

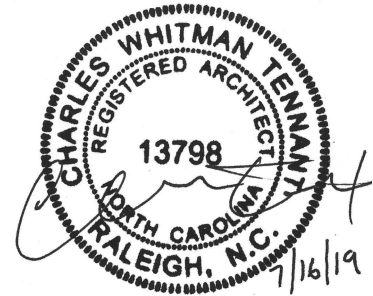
ADDENDUM 4

ADDENDUM DATE: July 16th, 2019

PROJECT: Asheboro City Schools – HVAC Installation - Gymnasiums
Asheboro, NC 27203

OWNER: Asheboro City Schools
1126 South Park St
Asheboro, NC 27203

ARCHITECT: Smith Sinnett Architecture, P.A.
4600 Lake Boone Trail, Suite 205
Raleigh, North Carolina 27607



BIDS DUE: **Tuesday, July 23rd, 2019 at 1:00 p.m.**
Asheboro City Schools
Maintenance Office – Maintenance Bay
1226 South Park Street
Asheboro, NC 27203

Please note, Project Documents and Addenda are available at www.smithsinnett.com under the 'Documents' icon on the navigation bar.

This Addendum shall be included in the contract for the above referenced project. All General, Supplementary and Special Conditions, etc., as originally specified or as modified below shall apply to these items.

General

Item 1 Bid Opening location has been changed. Sealed proposals for the **Second Bidding** will now be received until 2:00pm on Tuesday, July 23, 2019, at **Asheboro City Schools Maintenance Office – Maintenance Bay at 1226 South Park Street, Asheboro, NC 27203**

Specifications

Item 2 **REPLACE:** Specification Section 004200 – Proposal Form with
ATTACHED Specification Section 004200 – Proposal Form

- Item 3 **DELETE:** Section 012100 – Allowances; 3.3 Schedule of Allowances, D. **Allowance No. A-4:**
Alternate Routing for Power to HVAC Rooftop Units (SAMS),

The routing of power to HVAC Rooftop Units at South Asheboro Middle School indicated in the construction documents was validated by metering of the proposed sub-panel. No alternate routing of power will be required, therefore the lump sum allowance to provide for this alternate route is not needed.

Architectural Drawings

- Item 4 **REPLACE:** Sheet A1-31A - Roof Plan - NAMS. Revised sheet provides walkway pads around new HVAC Rooftop Units at North Asheboro Middle School.
- Item 5 **REPLACE:** Sheet E0-01, E0-11B, E1-11A, E1-11B, E1-11C, and E6-01. Revised sheets have removed the “Not for Construction...” note related to the metering of existing panel ‘AUD’. Data from the metering confirmed that this existing panel can meet the demands necessary to power HVAC Rooftop Units at South Asheboro Middle School. Revised sheets E0-01, E1-11A, E1-11B, and E1-11C also provide information on additional carbon monoxide detection and the existing fire alarm system.
- Item 6 **REPLACE:** Sheet M0-02, M1-11A, M1-11B, and M1-11C. Revised sheet M0-02 provides information on ventilation calculations and outside air delivery amounts. Revised sheets M1-11A, M1-11B, and M1-11C provide information on added carbon monoxide detection and relocation of a plumbing vent.

End of Addendum 4

Attached:

- Attachment: Section 004200 – Proposal Form
- Attachment: Sheet A1-31A – Roof Plan – NAMS
- Attachment: Sheet M0-02 – Mechanical Schedules and Details
- Attachment: Sheet M1-11A – Mechanical Plan – New Work – NAMS
- Attachment: Sheet M1-11B – Mechanical Plan – New Work – SAMS
- Attachment: Sheet M1-11C – Mechanical Plan – New Work – AHS – Alt #5A
- Attachment: Sheet E0-01 – Electrical Notes and Legends
- Attachment: Sheet E0-11B – Electrical Plan – Demo – SAMS
- Attachment: Sheet E1-11A – Electrical Plan – New Work – NAMS
- Attachment: Sheet E1-11B – Electrical Plan – New Work – SAMS
- Attachment: Sheet E1-11C – Electrical Plan – New Work – AHS – Alt #5A
- Attachment: Sheet E6-01 – Power Riser Diagrams

SECTION 00 42 00 - PROPOSAL FORM

PROJECT: Asheboro City Schools HVAC Installations-Gymnasiums
This shall include the following schools:
Asheboro High School, 1221 South Park Street, Asheboro, North Carolina 27203
North Asheboro Middle School, 1861 North Asheboro School Road, Asheboro, North Carolina 27203
South Asheboro Middle School 523 West Walker Avenue, Asheboro, North Carolina 27203

OWNER: Asheboro City Schools
1126 South Park Street
Asheboro, North Carolina 27203

ARCHITECT: Smith Sinnett Architecture
4600 Lake Boone Trail, Suite 205
Raleigh, North Carolina 27607

The undersigned, as bidder, hereby declares that the only person or persons interested in this proposal as principal or principals is or are named herein and that no other person than herein mentioned has any interest in this proposal or in the contract to be entered into; that this proposal is made without connection with any other person, company or parties making a bid or proposal; and that it is in all respects fair and in good faith without collusion or fraud. The bidder further declares that he has examined the site of the work and the contract documents relative thereto and has read all special provisions furnished prior to the opening of bids; that he has satisfied himself relative to the work to be performed. The Bidder proposes and agrees if this proposal is accepted to contract with Asheboro City Schools Board of Education in the form of contract specified below, to furnish all necessary materials, equipment, machinery, tools, apparatus, means of transportation and labor necessary to complete the construction of

Asheboro City Schools HVAC Installations-Gymnasiums

in full in complete accordance with the plans, specifications and contract documents, to the full and entire satisfaction of the Asheboro City Schools Board of Education, and Smith Sinnett Architecture with a definite understanding that no money will be allowed for extra work except as set forth in the General Conditions and the contract documents. The low Bidder will be determined by the total cost of the Contract with the lump sum prices of the alternates accepted being added to or deducted from the Base Bid to give the total cost of the Contract. Bidders are required to give a price for Base Bid, all Alternates, and all Unit Prices as applicable to their Contract. All Bidders are required to be licensed and in good standing with their respective North Carolina Licensing Board.

SINGLE PRIME CONTRACT:

BASE BID:

Amount: _____ Dollars (\$ _____)

ALTERNATE No 1: Mechanical Rooftop Unit Screen (SAMS)

Amount: _____ Dollars (\$ _____)

ALTERNATE No 2: Fabric Duct (SAMS)

Amount: _____ Dollars (\$ _____)

ALTERNATE No 3: Mechanical Rooftop Unit Screen (NAMS)

Amount: _____ Dollars (\$ _____)

ALTERNATE No 4: Fabric Duct (NAMS)

Amount: _____ Dollars (\$ _____)

ALTERNATE 5a: Asheboro High School Gymnasium HVAC Upgrades (AHS)

Amount: _____ Dollars (\$ _____)

ALTERNATE No. 5b: Mechanical Rooftop Unit Screen (AHS)

Amount: _____ Dollars (\$ _____)

ALTERNATE No. 5c: Fabric Duct (AHS)

Amount: _____ Dollars (\$ _____)

MAJOR SUBCONTRACTORS if any (Name, City & State)

General Subcontractor:

_____ Lic _____

Plumbing Subcontractor:

_____ Lic _____

Mechanical Subcontractor:

_____ Lic _____

Electrical Subcontractor:

_____ Lic _____

GS143-128(d) requires all single prime bidders to identify their subcontractors for the above subdivisions of work. A contractor whose bid is accepted shall not substitute any person as subcontractor in the place of the subcontractor listed in the original bid, except (i) if the listed subcontractor's bid is later determined by the contractor to be non-responsible or non-responsive or the listed subcontractor refuses to enter into a contract for the complete performance of the bid work, or (ii) with the approval of the awarding authority for good cause shown by the contractor.

ALLOWANCES

(Refer to Division 01 Section 01 21 00 – Allowances for amounts to be included in bid. Allowance amounts shall be based on the Unit Prices provided as part of Section 01 22 00). Acknowledge Allowances have been included with in the Base Bid and designated Alternates.

Included within **BASE BID**:

Acknowledgement

- UP/A-1: ACM Removal of Grey Tar at Roof Penetration
- UP/A-2: ACM Removal of Roof Core
- UP/A-3: ACM Removal of Tar & Flashing
- A-5: Contingency

UNIT PRICES

(Refer to Division 01 Section 01 22 00 - Unit Prices. For quantities, refer to Section 01 21 00 - Allowances). Unit prices quoted and accepted shall apply throughout the life of the contract, except as otherwise specifically noted. Unit prices shall be applied, as appropriate, to compute the total value of changes in the Base Bid and designated Alternates quantity of the work and in the given Allowances all in accordance with the contract documents.

BASE BID Unit Prices:

Unit Price No. UP/A-1: ACM Removal of Grey Tar at Roof Penetration: per lf. Unit Price (\$)_____

Unit Price No. UP/A-2: ACM Removal of Roof Core: per sf. Unit Price (\$)_____

Unit Price No. UP/A-3: ACM Removal of Tar & Flashing: per sf. Unit Price (\$)_____

The bidder further proposes and agrees hereby to commence work under this contract on a date to be specified in a written order of the designer and shall fully complete all work thereunder within the time specified in the Supplementary General Conditions Article 9. Applicable liquidated damages amount is also stated in the Supplementary General Conditions Article 9.

The bidder certifies that as of the date of this bid, the bidder submitting this bid is not listed on the Final Divestment List created by the State Treasurer pursuant to N.C. Gen. Stat. § 143-6A-4. The individual signing this bid form certifies that he or she is authorized by the bidder to make the foregoing statement.

ADDENDUM

(Addendum received and used in computing bid)

Addendum No. 1 _____ Addendum No. 3 _____ Addendum No. 5 _____

Addendum No. 2 _____ Addendum No. 4 _____ Addendum No. 6 _____

PROPOSAL SIGNATURE

The undersigned further agrees that in the case of failure on his part to execute the said contract and the bonds within ten (10) consecutive calendar days after being given written notice of the award of contract, the certified check, cash or bid bond accompanying this bid shall be paid into the funds of the owner's account set aside for the project, as liquidated damages for such failure; otherwise the certified check, cash or bid bond accompanying this proposal shall be returned to the undersigned. No proposal may be withdrawn after the scheduled closing time for the receipt of Bids for a period of sixty (60) days.

Respectfully submitted this day of _____

(Name of firm or corporation making bid)

WITNESS:

By: _____

Signature

(Proprietorship or Partnership)

Name: _____

Print or type

Title: _____

(Owner/Partner/Pres./V.Pres)

Address: _____

ATTEST:

By: _____

License No. _____

Title: _____

Federal I.D. No. _____

(Corp. Sec. or Asst. Sec. only)

(CORPORATE SEAL)

MINORITY BUSINESS PARTICIPATION REQUIREMENTS

Provide with the bid - Under GS 143-128.2(c) the undersigned bidder shall identify **on its bid** (Identification of Minority Business Participation Form) the minority businesses that it will use on the project with the total dollar value of the bids that will be performed by the minority businesses. **Also** list the good faith efforts (Affidavit A) made to solicit minority participation in the bid effort.

NOTE: A contractor that performs all of the work with its own workforce may submit an Affidavit (**B**) to that effect in lieu of Affidavit (**A**) required above. The MB Participation Form must still be submitted even if there is zero participation.

After the bid opening - The Owner will consider all bids and alternates and determine the lowest responsible, responsive bidder. Upon notification of being the apparent low bidder, the bidder shall then file within 72 hours of the notification of being the apparent lowest bidder, the following:

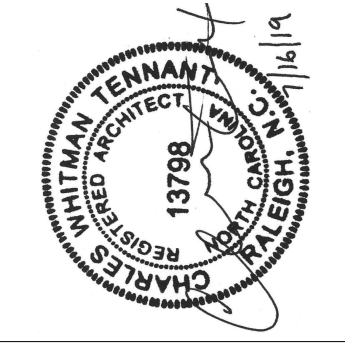
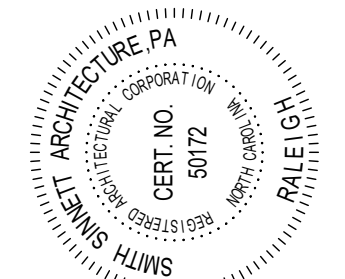
An Affidavit (**C**) that includes a description of the portion of work to be executed by minority businesses, expressed as a percentage of the total contract price, which is equal to or more than the 10% goal established. This affidavit shall give rise to the presumption that the bidder has made the required good faith effort and Affidavit **D** is not necessary;

* **OR** *

If less than the 10% goal, Affidavit (**D**) of its good faith effort to meet the goal shall be provided. The document must include evidence of all good faith efforts that were implemented, including any advertisements, solicitations and other specific actions demonstrating recruitment and selection of minority businesses for participation in the contract.

Note: Bidders must always submit **with their bid** the Identification of Minority Business Participation Form listing all MB contractors, vendors and suppliers that will be used. If there is no MB participation, then enter none or zero on the form. Affidavit A **or** Affidavit B, as applicable, also must be submitted with the bid. Failure to file a required affidavit or documentation with the bid or after being notified apparent low bidder is grounds for rejection of the bid.

END OF SECTION 00 42 00



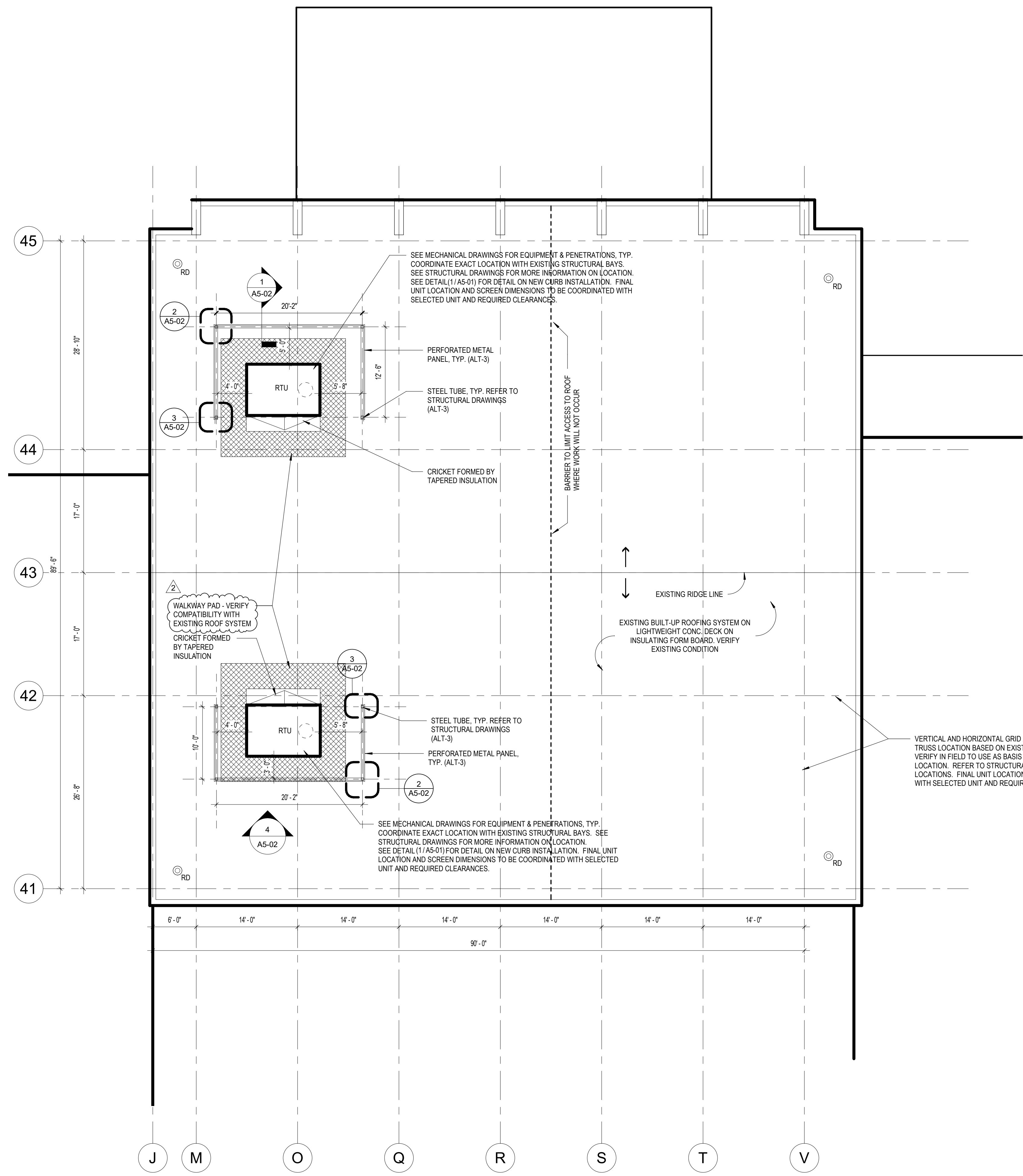
BID DOCUMENTS

ROOF PLAN NOTES:

- REFER TO STRUCTURAL FOR FRAMING OF OPENINGS IN ROOF ASSEMBLY.
- ALL ROOF PENETRATIONS, SHEET METAL TRIM AND FLASHING SHALL CONFORM TO "NCR" NATIONAL ROOFING AND WATERPROOFING MANUAL, "SMACNA" SHEET METAL AND AIR CONDITIONING CONTRACTORS NATIONAL ASSOCIATION, INC. AND ALL MANUFACTURERS SPECIFICATIONS. WHEN ANY OF THESE ORGANIZATIONS ARE IN CONFLICT, THE MORE STRINGENT REQUIREMENT SHALL APPLY.
- ROOF PENETRATIONS DEPICTED ON THIS PLAN SHOW GENERAL LAYOUT OF MAJOR ROOF TOP EQUIPMENT. FOR COMPLETE EXTENT OF ROOF PENETRATIONS, THE GENERAL CONTRACTOR SHALL REFER TO ARCHITECTURAL, MECHANICAL, AND ELECTRICAL DRAWINGS AND INCLUDING THE BID OF ALL CURBS, FLASHING AND OTHER ITEMS NEEDED TO PROVIDE A COMPLETE WATERTIGHT AND FULLY WARRANTED ROOF SYSTEM.
- DUE TO EXISTING LOW SLOPE CONDITION OF EXISTING ROOFING SYSTEM, EXISTING ROOF SLOPES DEPICTED IN THE DRAWINGS ARE APPROXIMATE. THE GENERAL CONTRACTOR IS TO VERIFY EXISTING ROOF SLOPES IN THE FIELD TO DETERMINE FINAL LOCATION OF NEW CRICKETS AT ROOFTOP HVAC UNITS.

ROOF LEGEND:

- INDICATES DIRECTION OF ROOF SLOPE ACHIEVED THRU TAPERED INSULATION
- INDICATES DIRECTION OF ROOF SLOPE ACHIEVED THRU STRUCTURE, REFER TO STRUCTURAL
- RD PRIMARY ROOF DRAIN, TYPICAL
- OD OVERFLOW ROOF DRAIN, TYPICAL
- SC THROUGH WALL OVERFLOW SCUPPER, TYPICAL
- VTR VENT THRU ROOF
- WALKWAY PAD



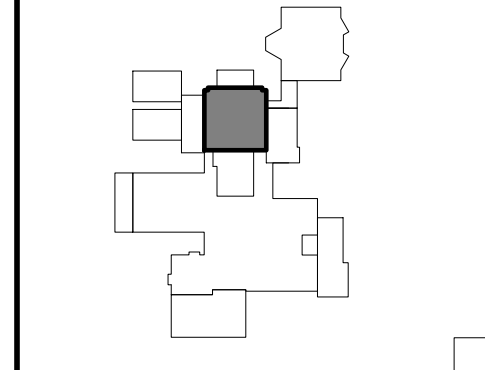
1 ROOF PLAN- NAMS - GYM
A1-31A 1/8" = 1'-0"

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Smith Sinnett Architecture, P.A. 2019

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Asheboro City Schools
HVAC Installation - Gymnasiums
North Asheboro Middle School / South Asheboro Middle School / Asheboro High School
Asheboro, NC 27203

ID	DATE	DESCRIPTION
2	07/16/2019	ADDENDUM 4



DRAWN BY: CWT/MA
CHECKED BY: JG

SYMBOL SCHEDULE

DEVICES AND PATHWAYS

- WIRING SYSTEM CONCEALED IN WALL OR CEILING. WHEN SHOWN, CROSS LINES INDICATE NUMBER OF WIRES. (GROUND WIRES ARE NOT SHOWN)
- BRANCH CIRCUIT HOMERUN TO PANEL.
- WEATHERPROOF RECEPTACLE. NEMA 5-20R GFI DUPLEX. COVER SHALL BE INTERMATIC #WP1020 (CLEAR) OR SPECIFICATION EQUAL.

PANELS, DISCONNECTS

- CONNECTION TO MOTOR. STARTER PROVIDED BY OTHERS UNLESS OTHERWISE NOTED.
- FRACTIONAL HORSEPOWER MANUAL MOTOR STARTER, WITH OVERLOAD PROTECTION
- FUSED HEAVY DUTY DISCONNECT SWITCH. NUMERALS INDICATE SWITCH RATING/FUSE SIZE. NEMA 1 ENCLOSURE, UNLESS OTHERWISE NOTED.
- PANELBOARD. SEE SCHEDULE FOR MOUNTING. TOP OF PANEL AT 6'-6" AFF.

FIRE ALARM

- FIRE ALARM CONTROL PANEL.
- DUCT MOUNTED SMOKE DETECTOR. FURNISHED AND CONNECTED BY ELECTRICAL CONTRACTOR, INSTALLED BY MECHANICAL CONTRACTOR. CUTTING OF DUCT, INSTALLATION OF DETECTOR, AND DETERMINATION OF SAMPLING TUBE LENGTH SHALL BE THE MECHANICAL CONTRACTOR. PROVIDE REMOTE INDICATING LIGHT WITH EACH DETECTOR.
- DUCT DETECTOR REMOTE ANNUNCIATOR. WHITE FINISH WITH WIRE GUARD. MUST BE WITHIN 10' OF THE FINISHED FLOOR AND NORMALLY VISIBLE. COORDINATE FINAL MOUNTING LOCATION WITH OWNER.

LIGHTING

- FLUORESCENT OR LED LIGHTING FIXTURE. SEE FIXTURE SCHEDULE. SUSPEND FOUR CORNERS WITH WIRE TO STRUCTURE. DO NOT ALLOW GRID ALONE TO SUPPORT FIXTURE.

2018 NORTH CAROLINA ELECTRICAL CONSERVATION CODE

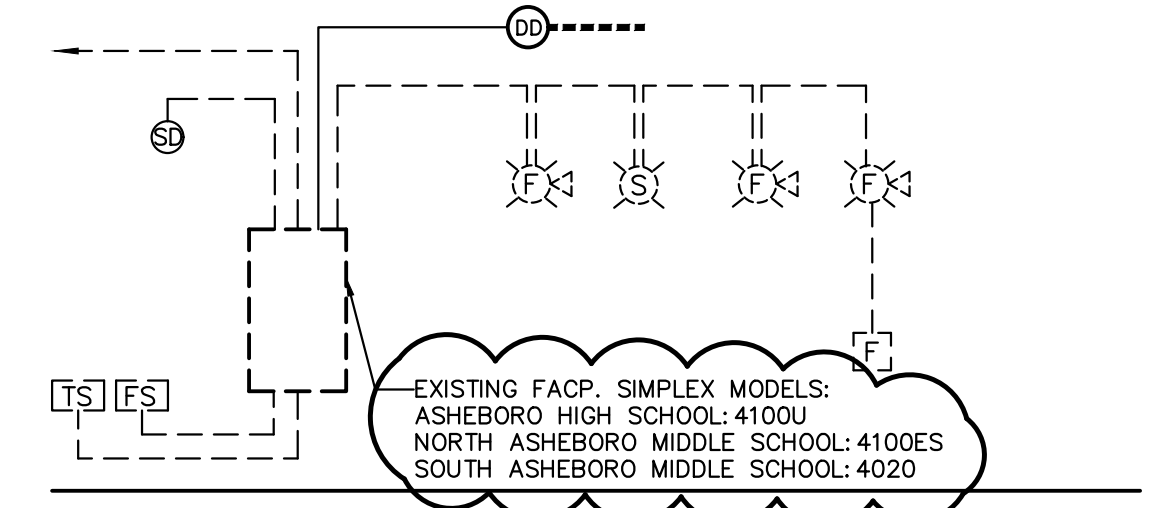
COMMERCIAL ENERGY EFFICIENCY - ELECTRICAL SUMMARY

- C401 METHOD OF COMPLIANCE
 2018 NCECC CHAPTER 4 NC SPECIFIC COMCHECK PROVIDED
 N/A BASED ON PROJECT SCOPE ASHRAE 90.1-2013
- C406 ADDITIONAL EFFICIENCY PACKAGE OPTIONS
 C406.1.1 EFFICIENT MECH EQUIPMENT C406.1.4 ON-SITE RENEWABLE ENERGY
 C406.1.2 REDUCED LTG DENSITY C406.1.5 DEDICATED OA SYSTEM
 C406.1.3 ENHANCED DIGITAL LTG CNTLS C406.1.6 HI-EFF SERVICE WTR HTG
 NOT APPLICABLE BASED ON PROJECT SCOPE
- C405.2 - LIGHTING CONTROLS (MANDATORY REQUIREMENTS):
 LIGHTING SYSTEMS ARE PROVIDED WITH CONTROLS AS REQUIRED PER SECTION C405.2, EXCEPT WHERE EXEMPT.
 NOT APPLICABLE
- C405.3 - EXIT SIGNS (MANDATORY REQUIREMENTS):
 INTERNALLY ILLUMINATED EXIT SIGNS DO NOT EXCEED 5 WATTS PER SIDE.
 NOT APPLICABLE
- C405.4 - INTERIOR LIGHTING POWER REQUIREMENTS (PRESCRIPTIVE) (NON-EXEMPT):
 NOT APPLICABLE PER 2018 NCECC C503.1, EXCEPTION 2.G.
 C405.4.1 - TOTAL CONNECTED INTERIOR LIGHTING POWER:
 _____ WATTS SPECIFIED
 _____ % REDUCTION OF SPECIFIED VS. ALLOWED (APPLICABLE IF C406.1.2 IS SELECTED)
 C405.4.2 - TOTAL ALLOWABLE INTERIOR LIGHTING POWER:
 METHOD OF COMPLIANCE:
 BUILDING AREA METHOD SPACE-BY-SPACE METHOD
 _____ WATTS ALLOWED
- C405.5.1 - EXTERIOR BUILDING LIGHTING POWER (NON-EXEMPT):
 NOT APPLICABLE
 TOTAL CONNECTED EXTERIOR LIGHTING POWER:
 _____ WATTS SPECIFIED
 TOTAL ALLOWABLE EXTERIOR LIGHTING POWER:
 _____ WATTS ALLOWED
- C405.6 - ELECTRICAL ENERGY CONSUMPTION (DWELLING UNITS):
 SEPARATE ELECTRICAL METERING HAS BEEN PROVIDED FOR EACH DWELLING UNIT IN GROUP R-2 BUILDINGS.
 NOT APPLICABLE
- C405.7 - ELECTRICAL TRANSFORMERS (MANDATORY REQUIREMENTS):
 ELECTRICAL TRANSFORMERS HAVE BEEN SPECIFIED TO MEET MINIMUM EFFICIENCY REQUIREMENTS PER C405.7, EXCEPT WHERE EXEMPT.
 NOT APPLICABLE
- C405.8 - ELECTRICAL MOTORS (MANDATORY REQUIREMENTS):
 ELECTRICAL MOTORS HAVE BEEN SPECIFIED TO MEET MINIMUM EFFICIENCY REQUIREMENTS PER C405.8, EXCEPT WHERE EXEMPT.
 NOT APPLICABLE

ROOFTOP UNIT SCHEDULE

SYMBOL	POWER SUPPLY			DISCONNECT
	MCA	MOCP	VOLTAGE	
RTU-1	117	150	208V-3ø	200/F150-3P-3R
RTU-2	117	150	208V-3ø	200/F150-3P-3R
RTU-3	96	125	208V-3ø	200/F125-3P-3R
RTU-4	96	125	208V-3ø	200/F125-3P-3R
RTU-5	96	125	208V-3ø	200/F125-3P-3R
RTU-6	54	70	460V-3ø	100/F70-3P-3R
RTU-7	54	70	460V-3ø	100/F70-3P-3R

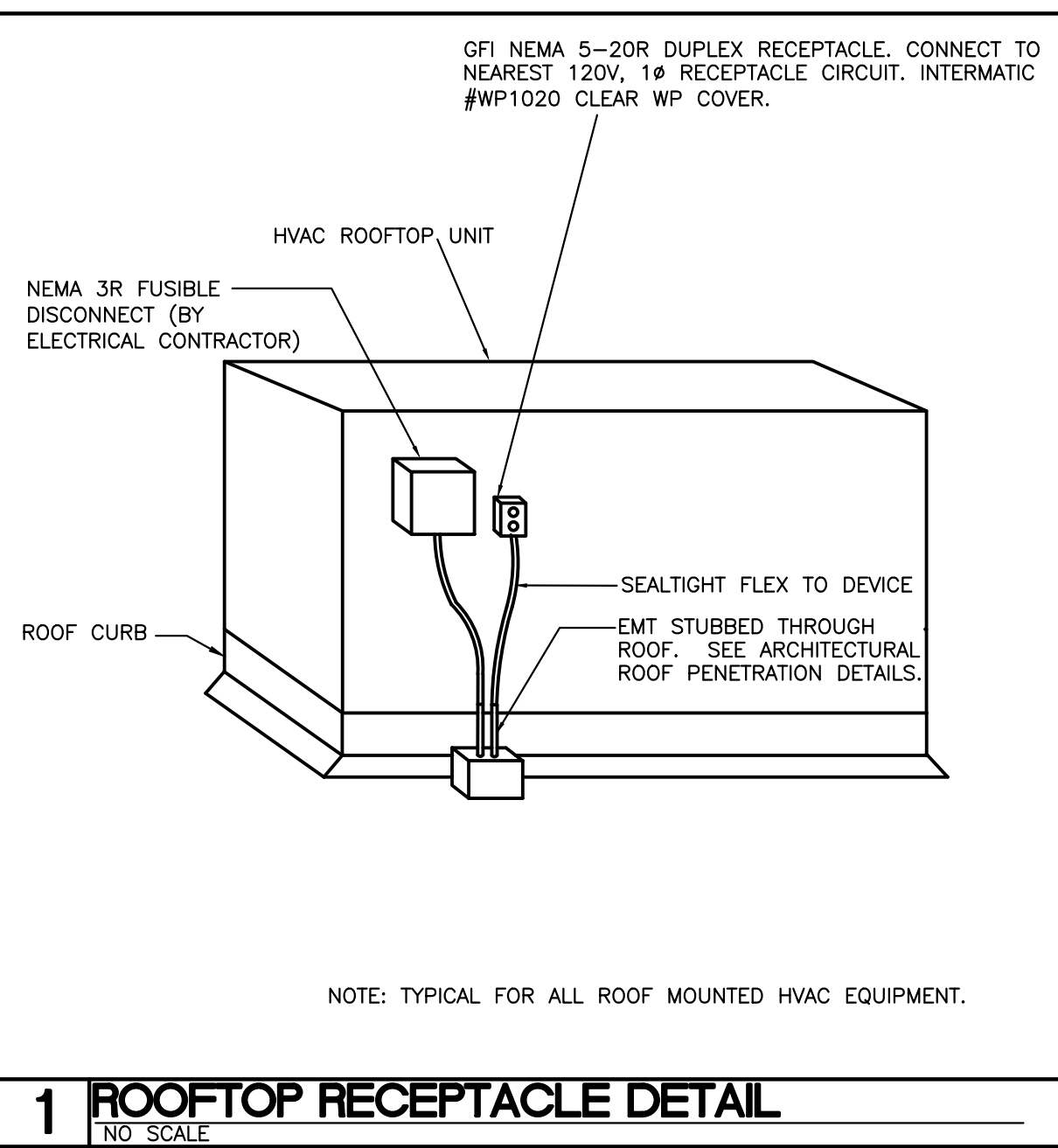
FIRE ALARM SYSTEM MATRIX	BUILDING SYSTEM OUTPUTS										CENTRAL COMM		
	ACTIVATE COMMON ALARM SIGNAL INDICATOR	ACTIVATE COMMON ALARM SIGNAL INDICATOR	ACTIVATE COMMON SUPERVISORY SIGNAL INDICATOR	ACTIVATE COMMON SUPERVISORY SIGNAL INDICATOR	ACTIVATE COMMON SUPERVISORY SIGNAL INDICATOR	ACTIVATE COMMON SUPERVISORY SIGNAL INDICATOR	ACTIVATE COMMON SUPERVISORY SIGNAL INDICATOR	ACTIVATE COMMON SUPERVISORY SIGNAL INDICATOR	ACTIVATE COMMON SUPERVISORY SIGNAL INDICATOR	ACTIVATE COMMON SUPERVISORY SIGNAL INDICATOR	ACTIVATE COMMON SUPERVISORY SIGNAL INDICATOR		
MANUAL FIRE ALARM PULL BOXES	X	X			X	X	X	X			X	X	X
BUILDING SMOKE DETECTOR	X	X			X	X	X	X			X	X	X
DUCT SMOKE DETECTOR			X	X				X			X	X	X
SPRINKLER WATER FLOW	X	X			X	X	X	X			X	X	X
SPRINKLER TAMPER			X	X				X			X	X	X
ELEV. EQ. ROOM SMOKE DETECTOR	X	X			X	X	X	X			X	X	X
ELEV. EQ. ROOM HEAT DETECTOR	X	X			X	X	X	X			X	X	X
ELEV. SHAFT HEAT DETECTOR	X	X			X	X	X	X			X	X	X
1ST FLOOR ELEV. LOBBY SMOKE DET.	X	X			X	X	X	X	X		X	X	X
UPPER FLR. ELEV. LOBBY SMOKE DET.	X	X			X	X	X	X			X	X	X
NOTIFICATION DEVICE SHORT CIRCUIT			X	X				X			X	X	
OPEN CIRCUIT			X	X				X			X	X	X
GROUND FAULT			X	X				X			X	X	X
FIRE ALARM A.C. POWER FAILURE			X	X				X			X	X	X
FIRE ALARM SYSTEM LOW BATTERY			X	X				X			X	X	X



- NOTES:
- FACP HAS A MINIMUM 24HR. BATTERY BACKUP.
 - ALL ITEMS INDICATED DASHED ARE EXISTING TO REMAIN.
 - FACP IS CONNECTED TO A UL APPROVED CENTRAL STATION.
 - ZONE PER NFPA 72 AND MANUFACTURER'S RECOMMENDATIONS WITH NO ONE ZONE EXCEEDING 15,000 S.F. PER FLOOR.
 - SEE PLANS FOR EXACT DEVICE QUANTITY AND LOCATIONS.
 - CONTRACTOR SHALL MODIFY EXISTING FIRE ALARM SYSTEM AS REQUIRED TO HANDLE THE NEW FIRE ALARM DEVICES.
 - FOR ALL DEVICES, PROVIDE 3/4" C WITH CABLE TO FACP. ALL CABLES SHALL BE PLENUM RATED AND SHALL BE RAN IN CONDUIT WITH J-BOXES PAINTED RED. CONTRACTOR SHALL OBTAIN A SEPARATE FIRE ALARM PERMIT. THE PERMIT SHALL BE APPLIED FOR WITHIN 2 WEEKS OF AWARD OF CONTRACT. THE PERMIT SHALL BE OBTAINED PRIOR TO THE FINAL ROUGH-IN INSPECTION.

EXISTING FIRE ALARM RISER (TYPICAL FOR ALL SCHOOLS WITHIN SCOPE OF WORK)

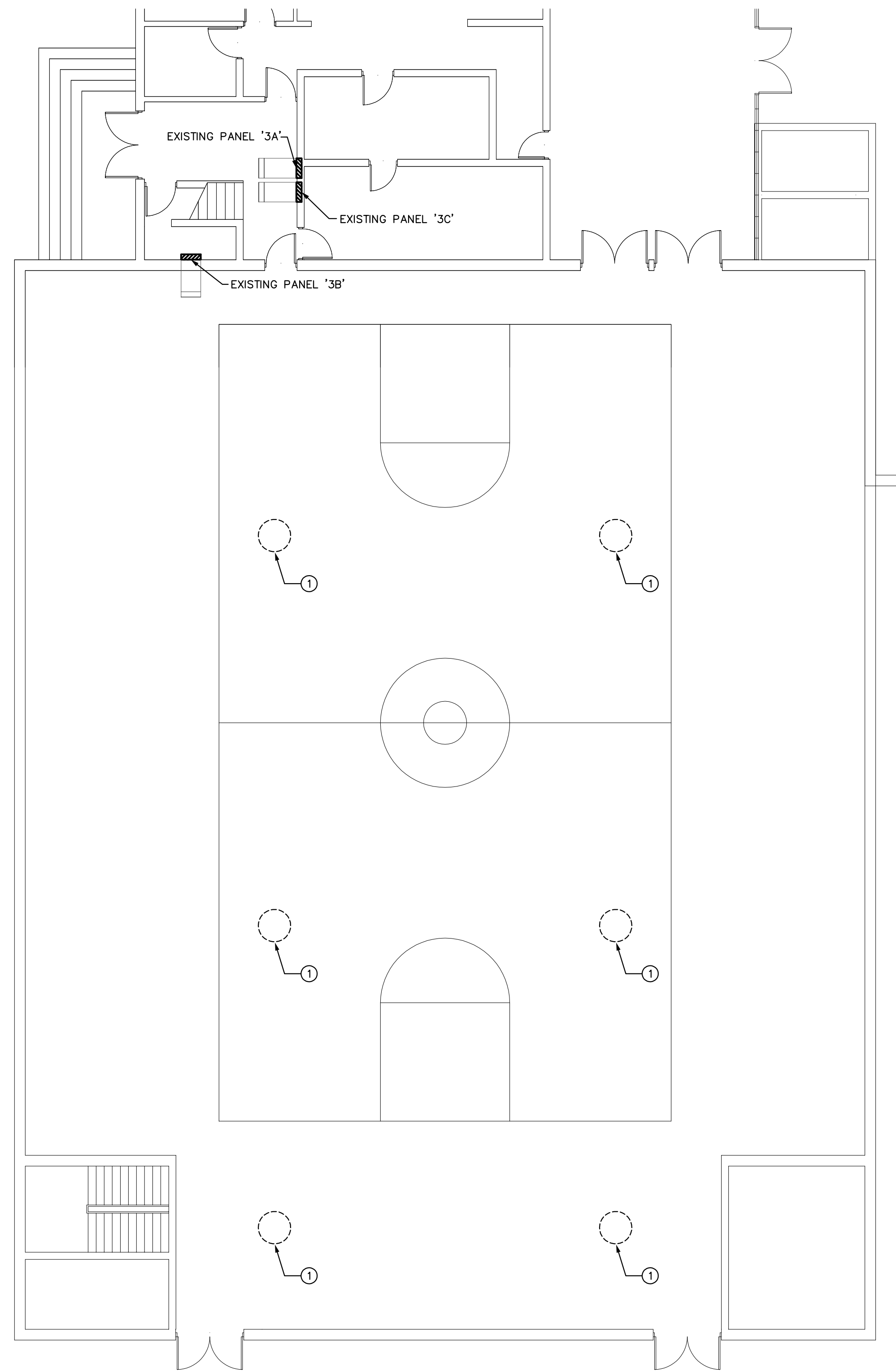
2 DIAGRAMMATIC



1 ROOFTOP RECEPTACLE DETAIL

NO SCALE

NOTE: TYPICAL FOR ALL ROOF MOUNTED HVAC EQUIPMENT.



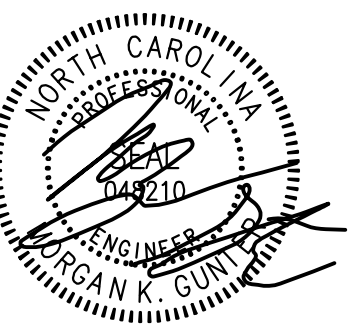
1 SOUTH ASHEBORO MIDDLE SCHOOL ELECTRICAL PLAN - DEMO
 1/8" = 1'-0"

GENERAL NOTES:

- A. REFER TO DRAWING E-001 FOR LEGEND, SYMBOLS AND GENERAL NOTES.
- B. VOLTAGE DROP HAS BEEN CONSIDERED IN THE DESIGN OF ALL BRANCH CIRCUITRY AND FEEDER SIZES BASED UPON THE ILLUSTRATED EQUIPMENT LAYOUTS AND SHORTEST CONDUCTOR/RACEWAY ROUTING. THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR DEVIATIONS TAKEN THAT WILL INCREASE CONDUCTOR/RACEWAY ROUTING LENGTHS. BRANCH CIRCUITS LONGER THAN 75' FOR 120V FROM PANEL TO LAST OUTLET SHALL BE INCREASED A MINIMUM OF ONE SIZE ABOVE THAT SPECIFIED TO LIMIT VOLTAGE DROP TO LESS THAN 3%. FEEDERS SHALL FOLLOW SIMILAR GUIDELINES AND BE LIMITED TO 2% DROP.
- C. PANELBOARDS SHALL BE FIELD MARKED TO WARN QUALIFIED PERSONS OF POTENTIAL ELECTRIC ARC FLASH HAZARDS. THE MARKING SHALL BE LOCATED SO AS TO BE CLEARLY VISIBLE TO QUALIFIED PERSONS BEFORE EXAMINATION, ADJUSTMENT, SERVICING, OR MAINTENANCE OF THE EQUIPMENT.

SHEET NOTES :

- 1 EXISTING GAS HEATER TO BE REMOVED. REMOVE ASSOCIATED CONDUIT AND CONDUCTORS BACK TO NEAREST JUNCTION BOX.



07-16-2019

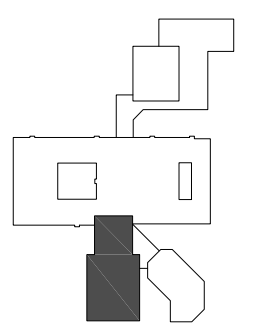
BID DOCUMENTS

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 Smith Sinnett Architecture P.A. 2017

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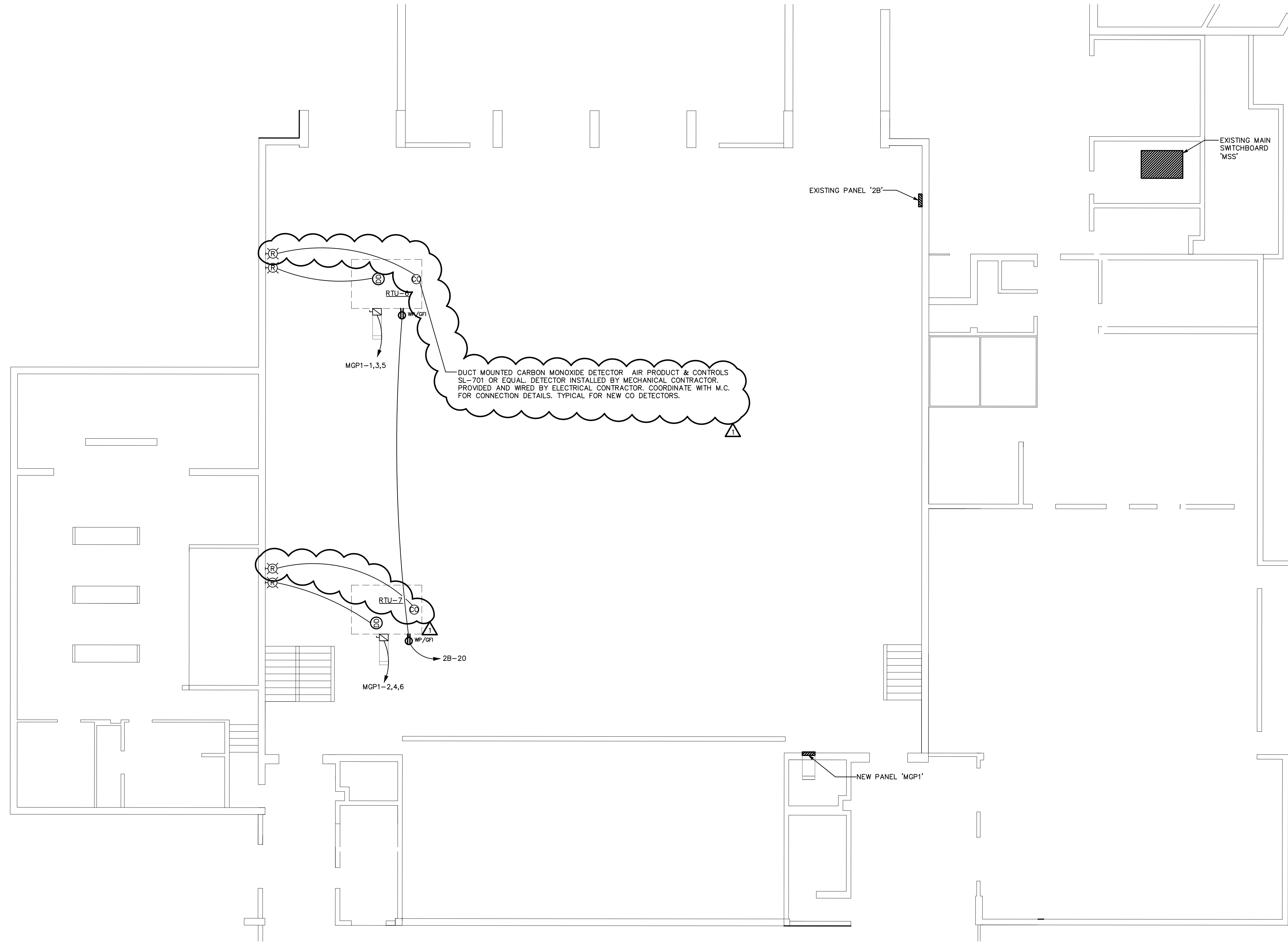
Asheboro City Schools
HVAC Installation - Gymnasiums
 North Asheboro Middle School / South Asheboro Middle School /
 Asheboro High School
 Asheboro, NC 27203

ID	DATE	DESCRIPTION



DRAWN BY: _____ MKG
 CHECKED BY: _____ KES
**ELECTRICAL PLAN -
 DEMO - SAMS**

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1/24/2019 10:22:33 AM



1 NORTH ASHEBORO MIDDLE SCHOOL ELECTRICAL PLAN - NEW WORK
1/8" = 1'-0"

GENERAL NOTES:

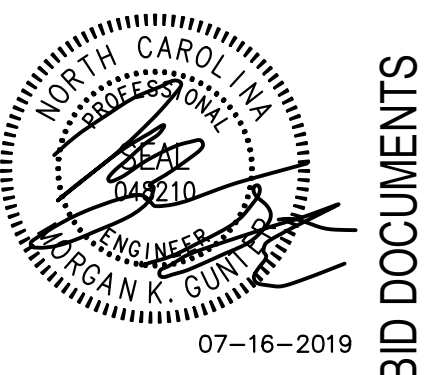
- A. REFER TO DRAWING E-001 FOR LEGEND, SYMBOLS AND GENERAL NOTES.
- B. VOLTAGE DROP HAS BEEN CONSIDERED IN THE DESIGN OF ALL BRANCH CIRCUITRY AND FEEDER SIZES BASED UPON THE ILLUSTRATED EQUIPMENT LAYOUTS AND SHORTEST CONDUCTOR/RACEWAY ROUTING. THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR DEVIATIONS TAKEN THAT WILL INCREASE CONDUCTOR/RACEWAY ROUTING LENGTHS. BRANCH CIRCUITS LONGER THAN 75' FOR 120V FROM PANEL TO LAST OUTLET SHALL BE INCREASED A MINIMUM OF ONE SIZE ABOVE THAT SPECIFIED TO LIMIT VOLTAGE DROP TO LESS THAN 3%. FEEDERS SHALL FOLLOW SIMILAR GUIDELINES AND BE LIMITED TO 2% DROP.
- C. PANELBOARDS SHALL BE FIELD MARKED TO WARN QUALIFIED PERSONS OF POTENTIAL ELECTRIC ARC FLASH HAZARDS. THE MARKING SHALL BE LOCATED SO AS TO BE CLEARLY VISIBLE TO QUALIFIED PERSONS BEFORE EXAMINATION, ADJUSTMENT, SERVICING, OR MAINTENANCE OF THE EQUIPMENT.
- D. THE EXISTING FACP IS LOCATED IN THE ADMINISTRATION OFFICE.

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07-16-2019

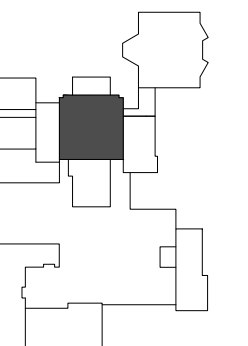
BID DOCUMENTS

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Smith Sinnett Architecture, P.A. 2017

THIS DRAWING IS FORMATTED TO BE PRINTED ON A 24" X 36" SHEET

**Asheboro City Schools
HVAC Installation - Gymnasiums**
North Asheboro Middle School / South Asheboro Middle School /
Asheboro High School
Asheboro, NC 27203

ID	DATE	DESCRIPTION
1	7/16/19	ADDENDUM 4



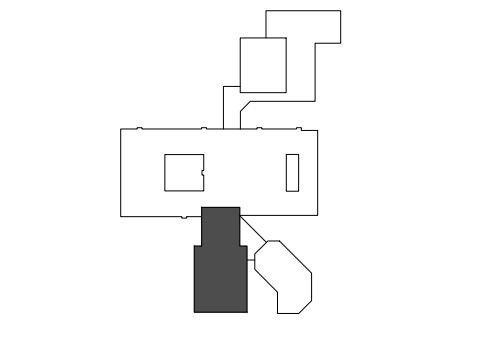
DRAWN BY: MKG
CHECKED BY: KES

**ELECTRICAL PLAN -
NEW WORK - NAMS**

2018031 6 of 9 14 JUNE 2019

E1-11A

ID	DATE	DESCRIPTION
1	7/16/19	ADDENDUM 4

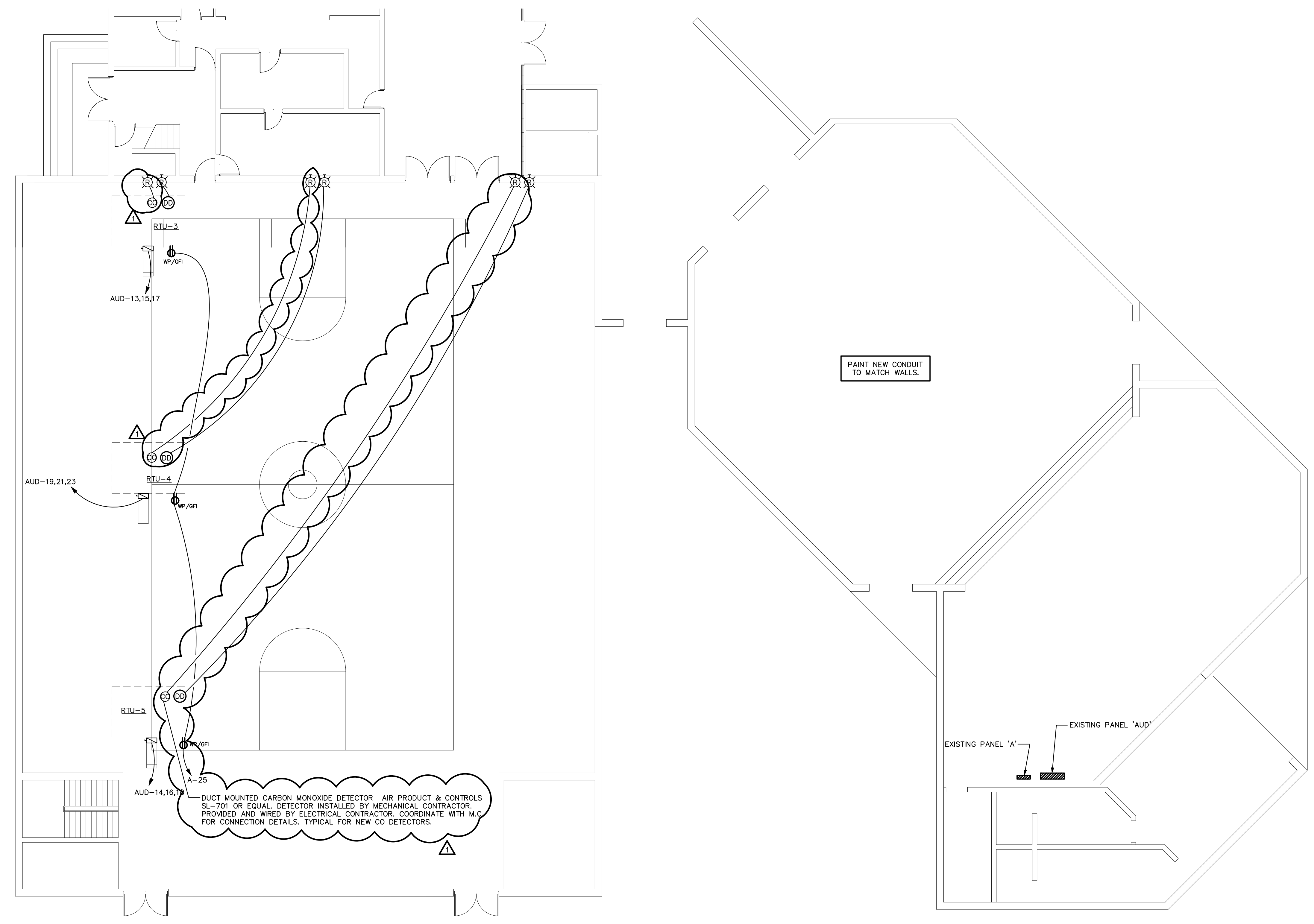


DRAWN BY: MKG
CHECKED BY: KES

**ELECTRICAL PLAN -
NEW WORK - SAMS**

GENERAL NOTES:

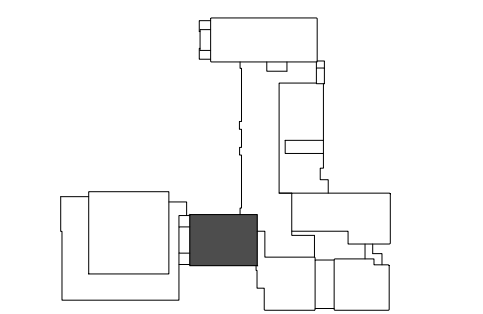
- A. REFER TO DRAWING E-001 FOR LEGEND, SYMBOLS AND GENERAL NOTES.
- B. VOLTAGE DROP HAS BEEN CONSIDERED IN THE DESIGN OF ALL BRANCH CIRCUITRY AND FEEDER SIZES BASED UPON THE ILLUSTRATED EQUIPMENT LAYOUTS AND SHORTEST CONDUCTOR/RACEWAY ROUTING. THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR DEVIATIONS TAKEN THAT WILL INCREASE CONDUCTOR/RACEWAY ROUTING LENGTHS. BRANCH CIRCUITS LONGER THAN 75' FOR 120V FROM PANEL TO LAST OUTLET SHALL BE INCREASED A MINIMUM OF ONE SIZE ABOVE THAT SPECIFIED TO LIMIT VOLTAGE DROP TO LESS THAN 3%. FEEDERS SHALL FOLLOW SIMILAR GUIDELINES AND BE LIMITED TO 2% DROP.
- C. PANELBOARDS SHALL BE FIELD MARKED TO WARN QUALIFIED PERSONS OF POTENTIAL ELECTRIC ARC FLASH HAZARDS. THE MARKING SHALL BE LOCATED SO AS TO BE CLEARLY VISIBLE TO QUALIFIED PERSONS BEFORE EXAMINATION, ADJUSTMENT, SERVICING, OR MAINTENANCE OF THE EQUIPMENT.
- D. THE EXISTING FACP IS LOCATED IN THE ADMINISTRATION OFFICE.



DUCT MOUNTED CARBON MONOXIDE DETECTOR AIR PRODUCT & CONTROLS SL-701 OR EQUAL DETECTOR INSTALLED BY MECHANICAL CONTRACTOR. PROVIDED AND WIRED BY ELECTRICAL CONTRACTOR. COORDINATE WITH M.C. FOR CONNECTION DETAILS. TYPICAL FOR NEW CO DETECTORS.

1 SOUTH ASHEBORO MIDDLE SCHOOL ELECTRICAL PLAN - NEW WORK
1/8" = 1'-0"

ID	DATE	DESCRIPTION
1	7/16/19	ADDENDUM 4

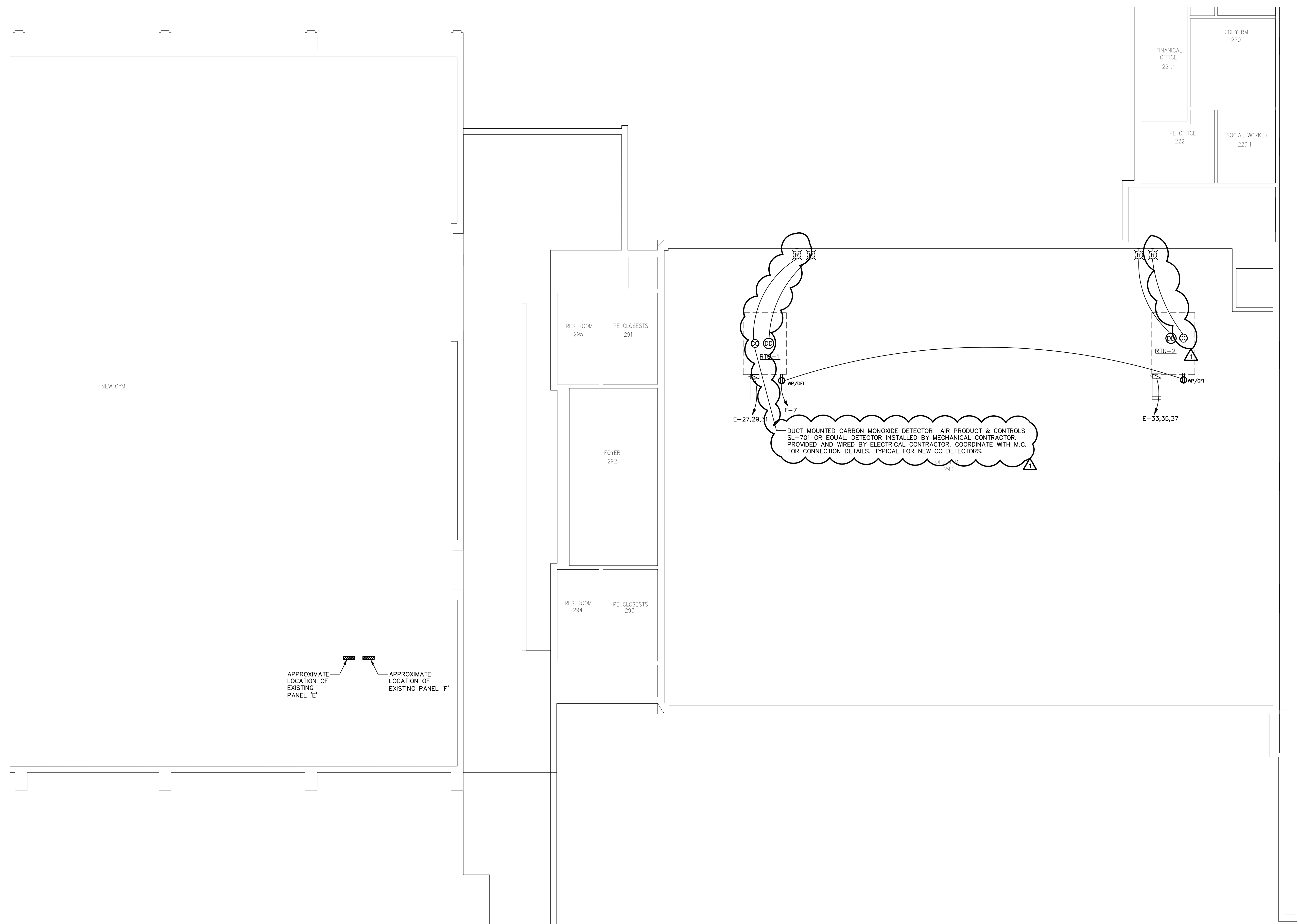


DRAWN BY: MKG
CHECKED BY: KES

ELECTRICAL PLAN
- NEW WORK -
AHS - ALT #5A

GENERAL NOTES:

- A. REFER TO DRAWING E-001 FOR LEGEND, SYMBOLS AND GENERAL NOTES.
- B. VOLTAGE DROP HAS BEEN CONSIDERED IN THE DESIGN OF ALL BRANCH CIRCUITRY AND FEEDER SIZES BASED UPON THE ILLUSTRATED EQUIPMENT LAYOUTS AND SHORTEST CONDUCTOR/RACEWAY ROUTING. THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR DEVIATIONS TAKEN THAT WILL INCREASE CONDUCTOR/RACEWAY ROUTING LENGTHS. BRANCH CIRCUITS LONGER THAN 75' FOR 120V FROM PANEL TO LAST OUTLET SHALL BE INCREASED A MINIMUM OF ONE SIZE ABOVE THAT SPECIFIED TO LIMIT VOLTAGE DROP TO LESS THAN 3% FEEDERS SHALL FOLLOW SIMILAR GUIDELINES AND BE LIMITED TO 2% DROP.
- C. PANELBOARDS SHALL BE FIELD MARKED TO WARN QUALIFIED PERSONS OF POTENTIAL ELECTRIC ARC FLASH HAZARDS. THE MARKING SHALL BE LOCATED SO AS TO BE CLEARLY VISIBLE TO QUALIFIED PERSONS BEFORE EXAMINATION, ADJUSTMENT, SERVICING, OR MAINTENANCE OF THE EQUIPMENT.
- D. THE EXISTING FACP IS LOCATED IN THE ADMINISTRATION OFFICE.



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APPROXIMATE LOCATION OF EXISTING PANEL 'E'
APPROXIMATE LOCATION OF EXISTING PANEL 'F'

1 ASHEBORO HIGH SCHOOL ELECTRICAL PLAN - NEW WORK
1/8" = 1'-0"

ALL WORK ON THIS SHEET SHALL BE PRICED SEPARATELY AS ALTERNATE #5A.

1	7/16/19	ADDENDUM 4
ID	DATE	DESCRIPTION

DRAWN BY: MKG
CHECKED BY: KES

POWER RISER DIAGRAMS

SAMS EXISTING PANEL: A										EXTG MFGR		
		VOLTAGE: 120 / 208		3 PHASE			4 WIRE			EXTG TYPE		
		MOUNTING: SURFACE		600 AMP			MAIN LUGS ONLY			22,000 AIC		
LOAD KVA	LOAD SERVED	WIRE	TRIP	FRAME (Note 1)	CKT NO	A B C	CKT NO	FRAME (Note 1)	TRIP	WIRE	LOAD SERVED	LOAD KVA
1.00	EXISTING EMER. LTG	EXTG	20		1		2		20	-	SPARE	0.00
0.00	SPARE	-	-		3		4		20	-	SPARE	0.00
0.00	SPARE	-	-		5		6		20	-	SPARE	0.00
1.00	EXISTING LTG	EXTG	20		7		8		20	-	SPARE	0.00
1.00	EXISTING LTG	EXTG	20		9		10		20	-	SPARE	0.00
1.00	EXISTING LTG	EXTG	20		11		12		20	-	SPARE	0.00
1.00	EXISTING RCTLTG	EXTG	20		13		14		20	-	SPARE	0.00
1.00	EXISTING LTG	EXTG	20		15		16		20	-	SPARE	0.00
1.00	EXISTING LTG	EXTG	20		17		18		20	-	SPARE	0.00
1.00	EXISTING LTG	EXTG	20		19		20		20	-	SPARE	0.00
1.00	EXISTING LTG	EXTG	20		21		22		20	-	SPARE	0.00
0.00	SPARE	-	-		23		24		20	-	SPARE	0.00
0.54	ROOFTOP RCPTS	12	20		25		26		20	-	SPARE	1.00
0.00	SPARE ONLY	-	-		27		28		20	-	SPARE	0.00
0.00	SPARE ONLY	-	-		29		30		20	-	SPARE	0.00
1.00	EXISTING FAN	EXTG	20		31		32		20	-	SPARE	1.00
1.00	EXISTING SMOKE DETECTOR	EXTG	20		33		34		20	-	SPARE	0.00
0.00	SPARE	-	-		35		36		20	-	SPARE	1.50
0.80	SPARE	-	-		37		38		20	-	SPARE	1.50
0.80	EXISTING LOAD	EXTG	20		39		40		20	-	EXISTING LOAD	1.00
0.80	EXISTING LOAD	EXTG	20		41		42		20	-	EXISTING LOAD	1.00
13.9												14.5

LOAD	KVA	TOTAL LOAD PER PHASE:	NOTES:
LIGHTS	13.0	CONNECTED	1. BREAKER FRAME SHALL BE AS REQ'D PER PANEL AIC RATING
HEATING	0.0	A = 11.8 KVA 98.6 A	2. SHALL BE FULLY RATED - SERIES RATINGS NOT ALLOWED
COOLING	0.0	B = 8.3 KVA 69.1 A	3. ALL BUSSING, INCL. GND AND NEUTRAL, SHALL BE COPPER
VENTILATION	0.0	C = 8.3 KVA 69.1 A	4. ALL INCOMING PANEL & BRKR LUGS SHALL MATCH FEEDERS
MOTORS	0.0	DEMAND	5. BOLDITALICIZED INDICATES NEW WORK.
KITCHEN	0.0	A = 11.8 KVA 98.6 A	
RECEPTACLES	6.0	B = 8.3 KVA 69.1 A	
WATER HEATER	3.0	C = 8.3 KVA 69.1 A	
MISC.	6.4	DEMAND @ 125%	
SPARE	0.0	A = 14.8 KVA 123.2 A	
TOTAL (CONNECTED)	28.4	B = 10.4 KVA 86.4 A	
TOTAL (DEMAND)	28.4	C = 10.4 KVA 86.4 A	

NAMS EXISTING PANEL: 2B										EXTG MFGR		
		VOLTAGE: 120 / 208		3 PHASE			4 WIRE			EXTG TYPE		
		MOUNTING: SURFACE		225 AMP			MAIN LUGS ONLY			22,000 AIC		
LOAD KVA	LOAD SERVED	WIRE	TRIP	FRAME (Note 1)	CKT NO	A B C	CKT NO	FRAME (Note 1)	TRIP	WIRE	LOAD SERVED	LOAD KVA
1.00	EXISTING LTG	EXTG	20		1		2		20	-	SPARE	0.00
1.00	EXISTING LTG	EXTG	20		3		4		20	-	SPARE	0.00
0.00	SPARE	-	-		5		6		20	-	SPARE	0.00
0.00	SPARE	-	-		7		8		20	-	SPARE	0.00
0.00	SPARE	-	-		9		10		20	-	SPARE	0.00
0.00	SPARE	-	-		11		12		20	-	SPARE	0.00
1.00	EXISTING LTG	EXTG	20		13		14		20	-	EXISTING RCPTS	0.50
0.50	EXISTING LOAD	EXTG	20		15		16		20	-	EXISTING RCPTS	0.50
0.50	EXISTING RCPTS	EXTG	20		17		18		20	-	EXISTING HEATERS	0.60
0.00	SPARE	-	-		19		20		20	-	12 ROOFTOP RCPTS	0.36
0.00	SPARE ONLY	-	-		21		22		-	-	SPARE ONLY	0.00
0.00	SPARE ONLY	-	-		23		24		100	EXTG	EXISTING HVAC	7.50
0.00	SPARE ONLY	-	-		25		26		EXTG	-	SPARE ONLY	7.50
1.00	EXISTING HVAC	EXTG	20		27		28		20	EXTG	EXISTING LOAD	0.50
1.00	EXISTING HVAC	EXTG	20		29		30		20	EXTG	EXISTING LOAD	0.50
6.0												19.0

LOAD	KVA	TOTAL LOAD PER PHASE:	NOTES:
LIGHTS	3.0	CONNECTED	1. BREAKER FRAME SHALL BE AS REQ'D PER PANEL AIC RATING
HEATING	0.0	A = 10.4 KVA 86.3 A	2. SHALL BE FULLY RATED - SERIES RATINGS NOT ALLOWED
COOLING	17.0	B = 3.5 KVA 29.1 A	3. ALL BUSSING, INCL. GND AND NEUTRAL, SHALL BE COPPER
VENTILATION	0.0	C = 11.1 KVA 92.4 A	4. ALL INCOMING PANEL & BRKR LUGS SHALL MATCH FEEDERS
MOTORS	0.0	DEMAND	5. BOLDITALICIZED INDICATES NEW WORK.
KITCHEN	0.0	A = 10.4 KVA 86.3 A	
RECEPTACLES	1.9	B = 3.5 KVA 29.1 A	
WATER HEATER	0.0	C = 11.1 KVA 92.4 A	
MISC.	3.1	DEMAND @ 125%	
SPARE	0.0	A = 13.0 KVA 107.8 A	
TOTAL (CONNECTED)	25.0	B = 4.4 KVA 36.4 A	
TOTAL (DEMAND)	25.0	C = 13.9 KVA 115.5 A	

AHS EXISTING PANEL: F ALTERNATE #5A										EXTG MFGR		
		VOLTAGE: 120 / 208		3 PHASE			4 WIRE			EXTG TYPE		
		MOUNTING: SURFACE		200 AMP			MAIN LUGS ONLY			22,000 AIC		
LOAD KVA	LOAD SERVED	WIRE	TRIP	FRAME (Note 1)	CKT NO	A B C	CKT NO	FRAME (Note 1)	TRIP	WIRE	LOAD SERVED	LOAD KVA
0.00	SPARE ONLY	-	-		1		2		-	-	SPARE ONLY	0.00
0.50	EXISTING	EXTG	20		3		4		20	-	EXTG	0.50
0.50	EXISTING	EXTG	20		5		6		20	-	EXTG	0.50
0.36	ROOFTOP RCPTS	12	20		7		8		-	-	SPARE ONLY	0.00
0.00	SPARE ONLY	-	-		9		10		-	-	SPARE ONLY	0.00
0.00	SPARE ONLY	-	-		11		12		-	-	SPARE ONLY	0.00
0.00	SPARE ONLY	-	-		13		14		-	-	SPARE ONLY	0.00
0.00	SPARE ONLY	-	-		15		16		-	-	SPARE ONLY	0.00
0.00	SPARE ONLY	-	-		17		18		-	-	SPARE ONLY	0.00
0.00	SPARE ONLY	-	-		19		20		-	-	SPARE ONLY	0.00
0.00	SPARE ONLY	-	-		21		22		-	-	SPARE ONLY	0.00
0.00	SPARE ONLY	-	-		23		24		-	-	SPARE ONLY	0.00
0.00	SPARE ONLY	-	-		25		26		-	-	SPARE ONLY	0.00
0.00	SPARE ONLY	-	-		27		28		-	-	SPARE ONLY	0.00
0.00	SPARE ONLY	-	-		29		30		-	-	SPARE ONLY	0.00
1.4												1.0

LOAD	KVA	TOTAL LOAD PER PHASE:	NOTES:
LIGHTS	0.0	CONNECTED	1. BREAKER FRAME SHALL BE AS REQ'D PER PANEL AIC RATING
HEATING	0.0	A = 0.4 KVA 3.0 A	2. SHALL BE FULLY RATED - SERIES RATINGS NOT ALLOWED
COOLING	0.0	B = 1.0 KVA 8.3 A	3. ALL BUSSING, INCL. GND AND NEUTRAL, SHALL BE COPPER
VENTILATION	0.0	C = 1.0 KVA 8.3 A	4. ALL INCOMING PANEL & BRKR LUGS SHALL MATCH FEEDERS
MOTORS	0.0	DEMAND	5. BOLDITALICIZED INDICATES NEW WORK.
KITCHEN	0.0	A = 0.4 KVA 3.0 A	
RECEPTACLES	0.4	B = 1.0 KVA 8.3 A	
WATER HEATER	0.0	C = 1.0 KVA 8.3 A	
MISC.	2.0	DEMAND @ 125%	
SPARE	0.0	A = 0.5 KVA 3.7 A	
TOTAL (CONNECTED)	2.4	B = 1.3 KVA 10.4 A	
TOTAL (DEMAND)	2.4	C = 1.3 KVA 10.4 A	

SAMS EXISTING PANEL: AUD										EXTG MFGR		
		VOLTAGE: 120 / 208		3 PHASE			4 WIRE			EXTG TYPE		
		MOUNTING: SURFACE		600 AMP			MAIN LUGS ONLY			22,000 AIC		
LOAD KVA	LOAD SERVED	WIRE	TRIP	FRAME (Note 1)	CKT NO	A B C	CKT NO	FRAME (Note 1)	TRIP	WIRE	LOAD SERVED	LOAD KVA
0.00	SPACE ONLY	-	-		1		2		125	EXTG	PANEL 'A'	8.30
0.00	SPACE ONLY	-	-		3		4		125	EXTG	SPACE ONLY	8.30
0.00	SPACE ONLY	-	-		5		6		125	EXTG	SPACE ONLY	8.30
14.92	EXISTING AC	EXTG	400		7		8		200	EXTG	EXISTING DIMMER BOARD	8.00
14.92	EXISTING AC	EXTG	400		9		10		200	EXTG	EXISTING DIMMER BOARD	8.00
7.09	RTU-3	10	125		13		14		125	10	RTU-5	7.09
7.09	RTU-3	10	125		15		16		125	10	RTU-5	7.09
7.09	RTU-4	10	125		17		18		125	10	RTU-5	7.09
7.09	RTU-4	10	125		19		20		125	10	RTU-5	7.09
0.00	SPACE ONLY	-	-		21		22		-	-	SPACE ONLY	0.00
0.00	SPACE ONLY	-	-		23		24		-	-	SPACE ONLY	0.00
0.00	SPACE ONLY	-	-		25		26		-	-	SPACE ONLY	0.00
0.00	SPACE ONLY	-	-		27		28		-	-	SPACE ONLY	0.00
0.00	SPACE ONLY	-	-		29		30		-	-	SPACE ONLY	0.00
0.00	SPACE ONLY	-	-		31		32		-	-	SPACE ONLY	0.00
0.00	SPACE ONLY	-	-		33		34		-	-	SPACE ONLY	0.00
0.00	SPACE ONLY	-	-		35		36		-	-	SPACE ONLY	0.00
0.00	SPACE ONLY	-	-		37		38		-	-	SPACE ONLY	0.00
0.00	SPACE ONLY	-	-		39		40		-	-	SPACE ONLY	0.00
0.00	SPACE ONLY	-	-		41		42		-	-	SPACE ONLY	0.00
87.3												73.7

LOAD	KVA	TOTAL LOAD PER PHASE:	NOTES:
LIGHTS	13.0	CONNECTED	1. BREAKER FRAME SHALL BE AS REQ'D PER PANEL AIC RATING
HEATING	0.0	A = 56.0 KVA 466.6 A	2. SHALL BE FULLY RATED - SERIES RATINGS NOT ALLOWED
COOLING	108.6	B = 52.5 KVA 437.1 A	3. ALL BUSSING, INCL. GND AND NEUTRAL, SHALL BE COPPER
VENTILATION	0.0	C = 52.5 KVA 437.1 A	4. ALL INCOMING PANEL & BRKR LUGS SHALL MATCH FEEDERS
MOTORS	0.0	DEMAND	5. BOLDITALICIZED INDICATES NEW WORK.
KITCHEN	0.0	A = 56.0 KVA 466.6 A	
RECEPTACLES	6.0	B = 52.5 KVA 437.1 A	
WATER HEATER	3.0	C = 52.5 KVA 437.1 A	
MISC.	30.4	DEMAND @ 125%	
SPARE	0.0	A = 70.0 KVA 583.2 A	
TOTAL (CONNECTED)	161.0	B = 65.6 KVA 546.4 A	
TOTAL (DEMAND)	161.0	C = 65.6 KVA 546.4 A	

NAMS EXISTING PANEL: MGP1										SQD MFGR		
		VOLTAGE: 277 / 480		3 PHASE			4 WIRE			NF TYPE		
		MOUNTING: SURFACE		225 AMP			MAIN LUGS ONLY			22,000 AIC		
LOAD KVA	LOAD SERVED	WIRE	TRIP	FRAME (Note 1)	CKT NO	A B C	CKT NO	FRAME (Note 1)	TRIP	WIRE	LOAD SERVED	LOAD KVA
8.62	RTU-6	4	70		1		2		70	4	RTU-7	8.62
8.62	RTU-6	4	70		3		4		70	4	RTU-7	

GRILLE AND DIFFUSER SCHEDULE

SYMBOL	SERVICE	CFM RANGE	FACE SIZE	NECK SIZE	TYPE	OBD	PRICE
A	SUPPLY	0 - 100	12X8	10X6	SPIRAL DBL DFL	NO	SOGE
B	SUPPLY	105 - 175	12X10	10X8	SPIRAL DBL DFL	NO	SOGE

- NOTES:**
- ALL CEILING AND WALL MOUNTED DEVICES SHALL BE FURNISHED WITH AN ENAMEL OFF-WHITE FINISH.
 - ALL DEVICES SHALL BE FURNISHED WITH FRAMES SUITABLE FOR TYPE OF INSTALLATION REQUIRED.
 - ALL DOUBLE DEFLECTION SUPPLY GRILLES SHALL HAVE DAMPER BLADES ADJUSTED TO PROVIDE AIRFLOW PATTERN INDICATED BY FLOW ARROWS ON PLANS. DAMPERS SHALL BE ADJUSTED TO A 30 DEGREE POSITION UNLESS NOTED OTHERWISE ON PLANS.

EQUIVALENT MANUFACTURERS LISTING

LISTING OF MANUFACTURER'S NAME DOES NOT GUARANTEE APPROVAL. ALL EQUIPMENT MUST MEET OR EXCEED QUALITY AND CAPACITIES OF SPECIFIED EQUIPMENT. FINAL APPROVAL WILL BE BASED ON EQUIPMENT SUBMITTALS. ANY MANUFACTURER NOT LISTED BUT WISHING TO BID THIS PROJECT SHALL SUBMIT A WRITTEN REQUEST A MINIMUM OF 7 DAYS PRIOR TO BID DATE. PRIOR APPROVAL IS REQUIRED FOR ALL MANUFACTURERS NOT LISTED.

PACKAGED ROOFTOP UNITS: CARRIER, DAIKIN, TRANE, YORK/JOHNSON

NOTE:
ALL COST ASSOCIATED WITH SUBSTITUTED EQUIPMENT TO COMPLY WITH BASIS OF DESIGN, INCLUDING PROVIDING MAINTENANCE ACCESS, CLEARANCE, PIPING, SHEET METAL, ELECTRICAL, REPLACEMENT OF OTHER SYSTEM COMPONENTS, BUILDING ALTERATIONS, ETC., SHALL BE INCLUDED IN THE ORIGINAL BASE BID. NO ADDITIONAL COST ASSOCIATED WITH SUBSTITUTED EQUIPMENT WILL BE APPROVED DURING CONSTRUCTION AND ALL COST WILL BE THE RESPONSIBILITY OF THE MECHANICAL CONTRACTOR.

ROOFTOP UNIT SCHEDULE - (DX COOLING - REFRIGERANT R-410A - WITH GAS HEAT)

SYMBOL	CFM	NOMINAL TONNAGE	O.A. CFM	I.S.P.	COOLING CAPACITY			EFFICIENCY		HEATING CAPACITY		EFFICIENCY	POWER SUPPLY		OPERATING WEIGHT	MANUFACTURER	
					TC (BTUH)	SHC (BTUH)	SEER	EER	IEER	INPUT (BTUH)	OUTPUT (BTUH)		AFUE	MCA			MOCP
RTU-1	10000	25	1,500	0.9"	292,300	231,900	N/A	11.0	15.0	400,000 / 300,000	320,000 / 240,000	80%	117	150	208V-3Ø	3,034 LBS	YHD300G3
RTU-2	10000	25	1,500	0.9"	292,300	231,900	N/A	11.0	15.0	400,000 / 300,000	320,000 / 240,000	80%	117	150	208V-3Ø	3,034 LBS	YHD300G3
RTU-3	8000	20	1,100	1.0"	248,500	195,100	N/A	11.0	14.0	400,000 / 300,000	320,000 / 240,000	80%	96	125	208V-3Ø	2,594 LBS	YHD240G3
RTU-4	8000	20	1,100	1.0"	248,500	195,100	N/A	11.0	14.0	400,000 / 300,000	320,000 / 240,000	80%	96	125	208V-3Ø	2,594 LBS	YHD240G3
RTU-5	8000	20	1,100	1.0"	248,500	195,100	N/A	11.0	14.0	400,000 / 300,000	320,000 / 240,000	80%	96	125	208V-3Ø	2,594 LBS	YHD240G3
RTU-6	10000	25	1,600	0.9"	292,300	231,900	N/A	11.0	15.0	400,000 / 300,000	320,000 / 240,000	80%	54	70	460V-3Ø	3,034 LBS	YHD300G4
RTU-7	10000	25	1,600	0.9"	292,300	231,900	N/A	11.0	15.0	400,000 / 300,000	320,000 / 240,000	80%	54	70	460V-3Ø	3,034 LBS	YHD300G4

- NOTES:**
- COOLING CAPACITIES BASED ON 95° AMBIENT, 80/67 ENTERING AIR.
 - PROVIDE ALL UNITS WITH: ROOF CURB, ELECTRONIC 7-DAY PROGRAMMABLE THERMOSTAT, 2" THROWAWAY FILTERS (MERV 8 MINIMUM), MULTI-SPEED STANDARD MOTORS, LOW-LEAK REFERENCE ENTHALPHY ECONOMIZER WITH BAROMETRIC RELIEF, SS HEAT EXCHANGERS, UNPOWERED CONVENIENCE OUTLET, CONDENSER COIL HAIL GUARDS AND HINGED ACCESS DOORS WITH "TOOL-LESS" ENTRY.
 - ALL UNITS SHALL BE AGA CERTIFIED, U.L. LABELED, ASHRAE 90.1-2013 COMPLIANT, AND MEET THE INCREASED EFFICIENCY REQUIREMENTS OF THE 2018 NC ENERGY CONSERVATION CODE.
 - SEQUENCE OF OPERATION:** UNIT SHALL BE CONTROLLED BY ITS ELECTRONIC 7-DAY PROGRAMMABLE THERMOSTAT. UNIT SUPPLY FAN SHALL RUN CONTINUOUSLY IN THE OCCUPIED MODE. CYCLE WITH HEATING AND COOLING WHILE UNOCCUPIED. UPON A RISE IN SPACE TEMPERATURE, UNIT COMPRESSORS AND CONDENSER FANS SHALL ACTIVATE IN STAGES TO SATISFY SPACE. UPON A DROP IN SPACE TEMPERATURE, GAS HEAT SHALL BE ACTIVATED IN STAGES TO SATISFY SPACE TEMPERATURE. INTERNAL UNIT CONTROLS SHALL OPERATE ENTHALPHY ECONOMIZER WHEN OUTSIDE AIR ENTHALPHY IS LOWER THAN RETURN AIR ENTHALPHY. THERMOSTATS SHALL PROVIDE A DEADBAND OF 5°, WITHIN WHICH THE SUPPLY OF HEATING OR COOLING ENERGY TO THE ZONE CAN BE REDUCED TO THE MINIMUM. OCCUPANCY SCHEDULES SHALL BE SET TO OCCUPY MONDAY THRU FRIDAY, 7 AM TO 7 PM, UNOCCUPIED NIGHTS AND WEEKENDS. THERMOSTATS SHALL BE SET FOR OCCUPIED COOLING 75°, OCCUPIED HEATING 70°, UNOCCUPIED COOLING 85°, UNOCCUPIED HEATING 55°. ALL TIME AND TEMPERATURE SETPOINTS SHALL BE VERIFIED BY THE OWNER PRIOR TO PROGRAMMING. THERMOSTATS SHALL BE PROGRAMMED BY MECHANICAL CONTRACTOR IN THE PRESENCE OF OWNER'S REPRESENTATIVE PRIOR TO PROJECT COMPLETION.
 - PROVIDE EACH UNIT WITH A IONIZATION TYPE SMOKE DETECTOR, INSTALLED IN THE RETURN DUCT WIRE TO SHUT DOWN THE UNIT UPON ACTIVATION. SMOKE DETECTOR SHALL BE SUPPLIED, WIRED FOR INTERFACE WITH FIRE ALARM SYSTEM AND UNIT SHUTDOWN BY THE ELECTRICAL CONTRACTOR. SMOKE DETECTOR SHALL BE INSTALLED IN THE RETURN DUCT BY THE MECHANICAL CONTRACTOR.
 - PRIMARY COOLING COIL DRAIN PAN SHALL BE PROVIDED WITH A FLOAT SWITCH BY UNIT MFR; ACTIVATION OF THE FLOAT SWITCH SHALL SHUT DOWN UNIT.

VENTILATION CALCULATIONS (NCMC 2018, SECT 403) SOUTH ASHEBORO MIDDLE SCHOOL:

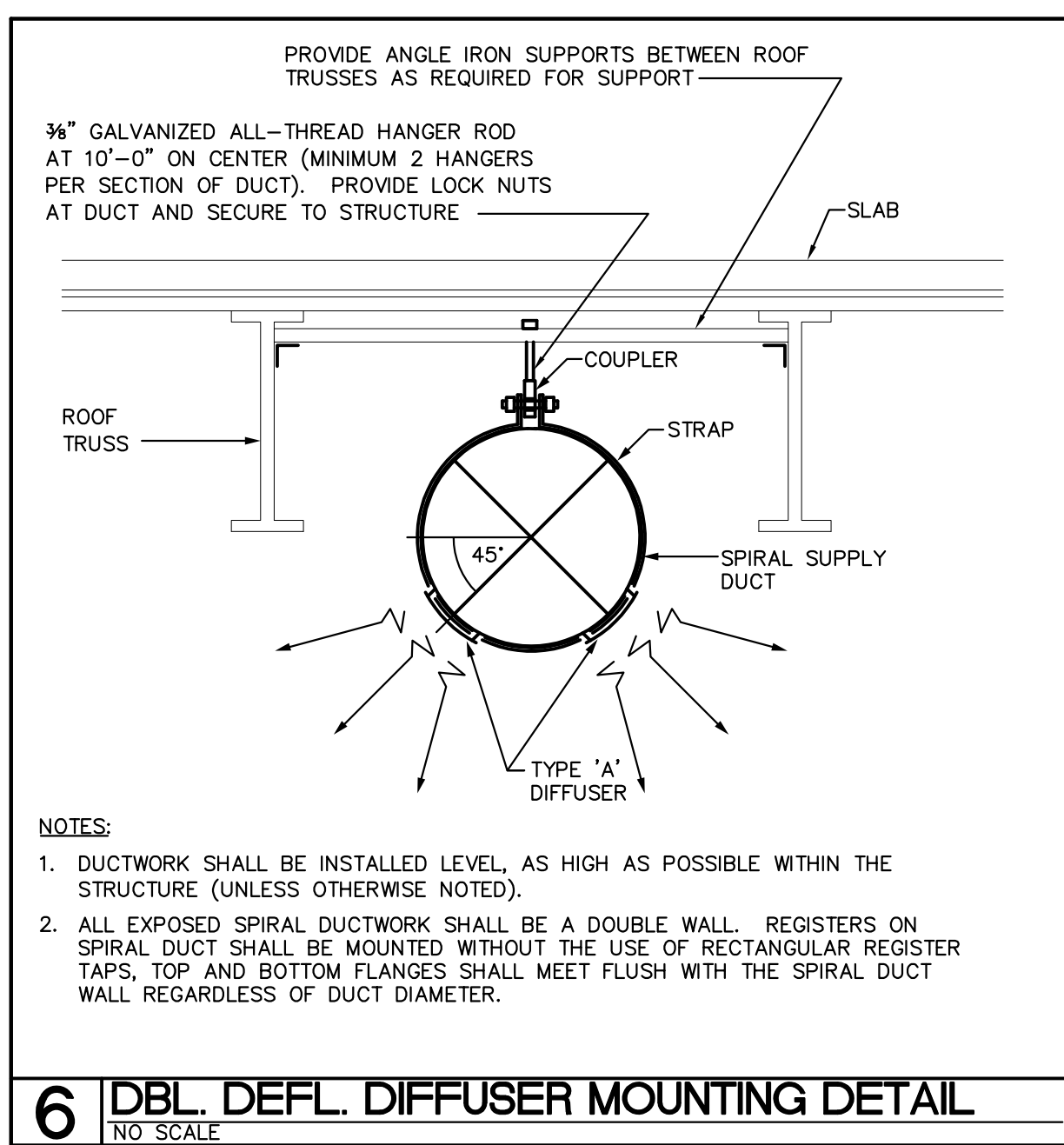
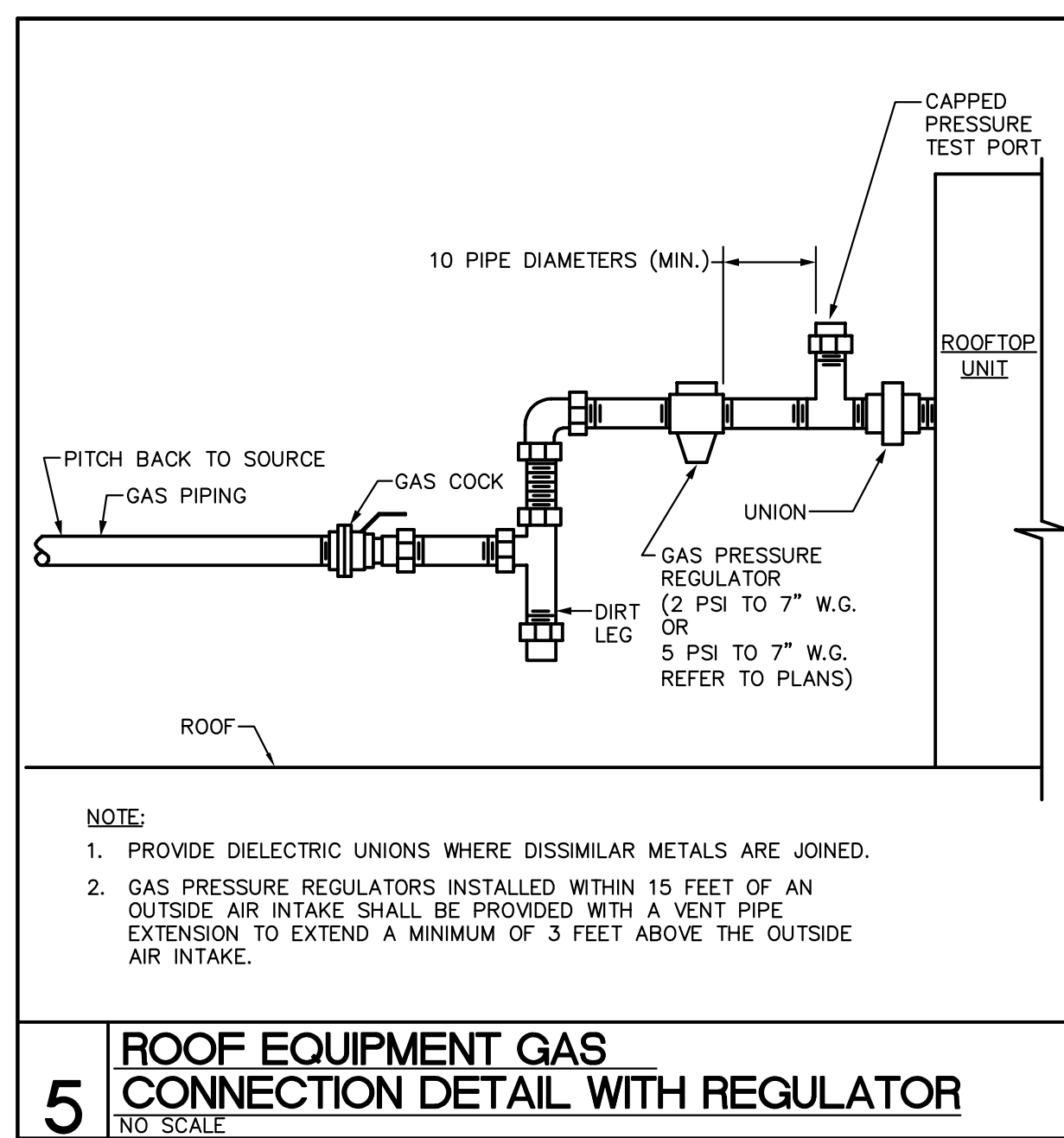
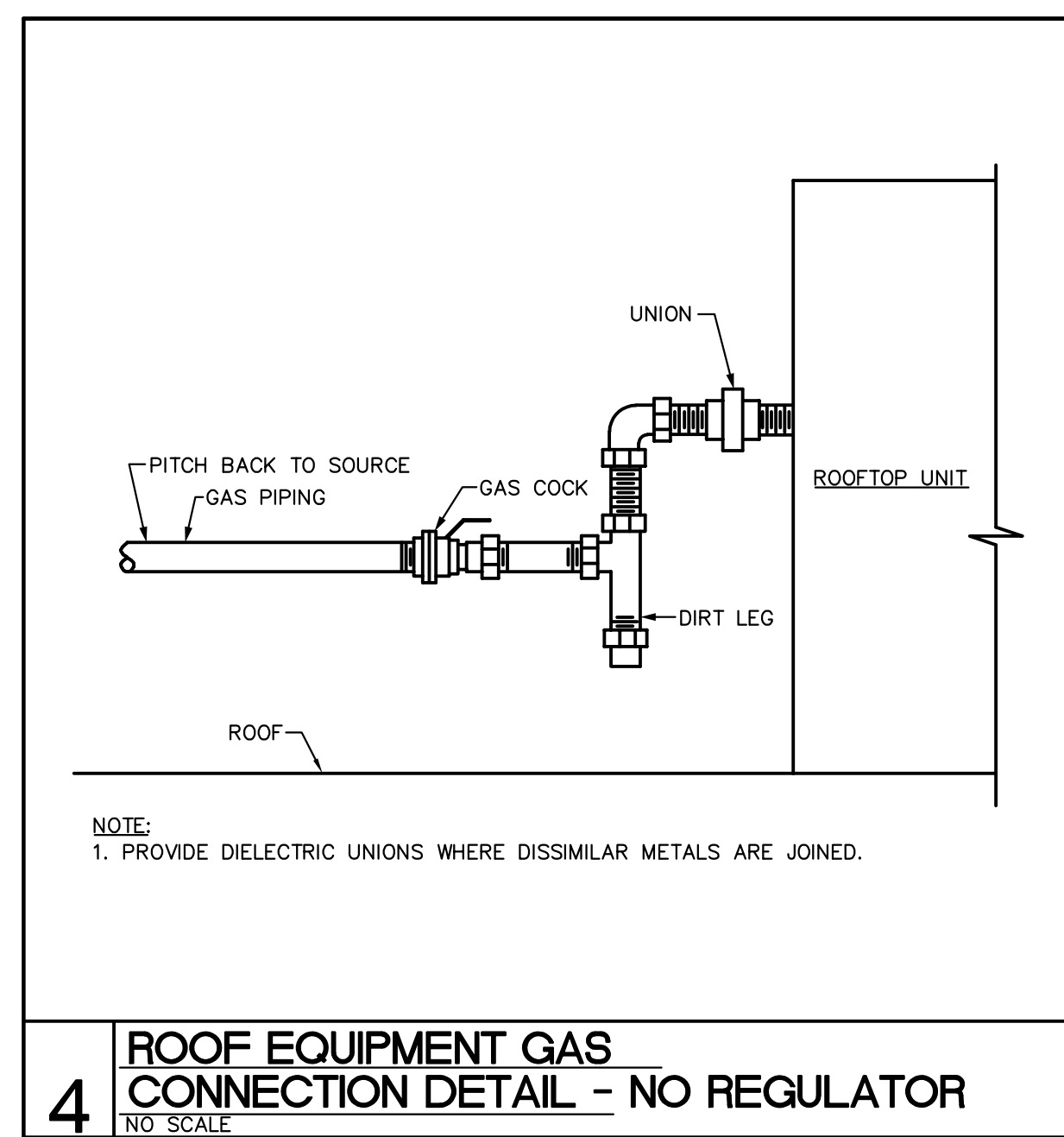
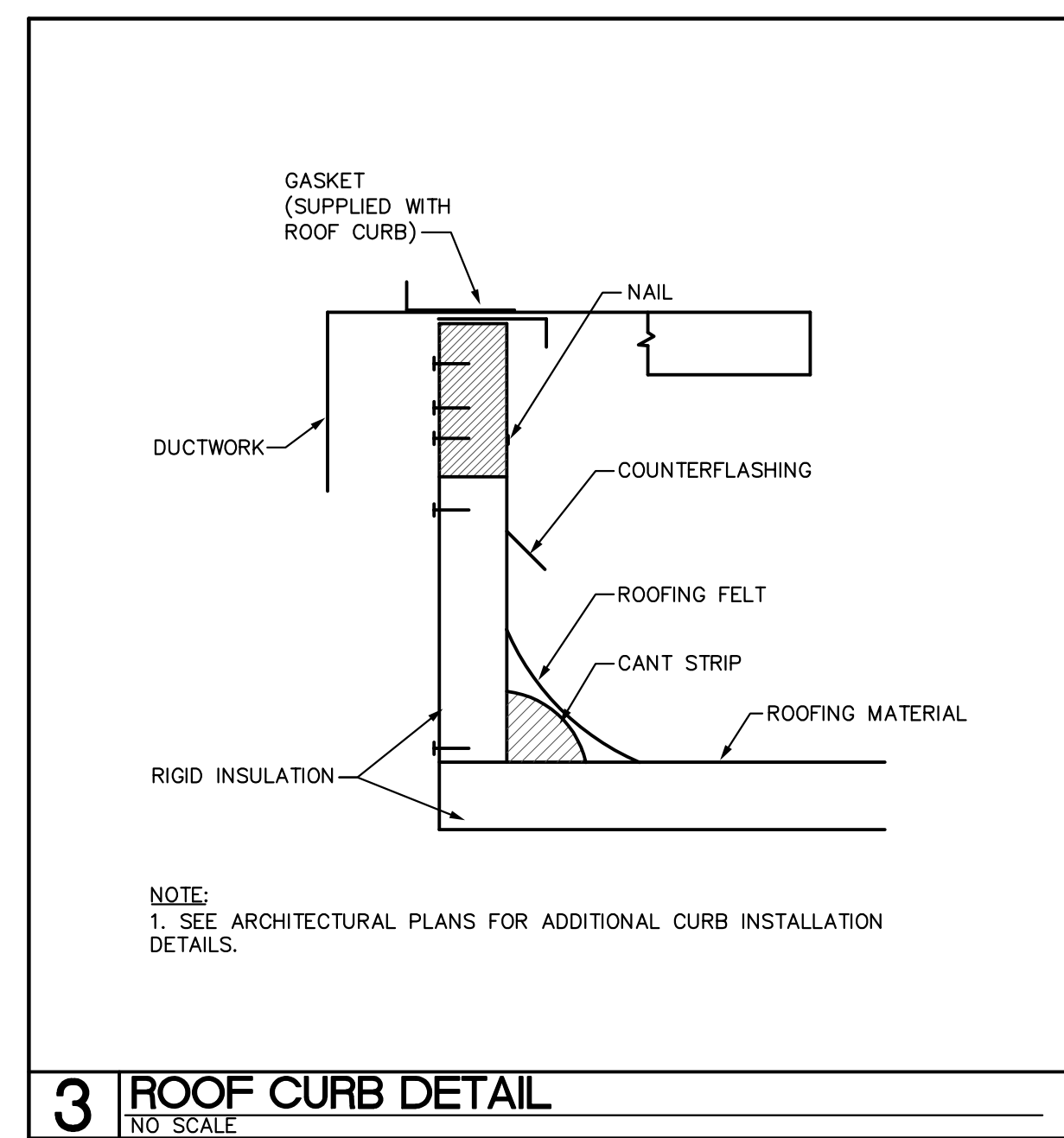
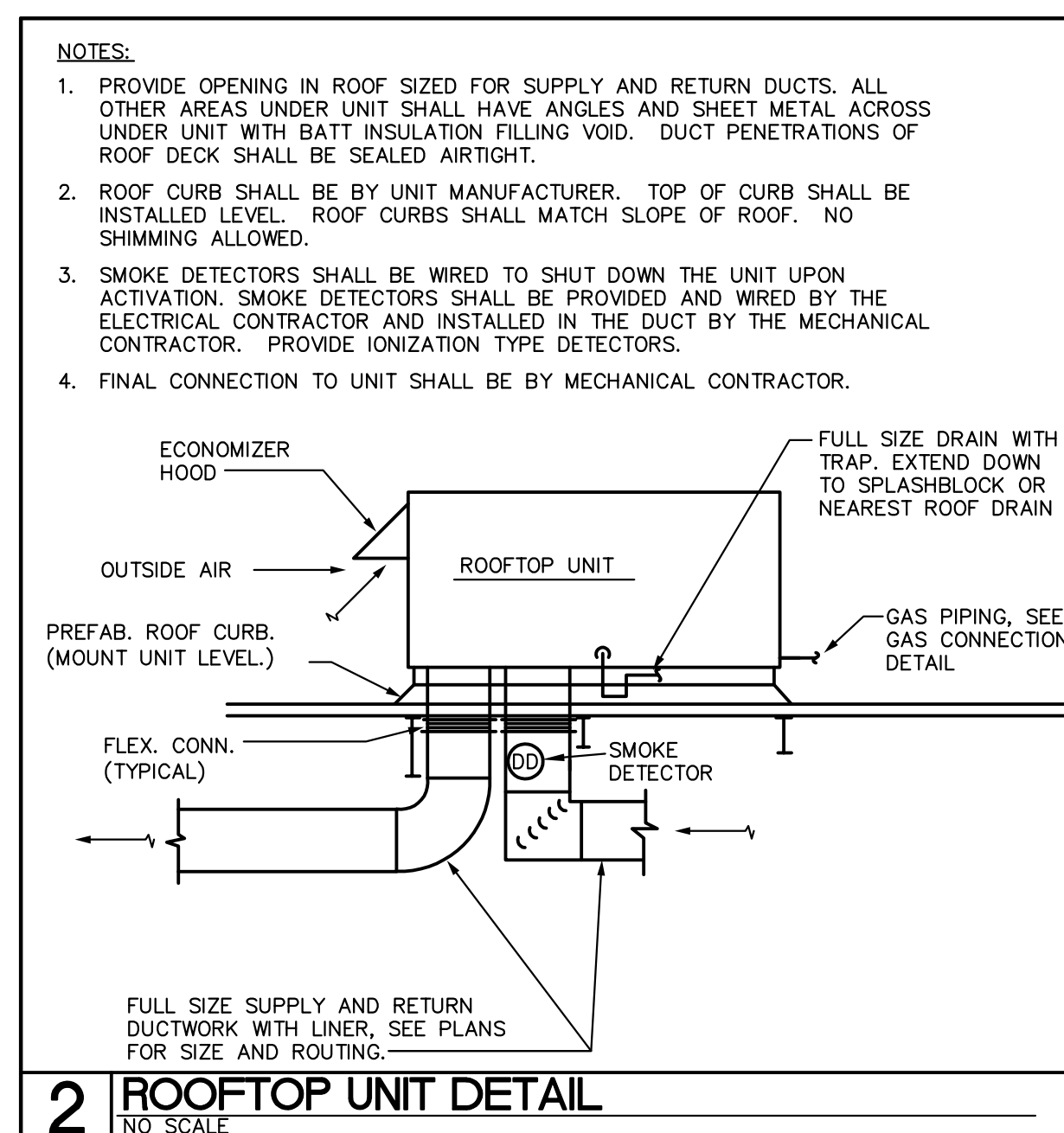
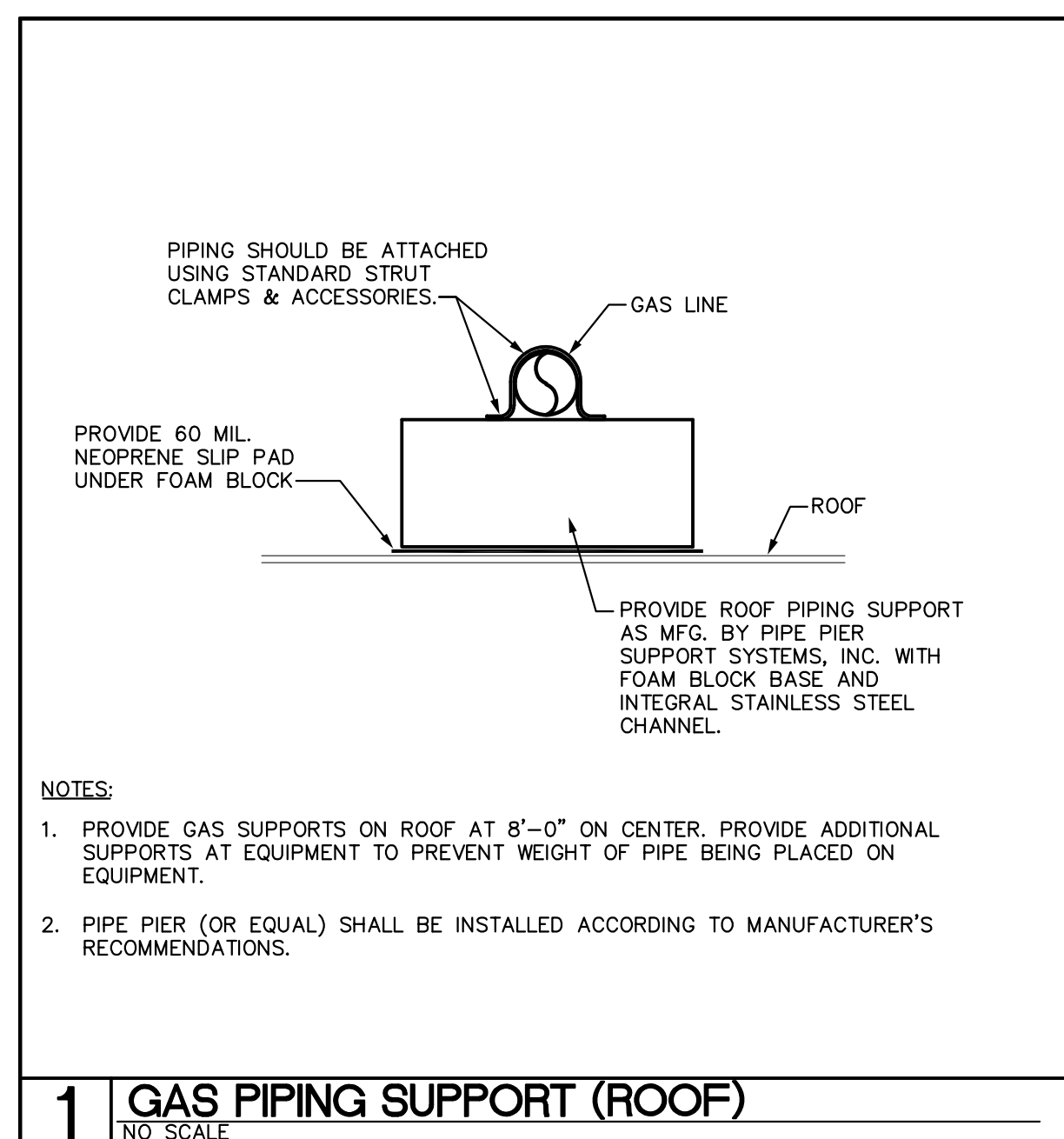
OCCUPANCY CLASSIFICATION	PEOPLE O/A RATE IN BREATHING ZONE (CFM/PERSON)	AREA O/A RATE IN BREATHING ZONE (CFM/SQ. FT.)	DEFAULT OCCUPANCY DENSITY (PEOPLE/1000 SQ. FT.)	EXHAUST AIRFLOW RATE (CFM/SQ. FT.)	AREA (SQ. FT.)	CALCULATED OCCUPANCY (PEOPLE)	CALCULATED PEOPLE O/A (CFM)	CALCULATED AREA O/A (CFM)	CALCULATED AREA E/A (CFM)
GYM (PLAY AREA)	0	0.300000	0	0.000000	8,026	0	0	2408	0
BLDG TOTAL OUTSIDE AIR REQ'D (Ez=0.8, CFM)								3,010	
BUILDING TOTAL OUTSIDE AIR PROVIDED (CFM)								3,300	
BUILDING TOTAL EXHAUST AIR REQUIRED (CFM)								0	
BUILDING TOTAL EXHAUST AIR PROVIDED (CFM)								0	

VENTILATION CALCULATIONS (NCMC 2018, SECT 403) NORTH ASHEBORO MIDDLE SCHOOL:

OCCUPANCY CLASSIFICATION	PEOPLE O/A RATE IN BREATHING ZONE (CFM/PERSON)	AREA O/A RATE IN BREATHING ZONE (CFM/SQ. FT.)	DEFAULT OCCUPANCY DENSITY (PEOPLE/1000 SQ. FT.)	EXHAUST AIRFLOW RATE (CFM/SQ. FT.)	AREA (SQ. FT.)	CALCULATED OCCUPANCY (PEOPLE)	CALCULATED PEOPLE O/A (CFM)	CALCULATED AREA O/A (CFM)	CALCULATED AREA E/A (CFM)
GYM (PLAY AREA)	0	0.300000	0	0.000000	8,108	0	0	2432	0
BLDG TOTAL OUTSIDE AIR REQ'D (Ez=0.8, CFM)								3,041	
BUILDING TOTAL OUTSIDE AIR PROVIDED (CFM)								3,200	
BUILDING TOTAL EXHAUST AIR REQUIRED (CFM)								0	
BUILDING TOTAL EXHAUST AIR PROVIDED (CFM)								0	

VENTILATION CALCULATIONS (NCMC 2018, SECT 403) ASHEBORO HIGH SCHOOL:

OCCUPANCY CLASSIFICATION	PEOPLE O/A RATE IN BREATHING ZONE (CFM/PERSON)	AREA O/A RATE IN BREATHING ZONE (CFM/SQ. FT.)	DEFAULT OCCUPANCY DENSITY (PEOPLE/1000 SQ. FT.)	EXHAUST AIRFLOW RATE (CFM/SQ. FT.)	AREA (SQ. FT.)	CALCULATED OCCUPANCY (PEOPLE)	CALCULATED PEOPLE O/A (CFM)	CALCULATED AREA O/A (CFM)	CALCULATED AREA E/A (CFM)
GYM (PLAY AREA)	0	0.300000	0	0.000000	7,402	0	0	2221	0
BLDG TOTAL OUTSIDE AIR REQ'D (Ez=0.8, CFM)								2,776	
BUILDING TOTAL OUTSIDE AIR PROVIDED (CFM)								3,000	
BUILDING TOTAL EXHAUST AIR REQUIRED (CFM)								0	
BUILDING TOTAL EXHAUST AIR PROVIDED (CFM)								0	



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Smith Sinnett Architecture, P.A., 2017

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**Asheboro City Schools
HVAC Installation - Gymnasiums**

North Asheboro Middle School / South Asheboro Middle School /
Asheboro High School
Asheboro, NC 27203

ID	DATE	DESCRIPTION
1	7/16/19	ADDENDUM 4

DRAWN BY: PAL
CHECKED BY: JWM

MECHANICAL SCHEDULES AND DETAILS

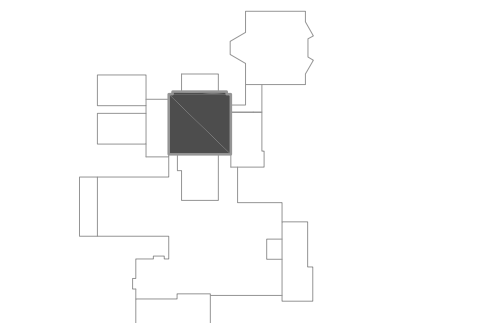


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Asheboro City Schools
HVAC Installation - Gymnasiums
North Asheboro Middle School / South Asheboro Middle School /
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1	7/16/19	ADDENDUM 4



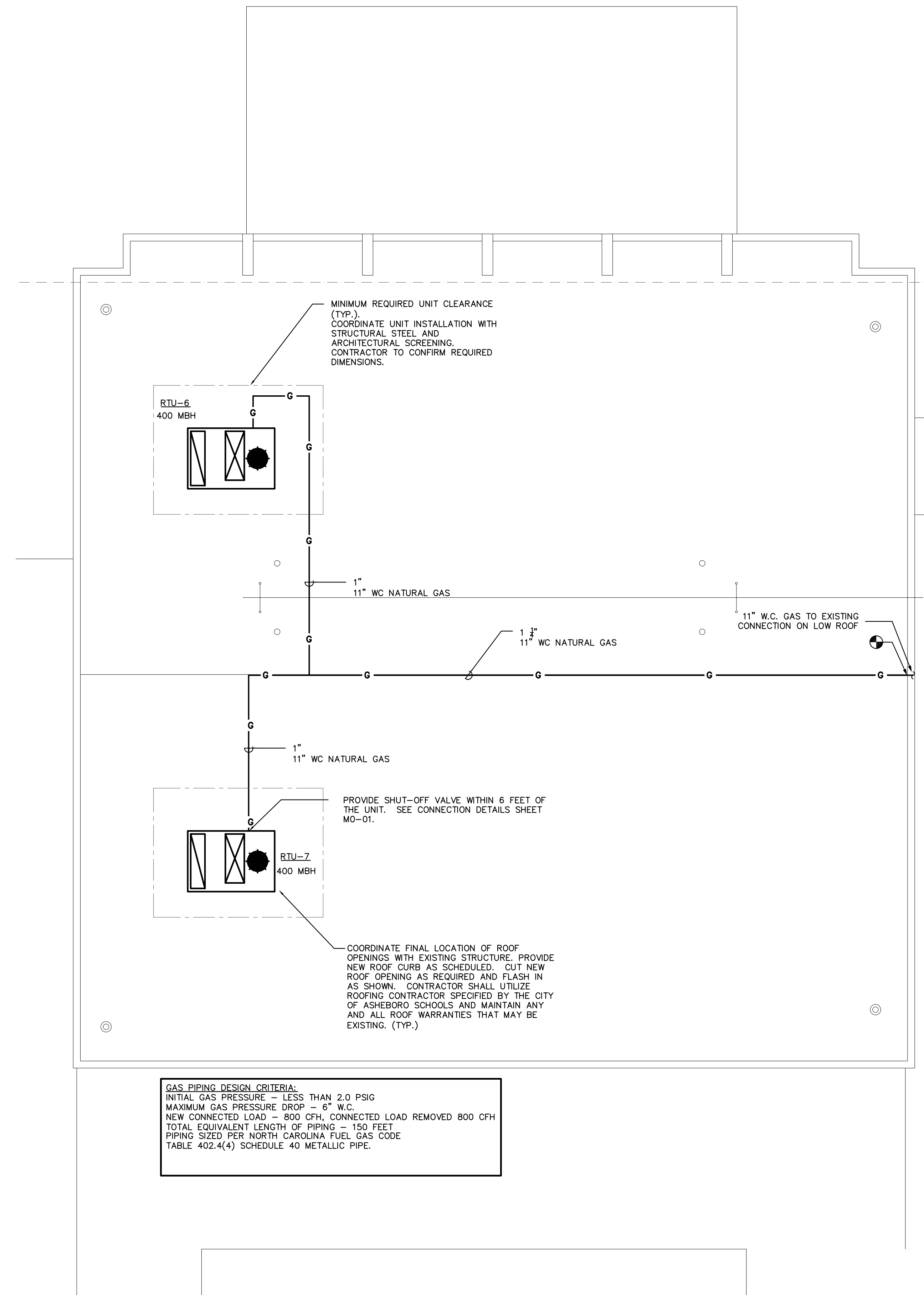
DRAWN BY: PAL
CHECKED BY: JWM

MECHANICAL
PLAN - NEW
WORK - NAMS

2018031 6 of 8 14 JUNE 2019

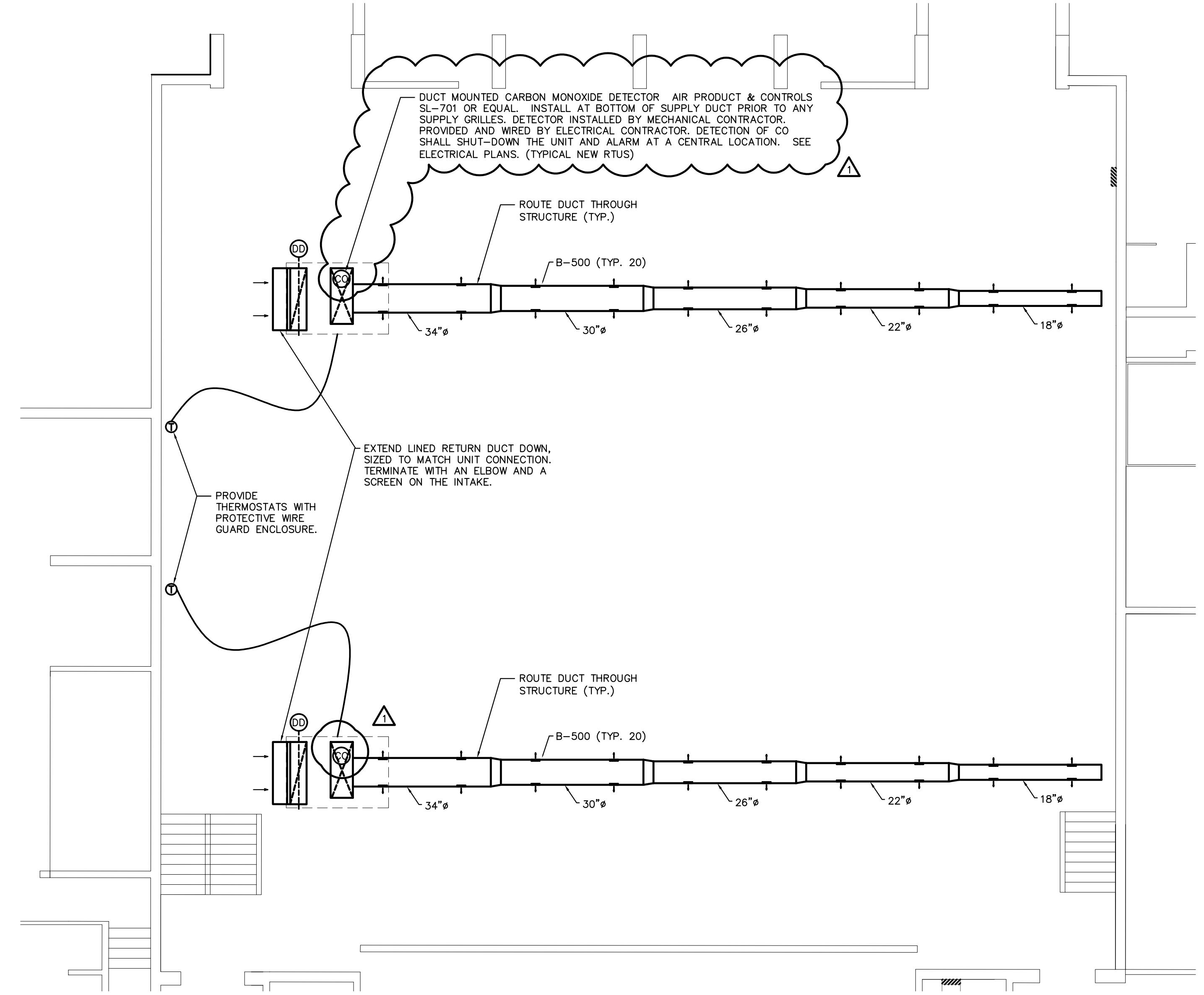
M1-11A

NOTE:
DUCTWORK TO BE DOUBLE WALL GALVANIZED SPIRAL HUNG TIGHT TO STRUCTURE.
ALTERNATE #4:
AS AN ALTERNATE PROVIDE 34" FABRIC DUCT, DUCT SOX OR EQUAL, VERONA FABRIC, ON SKELE CORE PULL TIGHT SUSPENSION, WITH CONTINUOUS LINEAR VENTS AT 4, 5, 7, AND 8 O'CLOCK. FABRIC TO BE CUSTOM COLOR, DETERMINED BY OWNER WITH SCREEN PRINT LOGO.

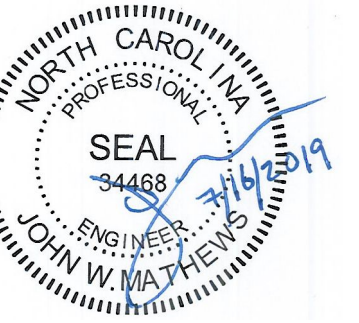


GAS PIPING DESIGN CRITERIA:
INITIAL GAS PRESSURE - LESS THAN 2.0 PSIG
MAXIMUM GAS PRESSURE DROP - 6" W.C.
NEW CONNECTED LOAD - 800 CFH, CONNECTED LOAD REMOVED 800 CFH
TOTAL EQUIVALENT LENGTH OF PIPING - 150 FEET
PIPING SIZED PER NORTH CAROLINA FUEL GAS CODE TABLE 402.4(4) SCHEDULE 40 METALLIC PIPE.

2 NORTH ASHEBORO MIDDLE SCHOOL MECHANICAL ROOF PLAN - NEW WORK
1/8" = 1'-0"



1 NORTH ASHEBORO MIDDLE SCHOOL MECHANICAL PLAN - NEW WORK
1/8" = 1'-0"



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Asheboro City Schools
HVAC Installation - Gymnasiums
North Asheboro Middle School / South Asheboro Middle School /
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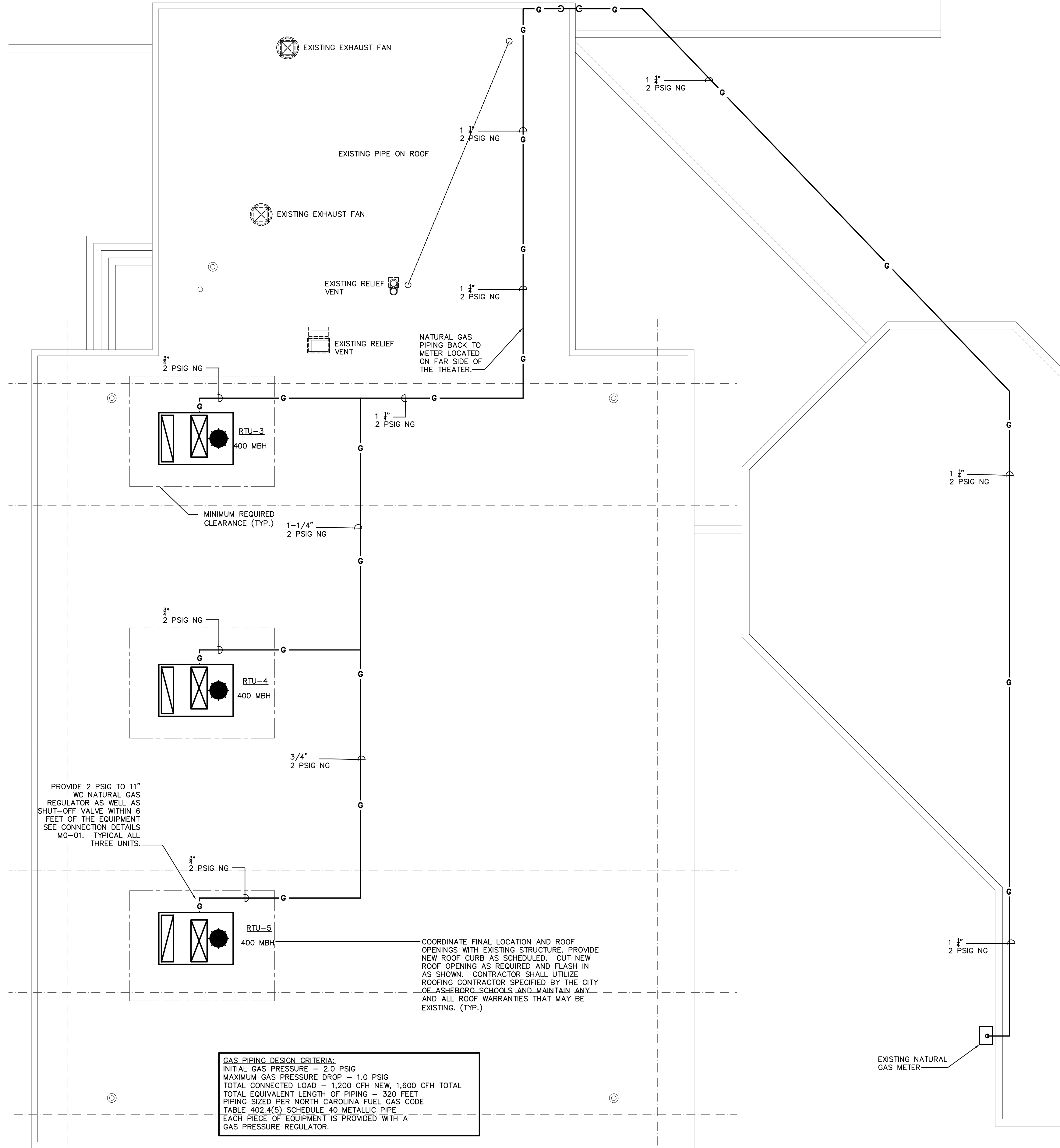
1	7/16/19	ADDENDUM 4
ID	DATE	DESCRIPTION

DRAWN BY: PAL
CHECKED BY: JWM

MECHANICAL
PLAN - NEW
WORK - SAMS

2018031 7 of 8 14 JUNE 2019

M1-11B

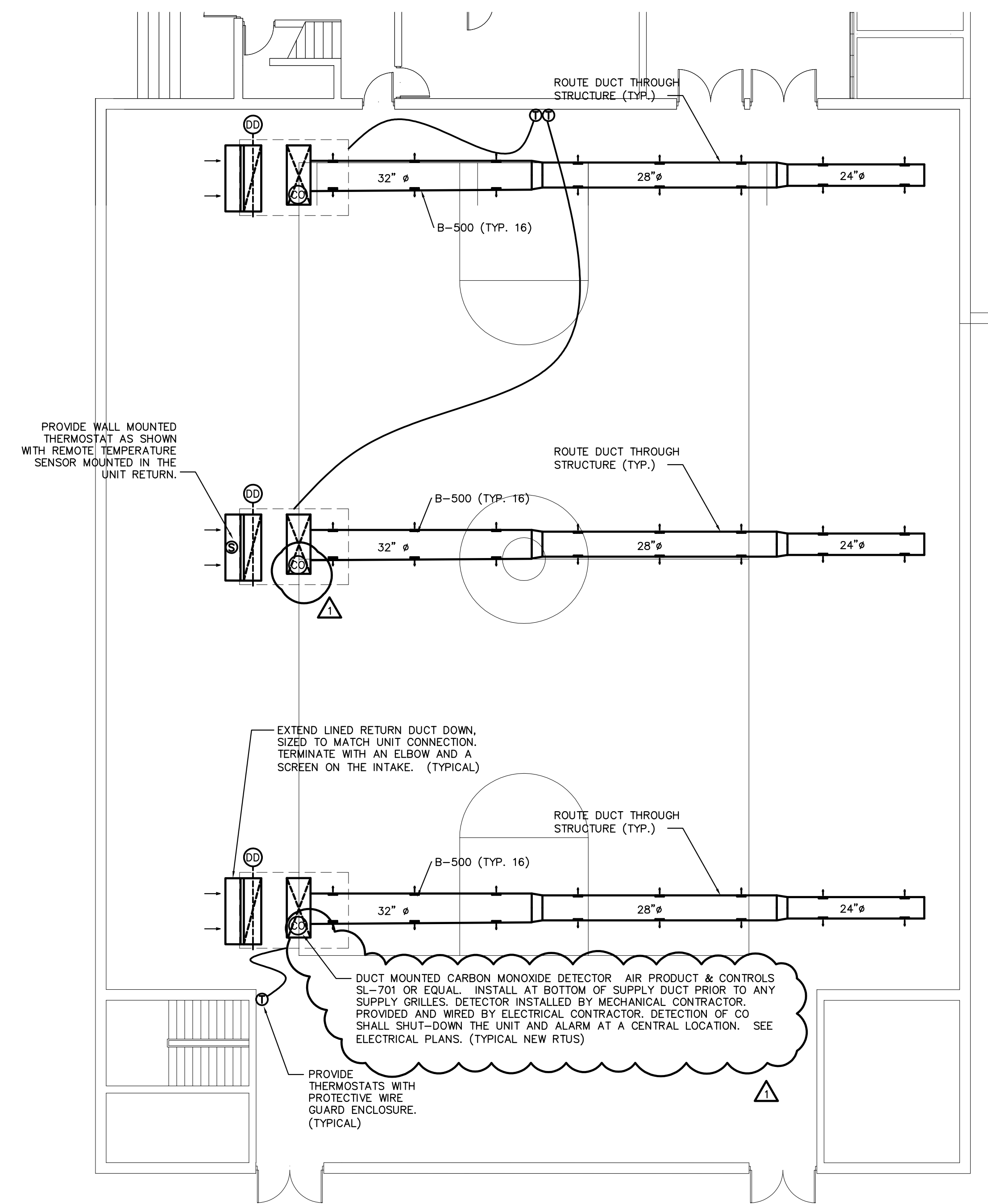


GAS PIPING DESIGN CRITERIA:
INITIAL GAS PRESSURE - 2.0 PSIG
MAXIMUM GAS PRESSURE DROP - 1.0 PSIG
TOTAL CONNECTED LOAD - 1,200 CFH NEW, 1,600 CFH TOTAL
TOTAL EQUIVALENT LENGTH OF PIPING - 320 FEET
PIPING SIZED PER NORTH CAROLINA FUEL GAS CODE
TABLE 402.4(5) SCHEDULE 40 METALLIC PIPE
EACH PIECE OF EQUIPMENT IS PROVIDED WITH A
GAS PRESSURE REGULATOR.

PROVIDE 2 PSIG TO 11" WC NATURAL GAS REGULATOR AS WELL AS SHUT-OFF VALVE WITHIN 6 FEET OF THE EQUIPMENT SEE CONNECTION DETAILS M0-01. TYPICAL ALL THREE UNITS.

COORDINATE FINAL LOCATION AND ROOF OPENINGS WITH EXISTING STRUCTURE. PROVIDE NEW ROOF CURB AS SCHEDULED. CUT NEW ROOF OPENING AS REQUIRED AND FLASH IN AS SHOWN. CONTRACTOR SHALL UTILIZE ROOFING CONTRACTOR SPECIFIED BY THE CITY OF ASHEBORO SCHOOLS AND MAINTAIN ANY AND ALL ROOF WARRANTIES THAT MAY BE EXISTING. (TYP.)

NOTE:
DUCTWORK TO BE DOUBLE WALL GALVANIZED SPIRAL HUNG TIGHT TO STRUCTURE.
ALTERNATE #2:
AS AN ALTERNATE PROVIDE 34" FABRIC DUCT, DUCT SOX OR EQUAL, VERONA FABRIC, ON SKELE CORE PULL TIGHT SUSPENSION, WITH CONTINUOUS LINEAR VENTS AT 4, 5, 7, AND 8 O'CLOCK. FABRIC TO BE CUSTOM COLOR, DETERMINED BY OWNER WITH SCREEN PRINT LOGO.



PROVIDE WALL MOUNTED THERMOSTAT AS SHOWN WITH REMOTE TEMPERATURE SENSOR MOUNTED IN THE UNIT RETURN.

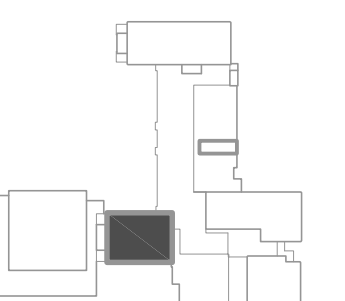
EXTEND LINED RETURN DUCT DOWN, SIZED TO MATCH UNIT CONNECTION. TERMINATE WITH AN ELBOW AND A SCREEN ON THE INTAKE. (TYPICAL)

DUCT MOUNTED CARBON MONOXIDE DETECTOR AIR PRODUCT & CONTROLS SL-701 OR EQUAL. INSTALL AT BOTTOM OF SUPPLY DUCT PRIOR TO ANY SUPPLY GRILLES. DETECTOR INSTALLED BY MECHANICAL CONTRACTOR PROVIDED AND WIRED BY ELECTRICAL CONTRACTOR. DETECTION OF CO SHALL SHUT-DOWN THE UNIT AND ALARM AT A CENTRAL LOCATION. SEE ELECTRICAL PLANS. (TYPICAL NEW RTUS)

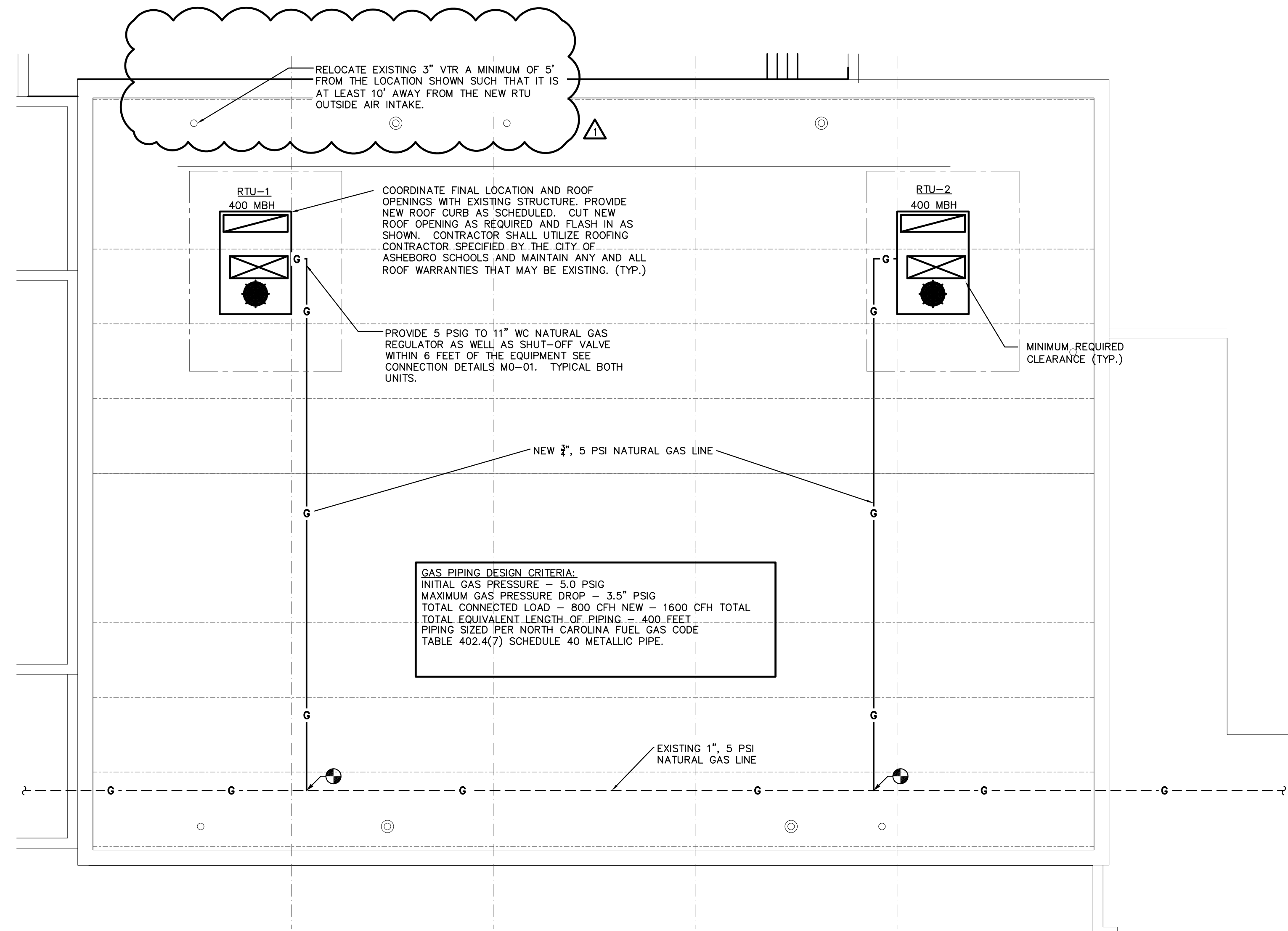
PROVIDE THERMOSTATS WITH PROTECTIVE WIRE GUARD ENCLOSURE. (TYPICAL)

2 SOUTH ASHEBORO MIDDLE SCHOOL MECHANICAL ROOF PLAN - NEW WORK
1/8" = 1'-0"

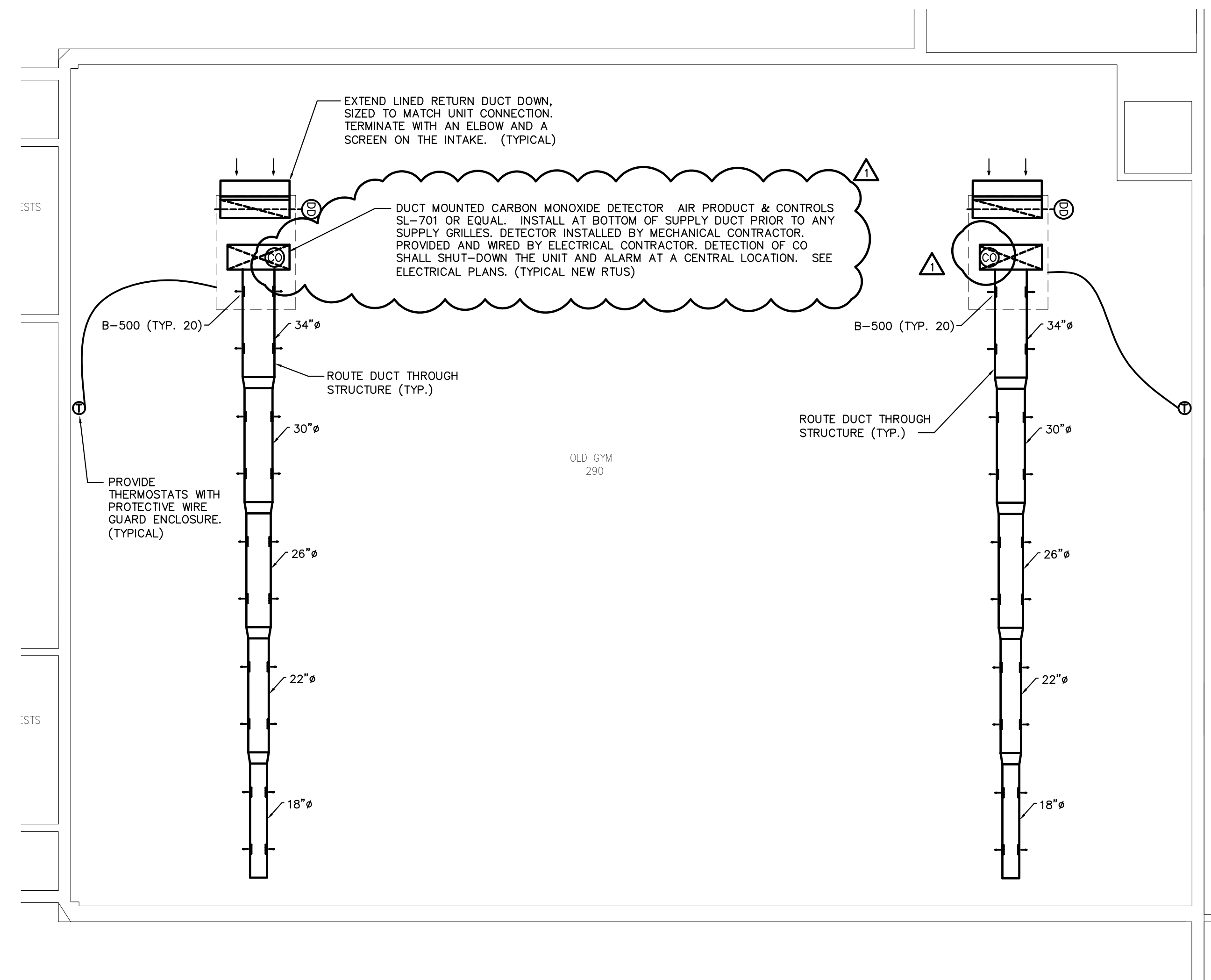
1 SOUTH ASHEBORO MIDDLE SCHOOL MECHANICAL PLAN - NEW WORK
1/8" = 1'-0"



NOTE:
DUCTWORK TO BE DOUBLE WALL GALVANIZED SPIRAL HUNG TIGHT TO STRUCTURE.
ALTERNATE #5C.
AS AN ALTERNATE PROVIDE 34" FABRIC DUCT, DUCT SOX OR EQUAL, VERONA FABRIC, ON SKELE CORE PULL TIGHT SUSPENSION, WITH CONTINUOUS LINEAR VENTS AT 4, 5, 7, AND 8 O'CLOCK. FABRIC TO BE CUSTOM COLOR, DETERMINED BY OWNER WITH SCREEN PRINT LOGO.



② ASHEBORO HIGH SCHOOL MECHANICAL ROOF PLAN - NEW WORK
1/8" = 1'-0"



① ASHEBORO HIGH SCHOOL MECHANICAL PLAN - NEW WORK
1/8" = 1'-0"

GENERAL NOTE:
ALL WORK THIS SHEET SHALL BE PRICED SEPARATELY AS PART OF ALTERNATIVE #5A