Tuesday, June 6, 2023
Addendum #1

UNIVERSITY OF NORTH CAROLINA CHAPEL HILL
UNIVERSITY ART STUDIO – FIRE PROTECTION
GROUP 4: MULTIPLE CHILLER REPLACEMENTS
UNCCH POID # Y23JME0010 | SCO ID # 22-24805-01A | Sigma Project # 22031

This addendum shall become a part of plans and specifications. The contractor shall acknowledge receipt of this addendum in the bid proposal.

ITEM 1 – PRE-BID MEETING MINUTES

a) Attached.

ITEM 2 – GENERAL

a) Clarification – All pipe shown above gyp. ceilings is intended to be installed above the ceiling. Removal of ceiling where required to install sprinkler pipe shall be repaired and painted to match existing finish.

ITEM 3 – CHANGES TO SPECIFICATIONS

a) **NOTICE TO BIDDERS:** Bid time will be officially closed on **Wednesday, JUNE 14, 2023** at **3:00 PM** and all hand-delivered bids shall be dropped off at Giles Horney Building lobby in the designated locked drop off box under the LED monitor or hand delivered at bid opening location.

b) SECTION 260533 – RACEWAY AND BOXES FOR ELECTRICAL SYSTEMS, Section 2.1. Change to read as follows: ***"Raceway in interior spaces may be EMT except mechanical rooms where they shall be rigid up to 8'-0" above finished floor. All exterior conduit needs to be RMC above grade, but RNC is acceptable below grade if concrete encased in a minimum of 3" of concrete. Any elbows where we transition from RNC to RMC the elbow and conduit to above grade needs to be rigid. ¾" c (minimum) is acceptable for fire alarm, but UNC's electrical guidelines require all interior conduit to be ¾" c (minimum) and all exterior conduit to be 1" c (minimum)".***

ITEM 4 – CHANGES TO DRAWINGS

a) Sheet F100 – Revised to include PIV.

b) Sheet E200 – Revised to include PIV fire alarm connection.

c) Sheet E401 - Revised to include PIV on riser diagram and fire alarm matrix.

ITEM 5 – CONTRACTOR QUESTIONS

The following questions have been asked during bidding:

a) ***Q:*** The bid time is listed as 2:00 pm on page 12 of the specs. However, Reggie's e-mail dated 5/16 states the bid time is 3:00 pm.

A: Original bid time is canceled, and a new bid time has been scheduled for 6/14/2023 @ 3:00 pm in the Persimmon Conference Room (Giles Horney Building Rm 129).

b) ***Q:*** Per specification section 260533 Part 2 products, it states power to be ¾" RMC conduit and fire alarm to be 1" RMC. All the conduit in the building is EMT ½" & ¾" for power and ¾" for fire alarm. Need to verify what size and conduit to use.

A: Raceway in interior spaces may be EMT except mechanical rooms where they shall be rigid up to 8'-0" above finished floor. All exterior conduit needs to be RMC above grade, but RNC is acceptable below grade if concrete encased in a minimum of 3" of concrete. Any elbows where we transition from RNC to RMC the elbow and conduit to above grade needs to be rigid. ¾" c (minimum) is acceptable for fire alarm, but UNC's electrical guidelines require all interior conduit to be ¾" c (minimum) and all exterior conduit to be 1" c (minimum).

c) ***Q:*** *There is also no PIV with tamper switch shown on the electrical or sprinkler drawings*

A: Refer to sheets listed under ITEM 4 – CHANGES TO DRAWINGS.

ITEM 6 – FORMS

a) None at this time.

End of Addendum

Attachments:
Pre-Bid Meeting Minutes
Sheets F100, E200, E401

Meeting Minutes

Project #:	22031	**Today's date:**	05/19/23
Project Name:	**UNC – Art Studio Fire Protection** **SCO # 22-24805-01A**		
Location:	103 Airport Drive, Chapel Hill, NC 27516 – Giles Horney Bldg. – Magnolia Conference Rm. 100	**Meeting Date:**	05/18/23
Topic(s):	Pre-Bid Meeting		
Distribution:	Attendees, All Bidders		

Agenda: **Pre-Bid Meeting**

I. Sigma gave a brief overview of the project:

1. Sigma gave a brief overview of the campus and working at UNC.

2. The project goals are provide wet system fire protection of the interior spaces and dry system fire protection of the exterior.

II. Sigma reviewed the Alternates for the project:

1. There is currently no preferred brand alternates.

III. Unit Prices and Allowances

1. See Section 010300 "Alternates and Unit Prices" for complete descriptions of Work included under applicable Allowances.

Quantity Allowances.

Item	Description	Unit	Unit Qty.
A-1	1-1/4" sprinkler pipe	Liner Feet	20
A-2	1-1/2" sprinkler pipe	Liner Feet	20
A-3	2" sprinkler pipe	Liner Feet	20
A-4	2-1/2" sprinkler pipe	Liner Feet	20
A-5	4" sprinkler pipe	Liner Feet	20
C-1	Rock removal and disposal off site	Cubic Yard	10
C-2	Unsuitable soils removal and disposal off site	Cubic Yard	10
C-3	Replacement of removed rock or unsuitable soils with Aggregate Base Course in-place.	Cubic Yard	10

IV. Schedule and Time of Completion

1. Project shall be completed in 142 consecutive calendar days from the notice to proceed with liquidated damages in the amount of $200 per calendar day that construction extends beyond the completion date.

Meeting Minutes

V. Use of Building and Facilities

1. Parking-there is ample parking at the facility.
2. Utilities-the contractor may use the building's utilities as necessary for their work.
3. Protection of Building and Site during Construction
4. Work Hours-work hours shall be between 7:00 am and 5:00 pm Monday - Friday. Weekend and holiday work may be allowed with coordination through the owner.
5. Temp toilet locations will be the responsibility of the contractor.
6. Project will require a major coordination effort between the contractor, designer, and owner to identify work areas that can proceed in while the building is occupied.
7. Contractor shall also be responsible for protection of finishes and equipment during construction. Coordination will be required with owner for protection of certain equipment in the space.

VI. Misc.

1. Last day for questions – Sigma Engineered Solutions will take questions up to May 25th, 2023 at 8:00 am. Final addendum will be posted no later than May 30th, 2023 at 5:00 p.m. No further questions will be received after that time.
2. Questions and Answers – All questions will be answered in Addenda. Sigma noted that verbal answers had no bearing and that the contractors should only follow written instruction given by the Designer.
3. All bidders shall e-mail any questions to Brent Hanes at bhanes@sigmaes.com. Sigma will e-mail back a response within 48 hours. The response will either show the contractor where the requested information is in the documents or state that the requested information will be contained in any upcoming addendum.
4. Bids will be opened at Giles Horney Bldg., ~~on June 8th, 2023 at 3:00 pm~~. Bidders who are in the Lobby by 3:00 pm will be counted as being present and on time.
5. Minority Business requirements: See the Guidelines for Recruitment and Selection of Minority Businesses for Participation in State Construction Contracts. 10% participation is the goal.
6. MBE Affidavits: Two of the three forms behind the bid form must be submitted with the bids; bids without MBE forms will be discarded; submit the Identification of Minority Business Participation form and Affidavits A with the bids (Affidavit C or D is submitted within 72 hours by the apparent low bidder). It is noted that if the contractor cannot provide 10% WMBE participation then the required back-up showing good faith efforts would be required. This will probably be heavily scrutinized by the Owner, Designer and SCO to insure good-faith efforts were made.
7. The contractor is reminded bids should be provided in sealed envelopes and must be properly executed. Bids not properly executed may be rejected. Only State forms should be used.

VII. In addition, the following was discussed:

1. Sigma noted that it is imperative that the contractors bring their subs to the site. A general walk through is scheduled after this meeting and a follow up walkthrough is scheduled for May 23rd at 1:00 pm.
2. Coordinate appointment with David Sharp – UNC Construction Manager
   Phone #: 919-904-0839, email: David.Sharpe@fac.unc.edu

Refer to revised time posted in Addendum.

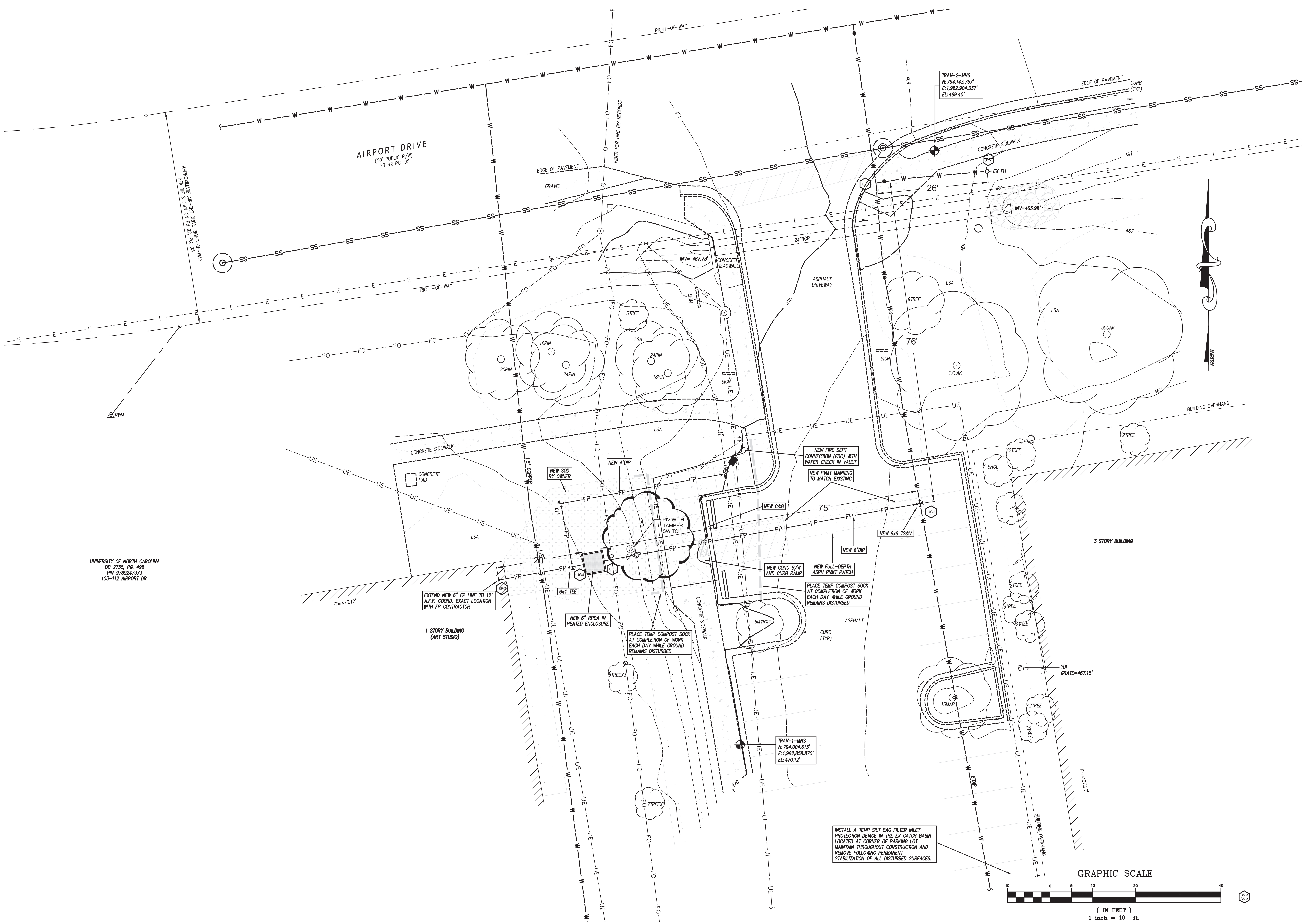
Pre Bid Meeting – List of Attendees

Meeting Date: 05-18-2023

Project: **UNC Chapel Hill Art Studio – Fire Protection** **Project #** **22031**

Location: Giles Horney Bldg. – Chapel Hill **Time:** 2:00 pm

Name	Company	Telephone #	E-mail
Brent Hanes	Sigma	(919) 906-3894	bhanes@sigmaes.com
Jason Knoernschild	Berry Building Group	(919) 810-4120	jasonk@berrybg.com
Logan Willis	Bar Construction	(336) 274-2477	bids@barconstruction.com
Will Bolton	Bolton Construction	(919) 834-7933	willbolton@botonrdu.com constructionaa@boltonrdu.com
Jeff Potter	Bolton Construction	(919) 896-1905	jeffreypotter@boltonrdu.com
Cesareo Galvan	Precise Sprinkler	(919) 278-8610	cesareo@precisesprinkler.com
Bruce Presnell	CMC Building	(910) 228-9460	bpresnell@cmcbuildinginc.com
Laura Hager	LF Jennings	(919) 916-8360	lhager@lfjennings.com
Tom Murray	HM Kern Corp.	(336) 207-0733	jkepley@hmkern.com
Reggie Stewart	UNC	(984) 215-0881	rmstewar@facilities.unc.edu
David Sharp	UNC	(919) 904-0839	david.sharp@facilities.unc.edu
Parin Bodiwaca	CMC Building	(919) 491-8031	parin@cmcbuildinginc.com
Sakara Smith	SGS Contracting	(984) 439-9112	sakara@sgscontractingnc.com



NORTH
1 SITE PLAN - FIRE PROTECTION - (FOR REFERENCE ONLY)
SCALE: 1" - 10'-0"

The University of North Carolina at Chapel Hill

Facilities Services Division
Architectural and Engineering Services Department

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103 Airport Drive
Giles F. Horney Building
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Sigma Project #: 22031
NC ENG LIC# C-2490

Fire Protection For ART STUDIO BLDG.
PO ID: Y23JME0010
SCO ID #: 22-24805-01A

Digitally signed by Brent Hanes
Date: 2023.06.05 16:08:23 -04'00'
SEAL 034319 ENGINEER BRENT HANES

revisions

ADDENDUM #1 - 6 JUNE 2023

building number	462
drawing number	.
cadd file number	.
drawn by	RBH
checked by	RBH
date	12 MAY 2023
work request number	

FIRE PROTECTION SITE PLAN

F100

1 FLOOR PLAN - ELECTRICAL - DEMOLITION

SCALE: 1/8" - 1'-0"

NORTH

0 4' 8' 16'

KEYED NOTES:

1. EXISTING EDWARDS EST3 FIRE ALARM CONTROL PANEL TO REMAIN AND BE MODIFIED. REFER TO FIRE ALARM RISER FOR MODIFICATION INFORMATION.
2. NEW SPRINKLER FLOW AND TAMPER SWITCH TO BE CONNECTED INTO FIRE'S INITIATION LOOP. REPROGRAM SYSTEM AND TEST SYSTEM FOR PROPER OPERATION.
3. NEW NITROGEN GENERATOR "NG-1", PROVIDE 30AMP DISCONNECT SWITCH FUSED AT 20 AMP NEXT TO GENERATOR. PROVIDE CIRCUIT AS SHOWN.
4. EXISTING PANELBOARD "E" TO REMAIN AND BE MODIFIED.
5. FIRE ALARM SHALL MONITOR NITOGEN GENERATOR SYSTEM FOR TROUBLE VIA MONITOR MODULE. TIE INTO DRY ON NG SYSTEM. PROVIDE WIRING IN 3/4" CONDUIT AND TIE INTO EXISTING FIRE ALARM LOOP IN THIS AREA.
6. MONITOR MODULES AND SURGE PROTECTION DEVICES FOR SPRINKLER HOT BOX HEATER AND TAMPERS SWITCHES. REFER TO DRAWING C2.1 FOR LOCATION OF SPRINKLER HOT BOX.
7. DISCONNECT SWITCH FOR SPRINKLER HOT BOX HEATER GFI RECEPTACLE. REFER TO DRAWING C2.1 FOR LOCATION OF SPRINKLER HOT BOX AND C4.2 FOR ADDITIONAL HOT BOX INFORMATION.
8. WEATHERPROOF, GFI RECPTACLE FOR SPRINKLER HOT BOX HEATER. REFER TO DRAWING C2.1 FOR LOCATION OF SPRINKLER HOT BOX.
9. 24V SPRINKLER BELL TO BE CONNECTED TO THE FIRE ALARM PANEL.
10. NEW EMERGENCY LIGHT TO BE CONNECTED TO ROOM LIGHT CIRCUIT AHEAD OF ANY SWITCHES.
11. EXISTING RECEPTACLE TO BE REPLCED WITH NEW GROUND FAULT TYPE RECEPTACLE.
12. PROVIDE A RED BREAKER LOCK ON DEVICE ON FIRE ALARM PANEL CIRCUIT 27.
13. TAMPER SWITCH AND SURGE PROTECTION DEVICES FOR PIV. REFER TO DRAWING C2.1 FOR LOCATION OF PIV.

GENERAL NOTES:

1. REFER TO SHEET E001 FOR ELECTRICAL SYMBOLS, ABBREVIATIONS AND GENERAL NOTES .

LIGHTING FIXTURE SCHEDULE

TYPE	DESCRIPTION	MANUFACTURE NAME	MANUFACTURE CATALOG MUNBER	LAMPS	NO. OF BALLASTS	INPUT WATTS	VOLT	REMARKS
EM	WALL MOUNTED EMERENCY LIGHT , LED, WITH NI-CAD BATTERY	CHLORIDE	CLU-N-W	LED	LED DRIVER	3	UNV	PROVIDE WITH 90 MINUTE EMERGENCY BATTERY BACK UP PER NEC 700.12.

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NC ENG LIC# C-2490

Fire Protection For ART STUDIO BLDG.

PO ID: Y23JME0010
SCO ID #: 22-24805-01A

DocuSigned by: Mr. Reginald D. Adams

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 19658 REGINALD D. ADAMS

6/5/2023

revisions

ADDENDUM #1 - 6 JUNE 2023

building number 462

drawing number .

cadd file number .

drawn by MP

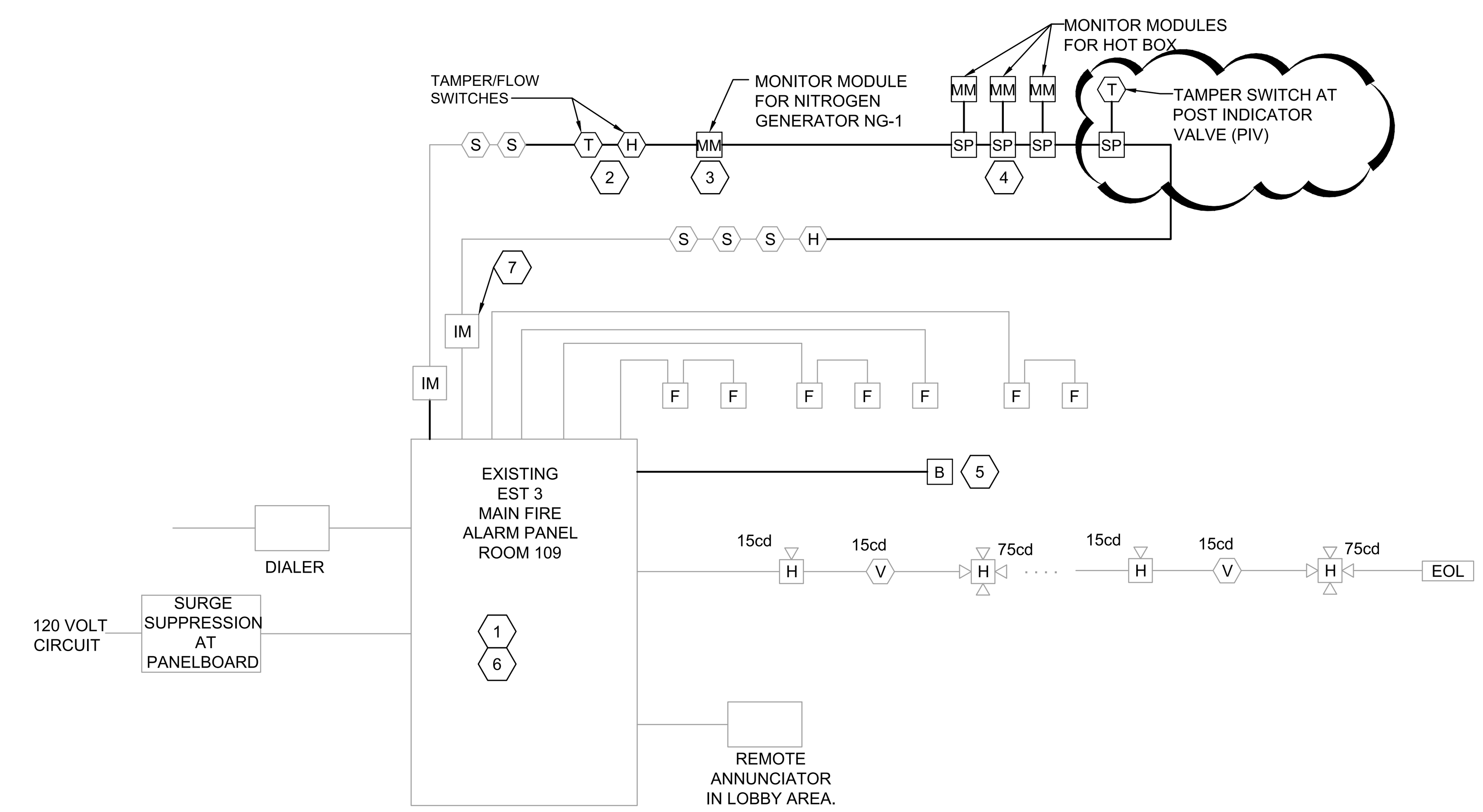
checked by RDA

date 12 MAY 2023

work request number

ELECTRICAL NEW WORK

E200



1 FIRE ALARM RISER DIAGRAM
NO SCALE:

KEYED NOTES:

1. EXISTING FIRE ALARM CONTROL PANEL TO REMAIN AND BE MODIFIED.
2. NEW SPRINKLER FLOW AND TAMPER SWITCH TO BE CONNECTED INTO FIRE'S INITIATION LOOP.
3. MONITOR MODULE TO BE CONNECTED DRY CONTACT ON NITROGEN GENERATOR NG-1.
4. MONITOR MODULES AND SURGE PROTECTION DEVICES FOR HOT BOX HEATER AND TAMPER SWITCHES
5. 24 VOLT SPRINKLER BELL TO ACTIVATE ON SPRINKLER WATER FLOW AND CAN ONLY BE RESET ONCE SPRINKLER WATER FLOW HAS STOPPED.
6. RE-PROGRAM FIRE ALARM PANEL AND TEST SYSTEM FOR PROPER OPERATION.
7. EXISTING ISOLATION MODULE. PROVIDE NEW ISOLATION MODULES AS NECESSARY.

FIRE ALARM SYSTEM RESPONSE MATRIX

SYSTEM INPUTS	Control Unit Annuciation							Notification					Dialer						
	Common Alarm Indicator	Audible Alarm Signal	Common Supervisory Signal	Audible Common Sup. Signal	Common Trouble Signal	Audible Common Trouble Signal	Floor Alarm Indicators	Activate Floor Evacuation Signal	Transmit Alarm Signal	Transmit Supervisory Signal	Transmit Trouble Signal	Activate Sprinkler Bell	Transmit Alarm Signal	Transmit Supervisory Signal	Transmit Trouble Signal	Transmit Water Flow	Close Magnetic Doors	Send Signal to BAS Control Panels (each HVAC Room)	AHU Shutdown
Manual Pull Stations	X	X					X	X	X				X				X	X	X
Smoke Detectors-Floor	X	X					X	X	X				X				X	X	X
Heat Detectors-Floor	X	X					X	X	X				X				X	X	X
Duct detectors	X	X					X	X	X				X				X	X	X
Heat Detectors	X	X					X	X	X				X				X	X	X
Tamper Switch- PIV			X	X						X									
Low Temperature-Hot Box			X	X						X									
Tamper Switch-Hot Box			X	X						X									
Tamper Switch			X	X						X									
Flow Switch	X	X					X	X				X	X						X
Nitrogen Generator						x					x				x				
Sprinkler Control Valves			X	X						X				X					
Fire Alarm Loss of AC Power					X	X					X				X				
Fire Alarm Low Battery					X	X					X				X				
AHU Override/Test Switch					X	X					X				X				
Open Circuit					X	X					X				X				
Ground Fault					X	X					X				X				
Notification Appliance circuit short					X	X					X				X				

FIRE ALARM RISER GENERAL NOTES:

1. THIS DRAWING IS INTENDED TO SHOW ONLY WHICH DEVICES ARE CONNECTED TO WHICH CIRCUIT. THIS DRAWING DOES NOT SHOW THE OPTIMUM PATH FOR THE CIRCUITS. REFER TO FLOOR PLAN FOR SPECIFIC QUANTITIES AND LOCATIONS OF FIRE ALARM DEVICES. REFER TO FIRE PROTECTION FLOOR PLANS FOR EXACT QUANTITIES OF TAMPER, FLOW, AND SUPERVISORY VALVES. REFER TO MECHANICAL FLOOR PLANS FOR EXACT QUANTITIES AND LOCATIONS OF DUCT DETECTORS.
2. ALL NEW FIRE ALARM CABLE SHALL BE IN MINIMUM 3/4" CONDUIT. RACEWAYS CONTAINING FIRE ALARM CONDUCTORS SHALL BE MARKED IN RED FOR READY IDENTIFICATION. UNLESS OTHERWISE NOTED ON THIS RISER.
3. ALL STROBES SHALL BE SYNCHRONIZED.
4. ALL SMOKE DETECTORS SHALL BE PHOTOELECTRIC.
5. PROVIDE ISOLATION MODULES AT THE BEGINNING AND END OF EACH LOOP (IN/AT THE FIRE ALARM PANEL) AND AFTER EVERY TWENTY (20) DEVICES.
6. ALL ADDRESSABLE LOOP CONTROLLER (INITIATING) CIRCUITS SHALL BE WIRED IN A CLASS 'A' CONFIGURATION WITH NO 'T' TAPS MADE. PROVIDE 20% SPARE ADDRESSES PER LOOP.
7. NOTIFICATION APPLIANCE CIRCUITS (NACs) SHALL BE WIRED CLASS 'B', AND ZONED ACCORDING TO MANUFACTURER'S RECOMMENDATIONS, NOT TO EXCEED 80% OF ZONE MODULE RATED OUTPUT. ALL NAC'S SHALL BE EQUIPPED WITH E.O.L. SUPERVISORY RELAYS.
8. MAINTAIN CONDUIT AND WIRING SEPARATION ON ALL CLASS 'A' LOOPS PER 2013 NFPA 72.
9. ADDITIONAL POWER AMPLIFICATION DEVICES THAT MAY BE NEEDED TO DRIVE NOTIFICATION DEVICES ARE COMPLETELY THE DUTY OF THE E.C./FIRE ALARM VENDOR TO PROVIDE. ANY POWER CIRCUITRY OR ADDITIONAL WIRING NEEDED FOR THIS SYSTEM SHALL BE PROVIDED AS PART OF THE BASE BID ON BID DAY.
10. FIRE ALARM NOTIFICATION DEVICES SHALL HAVE NOMINAL MOUNTING HEIGHT OF 80" AFF TO BOTTOM OF DEVICE. COORDINATE WITH REFLECTED CEILING PLAN AND ARCHITECT PRIOR TO ROUGH-IN. UNLESS NOTED OTHERWISE ON THE FLOOR PLANS, LIGHT LEVEL AND SOUND OUTPUT LEVELS FOR NEW DEVICES SHALL BE AS FOLLOWS:
    -STROBES 75 cd
    -HORNS 85 dB
11. ALL DEVICES SHALL BE ADA COMPLIANT.
12. INSTALLATION SHALL MEET REQUIREMENTS OF THE LATEST REVISION OF THE NFPA 72 2013 EDITION , NFPA 70 (NEC) 2020 EDITION, AND THE REQUIREMENTS OF THE LOCAL AUTHORITY HAVING JURISDICTION.
13. CONTRACTOR SHALL PROVIDE A FRAMED, PROTECTED ZONE MAP INDICATING LOCATION AND ADDRESS OF ALL INSTALLED DEVICES.
14. UPON COMPLETION, CONTRACTOR SHALL TEST AND INSPECT THE SYSTEM IN ACCORDANCE WITH NFPA 72, 2013 REVISION. SUBMIT BATTERY CALCULATIONS TO THE ENGINEER FOR REVIEW. A COMPLETED "RECORD OF COMPLETION" FORM (CHP. 1-7, NFPA 72, 2013), A COPY OF BATTERY CALCULATIONS, AND DEVICE INFORMATION SHEETS SHALL BE SUBMITTED TO THE APPROVING AGENCY PRIOR TO FINAL INSPECTION OR ENTIRE SYSTEM MUST BE RE-CERTIFIED.
15. REFER TO FIRE SUPPRESSION SHOP DRAWING BY SPRINKLER SUBCONTRACTOR FOR EXACT NUMBER AND LOCATION OF ALL TAMPER, FLOW, AND ALARM DEVICES.
16. REFER TO CONTRACT DOCUMENT FOR ADDITIONAL INFORMATION REQUIRED FOR SUBMITTALS.
17. THE FIRE ALARM CONTRACTOR SHALL SUBMIT A COPY OF THE FIRE ALARM SHOP DRAWING FOR REVIEW AND APPROVAL TO THE ENGINEER PRIOR TO SYSTEM INSTALLATION. SHOP DRAWINGS SHALL INCLUDE , BUT NOT BE LIMITED TO, ALL OF THE FOLLOWING.
    A. A FLOOR PLAN
    B. LOCATION OF ALARM-INITIATING AND NOTIFICATION APPLIANCES
    C. ALARM CONTROL AND TROUBLE SIGNALING EQUIPMENT
    D. ANNUNCIATION
    E. POWER CONNECTION
    F. BATTERY CALCULATIONS
    G. CONDUCTOR TYPE AND SIZES
    H. VOLTAGE DROP CALCULATIONS
    I. MANUFACTURERS, MODEL NUMBERS AND LISTING INFORMATION FOR EQUIPMENT, DEVICES AND MATERIALS
    J. DETAILS OF CEILING HEIGHT AND CONSTRUCTION
    K. THE INTERFACE OF FIRE SAFETY CONTROL FUNCTIONS.
18. AUDIBLE DB LEVELS THROUGHOUT THE BUILDING TO COMPLY WITH 907.6.2.1.1 AND NFPA 72: A.18.4.1.2 - A18.4.10.3.

FIRE ALARM SYMBOLS

FACP	WALL MTD FIRE ALARM CONTROL PANEL
NAC	WALL MTD FIRE ALARM NOTIFICATION APPLIANCE CONTROL PANEL
ANN	FIRE ALARM ANNUNCIATOR
F	WALL MTD FIRE ALARM PULL STATION
S	SMOKE DETECTOR, CEILING MTD
Sr	SMOKE DETECTOR, ELEVATOR CEILING MTD
H	HEAT DETECTOR, CEILING MTD
@	DUCT MOUNTED SMOKE DETECTOR
S	DUCT MOUNTED SMOKE DETECTOR AT SMOKE DAMPER
IM	ISOLATION MODULE
MM	MONITOR MODULE
CM	CONTROL MODULE
M	MAGNETIC DOOR HOLDER
SP	SURGE PROTECTOR
B	24 VOLT SPRINKLER BELL
F	FLOW SWITCH
T	TAMPER SWITCH
S xxcd	CEILING MOUNTED FIRE ALARM AUDIO/VISUAL DEVICE XXcd -CANDELA LEVEL PER DRAWING
S	CEILING MOUNTED FIRE ALARM AUDIO DEVICE
V xxcd	CEILING MOUNTED FIRE ALARM VISUAL DEVICE XXcd -CANDELA LEVEL PER DRAWING
S xxcd	WALL MOUNTED FIRE ALARM AUDIO/VISUAL DEVICE XXcd -CANDELA LEVEL PER DRAWING
S	WALL MOUNTED FIRE ALARM AUDIO DEVICE
RA	REMOTE INDICATOR LAMP WITH TEST SWITCH

SIGILLUM UNIVERSITATIS CAROL SEPTENT LUX LIBERTAS

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PO ID: Y23JME0010
SCO ID #: 22-24805-01A

DocuSigned by: SEAL 19658 ENGINEER REGINALD D. ADAMS
6/5/2023

revisions	
building number	462
drawing number	
cadd file number	
drawn by	MP
checked by	RDA
date	12 MAY 2023
work request number	

FIRE ALARM RISER

E400