely, fully documented, properly submitted and one or more of the following apply:
    - 8.3.5.3.1 Contractor cannot provide the specified product, assembly or method of construction within the Contract Time;
    - 8.3.5.3.2 The request directly relates to an "or-equal" clause or similar language in the Contract Documents;
    - 8.3.5.3.3 The request directly relates to a "product design standard" or "performance standard" clause in the Contract Documents;
    - 8.3.5.3.4 The requested substitution offers Owner a substantial advantage in cost, time, energy conservation or other considerations, after deducting additional responsibilities Owner must assume;
    - 8.3.5.3.5 The specified product or method of construction cannot receive necessary approval by an authority having jurisdiction, and ODR can approve the requested substitution;
    - 8.3.5.3.6 Contractor cannot provide the specified product, assembly or method of construction in a manner that is compatible with other materials and where Contractor certifies that the substitution will overcome the incompatibility;

8.3.5.3.7 Contractor cannot coordinate the specified product, assembly or method of construction with other materials and where Contractor certifies they can coordinate the proposed substitution; or

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

8.3.6 Unauthorized Substitutions at Contractor's Risk. Contractor is financially responsible for any additional costs or delays resulting from unauthorized substitution of materials, equipment or fixtures other than those specified. Contractor shall reimburse 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 ODR. If mock-ups are freestanding, they shall remain in place until otherwise directed by Owner.

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

#### 8.5 Inspection During Construction.

8.5.1 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 Owner and its agents.

8.5.2 Contractor shall not cover up any Work with finishing materials or other building components prior to providing 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, Contractor shall not cover up corrected Work until Owner indicates approval.

8.5.2.2 Contractor shall provide notification of at least five (5) working days or otherwise as mutually agreed, to ODR of the anticipated need for a cover-up inspection. Should ODR fail to make the necessary inspection within the agreed period, 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 commencement of the Work and for achieving Substantial Completion. The Contract Time can be modified only by Change Order. Failure

to achieve Substantial Completion within the Contract Time or as otherwise agreed to in writing will cause damage to Owner and may subject Contractor to liquidated damages as provided in the Contract Documents. If Contractor fails to achieve Final Completion in a reasonable time after Substantial Completion, Contractor shall be responsible for Owner's damages including, but not limited to, additional inspection, project management, and maintenance cost to the extent caused by Contractor's failure to achieve Final Completion.

9.2 Notice to Proceed. Owner will issue a Notice to Proceed which shall state the dates for beginning Work and for achieving Substantial Completion of the Work.

9.3 Work Progress Schedule. Refer to Owner's Special Conditions and Division 1 of the Specifications for additional schedule requirements. Unless indicated otherwise in those documents, Contractor shall submit their initial Work Progress Schedule for the Work in relation to the entire Project not later than twenty-one (21) calendar days after the effective date of the Notice to Proceed to ODR and A/E. Unless otherwise indicated in the Contract Documents, the Work Progress Schedule shall be computerized Critical Path Method (CPM) with fully editable logic. 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, delivery of Close-out Documents and acceptance of all the Work of the Contract. When acceptable to Owner, the initially accepted schedule shall be the Baseline Schedule for comparison to actual conditions throughout the Contract duration.

Note: This article pertains to construction phase schedules. Additional requirements for design phase scheduling for Construction Manager-at-Risk and Design-Build contracts are outlined in Division 1 Project Planning and Scheduling Specifications.

9.3.1 Schedule Requirements. Contractor shall submit electronic and 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 Contractor's actual plans for its completion. Contractor shall organize and provide adequate detail so the schedule is capable of measuring and forecasting the effect of delaying events on completed and uncompleted activities.

9.3.1.1 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 Contractor's representation to Owner of the accurate depiction of all progress to date and that Contractor will follow the schedule as submitted in performing the Work.

9.3.2 Schedule Updates. Contractor shall update the Work Progress Schedule and the Submittal Register monthly, as a minimum, to reflect progress to date and current plans for completing the Work, while maintaining original schedule as Baseline Schedule and submit paper and electronic copies of the update to A/E and ODR as directed, but as a minimum with each request for payment. Owner has no duty to make progress payments unless accompanied by the updated Work Progress Schedule. Show the anticipated date of completion reflecting all extensions of time granted through Change Order as of the date of the update. Contractor may revise the Work Progress Schedule when in Contractor's judgment it becomes necessary for the management of the Work. Contractor shall identify all proposed changes to schedule logic to Owner and to A/E via an executive summary accompanying the updated schedule for review prior to final implementation of revisions into a revised Baseline Schedule. Schedule changes that materially impact Owner's operations shall be communicated promptly to ODR and shall not be incorporated into the revised Baseline Schedule without ODR's consent.

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

- 9.3.3.1 Acceptance of the Work Progress Schedule, or update and/or revision thereto does not indicate any approval of 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 Owner's consent, alter the terms of the Contract, or waive either Contractor's responsibility for timely completion or Owner's right to damages for Contractor's failure to do so.
  - 9.3.3.3 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 Substantial Completion Date(s) and Contract Time.
- 9.4 Ownership of Float. Unless indicated otherwise in the Contract Documents, Contractor shall develop its schedule, pricing, and execution plan to provide a minimum of ten (10) percent total float at acceptance of the Baseline Schedule. Float time contained in the Work Progress Schedule is not for the exclusive benefit of Contractor or Owner, but belongs to the Project and may be consumed by either party. Before Contractor uses any portion of the float Contractor must submit a written request to do so to the Owner and receive Owner's written authorization to use the float. Owner's approval shall not be unreasonably withheld.
- 9.5 Completion of Work. Contractor is accountable for completing the Work within the Contract Time stated in the Contract, or as otherwise amended by Change Order.
  - 9.5.1 If, in the judgment of 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, Contractor, when so informed by 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 Expedite delivery of materials.
    - 9.5.1.5 Other action proposed if acceptable to Owner.
  - 9.5.2 Within ten (10) days after such notice from ODR, Contractor shall notify ODR in writing of the specific measures taken and/or planned to increase the rate of progress. Contractor shall include an estimate as to the date of scheduled progress recovery and an updated Work Progress Schedule illustrating Contractor's plan for achieving timely completion of the Project. Should ODR deem the plan of action inadequate, Contractor shall take additional steps or make adjustments as necessary to its plan of action until it meets with 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 Contractor from completing the Work within the Contract Time, Contractor is entitled to an extension of time. Owner will make an equitable adjustment and extend the number of days lost because of excusable delay or Weather Days, as measured by 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 Substantial Completion date(s).

9.6.2.1 A “Weather Day” is a day on which Contractor’s current schedule indicates Work is to be done, and on which inclement weather and related site conditions prevent Contractor from performing seven (7) hours of Work between the hours of 7:00 a.m. and 6:00 p.m. Weather days are excusable delays. When weather conditions at the site prevent work from proceeding, Contractor shall immediately notify ODR for confirmation of the conditions. At the end of each calendar month, Contractor shall submit to 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 ODR, any time extension granted will be issued by Change Order. If Contractor and Owner cannot agree on the time extension, Owner may issue a ULCO for fair and reasonable time extension.

9.6.2.2 Excusable Delay. Contractor is entitled to an equitable adjustment of the Contract Time, issued via change order, for delays caused by the following:

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

9.6.2.2.2 Unanticipated physical conditions at the Site, which A/E corrects by means of changes to the Drawings and Specifications or for which ODR directs changes in the Work identified in the Contract Documents.

9.6.2.2.3 Changes in the Work that effect activities identified in Contractor’s schedule as “critical” to completion of the entire Work, if such changes are ordered by ODR or recommended by A/E and ordered by ODR.

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 Contractor.

9.6.2.2.5 Suspension of Work for convenience of ODR, which prevents Contractor from completing the Work within the Contract Time.

9.6.3 Contractor’s relief in the event of such delays is the time impact to the critical path as determined by analysis of Contractor’s schedule. In the event that Contractor incurs additional direct costs because of the excusable delays other than described in Subparagraph 9.6.2.2.4 and within the reasonable control of Owner, the Contract price and Contract Time are to be equitably adjusted by Owner pursuant to the provisions of Article 11.

9.7 No Damages for Delay. An extension of the Contract Time shall be the sole remedy of Contractor for delays in performance of the Work, whether or not such delays are foreseeable, except for delays caused solely by acts of Owner that constitute intentional interference with Contractor’s performance of the Work and then only to the extent such acts continue after Contractor notifies Owner in writing of such interference. For delays caused by any act(s) other than the sole intentional interference of Owner, Contractor shall not be entitled to any compensation or recovery of any damages including, without limitation, consequential damages, lost opportunity costs, impact damages, loss of productivity, or other similar damages. Owner’s exercise of any of its rights or remedies under the Contract including, without limitation, ordering changes in the Work or directing suspension, rescheduling, or correction of the Work, shall not be construed as intentional interference with Contractor’s performance of the Work regardless of the extent or frequency of Owner’s exercise of such rights or remedies.

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, 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 Owner shall be included with Contractor's proposed costs for such change. Time extensions requested for inclement weather are covered by Paragraph 9.6.2.1 above. If Contractor believes that the completion of the Work is delayed by a circumstance other than for changes directed to the Work or weather, they shall give ODR written notice, stating the nature of the delay and the activities potentially affected, within five (5) days after the onset of the event or circumstance giving rise to the excusable delay. Contractor shall provide sufficient written evidence to document the delay. In the case of a continuing cause of delay, only one notice of claim is necessary. State claims for extensions of time in numbers of whole or half days.
- 9.9.1 Within ten (10) days after the cessation of the delay, Contractor shall formalize its request for extension of time in writing to include a full analysis of the schedule impact of the delay 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 Contractor or the Surety furnishing a performance or payment bond from any obligations under the Contract or such a bond. Those obligations remain in full force until the discharge of the Contract.
- 9.9.3 Contents of Time Extension Requests. 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. 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 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 Contractor's Work Progress Schedule, and any concurrent delays.
- 9.9.3.3 Description and documentation of steps taken by 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. Owner will respond to the Time Extension Request by providing to 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 Contractor.
- 9.9.4.1 Owner will not grant time extensions for delays that do not affect the Contract Substantial Completion date.
- 9.9.4.2 Owner will respond to each properly submitted Time Extension Request within fifteen (15) days following receipt. If Owner cannot reasonably make a determination about Contractor's entitlement to a time extension within that time, Owner will notify Contractor in writing. Unless otherwise agreed by Contractor, Owner has no more than fifteen (15) additional days to prepare a final response. If Owner fails to respond within forty-five (45) days from the date the Time Extension Request is received, Contractor's request for a time extension shall be deemed rejected by Owner.
- 9.10 Failure to Complete Work Within the Contract Time. TIME IS AN ESSENTIAL ELEMENT OF THE CONTRACT. Contractor's failure to substantially complete the Work within the Contract Time or to achieve Substantial Completion as required will cause damage to Owner. These damages may be

liquidated by agreement of Contractor and Owner, in the amount per day as set forth in the Contract Documents.

- 9.11 Liquidated Damages. Owner may collect liquidated damages due from Contractor directly or indirectly by reducing the Contract Sum in the amount of liquidated damages stated in the Agreement or the Owner's Special Conditions.

## **Article 10. Payments**

- 10.1 Schedule of Values. Contractor shall submit to ODR and A/E for acceptance a Schedule of Values accurately itemizing material and labor for the various classifications of the Work based on the organization of the specification sections and of sufficient detail acceptable to ODR. 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 ODR, and submitted not less than twenty-one (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 itemized costs for general conditions, costs for preparing Close-Out documents, fees, contingencies, and Owner cash allowances, if applicable, so that the sum of the items will equal the Contract price. As appropriate, assign each item labor and/or material values, the subtotal thereof equaling the value of the work in place when complete.

10.1.1.1 Owner requires that the Work items be inclusive of the cost of the Work items only. Any contract markups for overhead and profit, general conditions, etc., shall be contained within separate line items for those specific purposes which shall be divided into at least two (2) lines, one (1) for labor and one (1) for materials.

10.1.2 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. Make the worksheets available to ODR at the time of Contract execution. Thereafter Contractor shall grant Owner during normal business hours access to said 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. Contractor will receive periodic progress payments for Work performed, materials in place, suitably stored on Site, or as otherwise agreed to by Owner and Contractor. Payment is not due until receipt by ODR or his designee of a correct and complete Pay Application in electronic and/or hard copy format as set forth in the Agreement or the Owner's Special Conditions, and certified by A/E. Progress payments are made provisionally and do not constitute acceptance of work not in accordance with the Contract Documents. 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 A/E and ODR a complete, clean copy of a preliminary pay worksheet or preliminary pay application, to include the following:

10.2.1.1 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 Progress Assessment Report as required in Paragraph 4.2.5.1;

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

in the Contract Documents; and

10.2.1.5 Construction payment affidavit.

10.2.2 Contractor's Application for Payment. As soon as practicable, but in no event later than seven (7) days after receipt of the preliminary pay worksheet, A/E and ODR will meet with Contractor to review the preliminary pay worksheet and to observe the condition of the Work. Based on this review, ODR and A/E may require modifications to the preliminary pay worksheet prior to the submittal of an Application for Payment, and will promptly notify Contractor of revisions necessary for approval. As soon as practicable, Contractor shall submit its Application for Payment on the appropriate and completed form, reflecting the required modifications to the Schedule of Values required by A/E and/or ODR. Attach all additional documentation required by 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 Contractor's Application for Payment are paid or will be paid within the time specified in Tex. Gov't Code, Chapter 2251. No Application for Payment is complete unless it fully reflects all required modifications, and attaches all required documentation including Contractor's affidavit.

10.2.3 Certification by Architect/Engineer. Within five (5) days or earlier following A/E's receipt of Contractor's formal Application for Payment, A/E will review the Application for Payment for completeness, and forward it to ODR. A/E will certify that the application is complete and payable, or that it is incomplete, stating in particular what is missing. If the Application for Payment is incomplete, Contractor shall make the required corrections and resubmit the Application for Payment for processing.

10.3 Owner's Duty to Pay. Owner has no duty to pay the Contractor except on receipt by ODR of: 1) a complete Application for Payment certified by A/E; 2) Contractor's updated Work Progress Schedule; and 3) confirmation that Contractor has maintained and updated the Record Documents kept at the Site.

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

10.3.2 Retainage. Owner will withhold from each progress payment, as retainage, five (5) percent of the total earned amount, the amount authorized by law, or as otherwise set forth in the Owner's Special Conditions. Retainage is managed in conformance with Tex. Gov't Code, Chapter 2252, Subchapter B.

10.3.2.1 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 Contract, or such other discrete Work phase as set forth in Subsection 12.1.6 or Work package delineated in the Contract Documents, must be completed before Owner can consider a retainage reduction or release.

10.3.2.3 Contractor shall not withhold retainage from their Subcontractors and suppliers in amounts that are any percentage greater than that withheld in its Contract with Owner under this subsection, unless otherwise acceptable to Owner.

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

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 Owner upon payment.
  - 10.3.4.1 Transfer of title to Owner does not relieve Contractor and its Subcontractors of the sole responsibility for the care and protection of materials and Work upon which payments have been made until final acceptance, or the restoration of any damaged Work, or waive the right of Owner to require the fulfillment of all the terms of the Contract.
- 10.4 Progress Payments. Progress payments to Contractor do not release Contractor or its surety from any obligations under the Contract.
  - 10.4.1 Upon Owner's request, Contractor shall furnish manifest proof of the status of Subcontractor's accounts in a form acceptable to Owner.
  - 10.4.2 Pay estimate certificates must be signed by a corporate officer or a representative duly authorized by Contractor.
  - 10.4.3 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 ODR approves the Application for Payment.
- 10.5 Off-Site Storage. With prior approval by 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 Owner.
  - 10.5.1 Store materials in a commercial warehouse meeting the criteria stated below.
  - 10.5.2 Provide 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 State agency which is signatory to the Contract, must be filed with Owner's representative.
  - 10.5.3 Inspection by Owner's representative is allowed at any time. 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

Contract 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 ODR and A/E 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 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.

**10.6 Time for Payment by Contractor Pursuant to Tex. Gov't Code § 2255.022.**

- 10.6.1 Contractor who receives a payment from a governmental entity shall pay Subcontractor the appropriate share of the payment not later than the tenth (10<sup>th</sup>) day after the date Contractor receives the payment.
- 10.6.2 The appropriate share is overdue on the eleventh (11<sup>th</sup>) day after the date Contractor receives the payment.

**Article 11. Changes**

- 11.1 **Change Orders.** A Change Order issued after execution of the Contract is a written order to Contractor, signed by ODR, Contractor, and 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 Contractor indicates his agreement therewith, including the adjustment in the Contract Sum and/or the Contract Time. ODR may issue a written authorization for Contractor to proceed with Work of a Change Order in advance of final execution by all parties in accordance with Section 11.9.
  - 11.1.1 Owner, without invalidating the Contract and without approval of Contractor's 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 or ULCO, and shall be performed under the applicable conditions of the Contract Documents. If such changes cause an increase or decrease in 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 or a ULCO.
  - 11.1.2 Owner and Contractor acknowledge and agree that the Specifications and Drawings may not be complete or free from errors, omissions and imperfections and that they may require changes or additions in order for the Work to be completed to the satisfaction of Owner. Therefore, any minor errors, omissions or imperfections in the Specifications or Drawings, or any changes in or additions to the Specifications or Drawings to correct minor errors or omissions or to the Work ordered by Owner 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, or otherwise. However, should the nature of the errors or omissions necessitate substantial changes in the Work such that a Change Order is appropriate, Owner shall be liable to Contractor for the sum stated to be due Contractor in any Change Order approved and signed by both parties. The sum established in any Change Order, 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 for the changes in the Work described in the Change Order, as permitted under Tex.

Gov't Code, Chapter 2260.

- 11.1.3 Procedures for administration of Change Orders shall be established by Owner and stated in the Owner's Special Conditions, or elsewhere in the Contract Documents.
- 11.1.4 No verbal order, verbal statement, or verbal direction of Owner or his duly appointed representative shall be treated as a change under this article or entitle Contractor to an adjustment.
- 11.1.5 Contractor agrees that 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 Contractor. Further, Contractor agrees to include in all its subcontracts a provision to the effect that Subcontractor agrees that 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 the 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 in setting the unit prices are so changed in a Proposed Change Order that application of the agreed unit prices to the quantities of work proposed will cause substantial inequity to Owner or Contractor, the applicable unit prices shall be equitably adjusted as provided in the Owner's Special Conditions or as agreed to by the parties and incorporated into a Change Order.
- 11.3 Claims for Additional Costs.
  - 11.3.1 If Contractor wishes to make a claim for an increase in the Contract Sum not related to a requested change, it shall give Owner and A/E written notice thereof within twenty-one (21) days after the occurrence of the event or discovery of any conditions giving rise to such claim. Contractor must notify Owner and A/E before proceeding to execute any Work considered to add additional cost or time, except in an emergency endangering life or property in which case Contractor shall act in accordance with Subsection 7.2.1., and failure to provide the required notice will invalidate any subsequent notice or claim for additional cost or time for the Work. If Owner and 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 a Change Order or a ULCO.
  - 11.3.2 If 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 Owner to stop the Work pursuant to Article 14 where Contractor was not at fault, or 3) any written order for a minor change in the Work issued pursuant to Section 11.4, Contractor shall make such claim as provided in Subsection 11.3.1.
  - 11.3.3 Should Contractor or his Subcontractors fail to call attention of A/E to discrepancies or omissions in the Contract Documents, but claim additional costs for corrective Work after Contract award, Owner may assume intent to circumvent competitive bidding for necessary corrective Work. In such case, Owner may choose to let a separate Contract for the corrective Work, or issue a ULCO to require performance by Contractor. Claims for time extensions or for extra cost resulting from delayed notice of patent Contract Document discrepancies or omissions will not be considered by Owner.
- 11.4 Minor Changes. A/E, with concurrence of 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 Contractor shall carry out promptly and record on the Record

Documents.

- 11.5 Concealed Site Conditions. Contractor is responsible for visiting the Site and being familiar with local conditions such as the location, accessibility, and general character of the Site and/or building. 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 Contract Documents, or if unknown conditions of an unusual nature are disclosed differing materially from the conditions usually inherent in Work of the character shown and specified, ODR and 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, A/E, with the approval of 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 ODR.
- 11.6 Extension of Time. All changes to the Contract Time shall be made as a consequence of requests as required under Section 9.6, and as documented by Change Order as provided under Section 11.1.
- 11.7 Administration of Change Order Requests. All changes in the Contract shall be administered in accordance with procedures approved by Owner, and when required, make use of such electronic information management system(s) as Owner may employ.
- 11.7.1 Routine changes in the construction Contract shall be formally initiated by A/E by means of a PCO form detailing requirements of the proposed change for pricing by Contractor. This action may be preceded by communications between 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 Contractor. Except for emergency conditions described below, approval of Contractor's cost proposal by A/E and ODR will be required for authorization to proceed with the Work being changed. Owner will not be responsible for the cost of Work changed without prior approval and 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 A/E and ODR using current estimating guides and/or practices. Photocopies of Subcontractor and vendor proposals shall be furnished unless specifically waived by ODR. Contractor shall provide written response to a change request within twenty-one (21) 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 verbal communication and authorization between Contractor and Owner, with written confirmation following within twenty-four (24) hours. 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, 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 Contractor alone (see Section 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 ODR.
- 11.8 Pricing Change Order Work. The amounts that Contractor and/or its Subcontractor adds to a Change Order for profit and overhead will also be considered by Owner before approval is given. The amounts established hereinafter are the maximums that are acceptable to Owner.

- 11.8.1 For Work performed by its forces, Contractor will be allowed its actual costs paid for materials, the total amount of its actual wages paid for labor, plus its actual cost paid for ~~of~~ State and Federal payroll taxes and for ~~of~~ worker's compensation and comprehensive general liability insurance, plus its actual additional bond and builders risk insurance cost if the change results in an increase in the premium paid by Contractor. To the total of the above costs, 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 Contractor will be allowed to add a maximum mark-up of ten (10) percent if the total of all subcontracted work is less than or equal to \$10,000, seven and half (7.5) percent if the total of all subcontracted work is between \$10,000 and \$20,000 and five (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. Owner does not accept and will not pay for additional Contract cost identified as indirect or consequential damages or as damages caused by delay.
- 11.8.4 For Contracts based on a Guaranteed Maximum Price (GMP), the Construction Manager-at-Risk or Design Builder shall NOT be entitled to a percentage mark-up on any Change Order Work unless the Change Order increases the Guaranteed Maximum Price.
- 11.9 Unilateral Change Order (ULCO). Owner may issue a written ULCO directing a change in the Work prior to reaching agreement with Contractor on the adjustment, if any, in the Contract price and/or the Contract Time.
- 11.9.1 Owner and Contractor shall negotiate for appropriate adjustments, as applicable, to the Contract Sum or the Contract Time arising out of a ULCO. As the changed Work is performed, Contractor shall submit its costs for such Work with its Application for Payment beginning with the next Application for Payment within thirty (30) days of the issuance of the ULCO. The Parties reserve their rights to dispute the ULCO amount, subject to Article 15.
- 11.10 Finality of Changes—Contractor. Upon execution of a Change Order and /or a ULCO by Owner, Contractor and A/E, all costs and time issues claimed by Contractor regarding that change are final and not subject to increase.
- 11.11 Audit of Changes—Owner. All Changes Orders are subject to audit by Owner or its representative at any time in accordance with Article 17.4 and Change Order amounts may be adjusted lower as a result of such audit.

## **Article 12. Project Completion and Acceptance**

- 12.1 Closing Inspections.
- 12.1.1 Substantial Completion Inspection. When Contractor considers the entire Work or part thereof Substantially Complete, it shall notify ODR in writing that the Work will be ready for

Substantial Completion inspection on a specific date. Contractor shall include with this notice Contractor's Punchlist to indicate that it has previously inspected all the Work associated with the request for inspection, noting items it has corrected and included all remaining work items with date scheduled for completion or correction prior to final inspection. The failure to include any items on this list does not alter the responsibility of Contractor to complete all Work in accordance with the Contract Documents. If any of the items on this list prevents the Project from being used as intended, Contractor shall not request a Substantial Completion Inspection. Owner and its representatives will review the list of items and schedule the requested inspection, or inform Contractor in writing that such an inspection is premature because the Work is not sufficiently advanced or conditions are not as represented on Contractor's list.

- 12.1.1.1 Prior to the Substantial Completion inspection, Contractor shall furnish a copy of its marked-up Record Documents 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 as described in the Contract Documents. 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, A/E, ODR, Contractor, and other Owner representatives as determined by Owner will jointly attend the Substantial Completion inspection, which shall be conducted by ODR or their delegate. If ODR concurs with the determination of Contractor and A/E that the Work is Substantially Complete, ODR will issue a Certificate of Substantial Completion to be signed by A/E, Owner, and Contractor establishing the date of Substantial Completion and identifying responsibilities for security, insurance and maintenance. 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 Contractor's Punchlist, which the inspection team deems necessary to correct or complete prior to final inspection. If Owner occupies the Project upon determination of Substantial Completion, Contractor shall complete all corrective Work at the convenience of Owner, without disruption to Owner's use of the Project for its intended purposes.
- 12.1.2 Final Inspection. 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, 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, Contractor shall give written notice to ODR and A/E that the Work will be ready for final inspection on a specific date. 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, ODR, A/E and Contractor will inspect the Work. A/E will submit to 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 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, notify A/E and ODR in writing stating the disposition of each final Punchlist item. 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 ODR will issue a certificate establishing the date of Final Completion. Completion of all Work is a condition precedent to 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 Owner.

12.1.4 Purpose of Inspection. Inspection is for determining the completion of the Work, and does not relieve 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 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 Owner's rights under the Contract or relieve Contractor of its responsibility for performance or warranties.

12.1.5 Additional Inspections.

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

12.1.5.2 If Owner's inspection team determines that the Work is not complete at the final inspection, ODR or A/E will give Contractor written notice listing the cause(s) of the rejection. Contractor will set a time for completion of incomplete or defective work acceptable to ODR. 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 Owner of additional inspections resulting from the Work not being ready for one or more of these inspections is the responsibility of Contractor. Owner may issue a ULCO deducting these costs from Final Payment. Upon Contractor's written request, 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 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 or notice.

12.2 Owner's Right of Occupancy. Owner may occupy or use all or any portion of the Work following Substantial Completion, or at any earlier stage of completion. Should Owner wish to use or occupy the Work, or part thereof, prior to Substantial Completion, ODR will notify Contractor in writing and identify responsibilities for security, insurance and maintenance Work performed on the premises by third parties on Owner's behalf does not constitute occupation or use of the Work by Owner for purposes of this Article. All Work performed by Contractor after occupancy, whether in part or in whole, shall be at the convenience of Owner so as to not disrupt Owner's use of, or access to occupied areas of the Project.

12.3 Acceptance and Payment

- 12.3.1 Request for Final Payment. Following the certified completion of all work, including all final Punchlist items, cleanup, and the delivery of record documents, Contractor shall submit a certified Application for Final Payment and include all sums held as retainage and forward to A/E and ODR for review and approval.
- 12.3.2 Final Payment Documentation. 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. Contractor shall submit evidence of return of access keys and cards, evidence of delivery to Owner of attic stock, spare parts, and other specified materials. Contractor shall submit consent of surety to Final Payment form 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, after payment from Owner or otherwise satisfied within the period of time required by Tex. Gov't Code, Chapter 2251. 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. Contractor may not subsequently submit a claim on behalf of Subcontractor or vendor unless Contractor's affidavit notes that claim as an exception.
- 12.3.3 Architect/Engineer Approval. 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, A/E will either: 1) return the Application for Final Payment to Contractor with corrections for action and resubmission; or 2) accept it, note their approval, and send to Owner.
- 12.3.4 Offsets and Deductions. Owner may deduct from the Final Payment all sums due from Contractor. If the Certificate of Final Completion notes any Work remaining, incomplete, or defects not remedied, Owner may deduct the cost of remedying such deficiencies from the Final Payment. On such deductions, Owner will identify each deduction, the amount, and the explanation of the deduction on or by the twenty-first (21<sup>st</sup>) 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 ULCO as may be applicable.
- 12.3.5 Final Payment Due. Final Payment is due and payable by Owner, subject to all allowable offsets and deductions, on the thirtieth (30<sup>th</sup>) day following Owner's approval of the Application for Payment. If Contractor disputes any amount deducted by Owner, Contractor shall give notice of the dispute on or before the thirtieth (30<sup>th</sup>) 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 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);
- 12.3.6.2 Failure of the Work to comply with the requirements of the Contract Documents;
- 12.3.6.3 Terms of any warranties required by the Contract, or implied by law; 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 Contractor except those specifically identified in writing and submitted to 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 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 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 required finish and workmanship. Contractor further warrants that unless otherwise specified, all materials and equipment incorporated in the Work under the Contract are new. 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 price for the cost of repair or diminution in value of the Work by reason of such defect. Absent such a written agreement, 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 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 Owner, at any time, or by any repair or correction of such defect made by Owner.
- 13.2 Warranty Period. Except as may be otherwise specified or agreed, 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~~ the Work performed for each phase begins on the date of Substantial Completion of that phase, or as otherwise stipulated on the Certificate of Substantial Completion for the particular phase.
- 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 not responsible, unless Owner is compelled to undertake maintenance or operation due to the neglect of Contractor.
- 13.3.2 Normal wear and tear under normal usage after acceptance of the Work by 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 relieve the Contractor from its 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 Contractor. ODR will certify the date of service commencement in the Substantial Completion certificate.

- 13.5.1 In addition to Contractor's warranty and duty to repair, Contractor expressly assumes all warranty obligations required under the Contract for specific building components, systems and equipment.
- 13.5.2 Contractor may satisfy any such obligation by obtaining and assigning to Owner a complying warranty from a manufacturer, supplier, or Subcontractor. Where an assigned warranty is tendered and accepted by Owner which does not fully comply with the requirements of the Contract, Contractor remains liable to 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 Owner, or any agent of Owner designated as responsible for management of the warranty period, of the discovery of a defect, Contractor shall promptly remedy the defect(s), and provide written notice to Owner and designated agent indicating action taken. In case of emergency where delay would cause serious risk of loss or damage to Owner, or if Contractor fails to remedy within thirty (30) days, or within another period agreed to in writing, Owner may correct the defect and be reimbursed the cost of remedying the defect from Contractor or its surety.

## **Article 14. Suspension and Termination**

- 14.1 Suspension of Work for Cause. Owner may, at any time without prior notice, suspend all or any part of the Work if, after reasonable observation and/or investigation, 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 Owner will give 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, Contractor shall immediately stop the Work so identified. As soon as practicable following the issuance of such a notice, 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 Contractor, Contractor will not be entitled to an extension of time for delay resulting from the suspension. If the cause is determined not to have been within the control of Contractor, and the suspension has prevented 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) days written notice to Contractor, Owner may at any time without breach of the Contract suspend all or any portion of the Work for a period of up to sixty (60) days for its own convenience. Owner will give 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, and the date on which the suspension of Work will cease. When such a suspension prevents Contractor from completing the Work within the Contract Time, it is an excusable delay. A notice of suspension for convenience may be modified by Owner at any time on seven (7) days written notice to Contractor. If Owner suspends the Work for its convenience for more than sixty (60) consecutive days, Contractor may elect to terminate the Contract pursuant to the provisions of the Contract.
- 14.3 Termination by Owner for Cause.
  - 14.3.1 Upon thirty (30) days written notice to Contractor and its surety, Owner may, without prejudice to any right or remedy, terminate the Contract and take possession of the Site and of all materials, equipment, tools, construction equipment, and machinery thereon owned by 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;
- 14.3.1.2 Persistent disregard of laws, ordinances, rules, regulations or orders of any public authority having jurisdiction, including ODR;
- 14.3.1.3 Persistent failure to prosecute the Work in accordance with the Contract, and to ensure its completion within the time, or any approved extension thereof, specified in the Contract;
- 14.3.1.4 Failure to remedy defective work condemned by ODR;
- 14.3.1.5 Failure to pay Subcontractors, laborers, and material suppliers pursuant to Tex. Gov't Code, Chapter 2251;
- 14.3.1.6 Persistent endangerment to the safety of labor or of the Work;
- 14.3.1.7 Failure to supply or maintain statutory bonds or to maintain required insurance, pursuant to the Contract;
- 14.3.1.8 Any material breach of the Contract; or
- 14.3.1.9 Contractor's insolvency, bankruptcy, or demonstrated financial inability to perform the Work.
- 14.3.2 Failure by 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 Upon receipt of a termination notice, the Contractor or its Surety has thirty (30) days to cure the reasons for the termination or demonstrate to the satisfaction of the Owner that it is prepared to remedy to the condition(s) upon which the notice of termination was based with diligence and promptness. If the Owner is satisfied that the Contractor or its Surety can remedy the reasons for the termination and complete the Work as required, the notice of termination shall be rescinded in writing by the Owner and the Work shall continue without an extension of time.
- 14.3.4 If at the conclusion of the thirty (30) day cure period the Contractor or its Surety is unable to demonstrate to the satisfaction of the Owner its ability to remedy the reasons for termination, the Owner may immediately terminate the employment of the Contractor, make alternative arrangements for completion of the Work and deduct the cost of completion from the unpaid Contract Sum.
  - 14.3.4.1 Owners cost to complete the Work includes, but is not limited to, fees for additional services by A/E and other consultants, and additional contract administration costs.
  - 14.3.4.2 Owner will make no further payment to Contractor or its surety unless the costs to complete the Work are less than the Contract balance, then the difference shall be paid to Contractor or its surety. If such costs exceed the unpaid balance, Contractor or its surety will pay the difference to Owner.
  - 14.3.4.3 This obligation for payment survives the termination of the Contract.
  - 14.3.4.4 Owner reserves the right in termination for cause to take assignment of all the Contracts between Contractor and its Subcontractors, vendors, and suppliers. ODR will promptly notify Contractor of the contracts Owner elects to assume. Upon

receipt of such notice, Contractor shall promptly take all steps necessary to effect such assignment.

- 14.4 Conversion to Termination for Convenience. In the event that any termination of Contractor for cause under Section 14.3 is later determined to have been improper, the termination shall automatically convert to a termination for convenience under Section 14.5 and Contractor's recovery for termination shall be strictly limited to the payments allowable under Section 14.5.
- 14.5 Termination for Convenience of Owner. 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:
- 14.5.1 Owner will notify Contractor and A/E in writing specifying the reason for and the effective date of the Contract termination. The notice may also contain instructions necessary for the protection, storage or decommissioning of incomplete work or systems, and for safety.
- 14.5.2 Upon receipt of the notice of termination, Contractor shall immediately proceed with the following obligations, regardless of any dispute in determining or adjusting any amounts due at that point in the Contract:
- 14.5.2.1 Stop all work.
- 14.5.2.2 Place no further subcontracts or orders for materials or services.
- 14.5.2.3 Terminate all subcontracts for convenience.
- 14.5.2.4 Cancel all materials and equipment orders as applicable.
- 14.5.2.5 Take appropriate action that is necessary to protect and preserve all property related to the Contract which is in the possession of Contractor.
- 14.5.3 When the Contract is terminated for Owner's convenience, Contractor may recover from Owner payment for all Work executed. Contractor may not claim lost profits or lost business opportunities.
- 14.6 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 Contractor or Subcontractor or their agents or employees or any other persons performing any of the Work under a contract with Contractor, then Contractor may, upon thirty (30) additional days written notice to ODR, terminate the Contract and recover from Owner payment for all Work executed, but not lost profits or lost business opportunities. If the cause of the Work stoppage is removed prior to the end of the thirty (30) day notice period, Contractor may not terminate the Contract.
- 14.7 Settlement on Termination. When the Contract is terminated for any reason, at any time prior to one hundred eighty (180) days after the effective date of termination, Contractor shall submit a final termination settlement proposal to Owner based upon recoverable costs as provided under the Contract. If Contractor fails to submit the proposal within the time allowed, Owner may unilaterally determine the amount due to Contractor because of the termination and pay the determined amount to Contractor.

## **Article 15. Dispute Resolution**

- 15.1 Unresolved Contractor Disputes. To the extent that it is applicable, the dispute resolution process provided for in Tex. Gov't Code, Chapter 2260, shall be used by Contractor to resolve any claim for breach of Contract made by Contractor that is not resolved under procedures described in these Uniform General Conditions or Owner's Special Conditions of the Contract.

- 15.2 Alternative Dispute Resolution Process. 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 herein shall hinder, 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 In any litigation between the Owner and the Contractor arising from this Contract or this Project, neither party will be entitled to an award of legal fees or costs in any judgment regardless which one is deemed the prevailing party.
- 15.5 Nothing herein shall waive or be construed as a waiver of the State's sovereign immunity.

## **Article 16. Certification of No Asbestos Containing Material or Work**

- 16.1 Contractor shall insure 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.
- 16.2 Contractor shall provide a notarized certification to 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 Contractor's application for Final Payment.
- 16.3 The Contractor shall insure compliance with the following acts from all of his subcontractors and assigns:
- Asbestos Hazard Emergency Response Act (AHERA—40 CFR 763-99 (7));
  - National Emission Standards for Hazardous Air Pollutants (NESHAP—EPA 40 CFR 61, Subpart M—National Emission Standard for Asbestos;
  - Texas Asbestos Health Protection Rules (TAHPR—Tex. Admin. Code Title 25, Part 1, Ch. 295C, Asbestos Health Protection

## **Article 17. Miscellaneous**

- 17.1 Owner's Special Conditions. When the Work contemplated by Owner is of such a character that the foregoing Uniform General Conditions of the Contract cannot adequately cover necessary and additional contractual relationships, the Contract may include Owner's Special Conditions that relate to the Project. In the event of a conflict between the UTUGCs and the Owner's Special Conditions, the Owner's Special Conditions will govern.
- 17.2 Federally Funded Projects. On Federally funded projects, Owner may waive, suspend or modify any Article in these Uniform General Conditions which conflicts with any Federal statute, rule, regulation or procedure, where such waiver, suspension or modification is essential to receipt by 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.
- 17.3 Internet-based Project Management Systems. At its option, Owner may administer its design and construction management through an Internet-based management system. In such cases, 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.
- 17.3.1 Accessibility and Administration.
- 17.3.1.1 When used, Owner will make the software accessible via the Internet to all Project

team members.

17.3.1.2 Owner shall administer the software.

17.3.2 Training. When used, Owner shall provide training to the Project team members.

17.4 Right to Audit.

17.4.1 Contractor understands that acceptance of funds under this Contract acts as acceptance of the authority of the State Auditor's Office, Owner, any successor agency and their representatives, including independent auditors, to conduct an audit or investigation in connection with those funds. Contractor further agrees to cooperate fully with any party conducting the audit or investigation, including providing all records requested.

17.4.2 Contractor shall maintain and retain supporting fiscal and any other documents relevant to showing that any payments under this Contract funds were expended in accordance with the terms of this Contract, the requirements of Owner, and with the laws and regulations of the State of Texas including, but not limited to, requirements of the Comptroller of the State of Texas and the State Auditor. Contractor shall maintain all such documents and other records relating to this Contract and Owner's property for a period of four (4) years after the date of submission of a request for Final Payment or until a resolution of all billing questions, whichever is later. Contractor shall make available at reasonable times and upon reasonable notice and for reasonable periods all documents and other information related to the Work of this Contract.

17.4.3 Contractor shall ensure that this clause concerning the authority to audit funds received indirectly by subcontractors through the Contractor and the requirement to cooperate is included in any subcontract it awards.

17.5 179 D Benefit Allocation. Owner may decide to seek the allocation of certain tax benefits pursuant to Section 179D of the Internal Revenue Code of 1986, as amended, (the "Code") through its Agreement with Contractor

If the Owner and the Internal Revenue Service (IRS) determine that the Contractor is eligible to receive the 179D deduction allocation as a "Designer" for the purposes of Section 179D of the Code or that Contractor could otherwise profit financially from the monetization of the benefit (separately and collectively, the "Rebate"), Contractor hereby agrees to allocate to the Owner a portion of the Rebate in an amount to be determined and contracted for on mutually agreeable terms when the value of the Rebate becomes ascertainable, net of associated costs realized by the Owner and Project Architect. At its sole discretion, the Owner shall determine whether to receive its portion of the Rebate in cash, discounted Contractor fees or both.

Owner reserves the right to retain a third-party consultant (the "Consultant") to manage and administer the process of obtaining and monetizing the Rebate derived from the Project(s).

Contractor agrees to cooperate in all reasonable respects with the Consultant's efforts to obtain and monetize any such Rebates derived from the Project(s) on behalf of the Owner. Certification of eligibility and negotiation of the Rebates should be facilitated by the Owner's 179D Consultant.

17.6 Force Majeure. Neither Owner nor Contractor will be liable or responsible to the other for any loss or damage or for any delays or failure to perform due to causes beyond its reasonable control including acts of God, strikes, epidemics, war, riots, flood, fire, sabotage, or any other circumstances of like character.

17.7 Confidentiality and Safeguarding of Owner Records; Press Releases; Public Information. Under the Contract, Contractor may (1) create, (2) receive from or on behalf of Owner, or (3) have access to, Owner records or record systems (collectively, "Owner Records"). Contractor represents, warrants, and agrees that it will: (1) hold all Owner Records in strict confidence and will not use or disclose Owner Records except as (a) permitted or required by the Contract, (b) required by Applicable Laws, or (c) otherwise

authorized by Owner in writing; (2) safeguard Owner Records according to reasonable administrative, physical and technical standards that are no less rigorous than the standards by which Contractor protects its own confidential information; and (3) comply with the Owner's rules, policies, and procedures regarding access to and use of Owner's computer systems. At the request of Owner, Contractor agrees to provide a written summary of the procedures Contractor uses to safeguard and maintain the confidentiality of Owner Records.

- 17.7.1 Notice of Impermissible Use. If an impermissible use or disclosure of any Owner Records occurs, Contractor will provide written notice to University within one (1) business day after Contractor's discovery of that use or disclosure. Contractor will promptly provide Owner with all information requested by University regarding the impermissible use or disclosure.
- 17.7.2 Return of University Records. Contractor agrees that within thirty (30) days after the expiration or termination of the Contract, for any reason, all Owner Records created or received from or on behalf of University will be (1) returned to Owner, with no copies retained by Contractor; or (2) if return is not feasible, destroyed following twenty (20) days written notice to the Owner. Contractor will confirm in writing the destruction of any Owner Records.
- 17.7.3 Disclosure. If Contractor discloses any Owner Records to a subcontractor or agent, Contractor will require the subcontractor or agent to comply with the same restrictions and obligations as are imposed on Contractor by this Section.
- 17.7.4 Press Releases. Except as required by the Contract, Contractor will not make any press releases, public statements, or advertisement referring to the Project or the engagement of Contractor as an independent contractor of Owner in connection with the Project or release any information relative to the Project for publication, advertisement or any other purpose without the prior written approval of Owner.
- 17.7.5 Public Information. Owner strictly adheres to all statutes, court decisions and the opinions of the Texas Attorney General with respect to disclosure of public information under the *Texas Public Information Act* ("TPIA"), Chapter 552, *Texas Government Code*. In accordance with Section 552.002 of TPIA and Section 2252.907, *Texas Government Code*, and at no additional charge to Owner, Contractor will make any information created or exchanged with Owner pursuant to this Contract that is not otherwise exempt from disclosure under TPIA available in a format reasonably requested by Owner that is accessible by the public.
- 17.8 Domestic Iron and Steel Requirement. Pursuant to Sections 2252.201-2252.205 of the Government Code, Contractor shall require that any iron or steel product produced through a manufacturing process and used in the Project is produced in the United States will require that the bid documents provided to all bidders and the contract include this same requirement.

## **End of U.T. System Uniform General Conditions**

## **EXHIBIT B**

### **OWNER'S DIVISION 00 AND DIVISION 01 SPECIFICATIONS**

Section 00 25 00 JO-BSV Attachment A Attachment B Attachment C Attachment D  Attachment E Attachment F	Owner's JO Special Conditions Prevailing Wage Determination Worker Wage Rate Notification Form Project Sign Layout Bastrop Visitation and Tour Policy Statement And Medical Documentation Requirements KCCMR Medical Clearance Requirements Form MD Anderson JOC Builder's Risk Program 2018 - 2019
Section 01 31 00 JO-BSV	Job Order Administration
Section 01 32 00	Project Planning and Scheduling
Section 01 35 16	Alteration Project Procedures
Section 01 35 25	Owner Safety Requirements
Section 01 45 00	Project Quality Control
Section 01 77 00	Project Close-out Procedures
Section 01 78 39	Project Record Documents
Section 01 78 46	Maintenance Materials
Section 01 79 00	Demonstration and Training
Section 01 91 00	General Commissioning Requirements

**SECTION 00 25 00 JO – OWNER'S SPECIAL CONDITIONS FOR JOB ORDER WORK**

**PART 1 - GENERAL**

**1.01 RELATED DOCUMENTS**

- A. General provisions of the Job Order Contracting Program Master Agreement including 2013 Uniform General Conditions for University of Texas System Building Construction Contracts (UTUGCs) apply to this Section. Contractor's attention is specifically directed, but not limited, to the UTUGCs for other requirements.
- B. Specifications throughout all Divisions of the Project Manual issued for a specific Job Order will be directly applicable to this Section, and this Section will be directly applicable to them.
- C. Attachment A – Minimum Wage Rate Determination
- D. Attachment B – Worker Wage Rate Notification Form
- E. Attachment C – Project Sign Layout. [May not be applicable to all Job Orders].
- F. Attachment D – Bastrop Visitation and Tour Policy Statement and Medical Documentation Requirements. [Applicable to Job Orders on the Bastrop Campus only].
- G. Attachment E – KCCMR Medical Clearance Requirements Form. [Applicable to selected Job Orders on the Bastrop Campus only].
- H. Attachment F – MD Anderson JOC Builder's Risk Program 2018 - 2019

**1.02 SUMMARY**

- A. Terms and conditions set forth in this document are for Contractor only, and are valid for all Job Orders completed under Owner's Job Order Contracting Program. For certain Job Orders, Owner may elect to issue Owner's Supplementary Special Conditions. In those circumstances, Owner's Supplementary Special Conditions will be issued with the Job Order Construction Documents and will apply to that Job Order only.
- B. Certain provisions within this Section are conditional in the sense that they may not be applicable for a specific Job Order (e.g. provisions relating to site offices, site fencing, toilet facilities, temporary water service, etc.). During the development of the Job Order Proposal, Contractor shall review this Section with the Owner's Representative to identify those conditional provisions that will not apply to that specific Job Order. For those conditional provisions that apply to the Job Order, all costs associated with adhering to the requirements of the provision shall be included within the Job Order Price. To the greatest extent practicable, those costs shall be based upon line item unit prices listed within the Unit Price Guide.

**1.03 REFERENCE STANDARDS**

- A. The latest published edition of a reference shall be applicable to a specific Job Order unless identified by a specific edition date.
- B. All reference amendments adopted prior to the date Owner issues a Job Order Request for Proposal shall be applicable to that Job Order.

- C. In addition to the requirements set forth in the Job Order Contracting Master Agreement and the UTUGCs, all materials, installation and workmanship shall comply with Owner's underwriter requirements (to the extent those requirements apply to a specific Job Order).

#### 1.04 DEFINITIONS

- A. Contractor shall refer to the Job Order Contracting Master Agreement and the UTUGCs for definitions of capitalized terms used in this Section but not defined herein.
- B. Outage (Shutdown) - Any planned or unplanned disruption of normal operation or use of utilities, sidewalks, parking areas, driveways or facility access. The terms Outage and Shutdown are synonymous and may be used interchangeably throughout the Job Order Contract Documents.
- C. Planned Utility Outage (Planned Utility Shutdown) – An Outage event that can reasonably be foreseen and have a plan of action in place to accomplish specific tasks during a utility outage.
- D. Utility - Any service provided by an outside source or manufactured in house (gas, water, electricity, fire suppression water, telecommunications, data systems, building automation systems, fire alarm systems, etc.) which facilitates building operations.
- E. Work Day (Business Day) - A day in which work is planned, excluding weekends and holidays. The terms "Work Day" and "Business Day" are synonymous and may be used interchangeably throughout the Job Order Contract Documents
- F. Normal (Regular) Working Hours are considered as work being performed between 7:00 A.M. and 4:00 P.M. Monday through Friday, excluding holidays. The terms Normal Working Hours and Regular Working Hours are synonymous and may be used interchangeably throughout the Job Order Contract Documents.
- G. Weather Day – A day on which Contractor's current schedule indicates Work is to be done, and on which inclement weather occurs and resultant Job Order Site conditions or inaccessibility to the Job Order Site prevent Contractor from performing seven (7) hours of Work associated with the Job Order's critical activities during Normal Working Hours.

#### 1.05 OWNER'S RIGHT OF OCCUPANCY

- A. As provided in the UTUGCs, Owner may occupy or use all or any portion of the Work following Substantial Completion, or at any earlier stage of completion. Contractor shall follow the Planned Utility Outage Procedure specified within this Section when performing Work affecting any occupied facility.

#### 1.06 WAGE RATE REQUIREMENTS

- A. Contractor shall comply with all requirements for wage rates as set forth in UTUGCs Section 2.2. The prevailing wage schedule is attached hereto as Attachment A.
- B. Owner may verify wage rate compliance in the field by interviewing workers, or otherwise. Contractor shall assist Owner with verifying compliance with wage rate requirements, including providing translation for non-English speaking workers.
- C. Contractor shall require all workers to complete a "Worker Wage Rate Notification Form" before starting Work on the Job Order. An acceptable form for the Worker Wage Rate Notification form is attached hereto as Attachment B.

- D. Contractor shall maintain certified payrolls, for the Contractor and all Subcontractors, and shall maintain such documents for four (4) years from the date Contractor achieves Final Completion or until all billing questions have been resolved, whichever is later.

1.07 SEPARATE CONTRACTS

- A. As provided in the UTUGCs, Owner may award other contracts for other portions of the Job Order. When Owner will be issuing separate contracts for a specific Job Order, Owner will so advise Contractor in the Job Order Request for Proposal. Additional separate contracts typically will include;
- HVAC testing, adjusting and balancing.
  - Fire sprinkler system testing and commissioning.
  - Telecommunications equipment and system installation and testing.
  - Commissioning Authority

**PART 2 - PRODUCTS**

2.01 GENERAL

- A. All materials shall meet or exceed all applicable referenced standards, federal, state and local requirements, and conform to codes and ordinances of authorities having jurisdiction.

2.02 ALTERNATES

- A. Any alternate scopes of work associated with a particular Job Order will be clearly and conspicuously identified in the Job Order Construction Documents and Owner's Job Order Request for Proposal

2.03 USE OF ASBESTOS CONTAINING BUILDING MATERIALS OR WORK PROHIBITED

- A. Contractor shall take whatever measures it deems necessary to ensure that all employees, suppliers, fabricators, materialmen, Subcontractors, or their assigns, comply with the requirements set forth below.
- B. All materials used on any Job Order shall be certified as non-Asbestos Containing Building Materials (ACBM).
- C. Contractor shall provide a certification statement, included with each materials submittal, stating that no ACBM or asbestos containing work is included within the scope of the proposed submittal.
- D. Every Subcontractor shall provide a notarized statement that no ACBM has been used or provided for the Job Order, or left on the Job Order site.
- E. Contractor shall provide, at Substantial Completion of each Job Order, a notarized affidavit to Owner and A/E stating that no ACBM or work was provided, installed, furnished or added to the Work.
- F. At Final Completion of each Job Order, Contractor shall provide a notarized certification statement per Texas Administrative Code Title 25 Part 1, Ch. 295.34, paragraph c.1 that no ACBM was used in completing the Job Order Work.

- G. Contractor shall provide, in hard copy and electronic form, all necessary Safety Data Sheets (SDS), for all products used in the completion of the Job Order Work to the A/E who will compile the information from the SDS and, finding no asbestos in any of the products, make a certification statement to that effect. For Job Orders for which no A/E is assigned, Contractor shall submit to the Owner's Representative.

2.04 OWNER-PROVIDED BUILDER'S RISK INSURANCE

- A. As set forth in the Master Agreement, Owner will provide builder's risk insurance for this Job Order Program. Said builder's risk insurance shall be provided as set forth in the MD Anderson JOC Builder's Risk Program 2018-2019 document attached hereto, which shall be subject to annual renewals and updates.
- B. Contractor and all Subcontractors shall delete Article 5.2.2.1.5 through 5.2.2.1.5.10 of the UTUGCs and shall recognize and agree to the requirements described in this Section 00 25 00.
- C. Owner will purchase and maintain in force builder's risk insurance for the Work to be completed under each Job Order. The insurance will apply on a replacement cost basis with no coinsurance provision.
- D. This insurance will name as insureds the Owner, the Contractor, and all Subcontractors and sub-subcontractors in the Job Order Work but only to the extent of their financial interest in the Job Order Work.
- E. Builder's risk insurance will be on an "all risk" or equivalent policy form and will include insurance against fire and extended coverage perils, theft, vandalism, malicious mischief, collapse, earthquake, flood, windstorm, boiler and machinery/mechanical breakdown, testing and startup, and terrorism.
- F. The builder's risk insurance will be specific as to coverage and will be primary to any permanent insurance or self-insurance that may be maintained on the property by Owner.
- G. The builder's risk insurance will include a waiver of subrogation in favor of Owner, the Contractor, and all Subcontractors and sub-subcontractors in the Job Order Work.
- H. Upon request, Owner will provide to Contractor a certificate of insurance that provides evidence of builder's risk insurance.
- I. In the event of an insured loss caused by the action or inaction of Contractor, any Subcontractor or sub-subcontractor, or by anyone directly or indirectly employed by any of them, or by anyone for whose acts any of them may be liable, Contractor will be responsible for, and reimburse to Owner, any applicable deductible under the builder's risk insurance policy, which may be up to \$50,000. Any costs associated with Contractor's responsibility for the applicable deductible will not be considered part of the Job Order Price.
- J. Any loss insured under Owner's builder's risk insurance will be adjusted by the Owner as fiduciary and made payable to the Owner as fiduciary for the insureds, as their interests may appear. Contractor shall pay Subcontractors their just shares of insurance proceeds received by the Contractor, and by appropriate agreements, written where legally required for validity, shall require Subcontractors to make payments to their sub-subcontractors in a similar manner. Contractor will be required to provide a Release of Lien to Owner for any insurance proceeds received by Contractor.

- K. Owner's builder's risk insurance will not cover Contractor's, Subcontractors' and sub-subcontractors' construction machinery, equipment and tools used in the performance of the work. It will be the Contractor's, Subcontractors' and sub-subcontractors' responsibility to insure their construction machinery, equipment and tools. Contractors, Subcontractors and sub-subcontractors shall waive all rights of subrogation and recovery against and in favor of Owner for any loss, claim or expense, including, but not limited to, partial or total damage or theft.
- L. Contractor shall assist Owner in obtaining and maintaining builder's risk insurance by providing, in a timely manner, project-related information required by an insurance carrier when requested by the Owner or the Owner's insurance broker.

2.05 TEMPORARY FIELD OFFICE STRUCTURES, FURNISHINGS AND EQUIPMENT

- A. Contractor shall coordinate and direct the Work of each Job Order from the Job Order Site.
- B. Contractor shall provide and maintain at least one (1) temporary field office area that is adequately staffed, furnished, and equipped.
- C. All arrangements for temporary field offices shall be as agreed upon with the Owner's Representative.
- D. Temporary field office(s) shall be secure, weather-tight, well-lighted, air-conditioned, heated, and shall include provisions for telephones, copier, facsimile machines, internet connection services, conference area(s), functioning toilet facilities, and maintenance of all Job Order files.
- E. Contractor shall provide weekly janitorial services for all temporary field office(s) including, but not limited to, supplying and servicing of toilet facilities.
- F. Temporary field office(s) shall have adequate and safe entries, including steps with railings and landings or stoops as required, and shall provide hard surface walkways to connect the field office structures to one another and to Job Order Site entry or exit.
- G. Contractor shall provide and maintain temporary field office(s) until Final Completion of the Job Order Work and shall remove temporary field office(s) only after obtaining concurrence from Owner.
- H. Contractor shall provide field office(s) and storage shed/trailer accommodations as necessary for the major Subcontractor(s) to adequately perform their respective work.
- I. All storage sheds/trailers shall be secure and weather-tight for the storage of tools and all materials, which may be damaged by the weather. All storage-shed floors shall be raised at least six inches above finished grade.

2.06 TOILET FACILITIES

- A. Contractor shall provide toilet facilities for workers at the Job Order Site, shall post notices, and take such precautions as may be necessary. Refer to Section 01 35 23 - Project Safety, for additional requirements.
- B. Contractor shall provide toilet facilities from date of mobilization until Final Completion of the Job Order Work that comply with OSHA regulations and as required herein. Toilet facilities shall comply with all applicable state and local regulations. Quantity, type, and location of facilities shall be subject to acceptance by Owner.

- C. Contractor shall service, clean, and sanitize toilet facilities at least daily and as frequently as necessary to maintain them in a safe, clean, and sanitary condition. Contractor shall maintain at the Job Order Site, a record of the servicing, cleaning, and sanitizing of the facilities for the duration of the Job Order Work.
- D. Neither the use of toilet facilities installed under any other project nor the use of existing campus facilities is allowed without prior written approval from Owner. If Owner authorizes the use of specific campus toilet facilities, Contractor shall assure all persons employed for the Job Order use only authorized toilet facilities. Contractor shall post notices and take such precautions as may be necessary to assure compliance.
- E. Toilet Facilities: Portable field toilet facilities shall conform to ANSI Z4.3 and shall comply with the following:
  - 1. There shall be a toilet paper holder and an adequate supply of toilet paper. If the facility is intended for use by female workers, there shall be a disposal receptacle for sanitary napkins.
  - 2. The toilet facility shall afford the user privacy and protection from weather and from falling objects.
  - 3. There shall be a self-closing door that can be locked from inside the toilet facility.
  - 4. The toilet facility shall be illuminated by natural or artificial light and adequately ventilated.
  - 5. A sign shall indicate if the toilet facility is intended for use by males only or by females only.
- F. Toilet facilities shall be located so as to be conveniently accessible to employees working on the Job Order, but not so close to the Work location as to cause a nuisance to those employees or any adjacent areas.
- G. Where the Job Order activities extend over multiple floor levels, Contractor shall make arrangements to provide toilet facilities so that workers do not have to walk more than two floors to reach the facilities.

## 2.07 JOB ORDER SITE FENCING

- A. Contractor and Subcontractors shall confine their activities to the Job Order Site and in no way obstruct any other part of the campus or utilize any campus facilities for any purpose.
- B. For exterior Job Order Work, upon mobilization Contractor shall build a substantial wire mesh fence (or other type fence) as directed by Owner, at least six (6) feet high as shown on the site plan, completely surrounding the Job Order Site, unless Owner agrees otherwise. Posts shall be placed not more than eight (8) feet apart and securely set in the ground. Wire mesh shall be tightly stretched over the supports.
- C. When appropriate, based on the size and location of the Job Order Site and the nature of the Work, the Job Order Site fencing shall include emergency service and trucking gates in locations shown on the site plan. The gates shall be hung with heavy strap hinges and hasps for locking. Contractor shall properly maintain fences and gates until Substantial Completion. Contractor shall only remove site fencing with concurrence from Owner.

2.08 JOB ORDER COMMUNICATIONS PLAN

- A. Depending upon the nature of a Job Order, Owner may develop a Job Order Communications Plan to inform Owner's faculty, employees, visitors, and others concerning construction activities affecting them. Contractor shall participate and support this effort as required by Owner. Typical support by Contractor may include attendance at communications meetings, preparation of graphic and narrative construction impact updates, and the furnishing of targeted signage.

2.09 JOB ORDER SIGNAGE

- A. Contractor shall provide and install signage in accordance with the Job Order Communications Plan, or as directed by Owner, in a location designated by Owner. The sign shall be constructed as instructed by Owner.
- B. All hazard warning signage shall be OSHA 29 CFR Part 1926 compliant. All signs shall be prominently displayed at all entrances to the Job Order Site. Postings must be constructed of a durable material that will resist wear and damage.
- C. Additional Contractor or Subcontractor signs or advertisements shall not be installed without Owner's written approval.

2.10 TEMPORARY WATER

- A. Contractor shall provide temporary lines for all water required to complete the Job Order Work and shall make arrangements through the Owner's Representative for water service. This shall include all means of conveying and the necessary metering devices. In lieu of temporary connections, with Owner's approval, Contractor may make permanent connections and such may serve for the construction period.
- B. In the event water is not available at the Job Order Site from Owner's existing distribution system, Contractor shall negotiate with the local distributor for water and pay all fees and rates required by the local water utility.

2.11 TEMPORARY POWER AND LIGHTING

- A. Contractor shall make arrangements with Owner or the local utility company for temporary construction power. If power is available only through Owner's system, Contractor shall make arrangements for and provide metering equipment. Contractor may energize any permanent power system associated with the Job Order only when approved by Owner.
- B. Contractor shall provide adequate lighting about the Job Order Site for security, inspections of excavations, night shift work (should such occur), and shall also provide adequate temporary interior lighting throughout building enclosures to facilitate quality workmanship and appropriate inspection conditions.
- C. Contractor shall ensure, and shall use emergency power equipment and connections if necessary to ensure, adequate lighting for egress and life safety.

2.12 TEMPORARY MECHANICAL SERVICES

- A. If temporary heating, cooling, ventilation or humidity control equipment is required for protection of the Work or for implementation of indoor air quality measures, Contractor shall provide Owner-approved equipment and shall properly operate such that no Work shall be damaged or life safety compromised.

- B. All equipment and filters shall be maintained in good operation and all filters and controls shall be changed as a result of damage or expiration to ensure acceptable air quality. If necessary, all equipment must have current certifications.
- C. After the permanent mechanical equipment has been installed and connected to the local chilled water and steam distribution systems, the equipment may be operated by Contractor to heat or cool the Job Order Site if acceptable to Owner. Contractor must flush and clean all new mechanical piping systems before connecting to local systems.
- D. During operation of the mechanical equipment, prior to achieving Substantial Completion, Contractor shall keep the mechanical equipment in good operating condition, properly maintained, including cleaning and changing of all filters. New, non-construction filters shall be installed prior to Owner's acceptance of the mechanical equipment. The warranty period shall start for the respective equipment as delineated in the UTUGCs.

#### 2.13 REMOVAL OF TEMPORARY FACILITY

- A. When a temporary facility is no longer needed for the proper conduct of the Work, Contractor shall completely remove it from the Job Order Site and shall repair or replace any material, equipment, or finished surface damaged in doing so.

#### 2.14 PARKING

- A. Contractor is responsible for securing adequate parking for Contractor's employees in locations acceptable to Owner's Representative.

### PART 3 - EXECUTION

#### 3.01 ACCESS AND LIMITS OF CONSTRUCTION

- A. When and as appropriate for a particular Job Order, upon authorization to mobilize Contractor shall submit a plan layout showing location of field offices, size and arrangement of spaces, fencing, Job Order Site control points, and utility tie-in locations for Owner review.
- B. All Job Order personnel shall confine and limit their work and use of the Job Order Site to those areas within the defined limits. All public and Owner rules, laws and requirements shall be obeyed and enforced by Contractor. No tools, construction vehicles, or construction material other than those in transit, shall be permitted beyond the Job Order Site limits, including Owner's existing mechanical, plumbing, and electrical rooms, equipment rooms, and storage rooms.
- C. All campus roads, drives, and fire lanes as well as all sidewalks and pedestrian routes, other than those specifically indicated to be in Contractor's area of control, must be kept open at all times. Contractor shall proactively schedule and obtain security clearance for all significant material deliveries, vehicle traffic, street closures, cranes, concrete trucks, etc., through and around Owner's campus and the Job Order Site.

3.02 SURVEYING

- A. When reasonably needed to facilitate the implementation of a particular Job Order, Contractor shall employ an experienced and competent Professional Surveyor to establish at least three (3) separate permanent bench marks, to which easy access may be had during the progress of the Work, and from time to time to determine and verify the lines and grades. As the Work progresses, Contractor shall establish easily accessible benchmarks at each level referenced to finish floor line.
- B. Level or Transit: Contractor shall maintain an accurate level or transit at the Job Order Site at all times. This instrument shall be used to verify lines, grades, etc., and shall be available at all times for use by the Architect/Engineer and Owner. A level shall be used to layout all Work and shall be used by operators skilled in the instrument's use.
- C. Contractor shall erect and maintain substantial and braced batter boards at all corners of structures, set their location to provide proper working clearance and verify that they are level and at the proper grade.
- D. As the Work progresses, Contractor shall lay out partitions on the floor in exact locations as a guide to all contractors and trades.
- E. Before ordering any materials or doing any Work, Contractor or appropriate Subcontractor shall verify and be responsible for the correctness of all measurements. No extra charge or compensation shall be allowed on account of difference between actual dimensions and the measurements indicated on the drawings. Any differences, which may be found, shall be submitted to the Architect/Engineer for consideration before proceeding with the Work.

3.03 ON-GOING CAMPUS OPERATIONS

- A. Job Order Sites will likely be surrounded by or adjacent to continuously functioning campus facilities, including academic and research facilities. Contractor shall make every effort to avoid disruptions to ongoing operations and to maintain a safe environment for students, faculty, and staff in the areas adjacent to the Job Order Site.
- B. Contractor shall obtain all Owner's in-house approvals and permits. Operation of utilities and building systems must not be interrupted except when scheduled and approved in advance through established channels. Contractor should be always mindful and proactive with regard to containment of noise, fumes, dust and debris.

3.04 CONTRACTOR'S RESPONSIBILITY OF THE JOB ORDER WORKFORCE

- A. Contractor is responsible for the actions of the entire Job Order workforce, including, but not limited to, Subcontractors' and suppliers' employees, whenever they are on the campus. Contractor shall submit a plan for identifying and controlling all workers, and for management of personnel records, including payroll records. Identification badges for workers, busing of workers from remote parking lot(s), written and verbal reminders to workforce of appropriate behavior and avoidance of campus facilities, and publishing of established access and egress routes for vehicular and pedestrian traffic are required, as a minimum, in order to maintain control of the work force.
- B. Unacceptable behavior on the part of a worker anywhere on campus (including parking lots, the Job Order Site, and the accessing route(s) through the Job Order Site and through the campus), failure to obtain parking permits, or committing of traffic violations while on campus may lead to cancellation of any Owner-provided parking.

- C. Harassment of any person, whether a student, faculty, staff, or visitor to the campus, is strictly forbidden. Harassment includes any action such as jeering, whistling, calling-out, staring, snickering, making rude or questionable comments, or similar behavior. Offending worker(s) will be removed from the Job Order.

### 3.05 SECURITY

- A. Contractor is responsible for security of the Job Order Site. The University of Texas Police-Houston (UTP-H) Bastrop/Smithville Team will not provide security for Contractor's areas unless under project-specific agreement and terms of compensation.
- B. Contractor shall secure the Job Order Site at nights and weekends, or when no work is being performed, to prevent the entry of unauthorized personnel. Locks shall be of an approved type and have special keying as required by Owner. Keys for all door locks shall be made available to UTP-H Bastrop/Smithville Team. All doors accessing the Job Order Site shall be properly latched and have closers to maintain closed doors at all times. All doors accessing the Job Order Site shall have MD Anderson standard construction signage, provided by the Owner's Representative, to better ensure that only authorized construction personnel access the Job Order Site.
- C. Contractor shall not retain the services of outside guard or law enforcement services in connection with Work on campus without the specific prior written approval of Owner.

### 3.06 PROTECTION OF WORK

- A. Contractor shall properly and effectively protect all materials and equipment during and after installation. Building materials, Contractor's equipment, etc., may be stored on the premises, but the placing of it shall be within the designated Job Order Site area. When any room in the building is used as a shop, store room, etc., Contractor shall be held responsible for any repairs, patching, or cleaning arising from such use. Contractor shall protect and be responsible for any damage to Contractor's Work or material, from the date of mobilization until the date of Final Completion and shall make good without cost to Owner, any damage or loss that may occur during this period. Contractor shall handle all material as directed, so that the Architect/Engineer's representative may inspect it. All material affected by weather shall be covered and protected to keep it free from damage while being transported to the Job Order Site and while stored on the Job Order Site.
- B. During the execution of the Work, open ends of all piping and conduit, and all openings in equipment shall be closed when Work is not in progress, and shall be capped and sealed prior to completion of final connections, so as to prevent the entrance of foreign matter.
- C. All heating, ventilating, plumbing and electrical equipment shall be protected during the execution of the Work. All ductwork and equipment shall be sealed with heavy plastic and tape to prevent the entry and accumulation of dust, mold, and debris or other foreign matter.
- D. All ductwork and air handling mechanical equipment shall be wiped down with a damp cloth immediately before installation to ensure complete removal of any accumulated dusts and foreign matter.
- E. All plumbing fixtures shall be protected and covered so that no one can use them. All drains shall be covered until placed in service to prevent the entrance of foreign matter.

- F. Contractor shall protect trees and shrubs – within or immediately adjacent to the Job Order Site that are designated to be saved and maintained – with strong open slat fences at least six (6) feet high, completely surrounding them, all maintained in sound condition until Owner gives Contractor permission for removal. Contractor shall not remove, cut, or trim any trees or shrubs without Owner's written approval, unless specifically identified on the approved Job Order Construction Documents.

### 3.07 PLANNED UTILITY OUTAGE PROCEDURE

- A. Contractor shall not activate or de-activate any campus system, or component of any such system, without express written direction from Owner.
- B. Contractor shall schedule and obtain Owner's approval for any necessary outage of campus utilities or systems; in advance and through the Owner's Representative. Contractor shall allow a minimum of five (5) business days from the date an outage is requested to the date it is executed. All outages shall be performed during Normal Working hours or as otherwise agreed to by Owner.

### 3.08 NOISE CONTROL

- A. Contractor shall coordinate equipment locations and timing or sequence of work operations so as to avoid conflict with Owner's continuing use of adjacent buildings and avoid any interference with Owner's scheduled meetings, events, or business activities.

### 3.09 TEMPORARY SHORING

- A. Contractor shall provide temporary shoring required for the installation of Work. Contractor assumes all responsibility for shoring and shall repair any damage caused by improper supports or failure of shoring in any respect. Any provisions that are installed to assure the stability of adjacent structures, trees, roadways, or infrastructure, shall be in accordance with the plans provided by Contractor.

### 3.10 CUTTING, PATCHING, AND INSTALLATION OF SLEEVES

- A. If cutting or patching of holes or openings is required for the execution of the Work, Contractor shall consult with the Architect/Engineer prior to the commencement of any cutting or patching. Contractor shall leave all chases, holes, or openings straight, true, and of proper size as may be necessary for the proper installation of Work.
- B. No excessive cutting of existing structures shall be permitted, nor shall any piers or other structural members be cut without the written approval of the Architect/Engineer. After such Work has been installed, Contractor shall carefully fit around, close up, repair, patch, and point-up as directed to the entire satisfaction of the Architect/Engineer.
- C. All cutting and patching for utility penetrations shall be done carefully, with proper tools by qualified workers, without additional cost to Owner. Contractor shall build into the Work, as indicated on the Drawings or in the Specifications, any and all items furnished by others. Cutting and repairing of work in place, as a result of negligence by Contractor, shall be paid for by the Contractor.
- D. Work performed within each Section of the Specifications, unless otherwise indicated in the Drawings or Specifications, includes all cutting, patching, and digging for work in that trade section required for proper accommodations of work of other trades. Such work shall be executed by competent workers skilled in trades required for restoration. Contractor shall arrange and pay for cutting and patching required for installation of Contractor's Work.

- E. Contractor shall seal penetrations through all rated partitions, walls, and floors with U.L. tested assemblies to provide and maintain a rating equal to or greater than the partition, wall or floor. In addition, Contractor shall seal penetrations through all floors to provide and maintain a watertight installation.

### 3.11 ASBESTOS ABATEMENT

- A. In the event Contractor encounters material reasonably believed to be asbestos or to contain asbestos at the Job Order Site, Contractor shall immediately stop work in the area affected and report the condition to Owner. If in fact the material is asbestos or contains asbestos and has not been abated, Contractor shall not resume the non-asbestos-related Work in the affected area until the asbestos has been abated.
- B. The abatement action may be performed in any of three ways, as Owner may decide. Owner may perform the abatement by Owner's own forces, or Owner may contract with a third party to perform the abatement, or Contractor may perform the abatement by an appropriate means acceptable to Owner such as performing the Work through Contractor's own employees if they are appropriately certified or by hiring an abatement subcontractor.
- C. If Contractor is to perform the abatement, Owner and Contractor will negotiate a Change Order in accordance with the terms of the Master Agreement relative to extra work. In such a case, Owner specifically agrees that the cost of any special comprehensive general liability insurance that may be required relative to the abatement Work will be considered a direct cost of the extra work, on which Contractor may be allowed to add the applicable markup per the UTUGCs.

### 3.12 CONTRACTOR LICENSURE

- A. Contractor shall ensure that a Master Plumber licensed with the State of Texas directly supervises all plumbing Work. At least one plumber holding a State of Texas journeyman license shall be present at each Job Order Site during any plumbing Work.
- B. Contractor shall ensure that Contractor's mechanical subcontractor is licensed with the State of Texas to install all HVAC Work.
- C. Contractor shall ensure that a Master Electrician licensed with the State of Texas directly supervises all electrical Work. At least one electrician holding a State of Texas journeyman license shall be present at each Job Order Site involving electrical Work.

### 3.13 SAFETY PRECAUTIONS AND PROGRAMS

- A. MD Anderson Environmental Health & Safety, Sustainability, and Emergency Management (EHSSEM) has the authority to take intervening action in the event it deems any visitor or staff of MD Anderson are in danger. Contractor shall adhere to requirements stated in Section 01 35 25 - Owner Safety Requirements.
- B. Contractor shall become familiar with, receive required training on, and abide by all policies and procedures of MD Anderson and any governmental body [e.g. NFPA, OSHA, EPA, TDLR (Texas Department of Licensing and Regulation), TCEQ (Texas Commission on Environmental Quality), etc.] having authority to control the manner, methods or both of completing the Work associated with the Job Order.

### 3.14 MISCELLANEOUS

- A. All gas lines that are involved with a Job Order must have ends capped with proper cap and sealant, even if valves are locked off.

- B. Contractor shall install temporary equipment in such a manner that finish work will not be damaged by smoke, falling mortar, concrete, or other causes. Location and arrangement of temporary equipment shall be subject to the approval of the Owner's Representative.
- C. Change Room Facilities:
  - 1. Whenever workers are required to change clothes and wear special protective clothing to work with toxic or dangerous substances, an appropriate facility for decontamination, separate from other sanitary and washing accommodations shall be provided by Contractor. In these cases, change room facilities shall be duplicated and storage shall be provided for protective clothing in one room and for personal clothing in the other.
  - 2. Protective clothing and personal clothing shall not come into contact with each other or be stored in the same facilities. Protective clothing and work clothing, which may have become wet by the process of decontamination, must be stored in a separate, well-ventilated area.
  - 3. Change rooms shall be gender separated and provided with inside and outside locking mechanisms.

### 3.15 JOB ORDER SITE AND AREA MAINTENANCE

- A. A thorough cleanup of the Job Order Site and the surrounding area is required no less than once per week or more often as directed by the Owner's Representative. Contractor shall be responsible to ensure that the debris and trash resulting from site operations are removed from the building and the property on a daily basis. Solid debris, such as brick bats, mortar and plaster droppings, may not be dumped on the grounds about the Job Order Site. All combustible material including scrap from lumber, crating, excelsior, paper, and similar types of trash shall be removed from the Job Order Site on a daily basis. Trash shall not to be allowed to accumulate.
- B. Contractor shall not allow food to be consumed or food wastes to accumulate at the Job Order Site.
- C. Contractor shall be required to clean all streets of mud, dirt, dust, debris, and construction material produced during Contractor's construction activities on a daily basis. Contractor shall repair any damage to existing streets, parking, facilities, and any other area of the Job Order Site, including areas used for lay down or storage.

### 3.16 INSPECTIONS

- A. The minimum notice for requesting an inspection specified in Section 01 45 00 is modified to be a minimum notice of five (5) business days unless directed otherwise by Owner.

### 3.17 OPERATING AND MAINTENANCE MANUALS

- A. Certain requirements of the UTUGCs are supplemented by Section 01 77 00 – Project Closeout Procedures.

### 3.18 RECORD DOCUMENTS

- A. Certain requirements of the UTUGCs are supplemented by Section 01 78 39 – Project Record Documents.

3.19 SHOP DRAWINGS AND SUBMITTALS

- A. Certain requirements of the UTUGCs are supplemented by Section 01 31 00 – Project Administration.

3.20 SPECIAL CONDITIONS FOR THE DEPARTMENT OF COMPARATIVE MEDICINE - BASTROP CAMPUS

- A. The following Special Conditions for preventative medical, safety, and security reasons at the Department of Comparative Medicine (DCM) apply only to the Bastrop Campus. Contractor shall disseminate these Special Conditions to Subcontractors and all workers prior to their arrival at DCM.
- B. Workers are allowed only in their assigned project area; visitation of other buildings or animal areas is not permitted. Workers that do not follow these Special Conditions will be told to leave immediately and their supervisor will be informed of the infraction.
- C. No photography or videotaping is allowed unless specific permission for project purposes is obtained from the Chairman of the DCM.
- D. Refer to Attachment "D" (To Owner's Special Conditions) – Bastrop Visitation and Tour Policy Statement and Medical Documentation Requirements:
- E. Bastrop Campus - Medical Documentation Requirements: All Contractors, Subcontractors, and workers must present evidence of negative TB health status and immunity to Rubeola and Varicella to be allowed to work on the Project when required for a specific Job Order by DCM.
- F. Visitation and Tour Policy Statement: Defines requirements for Contractor badges, daily sign-in and sign-out at the project area, health screening, and risk management.
- G. Guidelines for Workers in the Chimpanzee, Baboon, and Rhesus Areas:
  - 1. Prior to orientation, A KCCMR employee must accompany all workers in the non-human primate sections. The animal area veterinarian or supervisor must be notified of the visit and the purpose of the visit so that appropriate arrangements can be made.
  - 2. Before construction projects begin, all workers will be given a thorough orientation regarding proper behavior in the non-human primate areas, including procedures to follow in the event of an animal excursion and other specific project instructions. Workers will be expected to remain within the established boundaries of their work area. When animals are nearby the work area, workers must not taunt or tease the animals by word or gesture, and never approach the animals. Under no circumstances is food or anything else to be thrown or given to the animals. Construction materials and debris must be secured to prevent the wind from blowing material within reach of non-human primates.
  - 3. Additional safety guidelines will be provided to workers during the orientation.

**END OF SECTION 00 25 00**

**ATTACHMENT "A"**  
**(to Owner's Special Conditions)**  
**MINIMUM WAGE RATE DETERMINATION**

The University of Texas System is the contracting agency for this construction project. The following statute requires the contracting agency to specify the generally minimum rates of wages in contracts that are bid.

Government Code 2258  
"Construction of Public Works in State and  
Municipal or Political Subdivisions; Prevailing  
Wage Rates to be maintained"  
and  
The Uniform General Conditions  
for University of Texas System Building Construction Contracts

Pursuant to the requirements of this statute, we have determined that the following rates of wages are paid to various classifications of workers in the locality of this project.

Total hourly compensations to each worker must equal or exceed the minimum wage rates stated in the following attachment. Contributions by a worker toward health, pension, vacation, and the like are part of the worker's pay; contributions by the employer are not. Any dollar amounts shown in columns for health, pension, and vacation may be paid either in cash or in kind. Workers in classifications where rates are not identified shall be paid not less than the general minimum rate of "laborer" for the various classifications of work therein listed.

All hours of work over 40 hours per week are overtime and will be compensated at the rate of 1 and ½ times the regular wage.

Trainees/helpers, where not otherwise specified above, may be compensated at a rate determined mutually by the worker and employer, commensurate with the experience and skill of the worker but a rate not less than 60% of the journeyman's wage or less than the Laborers (General) rate. At no time shall a journeyman supervise more than two of apprentices, trainees or helpers. All apprentices/trainees/helpers shall be under the direct supervision of a journeyman working as a crew.

**ATTACHMENT "A"**  
**PREVAILING WAGE DETERMINATION**  
**AUSTIN AREA**

**The University of Texas System**  
**Office of Facilities Planning and Construction**  
**Date: December 31, 2009**  
**Construction Type: Building**  
**Area: Austin**

<b>Building Construction Trade Classification</b>	<b>Prevailing Wage Rate</b>
Carpenter	\$15.75
Concrete Finisher	\$14.00
Drywall/Ceiling Installer	\$14.00
Electrician	\$17.98
Elevator Mechanic	\$21.89
Fire Proofing Installer	\$12.50
Flooring Installer	
Glazier	\$16.00
Heavy Equipment Operator	\$13.56
Ironworker	\$13.50
Laborer	\$10.00
Light Equip Operator/Driver	\$12.88
Mason/Bricklayer	\$19.25
Painter	\$13.00
Pipefitter	\$17.50
Piping/Ductwork Insulator	\$16.25
Plumber	\$17.50
Roofer	\$12.81
Sheetmetal Worker	\$19.44
Sprinkler Fitter	\$15.04
Tile Setter	\$12.25
Waterproofer	\$12.00

(1) Wages shown are for entry level, minimum wages for each classification and do not include fringe benefits.

Unlisted classifications needed for work not included within the scope of the classifications listed may not be added after award. The job classifications are not inclusive of all possible trades on the construction project.

It is the responsibility of the contractor to classify the worker in accordance with the published classifications, and demonstrate that workers are paid commensurate with determined rates.

# WORKER WAGE RATE NOTIFICATION

*The University of Texas MD Anderson Cancer Center – Facilities Management*

This form shall be used by Contractor and all Subcontractors engaged in the execution of MD Anderson construction projects in accordance with the Prevailing Minimum Wage Rate guidelines as set forth in the 2013 Uniform General Conditions for University of Texas System Building Construction Contracts (UTUGCs) and the MD Anderson (Owner's) Special Conditions. Per UTUGCs section 2.2, Wage Rates, this notification must be delivered by the Contractor, or appropriate Subcontractor, and accepted by each worker involved in the project prior to any payments to the Contractor. For any worker who is assigned more than one classification, the employer shall submit a separate Worker Wage Rate Notification for the worker for each classification.

MD Anderson Project/Job Order Number: \_\_\_\_\_

MD Anderson Project/Job Order Name: \_\_\_\_\_

MD Anderson Purchase Order Number: \_\_\_\_\_

## SECTION I

Employee Name: \_\_\_\_\_

Worker Classification: \_\_\_\_\_  
(Refer to Prevailing Wage Determination schedule attached to Owner's Special Conditions.)

Worker Classification is shown on Prevailing Wage Determination schedule: Yes ☐ No ☐

	Total Wage Rate <sup>1</sup>	Health	Employer Contributions Pension	Vacation	Total Hourly Rate
Minimum Wage Rate:	\$ _____ + \$ _____	+ \$ _____	+ \$ _____	+ \$ _____	= \$ _____
Actual Wages Paid:	\$ _____ + \$ _____	+ \$ _____	+ \$ _____	+ \$ _____	= \$ _____

<sup>1</sup> Contributions by a worker toward health, pension, vacation, and the like are part of the Total Wage Rate (i.e. worker's pay check); contributions by the Employer are shown separately.

As the EMPLOYEE NAMED ABOVE, I hereby acknowledge receipt of this notification and by my signature below indicate my agreement with both the Worker Classification (Building Construction Trade Classification) to which I have been assigned on this project and to the proposed wages to be paid to me for such work.

Employee Signature: \_\_\_\_\_ / /  
Acceptance Date

## SECTION II

To the "Total Hourly Rate" above, the Employer shall indicate the total of all labor burden costs:

	Federal & State Unemployment	Social Security & Medicare	Worker's Compensation	Labor Burden	% Labor Burden
Labor Burden:	\$ _____ (Approx 1% <sup>2</sup> )	+ \$ _____ (7.65% <sup>3</sup> )	+ \$ _____ (\$0 for ROCIP)	= \$ _____	_____ %

To the "Total Hourly Rate" above, the **Employer** shall add the "Labor Burden" to determine the Direct Total Hourly Labor Rate (This rate to be used for pricing changes): \$ \_\_\_\_\_

Employer Signature: \_\_\_\_\_ / /  
Attest Date

<sup>2</sup> (FUTA 0.8% on first \$7,000) + (SUTA 0.40 to 7.64% on first \$9,000) / Year

<sup>3</sup> (6.20% Social Security on first \$97,500 / Year) + 1.45% Medicare

**ATTACHMENT "C"**  
**(to Owner's Special Conditions)**  
**PROJECT SIGN LAYOUT**



**NAME OF PROJECT** — 2 1/2" Univers LT Std - 75 Black\*

**ARCHITECT/ENGINEER** — 2" Univers LT Std - 65 Bold\*  
 Name of Firm — 2" Univers LT Std - 45 Light\*

**GENERAL CONTRACTOR** — 2" Univers LT Std - 65 Bold\*  
 Name of Contractor — 2" Univers LT Std - 45 Light\*

**THE UNIVERSITY OF TEXAS SYSTEM** — 1 1/4" Univers LT Std - 65 Bold

**DEPARTMENT OF FACILITIES PLANNING, DESIGN & CONSTRUCTION** — 1 1/4" Univers LT Std - 65 Bold

\* Adjust letter size as required for length

Submit a one-quarter scale shop drawing of the sign complete with all lettering to the owner for approval before construction. The sign shall be constructed of 3/4" thick A-C Grade exterior plywood. The sign shall receive two coats of an approved white semi-gloss exterior enamel on all surfaces before lettering. The owner will designate the colors for the lettering on the shop drawing.

## **POLICY STATEMENT**

MICHALE E. KEELING CENTER  
FOR COMPARATIVE MEDICINE AND RESEARCH  
650 COOL WATER DRIVE  
BASTROP, TEXAS 78602

<b>TITLE:</b>	<b>VISITATION AND TOUR POLICY</b>
<b>PURPOSE:</b>	To establish the procedures and requirements for all visitors to the KCCMR.

### **TRAINING**

Training provided must be documented according to the TRAINING AND TRAINING RECORDS SOP.

### **RESPONSIBILITIES**

- The Visitor/Tour Coordinator (Executive Assistant), or designee, coordinates any approved visits/tours of the KCCMR campus, maintains tour group records and sends notification to Facility managers, veterinarians, supervisory personnel, and the University of Texas Police at Houston, Bastrop/Smithville Campus (UTPH) in advance of visitors expected in their respective areas. This individual also ensures that all required health clearance (if applicable) is obtained prior to the proposed visit/tour.
- A Department of Veterinary Sciences (DVS) faculty member, area manager, or administrative host will be responsible for escorting visitors, collaborating scientists, and other officials during their stay on campus. These individuals must be approved through the Campus Ambassador Program and/or the KCCMR Director.
- Employee Health & Well-being (EH&Wb) reviews the health data for persons who will be visiting or working in nonhuman primate housing or research areas and reports health clearance to the Keeling Center Medical Clearance Sharepoint page. Any potentially adverse results should be communicated to the KCCMR Director prior to the visit.
- The KCCMR Director or the Director, Operations approves or rejects requests for visits and/or tours on the KCCMR campus.
- The Area Manager, or designee, is responsible for approving the locations available to visitors in their specific areas.
- The Coordinator, Regulatory Compliance, hosts inspections and audits of the GLP Program and serves as escort for any site visits from internal or external regulatory or voluntary accreditation guidelines and standards monitoring authorities. This includes, but is not limited to, USDA, IACUC, NIH/OLAW, AAALAC and FDA.
- The Department Receptionist (Administrative Assistant), or designee, is responsible for checking in visitors upon their arrival by providing temporary ID badges to visitors (visiting MD Anderson personnel may wear their ID badges in lieu of a visitor's badge); notifying the appropriate individual(s) of the arrival of the visitor(s); collecting visitor forms, and maintaining the visitor log book.

## **POLICY STATEMENT**

---

The continued growth of the KCCMR programs has significantly increased the number of visitor and tour requests received by the KCCMR. For preventative medical, safety and security reasons, a clear and realistic visitation policy for the facility is necessary. The following sections outline the procedures to be followed regarding visitors to the KCCMR campus.

### **1.0 Requests for Visits and Tours**

Requests for any visit and/or tour must be made in advance using the electronic TOUR/VISITOR REQUEST FORM, located on the DVS Sharepoint site. If approved, the requestor will be notified and the visit/tour will be scheduled.

Visitors taking 'walking tours' of the nonhuman primate areas will be required to read and sign the SAFETY MEASURES AND RULES FOR CONDUCT FOR VISITORS TO THE NONHUMAN PRIMATE AREAS.

**NOTE:** "Walking-tour" participants may be subject to medical clearance rules. The KCCMR Director, KCCMR Host, and EH&Wb will determine when this applies.

Visitors touring the Research or Pathology laboratories will be required to read and sign the SAFETY MEASURES AND RULES FOR CONDUCT FOR VISITORS TO THE RESEARCH OR PATHOLOGY LABORATORIES.

#### **1.1 Professional Individuals**

Visits of professional individuals with a specific interest in the work conducted on the KCCMR campus must be sponsored by a member of the KCCMR faculty or management who will be responsible for escorting and assisting them during their visit and/or arranging for KCCMR personnel to provide a tour of the facilities.

#### **1.2 Public Media**

Requests for tours by members of the public media will be arranged in advance through the KCCMR Director's office and the MDA Office of Communications. Such groups will be accompanied at all times during the tour by the KCCMR Director and/or designee.

#### **1.3 Representatives of Regulatory Agencies**

Visits from regulatory agencies (e.g., USDA, FDA) may be coordinated in advance or may be unannounced. Any regulatory agency representative should be escorted by the Coordinator, Regulatory Compliance and other supervisory or administrative personnel, as appropriate.

#### **1.4 Small Groups**

Tours of small groups who have a scientific or educational purpose or interest in the KCCMR activities (e.g., student field trips or civic groups) should be limited to no more than 20 individuals.

### **2.0 Health Evaluation and Risk Management**

Anyone who will have close proximity to any KCCMR primate population must provide a completed BASTROP CAMPUS – MEDICAL DOCUMENTATION REQUIREMENTS form to the EH&Wb prior

to the scheduled visit. They must also wear the appropriate personal protective equipment (PPE) as described in the PERSONAL PROTECTIVE EQUIPMENT (PPE) POLICY whenever working with animals or animal materials.

Approved visitors entering a nonhuman primate area housing macaque monkeys must be advised of the Herpes B virus (*Macacine herpesvirus*) status of the area prior to their entering the facility. If the individual will be working with macaques, the individual will be provided with primate safety instructions covering the safe handling of these primates, known disease issues, and personal health issues, including the proper handling of injuries to themselves, as outlined in the PROCEDURES TO BE TAKEN FOR BITES, SCRATCHES, AND EYE SPLASHES ASSOCIATED WITH NONHUMAN PRIMATES AND THEIR CAGING, HOUSING, AND WASTES SOP.

In the event that a visitor suffers an accident, a disturbance, unfavorable circumstance, or an occurrence not consistent with routine institutional operations, the individual should immediately notify the tour guide, Area Manager, or a Veterinarian for further assistance and instruction. An EMPLOYEE ACCIDENT REPORT will be completed and forwarded to EH&Wb for review and action as necessary, and to the KCCMR Director's Office for review.

### **3.0 Restrictions**

Individuals other than KCCMR personnel, MDA personnel, professional guests, and those who have authorized business at the facility, are not permitted on the KCCMR campus unless otherwise approved by the KCCMR Director or designee.

Children under the age of 16, who are not part of an approved organized tour, should remain in the Administration Building at all times under adult supervision unless otherwise approved by the KCCMR Director, or designee.

KCCMR personnel are not allowed to have unauthorized visitors, including other MD Anderson employees.

### **4.0 Visitation Hours**

Visits will only be allowed during normal working hours unless prior approval from the KCCMR Director is obtained.

All authorized visitors must sign in when entering and sign out when leaving the premises. Visitor log books are available at the Administration Building Reception desk or, for after-hours visitors, in the UTPH office.

### **5.0 Access to Animal Areas During Visits/Tours**

Upon approval by the KCCMR Director, visitors who enter an animal housing/research area are required to follow certain rules for the protection of, not only themselves, but also the animals housed on the KCCMR campus.

Only those visitors with appropriate medical clearance will be allowed to enter animal housing areas. No one under 18 years of age is permitted in any animal housing area on the KCCMR campus.

Visitors must adhere to the PPE POLICY whenever they are in an animal housing environment. When moving from one primate housing area to another (e.g., the SPF Rhesus colony to non-SPF Rhesus housing areas) they must change into the proper PPE. All visitors will have the opportunity to shower, if so desired, upon leaving an animal area unless required to do so by protocol.

Where necessary, the visitor(s) must follow the room/area entry order as prescribed by the Veterinarian or the Area Manager.

## REFERENCES

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- Reporting, Investigating and Preventing Accidents Policy (UTMDACC Institutional Policy# ADM0227)
- Incident Report Policy (UTMDACC Institutional Policy# ADM0349)
- Bastrop Campus – Medical Documentation Requirements (Employee Health & Well-being)
- Personal Protective Equipment (PPE) (Policy# PS.004.xx)
- Chimpanzee Security and Recovery (SOP# AC.115.xx)
- Procedures to be Taken for Bites, Scratches, and Eye Splashes Associated with Nonhuman Primates and Their Caging, Housing, and Wastes (SOP# AC.169.xx)
- Training and Training Records (SOP# GP.002.xx)
- Safety Measures and Rules for Conduct for Visitors to the Nonhuman Primate Areas (KCCMR Form 144)
- Safety Measures and Rules for Conduct for Visitors to the Research or Pathology Laboratories (KCCMR Form 145)
- Employee Accident Report (<http://inside.mdanderson.org/humanresources/working-at-md-anderson/myhr/employee-accident-report.html>)

## POLICY REVIEW AND APPROVAL

**Author:**

Lindsey M. Saunders, BHA, MBA

Printed Name

*Lindsey Saunders*  
Signature

14 Sep 2018  
Date

**Reviewed By:**

Kathryn R. Meuth, BA

Printed Name

*Kathryn Meuth*  
Signature

14 Sep 2018  
Date

**Reviewed By:**

Laura M. Zapalac, BBA, MSHP

Printed Name

*Laura Zapalac*  
Signature

20 Sep 2018  
Date

**Reviewed By:**

Kyle S. Voelker, BS, LATG

Printed Name

*Kyle Voelker*  
Signature

20 Sep '18  
Date

**KCCMR Director Approval:**

Christian R. Abee, DVM, MS,  
DACLAM

Printed Name

*C.R. Abee*  
Signature

20 Sept 18  
Date

**Revision History:**

Version Number	Distribution Date	Effective Date	Prepared By	Reason for Revision
PS.009.06	02 Mar 2018	19 Mar 2018	LM Saunders	Removed Kim Kunz as reviewer (no longer here) and replaced with Kyle Voelker; Corrected grammatical errors and changed words to provide better clarity; Updated Department Receptionist's title to Administrative Assistant.
PS.009.07	27 Sep 2018	11 Oct 2018	LM Saunders	Changed from a Controlled Form (Form 365) to an electronic submission via Sharepoint site. Will be retiring that form. Changed title of tour coordinator to Executive Assistant. Took "clinical" out of veterinarian title throughout document. Corrected method for Employee Health clearance communication to the Sharepoint site.

Today's Date: \_\_\_\_\_

Name: \_\_\_\_\_

Date of Birth: \_\_\_\_\_

E-mail: \_\_\_\_\_

Phone #: \_\_\_\_\_

Requested Dates: Begin Date: \_\_\_\_\_ End Date: \_\_\_\_\_ Affiliation: \_\_\_\_\_

The following medical clearance is required **prior to** traveling to the Keeling Center. Please contact Employee Health & Well-being (EH&Wb) if you are unsure of your current medical status.

- **Mantoux TB skin test results** (placed and read within the last 6 months)
  - If positive, a negative chest x-ray report must be on-file with EH&Wb.  
PLEASE NOTE: TB screening (PPD skin test or respiratory query) is mandatory every 6 months thereafter.
  - **\*\*Please note that a BLOOD TEST (eg, Quantiferon Gold, T-Spot, etc) is not acceptable for this requirement.\*\***
- **Proof of measles (rubeola)**

Provide **one** of the following:

  - Documentation of one adult dose of measles vaccine or MMR vaccine
  - Documentation of two doses of measles vaccine on or after one year of age at least 30 days apart
  - Documentation of laboratory evidence of positive antibody to measles
- **Proof of chickenpox (varicella)**

Chickenpox immunity is **required only** for those working or visiting the neotropical primate area for longer than a period of two weeks.

Provide **one** of the following:

  - Documentation of laboratory evidence of positive antibody to chickenpox
  - Documentation of two dose of varicella (VZV) vaccine at least 30 days apart
- **Influenza (Flu) Vaccine Recommended**

Annual flu vaccination is highly recommended but, not required, prior to traveling to

**If you are unclear about which area you will be working in or visiting, please request this information from your contact person.**

**Please e-mail or fax information to:**

Employee Health & Well-being @ MD Anderson Cancer Center  
T 713-745-6900 F 713-745-3352  
EHOcHealth@mdanderson.org



MD Anderson Cancer Center JOC Program

10/1/18-10/1/19

Smithville, TX Campus

Bastrop, TX Campus

Houston, TX Campus

# Coverage Summary and Claims Guide

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## Overview

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The purpose of providing this document is to offer **Contractors and Subcontractors** performing work on behalf of MD Anderson Cancer Center at the Smithville, TX, Bastrop, TX, and Houston, TX campus locations important information related to builders risk coverage and losses.

Please review the Coverage Summary and Claims Guide and retain this document for future reference. Within this document, you will find important information including:

- UT Office of Risk Management / Beecher Carlson Account Team Directory
- Insurance Summary
- Description of Insurance Coverages
- Best Practices for Reporting and Managing Claims
- Quick Reference Guide for Reporting Claim Procedures
- Detailed Claim Reporting Instructions
- Claim Management Guidelines
- Claim Forms

This document is intended to provide a summary of insurance coverages and is not intended to be a comprehensive or complete representation of insurance coverages. Your Beecher Carlson Account Team can offer additional information regarding insurance coverages, policy limits and terms and explanation of policy language.

**Contractor, in coordination with Owner's project manager, must report every claim within twenty-four (24) hours, or no later than the close of business on the next business day, after discovery of a loss or potential loss in accordance with this Builder's Risk Claims Guide. Failure to immediately report a loss or potential loss may result in the issuance of a reservation of rights letter by insurers which could prejudice any potential insurance related recovery. Contractor may be liable for any damages that are not covered by insurance due to late notice of a loss or potential loss.**

## UT Office of Risk Management / Beecher Carlson Account Team

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### Coverage Team

**Stacy Youngdale**  
Assistant Director of Risk Management  
Direct: (512) 499-4401  
Email: [syoungdale@utsystem.edu](mailto:syoungdale@utsystem.edu)

**Andres C. Campo**  
Manager of Risk Finance  
Direct: (512) 499-4653  
Email: [ancampo@utsystem.edu](mailto:ancampo@utsystem.edu)

**Brittany Davis**  
Risk & Insurance Analyst  
Direct: (512) 499-4550  
Email: [bdavis@utsystem.edu](mailto:bdavis@utsystem.edu)

**Mike White**  
Broker  
Direct: (678) 539-4857  
Cell: (404) 304-3840  
Email: [mwhite@beechercarlson.com](mailto:mwhite@beechercarlson.com)

**John Costello**  
Senior Risk Analyst  
Direct: (404) 460-1387  
Cell: (404) 665-7270  
Email: [sambler@beechercarlson.com](mailto:sambler@beechercarlson.com)

### Claims Team

**John Santos**  
Claims Coordinator  
Direct: (512) 579-5029  
Cell: (512) 970-0249  
Email: [jsantos@utsystem.edu](mailto:jsantos@utsystem.edu)

**Jim Cyr**  
Senior Property Claim Consultant  
Direct: (617) 532-9459  
Cell: (617) 803-6285  
Email: [jcyr@beechercarlson.com](mailto:jcyr@beechercarlson.com)

**David Ivy**  
Property Claim Consultant  
Direct: (615) 277-9844  
Cell: (615) 481-0080  
Email: [divy@beechercarlson.com](mailto:divy@beechercarlson.com)

## Insurance Summary

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The Insurance Summary identifies insurance coverages procured on the behalf of MD Anderson Cancer Center for application within this Coverage Summary and Claims Guide.

### Builders' Risk Insurance

Effective date: 10/01/2018-10/01/2019

Carrier	Policy Number	Policy Term	Participation
ACE (Westchester Surplus Lines Insurance Company)	I0889680A 005	10/01/18-10/01/19	100% of Project Limits

No other insurance coverages apply for application within this Coverage Summary and Claims Guide.

## Description of Insurance Coverages

---

**POLICY TERRITORY:** The Policy covers within the state of Texas at the Bastrop, TX, Smithville, TX and Houston, TX MD Anderson campus locations only, but including transit in the fifty (50) states comprising the United States of America, including the District of Columbia and Canada, except that ACE will not cover property in transit by water or air to and from Alaska or to and from Hawaii.

**PERILS INSURED:** Subject to the terms, exclusions, limitations and conditions contained in or endorsed to the policy, coverage is provided against all risks of direct physical loss of or damage to property insured while at the location of the insured project, while in offsite storage or while in transit, all within the policy territory and occurring during the term of this policy

**PROPERTY INSURED:** Subject to the terms, exclusions, limitations and conditions contained in or endorsed to the policy, coverage is provided against all risks of direct physical loss of or damage to property insured while at the location of the insured project, while in offsite storage or while in transit, all within the policy territory and occurring during the term of this policy

**PROGRAM LIMIT(s):**

\$6,500,000	Program Limit of Liability
\$6,500,000	Physical Damage (Hard costs including owner supplied materials)
Included	Interior Water Damage
Included	Hot Testing
\$250,000	Soft Costs (annual aggregate for ALL projects)
No Coverage	Delay in Completion (Gross Earnings)
\$100,000	Offsite Storage
\$100,000	Transit
\$50,000	Plans, Blueprints and Other Contract Documents (Valuable Papers and Records)
\$50,000	Fire Department Service Charges & Extinguishing Expenses
Cont'd on Next Page	

Program Limit(s) Continued	
\$100,000	Fire Protective Equipment Recharge
\$25,000	Protection of Covered Property Pre-Loss
\$500,000 or 20% of the insured physical loss, whichever is lesser	Expediting & Extra Expenses
\$1,000,000 or 25% of the insured physical loss, whichever is lesser	Debris Removal
Included	Green Debris Removal
\$50,000	Clean-Up and Decontamination as part of Debris Removal
\$500,000	Ordinance or Law / Demolition & Increased Cost of Construction
\$25,000	Errors & Omissions
\$50,000	Pollution Clean-Up and Removal Expense (annual aggregate)
\$50,000	Fungus, Mold or Mildew (annual aggregate)
\$50,000	Loss Adjustment Expenses
\$25,000	Arson or Theft Reward
\$5,000,000	Damage to Existing Property (includes coverage for contents)
\$1,000,000 or 90 Days	Automatic Coverage
\$50,000	Installed Trees, Plants and Shrubs subject to a maximum of \$1,000 per item
\$6,500,000	Flood (annual aggregate)
\$6,500,000	Earthquake (annual aggregate)
\$6,500,000	Named Windstorm (including storm surge)

**ONLY TO PAY EXCESS OF THE DEDUCTIBLES ON THE FOLLOWING PAGE**

**PROGRAM DEDUCTIBLES:**

The applicable amount shown below shall be deducted for each claim arising from insured loss or damage in any one occurrence. The Company shall be liable only for the amount of insured loss or damage in excess thereof, subject to all terms and conditions of the policy

\$10,000	Physical loss of or damage to property insured, except
\$25,000	Water Damage (excluding Flood)
\$25,000	Flood as respects the MD Anderson campus in Bastrop, TX and Smithville, TX
2% of the values at the time of loss, per affected project, subject to a minimum of \$100,000	Flood as respects the MD Anderson campus in Houston, TX
\$25,000	Earthquake
\$10,000	Named Storm (including storm surge) as respects the MD Anderson campus in Bastrop, TX and Smithville, TX
2% of the values at the time of loss, per affected project, subject to a minimum of \$100,000	Named Storm (including storm surge) as respects the MD Anderson campus in Houston, TX
30 Days	Delay in Start-Up and Soft Costs
\$50,000	Hot Testing

## Quick Reference Guide for Reporting Claims

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This Quick Reference Guide for Reporting Claims offers abbreviated procedures. For more information, refer to the Detailed Claim Reporting Instructions herein.

**Contractor, in coordination with Owner's project manager, must report every claim within twenty-four (24) hours, or no later than the close of business on the next business day, after discovery of a loss or potential loss in accordance with this Builder's Risk Claims Guide. Failure to immediately report a loss or potential loss may result in the issuance of a reservation of rights letter by insurers which could prejudice any potential insurance related recovery. Contractor may be liable for any damages that are not covered by insurance due to late notice of a loss or potential loss.**

**John Santos**  
**Claims Coordinator**  
**The University of Texas System**

Direct: (512) 579-5029  
Cell: (512) 970-0249  
Email: [jsantos@utsystem.edu](mailto:jsantos@utsystem.edu)

### **Alternate Contacts**

**Jim Cyr**  
**Senior Claim Consultant**  
**Beecher Carlson**

Direct: (617) 532-9459  
Cell: (617) 803-6285  
Email: [jcyr@beechercarlson.com](mailto:jcyr@beechercarlson.com)

**David Ivy**  
**Claim Consultant**  
**Beecher Carlson**

Direct: (615) 277-9844  
Cell: (615) 481-0080  
Email: [divy@beechercarlson.com](mailto:divy@beechercarlson.com)

## Detailed Claim Reporting Instructions

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The following instructions are provided to assist contractors with the reporting of losses to the insurance carriers. After an occurrence, please adhere to these instructions for important information in completing the claim reporting process.

### **IMMEDIATELY FOLLOWING THE OCCURRENCE:**

1. Report every claim immediately upon notification of loss to John Santos with a carbon copy to the Project Manager. Do not delay.

John Santos, Claims Coordinator  
Direct: (512) 579-5029  
Cell: (512) 970-0249  
Email: [jsantos@utsystem.edu](mailto:jsantos@utsystem.edu)

2. Complete Notice of Incident form
3. Obtain witness statements, if available, as soon as possible after the loss.

### **WITHIN 24 HOURS FOLLOWING THE OCCURRENCE:**

4. Photograph the accident scene whenever possible. Retain all evidence. Label the photographs with a description of the photo, your name and date.
5. Contractor will take reasonable steps to protect, recover, or save the property insured and minimize any further or potential loss or damage.
6. In the event of fire, windstorm, hail, lightning, flood or water damage, contractor must employ the necessary resources available to protect and preserve the property. Contractor must make a reasonable effort to protect the property.
7. Communicate with John Santos to resolve the loss.

## Claim Management Guidelines

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Reporting a loss is simply the beginning of the claim management process. The active participation and involvement of a Contractor in a claim can often reduce the loss.

To assist Contractors in the post-loss management of a claim, please review the following guidelines:

- **Contractor, in coordination with Owner's project manager, must report every claim within twenty-four (24) hours, or no later than the close of business on the next business day, after discovery of a loss or potential loss in accordance with this Builder's Risk Claims Guide. Failure to immediately report a loss or potential loss may result in the issuance of a reservation of rights letter by insurers which could prejudice any potential insurance related recovery. Contractor may be liable for any damages that are not covered by insurance due to late notice of a loss or potential loss.**
- Project Manager will assign a single Point of Contact for John Santos during the claim adjustment process. This contact will work in partnership with John Santos, Beecher Carlson's claims consultants, and the insurance carrier to bring a timely and cost efficient resolution to the claim.
- Maintain documentation of all claim activities and conversations.
- Keep claim information separate from employee personnel files.
- Handle all claim materials as strictly confidential documents.
- Maintain confidentiality when discussing claims among peers.
- Always forward to John Santos legal notices, lawsuits and other such documentation upon receipt.
- Never admit liability or responsibility for any occurrence.
- If you have questions, contact John Santos for assistance.

## Builders' Risk Notice of Incident Form

---

Name of Person reporting:

Telephone Number:

For report only: ☐ Yes ☐ No

### GENERAL INFORMATION

Contractor Name:

Contact Name:

Project Worksheet Number:

Contact Phone Number:

Job Location/ Description:

### INCIDENT INFORMATION

Claim Date or      Time of  
Date of accident:      accident: \_\_\_\_\_  
|                      |    ☐ AM ☐ PM    |

Property Address or where incident occurred if different than above:

Were authorities contacted? (police, fire, ambulance):

☐ Yes ☐ No

If yes, who:

-List/Names of Subcontractors involved:

-Contact for Subcontractor:

-Please give a description of the incident:

-Estimated Damages:



# EVIDENCE OF PROPERTY INSURANCE

DATE (MM/DD/YYYY)

9/28/2018

THIS EVIDENCE OF PROPERTY INSURANCE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE ADDITIONAL INTEREST NAMED BELOW. THIS EVIDENCE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS EVIDENCE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE ADDITIONAL INTEREST.

AGENCY Beecher Carlson Insurance Services 6 Concourse Parkway, Suite 2300 Atlanta, GA 30328  www.beechercarlson.com	PHONE (A/C, No, Ext):	COMPANY Westchester Surplus Lines Insurance Co P.O. Box 1000
FAX (A/C, No):	E-MAIL ADDRESS: dstalcup@beechercarlson.com	Philadelphia PA 19106
CODE:	SUB CODE:	
AGENCY CUSTOMER ID #:		
INSURED The University of Texas System Administration Office of Risk Management 210 West 6th Street, Room B.140E Austin TX 78701	LOAN NUMBER	POLICY NUMBER 1088968A 005
	EFFECTIVE DATE 10/1/2018	EXPIRATION DATE 10/1/2019
	<input type="checkbox"/> CONTINUED UNTIL TERMINATED IF CHECKED	
THIS REPLACES PRIOR EVIDENCE DATED:		

## PROPERTY INFORMATION

### LOCATION/DESCRIPTION

MD Anderson Job Order Contract (JOC) Builder's Risk Program.  
Builder's Risk coverage for JOC work at the MD Anderson Houston, Smithville, and Bastrop campuses.

THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS EVIDENCE OF PROPERTY INSURANCE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

## COVERAGE INFORMATION

PERILS INSURED

BASIC

BROAD

SPECIAL

### COVERAGE / PERILS / FORMS

AMOUNT OF INSURANCE

DEDUCTIBLE

Builders Risk Insurance

\$6,500,000

\$10,000

\*\*\*See Addendum for Limits, Deductibles, etc.\*\*\*

## REMARKS (Including Special Conditions)

## CANCELLATION

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.

## ADDITIONAL INTEREST

NAME AND ADDRESS

Evidence of Coverage

ADDITIONAL INSURED

MORTGAGEE

LENDER'S LOSS PAYABLE

LOSS PAYEE

LOAN #

AUTHORIZED REPRESENTATIVE

Sharon D. Brainard

ACORD 27 (2016/03)

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**The University of Texas System**  
**MD Anderson Cancer Center JOC Program**  
**10/01/2018-10/01/2019**  
**PRIMARY \$6,500,000 Carriers/Sublimits/Deductibles**

**REMARKS:**

To the extent required by any contract or subcontract for an insured project, and then only as their respective Interests may appear, all owners, contractors and subcontractors of every tier and any other individual or entity specified in such contract or subcontract are recognized as Additional Insureds hereunder, and a waiver of subrogation is granted.

**LIMITS/ SUBLIMITS**

• Program Limit of Liability:	\$6,500,000
• Physical Damage (Hard Costs including owner supplied materials):	\$6,500,000
• Interior Water Damage:	Included
• Hot Testing:	Included
• Soft Costs (annual agg for all projects):	\$250,000
• Delay in Completion (Gross Earnings):	No Coverage
• Offsite Storage:	\$100,000
• Transit:	\$100,000
• Plans, Blueprints, and Other Contract Documents (Valuable Papers/Records):	\$50,000
• Fire Department Service Charges & Extinguishing Expenses:	\$50,000
• Fire Protective Equipment Recharge:	\$100,000
• Protection of Covered Property Pre-Loss:	\$25,000
• Expediting & Extra Expenses:	\$500,000 or 20% of the insured physical loss, whichever is less
• Debris Removal:	\$1,000,000 or 25% of the insured physical loss, whichever is less
• Green Debris Removal:	Included
• Clean-Up & Decontamination as a Part of Debris Removal:	\$50,000
• Ordinance or Law/Demolition & Increased Cost of Construction:	\$500,000
• Errors & Omissions:	\$25,000
• Pollution Clean-Up and Removal Expense (annual agg):	\$50,000
• Fungus, Mold or Mildew (annual agg):	\$50,000
• Loss Adjustment Expenses:	\$50,000
• Arson or Theft Reward:	\$25,000
• Damage to Existing Property (includes coverage for contents):	\$5,000,000
• Automatic Coverage:	\$1,000,000 or 90 days
• Installed Trees, Plants and Shrubs:	\$50,000 subject to a maximum of \$1,000 per item
• Flood (annual agg):	\$6,500,000
• Earth Movement (annual agg):	\$6,500,000
• Named Windstorm (including Storm Surge):	\$6,500,000

## DEDUCTIBLES

- Deductible: \$10,000
- Water Damage (excluding flood): \$25,000
- Flood (MD Anderson Bastrop, TX and Smithville, TX): \$25,000
- Flood (MD Anderson Houston, TX): 2% of the values at the time of loss, per affected project, subject to a minimum of \$100,000
- Earthquake: \$25,000
- Named Storm Including Storm Surge (MD Anderson Bastrop, TX and Smithville, TX): \$10,000
- Named Storm Including Storm Surge (MD Anderson Houston, TX): 2% of the values at the time of loss, per affected project, subject to a minimum of \$100,000
- Delay in Start-Up and Soft Costs 30 Days
- Hot Testing \$50,000

# The University of Texas System

Builder's Risk

Confirmation of Coverage Bound



**Project: MD Anderson Cancer Center JOC Program**

October 1, 2018 to October 1, 2019

BEECHER  CARLSON

**Named Insured:**

**The University of Texas MD Anderson Cancer Center** and any subsidiary, The Board of Regents of The University of Texas System, and The University of Texas System MD Anderson Cancer Center's interest in any partnership or joint venture in which The University of Texas System MD Anderson Cancer Center has management control or ownership as now constituted or hereafter is acquired, as the respective interest of each may appear; all hereafter referred to as the "Insured", including legal representatives.

**Mailing Address** – 210 West 7<sup>th</sup> Street, Austin, TX 78701

**Master Policy Term:**

The terms provided by the Master Policy shall be effective on **October 1, 2018** and shall continue in effect until **October 1, 2019**, both at 12:01 A.M. standard time at the address of the named insured, but only as respects those insured projects beginning on or after the effective date and prior to the expiration date and which have been declared to the Company, except as otherwise amended by endorsement.

**Policy Territory:**

The Policy covers within the state of Texas at the Bastrop, TX, Smithville, TX and Houston, TX MD Anderson campus locations only, but including transit in the fifty (50) states comprising the United States of America, including the District of Columbia and Canada, except that Chubb will not cover property in transit by water or air to and from Alaska or to and from Hawaii.

**General Project Description / Location(s):**

***Renovation work occurring at existing buildings at the MD Anderson Cancer Center campus locations in Houston, TX, Bastrop, TX and Smithville, TX.***

**Estimated Total Annual Contract Values:**

Job Order Value	No. of Projects	Total Value	Min. Value	Avg. Value	Max. Value
≥ \$15,000	TBD	TBD	TBD	TBD	TBD
< \$15,000	TBD	TBD	TBD	TBD	TBD
Combined	TBD	TBD			

*Note: the above numbers are for the Houston, TX, Bastrop, TX and Smithville, TX campuses combined.*

**Project Coverage Attachment:**

Projects located within the coverage territory covered by this program and having an estimated project term less than or equal to **twenty-four (24)** months and a limit of liability less than or equal to this master program's limits of liability as shown elsewhere in this confirmation of coverage.

### General Program Conditions:

- Hot Testing:  
Any start-up, commissioning or other forms of testing, including the checking of any plant or machinery or a component part thereof under load or operational conditions, including the use of feedstock or other materials for processing, or other media to simulate working conditions.  
Hot Testing does not include any start-up, commissioning or other forms of testing of building or civil construction systems, such as electric, heating, ventilation, air conditioning, sprinklers, plumbing, gas lines, air conditioning lines, elevators, escalators, electronic tolling, life safety or lighting.
- Extension Provision –
  - The policy term can be extended for up to 3 months @ pro-rata of binding rates
  - Any extension over 3 months must first be agreed by underwriters
  - Any extensions from June 1<sup>st</sup> to November 30<sup>th</sup> must first be agreed by underwriters
- Policy Form – EXPIRING October 1, 2017 to October 1, 2018 Chubb Company Form (i.e. same policy form as agreed for BROCIPI which was led by Chubb)
- Minimum Earned Premium – 25%
- Notice of Cancellation – 90 Days except 10 Days for non-payment of premium
- 72 Hour per Occurrence period definition applies for Earthquake, Flood and Named Windstorm
- Permission for Partial Occupancy is Granted
- Vericclaim (John Green) is nominated as the agreed loss adjuster
- Coverage is excess of all manufacturer's and other warranties
- Escalation Clause:  
The estimated value of contract works at policy inception shall be considered an estimate of the total completed values of contract work at the covered location(s). Should there be an increase in the estimated contract values, the limit of liability shown in the project endorsement for the insured project shall increase to reflect the increase concurrently, subject to no more than a 7.5% increase over the originally declared total project value except where the underwriters approve such increase in writing.
- Project Endorsements:  
Projects with a total project value of less than or equal to **\$6,500,000** are automatically held covered for an initial Limit of Liability of **\$1,000,000** or for an amount equal to the estimated total project value, whichever is less, for a period not exceeding **ninety days (90)** after the end of each quarterly period within this master policy period. For the purposes of this proposed master program, quarterly reporting periods shall conclude on **January 1, April 1, July 1 and October 1** in any given year. Coverage beyond this initial period and Limit of Liability shall be extended only upon the named insured's declaration to the Company on required quarterly reports to this master policy of any individual project and the named insured's payment of premium due thereon from the beginning of the project

### **General Program Conditions (Cont'd):**

- **Reporting Provisions:**

Within 90 days of end of each quarterly reporting period within this master policy term, the named insured shall report to the Company the estimated total project value to be insured for each insured project begun during the previous quarterly period. Such report shall include project name, physical location, (street address, city, state and zip code), project description type construction, the project start and estimated completion dates, and the names and addresses for all parties to be included as named insured, additional named insured(s), loss payee(s) or mortgagee(s). For purposes of this proposed master program, quarterly reporting periods shall conclude on **January 1, April 1, July 1, and October 1** in any given year.

- **Premium Adjustment:**

Final adjustment of premium for these projects will occur annually within **thirty (30) days** of the end of the policy term.

- **Total Project Value:**

The Total Project Value is defined as follows:

The sum of the estimated construction contract price for a single insured project, including if declared:

- 1) The value of all property not included in the contract price but to be insured by the master program policy and intended for installation under the construction contract, whether supplied by the project owner(s) or others; and
- 2) The value of any existing property to be insured by the master program policy or by endorsement hereto, less any construction contract items specifically excluded. To be clear, this would be in addition to the already provided \$5,000,000 sub-limit for Damage to Existing Property.

- Coverage for prototypical design or the use of unproven technology (equipment) requires prior underwriter approval
- Coverage for any wood frame, joisted masonry or mixed construction (i.e. includes wood frame and/or joisted masonry) is excluded. Coverage may be available by referral to the Company.
- Coverage for seismic renovations is excluded. Coverage may be available by referral to the Company.
- This confirmation of coverage does not contemplate picking up coverage for projects currently in progress on the date of binding. Coverage may be available by referral to the Company.

### **100% Program Limits:**

***Note: The application of all sub-limits is per occurrence, not per insured project***

- \$6,500,000 – 100% Program Limit of Liability
- Included w/ Program Limit – Physical Damage (Hard Costs including owner supplied materials)
- Included w/ PD – Interior Water Damage
- Included w/ PD – Hot Testing
- \$250,000 – Soft Costs (per occurrence and in the annual aggregate for ALL projects)
  - *Note: The \$250,000 sub-limit for Soft Costs will apply unless a separate breakout of Soft Costs is provided.*
  - *The period of indemnity will be 365 days.*
- No coverage – Delay in Completion (Gross Earnings)
- \$100,000 – Offsite Storage
- \$100,000 – Transit
- \$50,000 – Plans, Blueprints and Other Contract Documents (Valuable Papers and Records)
- \$50,000 – Fire Department Service Charges & Extinguishing Expenses
- \$100,000 – Fire Protective Equipment Recharge
- \$25,000 – Protection of Covered Property Pre-Loss
- \$500,000 or 20% of the insured physical loss, whichever is lesser – Expediting & Extra Expenses
- \$1,000,000 or 25% of the insured physical loss, whichever is lesser – Debris Removal
- Included – Green Debris Removal
- \$50,000 – Clean-Up and Decontamination as part of Debris Removal
- \$500,000 – Ordinance or Law / Demolition & Increased Cost of Construction
- \$25,000 – Errors & Omissions
- \$50,000 – Pollution Clean-Up and Removal Expense per occurrence and in the annual aggregate
- \$50,000 – Fungus, Mold or Mildew, per occurrence and in the annual aggregate
- \$50,000 – Loss Adjustment Expenses
- \$25,000 – Arson or Theft Reward
- \$5,000,000 – Damage to Existing Property
  - *Note: Includes coverage for damage to contents, up to \$5,000,000, located within an existing property*
- \$1,000,000 or 90 Days – Automatic Coverage
- \$50,000 – Installed Trees, Plants and Shrubs subject to a maximum of \$1,000 per item
- \$6,500,000 – Flood per occurrence and in the annual aggregate
- \$6,500,000 – Earthquake per occurrence and in the annual aggregate
- \$6,500,000 – Named Windstorm (including storm surge) per occurrence
- \$6,500,000 – Terrorism as authorized under TRIPRA (IF PURCHASED)

**100% Program Deductibles:**

***Note: Should more than one deductible apply in any one occurrence, only the single largest deductible shall be applied***

**AOP Deductibles:**

- \$10,000 per occurrence, except;

**Water Damage:**

- \$25,000 per occurrence for water damage (excluding Flood) for all projects

**Flood:**

- \$25,000 per occurrence for the MD Anderson campus in Bastrop, TX and Smithville, TX
- 2% of values at risk at the time of loss, per affected project, subject to a minimum of \$100,000 per occurrence for the MD Anderson campus in Houston, TX

**Earthquake:**

- \$25,000 per occurrence

**Named Windstorm (including storm surge):**

- \$10,000 per occurrence for the MD Anderson campus in Bastrop, TX and Smithville, TX
- 2% of values at risk at the time of loss, per affected project, subject to a minimum of \$100,000 per occurrence for the MD Anderson campus in Houston, TX

**Delay in Start-Up and Soft Costs:**

- 30 days per occurrence

**Hot Testing:**

- \$50,000 per occurrence

**Program Premium:**

A **\$27,300** minimum and earned deposit will apply on attachment of this program and shall be applied against premium due for the first quarterly period and subsequent periods until exhausted. Once the minimum premium has been exhausted, additional premium will be due based on values reported in each quarterly period. For the purposes of this proposed master program, quarterly reporting periods shall conclude on **January 1, April 1, July 1, and October 1** in any given year.

An additional premium of **\$850** applies for TRIPRA (terrorism coverage) and is INCLUDED in the above noted **\$27,300** minimum and earned deposit premium.

**Mandatory Company Conditions / Mandatory Endorsements:**

- Chubb Company Endorsements:
  - Piling Works Endorsement
  - Limited Fungi or Bacteria Endorsement
  - Hot Testing Endorsement
  - Nuclear, Biological, Chemical, Radiological Exclusion Endorsement
  - War Exclusion
  - Ordinance or Law Coverage Endorsement
  - Delay in Opening Endorsement (Soft Costs)
  - Damage to Existing Property Endorsement
  - Clean-Up and Decontamination of Debris Endorsement
  - Pollutant Clean-Up Endorsement
  - Asbestos Exclusion Endorsement
  - Electronic Data/Cyber Risk Endorsement
  - Pollution & Contamination Endorsement
  - Certificates of Insurance Endorsement (provides Beecher Carlson ability to issue certificates on behalf of the issuing insurance companies)
  - Terrorism Purchased Endorsement to apply per project
  - NOTE: Chubb will be issuing the policy on Westchester Surplus Lines Insurance Company paper (non-admitted)

## **SECTION 01 31 00 JO-BSV – JOB ORDER ADMINISTRATION**

### **PART 1 - GENERAL**

#### **1.1. RELATED DOCUMENTS**

- 1.1.1. Contractor's attention is specifically directed, but not limited, to the Job Order Contracting Master Agreement (Master Agreement), the 2013 Uniform General Conditions for University of Texas System Building Construction Contracts (UTUGCs), and Section 00 25 00 JO-BSV, Owner's Special Conditions for Job Order Projects for other requirements.

#### **1.2. SUMMARY**

- 1.2.1. This Section provides Job Order administrative and procedural requirements for Contractor to supplement requirements defined in the Master Agreement, in the UTUGCs, and in Section 00 25 00 JO-BSV.

#### **1.3. DEFINITIONS**

- 1.3.1. Refer to the Master Agreement, the UTUGCs, and Owner's Special Conditions for Job Order Work for definitions used throughout this Section.

#### **1.4. FLOW OF COMMUNICATIONS**

- 1.4.1. Refer to the UTUGCs for requirements not identified in this Section.
- 1.4.2. The designated Owner's Representative (OR) for the Job Order will be the key contact for all communications and Job Order Site coordination issues. Owner's written instructions to Contractor will generally be issued through the OR for the Job Order.
- 1.4.3. The OR is the only party authorized to confirm changes in the Work, and issue written or oral instructions directly to Contractor.
  - 1.4.3.1. All oral instructions must be issued by the OR, or in her or his presence, and shall be promptly confirmed in writing by Contractor. Any oral instructions or discussions with Subcontractors in the absence of Contractor will not be considered contractual and will not be not binding on either party.
- 1.4.4. If Owner appoints an A/E for the Job Order, Owner may designate that A/E be responsible for document control, general Job Order administration and the key contact for written communications. Any such designation, and any limits thereon, shall be discussed during the Preconstruction Conference.
- 1.4.5. All Subcontractor correspondence shall be routed through Contractor. All written Contractor correspondence shall be directed to the OR, with a copy to A/E. The actual parties for a specific Job Order will be identified in the Job Order RFP and confirmed at the Preconstruction Conference.
- 1.4.6. Per the UTUGCs, A/E may issue clarification and other information not affecting the Job Order Price or time by means of an A/E's Supplemental Instruction (ASI) form, or similar clarification form, which will be sequentially numbered. A/E and Contractor shall maintain separate ASI registers.
- 1.4.7. All Subcontractor Requests for Information (RFI) shall be submitted by and under cover of Contractor, who is to carefully review and ensure the completeness and appropriateness of the question, sequentially number each, and submit to A/E using Owner's Project Management System

- 1.4.8. All Job Order correspondence shall include The University of Texas MD Anderson Cancer Center (MD Anderson) Project Number and Project Name in the title or reference.
- 1.4.9. Contractor shall process Applications for Payment, Requests for Information, Change Orders, and Submittals as shown in Owner's JOC Pre-Construction Brochure.

#### 1.5. CHANGED CONDITIONS

- 1.5.1. Refer to the UTUGCs for requirements not identified in this Section.
- 1.5.2. If Contractor finds conditions at the Job Order Site to be materially different from those indicated in the Job Order Contract Documents, Contractor shall notify A/E and the OR immediately in writing and prior to disturbing such conditions.

#### 1.6. JOB ORDER CHANGES

- 1.6.1. Upon authorization by Owner, Owner or A/E will prepare and issue all changes to the Job Order affecting cost, scope or time as a formal Change Order on Owner's standard Change Order form. The Change Order may include separate change issues, identified as Proposed Changes and field orders.
- 1.6.2. Upon authorization by Owner, Proposed Changes may be issued by A/E for pricing by Contractor. Contractor shall submit pricing to Owner within five (5) business days and pricing shall be indicated on the standard Owner "Change Request" form provided in the JOC Pre-Construction Conference Brochure. Contractor may not include a Proposed Change within a Change Order unless Owner has accepted the Proposed Change.
  - 1.6.2.1. Contractor shall price Change Orders consistent with the terms set forth in the Master Agreement for pricing Pre-priced Items, Non-pre-priced Items and Other Cost Items.
  - 1.6.2.2. When Contractor believes it is entitled to a time extension, Contractor shall so state as part of Contractor's response to the Proposed Change, including a justification for a time extension. Owner may grant time extensions only if a Proposed Change affects the activities on the critical path of an Owner approved Job Order Progress Schedule; i.e., when the change impacts the Job Order Substantial Completion Date.
  - 1.6.2.3. If the OR and Contractor cannot mutually agree upon a fair and reasonable cost and time settlement, the OR may: 1) Reject Contractor's proposed adjustment to the Job Order Price, the Job Order Time or both and void the Proposed Change, 2) issue instructions to Contractor to proceed on a time and material basis for a price to be determined later not-to-exceed a fixed maximum amount and time, or 3) issue a Unilateral Change Order.
- 1.6.3. The OR may issue written field orders directly to Contractor for minor changes to the Work, which can be negotiated in the field. Pricing backup is at the discretion of the OR, but pricing backup is required for any field order. The pricing backup is to be outlined on the Change Request form. When Owner and Contractor have signed the field order, the Work is authorized and the field order may be included in the next Change Order.
- 1.6.4. Request for payment for Change Order work may be submitted only after the Change Order has been fully executed.

#### 1.7. CLAIMS FOR ADDITIONAL COST

- 1.7.1. Contractor shall timely and officially certify all claims for additional cost and shall specifically comply with all provisions of the UTUGCs to be considered valid. Only Contractor can make a claim for additional cost under the terms of the Job Order Contract Documents.

## 1.8. LIQUIDATED DAMAGES

- 1.8.1. If assessed, Owner may withhold liquidated damages from progress payments beginning with the first payment after the adjusted Job Order Substantial Completion date and continuing through any subsequent progress payments until all Work of the Job Order is complete. Owner may assess liquidated damages by deducting the liquidated damages from the Job Order Price through a unilaterally written deductive Change Order.

## 1.9. JOB ORDER SITE USE ISSUES

- 1.9.1. Refer to the UTUGCs and to Owner's Special Conditions for Job Order Work for Job Order Site use requirements not identified in this Section.
- 1.9.2. Contractor shall manage, coordinate, and direct the Work from the Job Order Site.
- 1.9.3. Contractor shall provide and submit a program plan for worker orientation, identification of workers, and control of access to the Job Order Site. This program shall include securing medical clearance for all workers at the Bastrop campus. Any and all workers on the Project shall participate in this program before beginning Work on the Job Order. The program plan shall include, as a minimum:
  - 1.9.3.1. An overview of Contractor's plan for instruction of Job Order Site rules and regulations to all employees who participate on the Job Order Project, including but not limited to safety, restricted use of Owner's facilities, parking conduct, behavior, dress, sanitary facilities, security, etc.
  - 1.9.3.2. Employee identification badges with a photograph of the employee, the employer, and employee's name. Contractor shall obtain badges for all employees through Owner. This identification shall be worn at all times while on Owner's premises. Lack of an authorized identification badge shall be grounds for removal from Owner's premises.
  - 1.9.3.3. A detailed written plan indicating how Contractor proposes to control pedestrian and vehicular traffic into and out of the Job Order Site. Contractor shall provide a separate plan for normal working hours, nights, after normal hours, weekends, holidays, etc. This plan may be incorporated into Contractor's staging plan.

## PART 2 - PRODUCTS

### 2.1 SCHEDULING REQUIREMENTS

- 2.1.1 Refer to the UTUGCs and Section 01 32 00 – Project Planning and Scheduling for detailed scheduling requirements not identified in this Section.

### 2.2 SHOP DRAWINGS AND SUBMITTALS

- 2.2.1 Refer to the UTUGCs for requirements not identified in this Section.
- 2.2.2 Submittal Procedures: Contractor shall transmit each item using Owner's standard format. Contractor shall identify the Job Order by Owner's assigned project number, Contractor, Subcontractor and supplier. Contractor shall identify pertinent drawing sheet and detail number and specification section number as appropriate. Contractor shall transmit submittals to Owner and A/E as determined in the Preconstruction Conference.
- 2.2.3 Contractor shall include a Safety Data Sheet (SDS) for any and all materials incorporated into the Job Order Work. One (1) copy of the SDS shall be attached to the submittal and one copy shall be kept in a file of SDSs for all materials at the Job Order Site. Contractor shall

organize the file by the appropriate technical specification section. Refer to Section 00 25 00 JO-BSV, Owner's Special Conditions for Job Order Work for additional requirements.

- 2.2.4 If Owner does not assign a submittal tracking number through Owner's internet-based project management system, Contractor shall assign a tracking number to each submittal following a format to be established at the Preconstruction Conference. The same tracking number with a numerical or alphabetical suffix will be used to identify re-submittals.
- 2.2.5 Submittal Product Data: Contractor shall collect and organize manufacturer's product data into a single submittal for each element of construction or system. Contractor shall include product data such as manufacturer's installation instructions, compliance with recognized trade association standards and testing agency standards, catalog data sheets, standard color charts, roughing-in diagrams and templates, standard wiring diagrams and performance curves. Where product data must be specially prepared because standard printed data is not suitable for use, Contractor shall submit as Shop Drawings.
- 2.2.6 Shop Drawings: Contractor shall submit newly prepared information that is drawn to accurate scale. Contractor shall highlight, encircle, or otherwise indicate deviations from the Job Order Contract Documents. Contractor shall not reproduce Job Order Contract Documents or copy standard information as the basis of Shop Drawings. Standard information prepared without specific reference to the Job Order Project is not acceptable as Shop Drawings.
  - 2.2.6.1 Shop Drawings include fabrication and installation drawings, setting diagrams, schedules, patterns, templates and similar drawings. Contractor shall include at least the following information:
    - 2.2.6.1.1 Dimensions.
    - 2.2.6.1.2 Equipment service access area.
    - 2.2.6.1.3 Identification of products and materials included.
    - 2.2.6.1.4 Compliance with specified standards.
    - 2.2.6.1.5 Notation of coordination requirements.
    - 2.2.6.1.6 Notation of dimensions established by field measurement.
- 2.2.7 The burden of timeliness to complete the submittal process is on Contractor. Contractor shall allow sufficient time within the Work Progress Schedule for A/E and Owner to review all submittals, including time for all re-submittals on any unaccepted or rejected submittals, as identified in the UTUGCs.
- 2.2.8 Contractor shall carefully examine all data submitted for approval and shall certify that the data has been carefully reviewed and found to be correct with respect to the Job Order Contract Documents.
  - 2.2.8.1 Any deviation from the Job Order Contract Documents and the reason for the deviation shall be conspicuously noted on the submittal and the transmittal cover sheet. Contractor's failure to conspicuously note deviations and the reason for the deviation will void any action taken on the submittal.
  - 2.2.8.2 All manufacturer's data contained within the submittal shall have all inapplicable features crossed out or deleted in a manner that will clearly indicate exactly what is to be furnished.

- 2.2.8.3 Equipment of larger sizes than shown, even though of a specified manufacturer, will not be acceptable unless it can be demonstrated that ample space exists for proper installation, operation, and maintenance.
- 2.2.8.4 Should A/E, on initiating A/E's review, find the submittal unstamped or uncertified, non-responsive, incomplete, or any combination thereof, A/E shall return the submittal to Contractor immediately without review. Such returned documents will not be recognized as having been an official submittal.
- 2.2.9 Owner will not be responsible for payment of any item that has not been submitted and approved through the established submittal process.
- 2.2.10 Contractor should anticipate transmitting submittals electronically to Owner and A/E. Owner's internet-based project management system will be used for transmitting submittals. Paper hardcopies of submittals may be required; the exact number of paper hardcopies for distribution will be determined at the Pre-Construction Conference. Refer to Section 01 77 00 – Project Close-out Procedures for submission of approved submittals at Job Order Project close-out.
- 2.2.11 Samples: As required by individual elements of the Job Order Construction Documents, Contractor shall submit full-size, fully fabricated Samples cured and finished as specified and physically identical with the material or product proposed. Samples shall include partial sections of manufactured or fabricated components, cuts or containers of materials, color range sets, and swatches showing color, texture and pattern.
  - 2.2.11.1 Contractor shall mount, display, or package Samples in the manner specified to facilitate review by Owner and A/E. Contractor shall prepare samples to match A/E's Sample, which shall include at least the following information:
    - 2.2.11.1.1 Generic description of the Sample.
    - 2.2.11.1.2 Sample source.
    - 2.2.11.1.3 Product name or name of manufacturer.
    - 2.2.11.1.4 Compliance with recognized standards.
    - 2.2.11.1.5 Availability and delivery time.
  - 2.2.11.2 Contractor shall submit Samples for review of kind, color, pattern, and texture, for a final check of these characteristics with other elements, and for a comparison of these characteristics between the final submittal and the actual product delivered and installed.
  - 2.2.11.3 When variation in color, pattern, texture or other characteristics are inherent in the material or product represented, Contractor shall submit no less than three (3) multiple units to both A/E and to Owner that show approximate limits of the variations. Otherwise, Contractor shall deliver one sample to A/E and one sample to Owner.
- 2.2.12 Refer to individual Specifications for additional submittal requirements.
- 2.3 SUBSTITUTION PROCEDURES
  - 2.3.1 Refer to the UTUGCs for requirements not identified in this Section.
  - 2.3.2 The specified products used in preparing the Job Order Contract Documents establish minimum qualities. Substitutions must be at least equal to the minimum qualities for

consideration by Owner as an acceptable substitution. The burden of proof of equality rests with Contractor. Owner retains sole authority for acceptance of substitutions.

2.3.3 Contractor shall submit all substitution requests within thirty (30) days of receiving notice of acceptance of the Job Order Proposal and shall allow a minimum of seven (7) days for review of each substitution by A/E and Owner in addition to the requirements identified in Section 2.2 above. Contractor is solely responsible for allowing sufficient time for substitutions to be considered without affecting Job Order Completion Time.

2.3.4 Substitution requests shall include the name of the material or equipment for which it is to be substituted and a complete description of the proposed substitution, including drawings, performance and test data, and other information necessary for an evaluation. Documentation for substitution requests shall include the following, as applicable:

2.3.4.1 A statement indicating why the specified product or fabrication or installation cannot be provided,

2.3.4.2 Coordination information, including a list of changes or modifications needed to other parts of the Work that will be necessary to accommodate the proposed substitution.

2.3.4.3 A detailed comparison of significant qualities of the proposed substitution with those of the Work specified. This comparison shall include an annotated copy of the applicable Specification section. Significant qualities may include attributes such as performance, weight, size, durability, visual effect, sustainable design characteristics, warranties, and specific features and requirements indicated. The comparison shall also indicate deviations, if any, from the Work specified.

2.3.4.4 Product data, including drawings and descriptions of products and fabrication and installation procedures.

2.3.4.5 Samples, where applicable or requested. Owner may require Contractor to provide Samples of both the specified item and the proposed item for comparison.

2.3.4.6 Certificates and qualification data, where applicable or requested.

2.3.4.7 List of similar installations for completed projects with project names and addresses and names and addresses of architects and owners.

2.3.4.8 Material test reports from a qualified testing agency indicating and interpreting test results for compliance with requirements indicated.

2.3.4.9 Cost information, including a proposal of change, if any, in the Job Order Price.

2.3.4.10 Contractor's certification that proposed substitution complies with requirements in the Job Order Contract Documents except as indicated in the substitution request, is compatible with related materials, and is appropriate for applications indicated.

2.3.4.11 Contractor's waiver of rights to additional payment or time that may subsequently become necessary because of failure of proposed substitution to produce indicated results.

2.3.5 Owner may base acceptance of materials and equipment on the supplier or manufacturer's published data and acceptance may be provisional subject to the submission of complete shop drawings and specifications indicating compliance with the Job Order Contract Documents. Owner's acceptance of materials or equipment under this provision shall not be construed as authorizing any deviation from the Job Order Contract Documents, unless specifically directed in writing from Owner, A/E, or both.

2.3.5.1 Contractor shall be solely responsible for all additional costs resulting from the review of any proposed substitution. Additional costs include direct and indirect costs that are not presented at the time of the substitution request and costs that become known after the review and approval of the substitution.

2.3.6 Should Owner accept a substitution and should the substitute prove defective or otherwise unsatisfactory for the service intended within the warranty period, Contractor shall replace the substitute with the material or equipment specified in the Job Order Contract Documents at no additional cost to Owner.

## 2.4 INITIAL APPLICATION FOR PROGRESS PAYMENT

2.4.1 Refer to the UTUGCs, Section 01 32 00 – Project Planning and Scheduling, and Section 01 77 00 – Project Closeout Procedures, for requirements not identified in this Section.

2.4.2 Unless Owner and Contractor agree otherwise, Contractor shall submit only one request for payment for a specific Job Order. When Owner agrees to compensate Contractor on a periodic basis, Contractor may submit a request for a progress payment no more frequently than once per month.

2.4.3 Unless Owner expressly agrees otherwise, all requests for payment shall be presented on The University of Texas MD Anderson Cancer Center Application for Payment and Schedule of Values forms (refer to Attachments No. 1 and No. 2) supplemented by columnar continuation sheets, which represent updates to the original Job Order Schedule of Values.

2.4.4 Within fourteen (14) days of receipt of the Notice to Proceed with Construction, and prior to the submission of the Application for Payment, Contractor shall submit the following documents to A/E and OR for review. When Owner has agreed to compensate Contractor on a periodic basis, the following documents shall be submitted prior to the submission of the first Application for Payment.

2.4.4.1 Job Order Schedule of Values: Contractor shall submit a single document itemizing the breakdown of the Job Order Price using Owner's Standard Schedule of Values format. Contractor shall submit a draft breakdown at least fourteen (14) days prior to submitting the Application for Payment and such submittal shall be a condition precedent to the processing of the Application for Payment. When Owner has agreed to compensate Contractor on a periodic basis, Contractor shall submit subsequent draft copies of the Schedule of Values at least seven (7) days prior to formal submission of each periodic Application for Payment.

2.4.4.1.1 The Schedule of Values 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 line item and be of such detail as may be required by Owner and/or A/E, but in general shall limit each line item to less than \$10,000.

2.4.4.1.2 Commissioning activities shall be identified on the Schedule of Values in sufficient detail to allow for Owner's review of progress.

2.4.4.1.3 No adjustment to the original detailed breakdown of a Job Order Price line item shall be made once accepted by Owner. Once accepted, the breakdown will form the basis for all payments.

2.4.4.1.4 Contractor shall not use Subcontractor invoices or pay applications in lieu of a single Schedule of Values from Contractor, unless Owner has expressly agreed otherwise.

- 2.4.4.1.5 The breakdown shall anticipate future Change Orders and make provisions for incorporating all changes into the Schedule of Values listing. If issued, Change Orders shall be identified separately and shall itemize the Change Orders, Change Proposals and field orders, which are incorporated into each Change Order for payment on a line-item basis as required by this section.
  - 2.4.4.1.5.1 Payments shall not be made for work included in unexecuted Change Orders.
- 2.4.4.1.6 The process outlined in this section shall be repeated every time a Subcontract is added to the Schedule of Values.
- 2.4.4.2 Work Progress Schedule: Refer to Section 01 32 00 – Project Planning and Scheduling for all Work Progress Schedule requirements.
- 2.4.4.3 Submittal Register: Contractor shall provide Owner and A/E with a Submittal Register of all items requiring submittal review showing the items' anticipated submission dates and late finish dates for completion of the review process. The Submittal Register shall be incorporated with the Work Progress Schedule. When Owner has agreed to compensate Contractor on a periodic basis, the Submittal Register shall be updated and submitted to A/E and Owner with each Application for Payment.
- 2.4.4.4 Equipment Matrix: Section 01 91 00 – General Commissioning Requirements requires a matrix of all operable devices and building system components be submitted to Owner. This matrix may be incorporated into equipment documentation required in Operating and Maintenance Manuals as indicated in Section 01 77 00 – Project Closeout Procedures.
- 2.4.4.5 Contractor is encouraged to integrate these documents to the extent practical to avoid duplication, both in initial setup and ongoing updates to each.
- 2.4.5 When Owner and Contractor agree to the Schedule of Values line item amounts, Contractor shall submit two (2) copies of the formal Application for Payment to Owner, utilizing The University of Texas MD Anderson Cancer Center form, with original signatures of an officer of the contracting firm and original notarization. If the person who signs the Application for Payment on Contractor's behalf is not a duly authorized officer of Contractor's business entity, Contractor shall furnish a certificate designating that the person who has signed the Application for Payment has the authority to sign Applications for Payment on behalf of Contractor.
  - 2.4.5.1 Contractor shall provide attachments to each Application for Payment per the UTUGCs. Contractor shall verify the number of copies of each attachment with the OR prior to submission.
    - 2.4.5.1.1 HUB Progress Assessment report (submitted electronically to HUB department).
    - 2.4.5.1.2 Updated Submittal Register.
    - 2.4.5.1.3 Application for Payments required by the Job Order Project Contract Documents.
    - 2.4.5.1.4 Wage rate notification form for each member of the workforce not previously submitted.
    - 2.4.5.1.5 Updated Work Progress Schedule as specified in Section 01 32 00 – Project Planning and Scheduling.

- 2.4.5.1.6 Documentation of Release of Liens and Claims in accordance with the value of the periodic Application for Payment.
    - 2.4.5.1.7 Confirmation that Contractor has maintained and updated the Record Documents kept at the Job Order Site.
  - 2.4.6 The formal Application for Payment(s) shall be first certified by A/E and then submitted to the OR for signature and processing. Contractor may expect receipt of payment within thirty (30) days after the OR receives the formal complete and accurate Application for Payment.
  - 2.4.7 Contractor shall be prepared to review the draft Application for Payment with Owner and A/E. Failure to comply with the requirements outlined above shall relieve Owner from Owner's obligation to make payments on any and all line items until Contractor meets all requirements.
    - 2.4.7.1 Payments cannot exceed the Job Order Price, work in-place or Subcontract amounts as depicted on Schedule of Values line items.
    - 2.4.7.2 Retainage shall not be used to cover Punchlist items.
  - 2.4.8 Requests for payments in association with release of, or reduction in, retainage or completion of Work have additional requirements as outlined in the UTUGCs and Section 01 77 00 – Project Closeout Procedures.
- 2.5 DAILY REPORT
  - 2.5.1 Contractor shall provide, on a daily basis, A/E and OR with a report detailing Contractor's daily activities on the Job Order using a format acceptable to Owner. All tests that Contractor performs and all work reports required of Subcontractors shall be attached to Contractor's daily report.
  - 2.5.2 The report shall include, as a minimum, the following information as it relates to the day's activities on the Job Order Site:
    - 2.5.2.1 Total number of employees on the Job Order Site (including total number of employees for Contractor and each Subcontractor);
    - 2.5.2.2 Any change in personnel;
    - 2.5.2.3 Equipment;
    - 2.5.2.4 Areas of work and type of work performed;
    - 2.5.2.5 Material received;
    - 2.5.2.6 Tests performed;
    - 2.5.2.7 Any injuries or accidents;
    - 2.5.2.8 Any oral instructions received;
    - 2.5.2.9 Any material damage; and anything else that might impact quality or schedule.

### **PART 3 – EXECUTION**

### 3.1 PRE-CONSTRUCTION CONFERENCE

- 3.1.1 Owner will schedule a Pre-Construction Conference to generally coincide with issuance of Notice to Proceed with Construction for each Job Order. The Pre-Construction Conference agenda will cover broad Job Order issues followed by a detailed review of administrative procedures.
- 3.1.2 Owner will provide a JOC Pre-Construction Brochure, as an overview of administrative procedures for the Job Order. A review of the brochure, identification of key Job Order personnel, Owner's sample administrative forms, and other information will be conducted at the Pre-Construction Conference.
- 3.1.3 Attendance is required at the conference by all appropriate representatives of Contractor, mechanical, electrical, plumbing Subcontractors, and any additional subcontractors (proposed or engaged), whose scope of work represents five percent (5%) or more of the total Job Order Price. Contractor shall request all HUB Subcontractors also be represented. Each firm is to be represented by personnel directly involved in the Job Order Work, including project managers and project superintendents or labor foremen, as a minimum.
  - 3.1.3.1 Project representatives of Contractor and all other parties directly involved with the processing or executing of Job Order submittals, changes and/or payments should attend the Pre-Construction Conference.
- 3.1.4 Prior to the scheduled time of the Pre-Construction Conference, Contractor shall provide Owner a written outline of all involved firms, Contractor's key personnel, including mailing address and phone numbers to be incorporated into a Job Order Directory.

### 3.2 JOB ORDER MEETINGS

- 3.2.1 In addition to specific coordination meetings, pre-installation contractor meetings for each element of Work, and other Job Order meetings for other purposes, Owner may schedule and conduct a periodic Job Order Progress meeting at least once each month with the timing generally coinciding with preparation of payment request and submission of the updated Work Progress Schedule.
- 3.2.2 Contractor shall coordinate with Subcontractors so that each entity then involved in planning, coordination, or performance of Work will be properly represented at each meeting.
  - 3.2.2.1 Prior to each Job Order Progress Meeting, Contractor shall convene a similar progress meeting with Subcontractors to review each of the Subcontractor's present and future needs including interface requirements, utility outages required, sequences, deliveries, access, Job Order Site utilization, temporary facilities and services, hours of work, hazards and risks, housekeeping, pending change orders, and documentation of information for payment requests in order to be fully prepared to discuss all pertinent issues with Owner. Contractor shall notify Owner and A/E in advance of such meetings with Subcontractors.
- 3.2.3 Contractor and A/E shall provide separate tracking logs for submittals, RFIs, ASIs, and changes in a package for each primary meeting participant.
- 3.2.4 The OR will chair the Job Order Progress Meetings. Contractor shall be specifically prepared to discuss the following at each Job Order Progress Meeting:
  - 3.2.4.1 Work Progress Schedule Update Reports as required in Section 01 32 00 – Project Planning and Scheduling.
  - 3.2.4.2 Forecast of operational impacts for the upcoming period.

- 3.2.4.3 Anticipated need for utility outages.
- 3.2.4.4 Status of "action" items from the previous Job Order Progress Meeting.
- 3.2.4.5 Status of subcontracts and the HUB Plan.
- 3.2.4.6 Current status of product submittals and shop drawings, RFIs, and ASIs.
- 3.2.4.7 Status of Job Order changes and other items of significance, which could affect progress.
- 3.2.4.8 Status of the commissioning process for the Job Order.

3.2.5 In addition to the Job Order Progress Meeting, Owner may schedule other Job Order meetings at various stages of the Job Order as conditions may dictate. However, the complete report requirements noted above will apply only to the Job Order Progress Meetings.

### 3.3 UTILITY OUTAGES

- 3.3.1 Contractor shall notify the OR, in writing, of any planned utility outages in accordance with Owner's Special Conditions.
- 3.3.2 Owner will provide a standard form for processing a request for utility shutdown or any other campus disruption. Contractor shall utilize this form, Utilities Outage Shutdown Request Form, with attachments as necessary, in requesting an outage. Refer also to Section 00 25 00 JO-BSV - Owner's Special Conditions Job Order Work for Owner's Policy for Planned Utility Outages.
- 3.3.3 Contractor shall not turn services on or off, without prior written authorization from Owner. Unless directed otherwise, Owner will turn services on and off.

### 3.4 TESTING

- 3.4.1 Refer to the UTUGCs and Section 01 45 00 – Project Quality Control for additional requirements.
- 3.4.2 Where specific testing is specified in a technical section of the Specifications or indicated in the Job Order Contract Documents, Contractor shall bear the costs of all tests unless the Job Order Contract Documents specifically state that it is to be paid for by Owner.

### 3.5 INSPECTIONS

- 3.5.1 Refer to the UTUGCs and Section 01 45 00 – Project Quality Control for inspection requirements not identified in this Section.
- 3.5.2 Contractor shall provide sufficient, safe and proper facilities at all reasonable times for observation and inspection of the Work by Owner and Owner's consultants. This shall include any and all equipment necessary for access to various aspects of the Work.

### 3.6 ONE-YEAR WARRANTY

- 3.6.1 If informed of a defect, Contractor shall remedy the defect at Contractor's own cost and respond in writing to Owner and the notifying party within ten (10) days indicating the action taken to resolve the defect. Refer to the UTUGCs.

- 3.6.2 Contractor shall attend any and all meetings to resolve warranty issues. Contractor will provide a tracking log of all warranty issues and Contractor's resolution.
- 3.6.3 Contractor shall participate in an end-of-warranty Job Order Project review with Owner, as scheduled by the OR, at a time prior to termination of the warranty period.
- 3.6.4 Per the UTUGCs, unless directed otherwise in writing by Owner, all warranties shall use the date of Job Order Substantial Completion as the start date for that particular warranty.
  - 3.6.4.1 If any equipment and/or system is placed into continuous service prior to the date of Job Order Substantial Completion, Contractor shall provide, at Contractor's own cost, for the necessary warranty extension, as required by the UTUGCs.
  - 3.6.4.2 Contractor shall deliver all equipment to Owner in an "as-new" condition. If equipment is put into service for the convenience of Contractor, Contractor shall, at Contractor's own expense, maintain, service and refurbish the equipment to "as-new" condition prior to delivery to Owner.
- 3.6.5 Provisions described herein shall also apply to those items having warranties greater than one-year.

**END OF SECTION 01 31 00 JO**

**Attachment No. 1 – Application for Payment Example**  
(Obtain an Electronic Version of This Form From the OR)

**THE UNIVERSITY OF TEXAS  
M.D. ANDERSON CANCER CENTER  
APPLICATION FOR PAYMENT – BSV JOB ORDER PROJECT**

APPLICATION FOR PARTIAL PAYMENT No. {ENTER No.} PROJECT No. {ENTER No.}  
FOR THE PERIOD: {ENTER BEGINNING DATE} TO: {ENTER ENDING DATE} INCLUSIVE.  
NAME OF PROJECT: {ENTER PROJECT NAME}  
CONTRACTOR NAME & ADDRESS: {ENTER CONTRACTOR NAME & ADDRESS}

**TO BE COMPLETED BY THE JOB ORDER CONTRACTOR**

1 Original Contract Amount:	\$	<u>0.00</u>
2 Approved Change Order Extras:	\$	<u>0.00</u>
3 Accepted Change Order Deductions:	\$	<u>0.00</u>
4 Current Contract Amount:	\$	<u>0.00</u>
5 Total Completed To Date:	\$	<u>0.00</u>
6 Less Total Retainage (5%):	\$	<u>0.00</u>
7 Total Net Earned Amount:	\$	<u>0.00</u>
8 Less Previous Payments:	\$	<u>0.00</u>
<b>9 Current Payment Due:</b>	<b>\$</b>	<b><u>0.00</u></b>
10 Balance To Finish, Including Retainage: <i>(Line 4 less line 7)</i>	\$	<u>0.00</u>

**AFFIDAVIT**

**Insurance:** I, agent for the Job Order Contractor, do hereby certify that all insurances as required by law, and by the specifications, are in full force and effect as of this date.

**Claims & Liability:** I, agent for the Job Order Contractor, do furthermore certify that all current invoices and obligations have been paid in full, and there are no claims or liabilities against this contract.

{CONTRACTOR SIGNATURE}

*Signature of CONTRACTOR*

**JOB ORDER CONTRACTOR'S NOTARIZED SIGNATURE**

**STATE OF TEXAS** Personally before me, the undersigned authority, this day appears {PRINTED NAME OF CONTRACTOR AGENT} who being by me duly sworn,  
**COUNTY OF** on his oath says that the account hereto attached, in the amount 0.00 ..... in favor of  
{PRINTED NAME OF CONTRACTOR FIRM} & against The Board of Regents of the University of Texas System & the M.D. Anderson Cancer  
**[STAMP SEAL BELOW]** Center, within the knowledge of affiant, just true, and correct; that it is due and that all just and lawful affrays, payments, and credits have been allowed.

Sworn to and subscribed before me, ..... {CONTRACTOR SIGNATURE} ..... this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.  
*Signature of CONTRACTOR*

Notary Public {NOTARY SIGNATURE} {ENTER NAME OF COUNTY} County, Texas  
*Signature of Notary*

**JOB ORDER CONSTRUCTION SERVICES CERTIFICATE: TO BE COMPLETED BY THE PROJECT ARCHITECT/ENGINEER**  
TO THE BOARD OF REGENTS OF THE UNIVERSITY OF TEXAS SYSTEM, AUSTIN, TEXAS AND THE M.D. ANDERSON CANCER CENTER, HOUSTON, TEXAS

This is to certify that {ENTER JOB ORDER CONTRACTOR FIRM NAME} ..... Job Order Contractor  
for the Project {ENTER JOB ORDER PROJECT NAME} ..... is entitled to payment  
for Job Order Construction Services of this Certificate in the amount of ..... \$ 0.00  
JO CONTRACTOR has updated the Record Drawings: ☐ Yes ☐ No ☐ NA

Architect/Engineer ..... {ENTER A/E FIRM NAME}  
Reviewed and Approved on ..... {DATE} By: {A/E SIGNATURE}  
*Date* *Signature of A/E*

**JOB ORDER CONSTRUCTION SERVICES: TO BE COMPLETED BY THE UTMDACC PROJECT MANAGER**

JO CONTRACTOR has submitted an updated Project Schedule: ☐ Yes ☐ No ☐ NA JO CONTRACTOR has updated the Record Drawings: ☐ Yes ☐ No ☐ NA  
This Pay Application includes a current Release of Retainage: ☐ Yes ☐ No ☐ NA if "Yes", JO CONTRACTOR has included a "Consent of Surety": ☐ Yes ☐ No ☐ NA  
Current Payment For Job Order Construction Services ..... \$ 0.00  
Reviewed and Approved on ..... {DATE} By: {PM SIGNATURE}  
*Date* *Signature of PM*

# Attachment No. 2 – Schedule of Values Example

(Obtain an Electronic Version of This Form From OR)

## The U.T.M.D.A.C.C. Schedule of Values - Job Order Contractor's Estimate Continuation Sheet

U.T.M.D.A.C.C. Job Order Project Number			Agreement Number						
U.T.M.D.A.C.C. Job Order Project Name			Job Order Project Address/Location:						
Job Order Contractor			Application For Payment Number						
Date			Application Period To						
A	B	C *	D	E	F	G	H	I	J
CSI Section	CSI Description of Work / Subcontractor Name / Specification Section	Detailed Breakdown of Contract Line Items	Total Amount Previously Requested & Percent	Current Application					Retainage (5%)
				This Period Amount & Percent	Total Amount Completed To Date & Percent				
Column Equations			H'	I'		F / C	D + F	H / C	H X 5%
	Division 01 - General Conditions & Requirements	\$0.00	\$0.00	0%	\$0.00	0%	\$0.00	0%	\$0.00
	Division 02 - Existing Conditions	\$0.00	\$0.00	0%	\$0.00	0%	\$0.00	0%	\$0.00
	Division 03 - Concrete	\$0.00	\$0.00	0%	\$0.00	0%	\$0.00	0%	\$0.00
	Division 04 - Masonry	\$0.00	\$0.00	0%	\$0.00	0%	\$0.00	0%	\$0.00
	Division 05 - Metals	\$0.00	\$0.00	0%	\$0.00	0%	\$0.00	0%	\$0.00
	Division 06 - Woods & Plastics	\$0.00	\$0.00	0%	\$0.00	0%	\$0.00	0%	\$0.00
	Division 07 - Thermal & Moisture Protection	\$0.00	\$0.00	0%	\$0.00	0%	\$0.00	0%	\$0.00
	Division 08 - Openings	\$0.00	\$0.00	0%	\$0.00	0%	\$0.00	0%	\$0.00
	Division 09 - Finishes	\$0.00	\$0.00	0%	\$0.00	0%	\$0.00	0%	\$0.00
	Division 22 - Plumbing	\$0.00	\$0.00	0%	\$0.00	0%	\$0.00	0%	\$0.00
	Division 23 - Heating, Ventilating, and Air Conditioning	\$0.00	\$0.00	0%	\$0.00	0%	\$0.00	0%	\$0.00
	Division 25 - Integrated Automation	\$0.00	\$0.00	0%	\$0.00	0%	\$0.00	0%	\$0.00
	Division 26 - Electrical	\$0.00	\$0.00	0%	\$0.00	0%	\$0.00	0%	\$0.00
	Division 31 - Earthwork	\$0.00	\$0.00	0%	\$0.00	0%	\$0.00	0%	\$0.00
	Division 32 - Exterior Improvements	\$0.00	\$0.00	0%	\$0.00	0%	\$0.00	0%	\$0.00
	Division 33 - Utilities	\$0.00	\$0.00	0%	\$0.00	0%	\$0.00	0%	\$0.00
	Changes								
	CO #1- Title of CO	\$0.00	\$0.00	0%	\$0.00	0%	\$0.00	0%	\$0.00
	<i>Insert new rows above this line</i>								
Job Order Total		\$0.00	\$0.00	0%	\$0.00	0%	\$0.00	0%	\$0.00

Release of Retainage			
Initialed By pm	Total Retainage Scheduled To Be Withheld to Date (5% x Column C)		\$0.00
	Date of Release	General Description of Scope Associated With Release of Retainage	Amount
			\$0.00
			\$0.00
			\$0.00

## SECTION 01 32 00 - PROJECT PLANNING AND SCHEDULING

### PART 1 - GENERAL

#### 1.1. RELATED DOCUMENTS

- 1.1.1. The Contractor's attention is specifically directed, but not limited, to the Uniform General Conditions for University of Texas System Building Construction Contracts (UGC) for other requirements.

#### 1.2. SUMMARY

- 1.2.1 **Time is an essential part of this Contract. Therefore the timely and successful completion of the Work requires careful planning and scheduling of all activities inherent in the completion of the Project.**
- 1.2.2 Contractor must develop the Project Schedule to allow for a minimum amount of Float for the Project during Pre-Construction and/or Construction Services. Contractor must format the Project Schedule in a manner that facilitates reporting of progress and trends, identification of all critical paths, identification of each activity's predecessor(s) and successor(s), risks and opportunities, projection of upcoming activities, and forecasting of Project milestones.
- 1.2.3 The Owner must be able to reasonably rely on the Contractor's Project Schedule for projected activity dates in order to make accurate commitments to design professionals, contractors, vendors, user group(s), campus administration, and other parties as necessary.
- 1.2.4 **Owner's acceptance of the Project Schedule and any subsequent update of the Project Schedule are acceptance of the format and extent of detail of the Project Schedule only. Owner's acceptance does not indicate approval of the Contractor's means or methods, or of any change to the contract terms including, without limitation, any required contract Milestone Activities.**
- 1.2.5 This Specification applies to all Project delivery methods, regardless of contract type, whether the contracting firm, referred to as the Contractor, is a General Contractor, Construction Manager-at-Risk (CM-R), or Design/Build (DB) Contractor.
  - 1.2.5.1 All references to Pre-Construction Services in this Specification shall apply to requirements for CM-R and DB contract types only.

#### 1.3. DEFINITIONS

- 1.3.1. The term "Project Schedule", as used throughout the Contract Documents, shall refer to the schedule for the Project as developed, monitored, and maintained, by the Contractor's Project Scheduler, and as used by the Project Team during Pre-Construction and/or Construction Services.
- 1.3.2. The term "Project Team", as used throughout the Contract Documents, shall refer to the Owner, Architect, Design Consultants, Engineer, User, Contractor, Owner's Service Providers, and Subcontractors (as applicable) that are contracted and/or specifically assigned to the Project.
- 1.3.3. The term "Owner's Planning and Scheduling Specialist", as used throughout the Contract Documents, shall refer to the Owner's scheduling specialist representative, with all correspondence to be addressed to:

MD Anderson Cancer Center  
Facilities Planning, Design and Construction, Mail Box 703  
1515 Holcombe Boulevard, Suite 1010

- 1.3.4. The term "Data Date", as used throughout the Contract Documents, shall refer to the date of the Project Schedule update.
- 1.3.5. The term "Total Float" (Float), as used throughout the Contract Documents, shall refer to the number of calendar days an activity on the Longest Path can be delayed without delaying the Substantial Completion date.
  - 1.3.5.1. Negative Float indicates that the Project is late, while Positive Float is the property of the Project and does not belong to any one party (Refer to the UGC).
- 1.3.6. The term "Longest Path", as used throughout the Contract Documents, shall refer to the sequence of activities that determines the longest duration for the Project when the Float is greater than zero.
  - 1.3.6.1. The term "Critical Path", as used throughout the Contract Documents, shall refer to the sequence of activities that determines the longest duration for the Project when the Float is equal to or less than zero.

#### 1.4. CONTRACTOR RESPONSIBILITY

- 1.4.1. The Contractor is responsible for planning, management, coordination, and scheduling of all activities from a Notice to Proceed for Pre-Construction and Construction to Final Completion of the Project within the time allotted by the Agreement.
- 1.4.2. The Contractor is responsible for keeping the Owner and the Project Team fully informed of schedule status and upcoming activities throughout the Project via the Project Schedule.
- 1.4.3. The Contractor is solely responsible for the schedule and status of all activities related to Pre-Construction, procurement of materials and subcontractors, construction, testing, inspection, commissioning, and Project turnover to the Owner. The Contractor shall integrate the schedule and status of Owner furnished services such as test, adjust, and balance. Contractor shall schedule completion of activities and proactively submit for Owner's review and approval, all documentation related to commissioning, including, but not limited to, the following. (Refer to Section 01 91 00 – Project Commissioning and Section 01 77 00 – Project Closeout Procedures for additional requirements.)
  - 1.4.3.1. Commissioning Plan.
  - 1.4.3.2. Equipment Matrix.
  - 1.4.3.3. Submittal Schedule.
  - 1.4.3.4. Format, content, and tab structure for Operating and Maintenance Manuals and submittal of binders.
  - 1.4.3.5. Request for Start-Up/Functional Performance Test Form.
  - 1.4.3.6. Prefunctional Checklists.
  - 1.4.3.7. Functional Performance Test Procedures.
  - 1.4.3.8. Integrated System Test Procedures.
  - 1.4.3.9. Additional Commissioning and Closeout Manual documentation.

- 1.4.4. The Contractor shall provide adequate and reasonable Project planning in sufficient detail throughout all Project phases, as applicable for all aspects of Contractor's Work, to ensure completion of all activities within the Contract Time.
- 1.4.5. The Contractor's Pre-Construction and Construction project management personnel shall actively participate in the planning and development of the Project Schedule and shall be prepared to review such development and progress with the Owner, Architect/Engineer, and any other members of the Project Team so that the planned sequences and procedures are clearly understood by all parties.
- 1.4.6. The Contractor shall plan for appropriate activity durations to allow for thorough review, procurement, submittal, installation, inspection, testing, and commissioning, of all Work and/or systems in order to confirm Contract compliance, including Work relying on Owner participation or coordination.

## **PART 2 – PRODUCTS**

### **2.1 QUALIFICATIONS OF THE PROJECT SCHEDULER**

- 2.1.1 The Contractor shall assign a Project Scheduler who shall be responsible for the Project Schedule throughout Pre-Construction and Construction Services.
- 2.1.2 The Contractor's Project Scheduler shall have at least an undergraduate degree in a construction related field, and continuous experience on similar size and type of project(s) within the past five (5) years, including at least two (2) years with the specified scheduling software.
  - 2.1.2.1 In lieu of a degree, the Contractor's Project Scheduler may have at least five (5) years continuous experience on similar size and type of project(s) with the specified scheduling software.
- 2.1.3 The Contractor's Project Scheduler shall be an integral part of the Project Team during Pre-Construction Services and shall be on-site full-time for Construction Services until at least Substantial Completion of the Work.
  - 2.1.3.1 The Contractor's Project Scheduler may have additional responsibilities such as Senior Project Manager, Project Manager, Superintendent, Assistant Project Manager, Assistant Superintendent, Project Engineer, etc.
  - 2.1.3.2 If the Contractor's Project Scheduler is outsourced, the Contractor shall assign an on-site contact for all Project Schedule related issues.
- 2.1.4 All Contractor personnel involved in the preparation, updating, and reporting of the Project Schedule shall possess adequate construction scheduling knowledge related to the Project, Critical Path Method (CPM) knowledge, and a general understanding of the specified software.

### **2.2 REQUIRED SCHEDULING SOFTWARE**

- 2.2.1 Regardless of Project size or type, Contractor shall develop and maintain the Project Schedule using the latest version of Microsoft Project available as of the effective date of the Contract.

## 2.3 NAMING THE PROJECT SCHEDULE

2.3.1 The Contractor shall title the initial Owner approved Project Schedule, the Baseline Project Schedule: BPS1. Contractor may not “reset” the Baseline Project Schedule unless the Owner approves the reset.

2.3.1.1 If the Owner approves the Contractor’s request to “reset” the Baseline Project Schedule, the new Baseline Project Schedule shall be titled sequentially (i.e. BPS1, BPS2, BPS3, etc.).

2.3.2 Subsequent updates to the Baseline Project Schedule shall be named by the last two (2) digits of the year and the month (Example: a March 2004 Baseline Project Schedule title would be “BPS2-0403”).

## 2.4 PROJECT SCHEDULE DEVELOPMENT REQUIREMENTS

2.4.1 The Contractor shall assign a standard “Activity Code” using a custom field, to every activity or task; organized by at least the Project phase, stage, location, building, floor, area, elevation, or system, etc., (i.e. work breakdown structure) including the following primary Activity Codes:

<b><u>Activity Code &amp; Description</u></b>	
CP	Contract Procurement
PP	Programming/Pre-Project Planning
SD	Schematic Design
DD	Design Development
CD	Construction Documents
BOR	U.T. System Board of Regents
GMP	Guaranteed Maximum Price
TH	THECB Approval
SP	Subcontractor Bidding / Procurement

<b><u>Activity Code &amp; Description</u></b>	
C	Construction
GC	General Conditions
SU	Submittals
FD	Fabricate and Delivery
CI	Contractor Inspections
OI	Owner Inspections
Cx	Commissioning
TAB	Test, Adjust, and Balance
OP	Owner Provided - Contractor Installed

2.4.2 The Contractor shall assign a standard “Resource Code” to every Contractor, Subcontractor, Supplier, Fabricator, Installer, Design Consultant, Owner, and any other party responsible for the accomplishment of an activity, including, but not limited to, the following primary Resource Codes (as applicable):

<b><u>Resource Code &amp; Description</u></b>	
A/E	Architect / Engineer
Carp	Carpet
Casf	Casework Fabricator
Casi	Casework Installer
Cocw	Concrete Formwork
Conf	Concrete Finishing
Ctil	Ceiling / Acoustical Tile
Door	Doors & Frames
Dryw	Drywall / Light Gauge Stud Installer
Elec	Electrical
Elev	Elevator
Falm	Fire Alarm Systems
Fire	Fire Protection Systems
Ftil	Floor Tile
Furn	Furnishings
Glas	Glass / Glazing

<b><u>Resource Code &amp; Description</u></b>	
Omat	Owner's Material Testing Firm
Otab	Owner's Air Testing & Balance Firm
Ownr	Owner
Pain	Paint & Wall Coverings
Pier	Piers / Piles / Caissons
Plas	Plaster / EIFS
Plum	Plum
Rebf	Reinforcing Steel Fabricator
Rebi	Reinforcing Steel Installer
Roof	Roofing
Sign	Signs
Site	Sitework
Stee	Steel Erector
Stef	Steel Fabricator
Mstf	Miscellaneous Steel Fabricator
Msti	Miscellaneous Steel Installer

<b><u>Resource Code &amp; Description</u></b>	
Hard	Hardware
Hvac	HVAC
Insu	Insulator
Irri	Irrigation & Landscaping
Labc	Laboratory Casework Fabricator
Labi	Laboratory Casework Installer
Lbeq	Laboratory Equipment
Masn	Masonry

<b><u>Resource Code &amp; Description</u></b>	
Stut	Site Utilities
Tele	Telephone / Communication Systems
Terz	Terrazzo
Toia	Toilet Accessories
Toip	Toilet Partitions
Watp	Waterproofing / Damp proofing
Wodf	Wood Framer
Wods	Wood Framing Supplier

2.4.2.1 The Contractor shall use additional Owner approved Resource Codes, as applicable.

2.4.3 The Contractor shall use additional Secondary Task and Resource Codes, as necessary, to monitor, provide status, and report the Project Schedule.

2.4.4 The Contractor shall assign a unique "Work Breakdown Structure" (WBS Code) and "Task Name" to every activity. The WBS Code and Task Name must be meaningful, easily understandable by the Project Team, similar to like activities at differing locations, and as shown on the Contractor's Schedule of Values.

2.4.4.1 A Task Name shall start with a verb to indicate what is to be done and shall end with a location (Example: Install metal studs - 3rd floor Bldg B).

2.4.4.2 A "Milestone" Task shall refer to any major event or phase, or any other important point in the Project, including the following Tasks:

<b><u>Milestone Task &amp; Description</u></b>
<ul style="list-style-type: none"> <li>• NTP for Pre-Construction Services</li> <li>• Authorize Architect/Engineer Start</li> <li>• Submit for Owner Review</li> <li>• Joint Review for Owner Comments</li> <li>• Approve Schematic Design</li> <li>• Authorize Architect/Engineer Start</li> <li>• Submit for Owner Review</li> <li>• Joint Review for Owner Comments</li> <li>• Approve Design Development</li> <li>• FPCC Meeting Deadline</li> <li>• BOR Approval</li> <li>• Submit Construction Application</li> <li>• Approve Construction Application</li> <li>• Submit GMP</li> <li>• Approve GMP</li> </ul>

<b><u>Milestone Task &amp; Description</u></b>
<ul style="list-style-type: none"> <li>• Authorize Architect/Engineer Start</li> <li>• Submit for Owner Review(s)</li> <li>• Joint Review(s) for Owner Comments</li> <li>• Approve Construction Documents</li> <li>• NTP for Construction Services</li> <li>• Partnering/Preconstruction Meeting</li> <li>• Establish Site Controls /Mobilize</li> <li>• Complete Primary Foundations</li> <li>• Structural Top-Out</li> <li>• Building Dry-In</li> <li>• Systems Commissioning</li> <li>• Substantial Completion</li> <li>• Final Completion</li> <li>• Operational Occupancy</li> </ul>

2.4.4.3 A "Detailed" Task shall refer to a single Work event in the Project. The following table contains examples of Detailed Tasks for scheduling:

<u>Detailed Task - Example</u>	<u>Detailed Task - Example</u>
<ul style="list-style-type: none"> <li>• Site Mobilization</li> </ul> <p><b>Material</b></p> <p><b>Approval/Procurement</b></p> <ul style="list-style-type: none"> <li>• Door Frames Shop Drawings</li> <li>• Contractor/A/E review</li> <li>• Fabrication</li> <li>• Door Frame Delivery</li> <li>• Light Fixtures Submittal</li> <li>• Contractor/Architect/Engineer Review</li> <li>• Fabrication</li> <li>• Light Fixture Delivery</li> <li>• Sprinkler Shop Drawings/Calculations</li> <li>• Contractor/Architect/Engineer Review</li> <li>• Fabrication</li> <li>• Initial Equipment Delivery</li> <li>• Millwork Shop Drawings/Laminate Samples</li> <li>• Contractor/Architect/Engineer Review</li> <li>• Fabrication</li> <li>• Initial Millwork Delivery</li> </ul> <p><b>Construction</b></p> <ul style="list-style-type: none"> <li>• Layout/Top Track</li> <li>• MEP/Sprinkler Overhead Rough-In</li> <li>• Door Frames/Wall Framing</li> <li>• MEP In-Wall Rough-In</li> <li>• In-Wall Inspection</li> <li>• Corrections</li> <li>• Cover Walls</li> <li>• Tape and Float</li> <li>• Frame Ceilings</li> <li>• Furr-Downs/Recessed Light Coves</li> <li>• Furr Down/Ceiling Drywall Cover</li> <li>• Ceramic Tile</li> <li>• Plumbing Fixtures - Toilet Rooms</li> <li>• Prime/One-Coat Paint</li> </ul>	<ul style="list-style-type: none"> <li>• Toilet Partitions</li> <li>• Ceiling Grid</li> <li>• Curtaintrack Blocking</li> <li>• Light Fixtures/Grilles/Sprinkler Drops/Smoke Detectors</li> <li>• Overhead Inspections</li> <li>• Overhead Corrections</li> <li>• Ceiling Cover</li> <li>• Light Coves</li> <li>• Sheet Vinyl Flooring</li> <li>• Millwork</li> <li>• Cast Plastic</li> <li>• Toilet Accessories</li> <li>• Dark Room Equipment</li> <li>• Plumbing Fixtures - Millwork</li> <li>• Doors</li> <li>• Hardware</li> <li>• Glass &amp; Glazing/Blinds</li> <li>• Curtaintrack</li> <li>• Biosafety Cabinets/Fume Hoods</li> <li>• Darkroom Equipment</li> <li>• Lockers</li> <li>• Final Paint Coat/Wallcovering</li> <li>• MEP Trim</li> <li>• Film Illuminators</li> <li>• TV Support Brackets</li> <li>• Appliances</li> <li>• Carpet Flooring</li> <li>• Resilient Base</li> <li>• Wall Protection</li> <li>• Final Clean</li> <li>• Pre-Final Inspections</li> <li>• TAB</li> <li>• Start-up and Testing</li> <li>• Corrections</li> </ul>

2.4.4.4 A “Summary” Task (i.e. Hammock) shall refer to a grouping (or a summary) of Milestone and/or Detailed Tasks in the Project Schedule.

## 2.5 PROJECT SCHEDULING METHOD REQUIREMENTS

2.5.1 "Retained Logic" is the required mode of Project Schedule processing.

2.5.2 The estimated Activity Duration of an activity shall be expressed in calendar days.

2.5.2.1 During Pre-Construction Services and Construction Services, the Project Team shall determine the maximum duration for any activity.

2.5.2.2 During Construction, the minimum duration for any Owner milestone inspection activity (i.e. concealed space, above ceiling, substantial and final completion) shall be at least three (3) work days per inspection and re-inspection, or as approved by the Project Team.

2.5.2.3 Estimated remaining Activity Durations shall be stated in work days, as of the Data Date of every Project Schedule update.

2.5.3 Except for the Notice to Proceed for Construction (Preconstruction for CM-R and DB contracts) and the Final Completion Date Milestone, activities shall not have "open ends".

## 2.6 PROJECT SCHEDULE ANALYSIS REQUIREMENTS

2.6.1 The Contractor shall use the CPM technique to determine the overall Project duration through the analysis of the durations of each of the activities, their schedule dependencies, and their resultant Float.

2.6.2 For CM-R and DB contracts, the Project Schedule shall include at least **20%** Float from the Notice To Proceed for Pre-Construction Services to the Substantial Completion date.

2.6.3 The Project Schedule shall include at least **10%** Float from the Notice To Proceed for Construction Services to the Substantial Completion date as identified by the Owner in the Notice To Proceed.

2.6.4 Float shall be shown as an activity within the Project Schedule. It should be the last activity prior to the Substantial Completion date Milestone.

## 2.7 COORDINATION WITH OTHER DOCUMENTS AND WORK

2.7.1 The Contractor shall coordinate the Project Schedule with the Contractor's Submittal Schedule and Schedule of Values, as required by the UGC and Section 01 31 00 - Project Administration (i.e. the Work breakdown structure shall be arranged, numbered, and described consistently across the various documents).

2.7.1.1 Cost and/or resource loading of the Project Schedule are allowed.

2.7.1.1.1 If the Contractor elects to cost-load the Project Schedule, the Contractor shall provide a separate Schedule of Values in the format required by the Owner in Section 01 31 00 - Project Administration.

## PART 3 – EXECUTION

### 3.1 PLANNING AND SCHEDULING WORKSHOP

3.1.1 Within thirty (30) calendar days after a Notice To Proceed, the Contractor shall schedule and conduct a Planning and Scheduling Workshop with at least the Contractor's Project Scheduler, Project Manager, Superintendent, the Owner's Project Manager and Owner's Planning and Scheduling Specialist (if applicable), the Architect/Engineer, Owner's representatives, and any available Subcontractors prior to submitting the Project Schedule to the Owner.

3.1.1.1 The Contractor shall schedule and coordinate the workshop with the Owner at least ten (10) calendar days prior to the Planning and Scheduling Workshop. The Contractor shall submit a complete draft Project Schedule to the Owner at least five (5) calendar days prior to the Planning and Scheduling Workshop.

3.1.1.2 The Contractor shall review the draft Project Schedule with the Project Team, including a verbal description of the logic and sequencing of activities, method for determining estimated Activity Durations and corresponding resources required, and any activities involving Owner participation and/or approval.

3.1.2 For CM-R and DB projects, Contractor shall schedule and conduct at least two (2) Planning and Scheduling Workshops. The first shall be within thirty (30) calendar days after a Notice to Proceed with Pre-Construction Services and the second shall be within thirty (30) calendar days after a Notice to Proceed with Construction Services for each "major" Guaranteed Maximum Price (GMP) Proposal executed.

3.1.3 Contractor's attendance at the Planning and Scheduling Workshop(s) and Owner's acceptance of the Baseline Project Schedule is a condition precedent to the Contractor submitting initial and any subsequent progress payments.

### 3.2 BASELINE PROJECT SCHEDULE SUBMITTAL

3.2.1 The Baseline Project Schedule shall be submitted to the Owner with the required Float within sixty (60) calendar days from the effective date of the Notice To Proceed for Pre-Construction and/or Construction Services (or as approved by the Owner in the Project Planning Scheduling Workshop).

3.2.1.1 A Baseline Project Schedule that does not have at least the minimum amount of Float at submission will result in the Contractor forfeiting all claims to Project Schedule extensions and/or delays as a result of Contract changes and/or excusable delays as described in the UGC.

3.2.1.1.1 If conditions arise prior to submission of the Baseline Project Schedule that are beyond the Contractor's control, the Contractor shall include an Executive Summary with the Baseline Project Schedule to justify the reduction in Float.

3.2.1.2 For CM-R and DB projects, the Baseline Project Schedule shall include identified Milestone and/or Summary Tasks for the remaining Work that has not been approved in an executed GMP Proposal for Construction Services.

3.2.1.2.1 When the Owner has approved the "full" scope of the Project (i.e. the last GMP Change Order has been executed), the Contractor shall coordinate with the Owner to "reset" the Baseline Project Schedule.

3.2.2 The Contractor shall submit one (1) electronic copy of the entire Baseline Project Schedule and one (1) paper copy of the following Baseline Project Schedule reports to the Owner within ten (10) calendar days when the "full" scope of the Project as been approved:

3.2.2.1 Graphic Time-Scaled Report or Gantt Chart: A graphic time-scaled view including all activities, early start and finish dates, estimated durations and Float sorted by Activity Code.

3.2.2.2 Milestone Activity Report: A listing of every Milestone Task and critical path sorted by early start date.

3.2.2.3 Detailed Activity Report: A listing of every Detailed Task sorted by early start date including a fully completed predecessor and successor column.

3.2.3 When the Owner has approved the initial Project Schedule, it shall be referred to as the Baseline Project Schedule, and shall be used for all future Project Schedule updates and reports as "BPS1."

3.2.3.1 For CM-R and DB projects, the Project Schedule shall include Milestone and Summary Tasks until thirty (30) calendar days prior to the submittal of a GMP Proposal for Construction Services. The Project Schedule shall also include Detailed Tasks for at least the first ninety (90) calendar days of Construction Services when submitted with the GMP Proposal.

### 3.3 UPDATING THE PROJECT SCHEDULE

3.3.1 When the Owner has approved the Baseline Project Schedule, the Contractor shall update the Project Schedule for Pre-Construction and Construction Services at least once per calendar month and submit reports at least seven (7) calendar days prior to the Owner's monthly Project Progress Meeting.

3.3.1.1 Project Schedule updates shall be based on actual Work progress, current logic, and remaining durations.

3.3.1.2 The Owner will determine which meeting will be designated as the Owner's monthly Project Progress Meeting.

### 3.4 MONTHLY PROJECT SCHEDULE REPORTS

3.4.1 The Data Date for all Project Schedule Update Reports shall be current within five (5) calendar days of submission to the Owner.

3.4.2 Contractor shall submit a Total Float usage log with Contractor's monthly Project Schedule Update Reports that identifies the number of days lost or gained each month.

3.4.3 Owner retains the authority, which shall not be unreasonably withheld, to approve or reject Contractor's utilization of Total Float. If Contractor desires to utilize a portion or all of the Total Float, Contractor must submit a written request with its monthly Total Float usage log to the Owner seeking Owner's written approval of utilization of Total Float.

### 3.5 SUBMITTING MONTHLY PROJECT SCHEDULE REPORTS

3.5.1 The Contractor shall submit one (1) electronic schedule back-up in ".mpp" format and one (1) paper copy of the Project Schedule to the Owner.

### 3.6 FORMATING PROJECT SCHEDULE REPORTS

3.6.1 Electronic copies shall be submitted on compact discs and as attachments to electronic mail.

3.6.1.1 All electronic Project Schedule submittals shall be "backups" created in the specified software and included on the website if required, within one (1) calendar day of required completion.

### 3.7 PROJECT SCHEDULE SLIPPAGE

3.7.1 If the Project Schedule indicates schedule slippage for two (2) consecutive calendar months or if the Owner notifies the Contractor of a determination that the Work is behind schedule, the Contractor shall develop a "Recovery Plan" to make immediate revisions to the work force, work-hours, shifts, material deliveries, or any other aspects of the Work.

3.7.2 The Contractor shall submit the "Recovery Plan" to the Owner, as required in the UGC, clearly describing all changes in the Project Schedule or work enacted and/or planned in order to ensure completion by the Contract Substantial Completion date.

3.7.2.1 The Owner has the right to review and comment on any "Recovery Plan" activities that include Owner participation or affect any Owner consultants or outside contractors.

3.7.3 When the Owner approves the "Recovery Plan", the Contractor shall incorporate the proposed revision into the Baseline Project Schedule.

### 3.8 PROJECT SCHEDULE CHANGES

3.8.1 If the Owner or Architect/Engineer issues a Change Proposal, the Contractor shall submit a proposed revision for all proposed Contract changes that affect the Substantial Completion date or remaining Float with the Change in Work Cost Analysis Form.

3.8.1.1 Proposed revisions shall be accompanied by a narrative listing of the affected activities including a statement of the expected overall impact of the change proposed.

### 3.9 EXCUSABLE DELAYS AND TIME EXTENSIONS

3.9.1 Excusable delays shall be administered per the UGC.

3.9.2 If an excusable delay extends the Contract Substantial Completion date, the Owner may extend the Contract time by the number of excusable calendar days lost on the Project Schedule or take other actions as appropriate under terms of the Agreement.

3.9.2.1 Change Proposal pricing that does not impact the Substantial Completion date or does not include a proposed revision prior to approval by the Owner shall not include a time extension.

3.9.3 Once the Owner accepts a time extension and authorizes the Contractor to proceed with the Contract change, the proposed revision shall be incorporated into the Baseline Project Schedule.

**END OF SECTION 01 32 00**

## **SECTION 01 35 16 – ALTERATION PROJECT PROCEDURES**

### **PART 1 - GENERAL**

#### **1.01 RELATED DOCUMENTS**

- A. Drawings and general provisions of the Contract, including General Conditions and Division 01 Specification Sections, apply to this Section.
- B. Specifications throughout all Divisions of the Project Manual are directly applicable to this Section, and this Section is directly applicable to them.

#### **1.02 SUMMARY**

- A. Basic and supplemental requirements for Work that alters existing facility components, systems or equipment.

#### **1.03 REFERENCE STANDARDS**

- A. The latest published edition of a reference shall be applicable to this Project unless identified by a specific edition date.
- B. All reference amendments adopted prior to the effective date of this Contract shall be applicable to this Project.
- C. All materials, installation and workmanship shall comply with the applicable requirements and standards addressed within the Contract Documents.

#### **1.04 DEFINITIONS**

- A. Cutting: Removal of in-place construction necessary to permit installation or performance of other Work.
- B. Patching: Fitting and repair work required to restore surfaces to original conditions after installation of other Work.
- C. Demolish: Completely remove and legally dispose of off-site.
- D. Remove: Detach items from existing construction and legally dispose of them off-site, unless indicated to be removed and salvaged or removed and reinstalled.
- E. Remove and Salvage: Detach items from existing construction and deliver them to Owner [ready for reuse].
- F. Remove and Reinstall: Detach items from existing construction, prepare them for reuse, and reinstall them where indicated.
- G. Salvage: Carefully detach from existing construction, in a manner to prevent damage, and deliver to Owner [ready for reuse]. Include fasteners or brackets needed for reattachment elsewhere.
- H. Recycle: Recovery of demolition waste for subsequent processing in preparation for reuse.
- I. Existing to Remain: Existing functional items of construction that are not to be removed and that are not otherwise indicated to be removed, removed and salvaged, or removed and reinstalled.

J. Sensitive Area: The following areas are considered "Sensitive" by MD Anderson Cancer Center:

1. Sensitive Areas listed apply to human and animal occupancies.
2. Additional areas may also be considered Sensitive as determined by MD Anderson Cancer Center for a particular project. The Contractor shall coordinate with the Owner's Project Manager prior to any installation Work to identify Sensitive Areas not listed.
  - a. Operating Rooms
  - b. Invasive Procedure Rooms
  - c. Bone Marrow Transplant / Protective Environment Areas
  - d. Intravenous Procedure Rooms (Chemotherapy)
  - e. Intensive Care
  - f. Inpatient Recovery Rooms
  - g. Sterile Supply Storage
  - h. Sterile Processing
  - i. Pharmacy I V Admixture
  - j. Pharmacy Drug Preparation
  - k. Pharmacy Drug Storage
  - l. Food Preparation, Storage, Serving
  - m. Data Centers
  - n. Electrical Equipment Rooms
  - o. Telecommunication Rooms
  - p. Potable Water Storage Tanks
  - q. Any Room Containing Imaging Equipment that May be Damaged Due to Water Leakage (MRI, Cat Scan, Etc.)
  - r. Animal Holding Rooms
  - s. Animal Procedure Rooms
  - t. Laboratory Clean Rooms

#### 1.05 QUALITY ASSURANCE

- A. Perform remodeling, alteration, demolition, cutting, patching, removal, refinishing, relocation, and disposal work in accordance with Federal, State, and local health and safety standards, codes, ordinances, and the University of Texas MD Anderson Cancer Center Institutional Safety Policies. Where conflicts occur, comply with the more restrictive requirements.

- B. Perform remodeling, alteration, demolition, cutting, patching, removal, refinishing, and relocation work in such a manner as to preserve the aesthetic and structural integrity of materials and construction.
- C. When the Contractor determines that it is unavoidable to locate new fan coil units, drainage piping, or waste piping above a Sensitive Area, the Contractor shall notify the Owner's Project Manager in writing and obtain a clear direction to proceed prior to any installation of Work.
- D. When the Contractor determines that an existing penetration cannot be sealed due to accessibility, constructability or any other condition, the Contractor shall notify the Owner's Project Manager in writing and obtain a clear direction to proceed prior to any installation of Work.
- E. When the Contractor determines that an existing fan coil unit cannot be relocated beyond the perimeter of a Sensitive Area, the Contractor shall notify the Owner's Project Manager in writing and obtain a clear direction to proceed prior to any installation of Work.
- F. Portions of the existing remaining medical vacuum and gas systems affected by Work within this Project shall be re-certified in strict accordance with NFPA 99.

#### 1.06 SUBMITTALS

- A. Submit schedule for all proposed shut-downs prior to start of Work. The Contractor shall notify the Owner's Construction Inspector and the Owner's Project Manager, in writing, of any planned utility outages in accordance with Owner's Special Conditions.
- B. Work with noise-producing equipment is subject, at all times, to Owner's approval of entire procedure. Submit a schedule of all such operations to the Owner's Project Manager at least two weeks in advance of need and secure approval of the Owner before proceeding.

#### 1.07 NEW AND EXISTING PENETRATIONS

- A. All new and existing penetrations through rated partitions and floor slabs within the Project boundary shall be sealed to provide a fire/smoke rating equal to or greater than the rating of the floor slab.
- B. All new and existing penetrations through floor slabs within the Project boundary shall be sealed watertight.

#### 1.08 EXISTING COMPONENTS ABOVE SENSITIVE AREAS

- A. All existing sanitary waste, sanitary vent and storm drainage piping located within the ceiling or exposed above a Sensitive Area shall be provided with heavy-duty joint connections having a minimum 15 psi pressure rating and meeting the performance criteria of Factory Mutual 1680.3.
- B. All existing piping located within the ceilings or exposed above a Sensitive Area receiving cooling coil condensate, ice machine drainage or conveying contents having temperatures below 55 degrees F shall be insulated and vapor sealed to prevent condensation.
- C. Existing fan coil units located within the ceiling or exposed above a Sensitive Area shall be relocated to a position beyond the Sensitive Area.

## 1.09 JOB CONDITIONS

- A. Visit the Project Site to determine by inspection all existing conditions, including access to the Site, the nature of structures, objects, and materials to be encountered, and all other facts concerning or affecting the Work. Information on the Drawings showing existing conditions does not constitute a guarantee that other items may not be found or encountered.
- B. Obvious existing conditions, installations, and obstructions affecting work of this Section shall be taken into consideration as necessary work and included as part of work of this Section, the same as though completely shown or described.
- C. Seal off areas in which work is in progress from the occupied portions of the building to prevent entry of dust and noise into occupied portions of the building. Take all necessary measures to limit the amount of dust and dirt rising and scattering in the air to the lowest practical level.
  - 1. Where Work occurs immediately adjacent to occupied portions of the building, construct dust-proof partitions of nominal 3-5/8 inch metal studs with 5/8-inch Type X drywall, full height on both sides. Tape joints on the occupied side at non-fire rated partitions. Tape both sides full height at fire rated partitions. Fill partition cavity with sound-deadening insulation.
  - 2. Equip partitions with dustproof doors and security locks.
- D. If temporary closures block required exits, provide closures with acceptable openings equipped with gasketed, self-closing doors that open in the direction of exit as approved by authorities having jurisdiction.
- E. Provide temporary barricades and other forms of protection to protect Owner's personnel and general public from injury due to remodeling work.
  - 1. Provide protective measures as required to provide free and safe passage of Owner's personnel and general public to occupied portions of building.
  - 2. Erect temporary covered passageways as required by authorities having jurisdiction.
  - 3. Provide interior and exterior shoring, bracing, or support to prevent movement, settlement, or collapse of structure or element to be demolished and adjacent facilities or work to remain.
  - 4. Protect from damage existing finish work that is to remain in place and becomes exposed during remodeling operations.
  - 5. Protect floors with suitable coverings when necessary.
  - 6. Cover and protect furniture, equipment, and fixtures from soilage or damage when demolition work is performed in areas where such items have not been removed.
  - 7. Provide temporary weather protection during interval between demolition and removal of existing construction on exterior surfaces and installation of new construction to ensure that no water leakage or damage occurs to structure or interior areas of existing building.
  - 8. Remove protections at completion of work.

- F. Furnish and maintain temporary types of protection as necessary to adequately protect and prevent accidental injury to the public, Owner's personnel and personnel employed at the work. Take all necessary precautions to keep trespassers out of work areas. Properly secure work areas from entry when work is not in progress.
- G. Conduct demolition and removal operations and the removal of debris to ensure minimum interference with roads, streets, walks, and other adjacent occupied or used facilities. Do not close or obstruct streets, walks, or other occupied or used facilities without permission from authorities having jurisdiction. Provide alternate routes around closed or obstructed traffic ways if required by governing regulations.

#### 1.10 TEMPORARY ELEVATOR USE

- A. Designated existing elevators may be used by construction personnel and for materials. Coordinate use with Owner. Provide protective coverings for finish surfaces of cars and entrances.

#### 1.11 EXISTING UTILITIES AND CONDITIONS

- A. The location and description of utilities and conditions shown on Drawings are indicated from information available and are approximate only. Verify existing utilities and conditions.
- B. Protect existing utilities and conditions from damage. Repairs to utilities and conditions damaged during the Work shall be the responsibility of the Contractor and shall be made promptly at no additional cost to the Owner.
- C. Maintain existing utilities in operation at all times except where specific permission is given by Owner's Project Manager. Support and protect all exposed piping and utilities during demolition and utility rough-in.
- D. All outages of utilities, sidewalks, parking areas, driveways or facility access shall be scheduled in advance with Owner in accordance with Owner's Planned Utility Outage Procedure as specified within Section 00 25 00 – Owner's Special Conditions.
- E. Notify the Owner's Project Manager and all concerned parties prior to disconnecting and terminating abandoned utilities.

#### 1.12 REMOVAL OF EXISTING CONSTRUCTION

- A. Where permanently disconnecting domestic water, medical vacuum, medical gas, natural gas, treated water, drainage, vent, or other piping serving removed fixtures, inlets, outlets or equipment, remove all associated piping back to remaining active mains.
- B. All existing floor drains that will not remain in service after Project completion shall be isolated from the remaining active building drainage and vent system. Floor drain bodies remaining within slabs shall be sealed watertight. Slab shall be finished to allow specified application of flooring or to match surface of the adjacent finished area. Completed patching of the slab shall prevent the passage of water and provide a structural integrity and fire rating equal to or greater than the existing slab. Remove all associated piping serving decommissioned floor drains located in suspended slabs back to remaining active mains.
- C. All existing wall penetrations that will be unused due to removal of piping shall be permanently sealed to maintain the fire rating of the wall or floor.
- D. All existing floor penetrations that will be unused due to removal of piping shall be permanently sealed to maintain the fire rating of the floor and to provide a watertight seal.

- E. All existing supports serving removed piping, duct, conduit and equipment shall be removed.
- F. Carefully remove and store all items indicated or required to be reused.
- G. Perform demolition and removal work completely and remove debris from the Site. Use such methods as required to complete the Work within the limitations of governing regulations.
  - 1. Proceed with demolition and removal work in a systematic manner, from the top to the bottom in areas indicated.
  - 2. Remove debris in covered carts to limit air pollution.
  - 3. Locate demolition equipment throughout the structure and remove materials so as to not impose excessive loads to supporting walls, floors, or framing.
  - 4. Remove debris from elevated portions of building by chute, hoist, or other device that will convey debris to grade level in a controlled descent.
- H. Fire, Smoke and Fire/Smoke Dampers
  - 1. Contact and coordinate with Owner's Environmental Health and Safety (EH&S) Department to identify existing dampers within the Project Boundary that are not indicated within Construction Documents and to determine acceptable actions to be taken.
  - 2. When the Engineer and Owner's Environmental Health and Safety (EH&S) Department have determined that an existing fire, smoke, or fire/smoke damper is no longer required, the damper shall be decommissioned and removed from the Project site.
    - a. Disconnect operational and monitoring services and associated accessories.
    - b. Record and submit to Owner the device location, identification information, and monitoring connections.
  - 3. Where complete removal is not an option, Contractor shall propose an alternate method of decommissioning, to be approved by EH&S. Such dampers shall be physically tagged stating that they have been decommissioned.
- I. Cutting:
  - 1. Structural Elements: If not specifically shown, but removal or alteration is required, perform such removal or alteration only upon written approval of the Architect/Structural Engineer. Do not damage or alter any structural element of the existing building. Where drilling or fastening to post-tensioned reinforced concrete construction is required, X-ray existing structure to determine tendon locations and potential for tendon tension release before proceeding. Notify Architect/Structural Engineer in each instance when conflict occurs. Architect/Structural Engineer will determine corrective action required. Do not proceed until corrective action has been received.
  - 2. Concrete: Saw cut where exposed to view. Jack hammering with electric or pneumatic equipment is acceptable only with scheduled approval of Owner.
  - 3. Masonry: Cut back masonry to joint lines and remove old mortar allowing space for repairs.
  - 4. Ceramic, Structural Clay Tile, and Quarry Tile: Saw cut to natural joint lines; remove so that repairs or continuations of new work will be relatively imperceptible.

5. Resilient Tiles: Remove in whole units to natural breaking points and/or straight joint lines with no damaged or defective existing tiles remaining where joining new construction.
  6. Plaster: Cut back to sound plaster on straight lines, and back bevel edges of remaining plaster. Trim and prepare existing lath for tying of new lath.
  7. Woodwork: Cut back to a joint or panel line.
  8. Existing Doors, Frames, and Sash: Remove in such manner as to facilitate filling in of openings or installation of new work, as required by the Drawings.
  9. Cutting for Access to Mechanical and Electrical Systems: Removal of existing ceilings and the removal, cutting, and patching and replacement of existing walls and floors as may be necessary for access to valves, piping, conduit, and tubing by mechanical and electrical trades shall be included and performed as an obligation of, and as directed by the Contractor and accepted by the Owner.
- J. Patching, Repairing, and Finishing Existing Work:
1. Perform in compliance with the applicable requirements of the Specification technical Section covering the work to be performed and the requirements of this Section.
    - a. All holes and damaged areas exposed to view in ceilings, walls, and floors of all finished spaces shall be repaired. Repaired construction shall match existing adjacent construction and finish, unless otherwise indicated or specified.
    - b. Minor surface abrasions, small nail holes, cracks, aged checked natural wood finish and other similar deterioration not visible, when viewed under finished lighting conditions, from a distance of 6 inches will not be required to be repaired if the base material is sound and suitable to receive the scheduled finishes, if any.
    - c. Interior penetration holes in walls and ceilings of unfinished spaces and spaces not exposed to view shall be grouted and sealed with accepted materials to equal the sound seal and fire resistance rating of original construction.
    - d. Penetration holes through exterior walls above grade shall be grouted and sealed as required to produce a weather tight seal.
    - e. Penetration holes through exterior walls below grade shall be grouted and sealed to produce a watertight seal.
  2. Concrete: Edges of existing concrete shall be kept damp for 24 hours and scrubbed with neat portland cement grout just before new concrete is placed; in lieu thereof, an accepted epoxy concrete adhesive may be used. Finish shall match existing adjoining work. Unless otherwise specified, all concrete for patching shall be 3,000 psi concrete. Reinforcing bars and dowels shall be provided where required. Where installation of concrete is impracticable, the openings shall be filled with dry packed non-shrink grout as directed.
  3. Masonry: Patch with sound whole units to match existing. Joints shall match adjoining surfaces.
  4. Lath: Lath areas to be patched as required, install as required for new lath, and wire-tie to existing lath at edges at 6 inch (15.2 cm) intervals. Lap lath 3 inch (7.6 cm) minimum.

5. Plaster: Dampen edges of existing plaster. Plaster patching shall be 3 coat work of type, thickness, and finish to match the existing work.
6. Damages: Promptly repair damages to adjacent facilities caused by demolition and removal operations at no additional cost to the Owner.
7. Painting and Finishing:
  - a. Preparation: Prepare patched areas as required for new work. Wash areas to be repainted with neutral soap or detergent, thoroughly rinse, and sand when dry. Feather remaining paint edges smooth with sandpaper.
  - b. Painting and Finishing: Conform to the applicable provisions of Painting Section. Prepare and build up bare areas and patches in existing painted surfaces with proper primer and intermediate coats, sand smooth and flush with adjoining surfaces. Paint all areas scheduled to be painted and/or repainted as specified in Painting Section of the Specifications, except the first or primer coat may be omitted on existing painted surfaces.
- K. Disposal of Debris: Clean up all material, debris, and rubbish resulting from remodeling work, remove from the building and Site, and legally dispose of. Leave all areas of work in "broom clean" condition.
  1. All debris shall be transported out of the building in covered carts with no materials extending above the cart rim.

## **PART 2 - PRODUCTS**

### **2.01 GENERAL**

- A. All materials shall meet or exceed all applicable referenced standards, federal, state and local requirements, and conform to codes and ordinances of authorities having jurisdiction.
- B. Matching Existing Work: Except where otherwise specifically indicated or specified as a definite change, the finish materials and appearance of the new work shall match the existing contiguous materials and finishes in all respects. Repairs and/or continuations of existing work shall be relatively imperceptible in the finished work when viewed under finished lighting conditions from a distance of 6 feet (1.8 meters).

## **PART 3 - EXECUTION**

### **3.01 SEQUENCING AND SCHEDULING**

- A. Schedule Work so as to impose a minimum of hardship on the present operation of the facilities and the performance of the work of other trades.
- B. Maintain existing utilities indicated to remain; keep in service and protect against damage during demolition and removal operations.
- C. Do not interrupt existing utilities serving occupied or used facilities, except when authorized in writing by Owner. Provide temporary services during interruptions to existing utilities, as acceptable to the governing authorities.

### 3.02 POST DEMOLITION CONFERENCE

- A. Coordinate, schedule and conduct post demolition meetings prior to installation of new Work.
  - 1. Purpose: Communicate existing conditions revealed by demolition that are not identified on Contract Drawings. Determine scope, cost and schedule impacts and obtain a clear direction to proceed.
  - 2. Attendees: Contractor, Owner's Project Manager, Owner's EH&S Representative, Architect/Engineer.

### 3.03 INSTALLATION

- A. Check Drawings carefully and thoroughly investigate existing building construction.
- B. Protect work to remain from damage. Use barricades, tarpaulins, temporary walls, plywood, planking, masking, and other suitable means and methods as accepted.
  - 1. Restore accidental or careless damage to work to remain in place to a condition as good as or better than existed before work was commenced and at no additional cost to the Owner.
- C. Provide all shoring and bracing necessary to positively protect existing elements of the building. Use material adequate to support anticipated loads with a properly calculated margin of safety. Provide for transfer of stresses to successively lower construction.
- D. All work must be staged and performed so that disruption to occupied areas is minimized and so that these areas are available and suitable for their intended use during normal hours of operation. Any work that would incur excessive noise, dust, or disruption must be scheduled in advance with the Owner's Project Manager.
- E. Carefully remove and replace items of existing construction indicated to remain upon completion of the Contract, but which require removal to complete the work. Match condition of construction prior to the start of the Work unless otherwise required. Carefully remove items indicated for relocations in new Work, or to be retained by Owner, to avoid damage, thoroughly clean, and reinstall as indicated or store as directed.
- F. Items of salvable value to the Contractor may be removed from the structure as the work progresses. Salvaged items must be transported from the Project Site as they are removed. Storage or sale of removed items on the Project Site will not be permitted.
  - 1. Remove and dispose of all demolition materials, equipment and debris off premises, unless identified for salvage on the drawings. Deliver salvaged items to a location within a 5 mile radius of MD Anderson as directed by the Owner's Project Manager. Protect and store all items identified for reuse. Contractor assumes no salvage value for items removed and not reused in the Project.

**END OF SECTION 01 35 16**

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## **SECTION 01 35 25 – OWNER SAFETY REQUIREMENTS**

### **PART 1 - GENERAL**

#### **1.01 RELATED DOCUMENTS**

- A. Drawings and general provisions of the Contract, including General Conditions and Division 01 Specification Sections, apply to this Section.
- B. Specifications throughout all Divisions of the Project Manual are directly applicable to this Section, and this Section is directly applicable to them.
- C. For projects enrolled under the Owner Controlled Insurance Program (OCIP), this Section supplements Section 01 35 23 Project Safety Requirements, with additional Owner requirements for work within existing facilities or for work in areas controlled by the Owner.

#### **1.02 SUMMARY**

- A. The control of Project Safety by the Contractor is an essential element of performing work at The University of Texas MD Anderson Cancer Center (MD Anderson). The Contractor shall, at all times, provide adequate resources, equipment, training, and documentation to assure a safe work environment at the Project site and to instill a culture for safety in the behavior of all supervisors and workers. Every worker shall understand that safety and health issues always take precedence over all other considerations, and that identifying, reporting, and correcting unsafe acts and conditions are the responsibility of everyone at the Project site.
- B. MD Anderson is dedicated to providing a safe healing and work environment for all patients, visitors, staff, students, guests, and Contractors.
- C. The details of this document should be considered as supplemental requirements. The Contractor shall develop, implement, maintain, and submit to the Owner a written Project Safety Program that meets or exceeds all Federal, State, and Local standards and regulations pertaining to construction activities. The Contractor and every Subcontractor shall comply with the rules and guidelines outlined in this guideline. In any circumstances where this section differs with or conflicts with any standard or statutory requirement, the more stringent requirement shall apply. Contractors may use a company-wide safety program in lieu of the Project specific safety program as long as it meets or exceeds the requirements listed in these guidelines.
- D. The Owner reserves the right to have any manager, supervisor or worker employed by the Contractor or Subcontractor removed from the Project for disregard of Project Safety requirements.
- E. The Owner reserves the right to deduct from the Contract any safety related expenses that the Owner incurs, as a result of the Contractor's, or any Subcontractor's, disregard for Project safety.

#### **1.03 REFERENCE STANDARDS**

- A. The latest published edition of a reference shall be applicable to this Project unless identified by a specific edition date.
- B. All reference amendments adopted prior to the effective date of this Contract shall be applicable to this Project.

#### 1.04 DEFINITIONS

- A. The term "Owner's Designated Representative" or "MD Anderson Representative", as used throughout the document, shall refer any of the Owner's Project management team, insurance carrier representative(s), Owner's designated agent, or campus representative(s).
- B. The term "Contractor" as used throughout the Contract Documents shall refer to the party having a direct contractual agreement with the Owner to provide services. This term is to apply whether Contractor is known as a Prime Contractor, General Contractor, Construction Manager, or Design/Build Contractor.
- C. The term "Subcontractor" as used throughout the Contract Documents shall refer to any on-site Subcontractor, regardless of tier.

#### 1.05 EMERGENCY / IMPORTANT CONTACT INFORMATION

- A. Consult with your MD Anderson Representative regarding the correct emergency contact information for the facility in which you are working. Each facility may have a different emergency call procedure.

### **PART 2 - PRODUCTS**

#### 2.01 GENERAL

- A. All materials shall meet or exceed all applicable referenced standards, federal, state and local requirements, and conform to codes and ordinances of authorities having jurisdiction.

### **PART 3 - EXECUTION**

#### 3.01 ASBESTOS CONTAINING MATERIAL

- A. Environmental Health and Safety must review all Job sites prior to the start of a Project to determine the presence of Asbestos Containing Material (ACM).
- B. All suspect materials shall be considered asbestos-containing material until identified otherwise by an EPA approved method of analysis for identifying asbestos-containing material.
- C. Any Contractor personnel needing to disturb any suspected asbestos containing building materials shall first contact their MD Anderson Representative. It is then the responsibility of the MD Anderson Representative to contact Environmental Health and Safety to determine if there is any Asbestos Containing Materials present.
- D. Contract personnel coming into contact with known or suspected asbestos containing materials (ACM) will:
  - 1. Avoid any physical contact or other actions that may damage or otherwise disturb the material.
  - 2. Submit all requests for sampling suspected asbestos containing materials through your MD Anderson Representative. If the material has not been previously identified as containing asbestos, Environmental Health & Safety personnel will sample the materials, obtain analysis, and report results to the requester.

#### 3.02 BLOODBORNE PATHOGENS

- A. Contractors shall instruct their employees in the concept of Standard Precautions and document training in accordance with OSHA 29 CFR Section 1910.1030.
- B. The Contractor must take every effort to prevent exposure to blood and/or body fluids while in the hospital.

- C. Patient care and research areas are considered to have the potential for exposure and special instructions may be given by the nursing or research staff on how to avoid potential contamination. Contact your MD Anderson Representative to determine if an exposure potential exists for all areas in which you will be working.
- D. Contractors shall not handle bags or containers identified as containing potentially infectious materials. Contractors may contact Environmental Health and Safety at 713-792-2888 for additional questions.
- E. For Smithville / Bastrop, Contractors may contact Environmental Health and Safety with additional questions at:
  - 1. Smithville Office Phone: 512-237-9522, 9536
  - 2. Bastrop Office Phone: 512-332-5232

### 3.03 CELLULAR PHONE AND RADIO USE

- A. The use of the following devices in PMA locations should be used with caution (beyond six feet of physiological monitoring systems):
  - 1. Cellular Phones
  - 2. Computers with wireless capabilities
  - 3. Two-way pagers
  - 4. Wireless handheld devices
- B. Definitions:
  - 1. Cellular Phone – Telephone that uses a frequency range of 800 - 1910 MHz to transmit voice and data to a remote cell and up to 625mW of power.
  - 2. Close Proximity - within twenty (20) feet for two-way radios and within three (3) feet for cell phones and others of a physiological monitoring system.
  - 3. Non PMA Area - an area of M.D. Anderson facility outside of the defined PMA Areas.
  - 4. Physiological monitoring area (PMA)- An area of M.D. Anderson facility where patients are likely to require the use of a physiological monitoring (e.g., Electrocardiograph, electroencephalographs, pulse oximetry, cardiac output, invasive pressure, etc) for care or treatment.
  - 5. PMA Locations: Bone Marrow Unit (G11), Cardiac Unit (P12), Cardio-Pulmonary Clinic (R8), Diagnostic Imaging (G3, R3, B3, ACB4-ACB7), Emergency Center (R1, P1, P2), Endoscopy Clinic (R5), Intensive Care Unit (G7), Operating Rooms (G5, ACB4), Pediatric Unit (G9, R7), Post Anesthesia Care Unit (G3, G5, ACB4, P3 Pod B), Rehab and Patient Therapy (P8), and the Telemetry Unit (P7).
  - 6. Wireless Communication Devices - Cellular telephones and two way radios are the only devices currently defined as having caused interference to medical devices.
  - 7. Two Way Radios – "Walkie-talkies" which use a frequency range of 29 - 1000 MHz to transmit voice between two locations up to 5 watts of power.
  - 8. Wireless Handheld Devices – Commonly known as PDA (Personal Digital Assistant). Devices that provide a range of personal information management, voice communication, data communication, and computing capabilities, that relies on wireless technology to transfer or retrieve data. May include Palm Pilot, Pocket PC, Blackberry, Smartphone, or similar devices with operating frequency of 800 to 1900 MHz.

- C. If allowed to be turned on, the volume of radios and cellular telephones must be turned down to minimize disruption to patients and operations.

### 3.04 CONDUCT

- A. The use or consumption of alcoholic beverages or controlled substances is strictly forbidden on any Institution owned or controlled property.
- B. Contractor shall not permit any person to operate a motor vehicle or heavy equipment while taking prescription or non-prescription medication that may impair their ability to operate safely.
- C. MD Anderson is a NO SMOKING Institution. No smoking or use of tobacco products is allowed on any Institutional property. There are no designated smoking areas. Anyone found smoking will be immediately removed from the jobsite.
- D. Contractor personnel shall be courteous to all tenants, business invitees, patients, visitors, and employees.
- E. Unacceptable behavior on the part of the workers anywhere on campus, including parking lots, the project site, the accessible route(s) through the site or through the campus may lead to the identifiable Contractors being removed from the project.
- F. Personal grooming, personal hygiene and language by Contractors must be constructed in a professional manner at all times. Use of foul and off-color language will not be tolerated and can result in Contractor removal from jobsite.
- G. Shirts must have sleeves of at least 3 inches, measured from the armpit seam. All buttoned shirts must be buttoned to at least the third button from the top. T-shirt styles may be approved if they are part of a company uniform or contain no political or offensive language or images. For additional guidance, see Section 3.26 Personal Protective Equipment.
- H. Pants that are excessively loose, torn, ragged or with dragging cuffs will not be permitted. Shorts are not allowed.
- I. No clothing, accessories, or hardhat stickers that display offensive, derogatory or inflammatory wording or graphics shall be worn on the worksite.
- J. All clothing must be in good repair and free of any large holes or major damage. All clothing must be clean and sanitary at the start of each work shift and periodically cleaned to prevent tracking dust and debris out of the construction area.
- K. Workers clothing must be clean of visible dusts and dirt when outside of the Project site.
- L. No radios or music shall be allowed on the Project including headphone systems. Personnel must be able to hear alarms and warnings in the immediate area. (This does not pertain to the use of two-way hand held communication equipment or phones).
- M. No tools or equipment will be loaned by Owner to Contractors to assist them in completing Projects.
- N. Contractor personnel shall not tape back lock/latch mechanisms nor prop open any exterior door, security door, stairwell door, or fire / smoke door. Personnel may not disconnect any electronic security device or defeat lock systems.

### 3.05 CONFINED SPACES

- A. MD Anderson does not provide any confined space entry support such as sampling, entry permits, rescue personnel, rescue equipment, etc., for contractor personnel.

- B. Contractors are responsible for ensuring all of their employees are trained on the recognition and significance of confined space entry procedures in accordance with 29 CFR 1910.146.
- C. It will be the responsibility of the Contractor performing the work inside the confined space to provide the necessary equipment to assess the hazards within the space and prepare the space for entry and to meet the precautions of the entry permit.
- D. Contractor shall provide all emergency rescue equipment and personnel as required by 29 CFR 1910.146, as applicable.
- E. The Contractor conducting the work inside a permit-required confined space shall follow, at a minimum, all applicable OSHA requirements.

### 3.06 CONSTRUCTION SAFETY SITE INSPECTIONS

- A. All construction sites will be subject to periodic inspections by Environmental Health and Safety representatives. The inspector(s) will be looking for life safety, environmental, construction safety, and indoor air quality deficiencies. Once noted, the inspector will notify the MD Anderson Representative responsible for the site. The inspector may also notify the Contractor Representative on site.
- B. All noted deficiencies shall be immediately corrected.
- C. The inspector will be enforcing IAQ measures found in the "Maintaining Indoor Air Quality During Construction and Renovation" policy / procedures and other requirements set forth in the MD Anderson construction specifications for that Project. (See Attachment A).
- D. A job or activity will be suspended if an imminent danger to patients, animals, visitors, employees, Contractor personnel or facilities is observed.

### 3.07 CONTRACTOR DAILY SIGN-IN AND WORK NOTIFICATION - HOUSTON

- A. Contractors must follow any specific check-in procedures for the facilities in which they will be working. Your MD Anderson representative will inform you of these procedures.
- B. All Contractors/vendors must wear an MD Anderson-issued ID badge at all times while on property owned or under the control of the Institution. Badge must be worn and be visible at all times. Contact your MD Anderson Representative for assistance in obtaining an ID badge.

### 3.08 CONTRACTOR DAILY SIGN-IN AND WORK NOTIFICATION – SMITHVILLE / BASTROP

- A. Contractors/Vendors hired by the Facilities Management Division must register their activities with Facilities Management before commencing work.
- B. Contractors coordinate with Project Managers for access to the campus. Contractors must submit a Construction Schedule to Physical Plant Management.
- C. Physical Plant informs Facilities Management of contractors schedule as well as the badge numbers issued to that contractor. Facilities Management will issue badges to contractor for their use while on the property. Contractors are responsible for distributing the badges as needed.
- D. Contractor/vendor registration is performed in the Physical Plant Building.
- E. All Contractors/vendors must wear an MD Anderson-issued ID badge at all times while on property owned or under the control of the Institution.
- F. Contractors/vendors who fail to register with Physical Plant Management are subject to removal from the property by the UT Police.

### 3.09 CONTRACTOR INJURIES AND INCIDENTS

- A. Contractors shall make prior provisions for the treatment of minor injuries.
- B. Contractor is responsible for cleaning up all blood and body fluids and debris from accidents.
- C. Contractor employees requiring immediate medical treatment should be taken to the emergency room of a local hospital. MD Anderson does not provide medical treatment to Contractors engaged in projects.
- D. If an injured worker cannot be moved and assistance is needed, contact the Houston or local Fire Department (911) for an ambulance.
- E. An injury requiring treatment beyond minor Job Site First Aid, shall be reported immediately to your MD Anderson Representative or Designee and Monitoring Services 713-792-2888 (All Houston Locations) and UTPD Smithville/Bastrop at 512-332-5371 or 512-237-9411
- F. A copy of the incident / accident report must be provided in a timely manner to your MD Anderson Representative. A preliminary report must be made within 24 hours of the end of the next working day.
- G. All incidents that result in property damage must be reported to your MD Anderson Representative.

### 3.10 CONTRACTOR SAFETY ORIENTATION

- A. All Contractor personnel are required to complete the MD Anderson Construction Safety and Infection Control Orientation Training given by the Environmental Health and Safety Office before beginning work at the Institution. This training may be in the form of videos or an in-class presentation. Videos can be requested through the EH&S department or your MD Anderson Representative and are available in both English and Spanish.
- B. Completion of orientation is required to obtain an MD Anderson hardhat sticker and emergency contact card.
- C. The Contractor may be required to attend orientation again for refresher, and review any changes if deemed necessary by the Owner.
- D. The Contractor's MD Anderson Representative must contact the Environmental Health and Safety Office to make arrangements for the orientation session.
- E. It is the responsibility of the Contractor to ensure that the information given in the orientation session is understood by all workers (i.e., Spanish or other language translation).

### 3.11 ELECTRICAL SAFETY

- A. Refer to Section 3.24 on Lock Out / Tag Out requirements.
- B. All electrical power tools, equipment and extension cords shall be inspected daily before use. Defective items shall be immediately removed from service for repair or replacement.
- C. NOTICE: RED OUTLETS are for power requirements provided by the Emergency Generator System and shall NOT be used by Contractor personnel.
- D. Ground Fault Circuit Interrupters (GFI's) shall be in use between any permanent receptacle and any Contractor equipment.
- E. Temporary power panels shall have GFI protected circuits built into the panel.
- F. The GFI shall be tested for function before plugging in any Contractor equipment.

- G. Electrical power tools shall be grounded, or double insulated, or battery powered. The cord on the tool must be free of defects.
- H. Battery powered portable hand tool battery charging stations are not to be plugged into hallway or exit stairs outlets or other areas so as not to create a trip hazard.
- I. Extension cord sets shall be the "heavy duty" three-wire grounded type (14 gauge or larger), and must be rated for the particular application in which it is to be used.
- J. Three-wire flat type extension cords are NOT permitted.
- K. Defective cord ends must be replaced with a UL rated repair end; Contractor must follow the manufacturer instructions for repair installation.
- L. Damage to the cord jacket shall not be taped over and must be repaired per manufacturer's recommendations.
- M. Extension cords shall be routed overhead whenever possible or otherwise protected against damage or tripping hazard by being securely taped to the floor or secured by other acceptable means and approved by the MD Anderson Representative.
- N. Running/hanging extension cords through ceiling spaces is not permitted. Special permission from Environmental Health and Safety is required for any variation from this requirement.
- O. Extension cords must be used as designed by the manufacturer. Avoid using extension cords in a manner to cause damage to the electrical system or cause personal injury.
- P. All electrical shutdowns and electrical "taps" must be coordinated through the Project Manager or MD Anderson Representative for that Project.
- Q. Contractors are absolutely not allowed to turn on/off any electrical source breakers or switches without permission from the respective MD Anderson Facilities Management representative for that building/space. This should be accomplished through a Utility Shutdown Request submitted by the Project Manager or MD Anderson Representative.
- R. Existing and new electrical equipment must be protected at all times from humidity, liquid material splashes, activities inducing to vapor formation and condensation.
- S. No liquid materials shall be handled in electrical rooms, electrical equipment areas or areas adjacent to electrical equipment locations.
- T. In the event that the Contractor must handle liquid materials in the vicinity of electrical equipment locations, the Contractor must inform the Owner and seek written approval, prior to bringing those liquid materials to the above-mentioned locations.

### 3.12 EXCAVATIONS

- A. All excavation shall have the following prerequisites:
  - 1. Discussion with the appropriate MD Anderson Representative or site owner/property manager of as-built locations of all underground utilities in the vicinity;
  - 2. Where applicable, a phone call for utility "locates" shall be completed seventy-two (72) hours in advance. "Potholing" and hand excavation shall be required within three horizontal feet of "located" centerlines.
  - 3. All excavations must follow the applicable OSHA guidelines and requirements as related to design and protection of excavations.
  - 4. All trench excavations should be backfilled or plated at the end of each shift.

5. When an excavation cannot be backfilled or plated in the same day it is created, a highly visible hard and sturdy barricade such as a wooden fence or wooden railings shall be erected. Excavation protections in areas of traffic must comply with local, state, or federal safety standards.
  6. Means of access into excavations shall be removed or physically barricaded at the end of each workday.
  7. Excavations in areas of public access shall be secured with a temporary "hard" barricade such as solid fencing or wooden railings to prevent entry. These excavations and protection plans must be approved by the Environmental Health and Safety Office.
- B. Where applicable, all required engineer stamped excavation plans must be readily available at all excavations for review by MD Anderson Representative(s). Certificates of soil testing shall also be made available.

### 3.13 FALL PROTECTION AND PREVENTION

- A. Work in areas not protected by a standard guardrail system OR present a fall hazard greater than six (6) feet shall require compliance with all current applicable OSHA Fall Protection requirements and/or ANSI/WCA I-14.1 Window Cleaning Safety Standard.
- B. The Contractor shall ensure that all workers exposed to fall hazards have been properly trained and equipped by their employer.
- C. No worker or equipment shall be allowed to perform work directly above another worker unless adequate overhead protection is provided.
- D. Covers or fencing of sufficient design shall be placed over holes, roof and floor openings or drop offs to prevent personnel or equipment from penetrating the opening.
- E. Covers or fencing shall be physically secured and clearly marked with warning message, such as "Danger", "Hole", or "Cover! Do Not Remove".
- F. If a cover is too small for a warning message, it shall be painted bright orange or red.
- G. All puncture and impalement exposures shall be covered or eliminated as soon as they are created. Exposed ends of rebar are to be covered with material that is designed to prevent impalement of a 250-pound body from a fall of four (4) feet.

### 3.14 FIRE PREVENTION

- A. All combustible materials shall only be stored in approved areas as designated by the MD Anderson Representative.
- B. MD Anderson is a NO SMOKING facility. No smoking or use of tobacco products is allowed on any Institutional property. There are no designated smoking areas. Anyone found smoking will be immediately removed from the jobsite.
- C. Contractor shall coordinate the covering and uncovering of smoke/heat detectors with Owner's Environmental Health and Safety Department (713-792-2888) prior to starting work or upon discovery of such devices as work progresses. Covering smoke detectors with tape, rubber gloves, or any other method that can agitate or damage a detector is prohibited.
- D. Contractor is subject to fines by the Cities of Houston, Bastrop/Smithville Fire Marshal or Fire Department Inspector if they are found to negligently activate fire alarm devices.

- E. For large or high dust generating Projects, the Contractor shall coordinate with their Project Manager or MD Anderson Representative to arrange for the replacement of smoke detectors with heat detectors. Environmental Health and Safety must approve all changes to any fire alarm or suppression systems.
- F. Combustible scrap, trash, and debris shall be removed from the Project site on a daily basis, or, more frequently as required.
- G. Contractor shall not tape back door lock/latch mechanisms nor prop open any exterior door, security door, stairwell door, or fire / smoke door. Lock cores shall not be removed. Coordinate changing lock cores to the designated construction core lock with your MD Anderson Representative.
- H. Flammable products shall be limited to one days supply inside the building. Flammable products shall be stored outside the building or in approved UL Rated flammable storage cabinets. Flammable liquids shall be in approved safety cans or cans designed for their use.
- I. No internal combustion engines or portable propane heating devices are allowed in any Institutional buildings unless approved by the Owner. Coordination of how gasoline will be transported through buildings and stairwells must be coordinated with your MD Anderson Representative.
- J. Absolutely no gasoline will be allowed inside MD Anderson owned buildings. For temporary use outdoors, only approved metal safety cans will be permitted.
- K. Compressed flammable gas cylinders (i.e acetylene) shall not remain inside the building overnight and must be removed from the premises at the conclusion of each workday. Oxygen cylinders must also be removed from the premises at the end of each workday. Gas bottles are not allowed to be stored in areas that are used as Contractor offices.
- L. The Contractor shall also have the Material Safety Data Sheets (MSDS) for each gas used available within 15 minutes when requested. .
- M. Compressed flammable gas cylinders, while on the project site, shall be secured by chain or other suitable method to prevent tipping or falling over. All safety caps shall be securely installed when tanks are not in use.
- N. When working in the ceiling space or on rated fire/smoke rated walls and structures, all holes and penetrations for wires, conduits, piping, etc. shall be sleeved and sealed with a UL approved fire caulking / sealing compound at the end of each workday. Any holes that must remain overnight must be sealed with an equivalent temporary fire proofing material as approved by the MD Anderson Representative.
- O. Work on fire sprinkler and detection systems shall continue until the system operation is fully restored. No impairments will be allowed to extend beyond approved periods of time or during times when the site is unattended.
- P. Shutdown of any fire suppression or detection systems/devices shall be coordinated through the Owner's Designated Representative. Unauthorized shutdown or disabling of life safety systems shall be grounds for immediate removal from the jobsite.
- Q. All Contractors are required to supply and maintain a minimum of one currently tagged ABC fire extinguisher, 10 pound (Class 2-A) or greater. The use of a M. D. Anderson owned fire extinguisher will not be permitted. Requirements are as follows:
  - 1. Indoors - Within 100 feet of any Class-A hazard, within 25 feet of any hot work and one for every 3000 square feet of floor space.
  - 2. Outdoors – between 25 - 50 feet of any hot work.

- R. All Contractor employees shall be trained on the proper use and handling of fire extinguishers.
- S. If a Project involves multiple locations on a single floor or on multiple floors, additional multi-purpose fire extinguishers are required.
- T. The Owner may require additional extinguishers as dictated by the risk of each project or project area.

### 3.15 FIRE REPORTING AND EVACUATION PLAN

- A. Contractor shall establish a designated emergency evacuation assembly area for all Projects prior to starting work. Contractor shall train all employees on assembly area locations and how to get to each area.
- B. For areas that do not allow a clear view of egress route, the Contractor must post easy to understand maps, that are clearly visible to all workers and visitors, of the proper exit paths as required by OSHA and NFPA.
- C. In the event of a fire alarm, all work is to stop, all sources of ignition or hazardous work shall be immediately halted and all personnel are to proceed to the door of the construction site and wait for further instructions.
- D. In the event of a smoke, fire, or emergency incident the following procedures should be followed:
  - 1. RACE – Rescue, Alarm, Confine, Evacuate/Extinguish
    - a. Rescue: rescue Patients, Visitors, Employees
    - b. Alarm: a fire alarm pull station should be activated as quickly as possible or call 911.
    - c. Confine: confine the fire or smoke by closing all doors to the area.
    - d. Evacuate/Extinguish: extinguish the fire after you have performed the above operations but only if you can do it safely.
- E. When reporting a fire by phone:
  - 1. The caller should provide their name, the location of the fire, and a brief description of the incident. The caller should not hang up until emergency services personnel instruct them to do so.
  - 2. The caller should be prepared to guide the Fire Alarm Response Team and Emergency Responders to the fire location.
- F. All Contractor personnel shall report to their designated assembly area immediately. Contractor must coordinate the Designated Assembly Area with their MD Anderson Representative prior to the beginning of the project.

### 3.16 GENERAL SITE CONDITIONS – LIFE SAFETY

- A. Contractors will comply with all OSHA and NFPA life safety requirements as related to emergency exiting and lighting for construction areas.
- B. For areas that do not allow a clear view of egress route, the Contractor must post easy to understand maps, that are clearly visible to all workers and visitors, of the proper exit paths as required by OSHA and NFPA. Contractor should coordinate the creation of these maps with their MD Anderson Representative.

- C. Contractors are required to maintain any required temporary signs directing to exit routes. These signs shall be externally or internally illuminated by lighting that is either on emergency power or of the luminescent "glow-in-the dark" type.
- D. All temporary lighting and bulb protective devices shall be maintained and in good working condition. Wiring for temporary lighting shall be removed at the conclusion of the Project scope.
- E. All emergency exit doors must be maintained and in good working order. Paths to exits must remain clear at all times.
- F. Depending on the size of the project site and number of Contractors working in the site, a Contractor may be required to maintain at least two clearly marked exits per NFPA 101 and 241 requirements.
- G. All exits must be clearly marked with the words "EXIT" or "EMERGENCY EXIT". Doors that the Contractor does not want to use for daily access may be marked with the words "EMERGENCY EXIT ONLY".
- H. Lock all entry doors/gates to the project site. Due to life safety requirements, chains and/or pad locks will not be permitted on any door. Contact your M.D. Anderson Representative for the proper lock cores and keys.
- I. If a combination key pad is installed on a jobsite, the door must also be equipped with a construction core to ensure emergency personnel maintain access to the site. Key pads without a construction core will not be permitted. Contractor must also ensure that the combination to the key pad is not posted on the wall or door of the site. If this occurs, the combination must be changed immediately.

### 3.17 HAZARD COMMUNICATION (HAZCOM)

- A. The Contractor shall provide training and maintain documentation that their personnel and Subcontractors have received proper training in Hazard Communications under the provisions of OSHA's requirements in 29 CFR 1910.1200 and/or 1926.59.
- B. A printed, legible copy of the Material Safety Data Sheet (MSDS) shall be made available within 15 minutes of a request for each chemical used on the job site.

### 3.18 HAZARDOUS WASTE AND WORK IN HAZARDOUS LOCATIONS

- A. Owner chemical, biological or radioactive materials (hazardous substances and equipment) must be moved or secured prior to beginning work in any area. Contractor shall coordinate the removal of these items with their MD Anderson Representative.
- B. The Contractor's MD Anderson Representative will coordinate any pre-site assessments with Environmental Health and Safety, the laboratory principle investigator, clinic representative or laboratory manager to prevent disturbing experiments/animals or creating accidents.
- C. All Contractors must have permission from their MD Anderson Representative and the laboratory manager or clinic representative before entering laboratory or hospital clinical work areas.
- D. Disposal of all hazardous wastes generated by Contractor activities is the responsibility of the Contractor. All wastes must be removed from the premises.
- E. Absolutely no chemicals, trash, paint, paint brush rinse, shop vacuum contents, excess materials, sand, dirt, etc. may be disposed of in storm sewers/drains or sanitary drains.
- F. Contractor must prevent dirt from entering exterior storm drains by adding appropriate silt protection screen material to all exterior drains that may be impacted by the project.

- G. Contractor must follow all requirements set forth in the Storm Water Pollution Prevention Plan (SWPPP) as indicated in the appropriate Project Specification (Section 01 57 23). Consult the Environmental Health and Safety Office (713-792-2888) for questions regarding environmental permitting and plans.
- H. All hazardous waste, fuel, oils, and chemicals stored outdoors must have adequate secondary containment to prevent discharge onto the ground or in storm or sanitary sewer drains. All containers must be stored to prevent theft or unauthorized access. All containers outdoors must also be protected from weather elements and secured from public access.
- I. Contractor shall ensure that adequate spill protection equipment and supplies are readily available during all equipment refueling activities.

### 3.19 HOT WORK PERMITS

- A. A valid and signed Hot Work Permit must be obtained anytime work being implemented involves the use of any incendiary or heating devices such as:
  - 1. Electric Arc Welding
  - 2. Oxygen Acetylene Welding
  - 3. Tig/Mig Welding
  - 4. Cutting/Soldering
  - 5. Propane Torch
  - 6. High Heat Producing Sources
  - 7. Spark Producing Activities
  - 8. Gasoline, diesel, or propane powered equipment used indoors, on roof surfaces, or within distances that could pose a threat of fire to facilities.
- B. Determination of Contractor Hot Work Permit Process or UTMDACC Hot Work Process to be used made prior to beginning of project work.
- C. All Smithville/Bastrop hot work applicants must go to Research and Education Facilities (REF) office and fill out a blank Hot Work Permit. Instructions on how to properly fill out the permit are available.
- D. Permits to work on ANY medical gas systems must be obtained from the Facilities Department responsible for that area prior to work.
- E. Hot Work Permits shall be approved on and for the day of work and posted in the vicinity of any burning or welding operations that are to be completed inside or near a building or enclosure. Permits are issued for day of work only.
- F. Hot work applicants must call 713-563-5000 to obtain the appropriate Facility Representative to issue a Hot Work permit for the facility in which they are working.
- G. Responsibilities:
  - 1. It is the responsibility of the contractor, vendor, and/or MD Anderson workforce members to read, understand, and acknowledge sections I, II, and III of the Hot Work Permit.
  - 2. It is the responsibility of the facilities representative to complete Section IV and sign on the day of work.

3. Contractors are responsible for ensuring all of their authorized and affected employees are trained on the significance of Welding, Cutting, and Brazing procedures in accordance with OSHA regulations 29 CFR 1910.252 - 1910.255.
4. At the end of any cutting operation or at the end of the day, all fuel gas cylinders must be removed from the facility. Fuel gas cylinders WILL NOT be allowed to remain in the facility overnight.
5. Anti-flashback arrestors shall be installed at the base of all Oxy-Acetylene cutting torches or at the pressure regulator gauges where the hoses are attached, unless the torch is equipped with a built-in arrestor. Only friction strikers shall be used to light and re-light Oxy-Acetylene torches.
6. Fire watch personnel shall be posted at every operation that produces sparks, flames or sufficient heat to create an ignition. Upon request for a hot work permit, fire watch personnel shall provide verification of successful Fire Watch training by the Houston Area Safety Council (HASC) or similar entity. Failure to provide current documentation will result in a denial of the hot work permit. Additional fire watch personnel shall be posted in all areas in which hot work sparks, slag, heat, etc. go beyond the sight of the primary fire watch.
7. Except in a fabrication shop or in front of a properly guarded grinding wheel, the person performing the work may not act as a fire watch personnel. When sparks, slag, or fire may fall to a different level, separate fire watch personnel shall monitor each level directly below the work (including exterior locations).
8. Heaters for welding electrodes shall have a manufacturer's label that certifies the purpose of the unit. Job-built heaters shall be prohibited.
9. The remains of welding electrodes shall be picked up and disposed of as soon as each electrode is expended. No welding electrode shall be permitted to fall and remain in the work area.
10. All temporary fabrication areas shall be approved by the facilities representative prior to starting work.

### 3.20 HURRICANE / SEVERE WEATHER PLANS FOR CONSTRUCTION SITES

- A. Construction sites may be required to have a Hurricane/Severe Weather Plan special to that site. Consult with your MD Anderson Representative for applicability, as some departments may require this Plan for small projects.
- B. A copy of the Hurricane/Severe Weather Plan must be submitted to your respective MD Anderson Representative prior to starting work.
- C. The Texas Medical Center (TMC) Emergency Preparedness Office or Campus Director (Smithville/Bastrop) will issue warning levels in the event of possible flooding or hurricanes. Contractors are urged to learn more about the TMC warning system by contacting their MD Anderson Representatives.

### 3.21 IDENTIFICATION (ID) BADGES

- A. It is the policy of The University of Texas MD Anderson Cancer Center to issue an identification (ID) badge to each employee and to all Temporary Agency and Contractor personnel.
- B. All badge requests must be processed by the MD Anderson department (i.e., PCF, REF, CPM, AFCO, etc.) that is issuing the contract for work.

- C. ID badges must be worn at all times in a highly visible manner while on property owned or under the control of the Institution.
- D. Contractors are responsible for returning any badges for personnel that will no longer be providing services to the Institution within one week after termination or conclusion of Project.
- E. The badge must be clearly visible to someone facing the wearer.
- F. A fee may be required to replace a lost Contractor badge. Lost identification badges that have programmed electronic access must be reported to the contracting department representative (i.e. Project Manager) immediately.
- G. Personnel not wearing proper identification may be subject to immediate removal from the jobsite.

### 3.22 INTERIM LIFE SAFETY MEASURES (ILSM) GUIDELINE

- A. Interim Life Safety Measures (ILSM) – Is a series of administrative actions required to temporarily compensate for significant hazards posed by existing National Fire Protection Association 101, as cited in UT MD Anderson Design Guide Element Z2005 Life Safety Code (LSC) deficiencies or construction activities.
- B. All Contractors are required to abide by any ILSM requirements that may be implemented by the Owner due to a temporary deficiency/hazardous condition and must be continuously enforced through Project completion or until the deficiency is corrected. Each Contractor shall be responsible for ensuring all personnel on site are aware of the Interim Life Safety Measures implemented.
- C. Contractors may be required to keep daily logs of the condition of their jobsites.

### 3.23 LADDER SAFETY

- A. Ladders must be inspected prior to each use. Defective ladders shall be immediately removed from service and removed from the job site.
- B. Ladders shall be used only in accordance with the manufacturer's labeled instructions.
- C. Stepladders shall be used only in the fully open position with spreaders locked in place. Using a folded stepladder leaned against a support is prohibited.
- D. Employees shall not stand on the top platform, the step below the top platform or the back stretchers.
- E. Do not sit on, or straddle the top platform.
- F. Stepladders shall not be used for access to platforms or other elevated areas – an extension ladder is required.
- G. Extension ladders must be properly positioned and locked in place.
- H. Extension ladders used for access to elevated areas shall extend at least three feet beyond the supporting structure.
- I. Extension ladders must be secured to the supporting structure or be held at the base by another employee.
- J. Job built ladders shall conform to applicable ANSI Standards AND shall be limited to use in excavations or concrete form work only. These types of ladders must be inspected daily.

- K. At the end of each workday, remove and store, or secure from use all portable and job-built ladders that provide ground access to any elevated platform or structure so as to prevent unauthorized access.
- L. Chaining ladders to equipment or mechanical, electrical, or plumbing fixtures or piping is prohibited. Ladders must be stored in a manner to prevent blocked fire exits or escape routes. Ladders must not block access to equipment or facilities.
- M. Portable stepladders and extension ladders shall be rated class I-A.
- N. Ladders that have multiple sections that can be manipulated to form multiple surfaces and angles are not allowed.
- O. Aluminum ladders are prohibited.
- P. All exceptions to these requirements must be approved by MD Anderson Environmental Health and Safety.

### 3.24 LOCK OUT / TAG OUT

- A. It is the policy of The University of Texas MD Anderson Cancer Center that its employees and Contractors are protected from all energy sources during maintenance and repair activities.
- B. Each facility has a Lock Out/Tag Out program. Contractors whose work will involve the Lock Out/Tag Out process shall comply with the provisions of the respective Facilities Management program and procedures. If there is a difference between the Contractor's program and the Institution's program, the more stringent procedure shall prevail.
- C. Lock Out/Tag Out procedures may be specific to each type of equipment or device. Consult with the Facility Maintenance Department for specific procedures.
- D. Contractors are responsible for ensuring all of their authorized and affected employees are trained on the significance of Lock Out/Tag Out procedures in accordance with 29 CFR 1910.147 and must follow these requirements.
- E. Only the authorized employee or Contractor who applied a device is allowed to remove his/her lock out or tag out device from each energy-isolating device so energy can be restored to the equipment. MD Anderson personnel may add locks or tags to tagged-out devices – Contractors are not allowed to remove these locks or tags.
- F. Never remove another person's tag/lock. Unauthorized removal of tags/locks will be grounds for immediate and permanent removal from the jobsite.
- G. If tags/locks remain on equipment, contact the appropriate personnel or department for resolution to the removal process.

### 3.25 MAINTAINING INDOOR AIR QUALITY (IAQ) DURING CONSTRUCTION AND RENOVATION ACTIVITIES

- A. It is critical to our patient's health that proper controls are in place to ensure indoor air quality is maintained during construction and renovation activities. These activities disturb existing dust and/or create new dust, which causes the release of Aspergillus and other mold spores into the air. These spores can result in serious complications, and potentially death, for immuno-compromised individuals.
- B. The guideline covers all Contractors involved in building maintenance, construction, renovation and/or repair and applies to all areas of the Institution.

- C. An Indoor Air Quality (IAQ) Permit may be required for every Project, no matter the duration. The permit explains the requirements needed to maintain the best possible air quality outside the work site.
- D. This permit shall be posted at the site and shall remain posted until the completion of the Project.
- E. EH&S will perform periodic inspections, verify that the proper controls are in place and will periodically monitor sites with instruments used to measure applicable indoor air quality (IAQ) parameters.
- F. Contractor must follow the requirements of the Indoor Air Quality Permit and the Maintaining Indoor Air Quality During Construction and Renovation Policy.
- G. See Attachment A for the "Maintaining Indoor Air Quality During Construction and Renovation Policy" for the requirements that must be followed for each Project. This policy is a guide to the minimum protective measures that are to be in place prior to start of all Projects.

### 3.26 PERSONAL PROTECTIVE EQUIPMENT (PPE)

- A. The minimum OSHA requirements for Personal Protective Equipment (PPE) shall be required of ALL persons on the Project site. Each Contractor/Subcontractor shall provide their workers with all required PPE. The Contractor is responsible to ensure that PPE is inspected and maintained in proper condition.
- B. Safety Hard Hats: When required, every person in the Project shall wear a hard hat that meets the minimum OSHA requirements.
- C. When required, hardhats are to be worn and maintained in accordance with the manufacturer's recommendations. "Cowboy" style hard hats shall not be allowed, including ANSI approved hats. Hard hats that display noticeable wear or damage shall be replaced or repaired per manufacturer's specifications.
- D. Eye Protection: When required, every person on the Project shall wear eye protection. Additional face protection may be required when work operations create airborne particles, chips, or sparks. Eye protection and face protection shall meet the minimum OSHA requirements. .
- E. Shoes: When required, every worker on the Project shall wear shoes that have soles with a resistance to punctures, leather or leather equivalent uppers that cover the entire foot and ankle and offer resistance to scrapes and cuts. Sandals, open-toed shoes, dress loafers, high-heels, fabric shoes and all athletic style shoes (including those with ANSI markings) are prohibited.
- F. When required, exterior toe and metatarsal cover shall be used when activities involve impact exposures to the feet (ie; jackhammering, water blasting, concrete demolition etc), unless the shoe has this protection built into the footwear.
- G. Clothing: When required, sleeve length shall cover the ball of the shoulder. Shirts shall not have noticeable holes, be long enough to be tucked into pants and be free of profanity, objectionable, or obscene messages. Pants shall be full length and without excessive holes.
- H. Hearing Protection: When required, employees shall be provided with hearing protection against the effects of noise exposures from machines, equipment or surrounding operations generating sound levels that exceed OSHA hearing protection requirements. Employees required to use hearing protection shall be tested and trained in the use and limitations of such protection.
- I. Hand Protection: When required, employees handling materials or equipment with potential hand injury hazards shall be provided with appropriate hand protection.

- J. Harnesses, Lifelines, and Lanyards: When required, employees working in areas where there is an exposure to falls of heights greater than six (6) feet, regardless of work activities (i.e. steel erection, leading edge work, scaffold use, and brick masonry) shall be protected by measures that comply with the ANSI/ASSE Z359 Fall Protection Standard.
- K. Respiratory Protection: When required, employees shall be provided with respirators when it is necessary to protect them from inhalation of toxic or harmful gases, vapors, mists, fumes, and dust.
- L. When required, employees required to use respiratory protective equipment shall be medically qualified and thoroughly trained in the use and limitations of such equipment. Employer must demonstrate compliance with OSHA 29 CFR 1910.134.
- M. Other PPE: When required, employees working in areas where there is a possible danger to other parts of the body not listed above shall be protected by the appropriate PPE for that body part.

### 3.27 ROOF WORK

- A. All roof work must be approved by the Administrative Facilities Campus Operations (AFCO) - Chief Engineer at the campus you are working at prior to project start.
- B. All roof access to T. Boone Pickens Tower must be approved prior to access. This area contains multiple radio transmitters and receivers that emit harmful radio and microwaves. All personnel accessing this area must have attended the required training. Contact the building owner for training requirements.
- C. Contractor is responsible for ensuring that they are able to immediately contact emergency forces during an emergency event by providing cell phones, radios, or access to working phones within MD Anderson facilities. Contractor shall ensure personnel working on the jobsite know the address of the building.
- D. Any roof repairs that are performed around fresh air intakes shall be scheduled with Facilities Operations Group (713-563-9977) prior to any planned work. Contractor is required to provide fume control devices when performing roof repair, replacement, or installation to prevent odors from being transmitted inside the facility.
- E. Some areas of roofs may be restricted due to potentially hazardous exhaust from laboratories or processes. Contractor must obtain approval from their MD Anderson Representative before proceeding with entering any roof areas.
- F. Contractors are required to comply with all applicable OSHA and ANSI Fall Protection requirements.
- G. Contact Facilities Operations Group Campus Operations (713-563-9977 or 713-563-1143) regarding proper davit use and tie-off areas.
- H. All roof work involving heated materials or open flames must have a valid hot work permit.
- I. The Contractor shall have a 20 pound ABC Fire Extinguisher on the roof and immediately available for use. Institutional fire extinguishers will not be loaned. Additional extinguishers must be provided as needed.
- J. All fire extinguishers must have current annual certification tags and in working order.
- K. All open flames must be continuously supervised.

- L. A 1-hour fire watch must be provided after any heated materials or open flames have been used during roof work. Fire watch personnel must perform a "touch test" to determine any residual hot spots. A laser thermometer is recommended. Fire watches could be up to two hours in duration.
- M. All propane bottles must be removed from the premises daily. Do not store propane cylinders in mechanical or roof spaces.
- N. All roofing materials shall be secured at the end of each workday to prevent disruption by wind and rain.

### 3.28 SANITATION AND HOUSEKEEPING

- A. Contractors and Subcontractors are responsible for ensuring that Project sites are effectively cleaned.
- B. "Effectively Cleaned" shall address all of the following issues:
  - 1. Place all construction waste, trash, and debris in a designated receptacle. Glass bottles shall not be permitted in the Project site. Trash must be removed on a daily basis as to prevent accumulation and attraction for pests. Contractor must have an approved method for removing trash from the jobsite (i.e., dumpsters, trucks, etc.) before starting work.
  - 2. Eating is not allowed on the jobsite. Limited amounts of soft drinks and water will be allowed but must be removed on a daily basis as to prevent attraction of insects or rodents.
  - 3. Contractor may only use PUBLIC restroom facilities assigned by their MD Anderson Representative. Contractors may not use staff restrooms.
  - 4. Any waste, trash, and/or debris created by the Contractor shall be cleaned (ie; sweeping, vacuuming, dust mopping, large debris removal etc.) at the end of the day to prevent accumulation of dirt and combustibles on the jobsite.
  - 5. Contractors are NOT allowed to use sinks or drains to clean materials or paint brushes.
  - 6. All holes and penetrations to the outside of the building must be sealed with an appropriate material as to prevent water, insects and rodents from entering the building.
  - 7. All windows must remain closed unless permission is granted by Environmental Health and Safety. All windows or penetrations used for ventilation purposes shall be protected from water, insect/rodent, and dust intrusion by use of protective covers and screen wire materials.
  - 8. Stack (or restack) all whole and scrap materials in locations that do not obstruct a clear pathway nor create a risk for toppling onto a person passing by the area.
  - 9. Place all hoses, cords, cables, and wires in locations that prevent them from damage and do not create tripping hazards.
  - 10. Restore all signs, barricades, fire extinguishers, guardrails, gates, etc. to proper locations and condition.
  - 11. Properly store and secure all flammable and combustible liquids and gases in proper containment or flammable storage cabinets.
  - 12. Collect and place all cut-off or waste pieces of rolling stock, as they are created, into waste or scrap containers. No rolling stock shall be permitted to fall and remain in the work area.

13. Used shot strips from powder-actuated tools shall be properly maintained and disposed of in accordance with manufacturer's recommendations.
14. All puncture and impalement exposures shall be covered or eliminated as soon as they are created. Exposed ends of rebar are to be covered with material that is designed to prevent impalement of a 250-pound body from a fall of four (4) feet.
15. All work surfaces shall be maintained in level and smooth condition as to prevent rolling carts from catching and possibly falling over while in transit. Appropriate temporary fill materials shall be installed as warranted.
16. All wheeled equipment shall have non-marking wheels or tape shall be used over wheels when moving through non-project areas to prevent marking and damage to floor surfaces. Tape should be removed if adequate traction is required to perform a task. Tape can be removed once in job-site area.
17. Contractors shall only use their trash dumpsters or dumpsters designated by their MD Anderson Representative.

### 3.29 SITE POSTINGS

- A. Contractor shall securely post the required warning signs (as required by the Owner and OSHA) for the Project area(s).
- B. All signs must be approved by your MD Anderson Representative. Consult your MD Anderson representative regarding facility specific informational signs.
  1. Signs that warn of impending danger (i.e., CONSTRUCTION AREA – DO NOT ENTER)
  2. Signs that communicate the level of personal protective equipment that is required (i.e., HARD HATS AND SAFETY GLASSES REQUIRED)
  3. All necessary permits (i.e., Hot Work Permits, Indoor Air Quality Permit, ILSM and/or other State/Local Regulatory Agency Permits as required by law).
- C. These postings must consist of the required color, size, and character size lettering and/or symbols as required by OSHA and/or State/Local regulations.
- D. Signs must be made from a sturdy material that resists tearing and fading. Laminated signs are acceptable for indoor postings.
- E. All exterior Projects must contain the above noted required postings in all locations that warrant these warning signs and postings.
- F. A single location such as a plywood Project board is acceptable for posting required permits and project information signage. Any required permits should be protected from the elements by covering them in a laminate or waterproof material.
- G. Contractor shall install and maintain any additional signs, barricades, warning devices, and traffic warnings.

### 3.30 SCAFFOLDING

- A. All scaffold systems (any temporary elevated platform (supported or suspended) and its supporting structure (including its point of anchorage), used for supporting employees or materials or both) - shall follow the manufacturer instructions and adhere to all applicable OSHA requirements per each type of scaffolding device.

- B. Contractor shall be required to receive permission from MD Anderson Facility – Administrative Facilities and Campus Operations before erecting any suspension or stationary scaffolding system on roofs or attaching lines to roof davits. Consult with the MD Anderson Representative for approval before beginning any work.
- C. All ground-supported scaffolds shall bear a safety tag that indicates the safety status of the scaffold. The Contractor shall designate a universal Project system for tagging scaffolding that is to be used by any or all personnel.
- D. Training and documentation shall be required for all workers on the Project who will erect, maintain, dismantle, or use the scaffolding. A designated competent person must ensure scaffold use requirements are maintained and inspected at the beginning of each work shift as per OSHA requirements. Contractor shall maintain documentation to support this requirement.
- E. Contractor will ensure proper fall protection for employees is required and followed per OSHA requirements when using scaffolding and aerial lift.
- F. Mudsills and surrounding areas at the base of ground-supported scaffolds shall be maintained in a well-dressed and level condition. Scaffold feet shall be installed on all legs and the maximum number of diagonal braces shall be included in every scaffold section.
- G. Every work level shall be fully planked and toe board shall be included along open sides. Overhead protection shall be constructed where walk-through passages are allowed.
- H. Brakes shall be secure at all times on rolling scaffolds, except when being moved. Workers shall not be allowed on the platform when the scaffold is being moved.
- I. Rolling scaffolds shall not be used on uneven or unstable surfaces. Wheels shall be non-marking or temporarily covered with tape to prevent damage to floor surfaces when being moved through non-project areas.

## **ATTACHMENTS**

“A” - Maintaining Indoor Air Quality During Construction and Renovation Activities Policy

**END OF SECTION 01 35 25**

# ATTACHMENT "A"

## MAINTAINING INDOOR AIR QUALITY DURING CONSTRUCTION AND RENOVATION ACTIVITIES POLICY

**Policy Number ADM0175**

**Last Revised by EH&S: 11/26/2013**

<b>PURPOSE</b>	The purpose of this policy is to provide guidance for maintaining indoor air quality during activities such as construction, renovation, modernization, and structural repairs - particularly, to prevent Aspergillus and other mold spores from being generated or released into the air. These spores can result in serious complications, and potentially death, for immunocompromised individuals.	
<b>POLICY STATEMENT</b>	It is the policy of The University of Texas MD Anderson Cancer Center (MD Anderson) to manage all construction, renovation, modernization, and structural repairs in a manner designed to minimize the potential for the spread of infections due to degraded air quality or environmental contamination.	
<b>SCOPE</b>	<p>This policy applies to all workforce members and contractors involved in construction, renovation, modernization, structural repairs, and/or repair. This policy applies to all areas of the institution.</p> <p>Compliance with this policy is the responsibility of all MD Anderson workforce members.</p>	
<b>TARGET AUDIENCE</b>	The target audience for this policy includes, but is not limited to, all MD Anderson workforce members.	
<b>STRATEGIC VISION</b>	<p><b>Strategic Goal 1: Patient Care</b></p> <p>Enhance the quality and value of our patient care throughout the cancer care cycle.</p>	
<b>DEFINITIONS</b>	<p><b>Bioaerosols:</b> Microscopic live particulates such as spores, pollen, bacteria, and viruses.</p> <p><b>Construction, Renovation, Modernization, and Structural Repair Activities:</b> Activities that disturb existing building features, which can cause or create the release of potentially harmful dusts or bioaerosols.</p> <p><b>Designee:</b> Person(s) appropriately trained and able to demonstrate competency in assessing and determining appropriate infection control requirements.</p> <p><b>HEPA Filter:</b> High-Efficiency Particulate Air (HEPA) filter.</p> <p><b>Infection Control Risk Assessment (ICRA):</b> A risk assessment tool to determine the minimum level of controls used during a project to control potentially harmful dusts and bioaerosols.</p> <p><b>Pre-Construction Risk Assessment (PCRA):</b> A comprehensive risk assessment tool that must be completed before a project begins. Major areas of review are Infection Control, Interim Life Safety Measures (ILSM), Utility Disruptions, Asbestos Containing Materials and Noise and Vibration.</p>	
<b>PROCEDURE</b>		
<b>1.0 Responsibility</b>		
	1.1	It is the responsibility of all MD Anderson personnel, contractors, and

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		vendors to abide by the requirements of this policy to maintain a safe patient care, research, and work environment. Corrective actions shall be taken immediately when deficiencies are discovered.
	1.2	The Environmental Health and Safety (EH&S) department, Infection Control, or a designee may perform periodic inspections of the work site to monitor compliance with this policy.
	1.3	Air sampling strategies shall be determined during the PCRA evaluation addressed in Section 2.2 and will continue throughout project inspections.
<b>2.0 Performance Requirements</b>		
	2.1	Activities that disturb existing building features, possibly causing or creating the release of potentially harmful dusts or Bioaerosols, must be conducted in accordance with the required precautions listed in the implementation section of this policy.
	2.2	Prior to beginning Construction, Renovation, Modernization, and Structural Repair Activities, a Pre-Construction Risk Assessment (PCRA) must be obtained from the Environmental Health and Safety department or Designee.
	2.3	Project management shall provide personnel and equipment at all times while working on site for the purpose of containment and clean-up of dust and particulates in and around the work area. Equipment may include dust mops, wet mops, adhesive walk-off (tacky) mats, mop buckets, HEPA-filtered vacuums, and clean rags for removing fine dust inside and outside the site and from equipment.
	2.4	Projects issued Construction Safety Specifications by UTMDACC shall comply with IAQ requirements within those specifications.
<b>3.0 Implementation (See Matrix within this attachment)</b>		
		Use the infection control risk assessment (ICRA) matrix to determine the appropriate precautions that must be used.
<b>4.0 Exceptions</b>		
		Any exception to this established policy is at the discretion of the Institutional Safety Committee. Procedural exceptions may be granted through Environmental Health and Safety or Infection Control.

### **JOINT COMMISSION STANDARDS / NATIONAL PATIENT SAFETY GOALS:**

The hospital manages its environment during demolition, renovation, or new construction to reduce risk to those in the organization. Standard: EC.02.06.05. Comprehensive Accreditation Manual for Hospitals (CAMH), July 2013.

### **OTHER RELATED ACCREDITATION / REGULATORY STANDARDS:**

Centers for Disease Control and Prevention, Guidelines for Environmental Infection Control in Health Care Facilities.

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**Approved With Revisions and Implementation Date: 11/26/2013**

**Governors**

Moore, Spencer - VP and Chief Facilities Officer

**Stewards**

Berkheiser, Matthew L - Exec Dir, Env Health & Safety

Mathis Jr, Jim L - Dir, Environ Health & Safety

**Content Experts**

Galloy, Bryan M - Mgr, Environ Health & Safety

Mathis Jr, Jim L - Dir, Environ Health & Safety

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**INFECTION CONTROL RISK ASSESSMENT MATRIX**

<b>Instructions on how to determine the appropriate indoor air quality measures for your project/activity</b>	
<b>Step 1</b>	Determine the Risk Area using the Risk Areas Defined table (TABLE A)
<b>Step 2</b>	Determine the Activity Type on the left side of the Matrix table (ie, small, medium, large; TABLE B), then compare the project activity type to the risk area to determine the Class of Indoor Air Quality controls that are to be implemented
<b>Step 3</b>	Then select the appropriate Class of controls to be used on the project (LIST C)

**\*\*\*Note: The current nature, adjacency to other areas, and use of a space may change the risk group determination and should be reviewed prior to start of planning and work.**

<b>TABLE -A-</b>			
<b>Risk Areas Defined</b>			
<b>RISK AREA 1</b>	<b>RISK AREA 2</b>	<b>RISK AREA 3</b>	
<u>LOW RISK</u>	<u>MEDIUM RISK</u>	<u>HIGH RISK</u>	
Office areas not adjacent to high risk areas	Cancer Prevention Center	Admissions areas	Operating rooms
Dock and Service Corridors	Place of Wellness	Inpatient units	Intensive Care units (ICU, SICU, PACU & MICU)
Physical Plant spaces – maintenance rooms, etc. not adjacent to high risk areas	Kitchen(s)	Emergency Center	Sterile Processing
Boiler room		Mays Clinic – (Ambulatory Care Building)	Pharmacy
Interstitial spaces		Cafeteria	Research labs
		Laboratory Medicine	Laboratories involved with production of products for patient infusion
		Rehabilitation Therapy areas	Diagnostic laboratories
		Regional Care Centers	Patient waiting areas
		All Outpatient Clinics	Proton Therapy Center
		Office or other areas adjacent to high risk areas that by nature of the proposed work could pose a threat to patient safety)	Radiation Oncology
		Sterile animal areas	Animal Operating rooms

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**INFECTION CONTROL RISK ASSESSMENT MATRIX**

<b>TABLE -B-</b>			
<b>Indoor Air Quality Matrix</b>			
<b>Project Activity Types:</b>	<b>RISK AREA I <u>Low Risk Areas</u> <i>See risk area definition</i></b>	<b>RISK AREA II <u>Medium Risk Areas</u> <i>See risk area definition</i></b>	<b>RISK AREA III <u>High/Extreme Risk Areas</u> <i>See risk area definition</i></b>
<b><u>Small/Minor:</u></b> Inspections above ceiling that create minimal to no dust, minor repair, painting, (no patching), minor electrical work, plumbing, similar work with little or no drilling, cutting, or other dust-raising activity, opening into chases and concealed spaces. Normal maintenance activity.	<b>Class I Precautions</b>  <input type="checkbox"/>	<b>Class I Precautions</b>  <input type="checkbox"/>	<b>Class I Precautions</b>  <input type="checkbox"/>
<b><u>Medium Scale Projects:</u></b> Installation of electrical and computer cabling, working in chases and concealed spaces, working above ceiling, replacing finishes, carpet removal, wall covering removal, cutting plaster and drywall, sanding and other dust making activity within a room or other controlled area, opening ceiling tiles (more than 16 ft <sup>2</sup> square feet consecutive). Usually one to three shifts.	<b>Class I Precautions</b>  <input type="checkbox"/>	<b>Class II Precautions</b>  <input type="checkbox"/>	<b>Class III Precautions</b>  <input type="checkbox"/>
<b><u>Large/Major Scale Projects:</u></b> Removing floor coverings, sanding plaster walls, wall demolition and construction, duct work, major ceiling work, major demolition of areas, particularly those open to patient care areas, work on HVAC systems that release dust. Usually more than three days work.	<b>Class II Precautions</b>  <input type="checkbox"/>	<b>Class III Precautions</b>  <input type="checkbox"/>	<b>Class III Precautions</b>  <input type="checkbox"/>

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**Infection Control Risk Assessment Matrix**

<b>LIST -C-</b>
<b>Required Infection Control Precautions, by Class</b>

**Class I Precautions**

- Indoor air quality permit posted at jobsite entrance.
- Control of debris: use covered container to remove debris through internal hospital paths.
- Cover must be dust tight and secured to prevent dusts from escaping. Use of clean plastic and elastic bungee cords is recommended. Hard tops are acceptable.
- Containers must be clean before leaving jobsite and before traveling back to jobsite from dumpster.
- All carts and equipment and their wheels must be kept clean at all times.
- Replace ceiling tiles promptly – minimize the removal of ceiling tiles when working above ceiling.
- Keep doors closed and locked at all times.
- Clean areas periodically during work to minimize dust and debris buildup.
- Vacuum with HEPA filter type vacuum.
- Schedule Housekeeping to perform a terminal clean of the area prior to occupancy.
- Direct questions about work to Environmental Health and Safety.
- Other precautions as assigned.

**Class II Precautions**

- Indoor air quality permit required and posted at jobsite entrance
- Debris and supply routing must be pre-determined prior to any construction activities. Use covered container to remove debris through internal hospital paths.
- Cover must be dust tight and secured to container, not just laid on top. Use clean plastic and elastic bungee cords to cover waste containers. Hard tops are acceptable as well.
- Containers and their wheels must be clean before leaving jobsite and before traveling back to jobsite from dumpster. Use “clean demolition” methods such as immediately removing ceiling tiles and drywall and place in debris removal containers prior to landing on the ground. This will help limit the amount of dust created from drywall and other such building materials.
- Use water spray mist to minimize dust when applicable (ie, cutting sheetrock).
- Replace ceiling tiles promptly – minimize the removal of ceiling tiles when working above ceiling.
- A dust containment cube must be used when opening ceiling tiles or working above ceiling in any area where patients are present and make sure containment cube is in serviceable condition and is properly placed before opening ceiling tiles.
- Protect patient care areas from activity by closing doors, or enclosing area with approved (6 mil minimum) fire retardant polyethylene plastic or equivalent. Replace ceiling tiles prior to removal of enclosures. Note: follow the conditions set forth in the Interim Life Safety Measures permit. ILSM requirements will have priority over the general indoor air quality requirements found in this policy and may be more restrictive (i.e., fire rated drywall barrier, etc.).
- Keep doors closed and locked at all times.
- Clean areas periodically during work to minimize dust and debris buildup.
- Vacuum with HEPA filter type vacuum.
- Close off HVAC system openings (exhaust and supply) with plastic or equivalent. If exhaust must be maintained, use a “clean air” machine (HEPA-filter equipped), or powered HEPA filters and exhaust directly to outside.
- A pressure negative to the air in the patient care units must be maintained at all times (24/7) during construction activity. At no such time should the jobsite go positive or neutral to the

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surrounding spaces.

- Use dust mats or tacky mats at entrances inside site (not to be used in public access hallways because of trip hazard). Wet mop areas during and after construction to remove and control dust and dirt with suitable cleaning agents.
- Use protective shoe covers while inside site to prevent accumulation of dirt on shoes. Remove shoe covers prior to exiting the construction area.
- Visual or quantitative air flow indicators at entrance(s) to jobsite. Airflow indicators may be visual ball-type or electronic gauges that show the status of the air flow into the jobsite. Airflow Direction Incorporated [www.airflowdirection.com](http://www.airflowdirection.com) “Ball-In-The-Wall”.
- If work is being done in public areas, use a mobile control unit technology and “clean air” machines to maintain a pressure in the enclosure that is negative to the air outside the enclosure, with the exhaust going through a HEPA filter prior to releasing into the air in the patient care area. Control units must be used for all work outside the jobsite that does not have a semi-permanent barrier already installed for the project.
- Other precautions as assigned.
- Direct questions about work to Environmental Health and Safety.

**Class II Precautions: At Job Completion**

- Replace all ceiling tiles, or re-close ceiling.
- Wipe down all horizontal surfaces – including ceilings.
- Wet mop or extract floor with hospital approved disinfectant. If appropriate, vacuum all areas with HEPA filtered vacuums.
- Maintain all enclosures as practical until post-job cleaning is complete. Use vacuums with HEPA filters during removal of barriers.
- Clean the HVAC system diffusers as the construction barriers are removed, and operate system for 24 hours prior to final cleaning of job site.
- Schedule final terminal cleaning of area by MD Anderson Housekeeping.
- Other precautions as assigned.

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**Infection Control Risk Assessment Matrix**

<b>LIST -C-</b>
<b>Recommended Infection Control Precautions, by Class</b>

**Class III Precautions**

- Indoor air quality permit required and posted at jobsite entrance
- Isolate the HVAC systems to minimize a route for dust movement. If exhaust is used to maintain the area negative in pressure to outside areas, the exhaust must go to the outside of the building whenever possible. If existing exhaust systems are to be used, they must be non-recirculating exhausts.
- On every jobsite there will be a visual or quantitative air flow indicators at entrance(s) to the jobsite. Airflow indicators may be visual ball-type or electronic gauges that show the status of the air flow into the jobsite. Airflow Direction Incorporated [www.airflowdirection.com](http://www.airflowdirection.com) “Ball-In-The-Wall”. The placement and quantity of these units will be determined during the Pre-Construction Risk Assessment (PCRA) prior to the start of construction or erection of barriers.
- Use “clean demolition” methods such as immediately removing ceiling tiles and drywall and place in debris removal containers prior to landing on the ground. This will help limit the amount of dust created from drywall and other such building materials.
- A pressure negative to the air in the patient care units must be maintained at all times (24/7) during construction activity. At no such time should the jobsite go positive or neutral to the surrounding spaces.
- Use a “clean air” machine (HEPA-filter equipped), both to re-circulate air in the job site to reduce airborne dust, and to exhaust air from the job site, to maintain a pressure negative to the air outside the job site, so leakage will be into the job site. The same machine may be used for both purposes, if it has suitable capacity.
- Filters for HEPA units must be maintained in good working order, with proper filters, per the manufacturer’s specifications.
- Provide construction separations that are fire resistive, and dust tight, constructed of sheet rock or limited combustion plywood. Note: follow the conditions set forth in the Interim Life Safety Measures permit. ILSM requirements will have priority over the general indoor air quality requirements found in this policy and may be more restrictive (i.e., fire rated drywall barrier, etc.).
- Enclose work areas prior to any demolition work or opening any walls or ceilings.
- If work is being done in public areas, use a mobile dust control unit technology and “clean air” (HEPA) machines to maintain a pressure in the enclosure that is negative to the air outside the enclosure, with the exhaust going through a HEPA filter prior to releasing into the air in the patient care area. Control units must be used for all work outside the jobsite that does not have a semi-permanent barrier already installed for the project.
- Debris must be removed in tightly closed containers, with solid lid, or plastic taped/bungee cord into place. The debris removal containers should be vacuumed or wet-wiped prior to removal from the site, to remove all surface dust and dirt.
- Create a construction ante-room where all clothing, tools, equipment, and other materials being removed are vacuumed or wet-wiped prior to being taken off site through the hospital patient care areas. The ante-room should be as clean as a patient care area. Cart wheels should also be cleaned, and run over a tacky mat, or similar method to assure no dust is tracked out via wheels. All persons must walk across the tacky mats to clean their feet. Any person who has dust, dirt, or materials on their clothing must remove it prior to leaving the ante-room areas. Tacky mats will be maintained to keep the surface tacky, and to replace or remove layers when they become dirty. The ante-room will be wet mopped frequently (several times a day in usual construction activity), or similar methods will be used to satisfy Environmental Health and Safety or Infection Control requirements.
- Use protective shoe covers while inside site to prevent accumulation of dirt on shoes. Remove

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shoe covers prior to exiting the construction area.

- Depending on the location of the project and risks involved, the use of protective Tyvek or equivalent suits may be required to enter and exit the sites (i.e., Operating Room suite).
- Seal all holes, penetrations, and openings in the construction barriers and walls which are part of the construction separation with appropriate materials. Sealed holes in fire rated separations must be equivalent in fire rating. Other holes must be sealed with tape and plastic, or similar materials which are strong enough to withstand the pressure differential without leakage.
- Direct questions about work to Environmental Health and Safety.
- Other precautions as assigned.

**Class III Precautions: At Job Completion**

- Maintain barriers and "clean air" machines (HEPA-filter equipped), in place until final cleaning is complete. Removal of barrier materials should be accompanied by vacuuming using a vacuum with HEPA filters.
- Clean HVAC system diffusers as closure being removed, and operate system for 24 hours prior to final cleaning of job and removal of barriers (to the extent practical based on the system). If necessary, allow the HVAC to blow into the site with the "clean air" machine catching the output of the supply, and the machine feeding the air to the returns.
- Site must be thoroughly cleaned by damp-wiping all horizontal surfaces with a hospital approved disinfectant.
- Schedule final cleaning of area by MD Anderson Housekeeping.
- Other precautions as assigned.

**END OF ATTACHMENT "A"**

## **SECTION 01 45 00 - PROJECT QUALITY CONTROL**

### **PART 1- GENERAL**

#### **1.1. RELATED DOCUMENTS**

- 1.1.1. The Contractor's attention is specifically directed, but not limited, to the Uniform General Conditions for University of Texas System Building Construction Contracts (UGC) for other requirements.

#### **1.2. SUMMARY**

- 1.2.1. This Section provides administrative and procedural requirements for Contractor quality control on the Project.
- 1.2.2. Specific quality-control requirements for individual construction activities are specified in the Sections that govern those activities. Requirements in those Sections may also cover production of manufactured products.
- 1.2.3. Specified tests, inspections, and related actions do not limit Contractor's quality-control procedures to fully comply with the Contract Document requirements in all regards.
- 1.2.4. Provisions of this Section do not limit the requirements for the Contractor to provide quality-control services required by the Contract Documents or the Authority Having Jurisdiction.
- 1.2.5. The following quality issues are addressed in detail in this Section:
  - 1.2.5.1. (1.3) Quality Control
  - 1.2.5.2. (1.4) Quality Assurance
  - 1.2.5.3. (1.5) Contractor Employed Testing Agency
  - 1.2.5.4. (1.6) Testing
  - 1.2.5.5. (1.7) Inspections
  - 1.2.5.6. (1.8) Preinstallation Meetings
  - 1.2.5.7. (1.9) Mock-ups

#### **1.3. QUALITY CONTROL**

- 1.3.1. Quality Control shall be the sole responsibility of the Contractor, unless specifically noted otherwise. The Contractor shall be responsible for all testing, coordination, start-up, operational checkout, and commissioning of all items of Work included in the Project, unless specifically noted otherwise. All costs for these services shall be included in the Contractor's cost of work.
- 1.3.2. The Contractor shall assign one employee to be responsible for Quality Control. This individual may have other responsibilities, but may not be the Contractor's Project superintendent or the Contractor's Project manager.

#### **1.4. QUALITY ASSURANCE**

- 1.4.1. The Owner or Owner's designated representative(s) will perform quality assurance. Owner's quality assurance procedures may include observations, inspections, testing, verification,

monitoring and any other procedures deemed necessary by the Owner to verify compliance with the Contract Documents.

1.4.1.1. The Owner's quality assurance testing and inspection program is separate from Owner's commissioning program, as defined in Section 01 91 00 –General Commissioning Requirements.

1.4.2. The Contractor shall cooperate with and provide assistance to the Owner related to Owner's quality assurance procedures. Contractor shall provide to Owner ladders, lifts, scaffolds, lighting, protection, safety equipment and any other devices and/or equipment (including operators if required) deemed necessary by the Owner to access the Work for observation/inspection.

1.4.3. Owner may employ independent testing agencies to perform certain specified testing, as Owner deems necessary. The Contractor shall integrate Owner's independent testing services within the Baseline Schedule and with other Project activities.

1.4.4. Owner's employment of an independent testing agency does not relieve the Contractor of the Contractor's obligation to perform the Work in strict accordance with requirements of the Contract Documents.

## 1.5. TESTING AGENCY

1.5.1. The Contractor shall employ and pay for services of an independent testing agency to perform all specified testing requiring an independent agency, unless specifically noted otherwise.

1.5.2. Contractor's employment of an independent testing agency does not relieve the Contractor of the Contractor's obligation to perform the Work in strict accordance with requirements of the Contract Documents.

1.5.3. The Contractor Employed Testing Agency:

1.5.3.1. The testing agency must have the experience and capability to conduct testing and inspecting indicated by ASTM standards and that specializes in the types of tests and inspections to be performed.

1.5.3.2. The testing agency shall comply with requirements of ASTM E 329, ASTM E 543, ASTM E 548, ASTM C 1021, ASTM C 1077, ASTM C 1093, and other relevant ASTM standards.

1.5.3.3. The testing agency's laboratory must maintain a fulltime engineer on staff to oversee and review the services. The engineer must be licensed in the State of Texas.

1.5.3.4. The testing agency must calibrate all testing equipment at reasonable intervals (minimum yearly) with accuracy traceable to either National Bureau of Standards or accepted values of natural physical constants.

1.5.4. The Contractor shall not employ the same testing entity engaged by the Owner for the Project, without the Owner's written approval.

## 1.6. TESTING

1.6.1. Where specific testing is specified in a technical section of the Specifications or indicated in the Contract Documents, the Contractor shall bear all costs of such tests unless the Owner has expressly agreed in writing to pay for the tests.

- 1.6.2. Testing specifically identified to be conducted by Owner, will be performed by an independent entity and will be arranged and paid for by the Owner unless otherwise indicated in the Contract Documents. Should the test return unacceptable results, the Contractor shall bear all costs of retesting and reinspection as well as the cost of all material consumed by testing, and replacement of unsatisfactory material and/or workmanship.
- 1.6.3. The Contractor in cooperation with the Owner's Construction Inspector shall schedule the Owner's testing services.
- 1.6.4. The Owner may engage additional consultants for testing, air balancing, commissioning, or other special services. The activities of any such Owner consultants are in addition to Contractor testing of materials or systems necessary to prove that performance is in compliance with Contract requirements. The Contractor must cooperate with persons and firms engaged in these activities.
  - 1.6.4.1. The Contractor shall self-perform various tests to verify performance and/or operation of various systems. Test reports that document the tests shall be consecutively numbered and defined by scope and extent of the test. Copies of the test report forms can be obtained from the Owner. The following Owner test report forms are examples of forms that shall be used for this purpose and shall not be altered in any manner:
    - 1.6.4.1.1. Pipe Test Report.
    - 1.6.4.1.2. Duct Test Report.
    - 1.6.4.1.3. Equipment or System Start-up/Request for Inspection.
    - 1.6.4.1.4. Contractor's Request for Utility Shutdown.
    - 1.6.4.1.5. Domestic Water Sterilization and Flushing Report.

## 1.7. INSPECTIONS

- 1.7.1. All of the Work is subject to inspection and verification of correct operation prior to 100% payment of the line item(s) pertaining to that aspect of the Work.
- 1.7.2. The Contractor shall incorporate adequate time for performance of all inspections and correction of noted deficiencies into the Work Progress Schedule for the Project.
- 1.7.3. During the course of construction, the Owner, Architect/Engineer, and/or other Owner representatives may visit the Site for observation of the Work in place. The Contractor shall provide all necessary personnel and/or equipment for safe access to the Work to be inspected or observed, regardless of frequency. This requirement shall extend to all Owner personnel and their representatives. Some of these inspections will be informal and some will require formal notification by the Contractor.
- 1.7.4. For any requested inspection, the Contractor shall complete prior inspections to ensure that items are ready for inspection and acceptance by the Owner and/or Architect/Engineer. The Contractor shall be responsible for any and all costs incurred by Owner and/or Owner representatives, including consultants, resulting from a review or inspection that was scheduled prematurely.
- 1.7.5. The Contractor shall submit written notification to the Owner and Architect/Engineer a minimum of three (3) days and a maximum of eleven (11) days in advance of all requested inspections. Confirm advance notification time period with Owner for scheduling inspections.

- 1.7.6. The Contractor shall provide a system of tracking all field reports, describing items noted, and resolution of each item. The Owner will review reports on a monthly basis, or as necessary. Owner may require Contractor to track all inspection field reports within Owner's internet-based project management system.
- 1.7.7. The following are typical Project inspections:
- 1.7.7.1. Informal Daily Reviews of Project conditions by the Owner's Construction Inspector and/or members of the Project Team. When considered appropriate, results of these reviews will be documented via Observation Reports or Memorandum.
  - 1.7.7.2. Concealed Space Inspections for subject areas that include partitions, structural walls, chases, crawl spaces, ceiling spaces, and any other Work, which will be difficult or impossible to examine once concealed in the final construction.
    - 1.7.7.2.1. Contractor shall not enclose partitions, structural walls, chases, crawl spaces, ceiling spaces, and any other Work which will be difficult or impossible to examine once concealed in the final construction until Contractor has received written approval from Owner's Construction Inspector.
  - 1.7.7.3. Progress Inspections for piping, ductwork, and other systems shall be scheduled by the Contractor through the Owner's Construction Inspector as appropriate portions, or sections, of the Work are completed. This is in addition to "system-wide" performance verification and tests. The Contractor shall schedule and document the tests using the standard Owner Pipe Test and Duct Test report forms. The Contractor shall conduct the tests and the Owner's Construction Inspector will witness and approve the results.
    - 1.7.7.3.1. The Contractor shall coordinate their intended "apportioning" of systems tests with the Owner's Construction Inspector immediately following formal submission of their Work Progress Schedule so that all parties are aware of the intended Work and inspection sequence.
  - 1.7.7.4. Overhead and Above Ceiling Inspections are similar in nature and requirements to the Concealed Space Inspections. Ceilings that are fixed in place, such as gypsum board or plaster, constitute a Concealed Space Inspection. Ceilings that are of "lay-in" type or where no finish ceiling is scheduled are considered an "overhead" inspection. Contractor shall include Overhead and Above Ceiling Inspections on the Work Progress Schedule.
    - 1.7.7.4.1. No finish ceiling material shall be installed until all overhead Punchlist items have been resolved to the satisfaction of the Owner.
    - 1.7.7.4.2. Completed Work in place necessary for an Overhead Inspection shall include all required infrastructure and appurtenances, inclusive of, but not limited to the following.
      - 1.7.7.4.2.1. Installation of ceiling grid or framework.
      - 1.7.7.4.2.2. Installation and operation of all above ceiling electrical Work, including light fixtures.
      - 1.7.7.4.2.3. Installation of all HVAC and plumbing Work above ceiling with installation and connection of terminal units and air devices.
      - 1.7.7.4.2.4. Installation of fire sprinkler heads.

- 1.7.7.4.2.5. Completion and Owner approval of all required tests for above ceiling Work.
- 1.7.7.5. Inspections of Building Systems and Equipment are intended to confirm acceptable operation. Contractor shall formally schedule inspections through the Owner's Construction Inspector and Architect/Engineer utilizing Owner's Inspection Request Form. Refer to Section 01 91 00 – General Commissioning Requirements and to Technical Specifications for additional requirements pertaining to system start-up, commissioning, operation, demonstration, and acceptance.
- 1.7.7.5.1. The Contractor shall perform a thorough checkout of operations with the manufacturer's representatives prior to requesting the formal inspection by the Owner. Contractor must notify the Owner's Construction Inspector, in advance, as to when the manufacturer's representative is scheduled to arrive at the Site.
- 1.7.7.5.2. For "building-wide" and/or life safety systems, such as emergency lighting, emergency power, uninterruptible power supply systems, fire alarm, fire sprinkler systems, smoke evacuation systems, toxic gas monitoring, captured exhaust systems, etc., the formal start-up inspection shall be completed prior to requesting Substantial Completion Inspection for any area of the Project.
- 1.7.7.5.3. The manufacturer's representatives and the installing contractor shall demonstrate both operation and compliance to the Owner's agents and consultants. If coordinated and scheduled appropriately by the Contractor, these equipment and/or systems inspections may also serve to provide the required Owner training, if approved in advance by the Owner.
- 1.7.7.6. A building systems final inspection with documented approval of individual equipment and/or system(s) must be accomplished prior to requesting Substantial Completion Inspection for any area affected by said equipment and/or system.
- 1.7.8. The Contractor is responsible for requesting that the Owner's Construction Inspector and Architect/Engineer arrange for the inspection of materials, equipment, and Work prior to assembly or enclosure that would make the materials, equipment, or Work inaccessible for inspection and at other times as may be required.
- 1.7.9. The Contractor shall coordinate the Work and schedule all inspections in advance so as not to delay the Work. All major inspections shall be indicated on the Work Progress Schedule for advance planning. Contractor shall allow a minimum of five (5) calendar days to confirm schedule of requested inspections with Owner's representatives.
- 1.8. PREINSTALLATION MEETINGS
- 1.8.1. The Contractor shall coordinate and conduct meetings to review the installation of major systems/equipment on the Project. As a minimum, Contractor shall schedule and conduct the Preinstallation Meeting(s) for the Work of each major building system. The Preinstallation Meeting(s) shall be convened following approval of system submittals and prior to commencement of system installation Work.
- 1.8.2. The purpose of the Preinstallation Meeting(s) is for the Contractor and all applicable subcontractors and/or suppliers and/or factory representatives to discuss all aspects of the installation of the particular system. Contractor shall direct special attention to the scheduled order of Work and any impact on or by any other building systems. Contractor shall develop a strategy acceptable to the Owner for start-up, inspection and acceptance, based on Contractor's Prefunctional Checklists, so that all parties are aware of what is expected and/or acceptable.

- 1.8.3. The Contractor shall ensure attendance of the installing subcontractor, manufacturer and/or supplier (if appropriate), supporting subcontractors involved in the installation, and any other parties involved in the phase of Work to be reviewed. Contractor shall notify the Owner and Architect/Engineer in writing at least five (5) days in advance of the Preinstallation Meeting(s).
- 1.8.4. Each party shall be prepared to discuss in detail the staging, installation procedure, quality control, testing/inspection, safety and any other pertinent items relating to the Work being reviewed. Submittal approval shall be a prerequisite of the Preinstallation Meeting(s). At this meeting(s), Contractor shall review and discuss the Commissioning Plan, test procedures, scheduling, and logistics. Contractor shall bring the following to the Preinstallation Meeting(s), as a minimum, for review and discussion:
  - 1.8.4.1. Portion of the Initial Equipment Matrix applicable to the system under discussion.
  - 1.8.4.2. Draft of the Prefunctional Checklists.
  - 1.8.4.3. Current work schedule data pertaining to the beginning, start-up, inspection, and turnover phases anticipated for the particular system.
  - 1.8.4.4. Copy of all approved submittals for the system.
- 1.8.5. The Contractor shall take minutes of the Preinstallation Meeting(s) and distribute to all attending parties.
- 1.8.6. Whether required in the Technical Specifications or not, a Preinstallation Meeting(s) shall be conducted for the following Work, if included in the Project:
  - 1.8.6.1. Concrete.
  - 1.8.6.2. Masonry.
  - 1.8.6.3. Large Steel Fabrications.
  - 1.8.6.4. Waterproofing.
  - 1.8.6.5. Roofing.
  - 1.8.6.6. Exterior Glazing (including storefront and curtain wall).
  - 1.8.6.7. Door Hardware.
  - 1.8.6.8. Audio / Visual Equipment.
  - 1.8.6.9. Air Handling Units.
  - 1.8.6.10. Medical Gas Systems.
  - 1.8.6.11. All Other Mechanical and Electrical Systems.
- 1.9. MOCK-UPS
  - 1.9.1. Before installing portions of the Work requiring mock-ups, Contractor shall build mock-ups for each form of construction and finish required, using materials indicated for the completed Work.

- 1.9.2. Build mock-ups in location and of size indicated or, if not indicated, as directed by Architect/Engineer. The mock-up may be work in place that is intended to remain, unless otherwise directed by the Owner.
- 1.9.3. Notify Architect/Engineer and Owner five (5) days in advance of dates, times, and locations of when and where mock-ups will be constructed.
- 1.9.4. Demonstrate the proposed range of aesthetic effects and workmanship. Demonstrate anticipated repairs in the mock-up, such as for stone veneer.
- 1.9.5. Obtain Architect/Engineer's and Owner's approval of mock-ups before starting work, fabrication, or construction.
- 1.9.6. Maintain mock-ups during construction in an undisturbed condition as a standard for judging the completed Work.
- 1.9.7. Demolish and remove mock-ups when directed by Owner, unless otherwise indicated.
- 1.9.8. As a minimum, Contractor shall prepare a mock-up for the following Work, if applicable to the Project. Owner may define additional mock-ups at the Pre-bid or Preconstruction Meeting.
  - 1.9.8.1. Exterior wall system to include: substructure, masonry/stone veneer, plaster, architectural concrete and windows.
  - 1.9.8.2. Roof system.
  - 1.9.8.3. Interior laboratory room; utilities serving laboratory casework.
  - 1.9.8.4. Interior patient care and prevention room.
  - 1.9.8.5. Interior wall finishes.
  - 1.9.8.6. Ceramic tile.
  - 1.9.8.7. Finished flooring.
  - 1.9.8.8. Plumbing battery for multiple-use toilet rooms.
  - 1.9.8.9. Medical gas headwalls.

**PART 2- PRODUCTS (NOT USED)**

**PART 3- EXECUTION (NOT USED)**

**END OF SECTION 01 45 00**

## **SECTION 01 77 00 - PROJECT CLOSE-OUT PROCEDURES**

### **PART 1 - GENERAL**

#### **1.1. RELATED DOCUMENTS**

- 1.1.1. The Contractor's attention is specifically directed, but not limited, to the Uniform General Conditions for University of Texas System Building Construction Contracts (UGC) for other requirements.

#### **1.2. SUMMARY**

- 1.2.1. The following Project Close-Out procedures are addressed in this Section:

- 1.2.1.1. Requirements for Substantial Completion
- 1.2.1.2. Provisions for Release of Retainage
- 1.2.1.3. Requirements for Final Acceptance
- 1.2.1.4. Requirements for Record Submittals and Samples
- 1.2.1.5. Requirements for Operating and Maintenance Manuals
- 1.2.1.6. Requirements for Commissioning and Close-out Manual
- 1.2.1.7. Requirements for Close-Out Document Submission
- 1.2.1.8. Project Cleaning

#### **1.3. DEFINITIONS**

- 1.3.1. The term "Project Close-Out" is hereby defined to include requirements near the end of the Contract Time, in preparation for Substantial Completion acceptance, occupancy by Owner, release of retainage, final acceptance, Final Payment, and similar actions evidencing completion of the Work. Specific additional requirements for individual units of work are specified in the Technical Specifications.
- 1.3.2. The term "Time" of Close-Out is directly related to completion and acceptance, and therefore may be either a single time period for the entire Project, or a series of time periods for individual portions or phases of the Project that have been certified as substantially complete at different dates.
- 1.3.3. Refer to the UGC for Definitions used throughout the Contract Documents.

#### **1.4. REQUIREMENTS FOR SUBSTANTIAL COMPLETION**

- 1.4.1. In addition to items identified in the UGC, prior to requesting a Substantial Completion inspection (for either the entire Work or portions thereof as agreed to by the Owner and Contractor), Contractor shall complete and/or submit the following to the Owner and list known exceptions in the request.
  - 1.4.1.1. Contractor's Application for Payment that is coincident with the period of time anticipated for Substantial Completion shall reflect a minimum of 95% completion for all applicable Work.

- 1.4.1.2. Owner's acceptance of all building system installations. If Owner's Construction Inspectors are assigned to the Project, acceptance may be in the form of building system final inspection reports.
- 1.4.1.3. Record Documents: Up-to-date, marked-up drawings and specifications that record all changes made during construction.
- 1.4.1.4. Record Submittals and Samples.
- 1.4.1.5. Operating and Maintenance Manual(s).
- 1.4.1.6. Commissioning and Close-out Manual.
- 1.4.1.7. Completed Punchlists.
- 1.4.1.8. Certification statement that no asbestos containing materials have been used or incorporated into the Project per Texas Asbestos Health Protection Rules (TAHPR—Tex. Admin. Code Title 25, Part 1, Ch. 295C, Asbestos Health Protection.
- 1.4.1.9. Releases enabling Owner's full and unrestricted use of the Project and access to services and utilities, including (where applicable) operating certificates, and similar releases.
- 1.4.1.10. Deliver tools, spare parts, extra stock of materials, Samples, and similar physical items to Owner.
- 1.4.2. If Owner intends to occupy Project upon Substantial Completion acceptance, Contractor shall make provisions for final changeover of locks with the Owner's personnel. Upon written directive from Owner and for the convenience of the Contractor in completing Punchlist activity, Owner may waive the final changeover of locks until final acceptance.
- 1.4.3. Contractor shall complete instructing and training Owner's personnel for all systems and equipment serving the areas claimed as substantially complete, for which Owner training was not completed in association with system demonstrations and inspections. Refer also to Section 01 79 00 – Demonstration and Training.
- 1.4.4. Contractor shall complete the initial clean-up requirements as described in Part 3 of this Section for the entire portion of the Project claimed as substantially complete. Contractor shall touch-up and otherwise repair and restore marred exposed finishes.
- 1.4.5. SUBSTANTIAL COMPLETION INSPECTION PROCEDURE
  - 1.4.5.1. Refer to the UGC and Section 01 45 00 – Project Quality Control.
  - 1.4.5.2. The Contractor shall ensure the Work is ready for inspection and/or reinspection. If the Work is found not to be as stated in the Contractor's Punchlist or the items have not been substantially corrected and/or completed, the inspection will be terminated. All costs incurred by the Owner and Architect/Engineer for scheduling and attending the terminated inspection(s) shall be the responsibility of the Contractor and excluded from the Cost of Work.

## 1.5. PROVISIONS FOR RELEASE OF RETAINAGE

- 1.5.1. Refer to the UGC.

- 1.5.2. Release of any retainage, or reduction in amount of retainage withheld, is strictly at the discretion of the Owner, regardless of Contractor compliance with requirements. All of the requirements noted for Substantial Completion acceptance must be completed prior to application for final release of Contract retainage. In addition, Contractor shall meet the following requirements:

- 1.5.2.1. Submit affidavits of final release of claim and lien from each subcontractor and supplier who provided materials and/or labor to the Project.
- 1.5.2.2. Submit affidavit that all bills for the Project have been paid, or will be paid within thirty (30) days of Contractor's receipt of payment.
- 1.5.2.3. Submit Consent of Surety to Release of Retainage.

#### 1.6. REQUIREMENTS FOR FINAL ACCEPTANCE

- 1.6.1. In addition to items identified in the UGC, prior to requesting a Final Completion inspection (for either the entire Work or portions thereof as agreed to by the Owner and Contractor), Contractor shall complete and/or submit the following to the Owner and list known exceptions in the request:

- 1.6.1.1. Draft Application for Final Payment showing 100% completion for each line item on the Schedule of Values. Contractor must submit with this draft, the final releases and supporting documentation not previously submitted and accepted. Contractor must include Certificates of Insurance when applicable. The Final Payment, including final release of retainage, will not be released until all Work (including Punchlist items) has been completed, all requirements met, a Project Close-Out audit performed (if deemed necessary) and a Final Change Order has been processed if required to resolve final cost or close-out audit issues, including deletion of any remaining Contract allowances.
- 1.6.1.2. Copy of Architect/Engineer's Substantial Completion Punchlist including evidence that each item has been completed or otherwise resolved.
- 1.6.1.3. Final meter readings for utilities, and similar data as of time of Substantial Completion or when Owner took possession of and responsibility for corresponding elements of the Work.
- 1.6.1.4. Final Record Documents see specification 07 78 39, Completed Commissioning and Close-Out Manual, acknowledging receipt of all attic stock, training/demonstration, test reports, and any other requirements of the Contract Documents.
- 1.6.1.5. Complete final cleaning requirements including touch-up of marred surfaces.
- 1.6.1.6. Evidence of final and continuing insurance coverage complying with applicable insurance requirements.

#### 1.6.2. FINAL ACCEPTANCE INSPECTION PROCEDURE

- 1.6.2.1. When the Contractor has completed the Work required in the Final Completion inspection Punchlist and has complied with the Close-Out requirements in this Section and elsewhere in the Contract Documents, then the Contractor shall provide a minimum of ten (10) days written notice to the Architect/Engineer and Owner that the Project is ready for a final acceptance inspection for Final Completion. Refer to the UGC for additional requirements.

- 1.6.2.2. All Owner and Architect/Engineer costs for travel and time for additional inspections at either Substantial Completion or Final Acceptance which are required either by failure of the Contractor to complete the noted Punchlist items, or by erroneous notices that the Work is ready for such inspections, shall be the responsibility of the Contractor. Owner may issue a unilateral deductive Change Order for these costs.

### 1.6.3. FINAL PAYMENT REQUEST

- 1.6.3.1. Contractor shall submit the following documentation with the Application for Final Payment:
  - 1.6.3.1.1. Final Release of Liens and Claims.
  - 1.6.3.1.2. Affidavit of Payment of Debts and Claims.
  - 1.6.3.1.3. Consent of Surety.
  - 1.6.3.1.4. Completed SWPPP Documents and Notice of Termination.
  - 1.6.3.1.5. Final Historically Underutilized Business Plan.
  - 1.6.3.1.6. Completed and Signed Notice of Termination.
  - 1.6.3.1.7. Signed Final Completion Certificate.

## PART 2- PRODUCTS

### 2.1. REQUIREMENTS FOR RECORD SAMPLES

#### 2.1.1. RECORD SAMPLES

- 2.1.1.1. Prior to date(s) of Substantial Completion, Contractor shall arrange for Architect/Engineer and Owner's representative to meet with Contractor at the Site to determine which (if any) of the submitted Samples or mock-ups maintained by Contractor during progress of the Work are to be transmitted to Owner for record purposes.
- 2.1.1.2. Contractor shall comply with Architect/Engineer's and/or Owner's instructions for packaging, identification marking, and delivery to Owner's designated location at the Site or other location as directed by Owner.
  - 2.1.1.2.1. Furnish two (2) binders of all record finishes Samples, bound in heavy-duty, 3-ring vinyl-covered binders including pocket folders for any folded sheet information. Binder content shall be divided with plastic-covered tabs for each section of each binder. Provide labels to identify binder content on both the front and spine of each binder.
  - 2.1.1.2.2. Samples shall be mounted to paper or heavy stock depending on type of sample, organized by finish type, with the following information: Type, Manufacturer, Product Number, Finish/Color, Description, Installed Location.
  - 2.1.1.2.3. Finishes Samples include, but are not limited to, the following as applicable to the Work: tile, VCT, terrazzo, stone, sheet vinyl, carpet, base, wall coverings, laminates, solid surface materials, decorative glass, paint, and wood.

- 2.1.1.3. Contractor shall dispose of other Samples in the manner specified for disposal of surplus and waste materials, unless otherwise indicated or directed by Architect/Engineer and/or Owner.

## 2.2. REQUIREMENTS FOR OPERATING AND MAINTENANCE MANUALS

- 2.2.1. Within thirty (30) days of the Notice to Proceed with Construction, Contractor shall submit to Owner the proposed format, content and organizational structure for Operating and Maintenance Manuals for Owner's review and approval. The organizational structure shall follow Owner's format for maintenance management; confirm structure with Owner.
- 2.2.2. Contractor shall make revisions and corrections to format and content as reasonably requested by Owner. After the Owner approves the proposed format, content, and organizational structure, Contractor shall create the file structure and update Operating and Maintenance Manual content as the Work progresses.
- 2.2.3. Product submittals, owner's manuals, manufacturer's printed instructions, parts lists, and other submittals required by other Sections of the Specifications shall be included in the Operating and Maintenance Manuals provided that they are approved and are formatted in a manner consistent with the requirements of this Section.
- 2.2.4. Test data and commissioning data included in the Operating and Maintenance Manuals need not be duplicated in the Commissioning and Close-Out Manual and vice versa. Test data not pertaining to a particular device or piece of equipment (such as domestic water pipe pressure test reports) must be inserted in the Commissioning and Close-Out Manual.
- 2.2.4.1. Equipment is defined as any mechanism, mechanical, electrical or electronic device, or any combination thereof, which is made up of two (2) or more working parts to perform a particular function.
- 2.2.4.2. When an item of equipment is a packaged unit furnished by one manufacturer and the package as furnished contains proprietary items of equipment obtained from other sources, Contractor shall include copies of equipment data for each item of such equipment as if each item of equipment had been separately furnished.
- 2.2.5. Manufacturers' standard printed data shall include only sheets pertinent to the product or component installed. Mark each sheet to identify each product or component incorporated into the Work. Prepare supplementary text if manufacturers' standard printed data are not available and where the information is necessary for proper operation and maintenance of equipment or systems.
- 2.2.6. Refer to individual Technical Specification Sections for additional operating and maintenance requirements.
- 2.2.7. Examples of equipment, material, and systems for which operating and maintenance data is required includes, but is not limited to, the following:

<b>Architectural / Miscellaneous</b>	<b>HVAC / Plumbing</b>	<b>Electrical / Life Safety</b>
Doors and Windows	Piping, Valves, and Fittings	Cable, Wire, and Connectors, 600 Volt
Overhead Coiling Doors and Grilles	Motors	Wiring Devices
Automatic Door Openers	Fire Protection Systems	Motor Control Centers
Door Hardware	Plumbing Equipment	Distribution Panelboards
Wall Coverings	Plumbing Specialties	Panelboards
Paint	Liquid Nitrogen System	Emergency Generator

<b>Architectural / Miscellaneous</b>	<b>HVAC / Plumbing</b>	<b>Electrical / Life Safety</b>
		Paralleling Switchgear
Floor Coverings and Base	Gas Systems	Packaged Engine Generator Systems
Stone and Terrazzo	Fuel Oil Systems	Automatic Transfer Switches
Tile	Reverse Osmosis System	Standby Power Generator Switchgear
Acoustical Ceiling Tile	Hydronic Specialties	Fuses
Decorative Glass	Steam and Steam Condensate Specialties	Switchgear
Access Flooring	HVAC Pumps	Power Factor Correction Equipment
Demountable Partitions	Chemical Treatment Systems	Transformers
Folding Operable Partitions	Chillers	Busway – 600 Volt and Below
Loading Dock Equipment	Boilers	Surge Protective Devices
Laboratory Casework	DX Air-Conditioning Systems	Motor Starters
Fume Hoods	Heat Exchangers	Power Status and Monitoring System
Biological Safety Cabinets	Humidifiers	Lighting Fixtures
Environmental Rooms	Terminal Heat Transfer Units	Lighting Control Systems
Sterilizers, Washers and Dryers	Modular Air Handling Units	UPS Equipment
Audio-Visual Equipment	Custom Air Handling Units	Fire Alarm System
Window Treatment	Fans	Communication Systems
Radiation Protection	Filters	Security System
Conveying Systems	Ductwork	
Irrigation Systems	Air Terminal Units	
Window Washing Systems	Air Outlets and Inlets	
Pneumatic Tube Systems	Variable Speed Drives	
	Building Automation System	

## 2.2.8. OPERATING AND MAINTENANCE DATA

2.2.8.1. Contractor shall furnish the following equipment data content to be Included in Operating and Maintenance Manuals:

- 2.2.8.1.1. Description of Equipment. Completed Equipment Matrix; refer to the Equipment Matrix requirements of Section 01 91 00 – General Commissioning Requirements.
- 2.2.8.1.2. Record Product Submittals. Clearly identify all options and accessories of actual installed product and variations in the actual Work in comparison with submitted information.
- 2.2.8.1.3. Parts List. Clearly identify every part in the item of equipment with the proper manufacturer's name, part nomenclature and number, local source, and list price.

- 2.2.8.1.4. Recommended Spare Parts List. For each equipment item that Owner will likely need within a 12-month period to support and operate that item of equipment. The quantities of spare parts recommended must be based upon the quantity of like equipment items installed under the Contract Documents.
- 2.2.8.1.5. Normal Operating Instructions. Detailed information to permit a journeyman mechanic to adjust, start-up, operate, and shut down the equipment. Special start-up precautions shall be noted as well as other action items required before the equipment is put into service.
- 2.2.8.1.6. Emergency Operating Procedures. Detailed description of the sequence of action to be taken in the event of a malfunction of the unit, either to permit a short period of continued operation or emergency shutdown to prevent further damage to the unit and to the system in which it is installed.
- 2.2.8.1.7. Preventive Maintenance. Detailed information to cover routine and special inspection requirements, including but not limited to, field adjustments, inspections for wear, adjustment changes, packing wear, lubrication points, frequency and specific lubrication type required, cleaning of the unit and type solvent to use, and such other measures as are applicable to preventive maintenance program.
- 2.2.8.1.8. Calibration. Detailed data on what to calibrate, how to calibrate, when to calibrate and procedures to enable checking the equipment for reliability or indications as well as data for test equipment, special tools and the location of test points.
- 2.2.8.1.9. Scale and Corrosion Control. Detailed information covering the prevention of and removal of scale and corrosion.
- 2.2.8.1.10. Trouble Shooting Procedures. Detailed information and procedures for detecting and isolating malfunctions and detailed information concerning probable causes and applicable remedies.
- 2.2.8.1.11. Removal and Installation Instructions. Detailed information concerning the logical sequence of steps required to remove and install the item including instructions for the use of special tools and equipment.
- 2.2.8.1.12. Disassembly and Assembly Instructions. Detailed illustrations and text to show the logical procedure and provide the instructions necessary to disassemble and assemble the unit properly. The text shall include all checks and special precautions as well as the use of special tools and equipment required to perform the assembly or disassembly.
- 2.2.8.1.13. Repair Instructions. Detailed repair procedures to bring the equipment up to the required operating standard including instruction for examining equipment and parts for needed repairs and adjustments, and tests or inspections required to determine whether old parts may be reused or must be replaced.
- 2.2.8.1.14. Special Tools and Test Equipment. Detailed list of the special tools and test equipment needed to perform repair and maintenance for each equipment item. The list shall contain the special tool and test equipment part number, size, quantity, price, manufacturer's name and address, and local supplier's name and address.

- 2.2.8.1.15. System Drawings. Contractor shall furnish detailed drawings, where applicable, that clearly show wiring diagrams, utility service diagrams, control diagrams, system schematics, pneumatic and fluid flow diagrams, etc., which pertain to the unit function. System drawings must show major pieces of equipment, such as chillers, boilers, heat exchangers, pumps, air handlers, tanks, switchgear, etc., as meaningful to the Project. Fluid flow and direction and valves with their valve tag identification numbers must be clearly noted on drawings. Drawings must show modifications to another manufacturer's standard unit when it is incorporated into the assembly or package unit.

## 2.2.9. WARRANTIES AND GUARANTEES

- 2.2.9.1. Contractor shall include, within the Operating and Maintenance Manual organizational structure for each system, equipment item, or material, an executed copy of the specified warranty/guarantee with warranty effective dates covering that particular system, equipment item, or material. Contractor shall include the manufacturer's warranty as specified and the installing subcontractor's and supplier's guarantee for workmanship and system operation.

## 2.3. REQUIREMENTS FOR COMMISSIONING AND CLOSE-OUT MANUAL

- 2.3.1. The Contractor shall incorporate all Commissioning and Close-Out documentation and/or verification documents not included in the Operating and Maintenance Manuals, into a separate Commissioning and Close-Out Manual for transmittal to the Owner at the conclusion of the Project. The Commissioning and Close-Out Manual is intended to be a consolidation of documentation/verification for the Project commissioning and close-out process. Update the Commissioning and Close-Out Manual throughout the Project, so that the documentation process can be expedited and monitored.
- 2.3.2. The Owner may provide a preliminary handbook with sample forms for use by the Contractor in development of the Commissioning and Close-Out Manual. Each Project may require the Contractor to revise and/or create forms for Project specific equipment. The Contractor shall review each form for approval with the Owner before using the Contractor's form.
- 2.3.3. The Commissioning and Close-Out Manual is not intended to impose duplication of Close-Out Documents. Those items and/or data that are incorporated into the Operating and Maintenance Manuals need not be included in the Commissioning and Close-Out Manual.
- 2.3.4. The Commissioning and Close-Out Manual shall include, but is not limited to, the following.
- 2.3.4.1. Commissioning documentation as described in Section 01 91 00 - General Commissioning Requirements.
- 2.3.4.2. Final air balance reports produced by the Test, Adjust, and Balance Firm.
- 2.3.4.3. Completed Valve Schedule and Fire, Fire/Smoke and Smoke Damper Schedule per Specification Section 20 05 53.
- 2.3.4.4. Owner Demonstration / Training Reports: Contractor shall furnish Training Plan and documentation of Owner's personnel training regarding operation of systems per Section 01 79 00 – Demonstration and Training and Technical Specification Sections. Contractor shall include identification of parties receiving training and date(s) of such training.
- 2.3.4.5. Paint/Finish Schedule: All paints, flooring, finishes, door hardware, used on the Project. Provide manufacturer, model number, color formula, location on Project,

purchase source, and any other information helpful to the Owner's maintenance personnel.

- 2.3.4.6. Extra Materials and Keys Checklists: Extra Materials shall be referenced to the Owner's Mainsaver Asset Number.
- 2.3.4.7. Elevator Checklist.
- 2.3.4.8. Electrical Test Reports (including factory tests and settings).
- 2.3.4.9. Miscellaneous Equipment Test Reports (including factory tests and settings).
- 2.3.4.10. HVAC Calibration Reports (including duct testing reports).
- 2.3.4.11. Fire Alarm Test Reports.
- 2.3.4.12. Piping Test Reports.
- 2.3.4.13. Sewer Video Log.
- 2.3.4.14. Code-required Certifications as described within Technical Specifications.
- 2.3.4.15. Material Safety Data Sheets (MSDS) for any and all products incorporated into the Project.
- 2.3.4.16. Miscellaneous Close-out Documents. Contractor shall provide categories of requirements resulting in miscellaneous work records including, but not be limited to, the following:
  - 2.3.4.16.1. Required field records on excavations, foundations, underground construction, wells and similar work.
  - 2.3.4.16.2. Accurate survey showing locations and elevations of underground lines, including invert elevations of drainage piping.
  - 2.3.4.16.3. Surveys establishing lines and levels of building.
  - 2.3.4.16.4. Planting material treatment records (wood, soil, etc).
  - 2.3.4.16.5. Certifications received in lieu of labels on products and similar record documentation.
  - 2.3.4.16.6. Concrete batch mixing and bulk delivery records.
  - 2.3.4.16.7. Testing and qualification of tradesmen.
  - 2.3.4.16.8. Documented qualification of installation firms.
  - 2.3.4.16.9. Materials testing reports.
  - 2.3.4.16.10. Final inspection Punchlist and deficiency corrections.
- 2.3.4.17. All original, signed Project warranties and guarantees.

## PART 3- EXECUTION

### 3.1. REQUIREMENTS FOR CLOSE-OUT DOCUMENT SUBMISSION

3.1.1.1. Verify that all pages on every document have been scanned. All documents shall be scanned with optical character recognition (OCR) technology. Review each page to ensure that the scan captures original detail. If images appear too dark or too light, or smudged, rescan the page to ensure proper image quality and legibility. Color charts or other documents where color is required to convey full information shall be scanned in color.

3.1.2. .

3.1.3. .

### 3.2. PROJECT CLEANING AT SUBSTANTIAL COMPLETION

3.2.1. The Contractor shall maintain the Project and the Site in a clean and orderly condition throughout the course of construction. In addition to continuous Project cleaning, the following requirements are related to Project Close-Out. Special cleaning for specific units of Work may also be specified in other Sections of Project Specifications.

3.2.2. Contractor shall perform an initial cleaning of the Work consisting of cleaning each surface or unit of Work to normal "clean" condition expected for a first-class building cleaning and maintenance program.

3.2.3. Contractor shall comply with manufacturer's instructions for cleaning of all system components, equipment, and materials incorporated into the Project.

3.2.4. Contractor shall perform the following "initial" final cleaning immediately prior to the time the Contractor requests Substantial Completion inspection.

3.2.4.1. Remove labels that are not required as permanent labels.

3.2.4.2. Clean, according to manufacturer's recommendations, exposed hard-surfaced finishes, including glass, metals, stone, concrete, painted surfaces, plastics, tile, wood, special coatings, and similar surfaces, to a dirt-free condition, free of dust, stains, films and similar noticeable distracting substances. Restore reflective surfaces to original condition.

3.2.4.3. Remove debris and surface dust from limited-access spaces including plenums, shafts, and similar spaces.

3.2.4.4. Clean concrete floors in non-occupied spaces, wet-mop and broom clean.

3.2.4.5. Clean fixtures of all dust and debris. Replace lamps in accordance with Technical Specifications after final Project cleaning.

3.2.4.6. Remove crates, cartons and other flammable waste materials or trash from the Site. Provide Owner with a finished Project that is free of concealed garbage, trash and rodent infestation. If concealed garbage, trash and rodent infestation are revealed, or odors from them occur, Contractor shall remove and correct at the Contractor's expense. Restore property to its original condition where no improvements are shown.

3.2.4.7. Clean spaces such as elevator shafts, equipment rooms, pipe and duct chases, furred spaces, and other similar unfurnished space to leave free from rubbish, loose plaster, mortar drippings, extraneous construction materials, dirt, and dust.

3.2.4.8. Remove rubbish by way of chutes, taken down on hoists, or lowered in receptacles. Contractor shall not remove rubbish or waste by dropping or throwing from one level to another within or outside the building(s).

3.2.5. Contractor shall not mark, soil or otherwise deface finished surfaces. If Contractor marks, soils, or otherwise defaces finished surfaces, Contractor shall bear all costs for cleaning and restoring such surfaces to their originally intended condition.

### 3.3. PROJECT CLEANING AT FINAL ACCEPTANCE

3.3.1. Contractor shall complete the following "final" cleaning immediately prior requesting a Final Completion inspection:

3.3.1.1. Clean transparent materials, including mirrors and window/door glass, to a polished condition, removing substances that are noticeable as vision-obscuring materials.

3.3.1.2. Turn the work over in immaculate condition inside and outside the premises.

3.3.1.3. Clean all work on the premises including walks, drives, curbs, paving, fences, grounds and walls. Provide a clean shine on slick surfaces. Remove smudges, marks, stains, fingerprints, soil, dirt, paint, dust, lint, labels, discolorations and other foreign materials.

3.3.1.4. Clean all finished surfaces on interior and exterior of Project including floors, walls, ceilings, windows, glass, doors, fixtures, hardware and equipment. Final wax and polish all natural finish metal on interior or exterior surfaces. Clean and apply finish (including wax) to all floors as recommended by the manufacturer and accepted by Owner.

3.3.2. In addition to the cleaning specified above and more specific cleaning required in the various technical Specifications, Contractor shall prepare the building(s) for occupancy by a thorough cleaning throughout, including washing (or cleaning by approved methods) surfaces on which dirt or dust has collected, and by washing glass on both sides leaving a smear-free shine. Contractor shall wash exterior glass using a window-cleaning contractor specializing in such work.

3.3.3. Contractor shall remove temporary buildings and structures, fences, scaffolding, surplus materials and rubbish of every kind from the Site. Contractor shall repair these areas to be compatible with the surrounding construction finished condition.

**END OF SECTION 01 77 00**

## **SECTION 01 78 39 – PROJECT RECORD DOCUMENTS**

### **PART 1 - GENERAL**

#### **1.01 RELATED DOCUMENTS**

- A. The Contractor's attention is specifically directed, but not limited, to the Uniform General Conditions for University of Texas System Building Construction Contracts (UTUGCs) for other requirements.
- B. Drawings and general provisions of the Contract, including Division 00 and other Division 01 Specification Sections, apply to this Section.
- C. Specifications throughout all Divisions of the Project Manual are directly applicable to this Section, and this Section is directly applicable to them.
- D. General project closeout requirements are included in Section 01 77 00, Project Close-out Procedures.
- E. General requirements for submittal of Shop Drawings and Product Data are included in the UTUGCs and Section 01 31 00, Project Administration.

#### **1.02 SUMMARY**

- A. This Section specifies administrative and procedural requirements for Project Record Documents to be prepared and submitted by the Contractor and the Architect/Engineer, which include but are not limited to:
  - 1. Record Documents
  - 2. Record Drawings
  - 3. Record Specifications
  - 4. Final Drawings
  - 5. Final Specifications

#### **1.03 REFERENCE STANDARDS**

- A. The latest published edition of a reference shall be applicable to this Project unless identified by a specific edition date.
- B. All reference amendments adopted prior to the Effective Date of this Agreement shall be applicable to this Project.

#### **1.04 DEFINITIONS**

- A. The following terms used within the Section are defined in the UTUGCs, unless otherwise defined herein:
  - 1. Contract Documents
  - 2. Construction Documents
  - 3. Drawings

4. Final Drawings: The Drawings from the Contract Documents that have been professionally electronically drafted reflecting the as-constructed conditions of the Work based upon the information provided by the Contractor as reflected in the Record Documents.
  5. Final Specifications: Specification section of the Project Manual compiled, and incorporating all additions and edits to the Specification issued to Contractor for construction.
  6. Project Workspace: Is the Owners Internet-based Project Management System
  7. Record Documents
  8. Records Document Edit Log: A log documenting all markings or information added to the Record Documents.
  9. Record Submittal: Approved product submittal and Shop Drawing, including documentation of all Architect/Engineer and Owner comments.
  10. Shop Drawings
  11. Specifications
  12. Submittals: Shop drawings, material data, samples, and product data to verify that the correct products and quantities will be installed on the project.
  13. Supplemental Documents: Examples of Supplemental Documents include, but are not limited to: HVAC ductwork, hydronic and plumbing piping, sprinkler piping, switchgear, and custom air handling units.
- B. Redline Documents: See Record Documents.
- C. As-Built Drawings: See Record Documents.
- D. Final Specifications – Specification section of the Project Manual compiled, incorporating all additions or edits to the specification issued to contractor for construction.
- E. Final Drawings: The Drawings from the Contract Documents that have been professionally electronically drafted reflecting the as-constructed conditions of the Work from the Record Documents.

## **PART 2 - PRODUCTS**

### **2.01 REQUIREMENTS FOR RECORD DOCUMENTS**

- A. During progress of the Work, Contractor shall maintain a set of Record Documents and Shop Drawings at the Site. Contractor must update these documents weekly, at a minimum, with mark-ups of actual installations that vary from the Work as originally shown. Contractor shall include all Drawings issued as addenda, clarifications, or Change Orders.
- B. Contractor shall maintain and have available for review in conjunction with project progress meetings, a current set of the marked-up Record Documents and Shop Drawings. Availability for review and acceptability of both the format and content are prerequisites for certification and acceptance of the Application for Payment by the Owner and Architect/Engineer.
- C. Contractor shall not use Record Documents for construction purposes. Contractor must protect Record Documents from deterioration and loss in a secure location.

## 2.02 RECORD DOCUMENTS EDIT LOG

- A. During progress of the Work, Contractor shall update the Record Documents Edit Log each time updates or edits are made, or information is added, to the Record Documents and shall review the log with the Owner prior to submitting each monthly Application for Payment.
- B. The Record Documents Edit Log shall include the following information as a minimum;
  - 1. Date Edited.
  - 2. Name and Company of Person Making Edit.
  - 3. Edit Type: RFI, Change Order/Request for Proposal, Field Change, Red Line, Supplemental Document, and Revision/ASI.
  - 4. Reference: name and number of the source document if applicable, such as Change Order or RFI number.
  - 5. Sheet(s) Edited.
  - 6. Description of Edit, unless documented by an RFI, Change Order, or Field Change.
- C. Refer to Attachment "A" for Owner's template for the Record Documents Edit Log

## 2.03 RECORD DRAWINGS

- A. Contractor must mark-up Drawings that are most compatible for showing actual physical condition, fully and accurately and must reference all other appearances of this Work to the updated sheet. Contractor must include cross-references to the Change Order number on the updated Drawing sheet and all additional sheets where the Work is shown.
  - 1. Contractor must mark-up with erasable colored pencil, in a legible and professional manner using separate colors where feasible, to distinguish between changes for different categories of Work at the same general location.
  - 2. Contractor must mark-up important additional information, which was either shown schematically only or omitted from the Construction Documents. Contractor must give particular attention to information on concealed work that would be difficult to identify or measure and record at a later date.
  - 3. Contractor must require each person preparing mark-ups to initial and date the mark-ups and indicate the name of their company
  - 4. If Supplemental Drawings are used, Contractor must follow the requirements below for Supplemental Drawings.
  - 5. In association with Contractor's request for Substantial Completion inspection, Contractor must submit one (1) copy of the marked-up record drawings to Project Workspace for Owner review. Drawings shall be scanned and indexed in Adobe PDF format.

## 2.04 SUPPLEMENTAL DOCUMENTS

- A. The use of Shop Drawings and/or fabrication drawings as supplements to the final record drawings is required for all items in which the larger scale employed on the Shop Drawings is needed to show the work in sufficient detail for Owner's future use. When marked-up Shop Drawings are included in the Record Documents, Contractor must mark-up and cross-reference on the Contract Drawings at the corresponding location.

- B. During maintenance and updating of the Record Drawings, the applicable Supplemental Documents must be placed in the set directly behind the Drawing that it supplements, with appropriate reference notes on both the applicable Record Drawing and all other affected drawings.
- C. The Supplemental Document must be identified as a Record Document and must be numbered with an extension to the Drawing it supplements in a manner acceptable to the Owner.

## 2.05 RECORD SPECIFICATIONS

- A. It is mandatory that all changes to specified materials, installation, warranty, etc. be clearly and fully marked within the applicable Specification section in a manner acceptable to the Architect/Engineer and the Owner. Contractor shall review with the Owner and document an acceptable procedure early in the construction phase.
- B. Contractor must give particular attention to substitutions, selection of options, and similar information on work where the exact products used are not clearly identified or readily discernible in the original Specifications. When applicable, Contractor must cross-reference related Record Drawing information and product data.
- C. Contractor must neatly transcribe and post all marked-up information to a "clean" copy of the Specifications, ensuring that similar types of information are annotated in like fashion throughout the Specifications.
- D. In association with Contractor's request for Substantial Completion inspection, Contractor must submit the marked-up Site copy of the Record Specifications to the Owner for review. Upon the Owner's acceptance that the Record Specifications are accurate and complete, the Architect/Engineer will proceed with preparation of Final Specifications.

## 2.06 RECORD SUBMITTALS

- A. During progress of the Work, Contractor shall maintain copies of each approved product submittal and Shop Drawing, including documentation of all Architect/Engineer and Owner comments. Contractor shall include variations in product as delivered to the Site and variations from manufacturer's instructions and recommendations for installation.
- B. Contractor shall give particular attention to concealed products and portions of the Work that are not clearly identified in the original Submittal or cannot otherwise be readily discerned at a later date by direct observation. Contractor shall cross reference to change orders and record drawings and specifications.
- C. These Record Submittal requirements are in addition to inclusion of similar material as Supplemental Drawings or data for Operating and Maintenance Manuals.

## PART 3 - EXECUTION

### 3.01 SUBMISSION

- A. Prior to requesting Substantial Completion, Contractor shall submit all Record Documents via Project Workspace.
  - 1. Contractor is responsible for each Subcontractor submission and coordination of Record Documents.
  - 2. Contractor shall submit to the Owner and Architect/Engineer, a PDF indexed with scanned color copies of each Record Drawing.

3. Submit all Record Documents related to each Subcontractor's particular Work, whether or not changes and additional information were recorded.

**END OF SECTION 01 78 39**

# ATTACHMENT "A" – RECORD DOCUMENTS EDIT LOG

Download an Electronic Version of the Record Documents Edit Log template at the following Internet Address

<http://www2.mdanderson.org/depts/cpm/standards/supp.html#templates>

## RECORD DOCUMENTS EDIT LOG

This log is used to capture all edits and changes made to the record documents (drawings, specifications, approved submittals). When making ANY edit/change to the record documents, the person making the edit/change shall document it by making an entry in this log. By keeping this log, all project stakeholders can easily see what has been done to the record documents. This will help ensure a complete set of record documents, make it easier to coordinate record document maintenance between all parties, and improve the quality of the final product.

Edit Types		
Abbreviation	Edit Type	Example/Notes
RFI	Request for Information	Changes/clarifications made to the contract documents by RFI's.
CO/RFP	Change Order or Request for Proposal	The Change Order is the official change document, but reference to the RFP may be necessary if the CO is in process.
Field Change	Field Change	A change that was made without an initiating document that is within the allowable tolerances. If the change is followed up on with an RFI, RFP/CO then it is no longer a field change.
Red Line	Red Line, As-Constructed, Omitted or Not Shown in drawings	This is for work that is not specifically shown in the drawings. For example, the electrical circuit locations may not be shown in the design, but the electrical sub-contractor has drawn them on the contract drawing sheet.
Sup. Doc.	Supplemental Document	Shop Drawings, sketches, schematics that show the work in greater detail and are intended to be included with the final as-built documents. Could be issued by any party. MEP shop drawings are required to be included with the record documents.
Revision/ASI	Revisions or Architect's Supplemental Instructions	Changes/clarifications made to the contract documents by ASI's or revisions issued by A/E
Addendum	Addendum	Changes/clarifications made to the contract documents by Addenda.

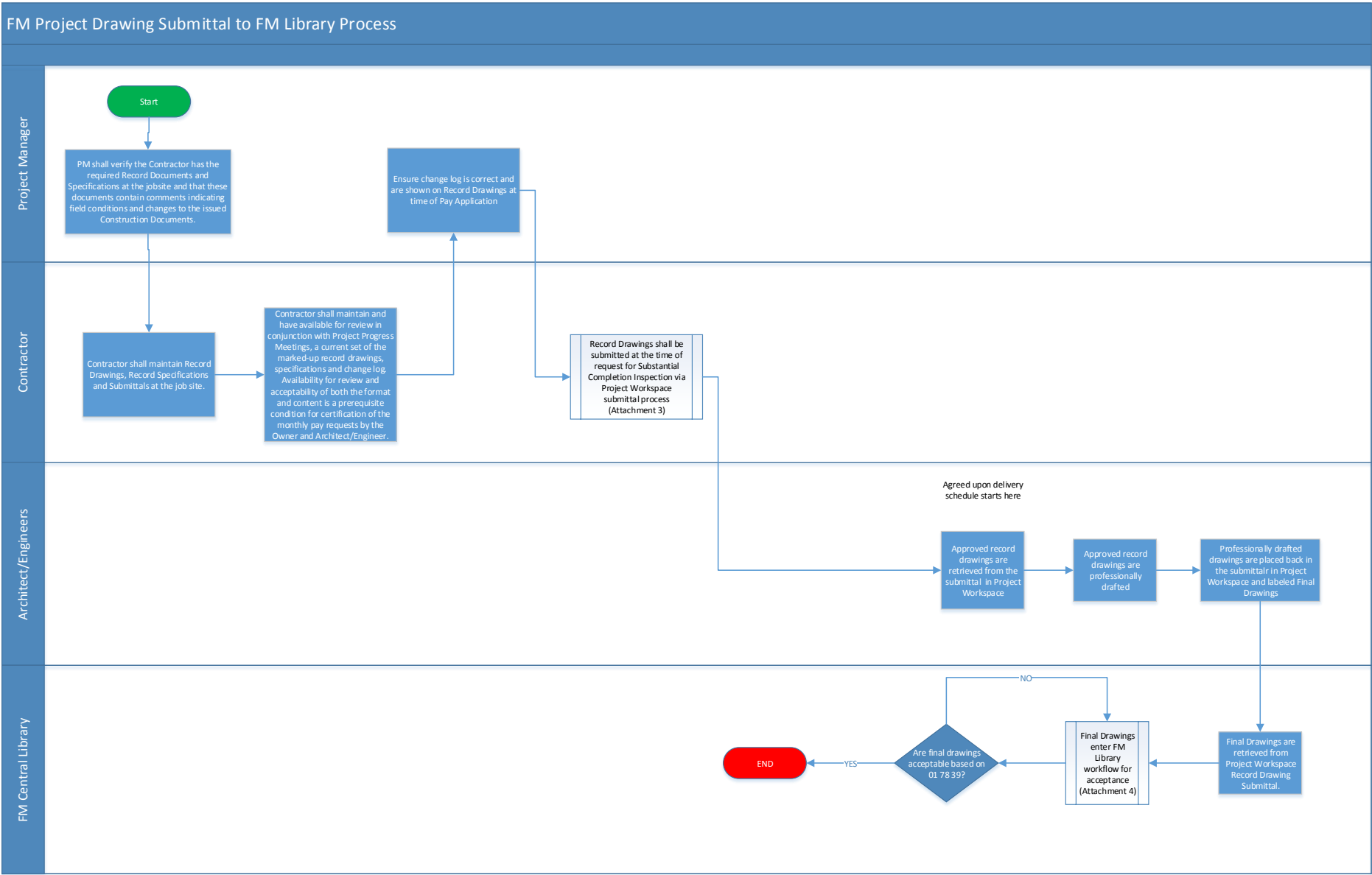
Date Edited MM / DD / YYYY	Name and Company of Person Making Edit	Edit Type(s) Select all that apply	Reference Ex. RFI-123	Sheet(s) Edited	Description of Edits
/ / 201		<input type="checkbox"/> RFI <input type="checkbox"/> CO/RFP <input type="checkbox"/> Field Change <input type="checkbox"/> Red Line <input type="checkbox"/> Sup. Doc. <input type="checkbox"/> Revision/ASI <input type="checkbox"/> Addendum <input type="checkbox"/> Other:	<input type="checkbox"/> N/A		
/ / 201		<input type="checkbox"/> RFI <input type="checkbox"/> CO/RFP <input type="checkbox"/> Field Change <input type="checkbox"/> Red Line <input type="checkbox"/> Sup. Doc. <input type="checkbox"/> Revision/ASI <input type="checkbox"/> Addendum <input type="checkbox"/> Other:	<input type="checkbox"/> N/A		

Project # and Name:

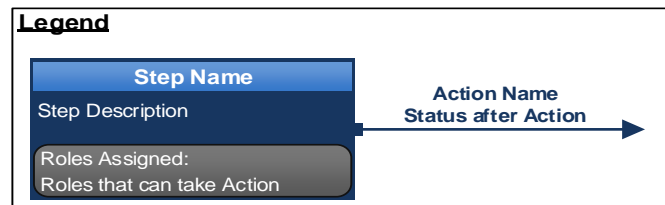
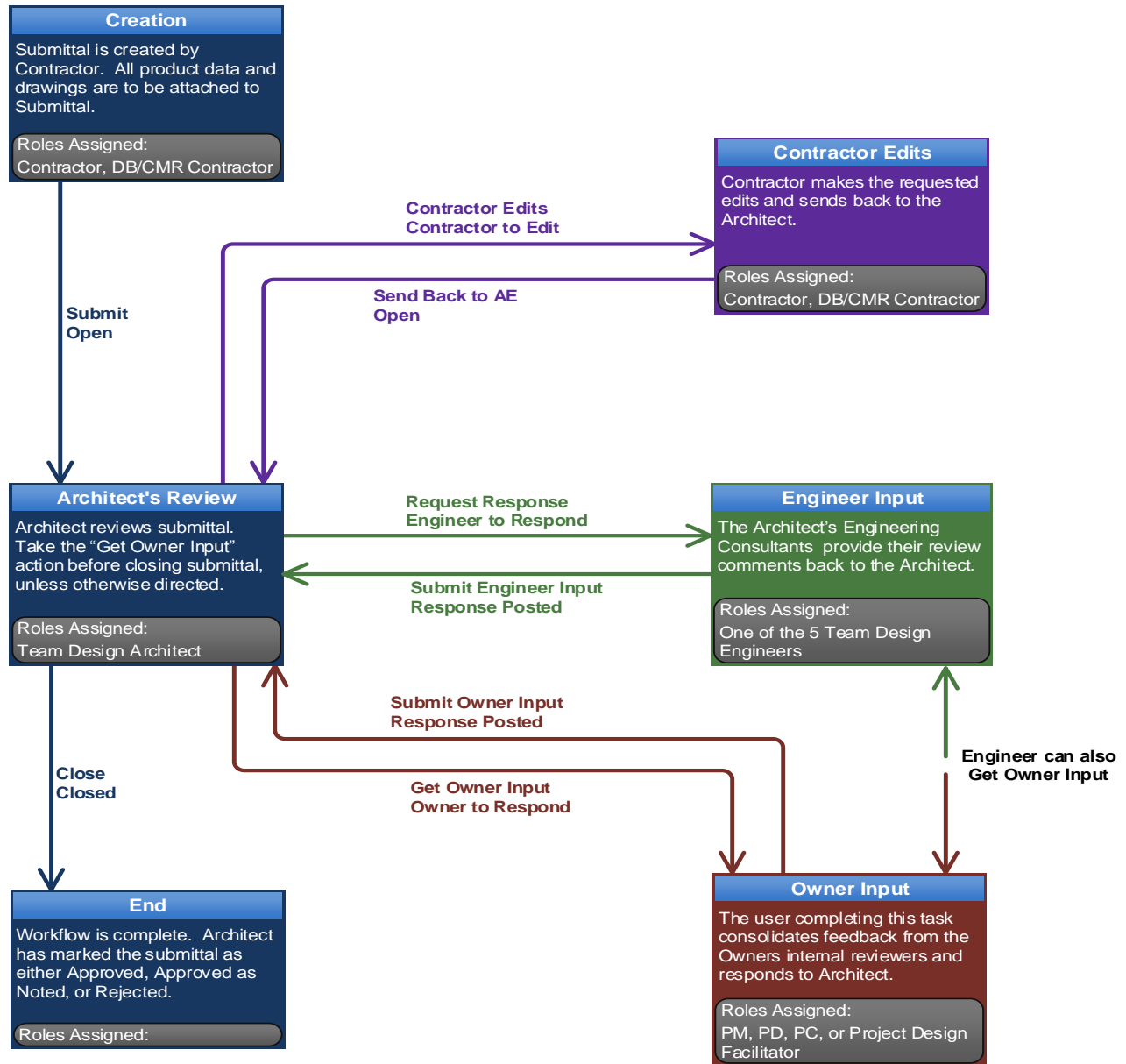
GC:

Primary Contact for Record  
Documents:

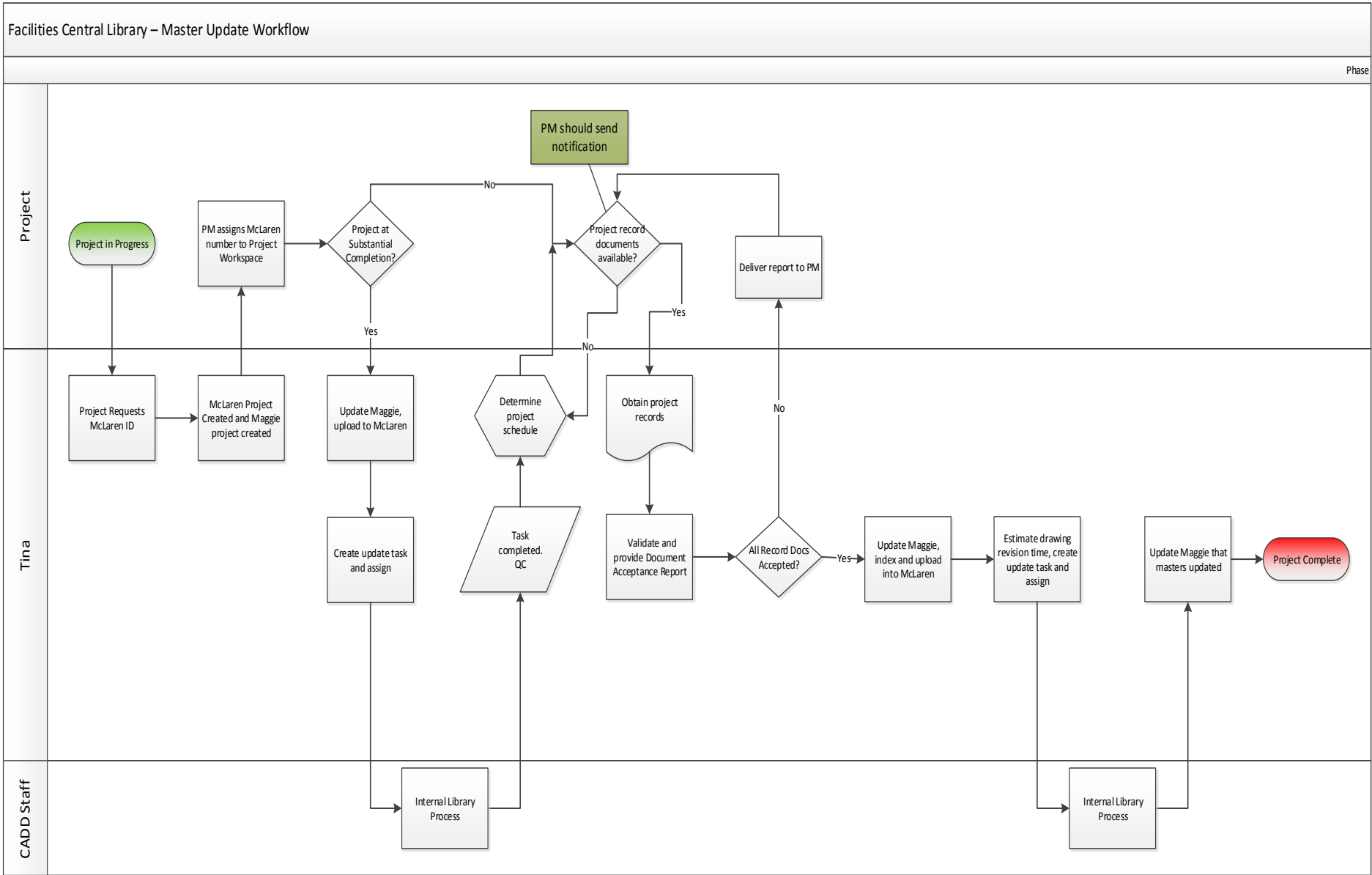
ATTACHMENT “B” – DRAWING SUBMITTAL TO FM LIBRARY PROCESS



# PROJECT WORKSPACE SUBMITTAL WORKFLOW



ATTACHMENT “D” – FACILITIES CENTRAL LIBRARY WORKFLOW



## **SECTION 01 78 46 – MAINTENANCE MATERIALS**

### **PART 1 - GENERAL**

#### **1.01 RELATED DOCUMENTS**

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.
- B. Specifications throughout all Divisions of the Project Manual are directly applicable to this Section, and this Section is directly applicable to them.

#### **1.02 SUMMARY**

- A. Section includes minimum requirements for surplus maintenance materials of the same production run of installed products (attic stock) to be furnished as part of the Project and that Contractor shall deliver to Owner's designated storage facility.
- B. Furnish maintenance materials as described within Part 2 – Schedule of Maintenance Material Items.

#### **1.03 DEFINITIONS**

- A. Maintenance Materials: Additional material designated within this Section intended to match and replace non-standard products installed in this Project. Non-standard products may include materials that require a specific color or pattern.
- B. Spare Parts: Parts, tools, service kits, or equipment components that are included in the purchase of the original equipment and are provided by the original equipment manufacturer for use by the Owner.
- C. Perishable Items: Items such as paint, coatings, adhesives, batteries, and other items with a finite shelf life.

#### **1.04 DELIVERY, STORAGE AND HANDLING**

- A. Prepare items for storage as follows:
  - 1. Items shall be delivered in undamaged, original packing, or packaged in a protective covering for storage.
  - 2. Item description, manufacturer's name and model number where applicable, quantity, MD Anderson project name, and MD Anderson building name shall be clearly marked on a visible surface of the packaging.
  - 3. Mechanical rooms, electrical rooms, telecommunications, and other service areas shall not be used as storage or staging areas unless Contractor obtains prior written approval from the Owner's property manager and Environmental Health and Safety representative.
- B. Contingent Storage Locations:
  - 1. 501; Physical Plant Building (VPW) – Bastrop Campus
  - 2. 257; Warehouse And Physical Plant (SAT) – Smithville Campus

C. Delivery:

1. Deliver materials directly to an Owner-approved, designated storage or warehouse facility, confirmed prior to delivery.

**PART 2 - PRODUCTS**

2.01 GENERAL

- A. All materials shall meet or exceed all applicable referenced standards, federal, state and local requirements, and conform to codes and ordinances of authorities having jurisdiction.
- B. All maintenance materials required are referenced in this specification section.

**2.02 TENTATIVE SCHEDULE OF MAINTENANCE MATERIAL ITEMS**

- A. Contractor shall coordinate the final material items as well as respective quantities with the Owner prior to issuance of Job Order Proposal.

Specification	Material Item Description	Furnished Quantity
08 71 11	Door Hardware - Keying	Furnish a complete set of specialized tools for removal and replacement of door hardware. Furnish six (6) master keys and three (3) change keys per key set. All keys and final cores are to be provided direct to Owner by this supplier.
09 30 00	Tile and Trim Units	Full size units equal to 3 percent of amount installed, for each type, composition, color, pattern, and size
09 51 00	Acoustical Ceiling Units,	Acoustical Ceiling Units: Full size units equal to 2.0 percent of amount installed.
09 51 00	Suspension System Components	Suspension System Components: Furnish quantity of each component equal to 2.0 percent of amount installed.
09 65 13	Resilient wall base	Furnish not less than 10 linear feet for each 500 linear feet or fraction thereof of each different type and color of resilient wall base installed.
09 65 16	Resilient sheet floor covering	Furnish not less than 10 linear feet for each 500 linear feet or fraction thereof, in roll form of each different composition, wearing surface, color, and pattern of resilient sheet floor covering installed.
09 68 00	Broadloom Carpet	Full width for each type of material equal to 5 percent of amount installed.
09 68 00	Carpet Tile	Full size tiles for each type of material equal to 10 percent of amount installed
09 69 00	Standard Field Panels and Understructure	Standard Field Panels and Understructure: Furnish quantity of standard field panels and understructure components to support them equal to 2 percent of the amount installed.

09 72 00	Wall covering	Furnish quantity of full size rolls equal to 5 percent of amount of each wallcovering material installed.
09 84 33	Acoustical Wall Treatment Panels	Furnish quantity of full size rolls equal to 10 percent of amount of each wallcovering material installed.
09 97 00	Multi-Color Interior Coating	Multi-Color Interior Coating: Furnish quantity equal to 2 percent of amount applied, but not less than one gallon, for each color and pattern installed.
10 22 19	Demountable partition system	Deliver to the Owner, not less than three percent of the Project total for each component, panel and accessory of each type, color, and finish of demountable partition system exclusive of material required to properly complete installation. Furnish accessory components and installation tools as indicated on schedule.
10 26 00	Wall and corner guard, and wall protection material	deliver to Owner not less than 2 percent of each type, color, and pattern of wall and corner guard, and wall protection material
10 56 26	Mobile high density shelving systems	Replacement Materials: After completion of Work, deliver accessory components as required. Furnish replacement materials from same production run as materials installed.
14 21 00	Electric Traction Elevators	Provide to Owner any proprietary tools, manuals, adjuster manuals, parts lists, software / hardware updates including programming software for all microprocessor based equipment, etc. Provide two complete sets of full-height blankets for each car size.
20 05 16	Piping Expansion Compensation - Extra Materials	Provide two (2) 12-ounce containers of packing coverage for leak-free performance of expansion joints.
21 10 13	Wet Standpipe & Sprinkler System - Extra Materials	Provide supply of spare heads of each type installed under the Contract in quantities as required by National Fire Protection Association Standard No. 13. The heads shall be packed in a suitable wall mounted sprinkler cabinet and shall be representative of and in proportion to, the number of each type and temperature rating installed. In addition to the spare heads, the Contractor shall provide not less than three special sprinkler head wrenches for each type of head.
21 13 16	Preaction Sprinkler Systems - Extra Materials	Provide supply of spare heads of each type installed under the Contract in quantities as required by National Fire Protection Association Standard No. 13. The heads shall be packed in a suitable wall mounted

		sprinkler cabinet and shall be representative of and in proportion to, the number of each type and temperature rating installed. In addition to the spare heads, the Contractor shall provide not less than three special sprinkler head wrenches for each type of head.
21 31 13	Fire Pumps - Maintenance Service / Parts	Furnish service and maintenance of fire pump, driver, and controller for one year from date of Substantial Completion. Provide one complete set of gaskets, screens and seals for each pump type and model supplied.
22 10 00	Plumbing Piping - Extra Materials	Provide one differential pressure meter kit for use with domestic hot water return circuit balancing valves installed within this project. Kit shall include differential pressure gauge, hoses with 90 micron inline filters, readout probes, circuit setter calculator and carrying case.
22 10 30	Plumbing Specialties - Extra Materials	Provide two loose keys for each type of wall hydrant box. Provide manufacturer's standard test kit for each type of backflow preventer installed.
22 11 23	Domestic Water Pressure Boosting Systems (VFD) - Extra Materials	Provide one (1) spare variable frequency drive for each equivalent horsepower motor included within the system.
22 20 23	Natural Gas Piping - Extra Materials	Provide one (1) plug valve wrench for every ten (10) plug valves sized 2 inches and smaller, minimum of one. Provide each plug valve sized 2-1/2 inches and larger with a wrench incorporating a setscrew.
22 31 16	Domestic Water Softeners - Extra Materials	Salt for Brine Tanks: Furnish same form as and at least four times original load, but not less than 200 pounds. Provide Water testing kit.
22 33 13	Electric Instantaneous Domestic Water Heaters - Extra Materials	Provide one heating element for each size and type of heater element provided within this project.
22 40 00	Plumbing Fixtures - Extra Materials	Provide two service kits for each type of faucet, flush valve, shower/tub valve & all other trim/accessories having serviceable parts
22 45 00	Emergency Shower & Eye Wash Equipment - Extra Materials	Provide manufacturer's drench shower tester for each emergency shower installed.
22 66 53	Laboratory Waste and Vent Piping (PP/Duriron)	Provide pipe grooving tools after completion of the job. Tools shall be of same manufacturer as pipe and capable of grooving all sizes of thermoplastic piping installed.

22 66 54	Laboratory Waste and Vent Piping (Glass/Duriron	Provide glass cutting tools after completion of the job. Cutting tools shall be of same manufacturer as pipe and capable of cutting all sizes of piping installed.
23 05 13	Variable Frequency Drives - Extra Materials	(2) insulated-handle tools designed for pulling fuses (ANSI/ IEEE C37.46) Refer to Section 26 28 13 for fuse requirements.
23 21 23	HVAC Pumps - Extra Materials	Provide (1) set of replacement seals for each size pump
23 21 30	Hydronic Specialties - Extra Materials	Provide one differential pressure meter kit from the installed balancing valve manufacturer for use with circuit balancing valves installed within this project. Kit shall include meter, hoses, connection accessories, circular slide rule, carrying case and valve manufacturer's curve charts. If the contractors scope of the project is a renovation in an existing building and the balance valves match existing manufacturer and models the contractor shall inquire with Owners maintenance staff if a meter kit is required.
23 40 00	Filters - Extra Materials	Furnish (1) extra set of new filters for each filter bank after substantial completion including but not limited to: replaceable throwaway, replaceable dry type medium and high efficiency, high efficiency caissons
23 40 13	Filters - Extra Materials	Furnish one (1) extra set of new filters for each filter bank after Substantial Completion, including but not limited to the following: 1. Replaceable throwaway. 2. Replaceable dry type medium and high efficiency. 3. High efficiency caissons carbon absorber media. Furnish two (2) extra sets of new disposable filter media for each filter bank after Substantial Completion, for the following: Charged media ionizing air filtration systems
23 72 23	Energy Recovery Units - Extra Materials	Furnish (2) sets of each filter type specified. Furnish two (2) sets of all types and size of belts for each driven component.
23 73 22	Site Built Custom Air Handling Units	Furnish and install one complete set of new filters for each unit after it has been tested and operated and receives final acceptance by the Owner.
23 73 24	Custom Air Handling Units w/ Fan Array Systems - Extra Materials	(1) additional set of specified filters for each unit, packaged for storage after each unit has been tested and operated, tag products to identify associated unit

23 81 23	Computer Room Air Conditioning Units - Extra Materials	Provide an additional set of filters for each CRACU
23 84 14	Electric Steam Grid Humidifiers	Provide six extra disposable humidifier cylinders for each unit.
26 23 13	600 Volt Emergency Generator Paralleling Switchgear	Provide: Keys. Six spares for each type of switchgear cabinet lock. Touchup Paint. Three 0.5 pint (250 mL) containers of paint matching enclosure finish. Indicating lights. One for every ten of each type and rating installed. Furnish at least one of each type. Spare fuses: Potential transformer uses. One for every ten of each type and rating installed. Furnish at least one of each type. Control power fuses. One for every ten of each type and rating installed. Furnish at least one of each type.
26 28 13	Fuses, 600 Volt	Provide (1) set of spare fuses (3 fuses) of each size and type used on the project in a keyed lockable fuse cabinet (keyed to Owner's master electrical key) Fuse cabinet to be mounted in main switchgear room of the building as designated by Owner.
26 36 24	5KV Automatic Transfer Switches	Spare 5kV fuses: Furnish one set of spare fuses (3 fuses) of each size and type used on the Project in a keyed lockable fuse cabinet (keyed to Owner's master electrical key). Fuse cabinet to be mounted in the room, building space where the 5kV automatic transfer switches are installed or as designated by the Owner.
26 51 00	Lighting Fixtures	Provide a stock of replacement lamps in original cartons or packing sleeves, amounting to (10%) not less than (2) lamps in each case, of each type and size
28 30 00	Fire Alarm & Smoke Detector Systems - Extra Materials	The installing fire alarm Subcontractor shall furnish a total of 1 percent of the total devices installed, or a minimum amount of one device per quantities shown, including: 1. Smoke detector bases and heads. (Minimum one device per first 25 installed) 2. Heat detector bases and heads. (Minimum one device per first 25 installed)

		3. Manual pull stations. (Minimum one device per first 25 installed) 4. Audio/visual devices. (Minimum one device per first 15 installed) 5. Magnetic holdbacks. (Minimum one device per 15 first installed) 6. Duct detector bases, heads (Minimum one device per first 15 installed) 7. Addressable monitor modules. (Minimum one device per first 15 installed) 8. Addressable control modules. (Minimum one device per first 5 installed) 9. Remote indicators. (Minimum one device per first 5 installed) 10. For any project requiring more than 20 pull stations, two (2) stopper II type pull station covers shall be provided to the Owner as spare parts.
32 80 00	Irrigation Systems - Spares & Special Tools	Provide (2) spare sprinkler heads of each size & type, Provide four valve keys with 3/4 inch swivel hose ells.

## 2.03 SPARE PARTS

- A. The Owner's property manager or maintenance supervisor for the Project building is responsible for the acceptance and storage of spare parts.
- B. Items included with the purchase of materials or equipment that are considered spare or replacement parts are the property of MD Anderson and shall be submitted to the area for acceptance and storage.
- C. Installation aids, transportation tools and all items that are not deemed as spare parts shall be disposed of per Owner's waste disposal policies, or may be retained by the Contractor.

## PART 3 - NOT USED

**END OF SECTION 01 78 46**

**THIS SPECIFICATION HAS BEEN PREPARED AND IS BEING ISSUED FOR THE PROCUREMENT OF JOB ORDER CONTRACTING (JOC) SERVICES. IT IS BEING ISSUED TO PROVIDE THE CONTRACTOR WITH AN INDICATION OF OWNER'S EXPECTATIONS WITH RESPECT TO THE PROVISION OF DEMONSTRATION AND TRAINING FOR EQUIPMENT, SYSTEMS OR BOTH THAT ARE INSTALLED BY CONTRACTOR AS PART OF THE WORK ASSOCIATED WITH A GIVEN JOB ORDER. SPECIFIC REQUIREMENTS WILL BE SET FORTH IN THE JOB ORDER REQUEST FOR PROPOSAL.**

## **SECTION 01 79 00 - DEMONSTRATION AND TRAINING**

### **PART 1 - GENERAL**

#### **1.01 RELATED DOCUMENTS**

- A. Drawings and general provisions of the Contract, including General Conditions and Division 01 Specification Sections, apply to this Section.
- B. Specifications throughout all Divisions of the Project Manual are directly applicable to this Section, and this Section is directly applicable to them.

#### **1.02 SUMMARY**

- A. This Section includes administrative and procedural requirements for instructing Owner's personnel, including the following:
  - 1. Demonstration of systems, subsystems, and equipment operation.
  - 2. Training in operation and maintenance of systems, subsystems, and equipment.
  - 3. Demonstration and training video recordings.
- B. Refer to individual Technical Specification Sections for additional demonstration and training requirements related to systems and components.
- C. Demonstration and training shall follow successful system and equipment start-up and Owner acceptance of commissioning tests as described in Section 01 91 00 – General Commissioning Requirements.

#### **1.03 QUALITY ASSURANCE**

- A. Facilitator Qualifications: A firm or individual experienced in training or educating maintenance personnel in a training program similar in content and extent to that indicated for this Project, and whose work has resulted in training or education with a record of successful learning performance.
- B. Instructor Qualifications: A factory-authorized service representative, experienced in operation and maintenance procedures and training.

#### 1.04 SUBMITTALS

- A. Training Plan: Submit outline of instructional program for demonstration and training, including a list of training modules and a schedule of proposed dates, times, length of instruction time, and instructors' names for each training module. Include learning objective and outline for each training module. Refer to Owner's Commissioning Process Templates for example forms of the Training and Orientation Agenda and Staff Training and Orientation Record.
  - 1. Indicate proposed training modules using manufacturer-produced demonstration and training video recordings for systems, equipment, and products in lieu of video recording of live instructional module.
- B. Qualification Data: For facilitator and/or instructor.
- C. Attendance Record: For each training module, submit list of participants and length of instruction time.
- D. Evaluations: For each participant and for each training module, submit results and documentation of performance-based test.

#### 1.05 CLOSEOUT SUBMITTALS

- A. Demonstration and training video recordings, including pre-produced video recordings as applicable: Submit two (2) copies within seven (7) days of end of each training module.
  - 1. Identification: On each copy, provide an applied label with the following information:
    - a. Name of Project.
    - b. Name and address of videographer.
    - c. Name of Architect.
    - d. Name of Contractor or Construction Manager.
  - 2. Transcript: Prepared and bound in format matching Operating and Maintenance Manuals. Mark appropriate identification on front and spine of each binder. Include a cover sheet with same label information as the corresponding video recording. Include name of Project and date of video recording on each page.
  - 3. At completion of training, submit complete training manual(s) for Owner's use prepared and bound in format matching Operating and Maintenance Manuals and also in PDF electronic file format.

#### 1.06 COORDINATION

- A. Coordinate instruction schedule with Owner's operations. Adjust schedule as required to minimize disrupting Owner's operations and to ensure availability of Owner's personnel.
- B. Coordinate instructors, including providing notification of dates, times, length of instruction time, and course content.

- C. Coordinate content of training modules with content of approved emergency, operation, and maintenance manuals. Do not submit instruction program until operating and maintenance data has been reviewed and approved by Architect/Engineer.
- D. Furnish minimum demonstration and training instruction time as described within the following table for architectural, plumbing, fire protection, HVAC and electrical systems and components.

Equipment / System	Spec Section	Total Hours
Cut Stone	04 43 30	1 Hr during const.
Composite Metal Building Panels	07 42 43	1 Hr during const.
Metal-Framed Curtain Wall	08 44 13	1 Hr during const.
Vertically Folding Operable Partitions	10 22 26.13	1 Hr
Window Washing System	11 24 23	1Hr
Laboratory Equipment	11 53 00	1 day
Fume Hoods & Exhaust Devices	11 53 13	1Hrs
Shades	12 24 00	1 Hr
Controlled Environmental Rooms	13 21 00	2Hrs
Chillers and System	20 08 00	2Hrs
Boilers and Heating System and PRV Station	20 08 00	2Hrs
HVAC Piping Systems	20 08 00	2Hrs
Air Compressors and Dryers	20 08 00	1Hr
Air Handler Units	20 08 00	1Hr
Supplementary Supply Fans	20 08 00	1Hr
Return Fan/Relief Fan	20 08 00	1Hr
Air Terminal Units	20 08 00	1Hr
Computer Room AC Units	20 08 00	1Hr
Stairwell Fans	20 08 00	1Hr
Specialty Exhaust Fans	20 08 00	1Hr
Restroom Central Exhaust Fans	20 08 00	1Hr
Domestic Hot Water Circulating System	20 08 00	1Hr
Domestic Water Booster Pumps	20 08 00	1Hr
Domestic Water Storage/Break Tank	20 08 00	1Hr
Water Softeners	20 08 00	1Hr
Pure Water Production Equipment	20 08 00	1Hr
Medical Compressed Gas Cylinder Manifolds	20 08 00	1Hr
Laboratory Compressed Gas Manifolds	20 08 00	2Hr
Medical Gas and Vacuum System Alarms	20 08 00	1Hr
Laboratory Gas and Vacuum System Alarms	20 08 00	1Hr
Sump Pumps	20 08 00	1Hr
Sewage Ejector	20 08 00	1Hr
Fire Pump System	20 08 00	1Hr
Dry Pipe Fire Sprinkler Systems	21 13 17	1Hr
Fire Protection Water Tank	21 41 24	1Hr
Domestic Water Heaters (Natural Gas Fired)	22 34 36	1Hr
Laboratory Vacuum & Gas Piping	22 60 53	1Hr
Laboratory Vacuum Pump Systems (Rotary Claw)	22 62 21	1Hr

Equipment / System	Spec Section	Total Hours
High Purity Water System	22 67 13	1Hr
Variable Frequency Drives	23 05 13	1Hr
Heat Recovery Chiller	23 64 20	4Hr
Fuel Oil Piping Systems	23 11 13	4Hr
Lighting Controls	26 08 00	1Hr
Emergency Power System	26 08 00	2Hr
Uninterruptible Power Supply	26 08 00	2Hr
4160 Volt Switchgear	26 08 00	1Hr
Generator Paralleling Gear	26 08 00	2Hr
Power Status and Monitoring System (PSMS)	26 08 00	
600 Volt Generator Paralleling Switchgear	26 32 15	16 Hrs
Automatic Transfer Switches	26 36 23	2Hr
Lightning Protection	26 41 00	1 Hr during const.
Electronic Security - Systems Startup	28 00 00	16 Hrs
Electronic Security	28 00 00	16 Hrs/ 5 Days
Fire Alarm & Smoke Detector Systems - Training	28 30 00	2-4Hrs
Gate Operators	32 31 20	1 Hr
Irrigation Systems	32 80 00	1 Hr
Aircuity	23 09 10	2Hr

## PART 2 - PRODUCTS

### 2.01 INSTRUCTION PROGRAM

- A. Instruction Program Structure: Develop an instruction program that includes individual training modules for each integrated system operations and for equipment not part of a system, as required by the Owner's training requirements and by individual Specification Sections.
- B. Pre-instruction Meeting: Conduct a meeting at the Project site to review methods and procedures related to demonstration and training including, but not limited to, the following:
  1. Inspect and discuss locations and other facilities required for instruction.
  2. Review and finalize instruction schedule and verify availability of educational materials, instructors' personnel, audiovisual equipment, and facilities needed to avoid delays.
  3. Review required content of instruction.
  4. For instruction that must occur outdoors, review forecasted weather conditions and procedures to follow if conditions are unfavorable.
- C. Training Plan:
  1. Contractor shall submit a written training plan, referred to as the Training Plan, to the Owner for review and approval. Training Plan shall cover the following elements.
    - a. Equipment and related systems included in training.

- b. Intended audience.
  - c. Location of training.
  - d. Objectives.
  - e. Subjects covered.
  - f. Duration of training on each subject.
  - g. Instructor for each subject.
  - h. Methods (classroom lecture, video, Project site walk-through, actual operational demonstrations, written handouts, etc.).
  - i. Instructors and qualifications.
- 2. Contractor shall coordinate, schedule and complete the training related to all equipment specified in the Contract Documents. Contractor may utilize the installing subcontractor and/or manufacturers' representative or others approved in advance by Owner for specific portions of equipment or systems training.
  - 3. Owner must approve any deviations from the Contract Document requirements prior to the Contractor developing the Training Plan.
  - 4. Contractor shall conduct classroom-style training session followed by field demonstrations of system operation. When equipment or a system requires both demonstration and training, Contractor may combine the demonstration and training provided that the Contractor obtains the Owner's approval at least ten (10) days prior to the demonstration and training.
  - 5. Contractor shall use Operating and Maintenance Manuals and the Equipment Matrix as a basis for instructing Owner's staff regarding system operation. Contractor shall review contents of Operating and Maintenance Manuals and review equipment data and performance verification to Owner as part of Owner training. This instruction and data review should be held in a classroom environment.
  - 6. As a minimum, Contractor shall provide training on all systems including, but not limited to, the following (as applicable to the Project):
    - a. Architectural Items.
    - b. Heating, Ventilating, and Air Conditioning Airside and Waterside Systems.
    - c. Building Automation System.
    - d. Electrical Systems.
    - e. Life Safety Systems (including Fire Alarm, Stairwell Pressurization, Fire Protection, and Smoke Containment, Control, and Response System).
    - f. Elevators/Escalators.
    - g. Refrigeration Systems.

- h. Lighting Fixtures and Control Systems.
  - i. Fire Alarm System.
  - j. Communications Systems (including Wired and Wireless Networks, Data, Nurse Call).
  - k. Emergency Power and Uninterruptible Power Supply (UPS) Systems.
  - l. Security System.
  - m. Domestic and Process Water Systems.
  - n. Medical Gas and Vacuum Systems.
  - o. Laboratory Gas and Vacuum Systems.
  - p. Any other major system not identified above.
7. Training shall include:
- a. Usage of the printed installation, operation and maintenance instruction material included in the Operating and Maintenance Manuals.
  - b. Review of the written operating and maintenance instructions emphasizing safe and proper operating requirements, preventative maintenance, special tools needed and spare parts inventory suggestions. The training shall include start-up, operation in all modes possible, shutdown, seasonal changeover and any emergency procedures.
  - c. Discussion of relevant health and safety issues and concerns.
  - d. Discussion of warranties and guarantees.
  - e. Common troubleshooting problems and solutions.
  - f. Explanation of information included in the Operating and Maintenance manuals and the location of all plans and manuals in the facility.
  - g. Discussion of any peculiarities of equipment installation or operation.
- D. Training Modules: Develop a learning objective and teaching outline for each module. Include a description of specific skills and knowledge that participant is expected to master. For each module, include instruction for the following as applicable to the system, equipment, or component:
- 1. Basis of System Design, Operational Requirements, and Criteria: Include the following:
    - a. System, subsystem, and equipment descriptions.
    - b. Performance and design criteria if Contractor is delegated design responsibility.
    - c. Operating standards.
    - d. Regulatory requirements.

- e. Equipment function.
  - f. Operating characteristics.
  - g. Limiting conditions.
  - h. Performance curves.
2. Documentation: Review the following items in detail:
- a. Emergency manuals.
  - b. Operations manuals.
  - c. Maintenance manuals.
  - d. Project record documents.
  - e. Identification systems.
  - f. Warranties and bonds.
  - g. Maintenance service agreements and similar continuing commitments.
3. Emergencies: Include the following, as applicable:
- a. Instructions on meaning of warnings, trouble indications, and error messages.
  - b. Instructions on stopping.
  - c. Shutdown instructions for each type of emergency.
  - d. Operating instructions for conditions outside of normal operating limits.
  - e. Sequences for electric or electronic systems.
  - f. Special operating instructions and procedures.
4. Operations: Include the following, as applicable:
- a. Startup procedures.
  - b. Equipment or system break-in procedures.
  - c. Routine and normal operating instructions.
  - d. Regulation and control procedures.
  - e. Control sequences.
  - f. Safety procedures.
  - g. Instructions on stopping.
  - h. Normal shutdown instructions.

- i. Operating procedures for emergencies.
  - j. Operating procedures for system, subsystem, or equipment failure.
  - k. Seasonal and weekend operating instructions.
  - l. Required sequences for electric or electronic systems.
  - m. Special operating instructions and procedures.
5. Adjustments: Include the following:
- a. Alignments.
  - b. Checking adjustments.
  - c. Noise and vibration adjustments.
  - d. Economy and efficiency adjustments.
6. Troubleshooting: Include the following:
- a. Diagnostic instructions.
  - b. Test and inspection procedures.
7. Maintenance: Include the following:
- a. Inspection procedures.
  - b. Types of cleaning agents to be used and methods of cleaning.
  - c. List of cleaning agents and methods of cleaning detrimental to product.
  - d. Procedures for routine cleaning
  - e. Procedures for routine and preventive maintenance.
  - f. Instruction on use of special tools.
8. Repairs: Include the following:
- a. Diagnosis instructions.
  - b. Repair instructions.
  - c. Disassembly; component removal, repair, and replacement; and reassembly instructions.
  - d. Instructions for identifying parts and components.
  - e. Review of spare parts needed for operation and maintenance.

### **PART 3 - EXECUTION**

#### **3.01 PREPARATION**

- A. Assemble educational materials necessary for instruction, including documentation and training modules. Assemble training modules into a training manual organized in coordination with requirements in Section 01 77 00 – Project Close-out Procedures.
- B. Provide Owner-approved Operating and Maintenance Manuals minimum fourteen (14) days prior to the scheduled training.
- C. Set up instructional equipment at instruction location.

#### **3.02 INSTRUCTION**

- A. Facilitator: Engage a qualified facilitator to prepare instruction program and training modules, to coordinate instructors, and to coordinate between Contractor and Owner for number of participants, instruction times, and location.
- B. Engage qualified instructors to instruct Owner's personnel to adjust, operate, and maintain systems, subsystems, equipment, and equipment components.
- C. Scheduling: Provide instruction at mutually agreed upon days and times. For equipment that requires seasonal operation, provide similar instruction at start of each season.
  - 1. Schedule training with Owner at least seven (7) day advance notice.

#### **3.03 FIELD DEMONSTRATION**

- A. Contractor shall demonstrate in the field: start-up, operation, control, adjustment, trouble-shooting, servicing, maintenance, and shutdown of the system(s) and each component device.
- B. Contractor shall demonstrate system performance at each stage of sequence of operation. Contractor shall promptly correct any deficiencies noted during the demonstration and document on a Deficiency report.
- C. During any demonstration, should the system fail to perform in accordance with the requirements of the Operating and Maintenance Manual or sequence of operations, the system will be repaired or adjusted as necessary and the demonstration repeated.
- D. Contractor shall cooperate with Owner and Owner's Test, Adjust, and Balance Firm for verification testing and final adjustments and balancing as may be indicated in the Contract Documents or as directed by Owner.
- E. The manufacturer's representatives and the installing contractor shall demonstrate both system operation and compliance to the Owner's agents and consultants. If coordinated and scheduled appropriately by the Contractor, equipment and/or systems inspections may also serve to provide the required Owner training, if approved in advance by the Owner. Refer to Section 01 45 00 – Project Quality Control.

### 3.04 DEMONSTRATION AND TRAINING VIDEO RECORDINGS

- A. Engage a qualified videographer to record demonstration and training video recordings. Record each training module separately. Include classroom instructions and demonstrations, board diagrams, and other visual aids, but not student practice.
- B. Contractor shall furnish to the Owner a professional quality video and audio recording of the training. Owner may select portions of the training to be recorded.
- C. Video: Owner training videos shall be delivered to Owner in the MP4 file format container with MPEG-4 video. Video to be encoded using the H.264 codec with the following settings: variable bit rate mode (overall bitrate shall be less than 10 Mb/s), High Profile, 2 consecutive B frames, Closed GOP (GOP of half the frame rate), and CABAC. Resolution shall be progressive scan with a height of 720 pixels, and a preferred width of 1280 pixels (i.e. 720p). Frame rates shall match the source material unless source was recorded using interlaced scan in which case it shall be deinterlaced; for example going from 1080i 60 (60 interlaced fields per second) to 720p (30 progressive frames per second). Audio to be AAC encoded with a bit rate between 128 and 192 Kb/s at a sample rate of 48kHz using Stereo or Stereo + 5.1.
  - 1. Electronic Media: Read-only format compact disc acceptable to Owner, with commercial-grade graphic label.
  - 2. File Hierarchy: Organize folder structure and file locations according to Operating and Maintenance Manual table of contents; confirm with Owner. Provide complete screen-based menu.
  - 3. File Names: Use file names based upon name of equipment generally described in video segment, as identified in Project specifications.
  - 4. Contractor and Installer Contact File: Using appropriate software, create a file for inclusion on the Equipment Demonstration and Training DVD that describes the following for each Contractor involved on the Project, arranged according to Project Manual table of contents:
    - a. Name of Contractor/Installer.
    - b. Business address.
    - c. Business phone number.
    - d. Point of contact.
    - e. E-mail address.
- D. Recording: Mount camera on tripod before starting recording, unless otherwise necessary to adequately cover area of demonstration and training. Display continuous running time.
  - 1. Film training session(s) in segments not to exceed 15 minutes.
    - a. Produce segments to present a single significant piece of equipment per segment.

- b. Organize segments with multiple pieces of equipment to follow order of Project Manual table of contents.
  - c. Where a training session on a particular piece of equipment exceeds 15 minutes, stop filming and pause training session. Begin training session again upon commencement of new filming segment.
  - d. Light Levels: Verify light levels are adequate to properly light equipment. Verify equipment markings are clearly visible prior to recording.
- E. Light Levels: Verify light levels are adequate to properly light equipment. Verify equipment markings are clearly visible prior to recording.
- 1. Furnish additional portable lighting as required.
- F. Narration: Describe scenes on video recording by either audio narration by microphone while video recording is recorded or by dubbing audio narration off-site after the recording. Include description of items being viewed.
- G. Pre-produced Video Recordings: Provide video recordings used as a component of training modules in same format as recordings of live training.

**END OF SECTION 01 79 00**

## **SECTION 01 91 00 – GENERAL COMMISSIONING REQUIREMENTS**

### **PART 1 – GENERAL**

#### **1.1. RELATED DOCUMENTS**

- 1.1.1. The Contractor's attention is specifically directed, but not limited to, the Uniform General Conditions for University of Texas System Building Construction Contracts (UTUGCs) for other requirements.
- 1.1.2. Specifications throughout all Divisions of the Project Manual, which pertain to operable equipment and/or building systems, are directly applicable to this Section, and this Section is directly applicable to them.

#### **1.2. SUMMARY**

- 1.2.1. This Section establishes general and administrative requirements pertaining to commissioning of equipment, devices, and building systems installed on renovation and new construction projects delivered under various contracting methodologies. Technical requirements for commissioning of particular systems and components are established in the Contract Documents.
- 1.2.2. It is of primary concern that all operable systems installed in the Project perform in accordance with the Contract Documents and the specified Owner's operational needs. During Commissioning, the Contractor systematically demonstrates to the Owner that the operable systems are properly performing in strict accordance with the Contract Documents.
- 1.2.3. Commissioning requires cooperation and involvement of all parties throughout the construction process. The Contractor shall deliver a successful Commissioning process. Successful Commissioning requires that installation of all building systems complies with Contract Document requirements and that full operational check-out and necessary adjustments are performed prior to Substantial Completion, with the exception of deferred tests approved in advance by Owner.
- 1.2.4. Commissioning will encompass and coordinate traditionally separate functions of system documentation, Inspection, Prefunctional Checklists and start-up, control system calibration and point-to-point checkout, testing, adjusting, and balancing, Functional Performance Tests, Integrated System Tests, Contractor demonstration to the Owner, and training of Owner's personnel. This requires assembling all related documentation into one Commissioning Manual. Commissioning is intended to achieve the following specific objectives of the Contract Documents.
  - 1.2.4.1. Verify and document proper installation and design parameters of equipment, systems, and integrated systems.
  - 1.2.4.2. Ensure that operating and maintenance and Commissioning documentation requirements are complete.
  - 1.2.4.3. Provide Owner with functional buildings and systems that meet the Contract Document requirements at Substantial Completion.

#### **1.3. DEFINITIONS**

Capitalized terms used in this Section shall have the meanings as set forth in the Contract, the UTUGCs, or both, unless otherwise defined or modified below.

- 1.3.1. Commissioning: A systematic process confirming that building systems have been installed, properly started, and consistently operated in strict accordance with the Contract Documents, that all systems are complete and functioning in accordance with the Contract Documents at Substantial Completion, and that Contractor has provided Owner adequate system documentation and training. Commissioning includes Deferred Tests, as approved by Owner.
- 1.3.2. Commissioning Authority: Party employed on the Project, by Owner under a Separate Contract, to provide certain commissioning services as defined herein under Commissioning Authority's Role and Responsibilities. Commissioning Authority does not have authority to alter design or installation procedures without the written approval of Owner and the A/E.
- 1.3.3. Commissioning Plan: A document that provides the structure, schedule, and coordination plan for Commissioning during the construction phase and through the warranty period. The Commissioning Plan will describe the project and systems to be commissioned, Commissioning activities, procedures to follow throughout Commissioning, roles and responsibilities for each participant, and general description of testing and verification methods. The Commissioning Plan must satisfy all Test Requirements set forth in the Contract Documents.
  - 1.3.3.1 Download an electronic version of the Commissioning Plan Template for submittal purposes at the following website:  
<http://www2.mdanderson.org/depts/cpm/standards/templates/CommissioningTemplate.zip>
- 1.3.4. Commissioning Team: Working group made up of representative(s) from the A/E, Contractor, Test, Adjust, and Balance Firm, Building Automation System vendor, specialty manufacturers and suppliers, Owner, and Commissioning Authority. Contractor will provide ad-hoc representation of Subcontractors on the Commissioning Team as required for implementation of the Commissioning Plan.
- 1.3.5. Deferred Tests: Functional Performance or Integrated System Tests performed after Substantial Completion, with Owner's approval, due to seasonal requirements, site conditions, or both, that prohibit the test from being performed prior to Substantial Completion.
- 1.3.6. Deficiency: Condition of a component, piece of equipment, or system that is not in compliance with the Contract Documents.
- 1.3.7. Factory Testing: Testing of equipment at the factory, by factory personnel with an Owner's representative present, if deemed necessary by Owner.
- 1.3.8. Functional Performance Test: Test of dynamic function and operation of equipment and systems executed by Contractor. Systems are tested shall be various modes, such as during low cooling or heating loads, high loads, component failures, unoccupied, varying outside air temperatures, life safety conditions, power failure, etc. Systems are run through all specified sequences of operation. Components are verified to be responding in accordance with Contract Documents. Functional Performance Tests are executed after start-ups and Prefunctional Checklists are complete.
- 1.3.9. Functional Performance Test Procedures: Commissioning protocols and detailed test procedures and instructions in tabular and script-type format that fully describe system configuration and steps required to determine if the system is performing and functioning properly.
- 1.3.10. Integrated System Test: Test of dynamic function and operation of multiple systems. Integrated System Tests are conducted under various modes, such as fire alarm and

emergency situations, life safety conditions, power failure, etc. Systems are integrally operated through all specified sequences of operation. Components are verified to be responding in accordance with Contract Documents. Integrated System Tests are executed after Functional Performance Tests are complete and prior to Substantial Completion. Integrated System Tests provide verification that the integrated systems will properly function according to the Contract Documents.

- 1.3.11. Integrated System Test Procedures: Commissioning protocols and detailed test procedures and instructions in tabular and script-type format that fully describe system configurations and steps required to determine if the interacting systems are performing and functioning properly.
  - 1.3.12. Manual Test: Use of hand-held instruments, immediate control system readouts or direct observation to verify performance (contrasted to analyzing trend data to make the "observation").
  - 1.3.13. Non-Compliance Report (NCR): A tool used to document an item or condition that does not meet the Contract Documents.
  - 1.3.14. Prefunctional Checklist: A list of static inspections and material or component tests that verify proper installation of equipment (e.g., belt tension, oil levels, labels affixed, gages in place, sensors calibrated, etc.). The word Prefunctional refers to before Functional tests. Prefunctional Checklists must include the manufacturer's start-up checklist(s).
  - 1.3.15. Start-up: The activities where equipment is initially energized tested and operated. Start-up is completed prior to Functional Performance Tests.
  - 1.3.16. Test, Adjust, and Balance (TAB) Firm: The Owner may engage a Test, Adjust, and Balance Firm for the Project under a Separate Contract. When engaged for the Project, the TAB Firm shall be a part of the Commissioning Team and shall provide services as set forth in the Specifications.
  - 1.3.17. Test Requirements: Requirements specifying what systems, modes and functions, etc. must be tested. Test Requirements are not detailed test procedures. Test Requirements and acceptance criteria are specified in the Contract Documents.
  - 1.3.18. Training Plan: A detailed plan prepared by the Contractor, and reviewed by the Owner, that outlines the training activities, instructors, time durations, and system requirements in accordance with the Contract Documents and Commissioning Plan.
  - 1.3.19. Trending: Data collection of monitoring points using the Building Automation System or dataloggers.
- 1.4. COORDINATION
- 1.4.1. Commissioning Team:
    - 1.4.1.1. Owner's Members
      - 1.4.1.1.1. Representatives assigned by Owner's Designated Representative
      - 1.4.1.1.2. Commissioning Authority, when engaged for the Project.
      - 1.4.1.1.3. A/E.
      - 1.4.1.1.4. TAB Firm, when engaged for the Project.

1.4.1.2. Contractor's Members:

- 1.4.1.2.1. Individuals, each having authority to act on behalf of the entity they represent, explicitly organized to implement all Commissioning activities through coordinated actions.
- 1.4.1.2.2. Representatives of Contractor, including but not limited to, project manager and commissioning coordinator, Subcontractors, installers, and equipment suppliers. Owner must approve Contractor's commissioning coordinator.

1.4.2. Scheduling:

- 1.4.2.1. Contractor shall integrate all Commissioning activities into the Baseline Schedule and the Work Progress Schedule. All parties will address scheduling problems and make necessary notifications in a timely manner to expedite all Commissioning activities.
- 1.4.2.2. Contractor shall provide the initial schedule of primary Commissioning activities at the pre-commissioning meeting. Prior to the first Start-up or Prefunctional Checklist test occurring, Contractor shall have incorporated and integrated all Commissioning activities into the Baseline Schedule and Work Progress Schedule with appropriately linked predecessors and successors.

1.5. ROLES AND RESPONSIBILITIES

- 1.5.1. Roles and responsibilities of Commissioning Team members are provided in this Section to clarify the commissioning process.

1.5.2. Owner's Role and Responsibilities:

- 1.5.2.1. Review Specifications containing Commissioning requirements.
- 1.5.2.2. Provide Owner's Test Requirements to Commissioning Team.
- 1.5.2.3. Approve the Commissioning Plan, Training Program and Contractor's schedule for completing all Commissioning activities.
- 1.5.2.4. Participate in Commissioning activities, including the following:
  - 1.5.2.4.1. Commissioning Team meetings.
  - 1.5.2.4.2. Review and approve Commissioning Plan, Training Plan, Prefunctional Checklists, Functional Performance Test Procedures, Functional Performance Tests, Integrated System Test Procedures, Integrated System Tests, Deferred Tests, Trending, Training Plan and other Commissioning documents.
  - 1.5.2.4.3. Attendance at Contractor's training sessions in operation and maintenance of systems and equipment.
  - 1.5.2.4.4. Observation of Contractor's demonstration of systems and equipment operation.
  - 1.5.2.4.5.

- 1.5.3. Commissioning Authority's Role and Responsibilities, when engaged for the project.

- 1.5.3.1. Prepare and submit the Commissioning Plan for Owner's approval.

- 1.5.3.2. Review, comment and approve on Contractor's schedule for Commissioning activities.
- 1.5.3.3. Participate in Contractor-led Pre-Commissioning Meeting.
- 1.5.3.4. Conduct and document Commissioning Team meetings.
- 1.5.3.5. Perform site visits as necessary or in conjunction with Commissioning Team meetings to observe component and system installations. Attend selected Project progress meetings to obtain information on construction progress.
- 1.5.3.6. Review and comment on Submittals and coordination drawings applicable to systems being commissioned.
- 1.5.3.7. Review and comment on Contractor-prepared Prefunctional Checklist and other Contractor-prepared documents, including Operating and Maintenance Manuals and Training Plan.
- 1.5.3.8. Prior to equipment Start-ups, review the control sequences and coordinate with the Contractor and A/E in order to prepare the Functional Performance Test and Integrated System Test procedures.
- 1.5.3.9. Witness equipment Start-ups as executed by Contractor.
- 1.5.3.10. Write Functional Performance Test Procedures and Integrated System Test Procedures for Contractor's execution of tests.
- 1.5.3.11. Witness, verify, and document results of Functional Performance Tests and Integrated System Tests.
- 1.5.3.12. Coordinate resolution of Deficiencies identified during Commissioning, Deferred Tests, and during the warranty period.
- 1.5.3.13. Review Contractor's Training Plan.
- 1.5.3.14. Compile Commissioning documentation for Contractor-prepared Commissioning and Closeout Manual including test documentation, Deficiency reports and solution results; non-compliance issue tracking; and recommendations on continuous commissioning, best practices, and preventive maintenance.
- 1.5.4. Architect/Engineer's Role and Responsibilities:
  - 1.5.4.1. Attend Commissioning Team meetings.
  - 1.5.4.2. Review and Approve Commissioning Plan, Training Plan, Prefunctional Checklist, Functional Performance Test Procedures, Functional Performance Tests, Integrated System Test Procedures, Integrated System Tests, Deferred Tests, and other Commissioning documents.
  - 1.5.4.3. Review and Approve Contractor's Training Plan.
  - 1.5.4.4. Review and Approve Test, Adjust, and Balance plan as defined in Specification 23 05 90 and 23 05 93.
  - 1.5.4.5. Approve technical requirements for correction of Deficiencies identified during Commissioning, Deferred Tests, and during the warranty period.
  - 1.5.4.6. Review Operating and Maintenance Manuals.

#### 1.5.5. Contractor's Role and Responsibilities:

- 1.5.5.1 Produce for Owner, Commissioning Authority and A/E's approval, the Commissioning Plan, Prefunctional Checklist, Functional Performance Test Procedures, Integrated System Test Procedures, Equipment Matrix of all devices, systems and equipment supplied, and other Commissioning documents.
  - 1.5.5.1.1 Commissioning Authority will produce the Commissioning Plan, project-specific Functional Performance Test Procedures, and project-specific Integrated System Test Procedures.
  - 1.5.5.1.2 Contractor shall review and provide comments on documents produced by the Commissioning Authority, and shall accept the Commissioning Plan, Functional Performance Test Procedures, and Integrated System Test Procedures as approved by Owner.
- 1.5.5.2 As the Project progresses, add specific checklists, test procedures, schedules, recorded results, action lists, signoff sheets and other documents for the Commissioning and Close-out Manual. Administer updates to the Commissioning and Close-out Manual with the intent that all Commissioning Team members will have up-to-date documentation as the Commissioning progresses.
- 1.5.5.3 Provide an individual, subject to Owner's approval, experienced in construction and Commissioning of building systems to organize, schedule, conduct, and document the Commissioning Plan and the Commissioning process. The Contractor shall assign this individual to act as the Contractor's Commissioning Coordinator. The Contractor's Commissioning Coordinator may have additional duties such as MEP Coordinator, but not as Project Manager or Superintendent. Submit qualifications demonstrating the Commissioning Coordinator's technical expertise and experience to the Owner for approval. In the event that Contractor chooses to subcontract its Commissioning obligations, then Contractor must submit the subcontractor's qualifications and personnel to Owner for Owner's approval.
- 1.5.5.4 Furnish and install systems that meet all requirements of the Contract Documents. Perform construction inspections, Start-ups, Prefunctional Checklists, Functional Performance Tests, and Integrated System Tests in accordance with the Contract Documents and Commissioning Plan. Correct any Deficiencies identified during these processes.
- 1.5.5.5 Ensure that Commissioning activities are incorporated into the Baseline Schedule and the Work Progress Schedule.
- 1.5.5.6 Submit inspection and Start-up documentation to Owner in accordance with this Section – 01 91 00 General Commissioning Requirements, Section 01 45 00 – Project Quality Control, Section 01 77 00 – Project Close-out Procedures, Specifications, and the Commissioning Plan.
- 1.5.5.7 Furnish copies of all Submittals, manufacturers' literature, maintenance information, and any other information required for the Commissioning process. Contractor must submit to Owner installation and checkout materials actually shipped inside equipment and actual field checkout sheet forms used by factory or field technicians. Cross-reference Section 01 31 00 – Project Administration and Section 01 77 00 – Project Close-out Procedures (Operating and Maintenance Manuals) for additional required documentation.
- 1.5.5.8 Schedule and conduct pre-installation meetings and pre-commissioning meetings with Subcontractors and equipment suppliers related to Commissioning. Contractor must

invite A/E and Owner to attend the pre-installation meetings and pre-commissioning meetings.

- 1.5.5.9 Provide qualified personnel, including Subcontractors as required, to fully perform the testing and operational demonstrations required by the Contract Documents and the Commissioning Plan, including any Deferred Tests or re-testing related to warranty work.
- 1.5.5.10 Correct Deficiencies identified during any stage of commissioning prior to proceeding, unless approved by Owner.
- 1.5.5.11 Provide training to Owner. Coordinate Subcontractor and vendor participation in training sessions.
- 1.5.5.12 Perform Deferred Tests and make necessary amendments to Operating and Maintenance Manuals and Record Documents for applicable issues identified during the Deferred Tests.
- 1.5.5.13 Contractor shall be responsible for the following activities, and may contract with a Building Automation System (BAS) vendor for these activities.
  - 1.5.5.13.1 Provide on-site technician skilled in software programming and hardware operation to exercise sequences of operation and to correct controls deficiencies identified during Commissioning. Contractor must provide Record Documents reflecting correction of controls deficiencies identified during Commissioning.
  - 1.5.5.13.2 Provide instrumentation, computer, software and communication resources necessary to demonstrate compliance with the Contract Documents and the Commissioning Plan during the Prefunctional Checklist activities, Functional Performance Tests and Integrated System Tests of Building Automation System equipment.
  - 1.5.5.13.3 Attend pre-commissioning meetings and Commissioning meetings including seasonal, post occupancy, or deferred Commissioning meetings and activities as deemed appropriate by Owner. Prepare BAS Training Plans with Commissioning Team and perform training as specified in Contract Documents and Commissioning Plan.
  - 1.5.5.13.4 Maintain comprehensive system calibration and checkout records. Submit records to Owner.
  - 1.5.5.13.5 Set up, capture, analyze, and report trend logs as requested by Owner to substantiate proper systems operation.
- 1.5.6 Test, Adjust, and Balance Firm's Role and Responsibilities, when engaged for the project:
  - 1.5.6.1 Attend pre-commissioning meetings and Commissioning Team meetings including seasonal, post occupancy, or deferred Commissioning meetings and activities as deemed appropriate Owner.
  - 1.5.6.2 Submit Test, Adjust, and Balance Plan and forms describing methodology for performance of Test, Adjust, and Balance procedures specific to this Project to Owner/Engineer of record for review.
  - 1.5.6.3 Cooperate with Contractor and Contractor's Building Automation System vendor, if any, during Commissioning.

- 1.5.6.4 Re-balance as needed to correct any Deficiencies identified during Commissioning.
- 1.5.6.5 Review BAS graphics and performance tests for accuracy, note deficiencies.
- 1.5.6.6 Provide T A B data to Contractor and Commissioning Team before Contractor begins Functional Performance Tests.

## 1.6 EQUIPMENT DOCUMENTATION REQUIREMENTS

### 1.6.1 Equipment Matrix:

- 1.6.1.1 Contractor shall submit a complete listing of all equipment, devices, and systems, with certain information as herein noted, within twenty-one (21) days of issuance of the Notice to Proceed with Construction and at least seven (7) days prior to submission of the first Application for Payment. This listing shall be referred to as the Equipment Matrix. Download an electronic version of this spreadsheet in Microsoft Excel format to use as a template for submittal purposes at the following website:

<http://www2.mdanderson.org/depts/cpm/standards/templates/EquipmentMatrixTemplate.xlsx>

- 1.6.1.2 Contractor shall coordinate Contractor's response to this requirement with Contractor's preparation of the Baseline Schedule, Work Progress Schedule, Submittal Schedule, Schedule of Values, and list of all equipment. Refer to Section 01 32 00 – Project Planning and Scheduling and Section 01 31 00 – Project Administration.

- 1.6.1.2.1 To the extent practical, Contractor should minimize redundant efforts in favor of a single, organized approach to all documentation required for Project equipment, systems, and devices.

- 1.6.1.3 The Equipment Matrix shall be formatted as a spreadsheet per Owner's template, with capability for printing various selected data columns to meet documentation requirements at various stages of construction, and for different purposes as required by various Technical Sections. The Equipment Matrix shall be updated as the Project progresses and submitted periodically as requested by Owner. Provide Owner with an electronic version of the final approved Equipment Matrix at or before Project Close-out.

- 1.6.1.3.1 Contractor may elect to combine the Submittal Schedule and Equipment Matrix into one spreadsheet (with multiple tabbed sheets) that Contractor updates as the Project progresses.

- 1.6.1.4 The Equipment Matrix shall identify all operable devices and equipment grouped by the Construction Specification Institute (CSI) Master Format under the system they are primarily categorized under. When sorted by the column for system identification, the resulting printout must identify all system components, regardless of whether they are mechanical, electrical, or otherwise.

- 1.6.1.5 Contractor shall continue to update the Equipment Matrix for each device or system. Owner will assist the Contractor in collecting information on Owner-furnished and Contractor-installed equipment. The Equipment Matrix shall include the following column headings, as a minimum, for each device per specification 20 05 53:

- 1.6.1.5.1 Equipment Plan Designation: Equipment Naming Convention (equipment acronym and sequential number) from Contract Documents.

- 1.6.1.5.2 Specification Section number.

- 1.6.1.5.3 Building ID: Shall be obtained from Owner.
- 1.6.1.5.4 Location / Room Number: Owner's Wayfinding Codes from Owner's Space Management database referring to room number or building location. Shall be obtained from Owner.
- 1.6.1.5.5 Asset Short Description: The asset short description is to be a very short textual description. Type a brief, identifying description for the asset followed by a comma then the "Equipment Plan Designation". If multiple units, of same type, include equipment ID number from the Construction Documents. This field is limited to 80 characters. Example= Pump, Secondary Chilled Water, SCHWP-01-2B.
- 1.6.1.5.6 Asset Long Description: A more complete description of the asset to make it clearer to the Owner's maintenance group. Include any distinguishing details relevant to identifying the asset from other identical units (color, physical location within a room, and so on. Example: Horizontal split case pump located in North end of room.
- 1.6.1.5.7 System Level Asset: Type of system that the equipment serves. Shall be obtained from Owner. Example: Domestic Hot Water
- 1.6.1.5.8 Product submittal reference number(s).
- 1.6.1.5.9 Product submittal approval date.
- 1.6.1.5.10 Name of installing Subcontractor.
- 1.6.1.5.11 Installing Subcontractor contact information.
- 1.6.1.5.12 Equipment Manufacturer.
- 1.6.1.5.13 Equipment model number.
- 1.6.1.5.14 Equipment serial number.
- 1.6.1.5.15 Emergency Power: Note whether equipment is served from emergency power system.
- 1.6.1.5.16 Equipment manufacturer's representative (Vendor).
- 1.6.1.5.17 Equipment manufacturer's representative (Vendor) contact information.
- 1.6.1.5.18 Manufacturer's purchase order number.
- 1.6.1.5.19 Asset Cost: Full asset cost includes all installation costs to bring asset to full operating condition (vendor commissioning). Cost of controls/panels used to operate the asset. Cost of all supporting infrastructure involved with setting up the asset. Support framework or pad site. Piping and/or conduit runs (chiller supply water/electrical).
- 1.6.1.5.20 Estimated replacement cost: Replacement cost of the equipment only. This cost may be lower than the initial asset cost, because it does not include certain one-time costs such as piping or conduit runs, control panels, base pads.
- 1.6.1.5.21 Start-up Date: Date of initial equipment or device start-up by the Contractor.
- 1.6.1.5.22 Prefunctional Checklist completion date.

- 1.6.1.5.23 Functional Performance Test completion date.
- 1.6.1.5.24 Integrated Systems Test completion date.
- 1.6.1.5.25 Substantial Completion date.
- 1.6.1.5.26 Manufacturer's warranty start date.
- 1.6.1.5.27 Warranty End Date: The date on which the asset warranty ends.

1.6.1.6 Owner will furnish the following additional information; allow column headings for this data:

- 1.6.1.6.1 Asset Number
- 1.6.1.6.2 Parent ID
- 1.6.1.6.3 Asset Group Code
- 1.6.1.6.4 Cost Center
- 1.6.1.6.5 Critical Factor
- 1.6.1.6.6 Estimated Asset Life
- 1.6.1.6.7 Asset Status
- 1.6.1.6.8 Work Group
- 1.6.1.6.9 Work Area

## **PART 2- EXECUTION**

### **2.1 COMMISSIONING PLAN**

- 2.1.1 When a CxA has not been engaged for the project, Contractor shall submit draft Commissioning Plan to Owner and A/E for review within twenty-one (21) days of issuance of the Notice to Proceed with Construction or within ninety (90) days prior to initial installation of materials or equipment that will undergo Start-up and Functional Performance Tests, as directed by Owner.
- 2.1.2 Contractor shall allow in the Work Progress Schedule a minimum of twenty-one (21) days after the receipt by the Owner of the draft Commissioning Plan Submittal for the Owner to submit review comments to Contractor.
- 2.1.3 Contractor shall incorporate Owner's review comments and resubmit the revised Commissioning Plan to Owner within fourteen (14) days of receipt of the review comments.
- 2.1.4 Contractor shall allow in the Work Progress Schedule an additional fourteen (14) days for Owner's approval of the resubmitted Commissioning Plan that incorporates Owner's review comments.
- 2.1.5 **PRE-COMMISSIONING MEETING**
- 2.1.6 Upon obtaining Owner's approval of the Commissioning Plan, Contractor shall schedule, plan, and conduct a Pre-Commissioning Meeting with all parties involved in Commissioning. This meeting should include the major Subcontractors, specialty

manufacturers/suppliers, A/E, Test, Adjust, and Balance Firm, Commissioning Authority, and Owner's representatives as participants.

2.1.7 Contractor shall prepare for the Pre-Commissioning Meeting by creating drafts of the following documents with input from the Owner. Commissioning Authority, when engaged for the project, will prepare the Commissioning Plan, Functional Performance Test Procedures and Integrated System Test Procedures.

2.1.7.1 Approved Commissioning Plan including the Equipment Matrix and the Close-out and Documentation Matrix as defined in Section 01 77 00 – Project Close-out Procedures.

2.1.7.2 Baseline Schedule and Work Progress Schedule incorporating Commissioning activities.

2.1.7.3 Prefunctional Checklists.

2.1.7.4 Functional Performance Test Procedures.

2.1.7.5 Integrated System Test Procedures.

2.1.8 Contractor or Commissioning Authority when engaged for the project shall conduct the Pre-Commissioning Meeting and review all aspects of the Commissioning Plan. All documentation will be discussed and all test procedures and forms reviewed for approval with the Owner. Contractor shall prepare an outline noting responsibilities of the various parties involved in Commissioning for review at this meeting.

2.1.9 The Commissioning Plan shall be reviewed with all attendees and the scope of work discussed. Contractor should be prepared to distribute copies of the pertinent sections to the various Subcontractors involved in Commissioning.

2.1.10 Contractor shall present Commissioning target dates for the Project. These dates and durations shall be incorporated in the Baseline Schedule and the Work Progress Schedule in accordance with Section 01 32 00 – Project Planning and Scheduling.

## 2.2 REPORTING

2.2.1 Contractor shall provide status reports to Owner at frequencies directed by Owner.

2.2.2 Contractor shall communicate at least monthly with all members of the Commissioning Team, keeping them apprised of Commissioning progress and scheduling changes.

2.2.3 Contractor shall submit Non-Compliance and Deficiency reports to Owner within five (5) days of the date the Non-Compliance or Deficiency is first observed. This includes responses to items noted by the Commissioning Authority.

2.2.4 Contractor shall provide final Commissioning documentation to Owner in accordance with Section 01 77 00 – Project Close-out Procedures, which will become part of the Commissioning and Close-out Manual.

## 2.3 TEST EQUIPMENT

2.3.1 Contractor shall provide all specialized tools, test equipment and instruments required to execute start-up, checkout, and testing of equipment.

2.3.2 All specialized tools, test equipment and instruments required to execute start-up, checkout, and testing of equipment shall be of sufficient quality and accuracy to test and measure

system performance within specified tolerances. A testing laboratory must have calibrated test equipment within the previous twelve (12) months. Calibration shall be NIST traceable. Contractor must calibrate test equipment and instruments according to manufacturer's recommended intervals and whenever the test equipment is dropped or damaged. Calibration tags must be affixed to the test equipment or certificates readily available.

## 2.4 PRE FUNCTIONAL CHECKLIST

2.4.1 Contractor shall provide a Prefunctional Checklist for each system to Owner, Commissioning Authority and A/E for review.

2.4.1.1 Contractor shall provide a draft version of each individual Prefunctional Checklist at a pre-installation meeting for the system. Based on discussions at a pre-installation meeting and subsequent as-constructed conditions, Contractor shall amend and revise each Prefunctional Checklist as appropriate prior to requesting system inspection from the Owner.

2.4.1.2 Contractor shall submit the final approved Prefunctional Checklist and all supporting documentation prior to requesting Start-up and Functional Performance Tests.

2.4.2 Contractor shall review the installation and Contract Documents for each system and shall provide written confirmation of the following if not included in the Prefunctional Checklist.

2.4.2.1 All required test reports and certifications have been submitted and accepted by Owner. Contractor must provide certification of acceptance from manufacturer's representative.

2.4.2.2 Evidence that A/E has approved all Submittals for each component device.

2.4.2.3 All valve charts, wiring diagrams, control schematics, electrical panel directories, etc. have been submitted and approved, and that all devices have been installed in accordance with the Contract Documents.

2.4.2.4 All tabulated data has been submitted for each system and for each device.

2.4.2.5 Each component device has been installed in accordance with applicable codes, the Contract Documents, and manufacturer's written recommendations.

## 2.5 INITIAL START-UP

2.5.1 Start-up of Independent Devices:

2.5.1.1 Prior to Start-up, Contractor shall not energize or activate, or allow to be energized or activated, any operable device until Contractor has verified to Contractor's own satisfaction that all Contract Document requirements for the operable device have been met and have been documented in the Prefunctional Checklists.

2.5.1.2 Contractor may energize or start-up independent devices for operational check-out and testing only after Contractor and manufacturer's representative or engineering technician (if required by the Contract Documents) have inspected and accepted the installation. The installation must not vary from provisions of the applicable Specifications and the manufacturer's written recommendations for Start-up.

2.5.1.3 When Start-up of equipment or systems have the potential to impact Owner's daily operations or when the Contract Documents require the Owner to witness Start-up, Contractor must provide advance notice to Owner in accordance with the procedures outlined in the Contract Documents prior to Start-up. Contractor may not proceed with Start-up without the Owner's written approval.

## 2.5.2 Start-up of Building Systems:

2.5.2.1 Contractor shall not energize or activate any building system until the following conditions have been met:

2.5.2.1.1 Contractor has verified that all wiring and support components for equipment are complete and have been tested in accordance with the technical specifications and the manufacturer's written recommendations.

2.5.2.1.2 Contractor has verified that each component device has been checked for proper lubrication, vibration isolation, drive rotation, belt tension, control sequence, or other conditions that may cause damage.

2.5.2.1.3 Contractor has verified that all tests, meter readings, and specified electrical characteristics agree with those required by the equipment or system manufacturer and are in compliance with applicable Contract Documents.

2.5.2.1.4 Contractor has received approved building system final inspection reports. Refer to Section 01 45 00 – Project Quality Control.

2.5.2.1.5 Contractor has provided the Owner and A/E with a written fourteen (14) day notice of intent to start-up the system for operational check-out. The notification procedures outlined in the Contract Documents shall be utilized.

2.5.2.2 Contractor shall perform Start-up under supervision of the responsible manufacturer's representative in accordance with manufacturer's instructions and specification requirements.

2.5.2.3 Contractor shall coordinate and schedule system(s) Start-up in a timely manner so that each component or system can operate for a period of time that is sufficient to evaluate and adjust performance as necessary. All building systems shall be operational and must have been successfully inspected by Owner, through attendance and concurrence with results of the Prefunctional Checklists or as otherwise approved by Owner, prior to the Contractor proceeding with Functional Performance Tests.

2.5.2.4 Contractor shall clearly list outstanding items or initial Start-up and Prefunctional Checklists items not completed successfully. Contractor shall obtain from Subcontractor completed forms documenting any outstanding Deficiency within five (5) days of completion of tests.

2.5.2.5 Contractor shall review completed Deficiency forms to determine if outstanding items prevent execution of the Functional Performance Tests and shall issue any necessary responses to the Commissioning Team.

## 2.6 REQUEST FOR START-UP AND FUNCTIONAL PERFORMANCE TESTS

2.6.2 Contractor shall notify Owner to request: (1) initial energization or operation of equipment and systems; and (2) an inspection of any system or system component for readiness prior to Functional Performance Tests.

2.6.2.1 Request for Start-up. Contractor must certify that: (1) electrical and mechanical connections have been installed and are safe for initial Start-up; (2) Contractor has complied with Owner's utilities outage notifications; and (3) Start-up will not harm Owner's daily routine operations.

2.6.2.2 Contractor shall complete the applicable Prefunctional Checklist(s) signed by Contractor and CxA if engaged for the project, evidencing Contractor's own thorough inspection of

the system and completion of Start-up activities required by the Contract Documents and the Commissioning Plan. Contractor shall submit required supporting documentation, including but not limited to, factory start-up forms, operational testing data, and certifications.

2.6.2.3 Request for Functional Performance Test. Contractor must certify that the Contractor has verified that the installation, Start-up, Prefunctional Checklists, and initial operation of the system or component are in accordance with the Contract Documents and the Commissioning Plan including manufacturer's instructions, manufacturer's requirements for maintenance of warranty, and verification that the system is ready for Functional Performance Tests. Contractor must certify that the manufacturer's representative has verified that the installation, Start-up, and initial operation of the system or component are in accordance with the manufacturer's published recommendations.

2.6.2 Contractor must obtain Owner's approval prior to proceeding with the Start-up or Functional Performance Test. All construction inspections must be completed. Any and all Deficiencies and all items included in the Non-Compliance Report have been brought into compliance with the Contract Documents..

## 2.7 FUNCTIONAL PERFORMANCE TESTS

### 2.7.2 Objective and Scope:

2.7.2.1 The objective of a Functional Performance Test is to demonstrate that the entire individual system operates according to the Contract Documents.

2.7.2.2 Contractor shall operate each system through all modes of operation (occupied, unoccupied, warm-up, cool-down, etc.) for specified system responses. Contractor is required to demonstrate to Owner's satisfaction each operational sequence.

### 2.7.2 Development of Functional Performance Test Procedures:

2.7.2.1 The purpose of a Functional Performance Test is to verify and document compliance with the stated criteria of acceptance. Contractor or Commissioning Authority if engaged for the project shall develop specific script-type test procedures and associated test forms to verify and document proper operation of each piece of equipment and system.

2.7.2.2 Contractor or Commissioning Authority if engaged for the project shall prepare Functional Performance Test Procedure forms as part of the Commissioning Plan. Once approved by Owner, Contractor shall utilize the forms for all testing activities.

2.7.2.3 Functional Performance Test Procedure forms must include the following:

2.7.2.3.1 System and equipment or component name(s).

2.7.2.3.2 Equipment location and identification number as identified in the Equipment Matrix.

2.7.2.3.3 Unique test identification number and reference to unique Prefunctional Checklist identification numbers for the equipment.

2.7.2.3.4 Date and time of test.

2.7.2.3.5 Project name.

2.7.2.3.6 Participating parties.

- 2.7.2.3.7 Specific sequence of operation or other specified parameters, including performance data being verified.
- 2.7.2.3.8 Instructions for setting up a Functional Performance Test.
- 2.7.2.3.9 Specific script-type, step-by-step procedures to perform a Functional Performance Test, in a clear, sequential and repeatable format that is customized for the system being tested.
- 2.7.2.3.10 A Pass / Fail checkbox (or data entry box as appropriate) for clearly indicating whether or not proper performance of each part of a Functional Performance Test was achieved and space for actual readings.
- 2.7.2.3.11 Section for comments.
- 2.7.2.3.12 Signatures and date block for participant and Owner approvals.
- 2.7.2 Contractor shall operate, or cause to be operated, each system, device, or equipment item, both intermittently and continuously, for a duration period as indicated in the Specification(s) for each item and/or in accordance with the manufacturer's written recommendations, the Contract Documents and the Commissioning Plan.
- 2.7.2 Contractor shall operate each component device and each building system to the full extent of its capability, from minimum to maximum, and under automatic control and manual control.
- 2.7.2 Contractor and manufacturer's representatives shall supervise and coordinate adjustments and balancing of all devices and systems for proper operation prior to requesting a Functional Performance Test(s).
  - 2.7.2.1 Where final balancing of a system is to be performed by Owner, such as final air balancing, Contractor shall provide all services indicated in the applicable Specifications and under this Section, including the following, prior to Owner's final balancing.
    - 2.7.2.1.1 Operational verification of all component devices and the total system, including automatic controls when applicable. Operational verification includes verification that all motors, fans, dampers, and other operable devices are performing in compliance with Specifications throughout their operable range and that all devices are controlled as described in the specified sequence of operation.
    - 2.7.2.1.2 All tabulated data, motor amperage readings, valve tag verifications, and other data required by the Specifications.
  - 2.7.2.2 Where final balancing of a system or particular components of a system are not specifically indicated to be performed by Owner, Contractor shall provide final balancing and adjustments for operation within specified tolerances prior to Functional Performance Test of such system.
- 2.7.2 Coordination and Scheduling.
  - 2.7.2.1 Members of the Commissioning Team, including Owner, may observe Functional Performance Tests of equipment components and systems. Contractor shall provide written notice to Owner at least ten (10) days prior to Functional Performance Tests of equipment components and systems. Contractor shall notify Owner in advance of any changes to the Functional Performance Test schedule. Owner may require Contractor to

reschedule Functional Performance Tests to ensure availability of Owner's representative(s).

2.7.2.2 Contractor conducts Functional Performance Tests after system Start-up and Pre-functional Checklists are satisfactorily completed and have been approved by Owner. Air balancing and water balancing shall be completed before Functional Performance Tests.

2.7.2.3 Contractor conducts Integrated System Tests after Functional Performance Tests are satisfactorily completed and have been approved by Owner.

## 2.8 INTEGRATED SYSTEM TESTS

### 2.8.1 Objective and Scope:

2.8.1.1 The objective of an Integrated System Test is to demonstrate that each system operates jointly with other systems according to the Contract Documents.

2.8.1.2 Contractor shall operate each system jointly with other systems, through selected modes of operation (fire alarm integration with HVAC, emergency power modes, equipment failures among related systems, etc.) for specified system responses. Contractor is required to demonstrate to Owner's satisfaction each operational sequence.

### 2.8.2 Development of Integrated System Test Procedures:

2.8.2.1 The purpose of an Integrated System Test is to verify and document compliance with the stated criteria of acceptance. Contractor or Commissioning Authority if engaged for the project shall develop specific script-type test procedures and associated test forms to verify and document proper operation of each piece of equipment and system, jointly and independently of other systems.

2.8.2.2 Contractor or Commissioning Authority if engaged for the project shall prepare Integrated System Test Procedure forms as part of the Commissioning Plan. Once approved by Commissioning Team., Contractor shall utilize the forms for all testing activities.

2.8.2.3 Integrated System Test Procedure forms must include the following.

2.8.2.3.1 System and equipment or component name(s).

2.8.2.3.2 System and equipment location and identification number as identified in the Equipment Matrix.

2.8.2.3.3 Unique test identification number and reference to unique Functional Performance Test identification numbers for the system and equipment.

2.8.2.3.4 Date and time of test.

2.8.2.3.5 Project name.

2.8.2.3.6 Participating parties.

2.8.2.3.7 Specific sequence of operation or other specified parameters, including performance data being verified.

2.8.2.3.8 Instructions for setting up an Integrated System Test.

- 2.8.2.3.9 Specific script-type, step-by-step procedures to perform an Integrated System Test, in a clear, sequential and repeatable format that is customized for the system being tested.
- 2.8.2.3.10 A Pass / Fail checkbox (or data entry box as appropriate) for clearly indicating whether or not proper performance of each part of an Integrated System Test was achieved and space for actual readings.
- 2.8.2.3.11 Section for comments.
- 2.8.2.3.12 Signatures and date block for participant and Owner approvals.
- 2.8.3 Contractor shall operate, or cause to be operated, each system, device, or equipment item, both intermittently and continuously, for a duration period as indicated in the Specifications for each item and in accordance with the manufacturer's written recommendations, the Contract Documents and the Commissioning Plan.
- 2.8.4 Coordination and Scheduling.
  - 2.8.4.1 Members of the Commissioning Team, including Owner may observe Integrated System Tests of equipment components and systems. Contractor shall provide written notice to Owner at least fourteen (14) days prior to Integrated System Tests of equipment components and systems. Contractor shall notify Owner and A/E in advance of any changes to the Integrated System Test schedule. Owner may require Contractor to reschedule Integrated System Tests to ensure availability of Owner's representative(s).
  - 2.8.4.2 Contractor conducts Integrated System Tests after Functional Performance Tests are satisfactorily completed and have been approved by Owner.

## 2.9 DOCUMENTATION AND NON-CONFORMANCE

### 2.9.1 Documentation:

- 2.9.1.1 Contractor shall witness and document the results of all Functional Performance Tests and Integrated Systems Tests using specific procedural forms developed for that purpose or an approved electronic database program. Prior to testing, Contractor shall submit these forms to the Owner and A/E for review and approval. Contractor will include the completed, filled-out forms in the Commissioning and Close-out Manual.

### 2.9.2 Non-Conformance:

- 2.9.2.1 Contractor shall record results of Functional Performance Tests and Integrated System Tests. Contractor or Commissioning Authority if engaged for the project shall report all Deficiencies and non-conformance issues to Commissioning Team.in accordance with the procedures outlined in the Commissioning Plan.
- 2.9.1.2 At the sole discretion of Owner, Owner may permit Contractor to make corrections of minor Deficiencies observed during a Functional Performance Test or during an Integrated System Test. However, the Contractor must document the Deficiency and resolution on the appropriate report form.
- 2.9.1.3 Contractor shall make every effort to expedite testing and minimize unnecessary delays, while not compromising the integrity of a Functional Performance Test or an Integrated Systems Test.
- 2.9.1.4 Contractor, A/E and Owner will attempt to resolve Deficiencies in the following manner.

- 2.9.1.4.1 When there is no dispute about a Deficiency and Contractor accepts responsibility for correction.
  - 2.9.1.4.1.1 Commissioning Authority if engaged for the project or Contractor documents the Deficiency and the corrective actions, and then proceeds to another test or sequence. A Deficiency report is submitted to Owner. Contractor corrects the Deficiency, completes the statement of correction form certifying that the equipment or system is ready for retesting, and sends the certification to Owner.
  - 2.9.1.4.1.2 Contractor reschedules test with Owner.
- 2.9.1.4.2 When there is a dispute about whether or not the test indicates a Deficiency or the Contractor's responsibility for correction of the apparent Deficiency.
  - 2.9.1.4.2.1 Commissioning Authority if engaged for the project or Contractor documents the apparent Deficiency. A Deficiency report is submitted to Owner, including the apparent Deficiency.
  - 2.9.1.4.2.2 Contractor facilitates resolution of the Deficiency and provides recommendations to the Owner. Contractor and Owner may bring other parties into the discussions as needed. Final technical interpretive authority is with the A/E. Final acceptance authority is with the Owner.
  - 2.9.1.4.2.3 Contractor documents the resolution process.
  - 2.9.1.4.2.4 If Owner and the A/E agree with Contractor's interpretation and proposed resolution, Contractor forwards response to Owner. Contractor reschedules test with Owner. Contractor must repeat this process until satisfactory performance and Owner's approval is obtained.

## 2.10 DEMONSTRATION AND OWNER TRAINING

- 2.10.1 Contractor, in coordination with Owner shall develop the Training Plan with project specific requirements for Owner Training, after reviewing the different systems to be installed and commissioned. The purpose of the Training Plan is to specifically communicate the required content and training durations required by the Owner based upon the type of equipment and the Owner's past experience.

- 2.10.2 Refer to Section 01 79 00 - Demonstration and Training for specific requirements.

## 2.11 DEFERRED TESTS

### 2.11.1 Deferred Tests:

- 2.11.1.1 Deferred Tests shall be identified in writing and shall be approved by Owner.
  - 2.11.1.1.1 Contractor shall complete Deferred Tests as part of this Contract during the Warranty Period. Contractor shall schedule this activity with Owner. Contractor shall perform tests and document and correct Deficiencies. Owner may observe the tests and review and approve test documentation and Deficiency corrections.
  - 2.11.1.1.2 Contractor shall incorporate final updates to the Commissioning and Close-out Manual.

- 2.11.1.1.3 If any check or test cannot be completed prior to Substantial Completion due to the building structure, required occupancy condition, or other condition, performance of such test may be delayed to later in the Warranty Period, upon approval of the Owner.
- 2.11.1.1.4 Commissioning of systems which provide Life Safety (passive or active) to the building and its occupants shall not be deferred unless occupancy is deferred.

## 2.12 COMMISSIONING DOCUMENTATION

- 2.12.1 Contractor shall compile and organize all Commissioning documentation into a Commissioning and Close-out Manual and deliver to the Owner as specified in Section 01 77 00 – Project Close-out Procedures.
- 2.12.2 The Commissioning and Close-out Manual submitted to Owner shall contain all Commissioning documentation, including, but not limited to:
  - 2.12.2.1 The Commissioning Plan.
  - 2.12.2.2 Final Baseline Schedule filtered to show only the Commissioning activities.
  - 2.12.2.3 Completed Equipment Matrix.
  - 2.12.2.4 Completed Prefunctional Checklists with all required attachments,
  - 2.12.2.5 Functional Performance Test Procedures and results.
  - 2.12.2.6 Integrated System Test Procedures and results.
  - 2.12.2.7 Training Plan and all supporting documentation. Refer to Section 01 79 00 – Demonstration and Training for specific requirements.
  - 2.12.2.8 Deficiency reports and solution results.
  - 2.12.2.9 Recommendations on continuous Commissioning, best practices, and preventive maintenance.
  - 2.12.2.10 Refer to Section 01 77 00 – Project Close-out Procedures for additional Close-out documentation to be included in the Commissioning and Close-out Manual.

**END OF SECTION 01 91 00**

## Attachment No. 1 – Equipment Matrix

Download an Electronic Version of the Equipment Matrix template at the following Internet Address:

<http://www2.mdanderson.org/depts/cpm/standards/supp.html#templates>

		Project Name Equipment Matrix																		
Integrated System		Equipment Manufacturer	Equipment Model Number	Equipment Serial Number	Emergency Power	Manufacturer / Vendor Representative	Manufacturer / Vendor Contact Information	Manufacturer PO Number	Estimated Replacement Cost	Start-Up Date(s)	Prefunctional Checklist Approved	Functional Performance Test Approved	Integrated Systems Test Approved	Substantial Completion Date	Warranty Start Date	Warranty Duration (Years)	Short Description (from MDACC)	Mainsewer Work Group (from MDACC)	Mainsewer Group Code (from MDACC)	Estimated Service Life (from MDACC)
I	System																			
S	Component																			
C	Unit																			
	U.1																			
	U.2																			
	U.3																			
I	MECHANICAL																			
S	CWS- Chilled Water System																			
C	Pump																			
	U.1																			
S	AHU- Air Handling Units																			
C	VFD																			
	U																			
C	Air Terminal Units																			
	U																			
S	FCU- Fan Coil Units																			
C																				
S	CRAC- Computer Room Air Condition Units																			
C																				
S	Fans																			
C																				
	U																			
I	PLUMBING																			
S	Domestic Water System																			
C																				
	U																			
	U.1																			
S	Diesel Fuel System																			
C																				
	U																			
	U.1																			
S	Subsurface Drainage System																			
C																				
S	Elevator Sump System																			
C																				
S	Sewage System																			
C																				
S	Med Gas																			
C																				
S	Lab Piping System																			
C	Lab Waste																			
	U																			
	U.1																			
C	Liquid Nitrogen																			
	U																			
	U.1																			
C	Lab Vacuum																			
	U																			
	U.1																			

**EXHIBIT C**

**JOB ORDER EMERGENCY SITUATION**

## Exhibit C

### **Job Orders for Emergency Situations**

1. **Declared Events:** Owner anticipates that during certain declared severe weather or emergency events, Owner will need to take action to ensure that it has appropriate resources in place to mitigate the risk of damage to its facilities and adverse impacts to ongoing campus operations. Accordingly, Owner anticipates that this program may be used to secure certain emergency construction and/or maintenance services as follows:

2. **Emergency Job Order RFP:**

2.01 Upon the formal declaration of a severe weather or emergency event (“Declared Event”) Owner shall prepare an Emergency Job Order Request for Proposal (“Emergency Job Order RFP”) identifying the Job Order and describing in appropriate materials (“Job Order Documents”) the intended scope and character of the work to be completed under the Job Order and the schedule for completing the work. The scope of work (“Emergency Work”) will be limited to the following services;

2.01.1 Removal of debris generated directly by and during the declared event that is causing an immediate threat to Owner’s facilities, ongoing operations, or both, or

2.01.2 The implementation of emergency protective measures to minimize damage to Owner’s facilities with such measures to include but not necessarily be limited to the construction of emergency berms and barricades, mold remediation, removal and storage of building contents to minimize additional damage, extracting water, clearing mud, silt or other debris from facilities expeditiously to address an immediate threat, taking actions to save the lives of animals that are eligible for replacement, and/or pre-positioning resources specifically for the declared incident that are expected to be used to perform the Emergency Work.

2.02 Within the Emergency Job Order RFP, Owner will identify anticipated types and quantities of materials to be provided, the anticipated types and quantities of personnel that will be needed to address risks associated with the declared event, and the anticipated time that personnel will need to be located at Owner’s facilities. The Emergency Job Order RFP will also provide information related to Owner providing housing for personnel assigned to the Job Order.

3. **Emergency Job Order Proposal:** In response to an Emergency Job Order RFP, Contractor shall provide Owner with a written Emergency Job Order Proposal. The Emergency Job Order Proposal shall include the following:

3.01 A narrative description of Contractor’s understanding of the Emergency Job Order scope of work;

3.02 A description of particular phases of the scope of the work, if applicable;

3.03 An Emergency Job Order Price Proposal (prepared in accordance with the terms of the Master Agreement) detailing:

3.03.1.1 the proposed amount of the Pre-priced Items as taken from the Unit Price Guide;

3.03.1.2 the proposed amount of any Non-pre-priced Items;

## Exhibit C

### **Job Orders for Emergency Situations**

- 3.03.1.3 the proposed amount of any Other Costs (which are to include but not be limited to costs associated with expedited delivery of materials to Owner's facilities and overtime costs for Contractor's and Subcontractor's personnel to be on-site at Owner's facilities for the duration of the Declared Event), and;
    - 3.03.1.4 a statement that all Contractor fees, overhead expenses and general conditions are included in the proposed Emergency Job Order Price; and
    - 3.03.1.5 a fixed price (or "lump sum amount") for performing the work ("Emergency Job Order Price");
  - 3.04 A list of all subcontractors that Contractor proposes to use in the performance of the work, if any, or a statement that Contractor will self-perform all work; and
  - 3.05 Any qualifications or conditions applicable to the Emergency Job Order Proposal.
4. **Emergency Job Order Proposal Review:** Owner and Contractor shall review Contractor's Emergency Job Order Proposal and negotiate any changes, clarifications or modifications as required. Contractor shall submit a revised Emergency Job Order Proposal incorporating any changes, clarifications or modifications requested by Owner during the review process. Owner may accept, reject or seek modification of the Emergency Job Order Proposal.
5. **Notice to Proceed:** Upon acceptance of an Emergency Job Order Proposal by Owner, Owner shall issue a written purchase order ("Purchase Order") to Contractor. Subsequent to or concurrent with the issuing of the Purchase Order, Owner will issue a written Notice to Proceed to Contractor. The Notice to Proceed will authorize Contractor to deliver materials to Owner's facilities and to mobilize to Owner's facilities on the date specified in the Notice to Proceed. Contractor shall remain at Owner's facilities until Owners deems the Declared Event to have ended.
6. **Termination of the Declared Event:** Following the termination of the Declared Event, Owner and Contractor shall review Contractor's Emergency Job Order and negotiate any changes, clarifications or modifications as required to reflect actual debris removed, materials used and work-hours expended during the Declared Event. Owner and Contractor shall prepare and execute a Job Order Change to adjust the Job Order Price to compensate Contractor for the actual quantity of materials used and work-hours expended over the duration of the Declared Event.

**EXHIBIT D**

**JOB ORDER PROPOSAL FORM**

Insert Company Logo Here

*[Contractor to enter the Proposal Date and delete this instructional text.]*

Proposal Date: [Click here to enter a date.](#)

#### **JOB ORDER PROPOSAL**

*[MDA PM to edit the paragraph below to provide the name and the project number and delete this instructional text.]*

Contractor hereby submits to The University of Texas MD Anderson Cancer Center, pursuant to the provisions of Article 4 and Article 7 of Master Agreement No. **XXXXXXXXXX** by and between The University of Texas MD Anderson Cancer Center and **Company Name**, effective as of **MMM DD, 2019** (the “Master Agreement”), this Job Order Proposal for the Job Order entitled **[Insert project/work order name here]**, and having MD Anderson project **[Insert Project Number here]**, as follows:

#### **Job Order Location:**

*[MDA PM to enter project location information (at minimum, identify the campus), and delete this instructional text]*

#### **Job Order Scope of Work:**

*[MDA PM to enter general description of the scope of work. Include reference to project manual, drawings and specifications, as appropriate.*

*Contractor to modify this section if necessary to describe your understanding of the scope. Note the Clarifications and Qualifications section toward the end of the document should also be used to list exclusions.*

*Contractor to delete this instructional text.]*

Insert Company Logo Here

**Job Order Price:**

*[Contractor to edit pricing below. Right click on the Excel object > Worksheet Object > Open. Close Excel after editing the pricing and ensure all line items are showing after editing the object then delete this instructional text]*

1.	An amount for the Pre-priced Items pursuant to paragraph 7.02 of the Master Agreement and to which the Coefficient Multiplier is to be applied:	\$0.00
2.	Coefficient Multiplier to be applied to the Pre-priced Items pursuant to paragraph 7.02.3 of the Master Agreement.	0.000
3.	<b>SUBTOTAL: Proposed Fixed Price for the Pre-Priced Items (Line 1 X Line 2)</b>	\$0.00
4.	Proposed Fixed Price for Non-pre-priced Items pursuant to Section 7.03 of the Master Agreement.	\$0.00
5.	Proposed Fixed Price for Other Costs pursuant to Section 7.04 and 7.04.1 of the Master Agreement.	\$0.00
6.	Proposed Not to Exceed Price for Other Costs pursuant to Section 7.04 of the Master Agreement.	\$0.00
7.	TOTAL of Lines 3, 4, 5, and 6 = Proposed Job Order Price:	\$0.00

This Job Order Price is based on the Job Order Documents (as defined by the Master Agreement) for this Job Order, which are more specifically identified in Attachment A to this Job Order Proposal.

For a detailed breakdown of the Pre-priced Items, the Non-pre-priced Items, and the Other Cost Items, refer to the detailed RSMeans CostWorks cost breakdown and supporting documentation attached hereto as Attachment B.

This Job Order Price is inclusive of all Contractor fees, overhead expenses and general conditions.

**Job Order Time:**

*[MDA PM to edit the paragraph below to provide the desired duration in calendar days between the expected construction start date that is to be set forth in the Notice to Proceed with Construction and the proposed date for achieving Substantial Completion. Also provide the duration, in calendar days, between the proposed date for achieving Substantial Completion and the proposed date for achieving Final Completion.*

*Contractor may alter these dates if required. Contractor to delete this instructional text prior to printing this document for signature and submittal.]*

The proposed date of commencement is [Click here to enter a date.](#)

Insert Company Logo Here

The proposed period of time between the Date of Commencement to be identified in the Notice to Proceed and the Substantial Completion Date is \_\_\_\_ calendar days.

The proposed period of time between the scheduled Substantial Completion date and the scheduled Final Completion date is 30 calendar days.

These durations are reflected on the proposed Baseline Schedule, which is attached hereto as Attachment C.

**Builders' Risk:**

MD Anderson will be providing builder's risk insurance for this Job Order Project. However, please be advised that Contractor will be responsible for, and reimburse to MD Anderson, any applicable deductible under the builder's risk insurance policy, which amount may be up to \$50,000. Any costs associated with Contractor's responsibility for the applicable deductible will not be considered a Cost of Work.

**Liquidated Damages:**

This Job Order Project may be subject to the assessment of Liquidated Damages. Contractor hereby stipulates and agrees that calculating Owner's actual damages for late completion of this Job Order would be impractical, unduly burdensome, and cause unnecessary delay. For each consecutive calendar day after the scheduled date for substantially completing the Work be completed under this Job Order is not substantially complete, MD Anderson will incur damages in the amount of \$200.00 per calendar day. Contractor hereby acknowledges and agrees that this amount is reasonable and represents the parties' estimate, as of this time, of the damages that Owner will sustain for late completion and is not a penalty. Contractor further acknowledges and agrees that Owner may deduct this amount from any money that becomes due Contractor, pursuant to the terms of the Master Agreement, for any Work that is completed for this Job Order.

Insert Company Logo Here

**HUB Subcontracting Plan:**

*[Contractor to include only one of the two paragraphs below.*

- 1. If the proposed Job Order Price is less than \$100,000, retain the first paragraph and delete the second.*
- 2. If the proposed Job Order Price is  $\geq$  \$100,000, retain the second paragraph and delete the first.*

*After selecting the applicable paragraph and deleting the paragraphs that do not apply and all “ORs”, change the font color to **black** and delete these instructional paragraphs prior to printing this document for signature and submittal.]*

The proposed Job Order Price for this Job Order is less than \$100,000. MD Anderson Rider 104, Policy on Utilization of Historically Underutilized Businesses, is not applicable to this Job Order and no HUB Subcontracting Plan is required.

OR

The proposed Job Order Price is \$100,000 or more. Accordingly, this Job Order Proposal includes a HUB Subcontracting Plan (HSP) that has been developed and will be administered in accordance with MD Anderson’s Rider 104, Policy on Utilization of Historically Underutilized Businesses (HUB). This HSP is attached hereto as Attachment D.

**List of Proposed Subcontractors:**

Contractor intends to utilize the following subcontractors to complete the scope of work:

1. [Subcontractor name] : [trade/scope]

**Clarifications and Qualifications:**

This Job Order Proposal is subject to the following clarifications and qualifications:

*[Contractor and to list clarifications and qualifications. Contractor to delete this instructional text]*

*[MDA PM to identify whether employees will be required to have medical clearances, and may list other appropriate items if needed and delete this instruction text.]*

- 1.

**List of Attachments:**

Attachment A – List of Job Order Contract Documents

Attachment B – Detailed RS Means Job Order Cost Estimate (and supporting documentation)

Attachment C – Proposed Baseline Schedule

Attachment D – HUB Subcontracting Plan for Job Order Price (if applicable, if not delete and use for other attachment if needed. Contractor to delete this instructional text)

*[Contractor to list other attachments, if any, and delete this instructional text]*

*[Balance of page intentionally left blank.]*

Insert Company Logo Here

*[It is important that all signatures appear on the same page. If all signatures can fit on the same page with other text, then remove the page break and delete the phrase "Balance of page intentionally left blank" that appears above.*

*The Job Order proposal is to be signed by a duly authorized representative of the Contractor. Refer to the FPDC intranet site to identify or confirm Contractor's signature authority.*

*Prior to printing for signature and submittal, all instructional notes – including this one - should be deleted.]*

BY SIGNING BELOW, the undersigned hereby executes and binds Contractor to this Job Order Proposal as of the Date of Signature set forth below.

By: \_\_\_\_\_  
(Signature)

Name: \_\_\_\_\_  
(Typed or legibly printed)

Title: \_\_\_\_\_  
(Typed or legibly printed)

Date of Signature: \_\_\_\_\_

This Job Order Proposal is accepted by:

THE UNIVERSITY OF TEXAS MD ANDERSON CANCER CENTER

By: \_\_\_\_\_  
(Original signature)

Name: \_\_\_\_\_

Title: \_\_\_\_\_

Date: \_\_\_\_\_

MD Anderson Purchase Order Number: \_\_\_\_\_

**EXHIBIT E**

**NOTICE TO PROCEED FORM**

**UT MD ANDERSON BSVJOC PROJECT  
NOTICE TO PROCEED****Date:** Click here to enter a date.**To:** [Company Name]**Attn:** [Company Representative Name]**From:** [Sender's Name]  
[Sender's Position Title], and  
Owner's Designated Representative**Ref.:** NOTICE TO PROCEED

MD Anderson Project: [Enter MD Anderson Project Name]

MD Anderson Project Number: [Enter MD Anderson Project Number]

MD Anderson Job Order Contracting Master Agreement No. **XXXXXXXXXX**

Purchase Order Number: [Enter MD Anderson PO Number]

***For the Execution of the above noted Project Contract,***

You are hereby notified that the Contract Time for the above referenced Project Contract will commence to run on:

[Click here to enter a date.](#)

On this date you are to start performing your obligations under the Contract Documents of this Project.

In accordance with the Contract Documents, Substantial Completion shall be achieved not later than:

[Click here to enter a date.](#)

And Final Completion shall be achieved not later than:

[Click here to enter a date.](#)**Project Duration in Calendar days is:****Substantial Completion** = ##### Calendar Days (from start date)**Final Completion** = ##### Calendar Days (from start date)

*Before any construction work may start at the project site, the Safety, and Informational Signs must be installed and secured. These will be maintained throughout the duration of the project.*

[Click here to enter a date.](#)\_\_\_\_\_  
Project Manager Name\_\_\_\_\_  
Date

Cc: Project Workspace

**EXHIBIT F**

**RIDER 104-C POLICY ON UTILIZATION HISTORICALLY UNDERUTILIZED  
BUSINESSES**

**EXHIBIT G**

**CONTRACTOR'S LETTER OF HUB COMMITMENT**

**EXHIBIT H**

**RIDER 105; CONTRACTOR'S AFFIRMATIONS AND WARRANTIES**

**EXHIBIT I**

**RIDER 106; PREMISES RULES**

**EXHIBIT J**

**RIDER 107; TRAVEL POLICY**

**EXHIBIT K**

**RIDER 116; INVOICE PAYMENT REQUIREMENTS**

**EXHIBIT L**

**RIDER 117; INSTITUTIONAL POLICIES**

**EXHIBIT M**

**FORMS of PAYMENT AND PERFORMANCE BONDS**

**EXHIBIT N**

**CONTRACTOR'S EXECUTION OF OFFER**

**EXHIBIT O**

**CONTRACTOR'S PRICING AND DELIVERY PROPOSAL**