

ADDENDUM 2

Oklahoma City Airport Trust
Oklahoma City, Oklahoma

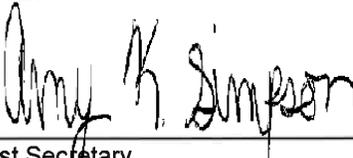
Logistics Support Facility Fire Sprinkler Replacement – East Side Mike Monroney Aeronautical Center Project No. OCAT WRWA 2109

APPROVAL RECOMMENDED:



Director of Airports

ATTEST:



Trust Secretary



OKLAHOMA CITY AIRPORT TRUST:



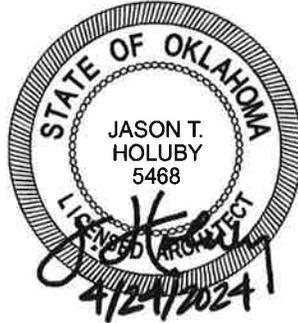
Chairman

REVIEWED for form and legality.



Assistant Municipal Counselor/
Attorney for the Trust

ARCHITECT/ENGINEER SIGNATURE PAGE



OKLAHOMA CERTIFICATE
OF AUTHORIZATION
ARCHITECTURE: # 00199
EXP. 06/30/2025



OKLAHOMA CERTIFICATE
OF AUTHORIZATION
P.E.: # 1072
EXP. 06/30/24

ADDENDUM 2

APRIL 24, 2023

OKLAHOMA CITY AIRPORT TRUST OCAT WRWA 2109 LOGISTICS SUPPORT FACILITY FIRE SPRINKLER REPLACEMENT – EAST SIDE MIKE MONRONEY AERONAUTICAL CENTER	FRANKFURT-SHORT-BRUZA ASSOCIATES, P.C. 5801 BROADWAY EXTENSION SUITE 500 OKLAHOMA CITY, OKLAHOMA, 73118
---	--

Items in this addendum take precedence over the original bid documents. Items not specifically revised remain in effect.

REFERENCE THE SPECIFICATIONS

ITEM 1-1 Section OCAT 00620 is revised to change the Disqualification of Bidders criteria.

ITEM 1-2 Section 211313 is revised to add requirements for various valves.

REFERENCE THE DRAWINGS

ITEM 1-3 Sheet AD101 is revised to show a mechanical mezzanine platform.

ITEM 1-4 Sheet F-100 is revised to show a mechanical mezzanine platform.

ITEM 1-5 Sheet FP101 is revised to show a mechanical mezzanine platform.

ITEM 1-6 Sheet FP103 is revised to indicate exposed sprinkler piping and heads in the area indicated..

END OF ADDENDUM 2

SUBSECTION II - INFORMATION AND REQUIREMENTS FOR BIDDERS

The items noted in this section apply to and become part of the terms and conditions of the Item Response Form as though they were included in their entirety. Any exceptions must be in writing.

1. CONTENT OF BID

The "Bidding Documents" consist of the "Bid Package," Project Manual, Standard Specifications, Special Provisions, Bid Security or Bid Bond, Addenda, "Contract Documents," and Plans. Electronic copies of the Bidding Documents are available through the Electronic Bidding Process.

The "Bid Package" consists of the Bid Package Cover Sheet, Notice to Bidders, Summary of Instructions to Bidders, Item Response Form, Non-Collusion Affidavit, Business Relationship Affidavit, any other documents listed in the Summary of Instructions to Bidders for this Bid, and any Addenda issued prior to the Bid Date.

The "Contract Documents" consist of the Bid Package; Contract; Performance Bond; Statutory Bond; Maintenance Bond; Defect Bond, if required; Contractor Identification Numbers; Certificate of Insurance; Certificate of Nondiscrimination; Special Provisions; Project Plans, Standard Specifications; Local Subcontractor Business Utilization Plan and Affidavit; other documents provided in the Contract Documents. Any Amendments and/or Change Orders issued after the award of Contract shall be a part of the Contract Documents upon their approval by the Trust. Federally funded projects may also include Prevailing Wage Affidavit, Equal Opportunity Affidavit, Certification of Bidder Regarding Equal Employment Opportunity, Certification Regarding Debarment, Suspension, Ineligibility, and Voluntary Exclusion, Buy American Certificate, Certificate of Permitted Lobbying Activities, Certification of Non-segregated Facilities, Local Subcontract Business Utilization Plan and Affidavit, Disadvantaged Business Enterprise (DBE) Utilization, List of Subcontractors and Letter of Intent. Upon request of the Trust, the Certificate of Nondiscrimination, Local Subcontractor Utilization Plan and Affidavit, and the items for Federally funded projects may need to be submitted after the bid, but before execution of the other Contract Documents. Failure to properly and timely execute these certificates and affidavits could be cause for rejection of the bid.

The Bidding Documents will be provided by the Trust and will state the general location and description of the contemplated Work, and will contain a list of the items of Work to be done and upon which bid prices are asked. Documents will state the time limits for commencing and for completing the Work, and will provide for entering the amount of the Bid Security.

2. ELECTRONIC BIDDING PROCESS

The "Electronic Bidding Process" shall mean a bid process through electronic means only. The City of Oklahoma City and the Oklahoma City Airport Trust will make the Bidding Documents available **only** through the Electronic Bidding process. Bids will be received **only** through the Electronic Bidding Process. All signatures will be accepted through the Electronic Bidding Process. The Trust does not provide access to a computer for electronic bidding or electronic bid submission.

Each Bidder wishing to submit a Bid for the Bidding Documents must register for the Electronic Bidding Process at www.periscopeholdings.com/s2g prior to completing, signing, and submitting a bid on this project. For any assistance in completing the electronic process, please contact via email at source-support@periscopeholdings.com or telephone at 800-990-9339. Only a person having the legal authority to bind the Bidder may submit a Bid through the Electronic Bidding Process.

It is the policy of the Trust to ensure that communications with participants and members of the public with disabilities are as effective as communications with others. Anyone with a disability who requires an accommodation, a modification of policies or procedures, or an auxiliary aid or service in order to participate in a meeting should contact Trust Staff or TDD 297-2020 as soon as possible but not later than 48 hours (not including weekends or holidays) before the scheduled meeting. The department will give primary consideration to the choice of auxiliary aid or service requested by the individual with disability.

3. EXAMINATION OF DOCUMENTS AND SITE OF THE WORK

Bidders are advised that the written plans and specifications of the Architect-Engineer on file with the Trust shall constitute all the information which the Trust will furnish. No other information given by any official, employee or representative of the Trust prior to the execution of the contract shall ever become a part of or change the contract, plans or specifications, or be binding on the Trust.

Bidders are required, prior to submitting any bid, to scrutinize, compare and read carefully the specifications, the bid, contract and bond forms, to examine carefully all plans on file, to visit and study the site of the work, to examine carefully local conditions under which the work is to be performed, to check and confirm locations of all aboveground and underground utilities and obstructions, to inform themselves by their independent research of the difficulties to be encountered, to judge for themselves of the accessibility of the work and all attending circumstances affecting the cost of doing the work or the time required for its completion, and to obtain all information required to make an intelligent bid. Bidders should correlate the Bidder's personal observations with the requirements of the Bidding Documents and ensure the Bid is made in accordance therewith, become familiar with and understand all other Projects which may affect the Work or access to the Work site, and make a bid based upon the materials, equipment, systems or services required by the Bidding Documents without exception. Submission of a bid will be conclusive evidence and shall represent that the Bidder has made the examinations and investigations required herein.

4. BIDDERS REPRESENTATIONS

The Bidder by making a Bid represents that:

- A. The Bidder has read carefully and understands the Bidding Documents and has inspected the Project Site and become familiar with local conditions under which the Work is to be performed and has informed himself by independent research of the difficulties to be encountered and personally judged the accessibility of the Work and all attending circumstances affecting the cost of doing the Work and of the time required for its completion and has correlated the Bidder's personal observations with the requirements of the Bidding Documents and the Bid is made in accordance therewith.
- B. The Bidder has read and understands the Bidding Documents to the extent that such documentation relates to the work for which the Bid is submitted and for other portions of the work, if any, being Bid concurrently or presently under construction.
- C. The Bid is based upon the materials, equipment, systems or services required by the Bidding Documents without exception.
- D. Bidder prepared this Bid and, before preparing the Bid, carefully read and examined the Bidding Documents and any other documentation or information. Bidder is familiar with and able to comply with all the provisions of the Bidding Documents. Bidder agrees that if this Bid is accepted, Bidder will enter into the Contract with the Trust and properly submit the required Bonds, documents, and insurance within seven (7) calendar days following the Trust's notification of its intent to award Contract, unless such time is extended by the Trust. Bidder hereby agrees to commence work within ten (10) calendar days after the Notice to Proceed is issued and to complete the work within the number of working days or by the calendar date specified in the Special Provisions of the Bidding Documents. Bidder encloses the Bid Security as required in Bidding Documents. The Anti/Non-Collusion Affidavit, in its entirety, is incorporated herein by reference.
- E. Bidder can complete the Work for the Project in the time specified in Article 2 of the Construction Contract.

5. INTERPRETATION OF PLANS AND SPECIFICATIONS

The Bidding Documents represent all the information that will be provided by the Trust. Interpretations and corrections of and/or changes to the Bidding Documents will be made only by Addendum approved by the

Director of Airports and ratified by the Trust. If any person contemplating submitting a bid for the proposed contract is in doubt as to the true meaning of any part of the Bidding Documents including the Project Manual, plans, specifications or other proposed contract documents, he may submit through the Q&A section of the Electronic Bidding Process written request for an interpretation thereof. The person submitting such request will be responsible for its prompt delivery. An addendum will be duly issued through the Electronic Bidding Process. Interpretations and/or changes made in any manner other than an Addendum will not be binding upon the Trust and bidders shall not rely upon them.

Bidders shall use complete sets of Bidding Documents in preparing Bids; neither the City nor the consulting Architect or consulting Engineer assumes responsibility for errors or misinterpretations resulting from the use of incomplete sets of Bidding Documents. Bidders may obtain complete copies of all Bidding Documents through the Electronic Bidding Process.

The Bidder shall at once report any errors, inconsistencies or ambiguities discovered.

6. PRE-QUALIFICATION OF CONTRACTORS

Attention is called to the fact that the Bidder, in signing the bid, represents that Bidder has the financial ability and experience to carry the Work through its several stages, and Bidder is prequalified with the City of Oklahoma City, including having a valid prequalification license, in accordance with requirements of the City of Oklahoma City, Oklahoma in accordance with their Resolution for Pre-Qualification of Bidders and the City's "Standard Specifications for the Construction of Public Improvement", or is pre-qualified as otherwise described in the Supplementary Provisions, OCAT 00690. Bidder must be pre-qualified before submitting a bid.

Regardless of whether or not prequalification is required, any proposed contractor or bidder must have obtained any license or licenses required by the City, State or Federal Government which is/are necessary to the accomplishment of the work. Such license(s) must have been obtained prior to the submission of a Bid on the project. Failure to possess the necessary license(s) is reason for a recommendation to the Trust that a Contract not be awarded.

7. MANDATORY PRE BID CONFERENCE

If required in the Solicitation for Bids and/or Summary of Instructions to Bidders, the Trust requires all prospective Bidders to attend a Pre-Bid Conference as a prequalification requirement to be eligible to submit a sealed Bid. Attendance is a prequalification requirement for this project. The Contractor who plans to submit a Bid must attend this conference. The Project A/E or his designee and any consultant for the project will also attend this conference. Failure to attend this conference will cause the City Clerk to not consider the Bidder's submission. The purpose of the conference is to discuss the plans and specifications.

NOTE: The Pre-Bid Conference will begin at the designated time; a sign-in sheet will be passed to all attendees; only full-time employees of the prospective Bidder's company will be considered as eligible representatives for attendance; and, five minutes after the meeting is called to order, the sign-in sheet will be closed (**late arrivals will not be allowed to sign in**). The official timekeeper for closing the sign-in sheet shall be the consulting Architect/Engineer or Trust staff member chairing the Pre-Bid Conference.

In the case of a joint venture, an eligible representative from **each** of the participating organizations in the joint venture must be in attendance. Sub-contractors are not required to attend.

The following will not be eligible to Bid on the project: (1) prospective Bidders leaving the meeting prior to adjournment of the Pre-Bid Conference; (2) prospective Bidders whose names have been placed on the sign-in sheet, but were not in attendance; or, (3) anyone arriving at the pre-Bid Conference after the sign-in sheet has been closed.

8. PREPARATION OF BID

- A. The Bidder shall submit his bid, bid security, and all required affidavit(s) or other documentation

through the Electronic Bidding Process on the forms furnished and approved by the Trust.

- B. All blank spaces and fields in the Electronic Bidding Process shall be filled correctly or the Bid may be rejected.
- C. All documents provided through the Electronic Bidding Process shall be thoroughly reviewed by the Bidder.
- D. All forms, all blanks and all affidavits must be completed, signed and submitted electronically.
- E. All prices must be completed and submitted electronically. Where so indicated by the makeup of the Item Response Form, sums shall be expressed in numerals. All base bid items must have a price indicated. All alternate bids, whether add alternates or deduct alternates, must have a price indicated, unless expressly stated otherwise in the Special Provisions. Should the Special Provisions expressly state that Bidders need not bid on all alternates, a Bidder that does not wish to bid on that add/deduct alternate bid must enter "No Bid" into the Notes to Buyer box and a bid of "zero dollars" must be entered for that line item.
- F. Where detailed or unit prices are requested or required in the Bidding Documents, the Bidder must complete and submit detailed or unit prices on the Item Response Form and the total bid amount shall be the cumulative total of the detailed or unit prices.
- G. Unless otherwise provided in the special provisions, where unit prices are bid, payments and claims will be based on actual quantities used. Any substantial change(s) in quantities required to complete the work will require a Contract amendment and any deduction or increase in payment will be based on unit prices and actual verified and authorized quantities.

9. SIGNATURE REQUIREMENTS FOR BIDDING DOCUMENTS

Only a person having the legal authority to bind the Bidder may submit a Bid through the Electronic Bidding Process.

The name of the individual, limited liability company, partnership, corporation or joint venture submitting the Bid must be provided. The Bidding Documents must be electronically signed in accordance with the requirements of paragraph 8. The name and title of each person who electronically signed the Bidding Documents must be provided.

- A. Bids submitted by a Corporation: Bidding Documents must be electronically signed by the President or Vice President of the corporation, or comply with paragraph 9.F.
- B. Bids submitted by a Sole Proprietorship or Individual: Bidding Documents must be electronically signed by the owner or individual, or comply with paragraph 9.F.
- C. Bids submitted by a Partnership: Bidding Documents must be electronically signed by a General Partner, or comply with paragraph 9.F.
- D. Bids submitted as a Joint Venture: Bidding Documents must be electronically signed by an authorized agent having authority to bind the Joint Venture and comply with paragraph 9.F.
- E. Bids Submitted by a Limited Liability Company: Bidding Documents must be electronically signed by the Manager or an authorized agent having authority to bind the limited liability company, or comply with paragraph 9.F.
- F. Signature Requirements for Bidder's Authorized Agent: Some businesses may delegate the authority to sign the Bidding Documents to an authorized agent. In such cases, all documents requiring signature must be electronically signed by the "authorized" agent.
- G. Additional Documentation: Additional documentation of authority may be required on any authority issue or Bidding issue.

10. SALES TAX

If the Trust is directly purchasing goods and materials for the project, the Trust's purchase is generally exempt from sales tax requirements and the prices bid should not include sales tax. On projects where the Bidder will be procuring any goods and materials directly, the Bidder may not utilize the Trust's sales tax exempt status and bids submitted should include all sales tax. Any interpretation of or procedure for the sales tax exemption must be sought from the Oklahoma Tax Commission or the Bidder's legal counsel.

11. ADDENDA DELIVERY AND RECEIPT

- A. The Trust may issue addenda as may be necessary in the best interest of the Trust. Addenda may amend the date and/or time for receipt of Bids or any specification, item, document or requirement in the Bidding Documents. Addenda will be delivered through the Electronic Bidding Process. It shall be the obligation of the Bidder to ascertain through the Electronic Bidding Process prior to the Bid Date, whether Bidder has received all addenda. Bidder has the obligation to read and comply with the terms of the Bidding Documents as amended by addenda, if any.
- B. Copies of addenda will be made available for inspection through the Electronic Bidding Process.
- C. The Electronic Bidding Process shall be considered proof that the City delivered notification of an addendum to a Bidder.

12. SUBSTITUTION OF MATERIAL

- A. The materials, products and equipment described in the Bidding Documents establish a standard of required function, dimension, appearance and quality to be met by any proposed substitution. The Notes to Buyer box in the Electronic Bidding Process cannot be used for substitutions. Using the Notes to Buyer box may result in the Bid being rejected.
- B. Pre-Bid Consideration; Addendum required. No request for substitution will be considered prior to the receipt of Bids unless a written request for approval has been received through the Electronic Bidding Process no later than seven (7) days prior to the Bid date. Such requests shall include the name of the material, product, or equipment for which it is to be substituted and a complete description of the proposed substitution including drawings, performance and test data and other information necessary for an evaluation. A statement shall be included in the written request setting forth changes in the Work of other materials, products, equipment or other portions of the Work including changes in the Work of other Contracts that incorporation of the proposed substitution would require. The burden of proof of the merit of the proposed substitution is upon the Bidder.
- C. If a proposed substitution is approved prior to Bid date, such approval will be set forth in an Addendum issued by the Director and subsequently approved or ratified by the Trust. Bidders shall not rely upon approvals made in any other manner.
- D. Post-Contract Consideration. Substitutions may be considered after the award of Contract unless specifically prohibited in the Bidding Documents. However, any Bidder basing a Bid on a substitution not approved by pre-Bid addendum does so at the risk of being required to provide the materials designated in the Bidding Documents.

13. BID SECURITY

Bids will not be considered unless accompanied by a Bid Security in the form of electronic Bid Bond, irrevocable letter of credit, a certified check, and /or cashier's check delivered by bid receipt time, in the amount of five percent (5%) of the Bid, made payable to the OKLAHOMA CITY AIRPORT TRUST. Bid Bonds must be uploaded in the Electronic Bidding Process and must be submitted electronically with the Bid. Irrevocable letters of credit, certified check and/or cashier's check must be hand-delivered to the Office of the City Clerk, 2nd Floor, Municipal Building, 200 N. Walker Avenue, Oklahoma City, Oklahoma 73102, in a sealed envelope with notations including the Bidder's name, the project number and "Bid Security," prior to Bid Time. The amount of the Bid Security shall be the highest combination of the Base Bid plus any add/deduct Alternate Bids. The Bid Security is a guarantee that the Bidder will enter into a Contract with the Trust on the terms stated in the Bid and will furnish guaranties covering the faithful performance of the Contract and payment of all obligations. Should the Bidder refuse to execute or fail to furnish other required Contract Documents, the amount of the Bid Security shall be forfeited to the Trust as liquidated damages, not

as a penalty.

The Trust has the right to retain the bid securities of bidders until:

- A. The required Contract Documents have been executed or submitted by the successful Bidder and the specified time to Award the Contract has elapsed so that Bids may be withdrawn in accordance with State law; or
- B. All Bids have been formally rejected by the Trust; or
- C. A bidder has been determined to be the successful Bidder and the specified time to Award the Contract has elapsed so that Bids may be withdrawn in accordance with State law.

14. OPENING OF BIDS; TIME FOR CONSIDERATION

Bids submitted and timely received electronically from pre-qualified bidders will be opened publicly and will be read aloud in the presence of the City Clerk, the City Auditor and the Purchasing Agent or their designees at the time stated in the Notice to Bidders. Opened Bids will remain on file in the Office of the City Clerk for at least forty-eight (48) hours before a Contract is entered into. A tabulation of Bid information may be made available to the Bidders within a reasonable time.

15. BIDS NOT TO BE MODIFIED OR WITHDRAWN

After the date and time set for the bid opening, no Bid shall be withdrawn, altered, changed, executed or otherwise revised in any manner by any Bidder once delivered to the City Clerk through the Electronic Bidding Process.

16. IRREGULAR BIDS

Bids will be considered irregular or defective if they show any omissions, alterations of forms, additions or conditions not called for, unauthorized alternate bids, or irregularities of any kind. However, the Trust reserves the right to waive technicalities as to changes, alterations or reservations, and make the award in the best interest of the Trust.

17. REJECTION OF BIDS

The Trust reserves the right to reject any or all bids, and all bids submitted are subject to this reservation. Bids may be rejected for any of the following specific reasons, but not limited to the following:

- A. Bids received after the time limit for receiving bids as stated in the advertisement.
- B. Bid prices obviously unbalanced.
- C. Total bid price above the engineer's estimate of total cost.
- D. Bidder not pre-qualified or not holding a pre-qualification license unless pre-qualification is waived in the Supplementary Provisions included in the Project Manual.
- E. The Bid is not signed or notarized electronically by the Bidder or Bidder's authorized agent or otherwise submitted by a manner other than by the Electronic Bidding Process.
- F. The Non-collusion Statement, as required by the City Charter and the Oklahoma Competitive Bidding Act, has not been submitted electronically with the Bid; the text of the affidavit has been altered; and/or the affidavit is not properly signed and/or notarized. (61 Okla. Stat. § 115 and Oklahoma City Charter, Article IX § 4)
- G. The Business Relationship Affidavit, as required by the Oklahoma Competitive Bidding Act, has not been submitted electronically with the Bid; the text of the affidavit has been altered; has not entered requested information, if any in the blanks provided; and/or the affidavit is not properly signed or notarized. (61 Okla. Stat. §108)
- H. The Bid Bond, as required by the Oklahoma Competitive Bidding Act, is not attached to the Bid. (61 Okla. Stat. §107)
- I. The Bid fails to comply with any other requirements of City, State, or federal law and/or any other forms required by the Bidding Documents are not properly completed and submitted.

18. DISQUALIFICATION OF BIDDERS

Bidder may be disqualified or bid rejected for any of the following specific reasons:

- ~~A. Where more than one bid for an individual, firm, partnership or corporation is filed under the same or different names, and where such bids are not identical in every respect.~~
- ~~B. The Bidder being in arrears on any existing Trust or City contracts, involved in any litigation against the Trust or City, or having defaulted on a previous contract with the Trust or City.~~
- ~~C. Lack of competency or responsibility.~~
- ~~D. Uncompleted work which, in the judgment of the Trust, will hinder or prevent the prompt completion of additional work if awarded.~~
- A. Where more than one bid for an individual, firm, partnership or corporation is filed under the same or different names, and where such bids are not identical in every respect, then the highest bid will be rejected. If the bids are the same bid amount, but are not identical in every respect, then the bid that is not compliant with the Oklahoma Competitive Bidding Act will be rejected.
- B. The Bidder has been in arrears on any previous Trust or City contracts within the last five years. The Bidder has been involved in any litigation against the Trust or City within the last five years. The Bidder having defaulted on a previous Trust or City contracts within the last five years.
- C. The Bidder being in arrears on any existing Trust or City contracts, involved in any existing litigation against the Trust or City, or having defaulted on any existing Trust or City contracts.
- D. Lack of competency or responsibility.
- E. Uncompleted work which, in the judgment of the Trust, will or did hinder or prevent the prompt completion of additional work.
- F. If the bidder is considered to be in default for any reason.
- G. Evidence of collusion among bidders.

SECTION 211313 - WET PIPE SPRINKLER SYSTEMS

PART 1 - GENERAL

1.1 Wet pipe sprinkler systems: Install and test per NFPA 13.

1.2 SUMMARY

A. Section Includes:

1. Pipes, fittings, valves and specialties.
2. Sprinklers.

1.3 DEFINITIONS

- A. Standard-Pressure Sprinkler Piping: Wet pipe sprinkler system piping designed to operate at working pressure of 175 psig maximum.

1.4 SYSTEM DESCRIPTIONS

- A. Remove existing Wet Pipe Sprinkler Systems on the east side of the building fire wall and provide new as required by the contract documents, state and local codes and standards, and NFPA 13, 2022 edition. Automatic sprinklers are attached to piping containing water and that is connected to water supply through riser check valve. Water discharges immediately from sprinklers when they are opened. Sprinklers open when heat melts fusible link or destroys frangible device.

1.5 PERFORMANCE REQUIREMENTS

- A. Standard-Pressure Piping System Component: Listed for 175-psig minimum working pressure.
- B. Delegated Design: Design sprinkler system modifications by a qualified professional engineer or NICET Level III or IV Technician, using performance requirements and design criteria indicated.
- C. Sprinkler system design and modifications shall be approved by authorities having jurisdiction and insuring authority (Zurich).
1. Historic water supply data from 8/12/2016 at residual hydrant at the west side of the Multipurpose Building (MPB) with flow hydrant NW of MPB and 64th Street is as follows: 60 psi static, 50 psi with 940 gpm flowing. Fire pump is Peerless 1500 gpm at 80 psi rated capacity.

2. Sprinkler Occupancy Hazard Classifications: Storage of Class IV commodities, Light, Ordinary and Extra Hazard classifications shall meet or exceed NFPA 13 requirements.
3. Minimum Density for Automatic-Sprinkler Piping Design: Per NFPA 13 requirements.
4. Maximum Protection Area per Sprinkler: Per UL listing but not to exceed NFPA 13 limitations.
5. Total Combined Hose-Stream Demand Requirement: 500 gpm per NFPA 13, upstream of fire pump.

1.6 SUBMITTALS

- A. Product Data: For all types of products provided.
- B. Shop Drawings: Submit shop drawings for each phase of the work, including relevant information required by NFPA 13, with hydraulic calculations, showing size of all piping revisions and sprinkler installation. Shop drawings shall be to scale and include plans and elevations of systems.
- C. Design Responsibility and Certification
 1. Design Responsibility and Certification: The Designer of the fire protection system modifications shall be responsible for all design, coordination and approval of each system in order to assure compliance with drawings, specifications, codes and authorities having jurisdiction. Drawings, calculations and other supporting evidence of this design shall be provided to the proper reviewing agencies and to the Architect-Engineer, and shall bear appropriate professional certification that the Designer has met the Quality Assurance requirements. Certification shall be indicative that the Designer acknowledges and accepts full design responsibility. Descriptions and limitations set forth in these specifications must be followed unless more stringent requirements are established by the reviewing agency or unless deviations are approved by both reviewing agencies and the Architect-Engineer.
 2. Architect-Engineer Approval: the Architect-Engineer shall be entitled to rely upon the accuracy and completeness of shop drawings, calculations, and certifications submitted when reviewing and approving shop drawings and calculations.
 3. Certificate of Installation: Submit certificates upon completion of fire protection system work stating that the work has been completed and tested in accordance with the appropriate NFPA code and there are no defects in the systems and they are operational.
- D. Approving Agencies: After submitting fire protection shop drawings, calculations, and submittals to the Architect-Engineer for approval, the Contractor shall submit all required fire protection shop drawings, calculations, and submittals to both local and state fire protection officials that are required by codes and ordinances to review and approve the fire protection documents, and to Zurich, the insuring authority.

- E. Delegated-Design Submittal: This is a delegated design. For sprinkler systems indicated to comply with performance requirements and design criteria, including analysis data signed and sealed by the qualified professional engineer or stamped by the NICET Technician responsible for their preparation.
- F. Qualification Data: For qualified designer, Installer and NICET technician.
 - 1. Installer shall be licensed per the requirements of the jurisdiction. Submit copy of license.
- G. Field quality-control reports.
- H. Approved sprinkler piping drawings for record, after approval by Authorities Having Jurisdiction.
- I. Acceptance Test Plan.
- J. Operation and Maintenance Data: For sprinkler equipment to include in emergency, operation, and maintenance manuals.
- K. Acceptance Test Report: Include Contractor's Material and Test Certificates for Aboveground piping.

1.7 QUALITY ASSURANCE

- A. Installer Qualifications:
 - 1. Installer's responsibilities include designing, fabricating, and installing sprinkler systems and providing professional design services needed to assume design responsibility.
 - a. Engineering Responsibility: Preparation of working plans, calculations, and field test reports by a qualified professional engineer or one who is certified NICET Level III or IV in the sub-field of Water-Based Fire Protection Systems Layout.
- B. Welding Qualifications: Qualify procedures and operators according to ASME Boiler and Pressure Vessel Code. Submit certificates for shop welding to be performed.
- C. NFPA Standards: Sprinkler system equipment, specialties, accessories, installation, and testing shall comply with the following:
 - 1. NFPA 13, "Installation of Sprinkler Systems."
 - 2. Applicable local and state codes and ordinances.

1.8 PROJECT CONDITIONS

- A. Interruption of Existing Sprinkler Service: Do not interrupt fire protection service to facilities occupied by Owner or others unless permitted under the following conditions and then only after arranging to provide temporary sprinkler service according to requirements indicated:
 - 1. Notify Construction Manager no fewer than 7 days in advance of proposed interruption of sprinkler service.
 - 2. Do not proceed with interruption of sprinkler service without Construction Manager's written permission.

1.9 COORDINATION

- A. Coordinate layout and installation of sprinklers with other construction .

1.10 EXTRA MATERIALS

- A. Furnish extra materials that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.
 - 1. Sprinkler Cabinets: Finished, wall-mounted, steel cabinet with hinged cover, and with space for minimum of six spare sprinklers plus sprinkler wrench. Include number of sprinklers required by NFPA 13 and sprinkler wrench. Include separate cabinet with sprinklers and wrench for each type of sprinkler used on Project.

PART 2 - PRODUCTS

- 2.1 Products shall be UL Listed or Factory Mutual Approved. Installation shall be in accordance with the manufacturer's recommendations and FM Global recommended good practices.

2.2 ABOVEGROUND PIPING MATERIALS

- A. Comply with requirements in "Piping Schedule" Article for applications of pipe, tube, and fitting materials, and for joining methods for specific services, service locations, and pipe sizes.

2.3 STEEL PIPE AND FITTINGS

- A. Standard Weight, Galvanized- and Black-Steel Pipe: ASTM A 53/A 53M, Type E, Grade B. Pipe ends may be factory or field formed to match joining method.

- B. Schedule 30, Black-Steel Pipe: ASTM A 135; ASTM A 795/A 795M, Type E; or ASME B36.10M, wrought steel; with wall thickness not less than Schedule 30 and not more than Schedule 40. Pipe ends may be factory or field formed to match joining method.
- C. Schedule 10, Black-Steel Pipe: ASTM A 135 or ASTM A 795/A 795M, Schedule 10 in NPS 5 and smaller; and NFPA 13-specified wall thickness in NPS 6 to NPS 10. Pipe ends may be factory or field formed to match joining method.
- D. Galvanized- and Black-Steel Pipe Nipples: ASTM A 733, made of ASTM A 53/A 53M, standard-weight, seamless steel pipe with threaded ends.
- E. Steel Couplings: ASTM A 865, threaded.
- F. Galvanized and Uncoated, Gray-Iron Threaded Fittings: ASME B16.4, Class 125, standard pattern.
- G. Malleable- or Ductile-Iron Unions: UL 860.
- H. Cast-Iron Flanges: ASME 16.1, Class 125.
- I. Steel Flanges and Flanged Fittings: ASME B16.5, Class 150.
- J. Grooved-Joint, Steel-Pipe Appurtenances:
 - 1. Pressure Rating: 175 psig minimum.
 - 2. Galvanized and Uncoated, Grooved-End Fittings for Steel Piping: ASTM A 47/A 47M, malleable-iron casting or ASTM A 536, ductile-iron casting; with dimensions matching steel pipe.
 - 3. Grooved-End-Pipe Couplings for Steel Piping: AWWA C606 and UL 213, rigid pattern, unless otherwise indicated, for steel-pipe dimensions. Include ferrous housing sections, EPDM-rubber gasket, and bolts and nuts.
- K. Steel Pressure-Seal Fittings: Shall not be used.
- L. All fire suppression pipe shall be painted red.

2.4 LISTED FIRE PROTECTION VALVES

A. General Requirements

- 1. Valves shall be UL listed or FM approved.
- 2. Minimum Pressure Rating for Standard-Pressure Piping: 175 psig.

B. Ball Valves

- 1. Standard: UL 1091 except with ball instead of disc.
- 2. Valves NPS 1-1/2 and Smaller: Bronze body with threaded ends.
- 3. Valves NPS 2 and NPS 2-1/2: Bronze body with threaded ends or ductile-iron body with grooved ends.
- 4. Valves NPS 3: Ductile-iron body with grooved ends.

C. Check Valves:

1. Standard: UL 312
2. Pressure Rating: 250 psig minimum.
3. Type: Swing Check
4. Body Material: Cast Iron
5. End Connection: Flanged or grooved.

D. Iron OS&Y Gate Valves

1. Standard: UL 262.
2. Pressure Rating: 175 psig minimum.
3. Body Material: Cast or ductile iron.
4. End connections: Flanged or grooved.

E. Indicating-Type Butterfly Valves:

1. Standard: UL 1091.
2. Pressure Rating: 175 psig minimum.
3. Valves NPS 2 and Smaller:
 - a. Valve Type: Butterfly or OS&Y.
 - b. Body Material: Bronze
 - c. End Connection: Threaded
4. Valves NPS 2-1/2 and Larger:
 - a. Valve Type: Butterfly or OS&Y.
 - b. Body Material: Cast or ductile iron.
 - c. End Connections: Flanged, grooved, or water.
5. Valve Operation: Integral electrical, prewired, two-circuit, supervisory switch, visual indicating device. Supervisory switch for normally closed valve shall signal when valve begins to open.
6. All valves shall be painted red.

2.5 AUTOMATIC AIR VENTS

A. General Requirements:

1. Nitrogen Inerting Vent: Provide UL Listed or FMG Approved nitrogen inerting vent where indicated, to introduce nitrogen into the piping system to purge oxygen. Once piping has been inerted with Nitrogen gas to at least 98%, piping system filled with water, and the vent allows trapped gases to vent from the piping, and closes when water reaches the vent. Provide redundant float valve, pressure relief valve set at 40 psi and sight glass on each system. Provide nitrogen gas with supply hose and injection port. Provide remote inerting stations as required to facilitate nitrogen inerting.

2.6 ALARM DEVICES:

A. Waterflow Switch:

1. Paddle type waterflow switch to match piping. Standard: UL 346.
2. Water-Flow Detector: Electrically supervised.
3. Components: Two single-pole, double-throw circuit switches for isolated alarm and auxiliary contacts, 7 A, 125-V ac and 0.25 A, 24-V dc; complete with factory-set, field-adjustable retard element to prevent false signals and tamperproof cover that sends signal if removed.
4. Type: Paddle operated.
5. Pressure Rating: 250 psig (1725 kPa).
6. Design Installation: Horizontal or vertical.

B. Valve Supervisory Switch

1. Standard: UL 346.
2. Type: Electrically supervised.
3. Components: Single-pole, double-throw switch with normally closed contacts.
4. Design: Signals that controlled valve is in other than fully open position.
5. 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.

2.7 SPRINKLER PIPING SPECIALTIES

A. Flexible Sprinkler Hose Fittings:

1. Standard: UL 1474.
2. Type: Flexible hose for connection to sprinkler, and with bracket for connection to ceiling grid.
3. Pressure Rating: 175-psig minimum.
4. Size: Same as connected piping, for sprinkler.
5. Provide at Contractor's option, in areas with suspended ceilings.

2.8 SPRINKLERS

A. General Requirements:

1. Pressure Rating for Automatic Sprinklers: 175 psig minimum.

B. Automatic Sprinklers with Heat-Responsive Element:

1. Nonresidential Applications: UL 199.

C. Sprinkler Finishes: White polyester corrosion resistant finish in areas without suspended ceilings, white in all other areas.

D. Sprinkler Escutcheons: Match sprinkler finish.

- E. Sprinkler Guards: where mounted at an elevation of 84 inches or below, where subject to damage, in locations shown on the drawings, and as otherwise required by NFPA 13.
 - 1. Standard: UL 199.
 - 2. Type: Wire cage with fastening device for attaching to sprinkler.

2.9 PRESSURE GAUGES

- A. Standard: UL 393.
- B. Dial Size: 3-1/2- to 4-1/2-inch (90- to 115-mm) diameter.
- C. Pressure Gauge Range: 0- to 250-psig minimum.
- D. Label: Include "WATER" label on dial face.

PART 3 - EXECUTION

3.1 PREPARATION

- A. Obtain current fire pump test results for basis of hydraulic calculations. Perform fire-hydrant flow test according to NFPA 13 and NFPA 291.

3.2 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. File written approval with Architect before deviating from approved working plans.
- B. Piping Standard: Comply with requirements for installation of sprinkler piping in NFPA 13.
- C. Use listed fittings to make changes in direction, branch takeoffs from mains, and reductions in pipe sizes.
- D. Install hangers and supports for sprinkler system piping according to NFPA 13. Comply with requirements for hanger materials in NFPA 13.
- E. Install Inspector's Test Connections in sprinkler system piping, complete with shutoff valve, sized, installed and located per NFPA 13. Discharge to concrete splash block or pavement at building exterior.
- F. Install sprinkler piping with drains and vents for complete system drainage.

- G. Install sleeves for piping penetrations of walls and ceilings. Install escutcheons at exposed wall penetrations. Install approved firestop at penetrations through fire rated construction.
- H. Install blind flange at lead-ins to demolished sprinkler risers.
- I. Purge sprinkler systems with nitrogen. Fill sprinkler system piping with water.

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. Ream ends of pipes and tubes and remove burrs. Bevel plain ends of steel pipe.
- C. Remove scale, slag, dirt, and debris from inside and outside of pipes, tubes, and fittings before assembly.
- D. 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.
- E. 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.
- F. 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.

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.

3.5 AUTOMATIC NITROGEN INERTING VENT INSTALLATION

- A. Install one nitrogen inerting vent per wet pipe sprinkler system served by the fire pump at or near the remote high point of the sprinkler branch piping in an accessible approved location above a corridor or walkway. Provide a length of piping to facilitate the direction of any water discharged into a container. Piping between sprinkler piping and vent shall not create a water trap, and shall not require routing piping to drain. Install pressure indicating element in a location visible from the floor.
- B. Inert each piping system with nitrogen gas to 98% nitrogen per manufacturer's recommendations. Open the valve to ensure as much trapped air/nitrogen is released from the system as possible. Complete nitrogen protocol as recommended by the manufacturer shall be provided. Contain any water discharged during venting so as to not damage building contents.

3.6 INSTALLATION OF SPRINKLERS

- A. Install sprinklers in suspended ceilings in center of narrow dimension of acoustical ceiling panels.

3.7 IDENTIFICATION

- A. Install labeling and pipe markers on equipment and piping. Provide signage according to requirements in NFPA 13.
- B. Identify system components, wiring, cabling, and terminals.

3.8 FIELD QUALITY CONTROL

- A. Perform tests and inspections in the presence of Authority Having Jurisdiction, Insuring Authority, Owner, and Architect/Engineer on completion of each phase of the work, per NFPA 13. Provide 14 days advance notice for scheduling purposes. Demonstrate system operation and perform all required tests.
- B. Tests and Inspections:
 - 1. Hydrostatic Test: After installation, charge systems and test for leaks. Repair leaks and retest until no leaks exist.
 - 2. System operational Tests: Test and adjust controls and safeties
 - 3. Perform main drain test.
 - 4. Flush, test, and inspect sprinkler systems according to NFPA 13, "Systems Acceptance" Chapter.
 - 5. Energize circuits to electrical equipment and devices.
 - 6. Coordinate with fire alarm tests. Operate as required.
 - 7. Record system information and test results on the Contractor's Material and Test Certificate for Aboveground Piping.

- C. Sprinkler piping system will be considered defective if it does not pass tests and inspections.
- D. Prepare test and inspection reports. Include Contractor's Aboveground Material and Test Certificates and flow test results.
- E. Provide stamped or engraved hydraulic sign and general information sign on each riser per NFPA 13.

3.9 CLEANING

- A. Clean dirt and debris from sprinklers.
- B. Remove and replace sprinklers with paint other than factory finish.
- C. Install paper or cellophane bags on sprinklers located in paint booths.

3.10 DEMONSTRATION

- A. Engage a factory-authorized service representative to train Owner's maintenance personnel to adjust, operate, and maintain nitrogen venting system.

3.11 PIPING SCHEDULE

- A. Standard-pressure, wet pipe sprinkler system, NPS 1 and larger, shall be one of the following:
 - 1. Standard-weight, Schedule 40 or Schedule 30, black-steel pipe with threaded ends; uncoated, gray-iron threaded fittings; and threaded joints.
 - 2. Standard-weight, Schedule 40 or Schedule 30, black-steel pipe with cut- or roll-grooved ends; uncoated, grooved-end fittings for steel piping; grooved-end-pipe couplings for steel piping; and grooved joints.
 - 3. Standard-weight, Schedule 40 or Schedule 30, black-steel pipe with plain ends; steel welding fittings; and welded joints.
 - 4. Schedule 10, black-steel pipe with roll-grooved ends; uncoated, grooved-end fittings for steel piping; grooved-end-pipe couplings for steel piping; and grooved joints.

3.12 SPRINKLER SCHEDULE

- A. Use sprinkler types in subparagraphs below for the following applications:
 - 1. Rooms without Ceilings: Upright sprinklers.
 - 2. Rooms with Suspended Ceilings: Recessed sprinklers.
 - 3. Wall Mounting: Sidewall sprinklers.
 - 4. Spaces Subject to Freezing: Pendent, dry sprinklers.
 - 5. Storage Area Sprinklers: CMSA or CMDA.

END OF SECTION



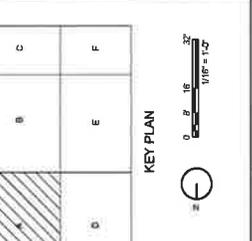
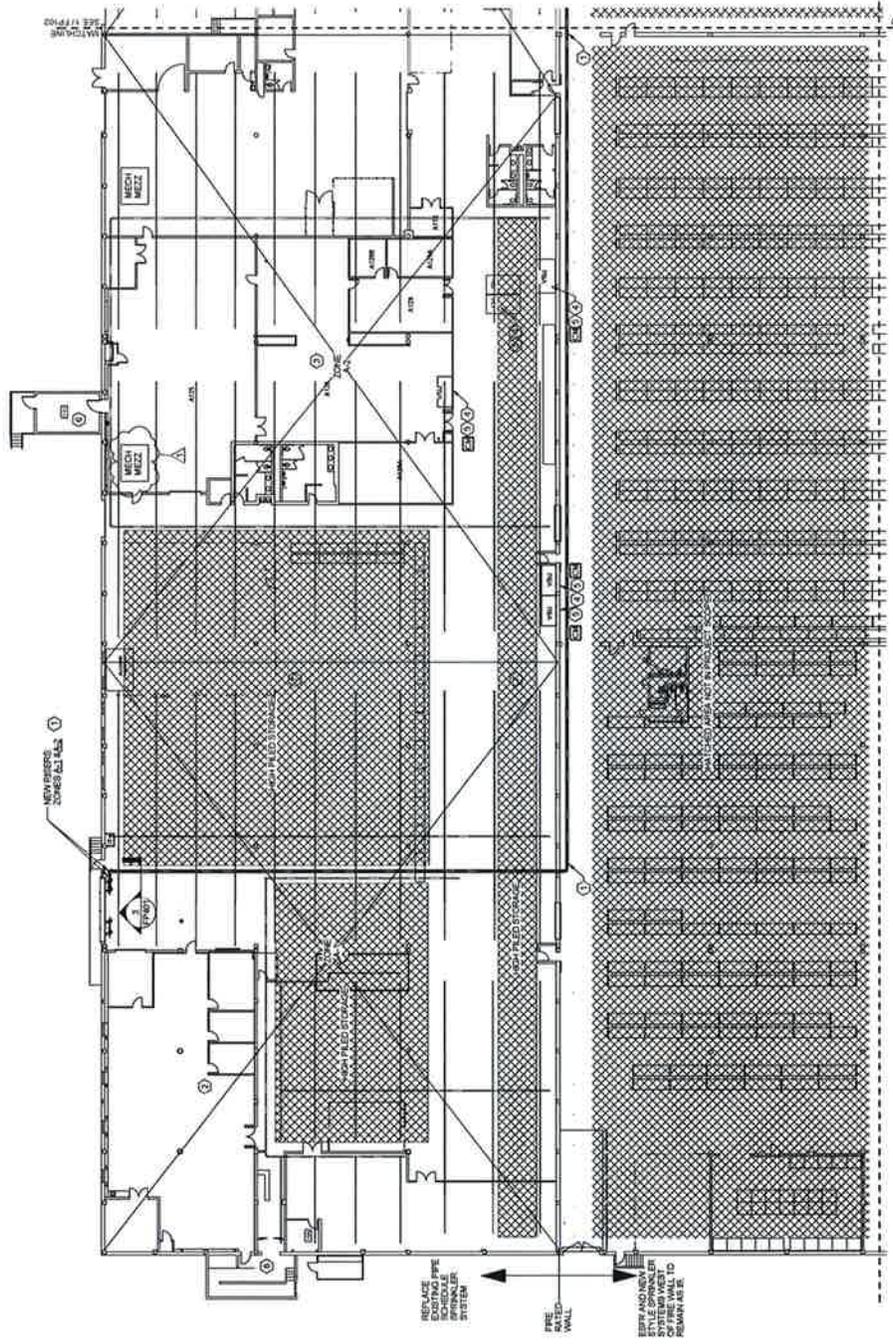
**OCAT - MMAC
Logistics Support Facility - East Side
Sprinkler Replacement - East Side
Oklahoma City, Oklahoma**

PROJECT NUMBER	10000000000000000000
PROJECT NAME	OCAT - MMAC
PROJECT ADDRESS	10000000000000000000
PROJECT CITY	OKLAHOMA CITY, OK
PROJECT STATE	OK
PROJECT ZIP	73102
PROJECT DATE	03/28/2021

DESIGNED BY	MLG
CHECKED BY	JME
PROJECT MANAGER	JME
DATE	03/28/2021
SCALE	1/8" = 1'-0"
PROJECT PLAN	AREA A
DATE	MARCH 28, 2021
PROJECT	FP101

- SHEET KEYNOTES**
1. BULK MAINS AND TO NEW RISER MANHOLE
 2. ZONE A-1 (A-2) TO BE INSTALLED IN PHASE 1
 3. PROVIDE BIRD BARRIERS AT LEAST 15' HIGHER THAN THE ROOF
 4. PROVIDE BIRD BARRIERS AT LEAST 15' HIGHER THAN THE ROOF
 5. PROVIDE A SPRINKLER INSIDE THE VERTICAL MEZZANINE
 6. PROVIDE A SPRINKLER INSIDE THE VERTICAL MEZZANINE
 7. PROVIDE A SPRINKLER INSIDE THE VERTICAL MEZZANINE
 8. PROVIDE A SPRINKLER INSIDE THE VERTICAL MEZZANINE
 9. PROVIDE A SPRINKLER INSIDE THE VERTICAL MEZZANINE
 10. PROVIDE A SPRINKLER INSIDE THE VERTICAL MEZZANINE

- GENERAL NOTES**
- A. ALL AREAS ON THIS SHEET ARE CLASSIFIED AS LIGHT HAZARD UNLESS OTHERWISE NOTED.
 - B. ALL AREAS ENCLOSED OFFICES WITH CEILING SPRINKLER PIPING PER ASHRAE 173 FOR REFERENCE. FIELD VERIFY EXISTING.
 - C. SEE SHEET A0101 FOR ADDITIONAL NOTES.





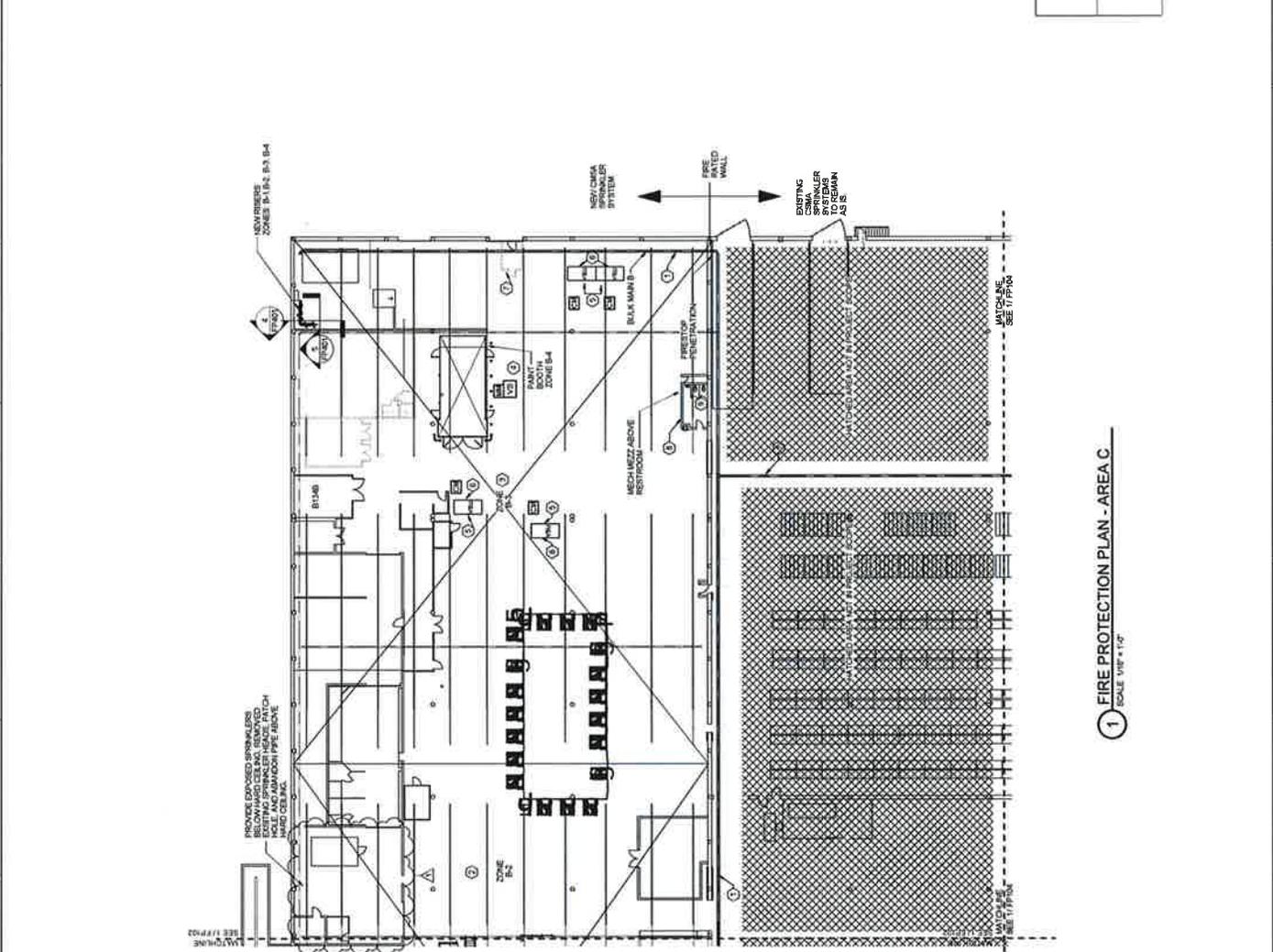
**OCAT - MMAC
Logistics Support Facility - East Side
Sprinkler Replacement - East Side**
Oklahoma City, Oklahoma

PROJECT NUMBER	2021-027-00
DATE	03/15/2024
DESIGNED BY	J.M.G.
CHECKED BY	J.M.G.
PROJECT MANAGER	J.M.G.
DATE	03/15/2024

PROJECT NUMBER	2021-027-00
DATE	03/15/2024
DESIGNED BY	J.M.G.
CHECKED BY	J.M.G.
PROJECT MANAGER	J.M.G.
DATE	03/15/2024

- SHEET KEYNOTES**
- BULK MAIN A AND B TO NEW RISER MANIFOLDS TO BE INSTALLED IN PHASE 1.
 - PHASE 1 RISER MANIFOLDS TO BE INSTALLED IN PHASE 1.
 - EXISTING RISER MANIFOLD TO REMAIN AND SPRINKLER PIPING TO REMAIN. SYSTEM TO BE MONITORED BY SWITCH MONITORED BY THE FIRE ALARM SYSTEM.
 - EXISTING RISER MANIFOLD TO REMAIN AND SPRINKLER PIPING TO REMAIN. SYSTEM TO BE MONITORED BY SWITCH MONITORED BY THE FIRE ALARM SYSTEM.
 - EXISTING RISER MANIFOLD TO REMAIN AND SPRINKLER PIPING TO REMAIN. SYSTEM TO BE MONITORED BY SWITCH MONITORED BY THE FIRE ALARM SYSTEM.
 - EXISTING RISER MANIFOLD TO REMAIN AND SPRINKLER PIPING TO REMAIN. SYSTEM TO BE MONITORED BY SWITCH MONITORED BY THE FIRE ALARM SYSTEM.
 - EXISTING RISER MANIFOLD TO REMAIN AND SPRINKLER PIPING TO REMAIN. SYSTEM TO BE MONITORED BY SWITCH MONITORED BY THE FIRE ALARM SYSTEM.
 - EXISTING RISER MANIFOLD TO REMAIN AND SPRINKLER PIPING TO REMAIN. SYSTEM TO BE MONITORED BY SWITCH MONITORED BY THE FIRE ALARM SYSTEM.

- GENERAL NOTES**
- ROUTE SPRINKLER SYSTEM PIPING TO BE EXPOSED IN AREAS WITH HARD CEILING.



1 FIRE PROTECTION PLAN - AREA C
SCALE: 1/8" = 1'-0"