REQUEST FOR PROPOSAL

RFP No. 752-18-211976DH
Title: Design & Install Automatic Fire Suppression System - Maple Hall

Proposal Submittal Deadline: February 22, 2018 @ 2:00 PM

Prepared By:
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Business Service Center
1112 Dallas Drive, Suite 4000
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Date: January 24, 2018
REQUEST FOR PROPOSAL

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SECTION 1

INTRODUCTION

1.1 UNTS SYSTEM DESCRIPTION

UNTS of North Texas System (UNTS) is seeking proposals for Design & Installation of Automatic Fire Suppression System at Maple Hall. UNTS is a University system that is composed of the University of North Texas in Denton (UNT), the University of North Texas Health Science Center (UNTHSC) in Fort Worth and the University of North Texas at Dallas (UNTD). The UNT System Administration is based in Downtown Dallas. The three independent universities of the UNT System have combined enrollment of just over 42,000 students across five major teaching locations including each main campus as well as Frisco and Downtown Dallas. Proposals submitted in response to this RFP shall be for goods and/or services provided to UNTS, UNT, UNTHSC and/or UNTD, as agreed to in writing by the parties.

1.2 BACKGROUND

Maple Hall is three-story 336 room structure used for the housing of students. It has a steel beam frame with a brick/veneer covering the exterior, the interior is covered with plaster, and the roof has a composition overlay. Maple Hall was built in 1964 without a fire suppression system. To comply with Chapter 29 Existing Hotels and Dormitories of the NFPA 101 Life Safety Code and NFPA 13 and 13R, Auxiliary Services would like to install an automatic fire suppression system and related equipment and devices.

The automatic fire suppression system at Maple Hall will be an active fire protection system consisting of a dedicated water supply to the building. It will provide adequate pressure and flow-rate to a water distribution piping system, in which the fire sprinkler heads are connected. The fire suppression system will be tied-in to an existing Notifier NFSZ 30/30 fire panel at the front desk. The fire pump will be tied-in to a new generator. This wet system will comply with NFPA and reference the necessary NFPA standards.

1.3 Group Purchase Authority

Texas law authorizes institutions of higher education to use the group purchasing procurement method (ref. Sections 51.9335, 73.115, and 74.008, Education Code). Additional Texas institutions of higher education may therefore elect to enter into a contract with the successful Proposer(s) under this Section. Should another institution exercise this option the resulting contract and obligations shall be between that institution and the vendor with UNTS incurring no obligation as a result thereof.
SECTION 2

NOTICE TO PROPOSER

2.1 Submittal Deadline

UNTS will accept proposals submitted in response to this RFP until 2:00 p.m., Local Time on February 22, 2018 (the "Submittal Deadline"). HUB Documents and Proposals, Proposals will be opened publicly on February 26, 2018 at 2:00 PM

2.2 UNTS Contact Person

Proposers will direct all questions or concerns regarding this RFP to the following UNTS contact ("UNTS Contact"): Denise Harpool – denise.harpool@untsystem.edu

UNTS specifically instructs all interested parties to restrict all contact and questions regarding this RFP to written communications forwarded to UNTS Contact via the following link: https://www.untsystem.edu/bid-inquiry.

UNTS Contact must receive all questions or concerns no later than 2:00 PM Local Time on February 7, 2018. It is UNTS’s intent to respond to all appropriate questions and concerns; however, UNTS reserves the right to decline to respond to any question or concern. Answers to questions will be posted via addendum to this RFP on UNTS Business Service Center Bid Opportunities web page located by 5:00 PM Local Time on February 9, 2018 at: https://www.untsystem.edu/hr-it-business-services/procurement/purchasing/bid-opportunities. Vendors are strongly suggested to review this page at least four (4) business days prior to the due date for submissions or earlier to ensure that you have received all applicable addenda.

2.3 Criteria for Selection

The successful Proposer(s), if any, selected by UNTS in accordance with the requirements and specifications set forth in this RFP will be the Proposer that submits a proposal in response to this RFP on or before the Submittal Deadline that is the best value to UNTS taking into consideration the evaluation criteria contained herein. The successful Proposer(s) is/are referred to as the "Contractor." UNTS reserves the right to make a single award from this solicitation or multiple awards, whatever is in the best interest of UNTS with UNTS being the sole judge thereof.

Proposer is encouraged to propose terms and conditions offering the maximum benefit to UNTS as outlined below. Proposers should describe all educational, state and local government discounts, as well as any other applicable discounts that may be available to UNTS in a contract for the Services.

An evaluation team from UNTS will evaluate proposals. The evaluation of proposals and the selection of Contractor will be based on the information provided by Proposer in its proposal. Proposers should address in your response each of the criteria listed in this section. Failure to respond to these criteria may result in your proposal receiving a negative rating or considered as non-responsive. Proposers should note that the awarded proposal may not be the lowest offer, but the offer(s) deemed most advantageous to UNTS as described in this section.
The criteria to be considered by UNTS in evaluating proposals and selecting awardee(s), will be the following factors:

- Proposal amount with detailed cost breakdown
- Contractor ability to meet construction deadline of August 10, 2018
- Qualifications and experience of proposer's key personnel and subcontractors committed to project – verify State of Texas licensed personnel/requirements
- The proposer’s project schedule and the demonstrated ability to have met expedited schedules on similar projects
- Quality of references from Owners and architects/engineers for similar projects completed by the proposer within the last five (5) years.
- Responsibility and reputation of proposer, including claims and litigation experiences.
- Proposer’s safety record

Furthermore, UNTS may consider information related to past contract performance of a respondent including, but not limited to the Texas Comptroller of Public Accounts Vendor Performance Tracking System.

2.4 Key Events Schedule

<table>
<thead>
<tr>
<th>Event</th>
<th>Date/Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Issuance of RFP</td>
<td>January 24, 2018</td>
</tr>
<tr>
<td>Pre-Submittal Conference (Ref. Section 2.6 of this RFP)</td>
<td>January 31, 2018 10:00 AM</td>
</tr>
<tr>
<td>Deadline for Questions/Concerns Answers will be posted to web site (Ref. Section 2.2 of this RFP)</td>
<td>February 7, 2018 2:00 PM</td>
</tr>
<tr>
<td>February 9, 2018 5:00 PM</td>
<td></td>
</tr>
<tr>
<td>Submittal Deadline-HUB/Proposal Public Proposal Opening (Ref. Section 2.1 of this RFP)</td>
<td>February 22, 2018 2:00 PM</td>
</tr>
<tr>
<td>February 26, 2018 2:00 PM</td>
<td></td>
</tr>
</tbody>
</table>

Note: This events schedule is for planning purposes only and may be changed at the sole discretion of UNTS.

2.5 Historically Underutilized Businesses

In accordance with Texas Gov't Code §2161.252 and Texas Administrative Code §20.14, UNTS has determined that subcontracting opportunities are probable under the contract. Accordingly, all proposers must submit a HUB subcontracting plan (HSP). A copy of the HSP forms and related information is attached to this RFP. For questions regarding the HUB Program or submittal of your HSP, vendors may contact Greg Obar, at Greg.Obar@untsystem.edu.

THE HSP MUST BE SUBMITTED IN A SEPARATE PACKAGE MARKED "HSP RFP 752-18-211976". HSP must be submitted on February 22, 2018 prior to 2:00 PM.

FAILURE TO SUBMIT AN HSP WITH YOUR RESPONSE MAY RESULT IN THE DISQUALIFICATION OF YOUR PROPOSAL.
2.6 Pre-Submittal Conference

A preproposal conference will be held January 31, 2018 at 10:00 AM on at: Business Service Center 1112 Dallas Drive, Suite (Training) 4202A, Denton, TX 76205

SECTION 3

SUBMISSION OF PROPOSAL

3.1 Number of Copies

Proposer must submit one (1) complete original copy of its entire proposal. An original signature by an authorized officer of Proposer must appear on the Execution of Offer (ref. Section 2 of APPENDIX ONE) of submitted proposal. The Proposer’s proposal bearing an original signature should contain the mark “original” on the front cover of the proposal.

For submission of competitive solicitation responses, UNTS does not consider electronic signatures to be valid therefore the original signature must be a “wet signature.”

In addition to the original proposal, Proposer must submit one (1) complete copy of the entire proposal electronically on a USB Flash Drive. The USB Flash Drive must include a protective cover and be labeled with Proposer’s name and RFP number.

3.2 Submission

Proposals must be received by UNTS on or before the Submittal Deadline (ref. Section 2.1 of this RFP) and should be delivered to:

University of North Texas System
Procurement Services
Business Service Center
1112 Dallas Drive, Suite 4000
Denton, TX 76205

Request for Proposal number and submittal date should be marked in the lower left-hand corner of sealed bid envelope (box/container).

Proposals submitted via facsimile or other electronic means will not be accepted unless otherwise specified within this RFP.

3.3 Proposal Validity Period

Each proposal must state that it will remain valid for UNTS’s acceptance for a minimum of one hundred and eighty (180) days after the Submittal Deadline, to allow time for evaluation, selection, and any unforeseen delays. Should circumstances arise that require an extension to this period, UNTS reserves the right to provide extensions at its discretion.

3.4 Terms and Conditions

3.4.1 Proposer must comply with the requirements and specifications contained in this RFP, including the Notice to Proposer (ref. Section 2 of this RFP), Proposal Requirements (ref. Section 5). If there is a conflict among the provisions in this RFP, the provision requiring Proposer to supply the better quality or greater quantity of services will prevail, or if such conflict does not involve quality or quantity, then interpretation will be in the following order of precedence:

3.4.1.1 Specification Section 5);
3.4.1.2 (Not used);

3.4.1.3 Proposal Requirements (ref. APPENDIX ONE);

3.4.1.4 Notice to Proposers (ref. Section 2 of this RFP).

3.4.2 UNTS anticipates entering into a contract with the Contractor in substantially the form of the attached Sample Professional Services Agreement

3.5 Submittal Checklist

Proposer is instructed to complete, sign, and return the following documents as a part of its proposal. If Proposer fails to return each of the following items with its proposal, then UNTS may reject the proposal:

3.5.1 Signed and Completed Execution of Offer (ref. Section 2 of APPENDIX ONE)

3.5.2 Signed and Completed HUB Subcontracting Plan, (ref. Section 2.5 of this RFP). PLEASE SUBMIT THIS INFORMATION IN A SEPARATE ENVELOPE.

3.5.3 Responses to Proposer's General Questionnaire (ref. Section 3 of APPENDIX ONE).

3.5.4 Signed and Completed Addenda Checklist (ref. Section 4 of APPENDIX ONE)

3.5.5 Responses to evaluation criteria.
SECTION 4

GENERAL TERMS AND CONDITIONS

UNTNS's standard purchase order terms and conditions may be found at: https://www.untsystem.edu/sites/default/files/bsc_po_terms_12.19.2017.pdf. Additionally, attached is a SAMPLE UNTS of North Texas System Services Agreement. If a proposer takes exception to any of these terms and conditions in either our standard purchase order terms and conditions or those included in the sample agreement, those exceptions should be stated and located in a separate section of the proposal marked "Exceptions." Proposers are advised that should UNTS not accept a stated exception it may result in disqualification of your proposal.
Section 5

SCOPE OF SERVICES

5.1 VENDOR MINIMUM REQUIREMENTS

This project is to install an automatic fire suppression system and all related equipment and devices at Maple Hall. Once completed, this project will provide fire sprinkler coverage to all resident rooms, offices and community and mechanical spaces in the building. The goal is to have a properly designed and installed system that can help to detect, control and suppress a fire in the building. An automatic fire suppression system is one of the most effective ways to protect the occupants, their contents and the building from fires. The project is expected to start May 14, 2018 and end August 10, 2018.

The contractor will be responsible for designing and installing a complete Automatic Fire Suppression System. The contractor will adhere to all applicable state and local codes required by the university. The contractor will adhere to the time-line set by the University in this RFP, dates (May 2018 - August 2018). The University will be responsible for providing any testing and remediation required for the progression of the project, (Asbestos, etc.). Please see attached Scope of Work and attached specifications.

The fire sprinkler installation contractor must have at least three (3) years of verifiable experience in fire sprinkler installation and maintenance. They must be a State of Texas (Texas Department of Insurance (TDI)) registered Sprinkler Certificate of Registration (SCR) fire sprinkler contractor who has in its full-time employ a State of Texas (Texas Department of Insurance (TDI)) licensed Responsible Managing Employee (RME).

The MEP qualifications should include a valid Certificate of Registration as a Texas Professional Registered Engineer in either Mechanical, Electrical, Plumbing and Fire Protection specialties. This experience should include involvement with mechanical, electrical, plumbing and fire protection system design and analysis for fully automated fire sprinkler system projects. In addition, experience should include at least ten (10) years, or responsibility for a minimum of one (1) significant assignment, that demonstrates ability to provide direction, planning and design a fully automated fire sprinkler system.

The contractor will have factory certified/authorized technician for the Fire Pump Start-up and Commissioning.

5.2 SPECIFICATIONS/DELIVERABLES

See ATTACHMENTS:

A. Fire Sprinkler Specification
B. Fire Alarm System Specification (A-V)
C. Construction Codes
D. Fire Pumps Specification
E. Underground Fire Main Specification

5.3 PRICING/FEES

The vendor shall list pricing using the attached pricing sheet. The attached questionnaire must also be enclosed with the proposal.
APPENDIX ONE

AFFIRMATIONS AND CONFIRMATIONS

1.1 Purpose

UNTS is soliciting competitive sealed proposals from Proposers having suitable qualifications and experience providing services in accordance with the terms, conditions and requirements set forth in this RFP. This RFP provides sufficient information for interested parties to prepare and submit proposals for consideration by UNTS.

By submitting a proposal, Proposer certifies that it understands this RFP and has full knowledge of the scope, nature, quality, and quantity of the services to be performed, the detailed requirements of the services to be provided, and the conditions under which such services are to be performed. Proposer also certifies that it understands that all costs relating to preparing a response to this RFP will be the sole responsibility of the Proposer.

PROPOSER IS CAUTIONED TO READ THE INFORMATION CONTAINED IN THIS RFP CAREFULLY AND TO SUBMIT A COMPLETE RESPONSE TO ALL REQUIREMENTS AND QUESTIONS AS DIRECTED.

1.2 Inquiries and Interpretations

UNTS may in its sole discretion respond in writing to written inquiries concerning this RFP and mail its response as an Addendum to all parties recorded by UNTS as having received a copy of this RFP. Only UNTS’s responses that are made by formal written Addenda will be binding on UNTS. Any verbal responses, written interpretations or clarifications other than Addenda to this RFP will be without legal effect. All Addenda issued by UNTS prior to the Submittal Deadline will be and are hereby incorporated as a part of this RFP for all purposes. This addenda shall be posted to UNTS’s Bid Opportunities Web Page located at https://www.untsystem.edu/hr-it-business-services/procurement/purchasing/bid-opportunities. Vendors are strongly encouraged to visit this page at least four (4) business days prior to submitting your response to ensure that you have received all applicable addenda.

Proposers are required to acknowledge receipt of each Addendum as specified in this Section. The Proposer must acknowledge all Addenda by completing, signing and returning the Addenda Checklist in Section 4 of this appendix. The Addenda Checklist should accompany the Proposer’s proposal.

Any interested party that receives this RFP by means other than directly from UNTS is responsible for notifying UNTS that it has received an RFP package, and should provide its name, address, telephone number and FAX number to UNTS, so that if UNTS issues Addenda to this RFP or provides written answers to questions, that information can be provided to such party.

1.3 Public Information

Proposer is hereby notified that UNTS strictly adheres to all statutes, court decisions and the opinions of the Texas Attorney General with respect to disclosure of public information.

All information, documentation, and other materials submitted in response to this RFP is subject to public disclosure under the Texas Public Information Act (Government Code, Chapter 552.001, et seq.). Proposer will be advised of a request for public information that implicates their materials if those materials are marked “Confidential and Proprietary” and will have the opportunity to raise any objections to disclosure to the Texas Attorney General.

1.4 Type of Agreement

(See attached sample UNTS Services Agreement)

1.5 Proposal Evaluation Process

UNTS will select Contractor by using the competitive sealed proposal process described in this Section.

UNTS may make the selection of Contractor on the basis of the proposals initially submitted, without discussion, clarification or modification. In the alternative, UNTS may make the selection of Contractor on the basis of negotiation with any of the Proposers. In conducting such negotiations, UNTS will use commercially reasonable efforts to avoid disclosing the contents of competing proposals.

At UNTS’s sole option and discretion, UNTS may discuss and negotiate elements of proposals submitted with any or all proposers. Furthermore, UNTS may request presentations or system demonstrations from any or all proposers at no cost or obligation to UNTS.

After submission of a proposal but before final selection of Contractor is made, UNTS may permit a Proposer to revise its proposal in order to obtain the Proposer’s best and final offer. In that event, representations made by Proposer in its revised proposal, including price and fee quotes, will be binding on Proposer. UNTS is not obligated to select the Proposer offering
the most attractive economic terms if that Proposer is not the most advantageous to UNTS overall, as determined by UNTS according to the evaluation criteria contained herein.

UNTS reserves the right to (a) enter into an agreement for all or any portion of the requirements and specifications set forth in this RFP with one or more Proposers, (b) reject any and all proposals and re-solicit proposals, or (c) reject any and all proposals temporarily or permanently abandon this selection process, if deemed to be in the best interests of UNTS. Proposer is hereby notified that UNTS will maintain in its files concerning this RFP a written record of the basis upon which a selection, if any, is made by UNTS.

1.6 Proposer's Acceptance of Evaluation Methodology

By submitting a proposal, Proposer acknowledges (1) Proposer's acceptance of [a] the Proposal Evaluation Process (ref. Section 1.5 of APPENDIX ONE), [b] the Criteria for Selection (ref. 2.3 of this RFP), [c] the Specifications and, [d] the terms and all other requirements and specifications set forth in this RFP; and (2) Proposer's recognition that some subjective judgments must be made by UNTS during this RFP process.

1.7 Solicitation for Proposal and Proposal Preparation Costs

Proposer understands and agrees that (1) this RFP is a solicitation for proposals and UNTS has made no representation written or oral that one or more agreements with UNTS will be awarded under this RFP; (2) UNTS issues this RFP predicated on UNTS's anticipated requirements for the Services, and UNTS has made no representation, written or oral, that any particular scope of services will actually be required by UNTS; and (3) Proposer will bear, as its sole risk and responsibility, any cost that arises from Proposer's preparation of a proposal in response to this RFP.

1.8 Proposal Requirements and General Instructions

1.8.1 Proposer should carefully read the information contained herein and submit a complete proposal in response to all requirements and questions as directed.

1.8.2 Proposals and any other information submitted by Proposer in response to this RFP will become the property of UNTS.

1.8.3 UNTS will not provide compensation to Proposer for any expenses incurred by the Proposer for proposal preparation or for demonstrations or oral presentations that may be made by Proposer. Proposer submits its proposal at its own risk and expense.

1.8.4 Proposals that (i) are qualified with conditional clauses; (ii) alter, modify, orrevise this RFP in any way; or (iii) contain irregularities of any kind, are subject to disqualification by UNTS, at UNTS's sole discretion.

1.8.5 Proposals should be prepared simply and economically, providing a straightforward, concise description of Proposer's ability to meet the requirements and specifications of this RFP. Emphasis should be on completeness, clarity of content, and responsiveness to the requirements and specifications of this RFP. Proposers are encouraged to completely address the evaluation criteria.

1.8.6 UNTS makes no warranty or guarantee that an award will be made as a result of this RFP. UNTS reserves the right to accept or reject any or all proposals, waive any formalities, procedural requirements, or minor technical inconsistencies, and delete any requirement or specification from this RFP or the Agreement when deemed to be in UNTS's best interest. UNTS reserves the right to seek clarification from any Proposer concerning any item contained in its proposal prior to final selection. Such clarification may be provided by telephone conference or personal meeting with or writing to UNTS, at UNTS's sole discretion. Representations made by Proposer within its proposal will be binding on Proposer.

1.8.7 Any proposal that fails to comply with the requirements contained in this RFP may be rejected by UNTS, in UNTS's sole discretion.

1.8.8 Should a vendor wish to protest or dispute determinations or awards made in connection with this RFP, it shall be done by submitting a Letter of Protest/Dispute to UNTS Senior Director for Procurement Services outlining the issue to be considered.

1.9 Execution of Offer

Proposer must complete, sign and return the attached Execution of Offer (ref. Section 2 of APPENDIX ONE) as part of its proposal. The Execution of Offer must be signed by a representative of Proposer duly authorized to bind the Proposer to its proposal. Any proposal received without a completed and signed Execution of Offer may be rejected by UNTS, in its sole discretion.

1.10 Pricing and Delivery Schedule

Proposer must complete and return the Pricing Schedule (ref. Section 5 of this RFP), as part of its proposal. In the Pricing and Delivery Schedule, the Proposer should describe in detail (a) the total fees for the entire scope of the Services; and (b) the method by which the fees are calculated. The fees must be inclusive of all associated costs for delivery, labor, insurance, taxes, overhead, and profit.
UNTS will not recognize or accept any charges or fees to perform the Services that are not specifically stated in the Pricing and Delivery Schedule.

In the Pricing and Delivery Schedule, Proposer should describe each significant phase in the process of providing the Services to UNTS, and the time period within which Proposer proposes to be able to complete each such phase.

1.11 Proposer's General Questionnaire

Proposals must include responses to the questions in Section 3 of Appendix 1. Proposer should reference the item number and repeat the question in its response. In cases where a question does not apply or if unable to respond, Proposer should refer to the item number, repeat the question, and indicate N/A (Not Applicable) or N/R (No Response), as appropriate. Proposer should explain the reason when responding N/A or N/R.

1.12 Addenda Checklist

Proposer should acknowledge all Addenda to this RFP (if any) by completing, signing and returning the Addenda Checklist (ref. Section 4 of APPENDIX ONE) as part of its proposal. Any proposal received without a completed and signed Addenda Checklist may be rejected by UNTS, in its sole discretion.

1.13 Submission

Proposer should submit all proposal materials enclosed in a sealed envelope, box, or container. The RFP No. (ref. Section 1.3 of this RFP) and the Submittal Deadline (ref. Section 2.1 of this RFP) should be clearly shown in the lower left-hand corner on the top surface of the container. In addition, the name and the return address of the Proposer should be clearly visible.

Proposer must also submit the number of originals of the HUB Subcontracting Plan (also called the HSP) as required by this RFP (ref. Section 2.5 of the RFP).

Upon Proposer’s request and at Proposer’s expense, UNTS will return to a Proposer its proposal received after the Submittal Deadline if the proposal is properly identified. UNTS will not under any circumstances consider a proposal that is received after the Submittal Deadline or which is not accompanied by the number of completed and signed originals of the HSP that are required by this RFP.

UNTS will not accept proposals submitted by telephone, proposals submitted by Facsimile (“FAX”) transmission, or proposals submitted by electronic transmission (i.e., e-mail) in response to this RFP.

Except as otherwise provided in this RFP, no proposal may be changed, amended, or modified after it has been submitted to UNTS. However, a proposal may be withdrawn and resubmitted at any time prior to the Submittal Deadline. No proposal may be withdrawn after the Submittal Deadline without UNTS’s consent, which will be based on Proposer’s submittal of a written explanation and documentation evidencing a reason acceptable to UNTS, in UNTS’s sole discretion.

By signing the Execution of Offer (ref. Section 2 of APPENDIX ONE) and submitting a proposal, Proposer certifies that any terms, conditions, or documents attached to or referenced in its proposal are applicable to this procurement only to the extent that they (a) do not conflict with the laws of the State of Texas or this RFP and (b) do not place any requirements on UNTS that are not set forth in this RFP or in the Appendices to this RFP. Proposer further certifies that the submission of a proposal is Proposer’s good faith intent to enter into the Agreement with UNTS as specified herein and that such intent is not contingent upon UNTS’s acceptance or execution of any terms, conditions, or other documents attached to or referenced in Proposer’s proposal.

1.14 Page Size, Binders, and Dividers

Proposals must be typed on letter-size (8-1/2" x 11") paper, and must be submitted in a binder. Preprinted material should be referenced in the proposal and included as labeled attachments. Sections within a proposal should be divided by tabs for ease of reference.

1.15 Table of Contents

Proposals must include a Table of Contents with page number references. The Table of Contents must contain sufficient detail and be organized according to the same format as presented in this RFP, to allow easy reference to the sections of the proposal as well as to any separate attachments (which should be identified in the main Table of Contents). If a Proposer includes supplemental information or non-required attachments with its proposal, this material should be clearly identified in the Table of Contents and organized as a separate section of the proposal.

1.16 Pagination

All pages of the proposal should be numbered sequentially in Arabic numerals (1, 2, 3, etc.). Attachments should be numbered or referenced separately.
SECTION 2
EXECUTION OF OFFER

THIS EXECUTION OF OFFER MUST BE COMPLETED, SIGNED AND RETURNED WITH PROPOSER'S PROPOSAL. FAILURE TO COMPLETE, SIGN AND RETURN THIS EXECUTION OF OFFER WITH THE PROPOSER'S PROPOSAL MAY RESULT IN THE REJECTION OF THE PROPOSAL.

2.1 By signature hereon, Proposer represents and warrants the following:

2.1.1 Proposer acknowledges and agrees that (1) this RFP is a solicitation for a proposal and is not a contract or an offer to contract; (2) the submission of a proposal by Proposer in response to this RFP will not create a contract between UNTS and Proposer; (3) UNTS has made no representation or warranty, written or oral, that one or more contracts with UNTS will be awarded under this RFP; and (4) Proposer will bear, as its sole risk and responsibility, any cost arising from Proposer's preparation of a response to this RFP.

2.1.2 Proposer is a reputable company that is lawfully and regularly engaged in providing the Services.

2.1.3 Proposer has the necessary experience, knowledge, abilities, skills, and resources to perform the Services.

2.1.4 Proposer is aware of, is fully informed about, and is in full compliance with all applicable federal, state and local laws, rules, regulations and ordinances.

2.1.5 Proposer understands (i) the requirements and specifications set forth in this RFP and (ii) the terms and conditions set forth in the Agreement under which Proposer will be required to operate.

2.1.6 If selected by UNTS, Proposer will not delegate any of its duties or responsibilities under this RFP or the Agreement to any sub-contractor, except as expressly provided in the Agreement.

2.1.7 If selected by UNTS, Proposer will maintain any insurance coverage as required by the Agreement during the term thereof.

2.1.8 All statements, information and representations prepared and submitted in response to this RFP are current, complete, true and accurate. Proposer acknowledges that UNTS will rely on such statements, information and representations in selecting Contractor. If selected by UNTS, Proposer will notify UNTS immediately of any material change in any matters with regard to which Proposer has made a statement or representation or provided information.

2.1.9 Proposer will defend counsel approved by UNTS, indemnify, and hold harmless UNTS, UNTS of North Texas System, the State of Texas, and all of their regents, officers, agents and employees, from and against all actions, suits, demands, costs, damages, liabilities and other claims of any nature, kind or description, including reasonable attorneys' fees incurred in investigating, defending or settling any of the foregoing, arising out of, connected with, or resulting from any negligent acts or omissions or willful misconduct of Proposer or any agent, employee, subcontractor, or supplier of Proposer in the execution or performance of any contract or agreement resulting from this RFP.

2.1.10 Pursuant to Sections 2107.008 and 2252.903, Government Code, any payments owing to Proposer under any contract or agreement resulting from this RFP may be applied directly to any debt or delinquency that Proposer owes the State of Texas or any agency of the State of Texas regardless of when it arises, until such debt or delinquency is paid in full.

2.2 By signature hereon, Proposer offers and agrees to furnish the Services to UNTS and comply with all terms, conditions, requirements and specifications set forth in this RFP.

2.3 By signature hereon, Proposer affirms that it has not given or offered to give, nor does Proposer intend to give at any time hereafter, any economic opportunity, future employment, gift, loan, gratuity, special discount, trip, favor or service to a public servant in connection with its submitted proposal. Failure to sign this Execution of Offer, or signing with a false statement, may void the submitted proposal or any resulting contracts, and the Proposer may be removed from all proposal lists at UNTS.

2.4 By signature hereon, Proposer certifies that it is not currently delinquent in the payment of any taxes due under Chapter 171, Tax Code, or that Proposer is exempt from the payment of those taxes, or that Proposer is an out-of-state taxable entity that is not subject to those taxes, whichever is applicable. A false certification will be deemed a material breach of any resulting contract or agreement and, at UNTS's option, may result in termination of any resulting contract or agreement.

2.5 By signature hereon, Proposer hereby certifies that neither Proposer nor any firm, corporation, partnership or institution represented by Proposer, or anyone acting for such firm, corporation or institution, has violated the antitrust laws of the
State of Texas, codified in Section 15.01, et seq., Business and Commerce Code, or the Federal antitrust laws, nor communicated directly or indirectly the proposal made to any competitor or any other person engaged in such line of business.

2.6 By signature hereon, Proponent certifies that the individual signing this document and the documents made a part of this RFP, is authorized to sign such documents on behalf of Proponent and to bind Proponent under any agreements and other contractual arrangements that may result from the submission of Proponent's proposal.

2.7 By signature hereon, Proposer certifies as follows:

"Under Section 231.006, Family Code, relating to child support, Proposer certifies that the individual or business entity named in the Proposer's proposal is not ineligible to receive the specified contract award and acknowledges that any agreements or other contractual arrangements resulting from this RFP may be terminated if this certification is inaccurate."

2.8 By signature hereon, Proposer certifies that (i) no relationship, whether by blood, marriage, business association, capital funding agreement or by any other such kinship or connection exists between the owner of any Proposer that is a sole proprietorship, the officers or directors of any Proposer that is a corporation, the partners of any Proposer that is a partnership, the joint venturers of any Proposer that is a joint venture or the members or managers of any Proposer that is a limited liability company, on one hand, and an employee of any component of UNTS of North Texas System, on the other hand, other than the relationships which have been previously disclosed to UNTS in writing; (ii) Proposer has not been an employee of any component institution of UNTS of North Texas System within the immediate twelve (12) months prior to the Submittal Deadline; and (iii) no person who, in the past four (4) years served as an executive of a state agency was involved with or has any interest in Proposer's proposal or any contract resulting from this RFP (ref. Section 669.003, Government Code). All disclosures by Proposer in connection with this certification will be subject to administrative review and approval before UNTS enters into a contract or agreement with Proposer.

2.9 By signature hereon, Proposer certifies its compliance with all federal laws and regulations pertaining to Equal Employment Opportunities and Affirmative Action.

2.10 By signature hereon, Proposer affirmatively states that it does not boycott Israel, pursuant to Texas Gov't Code Section 2270.001. Additionally, Proposer shall not engage in a boycott of Israel during the term of this Agreement.

2.11 By signature hereon, Proposer represents and warrants that all products and services offered to UNTS in response to this RFP meet or exceed the safety standards established and promulgated under the Federal Occupational Safety and Health Law (Public Law 91-596) and the Texas Hazard Communication Act, Chapter 502, Health and Safety Code, and all related regulations in effect or proposed as of the date of this RFP.

2.12 Proposer will and has disclosed, as part of its proposal, any exceptions to the certifications stated in this Execution of Offer. All such disclosures will be subject to administrative review and approval prior to the time UNTS makes an award or enters into any contract or agreement with Proposer.

2.13 If Proposer will sell or lease computer equipment to UNTS under any agreements or other contractual arrangements that may result from the submission of Proposer's proposal then, pursuant to Section 361.955(c), Health & Safety Code, Proposer certifies that it is in compliance with the Manufacturer Responsibility and Consumer Convenience Computer Equipment Collection and Recovery Act set forth in Chapter 361, Subchapter Y, Health & Safety Code and the rules adopted by the Texas Commission on Environmental Quality under that Act as set forth in Title 30, Chapter 328, Subchapter I, Texas Administrative Code. Section 361.952(2), Health & Safety Code, states that, for purposes of the Manufacturer Responsibility and Consumer Convenience Computer Equipment Collection and Recovery Act, the term "computer equipment" means a desktop or notebook computer and includes a computer monitor or other display device that does not contain a tuner.

2.14 Proposer should complete the following information:

If Proposer is a Corporation, then State of Incorporation: ________________________________

If Proposer is a Corporation, then Proposer's Corporate Charter Number: ____________

RFP No.: ____________, Title: ________________________________
NOTICE: WITH FEW EXCEPTIONS, INDIVIDUALS ARE ENTITLED ON REQUEST TO BE INFORMED ABOUT THE INFORMATION THAT GOVERNMENTAL BODIES OF THE STATE OF TEXAS COLLECT ABOUT SUCH INDIVIDUALS. UNDER SECTIONS 552.021 AND 552.023, GOVERNMENT CODE, INDIVIDUALS ARE ENTITLED TO RECEIVE AND REVIEW SUCH INFORMATION. UNDER SECTION 559.004, GOVERNMENT CODE, INDIVIDUALS ARE ENTITLED TO HAVE GOVERNMENTAL BODIES OF THE STATE OF TEXAS CORRECT INFORMATION ABOUT SUCH INDIVIDUALS THAT IS INCORRECT.

Submitted and Certified By:

(Proposer Institution's Name)

(Signature of Duly Authorized Representative)

(Printed Name/Title)

(Date Signed)

(Proposer's Street Address)

(City, State, Zip Code)

(Telephone Number)

(FAX Number)

(Email Address)
SECTION 3
PROPOSER'S GENERAL QUESTIONNAIRE

NOTICE: WITH FEW EXCEPTIONS, INDIVIDUALS ARE ENTITLED ON REQUEST TO BE INFORMED ABOUT THE INFORMATION THAT GOVERNMENTAL BODIES OF THE STATE OF TEXAS COLLECT ABOUT SUCH INDIVIDUALS. UNDER SECTIONS 552.021 AND 552.023, GOVERNMENT CODE, INDIVIDUALS ARE ENTITLED TO RECEIVE AND REVIEW SUCH INFORMATION. UNDER SECTION 559.004, GOVERNMENT CODE, INDIVIDUALS ARE ENTITLED TO HAVE GOVERNMENTAL BODIES OF THE STATE OF TEXAS CORRECT INFORMATION ABOUT SUCH INDIVIDUALS THAT IS INCORRECT.

Proposals must include responses to the questions contained in this Proposer’s General Questionnaire. Proposer should reference the item number and repeat the question in its response. In cases where a question does not apply or if unable to respond, Proposer should refer to the item number, repeat the question, and indicate N/A (Not Applicable) or N/R (No Response), as appropriate. Proposer will explain the reason when responding N/A or N/R.

3.1 Proposer Profile

3.1.1 Company’s Legal Name:

________________________________________________________________________

Address of principal place of business:

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

Address of office that would be providing service under the Agreement:

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

Number of years in Business: __________________________

State of incorporation: __________________________

Number of Employees: __________________________

Annual Revenues Volume: __________________________

Name of Parent Corporation, if any __________________________

Are you a certified Historically Underutilized Business (HUB)? (circle one) YES  NO

If "Yes", please indicate the issuing authority and a include copy of your certificate.
SECTION 4

ADDENDA CHECKLIST

Proposal of: ____________________________
             (Proposer Company Name)

To: UNTS of North Texas System

Ref.: Enterprise Content Management Support

RFP No.: 752-18-211976 - Design & Install Automatic Fire Suppression System Maple Hall

The undersigned Proposer hereby acknowledges receipt of the following Addenda to the captioned RFP (initial if applicable).

Note: If there was only 1 Addendum, initial just the first blank after No. 1, not all 5 blanks below.

No. 1 _____        No. 2 _____        No. 3 _____        No. 4 _____        No. 5 _____

Respectfully submitted,

Proposer: ____________________________

By: _________________________________
     (Authorized Signature for Proposer)

Name: _______________________________

Title: _______________________________

Date: _______________________________
UNIVERSITY OF NORTH TEXAS SYSTEM

FIRE PROTECTION SPRINKLER SYSTEMS

SECTION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS
A. Drawings and general provisions of the Contract, including General and Supplemental Conditions and other Division 1 Specification Sections apply to this Section

1.2 SUMMARY
A. Section includes labor and materials for the installation of a hydraulically calculated, automatic fire sprinkler system(s), complete in all respects and ready for operation.
1. Work includes the design of a hydraulically calculated, wet-pipe, automatic sprinkler system, designed for 100% coverage of the building.
2. In areas where ambient temperature cannot be maintained at 40° or above, a dry pipe sprinkler system or a monitored heat tape system shall be provided.
3. Design and installation of the sprinkler system shall be such that no parts interfere with general construction, doors, windows, heating, plumbing, air conditioning systems or electrical equipment.
B. System components for each zone shall include, but not be limited to:
1. Zone control valve and test/drain assembly.
2. Drain valve.
4. Valve supervisory switches.
5. Piping.

1.3 SYSTEM DESCRIPTION
A. The sprinkler system shall be an automatic fire sprinkler system supplied by a pressurized water supply (Municipal water main) to fusible sprinkler heads for the control of fire.
B. The sprinkler system shall be hydraulically designed to meet the more stringent of the requirements of the 2013 Edition of NFPA 13.
C. Work shall be installed in accordance with NFPA 13 and Owner’s direction. Devices and equipment shall be listed by Underwriters’ Laboratories, Inc. or Factory Mutual-approved, individually and as a system, as applicable.
D. Coordinate the location of sprinkler heads and piping such that it does not interfere with the installed ceiling configuration or other building construction and equipment. Locate heads in center of ceiling tiles and/or as directed by the owner or architect.

1.4 HYDRAULIC CALCULATIONS
A. Prepare hydraulic calculations in accordance with NFPA 13 and with the following exceptions:
1. Provide a minimum safety factor of 10 psi on all hydraulically calculated sprinkler systems.
B. Hydraulic calculations shall be performed by a State of Texas Licensed Responsible Managing Employee (RME) in the direct employ of the fire protection contractor, or by a Texas State Registered Professional Engineer (P.E.).
C. A recent fire flow test shall be the basis for the fire sprinkler design.

1.5 SUBMITTALS
A. Contractor’s Qualification Data: Copies of fire sprinkler firm’s TDI registration, RME-G License and TDI required liability insurance.
B. Product Data: For each type of product indicated.

RFP752-18-211976
Design & Install Automatic Fire Suppression Maple Hall

UNTNS Rev 4.2017
C. Shop Drawings: Submit 3 (three) full-size sets of shop drawings for review. Plans must include the following:
   1. A "Wet" RME or Texas Professional Engineer’s signature and stamp, is required on all plan drawings and calculations.
   2. Plans shall be clear and legible and all sheets shall be in a common and appropriate scale;
   3. The following information shall be provided on the plans:
      a. Site plan showing location of the building, all fire hydrants, fire lanes, fire department connections and the fire service main location.
      b. Scale.
      c. Floor plan.
      d. Square footage.
      e. Location of doors.
      f. Intended use of each room is identified.
      g. North arrow provided.
      h. Location of the Fire Department Connection (FDC).
      i. Occupancy classification.
      j. Scope of Work.
      k. Equipment List.
      l. Hydraulic calculations for each design area.
      m. A complete full-height cross section of the building.
      n. Area of coverage of each sprinkler head.
      o. Total area protected by each system.
      p. Capacity of the dry system or antifreeze system.
      q. Hydraulic node symbols and schedule.
      r. Indicate all Riser Nipples (RN) or Drop Nipples (DN).
      s. Elevations of sprinkler lines and node points.
      t. Hanger details.
      u. Hanger locations.
      v. Sprinkler riser diagram.
      w. Inspectors test connection detail.
      x. Auxiliary drain details.
      y. Size and location of standpipe hose stations, if applicable.
      z. Description of the design area.
      aa. Design density of each design area.
      bb. Clearly indicate each remote area.
      cc. Provide graphic representation of the water flow analysis.
      dd. Provide the water supply test information.
      ee. Provide notes to indicate the following;
      ff. Design code.
      gg. Responsible party with regards to freeze protection. If to be provided by others, indicate and provide drawings to indicate the heaters with your submittal.
   4. The title block shall contain the following:
      a. Location of the installation.
      b. Name and complete address of the business.
      c. Name and complete address of the installing company.
      d. Licensing information.
      e. Date.
      f. Drawn by.
   5. A legend shall be provided to include:
      a. Symbol, sprinkler description, manufacturer, model number, and quantity for each device.
      b. Pipe and fittings type.

D. Submit 3 (three) copies of equipment specification booklets containing all materials, equipment and products that are being provided for installation.
1. Materials, equipment and products being used shall be identified in the specification booklets by an arrow or highlighter.

E. Field test reports and certifications for compliance with performance requirements shall be submitted to the owner. Include "Contractor's Material and Test Certificate for Aboveground Piping."

F. All fire system submittals shall be provided to the UNTS Fire Marshal for review and approval prior to any work.

G. Approved Sprinkler Piping Drawings: Working plans, prepared according to NFPA 13, that have been approved by authorities having jurisdiction including hydraulic calculations

H. Welding certificates.

I. Field Test Reports and Certificates: Indicate and interpret test results for compliance with performance requirements and as described in NFPA 13, Include "Contractor's Material and Test Certificate for Aboveground Piping."

J. Field quality-control reports.

K. Operation and maintenance data.

L. Submit complete "As-Built" set of plans for each fire sprinkler and standpipe system.

1.6 QUALITY ASSURANCE

A. Installer Qualifications: Specialist Firm – The installing contractor shall specialize in the design and installation of fire sprinkler systems and shall be registered as a fire sprinkler contractor by the Texas State Board of Insurance Underwriters (TDI) and shall have in its employ, a Responsible Managing Employee (RME), licensed by the Texas State Board of Insurance Underwriters (TDI). The contractor shall have a minimum of three years of verifiable installation experience with fire sprinkler systems.

1. Installer's responsibilities include designing, fabricating, and installing sprinkler systems and providing professional engineering services where needed to assume engineering responsibility. Base calculations on results of fire-hydrant flow test performed within past 90 days or less of design.

B. Welding Qualifications: Qualify procedures and operators according to ASME Boiler and Pressure Vessel Code.

C. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.


1.7 PIPING AND FITTINGS

A. Piping and fittings:

1. All exposed, aboveground piping shall be minimum schedule 40 steel pipe*, no exception, conforming to ASTM A53 or ASTM A795, Type E, Grade A. Comply with applicable governing regulations and industry standards.

2. Piping and fittings for the fire main installed between the City's water utility connection and the required backflow prevention device for the fire riser shall be ASTM approved materials for potable water systems.

3. The piping system for a dry pipe system shall be schedule 40 galvanized steel.

B. *Pipe and fittings shall be domestically manufactured by one of the manufacturers listed in the latest edition of the American Petroleum Institute (API) approved manufacturers listing.

C. Threaded Fittings: Class 150 malleable iron, ANSI B16.3, for pipe sizes 2-inch and less.

D. Malleable Iron Threaded Unions: ANSI B16.3, select for proper piping fabrication and service requirements including style, end connections, and metal-to-metal seats (iron, bronze, or brass), plain or galvanized as specified.


F. Steel Flanges/Fittings: ANSI B16.5, including bolting, gasketing, and butt weld end connections. Fittings same thickness as pipe.

G. Forged Steel Socket-welding and Threaded Fittings: ANSI B16.11, rated to match schedule of connected pipe.

H. Wrought Steel Butt-welding Fittings: ANSI B16.9, except ANSI B16.28 for short radius elbows and returns; rated to match connected pipe.

I. Flanged Fittings: Comply with ANSI B16.5 for bolt-hole dimensioning, materials, and flange thickness.
ATTACHMENT A

J. Flange Bolts: Bolts shall be carbon steel ASTM A307 Grade A hexagon head bolts and hexagonal nuts. Where one or both flanges are cast iron, furnish Grade B bolts. Cap screws utilized with flanged butterfly valves shall be ASTM A307 Grade B with hexagon heads.

K. Flange Bolt Thread Lubricant: Lubricant shall be an anti-seize compound designed for temperatures up to 1000°F and shall be Crane Anti-Seize Thread Compound or approved equal.

L. Saddle tap fitting are not allowed.

1.8 MISCELLANEOUS PIPING MATERIALS/PRODUCTS

A. Welding Materials: Comply with ASME Boiler and Pressure Vessels Code, Section 11, Part C, for welding materials.

B. Gaskets for Flanged Joints: 1/16 inch thick for pipe size 10 inches and smaller and 1/8 inch thick for all pipe size 12 inches and larger. Pintype shall be used between raised face flanges and full face-type between flat face flanges with punched bolt holes and pipe opening. Gaskets shall be Garlock Style 3400 compressed non-asbestos or equal.

C. Dielectric Unions: Provide dielectric unions at all pipe connections between ferrous and nonferrous piping. Unions shall be “Delvin” as made by Pipeline Seal and Insulator Company or “EPCO” as made by Epco Sales, Inc. and shall have nylon insulation.

D. Mechanical couplings may only be used for pipe sizes over 2-inch, to engage and lock grooved or pipe ends and to allow for some angular deflection, contraction and expansion.
   1. Couplings shall be positive lock type and shall consist of ASTM A536 ductile iron housing, c-shaped composition sealing gasket and carbon steel bolts conforming to ASTM A183.
   2. Gasket Material for wet systems shall be EPDM.
   3. Gasket material for dry pipe systems shall be silicone.
   4. All couplings shall be UL listed and approved.
   5. Provide only full flow (no-fabricated) fittings. Snap joint couplings, outlet couplings, cut-in style couplings, reducing couplings, mechanical-T style couplings, press fit couplings, and plain end type couplings are not allowed.
   6. When mechanical couplings are used, ONLY grooved type fittings and pipe shall be used, no plain end fittings or pipe. Grooved couplings and fittings shall be manufactured by Victaulic, “Firelock” or approved equivalent.

E. Water Flow Switches: Viking or approved equal water flow switch with adjustable retard feature. Switch shall be double-pole double-throw type and shall be rated at least 7 amperes at 125/250 volts.

F. Valve Supervisory Switches:
   1. Provide on each valve, controlling or shutting-off sprinkler system where shown on drawings or/and on all valves required by NFPA 13, or any portion thereof.
   2. Provide UL listed unit, with either one single pole double throw switch or two single pole double throw switches as required. Switch shall be compatible with installed valve for standard mounting. Manufactured by Potter Roemer No. 6220, or approved equal.

G. Sight Flow Connection: Provide acrylic sight flow connection in all test lines, conforming to NFPA 13.

H. Pressure Gauges: Potter-Roemer Fig. No. 6240 or approved equal 3-1/2 inch diameter polished brass case, 1/4 inch NPT male connection, glass enclosed, 0-300 psi dial pressure gauges with isolation valves.

I. All hangers and supports shall comply with NFPA 13.

J. Fire Valve Cabinet (FVC): Where required, Potter-Roemer Fig. No. 18210, recessed fire valve cabinet consisting of 20 gauge steel cabinet with continuous hinge, re-coatable white polyester finish.

K. Fire Department Valve (FDV): Where required, provide Potter Roemer No. 4060-D, UL Listed and FM approved 2-1/2" cast-brass angle valve with iron hand-wheel, female inlet by 2-1/2" male NST hose thread outlet, 300 pound rating, with female NST hose thread cap with pin lugs and chain.

L. Wall Mounted Fire Department Siamese Connection: Potter Roemer No. 5785-C or approved equal, free standing, cast bronze body, with 2-1/2", UL listed, rough chrome plated body with polished chrome plated trim, caps and chains with NST hose threads.
M. Remote Located Fire Department Connection: Where required by Owner, install free standing Potter Roemer No. 5761-5764 Body, cast bronze body with Siamese NST 2-1/2" outlets with polished chrome plated finish, with caps and chains, with NST threads.

N. Roof Manifold: Where required, provide free standing Potter Roemer No. 5882 Body with 4065 Valves or approved equal, cast bronze body with 2-1/2" outlets with cast brass angle hose valves rated for 300 psi with polished chrome plated finish, with caps and chains, with NST threads.

O. Post Indicator Valve: Where required, provide adjustable, free standing indicating post and valve, consisting of UL/FM approved non-rising stem gate valve and indicating post. Gate valve shall have iron body with non-rising stem, bronze mounted, indicator post flange, 175 psi non-shock rating, flanged ends. Indicator post shall be free standing and shall have a cast iron body, Plexiglas window and an 18 inch adjustment span with handle and locked and chained in open position. Manufactured by Mueller Valve No. A-2052 and Indicating Post No. A-20801, or approved equal.

PART 2 - PRODUCTS

2.1 SPRINKLERS

A. Unless otherwise specified, sprinkler heads shall be a quick response type with standard (155°F) temperature rated fusible link, 1/2 inch orifice and a 5.6 K factor.

1. Heads located within the air streams of heat emitting equipment, elevator shafts, boiler rooms and similar areas shall have an intermediate (200°F) temperature rated fusible link.

2. Install corrosion-resistant sprinkler heads where they are exposed to weather, moisture, or corrosive vapors.

3. Heads installed where they might receive mechanical injury or are less than 7 feet above the floor level shall be protected with approved guards in accordance with NFPA 13.

4. Sprinklers in areas with suspended ceilings shall have pipe and fittings located above the suspended ceiling.

C. Sprinkler heads shall be UL Listed and approved:

1. TYCO
2. VIKING
3. RELIABLE

D. Provide metal cabinet containing a stock of spare sprinkler heads of all types and ratings installed per NFPA 13.

1. Locate cabinet where temperature will not exceed 100°F.

2. Location shall be approved by the Owner.

3. Number of spare sprinklers shall conform to NFPA 13.

4. Provide a sprinkler wrench in the cabinet, for each different type sprinkler head.

E. The use of extended coverage type heads must have prior approval.

F. The use of UL listed flexible type head assemblies are permitted.

2.2 VALVE SUPERVISORY SWITCHES

A. Contractor shall furnish and install supervisory switches. Coordinate wiring of switches with Electrical Contractor.

2.3 WATERFLOW SWITCHES

A. Provide Viking VSR-F or equivalent water flow switches, with adjustable retard feature in the supply pipe to each zone for remote alarm. Switch shall be double-pole single-throw type and shall be rated at least 7 amperes at 125/250 volts.

B. Water flow switches shall be furnished and installed by this Contractor and wired by Fire Alarm or Electrical Contractor. Coordinate wiring of flow switches with appropriate contractor.

2.4 BUILDING FIRE ALARM SYSTEM INTERFACE

A. Each zone control assembly shall provide an alarm signal output to the Building Fire Alarm System whenever there is water flow in the zone. Coordinate with Fire Alarm Contractor.
B. Each valve which controls the flow of sprinkler system water shall be monitored by the Building Fire Alarm System. Coordinate with Fire Alarm Contractor.

2.5 SPRINKLER ALARM CHECK VALVE ASSEMBLY
A. Provide 175 psi rated automatic sprinkler valve with one or two pole (as required) flow detectors, pressure switch and associated trim for a complete working system.
B. Provide products manufactured by Reliable, Viking or approved equivalent.

2.6 SPRINKLER INSPECTOR'S TEST ASSEMBLY
A. Provide NFPA 13 compliant UL Listed and approved sprinkler system inspector’s test assembly, consisting of sight glass, tamper resistant test orifice, test and drain ball valve, rated for 300 psi, manufactured by AGF Model 1000, or approved equal.

2.7 PIPING EXTENDED FROM UNDERGROUND RISER THAT IS NOT CONNECTED TO A BACKFLOW PREVENTION DEVICE
A. Aboveground extension to backflow prevention device
   1. Where the underground fire service pipe emerges from below grade and does not immediately terminate with a control valve and backflow prevention device (double check valve assembly) in a readily accessible location, the above-ground extension of the fire service pipe shall be connected to AWWA approved galvanized or stainless steel pipe run to the control valve and backflow prevention device located in a readily accessible location.

2.8 FREEZE PROTECTION FOR SPRINKLER PIPE SYSTEM
A. Fire protection piping within unheated crawl spaces and attics shall be protected from freezing by one of the following methods:
   1. Raychem XL-Trace®, or equivalent, listed and supervised thermostatically controlled heat-trace tape, capable of maintaining pipe temperature above 40° F., shall be installed along the pipe system and sprinkler heads per manufacturer’s installation instructions; pipe shall also be insulated with minimum 1 inch thick Pittsburg Corning Foamglas®, John Manville Mico-Lok® Fiber Glass Pipe Insulation, or approved equivalent, type insulation. Where insulation is subject to damage, a metal outer jacket shall be installed over the insulation. The heat-trace tape electrical power source shall be monitored by the fire alarm panel.

   2. Provide a dry pipe sprinkler system with all necessary components to protect the sprinkler system pipe and heads located in the unheated space.
      a. Dry sprinkler pipe to be schedule 40 galvanized steel pipe conforming to ASTM A53 or ASTM A795, Type E, Grade A.
      b. Components shall be rated for a minimum 175 psi working pressure.
      c. Dry Pipe Valve. Provide UL listed and FM approved externally resettable dry pipe valve (Viking, or approved equal) and appurtenances. Equip and connect as required by NFPA 13.
      d. Provide water and air pressure gauges, priming water level indicator, alarm test bypass and accelerator. Include all necessary pipe fittings and accessories to provide a complete dry pipe Sprinkler System.
      e. Provide air maintenance devices consisting of air relief valve, bypass valve, shut-off valves; low and high air pressure supervisory switches and water flow supervisory switch with 120 volt single phase power requirement and adjustable pressure rating of 14 to 60 psi, manufactured by Reliable or approved equal.
      f. Provide a quick opening device equipped with an anti-flooding device (Viking or approved equal) for each system riser.
      g. Provide an oil-free air compressor for dry pipe sprinkler system applications, permanently lubricated, direct drive, air filter, safety relief valve set at 50 psi, UL listed, sized to fill dry system within 30 seconds. Air compressor shall be either pipe mounted or floor mounted. Manufactured by Reliable or approved equal.

PART 3 - EXECUTION
3.1 PIPING INSTALLATION
A. Locations and Arrangements: Drawing plans, schematics, and diagrams indicate general location and arrangement of piping. Install piping as indicated, as far as practical.
1. Deviations from approved working plans for piping require written approval from authorities having jurisdiction.
B. Piping Standard: Comply with requirements for installation of sprinkler piping in NFPA 13.
C. Piping and joints shall be full bore reamed, for all joint types.
D. Slag shall be removed and cleaned at all welded joints.
E. Use listed fittings to make changes in direction, branch takeoffs from mains, and reductions in pipe sizes.
F. Install unions adjacent to each valve in pipes NPS 2" and smaller.
G. Install flanges, flange adapters, or couplings for grooved-end piping on valves, apparatus, and equipment having NPS 2-1/2 and larger end connections.
H. Install "Inspector's Test Connections" in sprinkler system piping, complete with shutoff valve, and sized and located according to NFPA 13.
I. Install sprinkler piping with drains for complete system drainage.
J. Install sprinkler control valves, test assemblies, and drain risers adjacent to standpipes when sprinkler piping is connected to standpipes.
K. Install automatic (ball drip) drain valve at each check valve for fire-department connection, to drain piping between fire-department connection and check valve. Install drain piping to and spill over floor drain or to outside building.
L. Install hangers and supports for sprinkler system piping according to NFPA 13. Comply with requirements for hanger materials in NFPA 13.
M. Install pressure gages on riser or feed main, at each sprinkler test connection, and at top of each standpipe. Include pressure gages with connection not less than NPS 1/4 and with soft metal seated globe valve, arranged for draining pipe between gage and valve. Install gages to permit removal, and install where they will not be subject to freezing.
N. Fill sprinkler system piping completely with water.

3.2 PIPING INSTALLATION
A. Piping shall be concealed, except by prior approval of Owner. Install all piping parallel to or at right angles to the column lines of the building wherever possible.
B. Individual sprinkler head piping shall not connect to piping from the bottom of cross-main or branch lines.
C. In electrical rooms, only sprinkler piping which serves the sprinkler heads in that room are allowed.
D. Wet sprinklers shall not be located in rooms containing IT servers or elevator equipment rooms.
E. Grade piping to eliminate traps and pockets and for drainage per NFPA 13. Where air pockets or water traps cannot be avoided, provide gate valves with hose connections for drainage.
F. It shall be the responsibility of the Fire Protection Contractor to coordinate electrical equipment locations with the Electrical Contractor and design the fire protection piping system such that no piping is routed over electrical equipment, unless it serves that room.
G. Changes in direction, branches, offsets etc., shall be made with standard pipe fittings. Holes in the main for branches shall be made with a hole-cutting machine and a standard "Weld-O-Let" or 'Thread-O-Let' fitting used. Burning holes in the fire protection System Piping will cause that section of the piping to be cut out and replaced at the Contractor's expense.
H. Pipe shall be reamed to full pipe diameter before joining:
1. Screwed joints shall be made with standard pipe thread and an approved compound applied to the male thread only.
2. Welded joints shall be made in accordance with the procedure outlined in the ANSI piping code.
3. Valves and specialties shall be screwed or flanged joints.
4. Grooved joints shall be made in accordance with manufacturers recommendations with UL listed and approved couplings or weld-o-let connections to pipe mains shall be full bore.
5. Slag, etc. shall be removed.
I. Install unions or flanges at equipment connections and as indicated on the Drawings.
J. Cold-springing piping will not be permitted. Install piping with adequate support to prevent strain on the equipment and to allow for piping system expansion and contraction.

K. Welded joints on pipe runs shall be made with continuous welds and with pipe ends beveled before fabrication. Piping shall be carefully aligned prior to welding and no metal shall project within the pipe.

L. Piping shall be sized as required by applicable codes and as indicated on the Drawings.

M. Provide all test and drain lines as required by NFPA 13.
   1. Pressure gauges, signs, and other such standard appurtenances shall be furnished as required for a complete installation in accordance with NFPA 13.
   2. Provide nameplate data sign at the zone controlling valve to identify the system as a hydraulically designed system indicating the location and basis for design in accordance with NFPA 13.
   3. Install sprinkler piping so that it can be thoroughly drained, and where practicable shall be arranged to drain at the zone drain valve. The zone drain valve shall be capable of a full discharge test without allowing water to flow onto the floor. All drips and drains shall conform to NFPA 13.
   4. Field changes in the piping layout or pipe sizes shall not be made without the prior approval of the Owner.

3.2 CUTTING AND PATCHING

A. General: Cut and patch walls, floors, etc., resulting from work or by failure to provide proper openings or recesses in new construction.

B. Methods of Cutting:
   1. Openings cut through concrete and masonry shall be made with masonry saws and/or core drills and at such locations acceptable to the Owner.
   2. Impact-type equipment shall not be used except where specifically acceptable to the Owner.
   3. Openings in precast concrete slabs for pipes, conduits, outlet boxes, etc., shall be core drilled to exact size.

C. Fire Stopping:
   1. Holes and penetrations through smoke barriers, fire barriers, fire walls or any other fire rated assembly shall be installed and sealed using an approved U.L. listed assembly. Materials used for fire sealing / draft stopping shall be compatible with the fire sprinkler piping material. A factory certified fire seal contractor shall install and seal these penetrations.

D. Restoration:
   1. All openings shall be restored to "as-new" condition for the materials involved, and shall match remaining surrounding materials and/or finishes.

E. Masonry:
   1. Where openings are cut through masonry walls, provide and install lintels or other structural supports to protect the remaining masonry.
   2. Adequate supports shall be provided during the cutting operation to prevent any damage to the masonry occasioned by the operation.
   3. All structural members, supports, etc., shall be of the proper size and shape, and shall be installed in a manner acceptable to the Owner.
   4. Special Note: No cutting, boring, or excavating which will weaken the structure shall be undertaken. A Texas Registered Professional Engineer shall be consulted in these cases. Necessary structural repairs shall be designed by a Texas Registered Professional Engineer.

3.3 TESTS AND INSPECTIONS

A. Inspections, examinations and tests required by the authorities or agencies specified shall be arranged and paid for by the Fire Protection Subcontractor, as necessary, to obtain complete and final acceptance of the system as installed. The certificates of inspection shall be in quadruplicate, and shall be delivered to the Owner.

B. Fire protection piping systems shall be hydrostatically tested by the Contractor upon completion of the installation as required by NFPA 13 in the presence of the Owners Representative.
   1. The fire protection piping systems shall be hydrostatically tested per the requirements listed in NFPA 13.
   2. When hydrostatic and alarm tests have been completed and all necessary corrections made, a material and test certification shall be provided in accordance with NFPA 13.
3. Final inspection shall include full flow testing through the inspectors test connection.
4. Actuation of the flow switch shall occur within one minute of opening of the inspector's test valve.
5. Final tests shall be witnessed by the Owner's Representative.

C. Sprinkler system zone control assemblies shall be tested to demonstrate proper operation of the flow switch and valve supervisory switch.
D. Arrange and pay for all tests and inspections required by authorities having jurisdiction.
E. Sprinkler piping system will be considered defective if it does not pass tests and inspections.
F. Prepare test and inspection reports.

3.3 JOINT CONSTRUCTION
A. Install couplings, flanges, flanged fittings, unions, nipples, and transition and special fittings that have finish and pressure ratings same as or higher than system's pressure rating for aboveground applications unless otherwise indicated.
B. Install unions adjacent to each valve in pipes NPS 2" and smaller.
C. Install flanges, flange adapters, or couplings for grooved-end piping on valves, apparatus, and equipment having NPS 2-1/2" and larger end connections.
D. Ream ends of pipes and tubes and remove burrs. Bevel plain ends of steel pipe.
E. Remove scale, slag, dirt, and debris from inside and outside of pipes, tubes, and fittings before assembly.
F. Flanged Joints: Select appropriate gasket material in size, type, and thickness suitable for water service. Join flanges with gasket and bolts according to ASME B31.9.

G. Threaded Joints: Thread pipe with tapered pipe threads according to ASME B1.20.1. Cut threads full and clean using sharp dies. Ream threaded pipe ends to remove burrs and restore full ID. Join pipe fittings and valves as follows:
   1. Apply appropriate tape or thread compound to external pipe threads.
   2. Damaged Threads: Do not use pipe or pipe fittings with threads that are corroded or damaged.
H. Welded Joints: Construct joints according to AWS D10.12M/D10.12, using qualified processes and welding operators according to "Quality Assurance" Article.
   1. Shop weld pipe joints where welded piping is indicated. Do not use welded joints for galvanized-steel pipe.
I. Steel-Piping, Cut-Grooved Joints: Cut square-edge groove in end of pipe according to AWWA C606. Assemble coupling with housing, gasket, lubricant, and bolts. Join steel pipe and grooved-end fittings according to AWWA C606 for steel-pipe joints.
J. Steel-Piping, Roll-Grooved Joints: Roll rounded-edge groove in end of pipe according to AWWA C606. Assemble coupling with housing, gasket, lubricant, and bolts. Join steel pipe and grooved-end fittings according to AWWA C606 for steel-pipe grooved joints.
K. Dissimilar-Material Piping Joints: Make joints using adapters compatible with materials of both piping systems.

3.4 PERIODIC INSPECTION SERVICE
A. After completion of the fire protection system installation and at the beginning of the guarantee period, the Automatic Sprinkler Subcontractor shall execute the National Automatic Sprinkler and Fire Control Association, Inc., Standard Form of "Inspection Agreement", without change in the Contract amount, calling for four inspections of the fire protection system during the warranty period.
B. During the warranty period, inspections shall be in accordance with the Inspection Agreement, plus the following maintenance to be performed during the course of the fourth inspection:
   1. Operation of all control valves.
   2. Lubrication of operating stems of all interior valves.
   3. Operation of all alarms, supervisory switches, air compressors, alarm trip switches, flow switches, and similar items.
   5. Lubrication of Fire Department valve hose connections.
6. The standard form of the National Automatic Sprinkler and Fire Control Association, Inc., "Report of Inspection", shall be filled out in triplicate after each inspection and the copies sent to the Owner.

3.4 VALVE AND SPECIALTIES INSTALLATION
   A. Install listed fire-protection valves, trim and drain valves, specialty valves and trim, controls, and specialties according to NFPA 13 and authorities having jurisdiction.
   B. Install listed fire-protection shutoff valves supervised open, located to control sources of water supply except from fire-department connections. Install permanent identification signs indicating portion of system controlled by each valve.
   C. Install check valve in each water-supply connection. Install double check, fire service rated backflow preventer in connection to potable-water-supply sources.
   D. Specialty Valves:
      1. General Requirements: Install in vertical position for proper direction of flow, in main supply to system.

3.5 IDENTIFICATION
   A. Install labeling and pipe markers on equipment and piping according to requirements in NFPA 13.

3.5 SPRINKLER AND COVER PLATE (RECESSED SPRINKLER HEADS) INSTALLATION
   A. Sprinkler heads and recessed sprinkler cover plates shall be protected from damage, dirt and other deleterious materials during construction. Remove and replace any damaged sprinkler or sprinkler cover plate, or sprinklers or cover plates having any foreign material other than factory finish. Sprinkler heads and cover plates shall not be cleaned unless by a method approved by the manufacturer AND accepted by the Owner.

3.6 ESCUTCHEON INSTALLATION
   A. Install escutcheons for penetrations of walls, ceilings, and floors.

3.7 SLEEVE INSTALLATION
   A. General Requirements: Install sleeves for pipes and tubes passing through penetrations in floors, partitions, roofs, and walls.
   B. Sleeves are not required for core-drilled holes.
   C. Permanent sleeves are not required for holes formed by removable PE sleeves
   D. Cut sleeves to length for mounting flush with both surfaces unless otherwise indicated.
   E. Install sleeves in new partitions, slabs, and walls as they are built.
   F. For interior wall penetrations, seal annular space between sleeve and pipe or pipe insulation using joint sealants appropriate for size, depth, and location of joint.
   G. For exterior wall penetrations above grade, seal annular space between sleeve and pipe using joint sealants appropriate for size, depth, and location of joint.
   H. For exterior wall penetrations below grade, seal annular space between sleeve and pipe using sleeve seals.
   I. Seal space outside of sleeves in concrete slabs and walls with grout.
   J. Fire-Barrier Penetrations: Maintain indicated fire rating of walls, partitions, ceilings, and floors at pipe penetrations. Seal pipe penetrations with firestop materials.

3.8 SLEEVE SEAL INSTALLATION
   A. Install sleeve seals in sleeves in exterior concrete walls at water-service piping entries into building.
   B. Select type and number of sealing elements required for pipe material and size. Position pipe in center of sleeve. Assemble sleeve seal components and install in annular space between pipe and sleeve. Tighten bolts against pressure plates that cause sealing elements to expand and make watertight seal.

3.9 IDENTIFICATION
   A. Install labeling and pipe markers on equipment and piping according to requirements in NFPA 13.

3.10 FIELD QUALITY CONTROL
   A. Perform tests and inspections.
B. Tests and Inspections:
   1. Leak Test: After installation, charge systems and test for leaks. Repair leaks and retest until no leaks exist.
   2. Test and adjust controls and safeties. Replace damaged and malfunctioning controls and equipment.
   3. Flush, test, and inspect sprinkler systems according to NFPA 13, "Systems Acceptance" Chapter.
   4. Energize circuits to electrical equipment and devices.
   5. Start and run excess-pressure pumps.
   6. Coordinate with fire-alarm tests. Operate as required.
   7. Verify that equipment hose threads are NST.
   8. Sprinkler system zone control assemblies shall be tested to demonstrate proper operation of the flow switch and valve supervisory switch.
   9. Arrange & pay for all tests and inspections required by authorities having jurisdiction.
C. Sprinkler piping system will be considered defective if it does not pass tests and inspections.
D. Prepare test and inspection reports.

3.11 PERIODIC INSPECTION SERVICE
   A. Provide periodic inspections service after completion and Owner acceptance.
   B. This agreement shall be executed at no cost to the Owner and shall include four inspections of the entire sprinkler system during the warranty period, each with a NASFCA "Report of Inspection to the Owner". The final inspection shall include operation and lubrication of all valves, cleaning of all alarm valves and operational testing of all system Electrical and alarm components.

3.12 TRAINING
   A. The installation contractor shall provide a minimum of 4 hours of training for the Owner in operation and maintenance of the wet-pipe and/or dry pipe sprinkler system.

END OF SECTION
PART 1 - GENERAL

1.1 GENERAL REQUIREMENTS

A. The requirements of Division 1, General Requirements and other provisions of the contract documents apply to this work.

B. The fire alarm system shall be an integrated fire detection and emergency voice evacuation system (ECS). The system shall be a U.L listed, modular, low voltage system with multiple communications features; capable of supporting intelligent addressable devices, analog detection devices and communicating over high speed data networks.

1. The fire alarm system shall be designed, installed, programmed, tested and delivered in full operating condition.

2. The system shall include all required hardware, raceways, wiring and software to accomplish the requirements of these specification.

3. All equipment shall be new and the latest state of the art products provided by the manufacturer.

C. Manufacturer:

1. NOTIFIER® by Honeywell (see Section 2.1), no exceptions, for the following:
   a. Fire Alarm Control Panel (FACP);
   b. Fire Alarm Remote Annunciator Panels (FAAP);
   c. Remote Power Supplies;
   d. Smoke, Heat & Duct Detectors;
   e. Relay, Control & Monitor Modules;
   f. Manual Pull Stations;
   g. Amplifiers.

2. System Sensor®, no exceptions, for the following:
   a. Speakers;
   b. Strobes.

1.2 MATERIALS AND SERVICES

A. The system shall include, but not be limited to the following elements:

1. All fire detection, voice/audio and visual evacuation alarm control modules, supervised power amplifiers with the required back up modules.

2. Circuit interface panels including all modules.

3. Power supplies, batteries and battery chargers.

4. Pre-amplifiers, amplifiers, and tone generators.

5. Equipment enclosures.

6. Intelligent, addressable manual pull stations, heat detectors, alarm monitoring modules, supervised control modules, and analog smoke detectors.


8. Color graphic displays and historical archiving.

9. Software and programming as required to provide a complete functioning system.

12. Wiring and raceway.
13. Installation, testing, certification and training.
14. Monitor and Control modules for interface with electrical, mechanical, fire sprinkler, kitchen fire suppression, CO monitors, elevator and security equipment systems (see plans for coordination of those systems with the fire alarm system design and equipment).
15. Connection to MDF room for remote monitoring by the UNT Fire Systems Group.
16. Remote annunciator panels at each building entrance door or as required by the UNTS Fire Marshal or UNTS AHJ.

1.3 REFERENCE STANDARDS

A. The publications listed below form a part of this publication to the extent referenced. The publications are referenced in the text by the basic designation only. The latest version of each listed publication shall be used as a guide unless the authority having jurisdiction has adopted an earlier version.
1. Texas Department of Insurance (TDI) State Fire Marshal’s Office;
2. National Fire Protection Association (NFPA):
   a. NFPA 72 Standard for the Installation, Maintenance and use of Protective Signaling Systems;
   b. NFPA 13 Standard for the Installation of Sprinkler Systems;
   c. NFPA 70 National Electrical Code;
   d. NFPA 90A Standard for the Installation of Air Conditioning and Ventilating Systems’
3. Texas Insurance Code Chapter 6002, Fire Detection and Alarm Device Installation;
4. 28 TAC §§ 34.600 The Fire Alarm Rules;
5. Underwriter’s Laboratories, Inc. (UL);
6. Texas Accessibility Standards (TAS);
7. UNTS Specifications.

1.4 QUALIFICATIONS OF THE INSTALLER

A. The installing contractor shall specialize in the design and installation of fire alarm systems. The firm shall have a minimum of three years of verifiable commercial fire alarm system design and installation experience.
B. State License. The firm shall be registered as a fire alarm contractor (Alarm Certificate of Registration (ACR)) with the Texas State Board of Insurance Underwriters (TDI) and have in its employ, a Fire Alarm Planning Superintendent (APS), licensed by the Texas State Board of Insurance Underwriters (TDI); and Fire Alarm Technician(s) (FAL), licensed by the Texas State Board of Insurance Underwriters (TDI). The firm shall also be an authorized NOTIFIER agent.
E. Installer Qualifications: Installer(s) must be Fire Alarm Technician (FAL), licensed by the Texas State Board of Insurance Underwriters (TDI), and be a certified NOTIFIER equipment technician.
F. Insurance: The installing firm shall carry liability insurance in the amount and manner specified by the Texas State Board of Insurance Underwriters (TDI) to install fire alarm systems.
G. All fire alarm panel, ONYXWorks® and their associated programming shall be done by a NOTIFIER® certified technician.
H. Before commencing work, the installing contractor shall submit data showing that the contractor has successfully installed fire alarm systems of the same type and design as specified, or that they have a firm contractual agreement with a state licensing subcontractor having the above required manufacturer's training and experience. The contractor shall include the names and locations of at least two installations where the contractor, or the subcontractor above, has installed such systems. Specify the type and design for each system and furnish documentation that the systems have performed satisfactorily for the preceding 18 months.

1.5 SUBMITTALS

A. The contracting firm shall submit copies of its Texas Department of Insurance (TDI) Fire Alarm Contractor Registration (ACR), Fire Alarm Planning Superintendent License (APS) and the required TDI’s Liability Insurance Certificate, signed by a Texas Insurance Agent.

B. The contractor shall include the following information in the equipment submittal:
   1. Power calculations.
      a. Battery capacity calculations. Batteries shall be sized at least 150% of the calculated requirement.
      b. Supervisory power requirements for all equipment.
      c. Alarm power requirements for all equipment.
      d. Power supply rating justification showing power requirements for each of the system power supplies. Power supplies shall be sized to furnish the total connected load in a worst case condition.
      e. Justification showing power requirements of the system amplifiers.
      f. Voltage drop calculations for wiring runs demonstrating worst case condition.
   2. Complete manufacturer's catalog data including supervisory power usage, alarm power usage, physical dimensions, finish and mounting requirements.
   3. Data describing more than one type of item shall be clearly marked to indicate the type the contractor intends to provide for options not crossed out in submittal material will be furnished for the project. All submittal material shall be complete. Partial submittals will not be evaluated and will be rejected without comment.
   4. Submit panel configuration and interconnection of modules and all other data as required to make an informed judgment regarding product coverage and performance. At a minimum, data shall be submitted on the following:
      a. Master system CPU including all fire detection, voice/audio and visual evacuation alarm control modules, and supervised power amplifiers with the required back up modules.
      b. Circuit interface panels including all modules.
      c. Power supplies, batteries and battery chargers.
      d. Pre-amplifiers, amplifiers, tone generators, master microphone and master telephone.
      e. Equipment enclosures, including dimensions and weights of completed units.
      f. Intelligent addressable manual pull stations, heat detectors, analog smoke detectors, alarm monitoring modules, and supervised control modules.
      g. Annunciator panels.
      h. Audible and visual evacuation signals and devices.
      i. Software and firmware as required to provide a complete functioning system.
      j. Circuiting, including conduit and wire sizes.
k. All interface and connection with ONYXWorks remote terminals – UNTPD and Fire Systems Offices.

C. Complete drawings covering the following shall be submitted by the contractor for the proposed system:

1. Floor plans showing all communicating, initiating, supervisory, indicating appliances, and output control devices; including circuit interface panels, message digitizers, amplifiers, annunciators, video display terminals, color graphic displays, transponders and the main CPU locations. Raceways shall be shown, marked for size, conductor count with type and size, showing the percentage of allowable National Electric Code fill used. Drawings shall indicate ambient sound levels used by the system installer for sound level calculations.
   a. The FACP, FAAP, remote power supplies, electronic control boards and batteries shall be installed in rooms or locations where relative humidity is maintained at less than 90% and temperature is maintained between 60° - 80° F.

2. Wiring diagrams showing points of connection and terminals used for all electrical connections to the system devices and panels.

D. A complete proposed system database including a description of all logic strings, control by event programming and point identification labels on a CD ROM and in a formatted printed form, as required for offsite editing, uploading and downloading shall be submitted for evaluation by the owner. A programming manual shall accompany the submitted program and shall be adequate to allow understanding, operation and editing by the system owner.

E. For use in system test, a complete operation and maintenance manual with two sets of proposed installation drawings shall be submitted.

1. The following information shall be inscribed on the cover:
   a. "OPERATION AND MAINTENANCE MANUAL"
   b. Building name and address.
   c. The name of the fire alarm firm/contractor, Alarm Planning Superintendent and alarm system manufacturer.

2. The manual shall be legible and easily read with a full size copy of record drawings folded and contained in pockets. Included in the manual shall installed equipment details, circuit drawings, wiring and control diagrams and data to explain detailed operation and control of each item of equipment and a control sequence describing start up instructions. Included shall be installation instructions, maintenance instructions, safety precautions, test procedures, performance data, and software documentation.

F. Upon completion of the installation, record drawings shall be submitted on each system before final acceptance of the work. In addition to the records drawing master, the contractor shall furnish to the Owner two sets of record drawings including system diagrams for each system. The record drawings masters shall be high quality for legibility and reproduction and on high density CD ROM in an AutoCAD DXF format.

1.7 SYSTEM FUNCTION

A. The system shall be a complete, electrically supervised multiplex style fire detection and voice evacuation system with intelligent analog alarm initiation, to be device addressable and annunciated as described and shown on the drawings.
1. Devices attached to the signaling circuit shall be individually identifiable at the control panel for alarm and trouble indication. Smoke detectors shall be interrogated for sensitivity settings from the control panel, logged for sensitivity changes indicating the requirement for cleaning, and tested by a single technician using the panel field test routine.

2. Sensitivity settings of individual detectors shall be automatically or manually adjustable from the control panel to reduce the incidence of false alarms caused by environmental conditions.

3. The system shall support intelligent analog smoke detection, manual station, water flow, supervisory, security, and status monitoring devices. Fire alarm, supervisory, trouble, security and status shall each be treated as a separate level of alarm, each with its own level of priority. The system shall also support amplifiers, voice/visual circuits, telephone system and smoke control fans and dampers.

4. The panel shall be UL listed as a test instrument for the measurement and logging of the sensitivity of connected intelligent analog ionization and photoelectric smoke detectors connected to the control panel or any remote circuit interface panel to comply with the bi-annual sensitivity logging requirements of NFPA 72.
   a. The measurements shall be discrete voltage readings, accurate to .01 VDC. The readings shall be dynamic, providing a constant display of voltage shifts of the device being tested when in the sensitivity voltage list mode.
   b. The control panel shall provide a display of these sensitivity measurements. An output shall be provided, together with a Windows XP based utility program to allow the data acquired in the sensitivity testing mode to be downloaded into a laptop computer and utilized in a data base program to formulate a complete system history or be printed as a permanent record of the required sensitivity testing.
   c. Light refraction style smoke detector shall be capable of self-adjustment to compensate for the accumulation of contaminate that would change the detector sensitivity in either a more or less sensitive direction. This adjustment shall keep the relationship between the sensing chamber voltage and the programmed alarm threshold voltage constant to prevent false indications or failure to alarm in the presence of smoke. Data contained in a memory bank on each detector so programmed, shall maintain an average of the chamber voltage in determining the threshold setting for the device. The threshold setting installed in memory within each device shall maintain programmed operation in all cases, including default and default alarm modes. All devices programmed with this feature shall be automatically tested by the control panel once every twenty four hours to assure their ability to detect and report an alarm condition. This test shall be done as a background routine and shall remain transparent to the user. In the event of a test failure, the control panel shall report a trouble message for the failed device.

5. The system shall annunciate a pre-clean trouble condition when any smoke detector reaches 80% of the allowable threshold movement within the prescribed UL window due to gradual contamination, signaling the need for service, and eliminating unwanted alarms. Upon reaching 100% of the allowable movement, a second "Detector Dirty" message with a trouble condition shall be displayed.
a. The trouble report shall annunciate the specific location of the smoke detector requiring service. All analog smoke detectors installed in the system shall include this feature.

b. Upon completion of the cleaning of the device, the system shall reestablish the average chamber voltage file, determining if the detector sensitivity falls within the required window, and display a "Detector Cleaned" message. The detector cleaning shall be logged to the system history file.

6. Any intelligent analog smoke detector shall include a selectable alarm verification capability. This feature shall provide automatic verification of smoke detector alarms as described by NFPA 72. The system shall have the capability of logging to historical memory, the time and date of all unverified alarm events in order to track activity and generate reports indicating maintenance requirements prior to failures within the system.

7. All external circuits shall be listed as power limited circuits per the National Electric Code. Power limitation shall be provided using on board, self-restoring solid state thermal devices. Units using fuses or manually restorable circuit breakers for this purpose or requiring board replacement or exchange will not be acceptable.

8. The system shall recognize initiating of an alarm and indicate the alarm condition in a degraded mode of operation, in the event of processor failure or the loss of system communications to the circuit interface panels.

a. Each circuit interface panel shall be capable of operation in its own degrade mode. In this mode, the system shall receive an alarm from any intelligent analog or conventional initiating device. It shall activate local indicating appliances and remote or auxiliary connect circuits.

b. The system shall indicate a trouble condition during degrade mode operation and shall give a visual indication of an alarm condition.

c. Detector operation in the degrade mode shall continue at the alarm threshold previously programmed. Systems returning detectors to a common default value in degrade mode shall not be acceptable.

8. The system shall provide a default operation program to allow reporting of alarms from installed devices before loading of custom system software.

9. The system shall report alarms from installed devices but not yet added to the system custom program. Alarm reports from these devices shall activate indicating appliance circuits.

10. The system shall perform time based control functions including automatic changes of specified smoke detector sensitivity settings. Time based functions shall be controlled by specifying time periods or actual dates. It also shall provide the ability to control these functions on an exception basis using a holiday schedule.

11. The system shall provide a one person field test initiated from the control panel of either the complete system or a specified area supported from either the master control panel or any remote circuit interface panel, maintaining full function of areas not under test.

a. Field test shall be usable in a silent or audible mode. When in the audible mode, the signals shall audibly annunciate alarms, troubles and device types, each in a way identifiable by the testing technician.

b. All field test activity shall be logged to the system historical memory. It shall be possible to download historic memory to a data base program prior to, and subsequent to the walk test in order to establish a continuous system history.
12. The system shall be provided with eight levels of password protection with up to forty passwords. In addition the system shall provide for up to sixty four password protected sublevels protecting functions or groups of functions under operator control. Passwords and functions shall be field programmable.

13. The system shall be programmed in the field via a laptop computer. All programmed information shall be stored in nonvolatile memory after loading into the control panel. No special programming terminal or prom burning shall be required and the system shall continue in service during reprogramming. Systems requiring on line terminal programming or not capable of mass reading of panel software for offsite documentation or editing will not be considered acceptable.

a. During program reading or loading, the system shall retain the capability for alarm reporting.

b. The system shall read to a PC for program editing. System program shall be stored on a CD ROM and all programming shall be multilevel password protected.

c. A U.L. recognized programming utility shall be furnished to compare all altered functions, and input or output addresses, listing all related functions, inputs and output addresses that are effected by the program changes. These items shall constitute a minimum for required certification re-testing of the system in addition to the system device percentage mandated by the codes. Systems not providing this utility shall not be acceptable due to the expense related to complete re-testing for re-certification after program changes. The system shall consist of a central or distributed multiplex architecture using a centrally located control unit with interconnection to remote circuit interface panels containing any combination of pluggable intelligent analog signaling circuits and plug in relays.

d. The remote circuit interface panels shall as a minimum, provide a power supply, microprocessor controlled bus structure, battery and automatic charger, and communication link to the main CPU through a high speed network.

1) The high speed communications network shall support the use of fiber optics transmission techniques for the elimination of all electrostatic and electromagnetic induced electrical interference configured as a star loop.

G. The network communications format shall include error checking of the installation location of each module address to verify the agreement between programmed software and installed hardware as a protection against card installation in incorrect plug in slots. Module printed circuit cards shall be configured within each cabinet to physically prevent the installation of a card in an incorrect slot in that cabinet.

1. The system shall provide status indicators and control switches for all of the following functions:

   a. Audible and visual evacuation alarm circuit zone control.

   b. Status indicators for sprinkling system water flow and valve supervisory devices.

1.8 SYSTEM ZONING
A. Each intelligent addressable device on the system shall be displayed at the fire alarm control panel by a unique alpha numeric label and room number identifying its location.

1.9 SYSTEM OPERATION

A. Activation of any fire alarm initiating device shall cause the following actions and indications, unless otherwise noted below:

1. General alarm sounds on all floors;
   a. Visual notification devices activated;
   b. Voice annunciation message is activated;
2. FACP sends notification to the central monitoring station (UNTPD);
3. Fire doors and smoke doors close on all floors;
4. All central air handling units shut down;
5. Central exhaust fans shall continue operation;
6. All smoke dampers close;
7. All exit doors unlock;
8. Stair pressurization or exhaust fans (if present) operate.
9. Elevator recall shall be by initiating devices located in either the elevator lobbies, elevator shaft or elevator equipment room.
   a. Activation of any alarm verified smoke detector in a single elevator lobby or an elevator equipment room shall cause the recall of that elevator or bank of elevators to the terminal floor and the lockout of controls. In the event of recall initiation by a detector in the terminal floor lobby, the recall shall be to the alternate floor. Activation of any heat detector in the elevator machine room/pit shall cause the fireman’s hat in the elevator car(s) to flash.

10. Smoke detectors inside residence hall dorm rooms shall be programmed to cause the following actions and indications:
   a. If one dorm room smoke detector activates:
      1) SD shall sounds alarm in immediate room;
      2) Room SD activation sent to FACP;
      3) FACP sends notification to central monitoring station (UNTPD);
      4) FACP sounds SD activation signal at supervised panel and FAAP locations.
   b. If two or more dorm rooms’ smoke detectors activate:
      1) SDs sound alarm in all dorm rooms;
      2) SDs send activation notification to FACP;
      3) FACP sounds General Alarm on all floors and dorm rooms;
      4) FACP sends notification to the central monitoring station (UNTPD);
      5) Voice annunciation message is activated;
      6) FACP sends activation information to FAAP locations.

11. Smoke Detectors inside Hall Directors’, Faculty and Staff apartments shall be programmed to cause the following actions and indications:
   a. If one or two smoke detector in the same apartment activate:
      1) All SDs in the same apartment shall alarm;
      2) Apartment SD activation notification sent to FACP;
      3) FACP sends notification to central monitoring station (UNTPD);
      4) FACP sounds SD activation signal at supervised panel and FAAP locations.
   b. If more than two smoke detectors in the same apartment activate:
1) FACP sounds General Alarm on all floors and dorm rooms;
2) FACP sends notification to the central monitoring station (UNTPD);
3) Voice annunciation message is activated;
4) FACP sends activation information to FAAP locations.

12. Where building is a High-Rise Building or Patient Care Facility, coordinate fire alarm programming with UNTS Fire Marshal.

13. Activation of any single air duct detector shall shut down that air handler unit and send a supervisory signal to the FACP & FAAP.

14. Activation of any supervisory circuit; i.e., supervised valve closure, air pressure abnormal, low temperature, fire pump trouble, duct detector SD, etc., shall cause the following actions and indications:
   a. Display the origin of the supervisory condition report at the FACP and FAAP alpha numeric LCD display.
   b. Activate supervisory audible and visual signals at the FACP and FAAP. Audible signals shall be silenced from the fire alarm control panel by an alarm acknowledge switch. The supervisory indication shall be transferred to a visual indicator on the control panel and the supervisory signals shall resound for a subsequent supervisory condition, reported by a different device.
   c. FACP shall send a supervisory notification to the central monitoring station (UNTPD).
   d. Record within the system history the occurrence of the event, the time of occurrence and the device initiating the event.

B. The FACP shall:
1. Display a custom message, describing the device originating the alarm condition at the main fire alarm control panel and remote annunciators;
2. Report to the UNT Police Department via dialer. Two telephone lines shall be provided. Coordinate requirements with UNT and telecom plans.
3. Sound an alarm tone for a maximum of five seconds followed by an automatic digital voice message over all alarm circuits. At the end of the voice message, the alarm tone shall resume. The audio alarm signals shall sound alternately until the signal silence switch is operated.
   a. All audio operations (speaker circuit selection and alarm tone/voice messages and timing variations) shall be activated by the system software, so that future changes can be implemented without rewiring or hardware additions. Audible signals shall be silenceable from the fire alarm control panel by an alarm silence switch. The alarm indication shall be transferred to a visual indicator on the control panel and the alarm signals shall resound for a subsequent alarm condition, reported by a different device. Visual signals shall be programmable to flash until system reset or alarm silencing, as required.
   b. A signal dedicated to sprinkler system water flow alarm shall not be silenced while the sprinkler system is flowing at a rate of flow greater than or equal to a single head.
   c. Status lights next to speaker selection switches on the control panel shall indicate which message each speaker circuit is distributing.
   d. Provisions for total building paging shall be accomplished by an “All Page Switch”.
4. Record within the non-volatile system historical memory, the occurrence of the event, the time and date of occurrence and the device initiating the event. In addition, all operator actions shall be logged to system history with time and date.

C. Receipt of a trouble report; i.e., primary power loss, open or grounded initiating or signaling circuit wiring, open, grounded or shorted indication system wiring, device communication failure, battery disconnect at the fire alarm control panel shall cause the following actions and alarms.
   1. Display at the main fire alarm panel and remote annunciator alphanumeric LCD display, the origin of the trouble condition report.
   2. Activate trouble audible and visual signals at the FACP and FAAP.
      a. Audible signals shall be silenced from the fire alarm control panel and remote annunciator by a trouble acknowledge switch. The trouble indication shall be transferred to a visual indicator on the control panel and the trouble signals shall resound for a subsequent trouble condition reported by a different device.
      b. Trouble conditions which have been restored to normal shall be automatically removed from the trouble display queue and not require operator intervention. This feature shall be software selectable and shall not preclude the logging of trouble events to the historical file.
      c. FACP shall send a supervisory notification to the central monitoring station (UNTPD).
   3. Record within system history, the occurrence of the event, the time of occurrence and the device initiating the event.

1.10 PROGRAMMING
   A. All fire alarm panel, ONYXWorks and associated programming shall be done by a NOTIFIER certified technician.
      1. The fire alarm contractor shall include creating the respective building’s monitoring and control program in ONYXWorks.

1.11 SECURITY SYSTEM INTERFACE
   A. Automatic Unlock of Electric Locking Mechanisms.
      1. Power fail open security locking mechanisms shall automatically unlock upon a fire alarm condition.
      2. To provide for automatic unlocking, the fire alarm contractor shall provide a normally closed auxiliary dry output contact from the fire alarm system. Upon a fire alarm condition, the contact shall open and the security system shall unlock the electric locking mechanisms. The contact shall remain open until the fire alarm system is manually reset.
      1. Security electric locking mechanisms as indicated on the security plans shall be manually unlocked from a switch at the main fire alarm control panel.
      2. To provide for manual unlocking, the fire alarm contractor shall provide a DPST switch in the main fire alarm control panel. Upon activation of the switch, a normally closed dry contact shall open and the security system shall unlock the electric
locking mechanisms. The contact shall remain open until the switch is returned to the locked position.

3. The fire alarm contractor shall provide an additional normally closed dry contact from the switch for security system monitoring of the position status of the switch.

C. Automatic Bypass of Card Reader Control of Elevators.
   1. The card reader control of elevators shall be automatically bypassed by the security system upon a fire alarm condition.
   2. To provide for automatic bypass the fire alarm contractor shall provide a normally closed dry output contact from the fire alarm system. Upon a fire alarm condition the contact shall open and the security system shall bypass the card reader control of elevators. The contact shall remain open until the fire alarm system is manually reset.

D. Submittal.
   1. Submit product specifications, fabrication shop drawing, and wiring diagrams for the following:
      a. Dry Contacts
      b. Interface terminal box
      c. DPST Manual Switch

PART 2 - PRODUCTS

2.1 FIRE ALARM CONTROL PANEL

A. FACP shall be campus standard NOTIFIER® NFS2-3030, no exception. In addition to its standard features, the FACP shall include:
   a. CPU2-3030D Primary Display and power supply;
   b. ONYXWorks® high speed network;
   c. NOTIFIER® embedded gateway (NFN-GW-EM-3);
   d. NOTIFIER® high speed network communications modules (HS-NCM-W);
   e. Digital Voice Communication (DVC-EM);
   f. DAA Series Digital Audio amplifiers;
   g. UDACT-2 Digital Communicator
   h. Liquid Crystal Display Annunciators (LCD-160)

B. FAAP shall be NOTIFIER® LCD-160.

C. The control panel shall be modular in construction and shall include, but not be limited to; the hardware, software and firmware required to perform the following major system functions:
   1. Surface mounted steel cabinet with indicator viewing window, hinged door and cylinder lock, dead front construction with outer door open, and factory finished in baked black enamel.
   2. System power supplies, including necessary transformers, rectifiers, regulators, filters and surge protection required for system operation, with the capacity to power the system in a worst case condition with all devices in alarm and all local indicating appliances active without exceeding the listed ratings. The system devices shall display normal and alarm conditions consistently whether operating from normal power or reserve (standby) power.
3. The integrated voice system shall operate up to three voice channels simultaneously; Evacuation, Alert and Auxiliary. Systems using a dedicated paging channel shall not be considered equal.

4. The integrated voice system shall utilize local and distributed amplification as required for optimum system performance, configuration and voice intelligibility.

5. The voice system amplifiers shall be capable of operating 25v rms and/or 70v rms speakers as required to optimize system performance. The amplifiers shall provide a minimum of 100 watts of power each. Amplifiers shall automatically transfer to battery when power fails or is disconnected. The amplifier shall have LED's indicating "AC power fail" and "Battery trouble". Sufficient amplifier power shall be provided to furnish a minimum average of 2 watts of power to all connected speakers on each channel, and in all spaces, provide the code mandated 15 DBa above the prevailing equivalent sound level or 5 DBa above the maximum sound level whichever is louder. Sound levels as specified by the NFPA 72 shall be furnished throughout. Amplifiers shall be protected by a backup amplifier capable of assuming the load of a failed amplifier automatically.

6. An audio control module shall be supplied as the master control module for all voice related functions. The audio control module shall communicate with the fire alarm master via high speed network communications lines.
   a. A supervised tone generator capable of providing a variety of tones for use in the system shall be included within the capabilities of this module. Software configuration shall determine which tone the system uses. Minimum available signal configurations shall be:
      1) Slow Whoop.
      2) 900Hz Steady, pulsed at 120 ppm, pulsed at 30 ppm, coded, temporal code 3, California code, zone code, or 4-4-4.
      3) Chime, pulsed at 120 ppm, pulsed at 30 ppm, coded, temporal code 3, California code, zone code, or 4-4-4.
      4) Horn Steady, pulsed at 120 ppm, pulsed at 30 ppm, coded, temporal code 3, California code, zone code, or 4-4-4.
      5) 2000Hz Steady, pulsed at 120 ppm, pulsed at 30 ppm, coded, temporal code 3, California code, zone code, or 4-44.
      6) Hi/Lo
      7) Wail.

   b. A backup tone card shall be furnished for the audio control module.

7. The master microphone module shall be permanently mounted behind the locked access door, visible through the viewing window and provide firefighters with the means of issuing voice message instructions to specific audio zones, groups of zones or all zones. The microphone and the press-to-talk switch shall be supervised. This module shall contain a local speaker with volume control to monitor selected audio channels.

8. The amplifier supervision modules shall supervise the output of all amplifiers, providing automatic switching of backup amplifier output when required.

9. Manual control and annunciator modules shall be provided on the face of the control panel in quantities required by the system. Module circuit labels shall be color coded to indicate speaker control, water flow indication and valve supervision.
a. Furnish for the indication and control of all system speaker zones, modules comprised of eight software programmed switches, each capable of displaying status of the controlled zone via LED's capable of displaying three different colors in both the steady and flashing state to denote the active status circuit and indicate trouble. All switch activation and LED status indications shall be software mapped to any system functions desired. Systems requiring the use of multiple switches to activate groups of zones or functions shall not be acceptable.
   1) Speakers shall be located where indicated on plans.
   2) Strobe visual signals shall operate in conjunction with the automatic activation of the speaker zones. Visual signals shall be programmable to remain activated until system reset or system acknowledgment, as required.

b. Furnish for the display of fire sprinkler system status, annunciator modules comprised of eight software programmed switches, each capable of displaying status of the controlled zone via LED's capable of displaying three different colors in both the steady and flashing state to denote the status and indicate trouble, shall be provided in quantities as required to indicate real time status of each system water flow switch and valve supervisory switch.

10. Provide as required, speaker/strobe zone modules providing 8 zones Style Y for either supervised speaker circuits or 24 VDC strobe light or combination of the two indicating type signals. Modules shall incorporate solid state self-restoring current limiting. Equipment requiring fuse replacement, manual resetting, or card replacement will not be considered acceptable.

11. The enclosure for the system shall provide complete dead front construction when the outer cabinet door is opened, with no wiring, terminals, batteries or electronic components visible. Human interface modules shall be on a frame hinge mounted to provide easy access to wiring and system plug in cards. Enclosure door shall be pin hinged and removable, for easy system operation by firefighters and technicians in testing and maintenance modes.

12. The system shall include a real time link to the system database, historical event log, logic, and operating system. The system shall require no manual input to initialize in the event of a complete power down condition. It shall return to an on line state as an operating system performing all programmed functions upon power restoration. Systems requiring battery backed-up memory devices shall not be acceptable.
   a. The system shall be capable of programming to allow troubles occurring and restored in the system to be automatically removed from the display queue, eliminating the necessity for individual acknowledging of these events. This feature shall not affect the historical logging of events as programmed.
   b. As a minimum, an LED display for "ALARM", "AUDIBLES SILENCED", "SUPERVISORY", "TROUBLE", "SECURITY", "POWER ON" and "PARTIAL SYSTEM DISABLED".
   c. Touch activated membrane switches for "ALARM ACKNOWLEDGE", "AUDIBLE SILENCE", "SUPERVISORY ACKNOWLEDGE", "TROUBLE ACKNOWLEDGE", "SECURITY ACKNOWLEDGE", "RESET", "DISPLAY HOLD" and "DISPLAY NEXT".
   d. All membrane switches shall be tactile with audible feedback when pressed.
e. Touch activated membrane switches, programmable to perform a minimum of twelve custom designed and programmed functions such as drill, disable, bypass automatic control commands or other special functions as required by the system user. The membrane switches shall also be used for the entry of individual pass codes, allowing for an individual code for each operator allowed to perform security bypass functions.

f. Ten digit keypad for pass code entry to perform programming and maintenance functions.

13. The system shall support a minimum of three supervised remote alpha-numeric annunciators as full function remote control points. Software defined logic module as required for each alarm initiation point, capable of controlling any combination of the system output functions using as logic factors; counting, verification, time, day, holiday, type of device, "and", "or", "not", "timer", "all", "any", flip-flop, D latch, and up to 32 levels of programming shall be possible.

14. Selective historical log events of all types shall be stored in flash memory and displayed, printed or downloaded by classification for selective event reports.

a. The system shall allow selection of events to be logged, including inputs, as: alarms, troubles, supervisions, security, status changes, walk tests and device verification, outputs as: audible control and output activation, actions as: reset, set sensitivity, arm/disarm, override, password, set time and acknowledge.

b. Data format for downloading shall be compatible with the data base handling program, allowing custom report generation to track alarms, troubles and maintenance.

c. Audible and visual indications shall be generated when memory is 80% and 90% full to allow downloading of data. The system shall be programmable circular logging, assuring that at least the last 400 events will always be stored in non-volatile memory.

d. Downloading historical events shall set a system flag at the last event downloaded to allow future retrieval to start at that point, assuring a continuous history log.

15. Environment compensating, software driven logic for adjusting the alarm threshold windows on detectors to compensate for accumulating contamination and keep detector response sensitivity constant. The software shall compensate for either over-sensitized or de-sensitized units, raising a system flag when a detector approaches the allowable limits of adjustment, indicating a requirement for cleaning.

a. Environment compensation values shall be stored in non-volatile memory allowing activation of all tracking functions within 90 seconds of system initiation from a "cold boot". During the boot sequence, alarms from detectors programmed with the feature shall be suppressed. When the full data history is active all devices shall be checked and any active alarms displayed.

b. The control panel shall place each detector in the system in an alarm condition, transparent to the system user, every twenty-four hours as a dynamic check of the accuracy of the alarm threshold setting. Upon reception of the alarm report, the system detector shall be restored to its pretest state.

c. The system shall be capable of monitoring the state of detectors and displaying a message when a detector is approaching the limits of adjustment.
as a result of contamminates. A second message shall be displayed when the
detector reaches the limits of adjustment due to these contamminates.
d. The system shall recognize that a detector has been cleaned, initiating a
series of tests to determine if the cleaning was successful and display a
detector cleaned message, readjusting that detectors normal sensitivity
setting reference based on a new cumulative average.

2.2  FIRE ALARM SYSTEM AND REMOTE POWER SUPPLIES
A. Primary power for the FACP and individual remote power supplies, and the secondary
power battery chargers shall each be obtained from the nearest 120 V emergency panel.
FACP power supply shall be connected to a U.L. listed surge protector. See plans for the
exact location of the 120 V power panel.
B. Secondary power supply. Provide sealed gelled electrolyte batteries as the secondary
power supply for the fire alarm control panel and each system circuit interface panel. The
battery supply shall be calculated to operate its load in a supervisory mode for twenty four
hours with no primary power applied and, after that time, operate its alarm mode for two
hours.
   1. Batteries shall be sized 150% of the calculated size to compensate for deterioration
      and aging during the battery life cycle. Battery calculations shall be submitted to justify
      the battery size. Batteries shall be housed in the control cabinet or a separate cabinet
      with adequate cell separation to prevent accidental discharge.

2.3  SPARE BOX
A. Provide a separate box located adjacent to the main fire alarm panel. The box shall be
sufficiently sized (16" X 16" X 6" minimum) to hold all spare detectors and paperwork. This
box shall match the main fire alarm panel in appearance and be keyed the same.

2.4  REMOTE CIRCUIT INTERFACE PANELS
A. Remote circuit interface panels shall consist of an enclosure, a remote power supply,
digital communications circuitry, mother boards, batteries and hardware, modules and
circuitry described for inclusion in the fire alarm control panel as required to function as
specified.
   1. Circuit interface panels, when required, include conventional zone module, analog
      loop drivers, indicating appliance circuits, output circuitry to perform actions,
      speaker supervisory and distribution circuits. All fire detection, alarm and indicating
      devices supported by the circuit interface panel shall function as a self-standing
      system in the failsafe mode upon loss of the central fire alarm control panel
      processing, communications or the communications wiring between them.
   2. Smoke detectors shall alarm at their programmed sensitivity settings and shall not
      revert to a common default setting when their operating system segment is in the
      default mode.
   3. Circuit interface panels shall support remote system displays, annunciators and
      printers. Test procedures shall be capable of initiation at the main fire control panel,
      any remote LCD annunciator or any remote interface panel equipped with a keypad.

2.5  DETECTOR BASES
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UNTS REV 4.2017  FIRE ALARM SYSTEMS (ECS)
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A. Detector Bases – Detector bases for public areas shall be low profile, surface or flush mounted on a standard 4" square by 2-1/8" deep box. Bases shall be able to accept photoelectric, ionization or heat detectors.

B. Detector Bases for sleeping/dwelling units shall be sounder bases for all system smoke detectors located in sleeping/dwelling units. Sounders shall produce a low frequency 520 Hertz ± 10% frequency alarm signal that complies with NFPA 72 Section 18.4.5.

2.6 SMOKE DETECTORS-PHOTOELECTRIC

A. Furnish and install intelligent analog photoelectric smoke detectors in accordance with NFPA 72, in all sleeping/dwelling units and public areas and where indicated on the drawings.
   1. Manufacturers:
      a. Detector shall be campus standard System Sensor, no exception.

2.7 DUCT DETECTORS-PHOTOELECTRIC

A. Furnish and install where indicated on the drawings, intelligent analog smoke detectors
   1. Manufacturers:
      a. Detector shall be campus standard System Sensor, no exception.
         i. if mounted where the detector is not readily accessible or within normal view, a remote visual indicator and control for testing and re-setting unit shall be installed in close proximity in a readily accessible, viewable location.

2.8 HEAT DETECTORS, INTELLIGENT RATE COMPENSATED

A. Furnish and install where indicated on the drawings, intelligent analog smoke detectors
   1. Manufacturer:
      a. Detectors shall be campus standard System Sensor, no exception.

2.9 MANUAL STATIONS, INTELLIGENT

A. Provide double action, intelligent, manual fire alarm “Pull Stations” where shown on the plans. Pull stations shall be:
   1. Manufacturer:
      a. Pull Stations shall be campus standard NOTIFIER, no exception, and shall be:
         i. red in color;
         ii. provide a clear indication when activated;
         iii. labeled “FIRE”;
         iv. equipped with terminal strip and pressure style screw terminals for the connection of field wiring;
         v. flush mounted.

2.10 MAGNETIC HOLD OPEN DEVICE

A. Provide 24VDC magnetic hold open devices where indicated in architectural door hardware specification. Devices shall release upon activation of a fire alarm.

2.11 INTELLIGENT SYSTEM INTERFACE MODULE
A. Furnish and install, for the monitoring of contact type initiation devices and for the control of electrical devices where required, intelligent analog signaling circuit interface module.

B. The module shall be suitable for two wire, two way communications on the intelligent analog signaling circuit. The module shall display a flashing LED for each circuit, in the normal power or standby power condition. The module shall display a steady LED when in the alarm state or during control circuit activation.

C. Modules shall incorporate triple technology microprocessor chips including analog, digital and EEROM technologies on the single device.

2.12 FIRE SPRINKLER SYSTEM DETECTION AND SUPERVISION

A. Furnish fire alarm monitoring modules for interconnection of the following fire sprinkler system functions (see fire sprinkler plans for type of equipment and location):
   1. Water flow switches and their associated audio/visual device at the FDC, control valve tamper switches, fire pump controller, emergency generator monitoring, dry system air compressor power or air pressure monitoring, fire sprinkler pipe heat trace and other required fire sprinkler equipment and pipe heating equipment power.
   2. Outside screw and yoke valve supervisory switches in sizes as required for monitoring valves as indicated on the drawings. The single pole double throw supervisory switch shall activate an off normal report within one half turn of the valve.

2.13 INTELLIGENT SUPERVISED CONTROL MODULE

A. Furnish and install for the control of supervised relays, contactors, audible signal circuits, visual signal circuits, distributed speaker circuits and two way fire fighters communication circuits, intelligent supervisory and control modules including features as follows:
   1. The modules shall be suitable for two wire operation and communications on intelligent analog alarm detection loops. Address assignments shall be accomplished electronically. Devices requiring dip switches, rotary switches, staples and/or jumpers are not acceptable.
   2. The module shall display a flashing LED in the normal power or standby power condition, and a steady LED when in the activated state.
   3. The module shall be suitable for semi-flush or surface mounting in a 2" deep, 4" square or double gang electrical outlet box having a depth of 3 1/2".

B. Modules shall be available to supervise reverse polarity supervised indicating circuits utilizing 24VDC, two way supervised fireman's communication circuits or audio circuits utilizing 25VRMS or 70.7VRMS. It shall be possible to configure the module for control of motor contactors and AC voltages to 115VAC.
   1. All controlled circuits shall be power limited at 1.5A, produced by self-restoring thermal components. Units requiring circuit replacement for restoration of outputs are not acceptable.
      a. The module shall report a trouble condition in the event of loss of the primary 24VDC signal operating supply voltage.

2.14 EVACUATION SIGNALS
A. Speakers: Shall be of the polarized 24-VDC type. Speaker shall be UL listed for fire alarm voice evacuation use. Speakers shall be designed to be mounted on a wall, ceiling or other suitable rigid surface and shall be capable of being semi-flush, or flush mounted. Speakers shall be multi-tap. Settings shall be 1/16, 1/8, 1/4, 1/2, 1, 2 or 4 watts.  
1. Speech Intelligibility: The emergency voice communication system shall be designed to meet a Common Intelligibility Scale (CIS) of not less than 0.70.  
B. Strobe Light: Visual notification appliances shall be comprised of a xenon flashtube and be entirely solid state. These devices shall be UL listed and available for ceiling or wall mounting. The unit shall be Texas Accessibility Standards (TAS) compliant with an output no less than 15 candela. The Lexan lens shall be pyramidal in shape to allow better visibility. All strobe lamps and lenses shall be clear. Strobe light candela ratings shall be shown on the fire alarm plans. Contractor is responsible for providing number of strobes and candela sizing per NFPA 72 based on room size and device location. Units shall be installed 80” above finished floor. All strobes within the same line of site shall be synchronized. Provide multi-tap strobes to allow for a full range of candela settings. Settings shall be 15/75, 30/75, 75 or 110 candela. Circuits for strobes shall allow for capacity to increase strobe intensities one setting for all strobes. Provide spare devices equal to 1% of the total number of new devices provided for this project.  
C. Speaker/Strobe combination: Units shall meet TAS. Audio/Visual units shall provide a common enclosure for the fire alarm audible and visual alarm devices. The housing shall be designed to accommodate either horns, bells, chimes or speakers. The unit shall be complete with a tamper resistant, Lexan lens visible from a 180-degree field of view. Strobe shall be multi-tap type to allow for a full range of candela. Xenon strobe shall provide 4-wire connection to insure properly supervised in/out system connection. Unit shall be complete with all mounting hardware including back box. Audio/visual unit shall be UL listed for its intended purpose. Speaker shall be multi-tap type to allow for different audio settings. Provide spare devices equal to 1% of the total number of new devices provided for this project.  
D. The evacuation signal device shall be available in flush, semi-flush, or surface mount versions as required for signal locations shown on the contract documents. Devices shall be mounted using a listed outlet box. Signals shall be available in visual and audio/visual to satisfy all required project applications. Device housing shall be white and without any label.  

2.15 SECURITY INTERFACE TERMINAL BOX  
A. The interface terminal box shall be a lockable continuous hinge cover NEMA Type 4 enclosure. The cover of the enclosure shall be labeled to identify its function.  
B. Dual screw barrier type terminal strips shall be provided within the interface terminal box. Terminals shall be provided for each interface output from the fire alarm system and the manual unlock key switch. All terminals shall be labeled to identify their function.  
C. The output contacts from the fire alarm system shall be rated for 1A at 120V.

PART 3 - EXECUTION

3.1 DESIGN AND INSTALLATION DRAWINGS

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FIRE ALARM SYSTEMS (ECS)
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UNTS REV 4.2017
A. Show a general layout of the complete system including equipment arrangement. It shall be the responsibility of the fire alarm contractor to verify dimensions and assure compatibility with all other systems interfacing with the fire alarm system.

1. Identify on the drawings, conduit and conductor sizes and types with number of conductors in each conduit. Provide each conduit and device with a unique identification. For addressable alarm initiation devices, the system identifier shall be the system address for that device. Signals shall be sequentially numbered as the address of the controlling module.

2. Indicate on the point to point wiring diagrams, interconnecting wiring within the panel between modules, and connecting wiring to the field device terminals.

3. Provide mounting details of FACP and other boxes to building structure, showing fastener type, sizes, material and embedded depth where applicable.

3.2 INSTALLATION

A. All work shall be in compliance with Section 1.3, REFERNCED STANDARDS contained herein.

B. All work shall be accomplished in a professional and workmanship like manner.

C. A qualified fire alarm technician shall supervise the installation, testing and adjustment of the fire alarm equipment.

D. The Fire Alarm contractor is responsible for patching and repairing walls and/or ceilings penetrations made by the fire alarm contractor or his/her designated subcontractor(s) where wiring, conduit or devices are installed or removed. Holes in smoke barrier or fire-resistive construction walls and ceilings shall be properly sealed with approved U.L. listed materials and/or U.L. listed fire stop/smoke devices designed for such use or location. The smoke or fire stop material or devices shall be approved by the wiring manufacturer for compatibility with the wiring material it contacts. Whichever method is approved, it shall be installed per the U.L listing of the specific product.

3.3 CONDUIT

A. All wiring shall be installed in conduit, minimum ¾" EMT. Plenum rated cable with J-hooks may be used above ceilings.

3.4 ENCLOSURES AND WIRING DEVICES

A. Wiring enclosures and equipment device boxes shall be sized and installed per NFPA 70.

1. All fire alarm J-Boxes and their covers shall be painted red. The cover shall be labeled "FA System" in minimum ½ inch letters with permanent black ink.

3.5 CONDUCTORS

A. Each conductor shall be identified as shown on the shop drawings with wire markers at every splice and terminal point. Attach permanent wire markers within 2 inches of each wire termination. Marker legends shall be visible.

1. All wiring shall be supplied and installed in compliance with the requirements of the National Electric Code, NFPA 70, Article 760, and that of the manufacturer.

2. Wiring for analog loop circuits and speaker circuits shall be minimum 18 AWG twisted. Wiring for strobe circuits shall be a minimum 14 AWG.
3. Wiring shall be installed without splices or joints. Connections shall be made to the device terminals or equipment terminal strip.

4. Crimp-on type spade lugs shall be used for terminations of stranded conductors to binder screw or stud type terminals. Spade lugs shall have upset legs and insulation sleeves sized for the conductors.

B. Permanently label or mark each conductor at each end and at all terminals with permanent alphanumeric wire markers.

C. Provide Type CI, 2 hour rated circuit integrity cable for riser wiring and wherever else required per code.

3.6 CERTIFICATE OF COMPLIANCE

A. Complete and submit to the Owner in accordance with NFPA 72.

3.7 FIELD QUALITY CONTROL

A. Testing, General.

1. All intelligent analog devices shall be tested and logged for correct address and sensitivity using test equipment specifically designed for that purpose. These devices and their bases shall be tagged with adhesive tags located in an area not visible when installed, showing the system address, initials of the installing technician and date.

2. Wiring runs shall be tested for continuity, short circuits and grounds before system is energized. Resistance, current and voltage readings shall be made as work progresses.
   a. A systematic record shall be maintained of all readings using schedules or charts of tests and measurements. Areas shall be provided on the logging form for readings, dates and witnesses.
   b. The acceptance inspector shall be notified before the start of the required tests. All items found at variance with the drawings or this specification during testing or inspection by the acceptance inspector, shall be corrected.
   c. Test reports shall be delivered to the acceptance inspector as completed.

3. All test equipment, instruments, tools and labor required to conduct the system tests shall be made available by the installing contractor. The following equipment shall be a minimum for conducting the tests:
   a. Ladders and scaffolds as required to access all installed equipment.
   b. Multimeter for reading voltage, current and resistance.
   c. Intelligent device programmer/tester.
   d. Laptop computer with programming software for any required program revisions.
   e. Two way radios, flashlights, smoke generation devices and supplies.
   f. A manufacturer recommended device for measuring air flow through air duct smoke detector sampling assemblies.
   g. Decibel meter.

4. In addition to the testing specified to be performed by the installing contractor, the installation shall be subject to test by the acceptance inspector.

5. System wiring: fire alarm circuits shall be tested for continuity, grounds, and short circuits.

B. Acceptance testing.
1. A written acceptance test procedure (ATP) for testing the fire alarm system components and installation will be prepared by the Acceptance Inspector in accordance with NFPA 72, and this specification. The contractor shall be responsible for the performance of the ATP, demonstrating the function of the system and verifying the correct operation of all system components, circuits, and programming.

2. A program matrix shall be prepared by the installing contractor referencing each alarm input to every output function affected as a result of an alarm condition on that input. In the case of outputs programmed using more complex logic functions involving "any", "or", "not", "count", "time", and "timer" statements; the complete output equation shall be referenced in the matrix.

3. A complete listing of all device labels for alpha numeric annunciator displays and logging printers shall be prepared by the installing contractor prior to the ATP.

4. The acceptance inspector shall use the system record drawings in combination with the documents specified under Paragraph 3.1 during the testing procedure to verify operation as programmed. In conducting the ATP, the acceptance inspector shall request demonstration of any or all input and output functions. The items tested shall include but not be limited to the following:
   a. System wiring shall be tested to demonstrate correct system response and correct subsequent system operation in the event of:
      1) Open, shorted and grounded intelligent analog signaling circuit.
      2) Open, shorted and grounded network signaling circuit.
      3) Open, shorted and grounded conventional zone circuits.
      4) Open, shorted and grounded speaker, telephone circuits.
      5) Intelligent device removal.
      6) Primary power or battery disconnected.
      7) Incorrect device at address.
   b. System evacuation alarm indicating appliances shall be demonstrated as follows:
      1) All alarm notification appliances actuate as programmed
      2) Audibility and visibility at required levels.
   c. System indications shall be demonstrated as follows:
      1) Correct message display for each alarm input at the control panel, each remote alphanumeric display and each CRT terminal.
      2) Correct annunciator light for each alarm input at each annunciator and color graphic terminal as shown on the drawings.
   d. Secondary power capabilities shall be demonstrated as follows:
      1) System primary power shall be disconnected for a period of time as specified herein. At the end of that period, an alarm condition shall be created and the system shall perform as specified for a period as specified.
      2) System primary power shall be restored for forty-eight hours and system charging current shall be normal trickle charge for a fully charged battery bank.
      3) System battery voltages and charging currents shall be checked at the fire alarm control panel using the test codes and displayed on the LCD display.
5. In the event of system failure to perform as specified and programmed during the ATP procedure, at the discretion of the acceptance inspector, the test shall be terminated.
   a. The installing contractor shall retest the system, correcting all deficiencies and providing test documentation to the acceptance inspector.
   b. In the event that software changes are required during the ATP, a utility program shall be furnished by the system manufacturer to compare the edited program with the original. This utility shall yield a printed list of the changes and all system functions, inputs and outputs effected by the changes. The items listed by this program shall be the minimum acceptable to be re-tested before calling for resumption of the ATP.
   c. The acceptance inspector may elect to require the complete ATP to be performed again if, in his opinion, modifications to the system hardware or software warrant complete re-testing.

3.8 DOCUMENTATION
   A. System documentation shall be furnished to the owner and shall include but not be limited to the following:
      1. System record drawings and wiring details including one set of reproducible masters and drawings on CD ROM in a DXF format suitable for use in a CAD drafting program.
      2. System operation, installation and maintenance manuals
      3. Written documentation for all logic modules as programmed for system operation with a matrix showing interaction of all input signals with output commands.
      4. Documentation of system voltage, current and resistance readings taken during the installation, testing and ATP phases of the system installation.
      5. System program showing system functions, controls and labeling of equipment and devices. Also provide a copy of the system files on CD ROM in PDF format.

3.9 TEST EQUIPMENT
   A. Refer to Division 01 for General commissioning requirements.
   B. The Contractor shall furnish all test equipment as required to program devices and test the system, specifically an intelligent device tester and programmer.

3.10 INTERFACE TERMINAL BOX
   A. The fire alarm system contractor shall install the interface terminal box at the main fire alarm control panel in a readily accessible location no more than 8'-0" A.F.F.
   B. The fire alarm contractor shall wire from the fire alarm system to the interface terminal box.
   C. The security contractor shall wire from the security system to the interface terminal box.

3.11 INTERFACE CONDUIT, POWER AND WIRING
   A. The fire alarm contractor shall provide all conduit, power and wiring required for the installation of the terminal box, manual unlock switch and interfacing to the fire alarm system. All wiring installations shall meet NFPA 70 and be UL listed for the fire alarm applications.
B. The security contractor shall provide all wiring from the interface terminal box to the security system. All wiring installations shall meet NFPA 70 and be UL listed for the fire alarm applications.

3.12 WARRANTY AND SERVICES

A. The contractor shall warrant the entire system against mechanical and electrical defects for a period of 18 months. This period shall begin upon completed certification and test of the system.

B. During the warranty period, the fire alarm system subcontractor or manufacturer shall provide at no additional charge the inspection, parts, maintenance, testing and repair to maintain the system in full compliance with the requirements of NFPA 72.

C. A NOTIFIER trained technician in the employ of the installing fire alarm contractor shall furnish training to the Owner’s employees on operation of the fire alarm system.
   1. Training in the receipt, handling and acknowledgement of alarms.
   2. Training in the system operation including manual control of output functions from the system control panel.
   3. Training in the testing of the system including logging of detector sensitivity, field test of devices and response to common troubles.
   4. The total training requirement shall be a minimum of 6 hours but shall be sufficient to cover all items specified.

END OF SECTION
DATE: September 27, 2017

TO: Cassandra Nash, Associate Vice Chancellor of UNT System Design and Construction

FROM: Pat L. Dunlap, UNT System Fire Marshal/FPE; AHJ

RE: UNT System Design and Construction Codes

For all building construction projects on state-owned and state-controlled property (including privately owned buildings built on state-owned and state-controlled property), state agency leased buildings and leased spaces, the 2015 editions of the National Fire Protection Association (NFPA) 101 Life-Safety Code and NFPA 1 Fire Code shall be used as the primary building design codes. Where NFPA 101 or NFPA 1 do not address the specific design/construction under consideration, the adopted edition of the International Code Conference (ICC) code applicable to the design/construction discipline shall be used.

The following standards/codes shall be used however, this list is not to be considered all-inclusive:

**NFPA Codes/Standards to use are, but not limited to:**
- 2015 edition NFPA 1 Fire Code;
- 2013 edition NFPA 14 Standards for the Installation of Standpipe and Hose Systems;
- 2013 edition NFPA 24 Standard for the Installation of Private Fire Service Mains and Their Appurtenances;
- 2017 edition NFPA 70 National Electrical Code;
- 2013 edition NFPA 72 National Fire Alarm Signaling Code;

**International Code Conference (ICC) codes to use:**
- 2015 edition International Building Code (IBC);
- *2015 edition International Mechanical Code (IMC); effective Jan. 1, 2018. Work started before January 1, 2018 may be completed under the 2012 IMC.

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1 Adopted by the Commissioner of the Texas Department of Insurance.
2 Authorized by the UNT System Board of Regents.

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Rev. 9/2017
Local Jurisdiction Codes:

The State Fire Marshal’s Office has directed all state universities and agencies who depend on local fire departments for emergency response and fire suppression to design their construction project with the local fire department in mind. Building and site design shall ensure water supply for fire suppression; fire department access to buildings; locations and compatibility of fire hydrant and fire department connections; fire sprinkler systems; standpipe and hose systems; alarm systems; and other emergency equipment for buildings are constructed for use by the respective local fire department. Local fire code amendments of the respective city where the construction is located (UNT, UNTHS, UNT Dallas, UNT System campus locations are: Denton, Ft. Worth, Dallas or Frisco), pertaining to the State Fire Marshal’s directive, shall be incorporated into the project’s design and construction.

KNOX® key boxes are required to be installed on all state-owned buildings, on buildings located on state-owned or state-controlled property (includes privately owned buildings built on state-owned or state-controlled property) and on buildings leased by or containing leased space by a state agency. For ordering details, contact the UNT System Fire Marshal -- pat.dunlap@untsystem.edu or Michael.Laws@untsystem.edu.

For the UNT Campus at Denton, TX., Refer to Requirements in the Latest Revision of:

- **Design & Construction Guidelines – The University of North Texas**
- Questions regarding these documents are to be emailed to: Peter.Palacios@unt.edu

Accessibility Standard:


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3 Memorandum to State Universities “Co-operation with Local Jurisdictions and Fire Departments”, G. Mike Davis, State Fire Marshal, July 1, 2001; Chris Connealy, State Fire Marshal, February 4, 2016.
Elevator and Escalator Construction Standard:
- *Elevators, Escalators and Related Equipment, Administrative Rules of the Texas Department of Licensing and Regulation, 16 Texas Administrative Code, Chapter 74, §74.100 (Effective February 15, 2016).*

Energy Conservation Codes:
- **ASHRAE 90.1-2010**
  The [ASHRAE 90.1-2010] code applies to any state-funded new construction or major renovation project⁴, except low-rise residential buildings⁵, with *a design assignment made between September 1, 2011 and June 1, 2016.* Code Reference: 34 Tex. Admin. Code, Part 1, Subchapter C, §19.32.

- **New Energy Codes - Effective June 1, 2016**
  State-funded buildings with *a design assignment made on or after June 1, 2016* will be required to comply with ASHRAE 90.1 2013 or the 2015 International Energy Conservation Code (IECC) as the standard for new construction or major renovation projects, except low-rise residential buildings. Low-rise residential buildings are required to use the 2015 IECC. Code Reference: 34 Tex. Admin. Code, Part 1, Subchapter C, §19.32.

END

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⁴ Major Renovation Projects: For the purposes of this subchapter, a major renovation project is a building renovation or improvement where the implementation cost associated with energy or water efficiency improvements is $2 million or more, based on the initial engineering cost estimate. 34 Tex. Admin. Code §19.33.

⁵ Source Note: The provisions of this §19.33 adopted to be effective August 13, 2002, 27 TexReg 7174; amended to be effective September 28, 2011, 36 TexReg 6303; amended to be effective April 7, 2016, 41 TexReg 2495.

⁵ Low-Rise Residential Building: Buildings not more than three stories in height above grade that includes sleeping accommodations and a separate means of egress, and where the occupants are primarily permanent in nature (30 or more days in occupancy).
UNIVERSITY OF NORTH TEXAS

FIRE PUMPS
SECTION 21 30 00

PART 1 - GENERAL

1.1 SUMMARY

A. This section addresses electric fire pump motors, fire and jockey pumps, respective related controllers and specialty accessories incorporated into a building fire sprinkler system.

1.2 SUBMITTALS

A. Product Data: For each type of product indicated.
B. Shop Drawings: For fire pumps, motor drivers, and fire-pump accessories and specialties. Include plans, elevations, sections, details, and attachments to other work.
   1. Fire and jockey pump cut sheets with all pump capacities, UL/FM approval, pump characteristics, features and accessories clearly indicated. Include pump motor brand name and performance data.
   2. Pump curves with selection point clearly indicated.
   3. Fire and jockey pump motors must be listed for fire pump use and meet NFPA 20 standards. Provide Totally Enclosed, Fan Cooled (TEFC) fire pump motors. Provide complete motor specifications and data.
      a. U.S. Motor is not an acceptable motor manufacturer for fire pump motors.
   4. Fire Pump Controller Automatic Transfer Switch and cut sheets with features and options clearly indicated, wiring diagrams, nameplate text and a written system operational sequence.
   5. Jockey pump controller wiring diagram.
C. Product Certificates: For each fire pump, from manufacturer.
D. Source quality-control reports.
E. Field quality-control reports.
F. Operation and maintenance data.

1.3 QUALITY ASSURANCE

A. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.
B. NFPA Compliance: Comply with NFPA 20, "Installation of Stationary Pumps for Fire Protection."

1.4 DELIVERY, STORAGE, AND HANDLING

A. Deliver pumps, controllers, automatic transfer switch, and accessories in factory-fabricate water resistant wrapping.
B. Handle pumps, controllers, automatic transfer switch, and accessories carefully to avoid damage to material components, enclosure, and finish.
C. Store pumps, controllers, automatic transfer switch, and accessories in a clean, dry space and protect from the weather.
1.5 COORDINATION

A. Coordinate sizes and locations of concrete bases with actual equipment provided.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
   1. Fire Pump:
      a. S.A. Armstrong Limited.
      c. Aurora.
      d. Peerless Pump, Inc.
      e. Patterson Pump Company; a subsidiary of the Gorman-Rupp Company.
   2. Electric Fire Pump Motor:
      a. Lincoln
      b. WEG
      c. Marathon
   3. Jockey Pump:
      a. Grundfos.
      b. Goulds.
      c. S.A. Armstrong Limited.
   4. Fire Pump & Jockey pump Controllers:
      a. Torna Tech (preferred)
      b. Metron.
      c. Master.
      d. Firetril, Inc.

2.2 ELECTRIC FIRE PUMP SYSTEM

A. General:
   1. Provide a complete and operational fire pumping system consisting of horizontal split case electric fire pump, jockey pump, combination fire pump controller/automatic transfer switch, jockey pump controller, flow testing equipment and associated components as specified and as scheduled and shown on Drawings.
   2. Equipment furnished and the complete installation shall be in accordance with NFPA 20. Pump and controller/automatic transfer switch shall bear the UL label.
   3. Refer to schedule on Drawings for pump size and design characteristics. Size of the fire pump is to be based on flow test information.

B. Fire Pump:
   1. Electric driven fire pump shall be a horizontal split case centrifugal type, UL Listed, FM-approved and in compliance with all requirements of NFPA 20.

   2. Pump shall be of bronze-fitted construction with Class 30 cast iron casing, bronze impeller, renewable bronze sleeves and bronze wear rings, packed stuffing boxes and grease lubricated ball bearings in motor.
3. Pump shaft shall be high strength steel.
4. Pump shaft deflection shall not exceed 0.002 inch at the stuffing boxes when operating at ±25 percent of the best operating point.
C. Pump suction flange shall be rated for 125 psi working pressure on inlet side and the discharge flange shall be rated for 250 psi working pressure.
   1. Fire pump shall be factory mounted on a pedestal and connected through a rigid split coupling. Motor shall have a 1.15 service factor shall be sized so as to not exceed the permissible loading limits of NFPA 20 at any point on the pump performance curve.
   2. Locked rotor current shall not exceed the values specified in NFPA 20.
   3. Each motor shall be of such capacity that at rated voltage under any pump operating condition, the full load ampere rating shall not be exceeded except as permitted by the service factor stamped on the motor nameplate.
   4. Motors shall be compatible with the specified motor controller.
   5. Motor electrical characteristics and capacity shall be as scheduled and shown on the Drawings.
D. Fire pump capacity shall be as scheduled on Drawings.
E. Pump shall be hydrostatically tested at 1.5 times the maximum working pressure but in no case less than 250 psig.
F. Shutoff head of fire pump must exceed dead head of fire pump by 10 psi.
G. Accessories:
   1. Provide pump accessories per NFPA 20, including, but not limited to:
      a. 3/4" minimum casing overheat relief.
      b. 3-1/2" dial liquid filled compound suction pressure gauge.
      c. 3-1/2" dial liquid filled discharge pressure gauge.
      d. Eccentric tapered suction reducer.
      e. Concentric tapered discharge increaser.
      f. Base-mounted coupling guard.
      g. Fire pump accessories shall be approved for domestic water use.
      h. All relief drains to floor drains.
H. Factory Testing: Fire pump shall be factory tested and certified in accordance with NFPA 20. Certified performance test results and curves shall be delivered to the Owner for review prior to final fire pump acceptance.
I. Field Service: Pump supplier shall provide pump checkout, start-up, testing and adjusting of system components and shall perform field certification testing on the installed fire pump. The pump supplier shall also train the Owners Engineer in the proper operation and maintenance of the fire pump system.

2.3 FIRE PUMP CONTROLLER/ AUTOMATIC TRANSFER SWITCH

A. The fire pump controller/automatic transfer switch shall be of the combined manual and automatic type, solid state reduced voltage, minimum, 100,000 amp withstand rated, full service, and UL listed and FM approved per NFPA 20 currently enforced. The fire pump controller/automatic transfer switch shall be housed in a NEMA 2 floor-mounted, non-vented enclosure, mounted on a 4" thick concrete pad, and include the following:

1. Isolation switch with a separate NEMA operating handle interlocked with circuit breaker.
2. Time delay circuit breaker set at 300 percent motor full load current with external LED supervised locked rotor protector, instant and time delay trip test switch, and external NEMA operator handle.

3. Differential adjustable pressure switch with energize to start relay.

4. Minimum run timer, 10 minutes non-adjustable, with timed out LED indicator.

5. POWER AVAILABLE and PHASE REVERSAL pilot lights wired to the line side of the motor starter. Indicating lights shall be long life LEDs.

6. Digital ammeter and voltmeter with three phase selector switch, calibrated traceable to NBS standards.

7. Built-in alarm panel and supervisory power pilot light powered from separate reliable 120 VAC power source with lights, bell, silence button, and lamp test switch for indication of PUMP RUNNING, POWER FAILURE, PHASE REVERSAL, TRANSFER SWITCH IN EMERGENCY, ISOLATION SWITCH OPEN. A status panel for start and run demands shall also be included. All indicating lights shall be long life LEDs with lamp test feature.

8. START and STOP pushbuttons for manual control.

9. Two sets each of dry form "C" contacts for remote indication at main fire alarm panel for PUMP RUNNING, POWER FAILURE, PHASE REVERSAL, TRANSFER SWITCH IN EMERGENCY, ISOLATION SWITCH OPEN, and SUPERVISORY POWER FAILURE.

10. Digital paperless alarm recorder.

11. Three non-fused control power transformers, surge protector wired to the load side of the isolation switch with short circuit protection, magnetic contactors with externally operable mechanical start mechanism, and restart delay timer.

12. Automatic transfer switch housed in a separate compartment of the fire pump controller. The transfer switch shall have normal power light and monitors, emergency power light and monitor, test switch, and time delays for generator start, transfer to emergency, and retransfer to normal. All control and monitor components shall be individually serviceable. Unit shall have, as a minimum, a 5 year warranty on parts and a 2 year warranty on labor.

13. The fire pump controller and transfer switch shall be for fire pump scheduled horsepower, UL 1008 listed, 3 phase motor, rating for highest low voltage (i.e. 208, 240, 460) available at site.

B. The fire pump controller/ATS shall also have the following control functions:

1. Provide an interlock between the fire pump controller and ATS that will, when the fire pump is running, inhibit the automatic transfer switch from "TRANSFERRING-TO-NORMAL" power source as long as the fire pump is operating on the "EMERGENCY" source.

2. Interlock control wiring from the Fire Pump Controller to the Fire Pump Automatic Transfer Switch shall be factory-installed.

2.4 FIRE PUMP WIRE

A. Electrical wiring for fire pump, jockey pump and associated controllers shall be installed by a Texas Department of Licensing and Regulations (TDLR) registered and licensed Electrical Contractor.

B. Electrical supply conductors for the fire pump motor shall be sized according to NFPA 70 for Fire Pumps.

C. Electrical feeder conductors for the fire pump motor shall be capable of maintaining integrity and operation for a minimum of two hours under fire exposure condition. Acceptable wire is as follows:

1. Lifeline ® Power Cable RHW-2 Two-Hour Fire Resistive Cable;

2. VitaLink ® MC Two Hour Fire Rated Power Cable.

2.5 FLOW TESTING EQUIPMENT
A. The fire pump supplier shall furnish a FM approved flow meter for testing the fire pump.
B. The flow meter shall be flanged venturi type BV as manufactured by Aeroquip, or approved equal.
C. The installing contractor shall submit approval drawings of the proposed piping layout, which shall conform to the requirements prescribed by the flow meter manufacturer.

2.6 FIRE PUMP TEST HEADER

A. Provide wall mounted ductile iron body outlet fire pump test connection, complete with polished chrome plated exposed surfaces, with plate lettered “Pump Test Connection”.
B. Chrome plated brass NRS hose gate valves, with loose bonnet caps and chains, 2-1/2 inch gate valves with local fire department threads, back outlet, manufactured by Potter Roemer No. 5864-D-2, or approved equal.

2.7 JOCKEY PUMP

A. General: Provide a complete and operational electric driven fire jockey pump and jockey pump controller as specified herein and as scheduled and as shown on the Drawings.
B. Pump:
   1. The jockey pump shall be a centrifugal multi-stage pump with stainless steel impeller and shaft, and cast iron base, and EPDM O-rings.
   2. Jockey pump capacities shall be as scheduled on the Drawings.
   3. Pumps, casings, flanges, and mechanical seals shall be rated for operation with the working pressures scheduled.
C. The jockey pump shall be mounted on a fabricated cast iron drip lip base and shall be close-coupled or flexible coupled to an energy efficient, high efficiency open drip-proof motor. Motor electrical characteristics and capacity shall be as scheduled or listed on the drawings.
D. Relief Valve: Provide the fire jockey pump with a factory-mounted bypass relief valve complete with piping. Set relief valve to relieve at a pressure of 25 psig above design total dynamic head to prevent motor overload and system damage.
E. Jockey Pump Controller: The electric jockey pump controller shall be UL listed and NFPA 70 compliant. Unit shall include a circuit breaker, magnetic starter with overloads, 0-300 psig pressure switch, H-O-A selector switch, minimum run timer, dual fused control transformer, two sets of remote form “C” contacts for pump running, and a NEMA 2 enclosure.
F. Field Service: The pump supplier shall provide pump checkout, start-up, testing and adjusting of system components and shall perform field certification testing on the installed jockey pump. The pump supplier shall also train the Owners Representatives in the proper operation and maintenance of the jockey pump system.

2.8 GROUT

B. Characteristics: Nonshrink and recommended for interior and exterior applications.
C. Design Mix: 5000-psi, 28-day compressive strength.
D. Packaging: Premixed and factory packaged.

2.9 SOURCE QUALITY CONTROL
A. Testing: Test and inspect fire pumps according to UL 448 requirements for "Operation Test" and "Manufacturing and Production Tests."
   1. Verification of Performance: Rate fire pumps according to UL 448.
B. Fire pumps will be considered defective if they do not pass tests and inspections.
C. Prepare test and inspection reports.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine equipment bases and anchorage provisions, with Installer present, for compliance with requirements and for conditions affecting performance of fire pumps.
B. Examine roughing-in for fire-suppression piping systems to verify actual locations of piping connections before fire-pump installation.
C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION

A. Fire-Pump Installation Standard: Comply with NFPA 20 for installation of fire pumps, relief valves, and related components.
B. Equipment Mounting: Install fire pumps and jockey pumps on concrete bases.
   1. Where not otherwise indicated, install 4 inch thick concrete foundation pads for indoor floor-mounted equipment, except where direct floor mounting is allowed by prior approval.
   2. For equipment mounted outdoors, provide concrete foundations a minimum of 6 inches above grade.
   3. Provide reinforcing steel as recommended by the structural engineer and as detailed on the Drawings.
   4. Pour pads on roughened floor slabs, sized so that outer edges extend a minimum of 3 inches beyond equipment. Trowel pads smooth and chamfer edges to a 1-inch bevel. Secure equipment to pads as recommended by the manufacturer.
   5. Anchor Bolts. Furnish and install galvanized anchor bolts for equipment placed on concrete equipment pads or on concrete slabs. Bolts shall be of the size and number recommended by the manufacturer of the equipment and shall be located by means of suitable templates. When equipment is placed on vibration isolators, the equipment shall be secured to the isolator and the isolator secured to the floor, pad, or support as recommended by the vibration isolation manufacturer.
      a. Install dowel rods to connect concrete base to concrete floor. Unless otherwise indicated, install dowel rods on 18" centers around the full perimeter of concrete base.
      b. For supported equipment, install epoxy-coated anchor bolts that extend through concrete base and anchor into structural concrete floor.
      c. Place and secure anchorage devices. Use setting drawings, templates, diagrams, instructions, and directions furnished with items to be embedded.
      d. Install anchor bolts to elevations required for proper attachment to supported equipment.
   6. Setting of Equipment. Provide permanent and temporary shoring, anchoring, and bracing required to make parts stable and rigid; even when such shoring, anchoring, and bracing are not explicitly called for.
      a. Equipment must be leveled and set plumb.
C. Install fire-pump suction and discharge piping equal to or larger than sizes required by NFPA 20.
D. Support piping and pumps separately so weight of piping does not rest on pumps.
E. Install valves that are same size as connecting piping.
F. Install pressure gauges on fire-pump suction and discharge flange pressure-gauge tappings.
G. Install piping hangers and supports, anchors, valves, gages, and equipment supports according to NFPA 20.
H. Electrical Wiring: Install electrical devices furnished by equipment manufacturers but not factory mounted. Furnish copies of manufacturers’ wiring diagram submittals to Electrical Contractor.
I. Wiring Method: Conceal conductors and cables in accessible ceilings, walls, and floors where possible.
J. Engage a factory-authorized service representative to perform startup service.
K. Complete installation and startup checks according to manufacturer’s written instructions.

3.3 ALIGNMENT

A. Align split-case pump and driver shafts after complete unit has been leveled on concrete base, grout has set, and anchor bolts have been tightened.
B. After alignment is correct, tighten anchor bolts evenly. Fill baseplate completely with grout, with metal blocks and shims or wedges in place. Tighten anchor bolts after grout has hardened. Check alignment and make required corrections.
C. Align piping connections.
D. Align pump and driver shafts for angular and parallel alignment and to tolerances specified by manufacturer.

3.4 CONNECTIONS

A. Comply with requirements for piping and valves specified in Section 21 13 13, Wet-Pipe Sprinkler Systems. Drawings indicate general arrangement of piping, fittings, and specialties.
B. Install piping adjacent to pumps and equipment to allow service and maintenance.
C. Connect relief-valve discharge to drainage piping or point of discharge.
D. Connect fire pumps to their controllers.

3.5 IDENTIFICATION

A. Identify system components. Comply with requirements for fire-pump marking according to NFPA 20.

3.6 FIELD QUALITY CONTROL

A. Test each fire pump with its controller as a unit.
B. Manufacturer’s Field Service: Engage a factory-authorized service representative to inspect, test, and adjust components, assemblies, and equipment installations, including connections.
C. Perform tests and inspections.
   1. Manufacturer’s Field Service: Engage a factory-authorized service representative to inspect components, assemblies, and equipment installations, including connections, and to assist in testing.
D. Tests and Inspections:
1. After installing components, assemblies, and equipment including controller, test for compliance with requirements.
2. Test according to NFPA 20 for acceptance and performance testing.
3. Leak Test: After installation, charge system and test for leaks. Repair leaks and retest until no leaks exist.
4. Operational Test: After electrical circuitry has been energized, start units to confirm proper motor rotation and unit operation.
5. Test and adjust controls and safeties. Replace damaged and malfunctioning controls and equipment.
6. Components, assemblies, and equipment will be considered defective if they do not pass tests and inspections.
7. Prepare test and inspection reports.

E. Furnish fire hoses in number, size, and length required to reach storm drain or other acceptable location to dispose of fire-pump test water. Hoses are for tests only and do not convey to Owner.

3.7 DEMONSTRATION

A. Engage a factory-authorized service representative to train Owner's maintenance personnel to adjust, operate, and maintain fire pumps. Coordinate training with Owner.
B. Training of the Owner's operation and maintenance personnel is required in cooperation with the Owner's Representative. Provide competent, factory authorized personnel to provide instruction to operation and maintenance personnel concerning the location, operation, and troubleshooting of the installed systems. The instruction shall be scheduled in coordination with the Owner's Representative after submission and approval of formal training plans.

END OF SECTION
ATTACHMENT E

UNIVERSITY OF NORTH TEXAS SYSTEM

UNDERGROUND FIRE SPRINKLER MAIN

SECTION __________

PART 1 – GENERAL

1.1 RELATED DOCUMENTS
A. Drawings and general provisions of the Contract, including General and Supplemental Conditions and other Division 1 Specification Sections apply to this Section

1.2 SUMMARY
A. This section addresses underground fire-sprinkler main water-service piping (fire mains) and its related components extending from the connection to the public water utility supply tap and into the building, as indicated on the approved design drawings.

1.3 SUBMITTALS
A. Product Data: Manufacturer’s specifications for each type of product to be used on project.
B. Shop Drawings and details indicating locations and depths of underground main and FDC piping; size of pipe, fittings and valves; type of pipe and fittings materials; size, type and location of pressure blocking; type of backfill material(s); type(s) of underground risers; location and type of vaults, backflow devices, flow meters, and yard valves.
C. Copies of the contracting firm's Texas Department of Insurance (TDI) Sprinkler Contractor Registration – General (SCR-G), Responsible Managing Employee - General (RME-G), Responsible Managing employee Underground (RME-U) and the required Texas Department of Insurance’s Liability Insurance Certificate, signed by a Texas Insurance Agent.

1.4 QUALITY ASSURANCE
A. The contracting firm installing the underground fire main shall specialize in the design and installation of underground fire mains. The firm shall have a minimum of three years of verifiable design and installation experience in underground fire mains.
B. Piping materials shall bear label, stamp, or other markings of specified testing agency.
C. The Contractor shall protect all piping materials from contamination during storage, handling and installation. All openings in the pipeline shall be closed with watertight plugs when pipe laying is stopped or at the close of the day's work.
D. Regulatory requirements:
   1. Comply with all requirements of the public water purveyor’s, TCEQ’s and UNTS’ requirements for connecting to the public utility water main.
   2. Comply with NFPA 24 and direction of UNTS for materials, installation, tests, flushing, chlorination, valve and associated appurtenances for fire suppression water service piping.
   3. Comply with UL’s "Fire Protection Equipment Directory", or FM’s approval of fire-service main products.
E. Minimum Required Inspections:
   1. Visual inspection of the installation shall be performed PRIOR TO covering any of the pipe, joints, fittings, valves, ductile iron, thrust blocks, restraints or other metal parts. Where any part
is so covered prior to the visual inspection, the contractor will be required to uncover the part(s) for visual inspection at no cost to Owner.

2. Pipe labeling must be turned upward and visible.
3. Depth of bury of the pipe will be measured and verified.
4. All angle fittings shall be pressure blocked with poured-in-place cement pressure blocks or anchored retaining straps. Pressure and gravity anchor blocks shall be appropriately sized per NFPA 24 or by a Texas Professional Engineer and bear onto undisturbed soil.
5. All metal components being installed underground shall be externally coated for corrosion and poly-wrapped.
6. Hydrostatic Testing of the fire sprinkler underground main is required.
   a. All new fire service mains shall be tested hydrostatically at not less than 200 psi pressure for a minimum or two hours, or at 50 psi pressure in excess of the maximum static pressure when the maximum required static pressure exceeds 150 psi.
   b. A pressure loss of more than 5 psig, or leaks will result in a failed inspection.
   c. The Hydrostatic test shall be made by the installing contractor and witnessed by the Owner’s Representative.
7. Cleaning, disinfecting, flushing and biological testing:
   a. Underground fire mains being connected to any potable water utility line must be disinfected, flushed and pass bacteriological testing prior to being connected to any potable water utility line.
   b. Isolate fire main system from public water utility main with RPZ backflow prevention device.
   c. Clean new piping system and parts of existing system that have been altered, extended or repaired.
      i. Use flushing procedure described in NFPA 24 for flushing of pipe.
      ii. Use disinfecting procedure described in AWWA C651.
      iii. Once disinfecting test is complete and approved, re-flush the underground piping and perform bacteriological testing.
      iv. Samples for bacteriological analysis will only be collected from suitable sampling taps and collected in sterile bottles treated with sodium thiosulfate. Samples shall not be drawn from hoses, fire hydrants or unregulated sources.
8. Flushing, disinfecting, re-flushing and bacteriological sampling of lines shall be done by the installing contractor and witnessed by the Owner’s Representative.
9. Proper methods and equipment to perform the flush must be used. All piping used to flush must be properly secured or restrained. Owner’s Representative must approve of flushing method and equipment.

1.4 COORDINATION
A. Coordinate location of underground fire main with fire sprinkler contractor, UNT Utilities Supervisor and public water purveyor’s requirements. Coordinate FDC location at the direction of the UNT System Fire Marshal.

PART 2 -- PRODUCTS

2.1 WATER PIPING MATERIALS
A. Underground -- Polyvinyl Chloride (PVC) Pipe (NO EXCEPTION)
   2. Pipe greater than 12 inches shall be AWWA Standard C905, Class 200 (DR14).
   3. Color: Blue
B. Riser shall be one-piece Ames Stainless Steel In-Building Riser.

C. Valves:
   1. Gate valves, 12" and under (resilient seated): AWWA C509 Standard
      a. General Description: Valves shall be full opening, iron body, non-rising stem, resilient seated wedge type so designed to have complete ZERO leakage with flow in either direction at pressures up to two hundred (200) psi. The valves shall be designed for throttling if required.
      b. Coating: Valves shall have all internal ferrous metal surfaces coated with an factory-applied AWWA approved epoxy coating to provide a corrosion resistant barrier. The epoxy coating shall be holiday free with a minimum thickness of not less than four (4) mils.
      c. Operating stems: Valves shall have two (2) "O" ring stem seals. Valves shall have the thrust collar and bearing surfaces isolated from the waterway and be provided with continuous lubrication, or they shall be provided with non-corrosive thrust bearings above and below the thrust collar. Where the operating nut exceeds forty eight (48) inches, in depth (below finish grade), a permanently attached extension shall be attached to the valve stem to bring it to the minimum depth of forty-eight (48) inches. All valves shall open by turning to the left and shall have a two (2) inch operating nut or be hand-wheel operated as shown on the plans.
      d. Approved Manufacturers:
         i. Mueller
         ii. Waterous
         iii. Kennedy
         iv. American-Darling
         v. Clow Corporation
         vi. J&S Valves

D. Fittings:
   1. Mechanical Joint: ANSI/WWA-C110/A21.10 or ANSI/WWA-C153/A21.53 Standards
   2. Flange Joint: ANSI/WWA-C111/A21.11 or ANSI/WWA-C153/A21.53 Standards
   5. Bends: ASTM D-3139. Megalug™ retaining glands or equal shall be used on all bends, tees and plugs
   6. Gaskets: ASTM F477 Standards
   7. Bolts, Bolt-studs and "T" Head Bolts:
      a. Length: Shall be such that the ends project ¼ to ½ inch beyond surface of nuts.
      b. Ends: Chamfer or rounded.
      c. Threading: ANSI B1.1 coarse thread series, class 2A Fit. Bolt-studs may be threaded full length. Studs for tapped holes shall be threaded to match threading in holes.
      d. All bolts, bolt-studs and "T" head bolts (ANSI/WWA-C111/A21.11-80) shall be either:
         i. A242 high strength low alloy steel with enhanced atmospheric corrosion resistance (ASTM A325 Type III); or
         ii. Stainless Steel Grade 304 or 316 high strength bolts
      e. All nuts are to be A563 carbon alloy steel; Grade and finish to be C3.
      Exception: All-thread rod to be used in thrust harness only, shall be high strength, corrosion-resistant alloy (ASTM A325 Type II) with hexagonal nuts. Where all-thread rods, nuts and washer are used, they are to be painted with "ROYSTON ROSKOTE MASTIC R28" Rubberized mastic as manufactured by ROYSTON LABORATORIES, INC. of
PART 3 - REACTION RESTRAINTS AND THRUST-BLOCKING

3.1 Restraints and thrust blocking for all piping with mechanical coupling, push-on or mechanical joints, or similar joints subject to internal pressure shall be thrust-blocked or restrained per NFPA 13 for Underground Piping to prevent separation of the joints.

1. Thrust-blocking shall be designed (placement, size, cement mix) by the RME-G or a Texas Registered Professional Engineer and shown on the installation plans.

PART 4 - EXCAVATION

4.1 Excavation: Excavation in general, shall be made in open cut from the surface of the ground and shall be no greater in width and depth than is necessary to permit the proper construction of the work.

A. Excavating and trenching shall be performed in accordance with State of Texas Law and OSHA requirements.
   1. Underground utilities in the area(s) being excavated shall be located, identified and marked.
      a. Contact UNTS Project Manager for locates on UNT property.
      b. Call TEXAS 811 (dial 811), 48 hours in advance of the excavation and request line locates.
   2. No excavation shall take place on City Right-of-Way prior to approval by City.

B. The amount of trench excavation to grade shall not exceed 100 (one hundred) feet from the end of the pipe laying operations and no excavation shall be 300 (three hundred) feet in advance of the completed pipe operations (includes backfilling). At the end of the workday, all trench excavation shall be backfilled or surrounded with substantial chain-link fencing at least 6 (six) feet in height, attached to steel poles that are firmly anchored into the ground. Any landscaping, irrigation system, paving or utility that is disturbed, removed, or damaged during construction shall be replaced to original condition or better by the contractor.

C. Minimum bury depth: Minimum bury depth shall be forty-eight (48) inches from finished grade to the top of the pipe or as directed by the Owner.

D. Backfill Compaction:
   1. Mechanical Method: Compaction and consolidation of the backfill materials shall be backfilled using the native material free of tree roots, large rocks and other deleterious materials, and compacted to 95 percent of maximum density as determined by ASTM D698 in six (6) inch lifts at optimum moisture content (to plus 4 percent above optimum moisture content) in areas subject to vehicular traffic, within 5 feet of and inside building footprints and other paved areas, and in ten (10) inch lifts in any other areas not specified. Where subject to vehicular traffic, within 5 feet of or inside the building footprint and other paved areas, density tests shall be performed at the rate of one test per 300 LF per one foot of trench depth.
   2. Water Jetting Method: Water jetting is not allowed.

END OF SECTION
Pricing

RFP752-18-211976DH

Design and Install Automatic Fire Suppression System Maple Hall

Proposal Breakdown Sheet

1. Labor
   a. Supervision
   b. Mechanics/Techs
   c. Laborers
      Total

   $_______
   $_______
   $_______
   $_______

2. Overhead Costs

   $_______

3. Job Costs

   $_______

4. Miscellaneous Cost (provide detailed breakdown on a separate sheet)

   $_______

5. TOTAL

   $_______

6. Can Contractor Meet August 10th Completion Date? (Y/N)

   ______

7. Payment and Performance Bond Cost

   $_______

Company Name

Authorized Signature

Date
In accordance with Texas Government Code 2253, a Payment Bond is required for all public works agreements over $25,000.00 and a Performance Bond for all public works agreements over $100,000.00. It is estimated that this agreement will be over $100,000.00 so a Payment and Performance Bond is required. Please provide the amount as a total bond cost. The Owner will pay bonding costs to the awarded vendor as a pass through amount with proper documentation provided along with an invoice.

Payment and Performance Bond cost: $_________________

LIQUIDATED DAMAGES

Liquidated damages will be in accordance with Division 00, Section 007000 "UGC".
ATTACHMENT
QUALIFICATIONS
RFP752-18-211976DH

ITEMS I THROUGH V TO BE SUBMITTED WITH PROPOSAL

Proposer's Name: __________________________________________________________

Address: __________________________________________________________________

City, State, Zip: ____________________________________________________________

Telephone No.: __________________________________ Fax No.: ____________________

State Comptroller Vendor Identification Number: ________________________________

1. GENERAL

A. Qualification information submitted shall be applicable only to the company entity or branch that will perform this Work.

B. Attach your Project Organization Chart and resumes of individuals who would be assigned to this project.

C. Proposed construction schedule (Bar chart acceptable).

2. HISTORY

A. □ Corporation  □ Partnership  □ Sole Proprietorship  □ Joint Venture

   State of Incorporation: ________________________________________________

B. In continuous business since: ____________________________

   Remarks (if required):

   __________________________________________________________

   __________________________________________________________

   __________________________________________________________

C. Corporate Officers, Partners or Owners of Organization:

   Name  Branch Manager  Telephone Number

   __________________________________________________________

   __________________________________________________________

   __________________________________________________________

   __________________________________________________________

   __________________________________________________________
D. Check box(es) corresponding to the nature of your business:

☐ Large Business (100 or more employees)
☐ Small Business (fewer than 100 employees)
☐ HUB Business
☐ Other (Define) ____________________________

E. Has your organization ever defaulted or failed to complete any work awarded?

☐ Yes  ☐ No

If yes, stipulate where and why: _______________________________________

_______________________________________________________________________

_______________________________________________________________________

F. Has your organization ever paid liquidated damages or a penalty for failure to complete a contract on time?

☐ Yes  ☐ No

If yes, stipulate where and why: _______________________________________

_______________________________________________________________________

_______________________________________________________________________

3. EXPERIENCE

A. Normally performs ____________ % of the work with own forces. List trades below:

_______________________________________________________________________

_______________________________________________________________________

B. Propose to perform ____________ % of the work for project with own forces. List trades below:

_______________________________________________________________________

_______________________________________________________________________

C. List all major projects of your organization has in-progress. If more space is needed attach pages to this form using format below identified by item and sub-item:

Name and Location of Project: ________________________________

_______________________________________________________________________

_______________________________________________________________________

Contract Amount: ________________________________

Percent Complete: ________________________________

Project Completion Date: ________________________________
Owner Reference Contact with Address and Telephone Number:


Architect Reference Contact with Address and Telephone Number:


D. Total number and dollar amount of contracts currently in progress:
   Number $  

E. Largest contract currently in-process:  
   Anticipated date of completion:  

F. Volume of work completed over last 5 years: (Through 12/31)
   Year $  
      $  
      $  
      $  
      $  
      $  

G. List three (3) major projects of similar scope your organization has completed in the last five (5) years with completion date and references. Other projects of particular significance may also be listed.
   i. Name and Location of Project:  
      Contract Amount:  
      Percent Complete:  
      Project Completion Date:  
   Owner Reference Contact with Address and Telephone Number:
   Name Telephone Number
   Address
   Address
## Architect Reference Contract with Address and Telephone Number:

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<th>Project Completion Date:</th>
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### Owner Reference Contact with Address and Telephone Number:

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## Architect Reference Contract with Address and Telephone Number:

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### iii. Name and Location of Project:

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### Owner Reference Contact with Address and Telephone Number:

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Architect Reference Contract with Address and Telephone Number:

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Address

Address

H. Has your organization had any claims and/or litigations in the last 5 years?

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

I. If yes, list project name, date or project, owner, owner’s contact person with telephone number and summary explanation.

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

4. SAFETY PROGRAM

A. List your organization’s Workers Compensation Experience Modification Rate (EMR) for the last three years, as obtained from your insurance agent.

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<th>EMR</th>
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B. Complete matrix for the three past years, as obtained from OSHA N. 200 Log:

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<td>Number of injuries and illness</td>
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<td>Number of recordable cases</td>
</tr>
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<td>Number of fatalities</td>
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C. Are regular project safety meetings held for Field Supervisor(s)?
   ☐ Yes  ☐ No
   If yes, frequency:
   ☐ Weekly  ☐ Bi-monthly  ☐ Monthly  ☐ As Needed

D. Are project safety inspections conducted? ☐ Yes  ☐ No
   If yes, who performs inspection? ____________________________
   How often? ____________________________

E. Does organization have a written safety program? ☐ Yes  ☐ No
   If yes, provide a copy. It will become a compliance document upon contract award.

F. Does your organization have a safety orientation program for new employees? ☐ Yes  ☐ No
   For employees promoted to Field Supervisors? ☐ Yes  ☐ No
   If yes, does your Supervisor Safety Program include instructions on the following:
   Safety work practices Yes ☐ No ☐
   Tool box safety meetings Yes ☐ No ☐
   First aid procedures Yes ☐ No ☐
   Accident investigation Yes ☐ No ☐
   Fire protection Yes ☐ No ☐
   New worker's orientation Yes ☐ No ☐

5. FINANCIAL

A. Attach an audited Financial Statement, including a profit and loss statement and other supporting schedules. If the last audited statement is over 12 months old, include the most current unaudited statement.

B. Surety Company: ____________________________
   Agent: ____________________________
   Name of Contact: ____________________________ Telephone No. ____________________________

C. Bonding Capacity: ____________________________
   Limit per project: ____________________________
   Unencumbered bonding capacity: ____________________________

D. Trade References (Additional references may be included as attached sheets.)
   i. Organization: ____________________________
      Agent: ____________________________
      Name of Contract: ____________________________ Telephone No. ____________________________
   ii. Organization: ____________________________
      Agent: ____________________________
      Name of Contract: ____________________________ Telephone No. ____________________________
iii. Organization: ________________________________
    Agent: ________________________________
    Name of Contract: ____________________ Telephone No. __________

iv. Organization: ________________________________
    Agent: ________________________________
    Name of Contract: ____________________ Telephone No. __________

E. Bank Reference (Additional references may be included as attached sheets).

i. Organization: ________________________________
    Agent: ________________________________
    Name of Contract: ____________________ Telephone No. __________

ii. Organization: ________________________________
    Agent: ________________________________
    Name of Contract: ____________________ Telephone No. __________

iii. Organization: ________________________________
    Agent: ________________________________
    Name of Contract: ____________________ Telephone No. __________

Name of Contract: ____________________ Telephone No. __________
GENERAL CONSTRUCTION AGREEMENT

This Agreement made and entered into the {Day} day of {Month}, {Year}, by University of North Texas System, 1155 Union Circle #311040, Denton, Texas 76203-5017 ("Owner"), and by {Firm Name} ("Contractor"), duly authorized by the laws of the State of Texas to act as contractor for construction, rehabilitation, alteration, or repair services. The capitalized term “Party” refers to either Owner or Contractor individually and the term “Parties” refers to Owner and Contractor collectively.

ARTICLE 1
PROJECT

1.1 Owner does hereby engage Contractor and Contractor does hereby agree to provide all labor, materials, equipment, and services necessary to complete the Work, all of which shall be provided in full accord with and reasonably inferable from the Contract Documents to construct the {Project Name} ("Project"), on the {Campus}, to be completed in accordance with the requirements herein, and generally described as follows:

{General Description of the Project}

1.2 Contractor has overall responsibility for and shall furnish all materials, equipment, tools, and labor as necessary or reasonably inferable to complete the Work, or any phase of the Work, in accordance with Owner’s requirements and the terms of the Contract Documents.

ARTICLE 2
CONTRACT DOCUMENTS

2.1 Owner, through its Design Professional, shall provide all architectural and engineering design services necessary for the completion of the Work. The Drawings, Specifications, and addenda have been prepared for Owner by {Architect/Engineer} ("Design Professional").

2.2 The Contract Documents consist of:

2.2.1 This Agreement and all exhibits and attachments listed, contained or referenced in this Agreement;

2.2.2 The Uniform General Conditions for Construction and Design Contracts for the University of North Texas System ("Uniform General Conditions" or "UGC");

2.2.3 Supplementary General Conditions or Special Conditions, if any;

2.2.4 Owner’s Specifications;

2.2.5 All Addenda issued prior to the Effective Date of this Agreement;

2.2.6 All Change Orders issued after the Effective Date of this Agreement;

2.2.7 The Drawings, Specifications, details and other documents developed by Design Professional to describe the Project and accepted by Owner;

2.2.8 The Drawings and Specifications developed or prepared by Owner’s other consultants, if any, and accepted by Owner; and

2.2.9 The Historically Underutilized Business (HUB) subcontracting plan submitted or amended by Contractor and approved by Owner for this Project.
2.3 The Contract Documents form the entire and integrated Contract between Owner and Contractor and supersede all prior negotiations, representations or agreements, written or oral.

ARTICLE 3
DEFINITIONS

3.1 Terms, words, and phrases used in the Contract Documents shall have the meanings given in the Uniform General Conditions.

3.2 The following terms, words, and phrases used in the Contract Documents shall have the following meanings, and if more specific than the definition given in the Uniform General Condition, the more specific given in this Agreement shall control.

3.2.1 “Design Professional” means licensed professionals, or firms employing such licensed professionals, engaged by Owner as independent architects or engineers for design of all or a portion of the Project and to prepare Drawings and Specifications for the construction of the Project. More than one such professional or firm may be employed by Owner, and all such professionals or firms, regardless of number, are referred to in the singular herein.

3.2.2 “Self-Perform” includes Contractor, any division of Contractor, any separate entity that is wholly or partially owned by Contractor, or any of their employees or persons related to employees within the second degree of consanguinity or affinity.

3.2.3 “Subcontractor” means a person or entity who has an agreement with Contractor to perform any portion of the Work. The term Subcontractor does not include the Design Professional or any person or entity hired directly by Owner.

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

ARTICLE 4
CONTRACTOR’S RESPONSIBILITIES

4.1 Contractor’s responsibilities include but are not limited to supervision, furnishing labor, materials, equipment, employment of and responsibility for subcontractors, payment of taxes where applicable, patent fees, royalties, license fees, permit fees, and other governmental charges.

4.2 Contractor represents that it is an independent contractor and that it is familiar with the type of Work it is undertaking. Contractor shall furnish construction administration and management services and use Contractor’s diligent efforts to perform the Work in an expeditious manner consistent with the Contract Documents.

4.3 Neither Contractor nor any of its agents or employees shall act on behalf of or in the name of Owner except as provided in this Agreement or unless authorized in writing by Owner’s Representative.

4.4 Contractor shall be responsible for the supervision and coordination of the Work, including the construction means, methods, techniques, sequences, and procedures utilized, unless the
Contract Documents give other specific instructions. In such case, Contractor shall not be liable to Owner for damages resulting from compliance with such instructions unless Contractor recognized and failed to timely report to Owner any error, inconsistency, omission, or unsafe practice that it discovered in the specified construction means, methods, techniques, sequences, or procedures.

4.5 Contractor shall perform Work only within locations allowed by the Contract Documents, applicable laws and regulations, and applicable permits. Laws and regulations include federal, state, and local laws, ordinances, codes, rules, and regulations applicable to the Work with which the Constructor must comply that are enacted as of the Agreement date.

4.6 Owner may perform work at the site directly or by others. Contractor and Owner shall coordinate the activities of all forces at the site and agree upon fair and reasonable schedules and operational procedures for site activities.

4.7 Contractor shall: (a) proceed with the Work in a manner that does not hinder, delay, or interfere with the work of Owner or others or cause the work of Owner or others to become defective; (b) afford Owner or others reasonable access for introduction and storage of their materials and equipment and performance of their activities; and (c) coordinate Contractor's Work with the work of Owner and others.

4.8 Before proceeding with any portion of the Work affected by the construction or operations of Owner or others, Contractor shall give Owner prompt written notification of any defects Contractor discovers in Owner's or other's performance or work, which will prevent the proper execution of the Work. Contractor's obligations in this subsection do not create a responsibility for the performance or work of Owner or others, but are for the purpose of facilitating the Work. If Contractor does not notify Owner of defects interfering with the performance of the Work, Contractor acknowledges that the performance or work of Owner or others is not defective and is acceptable for the proper execution of the Work. Following receipt of written notice from Contractor of defects, Owner shall promptly inform Contractor what action, if any, Contractor shall take with regard to the defects.

4.9 Prior to commencing the Work, Contractor shall examine and compare the Drawings and Specifications with information furnished by Owner that are Contract Documents, relevant field measurements made by Contractor, and any visible conditions at the site affecting the Work.

4.10 Should Contractor discover any discrepancies, errors, omissions, or inconsistencies in the Contract Documents, Contractor shall promptly report them to Owner. It is recognized, however, that Contractor is not acting in the capacity of a licensed design professional, and that Contractor's examination is to facilitate construction and does not create an affirmative responsibility to detect discrepancies, errors, omissions, or inconsistencies or to ascertain compliance with applicable laws and regulations, including building codes. Following receipt of written notice from Contractor of defects, Owner shall promptly inform Contractor what action, if any, Contractor shall take with regard to the defects.

4.10.1 Contractor shall have no liability for discrepancies, errors, omissions, or inconsistencies discovered under this section unless Contractor fails to promptly report a discovered or apparent discrepancy, error, omission, or inconsistency to Owner. This does not relieve Contractor of responsibility for its own discrepancies, errors, inconsistencies, or omissions.

4.11 Contractor shall provide competent supervision for the performance of the Work. Before commencing the Work, Contractor shall notify Owner in writing of the name and qualifications of its proposed superintendent(s) and project manager, so Owner may review the individual's qualifications. If, for reasonable cause, Owner refuses to approve the individual, or withdraws its approval after giving it, Contractor shall name a different superintendent or project manager for Owner's review. Any disapproved superintendent shall not perform in that capacity thereafter at the site. Contractor's superintendent(s) and project manager shall possess full authority to receive instructions from Owner and to act on those instructions. If Contractor changes its
superintendent(s) or project manager or their authority, Contractor shall immediately notify Owner in writing.

4.12 Contractor shall be responsible to Owner for acts or omissions of parties or entities performing portions of the Work for or on behalf of Contractor or any of its Subcontractors.

4.13 Contractor shall permit only qualified persons to perform the Work. Contractor shall enforce safety procedures, strict discipline, and good order among persons performing the Work.

4.14 Contractor shall submit to Owner and the Design Professional all shop drawings, samples, product data, and similar submittals required by the Contract Documents for review and approval. Submittals shall be submitted in accordance with the Uniform General Conditions. Contractor shall be responsible for the accuracy and conformity of its submittals to the Contract Documents requirements.

4.15 Contractor acknowledges that it has visited, or has had the opportunity to visit, the site to visually inspect the general and local conditions which could affect the Work.

4.16 The Work shall be executed in accordance with the Contract Documents in a competent manner. All materials used in the Work shall be furnished in sufficient quantities to facilitate the proper and expeditious execution of the Work.

4.17 If the Work includes installation of materials or equipment furnished by Owner or others, it shall be the responsibility of Contractor to examine the items so provided and thereupon handle, store, and install the items, unless otherwise provided in the Contract Documents, with such skill as to provide a satisfactory and proper installation. Loss or damage due to acts or omissions of Contractor shall be the responsibility of Contractor and may be deducted from any amounts due or to become due Contractor. Any defects discovered in such materials or equipment shall be reported at once to Owner. Following receipt of written notice from Contractor of defects, Owner shall promptly inform Contractor what action, if any, Contractor shall take with regard to the defects.

4.18 Contractor shall have overall responsibility for safety precautions and programs in the performance of the Work. However, such obligation does not relieve Subcontractors of their responsibility for the safety of persons or property in the performance of their work or for compliance with applicable laws and regulations.

4.18.1 Contractor shall seek to avoid injury, loss, or damage to persons or property by taking reasonable steps to protect: (a) its employees and other persons at the site; (b) materials and equipment stored at onsite or offsite locations for use in the Work; and (c) property located at the site and adjacent to Work areas, whether or not the property is part of the site.

4.18.2 Contractor's site safety representative shall have a duty to prevent accidents. The safety representative shall perform their duty in accordance with the Uniform General Conditions.

4.18.3 If Owner deems any part of the Work or site unsafe, Owner, without assuming responsibility for Contractor's safety program, may require Contractor to stop performance of the Work or take corrective measures satisfactory to Owner, or both. If Contractor does not adopt corrective measures, Owner may perform them and deduct their cost from the Contract Price. If Owner determines that a particular person does not follow safety procedures, or is unfit or unskilled for the assigned Work, Contractor shall immediately reassign the person upon receipt of Owner's written notice to do so. Contractor agrees to make no claim for damages, for an increase in the Contract Price or for a change in the Contract Time based on Contractor's compliance with Owner's reasonable request.
4.19 If the conditions encountered at the site are: (a) subsurface or other physical conditions materially different from those indicated in the Contract Documents; or (b) unusual and unknown physical conditions materially different from conditions ordinarily encountered and generally recognized as inherent in Work provided for in the Contract Documents, then Contractor shall stop affected Work after the condition is first observed and give prompt written notice of the condition to Owner and the Design Professional.

4.20 Contractor shall regularly remove debris and waste materials at the site resulting from the Work. Prior to discontinuing Work in an area, Contractor shall clean the area and remove all rubbish and its construction equipment, tools, machinery, waste, and surplus materials. Contractor shall minimize and confine dust and debris resulting from construction activities. At the completion of the Work, Contractor shall remove from the site all construction equipment, tools, surplus materials, waste materials, and debris.

4.20.1 If Contractor fails to commence compliance with cleanup duties within two (2) Business Days after written notification from Owner of non-compliance, Owner may implement appropriate cleanup measures without further notice and shall deduct the reasonable costs from any amounts due or to become due Contractor in the next payment period.

4.21 Contractor shall facilitate the access of Owner, Design Professional, and others to Work in progress.

4.22 Contractor shall comply with all applicable laws and regulations at its own costs. Contractor shall be liable to Owner for all loss, cost, or expense attributable to any acts or omissions by Contractor, its employees, subcontractors, and agents for failure to comply with applicable laws and regulations, including fines, penalties, or corrective measures.

4.23 Contractor warrants that all materials and equipment shall be new unless otherwise specified, of good quality, in conformance with the Contract Documents, and free from defective workmanship and materials. Contractor shall furnish satisfactory evidence of the quality and type of materials and equipment furnished. Contractor further warrants that the Work shall be free from material defects not intrinsic in the design or materials required in the Contract Documents. Contractor's warranty shall commence on the Date of Substantial Completion of the Work.

4.23.1 Contractor shall obtain from its Subcontractors and Material Suppliers any special or extended warranties required by the Contract Documents. Contractor's liability for such warranties shall be limited to a one-year period. After that period, Contractor shall provide reasonable assistance to Owner in enforcing the obligations of Subcontractors or Material Suppliers for such extended warranties.

4.23.2 If, prior to Substantial Completion and within one year after the date of Substantial Completion of the Work, any Work not complying with the contract requirements (Defective Work) is found, Owner shall promptly notify Contractor in writing. Unless Owner provides written acceptance of the condition, Contractor shall promptly correct the Defective Work at its own cost and time and bear the expense of additional Work required for correction of any Defective Work for which it is responsible.

4.23.3 With respect to any portion of Work first performed after Substantial Completion, the one-year period shall be extended by the period between Substantial Completion and the actual performance of the later Work. Correction periods shall not be extended by corrective work performed by Contractor.

4.23.4 If Contractor fails to correct Defective Work within a reasonable time after receipt of written notice from Owner prior to final payment, Owner may correct it in accordance with Owner's right to carry out the Work. In such case, an appropriate Change Order shall be issued deducting the cost of correcting the Defective Work from payments.
then or thereafter due Contractor. If payments then or thereafter due Contractor are not sufficient to cover such amounts, Contractor shall pay the difference to Owner.

4.23.5 If Contractor's correction or removal of Defective Work causes damage to or destroys other completed or partially completed Work or existing buildings, Contractor shall be responsible for the cost of correcting the destroyed or damaged property.

ARTICLE 5
SUBCONTRACTS

5.1 With the prior written approval of Owner, Contractor may subcontract such services as Contractor deems necessary to meet its obligations under this Agreement. Subcontractors shall be qualified and experienced in the type of work they will be performing. Owner shall have the right to reject any subcontractor but such right shall not relieve the responsibility of Contractor for his work and the work of the subcontractors. Contractor expressly assumes such responsibility and liability.

5.2 Contractor shall be responsible for the management of the Subcontractors in the performance of the Work.

5.3 If this Agreement is terminated, each subcontract agreement shall be assigned by Contractor to Owner, subject to the prior rights of any surety, provided that: (a) this Agreement is terminated by Owner pursuant to Section 11.1; and (b) Owner accepts such assignment, after termination by notifying the Subcontractor and Contractor in writing, and assumes all rights and obligations of Contractor pursuant to each subcontract agreement.

5.4 Contractor agrees to bind every Subcontractor and material supplier (and require every Subcontractor to so bind its sub-subcontractors and material suppliers) to all provisions of this Agreement as they apply to the Subcontractors’ or material Suppliers’ portions of the Work.

ARTICLE 6
OWNER'S RESPONSIBILITIES

6.1 Owner shall provide Contractor with reasonable access to the site to assist Contractor in its performance of all tasks reasonably necessary for the completion of Work.

6.2 Owner hereby expressly reserves the right from time to time to designate by notice to Contractor one or more representatives to act partially or wholly for Owner in connection with the performance of Owner’s obligations hereunder. Contractor shall act only upon instructions from such representatives unless otherwise specifically notified to the contrary.

6.3 Owner's representative shall: (a) be fully acquainted with the Project, Work, and site; (b) agree to furnish the information and Work required of Owner in a timely manner; and (c) have the authority to bind Owner (to the extent of their authority) in all matters requiring Owner's approval or authorization. If Owner changes its representative, Owner shall promptly notify Contractor in writing.

6.4 Owner will furnish the site plan to document existing conditions to the extent requested by Contractor and as reasonably necessary for the completion of Contractor's Work.

6.5 Owner shall examine, or cause its representative(s) to examine documents submitted by Contractor and render decisions pertaining thereto promptly or within a reasonable time to avoid unreasonable delay in the progress of Contractor’s Work. Review and approval of a document by Owner shall not waive the contractual responsibility or liability of Contractor.

6.6 Owner shall furnish information required as expeditiously as necessary for the orderly progress of Contractor's Work.
6.7 Except for those permits and fees related to the Work which are the responsibility of Contractor, Owner shall secure and pay for all other permits, approvals, easements, assessments, and fees required for the development, construction, use or occupancy of permanent structures or for permanent changes in existing facilities, including the building permit.

ARTICLE 7
COMMENCEMENT AND COMPLETION

7.1 Owner shall provide a Notice to Proceed in which a date for commencement of the Work to be performed shall be stated. Contractor shall achieve Substantial Completion of the work no later than (Written Number) ((#)) calendar days from the date of the Notice to Proceed, subject to extension only by approved Change Orders. Final Completion, including correction of deficiencies, shall be achieved no later than thirty (30) calendar days from the date of the Substantial Completion. Contractor understands that the Substantial Completion and Final Completion dates shall not be extended regardless of weather, strikes, or for any other reason unless Change Orders so approve. The time set forth for completion of the Work is an essential element of this Agreement.

7.1.1 Time is of the essence for this Agreement and the Contract Documents.

7.1.2 Unless instructed by Owner in writing, Contractor shall not knowingly commence the Work before the effective date of insurance to be provided by Contractor.

7.2 Contractor shall submit to Owner and Design Professional, a Schedule of the Work showing the dates on which Contractor plans to commence and complete various parts of the Work, including dates on which information and approvals are required from Owner. Contractor shall comply with the approved Schedule of the Work, unless otherwise directed by Owner. Contractor shall update the Schedule of the Work on a monthly basis or at appropriate intervals as required by the conditions of the Work and the Project.

7.2.1 Owner may determine the sequence in which the Work shall be performed, provided it does not unreasonably interfere with the Schedule of the Work. Owner may require Contractor to make reasonable changes in the sequence at any time during the performance of the Work in order to facilitate the performance of work by Owner or others. To the extent such changes increase Contractor's costs or time, the Contract Price and Contract Time shall be equitably adjusted.

ARTICLE 8
COMPENSATION AND PAYMENT

8.1 In full consideration of Contractor's performance of the Work and services under this Agreement, Owner shall pay to Contractor, subject to additions and deductions provided herein, the sum of (Amount) and No/100 Dollars ((#.00), in periodic progress payments as hereinafter provided.

The Contract Sum is the total of the following:

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
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<tbody>
<tr>
<td>Base Bid</td>
<td>$(Amount)</td>
</tr>
<tr>
<td>Alternate 1 -</td>
<td>$(Amount)</td>
</tr>
<tr>
<td>Alternate 2 -</td>
<td>$(Amount)</td>
</tr>
<tr>
<td>Alternate 3 -</td>
<td>$(Amount)</td>
</tr>
<tr>
<td>Payments and Performance Bonds</td>
<td>$(Amount)</td>
</tr>
</tbody>
</table>

TOTAL $(Amount)
8.1 On a monthly basis and subject to procedures set forth in the Uniform General Conditions, Contractor shall submit an Application for Payment, in accordance with Division 01 Specifications. Supporting documentation should include, without limitation: a certified statement as to the Work completed and current schedule of values; a project-to-date job cost report and a current period job cost report; a breakdown of materials and labor; supporting subcontractor invoices and sworn statements and waivers of lien for all amounts paid to Contractor for materials, labor, equipment, and other costs; and copies of third-party invoices, receipts, and other third-party supporting documentation.

8.2 Based on the Application for Payment, Owner shall make a periodic progress payment to Contractor for the cost of labor, materials, and equipment incurred by Contractor in relation to the Work during the previous month, except that the percentage of the total amount paid shall not exceed the percentage amount of the Work that has been completed as determined in the reasonable judgment of Owner. Upon verification of costs incurred and percentage of Work completed, Owner will make payment to Contractor within thirty (30) working days or will notify Contractor of any objection to the invoiced amount.

8.3 Owner shall have the right to withhold from payments due Contractor such sums as are necessary to protect Owner against any loss or damage which may result from negligence by Contractor or failure of Contractor to perform Contractor's obligations under this Agreement as set forth in the Uniform General Conditions.

8.4 The final request for payment shall not be made until Contractor delivers to Owner a complete release of all liens arising out of this Agreement and an affidavit that so far as Contractor has knowledge or information, the release includes and covers all materials and Work over which Contractor has control for which a lien could be filed, but Contractor may, if any agent or consultant refuses to furnish a release in full, furnish a bond satisfactory to Owner to indemnify Owner against any lien. If any lien remains unsatisfied after all payments are made, Contractor shall refund to Owner all moneys Owner may be compelled to pay in discharging such lien, including all costs and reasonable attorneys' fees, and Owner shall have all remedies at law and in equity.

8.5 In addition to the procedures contained in the Uniform General Conditions, Owner shall have no obligation to make Final Payment until a final accounting of the Work has been submitted by Contractor and has been verified by Owner or Owner's representatives. The aggregate total of payments to Contractor shall not exceed the total of the actual Work as verified by Owner or Owner's representative from Contractor's final accounting, as certified for payment in accordance with the Agreement. If payments made to Contractor exceed that which is due and owing pursuant to this Article, then Contractor shall promptly refund such excess to Owner.

8.6 Nothing contained herein shall require Owner to pay Contractor an aggregate amount exceeding the Agreement or to make payment if in Owner's belief the cost to complete the Work would exceed the Agreement, less previous payments to Contractor. Any provision to the contrary notwithstanding, Owner shall not be obligated to make any payment (whether a periodic progress payment or Final Payment) to Contractor hereunder if any one or more of the following conditions precedent exist:

8.6.1 Contractor is in breach or default under this Agreement;

8.6.2 Any part of such payment is attributable to services which are not performed in accordance with this Agreement; provided, however, such payment shall be made as to the part thereof attributable to services which were performed in accordance with this Agreement;

8.6.3 Contractor has failed to make payments promptly to consultants or other third parties used in connection with the services for which Owner has made payment to Contractor;
8.6.4 If Owner, in its good faith judgment, determines that the portion of the compensation then remaining unpaid will not be sufficient to complete the services in accordance with this Agreement, no additional payments will be due Contractor hereunder unless and until Contractor, at Contractor's sole cost, performs a sufficient portion of the remaining services so that such portion of the compensation then remaining unpaid is determined by Owner to be sufficient to so complete the then remaining services; or

8.6.5 To the extent Liquidated Damages or actual damages are imposed by Owner for failure of Contractor to complete the Work within the Contract Time.

8.7 No partial payment made hereunder shall be, or shall be construed to be, final acceptance or approval of that part of the services to which such partial payment relates, or a release of Contractor of any Contractor's obligations hereunder or liabilities with respect to such services.

8.8 Contractor shall promptly pay all bills validly due and owing for labor and material performed and furnished by others in connection with the performance of the construction of the Work.

8.9 Owner shall have the right to verify and audit the details set forth in Contractor's billings, certificates, accountings, cost data, and statements, either before or after payment therefor, by: (a) inspecting the books and records of Contractor during normal business hours; (b) examining any reports with respect to this Project; (c) interviewing Contractor's business employees; (d) visiting the Project site; and (e) other reasonable action.

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

8.11 UNTS shall be billed in accordance with Chapter 2251 of the Texas Government Code and interest, if any, on past due payments shall accrue and be paid in accordance with Chapter 2251 of the Texas Government Code. Payee must be in good standing, not indebted to the State of Texas, and current on all taxes owed to the State of Texas for payment to occur.

8.12 All invoices submitted for payment must include a HUB Progress Assessment Report (PAR). The PAR should document compliance with the HUB Plan.

**ARTICLE 9**

**BONDS**

9.1 Prior to commencing work, Contractor shall provide performance and payment bonds in accordance with the requirements set forth in the Uniform General Conditions. The penal sum of the payment and performance bonds shall be for 100% of the Contract Sum. Any increase in the Contract Price shall require a rider to the Bonds increasing penal sums accordingly. Contractor shall endeavor to keep its surety advised of changes potentially impacting the Contract Time and Contract Price. Owner will pay Contractor the bonding costs as a pass through amount not to exceed {Amount} ($(#).00) with proper documentation provided along with an Application for Payment. No retainage is to be withheld with respect to the cost of the required bonds.

9.2 Contractor shall not cause or allow any of its bonds to be canceled nor permit any lapse during the term of this Agreement.
ARTICLE 10
INDEMNITY AND INSURANCE

10.1 Contractor covenants and agrees to FULLY INDEMNIFY and HOLD HARMLESS Owner, and its component institutions, Regents, elected and appointed officials, directors, officers, employees, agents, representatives, and volunteers, individually or collectively, from and against any and all costs, claims, liens, damages, losses, expenses, fees, fines, penalties, proceedings, actions, demands, causes of action, liability, and suits of any kind and nature, including but not limited to, personal or bodily injury, death, or property damage, made upon Owner directly or indirectly arising out of, resulting from, or related to Contractor’s activities under the Contract, including any acts or omissions of Contractor, or any director, officer, employee, agent, representative, consultant, or Subcontractor of Contractor, and their respective directors, officers, employees, agents, and representatives while in the exercise of performance of the rights or duties under the Contract. The indemnity provided for in this paragraph does not apply to any liability resulting from the negligence of Owner or separate contractors in instances where such negligence causes personal injury, death, or property damage. IN THE EVENT CONTRACTOR AND OWNER ARE FOUND JOINTLY LIABLE BY A COURT OF COMPETENT JURISDICTION, LIABILITY WILL BE APPORTIONED COMPARATIVELY IN ACCORDANCE WITH THE LAWS OF THE STATE OF TEXAS, WITHOUT WAIVING ANY GOVERNMENTAL IMMUNITY AVAILABLE TO THE STATE UNDER TEXAS LAW AND WITHOUT WAIVING ANY DEFENSES OF THE PARTIES UNDER TEXAS LAW.

10.1.1 The provisions of this indemnification are solely for the benefit of the parties hereto and not intended to create or grant any rights, contractual or otherwise, to any other person or entity.

10.1.2 Contractor shall promptly advise Owner in writing of any claim or demand against Owner or against Contractor known to Contractor related to or arising out of Contractor’s activities under this Contract.

10.2 Insurance.

10.2.1 Contractor shall not commence work under the Agreement until it has obtained all insurance required in accordance with this Agreement and the Uniform General Conditions and until such insurance has been reviewed and approved in writing by Owner. Approval of the insurance by Owner shall not relieve nor decrease the liability of Contractor hereunder. Prior to commencing any of the Preconstruction Services, Contractor shall provide evidence as required by this Article that demonstrates coverage for Employer’s Liability, Workers’ Compensation, Commercial General Liability, and Automobile Liability as set forth in the Uniform General Conditions are in full force and effect. Prior to commencing any construction work, Builder’s Risk as set forth in the Uniform General Conditions shall be in full force and effect and shall be increased as necessary for each separate bid package, phase, or Stage of construction prior to the commencement of construction for that package, phase, or Stage.

10.2.2 Contractor shall include Owner, {Campus} and the Board of Regents of the University of North Texas System as loss payees and Additional Insured’s on General Liability and Business Automobile Liability. The Commercial General Liability, Business Automobile Liability, and Worker’s Compensation policies shall include a waiver of subrogation in favor of Owner.

10.2.3 Insurance policies required under this Article shall contain a provision that the insurance company must give Owner written notice transmitted in writing: (a) thirty (30) calendar days before coverage is non-renewed by the insurance company and (b) within ten (10) business days after cancellation of coverage by the insurance company. Prior to start of Services and upon renewal or replacement of the insurance policies, Contractor shall furnish Owner with certificates of insurance until one year
after acceptance of the Services. If any insurance policy required under this Article is not to be immediately replaced without lapse in coverage when it expires, exhausts its limits, or is to be cancelled, Contractor will give Owner prompt written notice upon actual or constructive knowledge of such condition.

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

10.2.5 Owner shall be entitled, upon request, and without expense, to receive copies of the policies, all endorsements thereto and documentation to support costs and may make any reasonable requests for deletion, or revision or modification of particular policy terms, conditions, limitations, exclusions and costs, except where policy provisions are established by law or regulation binding upon either of the Parties or the underwriter of any of such policies. Any price credits determined in the insurance review will be refundable to Owner. Actual losses not covered by insurance as required by this Article shall be paid by the Contractor.

ARTICLE 11
TERMINATION AND SUSPENSION

11.1 With or without cause, Owner reserves and has the right to terminate this Agreement or to cancel, suspend or abandon execution of all or any Services in connection with this Agreement at any time upon written notice to Contractor. Contractor may terminate this Agreement upon seven days written notice to Owner only if Owner substantially fails to perform its obligations under Article 6 of this Agreement or fails to timely pay Contractor as required under Article 8, and after adequate written notice is delivered to Owner and Owner has failed to take action within 30 (thirty) days in order to begin to correct the problem.

11.1.1 In the event of termination, cancellation, suspension, or abandonment that is not the fault of Contractor, Owner shall pay to Contractor as full payment for all services performed and all expenses incurred under this Agreement, the appropriate portion of Contract Sum due under Article 8 as shall have become payable because of the progress in the Work as the services actually rendered hereunder by Contractor bear to the total services necessary.

11.1.2 In ascertaining the services actually rendered hereunder up to the date of termination, cancellation, suspension, or abandonment of this Agreement, consideration shall be given to both completed work and work in progress, to complete and incomplete Drawings, and to other related documents, whether delivered to Owner or in possession of Contractor.

11.1.3 For any said sum paid under this Article, Contractor agrees to accept same in full settlement of all claims for services rendered under this Agreement.

11.2 If, upon payment of the amount required to be paid under this Article following the termination of this Agreement, Owner thereafter should determine to complete the original project or, substantially, the same project without major change in scope; Owner, for such purposes, shall have the right of utilization of any and all original tracings, Drawings, calculations, design analysis, Specifications, estimates, related data, and other documents including Construction Documents, prepared under this Agreement by Contractor who shall make them available to Owner upon request, with compensation to Contractor limited to actual reproduction costs. Owner agrees to credit Contractor with such authorship as may be due to him but is not required to renew this Agreement.
11.3 Upon request at the termination, cancellation, suspension, or abandonment of this Agreement, Contractor agrees to furnish to Owner copies of the latest documents prepared by Contractor for the Project.

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

ARTICLE 12
MISCELLANEOUS

12.1 The terms and conditions of this Agreement shall be binding upon the Parties, their partners, successors, permitted assigns, and legal representatives. This Agreement is a personal service contract for the services of Contractor, and Contractor's interest in this Agreement, duties hereunder and/or fees due hereunder may not be assigned or delegated to a third party. The benefits and burdens of this Agreement are, however, assignable by Owner to a component or affiliate of Owner or a branch or agency of the State of Texas.

12.2 If Contractor transacts business as an individual, his death or incapacity shall automatically terminate this Agreement as of the date of such event; and neither he nor his estate shall have any further right to perform hereunder; and Owner shall pay him or his estate the compensation payable under the Agreement for any services rendered prior to such termination. If Contractor is a firm comprised of more than one principal and any one of the members thereof dies or becomes incapacitated and the other members continue to render the services covered herein, Owner will make payments to those continuing as though there had been no such death or incapacity, and Owner will not be obliged to take any account of the person who died or became incapacitated or to make any payment to such person or his estate. This provision shall apply in the event of progressive or simultaneous occasions of death or incapacity among any group of persons named as Contractor; and if death or incapacity befalls the last one of such group before this Agreement is fully performed, then the rights shall be as if there had been only one Contractor. In any event, notice of the death or incapacity of any principal shall be given to Owner by any surviving principal within a reasonable time.

12.3 Certifications.

12.3.1 Pursuant to Texas Family Code, Section 231.006, Contractor certifies that it is not ineligible to receive the award of or payments under this Agreement and acknowledges that this Agreement may be terminated and payment may be withheld if this certification is inaccurate.

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

12.3.3 If a corporate or limited liability company, Contractor certifies that it is not currently delinquent in the payment of any Franchise Taxes due under Texas Tax Code, Chapter 171, or that the corporation or limited liability company is exempt from the payment of such taxes, or that the corporation or limited liability company is an out-of-state corporation or limited liability company that is not subject to the Texas Franchise Tax, whichever is applicable.
12.3.4 Pursuant to Texas Government Code Sections 2107.008 and 2252.903, Contractor agrees that any payments owing to Contractor under this Agreement may be applied directly toward any debt or delinquency that Contractor owes the State of Texas or any agency of the State of Texas regardless of when it arises, until such debt or delinquency is paid in full.

12.4 This Agreement and all of the rights and obligations of the parties hereto and all of the terms and conditions hereof shall be construed, interpreted and applied in accordance with and governed by and enforced under the laws of the State of Texas and venue shall be as provided in Texas Education Code Section 105.151 for any legal proceeding pertaining to this Agreement.

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

12.6 Records of Contractor’s costs, reimbursable expenses pertaining to the Project and payments shall be kept on a generally recognized accounting basis and shall be made available to Owner or its authorized representative during business hours for audit or other purposes as determined by Owner. Such records shall be maintained by Contractor and shall be available to Owner or his authorized representative for a period of at least three (3) years after the provision of Contractor’s Services.

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

If to Owner:
Director, System Facilities Administration
University of North Texas System
1155 Union Circle #311040
Denton, Texas 76203-5017

If to Contractor:
(Contact Name)
(Firm Name)
{Street Address}
{City, State Zip}

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

12.8 It is acknowledged and agreed that Contractor’s services to Owner are unique, which gives Contractor a peculiar value to Owner and for the loss of which Owner cannot be reasonably or adequately compensated in damages; accordingly, Contractor acknowledges and agrees that a breach by Contractor of the provisions hereof will cause Owner irreparable injury and damage. Contractor, therefore, expressly agrees that Owner shall be entitled to injunctive and/or other equitable relief in any court of competent jurisdiction to prevent or otherwise restrain a breach of this Agreement, but only if Owner is not in breach of this Agreement.

12.9 Contractor recognizes that it is engaged as an independent contractor and acknowledges that Owner will have no responsibility to provide transportation, insurance or other fringe benefits normally associated with employee status. Contractor, in accordance with its status as an independent contractor, covenants and agrees that it shall conduct itself consistent with such status, that it will neither hold itself out as nor claim to be an officer, partner, employee or agent of Owner by reason hereof, and that it will not by reason hereof make any claim, demand or application to or for any right or privilege applicable to an officer, partner, employee or agent of Owner, including, but not limited to, unemployment insurance benefits, social security coverage or retirement benefits. Contractor hereby agrees to make its own arrangements for any of such
benefits as it may desire and agrees that it is responsible for all income taxes required by applicable law.

12.10 Financial records shall be kept on the basis of generally accepted accounting principles and in accordance with cost accounting standards promulgated by the Federal Office of Management and Budget Cost Accounting Standards Board and shall be available for audit by Owner or Owner’s authorized representative on reasonable notice.

12.11 Performance by Owner under the Agreement may be dependent upon the appropriation and allotment of funds by the Texas State Legislature (the “Legislature”) and/or allocation of funds by the Board of Regents of The University of North Texas System (the “Board”). If the Legislature fails to appropriate or allot the necessary funds, or the Board fails to allocate the necessary funds, then Owner shall issue written notice to Contractor and Owner may terminate the Agreement in accordance with Article 11. Contractor acknowledges that appropriation, allotment, and allocation of funds are beyond the control of Owner.

12.12 All information owned, possessed or used by Owner which is communicated to, learned, developed or otherwise acquired by Contractor in the performance of services for Owner, which is not generally known to the public, shall be confidential and Contractor shall not, beginning on the date of first association or communication between Owner and Contractor and continuing through the term of this Agreement and any time thereafter, disclose, communicate or divulge, or permit disclosure, communication or divulgence, to another or use for Contractor’s own benefit or the benefit of another, any such confidential information, unless required by law. Except when defined as part of the Work, Contractor shall not make any press releases, public statements, or advertisement referring to the Project or the engagement of Contractor as an independent contractor of Owner in connection with the Project, or release any information relative to the Project for publications, advertisement or any other purpose without the prior written approval of Owner. Contractor shall obtain assurances similar to those contained in this subparagraph from persons, contractors, and subcontractors retained by Contractor. Contractor acknowledges and agrees that a breach by Contractor of the provisions hereof will cause Owner irreparable injury and damage. Contractor, therefore, expressly agrees that Owner shall be entitled to injunctive and/or other equitable relief in any court of competent jurisdiction to prevent or otherwise restrain a breach of this Agreement.

12.13 Owner shall release information to the extent required by the Texas Public Information Act and other applicable law. If required, Contractor shall make public information available to Owner in an electronic format.
IN WITNESS WHEREOF, intending to be bound, the Parties have entered into this Contractor-at-Risk Agreement as of the Effective Date.

OWNER:

UNIVERSITY OF NORTH TEXAS SYSTEM

By: ______________________________
   (signature)

[Authorized Signatory Name]
[Authorized Signatory Title]

CONSTRUCTION MANAGER-AT-RISK:

{FIRM NAME}

By: ______________________________
   (signature)

[Typed name and title]

Street/PO Box

City, State, ZIP

Telephone

State of TX Vendor ID Number
EXHIBIT A

SPECIFICATIONS, DRAWINGS, AND ADDENDA

SPECIFICATIONS

As listed in project manual titled [Title], prepared by [Professional], issued for construction on [Date].

DRAWINGS

Entitled [Title], as prepared by [Professional], issued for construction on [Date], consisting of the following pages:

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<thead>
<tr>
<th>Sheet Number</th>
<th>Title</th>
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ADDENDA

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HUB Subcontracting Plan (HSP)

QUICK CHECKLIST

While this HSP Quick Checklist is being provided to merely assist you in readily identifying the sections of the HSP form that you will need to complete, it is very important that you adhere to the instructions in the HSP form and instructions provided by the contracting agency.

➤ If you will be awarding all of the subcontracting work you have to offer under the contract to only Texas certified HUB vendors, complete:

☐ Section 1 - Respondent and Requisition Information
☐ Section 2 a. - Yes, I will be subcontracting portions of the contract.
☐ Section 2 b. - List all the portions of work you will subcontract, and indicate the percentage of the contract you expect to award to Texas certified HUB vendors.
☐ Section 2 c. - Yes
☐ Section 4 - Affirmation
☐ GFE Method A (Attachment A) - Complete an Attachment A for each of the subcontracting opportunities you listed in Section 2 b.

➤ If you will be subcontracting any portion of the contract to Texas certified HUB vendors and Non-HUB vendors, and the aggregate percentage of all the subcontracting work you will be awarding to the Texas certified HUB vendors with which you do not have a continuous contract in place for more than five (5) years meets or exceeds the HUB Goal the contracting agency identified in the “Agency Special Instructions/Additional Requirements”, complete:

☐ Section 1 - Respondent and Requisition Information
☐ Section 2 a. - Yes, I will be subcontracting portions of the contract.
☐ Section 2 b. - List all the portions of work you will subcontract, and indicate the percentage of the contract you expect to award to Texas certified HUB vendors and Non-HUB vendors.
☐ Section 2 c. - No
☐ Section 2 d. - Yes
☐ Section 4 - Affirmation
☐ GFE Method A (Attachment A) - Complete an Attachment A for each of the subcontracting opportunities you listed in Section 2 b.

➤ If you will be subcontracting any portion of the contract to Texas certified HUB vendors and Non-HUB vendors or only to Non-HUB vendors, and the aggregate percentage of all the subcontracting work you will be awarding to the Texas certified HUB vendors with which you do not have a continuous contract in place for more than five (5) years does not meet or exceed the HUB Goal the contracting agency identified in the “Agency Special Instructions/Additional Requirements”, complete:

☐ Section 1 - Respondent and Requisition Information
☐ Section 2 a. - Yes, I will be subcontracting portions of the contract.
☐ Section 2 b. - List all the portions of work you will subcontract, and indicate the percentage of the contract you expect to award to Texas certified HUB vendors and Non-HUB vendors.
☐ Section 2 c. - No
☐ Section 2 d. - No
☐ Section 4 - Affirmation
☐ GFE Method B (Attachment B) - Complete an Attachment B for each of the subcontracting opportunities you listed in Section 2 b.

➤ If you will not be subcontracting any portion of the contract and will be fulfilling the entire contract with your own resources (i.e., employees, supplies, materials and/or equipment), complete:

☐ Section 1 - Respondent and Requisition Information
☐ Section 2 a. - No, I will not be subcontracting any portion of the contract, and I will be fulfilling the entire contract with my own resources.
☐ Section 3 - Self Performing Justification
☐ Section 4 - Affirmation

*Continuous Contract: Any existing written agreement (including any renewals that are exercised) between a prime contractor and a HUB vendor, where the HUB vendor provides the prime contractor with goods or service, to include under the same contract for a specified period of time. The frequency the HUB vendor is utilized or paid during the term of the contract is not relevant to whether the contract is considered continuous. Two or more contracts that run concurrently or overlap one another for different periods of time are considered by CPA to be individual contracts rather than renewals or extensions to the original contract. In such situations the prime contractor and HUB vendor are entering (have entered) into “new” contracts.
SECTION 2: RESPONDENT'S SUBCONTRACTING INTENTIONS

After dividing the contract work into reasonable lots or portions to the extent consistent with prudent industry practices, and taking into consideration the scope of work to be performed under the proposed contract, including all potential subcontracting opportunities, the respondent must determine what portions of work, including contracted staffing, goods and services will be subcontracted. Note: In accordance with 34 TAC §20.282, a "Subcontractor" means a person who contracts with a prime contractor to work, to supply commodities, or to contribute toward completing work for a governmental entity.

a. Check the appropriate box (Yes or No) that identifies your subcontracting intentions:

☐ - Yes, I will be subcontracting portions of the contract. (If Yes, complete Item b of this SECTION and continue to Item c of this SECTION.)

☐ - No, I will not be subcontracting any portion of the contract, and I will be fulfilling the entire contract with my own resources, including employees, goods and services. (If No, continue to SECTION 3 and SECTION 4.)

b. List all the portions of work (subcontracting opportunities) you will subcontract. Also, based on the total value of the contract, identify the percentages of the contract you expect to award to Texas certified HUBs, and the percentage of the contract you expect to award to vendors that are not a Texas certified HUB (i.e., Non-HUB).

<table>
<thead>
<tr>
<th>Item #</th>
<th>Subcontracting Opportunity Description</th>
<th>HUBs</th>
<th>Non-HUBs</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td></td>
<td>%</td>
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<tr>
<td>2</td>
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<tr>
<td>15</td>
<td></td>
<td>%</td>
<td>%</td>
</tr>
</tbody>
</table>

Aggregate percentages of the contract expected to be subcontracted:
%    %    %

(Note: If you have more than fifteen subcontracting opportunities, a continuation sheet is available online at https://www.copntroller.texas.gov/purchasing/vendor/hub/forms.php).

c. Check the appropriate box (Yes or No) that indicates whether you will be using only Texas certified HUBs to perform all of the subcontracting opportunities you listed in SECTION 2, Item b.

☐ - Yes (if Yes, continue to SECTION 4 and complete an "HSP Good Faith Effort - Method A (Attachment A)" for each of the subcontracting opportunities you listed.)

☐ - No (if No, continue to Item d, of this SECTION.)

d. Check the appropriate box (Yes or No) that indicates whether the aggregate expected percentage of the contract you will subcontract with Texas certified HUBs with which you do not have a continuous contract* in place with for more than five (5) years, meets or exceeds the HUB goal the contracting agency identified on page 1 in the "Agency Special Instructions/Additional Requirements."

☐ - Yes (if Yes, continue to SECTION 4 and complete an "HSP Good Faith Effort - Method A (Attachment A)" for each of the subcontracting opportunities you listed.)

☐ - No (if No, continue to SECTION 4 and complete an "HSP Good Faith Effort - Method B (Attachment B)" for each of the subcontracting opportunities you listed.)

---

*Continuous Contract: Any existing written agreement (including any renewals that are exercised) between a prime contractor and a HUB vendor, where the HUB vendor provides the prime contractor with goods or service under the same contract for a specified period of time. The frequency the HUB vendor is utilized or paid during the term of the contract is not relevant to whether the contract is considered continuous. Two or more contracts that run concurrently or overlap one another for different periods of time are considered by CPA to be individual contracts rather than renewals or extensions to the original contract. In such situations the prime contractor and HUB vendor are entering (have entered) into "new" contracts.
SECTION 3: SELF PERFORMING JUSTIFICATION (If you responded "No" to SECTION 2, Item a, you must complete this SECTION and continue to SECTION 4.) If you responded "No" to SECTION 2, Item a, in the space provided below explain how your company will perform the entire contract with its own employees, supplies, materials and/or equipment.

SECTION 4: AFFIRMATION

As evidenced by my signature below, I affirm that I am an authorized representative of the respondent listed in SECTION 1, and that the information and supporting documentation submitted with the HSP is true and correct. Respondent understands and agrees that, if awarded any portion of the requisition:

- The respondent will provide notice as soon as practical to all the subcontractors (HUBs and Non-HUBs) of their selection as a subcontractor for the awarded contract. The notice must specify at a minimum the contracting agency's name and its point of contact for the contract, the contract award number, the subcontracting opportunity they (the subcontractor) will perform, the approximate dollar value of the subcontracting opportunity and the expected percentage of the total contract that the subcontracting opportunity represents. A copy of the notice required by this section must also be provided to the contracting agency's point of contact for the contract no later than ten (10) working days after the contract is awarded.

- The respondent must submit monthly compliance reports (Prime Contractor Progress Assessment Report – PAR) to the contracting agency, verifying its compliance with the HSP, including the use of and expenditures made to its subcontractors (HUBs and Non-HUBs). (The PAR is available at https://www.comptroller.texas.gov/purchasing/docs/hub-forms/ProgressAssessmentReportForm.xls).

- The respondent must seek approval from the contracting agency prior to making any modifications to its HSP, including the hiring of additional or different subcontractors and the termination of a subcontractor the respondent identified in its HSP. If the HSP is modified without the contracting agency's prior approval, respondent may be subject to any and all enforcement remedies available under the contract or otherwise available by law, up to and including debarment from all state contracting.

- The respondent must, upon request, allow the contracting agency to perform on-site reviews of the company's headquarters and/or work-site where services are being performed and must provide documentation regarding staffing and other resources.

| Signature | Printed Name | Title | Date (mm/dd/yyyy) |

Reminder:

- If you responded "Yes" to SECTION 2, Items c or d, you must complete an "HSP Good Faith Effort - Method A (Attachment A)" for each of the subcontracting opportunities you listed in SECTION 2, Item b.

- If you responded "No" SECTION 2, Items c and d, you must complete an "HSP Good Faith Effort - Method B (Attachment B)" for each of the subcontracting opportunities you listed in SECTION 2, Item b.
HSP Good Faith Effort - Method B (Attachment B)

Enter your company's name here: ________________________ Requisition #: __________

IMPORTANT: If you responded "No" to SECTION 2, Items c and d of the completed HSP form, you must submit a completed "HSP Good Faith Effort - Method B (Attachment B)" for each of the subcontracting opportunities you listed in SECTION 2, Item b of the completed HSP form. You may photo-copy this page or download the form at [https://www.comptroller.texas.gov/purchasing/docs/hub-forms/hub-sbcont-plan-gfe-achm-b.pdf].

SECTION B-1: SUBCONTRACTING OPPORTUNITY
Enter the item number and description of the subcontracting opportunity you listed in SECTION 2, Item b, of the completed HSP form for which you are completing the attachment.

Item Number: _____ Description: __________________________

SECTION B-2: MENTOR PROTÉGÉ PROGRAM
If respondent is participating as a Mentor in a State of Texas Mentor Protégé Program, submitting its Protégé (Protégé must be a State of Texas certified HUB) as a subcontractor to perform the subcontracting opportunity listed in SECTION B-1, constitutes a good faith effort to subcontract with a Texas certified HUB towards that specific portion of work.

Check the appropriate box (Yes or No) that indicates whether you will be subcontracting the portion of work you listed in SECTION B-1 to your Protégé.
- Yes (If Yes, continue to SECTION B-4.)
- No / Not Applicable (If No or Not Applicable, continue to SECTION B-3 and SECTION B-4.)

SECTION B-3: NOTIFICATION OF SUBCONTRACTING OPPORTUNITY
When completing this section you MUST comply with items a, b, c and d, thereby demonstrating your Good Faith Effort of having notified Texas certified HUBs and trade organizations or development centers about the subcontracting opportunity you listed in SECTION B-1. Your notice should include the scope of work, information regarding the location to review plans and specifications, bonding and insurance requirements, required qualifications, and identify a contact person.

Retain supporting documentation (i.e., certified letter, fax, e-mail) demonstrating evidence of your good faith effort to notify the Texas certified HUBs and trade organizations or development centers. Also, be mindful that a working day is considered a normal business day of a state agency, not including weekends, federal or state holidays, or days the agency is declared closed by its executive officer. The initial day the subcontracting opportunity notice is sent/provided to the HUBs and to the trade organizations or development centers is considered to be "day zero" and does not count as one of the seven (7) working days.

a. Provide written notification of the subcontracting opportunity you listed in SECTION B-1, to three (3) or more Texas certified HUBs. Unless the contracting agency specified a different time period, you must allow the HUBs at least seven (7) working days to respond to the notice prior to you submitting your bid response to the contracting agency. When searching for Texas certified HUBs and verifying their HUB status, ensure that you use the State of Texas' Centralized Master Bidders List (CMBL) - Historically Underutilized Business (HUB) Directory Search located at http://myrpa.cpa.state.tx.us/tpassimbsearch/index.jsp. HUB status code ‘A’ signifies that the company is a Texas certified HUB.

b. List the three (3) Texas certified HUBs you notified regarding the subcontracting opportunity you listed in SECTION B-1. Include the company's Texas Vendor Identification (VID) Number, the date you sent notice to that company, and indicate whether it was responsive or non-responsive to your subcontracting opportunity notice.

<table>
<thead>
<tr>
<th>Company Name</th>
<th>Texas VID (Do not enter Social Security Numbers.)</th>
<th>Date Notice Sent (mm/dd/yyyy)</th>
<th>Did the HUB Respond?</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>☐ Yes ☐ No</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>☐ Yes ☐ No</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>☐ Yes ☐ No</td>
</tr>
</tbody>
</table>

c. Provide written notification of the subcontracting opportunity you listed in SECTION B-1 to two (2) or more trade organizations or development centers in Texas to assist in identifying potential HUBs by disseminating the subcontracting opportunity to their members/participants. Unless the contracting agency specified a different time period, you must provide your subcontracting opportunity notice to trade organizations or development centers at least seven (7) working days prior to submitting your bid response to the contracting agency. A list of trade organizations and development centers that have expressed an interest in receiving notices of subcontracting opportunities is available on the Statewide HUB Program's webpage at [https://www.comptroller.texas.gov/purchasing/vendor/hub/resources.php].

d. List two (2) trade organizations or development centers you notified regarding the subcontracting opportunity you listed in SECTION B-1. Include the date when you sent notice to it and indicate if it accepted or rejected your notice.

<table>
<thead>
<tr>
<th>Trade Organizations or Development Centers</th>
<th>Date Notice Sent (mm/dd/yyyy)</th>
<th>Was the Notice Accepted?</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>☐ Yes ☐ No</td>
</tr>
<tr>
<td></td>
<td></td>
<td>☐ Yes ☐ No</td>
</tr>
</tbody>
</table>

Page 1 of 2
(Attachment B)
HUB Subcontracting Opportunity Notification Form

In accordance with Texas Gov't Code, Chapter 2161, each state agency that considers entering into a contract with an expected value of $100,000 or more shall, before the agency solicits bids, proposals, offers, or other applicable expressions of interest, determine whether subcontracting opportunities are probable under the contract. The state agency I have identified below in Section B has determined that subcontracting opportunities are probable under the requisition to which my company will be responding.

34 Texas Administrative Code, §20.285 requires all respondents (prime contractors) bidding on the contract to provide notice of each of their subcontracting opportunities to at least three (3) Texas certified HUBs (who work within the respective industry applicable to the subcontracting opportunity), and allow the HUBs at least seven (7) working days to respond to the notice prior to the respondent submitting its bid response to the contracting agency. In addition, at least seven (7) working days prior to submitting its bid response to the contracting agency, the respondent must provide notice of each of its subcontracting opportunities to two (2) or more trade organizations or development centers (in Texas) that serves members of groups (i.e., Asian Pacific American, Black American, Hispanic American, Native American, Woman, Service Disabled Veteran) identified in Texas Administrative Code §20.282(19)(C).

We respectfully request that vendors interested in bidding on the subcontracting opportunity scope of work identified in Section C, Item 2, reply no later than the date and time identified in Section C, Item 1. Submit your response to the point-of-contact referenced in Section A.

SECTION A: PRIME CONTRACTOR’S INFORMATION

<table>
<thead>
<tr>
<th>Company Name:</th>
<th>State of Texas VID #:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Point-of-Contact:</td>
<td>Phone #:</td>
</tr>
<tr>
<td>E-mail Address:</td>
<td>Fax #:</td>
</tr>
</tbody>
</table>

SECTION B: CONTRACTING STATE AGENCY AND REQUISITION INFORMATION

<table>
<thead>
<tr>
<th>Agency Name:</th>
<th>Phone #:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Point-of-Contact:</td>
<td>Bid Open Date: (mm/dd/yyyy)</td>
</tr>
<tr>
<td>Requisition #:</td>
<td></td>
</tr>
</tbody>
</table>

SECTION C: SUBCONTRACTING OPPORTUNITY RESPONSE DUE DATE, DESCRIPTION, REQUIREMENTS AND RELATED INFORMATION

1. Potential Subcontractor’s Bid Response Due Date:
   - If you would like for our company to consider your company’s bid for the subcontracting opportunity identified below in Item 2, we must receive your bid response no later than on Central Time (mm/dd/yyyy).

   In accordance with 34 TAC §20.285, each notice of subcontracting opportunity shall be provided to at least three (3) Texas certified HUBs, and allow the HUBs at least seven (7) working days to respond to the notice prior to submitting its bid response to the contracting agency. In addition, at least seven (7) working days prior to us submitting our bid response to the contracting agency, we must provide notice of each of our subcontracting opportunities to two (2) or more trade organizations or development centers (in Texas) that serves members of groups (i.e., Asian Pacific American, Black American, Hispanic American, Native American, Woman, Service Disabled Veteran) identified in Texas Administrative Code, §20.282(19)(C).

   (A working day is considered a normal business day of a state agency, not including weekends, federal or state holidays, or days the agency is declared closed by its executive officer. The initial day the subcontracting opportunity notice is sent/provided to the HUBs and to the trade organizations or development centers is considered to be “day zero” and does not count as one of the seven (7) working days.)

2. Subcontracting Opportunity Scope of Work:

3. Required Qualifications:
   - Not Applicable

4. Bonding/Insurance Requirements:
   - Not Applicable

5. Location to review plans/specifications:
   - Not Applicable