

**DRAFT AGREEMENT
BETWEEN OWNER AND PROJECT ARCHITECT**

This Agreement is made as of _____, 20____ (the “Effective Date”)

MD ANDERSON AGREEMENT No._____

By and between

The **Owner:** The University of Texas M. D. Anderson Cancer Center
 c/o Facilities Planning, Design, and Construction
 6900 Fannin, Suite 1010
 Houston, Texas 77030

and **Project Architect:**

for the following **Project:** Smithville – Lab 3 Renewal

MD Anderson Project Number: FPDC-160085

Project Delivery Method: Construction Manager at Risk

The Owner and the Project Architect agree as follows:

This form of agreement is for Architectural services on projects that use a Owner/Architect/Contractor- CM delivery method (e.g. Competitive Sealed Proposal or Construction Manager at Risk). It has been prepared by the Office of General Counsel for the University of Texas System for use on U.T. System projects and its legal terms should not be altered without the approval of the Office of General Counsel.

Use this form for all appropriate U.T. System projects after April 1, 2005.

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Article 1 Project Architect's Services and Responsibilities

The Project Architect shall provide the usual and customary Basic Services necessary and reasonably inferable to complete the Project and each phase of the project described in Paragraphs 1.2 through 1.6, below, along with any Additional Services requested by the Owner.

1.1 Basic Services

1.1.1 Basic Services. The Project Architect's Basic Services included all disciplines identified in Article 14 and all related usual and customary design, consultant, and other services necessary and reasonably inferable to complete the Project, or any phase of the Project, in accordance with the Owner's requirements and the terms of this Agreement.

1.1.2 The Pre-Design Report (Facility Program, see Article 2) shall set forth the intended project scope and character along with the anticipated Project Schedule and the Preliminary Project Cost. It is the Project Architect's responsibility to review and understand the requirements of the Pre-Design Report (Facility) Program and to perform its professional services so as to achieve those objectives.

1.1.3 The Construction Cost Limitation (CCL) for this Project is specified in Article 14 and means the maximum amount that the Owner is willing to pay to a Contractor for the construction of the Project. The Construction Cost Limitation includes all costs for constructing the Project, and includes, without limitation, reasonable allowances for the Contractor's overhead, profit and general conditions, the cost of labor and materials furnished by the Contractor and any equipment which has been shown in the plans, specified, and specially provided for by the Project Architect. The Construction Cost Limitation does not include compensation to the Project Architect and the Project Architect's consultants, the Owner's Construction Contingency, the Owner's Special Cash Allowance, the cost of the land, rights-of-way, or other costs which are the responsibility of the Owner as provided in Article 2. The Project Architect is responsible for managing the design of the Project so that the Project does not exceed the Construction Cost Limitation.

1.1.4 The Owner may require the Project Architect to provide services for the Project in multiple stages or parts identified as Construction Contract Stages (CCS). Each CCS shall have a unique Sub-Construction Cost Limitation (SCCL). The Project Architect is responsible for managing the design of each CCS so that its construction does not exceed the SCCL. The Project Architect is responsible for managing the design of the Project so that sum of all SCCLs does not exceed the Construction Cost Limitation.

1.1.5 The Project Architect shall manage the design of the Project to achieve the approved Pre-Design objectives, as set forth in the approved Pre-Design Report (Facility Program) of scope and cost through completion and acceptance of Construction Documents phase. The Project Architect shall advise the Owner of any adjustments to the scope or quality of the Project necessary to comply with the Construction Cost Limitation during design development as part of Basic Services.

1.1.6 The Project Architect shall submit the names of all consultants, persons, or firms, which the Project Architect proposes to use in the execution of its services and shall provide the Owner with a fully executed copy of each contract or agreement that the Project Architect enters into with any consultant. The Project Architect is responsible for coordinating the work of all of its consultants to assure that their services are appropriate for and adequately incorporated into the design of the Project. The Owner reserves the right, in its sole discretion, to reject the employment by Architect of any consultant for the Project to which Owner has a reasonable objection. Architect, however, shall not be required to contract with any consultant to which it has a reasonable objection.

1.1.7 The Project Architect shall pay for its consultants' services out of its fees. The Owner is not responsible for any consultant fees or costs unless expressly agreed to in writing.

1.1.8 The Project Architect agrees to allocate work to consultants that are historically underutilized businesses in accordance with the Policy on Utilization – Historically Underutilized Businesses, attached as **Exhibit H**. No changes to the HUB Subcontracting Plan may be made unless approved in writing by the Owner. While this Agreement is in effect and until the expiration of one year after final completion, the Owner may require information from the Project Architect, and may conduct audits, to assure that the Plan is followed.

1.1.8.1 Owner's expenditures under this Agreement will exceed \$100,000. Project Architect has submitted a plan for the utilization of Historically Underutilized Businesses ("HUB") in accordance with Owner's requirements. All HUB forms are attached hereto as Rider 104. Project Architect's interest in this Agreement (including Project Architect's duties and obligations under this Agreement, and the fees due to Project Architect under this Agreement) may not be subcontracted, assigned, delegated, or otherwise transferred to a third party, in whole or in part, and any attempt to do so will (a) not be binding on Owner; and (b) be a breach of this Agreement for which Project Architect will be subject to all remedial actions provided by Texas law, including Chapter 2161, *Texas Government Code*, and 34 *Texas Administrative Code* ("TAC") Chapter 20, §§20.101 – 20.108. The benefits and burdens of this Agreement are assignable by Owner.

1.1.8.2 Project Architect agrees to maintain business records documenting its compliance with the HUB Subcontracting Plan ("HSP") and to submit a monthly compliance report to Owner in the format required by Texas Procurement and Support Services Division of the Texas Comptroller of Public Accounts or any successor agency (collectively, "TPASS"). Submission of compliance reports will be required as a condition for payment under this Agreement.

1.1.8.3 **Changes to the HSP.** If at any time during the term of this Agreement, Project Architect desires to change the HSP, before the proposed changes become effective (a) Project Architect must comply with 34 TAC Section 20.14; (b) the changes must be reviewed and approved by Owner; and (c) if Owner approves changes to the HSP, this Agreement will be amended to replace the HSP with the revised subcontracting plan. Except as specifically provided in the HSP, Project Architect will not subcontract any of its duties or obligations under the Agreement, in whole or in part.

1.1.8.4 **Expansion of the Work.** If Owner expands the scope of the goods or services provided by Project Architect under this Agreement through a change order or any other amendment, Owner will determine if the additional goods or services contain probable subcontracting opportunities not identified in the initial solicitation for this Agreement. If Owner determines additional probable subcontracting opportunities exist, Project Architect will submit an amended subcontracting plan covering those opportunities. The amended subcontracting plan must comply with the provisions of 34 TAC Section 20.14 before (a) this Agreement may be amended to include the additional goods or services; or (b) Project Architect may perform the additional goods or services. If Project Architect subcontracts any of the additional subcontracting opportunities identified by Owner without prior authorization and without complying with 34 TAC Section 20.14, Project Architect will be deemed to be in breach of this Agreement and will be subject to any remedial actions provided by Texas law including Chapter 2161, *Texas Government Code* and 34 TAC

Section 20.14. Owner may report nonperformance under this Agreement to the TPSS in accordance with 34 TAC Chapter 20, §§20.101 – 20.108.

1.1.9 The Project Architect shall design the Project to incorporate current systems technology as appropriate to the stated mission of the institution and the programmed functional activities. The technology shall be compatible with any existing facility and acceptable to the Owner.

1.1.10 The Project Architect shall perform its services in accordance with the Owner furnished Owner's Design Guidelines, a listing of which is attached hereto as an Exhibit.

1.1.11 The Project Architect shall design the Project in accordance with the approved Campus Master Plan.

1.1.12 Basic design services shall include incorporation of the provisions of the Energy Conservation Design Standard for New State Buildings as administered by the State Energy Conservation Office, State Comptroller's Office of the State of Texas. Project Architect shall provide the Owner with a Statement of Compliance and associated compliance documentation as required.

1.1.13 Project Architect shall provide an economic evaluation for the potential of renewable energy applications pursuant to legislative requirements. Guidelines are available from the State Energy Conservation Office, State Comptroller's Office. Project Architect, as part of Basic Services, shall assist with and attend with Owner representatives any open meeting(s) that are required to be held pursuant to Section 2166.403(b) *Texas Government Code*, to verify the economic feasibility of incorporating alternative energy devices for space heating, cooling, water heating, electrical loads, and interior lighting into the building's design and proposed energy system.

1.1.14 NOT APPLICABLE.

1.1.15 The Project Architect, as part of Basic Services, shall engage a recognized and specialized construction cost estimating consultant acceptable to the Owner to prepare detailed Estimated Construction Cost of the Project in a form acceptable to the Owner following the Construction Specifications Institute (CSI) format. Project Architect shall include updated and detailed Estimated Construction Cost with the plans and specifications submitted for review at completion of the Schematic Design phase and the Design Development phase and at the stages of completion of the Construction Documents required in Article 14. If the Estimated Construction Cost exceeds the Construction Cost Limitation at any time, the Owner will determine, solely at Owner's discretion, whether to increase the Construction Cost Limitation, or to instruct the Project Architect to proceed to the next stage of design with no increase in the Construction Cost Limitation, or to require the Project Architect to revise, at no charge to the Owner, the Project scope or quality to comply with the Construction Cost Limitation. Reductions in Project scope or quality are subject to Owner's review and approval. If the Estimated Construction Cost is below the Construction Cost Limitation at any time, the Owner may determine, solely at Owner's discretion, whether to reduce the Construction Cost Limitation, or to instruct the Project Architect to proceed to the next stage of design with no decrease to the Construction Cost Limitation, or to require the Project Architect to increase the Project scope or quality.

1.1.16 The Project Architect shall submit documents to the Owner for review at completion of the Schematic Design and Design Development phases and at the stages of completion of the Construction Documents as described in Article 14. The Project Architect shall incorporate into the documents such corrections and amendments as the Owner requests, unless the Architect objects in writing and receives the Owner's consent not to make the changes. The Project Architect will be

responsible for any damages incurred by the Owner that are caused by Project Architect's failure to incorporate requested corrections and amendments to the documents.

1.1.17 Project Architect shall provide a review and comment form acceptable to the Owner for Owner's use during document review. Owner will provide its review comments to Project Architect on the form and the Project Architect shall provide a detailed written response to each of the Owner's review comments indicating where and how they have been addressed in the design documents. At each required document submittal stage, the Project Architect shall include the completed comment form from the preceding submittal along with a cover letter signed by a firm principal affirming that the previous review comments have been fully addressed in the current submittal. Failure to respond to the previous comments or to provide the written affirmation may result in reduction or rejection of the Project Architect's then current Statement for Architectural/Engineering Services. Owner's approval of the revised drawing shall not be deemed to be an approval of any unlisted changes, and any costs or expense for any Project Architect's additional services subsequently incurred for such unlisted changes shall be borne or reimbursed by Project Architect.

1.1.18 The Project Architect, as part of Basic Services, shall become sufficiently familiar with the existing facilities, systems and conditions at the Project location so that the proposed Project will completely and properly interface functionally with them.

1.1.19 Project Architect agrees and acknowledges that Owner is entering into this Agreement in reliance on Project Architect's represented professional abilities with respect to performing Project Architect's services, duties, and obligations under this Agreement. Project Architect agrees to use Project Architect's best professional efforts, skill, judgment, and abilities in performing Project Architect's services. Project Architect shall perform its Services diligently and shall endeavor to further the interest of the Owner in accordance with Owner's requirements and procedures. Project Architect agrees to use its best efforts to perform its services (i) in accordance with the usual and customary professional standards of care, skill and diligence consistent with good architectural practices for architectural firms in Texas that provide professional design services for projects that are similar in size, scope, and budget to the Project, and (ii) in compliance with all applicable national, federal, state, municipal, and State of Texas laws, regulations, codes, ordinances, orders and with those of any other body having jurisdiction. There are no obligations, commitments, or impediments of any kind known to the Project Architect that will limit or prevent performance by Project Architect of its services. Project Architect hereby agrees to correct, at its own cost, any of its Services, and the services of its consultants, that do not meet the standard of care.

1.1.20 Project Architect shall take reasonable precautions to verify the accuracy and suitability of any drawings, plans, sketches, instructions, information, requirements, procedures, requests for action, and other data supplied to Project Architect (by Owner or any other party) that Project Architect uses for the Project. Project Architect shall identify to the Owner in writing any such documents or data which, in Project Architect's professional opinion, are unsuitable, improper, or inaccurate in connection with the purposes for which such documents or data are furnished. Owner does not warrant for the accuracy or suitability of such documents or data as are furnished unless Project Architect advises Owner in writing that in Project Architect's professional opinion such documents or data are unsuitable, improper, or inaccurate and Owner confirms in writing that it wishes Project Architect to proceed in accordance with the documents or data as originally given.

1.1.21 Project Architect's services shall be reasonably accurate and free from any material errors or omissions. Neither acceptance nor approval of Project Architect's services by the Owner shall relieve Project Architect of any of its professional duties or release it from any liability, it being understood that Owner is, at all times, relying upon Project Architect for its skill and knowledge in performing Project

Architect's services. Owner shall have the right to reject any of Project Architect's services because of any fault or defect in the Project due to any material errors or omissions in the plans, drawings, specifications, and other materials prepared by Project Architect or its consultants. Upon notice of any such errors or omissions, Project Architect shall promptly provide any and all services necessary to correct or remedy them at no additional cost to the Owner. Project Architect's obligation to correct its errors and omissions is in addition to, and not in substitution for, any other remedy for defective services which Owner may have at law or in equity, or both.

1.1.22 The Project Architect shall not proceed to any phase of design not expressly authorized by the Owner, except at the Project Architect's own financial risk.

1.1.23 Project Architect agrees to furnish efficient business administration and superintendence and to use Project Architect's best efforts to design the Project in an expeditious and economical manner consistent with the interest of Owner and Project Architect's professional skill and care.

1.1.24 Project Architect shall allocate adequate time, personnel and resources as necessary to perform its services. Project Architect's Senior Principal(s) responsible for managing the Project is identified in the attached Exhibit entitled Personnel Titles & Hourly Rates and shall not be changed without the prior approval of the Owner. The day-to-day Project team will be led by the Senior Principal(s) unless otherwise directed by Owner or prevented by factors beyond the control of Project Architect. The Senior Principal(s) shall act on behalf of Project Architect with respect to all phases of Project Architect's Services and shall be available as required for the benefit of the Project and Owner.

1.1.25 Project Architect shall make reasonable efforts to investigate any documents provided by the Owner and the visible existing conditions at the Project site to identify existing systems and construction which must be modified to accommodate the Project Architect's design for the Project and the construction of the Project. The Project Architect shall identify to Owner any discrepancies between the documents and visible conditions, and shall consult with the Owner on any special measures, services or further investigations required for Project Architect to perform its services free from material errors and omissions and to properly coordinate with existing systems and construction. This investigation shall be accomplished by registered, professional architects and engineers, as appropriate.

1.1.26 The Project Architect, when requested by the Owner, shall coordinate the purchase of additional reprographic materials for bidding or proposal purposes or when additional review sets, in excess of those required by Article 1.4. is required by the Owner. The Project Architect shall present a Tax Exemption Certificate to the vendor and coordinate the Owner's requirements for type, quantity and invoice billing. When requested, the Project Architect will account to the Owner for all additional materials ordered by the Owner through the Project Architect as the Owner's agent and shall distinguish between those materials ordered on behalf of the Owner without sales tax and any other copies thereof that Project Architect, or others, may order and pay for which includes sales tax, on its own or their behalf. Project Architect shall provide to the Owner the original vendor's invoice for materials purchased by the Owner and delivered to the Project Architect as the Owner's agent.

1.1.27 When the project is subject to Texas Commission on Environmental Quality (TCEQ) regulations, Project Architect shall coordinate all related design efforts, including the civil engineer and landscape architect, so that consideration of site design and Best Management Practices (BMP's) are integrated.

1.1.28 Insurance Coverage. The Project Architect shall carry such professional liability/errors and omissions insurance, covering the services provided under this Agreement and other coverages as further described, acceptable to and approved by the Owner. The fees for such insurance will be at the

expense of the Project Architect. The insurance policy shall remain in force for a period of one (1) year beyond the final completion date. A Certificate of Insurance indicating the expiration date, and existence, of the Project Architect's insurance coverages is required prior to commencement or continuation of performance of the services under this Agreement. Each request for payment by the Architect shall include the expiration date of the insurance. Project Architect shall deliver to Owner replacement certificates not less than thirty (30) days prior to the expiration of any such insurance. If, however, Project Architect fails to pay any of the renewal premiums for the expiring policies, Owner shall have the right (but not the obligation) to make such payments and set off the amount thereof against the next payment coming due to Project Architect under this Agreement.

- a) A Certificate of Insurance is required with a minimum limit of \$1,000,000 each claim and \$1,000,000 aggregate. The Certificate shall indicate the expiration date of the Project Architect's professional liability and errors and omissions insurance. The Certificate is to identify the specific name of the project according to the terms of this Agreement and identify the Owner and the Board of Regents of The University of Texas System.
- b) On Site Insurance: For services performed on Owner's premises, the Project Architect shall furnish to Owner Certificates of Insurance as set forth below prior to the commencement of any work hereunder and shall maintain such coverage during the full term of the Agreement.

Worker's Compensation	Statutory Limits
Employer's Liability	
Bodily Injury by Accident	\$1,000,000 each accident
Bodily Injury by Disease	\$1,000,000 policy limit
Bodily Injury by Disease	\$1,000,000 each employee
Commercial General Liability	\$1,000,000 each occurrence
	\$1,000,000 aggregate
Business Auto Liability	
Combined Single Limit	\$1,000,000 each occurrence

- c) Notice of Cancellation: Required insurance shall not be cancelable without thirty (30) days' prior written notice to Owner.

1.1.29 Project Architect shall include the Owner as an additional insured on the General Liability policy, and the Worker's Compensation policy shall include a waiver of subrogation in favor of the Owner.

1.2 Schematic Design Phase

1.2.1 Based on the mutually agreed upon Pre Design Report and Phasing Plan (or Facility Program), the Construction Cost Limitation and the Project Schedule, the Project Architect shall prepare sufficient alternative approaches to design and construction of the Project to satisfy Owner's requirements and shall, at completion of this phase, submit Schematic Design Documents in accordance with Owner's Design Guidelines and any additional requirements set forth in Article 14.

1.2.2 Project Architect shall provide all services necessary to perform the services of this phase (preparation of Schematic Design Documents) including, without limitation, unless otherwise approved by Owner, the preparation and prompt delivery of all items specified in Owner's Design Guidelines.

1.2.3 Project Architect shall work closely with Owner in preparation of schematic drawings and shall specifically conform to Owner's requirements regarding aesthetic design issues.

1.2.4 The Project Architect shall furnish and deliver to the Owner the number of complete printed sets of Schematic Design documents as enumerated in Article 14.

1.2.5 The Project Architect shall direct the preparation of a detailed Estimated Construction Cost as described in Sub-paragraph 1.1.15 to confirm compliance with the Construction Cost Limitation and include the detailed Estimated Construction Cost with the completed Schematic Design Documents. The Project Architect shall advise the Owner of any adjustments to the project scope necessary to align the Estimated Construction Cost with the Construction Cost Limitation and shall revise the Schematic Design Documents, without charge to the Owner, as may be required to comply with the Construction Cost Limitation. The Owner may, solely at Owner's discretion and in writing, increase or decrease the Construction Cost Limitation to align with the Project Architect's detailed Estimated Construction Cost.

1.2.6 Before proceeding into the Design Development Phase, the Project Architect shall obtain Owner's written acceptance of the Schematic Design documents and acknowledgement of the Project Architect's submission of a detailed Estimated Construction Cost and project schedule. Owner's acknowledgement of the Project Architect's submission of a detailed Estimated Construction Cost prepared at the completion of the Schematic Design Phase does not relieve the Project Architect of its obligation to design the Project within the Construction Cost Limitation.

1.3 Design Development Phase

1.3.1 Based on the approved Schematic Design Documents and any adjustments to the Pre-Design Report (Facility Program) or Construction Cost Limitation authorized by the Owner, the Project Architect shall prepare, for approval by the Owner, Design Development Documents in accordance with Owner's written requirements to further define and finalize the size and character of the Project in accordance with Owner's Design Guidelines and any additional requirements set forth in Article 14.

1.3.2 The Project Architect shall furnish and deliver to the Owner the number of complete printed sets of Design Development documents as enumerated in Article 14.

1.3.3 The Project Architect shall direct the preparation of a detailed Estimated Construction Cost as described in Sub-paragraph 1.1.15 to confirm compliance with the Construction Cost Limitation and include the detailed Estimated Construction Cost with the completed Design Development Documents. The Project Architect shall advise the Owner of any adjustments to the project scope necessary to align the Estimated Construction Cost with the Construction Cost Limitation and shall revise the Design Development Documents, without charge to the Owner, as may be required to comply with the Construction Cost Limitation. The Owner may, solely at Owner's discretion and in writing, increase or decrease the Construction Cost Limitation to align with the Project Architect's detailed Estimated Construction Cost.

1.3.4 Before proceeding into the Construction Document Phase, the Project Architect shall obtain Owner's written acceptance of the Design Development documents and acknowledgement of the Project Architect's submission of a detailed Estimated Construction Cost and project schedule. Owner's acknowledgement of the Project Architect's submission of a detailed Estimated Construction Cost prepared at the completion of the Design Development Phase does not relieve the Project Architect of its obligation to design the Project within the Construction Cost Limitation.

1.3.5 The Project Architect shall prepare presentation materials as defined in Owner's Design Guidelines at completion of Design Development and if so requested shall present same Owner's representatives for the purpose of obtaining formal Design Development approval and, if required, to the Board of Regents at a regular meeting where scheduled within the state.

1.3.6 The Project Architect shall prepare preliminary recommended furniture layouts for all spaces where it is deemed important to substantiate the fulfillment of program space requirements, or to coordinate with specific architectural, mechanical and electrical elements.

1.3.7 Project Architect shall assist the Owner with submitting the project to the Texas Higher Education Coordinating Board (THECB). Such assistance shall include (i) the preparation of a listing of the rooms, room type and usage codes, and square footages in the project, and (ii) the preparation of project cost information, in accordance with THECB Guidelines. This information shall be provided at the completion of the Design Development Phase when requested by the Owner. The listing of rooms, room type and usage codes, and square footages shall then be updated to reflect any changes occurring during construction and provided to the Owner at Substantial Completion. Project Architect shall provide this updated information on the "Project Scope Summary Questionnaire Form" which is included as an Exhibit hereto.

1.4 Construction Document Phase

1.4.1 Based on the approved Design Development Documents and any further adjustments in the scope or quality of the Project or in the Construction Cost Limitation authorized by the Owner, the Project Architect shall prepare, for approval by the Owner, Construction Documents consisting of Drawings and Specifications in accordance with Owner's written requirements setting forth in detail the requirements for construction of the Project, including, without limitation, Owner's Design Guidelines and any additional requirements contained in Article 14. The plans, drawings and specifications for the entire Project shall be prepared so that the construction of the Project, including built-in permanent fixtures and equipment, will cost no more than the Construction Cost Limitation established by Owner. The Project Architect is responsible for managing the design to stay within the Construction Cost Limitation.

1.4.2 The Project Architect shall advise the Owner on matters such as construction phasing and scheduling, scope alternates, special cash allowances, liquidated damages, the construction contract time period, and other construction issues appropriate for the Project.

1.4.3 The Project Architect shall assist the Owner in connection with the Owner's responsibility and procedures for obtaining approval of all authorities having jurisdiction over the Project.

1.4.4 The Project Architect shall ensure coordination and inclusion of sequence of operations for all operable systems included in or impacted by the Project.

1.4.5 The Project Architect, at the Project Architect's expense, at each stage of review described in Article 14, shall furnish and deliver to the Owner the number of complete printed copies of all plans, drawings and specifications of every character made or furnished in connection with the Work, as enumerated in Article 14, which copies shall become the property of the Owner. The Project Architect shall incorporate into the plans, drawings and specifications such changes as are necessary to satisfy the Owner's written review comments or published meeting minutes, any of which may be appealed in writing for good cause.

1.4.6 The Project Architect shall pay for the reproduction of all plans, specifications and other documents for use by the Project Architect and its consultants and all documents reproduced for the

various completion stage reviews (as set forth in Article 14) by the Owner prior to the reproduction of bidding or proposal documents. All other reproduction costs shall be borne by the Owner, provided that all invoices for such reproduction work are billed directly to the Owner, free of state sales taxes, and identified by the Project Architect as to the project name, number and institution. However, addenda documents issued after the bid documents are reproduced, except for changes generated by Owner, shall be supplied at the Project Architect's expense.

1.4.7 The Project Architect shall direct the preparation of a detailed Estimated Construction Cost as described in Sub-paragraph 1.1.15 to confirm compliance with the Construction Cost Limitation and include the detailed Estimated Construction Cost with the completed Construction Documents. The Project Architect shall advise the Owner of any adjustments to the project scope necessary to align the Estimated Construction Cost with the Construction Cost Limitation and shall revise the Construction Documents, without charge to the Owner, as may be required to comply with the Construction Cost Limitation. The Owner may, solely at Owner's discretion and in writing, increase or decrease the Construction Cost Limitation to align with the Project Architect's detailed Estimated Construction Cost.

1.4.8 Construction document drawings shall be produced with computer aided design software as part of Basic Services. The Owner will define the design software requirements and the final media for the data.

1.4.9 The Project Architect shall participate in a final review of the Construction Documents with the Owner at the Project location or other location specified by Owner in the State of Texas. Prior to the Owner's approval of the Construction Documents, the Project Architect shall incorporate such changes as are necessary to satisfy the Owner's review comments.

1.4.10 At the completion of the Construction Document Phase, the Project Architect shall complete the "Project Scope Summary Questionnaire Form" which is attached as an Exhibit to this Agreement. The information shall be based on the completed scope of work as defined in the documents.

1.4.11 Before proceeding into the Bidding and Proposal Phase, the Project Architect shall obtain Owner's written acceptance of the Construction Documents and acknowledgement of the Project Architect's submission of a detailed Estimated Construction Cost and project schedule. Owner's acknowledgement of the Project Architect's submission of a detailed Estimated Construction Cost prepared at the completion of the Construction Document Phase does not relieve the Project Architect of its duty to design the Project within the Construction Cost Limitation.

1.5 Bidding and Proposal Phase

1.5.1 The Project Architect shall assist the Owner in obtaining and evaluating bids or proposals, and assist in awarding contracts for construction, including preparation for and attendance at Pre-proposal Conferences and HUB meetings. Project Architect shall answer inquiries from bidders and proposers at Owner's request, and shall prepare and issue any necessary addenda to the bidding or proposal documents. The Project Architect shall maintain a register of bid and proposal documents, distribute documents to bidders, proposers, and plan rooms, and obtain and administer deposits.

1.5.2 For solicitations based upon lowest responsible bids, the Project Architect shall review and inquire about the responsibility of apparent low bidders and inform Owner in writing of Project Architect's findings and recommendations. For solicitations based upon best value proposals, the Project Architect shall review and inquire about qualifications and other pertinent proposal information and inform the Owner in writing of Project Architect's findings and recommendations.

1.5.3 In the event the best value proposal or lowest responsible bid received for the Project exceeds the Construction Cost Limitation following the completion of the Construction Document Phase, the Project Architect, without charge to the Owner, and if so directed by Owner, shall revise the drawings and specifications as necessary to bring the cost of the Project within the Construction Cost Limitation. The Owner reserves the right to accept a proposal and award a construction contract that exceeds the Construction Cost Limitation, if such award is determined by Owner to be in the Owner's best interest.

1.6 Construction Phase—Administration of the Construction Contract

1.6.1 The Construction Phase shall commence with the award of the Contract for Construction and issuance of (i) a Notice to Commence On-Site Work or (ii) a Notice to Proceed with Construction Services and terminate sixty (60) days after Final Payment to the Contractor is made, or when all of Project Architect's services have been satisfactorily performed, whichever occurs later.

1.6.2 Project Architect shall provide administration of the contract for construction as set forth below and in the edition of the Owner's Design Guidelines current as of the date of this Agreement.

- a) The Project Architect shall coordinate with the Contractor to establish and maintain a numbering and tracking system for all Project records, including changes, requests for information, submittals, and supplementary instructions. The Owner's Construction Information Management System (Project Workspace) shall be utilized by the Project Architect, and its consultants, and Contractor, and its Subcontractors, for these purposes.
- b) The Project Architect shall chair all meetings scheduled by the Owner or Project Architect and shall promptly provide summary notes to all parties. The Project Architect shall attend Contractor's regularly scheduled planning and construction meetings when requested.

1.6.3 The Project Architect shall review the Contractor's list of proposed subcontractors for the work, initial administrative submittals for Project Schedule, Schedule of Values, Submittal Schedule, and Equipment Matrix to establish appropriate bases for construction monitoring, payment processing, and system commissioning. The Project Architect shall identify necessary revisions to the documents in writing to the Contractor and recommend acceptance of the documents by the Owner when appropriate. The Project Architect shall review periodic updates of all schedules with Owner and Contractor to evaluate appropriateness.

1.6.4 The Project Architect and its consultants shall prepare appropriate materials for and conduct a Pre-Construction Conference at the site prior to commencement of construction by the Contractor.

1.6.5 The Project Architect shall be a representative of the Owner during the Construction Phase, and shall advise and consult with the Owner. Instructions to the Contractor shall be forwarded through the Project Architect. The Project Architect shall have authority to act on behalf of the Owner to the extent provided in the Contract Documents. Duties, responsibilities and limitations of authority of the Project Architect shall not be restricted, modified or extended without written acceptance of the Owner.

1.6.6 Site Visits. The Project Architect shall visit the site at least once each week during the entire construction period to observe the progress and quality of the Work and to determine in general if the Work is proceeding in accordance with the Contract Documents. Each of Project Architect's consultant shall visit the site at least once each week during construction activities related to the consultant's discipline to observe the progress and quality of the Work and to determine in general if the Work is proceeding in accordance with the Contract Documents. Project Architect and its consultants shall submit written reports

of their site visits and meetings. The Project Architect shall not be required to make exhaustive or continuous onsite visits to inspect the quality or quantity of the Work.

- a) On the basis of the onsite observations, the Project Architect shall keep the Owner informed of the progress and quality of the Work, and shall endeavor to guard the Owner against defects and deficiencies in the Work of the Contractor. Project Architect shall notify Owner and the Contractor in writing of any portions of the work which Project Architect has observed as not being in conformity with the Construction Documents and make recommendations as to correction of the deficiencies or defects. Project Architect shall make its site representative available and shall consult with Owner and the Contractor on the occasion of all circumstances arising during the course of construction which would make such consultation in Owner's interests.
- b) In addition to site visits for general inspection and observation, the Project Architect and its consultants shall visit the site for specific purposes related to certification of progress payments, start-up or mock-up reviews for significant work activities and for formal inspections of the Work. The Project Architect and its consultants shall provide written reports of all site visits to the Owner and Contractor.

1.6.7 The Project Architect shall prepare an agenda for, and conduct monthly job conferences for attendance by representatives of the Contractor, major subcontractors, the Project Architect and the Owner, and prepare and distribute minutes of the meetings.

1.6.8 The Project Architect shall not have control or charge of and shall not be responsible for construction means, methods, techniques, sequences or procedures, or for safety precautions and programs in connection with the Work, for the acts or omissions of the Contractor, Subcontractors or any other persons performing any of the Work, or for the failure of any of them to carry out the Work in accordance with the Contract Documents.

1.6.9 The Project Architect shall at all times have access to the Work wherever it is in preparation or progress.

1.6.10 The Project Architect shall determine the amounts owing to the Contractor based on observations of Work placed at the site and on evaluations of the Contractor's Application for Payment, and shall coordinate its review and evaluation with the Owner's representatives, and shall certify Contractor's Application for Payment in an appropriate amount.

1.6.11 The certification of a Contractor's Application for Payment shall constitute a representation by the Project Architect to the Owner, based on the Project Architect's observations at the site and on the data comprising the Contractor's Application for Payment, that the Work has progressed to the point indicated; that, to the best of the Project Architect's knowledge, information and belief, the quality of the work is in accordance with the Contract Documents (subject to an evaluation of the Work for conformance with the Contract Documents upon Substantial Completion, to the results of any subsequent tests required by or performed under the Contract Documents, to minor deviations from the Contract Documents correctable prior to completion, and to any specific qualifications stated in the Contractor's Application for Payment); and that the Contractor is entitled to payment in the amount certified. However, the approval of a Contractor's Application for Payment shall not be a representation that the Project Architect has made any examination to ascertain how and for what purpose the Contractor has used the monies paid on account of the Contract Sum.

1.6.12 The Project Architect shall be the interpreter of the technical requirements of the Contract Documents and the judge of the performance of the work of the Contractor. The Project Architect shall

render interpretations necessary for the proper execution or progress of the Work with reasonable promptness on written request of either the Owner or the Contractor, and shall render written recommendations within a reasonable time, on all claims, disputes and other matters in question between the Owner and the Contractor relating to the execution or progress of the Work or the interpretation of the Contract Documents.

1.6.13 Interpretations and recommendations of the Project Architect shall be consistent with the intent of and reasonably inferable from the Contract Documents and shall be in written or graphic form.

1.6.14 Subject to approval of the Owner, the Project Architect's decisions in matters relating to artistic effect shall be final if consistent with and reasonably inferable from the intent of the Contract Documents. The Project Architect shall review interior designs and/or furniture selections proposed by the Owner and advise the Owner on their aesthetic compatibility with the Project Architect's design.

1.6.15 The Project Architect shall have the responsibility and the authority, with appropriate notification to the parties, to reject Work which does not conform to the Contract Documents. Whenever, in the Project Architect's reasonable opinion, it is necessary or advisable for the implementation of the intent of the Contract Documents, the Project Architect will have authority to require special inspection or testing of the Work in accordance with the provisions of the Contract Documents, whether or not such Work will then be fabricated, installed or completed. The Project Architect shall review construction materials testing and any special testing required and shall provide recommendations for retesting, actions, or any appropriate corrective measures as may be necessary or appropriate based on the results of such tests.

1.6.16 The Project Architect and its consultants shall review and approve or take other appropriate action upon the Contractor's submittals such as Shop Drawings, Product Data and Samples, but only for conformance with the design concept of the Work set forth in the Contract Documents, and shall respond to Contractor's inquiries and questions and provide supplemental information as appropriate. Action on submittals shall be taken with reasonable promptness so as to cause no delay to the Contractor's scheduled progress, but in any event no more than fourteen (14) business days after receipt. The Project Architect's approval of a specific item shall not indicate approval of an assembly of which the item is a component. The Project Architect's review shall not constitute approval of any construction means or methods.

1.6.17 Project Architect shall clarify and interpret the intent and scope of the Construction Documents and, if necessary or appropriate, issue supplemental documents to amplify or explain portions of the Construction Documents.

1.6.18 Project Architect shall provide assistance in the review of the Contractor's requests for change orders or claims for additional time or costs, and make recommendations to Owner as to such requests or claims.

1.6.19 The Project Architect shall prepare and sign Change Orders for the Owner's approval and execution in accordance with the Contract Documents, and shall have authority to order minor changes in the Work not involving an adjustment in the Contract Sum or an extension of the Contract Time which are not inconsistent with the intent of the Contract Documents. In conjunction with each Change, the Project Architect shall prepare an independent cost and time estimate for comparison with the Contractor's proposal and recommend to the Owner whether the proposal is acceptable.

1.6.20 Project Architect shall prepare revised Contract Documents, where appropriate, to illustrate and document the work required by approved Change Orders, addenda, Project Architect's Supplemental Instructions, and any other alterations to the Contract Documents generated by Project Architect or Owner. All proposed changes to drawings and specifications, regardless of how initiated, shall be totally defined in

the document depicting them as to scope of work added, removed, or changed. The original Construction Documents may be revised to show such changes, provided that all such revisions shall be separately recorded on the media acceptable to Owner, including, without limitation, Owner's design software. Such revisions shall be clearly indicated and a current revision date shall be included on the document. Changes to the specifications shall be made by consecutively numbered and dated addenda. All changes to design documents or specifications will be identified with date of change, revision number and other customary identification references. Areas changed on drawings will be "clouded" to show each change. Clouds designating previous changes will be removed so that only the most recent changes will be clouded. Project Architect and its consultants shall submit revised Construction Documents per Owner's native software and in Adobe PDF format and per Owner's close-out procedures.

1.6.21 Project Architect and its consultants shall conduct and participate in concealed space observations, systems start-up observations, systems integration/operational demonstrations, Substantial Completion or pre-Final work observations to determine the Dates of Substantial Completion, and Final work observation. In association with each observation, Project Architect and its consultants shall prepare a list of items which Project Architect and its consultants have observed as deficiencies in the Work, requiring remedial work or replacement, assemble and distribute the official punch(s) to all affected parties, and thereafter review the corrected and/or replaced work and assist in verification of correction of all items.

1.6.22 Project Architect shall review, for conformance with the Contract Documents, Contractor's submission of guarantees and warranties.

1.6.23 The Project Architect and its consultants shall assist the Owner in checking record drawings during the course of the Work in association with certifying progress payments and shall review record drawings and specifications for completeness and compliance with Contract requirements at Substantial Completion and at Final Completion of the Project.

1.6.24 Project Architect shall receive and review Contractor's submission of record drawings and specifications, operating and maintenance instructions, and all manuals, brochures, drawings, and other close-out documentation furnished by the Contractor, shall require necessary revisions to same, and when acceptable under the terms of the Contract between Owner and Contractor, shall forward to Owner. The Project Architect shall certify final payment to the Contractor when the requirements of the Contract between Owner and Contractor have been met.

1.6.25 Project Architect shall monitor the Contractor's schedule for the construction phase work and assist the Owner in reviewing all relevant activities and advise the Owner of the Contractor's scheduled progress.

1.6.26 Project Architect shall provide assistance to Owner for the purpose of advising and counseling Owner's personnel in the usage, operation and maintenance of the building mechanical, electrical, and plumbing systems.

1.6.27 The Project Architect shall be available after final payment to advise the Owner regarding Warranty items and to inspect Warranty work during the Warranty period. Project Architect shall participate in the Project's one year warranty review.

1.7 Additional Services

1.7.1 Additional Services are those services which shall be provided if authorized or confirmed in writing by the Owner and for which compensation will be provided as described in this Agreement in

addition to Basic Compensation. Prior to commencing any Additional Service, Project Architect shall prepare for acceptance by the Owner an Additional Services Proposal, in the form attached hereto as an Exhibit, or other format as directed by Owner, which shall describe in detail the nature or scope of the Additional Services, the basis upon which Project Architect has determined that such service are Additional Services, and which shall set forth the maximum amount of fees and reimbursable expenses for which Project Architect is prepared to perform such Additional Services, together with a proposed schedule for the performances of such Additional Service. Those services which the Owner contemplates to be provided as Additional Services or considered to be Additional Services are described in Article 14. Project Architect shall proceed only after written acceptance by Owner of the Additional Services Proposal.

1.7.2 Upon acceptance by Owner, each Additional Services Proposal and the services performed by Project Architect pursuant to such Additional Services Proposal shall become part of this Agreement and shall be subject to all terms and conditions of this Agreement, as fully and completely as though the same had been included in this Agreement as a Basic Service at the original execution of this Agreement.

1.7.3 Providing services to make detailed investigations of existing conditions or facilities or to make measured drawings of them is an Additional Service except as reasonably necessary to verify the accuracy and completeness of drawings or other information furnished by the Owner and to the extent necessary for the Project Architect to complete its responsibilities hereunder free of material errors and omissions. Project Architect shall not be required to perform any destructive testing or to hire the services of a surveyor unless agreed to as an Additional Service.

1.8 Time

1.8.1 Project Architect shall perform all of Project Architect's services described herein as expeditiously as is consistent with (1) Project Architect's best professional efforts, skill and care, (2) the orderly progress of such services, and (3) in conformance with the project milestone schedules so that the desired development and construction schedule for the Project shall be maintained. Project Architect shall at all times provide sufficient personnel to accomplish Project Architect's services within the time limits set forth in the schedules described herein.

1.8.2 Attached hereto as an Exhibit containing a schedule for completion of each of the phases of services to be performed by Project Architect pursuant to this Agreement. The project schedule contains milestone dates which have been established in the Request for Qualifications previously issued or may be modified by the Owner to reflect current conditions. Supplemental activities shown on the schedule, and any associated dates not yet defined, shall be determined at the completion of the Pre-Design Phase or at such time when both parties mutually agree that the project is sufficiently developed and documented. Changes in this schedule may be made only with the written approval of Owner. Project Architect shall perform all of its services in accordance with the then-current schedule approved by Owner.

1.8.3 Project Architect shall prepare and submit on a monthly basis an updated design milestone schedule that is acceptable to the Owner prior to submission of the Architect's design phase payment application, in conformance with the design project milestone schedule, so that the desired design schedule for the Project is maintained by the Project Architect.

Article 2 Owner's Responsibilities

2.1 Owner anticipates that the Project scope will involve the design and construction of certain improvements to the existing facility, said improvements to potentially include a minor addition to the facility. Owner shall work with Project Architect and its consultants to jointly develop a Pre-Design Report for the Project. In the event Owner – during the development of the Pre-Design Report – determines to design and construct a replacement facility instead of designing and constructing certain improvements, Owner shall work with Project Architect and its consultants to jointly prepare a Facility Program. Owner shall consider the development of the Pre-Design Report, or a Facility Program, in the event Owner decides to design and construction of a replacement facility, as an Additional Service as set forth in Article 14 of this Agreement. The Pre-Design Report (Facility Program) will set forth the Owner's description of the project scope, preliminary project cost, schedule, criteria for design objectives, characteristics and constraints, space requirements and relationships, site requirements, existing facilities, and desired special components, systems and equipment. Owner will review the Pre-Design Report (Facility Program) when completed and then determine whether to proceed with the Project and authorize commencement of Basic Services. The Owner reserves the right to terminate the Agreement following completion of the Pre-Design Report (Facility Program), and shall have no further obligation to Project Architect other than payment for services authorized by Owner and provided by Project Architect prior to such termination in accordance with the terms and conditions of this Agreement.

2.2 The Owner will provide a preliminary project budget and schedule for the Project. The budget will include the Construction Cost Limitation, Owner's Special Cash Allowance, Owner's Construction Contingency, and other costs which are the responsibility of the Owner. The schedule attached hereto as an Exhibit, sets forth the Owner's plan for milestone dates and completion of the Project.

2.3 The Owner designates its Executive Director of Facilities Planning, Design, and Construction as its representative authorized to act in the Owner's behalf with respect to the Project. The Owner's authorized representative, or her or his delegate, shall examine the documents submitted by the Project Architect and shall render decisions pertaining thereto promptly, to avoid unreasonable delay in the progress of the Project Architect's services. The Owner's Executive Director of Facilities Planning, Design and Construction is also designated as the Owner's representative for the purpose of administering this contract, including determination of fees earned by the Project Architect and equitable back charges against the Project Architect. The Owner shall have the right to withhold from payments due Project Architect such sums as the Owner deems reasonably necessary to protect Owner against any loss or damage which may result from negligence by Project Architect or failure of Project Architect to perform Project Architect's obligations under this Agreement pending final resolution of such claims.

2.4 The Owner, at Owner's cost, will secure the services of surveyors, geotechnical and laboratory testing engineers, or other special consultants to develop additional information to the extent necessary for the design of the project. The Project Architect shall provide the Owner with parameters for inclusion in the Owner's instructions to such providers.

2.5 The Owner shall arrange and pay for structural, mechanical, chemical and other laboratory tests as necessary during construction except as required of the Contractor in the Contract Documents.

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

2.7 The services, information, surveys and reports required by the preceding paragraphs shall be furnished at the Owner's expense.

2.8 If the Owner observes or otherwise acquires actual knowledge of any design fault or defect in the Project or conflict in the Contract Documents, written notice thereof will be given by the Owner to the Project Architect; however, Owner shall have no obligation or duty to investigate whether such faults, defects, or conflicts exist.

2.9 The Owner will review the Project Architect's design at the completion of Schematic Design and Design Development and at completion of the stages of Construction Documents as described in Article 14. Comments concerning corrections or amendments to the plans and specifications will be furnished in writing to the Project Architect as promptly as possible after receipt of the documents for review. Owner's approval of the documents must be in writing and no approval may be deemed given in the absence of written approval. The Owner may require the Project Architect to halt production during design review.

2.10 The Owner shall furnish required information and services and shall render approvals and decisions as expeditiously as necessary for the orderly progress of the Project Architect's services and of the Work.

2.11 At the time the Construction Documents are issued for construction bids/proposals, the Owner shall prepare a statement calculating the Project Architect's fees for the Project based upon the provisions of this Agreement and any adjustments to the fee calculation mutually agreed to during design. If Project Architect objects to the revised project fees, Project Architect must notify the Owner of its objections in writing within fourteen (14) days of receipt of the fee statement otherwise Project Architect's approval of the fee amounts shall be deemed given.

2.12 The Owner shall furnish one or more persons who shall be responsible for inspection of the Work, consisting of close, on-site examination of the materials, structure and equipment; and surveillance of the workmanship and methods used to insure that the Project is reasonably accomplished in accordance with the Contract Documents and good construction practices.

Article 3 Construction Cost—Definition

3.1 The Estimated Construction Cost means the amount calculated by the Project Architect for the total cost of all elements of the Project, including all alternate bids or proposals, designed and specified by the Project Architect or reasonably inferable as a usual and customary component of the project or otherwise necessary for complete installation and operation of the Project.

3.2 The Estimated Construction Cost shall include at current market rates a reasonable allowance for overhead, profit and general conditions, the cost of labor and materials furnished by the Contractor and any equipment which has been shown in the plans, specified, and specially provided for by the Project Architect. The Estimated Construction Cost shall include and consider the cost of labor and materials necessary for installation of Owner furnished equipment which has been shown in the plans, specified, and specifically provided by the Project Architect.

3.3 The Estimated Construction Cost does not include compensation to the Project Architect and the Project Architect's consultants, the Owner's Construction Contingency, the Owner's Special Cash Allowance, the cost of the land, rights-of-way, or other costs which are the responsibility of the Owner as provided in Article 2.

Article 4 Direct Salary Expense

4.1 Direct Salary Expense (“DSE”) is defined as the actual salaries, expressed on an hourly wage basis, prior to deductions for employment taxes (such as FICA, Medicare, income tax withholding) and employee-paid benefits, of all personnel, including Project Architect’s employees directly engaged on the Project (and performing consultations or research or preparing designs, drawings, and specifications for the Project). DSE shall exclude mandatory and customary fringe benefits and employee benefits (such as employer-paid insurance, sick leave, holidays, vacation, pensions and similar contributions, or additions such as bonuses or other surplus payments), overhead expense (which includes salaries of bookkeepers, secretaries, clerks, and the like), and profit relating to the Project. Any multiplier applied to such DSE shall be for the purpose of covering such fringe benefits, expense, and profit. All personnel shall mean anyone employed by the Project Architect and its consultants including, but not limited to, Architects, officers, principals, associates, project architect, design software technicians, engineers, designers, job captains, draftspersons, and specifications writers, who are performing consultation, research or design, or who are producing drawings, specifications, plans, or other documents pertaining to the Project, or who are performing services during construction at the Property that are directly attributable to, and necessary for, such construction.

4.2 Prior to entering into any agreement between the Project Architect and the Owner, and the Project Architect and its consultants, the Project Architect shall submit a full list of all personnel titles and the hourly wage for each which is attached hereto as an Exhibit. The hourly rates contained therein may be adjusted semi-annually in accordance with the usual and customary salaries of the architectural profession in the area of Project Architect’s office.

Article 5 Reimbursable Expenses

5.1 Reimbursable Expenses are in addition to the Compensation for Basic Services and Additional Services. These include actual out-of-pocket reasonable expenditures made by the Project Architect and the Project Architect’s employees and consultants incurred solely and directly in connection with Project Architect’s performance of its services hereunder for the following expenses:

- 5.1.1 Fees paid for securing approval of authorities having jurisdiction over the Project.
- 5.1.2 Professional models and renderings produced for presentations when requested by the Owner.
- 5.1.3 Shipping or mailing of all reports, drawings, specifications, and other items in connection with the Project except for: correspondence between the Project Architect and the Owner; Project Architect’s in-house work or correspondence; or work or correspondence exchanged between the Project Architect and its consultants.
- 5.1.4 Expense of any additional insurance coverage or limits that exceed those required by this Agreement, when requested by the Owner.
- 5.1.5 Expense of transportation and living expenses in connection with out-of-state travel approved in advance in writing by Owner and directly associated with the Project will be reimbursed in accordance with the Owner’s Current Employee Travel Policy. The Owner’s Travel Policy, Rider 107, is attached hereto as an Exhibit.

5.1.6 Expenses of any reprographic services that are in addition to those required under Basic Services requested by the Owner in writing, including, but not limited to reproduction and delivery of plans, specifications, addenda, reports or other miscellaneous documents. Reprographic services may include electronic document files or paper printing and delivery. Authorized additional reprographic services that are not provided in-house by the Project Architect shall be procured in the following manner:

- a) Project Architect shall develop a complete scope of services fully describing the services to be provided by the reprographic vendor. The Project Architect shall submit the scope of services to and request bids from at least three reprographic vendors, including at least one woman owned HUB firm and one minority owned HUB firm. For services projected to be less than \$25,000, three bids procured by telephone are acceptable. For services anticipated to be greater than \$25,000, three written bids are required. An updated HUB Subcontracting Plan (HSP) reflecting the new scope of work shall be submitted to Owner's HUB Coordinator for approval.
- b) Reprographic services vendor shall provide, as a minimum, the following information in its bid proposal to the Project Architect:
 - (1) Its ability to handle projected volume on given schedule.
 - (2) Its ability to receive and warehouse Project Architect's electronic document files.
 - (3) Its ability to manage bid document deposit process.
 - (4) Its ability to print partial document sets as directed by Project Architect.

5.2 Unless expressly directed and approved in advance by the Owner, transportation (including mileage and parking expenses) and living expenses incurred within the State of Texas, for firms whose principal address is within the State of Texas, will not be subject to reimbursement.

5.3 Expenses not allowed for reimbursement include the cost of review documents required to be provided to the Owner under Article 14, telephone charges, FAX service, alcoholic beverages, laundry, valet service, entertainment or any non-project related items. All tips must be included within the per diem allowances.

5.4 Owner shall not pay a mark-up on reimbursables. Project Architect shall submit receipts for all reimbursable expenses along with any reimbursement request.

Article 6 Basis of Compensation

The Owner shall compensate the Project Architect for the services provided in accordance with Article 7. Payments to the Project Architect, and other terms and conditions of this Agreement, as follows:

6.1 Basic Services Fee

6.1.1 For Basic Services, as described in Article 1, and including all disciplines identified in Article 14.1 as part of Basic Services, Project Architect's Basic Fee shall be calculated as follows:

The Construction Cost Limitation times the agreed fee percentage equals Basic Services Fee (see paragraph 14.4).

6.1.2 The agreed fee percentage for Basic Services cannot exceed the maximum fee allowed as interpolated from the appropriate Board of Regents table.

6.1.3 The Project Architect's Basic Services Fee will be based on the Construction Cost Limitation regardless of whether the actual contract award for construction, less Owner's Special Cash Allowance and Owner's Construction Contingency, is more or less than the Construction Cost Limitation provided that the resulting fee, when expressed as percentage of the actual contract award cost, shall not exceed the maximum percentage fee established by the Board of Regents, or any other limitations imposed by law.

6.1.4 In multi-stage projects, the basic services fee for each Construction Contract Stage (CCS) shall be calculated multiplying the Sub-Construction Cost Limitation for the CCS times the agreed fee percentage for the Basic Services Fee established in paragraph 14.5. The Project Architect's total Basic Services Fee will be the sum of the basic services fees for all CCSs. The total Basic Services Fee shall not exceed the maximum fee allowed as a percentage of the Construction Cost Limitation interpolated from the appropriate Board of Regents table.

6.1.5 If the description of the Project Architect's Basic Services is changed materially, the applicable fee percentage shall be adjusted equitably, subject to the maximum fee limitations established by the Board of Regents.

6.2 Fees for Changes in Project Scope

6.2.1 For reductions in the scope of the Project that occur after commencement of the Schematic Design Phase but before confirmation of the Construction Cost Limitation at the completion of the Bidding and Proposal Phase, the Project Architect's fee for basic services related to the eliminated scope of the Project, to the extent such services are provided by the Project Architect, shall be calculated using the same percentage fee used to establish the Basic Services Fee times the lowest bona fide bid or negotiated proposal for the eliminated scope of the Project or, if no bid or proposal is received, an up-to-date detailed Estimated Construction Cost for the eliminated scope of the Project, but only to the extent that services for the eliminate scope of the Project were performed by the Project Architect.

6.2.2 For increases in the scope of the Project that occur after commencement of the Schematic Design Phase but before confirmation of the Construction Cost Limitation at the completion of the Bidding and Proposal Phase, the fee for the additional Basic Services related to the additional scope of the Project, to the extent such services are provided by the Project Architect, shall be calculated using the same percentage fee used to establish the Basic Services Fee times the lowest bona fide bid or negotiated proposal for the added scope of the Project or, if no bid or proposal is received, an up-to-date detailed Estimated Construction Cost for the added scope of the Project, but only to the extent that services for the added scope of the Project were performed by the Project Architect.

6.3 Fees for Change Order Services

If revised construction documents are required due to material changes ordered by the Owner and not due to errors and omissions on the part of the Project Architect, the fee for the additional Basic Services required will be calculated using the same percentage fee used to establish the Basic Services Fee times the lowest bona fide bid or negotiated proposal for the changes to the Work or, if no bid or proposal is received, an up-to-date detailed Estimated Construction Cost for the changes to the Work, but only to the extent that services for the changes to the Work are performed by the Project Architect.

6.4 Additional Services

6.4.1 Fees for Additional Services, including any services identified in Article 14.2 are in addition to the Basic Services Fee described above.

6.4.2 For Additional Services of the Project Architect that are not Basic Services or fees due to changes in Project scope, the Project Architect's fee shall be calculated as follows.

6.4.3 The fees for Additional Services will be negotiated by the Owner and the Project Architect as the scope of the Additional Services is defined and shall be calculated in one of the following ways:

- a) A pre-established lump sum amount;
- b) An agreed percentage of the Contractor's cost of the Work resulting from the service being provided; or;
- c) On an hourly basis for time expended at an amount not to exceed 3.0 times the direct salary expense for all personnel directly involved in providing the service.

6.4.4 In the absence of an agreement between the Owner and the Project Architect, the fees for Additional Services shall be calculated on an hourly basis.

6.4.5 For additional services of the Project Architect's consultants that are not Basic Services or additional Basic Services due to changes in Project scope, the Project Architect's fee shall be calculated as an amount not to exceed FIVE PERCENT (5%) times the amount that the consultant bills the Project Architect for the additional services. The consultant's fee for the additional services shall be calculated in the same manner as described in Article 6.4.3.

6.5 Reimbursable Expenses

For reimbursable expenses, as described in Article 5, and any other items included in Article 14 as Reimbursable Expenses, the Project Architect's reimbursement shall be calculated as an amount not to exceed 1.00 times the amounts actually expended by the Project Architect, the Project Architect's employees and consultants in the interest of the Project.

Article 7 Payments to the Project Architect

7.1 Payments for Basic Services

7.1.1 Payments for Basic Services shall be made at the end of each Phase of services or, with the Owner's approval, monthly and shall be in proportion to services performed within each Phase of services, as demonstrated by work product, on the basis set forth in Article 6. The forms of Statement for Architectural/Engineering Services and for planned payments and actual payments made to Historically Underutilized Businesses to be utilized are attached as Exhibits hereto.

7.1.2 No partial payment made shall be, or construed to be, final acceptance or approval of the services to which the partial payment relates, or a release of Project Architect of any of Project Architect's obligations or liabilities with respect to such services.

7.1.3 Project Architect shall promptly pay all bills for labor and material performed and furnished by others in connection with the performance of the services.

7.1.4 Project Architect shall submit a request for final payment to the Owner within thirty days after approval of the final payment to the Contractor.

7.1.5 The acceptance by Project Architect, or Project Architect's successors, of final payment under this Agreement shall constitute a full and complete release of Owner from any and all claims, demands, and causes of action whatsoever which Project Architect, or Project Architect's successors, have or may have against Owner under the provisions of this Agreement except those claims previously made in writing and identified by Project Architect as unsettled at the time of the final request for payment.

7.1.6 For purposes of Texas Government Code 2251.021, the date the performance of service is completed is the date when the Owner's representative approves the invoice.

7.2 Payments for Additional Services and Reimbursable Expenses

Payments for the Project Architect's Additional Services and for Reimbursable Expenses shall be made monthly upon presentation of the Project Architect's valid statement of services rendered or expenses incurred as approved by Owner. Invoices shall include complete documentation of all expenses.

7.3 Payments Withheld

7.3.1 Under no circumstances shall the Owner be obligated to make any payment (whether a progress payment or final payment) to Project Architect if any one or more of the following conditions precedent exist:

- a) Project Architect is in breach or default under this Agreement;
- b) Any portion of a payment is for services that were not performed in accordance with this Agreement provided, however, payment shall be made for those services which were performed in accordance with this Agreement;
- c) Project Architect has failed to make payments promptly to consultants or other third parties used in connection with services for which Owner has made payment to Project Architect;
- d) If Owner, in its good faith judgment, determines that the balance of the unpaid fees are not sufficient to complete the services in accordance with this Agreement; or
- e) Project Architect has failed to achieve a level of performance necessary to maintain the project schedule.

7.3.2 No deductions shall be made from the Project Architect's compensation on account of liquidated damages or other sums withheld from payments to Contractors or on account of the cost of changes in the Work other than those for which the Project Architect may be liable.

Article 8 Project Architect Accounting Records

8.1 Records of Reimbursable Expenses and expenses pertaining to Additional Services and services performed on the basis of a Multiple of Direct Salary Expense shall be kept on the basis of Generally Accepted Accounting Principles and shall be available to the Owner or the Owner's authorized

representative at mutually convenient times for a period of at least five (5) years after final completion of the Project. Owner shall have the right to verify the details set forth in Project Architect's billings, certificates, and statements, either before or after payment by (1) inspecting the books and records of Project Architect during normal business hours; (2) examining any reports with respect to this Project; (3) interviewing Project Architect's business employees; (4) visiting the Project site; and (5) other reasonable action.

8.2 Architect shall submit a notarized statement documenting that the Direct Salaries stated on Exhibit C comply with the definition for Direct Salary Expense under Article 4 Direct Salary Expense and that any multiplier applied to DSE on Exhibit C complies with the definition for DSE under Article 4 Direct Salary Expense. Architect/Engineer shall break down the multiplier under Article 4 for the purpose of fringe benefits, expense, and profit to justify the multiplier up to a maximum of 3 allowed under Article 6.2.

8.3 Records of Project Architect costs, reimbursable expenses pertaining to the Project and payments shall be available to Owner or its authorized representative during business hours and shall be retained for five years after final Payment or abandonment of the Project, unless Owner otherwise instructs Consultant in writing.

Article 9 Ownership and Use of Documents

9.1 Drawings and Specifications as instruments of service are and shall remain property of the Project Architect whether the Project for which they are made is executed or not. The Owner shall be permitted to retain copies, including reproducible files in Owner's native software, of Drawings and Specifications for information and reference in connection with the Owner's use and occupancy of the Project. Owner shall have an irrevocable, paid-up, and perpetual non-exclusive license and right, which shall survive the termination of this agreement, to use the Drawings and Specifications, including the originals thereof, and the ideas and designs contained therein, for any purpose, regardless of whether Project Architect remains as the Project Architect, has resigned, this Agreement has been terminated, Project Architect's scope of services has been modified, or the services herein have been completed. If this Agreement is terminated, Project Architect hereby consents to the employment by Owner of a substitute Project Architect to complete the services under this Agreement, with the substitute Project Architect having all of the rights and privileges of the original Architect. The Project Architect and its consultants shall not be liable for any changes made by the Owner to the Drawings or Specifications (including Drawings or Specifications provided in Owner's native software or other electronic format) or for claims or actions arising from any such changes on projects in which the Project Architect is not involved.

9.2 Submission or distribution to meet official regulatory requirements or for other purposes in connection with the Project is not be construed as publication in derogation of the Architect's rights.

Article 10 Termination of Agreement

10.1 This Agreement may be terminated by either party upon seven days' written notice should the other party fail substantially to perform in accordance with its terms through no fault of the party initiating the termination and such failure is not fully cured prior to the expiration of such seven day period.

10.2 This agreement may be terminated at any time by the Owner for its convenience upon at least seven days' written notice to the Project Architect.

10.3 In the event of termination not the fault of the Project Architect, the Project Architect shall be compensated for all services satisfactorily performed to the termination date, together with approved Reimbursable Expenses then due, provided Project Architect shall have delivered to Owner such

statements, accounts, reports and other materials as required by Paragraph 10.5 below together with all reports, documents and other materials prepared by Project Architect prior to termination.

10.4 A termination under this Article shall not relieve Project Architect or any of its employees of liability for violations of this Agreement, or any willful, negligent or accidental act or omission of Project Architect. The provisions of this Article shall survive the termination of this Agreement. In the event of a termination under this Article, Project Architect hereby consents to employment by Owner of a substitute Project Architect to complete the services under this Agreement, with the substitute Project Architect having all rights and privileges of the original Project Architect of the Project.

10.5 As of the date of termination of this Agreement, Project Architect shall furnish to Owner all statements, accounts, reports and other materials as are required hereunder or as have been prepared by Project Architect in connection with Project Architect's responsibilities hereunder. Owner shall have the right to use the ideas and designs therein contained for the completion of the services described by this Agreement, and for completion of the Project, or otherwise.

Article 11 Successors and Assigns

The Owner and the Project Architect, respectively, bind themselves, their partners, successors, assigns and legal representatives to the other party to this Agreement and to the partners, permitted successors, assigns and legal representatives of such other party with respect to all covenants of this Agreement. This Agreement is a personal service contract for the services of Project Architect, and Project Architect's interest in this Agreement, Project Architect's duties hereunder, and Project Architect's fees due hereunder may not be assigned or delegated to a third party. The benefits and burdens of this Agreement are, however, assignable by Owner.

Article 12 Extent of Agreement

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

Article 13 Miscellaneous Provisions

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

13.2 **Governing Law.** This Agreement and all of the rights and obligations of the parties hereto and all of the terms and conditions hereof shall be construed, interpreted and applied in accordance with and governed by and enforced under the laws of the State of Texas, without giving effect to principles of conflicts of laws.

13.3 **Waivers.** No delay or omission by either of the parties hereto in exercising any right or power accruing upon the non-compliance or failure of performance by the other party hereto of any of the provisions of this Agreement shall impair any such right or power or be construed to be a waiver thereof. A waiver by either of the parties hereto of any of the covenants, conditions or agreements hereof to be performed by the other party hereto shall not be construed to be a waiver of any subsequent breach thereof or of any other covenant, condition or agreement herein contained.

13.4 **Severability.** In case any provision hereof shall, for any reason, be held invalid or unenforceable in any respect, such invalidity or unenforceability shall not affect any other provision hereof, and this Agreement shall be construed as if such invalid or unenforceable provision had not been included herein.

13.5 **Independent Contractor.** Project Architect acknowledges that it is engaged as an independent contractor and that Owner has no responsibility to provide Project Architect or its employees with transportation, insurance or other fringe benefits normally associated with employee status. Project Architect is not, and will not claim to be, an officer, partner, employee or agent of Owner and shall not make any claim, demand or application to or for any right or privilege applicable to an officer, partner, employee or agent of Owner, including, but not limited to, unemployment insurance benefits, social security coverage or retirement benefits. Project Architect hereby agrees to make Project Architect's own arrangements for any of such benefits as Project Architect may desire and agrees that Project Architect is responsible for all income taxes required by applicable law.

13.6 **Child Support Certification.** Pursuant to Section 231.006, *Texas Family Code*, Project Architect certifies that it is not ineligible to receive the award of or payments under this Agreement and acknowledges that this Agreement may be terminated and payment may be withheld if this certification is inaccurate.

13.7 **Eligibility Certification.** Pursuant to Section 2155.004, *Texas Government Code*, Project Architect certifies that the individual or business entity named in this Agreement is not ineligible to receive the award of or payments under this Agreement and acknowledges that this Agreement may be terminated and payment withheld if this certification is inaccurate.

13.8 **Franchise Tax Certification.** A corporate or limited liability company Project Architect certifies that it is not currently delinquent in the payment of any Franchise Taxes due under Chapter 171 of the *Texas Tax Code*, or that the corporation or limited liability company is exempt from the payment of such taxes, or that the corporation or limited liability company is an out-of-state corporation or limited liability company that is not subject to the Texas Franchise Tax, whichever is applicable.

13.9 **Payment of Debt or Delinquency to the State.** Pursuant to Sections 2107.008 and 2252.093, *Texas Government Code*, Project Architect agrees that any payments owing to Project Architect under this Agreement may be applied directly toward any debt or delinquency that Project Architect owes the State of Texas or any agency of the State of Texas regardless of when it arises, until such debt or delinquency is paid in full.

13.10 **Loss of Funding.** Performance by Owner under this Agreement may be dependent upon the appropriation and allotment of funds by the Texas State Legislature (the "Legislature") and/or allocation of funds by the Board of Regents of The University of Texas System (the "Board"). If the Legislature fails to appropriate or allot the necessary funds, or the Board fails to allocate the necessary funds, then Owner shall issue written notice to Project Architect and Owner may terminate this Agreement in accordance with Article 10. Project Architect acknowledges that appropriation, allotment, and allocation of funds are beyond the control of Owner.

13.11 **Proprietary Interests.** All information owned, possessed or used by Owner which is communicated to, learned, developed or otherwise acquired by Project Architect in the performance of services for Owner, which is not generally known to the public, shall be confidential. Project Architect shall not, beginning on the date of first association or communication between Owner and Project Architect and continuing through the term of this Agreement and any time thereafter, disclose, communicate or divulge, or permit disclosure, communication or divulgence, to another or use for Project Architect's own benefit or the

benefit of another, any such confidential information, unless required by law. Except when defined as part of the Work, Project Architect shall not make any press releases, public statements, or advertisement referring to the Project or the engagement of Project Architect as an independent Contractor of Owner in connection with the Project, or release any information relative to the Project for publications, advertisement or any other purpose without the prior written approval of Owner. Project Architect shall obtain assurances similar to those contained in this subparagraph from persons, vendors and consultants retained by Project Architect. Project Architect acknowledges and agrees that a breach by Project Architect of the provisions hereof will cause Owner irreparable injury and damage. Project Architect, therefore, expressly agrees that Owner shall be entitled to injunctive and/or other equitable relief in any court of competent jurisdiction to prevent or otherwise restrain a breach of this Agreement.

13.12 Appointment. Owner hereby expressly reserves the right from time to time to designate by notice to Project Architect a representative to act partially or wholly for Owner in connection with the performance of Owner's obligations hereunder. Project Architect shall act only upon instructions from such representative unless otherwise specifically notified to the contrary.

13.13 Dispute Resolution. To the extent that Chapter 2260 of the Texas Government Code, as it may be amended from time to time ("Chapter 2260"), is applicable to this Agreement and is not preempted by other applicable law, the dispute resolution process provided for in Chapter 2260 shall be used, as further described herein, by Owner and Project Architect to attempt to resolve any claim for breach of contract made by Project Architect:

a) Project Architect's claims for breach of this Agreement that the parties cannot resolve pursuant to other provisions of this Agreement or in the ordinary course of business shall be submitted to the negotiation process provided in Subchapter B of Chapter 2260. To initiate the process, Project Architect shall submit written notice, as required by Subchapter B of Chapter 2260, to Owner in accordance with the notice provisions in this Agreement. Project Architect's notice shall specifically state that the provisions of Subchapter B of Chapter 2260 are being invoked, the date and nature of the event giving rise to the claim, the specific contract provision that Owner allegedly breached, the amount of damages Project Architect seeks, and the method used to calculate the damages. Compliance by Project Architect with Subchapter B of Chapter 2260 is a required prerequisite to Project Architect's filing of a contested case proceeding under Subchapter C of Chapter 2260. The Vice President, Operations and Facilities of Owner, or such other officer of Owner as may be designated from time to time by Owner by written notice thereof to Project Architect, shall examine Project Architect's claim and any counterclaim and negotiate with Project Architect in an effort to resolve such claims.

b) If the parties are unable to resolve their disputes under subparagraph (1) of this section, the contested case process provided in Subchapter C of Chapter 2260 is Project Architect's sole and exclusive process for seeking a remedy for any and all of Project Architect's claims for breach of this Agreement by Owner.

c) Compliance with the contested case process provided in Subchapter C of Chapter 2260 is a required prerequisite to seeking consent to sue from the Legislature under Chapter 107 of the Texas Civil Practices and Remedies Code. The parties hereto specifically agree that (i) neither the execution of this Agreement by Owner nor any other conduct, action or inaction of any representative of Owner relating to this Agreement constitutes or is intended to constitute a waiver of Owner's or the state's sovereign immunity to suit and (ii) Owner has not waived its right to seek redress in the courts.

13.13.1 The submission, processing and resolution of Project Architect's claim is governed by the published rules adopted by the Texas Attorney General pursuant to Chapter 2260, as currently effective, hereafter enacted or subsequently amended.

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

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

13.14 **Notices.** All notices, consents, approvals, demands, requests or other communications provided for or permitted to be given under any of the provisions of this Agreement shall be in writing and shall be deemed to have been duly given or served when delivered by hand delivery or when deposited in the U.S. mail by registered or certified mail, return receipt requested, postage prepaid, and addressed as follows:

If to Owner: Weldon W. Gage
Senior Vice President and Chief Financial Officer
1515 Holcombe Blvd., Unit 1495
Houston, TX 77030

With Copies to: William E. Bailey, J.D., C.P.A.
Executive Director, Facilities Finance
Operations and Facilities Management
6900 Fannin, Suite 11.1022
Houston, Texas 77030

If to Project Architect: _____
[Name]

[Company Name]

[Street Address]

[City, State, Zip]

[Telephone Number]

[Email]

or to such other person or address as may be given in writing by either party to the other in accordance with the aforesaid.

Original Invoices must be submitted to:

MD Anderson Cancer Center
Accounts Payable – Box 199
P. O. Box 301401
Houston, TX 77230-1401

email: mdaccap@mdanderson.org

13.15 **Authority to Act.** Project Architect warrants, represents, and agrees that (1) it is a duly organized and validly existing legal entity in good standing under the laws of the state of its incorporation or organization; (2) it is duly authorized and in good standing to conduct business in the State of Texas; (3) it has all necessary power and has received all necessary approvals to execute and deliver this Agreement; and (4) the individual executing this Agreement on behalf of Project Architect has been duly authorized to act for and bind Project Architect.

13.16 **Counterparts.** This Agreement may be executed in multiple counterparts, each of which shall be deemed, construed and considered to be an original, but all of which shall constitute one and the same instrument.

13.17 **Ethics Matters; No Financial Interest.** Project Architect and its employees, agents, representatives and consultants have read and understand University's Conflicts of Interest Policy available at <http://www.utsystem.edu/policy/policies/int160.html>, University's Standards of Conduct Guide available at <http://www.utsystem.edu/systemcompliance/>, and applicable state ethics laws and rules available at www.utsystem.edu/ogc/ethics. Neither Project Architect nor its employees, agents, representatives or consultants will assist or cause University employees to violate University's Conflicts of Interest Policy, provisions described by University's Standards of Conduct Guide, or applicable state ethics laws or rules. Project Architect represents and warrants that no member of the Board has a direct or indirect financial interest in the transaction that is the subject of this Agreement.

Article 14 Other Conditions or Services

The Owner and Project Architect hereby agree to the full performance of the covenants contained herein.

14.1 **Basic Services.** The Project Architect's Basic Services are those services described in paragraphs 1.2 through 1.6 for which compensation is provided as Basic Compensation in this Agreement and shall include the following disciplines:

- a. Architectural Services
- b. Landscape Architectural Services
- c. Civil Engineering Services
- d. Structural Engineering Services
- e. Mechanical Engineering Services
- f. Electrical Engineering Services
- g. Plumbing Engineering Services
- h. Life Safety Code Compliance
- i. Life Safety Engineering Services (responsible for Fire Alarm System design and third-party certification of installed system)
- j. Storm Water Pollution Prevention Plan Design Services (TPDES Consultant)
- k. Commissioning Coordination
- l. Data and Telecommunications Engineering Services
- m. Security Planning Services

14.2 **Additional Services.** The services identified in the following list are not included in Basic Services.

14.2.1 **PRE-DESIGN SERVICES.** Before proceeding into the Schematic Design Phase, the Project Architect and its entire consultant team, working with the Owner, shall prepare a comprehensive Pre-

Design Report for the Project. This Pre-Design Report shall be prepared in accordance with the Owner's Pre-Design Report Template, a copy of which is attached hereto as an Exhibit. The goal of the Pre-Design Phase will be to more clearly define the scope of the Project prior to the start of the Schematic Design Phase. The anticipated services and deliverables under the responsibility of the Project Architect are summarized in an attached Exhibit, the Pre-Design Phase Documentation Requirements. Following selection, the Project Architect shall provide the Owner with a written itemized cost proposal to provide the designated pre-design services. Such compensation shall be in addition to the percentage based fee for Basic Services. The Project Architect shall plan to meet with representatives of the Owner as required during the development of the Pre-Design Report (Facility Program) and shall revise the Pre-Design Report (Facility Program) as necessary to achieve approval of the Owner. In accordance with the Professional Services Procurement Act, the Owner will review the Project Architect's proposal for pre-design services and attempt to negotiate a fair and reasonable fee for these services. If the Owner and Project Architect are unable to do so, the Owner will formally end negotiations with the Project Architect, select the next most highly qualified Project Architect, and attempt to negotiate a fair and reasonable fee for these services.

14.2.2 CONSTRUCTABILITY SERVICES. NOT APPLICABLE.

14.2.3 HAZARDOUS MATERIAL ABATEMENT SERVICES. NOT APPLICABLE.

14.2.4 COMMISSIONING SERVICES. If so directed by the Owner, Project Architect shall employ a Commissioning Consultant to provide commissioning expertise through the Pre-Design, Schematic Design, Design Development, Construction Document and Construction Administration Phases. The Commissioning Consultant will provide review input related to project objectives, methods and concepts of commissioning. Upon request from the Owner, the Project Architect shall provide the Owner with a written itemized cost proposal to provide the commissioning services identified in the Owner's Commissioning Requirements, a copy of which is included as an Exhibit hereto. The Owner will review the Project Architect's proposal for commissioning services in accordance with the Professional Services Procurement Act.

14.2.5 TPDES CONSULTANT. To the extent needed to support the Project, the Project Architect shall employ a qualified Consultant (the "TPDES Consultant"), experienced in the Texas Pollutant Discharge Elimination System (TPDES) requirements and in the best management practices used at construction sites to control erosion and sediment, to prevent the discharge of pollutants and to prevent or mitigate the impacts of storm water runoff on water quality (collectively "BMPs"), which TPDES Consultant shall be approved in writing in advance by Owner, to provide expertise with respect to Texas Commission on Environmental Quality regulations and BMPs through all phases of the Project. The TPDES Consultant's services shall include, without limitation, (1) recommending structural and non-structural BMPs to Project Architect or other subcontractors under this Contract for civil and landscape site coordination, (2) preparing of Storm Water Pollution Prevention Plans (SWPPPs) including any BMP drawings and details (3) as requested in writing by Owner, assisting in the updating of SWPPPs and all other permit documentation required by the TCEQ for the Project, and (4) the drafting of technical specifications governing the Contractor/Contractor's obligations under the applicable TPDES regulations and the TCEQ General Permit for Storm Water Discharges From Construction Sites ("General Permit") No. TXR 150000 and governing the Contractor/Contractor's recommended courses of action under BMPs. The TPDES Consultant shall insure that the storm water pollution prevention plan has been prepared for the site in accordance with the General Permit and that such plan complies with approved State and/or local sediment and erosion plans or permits and/or storm water management plans or permits, including, without limitation, any TPDES permit issued to The University of Texas component on which the site is located. The TPDES Consultant, through Project Architect, shall determine whether General Permit coverage is required, and, if so, shall advise Owner of Owner's obligations under the General Permit and

shall advise Owner of the Contractor/Contractor's obligations under the General Permit. If there are multiple projects proposed to be conducted concurrently in contiguous areas and general permit coverage is required, the TPDES Consultant shall advise Owner of Owner's obligations and prepare one SWPPP for the entire area encompassing all projects and shall amend such SWPPP at the request of Owner to insure that the Contractor(s) of each project can comply with TPDES requirements and BMPs. PROJECT ARCHITECT HEREBY INDEMNIFIES AND HOLDS HARMLESS OWNER FROM ANY AND ALL LIABILITY, LOSS, DAMAGE, COST, AND EXPENSE ARISING OUT OF A VIOLATION OF THE APPLICABLE TCEQ TPDES REGULATIONS, BMPs, THIS PARAGRAPH OF THIS AGREEMENT, OR THE TERMS AND CONDITIONS OF THE GENERAL PERMIT TO THE EXTENT ATTRIBUTABLE TO A WILLFUL, NEGLIGENT OR ACCIDENTAL ACT OR OMISSION OF PROJECT ARCHITECT OR ITS CONSULTANTS.

14.2.6 REGISTERED ACCESSIBILITY SPECIALIST. Services provided by an independent contract provider under contract with TDLR to include the Preliminary Plan Review and Final Plan Review and Field Inspection of placed work to coincide with the pre-final inspections. Issues regarding accessibility shall be coordinated to be included in the punch list provided to the Contractor. Design consultation services and preliminary field inspections during installation of work are optional services. These services are related to the provisions of The Texas Architectural Barriers Act (Article 9102, T.C.S.).

14.2.7 RECORD DRAWINGS AND SPECIFICATIONS. Project Architect shall revise the drawings and specifications upon Final Completion of construction, to incorporate all modifications recorded by the Contractor on the drawings and specifications maintained at the Site, in addition to all alterations to the Contract Documents generated by Project Architect or Owner. The Project Architect shall label the revised drawings and specifications as "Record Drawings" and "Record Specifications" and shall deliver copies to the Owner for record purposes, as follows:

- All record drawings and specifications shall be submitted per Owner's native software requirements.
- In addition, submit one (1) full size paper copy of Record Drawings.
- In addition, submit record drawings and specifications in Adobe PDF format.

14.2.8 LIFE SAFETY ENGINEERING CONSULTANT. The Project Architect shall employ a qualified Fire Protection and Life Safety Engineering Consultant experienced in the design and third-party certification of building fire alarm systems in accordance with NFPA 72 and Title 28, Part 1, Chapter 34. Subchapter F. of the Texas Administrative Code (Fire Alarm Rules). The Life Safety Consultant's services shall include, without limitation, participating in the Owner's technical review process and responding to comments made during the reviews.

14.2.9 LEED CERTIFICATION SPECIALIZED SERVICES. NOT APPLICABLE.

14.2.10 SPECIALIZED CONSULTANTS. The specialized consultant services identified in the following list may be included in Additional Services:

- Audio Visual
- Materials Handling Services
- Furniture and Equipment Purchasing Services
- Major Medical Equipment Purchasing Services
- Personnel and Material Transport Planning Services
- Hazardous Materials Handling Services
- Integrated Scheduling Services

- Radiation Control Services
- Graphics/Wayfinding Planning Services
- Safety Engineering Services
- Traffic Control Planning Services
- Wind Tunnel Testing/Emissions Control/Wind Pressure Analysis
- Art Procurement Consulting Services (not architectural renderings or models)

14.2.11 **SPECIALIZED SERVICES.** The specialized consultant services identified in the following list are included in Additional Services:

- Providing financial feasibility or other special studies.
- Providing planning surveys, site evaluations, environmental studies or comparative studies of prospective sites.
- Providing services relative to future facilities, systems and equipment which are not intended to be constructed during the Construction Phase.
- Providing services to make detailed investigation of existing conditions or facilities or to make measured drawings thereof, other than to verify the accuracy of drawings or other information furnished by the Owner.
- Providing coordination of Work performed by Owner's separate Contractors or by the Owner's own forces.
- Providing services for planning tenant or rental spaces.
- Making revisions in Drawings, Specifications or other documents when such revisions (i) are inconsistent with written approvals or instructions previously given, (ii) are required by the enactment or revision of codes, laws or regulations subsequent to the preparation of such documents, or (iii) are due to other causes not solely within the control of the Project Architect.
- Making extensive investigations, surveys, valuations, inventories or detailed appraisals of existing facilities, except as otherwise required by the Agreement, and services required in connection with construction performed by the Owner.
- Providing consultation concerning replacement of any Work damaged by fire or other cause during construction, and furnishing services as may be required in connection with the replacement of such Work.
- Providing services made necessary by the default of the Contractor, or by major defects or deficiencies in the Work of the Contractor, or by failure of performance of the Contractor under the Contract for Construction.
- Providing extensive assistance in the utilization of any equipment or system such as initial start-up or testing, adjusting and balancing, preparation of operation and maintenance manuals, training personnel for operation and maintenance, and consultation during operation.
- Providing services after the expiration of sixty (60) days following final payment to the Contractor, excluding any services necessary during the warranty period inspections and provided that all of Project Architect's services as required under this Agreement have been satisfactorily completed.
- Preparing to serve or serving as an expert witness at the request of the Owner in connection with any public hearing, arbitration proceeding or legal proceeding. Providing any other services not otherwise customarily furnished in accordance with generally accepted architectural practice.

14.3 **Owner Provided Services.** The services identified in the following list will be provided by the Owner at Owner's expense.

- Surveying Services
- Geotechnical Services
- Code Check
- Plan Check
- Forensic Consultant
- Construction Auditing Consultant
- Existing Facility Surveys
- Integrated Scheduling
- Testing and Balancing
- Hazardous Materials Surveying and Abatement
- Laboratory Testing (Soils, Materials, Environmental, Welding, Steel Construction)
- Project Commissioning
- Exhaust Stack Testing
- Vibration Analysis
- Radio Frequency Interference Testing

14.4 Basis of Compensation

14.4.1 Basic Services.

On the Effective Date of this Agreement, the Construction Cost Limitation for the Project is stipulated to be:

Eight Million & 00/100 Dollars (\$8,000,000.00)

Therefore, on the Effective Date of this Agreement, the Basic Services Fee for the Project is stipulated to be:

$$\begin{array}{rcl} \underline{\$8,000,000.00} & \text{X } \underline{0.08} & = \quad \underline{\$ 640,000.00} \\ \text{Construction Cost Limitation} & \text{Fee \%} & \text{Basic Services Fee} \end{array}$$

If the Construction Cost Limitation is revised, due to a change in the scope of the Project, prior to acceptance of the construction contractor's bid or competitive sealed proposal or construction manager's guaranteed maximum price proposal, the Basic Services Fee will be adjusted based on interpolation of the attached Exhibit – *Board of Regents Fee Schedule dated December 1987*:

Over \$ 5,000,000	8.0 %
Over \$ 1,000,000	9.0 %
Up to \$ 200,000	10.0 %

The Owner may amend the Construction Cost Limitation at the completion of the Pre-Design Phase. If the Construction Cost Limitation is amended by Owner, and Project Architect has been notified in writing of such Construction Cost Limitation, then this paragraph of this Agreement shall be deemed to be amended by including such Construction Cost Limitation amount as the cost referenced in the first sentence of this paragraph of this Agreement. The Construction Cost Limitation will be confirmed or re-established at the completion of the Schematic Design Phase, at the completion of the Design Development Phase, at the completion of the Construction Document Phase, and at the completion of the Bidding and Proposal Phase.

14.4.2 Reimbursable Expenses.

The maximum allowable cost on this Project for Reimbursable Expenses identified in Article 5 as approved by the Owner is:

Maximum Reimbursable Expense Amount: \$_____

14.4.3 Maximum Contract Sum

Basic Services Fee amount (Art. 14.4.1) \$_____

plus

Maximum Reimbursable Expense amount (Art. 14.4.2) \$_____

MAXIMUM CONTRACT SUM: \$_____

14.5 **Progress Payments.** Payments for Basic Services shall be made as provided in Article 7 in accordance with the following schedule:

Schematic Design Phase:	15%
Design Development Phase:	20%
Construction Documents Phase:	40%
Bidding or Negotiation Phase:	5%
Construction Phase:	20%

14.6 **Review Stages.** The Project Architect shall submit drawings, specifications, and other documents required by the Agreement to the Owner for review at completion of the Schematic Design Phase, Design Development Phase and at the following stages of completion of the Construction Documents Phase:

50%, 95%, 100%

14.7 **Construction Cost Estimates.** The Project Architect shall submit drawings and specifications, Estimated Construction Cost, and other documents as described in Article 1.1.15 at completion of the Schematic Design Phase, Design Development Phase and at the following stages of completion of the Construction Documents Phase:

50%, 95%, 100%.

14.8 **Review Documents.** The Project Architect shall, at its expense, furnish and deliver to the Owner for Owner's review, the following number of sets of review documents at the required review stages. Review documents shall also be furnished in Adobe PDF format:

Schematic Design:	(6) sets
Design Development:	(6) sets
Construction Documents:	(6) sets for each stage of % complete

14.9 **Partnering.** For the benefit of all parties and as a part of Basic Services, the Project Architect and its entire consultant team shall attend two (2) full day Partnering sessions in Smithville, Texas; the first at the beginning of the Pre-Design Design Phase, and the second at the beginning of the Construction Phase.

14.10 **Design Software Standards.** Project Architect, as a Basic Service, shall utilize Owner's design software drawing-layering standard and shall review that standard with the Owner prior to commencing drawing preparation. A pre-design workshop will be facilitated by the Project Architect to arrive at an agreed upon means to ensure the integration of project equipment data into the Operations and Maintenance Database occurs early in the project and document conflicts are eliminated. Validating the consistency and accuracy of documents and schedules populated by the Project Architect and its consultants during design and by the Contractor during construction will be the responsibility of the Project Architect to ensure that the Owner is not accepting conflicting information upon occupancy.

14.11 **Space Planning Documents.** Project Architect, as a Basic Service, shall provide the Owner with a complete current electronic set in Owner's native design software, of the architectural floor plan drawings with room names, room numbers, and room square footages indicated. Per the Owner's Design Guidelines, Owner will determine when the initial drawings, defined as the "Room Number Control Set", must be submitted. Project Architect shall submit periodic updates to Owner as room name and number designations are changed.

Article 15 Amendments to the Agreement between Owner and Project Architect when using the Construction Manager at Risk Project Delivery Method

15.1 By incorporating this Article 15, the Project Architect acknowledges and accepts that the Owner intends to construct the Project using the Construction Manager at Risk delivery method. Therefore, the Owner and the Project Architect hereby agree that the certain preceding terms of this Agreement are supplemented modified, or both, as indicated below.

15.2 The following terms of this Agreement are amended by incorporating the new paragraphs and substituting the modified paragraphs for their counterparts in their entirety. For clarity purposes only, all new contract language is indicated by *italics*. Existing contract language that is unchanged by the amendments is shown in standard type face.

1.1 Basic Services

1.1.30 The Owner intends to appoint a Construction Manager at Risk for this project (the "Construction Manager" or "Contractor"), and the Project Architect shall coordinate its Services (Basic and Additional) hereunder with the Construction Manager. The Owner may direct the Project Architect to recognize the Construction Manager as its representative for the performance of various duties hereunder which are otherwise defined as the responsibility of the Owner hereunder. Project Architect hereby acknowledges such appointment. Upon request, Project Architect shall be entitled to review a redacted version of the Agreement between the Owner and Construction Manager at Risk for this project (the "CMAR Agreement"). Nothing in the CMAR Agreement shall confer direct responsibility on the Construction Manager for the Project Architect's services, nor shall anything contained therein diminish Project Architect's responsibility for its services as set forth hereunder.

1.1.31 The Project Architect shall participate in the development and review of the Construction Managers Guaranteed Maximum Price (GMP) Proposal. This GMP Proposal will include the qualifications, assumptions, exclusions, value engineering and all other requirements identified within Attachment 1 to Exhibit D (Guidelines for the Preparation of the GMP) of the CMAR Agreement. Following Owner's acceptance of the GMP Proposal, the Project Architect shall be responsible for developing the Construction Documents, consisting of plans and specifications, setting forth in detail, and incorporating the aforementioned requirements described within the Attachment 1 to Exhibit D of the CMAR Agreement and contained in the GMP Proposal. Furthermore, the Project Architect shall participate in the documentation of the Construction Manager's GMP Proposal so as to adequately understand the contents of the GMP Proposal and ultimately confirm that the Construction Documents, when complete, reflect all qualifications, clarifications and assumptions contained within the GMP Proposal. The Project Architect and the Construction Manager shall jointly provide a monthly status report stating the progress of the incorporation of the GMP Proposal qualifications, clarifications, assumptions, exclusions and value engineering and all other requirements identified in Attachment 1 to Exhibit D of the CMAR Agreement, into the Construction Documents."

1.2 Schematic Design Phase

1.2.1 Based on the mutually agreed upon Pre-Design Report (Facility Program), the Construction Cost Limitation and the Project Schedule, the Project Architect shall prepare sufficient alternative approaches to design and construction of the Project to satisfy Owner's requirements and shall, at completion of this phase, submit Schematic Design Documents in accordance with Owner's Design Guidelines and any additional requirements set forth in Article 14. *The Project Architect shall review alternative approaches to design and construction for the Project and the Schematic Design Documents as they are being prepared at intervals appropriate to the progress of the Project with the Owner and Construction Manager at the Project location or other location specified by the Owner within the State of Texas. The Project Architect shall provide the Construction Manager with copies of the Project Architect's documents at the Construction Manager's expense to assist the Construction Manager in fulfilling its responsibilities to the Owner.*

1.2.5 The Project Architect shall direct the preparation of a detailed Estimated Construction Cost as described in Sub-paragraph 1.1.15 to confirm compliance with the Construction Cost Limitation and include the detailed Estimated Construction Cost with the completed Schematic Design Documents. *The Project Architect shall review its Estimated Construction Cost in comparison with the construction cost estimate prepared by the Construction Manager, and shall reconcile any differences between the two construction cost estimates in coordination with the Construction Manager. If the Project Architect is unable to reconcile all differences between the two construction cost estimates with the Construction Manager, then the Project Architect shall provide a detailed explanation of the differences to the Owner. The Project Architect shall advise the Owner of any adjustments to the project scope necessary to align the Estimated Construction Cost with the Construction Cost Limitation and shall revise the Schematic Design Documents, without charge to the Owner, as may be required to comply with the Construction Cost Limitation. The Owner may, solely at Owner's discretion and in writing, increase or decrease the Construction Cost Limitation to align with the Project Architect's detailed Estimated Construction Cost.*

1.2.7 *The Project Architect shall participate in a final review of the Schematic Design Documents with the Owner and Construction Manager at the Project location or other location specified by Owner in the State of Texas. Prior to the Owner's approval of the Schematic Design Documents, the Project Architect shall incorporate such changes as are necessary to satisfy the Owner's review comments, any of which may be appealed for good cause.*

1.3 Design Development Phase

1.3.1 Based on the approved Schematic Design Documents and any adjustments to the Pre-Design Report (or Facility Program) or Construction Cost Limitation authorized by the Owner, the Project Architect shall prepare, for approval by the Owner and review by the Construction Manager, Design Development Documents in accordance with Owner's written requirements to further define and finalize the size and character of the Project in accordance with Owner's Design Guidelines and any additional requirements set forth in Article 14. *The Project Architect shall review the Design Development Documents as they are being prepared at intervals appropriate to the progress of the Project with the Owner and Construction Manager at the Project location or other location specified by Owner in the State of Texas. The Project Architect shall provide the Construction Manager with copies of the Project Architect's documents at the Construction Manager's expense to assist the Construction Manager in fulfilling its responsibilities to the Owner.*

1.3.3 The Project Architect shall direct the preparation of a detailed Estimated Construction Cost as described in Sub-paragraph 1.1.15 to confirm compliance with the Construction Cost Limitation

and include the detailed Estimated Construction Cost with the completed Design Development Documents. *The Project Architect shall review its Estimated Construction Cost in comparison with the construction cost estimate prepared by the Construction Manager, and shall reconcile any differences between the two construction cost estimates in coordination with the Construction Manager. If the Project Architect is unable to reconcile all differences between the two construction cost estimates with the Construction Manager, then the Project Architect shall provide a detailed explanation of the differences to the Owner.* The Project Architect shall advise the Owner of any adjustments to the project scope necessary to align the Estimated Construction Cost with the Construction Cost Limitation and shall revise the Design Development Documents, without charge to the Owner, as may be required to comply with the Construction Cost Limitation. The Owner may, solely at Owner's discretion and in writing, increase or decrease the Construction Cost Limitation to align with the Project Architect's detailed Estimated Construction Cost.

1.3.8 At the completion of the Design Development Phase, or such other time as Owner may specify to Project Architect, at Owner's sole option and discretion, Owner will furnish Project Architect with a GMP Proposal prepared by Construction Manager based upon the Design Development Documents prepared by the Project Architect and approved by the Owner. The Project Architect shall assist the Owner and further advocate the Owner's interests during Owner's negotiations with the Construction Manager in an effort to develop a GMP Proposal acceptable to Owner, in Owner's sole option and discretion. If the Owner does not accept the Construction Manager's GMP Proposal, the Project Architect shall participate with the Owner and Construction Manager in constructability reviews and shall revise the documents as necessary in order to reach an agreement. If Construction Manager's GMP Proposal exceeds the cost quantity survey furnished to Owner by Project Architect, and Owner directs Project Architect to revise the drawings and specifications, then Project Architect shall revise the drawings and specifications without charge to the Owner such that the GMP Proposal for constructing the Project, minus Owner's Special Cash Allowance, if any, within the GMP Proposal and minus Owner's Construction Contingency, if any, within the GMP Proposal, does not exceed the Construction Cost Limitation. If it is determined to be in the Owner's best interest, instead of requiring the Project Architect to revise the drawings and specifications, the Owner reserves the right to accept a GMP Proposal that exceeds the Construction Cost Limitation. The Project Architect shall analyze the final GMP Proposal documents, including its supporting assumptions, clarifications, and contingencies, and shall submit a detailed written analysis of the GMP Proposal documents to the Owner. Such analysis shall include, without limitation, reference to and explanation of any inaccurate or improper assumptions and clarifications.

1.3.9 After the Owner has accepted the GMP Proposal, the Project Architect shall incorporate into the Design Development Documents all revisions which are necessary because of inaccurate assumptions and clarifications made in the development of the GMP Proposal.

1.4 Construction Document Phase

1.4.1 Based on the approved Design Development Documents and any further adjustments in the scope or quality of the Project or in the Construction Cost Limitation authorized by the Owner, the Project Architect shall prepare, for approval by the Owner and review by the Construction Manager, Construction Documents consisting of Drawings and Specifications in accordance with Owner's written requirements setting forth in detail the requirements for construction of the Project, including, without limitation, Owner's Design Guidelines and any additional requirements contained in Article 14 of this Agreement. The plans, drawings and specifications for the entire Project shall be so prepared that same will call for the construction of Project will cost not more than the Guaranteed Maximum Price accepted by Owner, or the Construction Cost Limitation approved by Owner if no GMP Proposal has been accepted by Owner. The Project Architect will be responsible for managing the design to stay within such Guaranteed Maximum Price amount or Construction Cost Limitation. The Project Architect shall review the

Construction Documents as they are being prepared at intervals appropriate to the progress of the Project with the Owner and Construction Manager at the Project location or other location specified by Owner in the State of Texas. The Project Architect shall provide the Construction Manager with copies of the Project Architect's documents at the Construction Manager's expense to assist the Construction Manager in fulfilling its responsibilities to the Owner.

1.4.2 The Project Architect shall advise the Owner *and Construction Manager* on matters such as construction phasing and scheduling, scope alternates, special cash allowances, liquidated damages, the construction contract time period, and other construction issues appropriate for the Project *The Project Architect shall assist the Owner and Construction Manager in the preparation of the necessary procurement information, procurement forms, RFP information, and RFP forms, and the conditions of the contract.*

1.4.7 The Project Architect shall direct the preparation of a detailed Estimated Construction Cost as described in Sub-paragraph 1.1.15 to confirm compliance with the Construction Cost Limitation and include the detailed Estimated Construction Cost with the completed Construction Documents. *The Project Architect shall review its Estimated Construction Cost in comparison with the construction cost estimate prepared by the Construction Manager, and shall reconcile any differences between the two construction cost estimates in coordination with the Construction Manager. If the Project Architect is unable to reconcile all differences between the two construction cost estimates with the Construction Manager, then the Project Architect shall provide a detailed explanation of the differences to the Owner.* The Project Architect shall advise the Owner of any adjustments to the project scope necessary to align the Estimated Construction Cost with the Construction Cost Limitation and shall revise the Construction Documents, without charge to the Owner, as may be required to comply with the Construction Cost Limitation. The Owner may, solely at Owner's discretion and in writing, increase or decrease the Construction Cost Limitation to align with the Project Architect's detailed Estimated Construction Cost.

1.4.9 The Project Architect shall participate in a final review of the Construction Documents with the Owner *and Construction Manager* at the Project location or other location specified by Owner in the State of Texas. Prior to the Owner's approval of the Construction Documents, the Project Architect shall incorporate such changes as are necessary to satisfy the Owner's review comments.

1.5 Bidding and Proposal Phase

1.5.1 *In conjunction with the development of the GMP Proposal, the procurement of the goods and services needed to implement the Project, and at other times as appropriate to the Project, the Project Architect shall assist the Owner and Construction Manager by receiving and recording requests for Bid and Request for Proposal ("RFP") Documents, issuing Bid and RFP Documents, and accounting for Bid and RFP Documents issued; receiving and resolving questions about Bid and RFP Documents; preparing addenda, issuing addenda, and accounting for addenda issued; attending pre-submittal conferences and HUB meetings; obtaining and evaluating bids and proposals; and assisting in preparing and awarding multiple subcontracts and purchase orders for construction.* Project Architect shall answer inquiries from bidders and proposers at Owner's request, and shall prepare and issue any necessary addenda to the bidding or proposal documents.

1.6 Construction Phase—Administration of the Construction Contract

1.6.1 The Construction Phase shall commence with the *acceptance of the Construction Manager's Guaranteed Maximum Price Proposal (or acceptance of a partial Guaranteed Maximum Price Proposal for a stage or phase)* and issuance of (i) a Notice to Commence On-Site Work or (ii) a Notice to Proceed with Construction Services and terminate sixty (60) days after Final Payment to the Contractor is made, or when all of Project Architect's services have been satisfactorily performed, whichever occurs later.

- 1.6.2. c) *The Project Architect shall assist the Owner in making arrangements for a Pre-Construction Conference and a Partnering Workshop and shall assist in preparation of an administration booklet for the Pre-Construction Conference and shall distribute copies of the bound booklet to all parties. The Project Architect and its consultants shall participate in the project Partnering process including attendance at all Partnering Workshops.*

1.6.5 The Project Architect shall be a representative of the Owner during the Construction Phase, and shall advise and consult with the Owner. Instructions to the Contractor shall be forwarded through the Project Architect *and all communication by and with the Project Architect's consultants shall be through the Project Architect, except that the Owner reserves the right to communicate directly with the Construction Manager and consultants as it deems necessary or appropriate at any time.* The Project Architect shall have authority to act on behalf of the Owner to the extent provided in the Contract Documents. Duties, responsibilities and limitations of authority of the Project Architect shall not be restricted, modified or extended without written acceptance of the Owner.

1.8 Time

1.8.2 Attached hereto as an Exhibit containing a schedule for completion of each of the phases of services to be performed by Project Architecture pursuant to this Agreement. The project schedule contains milestone dates which were initially provided in the Request for Qualifications previously issued but as modified by the Owner to reflect current conditions. Supplemental activities shown on the schedule, and any associated dates not yet defined, shall be determined at the completion of the Pre-Design Phase or at such time when both parties mutually agree that the project is sufficiently developed and documented. *The Project Architect shall coordinate with the Construction Manager in the preparation and maintenance of the schedule for performance of the professional services for the Project, including the Project Architect's services.* Changes in this schedule may be made only with the written approval of Owner. Project Architect shall perform all of its services in accordance with the then-current schedule approved by Owner.

[SIGNATURES PROVIDED ON FOLLOWING PAGE]

BY SIGNING BELOW, the Project Architect has executed and bound itself to this Agreement as of the day and year first above written. The Agreement shall become effective only upon the execution of the Agreement by both parties and the issuance of a Purchase Order by Owner to the Project Architect. Additional services, amendments, modifications, deletions or other changes to the Agreement, if any, shall become effective only upon the issuance of a Purchase Order by Owner to the Project Architect. Only Supply Chain Services is authorized to award official agreements and issue Purchase Orders binding on Owner.

(SEAL)

[PROJECT ARCHITECT'S NAME]

ATTEST:

By: _____
(original signature)

(name and title typed)

By: _____
(original signature)

(name and title typed)

Date: _____

The Texas Board of Architectural Examiners, 333 Guadalupe Street, Suite 2-350, Austin, Texas 78701, telephone (512) 305-9000, has jurisdiction over individuals licensed under the Architects' Registration Law, Chapter 1051, Texas Occupations Code.

CONTENT APPROVED:

THE UNIVERSITY OF TEXAS
M. D. ANDERSON CANCER CENTER
(Owner)

Office of Vice President
Operations & Facilities Management

Office of the Chief Financial Officer
Finance

By: _____
(original signature)

By: _____
(original signature)

Name: Spencer Moore
Title: Vice President, Operations & Facilities
Management

Name: Weldon W. Gage
Title: Senior Vice President & Chief Financial
Officer

Date: _____

Date: _____

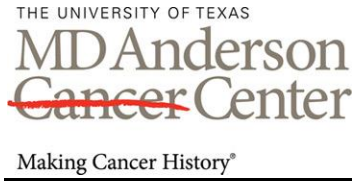
The following Exhibits are fully incorporated into this Agreement by reference:

EXHIBITS

Exhibit A – Pre-Design Report Template
Exhibit B – Project Milestone Schedule
Exhibit C – Personnel Titles and Hourly Rates
Exhibit D – Statement for Architectural/Engineering Services
Attachment H to Exhibit D – Documentation of Subcontracted Work
Exhibit E – Anticipated Pre-Design Phase Deliverables
Exhibit F – Owner’s Commissioning Requirements
Exhibit G – Owner’s Building Information Modeling (BIM) Requirements
Exhibit H – Policy on Utilization – Historically Underutilized Businesses
Attachment 1 to Exhibit H – HUB Subcontracting Plan
Exhibit I – Additional Services Proposal Form
Exhibit J – Adjustment to Basic Services Compensation
Exhibit K – Project Scope Summary Questionnaire Form
Exhibit L – Rider 105, Contractor’s Affirmations and Warranties
Exhibit M – Rider 106, Premises Rules
Exhibit N – Rider 107, Travel Policy
Exhibit O – Rider 117, Institutional Policies
Exhibit P – Owner’s Design Guidelines
Exhibit Q – Execution of Offer
Exhibit R – Architect / Engineer Fee Schedule
Exhibit S – Sales Tax Exemption Form

EXHIBIT A

OWNER'S PRE-DESIGN REPORT TEMPLATE



[PROJECT NAME] Pre-Design Report

[PROJECT NUMBER]
[DATE]

[Draft or Final]

Facilities Planning Design & Construction

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THIS DOCUMENT IS A TEMPLATE FOR PREPARING A PRE-DESIGN REPORT.

- A. INFORMATION NOTED IN “BLUE” IS MEANT TO BE USED AS A GUIDELINE ONLY TO ASSIST IN WRITING THE REPORT. THE DOCUMENT SHOULD BE EDITTED TO INCLUDE SPECIFIC PROJECT REQUIREMENTS.**
- B. VERBIAGE IN “BLACK” SHOULD BE INCLUDED IN THE PRE-DESIGN REPORT IF APPLICABLE TO A PROJECT.**
- C. PART I OF THE TEMPLATE IS INTENDED TO PROVIDE A PROJECT OVERVIEW.**
- D. PART II OF THE TEMPLATE INCLUDES DESIGN AND CONSTRUCTION REQUIREMENTS NEEDED FOR IMPLEMENTATION AND IS DIRECTED TOWARD THE MD ANDERSON PROJECT MANAGER AND ARCHITECT/ENGINEER OF RECORD.**

I. PROJECT OVERVIEW

INTRODUCTION

DESCRIBE THE PRIMARY FUNCTIONS, LOCATION, AND OPERATIONS OF THE GROUP(S) INVOLVED. (WHO IS THE CLIENT AND WHAT DO THEY DO?)

BACKGROUND

DESCRIBE THE HISTORICAL AND/OR CURRENT ISSUES THAT ESTABLISH THE PROJECT NEED.

OBJECTIVES

INDICATE ALL BASIC OBJECTIVES TO BE MET BY THE PROJECT EFFORT, INCLUDING THOSE OBJECTIVES ASSOCIATED WITH OTHER GROUPS OR FUNCTIONS THAT MAY BE AFFECTED BY THE PROJECT, BUT ARE NOT INCLUDED IN THE ORIGINAL PROJECT REQUEST.

Primary objectives for this project include the following:

(LIST OBJECTIVES)

1.

PROPOSED RESOLUTIONS

INDICATE ALL THE PROPOSED SOLUTIONS UNDER CONSIDERATION, INCLUDING ANY MULTIPLE STEPS (I.E. RELOCATIONS OF OTHER GROUPS TO MEET THE ORIGINAL REQUEST). KEEP PROPOSED RESOLUTIONS AT A HIGH LEVEL; NOT TOO MANY DETAILS UNLESS THEY IMPACT THE DIRECTION OF THE PROJECT. BREAK OUT BY LEVEL OF RENOVATION AND INCLUDE SQUARE FOOTAGES. SELECT THE FOLLOWING LEVEL OF RENOVATION AS APPROPRIATE TO THE PROJECT:

- PATCH AND PAINT**

- **MINIMAL RENOVATION**
- **MEDIUM RENOVATION (1/2 OF THE WALLS REMOVED)**
- **HEAVY RENOVATION (EXTENSIVE DEMOLITION AND RECONSTRUCTION)**

To accommodate the above objectives, all of the following are proposed (refer to attached floor plans for additional information):

(LIST RESOLUTIONS)

1.

During the design phase, refinements and/or reconfiguration of the schematic plan may be required to maximize the efficiency of space utilization and realize the client's objectives.

Space that will be vacated by this project will be locked down for future assignment.

-OR- Space to be vacated by this project will remain assigned to **(NAME OF DEPARTMENT)**.

CONDITIONS OF APPROVAL

STATE ALL CONDITIONS THAT ARE ASSOCIATED WITH APPROVAL TO PROCEED WITH THE PROJECT. (I.E. DIRECTION FROM SENIOR ADMINISTRATION).

SPACE REQUIREMENTS

LIST THE SPACE TYPES, WITH A BRIEF DESCRIPTION OF THEIR FUNCTION. COMPLETE A SPACE PROGRAM SPREADSHEET AND ATTACH IT TO THIS REPORT. DEPENDING ON THE PROJECT, YOU MAY JUST REFERENCE THE SPREADSHEET HERE. MAKE NOTE OF ANY SPACE VARIANCES OR SPECIAL NEEDS ROOM(S).

LIST ANY ATTACHMENTS AND ASSOCIATED ISSUE DATE IF NEEDED FOR CLARIFICATION OF THIS PARAGRAPH.

Refer to the attached drawings and spreadsheet for program components (Attachment 1 per list of Attachments at the end of Part I).

TRAFFIC FLOWS/ADJACENCIES

IDENTIFY SPECIFIC DESIRED TRAFFIC FLOWS, INCLUDING ANY DIFFERENCES IN STAFF AND VISITOR PATHS. IN PATIENT CARE AREAS, INDICATE THE FLOW OF THE PATIENT FROM ARRIVAL THROUGH PROCEDURE. IDENTIFY ANY DESIRED ADJACENCIES AND THEIR PRIORITIZATION.

Exit routes shall be in accordance with all federal, state and local building codes.

SUPPORT SERVICES

***LIST WHO WILL BE RESPONSIBLE FOR SUPPORTING THE AREA.
INDICATE ANY OTHER AFFECTED SUPPORT SERVICES TO THE AREA.***

Responsibility for the daily maintenance and housekeeping requirements for this area is within the following Facilities Management departments: Patient Care and Prevention Facilities, Administrative Facilities and Campus Operations, **OR** Research and Education Facilities. MD Anderson Information Technology and MD Anderson Network Services will support telecommunication / network infrastructure.

EXISTING FINISHES AND SITE CONDITIONS OF PROJECT AREA

INDICATE EXISTING FINISHES FOR FLOORS, WALLS, CEILINGS, ETC., AND ANY INFRASTRUCTURE/SPECIAL CONDITIONS THAT WOULD AFFECT THE PROJECT WORK.

IDENTIFY PRE-EXISTING CONDITIONS THAT MAY AFFECT ARCHITECTURAL, MECHANICAL, ELECTRICAL, AND PLUMBING SYSTEM DESIGN, SUCH AS CODE VIOLATIONS, EQUIPMENT SLATED FOR REPLACEMENT VIA CRR FUNDS, AND SYSTEM CAPACITY LIMITATIONS. ATTACH PROJECT AREA ASSESSMENT DOCUMENTS DEVELOPED BY THE MD ANDERSON ENGINEERING TEAM.

CONTACT THE FPDC DIRECTOR OF DESIGN & ENGINEERING SERVICES, OR HER OR HIS DESIGNEE, FOR A LIFE SAFETY REVIEW. NOTE THAT LIFE SAFETY ISSUES MUST CONSIDER NOT ONLY EXITING, BUT ANY EXISTING OR REQUIRED FIRE/SMOKE WALLS, COMPARTMENTALIZATION, AND BUILDING SEPARATIONS, ETC. WHEN DEVELOPING THE PLANNING DOCUMENTS. NOTE ANY SPECIAL PROJECT REQUIREMENTS SUCH AS FIRE WALLS WHICH MUST BE MAINTAINED, EXISTING EXITING DEFICIENCIES, ETC.

Existing walls are (painted gypsum board) **OR** (wall covering). Floors are (carpeted) **OR** (vinyl tile). Existing ceilings are (2x4) **OR** (2x2) lay-in tiles **OR** gypsum board.

Verification for asbestos must be completed before construction can begin.

ADJACENT AREAS

IDENTIFY THE OCCUPANTS AND PRIMARY FUNCTIONS (I.E. OUTPATIENT CLINIC, OFFICE, LAB) OF SPACES SURROUNDING THE PROJECT WORK AREA INCLUDING NORTH, SOUTH, EAST, AND WEST LOCATIONS ON THE SAME FLOOR, AND THE FLOORS DIRECTLY ABOVE AND BELOW.

The proposed space includes _____ square feet of the **(FLOOR NUMBER)** floor of the **(BUILDING NAME IF APPLICABLE)**. **(NAME OF DEPT.)** occupies the floor above the designated space and **(NAME OF DEPT.)** occupies the floor below the designated space. **(NAME OF DEPT.)** occupies the space adjacent to the area to be renovated.

EVALUATE AREAS DIRECTLY ABOVE AND BELOW THIS PROJECT AREA AND STATE ANY IMPACT CAUSED BY IMPLEMENTATION OF THE PROJECT WORK. SPECIAL CONSIDERATION SHALL BE GIVEN TO NEW PLUMBING DRAINAGE LINES (SANITARY WASTE) THAT WILL BE REQUIRED WITHIN THE CEILING SPACE OF THE LEVEL BELOW. INSTALLATION OF THESE LINES MAY REQUIRE SIGNIFICANT DISRUPTION OF SPACE AND REWORKING OF EXISTING DUCTWORK, PIPING, ETC., AND COULD CAUSE REDESIGN OF PROPOSED FLOOR PLAN LAYOUT. AN EXAMPLE IS LOCATING TOILET FIXTURES OVER EXISTING STRUCTURAL BEAMS OR SENSITIVE AREAS. ALSO NOTE HEAVY EQUIPMENT THAT MAY REQUIRE STRUCTURAL MODIFICATIONS.

FURNITURE, FIXTURES AND EQUIPMENT

STATE THE UNDERSTANDING REGARDING THE RE-USE AND/OR PURCHASE OF NEW ITEMS FOR THE PROJECT. ATTACH A LIST IF AVAILABLE.

All new furniture, equipment, finishes, cubicle curtains/track, etc., will be based upon MD Anderson institutional standards wherever applicable. Existing furniture will be used where applicable.

ACCESSIBILITY

CONSULT WITH THE FPDC DIRECTOR OF DESIGN & ENGINEERING SERVICES, OR HER OR HIS DESIGNEE, DURING THE SCOPE DEVELOPMENT PHASE OF A PROJECT FOR INPUT REGARDING THE REQUIREMENTS OF THE TEXAS ACCESSIBILITY STANDARDS (TAS).

PROVIDE A DRAWING SHOWING THE PROJECT AREA AND PROPOSED SCOPE OF WORK. FPDC DESIGN & ENGINEERING SERVICES WILL PROVIDE INFORMATION REGARDING NON-COMPLIANT ACCESSIBILITY ITEMS (TO THE EXTENT KNOWN), AS WELL AS INFORMATION ON ANY RECENTLY COMPLETED CORRECTIVE WORK. ENSURE THAT THE FINAL PRE-DESIGN REPORT (PDR) REQUIRES THE PROJECT TO ASCERTAIN AND THEN CORRECT DEFICIENCIES IN ANY RESTROOM SERVING THE RENOVATED AREA. ENSURE THAT THE FINAL PRE-DESIGN REPORT REQUIRES AN ACCESSIBLE ROUTE TO THE PROJECT AREA, AND CORRECT ANY DEFICIENCIES FOUND ALONG THE ACCESSIBLE ROUTE, INCLUDING, BUT NOT LIMITED TO DRINKING FOUNTAINS, PUBLIC TELEPHONES, AND PROTRUDING OBJECTS. TRANSMIT TO FPDC DESIGN & ENGINEERING SERVICES A COPY OF THE DRAFT AND FINAL PDR.

PLUMBING FIXTURE COUNT

CONSULT WITH THE FPDC DIRECTOR OF DESIGN & ENGINEERING SERVICES DURING THE SCOPE DEVELOPMENT PHASE OF A PROJECT FOR INPUT REGARDING REQUIREMENTS OF THE INTERNATIONAL PLUMBING CODE PERTAINING TO THE MINIMUM NUMBER OF FIXTURES REQUIRED TO SERVE THE RENOVATED AREA.

FPDC DESIGN & ENGINEERING SERVICES WILL PROVIDE A PLUMBING FIXTURE COUNT (INCLUDES WATER CLOSETS, LAVATORIES, DRINKING FOUNTAINS, AND SERVICE SINKS) FOR THE PROJECT AREA. IF AN INSUFFICIENT NUMBER OF FIXTURES ARE PRESENT TO SERVE THE RENOVATED AREA, THEN INCLUDE THE ADDITIONAL FIXTURES IN THE PROJECT SCOPE OF WORK.

SPECIAL ISSUES OR CONSIDERATIONS

IDENTIFY ANY SPECIAL CONDITIONS OR REQUIREMENTS ASSOCIATED WITH IMPLEMENTATION OF THE PROJECT (I.E., THE CURRENT FUNCTION WILL REMAIN IN OPERATION DURING CONSTRUCTION, AFTER-HOURS WORK REQUIRED, SPECIAL PROTECTION OF ADJOINING AREAS, ETC.).

CONSULT WITH EH&S AND INFECTION CONTROL TO REVIEW THE PROJECT AND TO ASSIST IN DEVELOPING STRATEGIES FOR PHASING AND/OR SPECIAL PHYSICAL/HVAC BARRIER NEEDS. CONTACT EH&S TO PREPARE THE INFECTION CONTROL RISK ASSESSMENT (ICRA) PER JOINT COMMISSION REQUIREMENTS AND FOR IMPACT THAT ANY INTERIM LIFE SAFETY MEASURES MAY HAVE ON THE PROJECT. IN ADDITION, IDENTIFY THE PROJECT RISK LEVEL IN ACCORDANCE WITH THE MD ANDERSON INSTITUTIONAL INDOOR AIR QUALITY POLICY.

MD ANDERSON PROJECT MANAGER/PLANNER SHALL OBTAIN & ATTACH EH&S ASBESTOS ASSESSMENT REPORT FOR ALL AREAS AFFECTED BY THIS PROJECT. CLARIFY SCHEDULE AND SCOPE OF REMEDIATION WHERE REQUIRED BY THE REPORT PRIOR TO INITIATING THE DESIGN PHASE.

GENERAL SCOPE OF WORK FOR DEMOLITION / CONSTRUCTION

FOR SMALL PROJECTS, A SIMPLE BULLETED LIST OF WORK-RELATED ACTIVITIES MAY SUFFICE. THE SCOPE OF WORK SHOULD BE DETAILED ENOUGH TO ASCERTAIN A GENERAL ORDER OF MAGNITUDE BUDGET FOR THE WORK. FOR LARGER PROJECTS, THE FOLLOWING FORMAT IS SUGGESTED (EDIT/ADD TO THE FOLLOWING AS APPLICABLE):

The complete scope of work will depend on the final design, but based upon the above conditions, the general scope of renovation work is anticipated to include the following:

0.00 GENERAL

- 0.01 Design will be in accordance with MD Anderson's Owner's Design Guidelines.
- 0.02 Signage will be provided and installed as required. **(CONFIRM IF THIS IS "BY OWNER" AND IF SO, NOTE IF APPLICABLE)**
- 0.03 Lock cores and keys will be provided as required.

- 0.04 New equipment and materials will be compatible with existing components and systems to which they interface and in accordance with MD Anderson Master Construction Specifications.

1.00 DEMOLITION

- 1.01 Areas will be selectively demolished as required to accommodate the new design.
- 1.02 Owner's Project Manager will have existing signage removed and returned to the Sign Shop for re-use. Temporary signage will be provided as required.

2.00 GENERAL CONSTRUCTION

- 2.01 New walls will be constructed in accordance with MD Anderson Institutional Standards.
- 2.02 Wall surfaces should be patched where signage has been removed by the Owner.
- 2.03 All finishes will comply with MD Anderson Interior Finishes Standards in both product and application. Verify proper application with MD Anderson Planner/Designer as needed.
- 2.04 Handrails and bumper guards will be installed as required.
- 2.05 Ceilings tiles will be replaced as required **(OR NAME SPECIFIC AREA)**.
- 2.06 Carpeting will be replaced in _____ areas (or throughout renovation area, **BE SPECIFIC**).
- 2.07 All door hardware and hardware installation will be Texas Accessibility Standards (TAS) and Americans with Disabilities Act (ADA) compliant.

3.00 INFRASTRUCTURE

BASED ON DEPARTMENTAL INPUT, IDENTIFY EQUIPMENT THAT MAY REQUIRE SPECIAL COOLING OR EXHAUST NEEDS SUCH AS 24/7 COOLING REQUIREMENTS, SPECIAL FILTRATION, OR EXHAUST HOOD REQUIREMENTS.

VERIFY REQUIREMENTS FOR EMERGENCY POWER AND DEDICATED ELECTRICAL CIRCUITS FOR SPECIFIC DEPARTMENTAL EQUIPMENT. LIST HERE; EDIT/ADD TO THE FOLLOWING AS APPLICABLE.

- 3.01 For minimal renovation, the HVAC system will be reconfigured and rebalanced to accommodate the project area. New equipment will be specified if required, depending on the level of renovation.

- 3.02 New data and telecommunication connections will be provided as required to support the project area. Specify heights and locations of new data and telecommunication connections to meet TAS and ADA requirements (provide elevations where further clarification is needed).
- 3.03 New and/or relocated fire exit signs, fire alarm systems, and fire alarm devices will be installed as required. Fire alarm system will be upgraded as required to support the renovations.
- 3.04 Electrical power distribution and lighting circuitry and switching will be designed as required to support the project area. Motion/infrared dual technology sensor switches will be installed as needed to meet ASHRAE 90.1 requirements. Lamps that are used on this project shall be in compliance with U.S. Department of Energy new efficiency standards, which will become effective on July 14, 2012.
- 3.05 Plumbing systems will be installed to support the renovated area.
- 3.06 Medical gas systems will be installed or modified to support the new space or the space to be renovated.
- 3.07 Fire sprinkler protection shall be provided by modifying existing and/or installing new systems as required.
- 3.08 Utilities to Owner-furnished equipment (i.e. refrigerator icemakers) will be funded under this project. Ice makers will have to be purchased with departmental funds; these are not included in the contract.
- 3.09 Security devices shall be planned and provided in coordination with the University of Texas Police Department (UTPD).

SCHEDULE / PHASING

INDICATE PROJECT SCHEDULE TARGETS, INCLUDING ANY PHASING OR SEQUENCING OF EXPECTED WORK. EDIT/ADD TO THE FOLLOWING AS APPLICABLE.

- 1. The department will remain in operation in their present location prior to relocation.
- 2. Furnishings have a lead-time of six to eight weeks from the time that the vendor receives the purchase order.
- 3. The current deadline for the commencing of renovation work is _____.
- 4. The project may be constructed in phases as recommended by the Architect/Engineer and Owner's Project Manager utilizing vacated areas as swing space.

5. Final phasing will be documented in the Construction Documents.

BUDGET / FUNDING

INDICATE IF FURNITURE WILL BE PURCHASED FOR THE PROJECT AND THE FUNDING SOURCE (SOURCES MAY BE SPLIT).

INDICATE ALL PROPOSED FUNDING SOURCES.

CONTINGENCY AMOUNTS SHOULD BE DETERMINED BASED ON PAST MD ANDERSON RENOVATION PROJECT CHANGE ORDER COSTS.

The project budget estimate is \$_____, and includes construction, architectural/engineering fees, contingencies, telecommunications, security, furniture, and internal/other associated project costs. Owner furnished equipment is not included. Funding is to be provided through the **(NAME OF)** Budget.

OUTSTANDING ISSUES

INDICATE ANY OTHER OUTSTANDING ISSUES THAT MUST BE RESOLVED BEFORE PROJECT IMPLEMENTATION CAN COMMENCE.

REQUIRED ACTIONS / NEXT STEPS

The next steps, in order, include the following:

1. Issuance of a Funding Authorization Transmittal, allocating funds to start the detailed design of the project.
2. Retention of an Architectural and Engineering consultant to commence Schematic Design.

SIGNATURES

NAME _____

Date_____

Major participants in compiling this report include the following:

CLIENT'S NAME – DEPARTMENT
CLIENT'S NAME – DEPARTMENT
PROJECT MANAGER'S NAME – DEPARTMENT
PLANNER/DESIGNER'S NAME – DEPARTMENT

ATTACHMENTS *(EDIT THE FOLLOWING LIST AS APPLICABLE TO PROJECT AND INDICATE DATE OF DOCUMENT)*

1. Existing Space Plan and Conceptual Proposed Plan
2. Programming Spreadsheet
3. Department's Equipment List
4. Asbestos Assessment Report
5. Site Assessment Report – Infrastructure
6. EH&S / TDLR Assessment Report

II. PROJECT DESIGN AND IMPLEMENTATION

This section of the Pre-Design Report is directed to the Owner's Project Manager or Architect/Engineer of record (as indicated below) for project design and construction requirements.

TAS / ADA/ CODE REQUIREMENTS

1. Architect/Engineer shall design new construction and renovation projects to comply with MD Anderson Institutional Standards including Owner's Design Guidelines and Master Construction Specifications edited specifically for the project scope, latest adopted Texas Accessibility Standards (TAS), as well as latest adopted Americans with Disabilities Act (ADA) requirements, ANSI/ASHRAE/IESNA Standard 90.1, NFPA 101 Life Safety Code, and additional codes and standards as listed in the MD Anderson Design Guidelines. The Owner's Design Guidelines and Master Construction Specifications that are in effect at the time the Architect/Engineer begins Schematic Design, shall be used in the preparation of construction documents.
2. Architect/Engineer shall include the following on the construction document's reference information sheet:
 - Extent/boundaries of the project area.
 - An indication of existing restrooms and accessible route elements which will be made compliant with TAS/ADA by the project.
3. Architect/Engineer shall consult with the Owner's Project Manager to determine if work required to achieve TAS/ADA compliance in restrooms, and for other accessible elements, is to be included as an alternate in the construction documents.

SPECIAL ISSUES OR CONSIDERATIONS

1. Demolition and construction shall be planned and scheduled to minimize disruption to ongoing hospital operations. Unscheduled interruptions to existing building support systems such as fire alarm, life safety, HVAC, electrical distribution, and lighting are not acceptable. Appropriate measures and construction barriers are required to mitigate dust and to avoid contamination through the main ventilation systems. Measures will also be taken to reduce noise as much as possible. Owner's Project Manager shall notify all adjacent departments above and adjacent to project area prior to beginning construction.
2. Architect/Engineer shall provide construction phasing drawings to eliminate possible impact to existing building support systems as stated above.
3. Construction Documents shall indicate the location of construction barriers and their makeup. Construction Documents shall also indicate the risk level designation as determined by the MD Anderson Indoor Air Quality Policy.

General Notes on the Construction Documents shall reference that this policy must be adhered to. MD Anderson Environmental Health & Safety (EH&S) and Infection Control must review construction barrier locations to ensure that exiting requirements are met to minimize noise, dust, and to contain contaminants.

GENERAL SCOPE OF WORK FOR DEMOLITION / CONSTRUCTION

0.00 GENERAL

- 0.01 Owner's Project Manager must coordinate with Facilities Planning, Design & Construction (FPDS) Facilities Planning Services and Asset Information Coordinators for all new room numbering.
- 0.02 Architect/Engineer shall provide as-built drawings in standard MD Anderson electronic format upon project completion. Architect/Engineer shall incorporate into construction drawings, all remaining utilities found during construction that were not indicated on original documents.
- 0.03 Where existing mechanical/electrical equipment must be modified to be physically used on a project, Architect/Engineer shall evaluate if initial and operational cost savings will be realized by modifying the existing equipment rather than installing new. Architect/Engineer shall consider saving and reusing materials and hardware that are recently renovated or in good condition.
- 0.04 Architect/Engineer and Owner's Project Manager shall coordinate location of new equipment and services with all involved parties. Coordinate phasing of construction work with the appropriate Facilities Management department and MD Anderson staff. Construction phasing shall be represented on the Construction Documents.
- 0.05 Architect/Engineer and Owner's Project Manager shall reconfirm pre-existing conditions identified during Pre-Design and identify any new conditions that may affect architectural, mechanical, electrical, and plumbing system design, such as code violations, equipment condition issues, and system capacity limitations.
- 0.06 Architect/Engineer shall field verify existing conditions within the project area.
- 0.07 Owner's Project Manager must schedule coordination meetings dedicated to clarifying scope with the Architect/Engineer and departments prior to issuance of Construction Documents. Agreement on resolution of issues concerning unanticipated conditions should be made a part of the record.
- 0.08 Owner's Project Manager must obtain operational history of the project area from the appropriate Facilities Management department) to identify any infrastructure issues.

- 0.09 Owner's Project Manager must coordinate with the appropriate Facilities Management department to identify other projects that may affect this project scope such as equipment replacement projects funded from operations and maintenance (CRR) funds.

1.00 DEMOLITION

- 1.01 Owner's Project Manager must schedule coordination meetings dedicated to clarifying scope with the Architect/Engineer, contractors, and MD Anderson building operations personnel during demolition phases to identify conflicts and determine if authorization for additional work is required.
- 1.02 Architect/Engineer shall indicate required demolition of existing infrastructure systems on the drawings. Identify abandoned HVAC equipment, electrical equipment, electrical conduit, ductwork, piping, and floor penetrations and note that supports for all abandoned items shall be removed. For clarity in work scope, demolition work shall be indicated on a separate drawing from new work.
- 1.03 Architect/Engineer shall clearly indicate on the Construction Documents, specific detailing of interfaces between alterations and existing systems to remain.

2.00 MECHANICAL

- 2.01 When zoning and selecting air handling systems, Architect/Engineer shall consider the following:
- space availability for equipment, piping, and ductwork
 - construction phasing requirements
 - capacity and condition of existing HVAC systems, if any, serving areas to be renovated
 - impact of renovation activities on adjoining areas not included in the project
- 2.02 Notify the Owner's Project Manager if Architect/Engineer discovers that existing utilities do not support system capacities required within the new project area.
- 2.03 Notify the Owner's Project Manager if existing exhaust, smoke control, make-up/ outside air system do not support new work.
- 2.04 Architect/Engineer shall confirm if the project includes equipment that requires special cooling or exhaust needs, such as 24/7 cooling requirements, special filtration, or exhaust hood requirements.
- 2.05 Architect/Engineer shall identify location and operational condition of existing fire/fire smoke dampers.

- 2.06 Architect/Engineer shall reconfigure existing air devices, specify new air devices as needed, and require rebalancing of the HVAC system to accommodate renovation work.
- 2.07 Architect/Engineer shall specify that building automation system application controllers for new terminal units must be compatible with the existing system. Replace any existing pneumatic controllers with new DDC controllers to tie into the existing Siemens Apogee system.
- 2.08 Confirm availability and location of heating hot water risers with Owner for zone heating at new terminal units serving the project area. If hot water risers are not readily accessible, specify electric zone heat.
- 2.09 Replace all internally lined low pressure ductwork downstream of new terminal units with externally lined, low pressure ductwork per MD Anderson Master Construction Specifications.

3.00 ELECTRICAL/TELECOMMUNICATIONS

- 3.01 Architect/Engineer shall establish electrical power requirements, perform load analysis, and analyze electrical work impact on existing distribution systems.
- 3.02 Architect/Engineer shall design electrical power distribution including lighting circuitry and switching as required to support the project area. Specify motion/infrared dual technology sensor switches as needed to meet ASHRAE 90.1 requirements. Energy consumption in the renovated area shall meet ASHRAE 90.1 requirements.
- 3.03 Architect/Engineer shall provide data and telecommunication connections as required to support the project area. Specify heights and locations of new data and telecommunication connections to meet TAS/ADA requirements (provide elevations where further clarification is needed).
- 3.04 Architect/Engineer shall design emergency power systems and dedicated circuits to support departmental requirements.
- 3.05 Architect/Engineer shall specify relocated and/or new exit signs, fire alarm systems and devices including speakers and strobes, as required.
- 3.06 Architect/Engineer shall determine if existing lighting fixtures are to be reused and/or relocated. Consideration shall be given to installation of new lighting fixtures if existing conditions do not meet ASHRAE 90.1 requirements. Refer to the MD Anderson Master Lighting Fixture Schedule, Element D5022, Owner's Design Guidelines.

- 3.07 Architect/Engineer shall confirm nurse call system requirements, application of system devices with room occupancy, and adequacy of existing system and equipment.

4.00 PLUMBING/FIRE SUPPRESSION

- 4.01 When permanently disconnecting domestic water, medical vacuum, medical gas, natural gas, treated water, drainage, vent, or other piping serving demolished fixtures, inlets, outlets or equipment, Architect/Engineer shall indicate removal of all associated piping back to remaining active mains.
- 4.02 All existing floor drains that will not remain in service shall be disconnected from the building drainage and vent system. The floor drain shall be removed and the slab sealed to provide a structural integrity and fire rating equal to or greater than the existing slab.
- 4.03 All existing wall and floor penetrations that will be unused due to removal of piping shall be permanently sealed to maintain the fire or smoke rating of the wall or floor.
- 4.04 Portions of the existing medical vacuum and gas systems affected by work within this project shall be re-certified in strict accordance with NFPA 99.
- 4.05 Design of new domestic hot water distribution piping system shall provide circulation within all portions of the system to within ten (10) feet of each outlet. Architect/Engineer shall redesign existing system piping as required to facilitate this requirement.
- 4.06 Modify the existing fire sprinkler system as required to accommodate new partition and ceiling layout. Modifications include alterations required to provide fire sprinkler protection during periods of construction activities.
- 4.07 Consider occupied areas directly below the proposed project area so that all work done above the finish ceiling on the floor below is scheduled and coordinated with current occupants.

5.00 SECURITY

- 5.01 Consult with the UTPD Project Manager for design input on security planning and devices as appropriate for the project area and scope.
- 5.02 New door hardware and lock types in egress pathways shall comply with MD Anderson's Locking Restrictions of Doors in Means of Egress Policy. Refer to Owner's Design Guideline Element D5038, Security Systems, for additional requirements.

SCHEDULE / PHASING

1. Owner's Project Manager must review construction barriers and scheduling with the department to verify patient and staff access/traffic flows during construction.
2. Owner's Project Manager should schedule construction to minimize disruption to adjacent facilities, including those on the floor below. Scheduling should allow continuance of ongoing hospital operations and facilitate smooth implementation of the project.
3. Owner's Project Manager must clarify "standard working hours" and identify all work that will be required to be performed during non-standard working hours. Instruct Architect/Engineer to include this information on Construction Documents.

PRE-DESIGN REPORT REVIEWED BY:

- | | |
|--|--|
| <input type="checkbox"/> END USER | <input type="checkbox"/> EH&S / TDLR |
| <input type="checkbox"/> PROJECT DIRECTOR | <input type="checkbox"/> INFECTION CONTROL |
| <input type="checkbox"/> PROJECT MANAGER | <input type="checkbox"/> INFORMATION & TECHNOLOGY SVCS. |
| <input type="checkbox"/> AFCD | <input type="checkbox"/> FPDC TECH RESOURCES-A/E |
| <input type="checkbox"/> PCPF | <input type="checkbox"/> FPDC TECH RESOURCES-TDLR |
| <input type="checkbox"/> REF | <input type="checkbox"/> FPDC TECH RESOURCES-LIFE SAFETY |
| <input type="checkbox"/> CLINICAL OPERATIONS REP | <input type="checkbox"/> OTHER |

EXHIBIT B

PROJECT MILESTONE SCHEDULE

The activities shown in bold below represent anticipated completion dates for services to be performed by the Project Architect pursuant to this Agreement. Supplemental activities shown on the schedule below, for which dates are not yet defined, shall be determined at the completion of the Pre-Design Phase or at such time when both parties mutually agree that the project is sufficiently developed and documented.

Activity:

Date Completed:

Owner Approves Facility Program Phase

Selection of the Contractor (or CM)

Schematic Design Phase

Authorize A/E Start

Submit for Owner Review 95%

Joint Review for Owner Comments

Owner Approves Schematic Design

06/03/16

Design Development Phase

Authorize Start

Submit for Owner Review, AE 95%

Joint Review for Owner Comments

FPCC Meeting Approval

Approve TPC & Design Development - BOR/Chancellor

Owner Approves DD Documents

10/13/16

THECB Submittal

Submit Construction Application -Component

Owner Approves Guaranteed Maximum Price Phase

11/18/16

Construction Documents Phase

Authorize AE to Start

A/E Submit 50% CD's for Owner Review

Joint Review for Owner Comments

A/E Submit 95% CD's for Review

Joint Review for Owner Comments

A/E Submit 100% CD's for Review

Joint Review for Owner Comments

Owner Approves 100% Construction Documents

02/24/17

Construction Phase Activities

NTP for Construction

04/21/17

Project Substantial Completion

08/15/18

EXHIBIT C
PERSONNEL TITLES AND HOURLY RATES;
NAMES OF SENIOR PRINCIPAL AND PROJECT TEAM MANAGER

Personnel Title/Position DSE Hourly Rate Multiplier Hourly Billing Rate

Identify all staff

Project Architect shall complete this information and must state the DSE hourly rate

EXHIBIT D
Firm Letterhead

Date:

MD Anderson Cancer Center
Facilities Planning, Design and Construction
1515 Holcombe Box 703
Houston, Texas 77030

Project Name :
MD Anderson Purchase Order No:

MD Anderson Project No. :
Project Architect's Project No. :
Project Manager:

STATEMENT FOR ARCHITECTURAL/ENGINEERING SERVICES

Statement No. for the period ended _____,

for services provided in accordance with A/E Agreement dated _____.

Professional Liability Insurance Policy expiration date:

I. BASIC SERVICES

Construction Cost Limitation/Construction Contract Award Sum \$
(less Construction Contingency)

(Cost Adjustments – [Identify] \$)

Compensation @ _____% \$

Services Performed to Date:

Phase	Fee	Amount	Complete	Total Earned To Date
Schematic Design	15%	\$	%	\$
Design Development	20%	\$	%	\$
Construction Documents	40%	\$	%	\$
Bidding	5%	\$	%	\$
Construction Administration	20%	\$	%	\$
Compensation Adjustments		\$	%	\$
Sub-Total			%	\$

Amount Previously Billed deduct \$ _____

Net Amount Due This Statement \$

EXHIBIT D, cont'd**II. ADDITIONAL SERVICES**

Services Performed to Date: (Append Supplemental Material)

Authorization	Fee Basis	Amount	Complete	Total Earned To Date
(Amendment, letter of agreement, etc.)	(fee percentage as established in Art. 14.)	\$	%	\$
	for Basic Services)	\$	%	\$
		\$	%	\$
Sub-Total		\$		
Amount Previously Billed	deduct	\$		
Net Amount Due This Statement		\$		

IV. CHANGE ORDER SERVICES

Services Performed to Date (Append Supplemental Material)

C.P./C.O. No.	Amount	Fee Basis	Amount	Complete	Total Earned To Date
	\$	(fee % established	\$	%	\$
	\$	in Art. 14.5.)	\$	%	\$
	\$		\$	%	\$
Sub-Total				%	\$
Amount Previously Billed	deduct		\$		
Net Amount Due This Statement			\$		

V. REIMBURSABLE EXPENSES

Expenses to Date (Append Supplemental Material)

Type	Amount	Multiplier	Total Earned To Date
Travel	\$	1.0	\$
Reproduction/Postage	\$	1.0	\$
Other	\$	1.0	\$
Sub-Total			\$
Amount Previously Billed	deduct	\$	
Net Amount Due This Statement		\$	

EXHIBIT D, cont'd

RECAPITULATION

	<u>Net Amount Due This Statement</u>	<u>Total Earned To Date</u>
I. BASIC SERVICES	\$	\$
II. ADDITIONAL SERVICES	\$	\$
III. CHANGE ORDER SERVICES	\$	\$
IV. REIMBURSABLE EXPENSES	\$	\$
V. PROMPT PAYMENT ACT INTEREST (Prior Payments)		\$
\$ _____		
TOTAL AMOUNT EARNED THIS STATEMENT		
TOTAL AMOUNT PREVIOUSLY BILLED deduct	\$ _____	
TOTAL AMOUNT DUE THIS STATEMENT	<u>\$ _____</u>	<u>\$ _____</u>

Exhibit D, cont'd

I certify that the above Statement is correct and now due.

_____ Signature	_____ Title	_____ Date
--------------------	----------------	---------------

(Supplemental material shall include:

- ☐ tabulation of hourly compensation by name, hours & pay rate:
- ☐ by the firm
- ☐ by consultants
- ☐ receipts for reimbursable expenses
- ☐ other substantiating information
- ☐ Exhibits A and B on firm letterhead)

Approved by Owner's Project Manager:

_____ Signature	_____ Date
--------------------	---------------

Accounting Review:

Initial & Date

FINAL PAYMENT CERTIFICATION AND LIEN WAIVER

The Architect certifies that all persons, consultants and firms who supplied services to it in connection with this Project have been fully paid for their services or work items, or that they will be fully paid immediately upon receipt of this payment, and that there are no other outstanding debts, obligations or claims related to this Project for which the Owner may be liable or for which the Architect will look to the Owner for additional payment. **This payment constitutes full and final payment to the Architect and its consultants for all services provided for this Project and the Owner is not obligated to make any more payments on their behalf.**

In consideration of the payment herewith made, the undersigned does fully and finally release and hold harmless Owner from any and all claims, liens or right to claim or lien, arising out of this Project under any applicable bond, law or statute.

_____ Signature	_____ Date
--------------------	---------------

FINAL HUB PLAN

The HUB Plan form for final payment is included with this Final Payment Request.

Yes ____ No ____

HUB Subcontracting Plan (HSP)

Prime Contractor Progress Assessment Report

This form must be completed and submitted to the contracting agency each month to document compliance with your HSP.

Contract/Requisition Number: _____ Date of Award: _____ Object Code: _____
(mm/dd/yyyy) (Agency Use Only)

Contracting Agency/University Name: _____

Contractor (Company) Name: _____ State of Texas VID #: _____

Point of Contact: _____ Phone #: _____

Reporting Period: ☐ - Jan. ☐ - Feb. ☐ - Mar. ☐ - Apr. ☐ - May ☐ - Jun. ☐ - Jul. ☐ - Aug. ☐ - Sept. ☐ - Oct. ☐ - Nov. ☐ - Dec.
(Check only one Month)

Total Contract Amount Paid this Reporting Period to Contractor: \$ _____

Report HUB and Non-HUB subcontractor information

Subcontractor's Name	Subcontractor's VID or HUB Certificate Number	Total Contract \$ Amount from HSP with Subcontractor	Total \$ Amount Paid This Period to Subcontractor	Total Contract \$ Amount Paid to Date to Subcontractor	Object Code (agency use only)
		\$	\$	\$	
		\$	\$	\$	
		\$	\$	\$	
		\$	\$	\$	
		\$	\$	\$	
		\$	\$	\$	
		\$	\$	\$	
		\$	\$	\$	
TOTALS:		\$	\$	\$	

Signature: _____ Title: _____ Date: _____

Printed Name: _____ Phone No. _____

EXHIBIT E

ANTICIPATED PRE-DESIGN REPORT DELIVERABLES

Owner anticipates that the scope of the Project will focus on the renovation of its existing facility. Accordingly, Owner anticipates that the Pre-Design Phase Documentation will include a formalized Pre-Design Report for which the anticipated deliverables will be prepared in accordance with the requirements of this Exhibit E.

EXHIBIT E

ANTICIPATED PRE-DESIGN REPORT DELIVERABLES

The Project Architect shall be responsible for coordinating and compiling all of the Pre-Design Phase materials in the form of a report (with exhibits as required); in the sequence established in the Owner's Pre-Design Report Template. The lead party responsible for generating the materials will be as follows:

<u>Work Area from Template</u>	<u>Primary/Secondary Responsibility</u>
Pre-Design Report Schedule	Project Architect
I. Project Description	
Introduction	Owner
Background	Owner
Objectives	Owner
Proposed Resolution	Project Architect
Conditions of Approval	Project Architect/Owner
Space Requirements	Owner/Project Architect
Traffic Flows/Adjacencies	Owner/Project Architect
Support Services	Project Architect/Owner
Existing Finishes and Site Conditions	Owner/Project Architect
Adjacent Areas	Owner/Project Architect
Furniture, Fixtures and Equipment	Project Architect/Owner
Accessibility	Project Architect/Owner
Plumbing Fixture Count	Project Architect/Owner
Special Issues or Considerations	Project Architect/Owner
Scope of Work – Demolition/Construction	Project Architect/Owner
Schedule/Phasing	Project Architect/Owner
Budget/Funding	Owner
Outstanding Issues	Project Architect/Owner
Required Action/Next Steps	Project Architect/Owner
Signatures	Owner/Project Architect
Attachments	Project Architect/Owner
II. Project Design and Implementation	
TAS/ADA/Code Requirements	Project Architect/Owner
Special Issues or Considerations	Project Architect/Owner
Scope of Work – Demolition/Construction	Project Architect/Owner
Schedule/Phasing	Project Architect/Owner

EXHIBIT F
OWNER'S COMISSIONING REQUIREMENTS

Element Z General Design Requirements

Owner Standards and Other
Requirements

Z2035 Project Commissioning

PART 1 - GENERAL

1.01 OVERVIEW

- A. MD Anderson is committed to commissioning our facilities to ensure that all systems are complete and functioning properly upon occupancy and that the facility staff has adequate system documentation and training. Commissioning refers to a systematic process confirming that building systems have been installed, properly started, and consistently operated according to criteria set forth in the Contract Documents, that all systems are complete and functioning in accordance with the A/E's Design Intent Document at Substantial Completion, and that the Contractor has provided MD Anderson's facility staff with adequate system documentation and training.
- B. MD Anderson may contract directly with a Commissioning Authority as an extension of Owner's staff, to perform technical reviews of project design documents, observe completion of construction, verify equipment and system startup by Contractor or Subcontractor, observe prefunctional tests and functional performance tests of systems and integrated systems against requirements of the project Contract Documents, track deficiencies, and recommend solutions. The Commissioning Authority has authority only as delegated by the Owner, but has no authority to alter design or installation procedures.
- C. To clarify the A/E's role in the design and construction process, this Design Guideline Element describes the intended scope of services that both the Commissioning Authority and A/E will be responsible for.

PART 2 - COMMISSIONING AUTHORITY'S RESPONSIBILITIES

2.01 GENERAL

- A. In general, the Commissioning Authority, if retained by MD Anderson, will provide the following services during the Project's Design and Construction Phases.

2.02 DESIGN PHASE

- A. Review and comment on project Drawings and Specifications for clarity, completeness, and compliance with the Owner's Design Guidelines.
- B. Recommend alternative design approaches or value engineering items based on project Design Phase reviews.
- C. Work with the A/E to make modifications and/or additions to the Master Construction Specifications for coordination with Commissioning requirements specific to the project scope.

2.03 CONSTRUCTION PHASE

- A. Provide input to the Contractor on the first draft Commissioning Plan. The Commissioning Plan is a document prepared by the Contractor and approved by MD Anderson that provides

Element Z General Design Requirements

Owner Standards and Other
Requirements

Z2035 Project Commissioning

- the structure, schedule, and coordination planning for the Commissioning process from the construction phase through the warranty period. Review the Commissioning Plan for completeness.
- B. Participate in Contractor's Pre-Installation meetings and Pre-Commissioning meetings with subcontractors.
 - C. Review Contractor submittals applicable to systems being commissioned for compliance with commissioning needs, concurrent with A/E and MD Anderson reviews.
 - D. Review Test, Adjust, and Balance (TAB) execution plan and review completed TAB reports.
 - E. Before startup, gather and review current control sequences and interlocks and work with Contractor and A/E until sufficient clarity has been obtained, in writing, to be able to prepare detailed testing procedures.
 - F. Verify start-up and prefunctional testing of all systems as defined in the Commissioning Plan. Monitor execution of functional performance testing, Owner demonstration of tests, integrated systems testing, and document results, follow-up, and signoffs.
 - G. Provide solution recommendations on deficiencies noted during the Commissioning process.
 - H. Perform site visits, as necessary, to observe component and system installations. Attend selected project meetings to obtain information on construction progress. Review project construction meeting minutes for revisions/substitutions relating to the commissioning process. Assist in resolving any discrepancies.

PART 3 - ARCHITECT/ENGINEER'S RESPONSIBILITIES

3.01 GENERAL

- A. The following describe the A/E's activities to support the commissioning process from the design phase through construction.

3.02 DESIGN PHASE

- A. Document the development of design intent and operating parameters by all A/E team members within a document titled "Design Intent Document". The Design Intent Document describes the complete architectural and engineering design intent for the project including design guiding principles, assumptions, issues, recommendations, and narrative assessment of the architectural and infrastructure systems that comprise the building.
- B. Update the Design Intent Document at each phase of design to incorporate current design documentation. Refer to Design Guideline Element Z2010 Design Submittal Requirements for additional information on the Design Intent Document format.
- C. Adapt Owner's Master Construction Specifications to apply to project-specific applications.
- D. Specify control sequences of operation within the Contract Documents.

Element Z General Design Requirements

Owner Standards and Other
Requirements

Z2035 Project Commissioning

- E. Clarify the operation and control of equipment and systems to be commissioned where the Contract Documents are not sufficient for writing the Commissioning Plan and detailed test procedures.
- F. Participate in project meetings related to commissioning activities.

3.03 CONSTRUCTION PHASE

- A. Review prefunctional checklist, functional performance test, and integrated system test procedures and results.
- B. Review functional performance test trend log data.
- C. Review training plan.
- D. Review test, adjust, and balance execution plan.
- E. Coordinate resolution of design and operational deficiencies identified during commissioning, according to the Contract Documents.
- F. Review operating and maintenance manuals.
- G. Coordinate resolution of design non-conformance and design deficiencies identified during warranty-period commissioning.
- H. Participate in project meetings related to commissioning activities.

PART 4 - PRODUCTS

4.01 GENERAL

- A. Refer to Master Construction Specifications for fire suppression, plumbing, mechanical and electrical commissioning requirements, including examples of prefunctional checklists and functional performance tests to be used during the commissioning process.

Element Z General Design Requirements

Owner Standards and Other
Requirements

Z2035 Project Commissioning

PART 5 - DOCUMENT REVISION HISTORY

Issue	Date	Revision Description	Reviser
	01-01-07	Initial Adoption of Element	
Rev. 1	12-17-13	Changed the term "Commissioning Consultant" to "Commissioning Authority" throughout document. Added fire suppression and plumbing to 4.01 A.	DOS
Rev. 2			
Rev. 3			
Rev. 4			
Rev. 5			

END OF ELEMENT Z2035

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																						
I	Integrated System			Equipment Manufacturer	Equipment Model Number	Equipment Serial Number	Emergency Power	Manufacturer / Vendor Representative	Manufacturer PO Number	Estimated Replacement Cost	Start-Up Date(s)	Prefunctional Checklist Approved	Functional Performance Test Approved	Integrated Systems Test Approved	Substantial Completion Date	Varranty Start Date	Varranty Duration (Years)	Short Description From MUNECS	Mainsaver Work Group From MUNECS	Mainsaver Group Code From MUNECS	Estimated Service From MUNECS	
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EXHIBIT G

OWNER'S BUILDING INFORMATION MODELING REQUIREMENTS

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BUILDING INFORMATION MODELING REQUIREMENTS

Owner has determined that this project is a Major Capital – Renovation project as that term is defined herein.

PART 1 – GENERAL

1.1. RELATED DOCUMENTS

- 1.1.1. Attention is specifically directed, but not limited to, the Uniform General Conditions for University of Texas System Building Construction Contracts (UTUGCs) for other requirements related to the completion and submittal of Record Documents.
- 1.1.2. Attention is specifically directed to Owner's Design Guidelines issued for the project for other requirements related to the development, maintenance and exchange of design information, the formatting of design documents, and the completion and submittal of Record Documents.
- 1.1.3. Attention is specifically directed to Owner's Master Construction Specifications for other requirements related to the development, maintenance and exchange of construction project information, and the completion and submittal of Record Documents.

1.2. SUMMARY

- 1.2.1. This document establishes general and administrative requirements pertaining to Building Information Modeling (BIM) to meet Facilities Information Management (FIM) expectations for projects of various sizes and delivered under various contracting methodologies.
- 1.2.2. BIM practices require cooperation and involvement of all parties throughout the project delivery process, regardless of the delivery method being used for a given project.
- 1.2.3. BIM practices encompass and coordinate traditionally separate functions of design and construction in order to assemble all related building information into one Project Information Matrix that will provide the information needed to efficiently operate and maintain the facility once Substantial Completion has been achieved and the Project has been turned over to the Owner.
- 1.2.4. It is of primary concern that all building modeling and facility information developed during the design and construction of the Project be timely and efficiently developed, maintained and exchanged from initiation of the Project through Final Completion in accord with all Contract Documents and with Owner's operational and maintenance needs. Throughout the Project lifecycle, the A/E and the Contractor are expected to systematically demonstrate to the Owner that all building and system information is current to the extent that it can be at a given time during the design and construction process.
- 1.2.5. It shall be the responsibility of the A/E, and each of its consultants, and the Contractor and each of its Subcontractors, to have or obtain, at their cost, the trained personnel, hardware, and software necessary to successfully fulfill their respective obligations as set forth in the mutually developed BIM Execution Plan.

1.3. DEFINITIONS

Capitalized terms used in this document shall have the meanings as set forth in the applicable contract(s), the UTUGCs, or any combination thereof, unless otherwise defined or modified below. For projects implemented with the construction manager-at-risk delivery method, the term Contractor shall mean Construction Manager. For projects implemented with the design-build delivery method, the term Contractor shall mean Design/Build Contractor. To be consistent with the UTUGCs, A/E is used in lieu of,

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and as a synonym for, the term Project Architect that is used in the standard UT System construction manager-at-risk, design-build, and some design services agreements.

- 1.3.1. BIM Execution Plan (BEP) – A document developed by the BIM Team that prescribes how Building Information Modeling will be implemented for the Project and how requisite information will be transferred into the Project Information Matrix prior to Substantial Completion of the Project.
- 1.3.2. BIM Level – The extent to which model and information development will be required on a specific project. The BIM Level initially will be determined by Owner but may be adjusted, with Owner's express approval, by the BIM Team over the course of the Project. The BIM Level will depend upon several factors, including the scope of project, project schedule; project cost; availability of existing BIM models; and availability of existing BIM data, etc.
- 1.3.3. Building Automation System (BAS) – The distributed control system used by MD Anderson to monitor and control infrastructure systems within its facilities.
- 1.3.4. Building Information Modeling (BIM) – The process of generating and managing building data using two-dimensional (2-D) or three-dimensional (3-D), real-time, dynamic building modeling software resulting in a Building Model.
- 1.3.5. Building Information Modeling Team (BIM Team): Working group made up of representative(s) from the A/E, A/E's consultants, Contractor, Subcontractors and Owner. A/E will provide ad hoc representation of the A/E's consultants on the BIM Team as required for the implementation of the BIM Execution Plan. Contractor will provide ad hoc representation of Subcontractors on the BIM Team as required for implementation of the BIM Execution Plan.
- 1.3.6. Building Model – A 2-D or 3-D digital representation of physical and functional characteristics of a facility, or the components or systems thereof, that encompasses building geometry, spatial relationships and quantities and properties of building components and systems.
- 1.3.7. Computerized Maintenance Management System (CMMS) – The computer software package that MD Anderson uses to manage a digital database of information related to its facilities equipment and systems for the purpose of optimizing its maintenance operations.
- 1.3.8. CMMS Integration Process (CIP) – The prescribed process by which the information generated during Building Information Modeling will be fully integrated into Owner's CMMS. The CIP is to be developed by the BIM Team and is to be included in the BIM Execution Plan.
- 1.3.9. Construction Documents – In addition to the items set forth in the UTUGC's, the Construction Documents shall include the Building Model and the Project Information Matrix.
- 1.3.10. Construction Model – A 2-D or 3-D digital representation of physical and functional characteristics of a facility, or the components or systems thereof, that encompasses building geometry, spatial relationships and quantities and properties of building components and systems and that is developed by the Contractor or one of its Subcontractors before or during the Construction Phase of the Project. While the creation of a single non-federated Construction Model is not expressly required, Contractor shall make reasonable efforts to ensure the use of the main modeling software and minimize the use of other platforms in the development of any federated models.
- 1.3.11. Depth of Detail – A measure of the amount of information to be provided for each element within the Building Model. The Building Model shall be developed so as provide information that aligns with the following tiers:
 - 1.3.11.1. Tier 1 Data – Information that MD Anderson maintains about its facilities, or any components thereof, that currently resides within MD Anderson's Computerized Maintenance Management System (CMMS).
 - 1.3.11.2. Tier 2 Data – Information MD Anderson maintains about its facilities, or any components thereof, that does not reside in MD Anderson's CMMS.

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- 1.3.12. Design Model – A 2-D or 3-D digital representation of physical and functional characteristics of a facility, or the components or systems thereof, that encompasses building geometry, spatial relationships and quantities and properties of building components and systems and that is developed during the preconstruction (Design) phase of the Project. While the creation of a single non-federated Design Model is not expressly required, A/E shall make reasonable efforts to ensure the use of the main modeling software and minimize the use of other platforms in the development of any federated models.
- 1.3.13. Facilities Information Management (FIM) – The process of gathering, maintaining and distributing data associated with Owner's facilities for the purposes of operating and maintaining those facilities.
- 1.3.14. Level of Development – The degree to which information included within the Building Model can be relied upon.
- 1.3.15. Major Capital Project – Any project that involves the construction of a new facility and that has a total project cost of \$4 million or more (Major Capital – New Construction), or any project that involves the renovation (repair and rehabilitation) of an existing facility and that has a total project cost of \$4 million or more (Major Capital – Renovation). Major Capital Projects may involve the rehabilitation or upgrading of mechanical, electrical, plumbing, infrastructure technology components or systems or any combination thereof.
- 1.3.16. Minor Capital Project – Any project that involves the construction of a new facility and that has a total project cost of \$100,00 or more but less than \$4 million (Minor Capital – New Construction), or any project that involves the renovation (repair and rehabilitation) of an existing facility and that has a total project cost of \$100,00 or more but less than \$4 million (Minor Capital – Renovation). Minor Capital Projects may involve the rehabilitation or upgrading of mechanical, electrical, plumbing, infrastructure technology components or systems or any combination thereof.
- 1.3.17. Operating Project – Any project that involves new construction work or the renovation (repair and rehabilitation) of an existing facility and that has a total project cost that is less than \$100,000. Operating Projects may involve the rehabilitation or upgrading of mechanical, electrical, plumbing, infrastructure technology components or systems or any combination thereof.
- 1.3.18. Project Information Matrix (PIM) – The electronic file for a spreadsheet or database that identifies the information required from the Building Model, Drawings, and any other data source(s) developed for the Project and the parameters and properties of the content. Generally, MD Anderson initially will provide the PIM at the beginning of the Project. During the design phase, the A/E will populate the PIM as information becomes available. Throughout the construction phase, the Contractor will update the PIM and will issue scheduled renditions during construction in addition to the final PIM to MD Anderson at Substantial Completion of the Project.
- 1.3.19. 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 BIM Team and shall provide services as set forth in the Specifications and its Separate Contract.

1.4. COORDINATION

1.4.1. BIM 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. A/E, including A/E and sub-consultant BIM manager(s), except for projects implemented with design-build methodology,

1.4.1.1.3. TAB Firm, when engaged for the Project.

1.4.1.2. Contractor's Members

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1.4.1.2.1. Individuals, each having authority to act on behalf of the entity they represent, explicitly organized to implement all BIM and FIM activities through coordinated actions.

1.4.1.2.2. Representatives of Contractor, including but not limited to

1.4.1.2.2.1. Contractor's project manager,

1.4.1.2.2.2. Contractor's BIM Coordinator,

1.4.1.2.2.3. A/E, including A/E sub-consultant BIM manager(s), (for projects implemented with design-build methodology),

1.4.1.2.2.4. Subcontractors, as needed for Contractor to fulfill its BIM obligations, and

1.4.1.2.2.5. Equipment suppliers, as needed for Contractor to fulfill its BIM obligations.

1.4.2. Scheduling

1.4.2.1. Design (Preconstruction) Phase

1.4.2.1.1. For projects implemented using the competitive sealed proposal, construction manager-at-risk, or job order contracting methodology, the A/E shall integrate all BIM activities into its Project Work Plan and the design schedule.

1.4.2.1.2. For projects implemented using the construction manager-at-risk or design-build methodology, the Contractor shall integrate all BIM activities into the Baseline Schedule and the Work Progress Schedule and shall ensure that BIM requirements are clearly set forth in all solicitation documents used to select subcontractors or suppliers for the Project. All parties will address scheduling problems and make necessary notifications in a timely manner to expedite all BIM activities.

1.4.2.2. Construction Phase

1.4.2.2.1. Contractor shall integrate all BIM 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 BIM activities.

1.4.2.2.2. Contractor shall provide the initial schedule of primary BIM activities at the project kick-off meeting. Prior to the start of Schematic Design, Contractor shall have incorporated and integrated all BIM 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 BIM Team members are set forth below to help to clarify Owner's expectations with respect to the BIM and FIM processes.

1.5.2. Owner's Role and Responsibilities:

1.5.2.1. Provide specifications related to the format and content for the Project Information Matrix. These specifications are to include the identification of Tier 1 Data and Tier 2 Data required for the Project.

1.5.2.2. Provide initial direction as to the extent the BIM is to be used on the Project. BIM Level to be used on the Project.

1.5.2.3. Approve the BIM Execution Plan and A/E's and Contractor's schedules for completing all BIM activities.

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- 1.5.2.4. Participate in BIM Team meetings.
- 1.5.2.5. Review and validate adequacy of Building Model development and project data collection.
- 1.5.3. A/E's Role and Responsibilities:
 - 1.5.3.1. Attend BIM Team meetings.
 - 1.5.3.2. Incorporate all BIM activities into the design Work Plan and the design phase schedule.
 - 1.5.3.3. Produce for Owner's approval, the initial BIM Execution Plan, the initial Equipment Matrix of all devices, systems and equipment supplied, and the initial Project Information Matrix.
 - 1.5.3.4. Review and approve Contractor's edits to the BIM Execution Plan, the Equipment Matrix and the Project Information Matrix.
- 1.5.4. Contractor's Role and Responsibilities:
 - 1.5.4.1. Receive from A/E and assume lead responsibility for the BIM Execution Plan, the Building Model, the Equipment Matrix and the Project Information Matrix.
 - 1.5.4.2. Administer updates to the BIM Execution Plan, the Building Model, the Equipment Matrix and the Project Information Matrix with the intent that all BIM-FIM Team members will have up-to-date information as the Project progresses.
 - 1.5.4.3. Provide an individual, subject to Owner's approval, experienced in Building Information Modeling to document changes to Building Model and complete the implementation of the BIM Execution Plan. The Contractor shall assign this individual to act as the BIM Coordinator, who may have additional duties such as MEP Coordinator, but shall not be Contractor's project manager or superintendent. Contractor shall submit qualifications demonstrating the BIM Coordinator's technical expertise and experience to the Owner for approval. In the event that Contractor chooses to subcontract its BIM obligations, Contractor must submit the name and qualifications of the proposed subcontractor for Owner's approval.
 - 1.5.4.4. Ensure that Building Modeling activities are incorporated into the Baseline Schedule and the Work Progress Schedule.
 - 1.5.4.5. Schedule and conduct periodic meetings with Subcontractors and equipment suppliers related to BIM to ensure the Building Model, the Equipment Matrix and the Project Information Matrix are being routinely and accurately updated.

PART 2- EXECUTION

2.1 BIM EXECUTION PLAN

- 2.1.1 Throughout its development, efforts shall be made to align the responsibilities set forth in the BIM Execution Plan with the skills customarily contributed by each party associated with the Project. The BIM Execution Plan shall be considered as a "living document" that is to be updated and refined throughout the life of the Project and shall be available for review and verification by Owner at any time.
- 2.1.2 To the extent practical, the BIM Execution Plan shall minimize redundant efforts in favor of a single, organized approach to all activities required to successfully complete the BIM-FIM process.
- 2.1.3 The BIM Execution Plan shall include all pertinent Project Information, as a baseline for required information, reference the "BIM Project Execution Planning Guide" created by the [CIC Research Group, Department of Architectural Engineering, and The Pennsylvania State University](#). It shall also identify and specify;

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- 2.1.3.1. the extent to which Building Model(s) are to be used on the Project.
- 2.1.3.2. the expected timeline for when information will become available.
- 2.1.3.3. the information workflow process, which is to include identifying from where the information to be included in the PIM will originate, the requirements for transferring information from and to each model and into the PIM, the Depth of Detail and the party responsible for authoring and supplying the information at the appropriate time.
- 2.1.3.4. the version of the Autodesk Building Design Ultimate software suite into to which the project documents will be transferred.
- 2.1.3.5. the file structure for the Building Model.
- 2.1.3.6. all model types, names, content and relationships.
- 2.1.3.7. the Level of Development for each element to be included within the Building Model at each stage of the Building Model development.
- 2.1.3.8. the Depth of Detail for each element to be included within the Building Model.
- 2.1.3.9. the drawings to be generated from the Building Model(s) and the process(es) to be used for generating two-dimensional drawings from the Building Model(s) to ensure that all generated drawings adhere to Owner's CAD standards drawing structure, content, data elements and delivery.
- 2.1.3.10. the CMMS Integration Process to be used on the Project, including the requisite process for receiving Owner's CMMS Asset Numbers and for incorporating those numbers into the design documents and the PIM.
- 2.1.3.11. the data transfer protocol.
- 2.1.3.12. conventions to be used for naming files.
- 2.1.3.13. measures to be taken to ensure that there is no significant loss of drawing entities or data during drawing generation and data extraction.
- 2.1.3.14. areas in which laser scanning is to be conducted.
- 2.1.4 Development of the BIM Execution Plan shall be included as an agenda item for all Project Team meetings throughout the Preconstruction (Design) Phase of the Project. As and when appropriate, the discussion items shall include, as a minimum;
 - 2.1.4.1. the status of the development of the BIM Execution Plan,
 - 2.1.4.2. the identification of any issues related to the timing for exchanging information between the various Building Models and the timing and the means and methods for entering information into the Project Information Matrix,
 - 2.1.4.3. the Level of Development of each of the Building Models,
 - 2.1.4.4. the Depth of Detail for information within the Building Models and to be entered into the Project Information Matrix.
- 2.1.5 Refinement and implementation of the BIM Execution Plan shall be included as an agenda item for all Project Team meetings throughout the Construction Phase of the Project. When and as appropriate, the discussion items shall include, as a minimum;
 - 2.1.5.1. the status of the refinement of, and any updates to, the BIM-FIM Execution Plan,
 - 2.1.5.2. the identification of any issues related to the timing for exchanging information between the various Building Models and the timing and the means and methods for entering information into the Project Information Matrix,
 - 2.1.5.3. the Level of Development of each of the Building Models,

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2.1.5.4. the Depth of Detail for information within the Building Models and for information to be entered into the Project Information Matrix,

2.1.5.5. the status of the development and implementation of the CMMS Integration Process.

2.2 EXTRACTED DATABASE

2.2.1 Unless Owner specifically agrees otherwise, all data input into the model(s) or CAD drawings shall be extracted from its various sources and delivered in a single Microsoft Access database. This Extracted Database shall include:

2.2.1.1 equipment data gathered during the course of design and construction that is related to equipment listed in the PIM, but for which a data field does not exist within the PIM.

2.2.1.2 fixed equipment data gathered during the course of design and construction that is not associated with equipment listed in the PIM (e.g. manufacturer's maintenance information related to sinks, faucets, emergency showers, light fixtures, life safety items, etc.).

2.2.1.3 data related to all fixed architectural and finish features (e.g. manufacturer's maintenance information related to doors, hardware, finishes, glazing, etc.).

2.2.1.4 all information that is contained within a schedule or table located within the drawings.

2.2.1.5 all information contained within a schedule or table within the specifications.

2.3 DOCUMENT INDEX

2.3.1 An index shall be included with each document delivery. The document index shall be in the form of a Microsoft Excel spreadsheet and shall identify every file included in the delivery. Identification information shall include;

2.3.1.1 Owner's project number.

2.3.1.2 Owner's project name.

2.3.1.3 File name.

2.3.1.4 File description.

2.3.1.5 Identity of the file authoring entity (i.e. who generated the file A/E, consultant, Contractor, Subcontractor).

2.3.1.6 Cross references to any required support files.

2.4 LASER SCANS

2.4.1 Unless Owner specifically directs or agrees otherwise, Contractor shall provide laser scans for the following types of spaces:

2.4.1.1 Operating rooms.

2.4.1.2 Intensive care units.

2.4.1.3 Imaging suites.

2.4.1.4 Mechanical equipment rooms.

2.4.1.5 Plenum spaces through which significant mechanical, electrical, plumbing and information technology distribution systems are routed.

2.4.1.6 Spaces and areas located above hard finished ceilings where access is limited or views are obstructed.

2.4.2 When conducted, laser scans shall be completed for walls and plenums before final cover-up begins.

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- 2.4.3 Laser scan deliverables shall be in the form of three-dimensional models or two-dimensional drawings as set forth below and the final cloud point file generated by the laser scan.

2.5 BIM-FIM DELIVERABLES

- 2.5.1 The BIM-FIM deliverables shall be set forth in the BIM Execution Plan and are expected to vary, based upon the project type. All files delivered in portable document file (pdf) for mat shall be searchable (i.e. “smart” or “vector” pdf’s). Unless Owner expressly agrees otherwise the deliverables for each Project type shall be as follows:

- 2.5.1.1 Major Capital – New Construction

- 2.5.1.1.1 BIM Execution Plan
- 2.5.1.1.2 Project Information Matrix
- 2.5.1.1.3 Design Model(s) – in Autodesk REVIT format
- 2.5.1.1.4 Construction Model(s) – in Autodesk REVIT format.
- 2.5.1.1.5 Extracted Database containing Tier 1 and Tier 2 data
- 2.5.1.1.6 Laser Scans
- 2.5.1.1.7 Record Documents (Drawings and Specifications)

- 2.5.1.2 Major Capital – Renovation

- 2.5.1.2.1 BIM Execution Plan
- 2.5.1.2.2 Project Information Matrix
- 2.5.1.2.3 Design Model(s) – in Autodesk REVIT format
- 2.5.1.2.4 Construction Model(s) – in Autodesk REVIT format.
- 2.5.1.2.5 Extracted Database containing Tier 1 and Tier 2 data
- 2.5.1.2.6 Laser Scans
- 2.5.1.2.7 Record Documents (Drawings and Specifications)

- 2.5.1.3 Minor Capital – New Construction

- 2.5.1.3.1 BIM Execution Plan, if directed by Owner
- 2.5.1.3.2 Project Information Matrix
- 2.5.1.3.3 Design Model(s) – in Autodesk REVIT or AutoCAD AMEP format as directed by Owner.
- 2.5.1.3.4 Construction Model(s) – in Autodesk REVIT or AutoCAD AMEP format as directed by Owner.
- 2.5.1.3.5 Extracted Database containing Tier 1 and Tier 2 data
- 2.5.1.3.6 Laser Scans
- 2.5.1.3.7 Record Documents (Drawings and Specifications)

- 2.5.1.4 Minor Capital – Renovation

- 2.5.1.4.1 BIM Execution Plan, if directed by Owner
- 2.5.1.4.2 Project Information Matrix
- 2.5.1.4.3 Design Model(s) – in Autodesk REVIT or AutoCAD AMEP format as directed by Owner.

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- 2.5.1.4.4 Construction Model(s) – in Autodesk REVIT or AutoCAD AMEP format as directed by Owner.
- 2.5.1.4.5 Extracted Database containing Tier 1 and Tier 2 data
- 2.5.1.4.6 Laser Scans
- 2.5.1.4.7 Record Documents (Drawings and Specifications)
- 2.5.1.5 Operations Project
 - 2.5.1.5.1 BIM Execution Plan, if directed by Owner
 - 2.5.1.5.2 Project Information Matrix
 - 2.5.1.5.3 Record Documents (Drawings and Specifications)

EXHIBIT H

POLICY ON UTILIZATION – HISTORICALLY UNDERUTILIZED BUSINESSES

(Exhibit H is included herein by reference)

ATTACHMENT 1 TO EXHIBIT H
HUB SUBCONTRACTING PLAN

EXHIBIT I
ADDITIONAL SERVICES PROPOSAL FORM

Date: _____

Additional Services Proposal No. _____

Name of A/E firm:

Re: (project name and number)

Refer to the Agreement dated _____, 20__ between _____ (“Owner”) and the undersigned (“Project Architect”) as amended to the date hereof (such agreement as so modified and amended being hereafter called the “Agreement”) pursuant to which Project Architect is to perform certain services. The terms which are defined in the Agreement shall have the same meanings when used in this letter. The fee for these requested additional services are in lieu of any other fee adjustment based on an increase to the CCL as related to these services.

1. Owner has requested the performance of the services described below which Project Architect deems to be Additional Services. Refer to “Attachment A” for complete breakdown.

(Detailed description of Services. Use attachment only for additional description)

2. The services are fully described in the following documents: (list sheet #'s and spec sections)
3. Project Architect agrees to perform the Additional Services described above subject to and in accordance with the terms and provisions of the Agreement

a.) for a *lump sum fee* which will be determined in accordance with the Agreement in an amount of:
_____ Dollars (\$ _____)

OR

b.) an *hourly amount* in accordance with the Agreement, not to exceed _____
Dollars (\$ _____)

and for reimbursement of expenses in accordance with the Agreement incurred solely in connection with the performance of such Additional Services, but which reimbursement for expenses will not exceed
_____ Dollars (\$ _____).

4. Project Architect will perform the services in accordance with any schedule attached hereto (attach schedule if applicable), but in any event not later than _____ (_____) days after Project Architect is authorized to proceed.

Accepted by:

[PROJECT ARCHITECT]

By: _____

Name: _____

Title: _____

Current Fee Summary

ORIGINAL MAXIMUM CONTRACT SUM:	\$ _____
Previous Additional Services Additions:	\$ _____
Previous Additional Services Deductions:	\$ _____
NET BALANCE Fee:	\$ _____
THIS Addition / Deduction:	\$ _____
ADJUSTED MAXIMUM CONTRACT SUM:	\$ _____

Funding Source: _____ (PM to complete this line)

Accepted this _____ day of _____, 20 __. Project Architect is authorized to commence performance of the Additional Services on _____, 20 __

OWNER (Project Manger)

By: _____

Name: _____

Title: _____

Project Manager confirms:

HUB opportunities are probable: (check one below)

NO _____

YES _____

(if yes HUB coordinator signature required below)

And

HUB Coordinator _____

Date _____

OWNER (Sr. Project Manger or ADPM)

By: _____

Name: _____

Title: _____

Reviewed as to form:

By: Contract Manager _____

EXHIBIT J

ADJUSTMENT TO BASIC SERVICES COMPENSATION

Date: _____
Project Name: _____
Campus: _____
Project No: _____

Date of Agreement: _____

To: (state name and address of Architect)

Attn: _____

In accordance with the provisions of the Agreement, the Owner hereby amends the Basis of Compensation as described in Article 14.5.

The original basis for compensation shall be amended for the following reasons:

(PM describe here deviations resulting from peculiarities encountered in design or other factors altering project scope – see Art. 2.11)

The Basic Services shall be amended as follows. Refer to the interpolation schedule established in Article 14.5.

ORIGINAL CCL: \$ _____
ORIGINAL FEE PERCENTAGE: _____ %
ORIGINAL BASIC SERVICES FEE: \$ _____
(as described in Art. 14.4)

ADJUSTED CCL: \$ _____
FEE PERCENTAGE: _____ %
ADJUSTED BASIC SERVICES AMOUNT \$ _____

OWNER:

By: _____

Name: _____

Title: _____

Date: _____

xc: PM
Accounting

ADPM
Campus Representative

Central file

EXHIBIT K

PROJECT SCOPE SUMMARY QUESTIONNAIRE FORM

Project Architect shall complete this summary based on the Contract Documents in order to support Owner's to obligation to report construction cost data to the Texas Higher Education Coordinating Board. Please note, not all items will have an exact answer, nor will every assembly total 100%. Please provide a response, based on your best interpretations of the Contract Documents, to **ALL** items listed.

Project No. & Title _____ - _____

Project Stage Title _____

	New	Renovated
Gross Square Feet (Not including basement)	_____	_____
Assignable Square Feet (Not including basement)	_____	_____
Number of Rooms	_____	
Number of Stories At Grade & Above	_____	
Average Story Height At Grade & Above (ft)	_____	
Number of Basement Levels & Gross Square Feet	_____	
Building Perimeter (Lft.)*	_____	
Type of Foundation *	_____	
Primary Superstructure System *	_____	
Primary Exterior Closure & Percent *	_____	_____
Secondary	_____	_____
Percentage of Exterior Glass / Glazing	_____	
Primary Roofing System *	_____	
Primary Interior Partition Construction & Percent *	_____	_____
Secondary *	_____	_____
Number of Doors (A pair of doors equals two doors)	_____	
Primary Interior Flooring & Percent *	_____	_____
Secondary *	_____	_____
Primary Interior Ceiling Construction & Percent *	_____	_____
Secondary *	_____	_____
Type of Conveying System & Number of Units *	_____	
Number of Plumbing Fixtures Installed	_____	
Building HVAC CFM Requirements	_____	

* Refer to Page 2 for definitions & lists.

EXHIBIT K, cont'd

EXHIBIT K, cont'd

PROJECT SCOPE SUMMARY INSTRUCTIONS, DEFINITIONS & LISTS

Please use the definitions and lists below to complete the questions on the Exhibit L. If a project does not have an assembly (i.e.: basement) then insert "None" into the appropriate blank. If a project has an existing assembly that is modified or repaired then insert "Modify" or "Repair", however, if a project scope does not modify or repair an existing assembly then insert "Existing" into the appropriate blank.

Gross Square Foot: The total floor space in a building (not including the basement) from the exterior skin at grade and above.

Assignable Square Foot: The net floor space in a building (not including the basement) measured from the inside surface of exterior walls and excluding interior walls and partitions, mechanical equipment rooms, lavatories, janitorial closets, elevators, stairways, major circulation corridors, aisles and elevator lobbies.

Building Perimeter: The total length measured (linear feet) around the building enclosure at, or near, the ground floor.

Building Types as Reported to THECB by Assignable Square Feet

070 - Unfinished Area	110 - Classroom	210 - Class Laboratory
220 - Special Class Laboratory	230 - Individual Study Laboratory	250 - Non-Class Laboratory (R&D)
310 - Office	350 - Conference Room	410 - Reading/Study Room (Small)
420 - Stack (Large Library)	430 - Open-Stack Reading Room	440 - Processing Room
520 - Athletic/Physical Education	523 - Athletic/Facilities Spectating	530 - Audio/Visual, Radio, TV Facilities
540 - Clinic (Examination Rooms)	550 - Demonstration Facilities	610 - Assembly/Theater
620 - Exhibition (Museum)	630 - Food Facilities (Cafeteria)	650 - Lounge
660 - Merchandising Facilities (Retail)	670 - Recreation	680 - Meeting Room (Non-Class/Office)
720 - Shop (Repair & Maintenance)	730 - Storage	740 - Vehicle Storage Facility
810 - Patient Bedroom	820 - Patient Bath	830 - Nurses Station
840 - Surgery	850 - Health Care Treatment	860 - Health Care Laboratory
870 - Health Care Supplies	880 - Health Care Public Waiting	895 - Health Care Service
910 - Sleep/Study w/out Toilet/Bath	920 - Sleep Study w/ Toilet/Bath	950 - Apartment

Foundation

Cast-in-Place Concrete Walls	Grade Beam / Slab on Grade	Grade Beam / SOG - Post Tension
Spread Footings	Piers / Piles / Caissons	

Superstructure

Bearing Walls	Concrete Foundation w/ Steel Frame	Precast Concrete
Reinforced Concrete / Post Tension	Tilt-Up Concrete Panels	Wood

Exterior Closure

Aluminum Siding w/ Metal or Wood Stud Back-up		Decorative Concrete Block
Double Glazed Plate Glass Panel	Dryvit / EIFS	Exposed Precast Concrete Panels
Exposed Cast-in-Place Concrete	Face Brick w/ CMU Back-up	Face Brick w/ Metal Stud Back-up
Galvanized Steel Siding	Glass & Metal Curtain Wall	Natural Stone w/ CMU Back-up
Modified 3" Precast Panel w/ 6" Metal Stud Back-up		Natural Stone w/ Metal Stud Back-up
Painted Concrete Block	Plaster on w/ Metal or Wood Stud Back-up	Porcelain Tile w/ Metal stud Back-up
Stucco on CMU Back-up	Tilt-up Concrete Panels	Wood Siding w/ Wood Stud Back-up

Roofing System

Built-up	Clay Tile	Cold Applied
Elastomeric / Single-ply Membrane	Modified Bitumen	Pre-formed Metal
Prepared Roll	Shingle (Asphalt / Wood)	

Interior Partition Construction (not including basement)

CMU	Painted CMU	Painted Drywall w/ Metal Stud
Painted Drywall w/ Wood Stud	Wallpapered Drywall w/ Metal Stud	Wallpapered Drywall w/ Wood Stud

Interior Flooring (not including basement)

Ardex / Concrete Topping	Carpet (Glued or Padded)	Ceramic / Porcelain Tile
Exposed / Sealed Concrete	Granite / Marble	Limestone
Painted Concrete	Seamless Epoxy	Terrazzo
VCT	Vinyl	Wood

Interior Ceiling Construction (not including basement)

Acoustical Lay-in	Acoustical Drop Panel	Drywall
Exposed Concrete / Metal Decking	Exposed Painted Concrete / Decking	Plaster
Sprayed-on Exposed Concrete	Wood	

Conveying System

Hydraulic Elevators	Geared Traction Elevator	Escalator
---------------------	--------------------------	-----------

EXHIBIT L

RIDER 105 – CONTRACTOR’S AFFIRMATIONS

RIDER 105
CONTRACTOR'S AFFIRMATIONS AND WARRANTIES

By signing the Agreement, or accepting the Purchase Order, to which this Rider is attached Contractor affirms, certifies, and warrants that the information set forth in this Rider is current, complete, and accurate. Contractor agrees that in the event Contractor makes a false statement by affirming, certifying, or warranting the information set forth in this Rider, MD Anderson may, at its option, terminate the Agreement/Purchase Order to which this Rider is attached without further liability, and Contractor shall be removed from all MD Anderson bid lists.

Contractor agrees to notify MD Anderson in writing within thirty (30) days of any changes in the affirmations, certifications, and warranties made by Contractor under this Rider.

1. By signing the Agreement, or accepting the Purchase Order, Contractor affirms, certifies, and warrants that it has neither given, offered to give, and has no intention to give at any time hereafter, any economic opportunity, future employment, gift, loan, gratuity, special discount, trip, favor or service to a public servant in connection with this Agreement/Purchase Order.
2. By signing the Agreement, or accepting the Purchase Order, Contractor affirms, certifies, and warrants that neither Contractor nor the firm, corporation, partnership or institution represented by Contractor, or anyone acting for such firm, corporation, or institution, has violated the antitrust laws of the State of Texas, codified in Section 15.01, et. seq. *Texas Business and Commerce Code*, or the federal antitrust laws, nor communicated directly or indirectly Contractor's bid or proposal made to MD Anderson to any competitor or any other person engaged in such line of business. By signing the Agreement, Contractor affirms, certifies, and warrants that it has not received compensation for participation in the preparation of the specifications for this Agreement or of the request for proposal—on which this Agreement is based. (Reference Section 2155.004, *Texas Government Code*.)
3. By signing the Agreement, or accepting the Purchase Order, Contractor affirms, certifies, and warrants that it is not suspended, debarred, or listed in the U.S. General Services Administration's List of Parties Excluded From Federal Procurement or Non-Procurement Programs, or excluded from award by the United States Office of the Inspector General ("OIG") regarding Medicare, Medicaid, or other federal programs. Contractor further acknowledges that MD Anderson is prohibited by federal regulations from allowing any employee, subcontractor or agent of Contractor to work on site at MD Anderson's premises or facilities if that individual is not eligible to work on federal healthcare programs such as Medicare, Medicaid, or other similar federal programs. Therefore, Contractor affirms, certifies, and warrants that it shall not assign any employee, subcontractor or agent that appears on the List of Excluded Individuals/Entities issued by the OIG to work on site at MD Anderson's premises or facilities. Contractor affirms, certifies, and warrants that it shall perform an OIG sanctions check quarterly on each of its employees, subcontractors and agents during the time such employees, subcontractors and agents are assigned to work on site at MD Anderson's premises or facilities. Contractor acknowledges that MD Anderson will require immediate removal of any employee, subcontractor or agent of Contractor assigned to work at MD Anderson's premises or facilities if such employee, subcontractor or agent is found to be on the OIG's List of Excluded Individuals/Entities. The OIG's List of Excluded Individuals/Entities may be accessed through the following Internet website: <http://exclusions.oig.hhs.gov/>.
4. By signing hereon Contractor certifies it qualifies status in one of the below as defined by the State of Texas.

4.1 Contractor, **is a Small Business** (as defined by Chapter 2155 of the Texas Government Code), and claims the following status:

- | | |
|--|---|
| <input type="checkbox"/> (100) Small Business, Non-HUB | <input type="checkbox"/> (160) Non-minority, Female, Small Business |
| <input type="checkbox"/> (100N) Disabled Person, Small Business | <input type="checkbox"/> (171) Asian Pacific American, Male, Small Business |
| <input type="checkbox"/> (141) Black American, Male, Small Business | <input type="checkbox"/> (172) Asian Pacific American, Female, Small Business |
| <input type="checkbox"/> (142) Black American, Female, Small Business | <input type="checkbox"/> (181) Native American, Male, Small Business |
| <input type="checkbox"/> (151) Hispanic American, Male, Small Business | <input type="checkbox"/> (182) Native American, Female, Small Business |
| <input type="checkbox"/> (152) Hispanic American, Female, Small Business | |

4.2 Contractor, **is not a Small Business** as defined above and claims the following status:

- | | |
|--|---|
| <input type="checkbox"/> (900N) Disabled Person | <input type="checkbox"/> (971) Asian Pacific American, Male |
| <input type="checkbox"/> (941) Black American, Male | <input type="checkbox"/> (972) Asian Pacific American, Female |
| <input type="checkbox"/> (942) Black American, Female | <input type="checkbox"/> (981) Native American, Male |
| <input type="checkbox"/> (951) Hispanic American, Male | <input type="checkbox"/> (982) Native American, Female |
| <input type="checkbox"/> (952) Hispanic American, Female | <input type="checkbox"/> (900) None of the above |
| <input type="checkbox"/> (960) Non-minority, Female | |

4.3 Contractor is to indicate below if they are /are not certified by the Texas Procurement and Support Services Division of the Texas Comptroller's Office as a Historically Underutilized Business.

RIDER 105
CONTRACTOR'S AFFIRMATIONS AND WARRANTIES

_____ **YES**, Contractor is certified by the Texas Procurement and Support Services Division of the Texas Comptroller's Office.

_____ **NO**, Contractor is not certified by the Texas Procurement and Support Services Division of the Texas Comptroller's Office.

4.4 Contractor is:

_____ A Non-Resident Contractor (e.g., does not maintain a permanently staffed full time office in Texas).

_____ A Resident Contractor (e.g., does maintain a permanently staffed full time office in Texas).

_____ Anticipating the use of Texas Non-Resident firms as sub-contractors and will provide information of such contracts, when requested.

_____ Not anticipating the use of Texas Non-Resident firms as sub-contractors.

5. By signing the Agreement, or accepting the Purchase Order, Contractor affirms, certifies, and warrants that it will comply with all specifications, requirements, terms, and conditions set forth in this Agreement/Purchase Order and on any rider or attachments to the Agreement/Purchase Order. Contractor affirms, certifies, and warrants that the products or services Contractor provides under this Agreement/Purchase Order will meet or exceed the specifications set forth in this Agreement/Purchase Order.
6. By signing the Agreement, or accepting the Purchase Order, Contractor affirms, certifies, and warrants that all statements and information prepared and submitted under this Agreement/Purchase Order (including all information submitted by Contractor in response to or to verify the affirmations, certifications, and warranties set forth in this Rider) are current, complete, and accurate.
7. If Contractor is a franchise, then
- (a) Contractor affirms, certifies, and warrants that it shall maintain such franchise in full force and effect at all times during the existence of this Agreement/Purchase Order, and
- (b) Contractor shall provide MD Anderson with all data that MD Anderson, in its sole discretion, deems necessary to identify Contractor's franchise, the date on which Contractor's franchise will expire, and to certify that Contractor's franchise remains in good standing at all times during the existence of the Agreement/Purchase Order.
8. By signing the Agreement, or accepting the Purchase Order, Contractor affirms, certifies, and warrants that (1) no relationship (whether by blood, marriage, business association, capital funding agreement or by any other kinship or connection) exists between Contractor and an employee of MD Anderson, and (2) Contractor has not been an employee of MD Anderson within the twelve (12) month period immediately prior to the date of this Agreement/Purchase Order, or (3) in the event such a relationship does exist, full written disclosure of the relationship has been made by Contractor to MD Anderson prior the execution of this Agreement, or acceptance of Purchase Order. Contractor understands that all such disclosures will be subject to administrative review, and approval by MD Anderson prior to MD Anderson's execution of this Agreement/Purchase Order.
9. By signing the Agreement, or accepting the Purchase Order, Contractor affirms, certifies, and warrants that: (1) Contractor is not a party to any agreement with MD Anderson whereby it has licensed from MD Anderson any technology, invention, or other intellectual property that relates to or is used with any goods or services being acquired by MD Anderson hereunder; and (2) as a result of the sale to MD Anderson of the goods or services hereunder, Contractor will not owe, directly or indirectly, any royalties, fees, or other consideration of any kind to MD Anderson or any employee of MD Anderson under the terms of any license agreement with MD Anderson. Contractor will advise MD Anderson in writing of any change in status with respect to the foregoing items (1)-(2), by sending written notice within ten (10) days of such status change to: Legal Services, Unit 537, The University of Texas MD Anderson Cancer Center, P.O. Box 301439, Houston TX 77230-1439, ATTENTION: Chief Legal Officer.

RIDER 105
CONTRACTOR'S AFFIRMATIONS AND WARRANTIES

10. OSHA COMPLIANCE

By signing the Agreement, or accepting the Purchase Order, Contractor affirms, certifies, and warrants that all goods and services furnished under this Agreement/Purchase Order will meet or exceed the safety standards established and promulgated under the Federal Occupational Safety and Health Law (Public Law 91-596) and its regulations in effect as of the date on which the goods or services are furnished.

11. AFFIRMATIVE ACTION COMPLIANCE

In addition to the Contractor's affirmation, certification, and warranty under Section 10 of this Rider, if this Agreement exceeds \$50,000.00 in value Contractor, shall provide a copy of its written Civil Rights "Affirmative Action Compliance Program" which shall be incorporated into Exhibit A to this Rider. If Contractor is NOT required to have such a written Civil Rights "Affirmative Action Compliance Program", Contractor must state the reasons why it is not required to have such a written program in Exhibit A to this Rider.

CONTRACTOR NAME

DATE

BY (ORIGINAL SIGNATURE)

COMPTROLLER I.D. NO., FEI NO. or SSN

TYPED NAME & TITLE

TELEPHONE NUMBER

CORPORATE CONTRACTORS SHALL FURNISH THE FOLLOWING INFORMATION:

WHERE INCORPORATED

CHARTER NUMBER

SOLE OWNER'S SOCIAL SECURITY NUMBER

EXHIBIT A

Civil Rights "Affirmative Action Compliance Program"

EXHIBIT M

RIDER 106 - PREMISES RULES

RIDER 106 PREMISES RULES

If this Agreement requires Contractor's presence on MD Anderson's premises, buildings, grounds, facilities, or campus, whether owned, leased or otherwise controlled by MD Anderson (collectively, "MD Anderson's campus"), Contractor represents and warrants that it will ensure that its representatives, agents, employees, and permitted subcontractors are aware of, fully informed about and in full compliance with Contractor's obligations under the following rules:

- A. Contractor (and its representatives, agents, employees and permitted subcontractors) will comply with all applicable MD Anderson rules and policies, including, without limitation, those related to environmental quality, safety, fire prevention, noise, information security, and architectural barriers issued by MD Anderson's Department of Environmental Health and Safety, (713) 792-2888, and those that restrict the use of alcohol on MD Anderson's campus.
- B. MD Anderson is a smoke-free institution. Smoking, or use of smokeless tobaccos, is prohibited throughout MD Anderson's campus.
- C. Contractor will have the right to access only those areas in MD Anderson's campus that are public areas or areas that it is necessary for Contractor to access in order to provide the products and perform the services under this Agreement. Cellular telephones and two-way radios are prohibited in some areas of MD Anderson's campus and Contractor affirms, certifies, and warrants that its representatives, agents, employees, and permitted subcontractors will abide by such prohibitions.
- D. It is the policy of MD Anderson to maintain a safe environment free from violence on MD Anderson's campus. Any direct or indirect threats or acts of violent behavior are prohibited. Violence includes, but is not limited to, intimidating, threatening, or hostile behavior; physical or verbal abuse; harassment, stalking, vandalism, arson, sabotage, use of weapons, possession of weapons on institutional property, the threat of any of the above, or any other act inconsistent with MD Anderson's campus violence policy. Intentionally bringing a prohibited weapon including a licensed, concealed handgun on MD Anderson's campus is a violation of MD Anderson's campus violence policy. Furthermore, any violation of a law prohibiting violence and violent behavior (including, but not limited to, the violation of Section 37.125 of the Texas Education Code or of Section 46.03 of the Texas Penal Code) also constitutes a violation of MD Anderson's campus violence policy. Violators of MD Anderson's campus violence policy or of any law prohibiting violence or violent behavior may be removed from or refused further access to MD Anderson's campus. Contractor represents and warrants that Contractor and all of its representatives, agents, employees, and permitted subcontractors will comply with MD Anderson's campus violence policy and all laws prohibiting violence and violent behavior. MD Anderson reserves the right to pursue criminal or civil actions against violators of MD Anderson's campus violence policy or of any law prohibiting violence and violent behavior. Contractor will remove from the performance of any work under this Agreement any Contractor representative, agent, employee, or permitted subcontractor that MD Anderson, in its sole discretion, finds has violated MD Anderson's campus violence policy or any law prohibiting violence and violent behavior.
- E. Contractor will ensure all personnel sent to work at MD Anderson's campus that have direct patient care/contact under this Agreement will be able to show proof of a tuberculosis screening having been completed within ninety (90) calendar days prior to starting work at MD Anderson's campus and every two years thereafter. Contractor will also be able to show proof that these same personnel do not have active tuberculosis. Contractor will ensure all personnel with direct patient care/contact will be able to show proof of current immunization to influenza and proof of immunization or immunity to varicella (chicken pox) prior to active duty at MD Anderson. Records of screenings, vaccinations, immunity and related reports will be made immediately available to M.D. Anderson upon request. This paragraph does not apply to contractors deemed by MD Anderson to not have direct patient care/contact.
- F. Contractor will be solely responsible for ensuring that all of its agents, employees, personnel, permitted subcontractors, or representatives abide by the provisions set forth in this Rider 106.
- G. The University of Texas Police Department ("UTPD") & Security Equipment:

The UTPD is the law enforcement agency of record for all property and premises owned, leased, or otherwise under the control of MD Anderson. The UTPD will be notified in matters relating to the following:
 - 1. Reporting of criminal incidents, including those occurring to or involving Contractor property and personnel if the incident occurs on MD Anderson campus;
 - 2. The investigation of crimes, including those involving Contractor's property and personnel, if the incident occurs on MD Anderson campus; and
 - 3. Reporting of security problems.
- H. Contractor will not retain the services of outside guard or law enforcement services in connection with work on MD Anderson's campus without the specific prior written approval of the Chief of the UTPD.
- I. Contractor will not install or operate any system intended to electronically control access and/or detect and report intrusion, hold-up or duress on any MD Anderson property, any MD Anderson leased premises or any premises otherwise under the control of MD Anderson. Where such systems are required due to the nature of the Contractor's operation, the UTPD will be responsible for approval, design and installation. Once approved by UTPD, the system's cost will be Contractor's responsibility.

RIDER 106
PREMISES RULES

these Premises Rules, MD Anderson will have the right to deny Contractor and its personnel access to MD Anderson's campus.

J. Installation by Contractor of any security system is subject to the review and approval of UTPD. If Contractor desires to install an electronic security system in accordance with the terms of this Agreement, Contractor will contact the UTPD - Crime Prevention Component of UTPD at (713) 792-2890 and request that UTPD establish design criteria for the application. Contractor will provide written evidence of the estimated cost of the electronic security system to the Technical Services Component of UTPD located at 7777 Knight Road and, if the electronic security system is approved by UTPD, the Technical Services Component of UTPD will coordinate the installation of the approved system. Upon written approval of the UTPD Chief, Contractor may use a commercial installation company to install the electronic security system under the coordination of the UTPD.

P. MD Anderson will not be obligated to pay for labor hours supplied by any individual(s) upon whom a background check and records check is not completed or who fails to meet the standards described in this Rider.

K. All security related systems must be monitored and controlled by the UTPD and UTPD must be the primary monitoring station. If Contractor utilizes the services of a commercial alarm company or a proprietary alarm monitoring station, the system may report to such location after first transmitting the alarm to the UTPD.

L. Contractor is responsible for the performance of the persons Contractor assigns to provide services for MD Anderson on MD Anderson's campus. Contractor will not knowingly assign individuals to provide services on MD Anderson's campus who have a history of violent, unacceptable, or grossly negligent behavior or who have a felony conviction. Prior to supplying labor services under this Agreement, MD Anderson may require Contractor to provide a list identifying the individuals that may be assigned to MD Anderson along with a letter signed by an appropriate officer of Contractor that affirms compliance with this Rider. Contractor will revise such letter each time there is a change in Contractor's personnel assigned to MD Anderson's campus, but in any case, annually on the anniversary date of this Agreement.

M. Contractor will ensure that all individuals assigned by Contractor to perform services on MD Anderson's campus will display in plain view a photo identification badge provided by MD Anderson while on MD Anderson's campus.

N. Contractor will retain resumes of all Contractor's employees assigned to this project. Contractor will ensure the proper maintenance of these documents for a minimum of one (1) year after contract completion. Contractor will maintain all documentation, including the results of any background checks, during the term of this Agreement.

O. MD Anderson will have the right to reject any individual(s) that Contractor offers to assign to MD Anderson's account for any reason. In addition, if Contractor and/or its personnel fail to abide by

EXHIBIT N

RIDER 107 – TRAVEL POLICY

Rider 107
TRAVEL POLICY

All travel and expense costs will be calculated as follows:

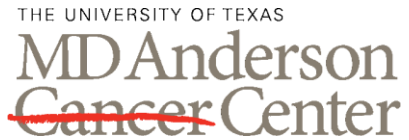
1. Vendor must use regular coach (state rate or corporate rate, whichever is lower) air transportation for travel in excess of 200 miles, unless otherwise agreed by MD Anderson. In order to maximize discounted airfares, Vendor, with the cooperation of MD Anderson, will schedule on-site visits far enough in advance to take advantage of most advance-purchase offers. In the event meetings or on-site visits are cancelled by MD Anderson, the Vendor may charge for any advance-purchase cancellation penalties imposed by the airline.
2. Corporate or state, whichever is lower, rate discounts will be used for hotel accommodations.
3. Maximum billable amount per person per day for meals will be \$36.00. Departing from MD Anderson prior to 12:01 p.m. negates any billing for meals for that day. Meal expenses are reimbursable for vendors who travel 50 miles or more, and stay overnight.
4. Rental cars will be the least expensive, air-conditioned, automatic transmission, mid-size car available to the vendor under corporate rate programs. Full coverage collision insurance may be used for rental cars, but personal protection plans will not be reimbursed.
5. Ground transportation, parking costs and tolls may be invoiced at cost.
6. Personal automobile mileage charges will be computed based upon actual miles to and from the appropriate office to and from the client facility. Mileage charges will be invoiced at the standard mileage rate recognized by the State of Texas at the time of invoicing.
7. Miscellaneous expenses (i.e., tips, transfers, etc.) will be invoiced at not-to-exceed \$5.00 per person per day, if deemed reasonable.

All travel or miscellaneous expenses must receive prior written approval by the Project Coordinator. Vendor will not be reimbursed for expenses which do not receive this prior written approval.

All travel or miscellaneous expenses must be submitted with an original receipt. All approved expenses will be reimbursed at “actual cost” only. Vendor will not be reimbursed for expenses which are not accompanied by original receipts.

EXHIBIT O

RIDER 117 – INSTITUTIONAL POLICIES



RIDER 117

Institutional Policies

In accordance with the education requirements set forth in Section 6032 of the Deficit Reduction Act of 2005 (Act), MD Anderson has implemented, and Contractor agrees to abide by, the following policies, as may be subsequently amended, that are available at: <http://www.mdanderson.org/about-us/doing-business/vendors-and-suppliers/index.html>

1. Fraud, Waste, and Abuse Policy
2. Hospital Compliance Plan
3. Non-Retaliation Policy

EXHIBIT P

OWNER'S DESIGN GUIDELINES

MD ANDERSON CANCER CENTER DESIGN GUIDELINES

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Preface	-----	ODG030513
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20	Proposal, Bidding, Contracting	
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2010	Instructions for the Preparation of Project Manuals	-----	ODG080415
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Construction Systems and Assemblies

Element A - Substructure

A10 Foundations

Not Applicable

Element B - Shell

B10 Superstructure

B1010	Floor Construction	-----	ODG112211
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B1020	Roof Construction	-----	ODG091610
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B20 Exterior Enclosure

B2010	Exterior Walls	-----	ODG041712
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B2020	Exterior Windows	-----	ODG091610
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B2030	Exterior Doors	-----	ODG041712
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B30 Roofing

B3010	Roof Coverings and Support Structures	-----	ODG041712
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Element C - Interiors

C10 Interior Construction

C1010	Partitions	-----	ODG030513
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C1020	Interior Doors	-----	ODG121312
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C1030	Fittings and Interior Specialties	-----	ODG030513
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C1031	Fabricated Toilet Partitions	-----	ODG100908
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C1038	Casework	-----	ODG061412
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C1039	Laboratory Casework and Equipment	-----	ODG051415
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C20 Stairs

C2010	Stair Construction	-----	ODG081408
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C30 Interior Finishes

C3010	Wall Finishes	-----	ODG032113
C3020	Floor Finishes	-----	ODG032113
C3025	Base Finishes	-----	ODG032113
C3030	Ceiling Finishes	-----	ODG013113

Element D – Services

D10 Conveying

D1010	Elevators and Lifts	-----	ODG020311
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D20 Plumbing

D2000	General Design Guidelines	-----	ODG120811
D2010	Plumbing Fixtures	-----	ODG060514
D201001	Emergency Shower and Eyewash Equipment	-----	ODG041113
D2020	Domestic Water Distribution	-----	ODG121515
D2030	Sanitary Waste and Vent	-----	ODG040512
D2035	Laboratory Waste and Vent	-----	ODG111009
D2040	Storm Water Drainage	-----	ODG111110
D2050	Natural Gas Distribution	-----	ODG010107
D2060	Medical Vacuum and Gas Systems	-----	ODG111512
D2065	Laboratory Vacuum and Gas Systems	-----	ODG111512

D30 Heating, Ventilating, and Air Conditioning (Includes BAS)

D3000	General Design Guidelines	-----	ODG011912
D300001	Renovation General Design Guidelines	-----	ODG030513
D3001	Load Calculation Criteria	-----	ODG032113
D300102	Laboratory Load Calculation Criteria	-----	ODG070810
D3002	Sound Criteria	-----	ODG120908
D3015	UTRP Energy Supply	-----	ODG051707
D3025	Steam Boilers and Associated Equipment	-----	ODG120908
D3026	Hot Water Heating Boilers	-----	ODG120908
D3035	Chillers and Associated Equipment	-----	ODG120908
D3040	Distribution Systems	-----	ODG032113
D3041	Air Handling Distribution	-----	ODG072513
D304101	Patient Treatment Air Handling Distribution	-----	ODG071912
D304102	Laboratory Air Handling Distribution System	-----	ODG091610
D304104	Pharmaceutical Air Handling Distribution	-----	ODG072513
D304105	MRI Air Handling Distribution	-----	ODG091610
D304106	Data Center Air Handling Distribution	-----	ODG091610
D3042	Exhaust and Ventilation	-----	ODG021711

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D304201	Patient Treatment Exhaust and Ventilation	-----	ODG070810
D304202	Laboratory Exhaust and Ventilation	-----	ODG061412
D304204	Ethylene Oxide Sterilization Exhaust and Ventilation	-----	ODG010107
D3044	Hot Water Distribution	-----	ODG111512
D3045	Chilled Water Distribution	-----	ODG111512
D3060	Building Automation Systems	-----	ODG041113
D306001	Primary and Secondary Chilled Water System	-----	ODG091511
D306002	Hot Water System	-----	ODG010107
D306013	Fan Coil Cooling Only	-----	ODG011509
D306014	Fan Coil Heat / Cool	-----	ODG010107
D40	Fire Protection		
D4000	General Design Guidelines	-----	ODG122012
D4010	Wet Standpipe and Sprinkler Systems	-----	ODG120811
D50	Electrical (Includes Communications and Security Systems)		
D5000	Load Calculation Criteria	-----	ODG072315
D500001	Electrical Renovation General Design Guidelines	-----	ODG051712
D5010	Electrical Service and Distribution	-----	ODG072315
D501001	Electrical System for Telecommunications Rooms	-----	ODG061412
D5020	Lighting and Branch Wiring	-----	ODG061412
D5022	Master Lighting Fixture Schedule	-----	ODG021915
D5030	Telecommunications	-----	ODG021915
D5037	Fire Alarm and Smoke Detector Systems	-----	ODG012015
D5038	Security Systems	-----	ODG012015
D5090	Other Electrical Systems	-----	ODG072315

Element E – Equipment and Furnishings

E10 Equipment

E1020	Institutional Equipment	-----	ODG120811
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E20 Furnishings

E2010	Fixed Furnishings	-----	ODG022613
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Element F – Special Construction

F10 Construction

F1032	Radiation Protection	-----	ODG041712
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Element G – Building Sitework

G20 Site Improvements

G2050 Landscaping and Irrigation	-----	ODG070810
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G30 Site Civil / Mechanical Utilities

G3010 Water Supply	-----	ODG010107
G3020 Sanitary Sewer	-----	ODG070810
G3030 Storm Sewer	-----	ODG070810
G3060 Natural Gas Service	-----	ODG010107

Elements H through Y – Not Used

Element Z – General Design Requirements

Z10 Additional Owner Furnished Standards and Documents	-----	ODG042914
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Z20 Owner Standards and Other Requirements

Z2005 Codes and Applicable Regulatory Agencies	-----	ODG121515
Z2010 Design Submittal Requirements	-----	ODG032113
Z201001 Design Phase Deliverables	-----	ODG052412
Z201002 Design Intent Document	-----	ODG030210
Z201003 Energy and Sustainability	-----	ODG092915
Z2011 Equipment Naming Convention and Acronyms	-----	ODG080113
Z2015 Structural Criteria	-----	ODG103008
Z2020 Furniture and Accessories Planning	-----	ODG111512
Z2025 Interior Finishes Criteria	-----	ODG041113
Z2030 Definitions of Building Areas	-----	ODG030210
Z2035 Project Commissioning	-----	ODG121713
Z2050 Additional Life Safety and Asset Protection Requirements	-----	ODG010107

Z40 Room Standards

Z4010 Fire Command Rooms	-----	ODG072414
Z4020 Classrooms and Conference Rooms	-----	ODG031711
Z4030 Toilet Rooms	-----	ODG121515
Z4035 Housekeeping Rooms	-----	ODG062111
Z4040 Battery Charging Rooms	-----	ODG061412
Z4050 Liquid Nitrogen Freezer Rooms	-----	ODG103012
Z4055 Liquid Nitrogen Tank Storage Rooms	-----	ODG062812
Z4060 Controlled Environmental Rooms	-----	ODG091511
Z4070 Cerrobend Mold Fabrication Rooms	-----	ODG110614
Z4075 Pharmaceutical Compounding Rooms	-----	ODG102115

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EXHIBIT Q
EXECUTION OF OFFER

EXHIBIT R

ARCHITECT/ENGINEER FEE SCHEDULE

**THE UNIVERSITY OF TEXAS SYSTEM
OFFICE OF FACILITIES PLANNING AND CONSTRUCTION**

ARCHITECT/ENGINEER FEE SCHEDULE

DECEMBER 1987

<u>Construction Cost of Project</u>	<u>Dormitories Garages Warehouses</u>	<u>Classrooms Offices Other Buildings</u>	<u>Health Research Special Education</u>
Over \$15,000,000	5.0%	5.5%	6.0%
Over 10,000,000	5.5%	6.0%	6.5%
Over 1,000,000	6.0%	6.5%	7.0%
Up to 200,000	7.0%	7.5%	8.0%

Remodeling and Renovation

Over \$5,000,000	7.0%	7.5%	8.0%
Over 1,000,000	8.0%	8.5%	9.0%
Up to 200,000	9.0%	9.5%	10.0%

NOTE: WHEN CONSTRUCTION COST FALLS BETWEEN THE TABULAR LIMITS,
THE RATE WILL BE DETERMINED BY DIRECT INTERPOLATION.

EXHIBIT S

SALES TAX EXEMPTION FORM

Texas Sales and Use Tax Exemption Certification

This certificate does not require a number to be valid.

Name of purchaser, firm or agency The University of Texas MD Anderson Cancer Center	
Address (Street & number, P.O. Box or Route number) 1515 Holcombe Boulevard, Unit 1695	Phone (Area code and number) (713) 792-6161
City, State, ZIP code Houston, Texas 77030-7009	

I, the purchaser named above, claim an exemption from payment of sales and use taxes (for the purchase of taxable items described below or on the attached order or invoice) from:

Seller: _____

Street address: _____ City, State, ZIP code: _____


Description of items to be purchased or on the attached order or invoice:

Purchaser claims this exemption for the following reason:

EXEMPT UNDER SUBCHAPTER H. SEC. 151.309 GOVERNMENTAL ENTITIES. PURCHASER IS AN AGENCY OF THE STATE OF TEXAS. FEDERAL I.D. 74-6001118; TEXAS TAXPAYER I.D. 35065065068.

I understand that I will be liable for payment of all state and local sales or use taxes which may become due for failure to comply with the provisions of the Tax Code and/or all applicable law.

I understand that it is a criminal offense to give an exemption certificate to the seller for taxable items that I know, at the time of purchase, will be used in a manner other than that expressed in this certificate, and depending on the amount of tax evaded, the offense may range from a Class C misdemeanor to a felony of the second degree.

sign here ▶	Purchaser 	Title Vice President & Chief Financial Officer	Date 1/26/2015
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NOTE: This certificate cannot be issued for the purchase, lease, or rental of a motor vehicle.

THIS CERTIFICATE DOES NOT REQUIRE A NUMBER TO BE VALID.

Sales and Use Tax "Exemption Numbers" or "Tax Exempt" Numbers do not exist.

**This certificate should be furnished to the supplier.
Do not send the completed certificate to the Comptroller of Public Accounts.**