

The University of Tennessee

REQUEST FOR PROPOSALS:

Public-Private Partnership

for the

UTHS Energy and Utility Services P3

540/013-02-2026

The University of Tennessee Health Science Center

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RFP COORDINATOR:

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1. INTRODUCTION

1.1. Statement of Procurement Purpose

The University of Tennessee System (“the University System”) is seeking proposals from qualified firms and teams (“Proposers”) to develop, operate, finance, and maintain campus energy infrastructure (the “Project”). This Project is envisioned to support and enhance the energy infrastructure system at the University of Tennessee Health Science Center (“UTHS” or the “University”) to address utility system deferred maintenance, transfer operating risk, and improve reliability. This will primarily include upgrading or expanding UTHS’s central plant and one or more smaller regional plants and mechanical room equipment and building control systems in key facilities.

UTHS is interested in a Public-Private Partnership (P3) delivery method for the Project primarily to diversify UTHS’s financing sources and gain expertise and innovation. UTHS is not interested in pure monetization of energy assets and instead is seeking a creative collaboration with a partner to optimize long-term value. This RFP will further detail proposal requirements and outline the University’s process for evaluating proposals and selecting a team to enter a partnership with UTHS.

This solicitation process will include three steps.

- i. In Step 1, Proposers will submit proposals with their delivery and operations experience, financial capability, and project approach. Following evaluation of Step 1 proposals, the University will down select up to **5 teams** to participate in Step 2.
- ii. In Step 2, Proposers will be asked to provide a more detailed project concept, budget, and operating plan. Following evaluation of Step 2 proposals, the University may further down select with negotiations of not more **than 2 teams**.
- iii. In Step 3 the University desires a more collaborative period of negotiations in which the University will work with Proposers to help optimize their submissions in two or more work sessions. These work sessions will lead to the submission of a Best-and-Final Offer (“BAFO”).
- iv. For the final step, the University will issue an Intent to Award to the best-evaluated Proposer, which will proceed into advanced negotiations with the University System and UTHS.

As an agency of the State of Tennessee, there are certain terms and conditions The University of Tennessee cannot legally accept. PROPOSALS REQUIRING TERMS AND CONDITIONS CONTRARY TO THOSE REFERENCED BY THE UNIVERSITY IN THIS RFP MAY BE REJECTED.

1.2. University of Tennessee System

The University of Tennessee System is comprised of campuses at Knoxville, Chattanooga, Pulaski, Martin, and the Health Science Center at Memphis. Overseen by a 12-member Board of Trustees, the University System’s Strategic Plan looks to build on current successes and ensure continuous improvement in service to the citizens of Tennessee. More about the University System and its strategic plan can be found at this link: <https://plan.tennessee.edu/>

The University System’s Department of Capital Projects supports each campus with the administration of their capital improvement programs and coordinates campus real estate transactions through its Office of Real Property and Space Administration.

1.3. University of Tennessee Health Science Center

UT Health Science Center (UTHS) is the state of Tennessee's only statewide, public, academic health science system. UTHS is a premier clinical research and medical education institution, training the largest number of residents in Tennessee and generating over \$300 million in research and education grants and contracts each fiscal year.

UTHS prides itself on its engaging curriculum, training the next generation of health care providers, with a mission to transform lives through collaborative and inclusive education, research/scholarship, clinical care, and public service. UTHS offers four undergraduate and more than 30 graduate or professional degrees, and has more than 50 endowed professorships, including 19 Chairs of Excellence.

1.4. UTHS Strategic Plan

The 2023-2028 5-year strategic plan was developed to outline the mission, vision, and values that guide the important work of the faculty, staff, students, and alumni.

"Healthy Tennesseans. Thriving Communities" serves as the guiding vision for UTHS as the institution embraces diversity, innovation, unity, transparency, and care. The strategic plan outlines the road map to success over a five-year period, reflecting the institution's distinctive mission, environment, and stakeholder needs. This bold plan aims to unify the University community, faculty, and alumni.

The strategic pillars that were established / confirmed as part of the planning initiative are provided below.

- i. **ENGAGING COMMUNITIES:** We will expand mutually beneficial partnerships to promote thriving communities and address health and health-related needs across Tennessee.
- ii. **EDUCATIONAL EXCELLENCE:** We will provide quality educational experiences that are engaging, innovative, and interprofessional to highly qualified student cohorts which broadly represent Tennessee.
- iii. **EXPANDING RESEARCH:** We will enhance collaborative statewide efforts in research, scholarship, innovation, and entrepreneurship, focusing on identified priority areas.
- iv. **ADVANCING HEALTH:** We will advance the health of Tennesseans by pursuing strategic health care alliances to provide quality care, especially in medically underserved communities.
- v. **DEVELOPING TALENT:** We will support the well-being and success of all faculty, staff, and students by providing resources and fostering an environment that promotes our values.

The full strategic plan is available through the following link: [UTHS Strategic Plan 2023-2028](#)

1.5. Campus Master Plan

UTHS is currently updating the campus master plan. While an approved master plan will not be completed within the timeframe of this solicitation, UTHS anticipates that it will share draft plan elements with down-selected teams as appropriate. Selected sections of the 2020 Campus Master Plan are provided for context, but some descriptions may be outdated (Exhibit 4).

1.6. Development Advisor

The University System and UTHS have engaged Brailsford & Dunlavey, Inc. (B&D) to serve as the Development Advisor for this initiative. B&D is a national advisory and program management firm dedicated to serving educational institutions, public agencies, professional sports organizations, and non-profit clients.

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2.0 RFP COMMUNICATIONS

2.1 Overview

- i. The SBC Number for the Project shown on the Cover must be referenced in all communications regarding the RFP.
- ii. Potential Proposers must direct all communications relating to this RFP to the the RFP Coordinator listed on the RFP Cover during the proposal process:
- iii. Potential Proposers with a handicap or disability may receive accommodation relating to the communication of this RFP and participation in the RFP process. Accommodations will be made by the RFP Coordinator to those who request such reasonable accommodation no later than the Disability Accommodation Request Deadline detailed in the RFP Section 6, Schedule of Events.
- vi. The coordinator will also coordinate compliance with the nondiscrimination requirements of the State of Tennessee, Title VI of the Civil Rights Act of 1964, the Americans with Disabilities Act of 1990, and associated federal regulations.
- vii. Only the University's official, written responses and communications will be binding with regard to this RFP. All oral communications of any type will be unofficial and non-binding.
- viii. Proposers must ensure that the University receives all written comments, including questions and requests for clarification, no later than the Written Questions and Comments Deadline detailed in the RFP Section 6, Schedule of Events.
- ix. Proposers must assume the risk of the method of dispatching any communication or proposal to the University. The University assumes no responsibility for delays or delivery failures resulting from the method of dispatch. Actual or digital "postmarking" of a communication or proposal to the University by a specified deadline date will not substitute for the University's actual receipt of a communication or proposal.
- x. The University will convey all official responses and communications related to this RFP to the potential Proposers from whom the University has received a Notice of Intent to Propose (RFP Section 2.3).
- xi. The University reserves the right to determine, at its sole discretion, the method of conveying official, written responses and communications related to this RFP. Such written communications may be transmitted by electronic mail, Internet posting, or any other electronic means deemed reasonable by the University.
- xii. The University reserves the right to determine, at its sole discretion, the appropriate and adequate responses to written comments, questions, and requests related to this RFP. The University's official, written responses will

constitute an addendum to this RFP.

- xiii. Any data or factual information provided by the University (in this RFP, an RFP addendum or any other communication relating to this RFP) is for informational purposes only. The University will make reasonable efforts to ensure the accuracy of such data or information; however, it is within the discretion of Proposers to independently verify any information before relying thereon.

2.2 Proposer Required Waiver of Objections

- i. Each Proposer must carefully review this RFP, including any amendments, for questions, comments, defects, objections, or any other matter requiring clarification or correction (collectively, "Questions and Comments").
- ii. Any Proposer having Questions and Comments concerning this RFP must provide such in writing to the University no later than the Written Questions and Comments Deadline detailed in the RFP Section 6, Schedule of Events.
- iii. Protests based on any objection shall be considered waived and invalid if the objection has not been brought to the attention of the University, in writing, by the Written Questions and Comments Deadline.

2.3 Notice of Intent to Propose

- i. Before the Notice of Intent to Propose Deadline detailed in the RFP Section 6, Schedule of Events, potential Proposers are required to submit to the RFP Coordinator a Notice of Intent to Propose (in the form of a simple e-mail or other written communication). Such notice should include the following information:
 - a. the business or individual's name (as appropriate)
 - b. a contact person's name and title
 - c. the contact person's mailing address, telephone number, and e-mail address.

A Notice of Intent to Propose creates no obligation to make a proposal relating to this RFP.

2.4 Pre-Proposal Conference

A Pre-Proposal Conference will be held at the time and date detailed in the RFP Section 6, Schedule of Events. Pre-Proposal Conference attendance is not mandatory, and potential Proposers may be limited to a maximum number of attendees per team depending upon overall attendance and space limitations.

The purpose of the conference is to review the terms of the RFP and Lease and tour the potential district site. The University will entertain questions; however, potential Proposers must understand that the University's response to any question at the Pre-Proposal Conference shall be tentative and non-binding. Potential Proposers should submit questions concerning the RFP in writing and must submit them prior to the Written Questions and Comments Deadline date detailed in the RFP Section

6, Schedule of Events.

The University will send the official response to questions to potential Proposers as indicated on the date detailed in the RFP Section 6, Schedule of Events.

2.5 RFP Addenda and Cancellation

- i. The University reserves the right to amend this RFP at any time prior to the award, provided that it is amended in writing. However, prior to any such amendment, the University will consider whether it would negatively impact the ability of potential Proposers to meet the proposal deadline and will revise the RFP Section 6, Schedule of Events if deemed appropriate.
- ii. If an RFP amendment is issued, the University will convey it to potential Proposers who submitted a Notice of Intent to Propose (RFP Section 2.3).
- iii. A Proposer must respond, as required, to the RFP, including all attachments and amendments.
- iv. The Owner reserves the right, at its sole discretion, to cancel and reissue this RFP or to cancel this RFP in its entirety.

2.6 Proposal Deadline

A Proposer must ensure that the University receives a proposal no later than the Proposal Deadline time and date detailed in the RFP Section 6, Schedule of Events. The proposal must respond, as required, to this RFP (including its attachments), as may be amended. The University will not accept late proposals, and a Proposer's failure to submit a proposal before the deadline will result in disqualification of the proposal. Proposals must be delivered electronically in accordance with Section 4.7. It is the Proposer's responsibility to ensure that its proposal is submitted in sufficient time to arrive at The Department of Capital Projects by the submission deadline. The Proposal Deadline is set forth in Section 6, Schedule of Events.

The Proposal Deadline time shall be established by the timepiece of the Owner.

2.7 Proposal Submittal

Proposals will be received via Microsoft Teams Upload. Proposals shall be submitted as a single digital file copy in .pdf format. Step 2 proposals may include excel files as appropriate. Potential Proposers that submit a Notice of Intent to Propose will receive instructions on uploading their submission to the assigned portal.

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3.0 PROPOSAL REQUIREMENTS

3.1 Proposal Contents

- i. A proposal must respond to the anticipated scope description and proposal requirements described in this written RFP and RFP attachments, exhibits, or addenda.
- ii. To be considered, Step 1 and 2 proposals must be received by the date specified in Section 6, RFP Schedule of Events. The University will not accept proposals received after the deadline. Proposals should be submitted to the RFP Coordinator via Microsoft Teams upload. Electronic submission instructions will be provided to Proposers who submit a Notice of Intent to Propose.
- iii. Each Proposer must submit a proposal in response to this RFP with the most favorable terms that the Proposer can offer.
- iv. No portion of a proposal may be delivered orally or by means of electronic transmission.
- v. A proposal in response to this RFP for **Step 1** shall consist of the following documents as described herein in regard to contents.
 - a. Proposal Cover Letter (Reference Exhibit 1)
 - b. Section A Mandatory Requirements (Reference Exhibit 1)
 - c. Certification Statement (Reference Exhibit 1)
 - d. Financial Interested Parties (Reference Exhibit 1)
 - e. Section B: Proposal Step 1 Evaluation Criteria (Reference Exhibit 1)
- vi. Each Proposer must submit a single digital file copy in a searchable PDF format. The digital file should not exceed 20 MB and should be named using the following format: "<<Proposer Name>> Step 1 P3 UTHS Energy Infrastructure <<SBC Number>>".

Proposers who intend to submit a proposal should contact the RFP Coordinator no later than the time specified in the Schedule of Events to receive instructions on uploading submission to assigned portal.
- vii. Proposers invited to respond to **Step 2** shall consist of the following documents as described herein in regard to contents.
 - a. Section C: Proposal Step 2 Evaluation Criteria (Reference Exhibit 1)
- viii. Invited proposers must submit Step 2 a single digital file copy in a searchable PDF format. The digital file should not exceed 20 MB and should be named using the following format: "<<Proposer Name>> Step 2 P3 UTHS Energy Infrastructure <<SBC Number>>". RFP Coordinator will provide upload instructions to those invited proposers.
- ix. Proposers invited to respond to **Step 3** will involve more engagement with the Evaluation Team and other State, University System and UTHS representatives in order to refine and optimize the down selected Proposers' proposals and discuss preliminary Project Agreement terms. This will occur through a structured communications and two or more BAFO workshops.

Documentation is based upon outline of Section D: BAFO Evaluation Criteria (Reference Exhibit 1). Workshop 1 (Step 3a) will be initial Section D proposal with Workshop 2 (Step 3b) being Best and Final Offer.

In this stage, Proposers will enhance, provide more detail, or otherwise adjust their proposal based on feedback from the University.

During the BAFO period, the University reserves the right to request additional information from Proposers.

- x. Invited proposers must submit Step 3a and subsequently 3b separately in a single digital file copy in a searchable PDF format. The digital file should not exceed 20 MB and should be named using the following format: "<<Proposer Name>> Step 3(a or b) P3 UTHS Energy Infrastructure <<SBC Number>>". Submission should be uploaded to each Proposers designated Teams link.
- xi. The Proposers' BAFO must be received by the date specified in Section 6, RFP Schedule of Events.

3.2 Clarifications

The University reserves the right, at its sole discretion, to request clarifying information and/or to conduct clarification discussions with any or all Proposers. Any such clarification or discussion will be limited to specific sections of the proposal identified by the University and shall be in accordance with all policies of the University and/or State of Tennessee.

3.3 Proposal Requirements

- i. The Cover Letter, which will be considered an integral part of the proposal, must be signed by an individual who is authorized to bind the Proposer contractually and must certify that all statements in the proposal are true and correct. The letter must indicate the title or position that the individual holds in the firm.
- ii. The Cover Letter and Mandatory Requirements must also be completed. Proposal responses to this RFP should be clear, concise, and organized; meet the Mandatory Requirements; and be organized in the areas described in Sections A, B, C, and D.
- iii. Each Proposer must use RFP Exhibit 1 to guide organization of their Proposal. Each Proposer shall duplicate Exhibit 1 for use as the Table of Contents for the Proposal by adding proposal page numbers and the Proposer's name as indicated. The Proposer must address all items for all sections and provide, in sequence, the required information and documentation with the associated item references.
- iv. The Proposal must be economically prepared, with emphasis on completeness and clarity of content, legibly written, brief, and to the point in a direct response to the information requested for each item. All material must be on standard 8 1/2" x 11" paper with exceptions permitted for foldouts containing non-text

information such as charts and spreadsheets.

- v. All pages must be numbered excluding covers.
- vi. The Technical Proposal shall not exceed 60 pages excluding covers. Pages or sheets with print on both sides will be counted as two pages. Hyperlinks and QR Codes should not be included in any proposal. All pertinent information should be clearly and concisely documented within the 60 pages allowed.
- vii. All information included in a Proposal shall be relevant to a specific requirement detailed in RFP Exhibit 1. All information must be incorporated into a response to a specific requirement and clearly referenced. Information not meeting these criteria will be deemed extraneous and will in no way contribute to the evaluation process.

3.4 Proposal Prohibitions and Right of Rejection

- i. Subject to applicable laws and regulations, the University reserves the right to reject, at its sole discretion, any and all proposals.
- ii. A Proposal must not result from any collusion between Proposers. The University will reject any Proposal that was not prepared independently without collusion, consultation, communication, or agreement with any other proposing team. Regardless of the time of detection, the University will consider any such actions to be grounds for proposal rejection or Lease Agreement termination.
- iii. A Proposer shall not provide, for consideration in this RFP process or subsequent lease negotiations, incorrect information that the Proposer knew or should have known was materially incorrect. If the University determines that a Proposer has provided such incorrect information, the University may deem the Proposer's proposal non-responsive and reject it or terminate the Lease Agreement.
- iv. Each proposal must comply with all of the terms and requirements of this RFP and all applicable State laws and regulations. The Owner reserves the right, at its sole discretion, to consider non-responsive and reject a proposal that does not comply with all of the terms, conditions, and performance requirements of this RFP.
- v. The Owner will not contract with or consider a proposal from:
 - a. an individual who is, or within the past six months has been, an employee or official of the State of Tennessee;
 - b. a company, corporation, or other contracting entity in which an ownership of two percent or more is held by an individual who is, or within the past six months has been, an employee or official of the State of Tennessee (this shall not apply either to financial interests that have been placed into a "blind trust" arrangement pursuant to which the employee does not have knowledge of the retention or disposition of such interests or to the ownership of publicly traded stocks or bonds where such ownership constitutes less than two percent of the total outstanding amount of the stocks or bonds of the issuing entity);

- c. a company, corporation, or other contracting entity which employs an individual who is, or within the past six months has been, an employee or official of the State of Tennessee in a position that would allow the direct or indirect use or disclosure of information, which was obtained through or in connection with his or her employment and not made available to the general public, for the purpose of furthering the private interest or personal profit of a person; or,
- d. an individual, company, or other entity involved in assisting the Owner in the development, formulation, or drafting of this RFP or its scope of services shall be considered to have been given information that would afford an unfair advantage over other Proposers, and such individual, company, or other entity may not submit a proposal in response to this RFP.
- e. for the purposes of applying the requirements herein, an individual shall be deemed an employee or official of the State of Tennessee until such time as all compensation for salary, termination pay, and annual leave has been paid.

3.5 Proposal Errors & Revisions

Proposer is liable for any and all proposal errors or omissions. A Proposer will not be allowed to alter or revise proposal documents after the Proposal Deadline time and date detailed in the RFP Section 6, Schedule of Events unless such is formally requested, in writing, by the University.

3.6 Proposal Withdrawal

A Proposer may withdraw a submitted proposal at any time before the Proposal Deadline time and date detailed in the RFP Section 6, Schedule of Events by submitting a written request signed by an authorized Proposer representative. After withdrawing a proposal, a Proposer may submit another proposal at any time before the Proposal Deadline.

3.7 Proposal Preparation

This RFP does not commit the University to award a lease or to pay any costs associated with the preparation, submittal, or presentation of any proposal incurred by any Proposer or Proposers.

3.8 Disclosure of Proposal Contents

- i. Each proposal and all materials submitted to the Owner in response to this RFP shall become the property of the Owner. Selection or rejection of a proposal does not affect this right. All proposal information shall be held in confidence during the evaluation process. Notwithstanding, a list of actual Proposers submitting timely proposals may be available to the public, upon request, immediately after Technical Proposals are opened by the Owner.
- ii. By submitting a proposal, the Proposer acknowledges and accepts that the full proposal contents and associated documents shall become open to public inspection in accordance with Tennessee Code Annotated (TCA), § 10-7-

504(a)(7).

3.9 Severability

If a provision of this RFP is declared by a court to be illegal or in conflict with a law, said decision shall not affect the validity of the remaining RFP terms and provisions, and the rights and obligations of the Owner and Proposers shall be construed and enforced as if the RFP did not contain the particular provision held to be invalid.

3.10 Proposal Key Terms and Conditions

i. Form of Payment

- a. The Project will be expected to optimize the total cost of providing utility services on campus. The University anticipates that it will pay for utility services through an availability payment-like structure that breaks down operating costs and capital repayment costs.
- b. The successful Proposer, if any, will enter into a contract with the University that provides for the performance of all terms and conditions set forth in this RFP and a lease.

ii. Qualification of Proposer

As evidence of its financial ability, each Proposer (no brokers or realtors) shall submit with its proposal, a copy of each of the Proposer's last three (3) fiscal years' annual financial statements reviewed or audited by a chartered accountant or certified public accountant. The proposal must include the financial statements of relevant parties involved in this endeavor, but which would not include design, engineering, or consulting firms that will not ultimately enter into an agreement with the University System. Failure to conform to this section may be grounds for rejection of the proposal. The information provided shall be a public record under T.C.A. § 10-7-501 et seq.

iii. Experience

Respondents to this RFP must demonstrate experience in designing, constructing, operating, and managing energy utility and infrastructure systems. Experience working with Higher Education, healthcare, or similar institutions is desirable.

iv. Submittal of Proposal

Proposals must be made in the official name (and official business address) of the firm or individual (no lease brokers) under which the Project will occur and must be signed by a person or persons authorized to legally bind the person, partnership, company, or corporation submitting the proposal. Multiple teaming and/or Proposer partnership structures may be acceptable to the University, but the Proposal should include a single point of contact for the partnership entity.

v. Statement of Financial Interests

It is a requirement of Tennessee Code Annotated Section 12-2-114 that a statement listing the names of any and all persons financially interested in the project opportunity be contained in the proposal response. This requirement includes the interests of the owner/agent, any lienholders, or any known

future purchasers or lienholders. This information is to be provided in the form of Exhibit 1.

vi. University Branding

The University shall have the right to approve materials used by Proposer in the promoting or marketing of the Project that contain a reference to the University of Tennessee System or UTHS, which approval shall not be unreasonably withheld. Use of University intellectual property is subject to University rules and procedures. Proposer and the University agree to negotiate and resolve in good faith any disputes relating to all such marketing materials.

vii. Relationship of this RFP and Response to RFP to subsequent Agreements

The terms and conditions described in this RFP shall survive the execution of any project agreements between the parties, which may include a ground lease, a concession agreement or similar document, development or design-build agreement, and operating agreements (the "Project Agreements"). The RFP and the response to the RFP that is selected will be incorporated by reference into any Lease Agreement. Where there is a conflict between the terms of a Lease Agreement and/or RFP and the terms of the response to the RFP, the terms of the Lease Agreement shall govern.

viii. Confidentiality

The University will not sign non-disclosure or confidentiality agreements related to respondent's response to any bid. Tennessee law limits the University's ability to withhold records from public disclosure. Respondents should assume that all documentation, including pricing, submitted to the University will be subject to public disclosure. The University hereby notifies all respondents that placing confidentiality notices on documents submitted to the University does not make the documents confidential under Tennessee law. The University will not be bound by such notices. Moreover, the University will not agree to provide advanced notice of any public disclosure or agree to assist the respondent to limit disclosure.

ix. Indemnification

Respondent shall hold and save the University, its trustees, officers, agents, and employees harmless from any claims, damages and actions of any nature arising from respondent's bid or arising from the use of any materials, goods or services furnished by the respondent, provided that such liability is not attributable to negligence on the part of the user or failure of the user to use the item in the manner outlined by the respondent in descriptive literature or specification submitted with the respondent's bid. Respondent's indemnification obligation shall include, but not be limited to, any claim of patent, copyright, or other intellectual property infringement asserted against the University based upon respondent's bid or any materials, goods or services furnished by the respondent.

x. University's Liability

The University's liability shall be governed by the Tennessee Claims Commission Act. The University will not enter into any agreement, which

contains a clause requiring the University to indemnify, hold harmless, or defend any party. Also, the University will not enter into any agreement which contains a clause limiting its remedies against any party.

xi. Irrevocable Waiver

By responding to the solicitation, respondents hereby irrevocably waive any claims against the University's trustees, officers, employees, and former employees. Respondent also agrees not to sue University employees in their individual capacity. This waiver applies to respondents and their successors, heirs, and assigns. The University and the respondent state that this clause is material to this bid.

xii. Insurance Requirements

- Workers' Compensation (WC): Statutory Limits
 - o Employers' Liability Each Accident \$100,000
 - o Employers' Liability Disease – each employee \$100,000
 - o Employers' Liability Disease – policy limit \$500,000
- Commercial General Liability (CGL):
 - o Each Occurrence Limit \$ 1,000,000
 - o Damage to Rented Premises – Ea. Occ. \$300,000
 - o Medical Expense – any one person \$10,000
 - o Personal & Advertising Injury Limit \$1,000,000
 - o General Aggregate Limit \$2,000,000
 - o Products/Completed Ops. Aggregate Limit \$2,000,000
- Automobile Liability:
 - o Combined Single Limit \$1,000,000

xiii. Nondiscrimination

No person shall be excluded from participation in, be denied benefits of, or be otherwise subjected to discrimination in the performance of a lease pursuant to this RFP or in the employment practices of the University under such lease, on the grounds of handicap or disability, age, race, color, religion, sex, national origin, or any other classification protected by federal, Tennessee state constitutional, or statutory law. The successful Proposer pursuant to this RFP shall, upon request, show proof of such nondiscrimination and shall post in conspicuous places, available to all employees and applicants, notices of nondiscrimination.

xiv. Multifactor Evaluation Process

Proposers should understand and accept that by responding to this RFP, they are willingly participating in a multifactor evaluation process, and that the proposal determined to best meet the needs of the State may not necessarily be determined on financial criteria alone.

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4.0 EVALUATION GUIDE

4.1 Overall Evaluation Goal

This RFP includes a three-phase, down-selection process. In the first phase, the University will receive and evaluate submitted proposals, with the goal of down-selecting to a smaller group for the second phase. In the second phase, shortlisted proposers will be asked to submit more detailed responses with the goal of identifying Proposers for Best and Final Offer (“BAFO”) negotiations. In the third phase, down-selected Proposers will refine their proposals leading to a Best and Final Offer.

The proposal evaluation process is designed to award the Project to the Responsive and Responsible Proposer offering the best combination of attributes based upon the evaluation criteria. The term “Responsive” means a person or entity which has submitted a proposal that conforms in all material respects to the RFP. The term “Responsible” means a person or entity that has the capacity in all material respects to perform fully the Lease Agreement requirements and the integrity/reliability to ensure good faith performance.

4.2 Evaluation Team

An Evaluation Team who will be made up of five (5) or more State employees and will evaluate each proposal that meets the Mandatory Requirements (See RFP Exhibit 1). The Evaluation Team may utilize technical advisers to assist in review. All team members will independently evaluate each proposal and rank them in order from best evaluated to lowest evaluated. In performing such independent evaluation, Proposal Evaluation Team members will consider the following criteria, among others:

- The design, development, financing, and operations capability and experience of the proposing team;
- A project concept and preliminary design that meet the goals outlined in this RFP;
- The proposed business terms, including holistic value to the University;
- The Proposer’s ability to fund the Project; and
- Quality of anticipated relationship between the Proposer and the University over the term of the agreements.

4.3 Evaluation Process

i. Section A: Mandatory Requirements

a. After the Proposal Deadline provided in RFP Section 6.0, Schedule of Events, the University will review Mandatory Requirements for a “Pass” or “Fail” evaluation based on compliance with each of the Mandatory Requirements of Section A – Mandatory Requirements, and the following Proposal format content and requirements.

- Received on or before the Proposal Deadline.
- Formatted as required and does not exceed size or page number limits.
- Proposer did not submit multiple proposals in a different form.

- Does not contain restrictions of the rights of the University or other qualifications of the proposal.
- b. The RFP Coordinator will review each proposal to determine compliance with RFP Exhibit 1, Mandatory Requirements. If the RFP Coordinator determines that a proposal may have failed to meet one or more of the mandatory requirements, the RFP Coordinator shall seek the advice of an attorney on the staff of the University of Tennessee who will review the proposal and document his/her determination of whether:
 - the proposal adequately meets requirements for further evaluation;
 - the University will request clarifications or corrections for consideration prior to further evaluation; or,
 - the University will determine the proposal non-responsive to the RFP and reject it.
- ii. Step 1 – Section B: Qualifications, Experience, and Initial Approach

The Proposal Evaluation Team will meet to discuss the results of their independent evaluations. The Team will discuss their evaluations on the merits of each proposal based on the criteria listed in Exhibit 1 – Section A and B. They will evaluate each Proposer for both compliance and value. The total maximum points that may be awarded for Step 1 proposals will be 1,000 points.

The proposals receiving the highest scores will be considered collectively to identify those that best serve the University's interests. These proposals will then be ranked to support evaluation and determine which submissions will be down selected to advance to Step 2.

The University does not anticipate that interviews will be required for Step 1 but reserves the right to request that proposing teams participate in an interview.

Upon completion of its evaluation at each stage, the University will issue an Evaluation Notice to all Proposers identifying the Proposers selected to proceed to the next stages of the evaluation process (i.e., Step 2 and Best and Final Offer).

Down-selected proposers should anticipate participating in an interview during Step 2. Instructions for Step 2 interviews will be provided to down-selected Proposers.

iii. Step 2 – Section C: Detailed Project Concept, Budget, and Operating Plan

Down selected Proposers from Step 1 who have been invited to participate in Step 2 must provide a Step 2 proposal by the date specified in Section 6 and outlined per Exhibit 1 Step 2 Section C. Instructions and time of Interviews will be provided by the deadline as shown in Section 6.

During this step the University is interested in the Proposer's approach to

delivering the Project and operating UTHS's campus utility systems. Advancing the Project Approach Narrative from Step 1, this section requests a combination of scope, schedule, construction, and operating cost estimates.

The University understands that Proposers do not yet have sufficient technical detail to provide a "hard bid." Selections and scoring will not be made on the "lowest number." Instead, the purpose of this section is to:

- Understand the Proposer's ability to thoughtfully estimate and communicate development concepts, costs, and major assumptions used.
- Highlight the Proposer's ability and process to derive estimates, communicate the implications, and guide the University through evaluating trade-offs of various concepts.

After review of Step 2 interviews and proposal review the evaluation team will independently evaluate for both compliance and value. The total maximum points that may be awarded for Step 2 proposals will be 1,000 points

Upon completion of this step the Proposal Evaluation Team will identify up to three of the best evaluated proposals for down-selection to participate in the BAFO stage.

iv. Step 3 – Best and Final Offer

This stage will involve more engagement with the Proposal Evaluation Team and other University and technical representatives in order to refine and optimize the Proposer's proposal and discuss preliminary lease terms. This will occur through structured communications and two or more BAFO workshops.

Proposers will be expected to enhance, provide more detail, or otherwise adjust proposals based on feedback from the University to the Proposer. The Proposers' BAFO Steps 3a and 3b must be received by the date specified in Section 6, RFP Schedule of Events.

BAFO submittals should be submitted to their designated Teams link. BAFOs will be evaluated based on holistic value to the University, taking into account the criteria stated above.

After final workshop, the Proposal Evaluation Team will then meet to discuss the results of their independent evaluations of each BAFO. The Proposal Evaluation Team will discuss their evaluations on the merits of each proposal based on the criteria listed in Exhibit 1, comparing the advantages and disadvantages of each BAFO and will determine collectively the BAFO deemed to be in the best interest of the University.

Upon determination of the best overall submission, the University will issue an Evaluation Notice to the Proposers who submitted a BAFO identifying the Finalist Proposer selected to proceed to the negotiations phase.

The University reserves the right to accept or reject any and all proposals or BAFOs, to waive any informalities in a submission, and, unless otherwise specified in writing by a Proposer, to accept any items in the proposal or

BAFO.

NOTICE: The Evaluation Notice shall not create rights, interests, or claims of entitlement in either the Proposer with an apparent best-evaluated proposal or any other Proposer.

4.4 Finalist Negotiation

Following evaluation of BAFO submissions, the finalist Proposer shall enter into negotiations with the University regarding the terms of the ground lease and related agreements between the parties. The University may work with the finalist Proposer to advance its BAFO, and the parties will act in good faith to reach a mutually acceptable agreement. If the University and the Proposer having the Best Evaluated BAFO cannot mutually agree to terms, then the University may negotiate with the Proposer having the second-best evaluated BAFO and so on.

4.5 Award Process

After completion of Finalist Negotiations, the RFP Coordinator will issue a Notice of Intent to Award to all Proposers naming the recommended Proposer and forward all required documentation to the proper officials of the University and/or State for approval. **The Notice of Intent to Award shall not create rights, interests, or claims of entitlement in either the Proposer with the recommended proposal or any other Proposer.** After the determination of the University that the approved submission by the recommended Proposer is in the best interest of the University, the President of the University shall request approval of the documents by the State Building Commission.

4.6 RFP Files Open

The University will make the RFP files available for public inspection on the date specified in the RFP Section 6, Schedule of Events. The files will remain open for public review from that date.

4.7 Protest Process

Any protests or appeals of protests pursuant to this RFP or the Notice of Intent to Award shall be handled in accordance with the University's Policy for Solicitation Respondents' Protests F10405. Protests should be delivered to the RFP Coordinator in the Department of Capital Project.

4.8 RFP Project Approval and Payments

This RFP and its Proposer selection processes do not obligate the University and do not create rights, interests, or claims of entitlement in either the Proposer with the apparent best-evaluated proposal or any other Proposer. University obligations pursuant to a project award and related agreements shall commence only after the Project Agreements are approved by University and State officials, including the State Building Commission and

Tennessee State School Bond Authority, as required by applicable laws and regulations, and signed by the University/State and the Proposer.

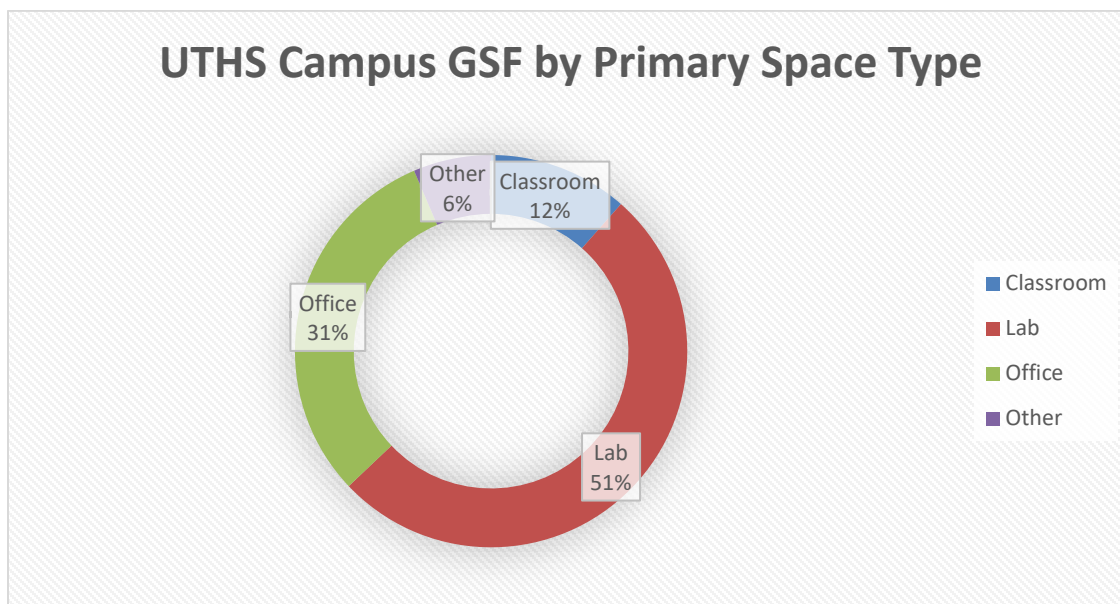
No payment will be obligated or made until the relevant lease is approved as required by applicable statutes and rules of the State and University of Tennessee.

END

5.0 PROJECT NARRATIVE AND DOCUMENTATION

5.1 Campus Energy Context & Anticipated Scope

UTHS operates two regional thermal district energy systems that capture the majority of campus heating and cooling needs. UTHS's campus has approximately 2.9 million gross square feet of conditioned space. A breakout by function is shown below:

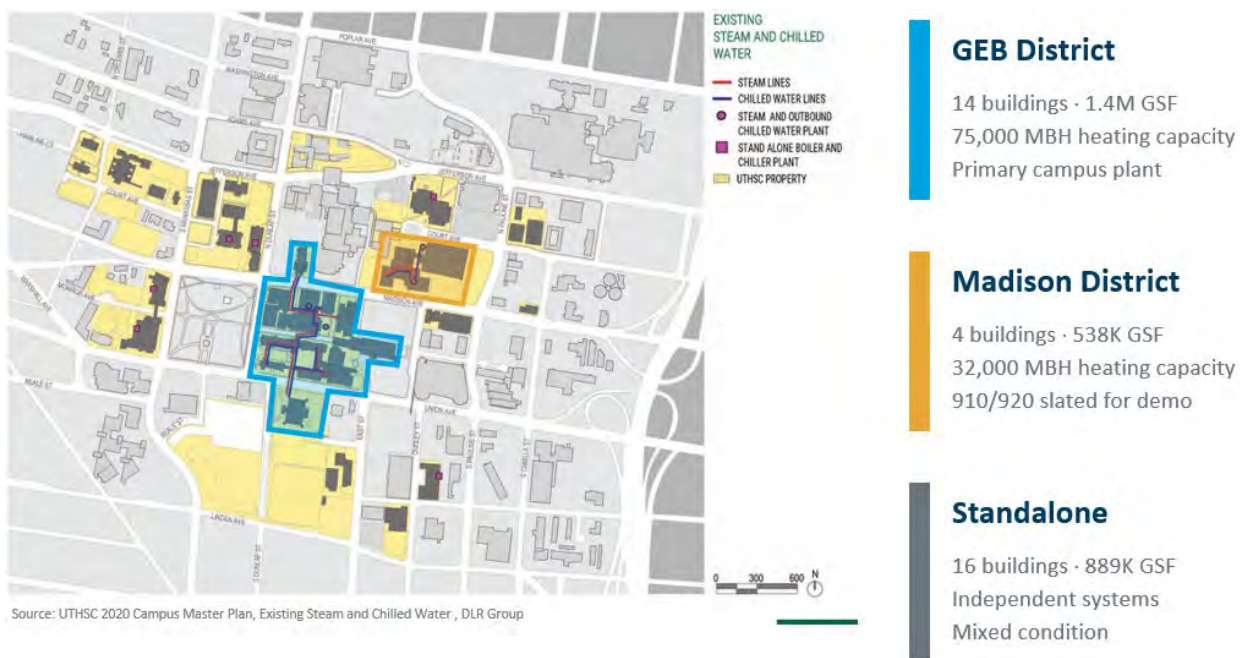


Roughly 1.4 million GSF is served through a central plant housed within the General Education Building (GEB). Another 538,000 GSF are served by a second regional plant, with remaining campus buildings served by local boilers and chillers. Campus heating and cooling systems require substantial reinvestment. While UTHS's heating and cooling equipment currently provide sufficient MMBTU capacity, multiple boilers and chillers are approaching the end of their useful life, with impacts to reliability.

UTHS anticipates that the Project may include ownership, operation, maintenance, or long-term asset management responsibility for new thermal infrastructure serving the 275,000-300,000 GSF College of Medicine Interdisciplinary Building (COMIB) that was recently approved in the state budget (see Exhibit 5). At the current stage of programming, the building will have an estimated cooling load of 1,000 tons (300 SF per ton) and an estimated heating load of 5,500 Mbh. The building is being designed with low-temperature hot water systems, and additional details will be provided later in this procurement process.

To be clear, UTHS anticipates that the project will include operation of all assets and equipment located in both central plants including all heating and cooling source equipment, pumps, cooling towers, filtration aeration water treatment, valves, piping; all steam and chilled water distribution systems including piping, valves, strainers, etc. from central plants to buildings served including building main pumps and heat exchangers; HVAC systems for buildings served by main central plants including controls, piping, ductwork, fan coils, valves, etc.; standalone building HVAC systems;

and electrical transformers/switch gear, lighting, and electrical cable feeders. Capital investment may include any of these systems. UTHS is willing to consider anything not included in this list if it results in a net benefit to the project.



UTHS does not produce its own electricity, instead, purchasing off the local grid as a customer of Memphis Light Gas and Water (MLGW). The Memphis grid faces significant reliability challenges.

In addition to issues with equipment, occupant behavior is driving negative outcomes for thermal utilities. UTHS currently does not implement thermostat control within some buildings, which has resulted in high energy consumption and inconsistencies in temperature regulation. Along with deploying modern building control systems, proposers should also consider how to integrate change management techniques to facilitate changes in occupant behavior.

Going forward, UTHS is focused on energy reliability and efficiency. The University desires a partner to propose a series of optimized capital interventions to enhance these outcomes with minimal required capital expenditure and rational operations. Thermal equipment and distribution will be the centerpiece of this plan. However, the effectiveness of buildings as energy consumers will ultimately impact the effectiveness of the partner as an energy supplier. It is important to note that UTHS's primary driver is improved quality and reliability, which will be connected to greater efficiency. However, reduction in annual commodities usage is not desired at the expense of improved reliability.

UTHS requests Proposers to thoughtfully consider how to efficiently accommodate and expand campus capacity in the future and "future proof" investments in thermal systems. Master planned projects that may be served in the future include a planned research building of approximately 100,000 GSF on Dunlap Street adjacent to the Van Vleet Cancer Research Center. Additionally, while most of the campus currently remains on

steam heat, strategically moving towards low-temperature heating hot water can enable future options for efficiency improvements. Therefore, UTHS requires a partner that can design, finance, deliver, and operate solutions for energy supply and distribution, as well as mechanical room equipment and building controls connecting facilities to the district systems. UTHS welcomes a partner who can recommend ways to optimize building performance beyond these boundaries but cannot guarantee that such improvements will be funded or implemented. Building equipment including hydronics, air distribution, controls, electrical transformers/switch gears, lighting, and electrical cable feeders may be considered for a future phase as part of this initiative. UTHS expects proposed solutions to be optimized for efficiency to the extent possible within this construct but is not seeking an ESCO structure in which efficiency savings are intended to fund capital improvements.

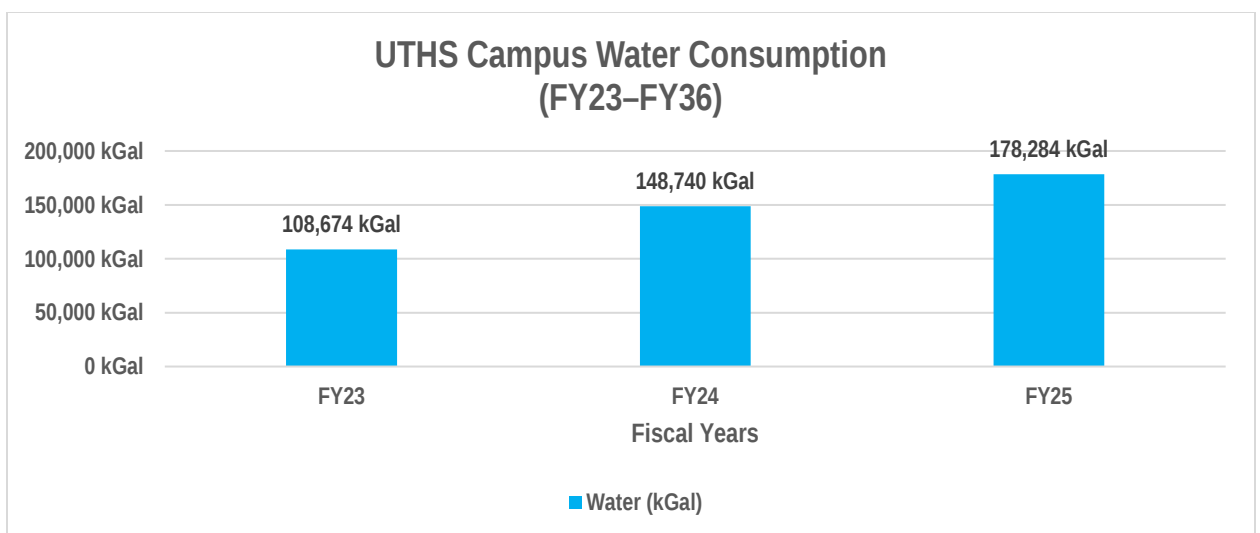
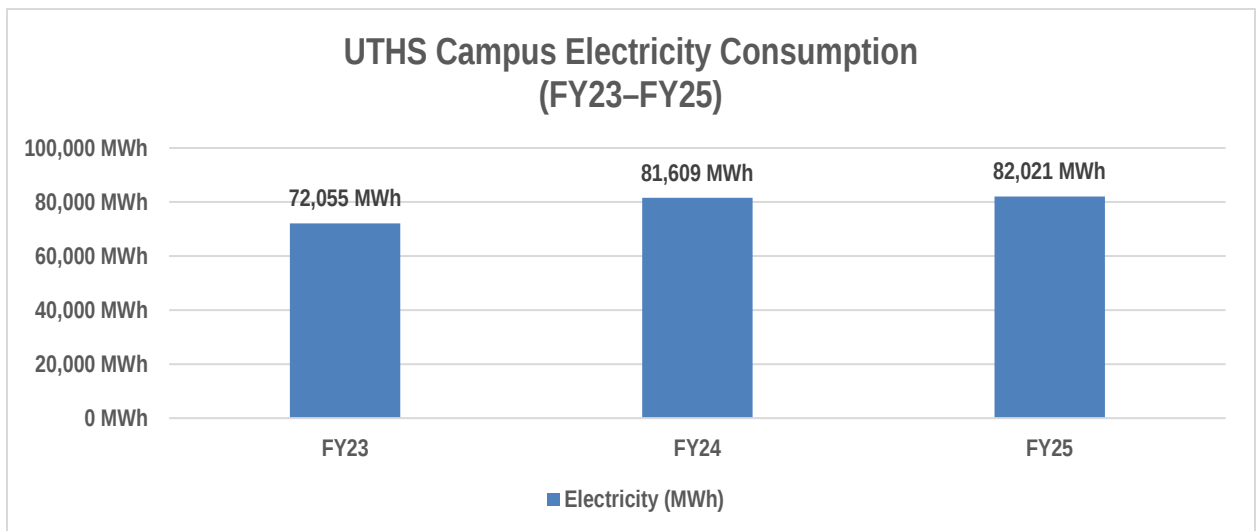
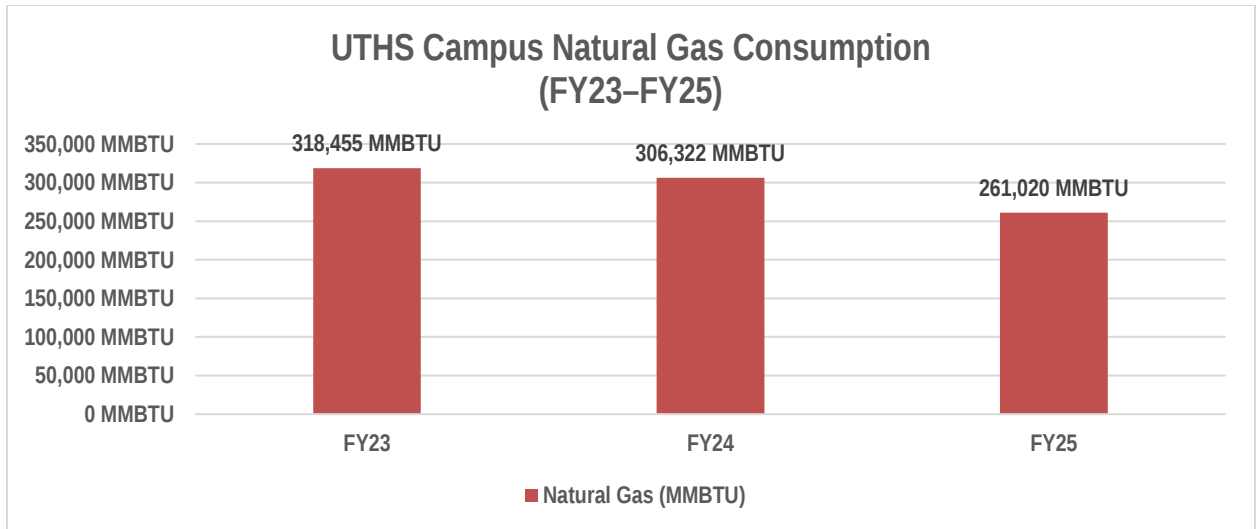
In summary, UTHS is looking for a partner to bring innovative thinking, management best practices, and skilled labor to campus that will improve thermal system operations in the near term and over time. UTHS desires for that partner to invest in:

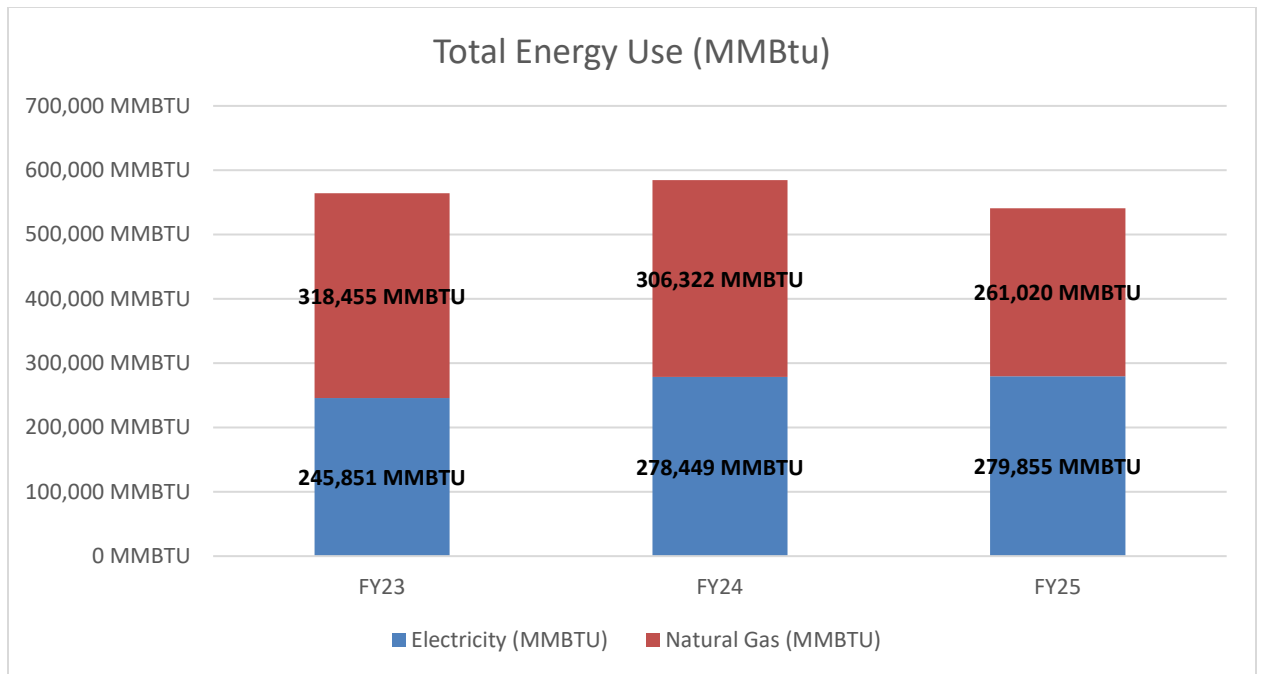
- Replacing end-of-life heating and cooling systems and creating appropriate redundancy so the campus avoids operational disruption and integrates modern technologies;
- Renewing distribution systems where necessary to improve overall efficiency and reliability;
- Implementing metering and controls so UTHS can move from reactive to proactive management, detect operational issues, and track building-level energy consumption/conservation over time; and
- Other innovative systems or technologies that can cost-effectively help UTHS achieve its goals of energy efficiency and reliability and future-proof campus thermal operations.

5.2 Existing Conditions & Usage

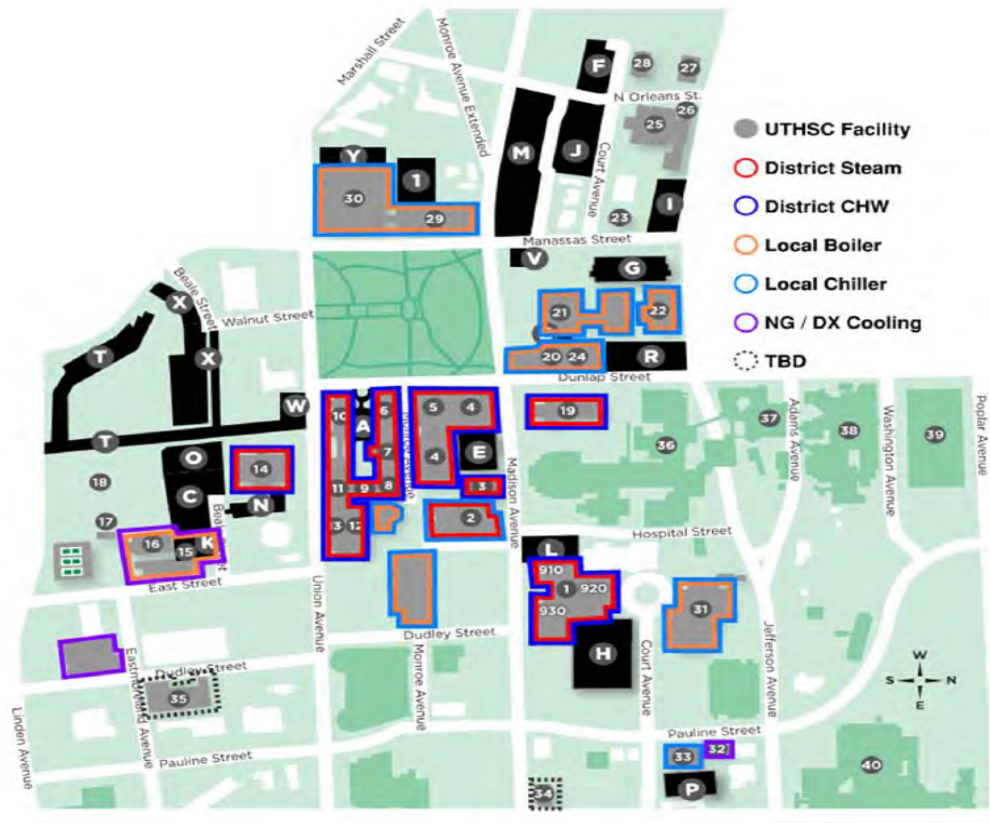
A detailed summary of square footage, utility equipment, and heating and cooling capacity across campus is provided in Exhibits 2, 3, and 4. Proposers should note that urgent conditions in the GEB central plant required UTHS to replace three boilers in 2026. These boilers, which have an anticipated construction completion of Quarter 1 of 2027, are being replaced in kind. The new boilers simply replaced existing capacity, resulting in no net increase or decrease in capacity within the central plant. Additional details are provided in Exhibit 2.

Campus-level utility usage data for the previous three years is provided below:





A map of campus heating and cooling is found below (and in Exhibit 2):



Please note that it is UTHS's intent to provide preliminary data that informs potential project team's proposals as part of this RFP process. However, UTHS anticipates that a selected Proposer will undertake its own investment-grade energy audit under a Pre-Development Agreement that will be shared with the University in order to finalize Project scope and terms.

5.3 Vision and Guiding Principals

The utilities Project must support the University's strategic goals described in Section 1.4 above: a thriving teaching, research, and clinical care campus must have a physical environment that attracts top talent. An efficient, reliable energy system that is well-managed and reinvested-in over time is essential to achieving these larger outcomes. The Project will modernize and optimize the campus heating and cooling infrastructure, incorporating best industry thinking and innovative technologies to drive efficient pricing and ongoing operational excellence. The University also anticipates that bundling smaller projects into a larger initiative will drive value. A partner will deliver turnkey solutions through a customized structure for the design, construction, financing, operations, and maintenance (DBFOM) of the Project. UTHS is not specifying how existing thermal loops may be expanded or modified in order to understand a potential P3 partner's method for evaluation of an optimized system.

Guiding priorities for this P3 and additional considerations are outlined below:

- **Address utility system deferred maintenance**
- **Provide quality and reliable energy utility systems to support high-caliber students and faculty (high reliability and availability)**
- **Bring new skills and technologies to campus**
- **Transfer operational risk to a third party with applicable expertise**
- **Preserve capital for other institutional priorities**

i. Long-Term Talent and Operational Excellence

New and existing utility infrastructure assets must be operated to a high standard of excellence, efficiency, and reliability throughout the term of the partnership.

ii. Energy Resilience and Redundancy

The University's utility system supports critical research and clinical facilities and other spaces requiring high reliability for power, heating, and cooling. Resilience and redundancy are key priorities for the University. New utility assets should seek to improve upon the resiliency of the campus' existing district energy systems. Current thermal equipment provides N+1 capacity for the square footage on campus, but a substantial portion of square footage is not part of a district system and capacity cannot be effectively redirected to address outages in other parts of campus. This also requires

the use of suboptimal equipment in some cases. UTHS desires a partner to optimize the current thermal loops or create new district systems in order to ensure high reliability across campus. UTHS is not seeking full redundancy but sufficient flexibility and connectivity to actively direct capacity where it is needed.

UTHS anticipates that it will remain a retail customer of MLGW, and production of electricity on campus will not be a component of the Project. However, UTHS is interested in understanding how technologies like battery storage might be cost-effectively incorporated to support operations in the event of a grid outage failure or to allow for peak-shaving at high-demand times.

iii. Strategic Funding Sources

UTHS is seeking to preserve its balance sheet for mission-centric investments in education, research, and healthcare. Utility infrastructure projects must optimize long-term value for the University with respect to total cost of ownership, operating performance, risk transfer, and financial flexibility.

As part of this objective, UTHS is interested in understanding whether proposed partnership structures could provide upfront capital consideration that may be used by the University to support other institutional priorities. Proposers should describe whether and how their proposed structure could support such upfront consideration, including the assumptions, tradeoffs, and implications for recurring payments, asset ownership, operating responsibilities, lifecycle reinvestment, and overall affordability. However, Proposers should note that UTHS is only interested in an upfront consideration if it can be included at a competitive cost of capital.

iv. Campus Planning & Schedule Alignment

UTHS seeks a project schedule that rapidly deploys quick wins and stabilizes its current deferred maintenance backlog. However, these initial deployments should not come at the expense of an optimized solution that addresses the larger campus.

The Project should account for the construction and operation of the COMIB. Funding for the COMIB was approved by the State of Tennessee Legislature in April 2026, which is intended to cover the cost of the COMIB's thermal utility systems. Once the project has obtained all required approvals, the University's aim is to break ground in Fall 2026 and achieve substantial completion in 2029. However, the timing of the COMIB project will change as design is advanced, additional funding is sought, and approvals are obtained. For the purposes of responding to this RFP, Proposers should assume a substantial completion date of June 30, 2029. Schedule updates will be provided to a selected Proposer during negotiations if such updates are known, and as appropriate.

Timing for other significant campus initiatives, such as the demolition of the 910/920 Madison buildings, may be adjusted by UTHS in order to optimize

the delivery of the Project.

v. Optimal Land Use

Utility infrastructure solutions must use the University's land resources strategically, including preserving maximum real estate for key mission-centric uses and efficiently leveraging existing plant and distribution footprints.

5.4 Financial Objectives

UTHS and the University System are seeking development and operating partner(s) that will bring creative and cost-effective financing options and structures. Specifically, the University will consider a range of possible financing structures, with the assumption that the Proposer will be compensated through an availability payment-like mechanism. The availability payment is a structure in which scheduled payments are made to a private concessionaire based on the provision of thermal capacity. These scheduled payments are often adjusted according to performance against KPIs. Scheduled payments are not inclusive of UTHS's commodity costs.

Proposers should anticipate that the University will engage the selected partner in a comprehensive evaluation of transaction structures, business terms, and capital sources. In this partnership, the University will maintain long-term ownership of the land. However, the University is open to structures in which it may or may not formally own the utility assets. The University will not approve any proposal that the University believes in its sole discretion will result in the Project financing being considered direct debt of the University by any national rating agency currently rating University or State debt. The University seeks a partner with demonstrated ability and experience in project financing. The University wishes to spread the cost of long-term assets over time and to maintain UTHS balance sheet flexibility for other mission-critical investments. The University also desires a structure with financial incentives that align with mutually agreed-upon outcomes around successful utility asset performance and longevity.

5.5 Operational Objectives

The University seeks a partner to assume comprehensive responsibility for the operation, maintenance, and asset management of campus heating and cooling utility systems. Recruitment and retention of talent and access to industry innovation are driving factors for this partnership. For the services provided under a finalized scope, the Proposer will be exclusively responsible for matters pertaining to human resources, including recruitment, screening, hiring, training, supervision, retention, and payment.

Note that the University acknowledges that not all campus thermal utility systems will be included/upgraded through the capital projects envisioned as part of the Project. Performance-based KPIs and utility system reinvestment requirements will be customized to appropriately align responsibility with control. For assets and equipment developed as part of the Project, the partner will oversee an optimized lifecycle maintenance and reinvestment program for the assets in order to meet performance standards over time.

For legacy assets that are existing (see Exhibit 2) and not replaced as part of the Project, the Proposer will develop and implement an operations and maintenance program to improve the thermal supply and distribution systems' performance over time. UTHS's goal is to have first-class thermal operations across campus.

UTHS seeks either a single controls vendor or a single user interface to multiple control systems. Whatever the structure, it will be subject to university approval in collaboration with a selected partner.

The partner will proactively collaborate with UTHS staff to coordinate smooth operations, provide excellent service to facilities' end users, and address issues as they arise. UTHS anticipates that this solicitation process will result in a partnership that includes customized and robust Key Performance Indicators (KPIs) and terms that provide accountability and incentivize high performance.

Additional details are outlined below:

i. Operating Costs

The Proposer will be responsible for the operating costs of all utility system management, operations, and maintenance services including, but not limited to, supplies, general administration, personnel, property insurance, service contracts, and facility maintenance and repair.

ii. Asset Management

In addition to Operating Expenses, the Proposer will be responsible for asset management during the term of the partnership on Proposer-developed assets. This encompasses all responsibilities that are associated with the expected continuous reinvestment in the Project through capital expenditures, including replacement and repair of large systems and investment in preventative maintenance. For assets not developed by the Proposer, the Proposer will still be responsible for recommending lifecycle maintenance and reinvestment for implementation and assisting with UTHS's capital planning as appropriate.

iii. Insurance

To be described in detail in future agreements, UTHS anticipates that the Proposer will be responsible for providing insurance, and in the event of any damage or destruction, the proceeds of which must be used for maintenance and repair of the damaged assets/property.

iv. Advisory Committee and University Collaboration

An Advisory Committee will be established with representation from the University, State, and the development team to facilitate information exchange, review information for compliance, and provide coordination of the entities to support the ongoing development, management, and operation of the Project.

v. Staff Safety

Any employee of the proposer working on campus at UTHS will be subject to a background check. The successful proposer agrees that it will remove any

employee from its work force on the UTHS campus that is deemed objectionable by the University. Likewise, the Proposer will implement safety and security protocols that include and are complementary to those of the University.

vi. Taxes

The University does not pay property taxes. Should the Project be subject to property tax or any other taxes applicable under Tennessee law, the Proposer shall pay such taxes as an operating cost of the Project. The University seeks a tax-optimized solution.

vii. Reporting

The selected partner will supervise and regularly provide detailed reporting on finances and operations within the Project scope on a monthly and annual basis.

viii. Demolition of Assets

- a. The University does not expect that demolition will be required as part of the Project.
- b. However, should any demolition be required, existing buildings required to be demolished in order to achieve the Proposer's utility solution, shall be demolished by the Proposer at the sole cost and expense of the Proposer.
- c. Testing, audits, appraisals, inspections, or other non-invasive testing that is necessary or desired to submit a proposal, shall be at the sole expense of the Proposer.
- d. The demolition of State assets requires approval from the State Building Commission and the TN Historical Commission.

5.6 Partnership Profile

In this partnership, the University will maintain long-term ownership of all land. The selected Proposer will partner with the University to develop and operate utilities infrastructure through a negotiated structure with the following parameters and agreements.

- i. Pre-Development Agreement: After BAFO phase and negotiation with the selected finalist Proposer, The University, with applicable State approvals, intends to initially enter into a pre-development agreement that will define relationship parameters during the pre-construction period and any risk-sharing provisions concerning predevelopment expenditures. The Pre-Development Agreement will enable the parties to refine the projects' design and negotiate the anticipated project agreements noted below. More specifically, it is expected that the Pre-Development Agreement will:
 - a. Define the pre-development work to be pursued
 - b. Establish a list of anticipated agreements for the Projects and the timeline for completion of the creation of these agreements
 - c. Establish a budget and schedule for completing the pre-development work, including design and regulatory approval milestones
 - d. Provide for the Proposer's access to the project site(s)

- e. Establish a target standard for project feasibility during the pre-development period, based on the Proposer's BAFO
 - f. Establish provisions governing termination for cause or other termination events, including any potential reimbursement of pre-development expenses incurred by the Proposer
- ii. Anticipated Agreements: The University, with applicable State approvals, intends to establish a long-term partnership with the selected Proposer as appropriate for the development of the Project and operation of campus utility systems. The University anticipates that there will be multiple Project Agreements governing the Project, which may include:
 - a. Pre-Development Agreement
 - b. Ground Lease or Equipment Lease
 - c. Development Agreement
 - d. Operations/Asset Management Agreement
 - e. Cooperation Agreement
 - f. and/or others as appropriate
- iii. Credit and Balance Sheet Impacts: As indicated above, the University will evaluate all funding structures proposed by the private market during the competitive selection process. Additionally, the degree of risk transfer, including avoidance of impacts from the proposed structure on University debt capacity, will be considered as part of the evaluation. The University reserves the right to utilize any financing mechanism.
- iv. Multiple Phases: The University is open to considering future phases for the expansion of this Project, but it must proceed with soliciting, negotiating, and receiving approval for a discreet initial phase to be awarded through this RFP process. As such, UTHS is open to considering how the partnership might expand over time, but Proposer's should note that a first phase of any multiphase approach should stand on its own without assuming University approval of subsequent phases.

5.7 Term & Buyout

- i. The terms of any agreement associated with the Projects will be subject to negotiation based on overall deal structure and benefit to UTHS. The term is likely to be influenced by the expected useful life of the utility assets, and while the final term will be subject to negotiation, the University does not anticipate the term of the partnership to exceed 30 years.
- ii. The University expects that any negotiated governing agreements would include provisions for the University to purchase any utility improvements (or equivalent based on proposed structure and asset ownership) and terminate the partnership.
- iii. Upon the Termination Date, all title to and ownership of all improvements to or upon the Property or related to the Project shall automatically and immediately vest (without the necessity of any further action being taken by

the Proposer or the University or any instrument being executed and delivered by the Proposer to the University) in the University.

END

6.0 SCHEDULE OF EVENTS

The following table provides the Owner's proposed Schedule of Events. The Owner reserves the right, at its sole discretion, to change this schedule. The Owner will communicate a change to the Schedule of Events to entities from whom the Owner has received a Notice of Intent to Propose.

EVENT	DATE	*TIME and LOCATION
1. Owner Issues RFP	September 16, 2026	
2. Disability Accommodation Request Deadline	October 1, 2026	
3. Notice of Intent to Propose Deadline. Respondents who provide a notice of intention to submit will receive instructions on uploading submissions to assigned portal.	October 1, 2026	
4. Optional Pre-Proposal Conference **Conference will be held via Zoom with details below	October 14, 2026	9:30 am ET / 8:30 am CT The University of Tennessee Health Science Center Crowe Building Room 208
5. Optional Site Tour	October 14, 2026	10:30 am ET / 9:30 am CT Site Tour will begin after Pre-proposal Conference
6. Written "Questions & Comments" Deadline	October 21, 2026	
7. University Response to "Questions & Comments" Deadline	October 29, 2026	
8. Step 1 Proposal Deadline & University Opening of Proposals Proposals must be submitted to the University no later than the date and time shown, and at the location specified.	November 5, 2026	12:00 pm ET

P3 RFP for Development Services - SCHEDULE OF EVENTS

9. Notice to down-selected teams for participation in Step 2 submission and interviews	November 19, 2026	
10. Interviews	December 2, 2026	9:30 am ET / 8:30 am CT The University of Tennessee Health Science Center Crowe Building Room 208
11. University Completion of Proposal Evaluations & BAFO Designation	December 4, 2026	
12. BAFO Workshop 1	December 9, 2026	
13. BAFO Workshop 1 Submission (3a) Deadline	December 16, 2026	Uploaded by 12:00 pm ET
14. BAFO Workshop 2	January 6, 2027	
15. BAFO Workshop 2 Submission (3b) Deadline	January 13, 2027	Uploaded by 12:00 pm ET
16. University Issues the Intent to Award Notice and Procurement File is Opened for Public Inspection (No less than ten days prior to State Building Commission approval.)	January 20, 2027	
17. Proposed State Building Commission Approval of BAFO	February 11, 2027	

*All times listed above should be established by the timepiece of the Owner.

**Pre-Proposal Conference Zoom Instructions – Zoom meeting invitations will be sent to proposers requesting information from the RFP coordinator by October 12, 2026.

Pre-Proposal Conference Location and Instructions:

Held in person and via Zoom – Zoom meeting invitation will be sent to firms requesting information from RFP Coordinator by October 13, 2026, by 5:00 pm.

Meeting information will be sent the afternoon of October 13, 2026.

END

PROPOSAL SUBMISSION PACKAGE

Public-Private Partnership for UTHS Energy and Utility Services

Located in:

Memphis, Tennessee

SBC NUMBER: 540/013-02-2026

The UNIVERSITY OF TENNESSEE

Any blank spaces may cause Proposal to be unacceptable and rejected.

Proposer Identification: _____

Proposer Name: _____

Address: _____

PROPOSER NAME: <Name>	
SECTION A: MANDATORY REQUIREMENTS Owner Evaluation for Each Requirement: Pass or Fail	Proposal Page Number (By Proposer)
A.1 Provide a completed Certification Statement, in the format provided herein.	
A.2 Identify Proposer's primary contact person including mailing address, telephone number, and e-mail address.	
A.3 Describe Proposer's form of business (e.g., corporation, partnership, limited liability company) and the U.S. state in which it is established.	
A.4 Provide a statement of whether there have been mergers, acquisitions, or sales of Proposer within the last five years, and if so, an explanation providing relevant details.	
A.5 Provide a statement that discloses pending litigation against Proposer. The Owner reserves the right to request an opinion of Proposer's counsel as to whether pending litigation will impair performance in a contract under this RFP.	
A.6 Provide a statement declaring whether, in the last ten years, the Proposer has filed, or had filed against it, bankruptcy or insolvency proceeding, whether voluntary or involuntary, or undergone the appointment of a receiver, trustee, or assignee for the benefit of creditors, and if so, an explanation providing relevant details.	
A.7 Provide a letter(s) from an insurance and/or surety agency stating Proposer's capability to provide insurance and bonding for the project in accordance with the requirements as outlined in the RFP.	
A.8 Provide a statement, based upon reasonable inquiry, of whether the Proposer or any individual who shall perform work under the lease has a possible conflict of interest (e.g., employment by the University of Tennessee) and, if so, the nature of that conflict. NOTE: Any questions of conflict of interest shall be solely within the discretion of the University, and the University reserves the right to cancel any award.	
A.9 Provide a completed Financial Interested Parties, in the format provided herein.	

A.10 Provide contact information for at least two (2) references who can certify that Proposer has significant experience delivering complex multi-asset projects on-time and on-budget.	
A.11 Provide Executive Summary explaining the anticipated partnership structure that the Proposer is offering and believes will best accommodate the University's goals. Clearly identify the assets that are included as part of the proposal. The executive summary should also include the primary point of contact for the RFP process with a telephone number and email address.	

CERTIFICATION STATEMENT (In response to Section A.1.)

The Proposer hereby acknowledges, attests, certifies, warrants, and assures that:

1. The Proposer will comply with all the provisions and requirements of the RFP
2. The information detailed in the proposal submitted herewith in response to the subject RFP is truthful, accurate, and complete.
3. The Proposer will comply with:
 - a. the laws of the State of Tennessee;
 - b. Title VI of the federal Civil Rights Act of 1964;
 - c. Title IX of the federal Education Amendments Act of 1972;
 - d. the Equal Employment Opportunity Act and the regulations issued there under by the federal government; and,
 - e. the Americans with Disabilities Act of 1990 and the regulations issued there under by the federal government.
 - f. the condition that the submitted proposal was independently arrived at, without collusion, under penalty of perjury;
 - g. the condition that no amount shall be paid directly or indirectly to an employee or official of the State of Tennessee as wages, compensation, or gifts in exchange for acting as an officer, agent, employee, subcontractor, or consultant to the Proposer in connection with the Procurement under this RFP; and,
 - h. the condition that in compliance with the Iran Divestment Act the Proposer is not on the list created pursuant to Tennessee Code Annotated (TCA) § 12-12-106 and shall not utilize a subcontractor on that list.
 - i. in compliance with TCA § 12-4-119, Proposer currently engaged in a boycott of Israel or who intend to engage in a boycott of Israel should not bid.
 - j. and attests that they are not a foreign adversary company within the meaning of Pub. Ch. 768 (2026) and that the Respondent is not knowingly selling an information and communications technology final product or service within the meaning of Pub. Ch. 768 (2026).
4. To the knowledge of the undersigned, the information detailed within the proposal submitted in response to the RFP is accurate.
5. The person who signs this certification on behalf of the Proposer is legally empowered to bind the Proposer to the provisions of this RFP and a resulting contract. If the signatory is not the Proposer (if an individual) or the Proposer's company President or Chief Executive Officer, this document must attach evidence showing the individual's authority to bind the proposing entity.
6. The Proposer acknowledges receipt of Addendum:

Addendum number(s) and date(s): _____

Proposer Legal Entity Name: _____

Signature: _____ DATE: _____

Printed Name and Title: _____

END OF CERTIFICATION STATEMENT

FINANCIAL INTERESTED PARTIES: AS REQUIRED BY T.C.A. SECTION 12-2-114, THE NAMES OF ANY AND ALL PERSONS FINANCIALLY INTERESTED IN THE LEASE ARE AS FOLLOWS:

NAME: _____

TELEPHONE NUMBER: _____

ADDRESS: _____

NAME: _____

TELEPHONE NUMBER: _____

ADDRESS: _____

NAME: _____

TELEPHONE NUMBER: _____

ADDRESS: _____

NAME: _____

TELEPHONE NUMBER: _____

ADDRESS: _____

NAME: _____

TELEPHONE NUMBER: _____

ADDRESS: _____

PROPOSER NAME: <Name>	
STEP 1 - SECTION B: QUALIFICATIONS AND EXPERIENCE	Proposal Page Number (By Proposer)
B.1 Provide summary information of no more than 3-5 projects showing direct experience undertaking utility infrastructure projects of this type and magnitude in designing and constructing for higher education, healthcare, or other related institutions. This summary should additionally include the project financing approach, the cost history of the project in meeting construction budget, operating budget, funding strategy, debt coverage and delivery dates and where they differed from the pre-construction project pro forma. • Reference projects should demonstrate an ability to provide customized solutions based on client needs. • Referenced projects should clearly articulate how the solutions delivered met each project's goals (financial and/or non-financial). • Referenced projects are relevant to UTHS's current condition (aging infrastructure and reliability challenges). • Personnel identified for this initiative in Section B.3 have direct experience in relevant projects. 150 points	
B.2 Provide overview of Proposing Teams roles and organization for this initiative. Each entity should provide its legal status, address, full names of the officers, their addresses, credit references, and brief firm histories. Each entity should provide no more than one page. If the entity is a joint venture or partnership, provide the above information for each partner. In the case of multiple firms teaming up to respond to the proposal, identify the lead firm. 100 points	
B.3 Provide resumes of no more than one page for each key personnel. Include a general description of the proposed staffing plan, including the names and titles of key senior-level staff assigned to lead the Project, their roles and responsibilities. Any use of Subcontractors should be clearly identified from roles which the Proposer would have in-house. Provide a list of proposed primary subcontractors (e.g., Architect, Engineer, and General Contractor) and experience of their firms with projects similar in size and scope to the Project. Where possible, provide multiple options or alternative primary subcontractor firms. Organizational chart with names and titles of key participants should be provided. 150 points	

B.4 Provide information showing proposer ability to access to capital – either internally or in partnership with equity investors or lenders – in excess of what is anticipated to be required for the project. • Evidence of the Proposer entity's financial condition and a statement detailing the different methods of financing the Proposer can deliver, including, but not limited to, equity, private debt, and other financing options should be shown per financial statements submitted per Section 3.10(v) which indicate a sufficient balance sheet to reach financial close. 100 points	
B.5 Provide Proposer's direct experience operating and maintaining complex campus multi-building utility systems. Reference projects should highlight KPIs that are targeted to project goals, and the operating firm should provide evidence of sustained KPI performance over multi-year periods. • Describe the background and experience of the entity and its principals in undertaking long-term partnerships for utility services of this type and magnitude, including brief descriptions of 3-5 similar ongoing engagements. • Provide a statement regarding each example engagement's goals and how the Proposer addressed them in the partnership. This description should additionally highlight KPIs governing the engagement and performance levels achieved. 100 points	

B.6 Provide an anticipated project approach narrative, which demonstrates an understanding of UTHS's core objectives: • Show the Proposer's hypothesis for optimizing the University's existing thermal loops to increase efficiency and reliability across as much of campus as possible, while balancing return on investment? What buildings should be included/added to existing loops, and where might the creation of a new regional plant make the most sense? • What innovative technologies would you consider for the plants and distribution in order to align with the vision and guiding principles? • How will Proposer's operations and maintenance capabilities increase efficiency, performance reliability, and resiliency of the campus system, whether included in the Project's capital improvements or not? Please discuss supply and demand optimization, predictive or preventative maintenance, measurement and verification programs, KPI management, etc. • How will the Proposer transition UTHS from the institution's in-house team to third-party operations and maintenance? What lessons learned or best practices will the Proposer bring to bear? 200 points	
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B.7 Provide a Financing Approach narrative, which thoughtfully considered UTHS's goals and approach cited in B.6: • Excellent value for cost and budget predictability within an availability payment structure. • Include a narrative which identifies likely financing sources with indicative cost of capital ranges and describes how the proposed and/or alternative structure(s) protect UTHS credit and balance sheet. • Specify all assumptions about use of taxable and/or tax-exempt debt, and/or equity; cost of capital; expectation of Proposer's return on investment; and interim and permanent financing options available. • Provide a description of the organizational structure necessary to implement the proposed financing structure. If Proposer is willing to pursue alternative financing structures, provide a high-level narrative description of any alternative proposed financing structure(s). • Specify all assumptions about use of taxable and/or tax-exempt debt, and/or equity; cost of capital; expectation of Proposer's return on investment; and interim and permanent financing options available. • Provide a description of the organizational structure necessary to implement each alternative proposed financing structure and state the benefits and/or disadvantages of the alternative financing structure versus the proposed financing structure. 200 points	
Section B: 1,000 points	

PROPOSER NAME: <Name>	
STEP 2 SECTION C: DETAILED PROJECT CONCEPT, BUDGET, AND OPERATING PLAN	Proposal Page Number (By Proposer)
C.1 Provide a list of the assets and equipment included in the Proposed Project Concept showing rudimentary line diagrams for inter-building connections. - The concept should demonstrate the optimization logic for thermal loop consolidation and/or expansion aligned with UTHS needs. - To the extent innovative approaches or technologies are included, they should clearly be tied to achieving UTHS's strategic goals. 125 points	
C.2 Provide a preliminary schedule for the Project concept that outlines key design and construction milestones. The schedule should take into account Proposer's phasing logic which achieves results quickly without compromising long-term optimization. Note that the project schedule will ultimately be refined in collaboration with the University to reflect required University and state-level reviews and approvals of project design and legal agreements. 125 points	
C.3 Provide an approximate, rough order of magnitude construction cost including a breakdown by major system or component. ROM cost assumptions should be clearly stated and provide summary methodologies for deriving estimates. All costs shown should reflect the ability to drive efficiency. 125 points	

C.4 Describe how the Proposer would approach operations and maintenance for both the new assets and equipment including: • Proposed project and legacy UTHS assets and equipment • Proposed preferred technologies for monitoring and optimization strategies. • Typical maintenance management • Identify all optimizations • Outline staffing assumptions for all roles including counts for FTE and management structure. Include staffing models that support recruitment, retention, and development of specialized energy talent. • Outline ongoing costs • Highlight any other key considerations • Describe performance metrics this partnership is intended to support showing measurable, competitive, and alignment with UTHS's reliability and efficiency goals. 125 points	
<i>For Financial Proposal the University understands that without a defined project scope, Proposers cannot provide exact cost estimates and fees. Instead, this is meant as an indicative structure for future pricing and negotiations.</i>	
C.5 Provide a Financial Proposal showing the likely framework for financing and compensation which meet the UTHS goals and efficiencies. For each source provide: • The proportion of project costs to be funded with the source • The likely term (or range) • The approximate cost of capital (or range) • May be expressed more generally given the dynamic interest rate environment, e.g., as an "Index plus a Spread" or other estimate • Any other considerations, implications, or requirements of the financing source The financial proposal should show the alignment between Proposer's financial returns and UTHS long-term value. 100 points	

C.6 Describe the proposed compensation structure. The university desires a comprehensive understanding of all payments to the Proposer under the proposed structure. For all forms of university compensation to the Proposer, please describe how the fee will be calculated (incl. estimated percentage) and whether the fee would be subject to penalties or incentives. Please address, at minimum: • Construction-Related Fees - o Project Development Fees - o Financing Fees - o Design Engineering Fees - o Construction Management & Project Administration - o System Commissioning - o Initial Training Fees - o Overhead & Profit Fees • Future UTHS Recurring Payments - o Fixed Fees - o Operating & Maintenance Costs - o Pass-Through Expenses - o Other components of a recurring payment - o Any other fees or compensation methods anticipated 150 points	
C.7 Describe how the proposed financing sources and structures can achieve the project goals while minimizing impact to UTHS's balance sheet and optimizing cost of capital. Identify impacts to potential buy-out or termination provisions under potential Project Agreements. 100 points	
C.8 Provide a proposed form of agreement or term sheet for the PDA, specifying approach to risk sharing in the pre-development period. Include proposed (draft) key performance indicators (KPIs) and the structure of major terms. Specific values and data points are not required (to be determined in the negotiations phase), but the Proposer should share a thorough framework of proposed PDA. Proposed terms may not contradict University or State of Tennessee key terms specified in this RFP. Please note that advancement of a Proposer to the BAFO stage or selection following BAFO does not indicate University acceptance of any specific PDA terms, as these will be fully negotiated following final selection of a proposer. 150 points	
Section C: 1,000 points	

PROPOSER NAME: <Name>	
STEP 3a and 3b SECTION D: BEST AND FINAL OFFER (BAFO)	Proposal Page Number (By Proposer)
D.1 Provide final proposal for the design, development, financing, and operations capability and experience of the proposing team. 200 points	
D.2 Provide final proposal for the project concept, preliminary design, and operating approach that meet the goals outlined in this RFP. 300 points	
D.3 Provide final proposal for the proposed business terms, including holistic value to UTHS. 300 points	
D.4 Provide final proposal showing the Proposer's ability to fund the Project. 100 points	
D.5 Provide final proposal showing quality of anticipated relationship between the Proposer and the University over the term of the agreements. 100 points	
Section D: 1,000 points	

END

EXHIBIT 2 – CAMPUS HEATING AND COOLING EXISTING CONDITIONS SUMMARY



UT Memphis Medical Campus Site Visit

BRAILSFORD & DUNLAVEY

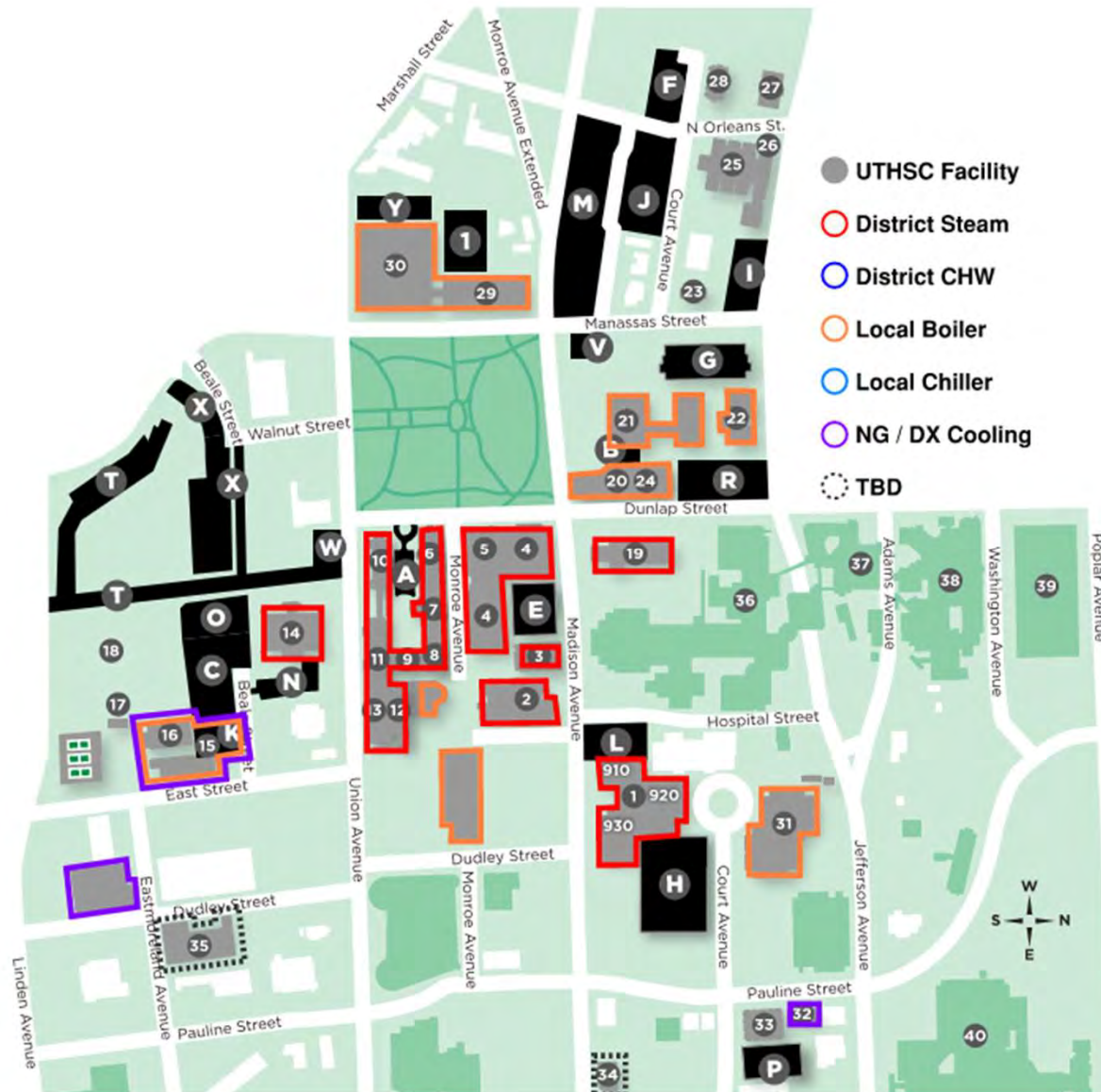
Agenda

- ▲ Review of site visit maps.
- ▲ Summary of campus heating and cooling infrastructure.



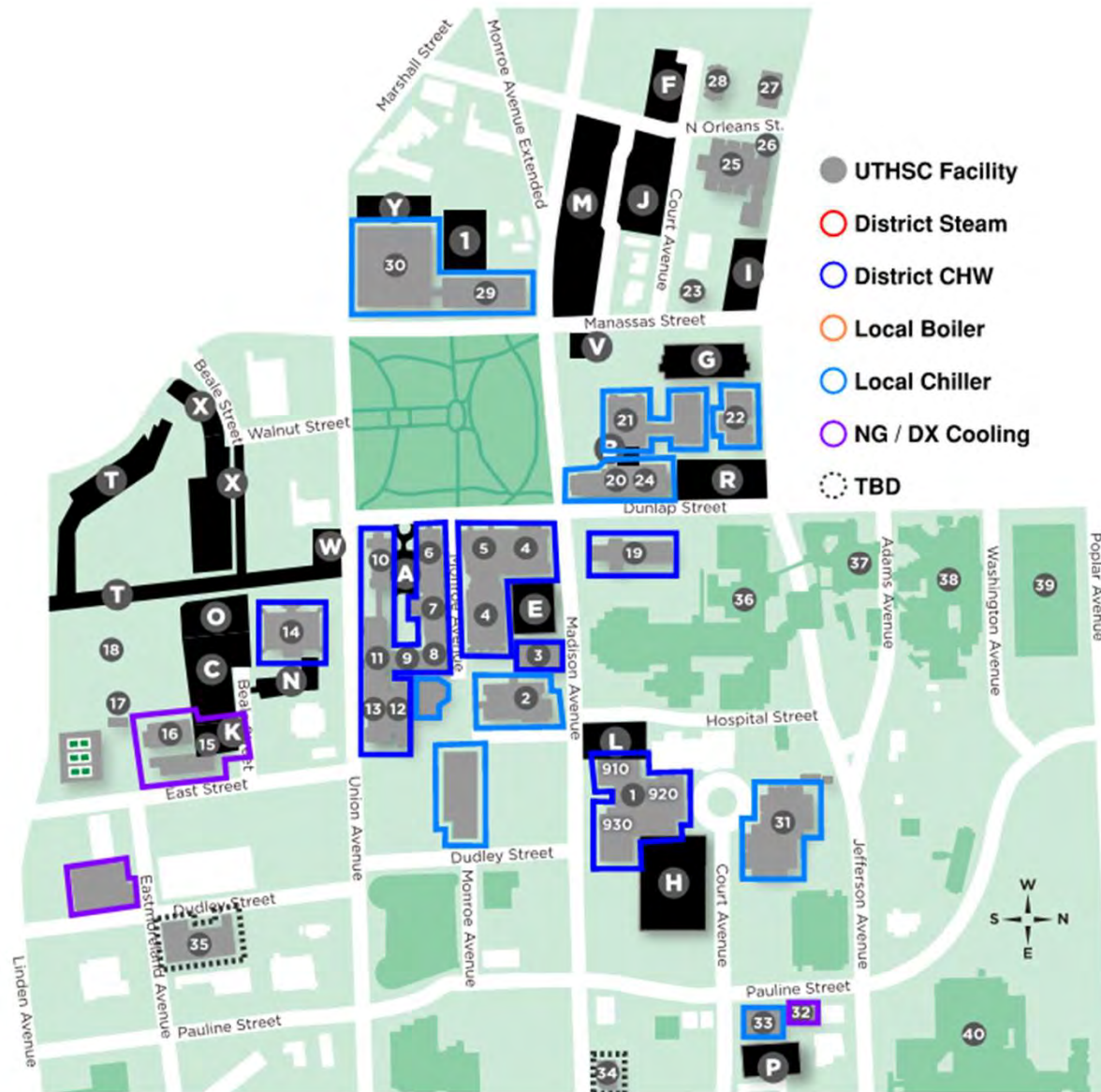
Campus Heating Map

- About half of buildings on campus served by district steam.
- The other half have their own independent heating systems.



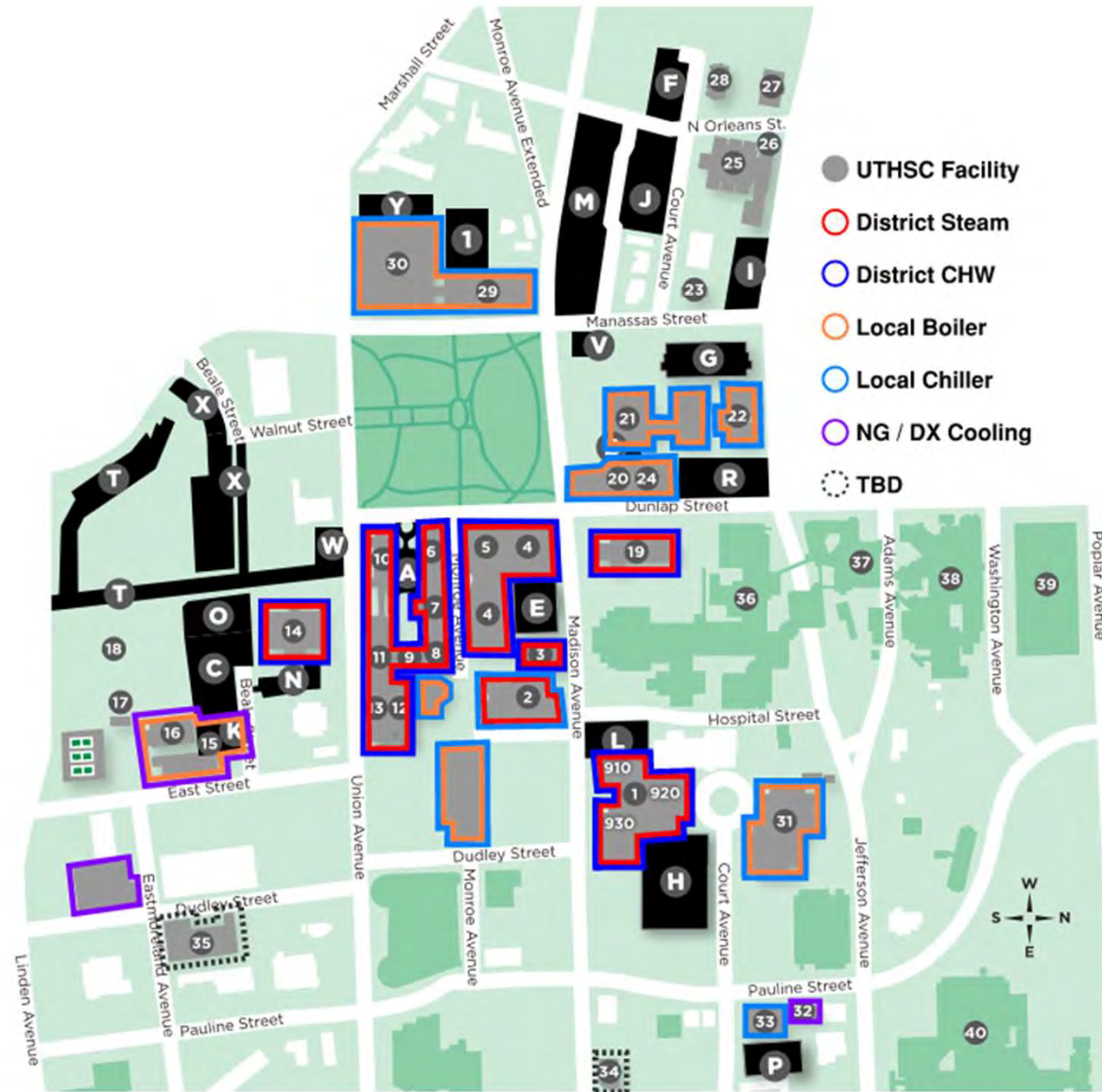
Campus Cooling Map

- About half of buildings on campus served by district CHW.
- The other half have their own independent cooling systems.



Campus Heating and Cooling Map

- About half of buildings on campus served by district system.
- The other half have their own independent heating and cooling systems.



BUILDING INFORMATION		HEATING										DHW		COOLING				HYDRONIC		AIRSIDE														ADDITIONAL NOTES											
Name	Address	Sources						Steam Loop(s)		HW Loop(s)		Sources				CHW Loop(s)		Building Loops																											
		District Steam	District HHW	Local Steam	Local HHW	Gas HX	Other (See Notes)	Entering Building	Loop (Med. Press)	Loop (Low Press)	Multiple Loops?	Supply (°F)	Return (°F)	HX (District Steam)	Local Gas	Local Electric	Storage?	Other	District CHW	Local -WCC	Local - ACC	Local DX Unitary	Other (See Notes)	Multiple Loops?	Supply (°F)	Return (°F)	4-Pipe HHW/CHW	2-Pipe HHW/CHW	HHW Only	CHW Only	Other (See Notes)	Steam Radiation	HHW Radiation	Steam Preheat	Steam Reheat	HHW Preheat	HHW Reheat	VRF	Energy Recovery	Economizer	DOAS	Other (See Notes)			
Regional Biocontainment Lab	901 Monroe Avenue			X	X				70 LBS		NO	W: 160-180 S: 110-130	20F DT								X				42	52-56	X						X										STM/HW: 3 STEAM BOILERS FOR BUILDING. 1 BOILER TYPICALLY USED THROUGHOUT THE YEAR. N+1 REDUNDANCY. ANIMAL CAGE WASHER AND 5 AUTOCLAVES USE DIRECT STEAM. HW USED FOR HEATING. GLYCOL IN HHW. CHW: 3 MCQUAY ACCS. 2 CHILLERS RUN FOR PEAK. AIR SIDE: 6 AHUS IN BUILDING. HEPA FILTRATION THROUGHOUT BUILDING. VAV W REHEAT SYSTEM. ONLY TWO ROOMS IN BUILDING WITH WINDOWS AND		
Vivarium Building AKA Trimetus	45 S. Dudley Street			X	X				40-80 PSI	15 PSI	NO	W: 160-180 S: 110-130	20F DT		X						X				42	52-56	X							X									STM/HW: TEMPORARY STEAM BOILER IN PLACE FOR ~18 MONTHS BECAUSE INSIDE STEAM BOILER FAILED. 2 OTHER HW BOILERS INSIDE. STEAM SERVES SPACE HUMIDIFIERS. STEAM BOILERS ARE NOTED AS DUAL FUEL (FUEL OIL) WITH FUEL OIL LINES RUN TO BOILERS. CHW: GLYCOL IN ACCS. OTHER: NO MISSED LOAD DAYS NOTED.		
Madison Avenue Plaza	910/920/930 Madison Avenue	X						X	40-80 PSI	15 PSI	NO	W: 160-180 S: 110-130	20F DT	X					X						42	52-56	X								X								STM/HW: PROVIDED BY 930 MADISON BUILDING. BUILDING HAS OWN PUMPS. CHW: PROVIDED BY 920 BUILDING. BUILDING HAS OWN PUMPS.		
910 Madison Avenue	910 Madison Avenue	X						X	40-80 PSI	15 PSI	NO	W: 160-180 S: 110-130	20F DT	X					X						42	52-56	X								X									STM/HW: PROVIDED BY 930 MADISON BUILDING. BUILDING HAS OWN PUMPS. CHW: PROVIDED BY 920 BUILDING. BUILDING HAS OWN PUMPS.	
920 Madison Avenue	920 Madison Avenue	X						X	40-80 PSI	15 PSI	NO	W: 160-180 S: 110-130	20F DT	X					X						42	52-56	X								X									GENERAL: BUILDING TO BE TORN DOWN IN 5-10 YEARS. NO GLYCOL IN BUILDING. STM/HW: PROVIDED BY 930 MADISON BUILDING. BUILDING HAS OWN PUMPS. CHW: 2 WCCs AND 2 CTs IN BUILDING WHICH SUPPLY CHW TO 910/930 MADISON AVE BUILDINGS. HOTTEST DAY NEEDS 3 CHILLERS, BUT CURRENTLY ONLY HAVE 2. BUILDING HAS OWN PUMPS.	
930 Madison Building	930 Madison Avenue	X						X	40-80 PSI	15 PSI	NO	W: 160-180 S: 110-130	20F DT	X					X						42	52-56	X								X									STM/HW: 4 BOILERS ON THE ROOF PROVIDING HEATING TO 910/920/930 BUILDINGS. BUILDING HAS OWN PUMPS. CHW: NOT OPERABLE WCC IN BUILDING WHICH IS IN THE MIDDLE OF BEING REPLACED. CHILLER HASN'T BEEN OPERABLE IN 10 YEARS. BUILDING HAS OWN PUMPS. AIR SIDE: PNEUMATIC AND ELECTRIC CONTROLS SCATTERED THROUGHOUT THE BUILDING. AHUS ARE FLOOR BY FLOOR.	
Coleman Building	956 Court Avenue			X	X				40-80 PSI	15 PSI	NO	W: 160-180 S: 110-130	20F DT							X					42	52-56	X							X										GENERAL: BUILDING WITH THE "RAT WAY". LOTS OF ANIMAL TESTING. STM/HW: 2 STEAM BOILERS AND 2 STM TO HW HXs. CHW: 2 WCCs AND 2 CTs.	
Doctors Office Building	66 North Pauline Street														X						X		X									X												GENERAL: NO HEATING IN THIS BUILDING. ORIGINAL DESIGN UTILIZED HEAT GAIN FROM INEFFICIENT LIGHTING FOR THERMAL GAINS. NO CHW, AHU UTILIZE REFRIGERANT COILS WITH AIR COOLED EQUIPMENT LOCATED ON THE ROOF. 2 AHU WITH EACH SERVING HALF (EAST & WEST SIDES) OF THE BUILDING (4) CONDENSING UNITS LOCATED ON THE ROOF (AGED)	
Cancer Research Building	19 South Manassas			X					40-80 PSI	15 PSI	NO	W: 160-180 S: 110-130	20F DT		X					X			X		42	52-56	X						X			X								(4) AHU IN TOTAL - (2) ANIMAL LAB AHU ONE OF WHICH IS REDUNDANT AND HAS DX COIL AND REMOTE CONDENSING UNIT STM/HW: (2) STEAM BOILERS AND 2 STM TO HW HXs CHW: (2)WCCs AND 2 CTs, (1) REMOTE CONDENSING UNIT FOR REFRIGERANT COIL OF BACK-UP AHU FOR ANIMAL LAB	
Translational Research Building	71 South Manassas			X					40-80 PSI	15 PSI	NO	W: 160-180 S: 110-130	20F DT		X					X	X				42	52-56	X									X		X						(6) AHUS IN TOTAL - (4) 100% OA, (2) RETURN, GLYCOL HEAT RECOVERY,STEAM HUMIDIFICATION STM/HW: (2) STEAM BOILERS, 1 STM/HW HX CHW: 2 WCCs & 2 CTs, 1 ACC SERVING BACK-UP AHU FOR ANIMAL LABS	
Van Vleet Cancer Center	3 North Dunlap Street				X		X				NO	W: 160-180 S: 110-130	20F DT		X					X					42	52-56	X						X			X									GENERAL: PLANT EQUIPMENT IN VAN VLEET SERVES CAMPUS POLICE AS WELL GLYCOL RUN AROUND LOOPS FOR ENERGY RECOVERY IN AHUs STM/HW: (1) HHW BOILER, (3) STEAM HUMIDIFIERS CHW: (1) WCC AND CT
Wassell Randolph Student Alumni Center	800 Madison Avenue				X						NO	W: 160-180 S: 110-130	20F DT		X					X		X		42	52-56	X								X										MULTI AHUS ALL OF WHICH ARE BELIEVED TO HAVE RETURN, NO 100% OA OTHER THAN MAYBE THE GYM STM/HW: (2) HHW BOILERS CHW: (1) WCC AND CT, (1) SERESCO UNIT (HP) FOR POOL DEHUMIDIFICATION AND POOL WATER HEATING	
Facilities and Physical Plant Building	201 East Street				X	X					NO	W: 160-180 S: 110-130	20F DT		X							X													X									GENERAL: OFFICE SPACES CONDITIONED WITH HHW AND DX COILS HEATING: (1) HHW BOILER, PACKAGED UNITS WITH GAS FIRED HXs COOLING: UNTIARY DX UNITS SERVING SPLIT SYSTEMS AND PACKAGED SYSTEMS	
Physical Plant Shops Building	201 East Street				X	X					NO	W: 160-180 S: 110-130	20F DT		X																				X									GENERAL: OFFICE SPACES CONDITIONED WITH HHW FAN COILS AND DX MINI SPLITS HEATING: (1) HHW BOILER, PACKAGED UNITS WITH GAS FIRED HXs COOLING: UNTIARY DX UNITS SERVING SPLIT SYSTEMS AND PACKAGED SYSTEMS	

Campus Heating Operation

- ▲ District steam created and distributed at ~40-80psi.
- ▲ Steam run through pressure reducing valve at each building to achieve ~15psi.
 - Steam typically directed to a steam to HW heat exchanger to provide building heating.
 - Some scattered equipment receives steam directly.
- ▲ HW operation temperatures:
 - Winter HWS: ~160-180°F
 - Summer HWS: ~110-130°F
 - Design HWS/R temperature difference: 20°F
 - All buildings controlled to same HWS.



Campus Cooling Operation

- ▲ District CHWS created and distributed at $\sim 42^{\circ}\text{F}$.
- ▲ No variation in CHWS temperature year-round.
- ▲ District CHWR is typically $\sim 52\text{-}56^{\circ}\text{F}$.
- ▲ Electrical and computer rooms are the only spaces typically not cooled with CHW.



Campus Heating Equipment

LOCATION	TAG	MANUFACTURER	MODEL	VINTAGE	INPUT INFO			OUTPUT INFO			Efficiency	SERVICE
					Capacity		Units	Output	Capacity	Units		
					Min	Max						
GEB	B-1	Bryan Boilers	RW2100-S-150-FDGO-LX	2014	2,965	25,200	CFH	Steam	20,160	MBH	77.1%	GEB Network
GEB	B-2	Cleaver Brooks	D-52	1991	-	-	-	Steam	33,471	MBH	-	GEB Network
GEB	B-3	Bryan Boilers	RW2100-S-150-FDGO-LX	2014	2,965	25,200	CFH	Steam	20,160	MBH	77.1%	GEB Network
Coleman	B-1	Cleaver Brooks	FLX-200-900-150ST	-	900	8,996	MBH	Steam	7,197	MBH	80.0%	Coleman
Coleman	B-2	Cleaver Brooks	FLX-200-900-150ST	-	4,500	9,000	MBH	Steam	7,200	MBH	80.0%	Coleman
CRB	B-1	Cleaver Brooks	FLX-700-900-150ST	-	3,000	9,000	MBH	Steam	7,200	MBH	80.0%	CRB
CRB	B-2	Cleaver Brooks	FLX-700-900-150ST	-	3,000	9,000	MBH	Steam	7,200	MBH	80.0%	CRB
930 Madison	B-1	Cleaver Brooks	CB700-250	1990	-	10,461	MBH	Steam	8,369	MBH	80.0%	Madison Plaza
930 Madison	B-2	Cleaver Brooks	FLX-700-1000-150ST	-	3,333	10,000	MBH	Steam	8,000	MBH	80.0%	Madison Plaza
930 Madison	B-3	Cleaver Brooks	FLX-700-1000-150ST	-	3,333	10,000	MBH	Steam	8,000	MBH	80.0%	Madison Plaza
930 Madison	B-4	Cleaver Brooks	FLX-700-1000-150ST	-	3,333	10,000	MBH	Steam	8,000	MBH	80.0%	Madison Plaza
Physical Plant Building	B-1	Cleaver Brooks	CFC-E-700-1000-125HW	-	200	1,000	MBH	HW	900	MBH	90.0%	Physical Plant
Shop Buidling	B-1	AJAX Boiler	-	-	-	1,250	MBH	Steam	1,000	MBH	80.0%	Shop Building
Student Alumni Center	B-1	Cleaver Brooks	CB200-125A	-	-	5,230	MBH	HW	4,184	MBH	80.0%	Student Alumni Center
Student Alumni Center	B-2	Cleaver Brooks	CB700-125A	1968	-	4,200	MBH	HW	3,360	MBH	80.0%	Student Alumni Center
TSRB	B-1	Cleaver Brooks	FLX-200-900-150ST	-	2,250	9,000	MBH	Steam	7,200	MBH	80.0%	TSRB
TSRB	B-2	Cleaver Brooks	FLX-200-900-150ST	-	2,250	9,000	MBH	Steam	7,200	MBH	80.0%	TSRB
Van Vleet	B-1	Parker Boiler	T4600	1998	2,300	4,600	MBH	HW	3,680	MBH	80.0%	Van Vleet
Vivarium	B-1	Bryan Boilers	RV300-W-FDGO-LX	2012	1,500	3,000	CFH	HW	2,520	MBH	84.0%	Vivarium
Vivarium	B-2	Bryan Boilers	RV300-W-FDGO-LX	2012	1,500	3,000	CFH	HW	2,520	MBH	84.0%	Vivarium
Vivarium	Rental	-	-	-	-	-	MBH	Steam	-	MBH	-	Vivarium

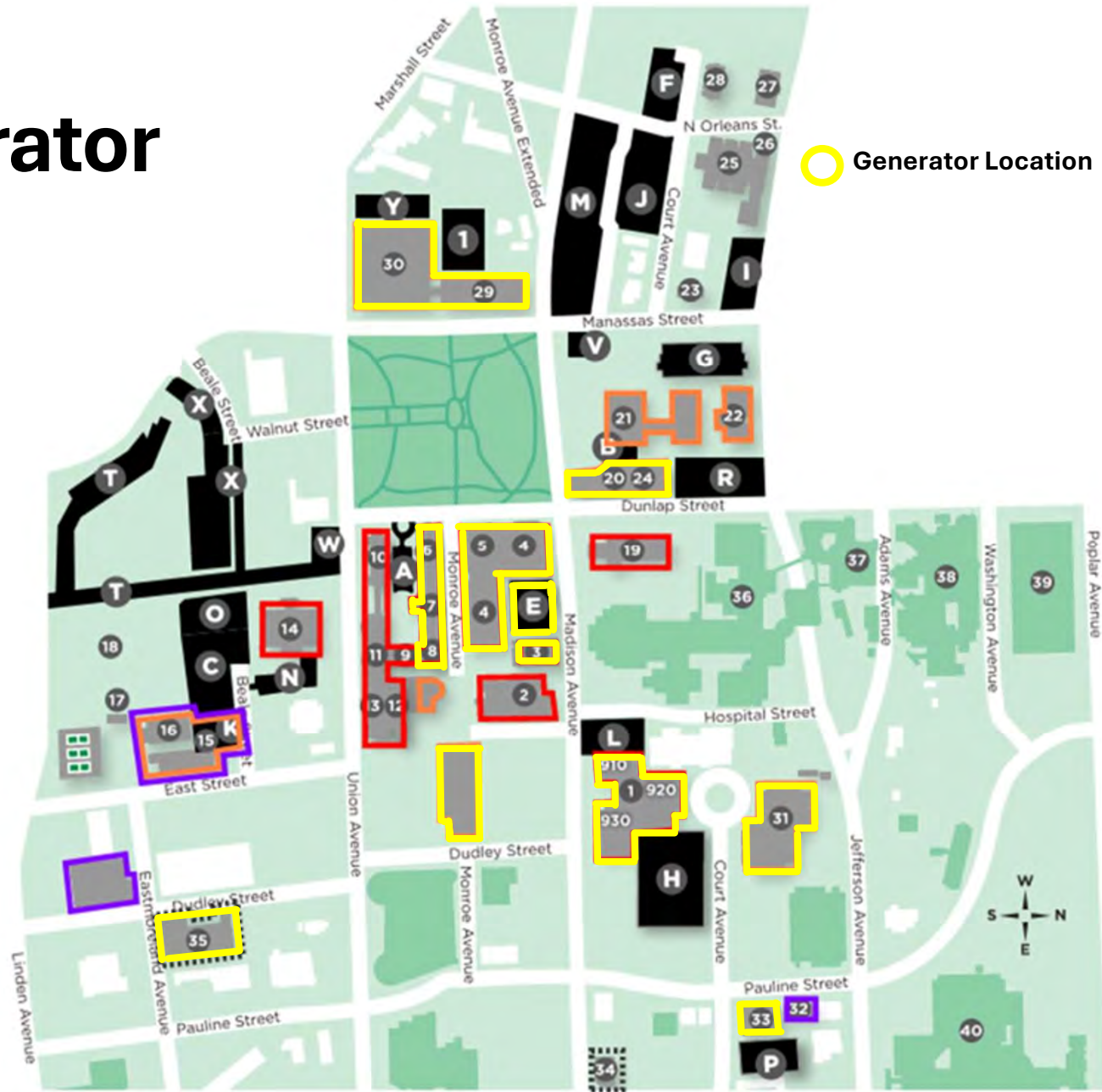


Campus Cooling Equipment

LOCATION	TAG	MANUFACTURER	MODEL	VINTAGE	TYPE	OUTPUT INFO			Efficiency (kW/Ton)	NOTES
						Output	Capacity	Units		
GEB	CH-1	York	YKQLQLK2-FCHX	2020	WCC	CHW	1500	Tons	0.38	
GEB	CH-2	York	YK TH TB J3 - DC F	-	WCC	CHW	1500	Tons	-	
GEB	CH-3	York	YK TH TD J3 - DC F	2004	WCC	CHW	1500	Tons	0.59	
GEB	CH-3	Trane	-	-	WCC	CHW	-	Tons	-	Decomissioned
Coleman	CH-1	York	YK6B45Q7-ESHX	2018	WCC	CHW	550	Tons	0.61	
Coleman	CH-2	Carrier	19XRV5757436LBH64-	-	WCC	CHW	550	Tons	0.58	
College of Pharmacy	CH-1	McQuay	C3612BNYY2-D	2008	WCC	CHW	-	Tons	-	
College of Pharmacy	CH-2	McQuay	C3612BNYY2-D	2008	WCC	CHW	-	Tons	-	
CRB	CH-1	Trane	CVHE500	2005	WCC	CHW	370	Tons	0.57	
CRB	CH-2	Trane	CVHE500	2005	WCC	CHW	370	Tons	0.57	
CRB	CH-3	Trane	RAUCC804BP0320D0000	-	COND	Refrigerant	-	Tons	-	AHU emergency back-up cooling source
Dentistry	CH-1	York	YVAA	2021	ACC	CHW	-	Tons	-	
Dentistry	CH-2	York	YVAA	2021	ACC	CHW	-	Tons	-	
Doctor's Office	CH-1	York	-	2018	ACC	CHW	-	Tons	-	(4) Identical units
920 Madison	CH-1	Trane	CVHF769	2004	WCC	CHW	750	Tons	0.58	
920 Madison	CH-2	Trane	CVHF770	2004	WCC	CHW	750	Tons	0.58	
930 Madison	CH-1	Trane	CVHE080	1989	WCC	CHW	-	Tons	-	Decomissioned
Student Alumni Center	CH-1	Trane	CVHF640	-	WCC	CHW	640	Tons	0.56	
TSRB	CH-1	York	YKECETQ7-CPGS	2012	WCC	CHW	488	Tons	0.58	
TSRB	CH-2	York	YKECETQ7-CPGS	2012	WCC	CHW	488	Tons	0.58	
Van Vleet	CH-1	Trane	CHVE500	-	WCC	CHW	500	Tons	0.51	
Vivarium	B-1	Trane	RTAC	-	ACC	CHW	-	Tons	-	
Vivarium	B-2	Trane	RTAC	-	ACC	CHW	-	Tons	-	



Campus Generator Map



Campus Generator Master List

Asset ID	BLDG Served	Building Address	Manufacturer	Year	Model #	Serial #	Location	Voltage	KW	Fuel	Fuel Cap
910MAD.5007	910 Madison	910 Madison Ave	Cummins	2004	DFCC-5655924	L030585007	Loading Dock	480	350	Diesel	1200 G
920MAD.5008	920 Madison	920 Madison Ave	Cummins	2004	DFCC-5655924	L030585008	Loading Dock	480	350	Diesel	1200 G
930MAD.2443	930 Madison	930 Madison Ave	Kohler	1990	500ROZ74	262443	Main Mech Rm	480	500	Diesel	12,000 G
930MAD.2444	930 Madison	930 Madison Ave	Kohler	1990	500ROZ74	262444	Main Mech Rm	480	500	Diesel	12,000 G
ALEX.4332	Alexander 7th Fl	877 Madison Ave	Caterpillar	2008	LC-6	G6B14332	GEB Loading Dock	480	550	Diesel	900 G
ALEX.5271	Alexander/Crowe/Nash	877 Madison Ave	Caterpillar	2012	C32	G1G05271	GEB Loading Dock	480	1000	Diesel	1,000 G
COLE.0005	Coleman	956 Court Avenue	Kohler	2024	350REOZJD	34H4GMMM0005	Gen Bldg	480	350	Diesel	2,000 G
COLE.0004	Coleman	956 Court Avenue	Kohler	2024	350REOZJD	34H4GMMM0004	Gen Bldg	480	360	Diesel	2,000 G
CRB.9379	CRB	19 South Manassas	Cummins	2005	DFHD-5736459	I050829379	North of Bldg	480	1000	Diesel	1,700 G
DOB.5483	DOB	66 N. Pauline Street	Caterpillar	2012	LC5	G5A05483	Garage	480	200	Diesel	600 G
DUD.6263	Dudley Bldg	208 Dudley Street South	Cummins	2016	DQDAC-1603576	B160926263	East of Bldg	480	300	Diesel	600 G
DUNN.5473	Dunn	2800	Caterpillar	2012	LC5	G5A05473	Loading Dock	480	200	Diesel	400 G
GEB.5466	GEB	8 S. Dunlap Street	Caterpillar	2012	LC5	G5A05466	RmBB085	480	250	Diesel	60,000 G
GEBG.5290	GEB Garage	869 Madison Ave	Cummins	2004	DGBB-5656126	L030585290	North of Main Mech Room	480	35	Diesel	185 G
JOHN.0006	Johnson	847 Monroe Avenue	Kohler	2024	350REOZJD	34H4GMMM0006	Rm I03	480	360	Diesel	950 G
MSB.5470	MSB	858 Madison Avenue	Caterpillar	2012	LC5	G5A05470	Loading Dock	208	250	Diesel	600 G
NASH.4236	Nash	894 Union Avenue	Cummins	2019	DQGAB-1926961	I90634236	East St	480	1500	Diesel	2800 G
PHARM.I1188	Pharmacy	881 Madison Avenue	Cummins	2011	DQCB-7150828	F080191188	GEB Loading Dock	480	750	Diesel	1,500 G
PHARM.I1190	Pharmacy	881 Madison Avenue	Cummins	2011	DQCB-71508569	F080191190	GEB Loading Dock	480	750	Diesel	1,500 G
RBL.0263	RBL	855 Monroe Avenue	Caterpillar	~2006	C32	G5B00263	RBL Roof	480	1000	Diesel	10,000 G
SAC.NA	SAC	800 Madison Avenue	Onan	~1969	I5RJT-4R8-13R	N/A	Mech Rm	208	15	Nat. Gas	N/A
SIM.0000	Simulation Ctr	26 S. Dunlap	Olympian	2015	G250LG4	GXJ04291-OLY00000	Roof	208	250	Nat. Gas	N/A
TSRB.53C9	TSRB	71 South Manassas	Kohler	2013	I600RE0ZMD	SGM3253C9	Loading Dock	480	1500	Diesel	20,000 G
VIV.3498	Vivarium BLDG	45 S Dudley	Cummins	2012	DQCC-1206402	G120363498	Parking Garage	480	800	Diesel	7,000 G
VVCC.0015	Van Vleet roof	3 N. Dunlap Street	Kohler	2024	KG200	34DRGMMM0015	Roof	208	200	Nat. Gas	N/A
VVCC.5471	Van Vleet	3 N. Dunlap Street	Caterpillar	2012	LC5	G5A05471	Beside Mech Rm	208	200	Diesel	400 G

“New Boiler Project” (see RFP p. 9)

General Education Building Systems Upgrades (SBC No. 540-013-04-2023)

The project replaces the three central plant boilers located in the General Education Building. They are being replaced in like kind (no increase or decrease in capacity). Construction is anticipated to be completed in Q1 of 2027. Additional details, construction documents, and schedule will be provided to down-selected proposers.

Please see capacity and basis of design information below:

BOILER																		
MARK	BOILER HP	OPERATING STEAM PRESSURE PSIG	STEAM LBS/HR	MAX. GAS INPUT (MBH)	# 2 OIL INPUT (GPH)	BURNER		COMPRESSOR		OIL METERING MOTOR		REMARKS	BURNER BASIS OF DESIGN		BOILER BASIS OF DESIGN		BOILER OR EQUAL	
						HP	VOLTAGE	HP	VOLTAGE	HP	VOLTAGE		MFR.	MODEL	MFR.	MODEL	MFR.	MODEL
B-1	600	150	20,700	25,200	168	15	480/3/60	7.5	460/3/60	1	460/3/60	BOILER SHALL BE ABLE TO OPERATE ON NATURAL GAS AND FUEL OIL. GAS AND OIL TRAINS TO BE PROVIDED BY THE BOILER MANUFACTURER.	POWER FLAME	LNICMR10A-GO-30	BRYAN	RW2100	CLEAVER BROOKS	FLX-2500
B-2	1000	150	34,500	42,440	300	50	480/3/60	15	460/3/60	1	460/3/60	BOILER SHALL BE ABLE TO OPERATE ON NATURAL GAS AND FUEL OIL. GAS AND OIL TRAINS TO BE PROVIDED BY THE BOILER MANUFACTURER.	CLEAVER BROOKS	LNELG-420	CLEAVER BROOKS	D-52	SUPERIOR	30-D
B-3	600	150	20,700	25,200	168	15	480/3/60	7.5	460/3/60	1	460/3/60	BOILER SHALL BE ABLE TO OPERATE ON NATURAL GAS AND FUEL OIL. GAS AND OIL TRAINS TO BE PROVIDED BY THE BOILER MANUFACTURER.	POWER FLAME	LNICMR10A-GO-30	BRYAN	RW2100	CLEAVER BROOKS	FLX-2500

BOILER SCHEDULE NOTE: THE FLOOR PLANS ARE DESIGNED AROUND THE MANUFACTURER BRYAN WITH A POWER FLAME BURNER FOR B-1 AND B-3, AND CLEAVER BROOKS FOR B-2. CONTRACTOR TO VERIFY DUCT AND PIPE ROUTING IF OTHER MANUFACTURERS ARE SELECTED.

EXHIBIT 3 – DETAILED SQUARE FOOTAGE BY EXISTING THERMAL EQUIPMENT AND COMMODITY COST

University of Tennessee Health Science Center
Energy P3 RFP - Exhibit 3: Detailed SF by Building and Heating/Cooling Network

Building Name	Campus	Address	GSF	Type	Category	Primary Space Type	% Lab	% Clinical	% Office	% Classroom	% Other	Heating Network	Cooling Category
Doctors Office Building	UTHSC Memphis Campus	66 N PAULINE ST	86,785 SF	E&G	Office-2	Office	0%	0%	100%	0%	0%	Doctor's Office	Doctor's Office
Mid South Food Bank	UTHSC Memphis Campus	239 S DUDLEY ST	33,012 SF	E&G	Warehouse/Storage-2	Other	0%	0%	0%	0%	100%	0	0
Dudley Street Building	UTHSC Memphis Campus	208 S DUDLEY ST	32,227 SF	E&G	Research Lab-2	Lab	100%	0%	0%	0%	0%	0	0
O. W. Hyman Administration Building	UTHSC Memphis Campus	62 S DUNLAP ST	49,344 SF	E&G	Office-1	Office	0%	0%	100%	0%	0%	GEB Network	GEB Network
Wittenborg Building	UTHSC Memphis Campus	0875 MONROE AV	61,056 SF	E&G	Research Lab-2	Lab	100%	0%	0%	0%	0%	GEB Network	GEB Network
Mooney Building	UTHSC Memphis Campus	875 MONROE AV	29,343 SF	E&G	Office-2	Office	0%	0%	100%	0%	0%	GEB Network	GEB Network
Crowe Building	UTHSC Memphis Campus	874 UNION AV	57,683 SF	E&G	Office-1	Office	0%	0%	100%	0%	0%	GEB Network	GEB Network
Nash Building	UTHSC Memphis Campus	894 UNION AV	109,086 SF	E&G	Research Lab-2	Lab	100%	0%	0%	0%	0%	GEB Network	GEB Network
Johnson Building	UTHSC Memphis Campus	847 MONROE AV	101,567 SF	E&G	Research Lab-2	Lab	100%	0%	0%	0%	0%	GEB Network	GEB Network
Dunn Dental Building	UTHSC Memphis Campus	875 UNION AV	121,640 SF	E&G	Research Lab-2	Lab	100%	0%	0%	0%	0%	GEB Network	Dentistry
Multidisciplinary Simulation Center	UTHSC Memphis Campus	26 S DUNLAP ST	57,006 SF	E&G	Science-2	Lab	100%	0%	0%	0%	0%	GEB Network	GEB Network
Faculty Practice & Research Bldg	UTHSC Memphis Campus	875 UNION AVE	84,234 SF	E&G	Research Lab-1	Lab	100%	0%	0%	0%	0%	GEB Network	Dentistry
Molecular Sciences Building	UTHSC Memphis Campus	858 MADISON AV	111,323 SF	E&G	Research Lab-2	Lab	100%	0%	0%	0%	0%	GEB Network	GEB Network
Cecil C. Humphreys General Education Building	UTHSC Memphis Campus	8 S DUNLAP ST	242,996 SF	E&G	Classroom-4	Classroom	0%	0%	0%	100%	0%	GEB Network	GEB Network
Vivarium Transformer Building	UTHSC Memphis Campus	885 MADISON A	1,680 SF	E&G	Central Plant	Other	0%	0%	0%	0%	100%	GEB Network	College of Pharmacy
Lamar Alexander Building	UTHSC Memphis Campus	877 MADISON AV	95,444 SF	E&G	Classroom-4	Classroom	0%	0%	0%	100%	0%	GEB Network	GEB Network
Link Building	UTHSC Memphis Campus	855 MONROE AV	58,565 SF	E&G	Office-2	Office	0%	0%	100%	0%	0%	GEB Network	GEB Network
College of Pharmacy Building	UTHSC Memphis Campus	881 MADISON AV	208,574 SF	E&G	Science-4	Lab	100%	0%	0%	0%	0%	GEB Network	College of Pharmacy
910 Madison Building	UTHSC Memphis Campus	910 MADISON AV	149,666 SF	E&G	Office-1	Office	0%	0%	100%	0%	0%	Madison Plaza	Madison Plaza
930 Madison Building	UTHSC Memphis Campus	930 MADISON AV	220,704 SF	E&G	Office-1	Office	0%	0%	100%	0%	0%	Madison Plaza	Madison Plaza
920 Madison Building	UTHSC Memphis Campus	920 MADISON AV	148,065 SF	E&G	Office-1	Office	0%	0%	100%	0%	0%	Madison Plaza	Madison Plaza
Van Vleet Cancer Center	UTHSC Memphis Campus	3 N DUNLAP ST	90,800 SF	E&G	Research Lab-2	Lab	100%	0%	0%	0%	0%	Van Vleet	Van Vleet
Emergency Generator Building	UTHSC Memphis Campus	956 COURT Ave	1,210 SF	E&G	Physical Plant Service	Other	0%	0%	0%	0%	100%	Coleman	Coleman
Coleman Building	UTHSC Memphis Campus	956 COURT AV	164,155 SF	E&G	Science-4	Lab	100%	0%	0%	0%	0%	Coleman	Coleman
Cancer Research Building	UTHSC Memphis Campus	19 S MANASSAS ST	104,981 SF	E&G	Research Lab-2	Lab	100%	0%	0%	0%	0%	CRB	CRB
Translational Research Building	UTHSC Memphis Campus	71 S MANASSAS ST	139,921 SF	E&G	Research Lab-2	Lab	100%	0%	0%	0%	0%	CRB	TSRB
Nash Addition	UTHSC Memphis Campus	151 EAST ST	67,268 SF	E&G	Research Lab-2	Lab	100%	0%	0%	0%	0%	Physical Plant	0
Facilities and Physical Plant Building	UTHSC Memphis Campus	201 EAST ST	34,725 SF	E&G	Office-1	Office	0%	0%	100%	0%	0%	Physical Plant	0
Physical Plant Shops Building	UTHSC Memphis Campus	201 EAST ST	13,333 SF	E&G	Physical Plant Service	Other	0%	0%	0%	0%	100%	Physical Plant	0
UT Doctors Pavilion	UTHSC Memphis Campus	201 EAST ST	1,482 SF	E&G	Recreation Center	Other	0%	0%	0%	0%	100%	Physical Plant	0
Wassell Randolph Student Alumni Center	UTHSC Memphis Campus	800 MADISON AV	100,385 SF	E&G	Student Centre	Other	0%	0%	0%	0%	100%	Student Alumni Center	Student Alumni Center
Vivarium Building	UTHSC Memphis Campus	45 S DUDLEY ST	26,558 SF	E&G	Research Lab-2	Lab	100%	0%	0%	0%	0%	Vivarium	Vivarium
807 Jefferson Avenue	UTHSC Memphis Campus	807 JEFFERSON AV	30,135 SF	E&G	Office-1	Office	0%	0%	100%	0%	0%	Student Alumni Center	Student Alumni Center
Regional Biocontainment Lab	UTHSC Memphis Campus	901 MONROE AV	30,880 SF	E&G	Research Lab-2	Lab	100%	0%	0%	0%	0%	RBL	RBL
Madison Avenue Plaza	UTHSC Memphis Campus	910/920/930 MADISON AV	19,372 SF	E&G	Office-2	Office	0%	0%	100%	0%	0%	0	0
Truck Court & Pedestrian Plaza	UTHSC Memphis Campus	885 MADISON AV	37,605 SF	E&G	Physical Plant Service	Other	0%	0%	0%	0%	100%	0	0
Chandler Building	UTHSC Memphis Campus	865 JEFFERSON AV	16,804 SF	E&G	Office-1	Office	0%	0%	100%	0%	0%	0	0
GEB Garage (E Parking Lot)	UTHSC Memphis Campus	869 MADISON AV	127,463 SF	AUX	Parking Garage	Other	0%	0%	0%	0%	100%	0	0
Madison Garage (H Parking Lot)	UTHSC Memphis Campus	940 MADISON AV	337,448 SF	AUX	Parking Garage	Other	0%	0%	0%	0%	100%	0	0
66 Pauline Annex Building	UTHSC Memphis Campus	66 N PAULINE ST	3,549 SF	AUX	Other Auxiliary	Other	0%	0%	0%	0%	100%	0	0
66 Pauline Garage (P Parking Lot)	UTHSC Memphis Campus	66 N PAULINE ST	191,201 SF	AUX	Parking Garage	Other	0%	0%	0%	0%	100%	0	0
SAC Garage (G Parking Lot)	UTHSC Memphis Campus	778 COURT AV	187,775 SF	AUX	Parking Garage	Other	0%	0%	0%	0%	100%	0	0
O Lot Parking Attendant Station	UTHSC Memphis Campus	848 BEALE ST	75 SF	AUX	Other Auxiliary	Other	0%	0%	0%	0%	100%	0	0
			3,787,124 SF										

Electrical	FY23	FY24	FY25
July	\$997,111.24	\$396,906.24	\$449,439.01
August	\$1,151,383.03	\$912,299.80	\$907,774.46
September	\$876,131.99	\$1,072,241.72	\$1,343,443.21
October	\$765,754.49	\$1,088,582.84	\$654,546.94
November	\$623,560.00	\$575,199.38	\$623,906.80
December	\$597,272.00	\$495,746.07	\$796,857.44
January	\$560,343.03	\$785,204.69	\$1,386,506.85
February	\$674,741.15	\$459,885.35	-\$65,098.65
March	\$439,817.93	\$759,852.95	\$546,760.78
April	\$436,713.25	\$750,155.84	\$890,599.12
May	\$727,725.03	\$776,207.41	\$799,865.56
June	\$872,655.44	\$1,177,253.95	\$1,270,846.04
Totals	\$8,723,208.58	\$9,249,536.24	\$9,605,447.56

Actuals	FY25 Through P5	FY26 Through P5
Electrical	\$3,979,110.42	\$4,525,557.85
Gas	\$374,565.96	\$436,143.69
Water	\$270,800.64	\$233,822.48

Gas	FY23	FY24	FY25
July	\$178,670.73	\$45,753.38	\$29,378.72
August	\$139,559.07	\$84,091.31	\$101,719.86
September	\$145,852.55	\$109,560.85	\$114,116.41
October	\$190,580.24	\$104,609.52	\$53,197.60
November	\$109,754.35	\$93,765.58	\$76,371.37
December	\$210,126.07	\$68,180.50	\$125,637.36
January	\$194,172.01	\$144,530.50	\$198,297.60
February	\$187,883.13	\$173,432.57	\$271,351.14
March	\$84,656.44	\$220,763.40	\$182,013.19
April	\$47,894.56	\$115,950.55	\$166,466.60
May	\$117,918.10	\$73,759.60	\$124,810.39
June	\$79,198.04	\$55,218.23	\$88,824.36
Totals	\$1,686,265.29	\$1,289,615.99	\$1,532,184.60

Water	FY23	FY24	FY25
July	\$42,676.60	\$23,638.83	\$55,595.13
August	\$50,639.74	\$38,402.54	\$52,689.34
September	\$47,532.36	\$47,194.91	\$76,325.19
October	\$44,496.91	\$71,484.13	\$42,671.47
November	\$43,360.68	\$29,953.63	\$43,519.51
December	\$33,762.38	\$25,121.56	\$34,443.96
January	\$34,020.79	\$48,614.16	\$69,799.57
February	\$51,731.43	\$32,941.38	\$50,648.83
March	\$22,574.02	\$48,618.75	\$36,013.73
April	\$30,505.63	\$57,571.46	\$52,287.83
May	\$34,289.36	\$42,123.01	\$82,576.93
June	\$24,883.21	\$164,575.90	\$45,892.23
Totals	\$460,473.11	\$630,240.26	\$642,463.72

EXHIBIT 4 – SELECT 2020 CAMPUS MASTER PLAN SECTION



2020 CAMPUS MASTER PLAN UPDATE

MASTER PLAN

JUNE 2020



INTRODUCTION

ABOUT UTHSC

STATE CONTEXT

Over 3,000 students are enrolled at the four major University of Tennessee Health Science Center (UTHSC) locations – Memphis (main campus), Knoxville, Chattanooga or Nashville – as well as in a myriad of health care-related facilities across Tennessee. Future programmatic relationships at each of the locations will be considered as opportunities develop that support UTHSC's statewide mission.

Knoxville: Based at the Knoxville UT Medical Center, this location includes four Colleges, Medicine, Pharmacy, Health Professions, and Dentistry. UTHSC's Audiology and Speech Pathology (A&SP) Program (within the College of Health Professions) located on the UT Knoxville campus will be relocated and consolidated to its permanent home in the UT Conference Center. Phase I of the project has been approved and design is underway. This phase consolidates functions from Neyland Stadium and construction is planned to begin in early 2020. Phase 2, which will consolidate the remaining A&SP Program functions from the Silverstein Luper Hearing and Speech Center and the Pediatric Language Clinic buildings on the UTK campus, will be submitted in the capital budget request this year. The vacated buildings will be turned over to UTK for future use.

Chattanooga: Based at Erlanger Health System, this location includes College of Medicine clinical rotations, and residency and fellowship programs in Graduate Medical Education program.

Nashville: This location is a core teaching hospital partnership with Saint Thomas Health (Ascension Health Care System). This location includes the Colleges of Medicine, Nursing, Pharmacy, and preliminary discussions are also under way to establish a Nashville presence for the College of Dentistry.

UTHSC COLLEGES

DENTISTRY

GRADUATE
HEALTH
SCIENCES

HEALTH
PROFESSIONS

MEDICINE

NURSING

PHARMACY

UTHSC AT A GLANCE



**More than 3,000 students
in Memphis, Knoxville,
Chattanooga, and Nashville**



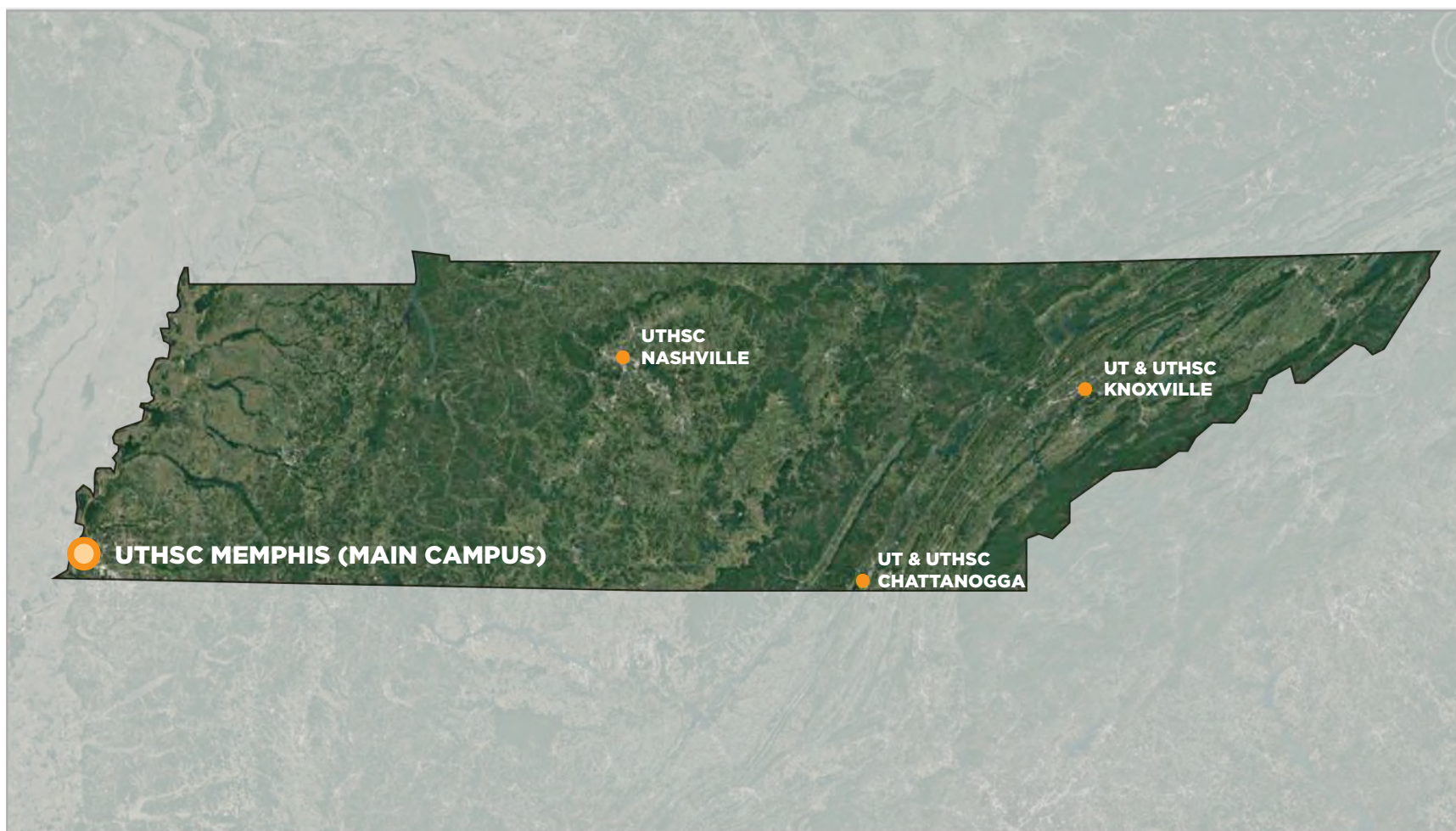
**More than 1,300 residents
and fellows training in
87 ACGME programs**



**Contributes \$4 billion to
the Tennessee economy**



**In 2014, UTHSC faculty
received over \$80 million in
external funding for research**



UTHSC Statewide Presence

UTHSC MAIN CAMPUS

UTHSC's Main Campus is the focus of the 2020 UTHSC Campus Master Plan Update. The UTHSC Memphis campus comprises six colleges – Dentistry, Graduate Health Sciences, Health Professions, Medicine, Nursing and Pharmacy – training the health care scientists and caregivers of tomorrow. UTHSC's Main Campus is tied in to the urban fabric of the city of Memphis, and is surrounded by multiple medical institutions, which together comprise the Memphis Medical District. This unique location, along with the close proximity to existing and potential partners, creates an opportunity to continue to develop UTHSC into a “vibrant medical hub of the South.”

The University has recently completed two new research facilities, the Cancer Research Building and the Translational Research Building. Both are located on the west edge of the Health Sciences Park, the orienting core for the University Health Science Center. The desire of the University to expand its state-of-the-art research facilities has led to a partnership with the Innova Memphis Foundation to develop a new research park at the center of campus.

A major renovation for the historic buildings of Crowe, Mooney and Nash Buildings is currently underway. These outdated buildings will be updated to be used for nursing, research, and some administrative space.

The Baptist Memorial Hospital donated the 910, 920, and 930 Madison buildings to the University in 2005. Although a generous gift, these buildings' mechanical and electrical systems don't meet today's standards. To keep the building functioning for core College of Medicine programs, critical deferred maintenance must be addressed in the short-term until a new College of Medicine can be built.

A new housing development is planned with the Henry Turley Company on the parcel on the corner of Jefferson Avenue and North Manassass Street - on the Northwest corner of campus. This will require the demolition of the Boling Center, Hyde Engineering Building, the Variety Building, and several other smaller facilities. This will provide opportunities for students, faculty, and staff to live in close proximity to campus in high-quality facilities.



Translational Research Building

2020 CAMPUS MASTER PLAN UPDATE

The University of Tennessee Health Science Center Campus Master Plan Update is built on a strong foundation of prior planning and initiatives, including the 2015 Campus Master Plan, UTHSC's strategic plan, growth initiatives in research and academic programs, and recent campus acquisitions and partnerships. The new strategic plan lays out seven key strategic goals that inform the campus physical environment.

This document is the road map for current and future leaders as they look to grow and develop the physical facilities of the campus, improving aging facilities in order to fulfill the desire to "Position UTHSC as a National Leader in Targeted Areas of Excellence Across Missions, Campuses and Colleges."



“The mission of **The University of Tennessee Health Science Center** is to bring the benefits of the health sciences to the achievement and maintenance of human health, with a focus on the citizens of Tennessee and the region, by pursuing an integrated program of education, research, clinical care, and public service.”



MISSION AND VISION

The University of Tennessee Health Science Center pursues this mission through four areas of focus:

- Education
- Research
- Clinical Care
- Public Service

EDUCATION

UTHSC strives to produce caring, competent, and ethical patient-focused healthcare professionals prepared to detect, treat, and prevent human disease and injury, as well as to provide guidance in the achievement and maintenance of human health. The University is made up of six separate Colleges, all having major academic educational space for both classroom and laboratory experience.

The campus location has also allowed the University to develop partnerships with many of the hospitals and healthcare facilities within walking distance, biking distance or shuttle transport distance of the academic core of the campus for student rotations and internships.

RESEARCH

Through research, UTHSC aims to discover and develop concepts, procedures, and products to enable the effective detection, treatment, and prevention of human disease and injury.

The UTHSC campus contains many medical research facilities, including the Cancer Research Center and Translational Research Center, as well as many general research buildings.

CLINICAL CARE

The University seeks to deliver comprehensive health care services, established upon contemporary evidence-based research, to the citizens of Tennessee and the region.

Along with the academic and research facilities on campus, multiple clinical facilities meet the mission to deliver comprehensive care services for dentistry, eye care, and disability development, and other clinical disciplines.

PUBLIC SERVICE

As a resource to other state agencies, policy-makers, and professional health care organizations, UTHSC advances policy, practice, and scientific issues related to the achievement and maintenance of human health. The University also delivers equitable, efficient, and cost-effective health care services and products.

Located in the middle of Memphis between Downtown and Midtown, The University of Tennessee Health Science Center is centrally located to all major health care facilities in the city. The City of Memphis has designated the area in which the University sits as the Memphis Medical District.

UTHSC **STRATEGIC INITIATIVES**

The new strategic plan lays out seven areas of investment that inform and form the physical aspects of the campus plan:

Educate outstanding graduates that meet the needs of the state by:

- Providing state-of-the-art facilities
- Providing partnerships with adjacent hospitals
- Growing the research portfolio, focusing on targeted areas
- Growing cancer research
- Establishing a partnership with Innova Memphis
- Providing GMP facilities

Grow the research portfolio focusing on targeted areas:

- Provide infrastructure for research and scholarship
- Enhance connections between researchers
- Create a collaborative research network across disciplines, colleges, campuses, universities, hospitals, and industry

Create areas of clinical prominence while expanding care and outreach by:

- Growing the dental school and clinic
- Growing the mental health clinic
- Growing the eye care clinic

Increase visibility and recognition of UTHSC contributions by:

- Showcasing academic areas of excellence by creating visual connections
- Enhancing site signage
- Improving gateways to campus

Align system-wide resources with areas of excellence by:

- Addressing prioritized needs and deficits requiring additional resources
- Increasing program collaboration across the UT System
- Allocating space based on need

Expand and strengthen key partnerships by:

- Working with Regional Medical Center and Le Bonheur to build connections to future Women's and Infants' Pavilion
- Improving connections to Baptist School of Nursing
- Improving connections to Southwest Tennessee Community College

Strengthen organizational effectiveness and adaptability through a focus on a culture of excellence across UTHSC including staff, faculty, and administration





UTHSC TODAY

PHYSICAL **CAMPUS CONDITIONS**

CAMPUS CONTEXT

UTHSC is surrounded by several other significant healthcare providers, which are part of the Memphis Medical District Collaborative (MMDC). Within this collaborative, the partners work together to strengthen the surrounding community. Partners within the MMDC include: Baptist College of Health Sciences, Methodist Le Bonheur Children's Hospital, Regional One Health, Southern College of Optometry, St Jude Children's Research Hospital, and the Southwest Tennessee Community College.

Located on the east side of the campus is Innova Memphis, under development by the Innova Memphis Foundation, the Research Park is a growing major bioscience research complex. To date, the park has developed the new vivarium facility and operates an existing office building as well as a large parking structure for users throughout the Memphis Medical District.

Southwest Tennessee Community College is a technical college at the southwest corner of the Health Sciences Park. In 2014, the College opened a new Nursing Building, on the west side of the campus. The Community College also serves as the eastern edge of the adjacent Edge neighborhood.

There are several residential neighborhoods adjacent to the campus, including the Edge, Victorian Village, and Legends Park. The Edge neighborhood is located to the southwest of the campus. The area is a mix of industrial and retail from the early 20th century, residential units of poor quality, and a significant amount of vacant parcels.

This area has been identified by the Urban Land Institute (ULI) panel as a key opportunity for redevelopment. The Victorian Village is located to the northeast of the campus. The Village is a small but impressive collection of Victorian-era homes with some newer infill. The community has a non-profit operation focusing on restoration and public outreach. Legends Park is a former public housing redevelopment fronting Poplar Avenue two blocks north of the campus. The project includes housing, retail, medical office and the Fed-Ex Family House. This facility is a home for out-of-town families with children receiving treatment at Le Bonheur Children's Hospital.

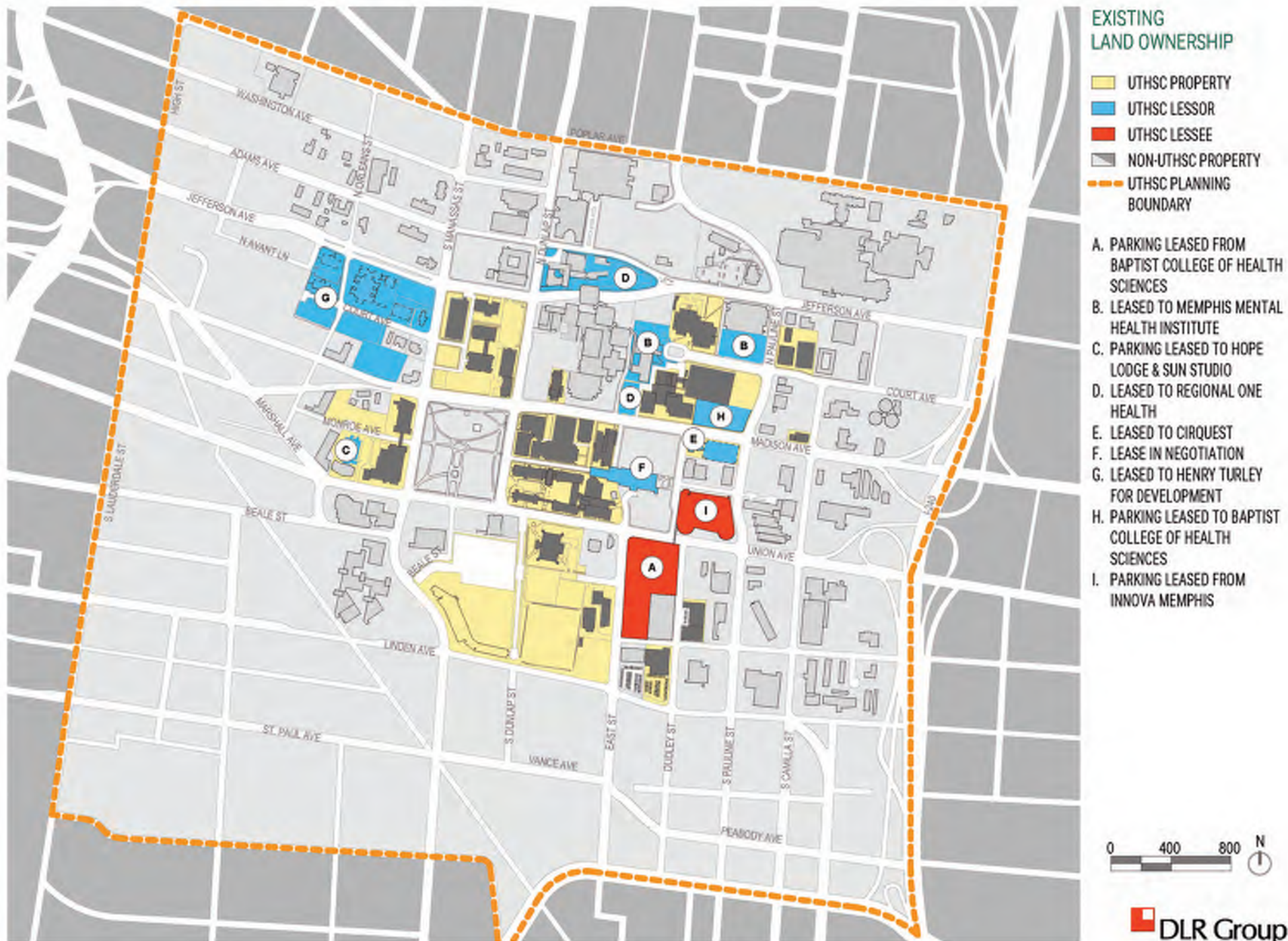
Surrounded by the UTHSC campus is the Health Sciences Park, providing a passive space at the center of campus. The park was recently sold by the city to a private entity. Other parks nearby include Court Square, Robert R. Church Park, Morris Park, and Winchester Park. Morris Park is located relatively close-by, at the intersection of Poplar Avenue and N. Dunlap St. The park provides recreational and passive spaces, and was highlighted by community stakeholders as an amenity for the Memphis Medical District that would benefit from further investment.

LAND OWNERSHIP

The University of Tennessee Health Science Center currently owns over 40-acres within the heart of the Memphis Medical District, east of Downtown Memphis and adjacent to the rapidly redeveloping Edge District. Like any urban campus, the University parcels are spread across multiple blocks and are not consolidated within a campus core. In addition to this complicated land use pattern, the University leases land, buildings, and parking areas to numerous partners within the Memphis Medical Center. Properties north and west of Court Avenue are leased to Memphis Mental Health Institute. A parcel of land west of the Translational Science Research Center is leased to Sun Studios for visitor parking. Nearby, land is leased to Hope Lodge, an American Cancer Society temporary housing facility for cancer patients receiving treatment in Memphis. On the east edge of campus on Madison Avenue, Cirquest leases two buildings and another lease is in negotiation. Research partners and entrepreneurs lease facility space within the Van Vleet Building. Most significantly, the Henry Turley Company has recently negotiated a long-term lease for an 11-acre parcel of land west of Manassas Street to develop market-rate housing and retail amenities to support UTHSC and MMD staff and students.

UTHSC also benefits from the opportunity to lease land, parking and facility space to provide important program adjacencies. The contractual relationships include leased space with the Innova Memphis Vivarium and a large parcel of land from Baptist College of Health Sciences south of Union Avenue for student, staff, and faculty parking.

To be strategically prepared to acquire land and facilities from willing sellers in the dynamic Memphis real estate market, UTHSC has established a Planning Boundary. Since 2015 this vehicle has been instrumental in clearly communicating which land has been recognized to have impact on UTHSC operations, is of value for knowledge and share MMD planning initiatives and may be critical for expanding programs and services. The proposed boundary used in this study encompasses property to Vance Avenue and Peabody Avenue to the south, Poplar Avenue to the north, South Lauderdale Street to the west side, and Interstate 240 to the east.



EXISTING FACILITY USE

One of the major challenges facing UTHSC is its aging building stock, which can be a source of growing pains along with the constrained urban campus. However, UTHSC has commissioned some important building projects over past 5 years. The new Cancer Research Center, Translational Research Building, Center for Healthcare Improvement and Patient Simulation, and College of Pharmacy are the most notable of these projects.

The Crowe, Mooney, Nash, and Nash Annex are currently undergoing a renovation to accommodate the School of Nursing, administrative offices, and updates to laboratories. The Dunn Dental building has planned renovations and expansion in the near future.

Older buildings in need of more immediate upgrades include the Van Vleet Cancer Center, Molecular Science, and the Coleman Building. Other buildings in potential critical state of repair include the 910/920 Madison and Madison Plaza buildings, the Doctor's Office buildings, and the East Street facilities storage building. The Baptist Memorial Hospital donated the 910, 920, and 930 Madison buildings to the University in 2005. Although a generous gift, these buildings' mechanical and electrical systems don't meet today's standards. To keep the building functioning for core College of Medicine programs, critical deferred maintenance must be addressed in the short-term until a new College of Medicine can be built.

The General Education Building, although aging, functions well as the hub of classroom and class lab activity. The Student Alumni Center works well as a meeting center, though recreation services should be improved and updated to meet today's standards. There is a need to expand the services provided at the Student Alumni Center and Recreation Center. The Alexander Building (Library) is in need of updated study spaces, additional security, along with other upgrades to accommodate students.

Additional concerns that have been revealed in the campus assessment process include:

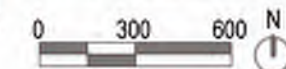
- Lack of unified space for College of Health Professions Programs
- Lack of academic office space, particularly for the College of Medicine
- Need for additional clinical space, particularly in College of Dentistry and University Health Services
- Need for additional student support offices, recreation, and dining facilities
- Need for updated housing for students, faculty, and staff
- Need for additional flexible study space and student life areas
- Need for accessible access into all buildings

EXISTING FACILITY USE

- ACADEMIC
- RESEARCH
- STUDENT LIFE
- RECREATION + FITNESS
- ADMINISTRATIVE
- FACILITY SUPPORT
- PARKING
- DINING LOCATIONS
- CLINICAL LOCATIONS
- UTHSC PROPERTY

FACILITY NAMES

1. PHI CHI FRATERNITY HOUSE
2. HYDE ENGINEERING BUILDING
3. BOILING CENTER FOR DEVELOPMENTAL DISABILITIES
4. T40 COURT BUILDING
5. JUST VARIETY BUILDING
6. CANCER RESEARCH BUILDING
7. STUDENT CENTER GARAGE
8. STUDENT ALLIUM CENTER
9. SAFETY AND SECURITY BUILDING
10. VAN VLEET CANCER CENTER
11. MOLECULAR SCIENCES BUILDING
12. GENERAL EDUCATION BUILDING
13. GEB GARAGE
14. CHIPS BUILDING
15. LAMAR ALEXANDER BUILDING
16. COLLEGE OF PHARMACY BUILDING
17. JOHNSON BUILDING
18. LINK BUILDING
19. WITTENBERG ANATOMY BUILDING
20. MOONEY BUILDING
21. NASH ANNEX
22. O.W. HYMAN ADMINISTRATION BUILDING
23. CROWE BUILDING
24. NASH BUILDING
25. DUNN DENTAL BUILDING
26. FACILITIES AND PHYSICAL PLANT BUILDING
27. PHYSICAL PLANT SHOPS
28. DOCS FIELD PAVILION
29. COLEMAN COLLEGE OF MEDICINE BUILDING
30. 900 MADISON BUILDING
31. MADISON GARAGE
32. MADISON PLAZA BUILDING
33. 910 MADISON BUILDING
34. 900 MADISON BUILDING
35. PAULINE ANNEX
36. DOCTORS OFFICE BUILDING
37. DOCTORS OFFICE BUILDING GARAGE
38. MEMPHIS BIOWORKS 1
39. MEMPHIS BIOWORKS 2
40. MEMPHIS BIOWORKS 3
41. 1818 + 1822 MADISON
42. PLOUGH CENTER
43. MD-SOUTH FOOD BANK
44. TRANSLATIONAL SCIENCES RESEARCH BUILDING



EXISTING BUILDING / FACILITY ASSESSMENT

An update of the facility physical assessment for UTHSC buildings was completed in 2019. Buildings were evaluated on conditions of 1.) Exterior envelope, 2.) Building systems and 3.) Interior spaces. Assessments of exterior envelope considered elements such as exterior wall integrity, fenestration and roof; building systems included updates from UTHSC Facilities staff on mechanical systems, lighting, and data infrastructure; interior spaces assessment looked at conditions of labs, classrooms, clinical and administrative spaces. The matrix in the appendix of this document summarizes the results of this assessment. Exterior envelope and building systems were given a “poor”, “good” or “best” rating. Interior spaces were graded on an A to F scale.

Buildings proposed for demolition in the 2015 Master Plan and are still being proposed for demolition were not re-evaluated as their condition and suitability for repurposing had not changed. These include the Boling Center, Phi Chi Fraternity House, 910 Madison, 920 Madison, Doctor’s Building, Doctor’s Building Parking Deck, Pauline Annex, Adams Pavilion and Shops Building. With the housing development taking place west of the campus, Hyde Engineering, 740 Court and Just Variety Building have been added to the list of building for demolition. Due to the poor condition of the south portion of the Van Vleet Center, it was added to the list of buildings proposed for demolition in the latter phase of the 2020 master plan. Other than the newer buildings on campus, all other buildings will require renovation and/or repurposing over the life of the master plan. The Molecular Sciences Building, scheduled for demolition in the 2015 master plan, has been re-evaluated for renovation and repurposing to house the College of Health Professionals.

Since the completion of the 2015 Master plan, several of its recommendations have been implemented. The historical core buildings of Crowe, Mooney and Nash are currently undergoing major renovations. The expansion to the Dunn Dentistry Building is under design. The Center of Healthcare Improvement and Patient Simulation (CHIPS) and Phase I of the Good Manufacturing Process (GMP) at the Plough Center have been opened.

It should be noted that on-going repairs to building envelopes, building systems and interior upgrades keep the older buildings in operation and will continue to be required until replacement facilities are available.

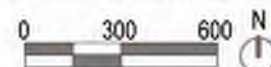
The diagram on the following page illustrates a holistic conditions assessment which combines both function and physical condition. Through this analysis the following facilities have been recommended for demolition or major renovation and repurposing of use over time.

EXISTING FACILITY CONDITIONS

- NEW / SATISFACTORY / IMPROVEMENTS UNDERWAY
- REQUIRES UPGRADES
- CRITICAL IMPROVEMENTS
- PLANNED FOR DEMOLITION
- UNRATED
- UTHSC PROPERTY

FACILITY NAMES

1. PH CH FRATERNITY HOUSE
2. HYDE ENGINEERING BUILDING
3. BOWLING CENTER FOR DEVELOPMENTAL DISABILITIES
4. 748 COURT BUILDING
5. JUST VARIETY BUILDING
6. CANCER RESEARCH BUILDING
7. STUDENT CENTER GARAGE
8. STUDENT-ALUMNI CENTER
9. SAFETY AND SECURITY BUILDING
10. WIN VLEET CANCER CENTER
11. MOLECULAR SCIENCES BUILDING
12. GENERAL EDUCATION BUILDING
13. GEB GARAGE
14. CHPS BUILDING
15. LAMAR ALEXANDER BUILDING
16. COLLEGE OF PHARMACY BUILDING
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23. CROWNE BUILDING
24. NASH BUILDING
25. DUNN DENTAL BUILDING
26. FACILITIES AND PHYSICAL PLANT BUILDING
27. PHYSICAL PLANT SHOPS
28. DOCS FIELD PAVILION
29. COLEMAN COLLEGE OF MEDICINE BUILDING
30. 928 MADISON BUILDING
31. MADISON GARAGE
32. MADISON PLAZA BUILDING
33. 918 MADISON BUILDING
34. 938 MADISON BUILDING
35. PRULINE ANNEX
36. DOCTORS OFFICE BUILDING
37. DOCTORS OFFICE BUILDING GARAGE
38. MEMPHIS BIOWORKS 1
39. MEMPHIS BIOWORKS 2
40. MEMPHIS BIOWORKS 3
41. 1018 + 1022 MADISON
42. PLOUGH CENTER
43. MID-SOUTH FOOD BANK
44. TRANSLATIONAL SCIENCES RESEARCH BUILDING

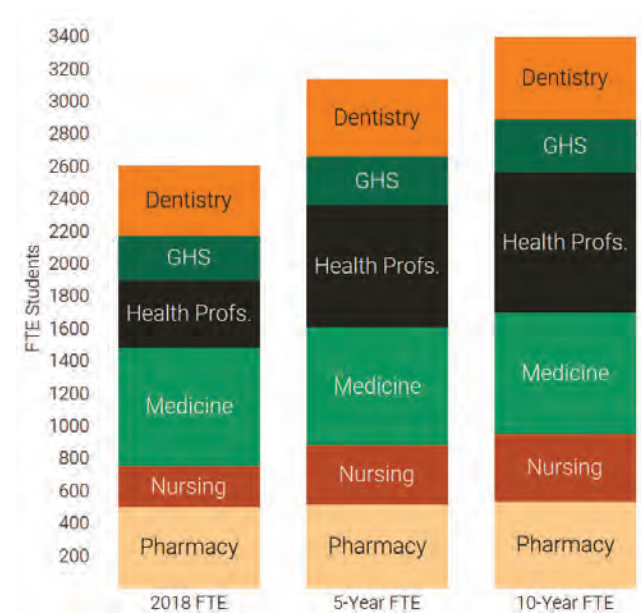


ACADEMIC, RESEARCH, AND PRACTICE COMMUNITIES

Currently the largest college on campus is the College of Medicine with 728 full time equivalent (FTE) students, followed by the College of Pharmacy with 502 FTE students and the College of Dentistry and College of Health Professions with 436 FTE and 417 FTE respectively. Although smaller in size, the Colleges of Nursing (249 FTE) and Graduate Health Sciences (273 FTE) are significant for their growing enrollment, potential for cross-disciplinary and translational programs, and strategic planning for distinction within the region. For future space planning efforts, it is critical to determine how each College will grow and what physical resources will need to be provided on campus in order to service this growth. Based on space utilization and space gap analysis that considers enrollment growth, research growth, current facility improvements, and recommended facility reallocation/demolition, lab and office space for instruction and research will become a large-scale need in the next decade.

It is important to note that research on campus continues to be more cross-disciplinary. With the new Translational and Cancer Research Centers on the western end of campus, the renovations and reconstructions of the Crowe, Nash and Nash Annex facilities, and the success of the Plough Center, integration of a bench-to-bedside model is even more important to encourage collaboration between clinicians and scientists across institutes and disciplines. Significant existing space in the Madison Plaza Complex and the Doctors Building cannot foster this evolution due to the physical layout, MEP systems, and floor-to-floor heights of the buildings. Similarly, the Molecular Sciences and Coleman Buildings require significant renovation and reconstruction to meet peer standards.

Clinical Education is crucial to the development of competent medical caregivers. The University mission to provide high-quality health science professionals to the State of Tennessee means student clinical experiences must encompass a variety of rotations with committed partners. These critically, important partnerships are described below. Maintaining such partnerships, fostering easy connectivity across the campus and Memphis Medical District, and growing existing on-campus clinic sites is of utmost importance to UTHSC.



FTE by College



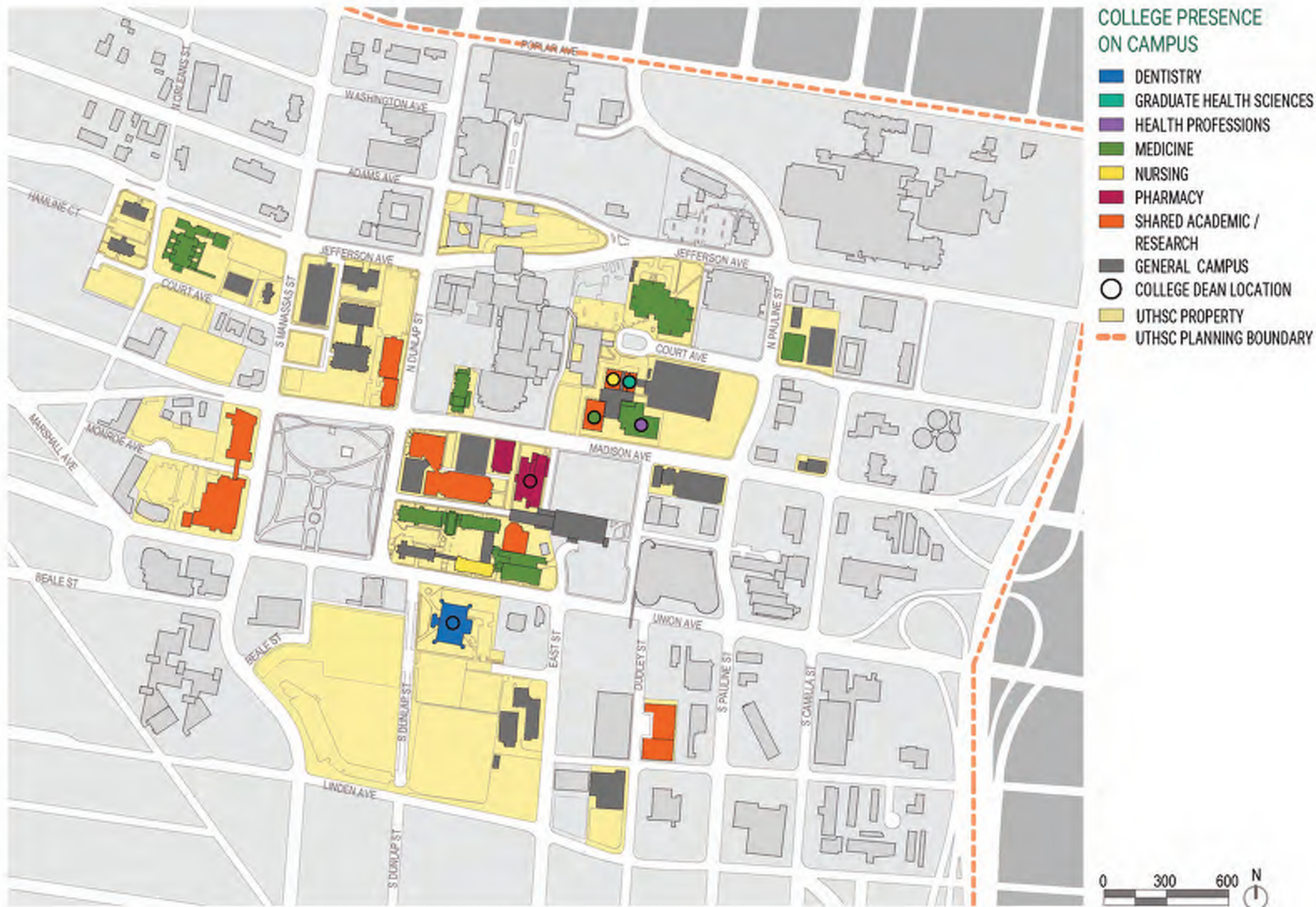
The Center for Healthcare Improvement and Patient Simulation (CHIPS) is a 45,000 square foot stand-alone building for healthcare simulation and interprofessional education.

EXISTING COLLEGE PRESENCE ON-CAMPUS

Projecting out 10 years, the College with the largest growth is anticipated to be Health Professions. Their projected growth over 100% equates to an increase of students to nearly 865 students in the decade ahead. Given the existing scattered distribution of the College programs and personnel, it is critical to provide a direction for improved, flexible adjacencies. The demand for space will be addressed by consolidating the College into one larger facility, ideally within the renovated Molecular Sciences Building. To meet local, regional, and national professional needs, the College of Nursing also projects significant growth, adding more than 160 new FTE in 10 years. The resulting space needs will be initially addressed through the Crowe Building renovation, but additional space will be needed in the future. Due to enrollment caps, the College of Medicine does not project significant enrollment, but it experiences a daily unmet need for dedicated, modern and consolidated space that can foster academic collegiality and research creativity. Creating a central “home base,” a hub for the medical professions, near the other colleges, is a high priority for the University.

Other cross-college academic space priorities include:

- Ensure college proximity and mix of spaces support shared and integrated health science instruction
- Guide new facilities to foster collaboration and incubate new sciences
- Guide renovations to encourage and provide incentives for cross-disciplinary teams
- Consolidate and link locations for academic activities to ease student and staff mobility
- Provide a visible point of pride and central hub for each college



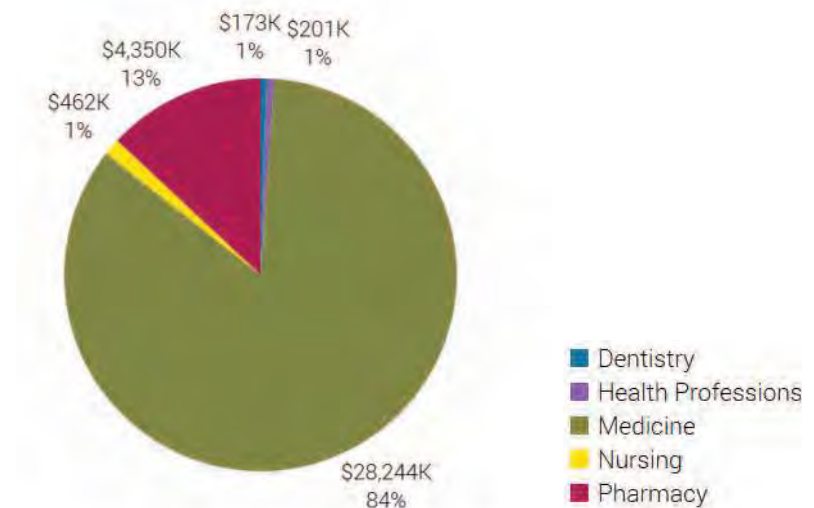
RESEARCH RESOURCES

Vivaria are distributed across campus and would benefit from consolidation, more centralized access, improved layout and updated conditions. Flexible expansion is also difficult. Because of these constraints, completion of the Nash/Nash Annex renovations and acquisition of the Innova Memphis Vivarium east of the College of Pharmacy is strategically important. However, it's critical to note that the additional space resulting from these two initiatives will only help meet short term needs. In the decade ahead, if enrollment and research objectives are met, additional vivarium space will need to be developed. A cross-disciplinary research center, near a new College of Medicine and the existing College of Pharmacy, is an important planning driver.

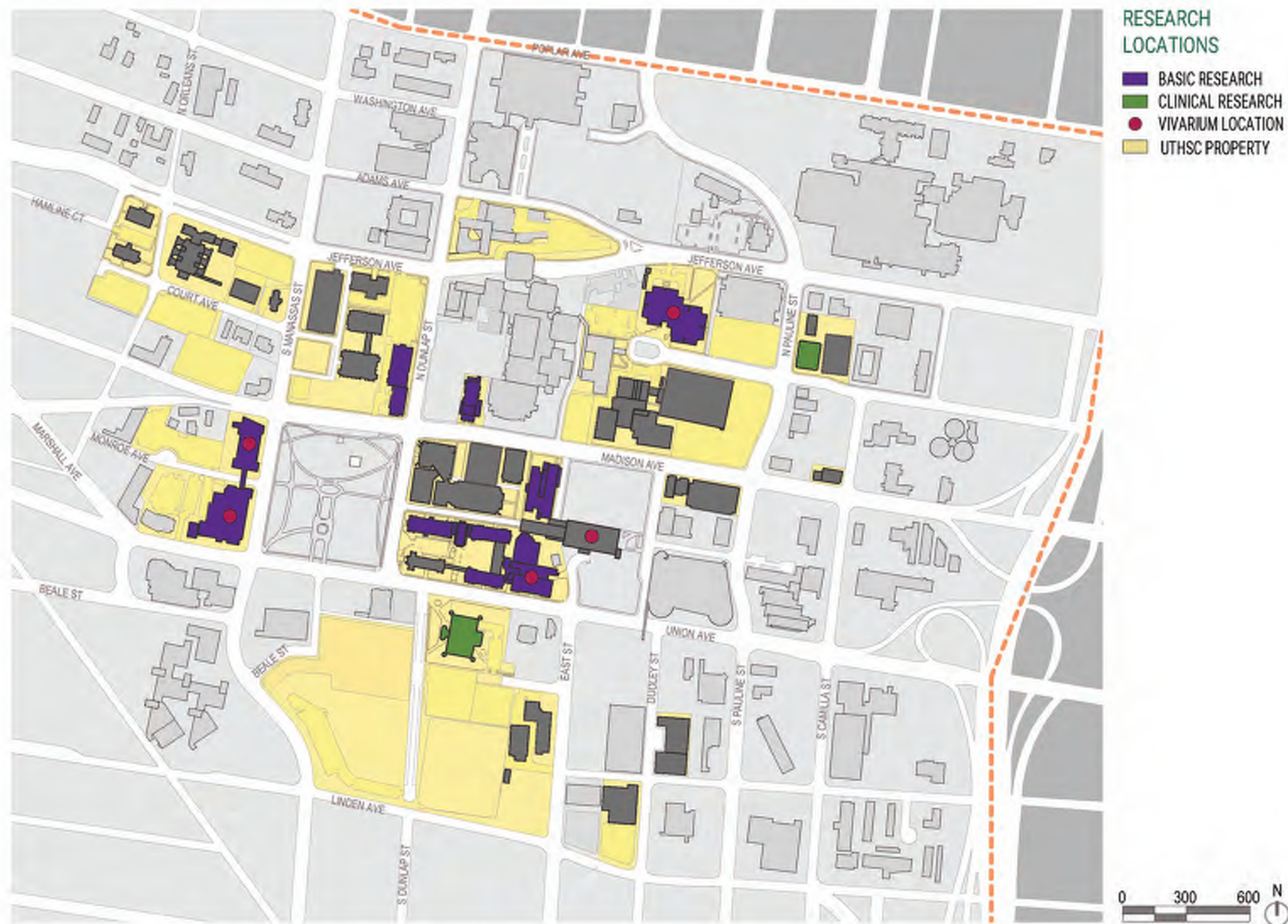
Secure, safe and convenient pedestrian connections to clinical programs should be considered when locating new research amenities, support space, and programs. A large, central clinical trials facility would be advantageous given the proximity to hospitals. 930 Madison, home of the Hamilton Eye Institute, already supports clinical programs in a central location and could be a base for expanding other clinical trial activities.

RESEARCH FUNDING

The College of Medicine accounts for most of UTHSC's external grants and research expenditures. UTHSC requires both flexible and prominent research space to meet its strategic planning for COM research growth as well as position opportunities to attract, retain, and increase research staff and funding for other colleges. Existing research centers such as the Nash/Nash Annex, Cancer Research Center, Translational Research Center, and VanVleet are "land locked." Other than the incremental redevelopment of campus parking lots, strategic land acquisition is required to develop flexible facilities for joint ventures with private industry that can lead to the productive scientific and investment synergies of a Health Science Innovation District.



Research Funding by College



CLINICAL RESOURCES

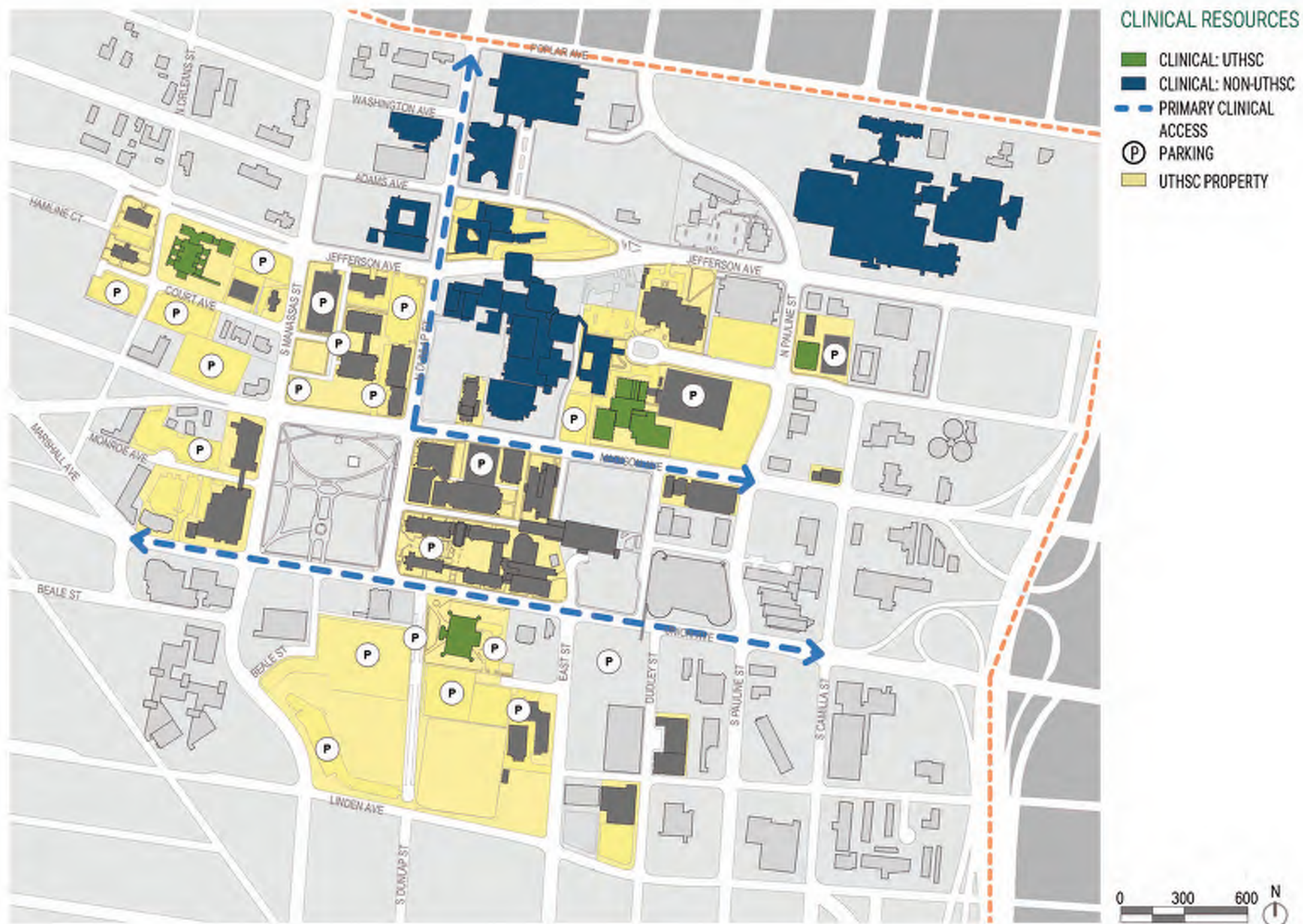
Clinical care on the UTHSC campus, as well as in the Memphis Medical District (MMD), is largely concentrated north of Madison Avenue. While located close to instructional and research facilities, there is no clear patient “zone” or support center for clinical visitors. However, some clinical services have developed in separate campus zones, depending on college location or available space. For example, the dental clinics are located within the Dunn Dental Building, south of Union Avenue, and are distant from other UTHSC outpatient programs and research. This distributed pattern of UTHSC-owned and operated clinical services does not allow for sharing resources, developing program synergies, leveraging patient education, or providing shared amenities.

Given the past need to incrementally accommodate programs within available space as it became available rather than intentionally position patient care in a central location, identification of clinical destinations is not clear. The assignment of multiple programs within older facilities is confusing, especially given the number and variety of campus buildings and entrances. For example, the strong signage and branded identity of the Hamilton Eye Institute in 930 Madison is beneficial for their patients, while in the same complex, University Therapists’ patients have difficulty locating the clinic.

Most important, several older UTHSC buildings are not comparable to the best settings for clinical care within the MMD or with UTHSC peers. The Boling Center, the 910/920 Madison Plaza Complex, the Doctors Office Complex and the Pauline Annex do not warrant continued investment and have been recommended for future demolition as their space is replaced elsewhere on campus. This presents an opportunity to redevelop campus clinical resources in a more centralized, patient-friendly, and modern facility.



Hamilton Eye Institute



CLINICAL PARTNERS

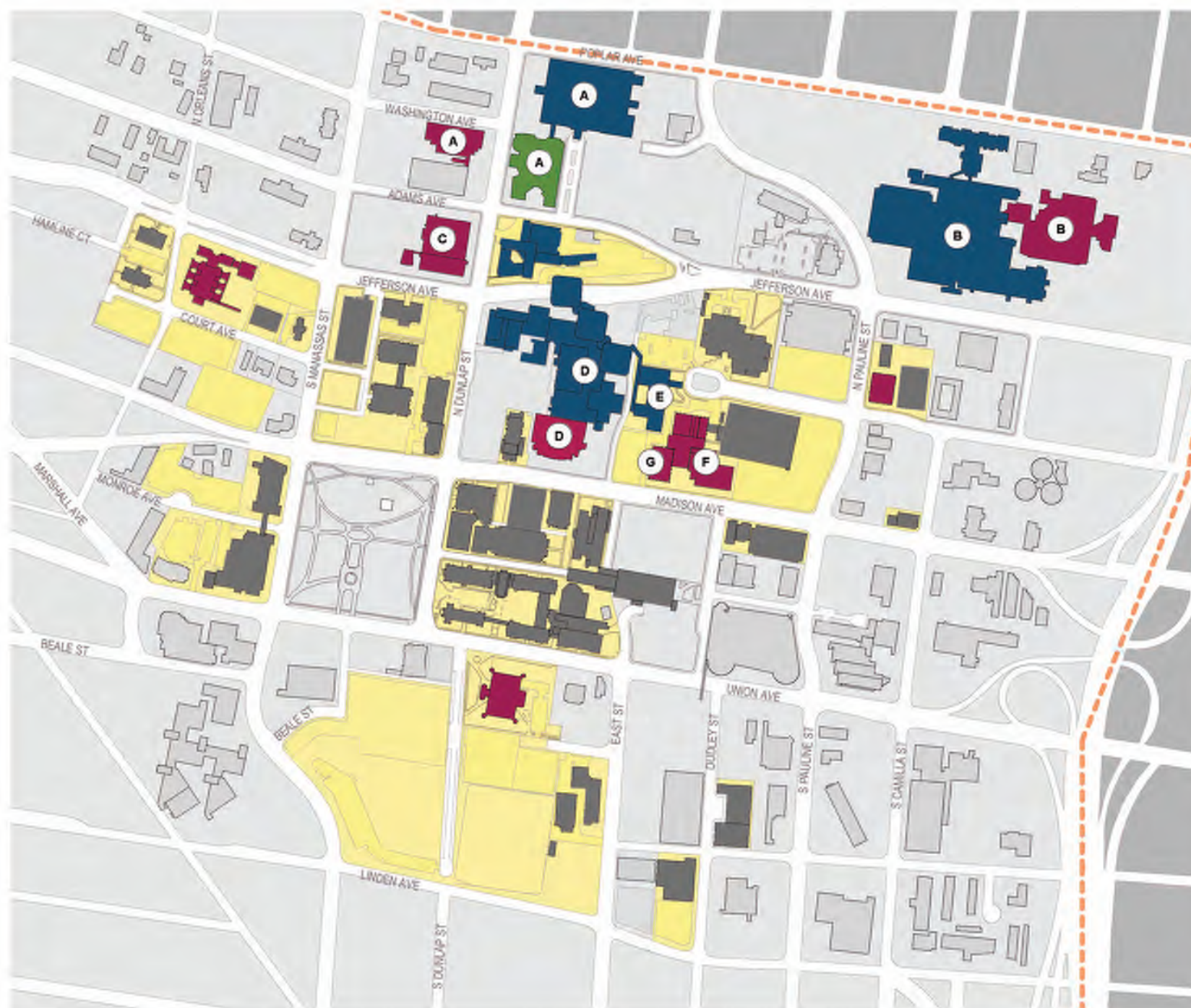
Most of the clinical rotations and patient experience for UTHSC students is provided at Memphis Medical District partner institutions adjacent to or near campus. Students and faculty spend the great part of their time at these institutions.

Opportunities for collaboration between clinicians, researchers and faculty are enhanced by the close geography. However, the degree to which students and staff move between institutions is generally tied to specific programs. Each partner is generally self-contained with no shared facilities, no significant opportunity for serendipitous meetings, and no natural gathering points. In addition, pathways between institutions are not inviting and do not encourage voluntary movement.

Note: St. Jude Medical Center and Methodist Hospital are significant partners which are located nearby, but not within the immediate vicinity. Because they require travel by car or shuttle, staff and students are limited in their ability to easily connect to the main campus.



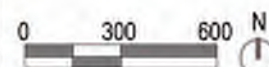
LeBonheur Childrens Hospital



CLINICAL PARTNERS

- INPATIENT
- OUTPATIENT
- RESEARCH
- UTHSC PROPERTY

- A. LE BONHEUR CHILDRENS' HOSPITAL
- B. VETERANS ADMINISTRATION
- C. SHELBY COUNTY/ MEMPHIS HEALTH DEPARTMENT
- D. REGIONAL ONE HEALTH
- E. MEMPHIS MENTAL HEALTH INSTITUTE
- F. HAMILTON EYE INSTITUTE
- G. UNIVERSITY CLINICAL HEALTH



CLINICAL VOLUMES

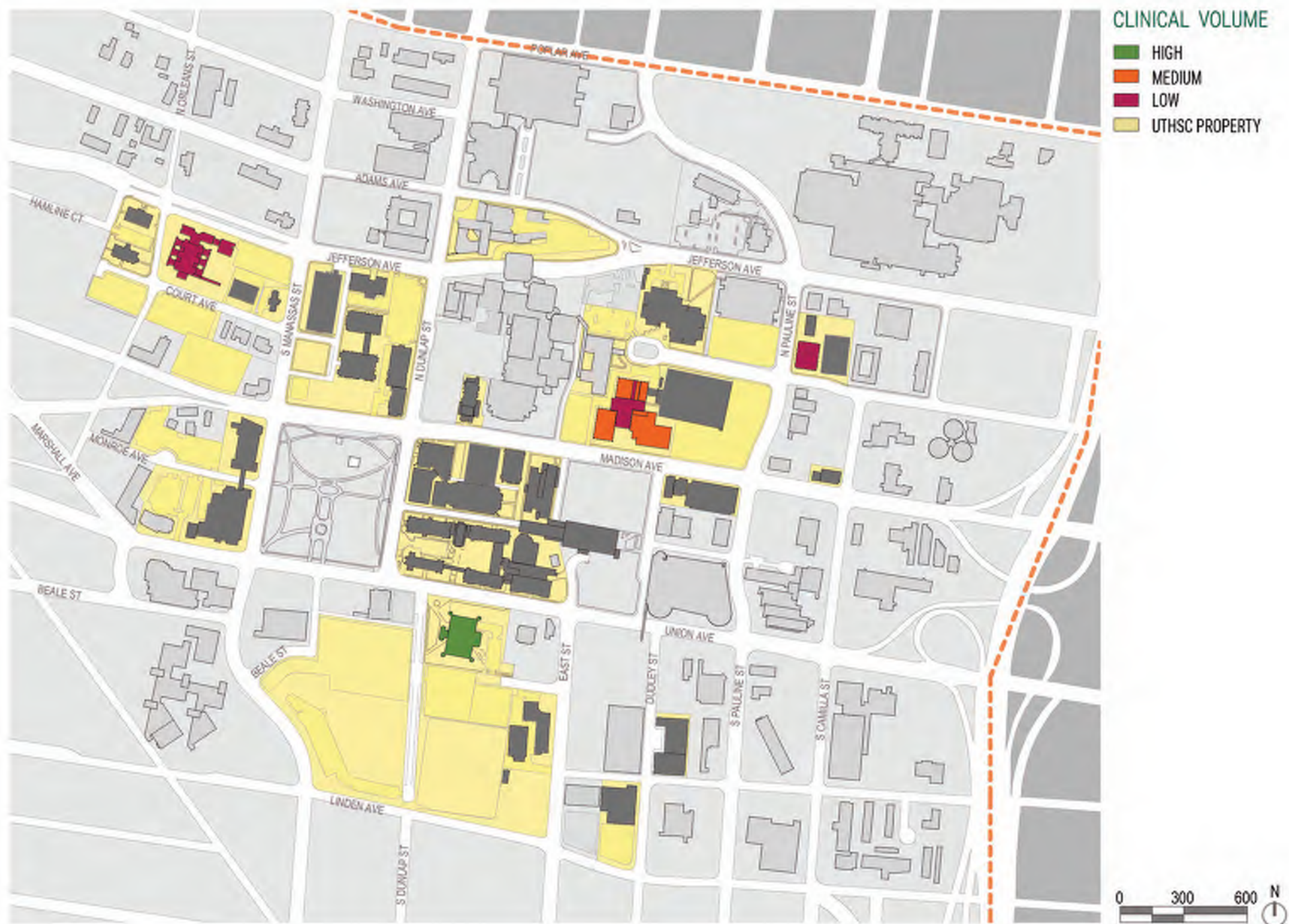
Patient activity varies across UTHSC clinical locations. The College of Dentistry is the busiest, currently seeing more than 65,000 patient visits per year; planned improvements and expansion of the Dunn Dental Building facilities will increase this activity in the future. On the other end of the spectrum, University Health Services and the Center for Developmental Disabilities have the fewest patient visits, accounting for less than 4,000 each. Regardless of volume, the ease with which patients can park and access each facility directly impacts the patient experience and the management of the clinical services. Patients and their attending staff in the College of Health Professions are most challenged by their separation by major streets from convenient parking and clinical care spaces.

Clinical volumes at the Veterans Administration, Regional One Health and Le Bonheur are far greater than those at any of the UTHSC clinics. Patients, staff and students moving to and from these partners further compound traffic, parking, and pedestrian issues.

In reviewing typical Clinical benchmarking, it is worth noting that Clinic Room utilization in Academic Medical Centers (AMC) is typically lower than private practice or community settings. At 60% utilization and current turn around assumptions, UTHSC clinics would need to accommodate between 6 and 10 visits per room per day to match peer benchmarks.



UTHSC Dentistry Clinic



CAMPUS OPEN SPACE

Streets and open space together impact the impression and general appeal of the campus. A variety of open space types exist on the 41-acre campus near downtown Memphis. The spaces vary in size and significance. While adequately maintained, many of the exterior spaces do not give a memorable impression. In this urban context, a significant amount of pedestrian circulation and social interaction occurs along public streets that knit open spaces together to form the pedestrian realm of the campus.

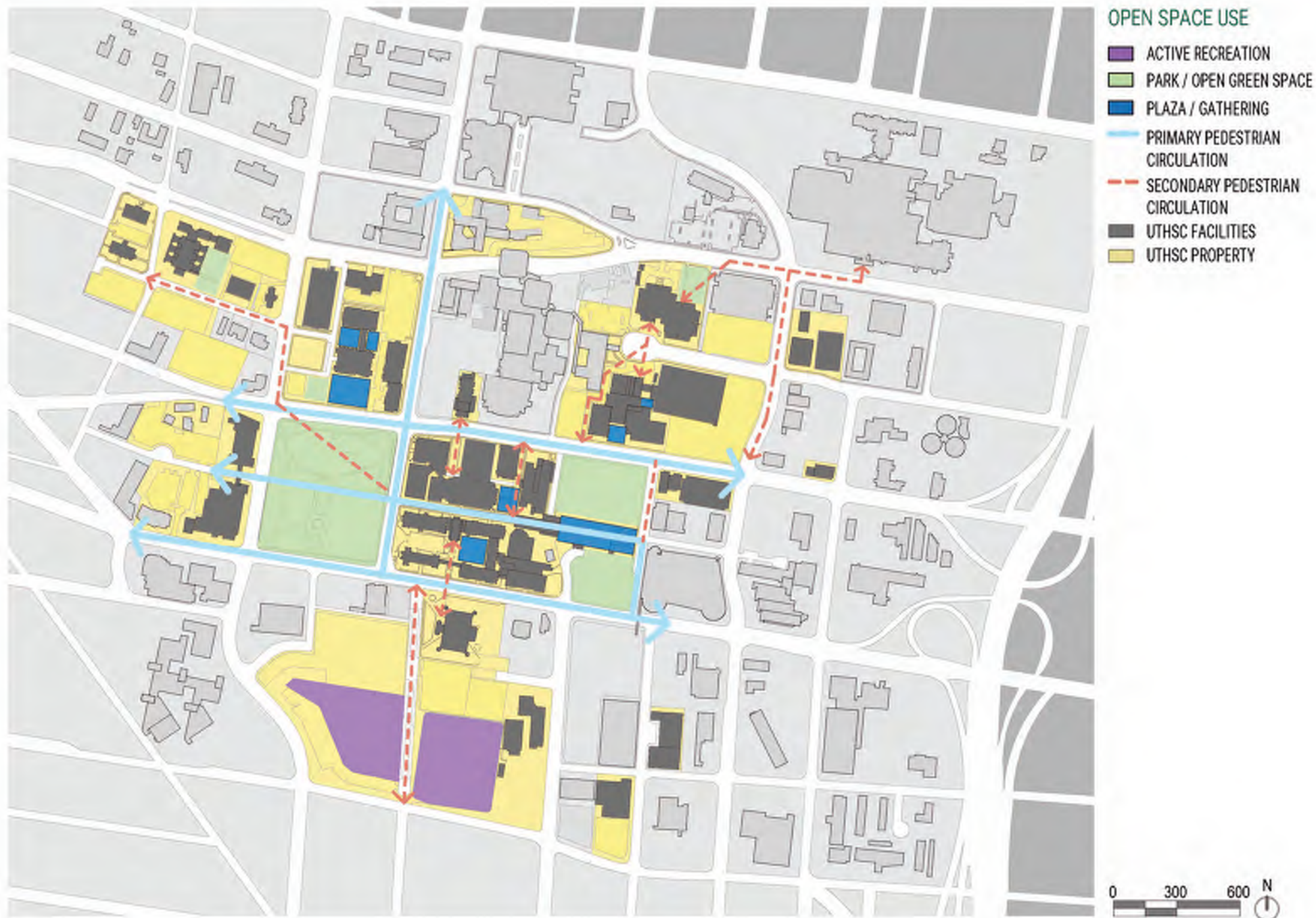
PRIMARY OPEN SPACES

Health Sciences Park is the largest campus open space adjacent to the University. University buildings front the park on the northern, eastern, and western sides, as such, this park potentially takes on a more significant role as the ceremonial center of campus. The existing tree cover consists of large deciduous shade trees, providing good shade coverage on a majority of the park. Understory plantings are minimal and generally insignificant. The internal walkways are in various conditions, some concrete and others asphalt. A new pavilion is located in the northeast corner of the park. It is important to note that the park is currently owned and managed by Memphis Greenspace, a non-profit corporation, however, the open space is designated as a near-term acquisition for UTHSC.

A historic central quad by the Crowe/Mooney/Nash buildings is framed by some of the most remarkable buildings on campus. As the historic center of the campus, and the first open space that future students, faculty and staff encounter, the space is critical to experience of the campus. Currently under design and construction, a newly renovated quad will feature new hardscape, seating areas, landscape plantings, water features, and site furniture.



Health Sciences Park



The rooftop garden at the eastern end of Monroe Avenue is above an existing vivarium. The exterior space functions as a space for small gatherings, as well as a circulation corridor. Limited shade and seating areas are provided in the corridor. In the future, the space will be extended, and provide a vital connection between the central core of the campus and development along the eastern edge.

A small sunken plaza adjacent to the 910 Madison Ave building provides an interesting space that is heavily landscaped with a water feature. The space is accessible only from the basement level of the Madison Avenue buildings, but is primarily for visual interest and cannot be accessed from the street.

The space immediately south of the Student Alumni Center is directly tied to the period of the adjacent buildings. The space provides opportunities for gatherings, although in close proximity to Madison Avenue. Trees provide adequate shade coverage. The existing hardscape, site furnishings, and canopy show signs of aging. The trees and under-plantings along Madison Avenue create a soft landscape edge fronting the street. The interior courtyard north of the Student Alumni Center is a sunken plaza that is primarily hardscape with raised planters at each of the four corners. The space provides opportunities for large gatherings. Minimal shade and vegetation is provided along with aging furniture, creating an unpleasant environment.

The two recreational spaces front Dr. M. L. King Jr Avenue and are in fair condition and fairly utilized.



Pedestrian Extension at Monroe Avenue



Rooftop Garden above Innova Memphis facility



Interior Courtyard at Student Alumni Center



Sunken Plaza at 910 Madison Avenue

STREET HIERARCHY

The campus and surrounding Memphis Medical District is located in a tight urban fabric. The existing street grid provides an ordered framework for a diverse and interesting environment that has grown organically over many years. Union Avenue and Madison Avenue are the major streets that traverse the Memphis Medical District from east to west. A trolley was previously operated by the city along Madison Avenue, but is no longer in service. Its systems and infrastructure are still present along the center of the street. Union Avenue is the major vehicular route between I-240 to the east and Downtown to the west. There is an emerging node of activity between Downtown and the campus along Madison Avenue, known as the edge district, which includes several restaurants, residential properties, an office space.. The existing fabric of this area offers an opportunity to provide more retail and restaurant destinations for the campus.

The existing streetscape condition is typical of many urban environments. While several streets are heavily used by students, faculty, and staff to traverse the campus, the spaces are not pedestrian-friendly. Sidewalks are typically narrow with little tree cover and no separation from the adjacent traffic lanes, creating an unwelcoming and potentially dangerous pedestrian condition. Though Madison Avenue and North Dunlap Street are two significant streets within the campus, they are particularly unwelcoming. Union Avenue is primarily a vehicular corridor with little pedestrian traffic, though it serves as the ceremonial front door to the campus.

These open spaces and streetscapes should be capitalized on to help create campus gateways, enhanced pedestrian circulation, and improve connections and linkages throughout the campus and beyond to its partners and the city fabric.



Recent streetscape improvements to Manassas



Madison Avenue: Sidewalks are narrow with little tree cover and no separation from the adjacent traffic lanes

CAMPUS CIRCULATION

EXISTING PARKING ON CAMPUS

An analysis of the existing parking was performed for the UTHSC campus, which included a total existing parking count analysis. This parking count included all spaces provided for students, faculty, and administrative personnel. The parking data provided includes twenty-five areas, lots or garages, although the University owns an additional lot, which is leased to the Regional Medical Center. The total parking count provided was 4,684 parking spaces, including 141 handicap parking spaces. Four existing parking structures were included in the parking data and are available for general parking, including the General Education Building garage, Student Center garage, Pauline garage and the Madison garage. A fifth parking garage, the Regional Medical Center Parking garage, is near the campus and can be utilized by students. The rest of the parking comes from lots and small amounts of street parking throughout campus.

The allowable parking was compared to current requirements of the Uniform Development Code. Although some lots alone may not provide the necessary parking space for an adjacent building, additional lots in close proximity can be used to offset deficiencies. Existing parking counts as provided are sufficient to provide the parking spaces required for the campus as a whole. However, the sufficiency of the parking spaces according to different users is somewhat hard to quantify since many of the spaces used in the totals are in one of the four parking garages which are shared between students, faculty and the general public.

EXISTING PARKING

- EMPLOYEE
- STUDENT
- COMMERCIAL
- EMPLOYEE + STUDENT
- EMPLOYEE + STUDENT + COMMERCIAL
- METERED
- LEASED PARKING
- LOADING DOCKS
- UTHSC PROPERTY

Mark	Comments	Actual Spaces
1 LOT	Employee	92
A LOT	Employee	31
B LOT	Metered	11
C LOT	Employee	144
E GARAGE	GEB Parking Garage	260
F LOT	Student	80
G LOT	SAC Parking Garage	519
H GARAGE	Plaza Parking Garage	970
i LOT	Employee	97
J LOT	Employee	148
K LOT	Employee	10
M LOT	Student	159
N LOT	Employee	32
O LOT	Commercial	129
P LOT	Pauline Garage	552
R LOT	Employee	156
S LOT	Employee	30
SAC	Metered	12
T LOT	Student	209
U LOT	Student	432
V LOT	Metered	20
X LOT	Employee + Student	470
Y LOT	Employee	37
		4600

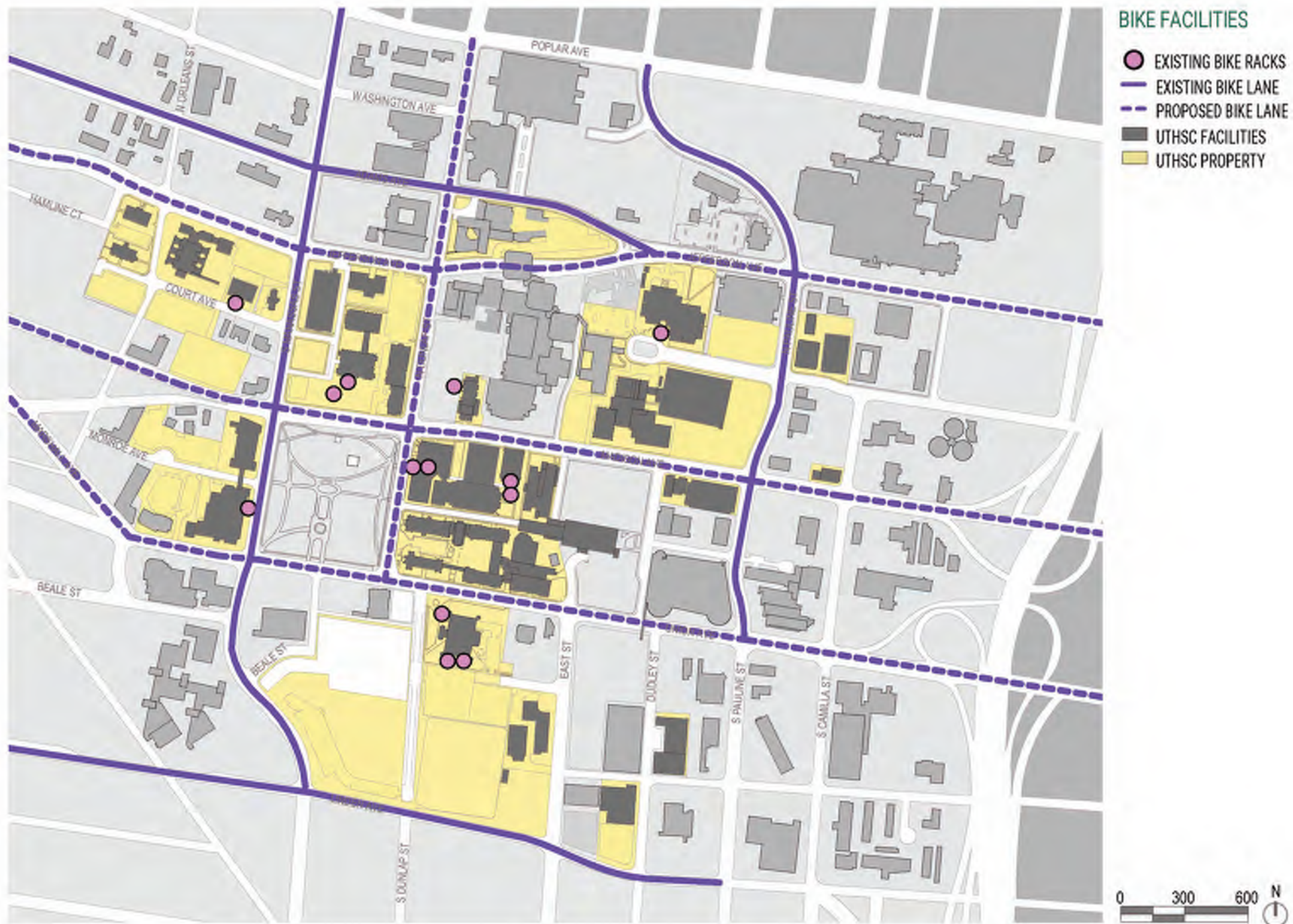
EXISTING BIKE INFRASTRUCTURE

While there are numerous projects planned by the City of Memphis to improve bicycle facilities and infrastructure, there is currently one shared use lane in the campus vicinity on Adams Avenue and two roads, Manassas Street and Dr. M.L. King Avenue, with separate bike lanes.

Due to the volume of vehicular traffic and lack of facilities, accessing and traversing the campus on a bicycle is challenging and inconvenient except along these three streets. Provision of bike racks at building entrances is inconsistent.



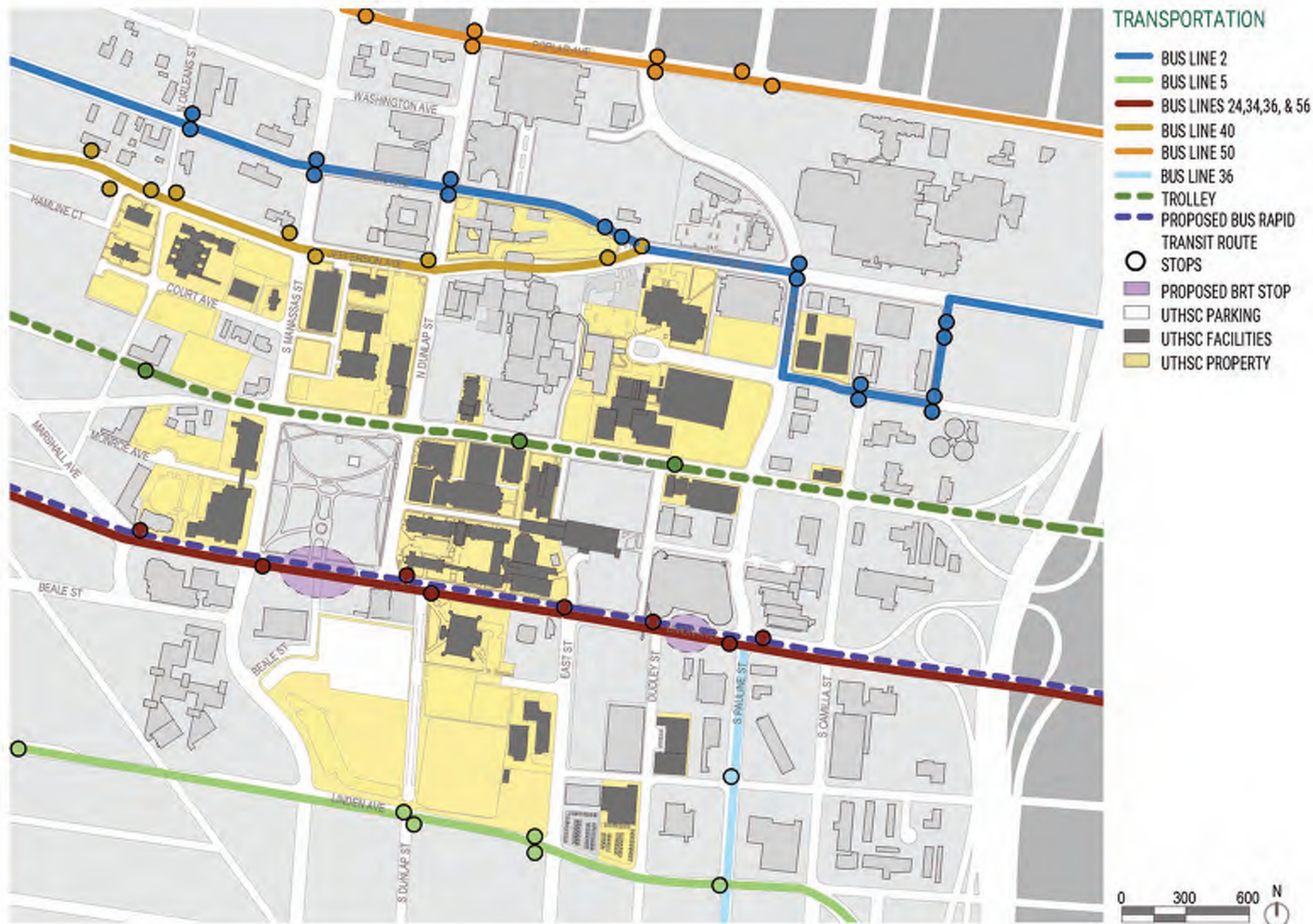
Recently improved bike lanes along Manassas Street



EXISTING TRANSPORTATION

The UTHSC campus has access to both the Memphis Area Transit Authority (MATA) bus system and the trolley system. The MATA system provides numerous bus stops in and around the campus and Memphis Medical District. These stops offer access to numerous bus routes throughout the Memphis metro area. In addition to the bus routes, there are three stops in the vicinity of the campus to access the trolley line located on Madison Avenue.

There is not currently an internal shuttle system connecting the core of the UTHSC campus to outlying parking areas and other campus facilities, nor are there Memphis Medical District routes connecting to Methodist UT Hospital, St. Jude, and other destinations affiliated with the campus and their programs. Older public modes of transportation, personal cars, or bikes are the only methods of transport between facilities at this time within the Memphis Medical District.



CAMPUS **INFRASTRUCTURE AND UTILITIES**

Due to the urban setting of the campus, public utilities exist and are accessible on all the major streets that run through the campus. Ample capacity exists or can be provided for any future needs the University might have. All of this infrastructure is within a short distance of any point on campus.

EXISTING STORMWATER INFRASTRUCTURE

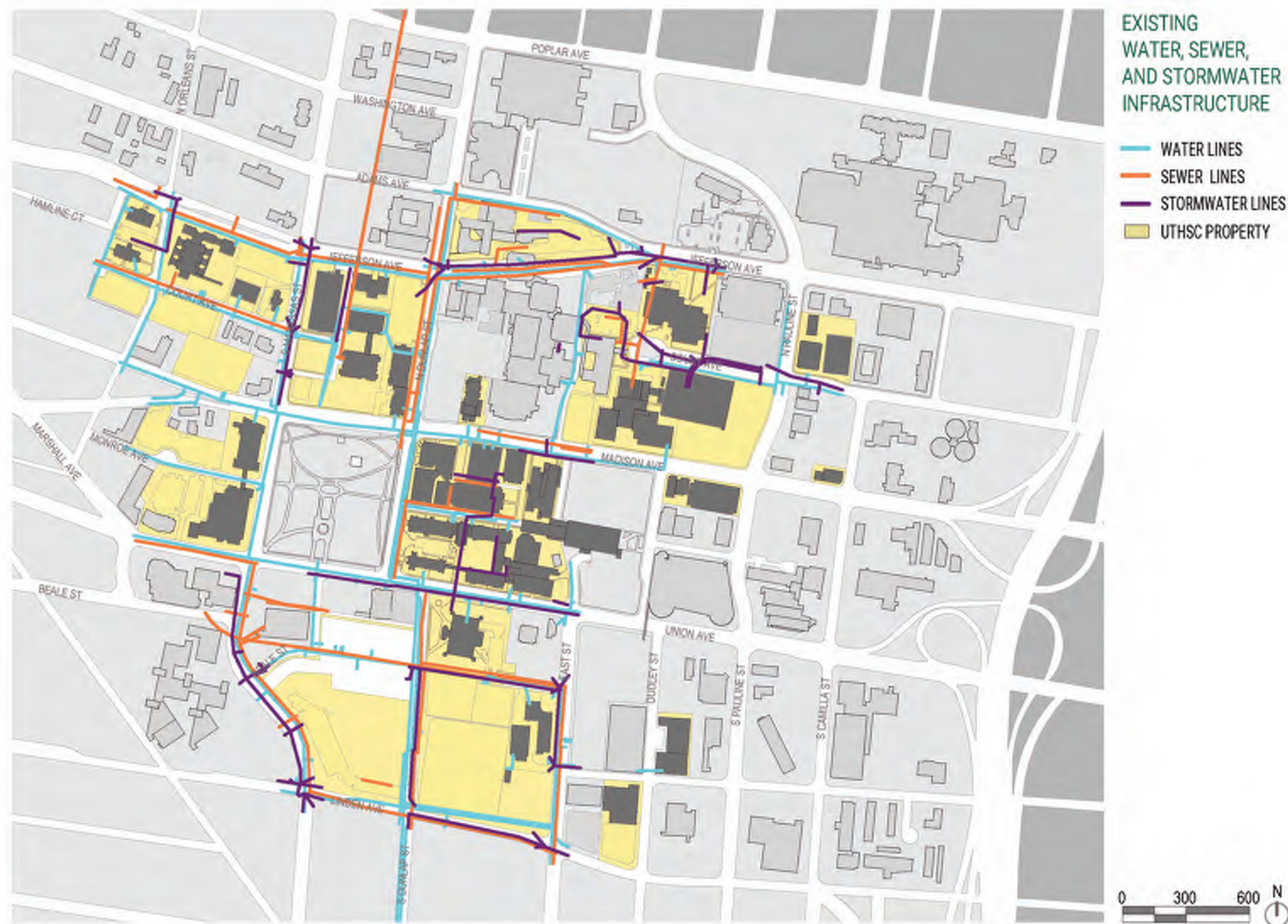
Storm drainage trunk lines and structures are located on all major streets and serve the entire campus. The major trunk lines and inlet structures are located in the public right of way or public drainage easements. This system is owned and maintained by the City of Memphis. Secondary drainage systems are located on and around campus as well as in private drainage easements. These secondary systems are maintained by the owner of the easements. All secondary systems, which connect to the drainage infrastructure are owned and maintained by the City of Memphis. Since the campus is developed, no major extensions or modifications of the existing system are anticipated.

EXISTING SANITARY SEWER INFRASTRUCTURE

Sanitary sewer interceptor lines and structures are located on all major streets and serve the entire campus. The major trunk lines and inlet structures are located in the public right of way or public utility easements. This system is owned and maintained by the City of Memphis. Secondary private sewer lines and structures are located on and around campus to provide service to the current campus facilities. These systems are owned and maintained by UTHSC. All secondary systems connect to the main sewer infrastructure owned and maintained by Memphis. Since the campus is developed, no major extensions or modifications of the existing system are anticipated.

EXISTING POTABLE WATER INFRASTRUCTURE

Water mains are located on all major streets and serve the entire campus. The major lines are located in the public right of way or public utility easements. This system is owned and maintained by Memphis Light, Gas and Water (MLGW). Secondary private service connections are located on and around campus to provide service to the current campus facilities. These systems are owned and maintained by UTHSC. All service connections are fed by the main water infrastructure and are owned and maintained by UTHSC. Since the campus is developed, no major extensions or modifications of the existing system are anticipated.



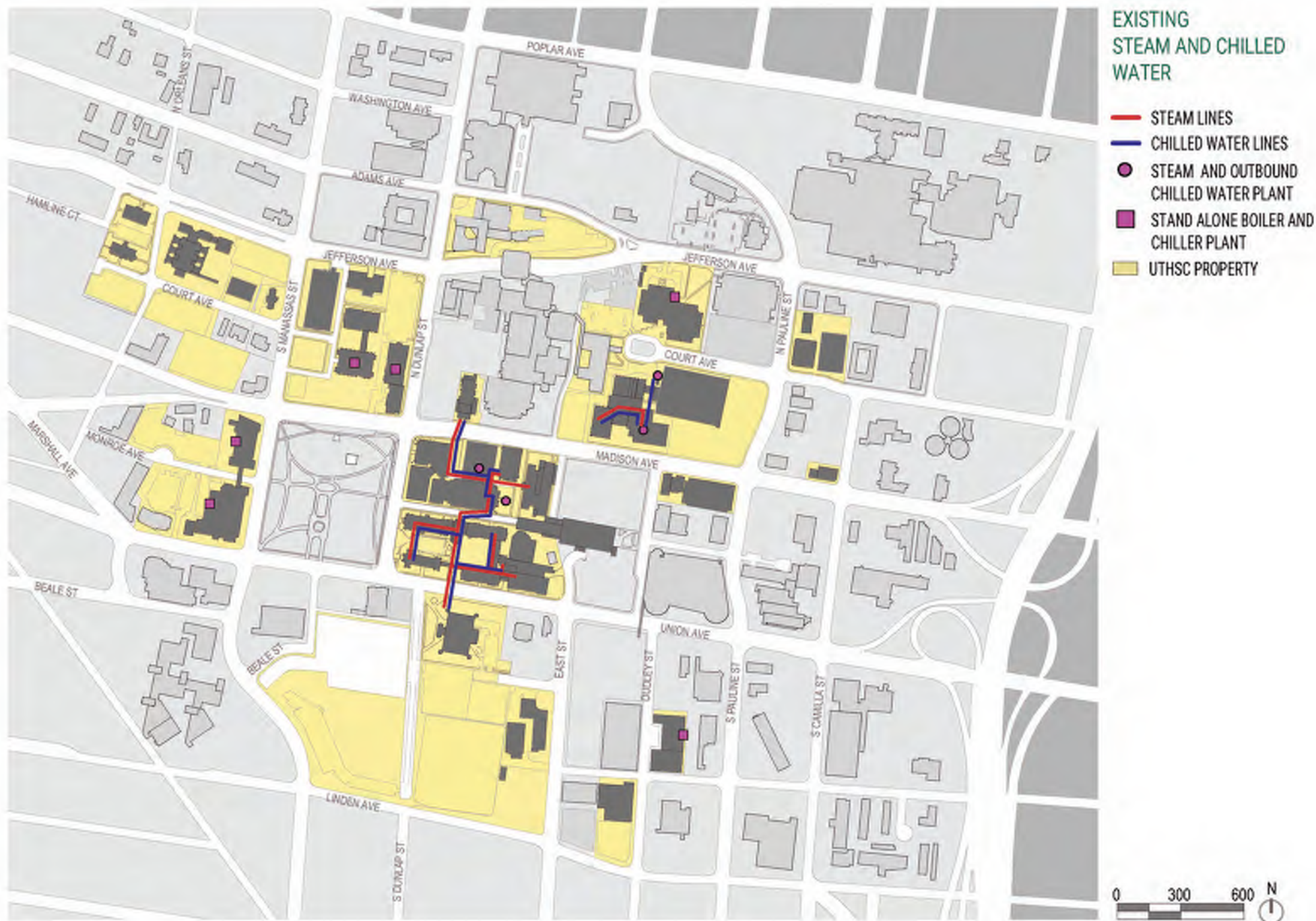
The existing hot water/steam/chilled water campus infrastructure consists of two central plant locations serving multiple buildings and several stand-alone systems serving individual buildings. The central plant locations are 1.) the Core Central Plant, located in the lower level of the east end of the General Education Building and 2.) the Madison Central Plant located in the 930 buildings and the adjacent Madison Avenue Parking Garage.

CORE CENTRAL PLANT

The Core Central Plant provides steam and chilled water to the core campus buildings and to the existing Dunn Dental Building. The Plant consists of 3 gas/oil-fired steam boilers and associated support equipment. The 25-year-old boiler is 1,000 Horse Power. Two boilers of 600 Horse Power were installed in 2015. The major boiler support equipment was installed in 2013. Steam and condensate piping is conveyed through buildings and in underground tunnels. Additional capacity is very limited and there is no available space for additional boilers or chillers within the existing footprint.

MADISON CENTRAL PLANT

The Madison Central Plant provides steam and chilled water to the 910, 920 and 930 buildings. The Plant consists of 3 centrifugal chillers, pumps, and cooling towers. The Plant is roughly 4,000 tons. Chilled water piping is conveyed through buildings and in underground tunnels. There is no available space for additional boilers or chillers within the existing footprint.

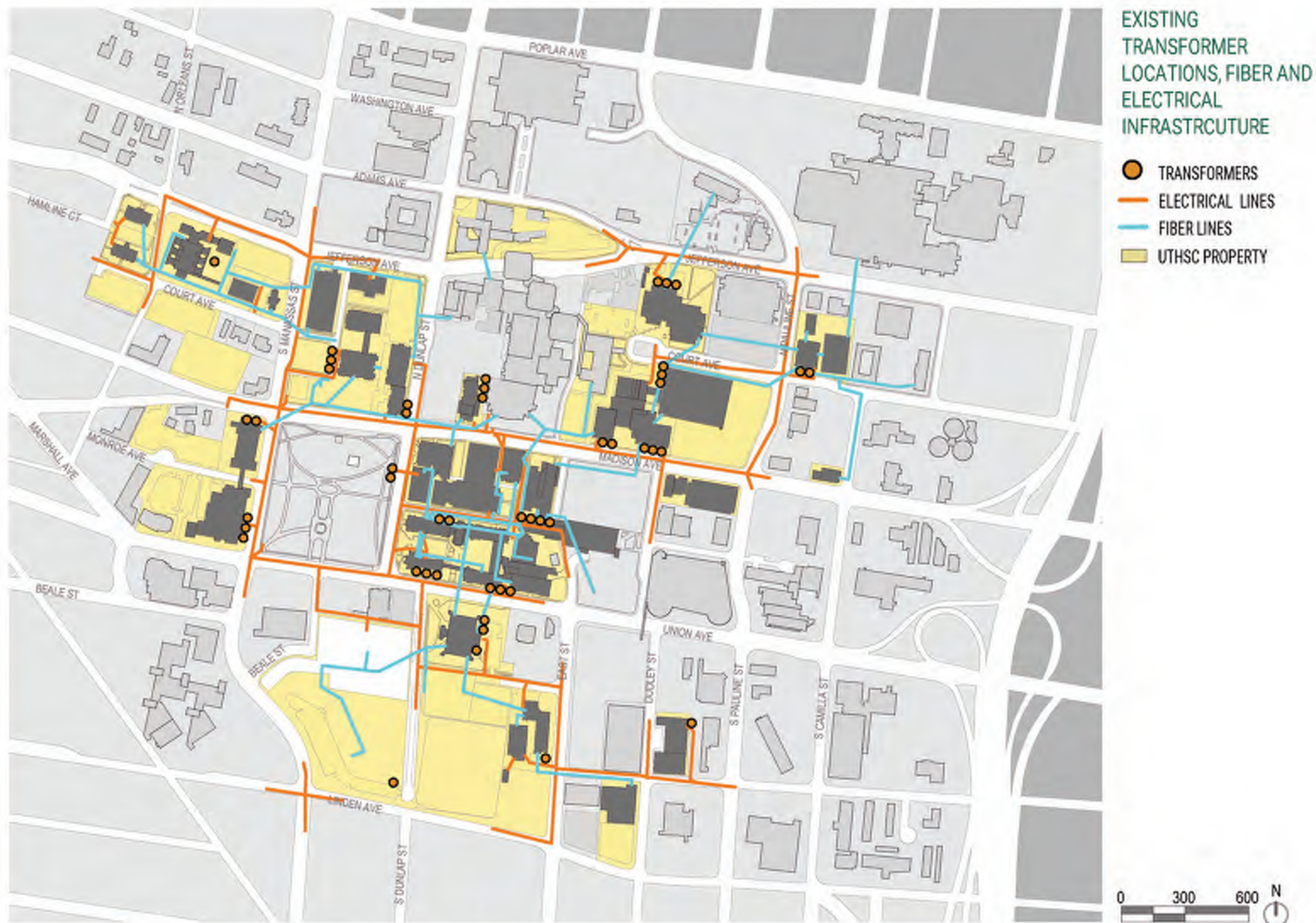


EXISTING ELECTRICAL INFRASTRUCTURE

The existing campus buildings are powered by MLGW (Memphis Light, Gas & Water). The utility also provides building transformers. The transformers are either pad-mounted or located in a vault.

EXISTING FIBER INFRASTRUCTURE

The existing campus buildings are served by fiber that has been installed by UTHSC.



UTHSC TODAY





520 Nicollet Mall Suite 200
Minneapolis, MN 55402



The University of Tennessee Health Science Center
Memphis, Tennessee 38163

uthsc.edu

EXHIBIT 5 – COLLEGE OF MEDICINE AND INTERDISCIPLINARY BUILDING PROGRAM VERIFICATION DOCUMENT



THE UNIVERSITY OF
TENNESSEE
HEALTH SCIENCE CENTER®

UTHSC COLLEGE OF MEDICINE AND
INTERDISCIPLINARY BUILDING (25/26)

PROGRAM VERIFICATION REPORT
SBC NO: 540/013-04-2025
MARCH 06, 2026



IN ASSOCIATION WITH

PALACIO COLLABORATIVE | COST ESTIMATOR

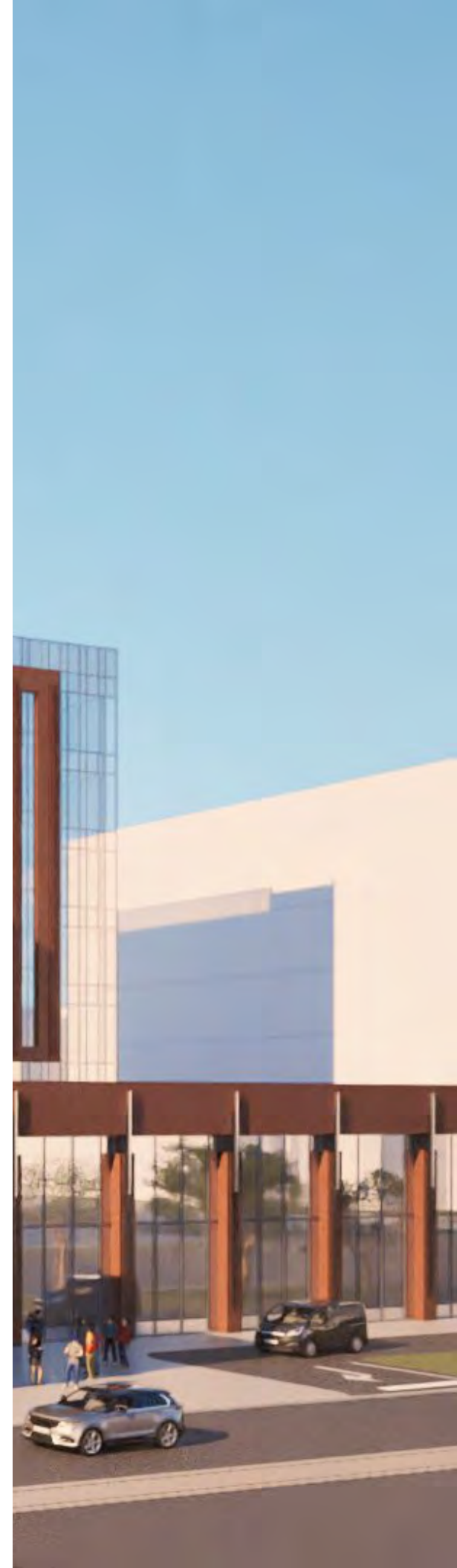




TABLE OF CONTENTS

01 EXECUTIVE SUMMARY

02 PROGRAM VERIFICATION

03 BUILDING NARRATIVES

04 HPBr CHECKLIST

05 COST ESTIMATE



SECTION 01

EXECUTIVE SUMMARY

PARTICIPANTS

1.0 - EXECUTIVE SUMMARY

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UNIVERSITY OF TENNESSEE
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Edwin Jeffres
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UNIVERSITY OF TENNESSEE
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Ami Shah
Ai-Lien Vuong

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Susan Golden
Amber Fournier
Luke Burnett
Jason Jackson

PALACIO COLLABORATIVE -
COST ESTIMATOR

Michael Palacio
Andrea Taggart

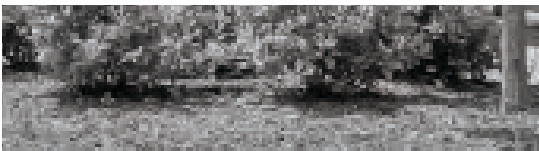
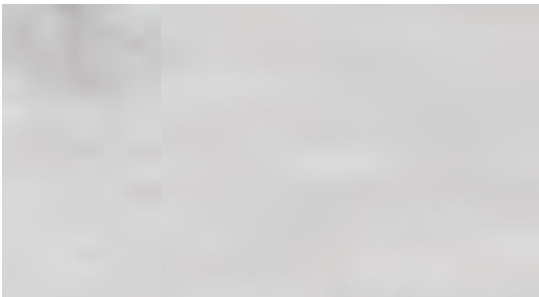
FLINTCO - CONTRACTOR

Dana Wimmer

ACKNOWLEDGMENT

HOK & brg3s would like to recognize the efforts of all who contributed to the contents herein.







EXECUTIVE SUMMARY

The new College of Medicine Interdisciplinary Building (COMIB) at the University of Tennessee Health Science Center (UTHSC) in Memphis represents a transformative opportunity to advance the university's mission of fostering innovation, collaboration, and excellence in medical education.

Through a comprehensive program verification process, HOK and brg3s has engaged with university leadership, faculty, and key stakeholders in highly collaborative, interactive consensus-based workshops to re-frame a previous program to closely align with its goals and strategy for a facility that will not only be a new home, but allow for growth in enrollment and accommodate the academic needs of the College of Medicine and be learner-centric, help with attraction and recruitment of stellar learners, educators, administration and staff, but also enhance interdisciplinary collaboration across the other Colleges on campus. This program outlines a vision for a cutting-edge environment that will support the future growth of the university's goals, positioning UTHSC at the forefront of medical education.

1.0

PROJECT BACKGROUND

The University of Tennessee Health Science Center (UTHSC), based in Memphis, is a prominent institution focused on health education, research, clinical care, and public service. It is a major contributor to the healthcare industry in Tennessee and beyond. UTHSC was established in 1911 and is part of the University of Tennessee System. Its primary mission is to train health professionals to meet the health care needs of the state and the nation, with a strong emphasis on research, interprofessional education, and community engagement.

UTHSC has six colleges, each offering specialized programs in various health-related fields.

1. College of Medicine
2. College of Nursing
3. College of Pharmacy
4. College of Dentistry
5. College of Health Professions
6. College of Graduate Health Sciences

Together, these six colleges work to fulfill UTHSC's mission to improve the health of the public through education, research, clinical care, and community engagement. The institution is also actively involved in research that addresses both local and global health challenges.

The University of Tennessee - Health Science Center expects to see an increase enrollment across all disciplines. The current student population and faculty/staff has strained its physical facilities' footprint in terms of classroom space, co-curricular space, faculty/staff office space, as well as providing a need for interdisciplinary connections.

This program and program document was developed in collaboration with the UTHSC Stakeholders, the Steering Committee, Sub-Committees, UT System, and UT Facilities Teams and other campus participants through both in-person and virtual workshops, interactive fact-finding exercises, and in-person and online surveys.



Left: Graphical representation of COMIB facility from Madison Avenue.

PROGRAM VERIFICATION PROCESS

This programming verification process included the following:

- **A Kick-Off Meeting** to review the project history, costs, prior program document, and understand any new (if any) vision and priority goals.
- **Work Sessions with the Users** to review and confirm the functions, size and type of spaces required.
- **Development of a Cost Model** to align the changes in Program (gross square feet) that can be constructed within the budget.

These sessions reinforced collaborative, interdisciplinary learning and evaluated the strengths and weaknesses of programmed spaces. They also confirmed that the existing 275,000 GSF building program remains appropriate for the College of Medicine, with net square footage allocated as shown. A comparison with the previous program appears to the right.

The Program Verification phase of the project focused on validating the foundational programming philosophies and overall planning approach with new institutional leadership. This step was critical to ensure alignment between the previously established program document and the evolving strategic vision of the College.

While the core direction and guiding principles outlined in the original program largely remained intact, this phase provided an opportunity to re-calibrate priorities, confirm assumptions, and incorporate updated leadership perspectives. Through targeted work sessions and review discussions, we tested the planning metrics, space allocation strategies, and functional adjacencies against current academic, research, and operational goals.

The outcome was not a wholesale change in direction, but rather a thoughtful refinement of emphasis—clarifying priorities, adjusting allocations where appropriate, and strengthening alignment with long-term institutional objectives.

Outlined below are the key directional adjustments that emerged from this verification process.

PROGRAM CHANGES

- The building will primarily serve as an assigned home for the **College of Medicine** and **Physician Assistant Program**.
- The **M1** and **M2** cohort size increased from 225 to 250.
- Additional **Demonstration Lab** spaces were incorporated into the Academic sector to primarily support the Physician Assistant Program.
- While the **3D bio-printing** was removed, a new **Rural Center of Excellence** was added to the Interdisciplinary realm.
- A new workplace **priority list** and approach was established to allow for more flexibility and inclusion in the future.
- Additional **study, informal collaboration, and lounges** were added to support interdisciplinary and inter-professional programs.
- A **surplus** category was included to accommodate future growth.

PROGRAM SUMMARY - PREVIOUS

Public & Amenity Spaces	16,935
Academic	38,300
Interdisciplinary	17,000
Workplace	55,738
Shared Workplace	20,852
Building Support	1,100
Total Net Square Feet (NSF)	149,925
Total Gross Square Feet (GSF)	275,000

PROGRAM SUMMARY - CURRENT

Public & Amenity Spaces	27,555
Academic	51,450
Interdisciplinary	17,500
Workplace	11,510
Shared Workplace	8,310
Workplace Hub	6,580
Workplace Surplus	25,000
Building Support	1,100
Total Net Square Feet (NSF)	149,005
Total Gross Square Feet (GSF)	275,000

GUIDING PRINCIPLES

The aspiration for the project is not solely providing a new building for the College of Medicine, but to create an inclusive facility to aid in connections to the various colleges. In addition, the new program should dually foster successful learning environments for students and generate a dynamic, yet efficient workplace to attract and retain stellar faculty and staff.

During the numerous workshops in conjunction with University of Tennessee Health Science Center committees the team identified their Guiding Principles for the project. The following is a summary of these priority goals:

GUIDING PRINCIPLES

- Forge an **identity** and **welcoming home** for the **College of Medicine**.
- A strong commitment to an **interdisciplinary** approach to support the University of Tennessee Health Science Center's mission and vision.
- A place that fosters **collaboration** and enhances the vibrant **culture** between colleagues and learners.
- Establish a state-of-the-art facility that **attracts and recruits learners**, faculty/staff, and researchers.
- Design a building that meets today's needs while **seamlessly adapting** to the needs of the future.

COST ESTIMATE

Based on the program requirements, site development, and existing conditions, a total project budget of \$350 million was developed. In addition, to the estimate of construction, the programming and planning team developed an estimate and budget for supplementary project costs. The cost established the maximum GSF allowance, guided the preliminary massing and architecture character, and established a constraint for programmatic elements. Based on programmatic elements, the total cost of construction is \$251,250,000.*

- **Construction Budget - Building & Site: \$251,250,000.**
- **MACC (Maximum Allowable Construction Cost): \$264,000,000.**
- **Additional Project Cost:**
 - Furniture, Fixtures, and Equipment Cost: \$17,355,390
[FF&E will align with this budget number]
 - AV/IT/Network: \$20,355,985.

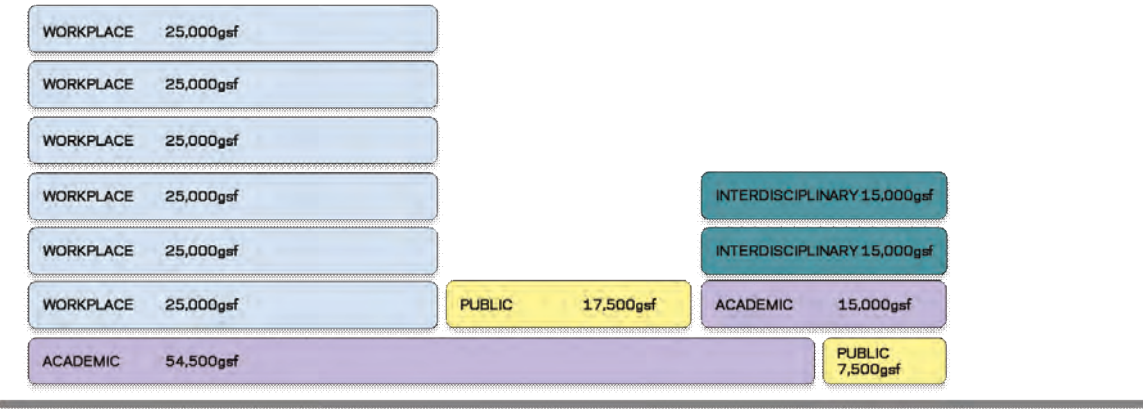
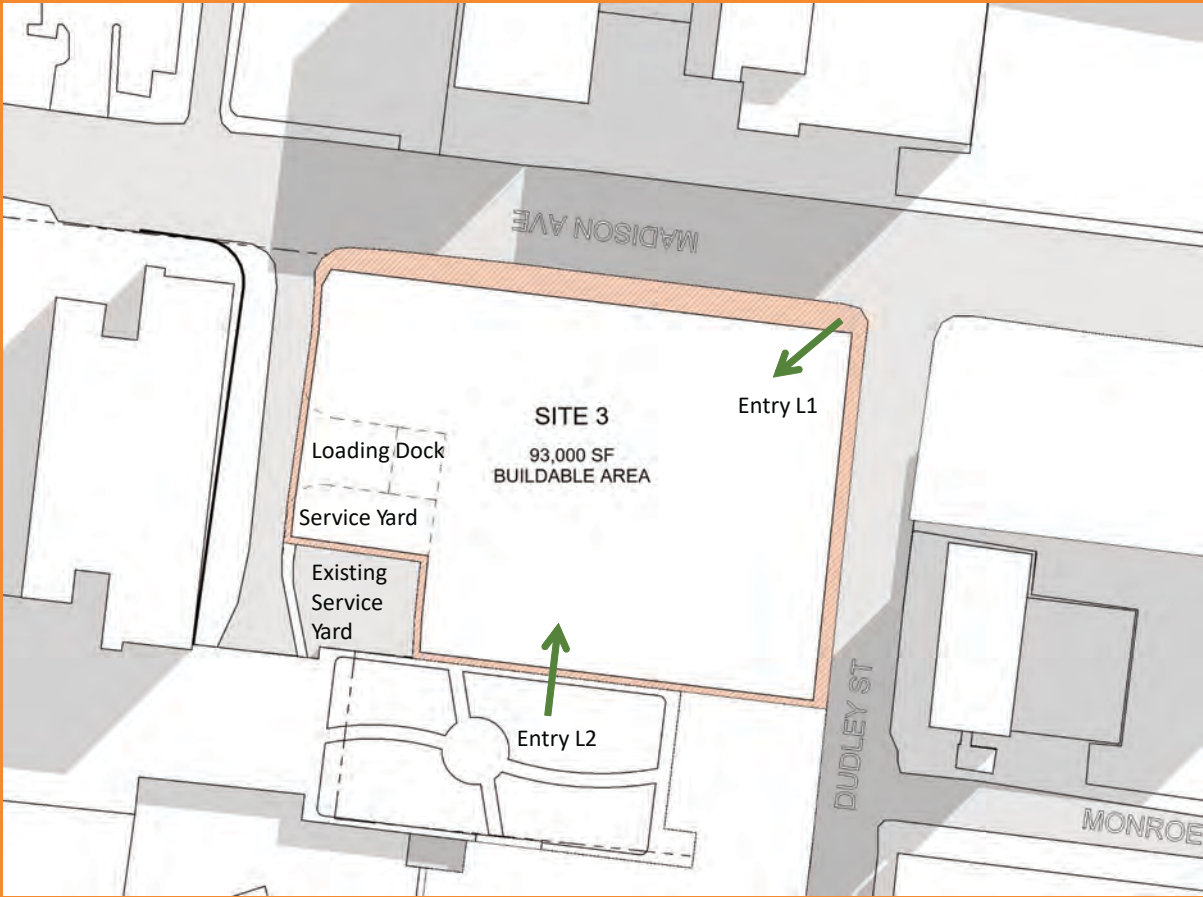
**Cost was validated and the project is deemed to be in budget per a costing exercise during this program validation phase.*

BLOCK AND STACK DIAGRAMS

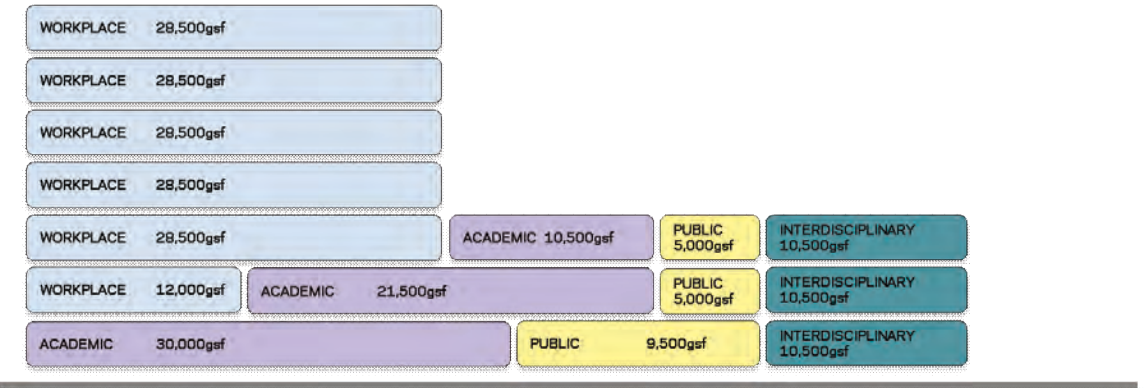
Multiple options were explored as the program was developed and applied to the site. This exploration grows outward from needs of the program, and concurrently pushes inward based on the site constraints.

From the site perspective, we started with city zoning ordinances that define building setbacks and building heights, existing site conditions and utilities, and ideal adjacencies for entries and building support. On this site an existing service road ramps down on the western edge, creating an ideal spot to locate new service yards, shipping and receiving. The corner of Madison and Dudley create a prominent corner and frontage to engage people entering the building. As a counterpoint the block and stack diagrams explore the vertical relationships of program.

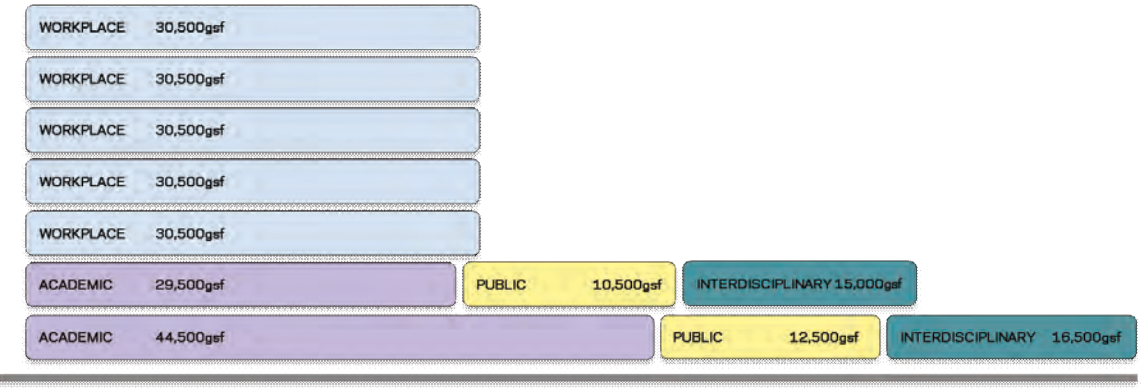
To balance this horizontal understanding of the site, the block-and-stack diagrams explore how the program organizes vertically. These three diagrams became important reference tools during the program verification process.



1



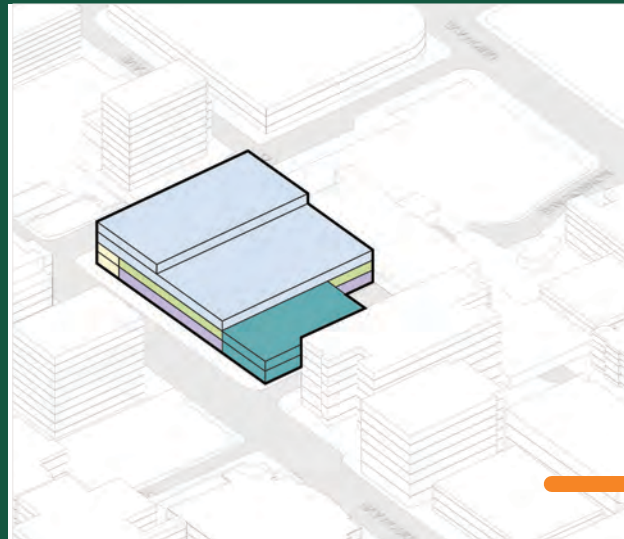
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3

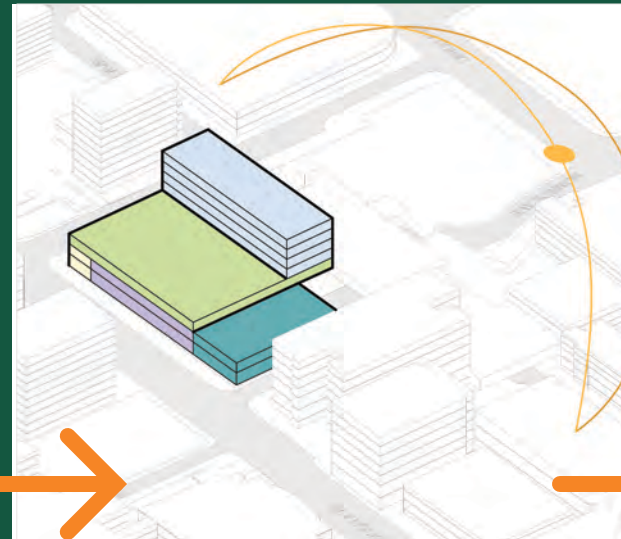
MASSING DIAGRAMS

PROGRAM



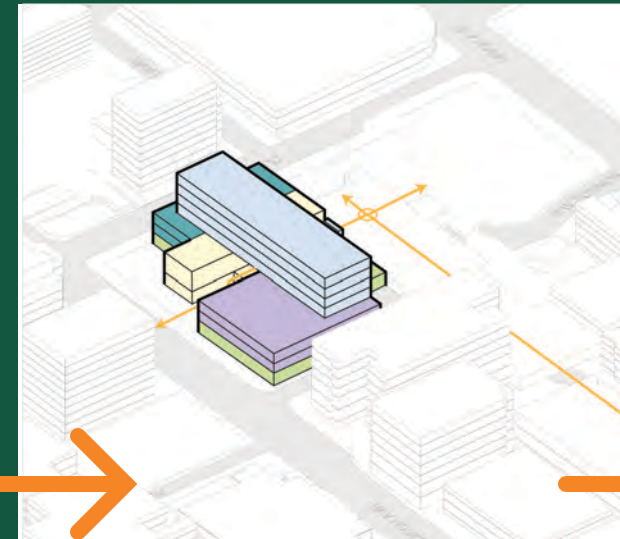
The massing is developed by sculpting and shaping the program. The function of each space type is critical to the success of the building and must be factored into the exterior form.

SOLAR ORIENTATION



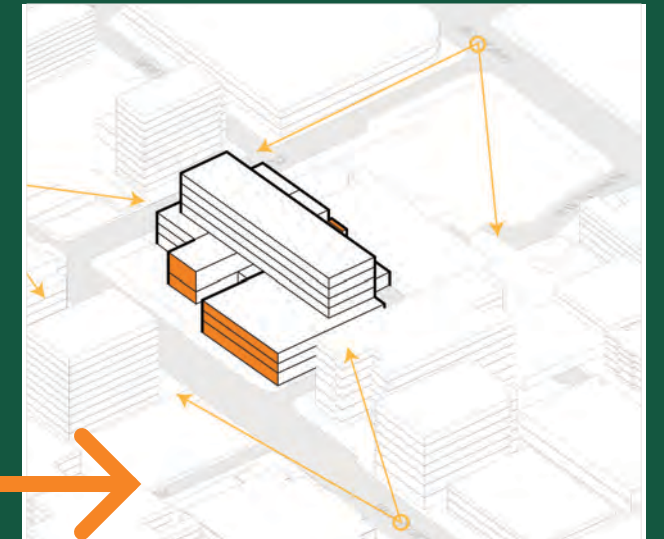
The workplace component is shifted and formed to maximize natural light available to the interior. We can then orient this bar shape to support an optimized facade capable of shading solar heat gain and mitigating glare.

PEDESTRIAN CONNECTION



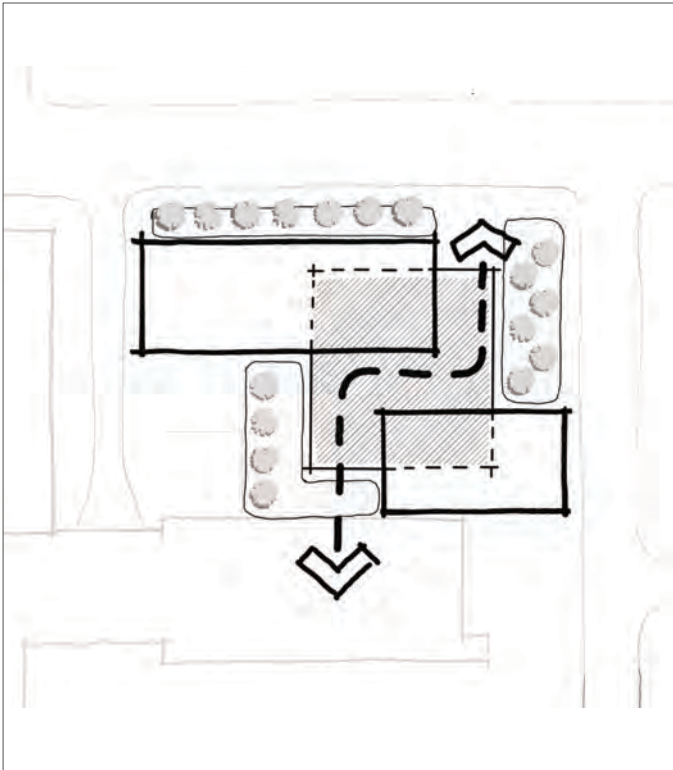
The podium of academic, interdisciplinary and student spaces can be formed to encourage movement into and thru the building. The new building can connect disjointed parts of campus to make the area more pedestrian and inviting.

VISIBILITY



As the forms are shaped on the lower levels, opportunities for visual identity and community presence can be achieved. Highly visible portions of the building can receive branding and signage that acknowledge and celebrate the program within.

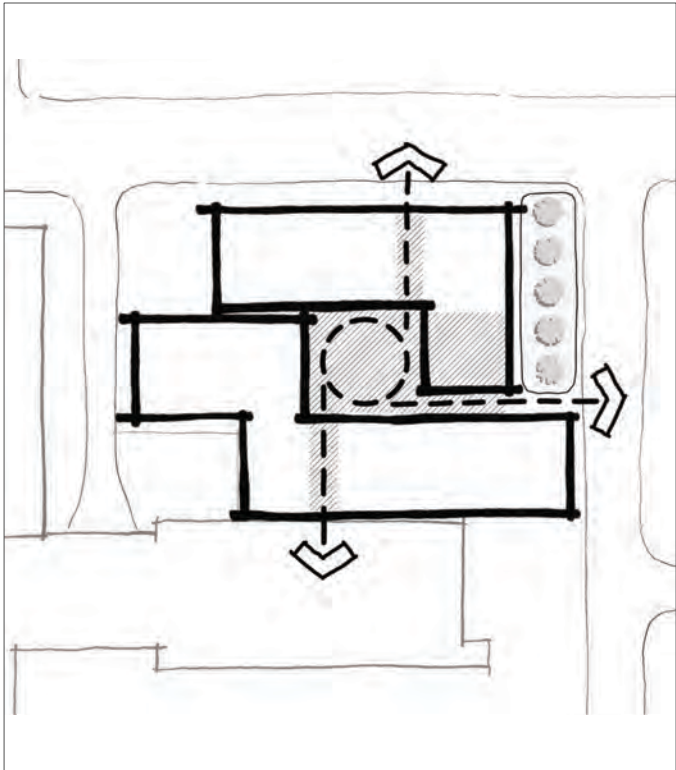
PARTI CONCEPTS (PROGRAMMING PHASE)



STITCH

“Love the view of the *interior stair* and *approach-ability*”

“Front placement of *workplace area overwhelms* the look of the building”

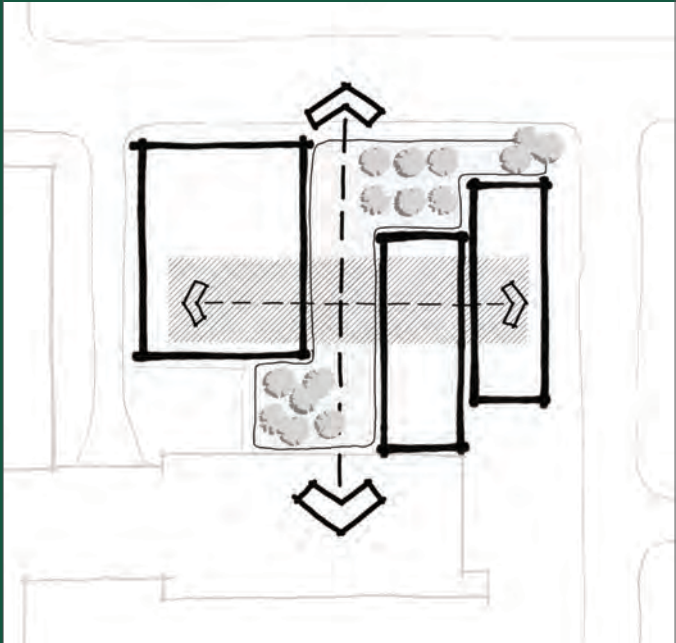


COURTYARD

“Like the workplace *tower being on south* side of building”

“Seems to *turn its back* on the rest of campus and could *create silos*”

SELECTED
PROGRAM VERIFICATION
REFERENCE SCHEME



PAVILIONS

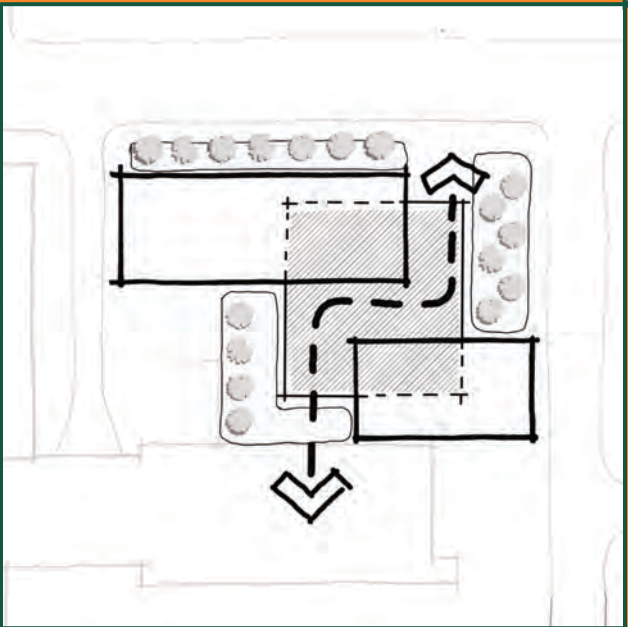
“Appreciate the ground level plaza and ability to *traverse site in open way*”

“Like how these are more *distinct buildings* and the opportunities this provides”

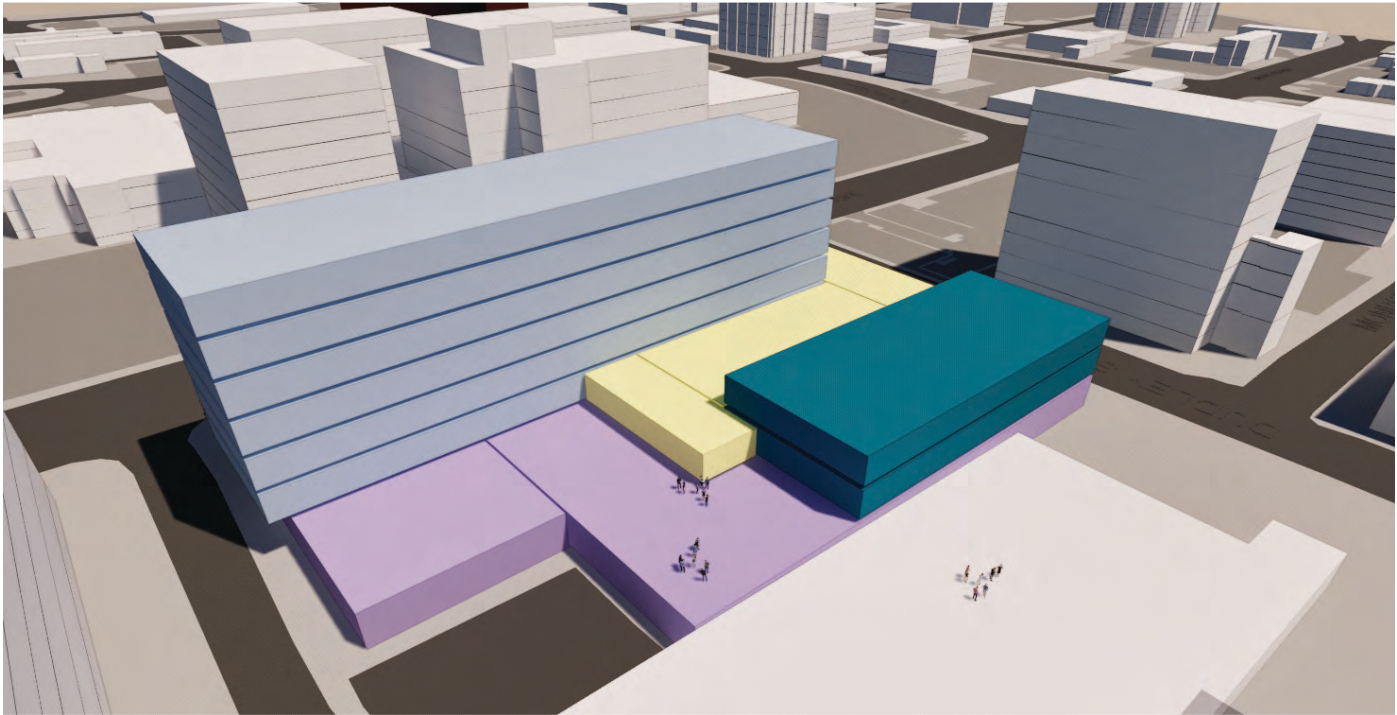


The building form creates a more urban edge along Madison while still creating a tree lined green space. Around the back the form expands the existing service yard with additional building support for the new facility. The façade pulls elements from around campus like red brick, glass, and metal panel into a composition that relates to the campus while being fresh and contemporary. The arcade along Madison creates protected transparency and covered pedestrian circulation. The vertical expression moving up the building provides visual load tracing which feels natural to the human eye. The public and amenity space weave through the forms with transparency, signifying a new combined entry for the College of Medicine Interdisciplinary Building, and a place to see movement and activity within the building.

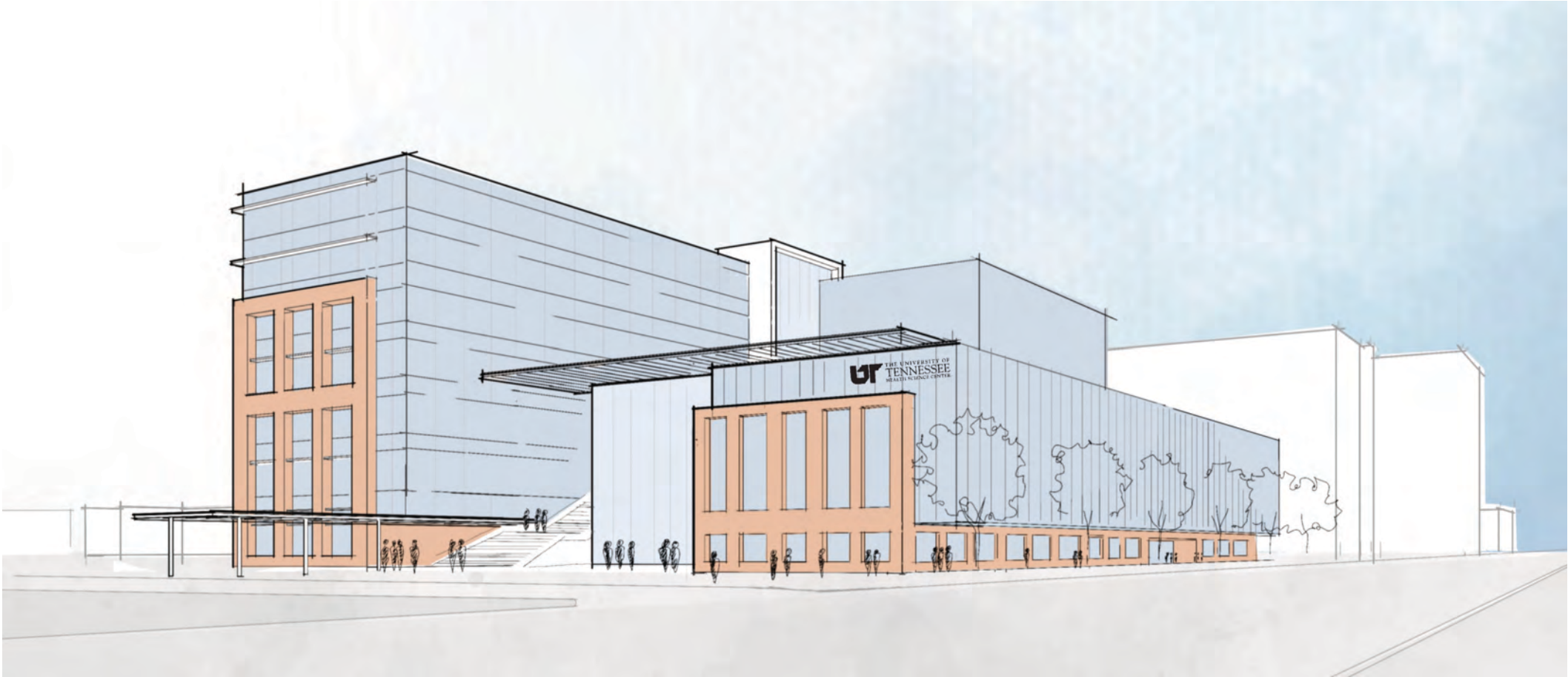
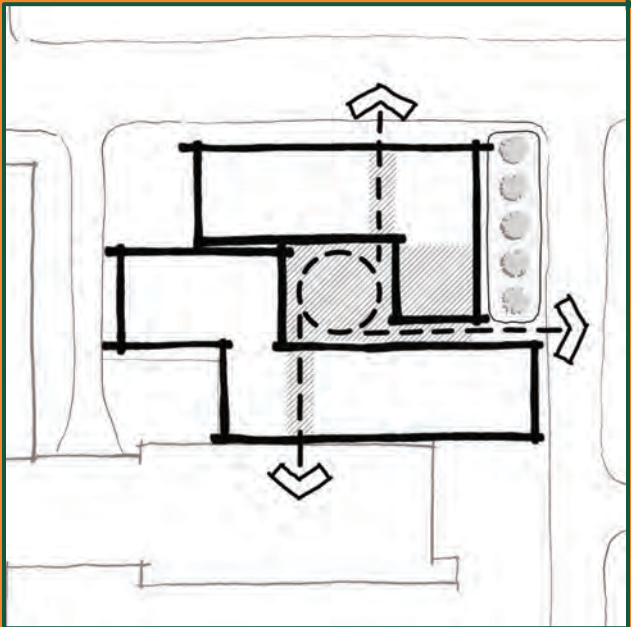
STITCH



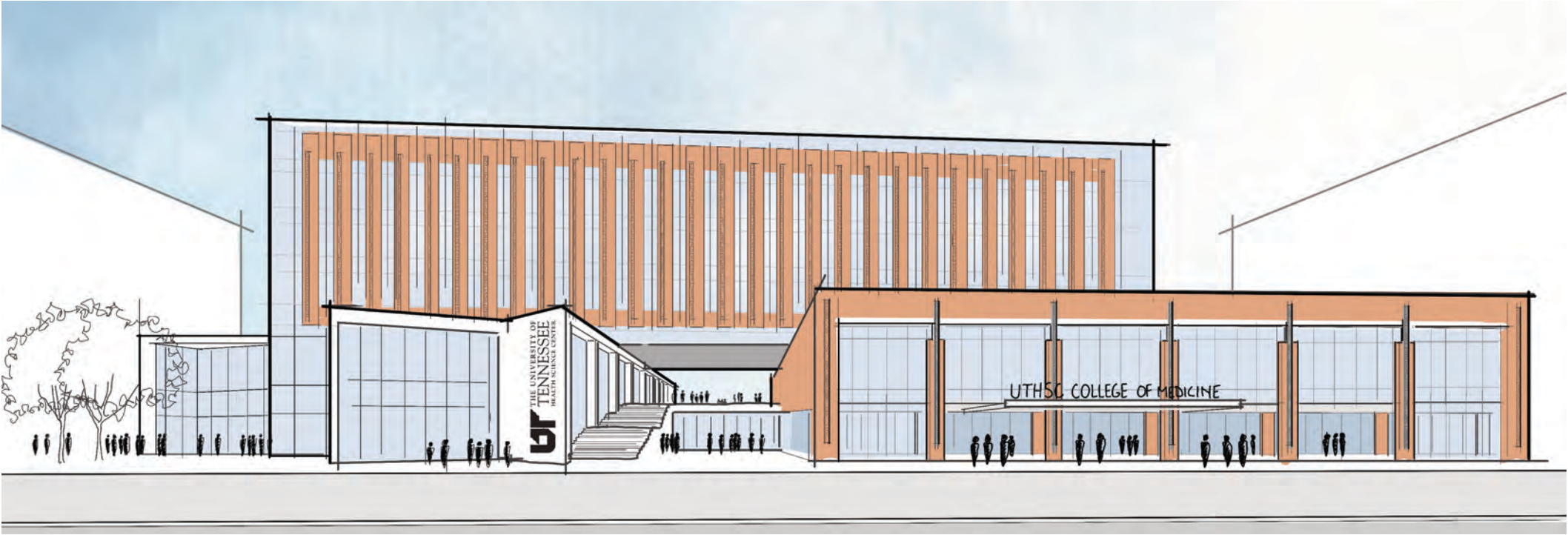
The Stitch concept ties the program together with the central public and amenity space, which is shown in the parti as a hatch. This central space also connects an entry point on the corner of Madison and Dudley with an additional entry on level 2 from the roof of TriMetis. The massing extends the roof plaza and create a student and faculty entrance that connects back to the central campus. At the corner of Madison and Dudley the form pulls back from the corner offering a new front door to the College of Medicine and UTHSC.



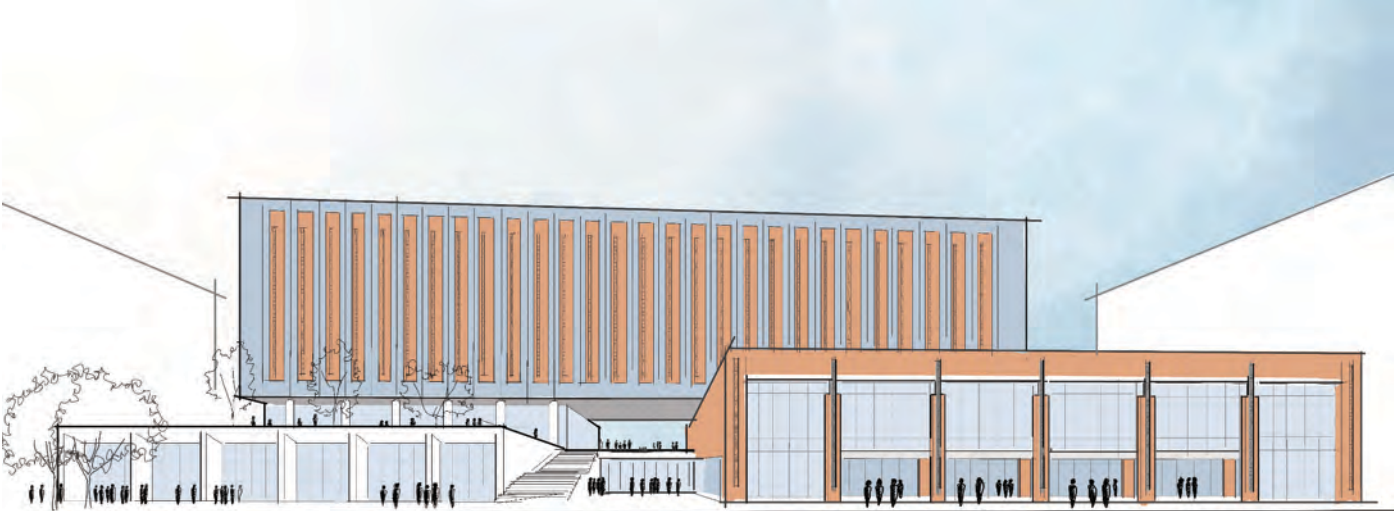
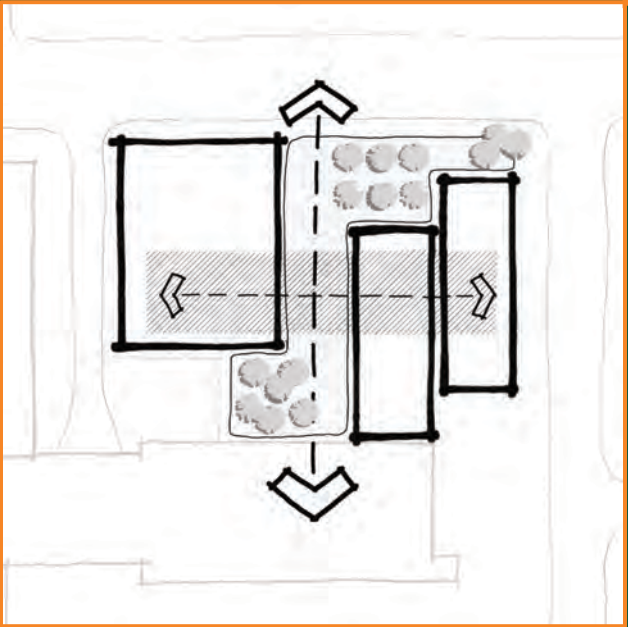
COURTYARD



The Courtyard concept creates a central focal point that can pull together the various disciplines housed in the building. The student entry in this massing recedes into the mass without expanding the TriMetis roof plaza. The protected central hub could be an open courtyard or enclosed atrium. The academic and interdisciplinary programs become a combined mass fronting Madison, while the College of Medicine tower wraps behind. Brick and glazing interlock to form a contemporary expression that is rooted in the history of the campus. A trellis ties the mass together while shading a transparent entry and public space, while an open-air stair allows movement up and through the courtyard to campus.



PAVILIONS - SELECTED SCHEME



The Pavilions massing creates a new level 2 entry with an expanded and inviting roof plaza. The workplace tower is central in this option to not feel imposing on the roof terrace or along Madison Avenue. As the pavilions push and pull they create nodes of green space at the corner and along Madison. The massing creates distinct branding

and naming opportunities for the various program housed within. The open-air pass through of the forms creates a new north south axis on the campus with the chance to strengthen the connection to 910, 920, 930, Coleman Building, and the future phase 2 building at the edge of Union.



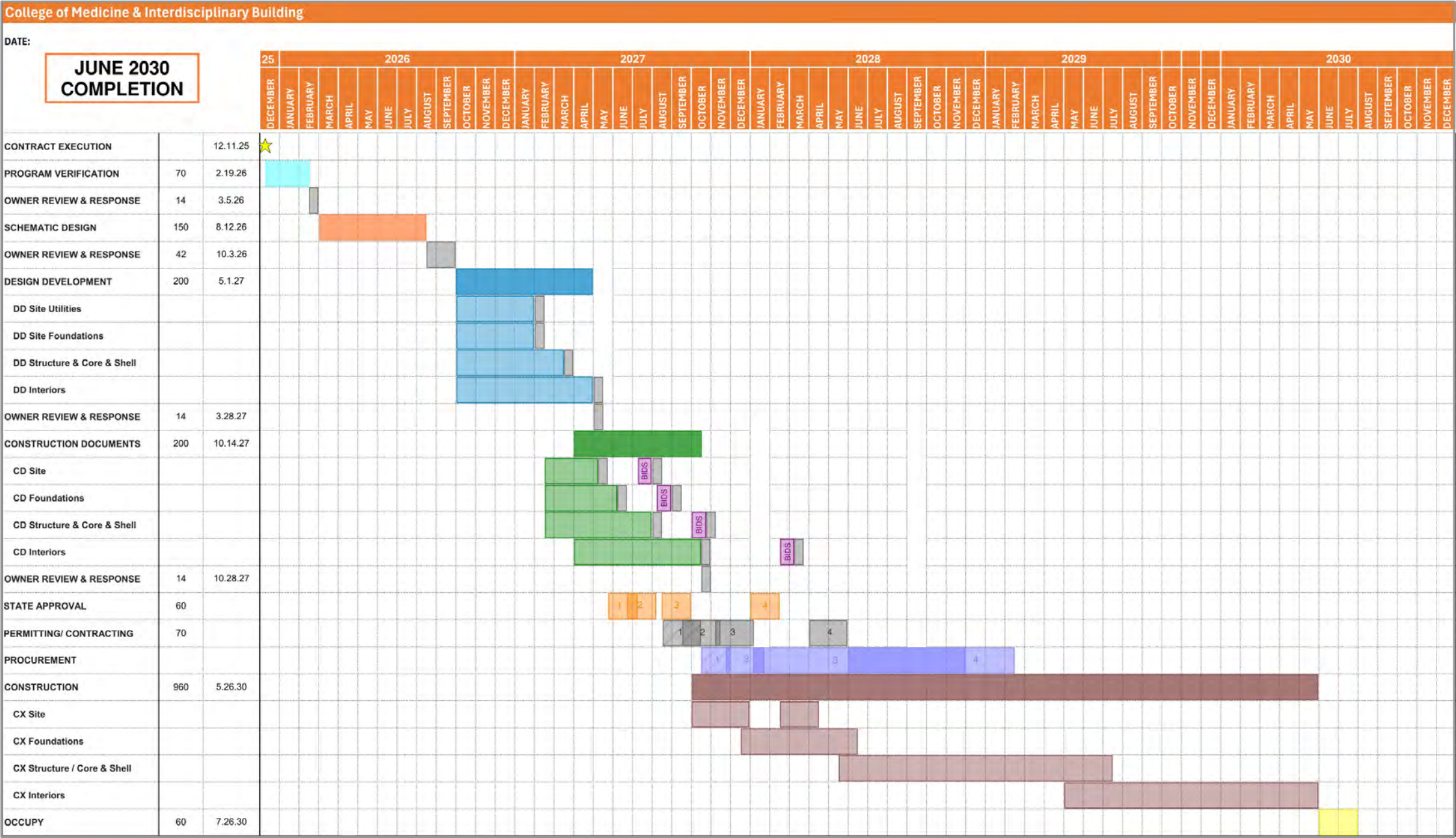
PROGRAM VERIFICATION SCHEDULE

To ensure the future College of Medicine and Interdisciplinary Building was programmed with precision, the University of Tennessee Health Science Center collaborated with HOK and brg3s to validate the accuracy of proposed spaces and allocations.



CONSTRUCTION AND DESIGN SCHEDULE

With Completion of the Program in October 2024, and funding approval slated for Summer 2026, the new building is expected to be completed and occupied in the fourth quarter of 2030.







SECTION 02

PROGRAM VERIFICATION

2.0 - PROGRAM OVERVIEW

2.1 - PROGRAM SUMMARY

2.2 - PROGRAM DESCRIPTION

2.0

PROGRAM OVERVIEW

The University of Tennessee Health Science Center intends to help advance and strengthen the healthcare field, as well as the health of Tennesseans, by strengthening and amplifying advancement of medical education. By providing curated exemplary education and esteemed service to students and collaborators, within and outside the larger community, UTHSC has become a locally and nationally recognized powerhouse.

UTHSC’s College of Medicine and Physician Assistant Program will be housed within the new building, located between Madison and Union Avenues. The goal of this program document is to validate the qualitative and quantitative requirements for the building so that the

department could be housed proximally, collaborate effectively, and ensure successful student outcomes.

The 10-year FTE for the College of Medicine is expected to grow close to 3%. New flexible classrooms, faculty offices, formal and informal collaboration spaces, and support spaces will be created in the new building of the College of Medicine Interdisciplinary Building and provide over 275,000 gsf of space to help meet this demand. The space is critical to support their growth in undergraduate and graduate programs, ensuring continued funding that benefit the department and the University, and attracting new faculty to grow the department.



precedents for interdisciplinary and academic environments.



2.1

PROGRAM SUMMARY

The goals of the University of Tennessee Health Science Center were a centralizing component when generating the program for the new building. It reflects the curriculum, pedagogy, and academic goals of UTHSC, gleaned and compiled during the programming meetings.

Programmatic spatial needs are tracked by activity and space type in an effort to identify synergistic relationships across programs and departments. This program is composed and tracked in the following buckets:

- **Public & Amenity Spaces** - Comprising spaces that are common /shared by most occupants of the building. It includes interdisciplinary learner gathering and study spaces.
- **Academic** - Comprising scheduled classrooms, teaching spaces and support
- **Interdisciplinary Specialty Education** – Comprises spaces for interprofessional, interdisciplinary collaborations based in experiential learning as well as external partnerships.
- **Workplace** – Offices for the Deans, faculty, administration, staff etc.
- **Logistics, Building Support & Systems** - Spaces for building infrastructure, MEPFP systems etc.

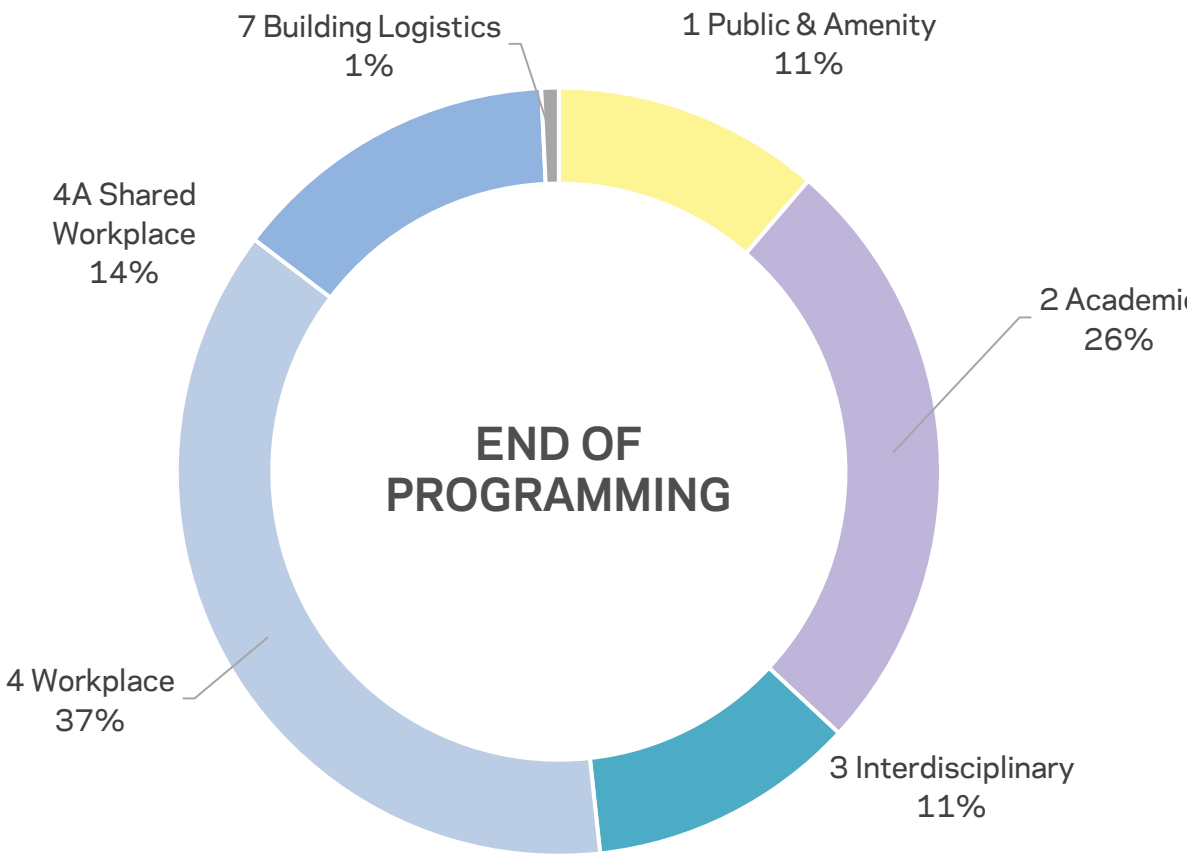
SUMMARY

On the adjacent page is the overall summary of each space type and associated net square footage. A 55% grossing percentage has been utilized for the purpose of this study to ensure collaboration and interaction spaces are celebrated, in keeping with guiding principles and program drivers.

Overall, the program aims to:

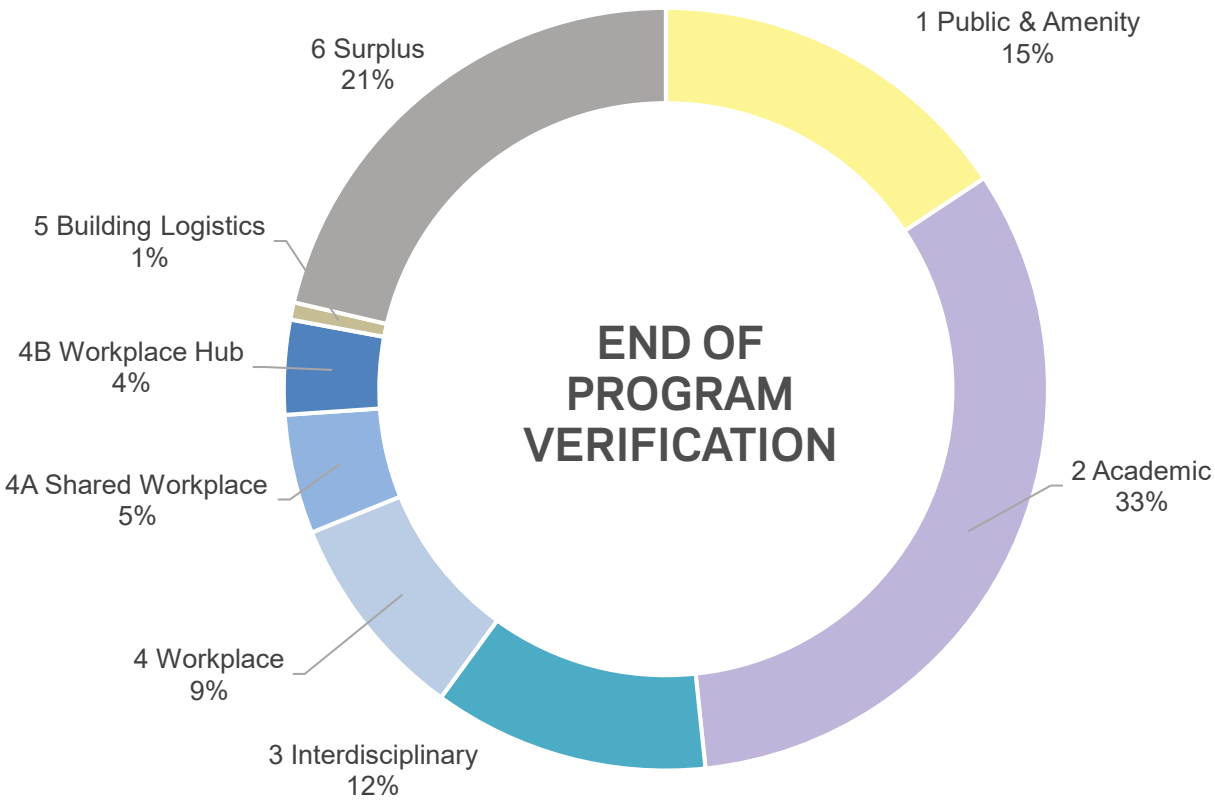
- Provide a state-of-the-art interdisciplinary building to house all learner-centric medical and health science programs.
- Create collaborative learning environments, and experiential, multi-purpose spaces that promote teamwork among students from various disciplines. Facilitate active learning, small-group based classrooms infused with technology
- Enhance student support services and amenities, fostering a vibrant academic community.
- Collaboration and meeting spaces, as well as office and workplaces, will effortlessly weave in features to facilitate communication, collaboration, while cultivating recruiting and retention.

PROGRAM SUMMARY - PREVIOUS



Space Type	Proposed Total NSF
1 Public & Amenity	16,935
2 Academic	38,300
3 Interdisciplinary	17,000
4 Workplace	55,738
4A Shared Workplace	20,852
4B Workplace Hub	6,580
5 Building Logistics*	1,100
Grand Total	149,925

PROGRAM SUMMARY - CURRENT



Space Type	Proposed Total NSF
1 Public & Amenity	23,455
2 Academic	51,450
3 Interdisciplinary	17,500
4 Workplace	11,510
4A Shared Workplace	8,310
4B Workplace Hub	6,580
5 Building Logistics*	1,100
6 Surplus	25,000
Grand Total	149,005

* Building Logistics Includes:
Loading Dock + Handling 500sf
Building Storage + Dry Goods 400sf
Building Management 200sf

2.2

PROGRAM DESCRIPTION

This narrative covers overall design intent for notable programmatic spaces that are within the scope of the new UTHSC building. By collaborating with key stakeholders across the UTHSC system, departmental leaders, faculty and other users, the team has created a narrative that relates distinct parameters and specifications. The team focused on creating a sustainable outlook for the extensive, forward-looking intentions of this program.

The new building is programmed to have an impact on the University of Tennessee campus. Bridging the gap between in-congruent

factions of the campus, the new building welcomes on campus collaboration. The building is intended to usher in continued growth of the College of Medicine and additionally enable future expansion of the College's interactions with the rest of UTHSC's major programs.

The program of the building reflects the curriculum, pedagogy, and academic goals of the College of Medicine and should be used as the keystone of design and the construction of the new building.

The program is comprised of and classified in the following groups:

- **Public + Amenity** : spaces that are **common** and **shared** by most users of the building.
- **Academic** : scheduled **classrooms** and **instructional** spaces of various spaces.
- **Interdisciplinary** : spaces that are used by **multiple disciplines** throughout the UTHSC.
- **Workplace** : faculty and staff **offices**, Post Doctoral offices, and Administrative offices
- **Shared Workplace** : open communal and **office** spaces utilized by faculty, staff, and students.
- **Workplace Hub**: A **network** of spaces where visitors can work, recharge, and meet.
- **Building Logistics** : technical, systematic, and **logistical** spaces needed to assist and **maintain** the building **function**.

PUBLIC + AMENITY



- Public spaces
- Amenities
- Wellness
- Learner Study / Collaboration



ACADEMIC



- Multipurpose spaces
- Large Classroom
- Medium Classroom
- Demonstration Labs
- Small Group Rooms
- Support spaces



INTERDISCIPLINARY



- Digital Health + Innovation
- Specialty Simulation spaces
- Rural Center for Excellence



WORKPLACE



- Enclosed Offices
- Flexible Workspaces
- Workplace Hub

PUBLIC + AMENITY

It has been researched, and results have shown that a compelling component of student learning happens outside of a formal/traditional classroom. Impromptu meetings between students, staff, and faculty, have shown to be a significant part of learning. For these, and many other reasons, amenities for students, faculty, and staff are a crucial component of the building.

All spaces should be branded and in keeping with the culture and integrity of the University of Tennessee Health Sciences Center.

LOBBY

Open to public spaces for visitors, faculty, staff, students, and other users. Includes reception and waiting area. Preferably set in a central location and includes coherent wayfinding.

STUDY FACILITIES / INFORMAL STUDENT COLLABORATION

An interdisciplinary social hub and gathering area for students. Various types of seating for group interactions, as well as individual nooks. Access to plentiful charging stations and USB ports.

HOUSES / LOUNGES

UTHSC will divide the medical student body into smaller, supportive groups or "houses," each with its own faculty mentors and resources. The primary goals of these houses are to promote peer-to-peer learning, enhance student well-being, and build strong, long-lasting professional networks. Additionally, houses can serve as a foundation for wellness programs, career advising, and interprofessional learning, ultimately creating a more holistic approach to medical education. The space for each house will include comfortable space for casual conversation, along with some collaboration and casual study space. Houses will include food storage and equipment for some food preparation, so students from different stages of their medical education can interact, share experiences, and collaborate on academic and clinical projects.

In addition to the medical student houses, the building will include lounges dedicated to several interdisciplinary programs. Separate lounges will be provided for visiting residents, Graduate Health Sciences, and Health Professions. An *Interdisciplinary Commons* will also serve as a shared space where all programs are encouraged to interact both socially and interprofessionally.



PUBLIC AND AMENITY								
Space no.	Space	Previous Qty	Previous Space NSF	Previous Total NSF	New Qty	New Space NSF	New Total NSF	Delta
A.01	Lobby	1	1,500	1,500	1	2,500	2,500	1,000
A.02	Healthy Grab&Go+Vendor Kiosk	1	600	600	1	1,000	1,000	400
A.03	Pre-function	1	750	750	1	750	750	-
A.04	Media/ Recording Studio	1	250	250	1	250	250	-
A.05	Lockers	125	3	375	125	3	375	-
A.07	Study Booths/Rooms	12	80	960	15	110	1,650	690
A.08	Study Facilities/ Informal Student Collaboration	5	500	2,500	6	550	3,300	800
	Green Room/ Interview/Conference Room	1	500	500	1	550	550	50
A.10	Houses	6	900	5,400	5	1,500	7,500	2,100
A.11	Learner Lounge			-	1	750	750	750
A.12	Learner Lounge			-	1	750	750	750
A.13	Resident Lounge			-	1	750	750	750
A.14	Houses Shared Kitchenette	1	1,200	1,200	2	1,500	3,000	1,800
A.15	Interdisciplinary Learner Commons	1	2,500	2,500	1	3,500	3,500	1,000
A.16	Catering/Warming Kitchen			-	1	600	600	600
A.17	Vending Machine Area			-	3	110	330	330
				16,535	total NSF:		27,555	11,020
					total GSF:		44,088	

PUBLIC + AMENITY SPACES (27,555NSF)

Public Spaces ~4,250 nsf

- Building Lobby
- Pre-function
- Health Food Kiosk / Grab 'n' Go

Amenities ~2,105nsf

- Media / Recording Room
- Interview / Seminar Room
- Catering/Warming Kitchen
- Vending Machine Area
- Lockers

Wellness ~330nsf

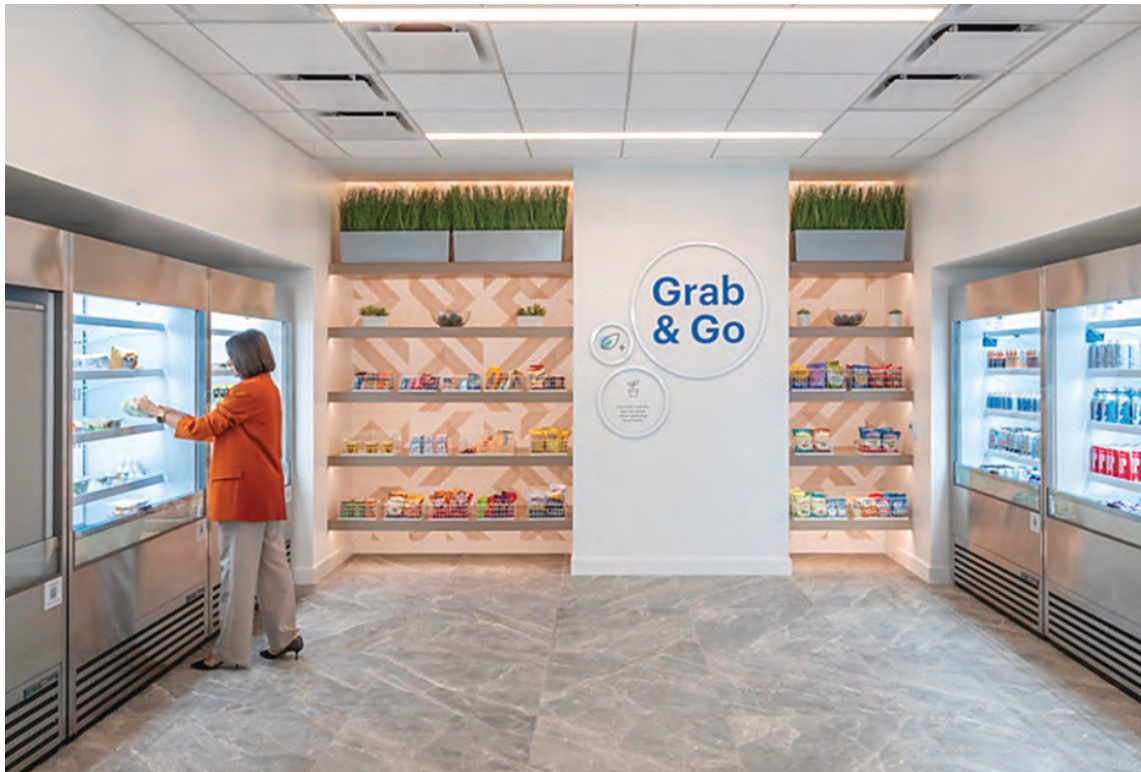
- Wellness / Quiet Rooms

Learner Study / Collaboration ~21,200nsf

- Learner Commons
- COM Houses/Kitchenette(s)
- Interdisciplinary Lounges
- Informal Collaboration/Study Rooms 2 - 5p



precedents for public and amenity environments



ACADEMIC

The new classrooms and learning spaces will support the growth of the University of Tennessee Health Science Center. These are leading-edge classrooms and will provide opportunities for effective interactive, small group based active hybrid teaching and learning experiences. Access to daylight in all learning spaces is a key component of occupant wellbeing and is especially important to learning environments. This must be taken into consideration and incorporated during the design stages of the building.

LARGE FLEXIBLE / MULTIPURPOSE CLASSROOMS

There is a large multipurpose classroom seating 500 with tables and chairs. Envisioned as a space that can be divided into two halves of 250 people; this space is a forward-thinking, innovative, flat-floored classroom designed for current pedagogues with small groups and plenty of AV infrastructure around the room. This space will morph interchangeably between a traditional front facing lecture typology into small group setup as well as banquets and conventions, symposia, on-campus job fairs, industry events, student ceremonies, Open Houses, CEUs, and other events. Instructional technology will be critical for success as more and more students will need to be connected virtually. Acoustics will be a critical component and a high-quality, electrically operated, vertical operable wall to divide the space was deemed a high priority for UTHSC.

MEDIUM FLEXIBLE / MULTIPURPOSE CLASSROOMS

Medium-sized demonstration labs will accommodate 32-64 learners and primarily support the Physician Assistant Program, with additional use by medicine for clinical practice. These labs will include select medical equipment, flexible furniture, and displays for instruction and debrief.

DEMONSTRATION LABS

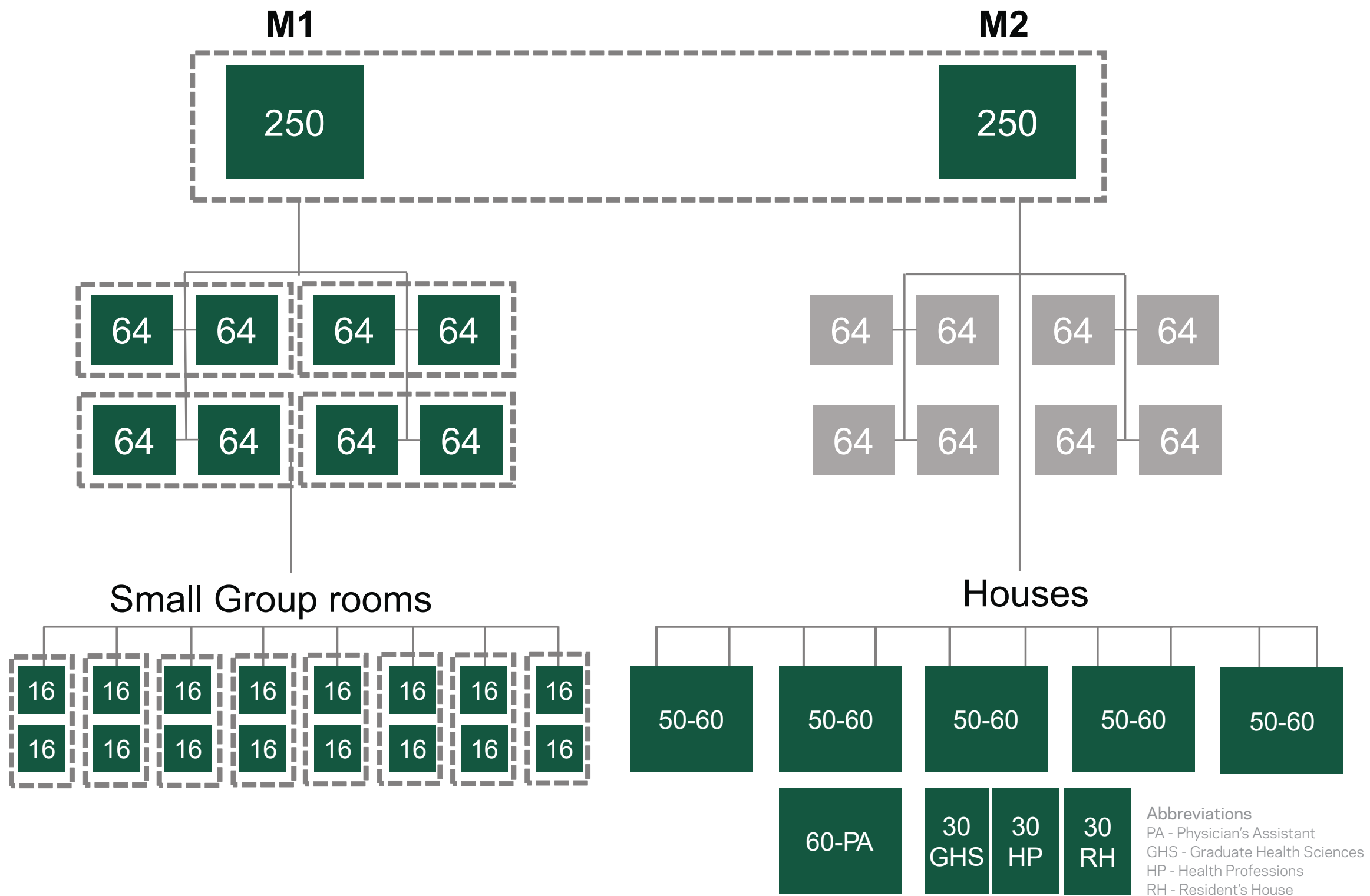
Medium sized demonstration labs will be the primary experiential learning lab. The demonstration labs are spaces primarily to support the Physician Assistant Program, although other programs such as medicine will utilize this space for clinical practice. They will include mock clinical environments, flexible tables and chairs, and displays for instruction.

SMALL GROUP ROOMS

Small group case-based learning is fast becoming a primary method of teaching. These spaces can be utilized for small group instruction as part of an organized curriculum and schedule and can later be used by students as group study spaces. Acoustical privacy and speech acuity are of prime importance in all classrooms and teaching spaces and a high degree of care must be undertaken to ensure this criterion is maintained.



COHORT BREAKDOWN



ACADEMIC SPACES

(51,450NSF)

Multipurpose Classroom 250p / 500p

~16,000 nsf

- (2) 250p capacity spaces

Large Classroom 64p / 128p ~18,000nsf

- (8) 64p capacity spaces

Medium Classroom 32p / 64p ~2,250nsf

- (2) 32p capacity spaces

Demonstration Labs ~4,500nsf

- (2) 32p capacity spaces
- Storage

Small Group Rooms 16p/32 ~8,800nsf

- (16) 16p capacity spaces

Support Spaces ~1,900nsf

- Storage and supplies
- IT Suite



precedents for academic environments



ACADEMIC								
Space no.	Space	Previous Qty	Previous Space NSF	Previous Total NSF	New Qty	New Space NSF	New Total NSF	Delta
B.01	Multipurpose 250/500p Meeting Space	1	13,500	13,500	1	16,000	16,000	2,500
B.02	Classrooms 64/128p	8	1,800	14,400	8	2,250	18,000	3,600
B.03	Classrooms 32/64	2	900	1,800	2	1,125	2,250	450
B.04	Small Group Room 16p/32p	16	450	7,200	16	550	8,800	1,600
B.05	Demonstration Lab			-	2	2,250	4,500	4,500
B.06	Demonstration Lab Storage			-	2	200	400	400
B.10	Multipurpose support/storage	1	200	200	1	300	300	100
B.11	Classroom storage	2	200	400	2	200	400	-
B.12	IT Suite	1	800	800	1	800	800	-
				38,300	total NSF:		51,450	13,150
					total GSF:		82,320	

INTERDISCIPLINARY

The new interdisciplinary environments will fulfill UTHSC's aspiration for elimination of silos and collaboration spaces and state-of-the-art facilities. Enhanced with virtual interactive teaching tools, career development resources, and simulation rooms where applicable, interdisciplinary spaces are a defining feature of the Graduate program.

HEALTH INCUBATOR

This is charted as a comprehensive ecosystem of places, programs, and people working together to foster innovation, collaboration, and interdisciplinary learning. It will bring together bright minds and allow them to take on challenges from multiple angles, shape discoveries into sound solutions, provide problem-solving, and educate tomorrow's creators to be entrepreneurial, capable, and multifaceted. It will be a multipurpose space with a diversity of furniture, workstations, a conference room, informal seating, a pitch deck, and a collaboration space – where students can work through business plans and showcase ideas to potential investors.

COMPUTATIONAL / VISUALIZATION SUITE

With the advent and pervasiveness of artificial intelligence and machine learning, creative problem solving with data has increasingly become one of today's most desired skills. With the aid of computer technology, students can discover new ways to implement their knowledge of medical processes in various settings. The space will have ample writing surfaces, flexible furniture, and a variety of collaborative seating. It will be fitted with a floor to ceiling interactive screen, AV, technology and cameras, for video conferencing and video.

HYPERFLEXIBLE IMMERSIVE SANDBOX SUITE

The building will have very few simulation spaces, but this simulation space will have movable walls that will allow the space to scale up or down and convert to various real-life simulations. Outfitted with services, and some medical equipment. The immense flexibility of this space will make this an interdisciplinary space suited to recreate various medical settings including disaster response training, poverty training and other interprofessional education opportunities.

MOBILE HEALTH LAB

This will be an innovative suite of spaces through which students can experience community care, outreach and service. This space will serve as a home base for simulated mobile health vehicles and be an exemplary interprofessional teaching space for learners across these programs. An adjacent learning/lecture space will give students a space to prepare, absorb, and digest material, before and after, a hands-on learning experience.

RURAL CENTER OF EXCELLENCE

The Rural Center of Excellence is envisioned as the home of the new institute, serving as an inviting hub for visitors. Designed to advance UTHSC's research, innovation, and outreach efforts, the center will play a vital role in strengthening healthcare delivery across rural Tennessee. Its program includes flexible workspaces, conference rooms, and welcoming areas for guests and collaborators.



INTERDISCIPLINARY

(17,500NSF)

Digital Health and Innovation ~1,000nsf

- Computation / Visualization Lab

Clinical and Special IPE Sim ~10,000nsf

- Disaster Response / Hyperflexible Sandbox
- Mobile Health Lab

External Partnership ~6,500nsf

- Health Incubator
- Technology Innovation Lab
- Rural Center of Excellence



precedents for interdisciplinary environments



INTERDISCIPLINARY								
Space no.	Space	Previous Qty	Previous Space NSF	Previous Total NSF	New Qty	New Space NSF	New Total NSF	Delta
C.01	Computational / Visualization Suite	1	1,000	1,000	1	1,000	1,000	-
C.02	Technology Innovation Lab	1	1,000	1,000	1	1,000	1,000	-
C.03	Rural Center of Excellence			-	1	2,500	2,500	2,500
C.04	Health Incubator	1	3,000	3,000	1	3,000	3,000	-
C.05	Disaster Response / Hyperflexible Sandbox Immersive Studio + Storage + Utility Room	1	6,000	6,000	1	6,000	6,000	-
C.06	Mobile Health Lab	1	4000	4,000	1	4,000	4,000	-
				15,000	total NSF:		17,500	2,500
					total GSF:		28,000	



WORKPLACE

UTHSC developed a flexible plan to integrate workplace functions into the COMIB facility, starting with relocating student-serving units from the College of Medicine and the Physician Assistant Program, with additional workspace provided in the new 'Faculty Hub.' This strategy supports evolving needs, encourages cross-disciplinary collaboration, and delivers a future-ready, adaptable workplace program.

ASSIGNED WORKPLACE: ENCLOSED OFFICES

There are a few enclosed offices in the program with varying sizes. Larger offices will include a table and seating for guests, as well as exposure to daylight. Efficient storage solutions, along with vertical writing surfaces for quick meetings will be implemented. Neighborhoods of enclosed offices should be adjacent to shared meeting rooms, collaboration areas, and workplace amenities. Important spaces such as the Board room, conference room, kitchenette, work/copy/mail room, and storage will be adjacent to the Dean's offices.

Acoustical privacy is a vital criterion for the design and construction of these spaces. STC criteria outlined in the room data sheets and industry construction best practices such as extending walls to the deck and acoustical infill in walls should be considered to obtain the best possible outcomes for the project.

OPEN WORKSTATION AREAS

Open workstation areas will be day-lit and ergonomic. Visitor perches will be an integral part of the workstation furniture. Furniture placement will encourage collaboration, interdepartmental conversation, and a lively work environment.

SHARED WORKPLACE:

The shared workplace component encompasses program spaces that are necessary to support the main work areas. This includes an optimal count of meeting rooms of various sizes, hoteling areas, touchdown and huddle rooms to provide landing spots for visitors and allow for ad-hoc collaboration at various scales. A large, dedicated faculty break area and lounge is included in addition to informal collaboration spaces that should be peppered through the office areas.

FACULTY HUB:

The faculty hub is a dynamic mode of incorporating hybrid work modalities in a forward-looking workplace environment that will be available for faculty to use throughout the day. The area will include concierge support, lockable storage, break areas, and a variety of touchdown spaces for spontaneous work. For those needing more privacy or a semi-permanent spot, bookable private offices/ meeting rooms will be provided. The goal is to break down silos and encourage interaction among faculty and staff from different disciplines.

WORKPLACE PROGRAM

(26,400NSF)

Assigned Workplace (11,510 nsf)

- College of Medicine
- Physician Assistant Program
- Future Growth

Shared Amenities (8,310 nsf)

- Meeting rooms, break areas, hoteling, etc.

Unassigned Faculty Hub (6,580nsf)

- College of Medicine
- College of Health Professions
- College of Graduate Health Sciences
- Other Colleges/ Interdisciplinary Users
- Visitors
- Informal Collaboration
- Storage and Support



WORKPLACE								
Space no.	Space	Previous Qty	Previous Space NSF	Previous Total NSF	New Qty	New Space NSF	New Total NSF	Delta
D.01	Executive Dean	3	225	675	1	350	350	(325)
D.02	Vice Dean			-	1	225	225	225
D.03	Assistant Dean			-	4	110	440	440
D.04	Sr. Associate Dean			-	3	225	675	675
D.05	Associate Dean	17	150	2,550	4	110	440	(2,110)
D.06	Dept. Chair			-	2	150	300	300
D.07	Assoc Director/Asst Directors			-	4	110	440	440
D.08	Chief of Staff			-	1	110	110	110
D.09	Director			-	5	110	550	550
D.010	Other: Auditor, Consultants,			-	1	110	110	110
D.011	Professor, Assoc, Asst, Instr	302	110	33,220	25	110	2,750	(30,470)
D.012	Professional	114	80	9,120	6	80	480	(8,640)
D.013	Professional/Administrative	21	80	1,680	19	80	1,520	(160)
D.014	Sec/Clerical	43	60	2,580	8	60	480	(2,100)
D.015	Staff	24	60	1,440	17	80	1,360	(80)
D.017	Growth - Workstation/Bench			-	5	80	400	400
D.018	Growth - Private			-	8	110	880	880
				51,265	total NSF:		11,510	(39,755)
					total GSF:		18,416	

precedents for workplace environments



SHARED WORKPLACE								
Space no.	Space	Previous Qty	Previous Space NSF	Previous Total NSF	New Qty	New Space NSF	New Total NSF	Delta
D.30	Reception /Waiting area	5	300	1,500	2	330	660	(840)
D.31	Board Room (40p)	5	990	4,950	1	1,500	1,500	(3,450)
D.32	Kitchenette	6	220	1,320	2	220	440	(880)
D.33	Medium Meeting Rooms-15p	10	440	4,400	5	440	2,200	(2,200)
D.35	Informal collaboration	10	330	3,300	4	330	1,320	(1,980)
D.36	Faculty/ staff break area	5	550	2,750	2	550	1,100	(1,650)
D.37	Workroom/ Storage	5	110	550	3	110	330	(220)
D.38	Hotelling / Touchdown Spaces	12	36	432	15	36	540	108
D.39	Wellness Rooms	5	110	550	2	110	220	(330)
				19,752	total NSF:		8,310	(11,442)
					total GSF:		13,296	

WORKPLACE HUB								
Space no.	Space	Previous Qty	Previous Space NSF	Previous Total NSF	New Qty	New Space NSF	New Total NSF	Delta
D.050	Concierge			-	1	110	110	110
D.051	Small Meeting Rooms			-	8	110	880	880
D.052	Medium Meeting Rooms-15p			-	2	440	880	880
D.053	Wellness Room			-	1	110	110	110
D.055	Break Room			-	2	550	1,100	1,100
D.056	Daily Assigned Workplace			-	1	2,000	2,000	2,000
D.057	Informal Collaboration/Workspace			-	1	1,500	1,500	1,500
				0	total NSF:		6,580	6,580
					total GSF:		10,528	



SECTION 03

BUILDING SYSTEMS NARRATIVE

3.0 - LIFE SAFETY CODE

3.1 - CIVIL

3.2 - ARCHITECTURAL**

3.3 - HEATING, VENTILATION, + AIR CONDITIONING

3.4 - PLUMBING

3.5 - ELECTRICAL

3.6 - FIRE ALARM

3.7 - FIRE SUPPRESSION

3.8 - AV, IT, + ELECTRONIC SECURITY SYSTEMS**

3.9 - ACOUSTICS**

3.10 - SMART BUILDING**

**REFER TO THE PROGRAMMING DOCUMENT. NO CHANGE.

3.0

LIFE SAFETY CODE
BY: SLS - CODE CONSULTING
REVIEWED/REVISED BY: brg3s

The report contained in the original Programming document provides an outline of building and fire code related requirements for this project and information associated with the general approach to fire protection, life safety and building code compliance. As a living document, this report will be revised, modified, and amended as the project progresses into Schematic Design and subsequent phases of this project. The design team will closely coordinate, review, and discuss all life safety and code related features with our life safety consultant throughout the design and construction phases of the project.

The Tennessee State Fire Marshal's Office Currently Adopted Codes have been modified since the release of the original Programming document. The design of the project will comply with the most recent adopted codes, as noted below:

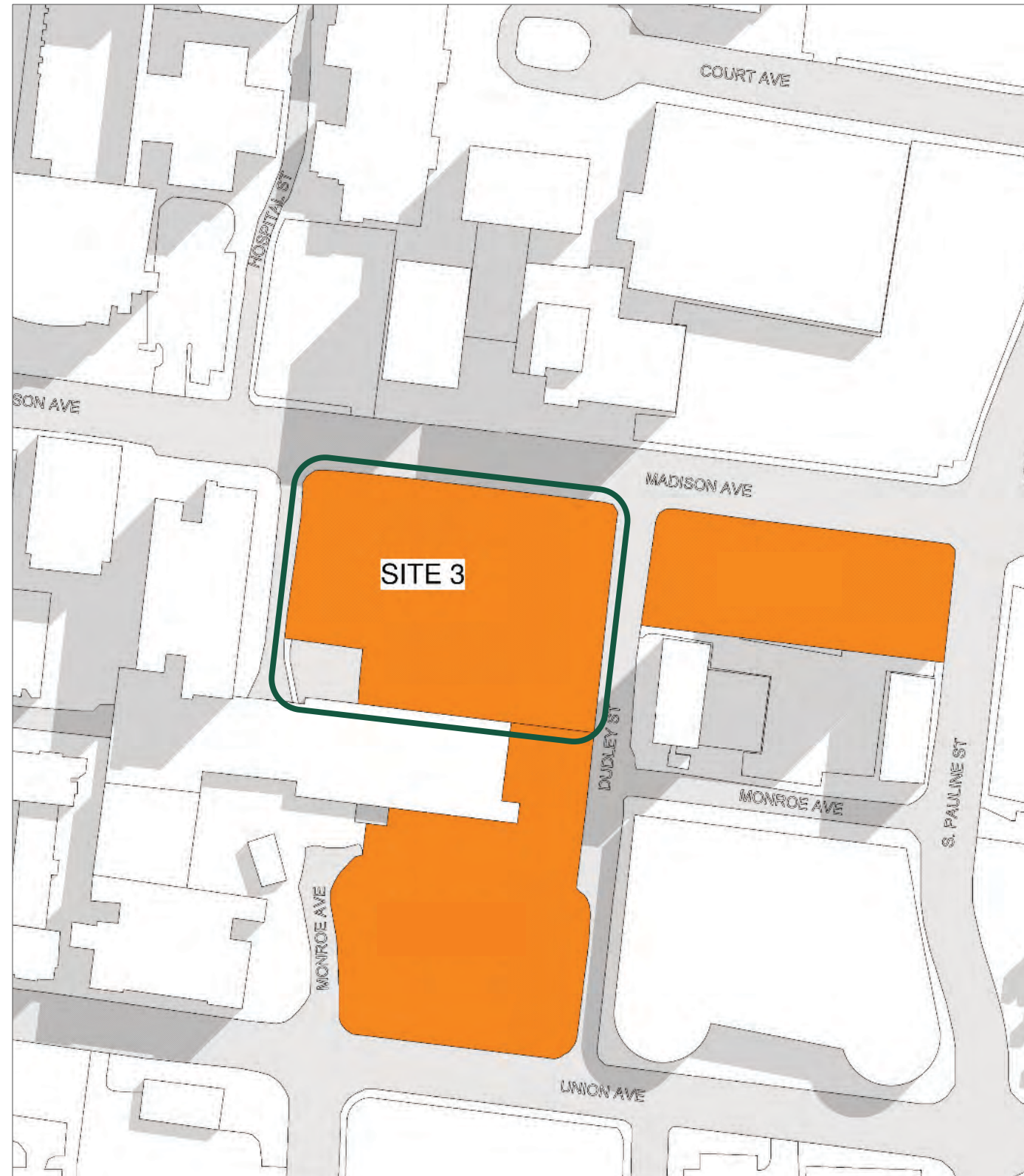
The codes currently adopted by the Tennessee State Fire Marshal's Office are:

- 1. International Building Code (IBC),
2021 edition w/amendments
- 2. International Fuel Gas Code (IFGC),
2021 edition
- 3. International Mechanical Code (IMC),
2021 edition
- 4. International Plumbing Code (IPC),
2021 edition
- 5. International Fire Code (IFC),
2021 edition, w/amendments
- 6. International Energy Conservation Code (IECC),
2021 edition w/amendments

- 7. The National Electrical Code (NEC),
2017 edition, published by the NFPA, except that:
 - 1. Section 110.24, Available Fault Current shall be optional; and
 - 2. Arc Fault Circuit Interrupters (AFCIs) shall be optional for bathrooms, laundry areas, garages, unfinished basements, which are portions or areas of the basement not intended as habitable rooms and limited to storage, work or similar area, and for branch circuits dedicated to supplying refrigeration equipment.



Allen & Hoshall has reviewed Site 3a in accordance with Section 3.06.B.7 of the UT Designer's Manual and finds the site feasible for development at the Program Verification level. No civil or site constraints have been identified. Site 3a is located within existing UTHSC-controlled property, and no off-site land acquisition or right-of-way expansion is anticipated. Site 3a appears to be serviceable from adjacent campus utility corridors and presents typical infill campus considerations related to access, construction staging, and underground infrastructure coordination. To mitigate site risk before Schematic Design, Allen & Hoshall will perform a full topographic and boundary survey and retain a qualified underground utility locating firm to verify subsurface utilities and easement conditions. A geotechnical engineering firm will conduct soil borings to evaluate subsurface conditions and identify the potential presence of buried obstructions, including residual piles or structural elements that may remain from prior hospital demolition activities. Construction access, staging logistics, and coordination with ongoing campus operations will be further refined during Schematic Design; however, no restrictions have been identified at this phase that would preclude development. Based on information currently available, Site 3a is suitable for advancement into Schematic Design, with anticipated redevelopment constraints manageable through planned investigation and coordination



3.1

CIVIL
 BY: PICKERING
 REVISED/REVIEWED BY:
 ALLAN & HOSHALL

3.3

HEATING, VENTING, AND AIR CONDITIONING BY: NEWCOMB & BOYD

I. HEATING, VENTILATING, AND AIR CONDITIONING

A. CODES AND STANDARDS:

1. HVAC systems will comply with the following minimum requirements:

- International Building Code - 2021 with 2025 admendments
- Internation Energy Conservation Code - 2021 with 2025 admendments
- International Mechanical Code - 2021
- ASHRAE Standard 62.1 - 2019
- State of Tennessee High Performance Building Requirements
- University of Tennessee – Division of Facilities Planning – Designer’s Manual (Appendix 3 – Designer’s Manual)

B. DESIGN CONDITIONS:

1. Offices, conference areas, and classrooms: 75°F DB, 50% RH summer; 72°F DB winter
2. Outside: 95°F DB, 78°F WB summer; 0°F DB winter.

C. CENTRAL PLANTS FOR HEATING AND COOLING:

1. Based on an anticipated building size of 275,000 gross square feet, the estimated building cooling load is approximately 900 tons (305 square feet per ton). The estimated building heating load is 5,500 MBH.

The central heating and cooling plant will be located within the COMIB footprint. The heating plant will be sized to accommodate serving the existing adjacent Pharmacy Building and vivarium (to remove these buildings from the existing main steam plant and free up capacity on this plant.)

Both steam and hot water will be considered as the heating medium, with costs for both options provided.

3. Heating plant: the heating plant will consist of 3 boilers, primary and secondary hot water pumps, piping, and accessories. Each boiler will be 3,000 MBh, with space provided for an additional four 3,000 MBh boilers. Each of the three boilers serving the building will be sized for 50% of the building load, providing N+1 redundancy so that the building load will still be fully served upon failure of one boiler.

a) Boilers will be low pressure condensing type, rated for a minimum 125 psig hot water working pressure and featuring fully modulating burner controls for low turndown capability.

b) Hot water piping 2.5" and larger will be schedule 40 black steel, and 2" and smaller will be type L hard drawn copper. or schedule 40 black steel. Piping will be insulated with preformed fiberglass pipe insulation with white all service jacket with self-sealing lap.

4. Cooling plant: the cooling plant will consist of 3 chillers, condenser water and chilled water pumps, piping, cooling towers, and accessories. Each chiller will be 500 tons, with space provided for an additional four 500-ton chillers. Each of the three chillers serving the building will be sized for 50% of the building load, providing N+1 redundancy so that the building load will still be fully served upon failure of one chiller.

a) The chillers will be water-cooled centrifugal type with variable frequency drives to maximize efficiency at part-load conditions.

b) Condenser water and chilled water pumps will be base-mounted double or end suction type, with premium efficiency motors and variable frequency drives. Chilled water system flow will be controlled based on system differential pressure and regulated within the chiller's allowable limits.

c) Cooling towers will be induced-draft type and will be located on the roof. The towers will be sized for 3 gpm/ton at 78°F wb ambient conditions. Tower fans will be furnished with variable frequency drives. Tower capacities will match chiller capacities, including space available for future towers.

d) Chilled and condenser water piping 2.5" and larger will be schedule 40 black steel, and 2" and smaller will be type L hard drawn copper. Chilled water piping will be insulated with preformed cellular glass pipe insulation. Condenser water piping will be insulated with preformed fiberglass pipe insulation.

e) Waterside economizer: a plate heat exchanger and waterside economizer controls will be provided to allow free cooling during cold outdoor temperatures.

f) Air Handling Units: draw-through, factory-fabricated, medium pressure type including the following features:

1. 2" thick, solid, galvanized steel, double-wall casings with rigid foam insulation between the walls. Perforated inner walls will be allowed at fan sections for improved acoustic performance.
2. Pleated 4" deep MERV 13 filters.
3. Hot water type preheat coils with 30°ΔT. An inline circulating pump will be provided to maintain full design flow at each preheat coil.
4. Chilled water type cooling coils with maximum face velocity of 450 FPM, maximum 8 rows of depth, and 12°ΔT (to match the existing cooling plant design.)
5. Premium efficiency fan motors with variable frequency drives.
6. Fan arrays with direct-drive plenum fans with airfoil blades and gravity backdraft dampers.
7. Acceptable manufacturers will be Carrier, JCI-York, and Trane.

D. ENERGY RECOVERY UNITS:

Air-to-air energy recovery using total enthalpy wheels or plate heat exchangers will be employed to precondition outside air. Energy recovery unit construction will match the air handling unit parameters listed above.

E. AIR DISTRIBUTION:

Ductwork will conform to SMACNA recommendations. New supply ductwork will be galvanized steel insulated with 2" thick fiberglass blanket insulation. New general exhaust ductwork will be uninsulated galvanized steel. Supply air distribution devices will be architectural plate face type. Exhaust air will be drawn from ceiling-mounted eggcrate grilles.

F. TERMINAL UNITS:

1. Variable-volume reheat terminal units will provide heating/cooling supply air to offices, classrooms, and other non-laboratory areas. Heat will be provided by heating water coils..

STAIRWELL PRESSURIZATION

1. Stairwells will be pressurized with outside air to maintain 0.15" wg minimum differential pressure across any closed stairway door. Fans will be the variable pitch vaneaxial type with multiple ducted discharge points in each stairwell.

H. AUTOMATIC TEMPERATURE CONTROLS:

The existing building control system (BCS) will be extended to incorporate the new systems, including terminal units, air valves, and other related systems. New BCS components will be integrated into the existing building control system and will be fully compatible with and connected to the existing Energy Management System serving the campus. Acceptable manufacturers will be JCI and Siemens.

1. BCS controllers will be field programmable, microprocessor-based type incorporating direct digital control and energy management functions. Each BCS controller will perform its assigned control and energy management functions as a stand-alone unit and will comply with FCC Part 15, Subpart B 2008. Each BCS controller will be expandable by adding additional input/output modules that operate through the processor of the BCS.

2. Heating water control valves will be 2-way, equal percentage flow characteristic, globe or ball type with electric actuators.

3. Control dampers will be low-leakage, opposed-blade type with airfoil blades, blade seals, side seals, and electric actuators.

4. Space temperature sensors will be electronic type with setpoint adjustment, visual temperature scale, and communication port. Duct and pipe temperature sensors will be electronic type with accuracy of +/-0.5°F. Space and duct humidity sensors will have an accuracy of +/-2% RH. Air and water differential pressure sensors/transmitter will be provided with 3-valve manifold assembly to allow field test measurements to be taken without interrupting the BCS system reading. Current sensing relays will be provided for HVAC equipment status. Pressure switches will be provided for filter status.

5. Software graphics with pictorial representations of equipment and devices being controlled will be provided.

I. TESTING:

Adjusting and Balancing: systems will be tested, adjusted, and balanced to achieve proper operation, design flow, temperature and pressure differentials, and pressure drop through piping, ductwork, equipment, and components. A Subcontractor, certified by AABC or NEBB and independent of the Contractor, will be required to perform testing, adjusting, and balancing work. Preliminary test and balance work should be performed on the systems which will be modified under the scope of the renovation, and these systems will need to be rebalanced after renovation work is completed.

J. COMMISSIONING:

The project will require commissioning of HVAC equipment and controls as required by the State

of Tennessee High Performance Building Requirements.

K. PRICING ALTERNATES:

1. In lieu of hot water boilers, provide steam boilers designed to produce 100 psig steam. Include a deaerator tank, one boiler feed pump per boiler, and steam piping and accessories. Provide shell and tube heat exchangers to convert steam to hot water. Provide a steam pressure reducing station to reduce steam pressure from 100 psig to 15 psig.

2. Provide a heat pump chiller located in a sidestream arrangement to simultaneously produce heating and cooling. Heat pump chiller shall be capable of producing 500 MBH of heating energy.

3.4

PLUMBING BY: NEWCOMB & BOYD

PLUMBING

A. CODES AND STANDARDS:

- 1. Plumbing systems will comply with the following minimum requirements:
 - a) International Plumbing Code - 2021.
 - b) State of Tennessee High Performance Building Requirements.
 - c) University of Tennessee - Division of Facilities Planning - Designer's Manual
 - d) University of Tennessee - Mechanical Criteria

B. PLUMBING FIXTURES:

- 1. Water closets will be elongated vitreous china, wall-hung, sensor-activated, flush valve type, 1.6 gallons per flush with white open front seats.
- 2. Urinals will be vitreous china, wall-hung, sensor-activated, flush valve type, 0.125 gallons per flush.
- 3. Lavatories will be vitreous china, under-mount type, with sensor-activated centerset faucet, 0.5 gpm flow control, and grid strainer.
- 4. Water fountains will be electric, modular type with in-wall chiller, extended round receptors, and bottle filler option.
- 5. Floor-mounted service sinks will be terrazzo with grid strainer, rim guard, and faucet with hose thread outlet, vacuum breaker, and wall brace. Wall-hung service sinks will be enameled cast iron with floor-mounted trap standard and faucet with hose thread outlet and vacuum breaker.
- 6. Break room sinks will be stainless steel, self-rimming type, with swing spout faucet, and 1.5 gpm flow control.

C. DRAINAGE SYSTEMS:

- 1. Sanitary drain, waste, and vent systems will extend from underground mains to all fixtures and equipment requiring service. Drainage and

vent stacks will extend vertically through the roof. The system will be provided with traps, vents, and cleanouts as required by code. Trap primers will be provided for drains susceptible to loss of water seal by evaporation.

- 2. Elevator pits will be provided with sump pumps with the discharge piped to the sanitary system.

- 3. Rainwater primary and secondary drainage systems will extend from the roof drains to underground mains. Cleanouts will be provided as required by code. Drain bodies and horizontal rainwater primary and secondary piping above grade and within heated spaces will be insulated to prevent condensation. Rainwater secondary drainage piping will be routed independent of other drainage systems and discharge above grade at an observable location.

- 4. Sanitary and rainwater drainage and vent piping above grade will be hubless cast iron pipe and fittings with heavy duty compression type couplings. Drainage and vent piping below grade will be service weight cast iron pipe and fittings with elastomeric compression joints.

D. DOMESTIC WATER SYSTEMS:

- 1. The water supply will be provided from municipal sources with service separate from fire protection service. Dual backflow prevention devices and pressure reducing valves will be provided.
- 2. The building will be served with a horizontal distribution system to each fixture group and to vertical risers.
- 3. A central water pressure booster pump package will be provided to serve the upper floors of the building.

- 4. Domestic water heaters will be gas-fired vertical storage type with ASME tanks, automatic controls and safeties and factory-installed insulation and jacket. A hot water circulating pump will be provided to limit

temperature loss throughout the system to 10°F maximum. A master mixing valve will be provided.

- 5. Domestic water piping within the building will be type L hard drawn copper with wrought copper fittings and lead-free soldered joints. Press-fit joints will be allowed at the Owner's discretion.

E. LABORATORY COMPRESSED AIR SYSTEMS:

- 1. The laboratory compressed air system will be prewired and prepiped skid mounted units, located in the penthouse. Compressors will be reciprocating type with nonlubricated compressor units. Compressed air systems will include compressed air receivers, air-cooled after-coolers, refrigerated air dryers and pre- and post-filters to provide clean air.
- 2. Piping for laboratory gas systems and cylinder gases will be type L hard copper tubing.

ELECTRICAL SYSTEMS

A. GENERAL:

1. Electrical systems will comply with the following minimum requirements:

- International Building Code - 2021 with 2025 amendments.
- NFPA 70-2017, National Electrical Code
- International Energy Conservation Code - 2021 with 2025 amendments.
- State of Tennessee High Performance Building Requirements
- University of Tennessee – Division of Facilities Planning – Designer’s Manual
- University of Tennessee – Office of Information Technology Communications Group – Satellite Equipment Room and Structured Cabling Requirements - 2017
- University of Tennessee – Facility Services – Electrical Specifications

B. CENTRAL PLANT OPTIONS:

1. Option #1: The central plant will be served from the building’s electrical distribution system. For this option, it is anticipated that two (2) pad-mount transformers and two (2) low-voltage switchboards will be required.

Based on MEP Workshop #1, the integral central plant option is preferred and will be explored further during schematic design.

C. PRIMARY DISTRIBUTION SYSTEM:

1. The primary service will be provided by the local utility company (Memphis Light, Gas, & Water). The contractor will coordinate the service requirements with the utility company and will provide the transformer pad, secondary ductbank, and secondary feeders. The utility company will provide the primary service conductors and service transformers.

D. SECONDARY DISTRIBUTION SYSTEMS:

1. Normal power for the building will originate

from two (2) pad-mount service transformers located outside the building. The local utility company will furnish and install the primary service conductors and service transformers. Service to the building will be 480/277 V, 3-phase, 4-wire, wye connected, grounded neutral.

2. In general, loads will be served as follows:

Load	Service
LED Lighting	277V, 1-phase
Motors (0.5 hp & larger)	480 V, 3-phase
Receptacles	120 V, 1-phase
Motors (0.33 hp & smaller)	120 V, 1-phase

3. Service equipment will consist of two (2) low-voltage switchboards. Service switchboards will be front accessible with individually mounted main and group mounted feeder devices. During the Schematic Design phase, an option will be explored to interconnect the switchboards to provide additional redundancy to the electrical distribution system. Switchboard bussing will be copper, and will be braced for the available fault current. The main circuit breaker will be insulated case, stationary type and the feeder circuit breakers will be molded case type with electronic trip units. Ground fault protection will be provided for 480 V services and feeders 1000 A and larger. The service switchboard will be provided with an electronic power monitor.

4. Underground concrete-encased ductbank will be used for secondary feeder installation.

5. Building lighting, receptacle, and mechanical equipment loads will be served by separate feeders. Feeder risers will be cable in conduit to supply power to distribution and branch circuit panelboards. Branch circuit panelboards will be provided on each floor to serve the lighting and receptacles on the same floor. Laboratory areas will be provided with dedicated panelboards. Protective devices in panelboards will be bolt-on type circuit breakers. Buswork will be copper. Lighting and receptacle panelboards will have a minimum 25% spare/space capacity. From each flush-mounted panelboard, a minimum of six spare empty conduits will be provided.

6. Wiring will be insulated conductors installed in raceways. Conductors will be copper with type THWN/THHN or XHHW insulation. Conductors for power wiring will be a minimum of #12 AWG and a maximum of 500 kcmil. Separate neutral conductors will be provided for each branch circuit. Conductors will be color-coded the entire length to identify phases, neutral, and ground.

7. Raceways will be minimum 0.75” for power and 1” for communications systems. In general, electrical metallic tubing will be provided for interior wiring installations. Rigid metal conduit will be provided for exposed raceways serving fire pumps and fire pump control equipment and other applications. Flexible metal conduits will be provided for connections to recessed luminaires, motors, dry-type transformers, and electrical equipment subject to movement or vibration. Liquidtight flexible metal conduits will be provided for connection to equipment exposed to rain or spray. Cable trays will be provided to form a system that interconnect all telecommunication rooms and extends throughout corridors and work areas. With the exception of raceways serving floor boxes, conduits shall not be installed in concrete floor slabs.

8. Electrical systems, circuit and equipment will be grounded and bonded. A green colored grounding conductor will be installed in raceways with the phase conductors. The maximum resistance of electrical systems to ground will be 5 ohms.

9. A lightning protection system will be provided and will be the concealed type installed with UL lighting protection inspection certificates.

10. Provisions will be made to accommodate a campus master clock system. Power for equipment and empty raceways to future roof mounted antennae will be provided to serve campus Primex wireless clock system.

3.5

ELECTRICAL
BY: NEWCOMB & BOYD

E. LIGHTING:

1. Generally, interior lighting will be LED type. Illumination levels for work surfaces will be provided in accordance with IESNA recommended illumination levels.
2. In general, the following luminaire types will be provided:
 - Enclosed offices: recessed 2' x 4' direct/indirect LED systems.
 - Open offices: recessed 2' x 4' direct/indirect LED systems.
 - Lobbies and corridors: recessed LED downlights and recessed 2' x 2' direct/indirect LED systems.
 - Restrooms: downlights and linear cove LED systems.
 - Classrooms: recessed linear slot and recessed wallwasher LED systems.
 - Laboratories: recessed linear slot LED systems.
 - Laboratory support spaces: recessed, 1' x 4' direct/indirect LED systems.
 - Mechanical and electrical rooms: industrial type LED luminaires.
 - Means of egress: LED edge-lit exit signs.
 - Exterior area lighting: UT campus standard luminaires.
 - Exterior building lighting: wall-mounted luminaires at secondary exits and architectural luminaires at main entries.
3. Interior spaces will be provided controls for automatic lighting shut-off in accordance with International Energy Conservation Code-2021. Automatic lighting shut-off controls will consist primarily of ceiling-mounted occupancy and vacancy sensors with local dimmer switch. Mechanical and electrical rooms will be provided with toggle switches. Lighting near glazed exterior walls will be provided with daylight responsive dimming controls. Interior office spaces and laboratory spaces will be provided with dimming controls.

F. EMERGENCY POWER SYSTEM:

1. Assuming the building will be a high-rise, the emergency power supply system will include an engine-generator set, automatic transfer switches, remote annunciator, and accessories to automatically supply power during a utility power failure. Engine-generator set will be provided with a diesel-fueled engine. Generator will be 480Y/277 V, 3-phase, 4-wire synchronous type with permanent magnet pilot exciter. The engine-generator set will be located at the building exterior in a weatherproof, acoustically-treated enclosure with a sub-base fuel tank sized to provide 48 hours of runtime at full rated load. Acceptable engine-generator manufacturers will be Caterpillar and Kohler. Automatic transfer switches will be open transition type, 4-pole switched neutral. A temporary generator connection cabinet will be provided near the loading dock as required per NFPA 70, Article 700.
 - Egress lighting and exit lights
 - Fire detection and alarm systems
 - Fire protection systems
 - Lighting and receptacles in the fire command center
 - Elevators as required per the IBC
 - Lighting, receptacles, and HVAC systems for elevator machine rooms
 - Smoke control systems
 - BCS system
 - Lighting and receptacles in electrical rooms
 - Lighting and receptacles in communication equipment rooms
 - Cooling systems for communication equipment rooms
 - Select receptacles in the laboratory areas
 - Miscellaneous building loads as required by UTHSC

G. FIRE PUMP

1. The fire pump will be served from two sources, a dedicated service connection from the new pad-mount service transformer and from the emergency power system. Supply

conductors will be kept independent of all other wiring and will be routed outside the building. Supply conductors will connect to a listed fire pump combination controller and transfer switch.

H. COMMUNICATIONS SYSTEMS

1. A complete communications system (equipment, equipment racks, cabling, conduits, pathways, equipment rooms, work area outlets, etc.) will be furnished and installed per UT Telecommunications Design and Installation Standards.

G. SECURITY SYSTEMS:

1. Electronic security systems will include an integrated system of intrusion detection, access control and alarm monitoring, and video surveillance. Classrooms will be provided with UTK locking requirements. Video surveillance will be provided at building main entrances and exits. Final connectivity and programming will be by UT Facility Services.

H. ELECTRICAL SYSTEMS COMMISSIONING

1. The project will require commissioning of lighting control systems as required by the State of Tennessee High Performance Building Requirements.



FIRE ALARM SYSTEM

A. GENERAL:

1. Fire alarm system will comply with the following minimum requirements:
- International Building Code - 2021 with 2025 Amendments
 - International Fire Code - 2021 with 2025 Amendments
 - NFPA 70 - 2017, National Electrical Code
 - NFPA 72 - 2025, National Fire Alarm Code
 - NFPA 101 - 2021, Life Safety Code
 - University of Tennessee - Division of Facilities Planning - Designer's Manual

B. DESIGN CRITERIA:

1. A new fire alarm system will be installed to serve the new building. The system will be a supervised, local protective signaling system employing multiplex communication and individually addressable initiating devices. Acceptable manufacturers will be EST or Simplex.
2. Cardax interface equipment will collect data from the fire alarm system and connect to the central alarm reporting station at the University of Tennessee Health Science Center Police Department. In lieu of a fireman's telephone system, a distributed antenna system will be provided to ensure signal strength for public safety portable radios.

C. CONTROL EQUIPMENT:

1. Assuming the building will be a high-rise, fire alarm equipment requiring user interface will be located in a ground floor Fire Command Center. The fire Command Center will contain equipment and features as required by Section 403 of the International Building Code - 2021.
2. Control equipment will be modular in construction, UL listed, and housed in a surface-

mounted steel cabinet. Operating voltage will be 24 V DC. Standby power will be furnished by a 4-hour self-contained emergency battery power supply.

3. The main fire alarm control panel will include solid state construction, plug-in modules and dead front construction. Signaling line circuits and initiating device circuits will be arranged so that the number of connected devices does not exceed 80% of circuit capacity. The fire alarm annunciator will be an LCD display with minimum 80 character capacity.

4. Speaker circuits will be select-able for 1-way transmission of voice instructions. The circuit selector panel will be mounted adjacent to or integral with the CPU and will include individual zone selector switches, an all-call switch, and a microphone with press-to-call button and coil cord.

D. ALARM INITIATING DEVICES:

1. Alarm initiating devices will include addressable manual pull stations, monitor modules, duct detectors, heat detectors, and smoke detectors. Auxiliary functions will be performed by control modules located within 36" of the controls for the equipment to be operated.

E. NOTIFICATION DEVICES:

1. Alarm signaling devices will consist of alarm speakers and strobe lights.

F. TWO-WAY COMMUNICATION SYSTEM:

1. An intercom system will be provided in the passenger Elevator Lobbies in conformance with International Building Code - 2021.

G. EMERGENCY RESPONDER RADIO COVERAGE SYSTEM:

1. A two-way emergency radio communications enhancement system, also known as the Public Safety DAS, will be provided to support the radio frequencies of the local Emergency Responders. The system shall be designed per the

International Fire Code - 2021.

3.6

FIRE ALARM
BY: NEWCOMB & BOYD

3.7

FIRE SUPPRESSION

BY: NEWCOMB & BOYD

FIRE SUPPRESSION

A. GENERAL:

1. Fire suppression systems will comply with the following minimum requirements:
 - International Building Code - 2021 with 2025 Amendments
 - International Fire Code - 2021 with 2025 Amendments
 - NFPA 13-2019, Installation of Sprinkler Systems
 - NFPA 14 - 2019, Installation of Standpipe and Hose Systems
 - NFPA 20 - 2019, Installation of Centrifugal Fire Pumps
 - University of Tennessee - Division of Facilities Planning - Designer's Manual

B. DESIGN CRITERIA:

1. The building will be protected throughout by a combined system of Class I wet standpipes and automatic sprinklers.
2. Sprinkler piping will be sized by hydraulic calculations. Mechanical rooms and storage areas will be classified Ordinary Hazard, Group 1. Other areas will be classified Light Hazard. Hydraulic design criteria will be in accordance with NFPA 13-2010.
 - a) Light Hazard areas will be designed to provide a minimum density of 0.10 gpm/ft².
 - b) Ordinary Hazard, Group 1 areas will be designed to provide a minimum density of 0.15 gpm/ft². Maximum area per sprinkler will be 130 ft².
 - c) Minimum design area will be the most hydraulically demanding 1500 ft² for wet systems.
 - d) A simultaneous inside hose demand of 100 gpm will be included for light hazard areas and 250 gpm will be included for ordinary hazard areas.

e) Sprinkler connections on each floor will include a monitored control valve, a flow switch, and a test/drain connection. A drain riser with discharge at the building exterior will also be provided to serve each sprinkler system.

C. SYSTEMS:

1. Assuming the building will be a high-rise, water supply will be fed from two separate connsuuctions to the city mains. The fire water services will be located in a dedicated Fire Pump Room on the ground floor of the building. The fire water services will be provided with indoor, UL-listed, ASSE-approved, reduced-pressure type backflow prevention devices. A fire pump will be provided in the same room to serve the building. Two fire department connections and a fire pump test header will also be provided at the building. Fire pump controllers will be UL listed for use with electric motor-driven fire pumps and will include the motor starter, power transfer switch, and wye-delta closed transition starting.
2. Assuming the building will be seismic design category C, an on-site secondary fire water supply tank will be provided as required by Section 903.3.5.2 of the International Building Code - 2021. It is assumed that the water supply tank will have an approximate capacity of 40,000 gallons.
3. Wet standpipes will be located within heated stairwells. Additional standpipes, if required, will be provided so that all portions of all floors are within reach of a 200' hose. Hose thread pattern will match the local fire department pattern.
4. Sprinklers heads will be commercial, quick response, UL listed type. Sprinklers in areas having ceilings will be semi-recessed pendent design with a white finish and white ceiling cup. Concealed type sprinklers with white cover plates will be used in areas with gypsum board ceilings.
5. Aboveground piping will be black steel with

threaded, grooved, or welded fittings. Piping 2" and smaller will be schedule 40 and pipe 2.5" and larger will be schedule 10. No plain-end fittings, strap-on branch outlets, or couplings employing set screws will be used. Pump suction piping and piping subject to alternate wetting and drying will be galvanized. Underground piping will be cement-lined ductile iron with mechanical joints. Underground piping will be anchored with concrete thrust blocks and tie rods.

6. The fire suppression system will be monitored by the building fire alarm system. Monitor points will include trouble and alarm conditions for pump status, waterflow switches, valve monitor switches, and fire department access key (Knox) boxes.



SECTION 04

HPBr CHECKLIST

4.0 - HPBr CHECKLIST



High Performance Building Requirements - July 2021

CHECKLIST / TRACKING FORM

Phase	Points Summary	SBC Number: 540/013-04-2025
Applicable	88	Project Name: UTHSC College of Medicine and Interdisciplinary Building (25/26)
Minimum	44	Date: 02.19.2026
Programming	38	Project Type: New Construction
SD	0	Project Phase: Programming
DD	0	Category from Applicability Tree:
CD	0	Compliance Check: Does not comply - not enough points earned
Closeout	0	

Helpful Hints:

- 1) Refrain from copying and pasting data in Column C, "Applicable to Building/Site Scope?" as this can cause errors in some rows.
- 2) If any cell highlights red below, then you have a point allocated to a credit that is "not applicable." This is an error. Simply delete the contents of the cell to reset.
- 3) In column C, if you have copied or pasted in this column and a cell highlights all red, delete the contents of that cell to correct the error.
- 4) If no points are available in the dropdown, this means you have listed that credit as "not applicable" and points cannot be attempted.

Project Team Representatives

Initials

O	-	Owner	
C	-	Contractor	
ME	-	Mechanical Engineer	
EE	-	Electrical Engineer	
CE	-	Civil Engineer	
A	-	Architect	
CxA	-	Commissioning Agent	
LA	-	Landscape Architect	
Other	-	Other	

				Programming			SD			DD			CD			Closeout						
Checklist Total				38	20	47	0	0	105	0	0	105	0	0	105	0	0	105				
22 Points			Land Management	LM Total:	12	3	7	0	0	22	0	0	22	0	0	22	0	0	22	Primary Credit Responsibility		
Possible Points	Credit ID	Applicable to Building/Site Scope?	Description	Level:	Yes	M a y b e	No	Yes	M a y b e	No	Yes	M a y b e	No	Yes	M a y b e	No	Yes	M a y b e	No	Comment: Describe implementation approach for each pursued credit. New comments should be appended to old comments at each project phase. If credits are neither pursued nor applicable, provide justification.	Role	Initials
1	LM1.1	No	Site Selection - Reuse Existing Buildings	Priority 2			1			1			1			1			1		O	0
1	LM1.2	Yes	Site Selection - Show preference for building on developed sites: Preserve farmland/habitat, wetlands, floodplains, public parkland	Priority 1	1		0			1			1			1			1		O	0
1	LM1.3	Yes	Site Selection - Brownfield Redevelopment - Remediate and Restore contaminated sites when possible	Priority 2		1	0			1			1			1			1		O	0
1	LM1.4	Yes	Site Selection - Urban Development - Locate building within existing infrastructure	Priority 1	1		0			1			1			1			1		O	0
1	LM2.1	Yes	Site Disturbance - Sediment and Erosion control during construction	Required	1		0			1			1			1			1		C	0
1	LM2.2	Yes	Site Disturbance - Limit site disturbance during construction to minimum development footprint	Priority 1		1	0			1			1			1			1		CE	0
1	LM3.1	Yes	Transportation - Plan for access to public transportation	Priority 2	1		0			1			1			1			1		O	0
1	LM3.2	Yes	Transportation - Provide bicycle storage for 5% of building occupants and shower/changing facilities for 0.5% of FTE occupants	Priority 2			1			1			1			1			1	-- CAMPUS: NONE INCLUDED IN PROGRAM	CE	0
1	LM3.3	Yes	Transportation - Plan site to include preferred parking for carpooling for 5% of all spaces provided	Priority 2			1			1			1			1			1		CE	0
1	LM3.4	Yes	Transportation - Plan site to include preferred parking for low-emitting/fuel efficient vehicles for 5% of all spaces provided	Priority 2			1			1			1			1			1		CE	0
1	LM4.1	Yes	Landscape Design - Maximize vegetated open space	Priority 2		1	0			1			1			1			1		Other	0
1	LM4.2	Yes	Landscape Design - Native and drought tolerant planting	Required	1		0			1			1			1			1		Other	0
1	LM5.1	Yes	Heat Island Reduction - Non roof surface reflectivity and shading	Priority 1	1		0			1			1			1			1		CE	0
1	LM5.2	Yes	Heat Island Reduction - Reflective roof materials	Priority 2	1		0			1			1			1			1		A	0
1	LM6.1	Yes	Stormwater Design - Post development discharge rate and volume not to exceed Pre-development rate	Priority 1	1		0			1			1			1			1		CE	0
2	LM6.2	No	Stormwater Design - Reduce discharge rate and volume 25% on previously developed sites.	Priority 2			2			2			2			2			2		CE	0
1	LM6.3	Yes	Stormwater Design - Design to remove 80% Total Suspended solids from the average annual rainfall event. Verify local requirements.	Priority 1			1			1			1			1			1		CE	0
1	LM6.4	Yes	Stormwater Design - Design per TDEC BMP References	Required	1		0			1			1			1			1		CE	0
1	LM7.1	Yes	Exterior Site Lighting - Design exterior lighting power to be 10% less than is allowed by ASHRAE 90.1-2010, Section 9.4.3	Priority 2	1		0			1			1			1			1		EE	0
1	LM7.2	Yes	Exterior Site Lighting - Locate fixtures to minimize illuminance above the horizontal plane	Priority 1	1		0			1			1			1			1		EE	0
1	LM7.3	Yes	Exterior Site Lighting - Locate exterior fixtures to minimize light trespass at property lines. Document foot-candle levels at site boundary	Priority 1	1		0			1			1			1			1		EE	0
7 Points			Water Efficiency	WE Total:	2	2	3	0	0	7	0	0	7	0	0	7	0	0	7		Primary Credit Responsibility	
Possible Points	Credit ID	Applicable to Building/Site Scope?	Description	Level:	Yes	M a y b e	No	Yes	M a y b e	No	Yes	M a y b e	No	Yes	M a y b e	No	Yes	M a y b e	No	Comment: Describe implementation approach for each pursued credit. New comments should be appended to old comments at each project phase. If credits are neither pursued nor applicable, provide justification.	Role	Initials
1	WE1.1	Yes	Water Efficient Landscaping, Utilize efficient irrigation technologies and planting measures	Required	1		0			1			1			1			1		LA	0
1	WE1.2	Yes	Water Efficient Landscaping, Non potable sources or no irrigation	Priority 1		1	0			1			1			1			1		A	0
1	WE2.1	Yes	Wastewater Treatment & Conveyance: On site treatment	Priority 2			1			1			1			1			1		ME	0
1	WE2.2	Yes	Wastewater Treatment & Conveyance: Utilize non potable water	Priority 2			1			1			1			1			1		ME	0
2	WE3.1	Yes	Water Use Reduction - Fixture flow and flush rates	Required	1		1			2			2			2			2		ME	0
1	WE3.2	Yes	Water Use Reduction - Utilize auto-flow / auto-flush valves	Priority 2		1	0			1			1			1			1	-- CAMPUS: IS THIS DESIRABLE?	ME	0
37 Points			Energy Efficiency	EE Total:	5	9	23	0	0	37	0	0	37	0	0	37	0	0	37		Primary Credit Responsibility	
Possible Points	Credit ID	Applicable to Building/Site Scope?	Description	Level:	Yes	M a y b e	No	Yes	M a y b e	No	Yes	M a y b e	No	Yes	M a y b e	No	Yes	M a y b e	No	Comment: Describe implementation approach for each pursued credit. New comments should be appended to old comments at each project phase. If credits are neither pursued nor applicable, provide justification.	Role	Initials
1	EE1.1	Yes	Commissioning - Basic commissioning process	Required	1		0			1			1			1			1		CxA	0
3	EE1.2	Yes	Commissioning - Advanced commissioning process	Priority 1			3			3			3			3			3		CxA	0



High Performance Building Requirements - July 2021

CHECKLIST / TRACKING FORM

Phase	Points Summary	SBC Number:	540/013-04-2025
Applicable	88	Project Name:	UTHSC College of Medicine and Interdisciplinary Building (25/26)
Minimum	44	Date:	02.19.2026
Programming	38	Project Type:	New Construction
SD	0	Project Phase:	Programming
DD	0	Category from:	
CD	0	Applicability Tree:	
Closeout	0	Compliance Check:	Does not comply - not enough points earned

Helpful Hints:

- 1) Refrain from copying and pasting data in Column C, "Applicable to Building/Site Scope?" as this can cause errors in some rows.
- 2) If any cell highlights red below, then you have a point allocated to a credit that is "not applicable." This is an error. Simply delete the contents of the cell to reset.
- 3) In column C, if you have copied or pasted in this column and a cell highlights all red, delete the contents of that cell to correct the error.
- 4) If no points are available in the dropdown, this means you have listed that credit as "not applicable" and points cannot be attempted.

Project Team Representatives		Initials
O -	Owner	
C -	Contractor	
ME -	Mechanical Engineer	
EE -	Electrical Engineer	
CE -	Civil Engineer	
A -	Architect	
CxA -	Commissioning Agent	
LA -	Landscape Architect	
Other -	Other	

				Checklist Total	Programming			SD			DD			CD			Closeout					
					38	20	47	0	0	105	0	0	105	0	0	105	0	0	105			
1	EE2.1	Yes	Energy Efficient Purchasing Policy - Energy Star qualified appliances & equipment	Required	1		0			1			1			1			1		O	0
1	EE3.1	Yes	Energy Efficiency - Schematic Design energy modeling	Required	1		0			1			1			1			1		Other	0
1	EE3.2	Yes	Energy Efficiency - Life Cycle Cost Analysis	Priority 1		1	0			1			1			1			1		Other	0
1	EE3.3	Yes	Minimum Energy Performance - all projects to demonstrate compliance with ASHRAE 90.1-2010, according to project scope	Required	1		0			1			1			1			1		Other	0
8	EE3.4	Yes	Improved Energy Performance - energy model is used during design, and final design demonstrates energy cost savings that exceed those required by the Minimum Energy Performance credit (EE3.3)	Priority 1		4	4			8			8			8			8	--DESIGN TEAM TO DISCUSS	Other	0
5	EE4.1	No	Energy Efficiency in Existing Buildings - Lighting Power Reduction	Priority 1			5			5			5			5			5		EE	0
2	EE4.2	No	Energy Efficiency in Existing Buildings - Daylight Harvesting Controls	Priority 1			2			2			2			2			2		EE	0
2	EE4.3	No	Energy Efficiency in Existing Buildings - Vacancy sensor-controlled lighting	Priority 1			2			2			2			2			2		EE	0
2	EE4.4	No	Energy Efficiency in Existing Buildings - High efficiency HVAC Equipment	Priority 1			2			2			2			2			2		ME	0
1	EE5.1	Yes	Energy Metering, Monitoring and Reporting: Building-Level Metering	Priority 1	1		0			1			1			1			1		ME	0
3	EE5.2	Yes	Energy Metering, Monitoring and Reporting: System level energy metering with measurement and verification - New Construction	Priority 1		3	0			3			3			3			3	--CAMPUS: IS THIS DESIRABLE?	Other	0
3	EE5.3	No	Energy Metering, Monitoring and Reporting: System level energy metering with measurement and verification - Existing Buildings	Priority 1			3			3			3			3			3		Other	0
1	EE6.1	Yes	Long-Term Energy Reporting - Maintain energy and water consumption data in Energy Star Portfolio Manager	Priority 1		1	0			1			1			1			1		O	0
1	EE7.1	Yes	Renewable Energy - Investigate life-cycle cost effectiveness of on-site renewable energy	Priority 1			1			1			1			1			1		Other	0
1	EE7.2	Yes	Renewable Energy - Provide Renewable Energy Credits (RECs) equal to 10% of annual site electricity through TVA or RECs equal to 35% from another source	Priority 2			1			1			1			1			1		O	0
15 Points			Materials and Resources	MR Total:	4	1	10	0	0	15	0	0	15	0	0	15	0	0	15			Primary Credit Responsibility
Possible Points	Credit ID	Applicable to Building/Site Scope?	Description	Level:	Yes	M a y b e	No	Yes	M a y b e	No	Yes	M a y b e	No	Yes	M a y b e	No	Yes	M a y b e	No	Comment: Describe implementation approach for each pursued credit. New comments should be appended to old comments at each project phase. If credits are neither pursued nor applicable, provide justification.	Role	Initials
1	MR1.1	Yes	Recycling Collection and Storage	Required	1		0			1			1			1			1		O	0
3	MR2.1	Yes	Construction Waste Management (50%, 75%, 95%)	Priority 1	1		2			3			3			3			3		C	0
1	MR3.1	Yes	Sustainable Materials: Recycled content 10%	Required	1		0			1			1			1			1		A	0
1	MR3.2	Yes	Sustainable Materials: Recycled content 20%	Priority 2			1			1			1			1			1		A	0
3	MR3.3	Yes	Sustainable Materials: Tennessee Produced Materials (non-wood) - Harvested AND manufactured in state - 10% of total cost. Harvested OR manufactured in TN, 50% of product cost contributes to credit.	Priority 1			3			3			3			3			3		A	0
3	MR3.4	Yes	Sustainable Materials: Tennessee Produced Wood Products -Wood materials harvested AND manufactured in state - 50% of wood products. When harvested OR manufactured in state, 50% of material cost contributes to credit.	Priority 1			3			3			3			3			3		A	0
1	MR3.5	Yes	Sustainable Materials: Regional materials - 20%	Priority 2		1	0			1			1			1			1		A	0
1	MR3.6	Yes	Sustainable Materials: Material reuse	Priority 2			1			1			1			1			1		A	0
1	MR3.7	Yes	Sustainable Materials: Rapidly renewables	Priority 2	1		0			1			1			1			1		A	0
19 Points			Indoor Environmental Quality	EQ Total:	14	5	0	0	0	19	0	0	19	0	0	19	0	0	19			Primary Credit Responsibility
Possible Points	Credit ID	Applicable to Building/Site Scope?	Description	Level:	Yes	M a y b e	No	Yes	M a y b e	No	Yes	M a y b e	No	Yes	M a y b e	No	Yes	M a y b e	No	Comment: Describe implementation approach for each pursued credit. New comments should be appended to old comments at each project phase. If credits are neither pursued nor applicable, provide justification.	Role	Initials
1	EQ1.1	Yes	Tobacco Smoke Control	Required	1		0			1			1			1			1		O	0
1	EQ2.1	Yes	Minimum Ventilation: Design to meet ASHRAE 62.1-2007 or 2012 IMC	Required	1		0			1			1			1			1		ME	0
1	EQ3.1	Yes	Outdoor Air Delivery Monitoring: Provide a direct outdoor airflow measurement device	Priority 2	1		0			1			1			1			1		ME	0
1	EQ4.1	Yes	CO2 Monitoring: Provide CO2 monitors in all high occupancy areas	Priority 2	1		0			1			1			1			1		ME	0
1	EQ5.1	Yes	Air Quality Management: During construction	Priority 1	1		0			1			1			1			1		C	0
1	EQ5.2	Yes	Air Quality Management: Before occupancy	Priority 2		1	0			1			1			1			1		C	0
1	EQ6.1	Yes	Material VOC Limits: Adhesives and sealants	Required	1		0			1			1			1			1		A	0
1	EQ6.2	Yes	Material VOC Limits: Paints	Required	1		0			1			1			1			1		A	0
1	EQ6.3	Yes	Material VOC Limits: Coatings and anti-corrosive paints	Required	1		0			1			1			1			1		A	0
1	EQ6.4	Yes	Material VOC Limits: Flooring systems	Required	1		0			1			1			1			1		A	0
1	EQ6.5	Yes	Material VOC Limits: Composite wood and agrifiber	Required	1		0			1			1			1			1		A	0



SECTION 05

COST ESTIMATE

5.0 - COST ESTIMATE

EXECUTIVE SUMMARY

Prepared For:	<u>brg3s architects</u>			
Project Name:	<u>UTHSC College of Medicine Interdisciplinary Building (2/6/2026 Program)</u>			
Location:	<u>Memphis, TN</u>		Estimate Date:	<u>2/16/2026</u>
Area:	<u>275,000 GSF</u>		Midpoint of Construction:	<u>5/1/2029</u>
Project #	<u>26031</u>		Palacio Lead Contact:	<u>Michael D. Palacio, CPE</u>
Scope:	New 7-story health education building to include variety sized classrooms, mobile health lab, disaster response space, computational lab, offices, etc. as well as associated sitework.			

CONSTRUCTION COST SNAPSHOT				
PROJECT TYPE	AREA	UNIT	COST/SF	TOTAL
New Build	275,000	SF	917.50	\$252,312,640
Sitework	275,000	SF	34.15	\$9,392,096
TOTAL ESTIMATED CONSTRUCTION COST		275,000 SF	\$951.65	\$261,704,736
Above / (Below) Bid Target		\$251,250,000	4.2%	\$10,454,736

ALTERNATES		
Multipurpose Space to be oval shaped rather than rectangular	ADD	\$386,000

ESTIMATE ASSUMPTIONS
Anticipated Midpoint Construction: 2nd Quarter 2029 (Add 1% per quarter for escalation beyond this point)
CM-at-risk delivery method
CM to receive bids from at least three (3) qualified subcontractors per trade
Most of the bidders will be from the local market (within 1 hour driving distance)
Assumes normal working hours

ESTIMATE NOTES
Fixed millwork, vainty tops, base & wall cabinets, etc. are included in the estimate
Audio/visual rough-in, equipment & installation are included in this estimate
Educational equipment (overhead grid and panel system at disaster response is included in this estimate)
Complete card reader and security camera systems are included in this estimate
Contaminated soil remediation is included in the estimate as an allowance
Funiture & loose equipment are NOT included in the estimate
Owner's contingency is NOT included in the estimate
Testing & impact fees are NOT included in the estimate

The following costs have been updated and validated based on the current program.
The project is currently within the established budget.

5.0

BENCHMARK COMPARISONS

Project Name	Efficiency Ratio	Building GSF Area	Total Const. Cost	Cost Per SF	Year
University of South Alabama New College of Medicine	56.9%	292,600	\$ 236,699,457	\$808.95	12 / 2026
University of Knoxville College of Nursing	56.0%	123,200	\$103,436,676	\$839.58	08 / 2025
University of Chattanooga Health Science Building	59.1%	92,500	\$ 66,633,006	\$720.36	10 / 2026
UTHSC College of Medicine and Interdisciplinary Building	59.8%	275,000	\$242,123,190	\$880.45	05 / 2030

**No Tele/ Data, Equipment & AV Equip

PALACIO



Name: UTHSC College of Medicine Interdisciplinary Building (2/6/2026 Program)

Location: Memphis, TNDate: 2/16/2026

Area: 275,000GSFMidpoint of Construction: 5/1/2029

ESTIMATE SUMMARY				38.5 MONTHS
COMPONENT	AREA	UNIT	COST	TOTAL
Building Cost (Shell)				
A. Substructure (Foundations)	275,000	SF	39.33	\$10,814,773
B. Structural Systems	275,000	SF	62.34	\$17,144,302
Exterior Wall	275,000	SF	28.33	\$7,791,366
Exterior Doors & Windows	275,000	SF	57.60	\$15,840,816
Roofing	275,000	SF	17.60	\$4,841,242
C. Partitions	275,000	SF	33.98	\$9,345,750
Interior Doors & Glazing	275,000	SF	23.60	\$6,489,526
Millwork	275,000	SF	4.12	\$1,132,320
Accessories	275,000	SF	15.69	\$4,313,764
Stairs & Railings	275,000	SF	5.89	\$1,620,950
Wall Finishes	275,000	SF	13.45	\$3,700,096
Floor Finishes	275,000	SF	11.08	\$3,046,468
Ceiling Finishes	275,000	SF	19.58	\$5,385,004
D. Conveying Systems	275,000	SF	6.95	\$1,910,000
Plumbing	275,000	SF	18.16	\$4,993,625
HVAC	275,000	SF	94.57	\$26,007,450
Fire Protection	275,000	SF	8.14	\$2,237,500
Electrical Distribution	275,000	SF	38.27	\$10,525,458
Lighting	275,000	SF	27.91	\$7,674,694
Special Systems	275,000	SF	74.41	\$20,463,125
E. Fixed Equipment	275,000	SF	13.87	\$3,813,119
Total Building Cost	275,000	SF	614.88	\$169,091,347
"Gut" Interior	0	SF	0.00	\$0
Total Sitework	275,000	SF	23.38	\$6,430,176
Total Hazardous Abatement Allowance	0	SF	0.00	\$0
SUBTOTAL				\$175,521,523
GC/CM General Conditions, Requirements & Closeout		6.7%		\$11,823,231
Preconstruction Fee				\$725,000
Building Permit		0.25%		\$656,250
Subcontractor Default Insurance		1.35%		\$2,369,541
Builder's Risk Insurance, Payment & Performance Bond		1.06%		\$2,782,500
GC/CM Fee		2.4%		\$6,156,000
Design/Estimating Contingency (Applied to Cost of Work & General Req)		15%		\$27,190,201
CM-at-risk Contingency (Applied to Cost of Work & General Requirements)		3%		\$5,438,040
SUBTOTAL (CURRENT DOLLARS)				\$232,662,286
				\$846.04
Escalation to Midpoint of Construction - Add 1% per quarter beyond this point				
2/16/26	to	5/1/29	12.8%	\$29,042,450
TOTAL ESTIMATED CONSTRUCTION COST				\$261,704,736
Cost per SF				\$951.65

PALACIO



Name: UTHSC College of Medicine Interdisciplinary Building (2/6/2026 Program)

Location: Memphis, TNDate: 2/16/2026

GSF: 275,000Construction Date: 5/1/2029

Cost per SF: \$951.65Construction Cost: \$261,704,736

PROGRAM/AREA CALCULATION				H=High Partition/Door Density, M=Medium, L=Low			
Restroom/Janitor/Wellness	H	7,090	NSF				
Conference/Meeting/Green Room/Houses	H	12,010	NSF				
Board Room	H	1,500	NSF				
Storage/File Rooms	H	1,500	NSF				
Work/Copy/Mail Room	H	330	NSF				
Kitchenette/Grab-N-Go/Warm Kitchen/Break	H	7,570	NSF				
Media/Recording Studio	H	250	NSF				
Study Room/Informal Collaboration Rooms	H	2,970	NSF				
Office	H	8,545	NSF				
Executive & Vice Deans	H	575	NSF				
IT Suite & Helpdesk/Rural Ctr of Excellence	H	3,300	NSF				
Open Office	M	5,900	NSF	Sec/Clerical, Prof/Amin, Staff, Hotelling/Touchdown			
Upgraded Flexible Space	M	25,000	NSF				
Lab, Chemistry	M	0	NSF				
Lab, Biology	M	0	NSF				
Lab, Mobile Health	M	4,000	NSF				
Lab, Demonstration	M	4,500	NSF				
Vivarium	M	0	NSF				
Lab Prep, Dry	M	0	NSF				
Lab Prep, Wet	M	0	NSF				
Classroom/Small Group	M	29,050	NSF				
Health Incubator/Makespace	M	3,000	NSF				
Computational/Tech Innovation Lab	M	2,000	NSF				
Tiered Classroom/Educational Auditorium	L	0	NSF				
Auditorium (Performance)	L	0	NSF				
Multipurpose/Meeting Space	L	16,000	NSF				
Informal Collaboration/Workspace	L	1,500	NSF				
Student Collaboration/Learner Commons	L	9,050	NSF				
Lobby/Reception/Prefunction	L	3,250	NSF				
Secondary Lobby/Reception/Waiting	L	770	NSF				
Kitchen	L	0	NSF				
Servery Area	L	0	NSF				
Dining/Seating Area	L	0	NSF				
Retail Area (Book Store)	L	0	NSF				
Inventory/Receiving (Book Store)	L	0	NSF				
Library, Stacks/Reference	L	0	NSF				
Library, Circulation/Reading	L	0	NSF				
Gymnasium	L	0	NSF				
Locker Room	L	375	NSF				
Maintenance/Loading Dock/Handling	L	500	NSF				
Disaster Response/Hyperflexible Studio	L	6,000	NSF				
Upgraded Corridors	L	8,000	NSF				
Total Building Net Area		164,535	NSF				
Circulation/Support Area							
Grossing Factor (by %):		67%	110,465	NSF			
Mechanical Penthouse		0	GSF				
Shell Space		0	GSF				
TOTAL BUILDING GROSS AREA		275,000	GSF				

PALACIO



Name:	UTHSC College of Medicine Interdisciplinary Building (2/6/2026 Program)		
Location:	Memphis, TN	Date:	2/16/2026
GSF:	275,000	Construction Date:	5/1/2029
Cost per SF:	\$951.65	Construction Cost:	\$261,704,736

BUILDING SPECIFICS									
Gross Building Area		275,000	GSF						
Project Type		New-Build							
Basement Area		0	SF	50%	Daylight	Basement Type			
Basement Perimeter		0	LF	% Ratio					
Penthouse Area		0	SF	Penthouse Ext Wall Ht:			20 FT		
Penthouse Perimeter		0	LF						
Roof Area		76,500	HSF	Average Roof Overhang			0 FT		
# of Floors (Attic/P'house/B'ment not included)		7	EACH						
Average Floor Level Perimeter		1,200	LF	3.1%	Perimeter to	2.0%	2.4%	2.7%	
				% Ratio	Area Ratio	Square	Rectangle	Bar/L-Shape	
Average Floor to Floor Height		16.0	FT						
Sustainable Design Level		LEED Silver							
Delivery Method		CM-at-Risk							

DESCRIPTION		QTY	UNIT	PRICE	TOTAL		
A. SUBSTRUCTURE							
Slab on Grade		76,500	SF	12.50	956,246		
Elevator Pit		6	EACH	15,000.00	90,000		
Foundation System							
Spread Footings		76,500	SF	10.32	789,373		
Deep Foundations Premium	100%	76,500	SF	117.38	8,979,154	Pile & Cap	Deep Foundation Type
Basement Construction							
Foundation Wall w/Drain Mat & WP		0	SF	0.00	0		
Excavation (Dirt)		0	CY	0.00	0		
TOTAL SUBSTRUCTURE					\$10,814,773		

B. SHELL							
STRUCTURAL SYSTEM							
Podium Floor Structure	Steel	0	SF	65.91	0		
Floor Structure	Steel	198,500	SF	65.91	13,082,409	Includes moment frame premium	
Attic/Penthouse Floor Structure	Steel	0	SF	65.91	0		
Roof Structure	Stl/Joist	76,500	SF	48.56	3,715,017	Includes moment frame premium	
Fireproofing at Steel Stucture	Y						
Pre-Engineered Bldg (% of Total Roof Area)	0%	0	SF	0.00	0		
Sloped Interior Balcony Structure		0	SF	0.00	0	Assumes Cantilevered Structure	
Exterior Balcony or Other Structure		0	SF	0.00	0		
Reinforce Existing Str (Repurpose)	No Work	0	SF	0.00	0		
Green Roof Structure Premium		20,000	SF	17.34	346,875		
TOTAL STRUCTURAL SYSTEM					\$17,144,302		

PALACIO



Name:	UTHSC College of Medicine Interdisciplinary Building (2/6/2026 Program)		
Location:	Memphis, TN	Date:	2/16/2026
GSF:	275,000	Construction Date:	5/1/2029
Cost per SF:	\$951.65	Construction Cost:	\$261,704,736

EXTERIOR WALL									
Wall Assembly, Metal Stud	100%	75,029	SF	30.00	2,250,864	100% Total	8" metal stud @ 50%		
Wall Assembly, CMU	0%	0	SF	33.25	0				
Upgraded Brick Veneer, Patterned	74%	55,521	SF	50.00	2,776,066	100% Total			
Precast Concrete Wall Panel	0%	0	SF	0.00	0				
Synthetic Stone Veneer	0%	0	SF	0.00	0				
Stone Veneer	26%	19,507	SF	85.00	1,658,136				
Stucco	0%	0	SF	0.00	0				
Fiber Cement Panel (Equitone or Similar)	0%	0	SF	0.00	0				
Cementitious Wall Panel (Nichiha)	0%	0	SF	0.00	0				
Cement Board Wall Siding (Hardie or Similar)	0%	0	SF	0.00	0				
Metal Panel, Utilitarian	0%	0	SF	0.00	0				
Metal Panel	0%	0	SF	0.00	0				
Composite Metal Panel	0%	0	SF	0.00	0				
Penthouse Wall Cladding	0%	0	SF	0.00	0				
Soffit & Fascia w/Framing		1,500	SF	60.00	90,000	0	0		
Demo Along Addition/Existing Bldg (Addition Bldg Type Only)				0.00	0				
Exist. Wall Cladding (Repurpose)	No Work	0	SF	0.00	0				
Ext Cladding Demo at Exist Bldg		0	SF	0.00	0				
Arch Detailing Allowance	15%	1	LS	1,016,300.00	1,016,300	Low: 5%	Med: 10%	High: 15%	
TOTAL EXTERIOR WALL					\$7,791,366				

EXTERIOR DOORS & WINDOWS								
Curtainwall	34%	52,061	SF	150.00	7,809,120	Total Glazing by % of Exterior Wall		
Upgraded Curtainwall	17%	26,030	SF	250.00	6,507,600	Low	Medium	High
Storefront/Aluminum Windows	0%	0	SF	0.00	0	20% to 35%	35% to 45%	+45%
Upgraded/Historic Windows	0%	0	SF	0.00	0			
Remove Exterior Glazing and/or Wall		0	SF	0.00	0			
Sunscreens, Horizontal	50%	39,046	SF	35.00	1,366,596	% of Glazing Protected by Screens		
Sunscreens, Vertical	0%	0	SF	0.00	0			
Exterior Doors		15	EACH	6,500.00	97,500	Mobile health lab		
Overhead Doors (10'x10')		3	EACH	20,000.00	60,000			
TOTAL EXTERIOR DOORS & WINDOWS					\$15,840,816			

ROOFING							
Flat Membrane Roof w/Tapered Insulation	100%	76,500	SF	27.50	2,103,742	Roof Pitch:	3 :12
Metal Roof w/Rigid Laminated Insulation	0%	0	SF	24.75	0		
Asphalt Shingles w/Rigid Laminated Insulation	0%	0	SF	13.25	0	Roof Pitch:	6 :12
Gutters (Prefin Metal)		0	LF	0.00	0	Pavers, intensive green roof, planters	
Downspouts		0	LF	0.00	0		
Green Roof Premium (Shallow)		0	SF	0.00	0		
Green Roof/Roof Terrace Premium		20,000	SF	65.00	1,300,000		
Guard Railing at Green Roof/Roof Terrace		425	LF	350.00	148,750		
Skylights		1,250	SF	175.00	218,750		
Roof Monitors		0	SF	0	0	Monitor Ht:	5 FT
Mechanical Roof Screen Wall, 10' Tall		200	LF	850.00	170,000	Assumed at lower roofs	
Entry Canopy/Trellis		3,600	SF	250.00	900,000		
Roof Demolition (Repurpose Only)		0	SF	0.00	0		
TOTAL ROOFING					\$4,841,242		
TOTAL SHELL					\$45,617,726		



Name: UTHSC College of Medicine Interdisciplinary Building (2/6/2026 Program)					
Location: Memphis, TN			Date: 2/16/2026		
GSF: 275,000			Construction Date: 5/1/2029		
Cost per SF: \$951.65			Construction Cost: \$261,704,736		

C. INTERIORS							
INTERIOR PARTITIONS							
Partitions (6", typical)						SF of Partition to Room NSF Ratio	
Room Type (High Density)		126,227	SF			2.77	SF of Part'n per Plan SF
Room Type (Medium Density)		138,506	SF			1.89	
Room Type (Low Density)		57,131	SF			1.26	
Grossing Area		118,040	SF			1.07	
Drywall Partition w/Upgraded Sound Batt	57%	250,745	SF	16.00	4,011,920	100%	Total
Rated Drywall Partition w/Upgraded Sound Batt	35%	153,966	SF	17.50	2,694,409		
Concrete/Shaftwall Partitions	8%	35,192	SF	75.00	2,639,421		
TOTAL INTERIOR PARTITIONS					\$9,345,750		

INTERIOR DOORS & GLAZING								
INTERIOR DOORS						Door per Room NSF Ratio		
Room Type (High Density)	SC Wood	415	EACH	3,500.00	1,452,500	110	SF of Part'n per Plan SF	
Room Type (Medium Density)	Full Glass	184	EACH	5,750.00	1,058,000	400		
Room Type (Low Density)	SC Wood	61	EACH	3,500.00	213,500	750		
Grossing Area	SC Wood	111	EACH	3,750.00	416,250	1000		
Special Door Allowance		1	LS	50,000.00	50,000			
INTERIOR GLAZING (Butt-Joint, Typ)	10%	43,990	SF	75.00	3,299,276	Low: 2%	Med: 5%	High: +8%
TOTAL INTERIOR DOORS & GLAZING					\$6,489,526			

MILLWORK								
Breakrooms		1	LS	198,712.50	198,713			
Work/Copy/Mail Rooms		1	LS	23,100.00	23,100			
Restrooms		1	LS	70,900.00	70,900			
Other Millwork		1	LS	691,907.08	691,907			
Miscellaneous Millwork Allowance		1	LS	147,700.00	147,700			
TOTAL MILLWORK					\$1,132,320			

ACCESSORIES								
Visual Display Boards		1	LS	828,213.33	828,213			
Lockers		1	LS	18,500.00	18,500			
Interior Signage (Door ID & Code Required)		1	LS	77,200.00	77,200			
Exterior Signage Allowance		1	LS	350,000.00	350,000			
Folding Partitions, Vertical (Skyfold)		1,020	SF	385.00	392,700	Multipurpose/Classroom (1 each)		
Folding Partitions, Vertical (Skyfold)		2,160	SF	385.00	831,600	Classrooms 64/128 (4 each)		
Folding Partitions, Vertical (Skyfold)		300	SF	385.00	115,500	Classrooms 32/64 (1 each)		
Folding Partitions, Horizontal, Electric Operation		1,920	SF	170.00	326,400	Classrooms 16/32 (8 each)		
Raised Access Floor		20,000	SF	55.00	1,100,000	Mobile Health Lab & Multipurpose		
Toilet Compartment, Urinal Scrn & Accessories		1	LS	189,066.67	189,067			
Miscellaneous Accessories		1	LS	84,583.60	84,584			
TOTAL ACCESSORIES					\$4,313,764			

STAIRS & RAILINGS								
Exit Stairs (At Basement & Penthouse)		0	FLT	0.00	0			
Upgraded Exit Stairs		13	FLT	27,500.00	343,750	Assume one flight to tower roof		
Replace Exit Stairs (Repurpose)	Y	1	LS	0.00	0			
Monumental Stairs (Interior/Exterior)		4	FLT	274,300.00	1,097,200			
Upgraded Railing at Overlook		400	LF	450.00	180,000			
TOTAL STAIRS & RAILINGS					\$1,620,950			

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WALL FINISHES								
Interior Paint		275,000	PSF	4.00	1,100,000			
Epoxy Paint		0	SF	0.00	0			
Wall Tile		1	LS	360,125.00	360,125			
Acoustic Wall Panel		1	LS	1,494,350.00	1,494,350			
Wood/Metal Wall Panel		1	LS	263,000.00	263,000			
Special/Upgraded Wall Finish Allowance	15%	1	LS	482,621.25	482,621			
TOTAL WALL FINISHES					\$3,700,096			
FLOOR FINISHES								
Carpet Tile or VCT w/Rubber Base		143,550	SF	5.50	789,525			
LVT or Stained Concrete w/Rubber Base		90,415	SF	8.50	768,528			
Floor Tile w/Base		7,465	SF	20.00	149,300			
Upgraded Floor Tile w/Base		770	SF	25.00	19,250			
Wood/Athletic Floor w/Wood Base		1,500	SF	25.00	37,500			
Terrazzo Floor w/Base		20,300	SF	35.00	710,500			
Epoxy Floor w/Integral Base		10,500	SF	16.50	173,250			
Sealed Concrete Floor w/Base		500	SF	2.50	1,250			
Special/Upgraded Floor Finish Allowance	15%	1	LS	397,365.38	397,365			
TOTAL FLOOR FINISHES					\$3,046,468			
CEILING FINISHES								
ACT Ceiling, 2x2		158,955	SF	8.50	1,351,118			
Upgraded ACT Ceiling		80,705	SF	25.00	2,017,625			
Suspended Drywall Ceiling w/Finish		8,590	SF	18.00	154,620			
Drywall Ceiling Attached to Structure w/Finish		0	SF	0.00	0			
Suspended Drywall Ceiling w/Epoxy Paint		0	SF	0.00	0			
Upgraded Metal/Wood Ceiling		20,750	SF	55.00	1,141,250			
Paint Structure		6,000	SF	3.00	18,000			
Special/Upgraded Ceiling Finish Allowance	15%	1	LS	702,391.88	702,392			
TOTAL CEILING FINISHES					\$5,385,004			
TOTAL INTERIORS					\$35,033,878			

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D. SERVICES					
CONVEYING SYSTEMS					
Passenger Elevator		30	STOP	45,000.00	1,350,000
Freight Elevator, Hospital Size	Y	8	STOP	70,000.00	560,000
Hospital/Oversized Elevator		0	STOP	0.00	0
Wheelchair Lift		0	EACH	0.00	0
TOTAL CONVEYING SYSTEMS					\$1,910,000

Assumes stop at tower roof

PLUMBING (Union Wages)					
Restroom/Convenience Fixts (Includes Booster Pump)		324	FIXT	10,850.00	3,515,400
Wet Lab/Lab Prep Plumbing		0	SF	0.00	0
Lab Plumbing, Other		8,500	SF	28.75	244,375
Vivarium Plumbing		0	SF	0.00	0
Kitchen & Servery Plumbing		0	SF	0.00	0
Roof Drain System		76,500	SF	11.02	842,644
Sustainable Design Premium	LEED Silver	1	LS	391,205.64	391,206
TOTAL PLUMBING					\$4,993,625

850	GSF per Fixture
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HVAC					
General Area	VAV	241,500	SF	75.00	18,112,500
Lab, Chemistry		0	SF	0.00	0
Lab, Biology		0	SF	0.00	0
Lab Prep, Wet		0	SF	0.00	0
Lab, Other		8,500	SF	80.00	680,000
Upgraded Flexible Space		25,000	SF	80.00	2,000,000
Vivarium		0	SF	0.00	0
Auditorium (Performance)		0	SF	0.00	0
Kitchen		0	SF	0.00	0
Attic/Mechanical Penthouse		0	SF	0.00	0
Warm Shell Space (AHU w/Trunk Duct)		0	SF	0.00	0
Atrium Exhaust System Allowance		0	LS	0.00	0
HVAC Redundancy Allowance (N+1)		1	LS	1,500,000.00	1,500,000
Smart Building Software Platform		275,000	SF	1.25	343,750
Occupancy Utilization Sensors (Entire Building)		275,000	SF	2.50	687,500
Occupancy Utilization Sensors (60% of Building)		165,000	SF	2.50	412,500
Indoor Air Quality (IAQ)		275,000	SF	0.85	233,750
Sustainable Design Premium	LEED Silver	1	LS	2,037,450.00	2,037,450
TOTAL HVAC					\$26,007,450

DX	VRF/RTU	VAV
DX Split or WSHP	Variable Refrigerant Flow or RTU	Variable Air Vol. (Chiller, Boiler, VAV)
\$36	\$48	\$75

FIRE PROTECTION					
Wet System	New	275,000	SF	7.50	2,062,500
Dry Pipe System		0	SF	0.00	0
Fire Pump	Y	1	EACH	175,000.00	175,000
Clean Agent Fire Protection System		0	LS	0.00	0
TOTAL FIRE PROTECTION					\$2,237,500

Attic & canopies wider than 10'

0	SF	\$5.00/CF No less than \$32,500/rm
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ELECTRICAL DISTRIBUTION (Union Wages)					
General Area		226,350	SF	32.20	7,288,470
Mobile Health Lab & Disaster Response		39,500	SF	51.75	2,044,125
Lobby/Prefunction & Open Office/Shared Workspace		9,150	SF	40.25	368,288
Auditorium (Performance)		0	SF	0.00	0
Kitchen		0	SF	0.00	0
Attic/Mechanical Penthouse		0	SF	0.00	0
Shell Space		0	SF	0.00	0
Sustainable Design Premium	LEED Silver	1	LS	824,575.01	824,575
TOTAL ELECTRICAL DISTRIBUTION					\$10,525,458

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LIGHTING (Union Wages)					
General Area		179,150	SF	18.40	3,296,360
Classroom & Lab		67,550	SF	22.63	1,528,319
Auditorium & Tiered Classroom		0	SF	0.00	0
Multipurpose/Meeting Space		16,000	SF	25.50	408,000
Student Collaboration/Learner Commons		9,050	SF	25.30	228,965
Lobby		3,250	SF	31.05	100,913
Dining & Servery		0	SF	0.00	0
Attic/Mechanical Penthouse		0	SF	0.00	0
Shell Space		0	SF	0.00	0
Exterior Building Lighting	Y	275,000	SF	1.15	316,250
Architectural Light Allowance	High	1	LS	3.00	825,000
Daylighting System	Y	165,000	SF	3.28	540,788
Sustainable Design Premium	LEED Silver	275,000	SF	1.56	430,100
TOTAL LIGHTING					\$7,674,694

Includes dimmer panels

Includes dimmer panels

SPECIAL SYSTEMS (Union Wages)					
Telephone/Data System Infrastructure	Wired	2,000	EACH	635.00	1,270,000
Telephone/Data Equipment Allowance		275,000	SF	18.75	5,156,250
Audio/Visual Equipment, Rough-In		275,000	SF	3.75	1,031,250
Audio/Visual Equip, Rough-In (Performance Auditorium)		0	SF	0.00	0
Audio/Visual Equipment Allowance	High	275,000	SF	30.00	8,250,000
Security System, Rough-In		275,000	SF	0.50	137,500
Card Reader Access , Proprietary	Complete	255	EACH	5,000.00	1,275,000
Security Camera System Allowance, Proprietary	Complete	120	EACH	6,000.00	720,000
Fire Alarm System		275,000	SF	5.00	1,375,000
Emergency Phones/Intercom System		1	LS	125,000.00	125,000
Nurse Call System		0	SF	0.00	0
Emergency Responder System	Y	1	LS	365,000.00	365,000
Distributed Antenna Sys (DAS)	Y	275,000	SF	2.00	550,000
Lightning Protection (Roof Area)	Y	76,500	SF	1.25	95,625
Emergency Generator w/ATS, Natural Gas		150	KW	750.00	112,500
UPS System		0	LS	0.00	0
TOTAL SPECIAL SYSTEMS					\$20,463,125
TOTAL SERVICES					\$73,811,851

E. FIXED EQUIPMENT					
Lab Casework Allow (Base & Wall)		8,500	SF	25.00	212,500
Lab Casework Allow (Base Cabinets & Shelf)		0	SF	0.00	0
Prep Lab Casework Allow. (Base & Wall Cabinets)		0	SF	0.00	0
Fume Hoods		0	EACH	0.00	0
Biosafety Cabinets		0	EACH	0.00	0
Snorkels		0	EACH	0.00	0
Autoclaves		0	EACH	0.00	0
Vivarium Equipment Allowance		0	LS	0.00	0
Miscellaneous Fixed Lab Equipment Allowance		1	LS	21,250.00	21,250
Loading Dock Equipment		1	LS	10,000.00	10,000
Food Service Equipment		0	SF	0.00	0
Breakroom/Kitchen Appliance Allowance		1	LS	176,633.33	176,633
Window Covering, Electric Roller Shades		78,091	SF	30.00	2,342,736
Window Covering, Manual Roller Shades		0	SF	0.00	0
Overhead Grid & Panel System Allowance		6,000	SF	175.00	1,050,000
Fixed Seminar Tables at Tiered Classrooms		0	SEAT	0.00	0
Fixed Auditorium Seats		0	SEAT	0.00	0
TOTAL EQUIPMENT					\$3,813,119

Disaster response



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G. SITEWORK	
Site Address or General Location:	Memphis, TN

SITEWORK SPECIFICS					
Total Impacted Area		175,000	SF		
Building Footprint		76,500	SF		
TOTAL DEVELOPED SITE WORK		98,500	SF		

SITE PREPARATION					
Building Demolition, NIC		0	SF	0.00	0
Site Remediation Allowance		1	LS	500,000.00	500,000
Site Demolition		0	SF	0.00	0
Site Layout		4.0	ACRE	5,000.00	20,100
Site Mobilization		4.0	ACRE	10,000.00	40,200
Site Clearing		4.0	ACRE	7,500.00	30,150
Erosion Control, Temporary Roads, Const Entrance, Etc		4.0	ACRE	8,000.00	32,160
Earthwork	Feet Deep	3	22,400	CY	15.00
Bad Soils	Feet Deep	4.36	14,300	CY	35.00
Rock Excav	Feet Deep	0	0	CY	55.00
TOTAL SITE PREPARATION					\$1,459,110

Treat as a \$500,000 allowance

Rippable

SITE HARDSCAPES & LANDSCAPES					
Parking Spaces		0	SPACE	0.00	0
Driveway to Parking		0	LF	0.00	0
Loop Road		0	LF	0.00	0
Sidewalk	% of Site	25%	24,625	SF	8.50
Concrete Paving		0%	0	SF	0.00
Upgraded Paving at Entry Plazas		50%	49,250	SF	20.00
Pavers		0%	0	SF	0.00
Fire Lane (Grasscrete)		0%	0	SF	0.00
Paving, Other		0%	0	SF	0.00
Covered Walkway (10' Wide)		0	LF	0.00	0
Retaining Wall Allowance	Veneered	0	SF	150.00	0
Mechanical Screen Wall		200	LF	360.00	72,000
Dumpster Pad, Screen Wall & Gates		1	LS	40,000.00	40,000
Fencing & Gates		0	LF	0.00	0
Landscaping Allowance		1	LS	250,000.00	250,000
Irrigation Allowance		1	LS	75,000.00	75,000
Site Furnishings Allowance		1	LS	10,000.00	10,000
Site Signage		1	LS	15,000.00	15,000
Total Hardscape & Landscape					\$1,656,316

SITE & UTILITIES					
Storm Drainage (Paved Area + Slab on Grade)		150,375	SF	2.00	300,750
Underground Storm Water Detention	Y	37,600	CF	15.00	564,000
Site Lighting at Parking & Driveway Allowance		0	EACH	0.00	0
Site Lighting at Walkways Allowance		20	EACH	7,500.00	150,000
Site Utilities Allowance		200	LF	2,750.00	550,000
Steam & Chilled Water Site Piping Allowance		1	LS	1,750,000.00	1,750,000
Special Site Consideration		0	SF	0.00	0
Special Site Consideration		0	SF	0.00	0
TOTAL SITE & UTILITIES					\$3,314,750
TOTAL SITE DEVELOPMENT					\$6,430,176

Assumes 1 CF/4 SF of Impervious

Domestic & Fire Water, San Sewer



THE UNIVERSITY OF
TENNESSEE
HEALTH SCIENCE CENTER®

College of Medicine & Interdisciplinary Building
Program Verification Report,
February 19, 2026