

STATE OF NEW HAMPSHIRE DEPARTMENT OF ADMINISTRATIVE SERVICES DIVISION OF PUBLIC WORKS - DESIGN & CONSTRUCTION POB 483, 7 Hazen Drive – Room 250 Concord, New Hampshire 03302-0483 Phone 603-271-3516, Fax 603-271-3515

CHARLES M. ARLINGHAUS Commissioner



DOCUMENT 00911

ADDENDUM NUMBER 01

TO: ALL CONTRACT BIDDERS OF RECORD

This Addendum forms a part of the Contract Documents and modifies the Bidding Documents dated March 7, 2024, with amendments and additions noted below. Acknowledge receipt of this Addendum in the space provided in the Proposal Form. Failure to do so may disqualify the Bidder.

This Addendum consists of 6 pages plus 3 pages of attachments plus drawings listed below:

Attachments: Pre-Bid Site Walk Sign in Sheets with Business Cards; for March 12 and 15, 2024.

No.	Drawing Title	Issue Date
MD-100	MECHANICAL DEMOLITION PLANS	03/20/2024
M-001	HVAC LEGENDS AND ABBREVIATIONS	03/20/2024
M-100	MECHANICAL PLANS	03/20/2024
E102	ELECTRICAL PART PLAND AND NOTES	03/20/2024

Drawings are full size 24" x 36" replacement drawings.

CHANGES TO THE SPECIFICATIONS

Document SECTION 07 5323 - EPDM SINGLE-PLY ADHERED ROOFING SYSTEM

1. Article 1.07 Paragraph B.3.d: Delete "100" and replace with "72".

Document SECTION 10 2213 - WIRE MESH PARTITIONS

2. Article 2.02 Paragraph A: Add the following acceptable manufacturer; renumber list: "*Husky Rack and Wire: <u>www.huskyrackandwire.com</u>.*".

CHANGES TO THE DRAWINGS

DRAWING A101 - FIRST FLOOR PLAN - PARTIAL

- 3. Delete rooms 116 and 117 from the FINISH SCHEDULE in their entirety.
- 4. Change the floor finish for Room Number 126 from "C1" to "SCT".

BIDDER QUESTIONS

5. Question: Provide HAZ MAT report. **Response:** The building was constructed after 1998. It is not anticipated that any known hazardous materials were in use in the construction industry at this time and therefore no report is available.

- 6. Question: Name of the roofing contractor who has the current warranty. **Response:** *This information is not available.*
- 7. Question: Name of the fire protection company that services the building. **Response:** *Impact fire Services, 1-800-224-7531.*
- 8. Question: Name of the fire alarm company that services the building. **Response:** *Impact fire Services, 1-800-224-7531.*
- 9. Question: What is the overall height from floor to underside of slab/deck at area of detail S4 / A101? **Response:** The intent is that interior partitions extend 2" above adjacent ceilings unless specifically detailed otherwise, *refer to "PARTITION TYPE NOTES" note 9. New ceilings to be at the same elevation as existing ceilings. The Bidder is responsible for visiting the project site and reviewing all existing conditions prior to submitting their bid.*
- 10. Question: Verify if rooms 116 + 117 are to receive new ACT-1 as drawing AD101 does not show Key Note D11 in these rooms.? **Response:** No new work is planned for these two rooms except that which is necessary for work related to mechanical and electrical.
- 11. Question: Provide location of Partition Type Note #6/A101 as it relates to Key Note A19 / A401. **Response:** *The furniture and equipment shown in the interior elevations on Sheet A401 do not require blocking in the new partitions. The furniture and equipment are for reference only.*
- 12. Question: Confirm if section 00204;para. 15.3,J.1 is required. **Response:** *Yes.*
- 13. Question: What is the desired overhang dimension of the concrete pad beyond the footprint of the new generator? **Response:** *Please provide a minimum of 3" on all sides.*
- 14. Question: Will the new generator power & control conduits require interior building SOG to be removed and replaced in order to connect the new ATS?Response: Yes, existing conduits may be used if found in acceptable condition
- 15. Question: Provide location of gas line tie in for both new and existing generators. **Response:** *Existing gas line for the existing generator comes through the wall above the generator set. Old gas line may be reused if in acceptable condition.*
- 16. Question: Provide copies of all site visit sign in sheets? **Response:** *See attachments.*
- 17. Question: Provide definition of "NG DN" as shown on 2/M-100. **Response:** *Natural Gas Down.*.
- 18. Question: What is the overall height of the walls I.D to be removed?

Response: As noted on Sheet AD101, demolition note D10 the GC is to remove a portion of the existing wall assembly to accommodate a new opening. The bidder is responsible for visiting the project site and reviewing the existing conditions prior to submitting their bid.

- 19. Question: Will the limit of work areas be occupied?
 Response: The owner will continue to occupy the building. Room 126 and 127 will not be occupied during construction. However, the existing computers and racks will remain functional during construction. The General Contractor will be responsible for protecting this equipment from damage.
- 20. Question: Please confirm the height of bottom of deck above. **Response:** The height to the bottom of deck is approximately 20'-8" as shown in Detail 2/AD102. Details 7 and 8 on Sheet A501 provide dimensions for roof access ladder. The Bidder is responsible for visiting the site and verifying all dimensions prior to submitting their bid.
- 21. Question: Confirm if negative air is required in the interior building work limits. **Response:** Means and methods of controlling dust from damaging existing equipment to remain and interfering with the Owner's daily operations in the building are the responsibility of the General Contractor. At a minimum it is anticipated that dust partitions will be necessary to isolate the work area.
- 22. Question: Confirm Security services will not be required under this contract. **Response:** Any work that is performed on 2nd and 3rd shift that is required for the power shut down for the emergency generator and transfer switch installation and testing will require security service to oversee the General Contractor's workers.
- 23. Question: Provide the name of the manufacturer of the existing Fire Alarm Control Panel. **Response:** *Fire-Lite Alarms by Honeywell model ES-200X.*
- 24. Question: Can the Temp fence requirement around the perimeter of the construction site be removed from the scope of work? **Response:** A temporary fence is required around the lay down area as well as covered protection (10' out from the building) of the main entrance and exits to prevent debris from roof work striking employees or public accessing the building.
- 25. Question: The new emergency generator currently has a 34 week lead time for delivery. Will the State allow for the delivery and installation after the 11/24/24 completion date without penalties? Response: If the project completion date cannot be met due to no fault of the General Contractor and approved documentation is provided in accordance with the General Conditions then penalties will not be imposed. No additional General Conditions will be awarded to the General Contractor for the extension of the Contract Completion Date.

- 26. Question: Please confirm the height of wall type A13. Plans only say to match existing wall thickness. **Response:** *The Bidder is responsible for visiting the site and verifying all dimensions prior to submitting their bid.*
- 27. Question: Plan E101 shows the existing generator and existing underground exterior conduits being removed and disposed. New generator to be installed at adjacent location with new underground exterior conduits. Please confirm total interior concrete slab on grade square footage that will need to be sawcut removed patched in order to connect the new generator exterior conduits to the existing interior conduits.

Response: The intent is not to disturb the existing interior conduits under the concrete slab. If existing conduits are in usable condition and new wires can be pulled through them, they will be connected to the new generator through underground conduit on the exterior of the building.

28. Question: The provided "Information Report" sheet contains a line item #904 with the description "Provide and install new interior conduit for new emergency generator". Please provide additional information on this scope: How much conduit will be required? What is the total lineal foot distance from the exterior wall to the final connection point, electrical room? Would this work be done during regular hours or off hours? Provide conduit material specification. Please confirm the new conduit will be installed overhead.

Response: The intent of line item #904 is to provide a unit price to provide a conduit from the new generator to the electrical room should the existing conduit not be usable for the new conductors. The Bidder is responsible for visiting the site and verifying all dimensions, distances and quantities prior to submitting their bid. Provide and install new interior schedule 40 electric galv. conduit from new emergency generator entrance to new transfer switch within the electrical room. Provide (1) 2" dia. and (1) 1" dia. Vertical and horizontal run approx. 90 L.F., secure to structural frame as high as possible not to interfere with existing equipment. The work will be done during normal business hours with the least amount of disruption to the Owner's use of the building. RGS conduit shall be used where subject to damage and on the exterior.

- 29. Question: Provide location of gas line tie in for both new and existing generators. **Response:** See revised drawings showing gas piping for the generator.
- 30. Reference detail 2/M-001;
 - a. Question: Provide location of point of connection tie-in with new flex duct work to existing supply and returns.
 Besponse: *Elexible connections can be made anywhere within 5' of the RTU Elexible*

Response: Flexible connections can be made anywhere within 5' of the RTU. Flexible connections are intended to isolate any vibration of the RTU to the ductwork.

- *b.* Question: Provide dimension of new roof deck opening. **Response:** *The are no additional roof deck opening called for.*
- *c.* Question: Can the 2x2 x1.4 angle be a bolted connection? **Response:** Where existing curbs can be reused additional supports normally associated with a new opening and curb should not be required. The contractor shall field verify all existing conditions and report any inconsistencies discovered.
- 31. Question: Confirm if the scale is correct for detail 2/M-100.

Response: Scale of detail 2 on drawing M-100: Scale is confirmed to be $1/8'' = 1' \cdot 0''$.

32. Question: The new RTU units aren't showing new curbs in the schedule. Are the old curbs being removed?

Response: It is our intention to specify equipment that can be mounted on the existing curbs. Should there be any concern about the integrity of the construction related to the existing curb please bring it immediately to the owner's attention.

33. Question: The orientation of the rooftop units as shown on M-100 is different than that shown on the Mechanical Demo drawing (MD-100). If not, are the existing /old units a direct match? Or are curb adapters needed?

Response: We have attempted to show the orientation of the RTs in the position they are currently in. We have found that the original drawings do not match the present orientation of all RTUs. We have undated our drawings to be consistent between plans. The contractor shall verify actual conditions.

- 34. Question: Please advise on the correct orientation of the new rooftop units. **Response:** We have attempted to show the orientation of the RTs in the position they are currently in. We have found that the original drawings do not match the present orientation of all RTUs. We have undated our drawings to be consistent between plans. The contractor shall verify actual conditions.
- 35. Question: If available, please provide the model numbers of the existing RTU units, so vendor can check if they can be matched (curbs).Response:

RTU-2 D1NA060N11825B 828 York RTU-3 D1NA036N072258 753 York RTU-5 D1NA036N072258 753 York RTU-6 D3CG120N20025ECO 1527 York RTU-7 D1NA060N11825B 828 York	RTU-1	D2CG072N09925BDA	903	York
RTU-3 D1NA036N072258 753 York RTU-5 D1NA036N072258 753 York RTU-6 D3CG120N20025ECO 1527 York RTU-7 D1NA060N11825B 828 York	K10-1	D2CO0/2N09923DDA	905	10/K
RTU-5 D1NA036N072258 753 York RTU-6 D3CG120N20025ECO 1527 York RTU-7 D1NA060N11825B 828 York	<i>RTU-2</i>	D1NA060N11825B	828	York
RTU-6 D3CG120N20025ECO 1527 York RTU-7 D1NA060N11825B 828 York	<i>RTU-3</i>	D1NA036N072258	753	York
RTU-7 D1NA060N11825B 828 York	<i>RTU-5</i>	D1NA036N072258	753	York
	<i>RTU-6</i>	D3CG120N20025ECO	1527	York
RTU-8 D2NA036N07225A 753 York	<i>RTU-7</i>	D1NA060N11825B	828	York
	<i>RTU-8</i>	D2NA036N07225A	753	York

- 36. Question: Please provide the Control vendor's information that has the contract for this building. Response: ENE Systems of NH, 155 River Rd., #10 Bow, NH 03304- telephone 603-856-0330 Contract expiration: 1/31/2029
- Question: M-100 "Rooftop Unit Schedule", Note 3. "Provide Humidification As Specified", no humidification specs provided on M-100 or elsewhere.
 Response: See revisions to drawings.

Michelle L. Juliano

Michelle Juliano, P.E., Deputy Director Division of Public Works - Design and Construction

END OF DOCUMENT

NH LOTTERY HEADQUARTERS RENOVATIONS

81237R – Contract C Pre-Bid Site Walk March 12, 2024 MARCH 15, AOIA

NAME	ORGANIZATION	Phone	EMAIL		
Gary Brown PM	Division of Public Works	603-271-1640	Gary.F.Brown@das.nh.gov		
Eric Prescott	NH Lottery	(603) 271-7136	Eric.P.Prescott@lottery.nh.gov		
Bigan Lacy	RTH Machancal	663-771-4719	Bryan C RTH Mechanical . com		
MichaelLabord	Skyline Roofing	603-669-0131	Mike eskylineroofingnh.com		
Jack Schooden	Schredon (MIST. Mist	603 882 1822	Jack @ Schroeder (MI, UM		
Angelie Enclar	NEI	228-563-3365	Angelie @NElmaine.com		
AUSTAIR EDYNA	BBENETLAW	978-941-5649	Allistand. Former Carperturan	Ice.	con
TRE-BID SITE	WALK	MARCH 15,2024			
Randy FRANCO	Schnoeder cm.	603-882-1822	randy@schroidercmi.com		
JASON CARJER	ALL TEMP HVAC	603-623-5977	Jason @ glltemphygecorp. com		
Brian Tring	Highland Mech	. 603-880-9906	Brian I @ Highlandmechanis	(a) • (om
John Hostept	-	A78) 521-9100	I hastetter c prograd ise rosting.		
Alex Numes	Aberthaw Construction		glex. nones @ abothew cc. com		
Dw.d Marszah	GA Laflanno	603-432-0878	galest @ gala Slamme inc. 001		
David Kimbeli	IFCC	339832582	David QIEC-COrp.com		
Rick Moddal	I'm por fore	603-759 00 36	- RMADLOX & INPACT FRIZE SEATS	85	Cob.

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NH LOTTERY HEADQUARTERS RENOVATIONS

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PROGRESSIVE ROOFING, INC.

John Hostetter President

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jhostetter@progressiveroofing.com

261 RIVER STREET

HAVERHILL, MA 01832

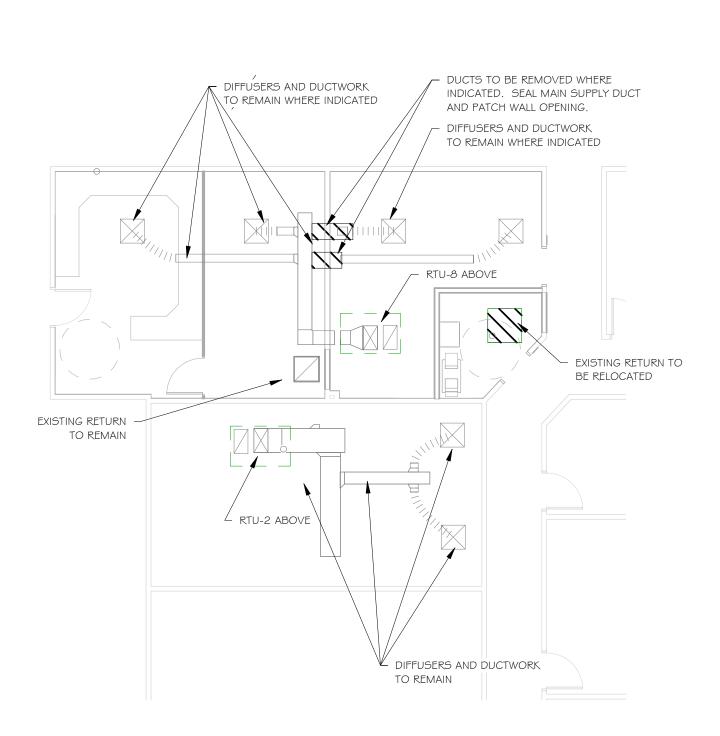
TEL: (978) 521-9100

FAX: (978) 521-9103

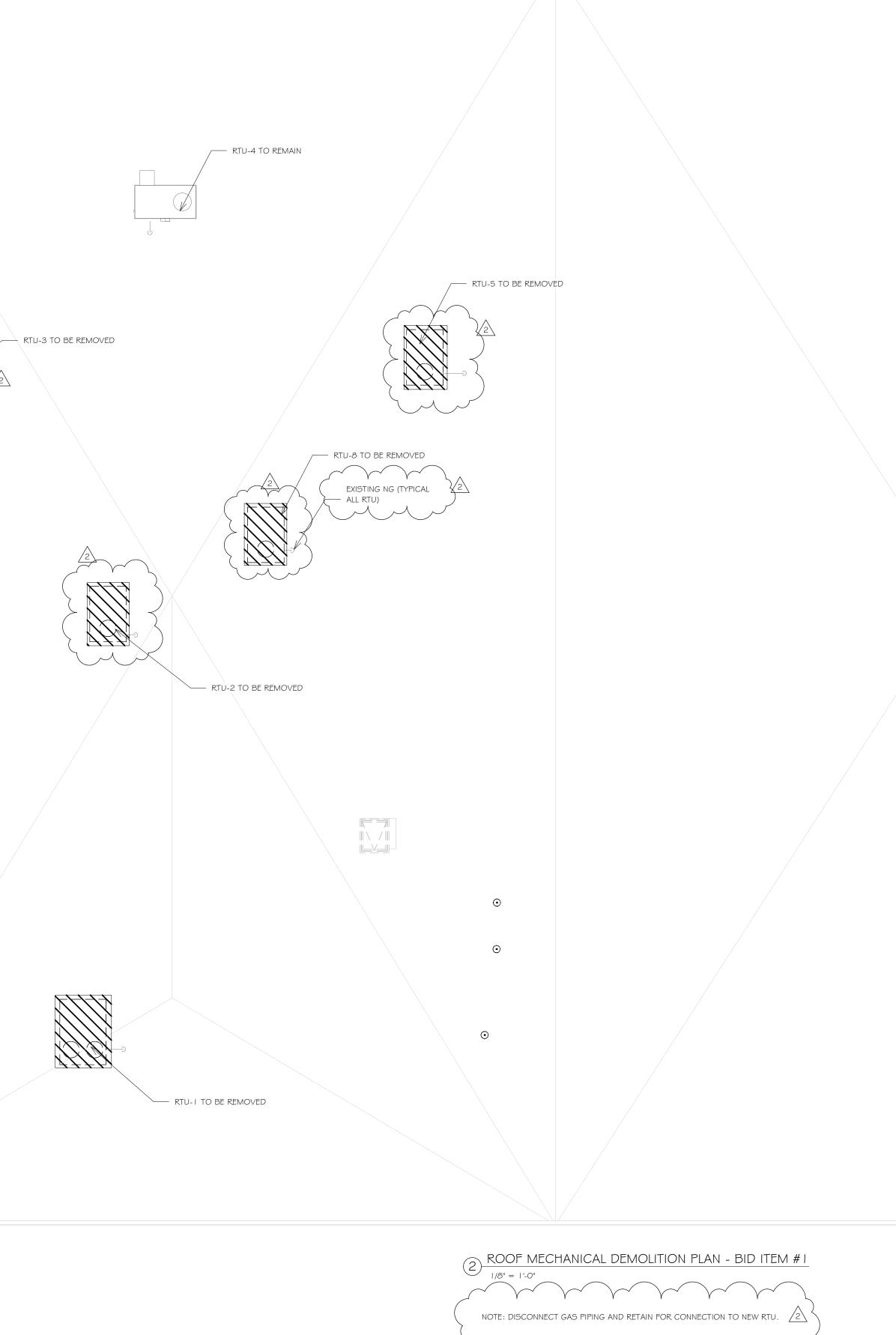
Gerard A Laflamme, Inc.

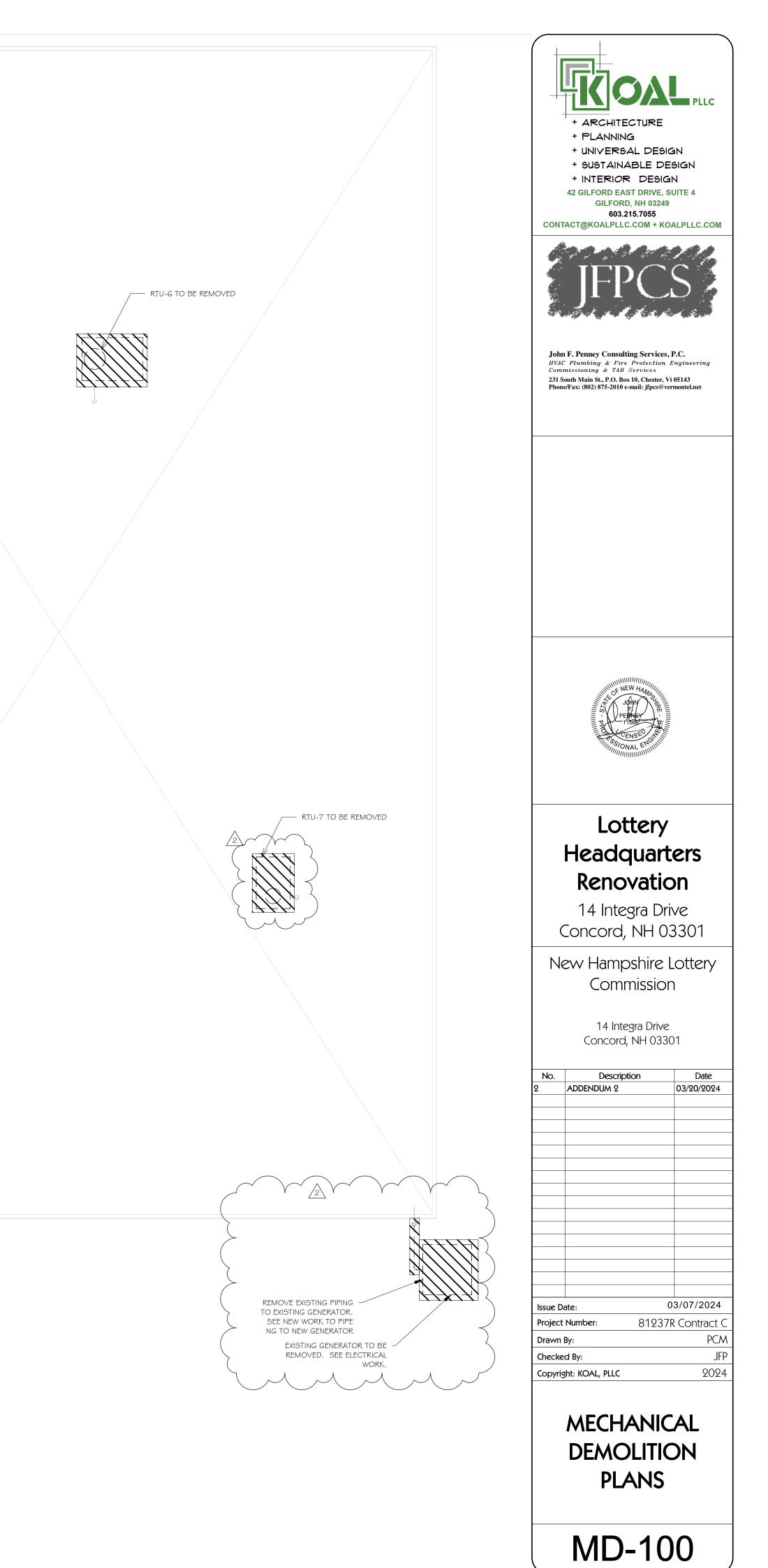
ELECTRICAL CONTRACTORS "Serving All Your Electrical Needs"

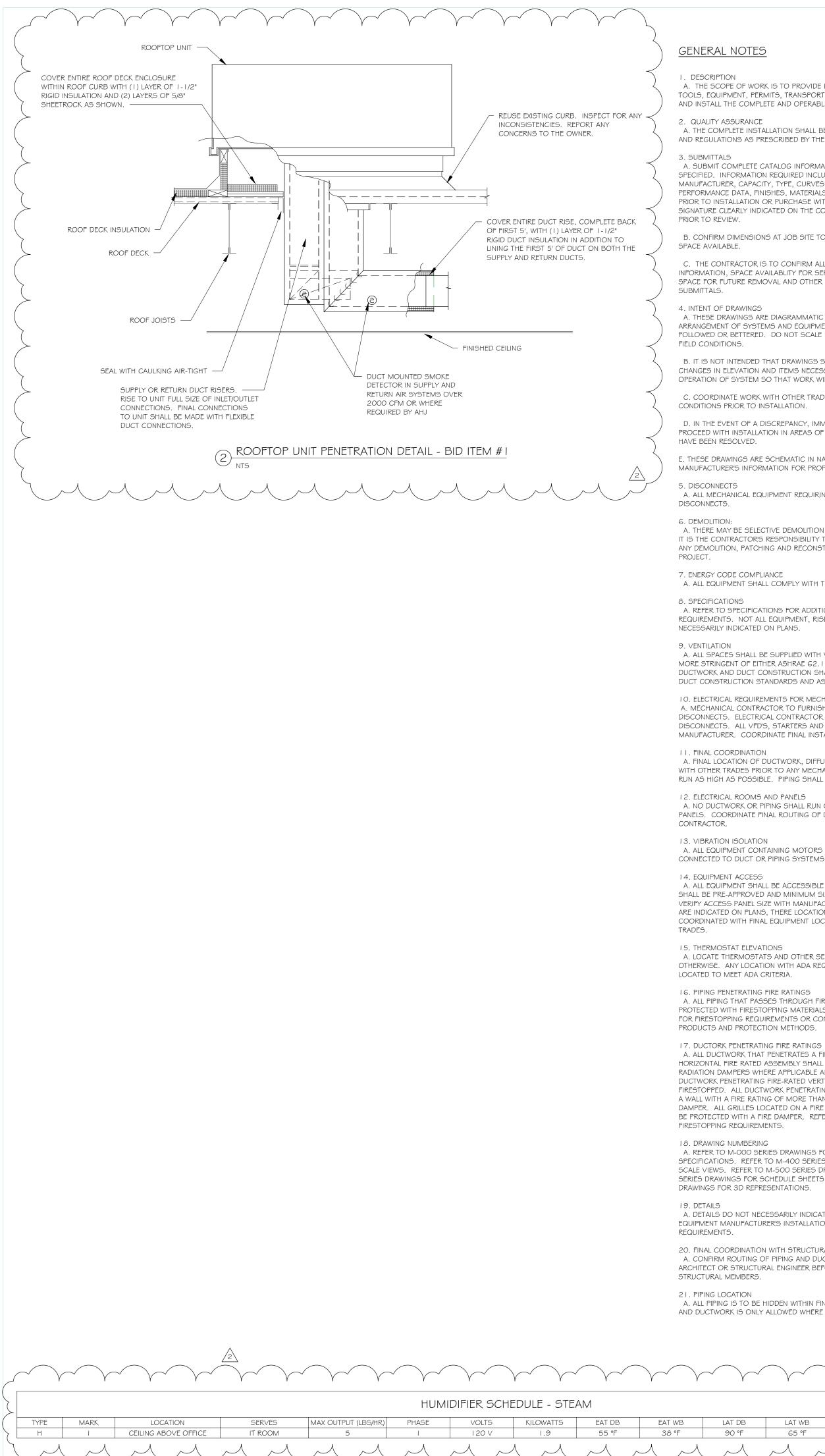
DAVID MENDZELA President P.O. BOX 5706 MANCHESTER, NH 03108











A. THE SCOPE OF WORK IS TO PROVIDE LABOR, MATERIALS, SERVICES, SUPPLIES, TOOLS, EQUIPMENT, PERMITS, TRANSPORTATION AND FACILITIES NECESSARY TO FURNISH AND INSTALL THE COMPLETE AND OPERABLE SYSTEMS AS INDICATED ON THE DOCUMENTS.

A. THE COMPLETE INSTALLATION SHALL BE IN COMPLIANCE WITH THE APPLICABLE RULES AND REGULATIONS AS PRESCRIBED BY THE ADMINISTRATIVE AUTHORITY.

A. SUBMIT COMPLETE CATALOG INFORMATION FOR MATERIALS AND EQUIPMENT SPECIFIED. INFORMATION REQUIRED INCLUDES COVER SHEET, EQUIPMENT MANUFACTURER, CAPACITY, TYPE, CURVES, CERTIFICATION, ACCESSORIES, PHYSICAL AND PERFORMANCE DATA, FINISHES, MATERIALS AND LOCATION. SUBMIT SHOP DRAWINGS PRIOR TO INSTALLATION OR PURCHASE WITH THE DATE, CONTRACTOR'S STAMP AND SIGNATURE CLEARLY INDICATED ON THE COVER SHEET. NO INSTALLATION IS PERMITTED

B. CONFIRM DIMENSIONS AT JOB SITE TO INSURE THAT ITEMS TO BE FURNISHED FIT THE

C. THE CONTRACTOR IS TO CONFIRM ALL FIELD CONDITIONS INCLUDING ELECTRICAL INFORMATION, SPACE AVAILABLITY FOR SERVICING, COORDINATION WITH OTHER TRADES, SPACE FOR FUTURE REMOVAL AND OTHER CODE RELATED ISSUES PRIOR TO PREPARING

A. THESE DRAWINGS ARE DIAGRAMMATIC ONLY AND INDICATE THE GENERAL ARRANGEMENT OF SYSTEMS AND EQUIPMENT. BASIC DESIGN CONCEPTS MUST BE FOLLOWED OR BETTERED. DO NOT SCALE DRAWINGS, FIELD VERIFY DIMENSIONS AND

B. IT IS NOT INTENDED THAT DRAWINGS SHOW EVERY DETAIL. PROVIDE OFFSETS, CHANGES IN ELEVATION AND ITEMS NECESSARY FOR PROPER INSTALLATION AND OPERATION OF SYSTEM SO THAT WORK WILL BE COMPLETE AND READY FOR OPERATION. C. COORDINATE WORK WITH OTHER TRADES, BUILDING CONDITIONS AND STRUCTURAL

D. IN THE EVENT OF A DISCREPANCY, IMMEDIATELY NOTIFY THE ENGINEER. DO NOT PROCEED WITH INSTALLATION IN AREAS OF DISCREPANCY UNTIL SUCH DISCREPANCIES

E. THESE DRAWINGS ARE SCHEMATIC IN NATURE. REFER TO DETAILS, SPECIFICATIONS AND MANUFACTURER'S INFORMATION FOR PROPER INSTALLATION OF EQUIPMENT.

A. ALL MECHANICAL EQUIPMENT REQUIRING ELECTRICAL POWER SHALL BE PROVIDED WITH

A. THERE MAY BE SELECTIVE DEMOLITION NECESSARY TO PERFORM THE INTENDED WORK. IT IS THE CONTRACTOR'S RESPONSIBILITY TO VERIFY EXISTING CONDITIONS AND INCLUDE ANY DEMOLITION, PATCHING AND RECONSTRUCTIVE WORK TO PROVIDE A COMPLETE

A. ALL EQUIPMENT SHALL COMPLY WITH THE ENERGY CODE AS A MINIMUM.

A. REFER TO SPECIFICATIONS FOR ADDITIONAL INSTALLATION & CONSTRUCTION REQUIREMENTS. NOT ALL EQUIPMENT, RISES, DROPS OR CHANGES IN ELEVATION ARE NECESSARILY INDICATED ON PLANS.

A. ALL SPACES SHALL BE SUPPLIED WITH VENTILATION AIR IN ACCORDANCE WITH THE MORE STRINGENT OF EITHER ASHRAE 62.1 OR APPLICABLE MECHANICAL CODES. ALL DUCTWORK AND DUCT CONSTRUCTION SHALL BE IN FULL COMPLIANCE WITH SMACNA DUCT CONSTRUCTION STANDARDS AND ASHRAE 62.1

IO. ELECTRICAL REQUIREMENTS FOR MECHANICAL A. MECHANICAL CONTRACTOR TO FURNISH ALL REQUIRED VFD, STARTERS AND DISCONNECTS. ELECTRICAL CONTRACTOR TO WIRE AND INSTALL VFD'S, STARTERS \$ DISCONNECTS. ALL VFD'S, STARTERS AND DISCONNECTS TO BE PROVIDED BY SAME MANUFACTURER. COORDINATE FINAL INSTALLATION WITH ELECTRICAL CONTRACTOR.

A. FINAL LOCATION OF DUCTWORK, DIFFUSERS & PIPING MUST BE FIELD COORDINATED WITH OTHER TRADES PRIOR TO ANY MECHANICAL INSTALLATION. DUCTWORK SHALL BE RUN AS HIGH AS POSSIBLE. PIPING SHALL RUN AS HIGH AS POSSIBLE.

A. NO DUCTWORK OR PIPING SHALL RUN OVER ELECTRICAL ROOMS OR ELECTRICAL PANELS. COORDINATE FINAL ROUTING OF DUCTWORK AND PIPING WITH ELECTRICAL

A. ALL EQUIPMENT CONTAINING MOTORS OR OTHER VIBRATING EQUIPMENT SHALL BE CONNECTED TO DUCT OR PIPING SYSTEMS WITH FLEXIBLE CONNECTORS.

A. ALL EQUIPMENT SHALL BE ACCESSIBLE THROUGH ACCESS PANELS. ACCESS PANELS SHALL BE PRE-APPROVED AND MINIMUM SIZE FOR ACCESS UNLESS NOTED OTHERWISE. VERIFY ACCESS PANEL SIZE WITH MANUFACTURER'S REQUIREMENTS. IF ACCESS PANELS ARE INDICATED ON PLANS, THERE LOCATIONS ARE APPROXIMATE. FINAL LOCATIONS TO BE COORDINATED WITH FINAL EQUIPMENT LOCATIONS. FINAL CEILING LAYOUT & OTHER

A. LOCATE THERMOSTATS AND OTHER SENSORS NEAR LIGHT SWITCHES UNLESS NOTED OTHERWISE. ANY LOCATION WITH ADA REQUIREMENTS SHALL HAVE THERMOSTATS

I G. PIPING PENETRATING FIRE RATINGS A. ALL PIPING THAT PASSES THROUGH FIRE RATED CEILINGS OR WALLS SHALL BE PROTECTED WITH FIRESTOPPING MATERIALS. REFER TO ARCHITECTURAL SPECIFICATIONS FOR FIRESTOPPING REQUIREMENTS OR CONFIRM UL ASSEMBLY TYPE AND USE APPROVED PRODUCTS AND PROTECTION METHODS.

A. ALL DUCTWORK THAT PENETRATES A FIRE-RATED FLOOR/CEILING ASSEMBLY OR OTHER HORIZONTAL FIRE RATED ASSEMBLY SHALL BE PROTECTED WITH FIRE DAMPERS OR CEILING RADIATION DAMPERS WHERE APPLICABLE AND APPROPRIATE FIRESTOPPING. ALL DUCTWORK PENETRATING FIRE-RATED VERTICAL ASSEMBLIES SUCH AS WALLS SHALL BE FIRESTOPPED. ALL DUCTWORK PENETRATING FIRE-RATED VERTICAL ASSEMBLIES SUCH AS A WALL WITH A FIRE RATING OF MORE THAN I HOUR SHALL BE PROTECTED WITH A FIRE DAMPER. ALL GRILLES LOCATED ON A FIRE RATED WALL OR FIRE RATED PARTITION SHALL BE PROTECTED WITH A FIRE DAMPER. REFER TO ARCHITECTURAL DRAWINGS FOR

A. REFER TO M-000 SERIES DRAWINGS FOR LEGENDS, NOTES, ABBREVIATIONS AND SPECIFICATIONS. REFER TO M-400 SERIES DRAWINGS FOR PARTIAL PLANS OR LARGE SCALE VIEWS. REFER TO M-500 SERIES DRAWINGS FOR DETAILS. REFER TO M-600 SERIES DRAWINGS FOR SCHEDULE SHEETS AND SCHEMATICS. REFER TO M-900 SERIES

A. DETAILS DO NOT NECESSARILY INDICATE ALL INSTALLATION REQUIREMENTS. SEE EQUIPMENT MANUFACTURER'S INSTALLATION INSTRUCTIONS FOR FURTHER INSTALLATION

20. FINAL COORDINATION WITH STRUCTURAL A. CONFIRM ROUTING OF PIPING AND DUCTWORK PRIOR TO INSTALLATION. CONSULT THE ARCHITECT OR STRUCTURAL ENGINEER BEFORE CUTTING, DRILLING OR BORING HOLES IN

A. ALL PIPING IS TO BE HIDDEN WITHIN FINISHED WALLS AND CEILINGS. EXPOSED PIPING AND DUCTWORK IS ONLY ALLOWED WHERE INDICATED.

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AT DB	LAT WB	MANUFACTURER	MODEL
90 °F	65 °F	CONDAIR	CONDAIR EL-005
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ABBREVIATIO	<u>DNS</u>
SYMBOL	DESCR
AC	ALTERN
AMPS	AMPER
AD	ACCES
ADJ	ADJUS"
AP	ACCES
BD	BELT D
BDD BHP	BACKD BRAKE
CALC	CALCUI
CALIBR	CALIBRA
CD	CEILING
CF OR FT3	CUBIC I
CFM	CUBIC I
CLG	CEILING
D	DAMPE
DC	DIRECT
DD	DIRECT
DDC	DIRECT
DS	DISCON
(E)	EXISTING
F D	FIRE DAI
FLA FPM	FULL LO FEET PE
G	GAS
FPM	FEET PE
HP	HORSEF
LD	LINEAR [
LF	LINEAR I
MD	MANUAL
MOD	MOTOR
NA	NOT API
NIC	NOT IN (
NL	NOT LIS
NR	NOT REC
NTS	NOT TO
NS	NOT SP
OBD PF	OPPOSE
PH	POWER PHASE
PS	STATIC
PT	TOTAL F
PV	VELOCIT
RAD	RADIATI
R	REGISTE
RPM	REVOLU
RTN	RETURN
SBD	SINGLE
SD	SMOKE
SF	SQUARE
55	STATIC
SUP	SUPPLY
TW TD	THERMO
TCC	TEMPER
TRAV	DUCT TH
V	VOLTS (
VFD	VARIABL
VAR	VARIABL
VD	VOLUM
V OR VEL	VELOCIT
W	WATTS

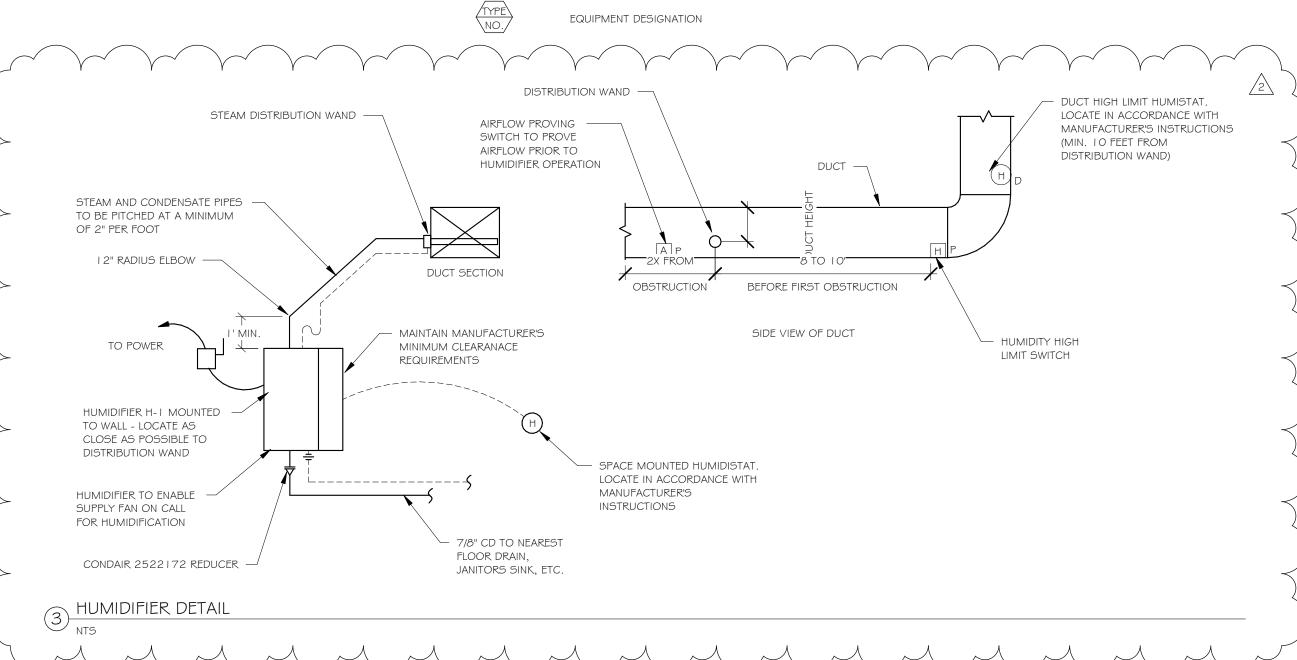
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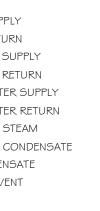
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DESCRIPTION
ALTERNATING CURRENT
AMPERAGE
ACCESS DOOR
ADJUSTABLE
ACCESS PANEL
BELT DRIVE
BACKDRAFT DAMPER
BRAKE HORSEPOWER
CALCULATE
CEILING DIFFUSER CUBIC FEET
CUBIC FEET PER MINUTE
CEILING
DAMPER
DIRECT CURRENT
DIRECT DRIVE
DIRECT DIGITAL CONTROL
DISCONNECT SWITCH
XISTING
IRE DAMPER
ULL LOAD AMPS
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IOT IN CONTRACT
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IOT REQUIRED
IOT TO SCALE
IOT SPECIFIED
PPPOSED BLADE DAMPER
OWER FACTOR
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TATIC PRESSURE
OTAL PRESSURE
ELOCITY PRESSURE
ADIATION
EGISTER
EVOLUTIONS PER MINUTE
SINGLE BLADE DAMPER
QUARE FOOT
TATIC PRESSURE SENSOR
SUPPLY
HERMOSTAT WALL MOUNTED
HERMOSTAT DUCT MOUNTED
EMPERATURE CONTROL CONTR.
DUCT TRAVERSE
OLTS OR VOLTAGE
ARIABLE FREQUENCY DRIVE
ARIABLE
OLUME DAMPER
(ELOCITY
VATTS OR WATTAGE

HVAC SYMBOLS LIST

NOT ALL SYMBOLS ARE NECESSARILY USED

—— HWS ——	HOT WATER SUPPLY
HWR	HOT WATER RETURN
CHS	CHILLED WATER SUPPLY
CHR HPWS	CHILLED WATER RETURN HEAT PUMP WATER SUPPLY
HPWR	HEAT PUMP WATER RETURN
	LOW PRESSURE STEAM
LPC	LOW PRESSURE CONDENSATE
PC	PUMPED CONDENSATE
—— AV ——	ATMOSPHERIC VENT
VAC	VACUUM
——————————————————————————————————————	COMPRESSED AIR
G	GAS
FOS	FUEL OIL SUPPLY
FOR	FUEL OIL RETURN
FOV	FUEL OIL VENT
RL	REFRIGERANT LIQUID
RS	REFRIGERANT SUCTION
CD	CONDENSATE
	DIRECTION OF FLOW
	CONCENTRIC REDUCER
	ECCENTRIC REDUCER
С сı;;	CAP OR PLUG
	BOTTOM CONNECTION/TURN AWA TOP CONNECTION/TURN AWAY
	FLANGED CONNECTION
	PIPE GUIDE
X	PIPE ANCHOR
	FLEXIBLE CONNECTOR
<u> </u>	FLOW SWITCH
	PUMP
	VALVE (SHUT OFF)
	GLOBE VALVE
	CHECK VALVE
	TEMPERATURE & PRESSURE PORT
$\angle 1 $	REVISION
	FLOW BALANCER
	CONTROL VALVE (2-WAY)
	CONTROL VALVE (2-WAT)
ΓÅ	PRESSURE RELIEF VALVE
- Ф	
	CONTROL VALVE (3-WAY)
TD	
	TRIPLE DUTY VALVE
	PRESSURE REDUCING VALVE
I •	BALL VALVE
	STRAINER
II K.	
(P)	THERMOMETER
	PRESSURE GAUGE
\uparrow	
	AIR VENT
	THERMOMETER/TEST/CONTROL WE
+++++++++++++++++++++++++++++++++++++++	FINNED TUBE RADIATION ELEMENT
(\mathbb{T})	THERMOSTAT
Τ _G	THERMOSTAT WITH GUARD
(H)	HUMIDISTAT
H S S d	SENSOR
	SENSOR DUCT MOUNTED
(S) P	STATIC PRESSURE SENSOR
SOA	OUTSIDE AIR SENSOR
S	DUCT SMOKE DETECTOR SENSOR
	DISCONNECT SWITCH
5	SWITCH
UCD	SWITCH WITH PILOT LIGHT
-γ-	UNDERCUT DOOR (1" BY THE G.C.
4//////////////////////////////////////	WORK TO BE REMOVED
•	NEW TO EXISTING CONNECTION
TYPE	
CFM SIZE	REGISTER, DIFFUSER OR GRILLE DI
TYPE	RADIATION TYPE & LENGTH
	EQUIPMENT DESIGNATION
<u>\NU.</u> /	_
$\searrow \frown \frown \frown$	
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FST/CONTROL WELL

DR (I" BY THE G.C.) MOVED G CONNECTION

JSER OR GRILLE DESIGNATION

LENGTH

STANDARD BRANCH FOR SUPPLY & RETURN VOLUME DAMPER MANUAL OPERATION AUTOMATIC DAMPER MOTOR OPERATED BACKDRAFT DAMPER HORIZONTAL DAMPER VERTICAL DAMPER ACCESS DOOR SPLITTER DAMPER TURNING VANES SPLITTER VANES FLEXIBLE DUCT FLEXIBLE CONNECTION DUCT SECTION **BUEPL**SECTION BETCHRAECTION EXHAUST RETURN OR EXHAUST GRILLE SUPPLY REGISTER RETURN AIR INLET, CEILING

POINT OF CHANGE IN DUCT CONSTRUCTION (BY STATIC

DUCT (IST FIGURE, SIDE SHOWN, 2ND FIGURE

ACOUSTICAL LINING DUCT DIMENSIONS FOR NET

INCLINED RISE OR DROP, ARROW DIRECTION OF

PRESSURE CLASS)

SIDE NOT SHOWN)

DIRECTION OF FLOW

TRANSITIONS

TRANSITION SQUARE TO ROUND

FREE AREA

FLOW

|2x|0

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EXHAUST AIR INLET, CEILING SUPPLY OUTLET, CEILING ROUND SUPPLY OUTLET, CEILING 4-WAY, SQUARE

VAV TERMINAL UNIT VAV TERMINAL UNIT WITH REHEAT COIL UNIT HEATER (HORIZONTAL) UNIT HEATER (DOWNBLAST)

CABINET HEATER (CENTRIFUGAL FAN) POWER GRAVITY ROOF VENTILATOR (EXHAUST ERV)

POWER GRAVITY ROOF VENTILATOR (INTAKE SRV) LOUVERS AND SCREEN COIL

FILTER



+ ARCHITECTURE

+ PLANNING

Concord, NH 03301

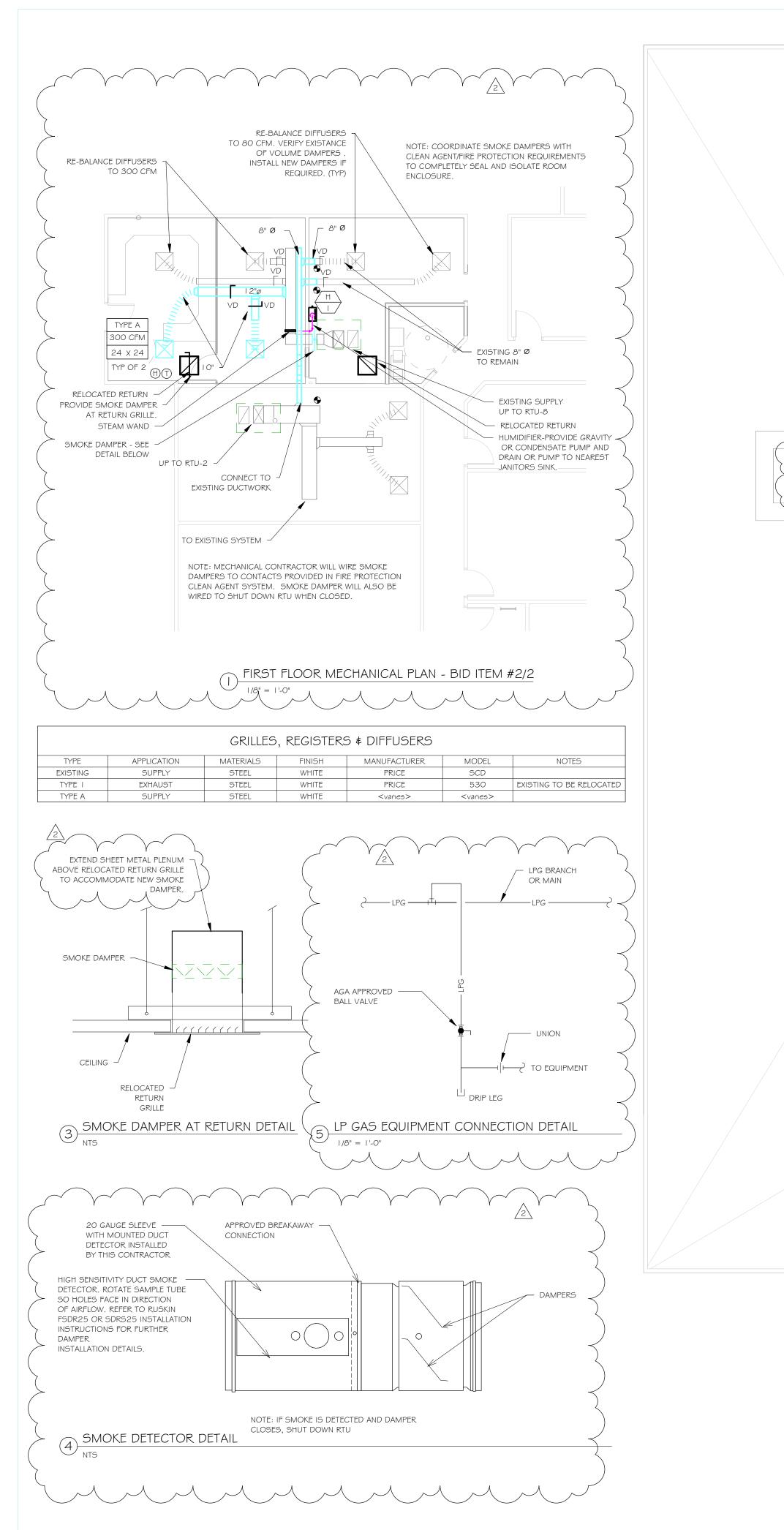
New Hampshire Lottery Commission

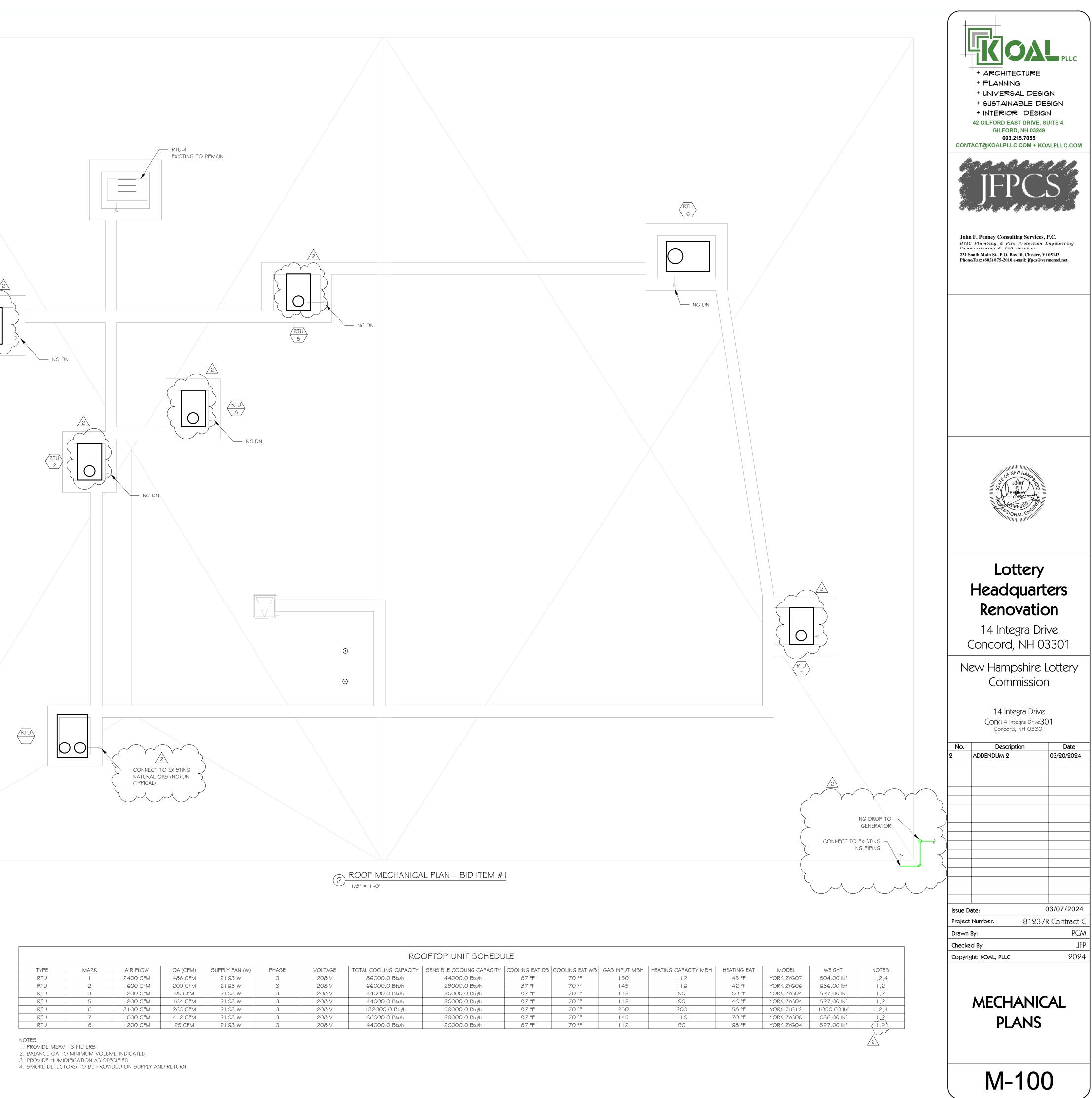
> 14 Integra Drive Concord, NH 03301

No.	Descripti	ion	Date
2	ADDENDUM 2		03/20/2024
Issue D	ate:		03/07/2024
Project	Number:	8123	7R Contract C
Drawn	Ву:		PCM
Checke	d By:		JFP
Copyrig	ght: KOAL, PLLC		2024

HVAC LEGENDS AND **ABBREVIATIONS**

M-001





							NU	UTUI UNIT SCILDI	JLL	
TYPE	MARK	AIR FLOW	OA (CFM)	SUPPLY FAN (W)	PHASE	VOLTAGE	TOTAL COOLING CAPACITY	SENSIBLE COOLING CAPACITY	COOLING EAT DB	COOLING EAT WB
RTU		2400 CFM	488 CFM	2163 W	3	208 V	86000.0 Btu/h	44000.0 Btu/h	87 °F	70 °F
RTU	2	1600 CFM	200 CFM	2163 W	3	208 V	66000.0 Btu/h	29000.0 Btu/h	87 °F	70 °F
RTU	3	1200 CFM	95 CFM	2163 W	3	208 V	44000.0 Btu/h	20000.0 Btu/h	87 °F	70 °F
RTU	5	1200 CFM	IG4 CFM	2163 W	3	208 V	44000.0 Btu/h	20000.0 Btu/h	87 °F	70 °F
RTU	6	3100 CFM	263 CFM	2163 W	3	208 V	132000.0 Btu/h	59000.0 Btu/h	87 °F	70 °F
RTU	7	1600 CFM	412 CFM	2163 W	3	208 V	66000.0 Btu/h	29000.0 Btu/h	87 °F	70 °F
RTU	8	1200 CFM	25 CFM	2163 W	3	208 V	44000.0 Btu/h	20000.0 Btu/h	87 °F	70 °F

|--|

- OBTAIN ALL PERMITS AND ARRANGE FOR ALL INSPECTIONS WITH AUTHORITY HAVING JURISDICTION.
- ALL LIGHTING AND POWER WIRING SHALL BE IN CONDUIT, ALL RACEWAYS SHALL BE EMT (ELECTRICAL METALLIC TUBING). ALL CONDUCTORS SHALL BE COPPER GROUND (TYPICAL) WITH NUMBER OF CONDUCTORS AS REQUIRED. REFER TO PANEL SCHEDULES, TYPICAL. ALL CONDUCTORS SHALL BE COPPER, WIRE SIZE NO. 8 AWG AND SMALLER BE TYPE "TH/THW" INSULATION. SIZES LARGER THEN NO. 8 SHALL HAVE TYPE "THHN/THWN" INSULATION UNLESS OTHERWISE NOTES.
- 1440VA LOAD.
- ALL WIRING SHALL BE CONCEALED IN WALLS AND ABOVE CEILING IN FINISHED AREAS AND WHEREVER POSSIBLE WIRING IN UTILITY AREAS (MECHANICAL SPACE) MAY BE RUN EXPOSED AS APPROVED BY THE ARCHITECT AND CONTRACT ADMINISTRATOR. EXPOSED WIRING SHALL BE IN CONDUIT, BE PARALLEL TO BUILDING STRUCTURAL ELEMENTS AND PRESENT A NEAT AND COMPLETE INSTALLATION.
- WHERE WIRING CAN NOT BE ROUTED CONCEALED UTILIZE WIREMOLD SURFACE RACEWAY (WITH ALL NECESSARY FITTINGS/HARDWARE AND ATTACHMENT) WITH STRANDED TYPE THHN/THWN CONDUCTOR. ALL COMPONENTS SHALL BE PAINTED AS DIRECT BY ARCHITECT AND CONTRACT ADMINISTRATOR. COORDINATE MOUNTING WITH ARCHITECT AND CONTRACT ADMINISTRATOR.
- COMPONENTS AS REQUIRED BY N.E.C. ALL FASTENERS AND HARDWARE SHALL BE APPROVED FOR THE INSTALLATION AND THE CONDITIONS ENCOUNTERED.
- EACH OUTLET OR JUNCTION IN ANY OF THE WIRING SYSTEMS SHALL BE MADE IN AN APPROVED, METALLIC INSTALLED, AS WELL AS THE CONDITION ENCOUNTERED. ALL SPLICES SHALL BE MADE WITH APPROVED, MECHANICAL CONNECTORS.
- CONDITIONS. WHERE CUTTING, DRILLING OR ALTERATION TO THE WORK OF OTHERS IS NECESSARY, FOR THE PROPER INSTALLATION OF ELECTRICAL EQUIPMENT, SUCH WORK SHALL BE PLANNED IN ADVANCE WITH THE GENERAL CONTRACTOR AND SHALL BE CAREFULLY DONE. ANY DAMAGE TO THE BUILDINGS OR EQUIPMENT SHALL BE REPAIRED BY PROPERLY TRAINED PERSONNEL, TO THE SATISFACTION OF THE ARCHITECT AND CONTRACT ADMINISTRATOR, AT NO ADDITIONAL COST TO THE OWNER.
- DURING ROUGH IN AND FINISHED STAGES OF CONSTRUCTION, PROTECT AND KEEP CLEAN ALL ELECTRICAL
- PROVIDE ALL INFORMATION ABOUT EQUIPMENT WHICH IS BEING FURNISHED TO THE GENERAL CONTRACTOR FOR COORDINATION PURPOSES. PROVIDE ALL INSTALLATION DETAILS AND SUPPORT COMPONENTS TO THE GENERAL CONTRACTOR SO THAT THESE MAY BE BUILT INTO THE CONSTRUCTION IN A TIMELY MANNER.
- THE ASSOCIATED ELECTRICAL WORK WILL BE PROPERLY COORDINATED AND INSTALLED.
- (WP), FOR OUTDOOR, NEMA 1 FOR INDOOR. FUSE TO MATCH EQUIPMENT NAMEPLATE OF EQUIPMENT.
- FIVE (5) FEET OF THAT LOCATION AS TO WORK WITH FINAL FIT-UP REQUIREMENTS. COORDINATE ALL SWITCHES,

- VERIFY THE CONDITION BRANCH CIRCUIT WIRING INDICATED TO BE REUSED. IF WIRING IS FOUND TO BE IN POOR
- NEC. ALL METALLIC RACEWAYS SHALL BE MECHANICALLY AND ELECTRICALLY SECURE AT ALL JOINTS AND AT ALL BOXES, CABINETS, FITTINGS, AND EQUIPMENT.
- CONDITIONS
- ALL RACEWAYS SHALL BE PROVIDED WITH EQUIPMENT GROUND CONDUCTOR. EQUIPMENT GROUNDING
- PANELS (E.G. CABLE MARKERS #1, #11 ETC).
- EXACT LOCATION WITH CONTRACT ADMINISTRATOR.
- ON THESE DRAWINGS.
- AN ATTEMPT HAS BEEN MADE TO SEPARATE AND DEFINE THE WORK OF THE CONTRACTOR. DRAWINGS ARE DIAGRAMMATIC, BUT SHALL BE FOLLOWED AS CLOSELY AS ACTUAL CONSTRUCTION OF THE FACILITY AND THE WORK OF OTHER TRADES WILL PERMIT. THE DRAWINGS UTILIZE SYMBOLS AND SCHEMATIC DIAGRAMS TO INDICATE VARIOUS ITEMS OF WORK. THEREFORE, NO INTERPRETATION WILL BE MADE FROM THE LIMITATION OF SYMBOLS AND DIAGRAMS THAT ANY ELEMENTS NECESSARY OF THE COMPLETE INSTALLATION IS EXCLUDING. THE ENGINEER SHOULD BE NOTIFIED OF A DISCREPANCIES, OMISSIONS, CONFLICTS, OR INTERFERENCE WHICH OCCUR BETWEEN VARIOUS DRAWINGS AND SPECIFICATIONS. IF SUCH NOTIFICATION IS NOT RECEIVED, THE INSTALLING CONTRACTOR(S) SHALL BE RESPONSIBLE FOR THEIR INTERPRETATIONS.
- PROVIDE RED HANDLED CIRCUIT BREAKERS PER NFPA 72 FOR ALL 120VAC CIRCUIT FEEDING FIRE ALARM

