

EDWIN A. ALDERMAN ELEMENTARY SCHOOL RTU REPLACEMENT PHASE 2

FOR
NEW HANOVER COUNTY SCHOOLS
2025 INDEPENDENCE BLVD.
Wilmington, NC 28403

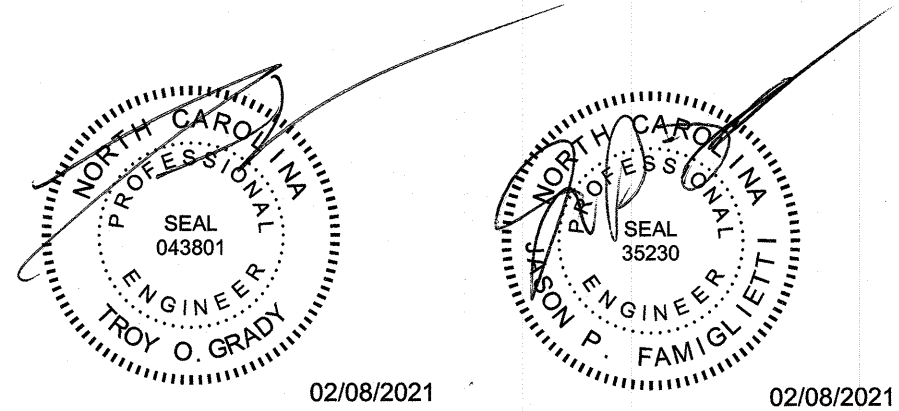


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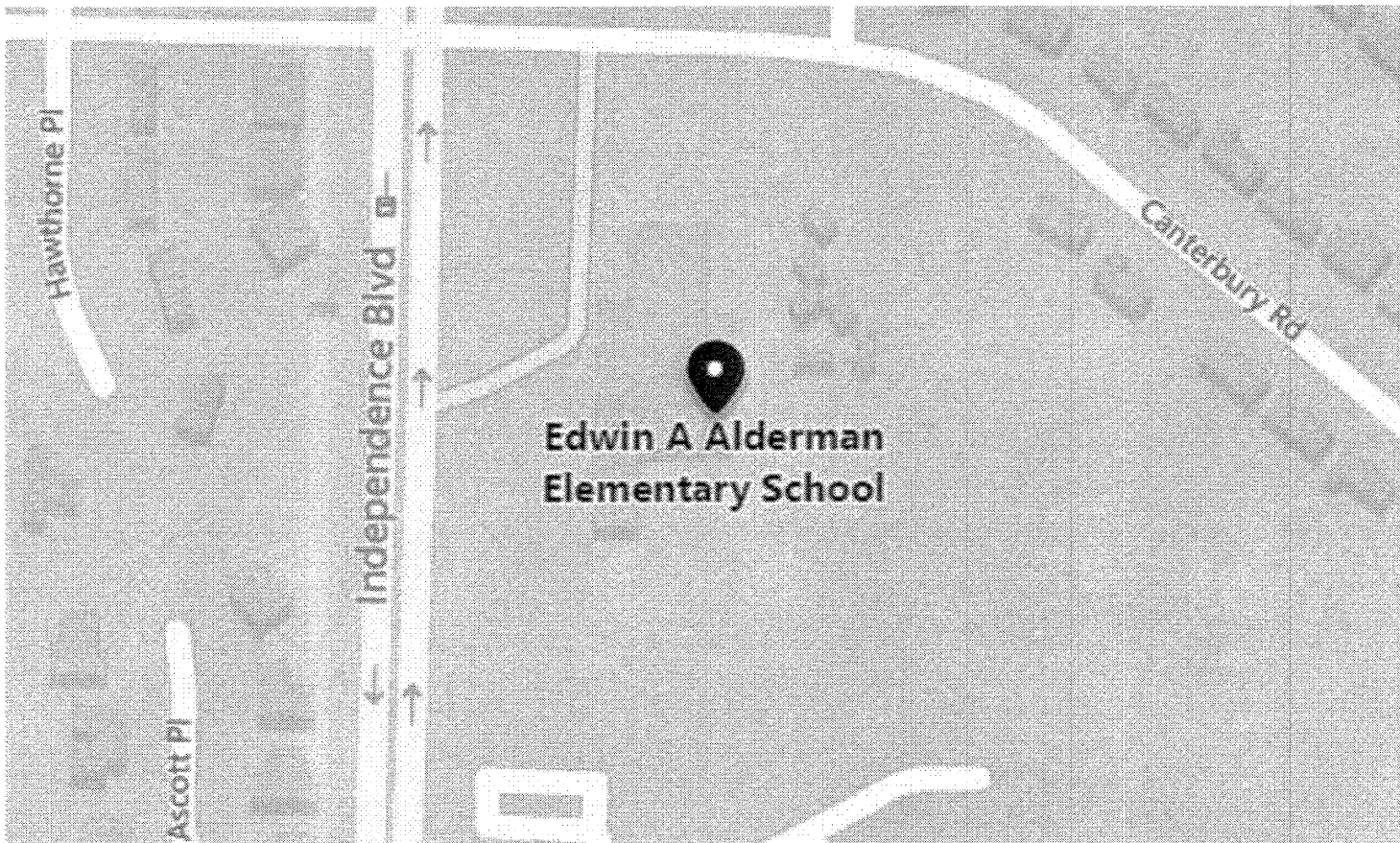
2246 Yaupon Drive
Wilmington, NC 28401
Phone: 910.791.4000
Fax: 910.791.5266
www.cbhfengineers.com
NC# P-0506

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- C

A. PERFORM ELECTRICAL WORK FOR MECHANICAL EQUIPMENT IN COMPLIANCE WITH PROJECT ELECTRICAL REQUIREMENTS. ELECTRICAL WORK FOR MECHANICAL EQUIPMENT NOT SPECIFICALLY INDICATED TO BE PROVIDED BY THE ELECTRICAL CONTRACTOR IN THE ELECTRICAL DRAWINGS AND SPECIFICATIONS FOR THIS PROJECT SHALL BE FURNISHED BY THE MECHANICAL CONTRACTOR AS PART OF HIS WORK.

B. ELECTRICAL DRAWINGS ARE BASED ON ELECTRICAL CHARACTERISTICS INDICATED IN DRAWING MECHANICAL EQUIPMENT SCHEDULES. ANY EQUIPMENT FURNISHED BY THE MECHANICAL CONTRACTOR WHICH DOES NOT MATCH THE ELECTRICAL CHARACTERISTICS INDICATED IN THE DRAWING SCHEDULES SHALL BE COORDINATED WITH THE ELECTRICAL CONTRACTOR. ANY ADDITIONAL COSTS FOR ELECTRICAL INSTALLATION REQUIRED FOR EQUIPMENT NOT MATCHING THE DRAWING SCHEDULES SHALL BE BORNE BY THE MECHANICAL CONTRACTOR.

- A. WORK UNDER THIS CONTRACT IS TO BE PERFORMED IN AN EXISTING BUILDING. BUILDING LAYOUT INDICATED IS DEVELOPED FROM EXISTING RECORD DOCUMENTS AND LIMITED FIELD VERIFICATION FOR THE PURPOSES OF DESCRIBING THE WORK. VERIFY ALL EXISTING CONDITIONS AND ADJUST WORK AS REQUIRED TO SUIT ACTUAL FIELD CONDITIONS.
- B. PERFORM ALL WORK IN ACCORDANCE WITH SAFETY REGULATIONS.
- C. DO NOT CUT ANY STRUCTURAL MEMBERS WITHOUT EXPRESS WRITTEN INSTRUCTIONS FROM ENGINEER. PROVIDE CUTTING AND PATCHING FOR EXISTING FINISHES AS REQUIRED.
- D. COORDINATE INSTALLATION OF NEW MECHANICAL SYSTEMS WITH EXISTING BUILDING SYSTEMS. ADJUST ARRANGEMENTS AS REQUIRED TO ACCOMMODATE INTERFERENCES.

Term	Abbreviation	Term	Abbreviation
ABOVE FINISHED FLOOR	AFF	KILOWATT HOUR	KWH
ABOVE SEA LEVEL	ASL	LEAVING AIR TEMPERATURE	LAT
ACROSS THE LINE	ACL	LEAVING WATER TEMPERATURE	LWT
AIR CONDITION(-ING, -ED)	AIR COND	LENGTH	LG
AIR TEMPERATURE RISE	ATR	LINEAR FEET	LF
AIR-HANDLING UNIT	AHU	LOW-PRESSURE STEAM	LPS
AMBIENT	AMB	MAXIMUM	MAX
AMERICAN NATIONAL STANDARDS INSTITUTE	ANSI	MEDIUM-PRESSURE STEAM	MPS
AMPERE (AMP, AMPS)	AMPE	MILES PER HOUR	MPH
APPARATUS DEW POINT	ADP	MINIMUM	MIN.
APPROXIMATE	APPROX	MINUTE	MIN
ATMOSPHERE	ATM	MANUFACTURER	MFR
AVERAGE	AVG	NOISE CRITERIA	NC
BRAKE HORSEPOWER	BHP	NON-STANDARD PART LOAD	NPLV
BROWN & SHARPE WIRE GAGE	B&S	NORMALLY OPEN	NO
BRITISH THERMAL UNIT	BTU	NORMALLY CLOSED	NC
BUILDING	BLDG	NOT APPLICABLE	N/A
CELSIUS	°C	NOT IN CONTACT	N I C
CHILLED WATER RETURN	CHWR	NOT TO SCALE	NTS
CHILLED WATER SUPPLY	CHWS	NUMBER	NO
COEFFICIENT, VALVE FLOW	CV	ON CENTER	OC
COMPRESSOR	COMP	OUNCE	OZ
CONDENS(-ER, -ING, -ATION)	COND	OUTSIDE AIR	OA
CONNECTION	CONN	PARTS PER MILLION	PPM
COOLING LOAD	CLG LOAD	PERCENT	%
CUBIC FEET	CU FT	POUNDS	LBS
CUBIC INCH	CU IN	POUNDS PER SQUARE FOOT	PSF
CUBIC FEET PER MINUTE	CFM	PRESSURE	PRESS
CFM, STANDARD CONDITIONS	SCFM	QUANTITY	QTY
DECIBEL	DB	RATED LOAD AMPS	RLA
DEGREE	DEG OR °	RECIRCULATE	RECIRC
DEW-POINT TEMPERATURE	DPT	REFRIGERANT (12, 22, ETC.)	R12, R22
DIAMETER	DIA	RELATIVE HUMIDITY	RH
DIAMETER, INSIDE	ID	RETURN AIR	RA
DIAMETER, OUTSIDE	OD	REVOLUTIONS PER MINUTE	RPM
DIFFERENCE OR DELTA	DIFF	REVOLUTIONS PER SECOND	RPS
DRY-BULB TEMPERATURE	DBT	SAFETY FACTOR	SF
ENERGY EFFICIENCY RATING	ERR	SECOND	S
EFFICIENCY	EFF	SHADING COEFFICIENT	SC
ELEVATION	EL	SPECIFICATION	SPEC
ENTERING	ENT	SQUARE	SO
ENTERING WATER TEMPERATURE	EWT	STANDARD	STD
ENTERING AIR TEMPERATURE	EAT	STATIC PRESSURE	SP
EXTERNAL AMBIENT TEMPERATURE	EAT	SUPPLY	SPLY
FACE VELOCITY	FVEL	SUPPLY AIR	SA
FAHRENHEIT	°F	TEMPERATURE	TEMP
FEET PER MINUTE	FPM	TEMPERATURE DIFFERENCE	TD
FEET PER SECOND	FPS	THERMOSTAT	T STAT
FOOT OR FEET	FT	TONS OF REFRIGERATION	TONS
GAGE OR GAUGE	GA	TO BE DETERMINED	TBD
GALLONS	GAL	TOTAL DYNAMIC HEAD	TDH
GALLONS PER HOUR	GPH	U-FACTOR	U
GALLONS PER MINUTE	GPM	VARIABLE AIR VOLUME	VAV
GALLONS PER DAY	GPD	VELOCITY	VEL
GRAINS	GR	VENTILATION, VENT	VENT
HEAD	HD	VERTICAL	VERT
HEIGHT	HGT	VOLT	V
HIGH-PRESSURE STEAM	HPS	VOLT AMPERE	VA
HORSEPOWER	HP	VOLUME	VOL
HOUR(S)	HR	WATER PRESSURE DROP	WPD
HUMIDITY, RELATIVE	RH	WATT	W
INTERGRATED PART LOAD VALUES	IPLV	WATT-HOUR	WH
INCH	IN.	WEIGHT	WT
IRON PIPE SIZE	IPS	WET BULB	WB
KILOVOLT-AMP	KVA	YARD	YD
KILOWATT	KW	YEAR	YR

D

CLIMATE ZONE	3A - WARM/HUMID
WINTER DRY BULB:	23°F
SUMMER DRY BULB	95°F

BUILDING HEATING LOAD:	329.1 MBH
BUILDING COOLING LOAD:	607.5 MBH

MECHANICAL LEGEND

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MECHANICAL LEGEND, ABBREVIATIONS NOTES AND CODE SUMMARIES

DRAWING NO:

M-001

REVISION 0

1 2 3 4 5

PACKAGED UNIT SCHEDULE

DRAWING CODE	BASIS OF DESIGN MANUFACTURER	BASIS OF DESIGN MODEL	ALTERNATE APPROVED MANUFACTURERS	SYSTEM TYPE	COOLING (AHRI STANDARD)			HOT GAS REHEAT		NATURAL GAS HEATING		STAGES	EVAPORATOR FAN		ELECTRICAL			WEIGHT (LBS.)	NOTES	ACCESSORIES		
					TOTAL (MBH)	SENSIBLE (MBH)	EFFICIENCY	REHEAT CAPACITY (MBH)	COOLING LDB W/ REHEAT (°F)	GAS INPUT (MBH)	GAS OUTPUT (MBH)		SUPPLY AIRFLOW (CFM)	OUTSIDE AIRFLOW (CFM)	ESP (IN. WG.)	POWER SUPPLY (V/PH/Hz)	MCA				MOCP	
RTU06	TRANE	YHC120	YORK, CARRIER, DAIKIN	GAS-PACK	112.5	78.5	SEER	15.2	92.3	83.9	150.0	120.0	2	3,200	400	0.80	208/3/60	48.0	60	1,259	1,2,3,4	A-O
RTU07	TRANE	YHC120	YORK, CARRIER, DAIKIN	GAS-PACK	109.5	78.6	SEER	15.2	92.8	79.7	150.0	120.0	2	4,000	565	0.80	208/3/60	48.0	60	1,576	1,2,3,4	A-O
RTU08	TRANE	YHC120	YORK, CARRIER, DAIKIN	GAS-PACK	109.3	78.3	SEER	15.2	92.7	79.5	150.0	120.0	2	4,000	545	0.80	208/3/60	48.0	60	1,576	1,2,3,4	A-O
RTU11	TRANE	YHC102	YORK, CARRIER, DAIKIN	GAS-PACK	91.1	65.4	SEER	14.7	77.8	81.2	120.0	96.0	1	2,720	470	0.80	208/3/60	42.0	50	1,342	1,2,3,4	A-O
RTU12	TRANE	YHD180	YORK, CARRIER, DAIKIN	GAS-PACK	163.2	105.1	SEER	15.0	116.0	78.0	250.0	200.0	2	4,800	670	1.00	208/3/60	72.0	90	2,687	1,2,3,4	A-O

NOTES:

1 REFER TO SPECIFICATIONS FOR FURTHER INFORMATION.

2 AMBIENT DESIGN TEMPERATURE: 95F DB.

3 OUTSIDE AIRFLOW SHALL REMAIN CONSTANT AS SCHEDULED DURING OCCUPIED SCHEDULE.

4 PROVIDE LAMINATED MAP OF HVAC SYSTEM IN MECHANICAL ROOM. ALONG WITH MAP, LIST LOCATION, FILTER QUANTITY, FILTER SIZES, BELT QUANTITY AND BELT SIZES FOR EACH UNIT.

ACCESSORIES:

A BLACK EPOXY PRE-COATED COILS.

B CONDENSATE OVERFLOW SWITCH.

C HAIL GUARDS.

D HINGED ACCESS DOORS.

E MULTI-SPEED INDOOR FAN SYSTEM.

F STAINLESS STEEL DRAIN PAN.

G STAINLESS STEEL HEAT EXCHANGER.

H TWO-INCH MERV 8 MEDIA FILTERS.

I HOT-GAS REHEAT FOR DEHUMIDIFICATION.

J LOW LEAK ECONOMIZER, DRY BULB CONTROL WITH POWERED EXHAUST.

K ADAPTOR ROOF CURB WIND-RESTRAINED DESIGNED FOR 145 MPH.

L POWERED CONVENIENCE OUTLET.

M PROVIDE WITH PROGRAMMABLE ZONE SENSOR (TEMPERATURE, SCHEDULING, OUTSIDE AIR DAMPER CONTROL) AND HUMIDISTAT.

N PROVIDE BACNET INTERFACE FOR INTEGRATION INTO FUTURE NEW DDC CONTROL SYSTEM.

O PROVIDE ALTERNATE PRICE FOR INSTALLATION OF GPS-FC48-AC BI-POLAR IONIZATION SYSTEM IN RTU. INTERLOCK WITH SUPPLY FAN.

DIFFUSERS, REGISTERS AND GRILLES SCHEDULE

DRAWING CODE	BASIS OF DESIGN MANUFACTURER	BASIS OF DESIGN MODEL	ALTERNATE APPROVED MANUFACTURERS	TYPE	SERVICE	MODULE SIZE (IN.)	MATERIAL	FINISH	MOUNTING	NOTES	ACCESSORIES
S1	PRICE	ASCD	METALAIRE, TITUS	SQUARE CEILING DIFFUSER	SUPPLY	12 X 12	ALUMINUM	WHITE	T-BAR	1,2,3	A
S2	PRICE	ASCD	METALAIRE, TITUS	SQUARE CEILING DIFFUSER	SUPPLY	24 X 24	ALUMINUM	WHITE	T-BAR	1,2,3	A
S3	PRICE	ASCD	METALAIRE, TITUS	SQUARE CEILING DIFFUSER	SUPPLY	24 X 24	ALUMINUM	WHITE	T-BAR	1,2,3	A
S4	PRICE	ASCD	METALAIRE, TITUS	SQUARE CEILING DIFFUSER	SUPPLY	24 X 24	ALUMINUM	WHITE	T-BAR	1,2,3	A
S5	PRICE	ASCD	METALAIRE, TITUS	SQUARE CEILING DIFFUSER	SUPPLY	24 X 24	ALUMINUM	WHITE	T-BAR	1,2,3	A
S6	PRICE	620D	METALAIRE, TITUS	DOUBLE DEFLECTION LOUVER FACE DIFFUSER	SUPPLY	24 X 10	ALUMINUM	WHITE	WALL SURFACE	1,2,3	A
R1	PRICE	630	METALAIRE, TITUS	FIXED FACE GRILLE	RETURN	24 X 24	ALUMINUM	WHITE	T-BAR	1,2,3	-
R2	PRICE	630	METALAIRE, TITUS	FIXED FACE GRILLE	RETURN	48 X 10	ALUMINUM	WHITE	T-BAR	1,2,3	-

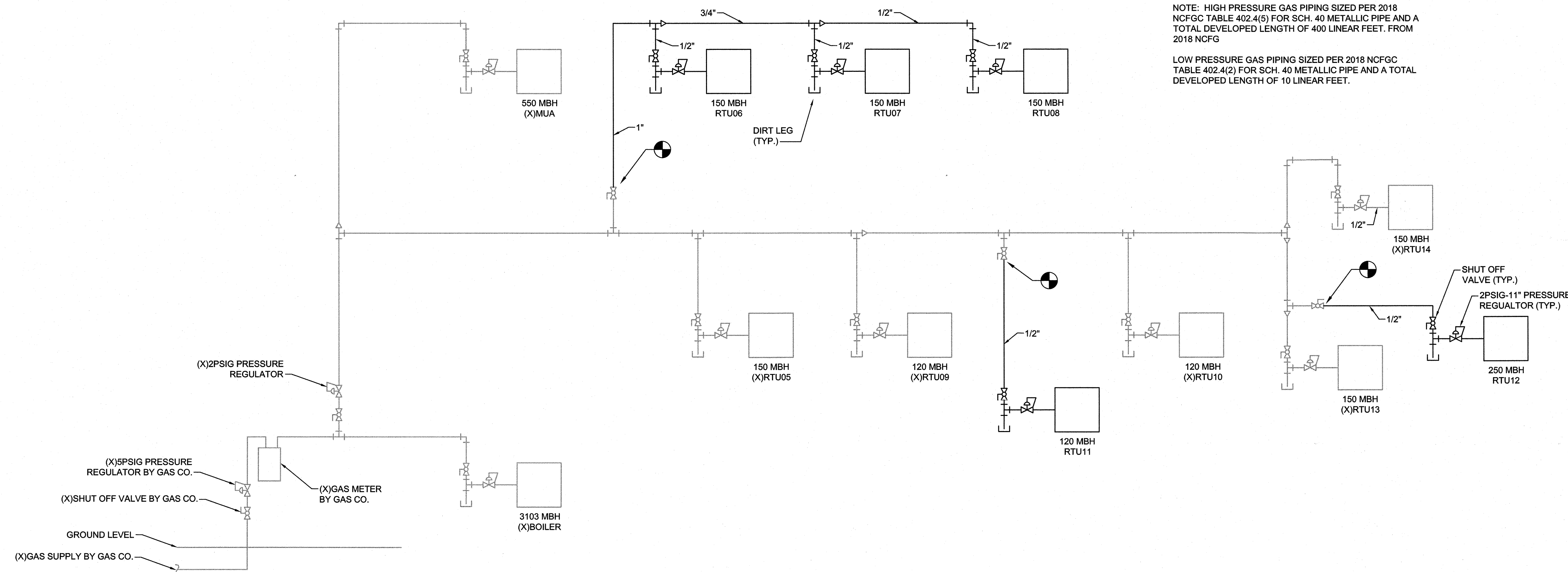
NOTES:

1 REFER TO SPECIFICATION SECTION 233713 - DIFFUSERS, REGISTERS, AND GRILLES FOR FURTHER INFORMATION.

2 CONTRACTOR TO CONFIRM SIZE AND NECK SIZE OF EXISTING DIFFUSERS AND GRILLES PRIOR TO ORDERING REPLACEMENTS.

3 DUCT BRANCH CONNECTION SIZE TO BE EQUAL TO THE NECK SIZE OF DIFFUSER UNLESS NOTED OTHERWISE ON PLANS.

ACCESSORIES: A VOLUME DAMPER



NOTE: HIGH PRESSURE GAS PIPING SIZED PER 2018 NCFGC TABLE 402.4(5) FOR SCH. 40 METALLIC PIPE AND A TOTAL DEVELOPED LENGTH OF 400 LINEAR FEET. FROM 2018 NCFGC

LOW PRESSURE GAS PIPING SIZED PER 2018 NCFGC TABLE 402.4(2) FOR SCH. 40 METALLIC PIPE AND A TOTAL DEVELOPED LENGTH OF 10 LINEAR FEET.

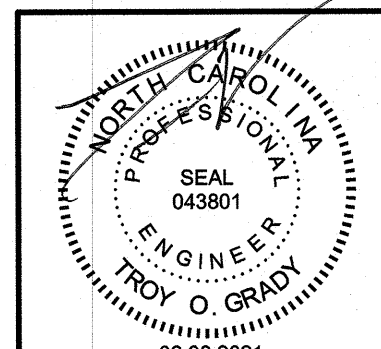
A2 NATURAL GAS RISER DIAGRAM
NOT TO SCALE

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2246 Yaugon Drive
Wilmington, NC 28401

Phone: 910.791.4000
Fax: 910.791.5266
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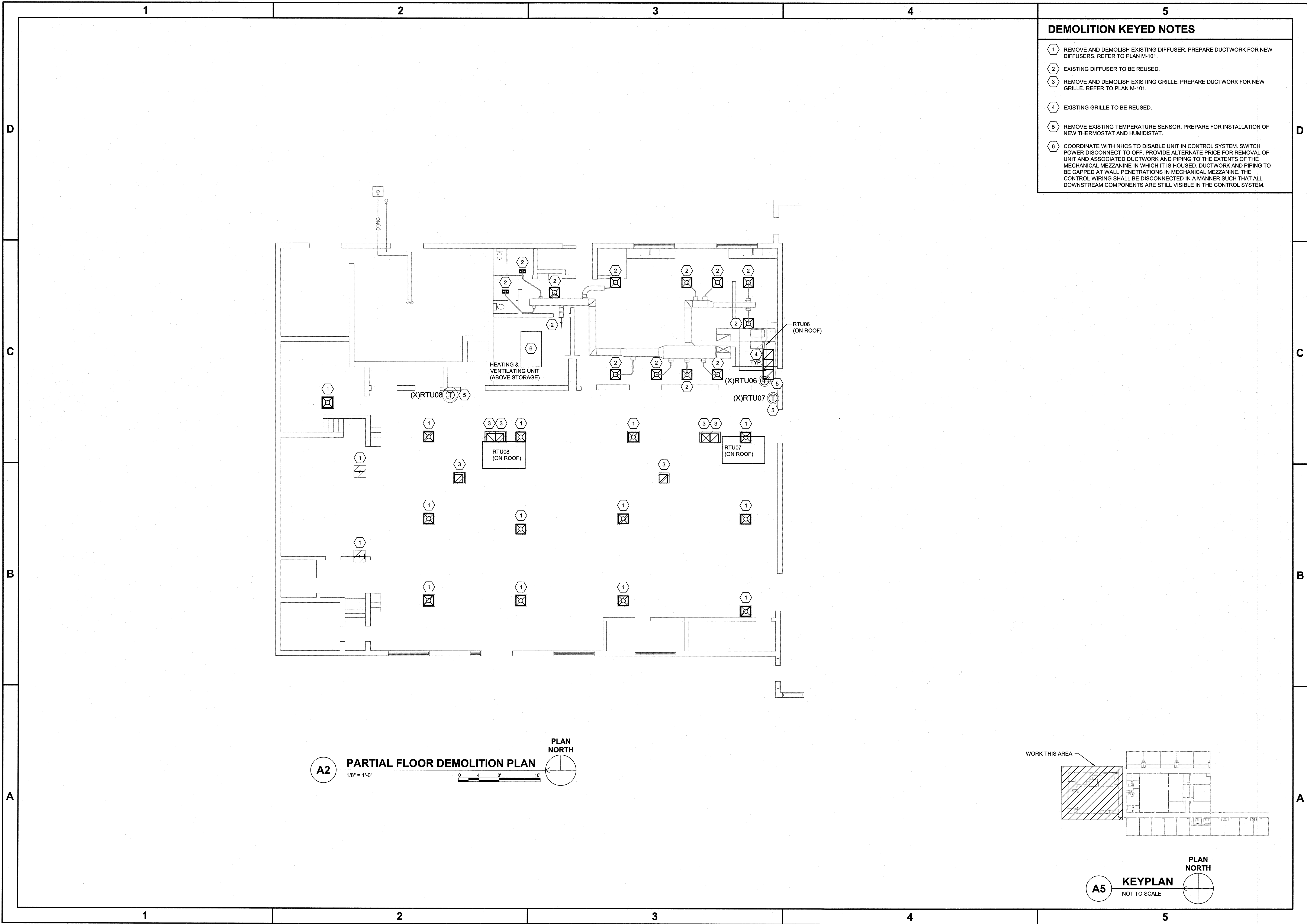
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MECHANICAL SCHEDULES AND GAS RISER DIAGRAM

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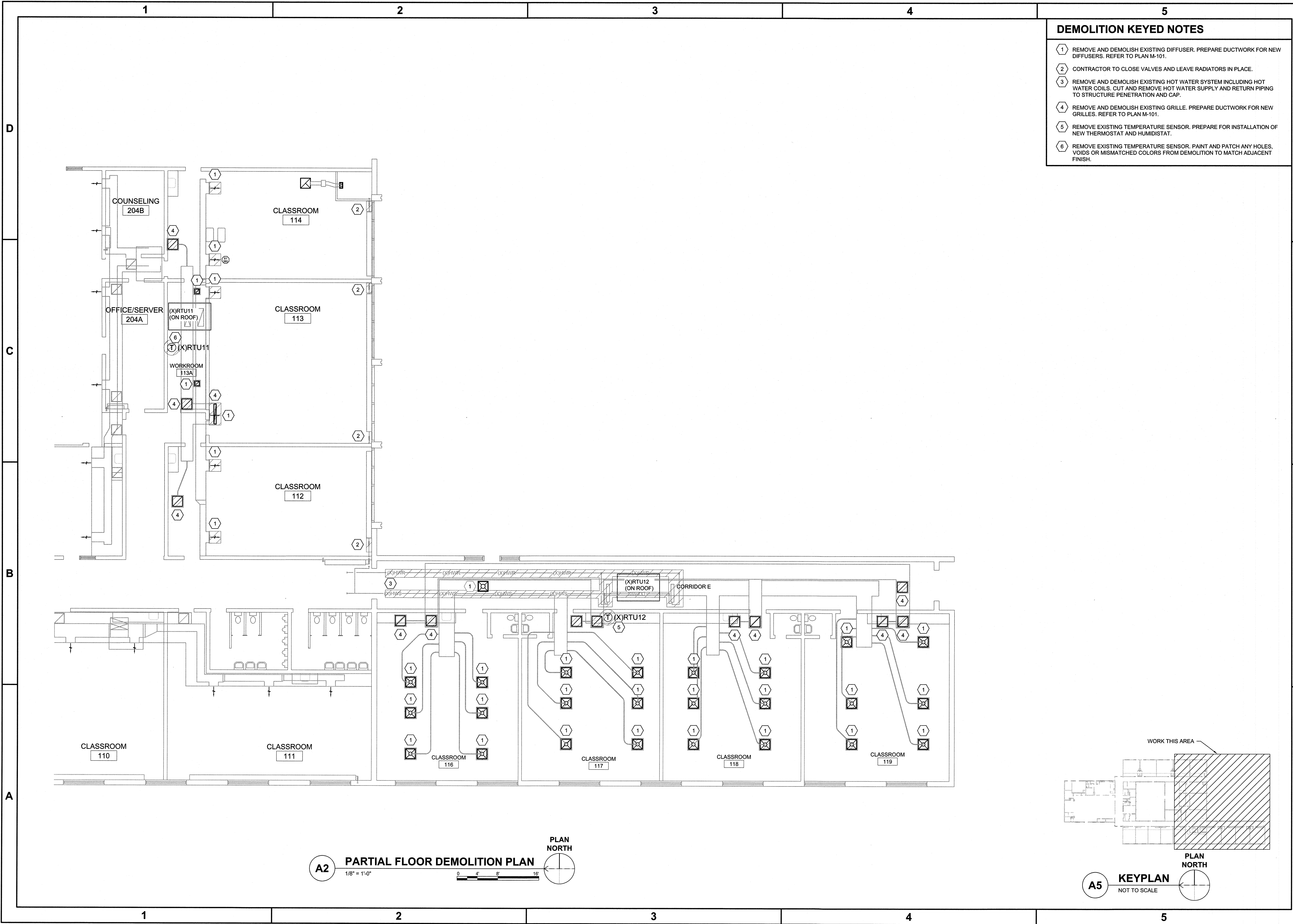
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- DEMOLITION KEYED NOTES**
- 1 REMOVE AND DEMOLISH EXISTING DIFFUSER. PREPARE DUCTWORK FOR NEW DIFFUSERS. REFER TO PLAN M-101.
 - 2 EXISTING DIFFUSER TO BE REUSED.
 - 3 REMOVE AND DEMOLISH EXISTING GRILLE. PREPARE DUCTWORK FOR NEW GRILLE. REFER TO PLAN M-101.
 - 4 EXISTING GRILLE TO BE REUSED.
 - 5 REMOVE EXISTING TEMPERATURE SENSOR. PREPARE FOR INSTALLATION OF NEW THERMOSTAT AND HUMIDISTAT.
 - 6 COORDINATE WITH NHCS TO DISABLE UNIT IN CONTROL SYSTEM. SWITCH POWER DISCONNECT TO OFF. PROVIDE ALTERNATE PRICE FOR REMOVAL OF UNIT AND ASSOCIATED DUCTWORK AND PIPING TO THE EXTENTS OF THE MECHANICAL MEZZANINE IN WHICH IT IS HOUSED. DUCTWORK AND PIPING TO BE CAPPED AT WALL PENETRATIONS IN MECHANICAL MEZZANINE. THE CONTROL WIRING SHALL BE DISCONNECTED IN A MANNER SUCH THAT ALL DOWNSTREAM COMPONENTS ARE STILL VISIBLE IN THE CONTROL SYSTEM.

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NORTH CAROLINA PROFESSIONAL SEAL 043801 ENGINEER TROY O. GRADY 02.08.2021	
EDWIN A. ALDERMAN ELEMENTARY SCHOOL RTU REPLACEMENT PHASE 2 2025 INDEPENDENCE BLVD. WILMINGTON, NC 28403 MECHANICAL PARTIAL FLOOR PLAN - DEMOLITION	
JOB NO.: 20156	DRAWN: CAC
DESIGNED: CAC	CHECKED: TOG
DRAWING NO.: MD101	
REVISION: 0	



DEMOLITION KEYED NOTES

- 1 REMOVE AND DEMOLISH EXISTING DIFFUSER. PREPARE DUCTWORK FOR NEW DIFFUSERS. REFER TO PLAN M-101.
- 2 CONTRACTOR TO CLOSE VALVES AND LEAVE RADIATORS IN PLACE.
- 3 REMOVE AND DEMOLISH EXISTING HOT WATER SYSTEM INCLUDING HOT WATER COILS. CUT AND REMOVE HOT WATER SUPPLY AND RETURN PIPING TO STRUCTURE PENETRATION AND CAP.
- 4 REMOVE AND DEMOLISH EXISTING GRILLE. PREPARE DUCTWORK FOR NEW GRILLES. REFER TO PLAN M-101.
- 5 REMOVE EXISTING TEMPERATURE SENSOR. PREPARE FOR INSTALLATION OF NEW THERMOSTAT AND HUMIDISTAT.
- 6 REMOVE EXISTING TEMPERATURE SENSOR. PAINT AND PATCH ANY HOLES, VOIDS OR MISMATCHED COLORS FROM DEMOLITION TO MATCH ADJACENT FINISH.

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NOTAL GARY
PROFESSIONAL
SEAL
045801
ENGINEER
ROY O. GRADY
02/08/2021

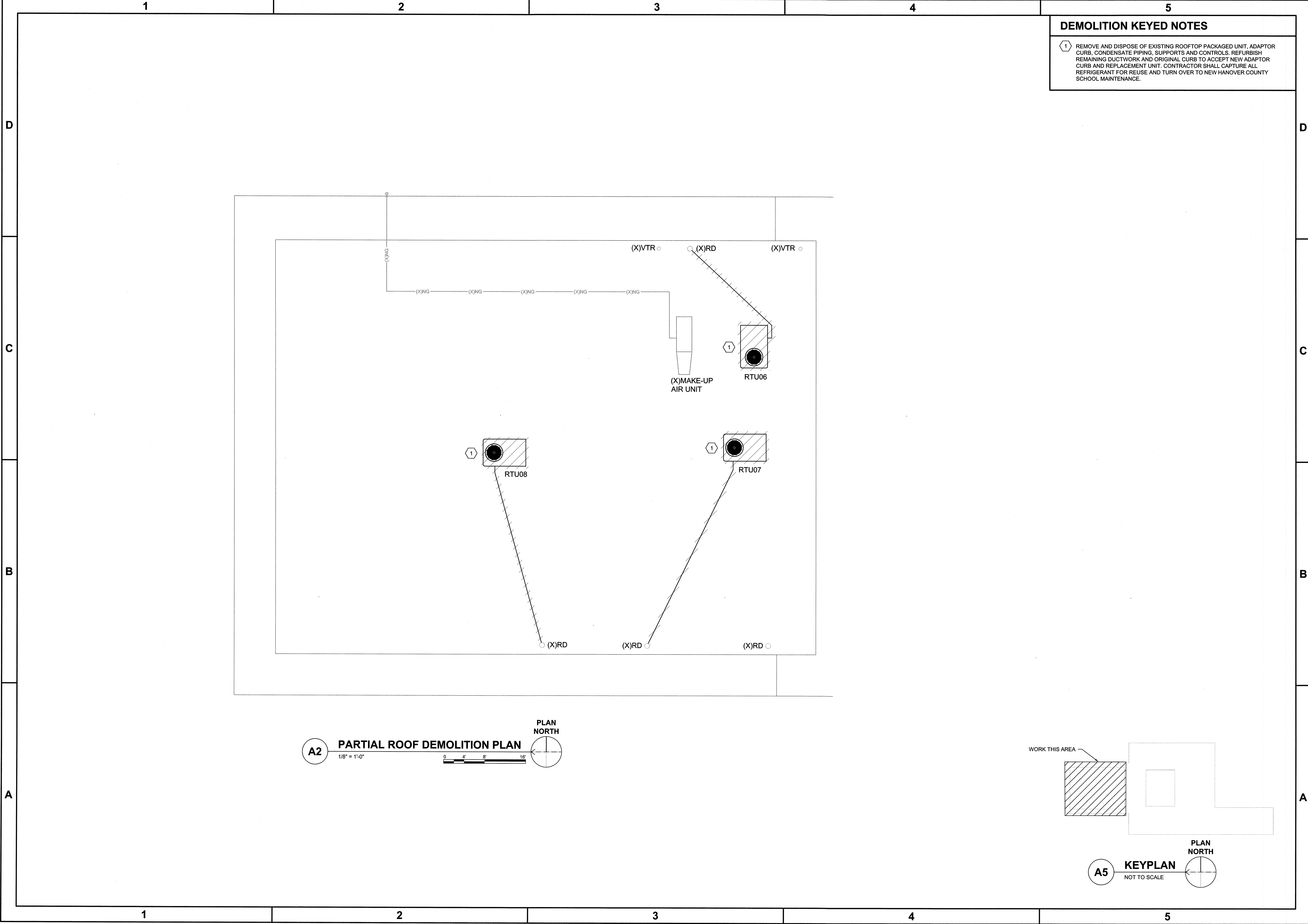
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MECHANICAL PARTIAL FLOOR
PLAN - DEMOLITION

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MD102

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DEMOLITION KEYED NOTES

1 REMOVE AND DISPOSE OF EXISTING ROOFTOP PACKAGED UNIT, ADAPTOR CURB, CONDENSATE PIPING, SUPPORTS AND CONTROLS. REFURBISH REMAINING DUCTWORK AND ORIGINAL CURB TO ACCEPT NEW ADAPTOR CURB AND REPLACEMENT UNIT. CONTRACTOR SHALL CAPTURE ALL REFRIGERANT FOR REUSE AND TURN OVER TO NEW HANOVER COUNTY SCHOOL MAINTENANCE.

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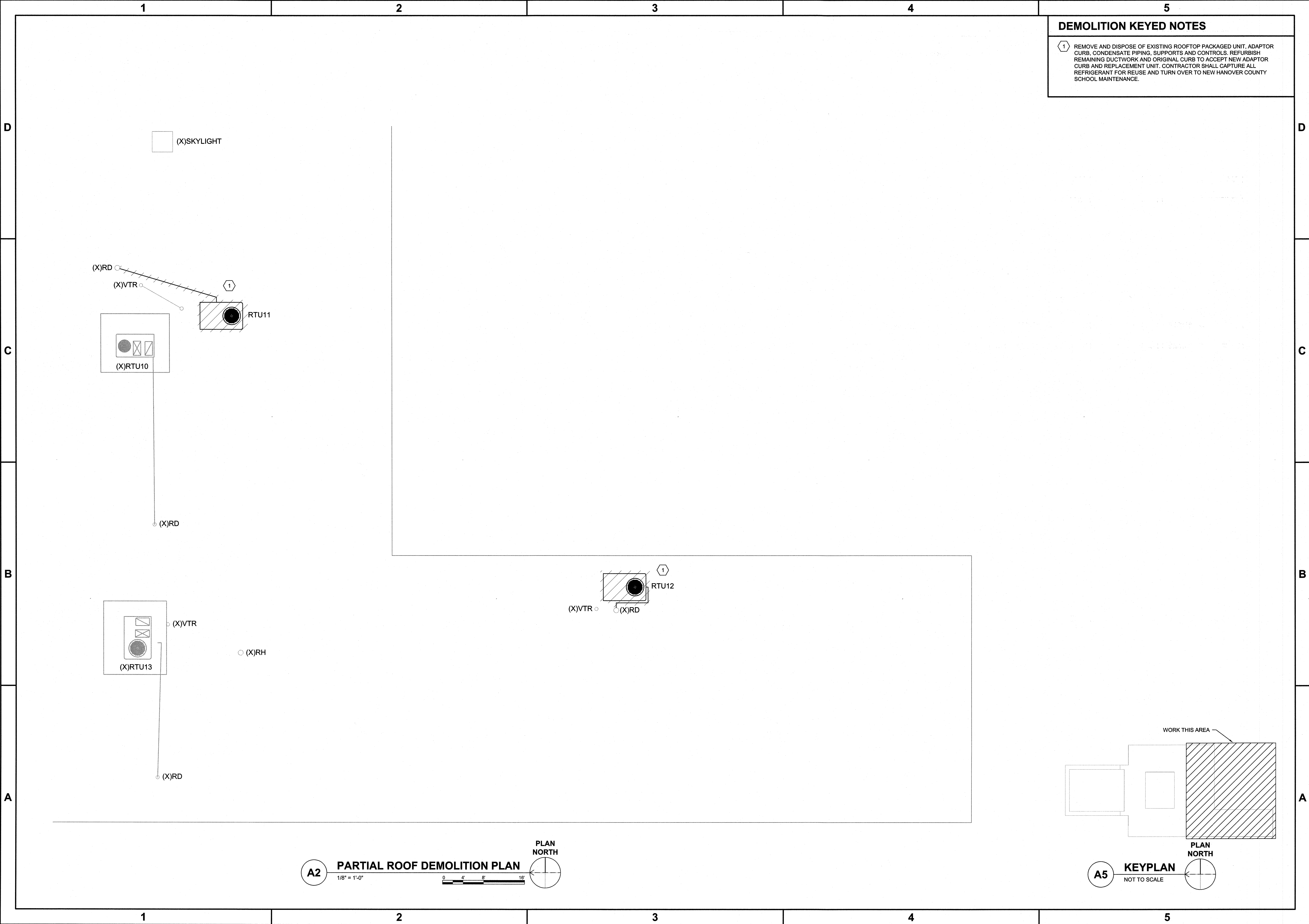
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MECHANICAL PARTIAL ROOF
PLAN - DEMOLITION

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DEMOLITION KEYED NOTES

1 REMOVE AND DISPOSE OF EXISTING ROOFTOP PACKAGED UNIT, ADAPTOR CURB, CONDENSATE PIPING, SUPPORTS AND CONTROLS, REFURBISH REMAINING DUCTWORK AND ORIGINAL CURB TO ACCEPT NEW ADAPTOR CURB AND REPLACEMENT UNIT. CONTRACTOR SHALL CAPTURE ALL REFRIGERANT FOR REUSE AND TURN OVER TO NEW HANOVER COUNTY SCHOOL MAINTENANCE.

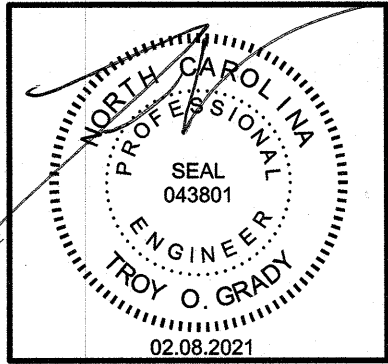
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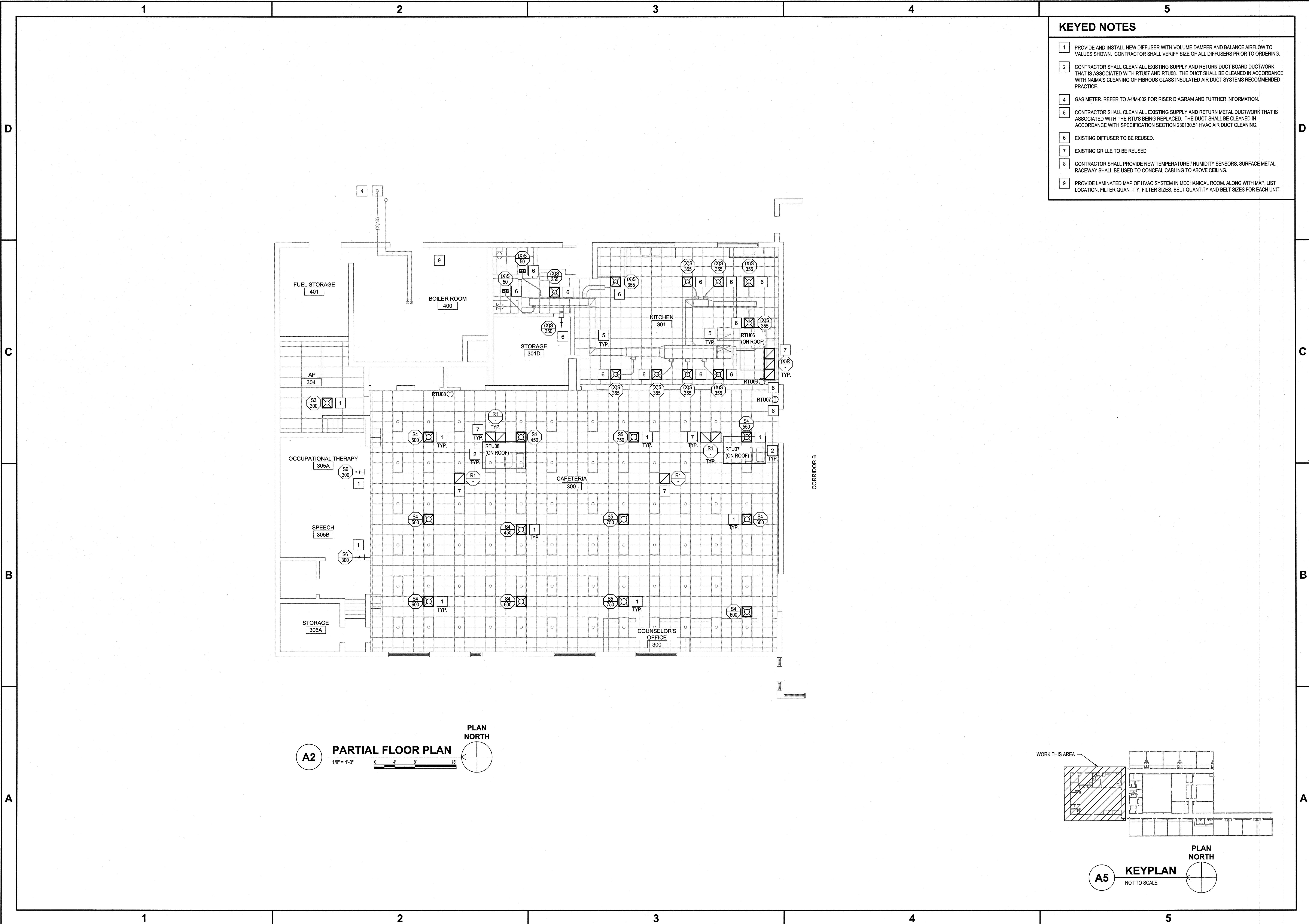
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**MECHANICAL PARTIAL ROOF
PLAN - DEMOLITION**

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MD104

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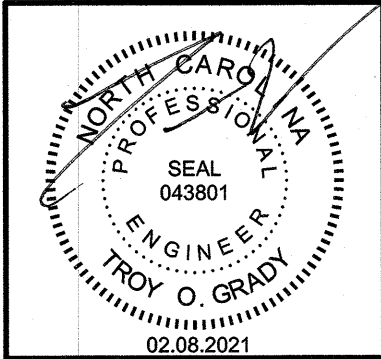


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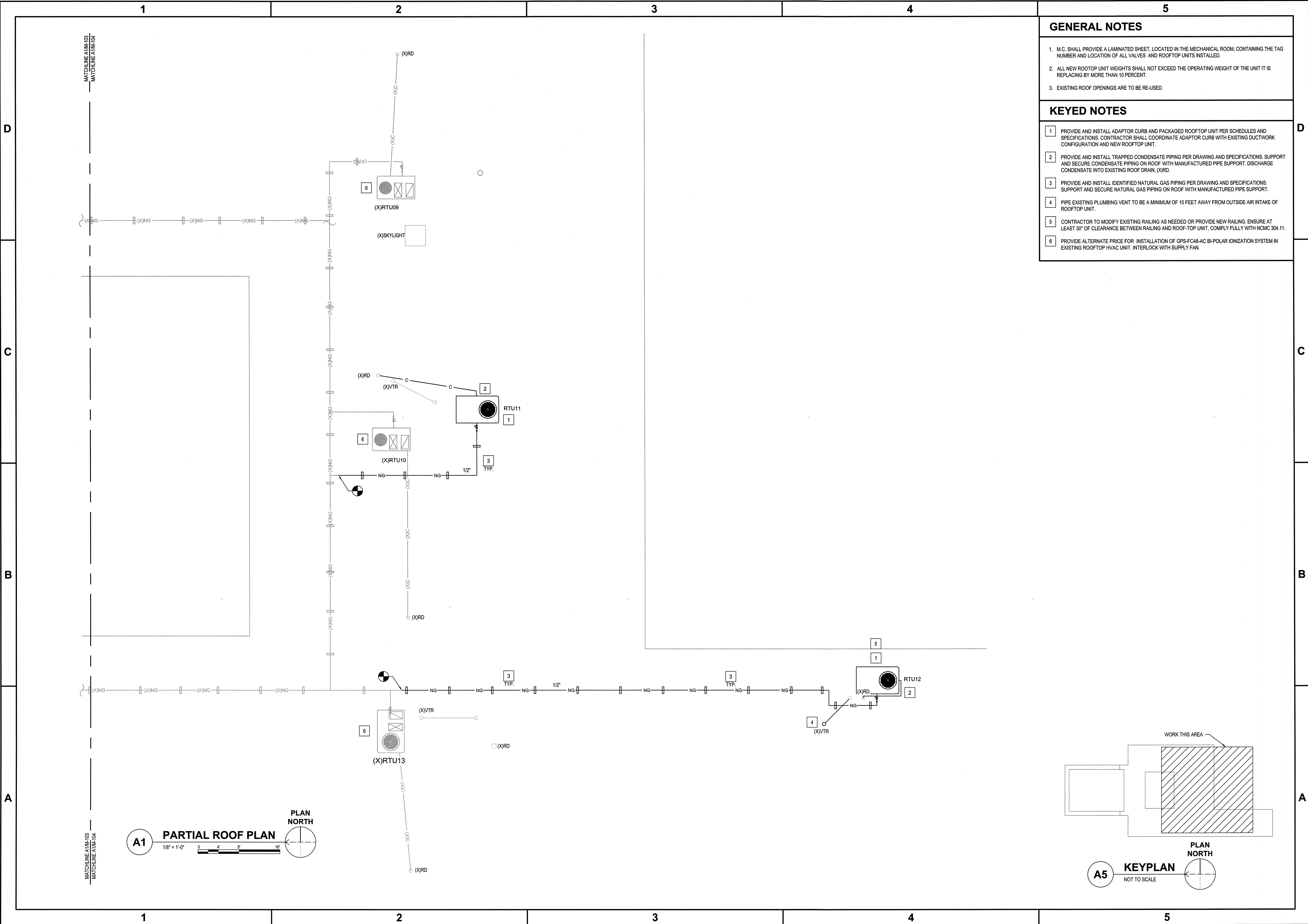
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MECHANICAL PARTIAL FLOOR PLAN

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DRAWING NO.:	M-101
REVISION:	0



GENERAL NOTES

1. M.C. SHALL PROVIDE A LAMINATED SHEET, LOCATED IN THE MECHANICAL ROOM, CONTAINING THE TAG NUMBER AND LOCATION OF ALL VALVES AND ROOFTOP UNITS INSTALLED.
2. ALL NEW ROOFTOP UNIT WEIGHTS SHALL NOT EXCEED THE OPERATING WEIGHT OF THE UNIT IT IS REPLACING BY MORE THAN 10 PERCENT.
3. EXISTING ROOF OPENINGS ARE TO BE RE-USED.

KEYED NOTES

- 1 PROVIDE AND INSTALL ADAPTOR CURB AND PACKAGED ROOFTOP UNIT PER SCHEDULES AND SPECIFICATIONS. CONTRACTOR SHALL COORDINATE ADAPTOR CURBS WITH EXISTING DUCTWORK CONFIGURATION AND NEW ROOFTOP UNIT.
- 2 PROVIDE AND INSTALL TRAPPED CONDENSATE PIPING PER DRAWING AND SPECIFICATIONS. SUPPORT AND SECURE CONDENSATE PIPING ON ROOF WITH MANUFACTURED PIPE SUPPORT. DISCHARGE CONDENSATE INTO EXISTING ROOF DRAIN, (X)RD.
- 3 PROVIDE AND INSTALL IDENTIFIED NATURAL GAS PIPING PER DRAWING AND SPECIFICATIONS. SUPPORT AND SECURE NATURAL GAS PIPING ON ROOF WITH MANUFACTURED PIPE SUPPORT.
- 4 PIPE EXISTING PLUMBING VENT TO BE A MINIMUM OF 10 FEET AWAY FROM OUTSIDE AIR INTAKE OF ROOFTOP UNIT.
- 5 CONTRACTOR TO MODIFY EXISTING RAILING AS NEEDED OR PROVIDE NEW RAILING. ENSURE AT LEAST 30" OF CLEARANCE BETWEEN RAILING AND ROOF-TOP UNIT, COMPLY FULLY WITH NCMC 304.11.
- 6 PROVIDE ALTERNATE PRICE FOR INSTALLATION OF GPS-FC48-AC BI-POLAR IONIZATION SYSTEM IN EXISTING ROOFTOP HVAC UNIT. INTERLOCK WITH SUPPLY FAN.

02.08.2021
Date:

ISSUED FOR CONSTRUCTION
Revision No: 0
Description:

REVISIONS

CBHF
Engineers, PLLC

2246 Yaupon Drive
Wilmington, NC 28401
Phone: 910.791.4000
Fax: 910.791.5266
www.cbhfind.com
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NCEP-0501

PROFESSIONAL
SEAL
043801
ENGINEER
ROY O. GRADY
02.08.2021

EDWIN A. ALDERMAN ELEMENTARY SCHOOL
RTU REPLACEMENT PHASE 2
2025 INDEPENDENCE BLVD.
WILMINGTON, NC 28403
MECHANICAL PARTIAL
ROOF PLAN

JOB NO.: 20156
DRAWN: CAC
DESIGNED: CAC
CHECKED: TOG

DRAWING NO:
M-104

REVISION:
0

EXISTING PANEL: MDP-2

TYPE: NEMA 1 BOLT-ON		208 MOUNT: FEED:	120 FLUSH TOP	V.	3	PH.	4	WIRE	MANUFACTURER: SQUARE D I-LINE SERIES: HCW M-3046S-1A1	
LOAD SERVED	LOAD VA	CKT BKR	CKT #	LOAD VA			CKT #	CKT BKR	LOAD VA	LOAD SERVED
(X)LOAD			1	A	B	C	2	150/3		(X)RTU07
"		30X/3	3				4	1		"
"		1	5				6	1		"
(X)SPACE			7				8	60/3		(X)RTU14
(X)SPACE			9				10	1		"
(X)SPACE			11				12	1		"
(X)SPACE			13				14	150/3		(X)RTU08
(X)SPACE			15				16	1		"
(X)SPACE			17				18	1		"
(X)PPI ROOM 115		225/3	19				20	60/3		(X)RTU05
"			21				22	1		"
"			23				24	1		"
(X)RTU06			70/3				26			(X)SPACE
"		1	27				28			(X)SPACE
"		1	29				30			(X)SPACE
NOTES:							TOTAL VOLT AMPS CONN. AMPS	800 800	A. BUS (COPPER) A. MAIN LUGS	
							25	KAIC MIN.		

REVISED PANEL: MDP-2

TYPE: NEMA 1 BOLT-ON		208 MOUNT: FEED:	120 FLUSH TOP	V.	3	PH.	4	WIRE	MANUFACTURER: SQUARE D LINE SERIES: HCW M-30465-1A1	
LOAD SERVED	LOAD VA	CKT BKR	CKT #	LOAD VA			CKT #	CKT BKR	LOAD VA	LOAD SERVED
				A	B	C				
[X]LOAD		JAG	1	4,612			2	603	4,612	RTU07 (NOTE 1)
"			3		4,612		4		4,612	"
"			5			4,612	6		4,612	"
[X]SPACE			7				8	603		[X]RTU14
[X]SPACE			9				10			"
[X]SPACE			11				12			"
[X]SPACE			13	4,612			14	603	4,612	RTU08 (NOTE 1)
[X]SPACE			15		4,612		16		4,612	"
[X]SPACE			17			4,612	18		4,612	"
[X]PPI ROOM 115		2253	19				20	603		[X]RTU6
"			21				22			"
"			23				24			"
RTU06 (NOTE 1)		4,612	603	25	4,612		26			[X]SPACE
"		4,612		27		4,612	28			[X]SPACE
"		4,612		29			30			[X]SPACE
NOTES:				13,835	13,835	13,835	TOTAL VOLT AMPS		800	A. BUS (COPPER)
1. PROVIDE NEW HACR CIRCUIT BREAKER IN THE EXISTING PANELBOARD.				115	115	115	CONN. AMPS		800	A. MAIN LUGS
								25	KAC MIN.	

EXISTING PANEL: C-2

TYPE: NEMA 1 BOLT-ON		208 MOUNT FEED:	120 FLUSH TOP	V.	3	PH.	4	WIRE	MANUFACTURER: SQUARE D SERIES: HCW 28030-1A1	
LOAD SERVED	LOAD VA	CKT BKR	CKT #	LOAD VA			CKT	CKT BKR	LOAD VA	LOAD SERVED
				A	B	C				
(X)LIGHTS CLASSROOM #1		20/1	1				2	280/3		(X)RTU12
(X)LIGHTS CLASSROOM #1		20/1	3				4	1		"
(X)RECP CLASSROOM #1		20/1	5				6	1		"
(X)RECP CLASSROOM #2		20/1	7				10	20/3		(X)BASEBOARD HEAT RM19
(X)LIGHTS CLASSROOM #2		20/1	9				12	1		
(X)LIGHTS CLASSROOM #2		20/1	11				14	1		
(X)LIGHTS CLASSROOM #4		20/1	13				16			(X)SPACE
(X)RECP CLASSROOM #4		20/1	15				14			(X)SPACE
(X)LIGHTS CLASSROOM #4		20/1	17				16			(X)SPACE
(X)RECP CLASSROOM #3		20/1	19				20			(X)SPACE
(X)LIGHTS CLASSROOM #3		20/1	21				22			(X)SPACE
(X)LIGHTS CLASSROOM #3		20/1	23				24			(X)SPACE
(X)HALL LIGHTS		20/1	25				26			(X)SPACE
(X)HALL RECP		20/1	27				28			(X)SPACE
(X)WATER COOLER		20/1	29				30			(X)SPACE
(X)AIR CONDITIONER CONTROLS		20/1	31				32			(X)SPACE
(X)RECP ROOM 19		20/1	33				34			(X)SPACE
(X)LIGHTS ROOM 19		20/1	35				36			(X)SPACE
(X)SPACE			37				38			(X)SPACE
(X)SPACE			39				40			(X)SPACE
(X)SPACE			41				42			(X)SPACE
NOTES:							TOTAL VOLT AMPS		400	A. BUS (COPPER)
							CONN. AMPS		400	A. MAIN LUGS
									25	KIAC MIN.






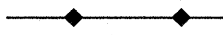
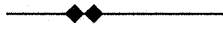
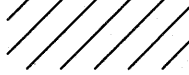
REVISED PANEL: C-2

TYPE: NEMA 1 BOLT-ON		200 MOUNT: FEED:	120 FLUSH TOP	V.	3	PH.	4	WIRE	MANUFACTURER: SQUARE D SERIES: HCW 20030-1A1		
LOAD SERVED		LOAD VA	CKT BKR	CKT #	LOAD VA			CKT BKR	CKT #	LOAD VA	LOAD SERVED
					A	B	C				
X(LIGHTS CLASSROOM #1	20'1		1		6,917			2	90/3	6,917	RTUT12 (NOTE 1)
X(LIGHTS CLASSROOM #1	20'1		3		6,917			4		6,917	"
X(RECPT CLASSROOM #1	20'1		5				6,917	6		6,917	"
X(RECPT CLASSROOM #2	20'1		7					8	20/3		X(BASEBOARD HEAT RM19
X(LIGHTS CLASSROOM #2	20'1		9					12			
X(LIGHTS CLASSROOM #2	20'1		11								
X(LIGHTS CLASSROOM #4	20'1		13					14			X(SPACE
X(RECPT CLASSROOM #4	20'1		15					16			X(SPACE
X(LIGHTS CLASSROOM #4	20'1		17					18			X(SPACE
X(RECPT CLASSROOM #3	20'1		19					20			X(SPACE
X(LIGHTS CLASSROOM #3	20'1		21					22			X(SPACE
X(LIGHTS CLASSROOM #3	20'1		23					24			X(SPACE
X(HALL LIGHTS	20'1		25					26			X(SPACE
X(HALL RECPT	20'1		27					28			X(SPACE
X(WATER COOLER	20'1		29					30			X(SPACE
X(AIR CONDITIONER CONTROLS	20'1		31					32			X(SPACE
X(RECPT ROOM 19	20'1		33					34			X(SPACE
X(LIGHTS ROOM 19	20'1		35					36			X(SPACE
X(SPACE			37					38			X(SPACE
X(SPACE			39					40			X(SPACE
X(SPACE			41					42			X(SPACE
NOTES:					6,917	6,917	6,917	TOTAL VOLT AMPS		400	A. BUS (COPPER)
1. PROVIDE NEW HACR CIRCUIT BREAKER IN THE EXISTING PANELBOARD.					58	58	58	CONN. AMPS		400	A. MAIN LUGS
25 KAC MIN.											

LOAD SUMMARY

VOLTAGE	PHASE
208	3
LOADS REMOVED THIS PROJECT	
EQUIPMENT	
(X)RTU06	15,132 VA
(X)RTU07	14,123 VA
(X)RTU08	14,123 VA
(X)RTU11	21,962 VA
(X)RTU12	20,406 VA
TOTAL HVAC EQUIPMENT REMOVED THIS PROJECT	85,746 VA
TOTAL HVAC EQUIPMENT REMOVED THIS PROJECT	238 AMPS
LOAD REMOVED THIS PROJECT	
TOTAL LOAD REMOVED THIS PROJECT	238 AMPS
TOTAL LOAD REMOVED THIS PROJECT	85,746 VA
LOAD ADDED THIS PROJECT	
HVAC	
RTU06	13,835 VA
RTU07	13,835 VA
RTU08	13,835 VA
RTU11	12,105 VA
RTU12	20,752 VA
SUB-TOTAL HVAC DEMAND	74,361 VA
SUB-TOTAL HVAC DEMAND	206 AMPS
TOTAL LOAD ADDED THIS PROJECT	206 AMPS
TOTAL LOAD ADDED THIS PROJECT	74,361 VA
NET LOAD CHANGED THIS PROJECT	
NET LOAD CHANGED THIS PROJECT	-32 AMPS
NET LOAD CHANGED THIS PROJECT	-11,385 VA

ELECTRICAL LEGEND

SYMBOL	DESCRIPTION
208/120V 	PANEL BOARD, SURFACE MOUNTED, SIZE AND RATINGS AS INDICATED ON PANEL SCHEDULE
 GFI	RECEPTACLE, DUPLEX, GROUND FAULT CURRENT INTERRUPTER TYPE, 120VAC, 20A, MOUNTED 24" AFG, UNLESS OTHERWISE NOTED. LOCATE GFI TEST SWITCH IN READILY ACCESSIBLE LOCATION. WP - LISTED WEATHER-RESISTANT TYPE DEVICE WITH WEATHERPROOF IN USE COVER
30A/3/3R, W/ 30AF 	DISCONNECT SWITCH, FUSED, HEAVY DUTY, SIZE AS INDICATED ON DRAWINGS ##A = DISCONNECT SIZE / # = NUMBER OF POLES / # = NEMA RATING, ##AF = FUSE SIZE
	CONDUIT, HOME RUN TO PANEL BOARD
	JUNCTION BOX - WALL MOUNTED *##" - INDICATES MOUNTING HEIGHT OF DEVICE IN INCHES AFF (If given)
	EXISTING 1 HOUR RATED FIRE WALL
	EXISTING 2 HOUR RATED FIRE WALL
	HATCHING INDICATES ITEMS TO BE DEMOLISHED. REMOVE DEVICES, EQUIPMENT, FIXTURES INDICATED, CIRCUITS AND CONDUIT BACK TO SOURCE UNLESS OTHERWISE NOTED.

TYPICAL ABBREVIATIONS:

A, AMP	AMPERE
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AHU	AIR HANDLING UNIT
AIC	AMPERE INTERRUPTING CAPACITY
ATS	AUTOMATIC TRANSFER SWITCH
AWG	AMERICAN WIRE GAUGE
BOF	BOTTOM OF FIXTURE
BRKR	BREAKER
C, CND	CONDUIT
CAB	CABINET
CAT	CATALOG
CL	CHLORINE
CB	CIRCUIT BREAKER
CCTV	CLOSED CIRCUIT TELEVISION
OKT	CIRCUIT
CLG	CEILING
CP	CONTROL PANEL
CR	CONTROL RELAY, CORROSION RESISTANT
CS	CONTROL SWITCH
CV	CONTROL VALVE
CT	CURRENT TRANSFORMER
CU	COPPER
EF	EXHAUST FAN
EMER	EMERGENCY
EMT	ELECTRICAL METALLIC TUBING
ENCL	ENCLOSURE
EQUIP	EQUIPMENT
EW	ELECTRIC WATER COOLER
EW	ELECTRIC WATER HEATER
EP	EXPLOSION PROOF
FA	FIRE ALARM
FAAP	FIRE ALARM ANNUNCIATOR PANEL
FACP	FIRE ALARM CONTROL PANEL
FBO	FURNISHED BY OTHERS
FLA	FULL LOAD AMPS
FLUOR	FLUORESCENT
FLR	FLOOR
FWE	FURNISHED WITH EQUIPMENT
GEN	GENERATOR
G, GND	GROUND
GR	GROUND FAULT CIRCUIT INTERRUPTER
HH	HANDHOLE
HID	HIGH INTENSITY DISCHARGE
HOA	HAND-OFF-AUTO
HP	HORSE POWER
HPF	HIGH POWER FACTOR
HPS	HIGH PRESSURE SODIUM
HTR	HEATER
HV	HIGH VOLTAGE
H _z	HERTZ
IMC	INTERMEDIATE METALLIC CONDUIT
INCAND	INCANDESCENT
JB	JUNCTION BOX
K	THOUSAND
KCMIL	THOUSAND CIRCULAR MILLS
KVA	KILOVOLT AMPERE
KW	KILOWATTS
KWH	KILOWATT-HOURS
LP	LIGHTING
LTG	LIGHTING PANEL, LIGHT POLE
MCB	MAIN CIRCUIT BREAKER
MCC	MOTOR CONTROL CENTER
MCP	MOTOR CIRCUIT PROTECTOR
MDP	MAIN DISTRIBUTION PANEL
MFR	MANUFACTURER
MH	MANHOLE
MLO	MAIN LUGS ONLY
MTD	MOUNTED
MTG	MOUNTING
MTS	MANUAL TRANSFER SWITCH
MV	MEDIUM VOLTAGE
NA	NOT APPLICABLE
NC	NORMALLY CLOSED
NEC	NATIONAL ELECTRIC CODE
NC	NOT IN CONTRACT
NL	NIGHT LIGHT
NO	NORMALLY OPEN
NTS	NOT TO SCALE
P	POLE
PA	PUBLIC ADDRESS
PB	PULL BOX, PUSH-BUTTON
PF	POWER FACTOR
PH, φ	PHASE
PLC	PROGRAMMABLE LOGIC CONTROLLER
PNL	PANEL
PP	POWER PANEL, POWER POLE
PT	POTENTIAL TRANSFORMER
PWR	POWER
RCPT, RCP	RECEPTACLE
REQD	REQUIRED
RGS	RIGID GALVANIZED STEEL CONDUIT
RTU	ROOM
RM	REMOTE TELEMETRY UNIT
SCR	DC MOTOR DRIVE
SH	SHEET
SPEC	SPECIFICATION
SS	SELECTOR SWITCH
SST	STAINLESS STEEL
SW	SWITCH
SWBD	SWITCHBOARD
SWGR	SWITCH GEAR
TEL	TELEPHONE
TPS	TWISTED PAIR SHIELDED
TVSS	TRANSIENT VOLTAGE SURGE SUPPRESSOR
TYP	TYPICAL
UGND	UNDERGROUND
UH	UNIT HEATER
UN	UNLESS OTHERWISE NOTED
UTIL	UTILITY
V	VOLTS
VD	VARIABLE FREQUENCY DRIVE
W	WIRE, WATT
WH	WATT-HOUR
WPR	WEATHERPROOF
XFMR	TRANSFORMER

EXISTNG PANEL: A

TYPE: NEMA 1 BOLT-ON		208 MOUNT: FEED:	120 FLUSH TOP	V.	3	PH.	4	WIRE	MANUFACTURER: GENERAL ELECTRIC SERIES: A SERIES II	
LOAD VA		LOAD BKR	CKT #	LOAD VA			CKT #	CKT BKR	LOAD VA	LOAD SERVED
				A	B	C				
LIGHTS ROOM 101		20/1	1				2	20/1		LIGHTS ROOM 102
LIGHTS ROOM 101		20/1	3				4	20/1		LIGHTS ROOM 102
LIGHTS ROOM 101		20/1	5				6	20/1		LIGHTS ROOM 102
LIGHTS ROOM 101		20/1	7				8	20/1		LIGHTS ROOM 104
LIGHTS ROOM 103		20/1	9				10	20/1		LIGHTS ROOM 104
LIGHTS ROOM 103		20/1	11				12	20/1		LIGHTS ROOM 104
LIGHTS ROOM 105		20/1	13				14	20/1		LIGHTS CORRIDOR 102
LIGHTS ROOM 105		20/1	15				16	20/1		RECS ROOM 103
LIGHTS ROOM 105		20/1	17				18	20/1		RECS ROOM 101
LIGHTS ROOM 102		20/1	19				20	20/1		RECS ROOM 104
LIGHTS ROOM 105		20/1	21				22	20/1		WATER COOLER
SPARE		20/1	23				24	20/1		LIGHTS SOFFIT
SPARE		20/1	25				26	30/2		UNIT 9 HEAT PUMP
UNIT 11 HEAT PUMP		30/2	27				28	1		
*		1	29				30	20/1		SPARE
SPACE			31				32			SPACE
SPACE			33				34			SPACE
SPACE			35				36			SPACE
			43				44			
			45				46			
			47				48			
IXRTU-10		60/3	49				50	150/3		IXRTU-11
I			51				52	I		
I			53							
							TOTAL VOLT AMPS		400	A. BUS (COPPER)
							CONN. AMPS		400	A. MAIN LUGS
									25	KAIC MIN.

REVISED PANEL: A

TYPE: NEMA 1 BOLT-ON	208 MOUNT: FEED:	120 FLUSH TOP	V.	3	PH	4	WIRE	MANUFACTURER: GENERAL ELECTRIC SERIES: A SERIES II		
LOAD SERVED	LOAD VA	CKT BKR	CKT #	LOAD VA			CKT #	CKT BKR	LOAD VA	LOAD SERVED
				A	B	C				
LIGHTS ROOM 101		20/1	1				2	20/1		LIGHTS ROOM 102
LIGHTS ROOM 101		20/1	3				4	20/1		LIGHTS ROOM 102
LIGHTS ROOM 101		20/1	5				6	20/1		LIGHTS ROOM 102
LIGHTS ROOM 101		20/1	7				8	20/1		LIGHTS ROOM 104
LIGHTS ROOM 103		20/1	9				10	20/1		LIGHTS ROOM 104
LIGHTS ROOM 103		20/1	11				12	20/1		LIGHTS ROOM 104
LIGHTS ROOM 105		20/1	13				14	20/1		LIGHTS CORRIDOR 102
LIGHTS ROOM 105		20/1	15				16	20/1		RECS ROOM 103
LIGHTS ROOM 105		20/1	17				20/1			RECS ROOM 101
LIGHTS ROOM 102		20/1	19				20	20/1		RECS ROOM 104
LIGHTS ROOM 105		20/1	21				22	20/1		WATER COOLER
SPARE		20/1	23				24	20/1		LIGHTS SOFFIT
SPARE		20/1	25				26	30/2		UNIT 9 HEAT PUMP
UNIT 11 HEAT PUMP		30/2	27				28	1		
			29				30	20/1		SPARE
SPACE			31				32			SPACE
SPACE			33				34			SPACE
SPACE			35				36			SPACE
			43				44			
			45				46			
			47				48			
DXRTU-10		60/3	49	4,035			50	50/3	4,035	RTU-11 (NOTE 1)
1			51		4,035		52	1	4,035	
			53			4,035	54	1	4,035	
				4,035	4,035	4,035	TOTAL VOLT AMPS		400	A. BUS (COPPER)
				34	34	34	CONN. AMPS		400	A. MAIN LUGS

NOTES:
1. PROVIDE NEW HACR CIRCUIT BREAKER IN THE EXISTING PANELBOARD.

25 KAIC MIN.

1		2		3		4		5	
D	<div><div>GENERAL NOTES:</div><div><div><div>1. ALL ELECTRICAL WORK SHALL BE IN FULL COMPLIANCE WITH NFPA 70, THE NORTH CAROLINA STATE BUILDING CODE, ALL LOCAL CODES AND ORDINANCES AND IN ACCORDANCE WITH THE REQUIREMENTS OF THE LOCAL AUTHORITY HAVING JURISDICTION.</div><div>2. ALL EQUIPMENT PROVIDED BY THE CONTRACTOR SHALL BE LISTED AND LABELED BY A NATIONALLY-RECOGNIZED TESTING AGENCY, ACCEPTABLE TO THE AUTHORITY HAVING JURISDICTION, FOR THE CONDITIONS OF INSTALLATION. ALL MATERIAL, EQUIPMENT AND DEVICES SHALL BE NEW CURRENT PRODUCTS OF MANUFACTURERS REGULARLY ENGAGED IN THE PRODUCTION OF SUCH PRODUCTS. EQUIPMENT SHALL BE SUITABLE FOR ITS APPLICATION (E.G. WHEN INSTALLED OUTDOORS, IT SHALL BE WEATHERPROOF, ETC.)</div><div>3. THE CONTRACTOR SHALL REVIEW THE DRAWINGS AND SPECIFICATIONS FOR WORK REQUIREMENTS, THE AMOUNT OF SPACE AVAILABLE FOR ELECTRICAL EQUIPMENT, AND LAYOUT HIS WORK IN A COMPATIBLE AND COMPLEMENTARY MANNER.</div><div>4. THE CONTRACTOR SHALL ALSO BE RESPONSIBLE FOR THOROUGHLY FAMILIARIZING HIMSELF WITH ANY CONTRACTUAL REQUIREMENTS AS MAY BE SET FORTH IN THE OTHER DIVISIONS OF THE PROJECT SPECIFICATIONS.</div><div>5. UNLESS SPECIFICALLY NOTED OTHERWISE, SYSTEMS PROVIDED OR INSTALLED BY THE ELECTRICAL CONTRACTOR SHALL BE COMPLETE AND FULLY-FUNCTIONING AFTER INSTALLATION. INCIDENTAL COMPONENTS MAY NOT BE SHOWN, AND ALL WORK WHICH MAY BE REASONABLY IMPLIED AS BEING INCIDENTAL TO THIS WORK, BUT REQUIRED FOR THE PROPER OPERATION OF THE EQUIPMENT OR SYSTEM, SHALL BE PROVIDED AT NO ADDITIONAL COST TO THE OWNER. ADDITIONAL CIRCUITS SHALL BE INSTALLED WHEREVER NEEDED TO CONFORM TO THE SPECIFIC REQUIREMENTS OF EQUIPMENT.</div><div>6. TEMPORARY POWER CONNECTIONS AS REQUIRED SHALL BE PROVIDED BY THE CONTRACTOR AT NO ADDITIONAL EXPENSE TO THE OWNER. ALL TEMPORARY EQUIPMENT WIRING SHALL BE IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE. THE CONTRACTOR SHALL PROVIDE DETAILS, METHODS, MATERIALS, ETC. TO THE ARCHITECT/ENGINEER PRIOR TO MAKING TEMPORARY CONNECTIONS. FURNISH AND INSTALL ALL EQUIPMENT AND MATERIALS INCLUDING CONTROL EQUIPMENT, MOTOR STARTERS, BRANCH AND FEEDER CIRCUIT BREAKERS, PANELBOARDS, TRANSFORMERS, ETC. FOR TEMPORARY POWER. COORDINATE WITH THE ELECTRICAL UTILITY COMPANY AS REQUIRED.</div><div>7. THE WORK SHALL INCLUDE COMPLETE TESTING OF ALL EQUIPMENT AND WIRING AT THE COMPLETION OF WORK AND ANY MINOR CORRECTIONS, CHANGES OR ADJUSTMENTS NECESSARY FOR THE PROPER FUNCTIONING OF THE SYSTEM AND EQUIPMENT.</div><div>8. ALL ELECTRICAL EQUIPMENT SHALL, AT ALL TIMES DURING CONSTRUCTION, BE ADEQUATELY PROTECTED AGAINST MECHANICAL INJURY, OR DAMAGE BY WATER AND/OR THE ELEMENTS. ELECTRICAL EQUIPMENT SHALL NOT BE STORED OUT OF DOORS, BUT SHALL BE STORED IN DRY PERMANENT SHELTERS. IF AN APPARATUS HAS BEEN DAMAGED, OR HAS BEEN SUBJECT TO POSSIBLE INJURY BY WATER OR THE ELEMENTS, SUCH DAMAGE SHALL BE REPLACED AT NO ADDITIONAL COST TO THE OWNER.</div><div>9. DO NOT SCALE ELECTRICAL DRAWINGS. REFER TO THE ARCHITECTURAL DRAWINGS FOR DIMENSIONS.</div><div>10. CIRCUIT LAYOUTS ARE NOT INTENDED TO SHOW THE NUMBER OF FITTINGS, OR OTHER INSTALLATION DETAILS. UNLESS NOTED OTHERWISE, THE EXACT ROUTING OF FEEDER AND BRANCH CIRCUIT RACEWAYS AND CABLES IS THE RESPONSIBILITY OF THE CONTRACTOR. RISER AND GENERAL CIRCUIT ARRANGEMENTS ARE SHOWN SCHEMATICALLY/DIAGRAMMATICALLY ONLY. THE CONTRACTOR SHALL ROUTE CONDUITS AS REQUIRED BY THE CONDITIONS OF THE INSTALLATION.</div><div>11. UNLESS DIMENSIONED, DEVICE LOCATIONS SHOWN ON THE DRAWINGS ARE APPROXIMATE. ADJUST EXACT LOCATIONS AS REQUIRED TO SERVE THE INTENDED PURPOSE AND TO AVOID CONFLICTS AND INTERFERENCES WITH OTHER TRADES. EXACT DEVICE LOCATIONS SHALL BE AS INDICATED ON THE ARCHITECTURAL DRAWINGS OR AS DIMENSIONED. IF NOT SHOWN ON THE ARCHITECTURAL DRAWINGS OR DIMENSIONED ON THE ELECTRICAL DRAWINGS, VERIFY EXACT LOCATION WITH THE ARCHITECT/ENGINEER PRIOR TO ROUGH-IN.</div><div>12. CONDUIT TERMINATING IN PRESSED STEEL BOXES SHALL HAVE DOUBLE LOCKNUTS AND INSULATED BUSHINGS. CONDUITS TERMINATING IN GASKETED ENCLOSURES SHALL BE TERMINATED WITH GROUNDING TYPE CONDUIT HUBS.</div><div>13. THE DRAWINGS INDICATE BRANCH CIRCUIT HOMERUN CONDUCTORS VIA ARROWHEADS. PROVIDE NEUTRAL, EQUIPMENT GROUND CONDUCTORS AS REQUIRED. ADDITIONAL CONDUCTORS REQUIRED FOR CONTROL SHALL BE INCLUDED EVEN IF NOT EXPLICITLY SHOWN.</div><div>14. SEAL ALL CONDUIT OPENINGS THROUGH EXTERIOR BUILDING WALLS WATERTIGHT.</div><div>15. ALL EXTERIOR WIRING DEVICES, BOXES, ETC. SHALL BE WEATHERPROOF. LIGHTING FIXTURES SHALL BE APPROPRIATELY RATED AND LISTED FOR THE ENVIRONMENT.</div><div>16. MAINTAIN CEILING FIRE RATINGS WITH ALL NECESSARY LIGHTING FIXTURE TRIM, ACCESSORIES, OPTIONS AND/OR FIELD FABRICATED SHROUDS COMPLYING WITH ALL APPLICABLE CODES.</div><div>17. RACEWAYS PENETRATING FLOORS, CEILINGS OR WALLS SHALL BE PROPERLY SEALED SMOKE/TIGHT.</div><div>18. RACEWAYS PENETRATING RATED FLOOR, CEILING OR WALL ASSEMBLIES SHALL BE PROPERLY SEALED IN ACCORDANCE WITH THE CORRESPONDING UNDERWRITERS LABORATORIES (OR OTHER APPROVED THIRD PARTY TESTING AGENCY) APPROVED AND LISTED FIRESTOPPING MATERIALS AND MANUFACTURER APPROVED INSTALLATION TECHNIQUES COMPLYING WITH ALL APPLICABLE CODES. SEE ARCHITECTURAL DRAWINGS FOR IDENTIFICATION OF RATED WALLS AND CEILINGS.</div><div>19. ALL RACEWAYS SHALL BE CONCEALED WHERE POSSIBLE. IF APPLICABLE, MATCH EXISTING RACEWAY INSTALLATION METHODS AND ROUTINGS AT OR NEAR EXISTING FACILITIES.</div><div>20. INSTALL EXPOSED RACEWAYS PARALLEL TO OR AT RIGHT ANGLES TO NEARBY SURFACES OR STRUCTURAL MEMBERS, AND FOLLOW THE SURFACE CONTOURS AS MUCH AS POSSIBLE. NO DIAGONAL RUNS WILL BE ALLOWED. ALL CONDUITS SHALL BE RUN STRAIGHT AND TRUE. RUN PARALLEL OR BANKED RACEWAYS TOGETHER ON COMMON SUPPORTS WHERE PRACTICAL. MAKE BENDS IN PARALLEL OR BANKED RUNS FROM SAME CENTERLINE TO MAKE BENDS PARALLEL.</div><div>21. PATCHING OF WATERPROOFED SURFACES SHALL RENDER THE AREA OF THE PATCHING COMPLETELY WATERPROOF.</div><div>22. ALL MOTORS AND OTHER VIBRATING EQUIPMENT SHALL BE CONNECTED TO THE CONDUIT SYSTEM BY MEANS OF A SHORT SECTION (18 INCH MINIMUM) OF FLEXIBLE CONDUIT UNLESS OTHERWISE INDICATED. AN EQUIPMENT GROUNDING CONDUCTOR SHALL BE INSTALLED INSIDE THE FLEXIBLE CONDUIT AND TERMINATE AT THE LOAD END WITH AN APPROVED GROUNDING CLAMP OR LUG.</div><div>23. SURFACE MOUNTED PANELBOARDS, JUNCTION, OUTLET AND PULL BOXES, RACEWAYS, ETC., INSTALLED ON EXTERIOR SURFACES OR INSIDE ON EXTERIOR WALLS SHALL BE SUPPORTED BY SPACERS TO PROVIDE A 1/4" MINIMUM CLEARANCE BETWEEN THE WALL AND EQUIPMENT.</div><div>24. CEILING MOUNTED DEVICES INSTALLED IN ACOUSTICAL TILE CEILING AREAS SHALL BE SUPPORTED FROM THE STRUCTURE ABOVE WITH RODS OF SUFFICIENT SIZE TO PREVENT VERTICAL MOVEMENT OF THE OUTLET BOX. BRIDGES ALONE ARE NOT ADEQUATE UNLESS SPECIFICALLY APPROVED. CEILING MOUNTED EXIT LIGHT FIXTURES SHALL BE INSTALLED LEVEL. DO NOT SUPPORT DEVICES FROM ACOUSTICAL CEILING TILE.</div></div><div><div>25. FINAL TYPED PANELBOARD DIRECTORIES INSTALLED IN THE PANELBOARD DOOR POCKET SHALL INCLUDE FINAL ACTUAL ROOM NAMES AND NUMBERS IN ADDITION TO THE GENERAL DESCRIPTION SHOWN ON THE PANEL SCHEDULES ON THE DRAWINGS.</div><div>26. CONDUCTOR SIZING IS BASED ON 75 DEGREE C. COPPER NEC RATINGS, UNLESS NOTED OTHERWISE. THE CONTRACTOR SHALL VERIFY, PRIOR TO INSTALLATION OF CONDUCTORS OR CONDUIT FEEDING ANY EQUIPMENT, THE ELECTRICAL EQUIPMENT IS RATED FOR USE WITH 75 DEGREE C. WIRING. IF ANY EQUIPMENT IS RATED FOR USE WITH LESS THAN 75 DEGREE C. CONDUCTORS, THE CONTRACTOR SHALL NOTIFY THE ARCHITECT/ENGINEER IMMEDIATELY FOR EVALUATION/CORRECTION.</div><div>27. DO NOT PULL CONDUCTORS UNTIL THE CONDUIT SYSTEM IS COMPLETE IN EVERY DETAIL. IN THE CASE OF CONCEALED WORK, "COMPLETE" MEANS UNTIL ALL ROUGH PLASTERING OR MASONRY HAS BEEN COMPLETED.</div><div>28. WHERE SIZE IS NOT SHOWN ON THE DRAWINGS, BRANCH CIRCUITS SHALL CONSIST OF #12 OR #10 AWG MINIMUM PHASE, NEUTRAL AND EQUIPMENT GROUND CONDUCTORS IN 3/4" MINIMUM RACEWAY.</div><div>29. USE #10 AWG CONDUCTORS FOR 20 AMPERE, 120 VOLT BRANCH CIRCUITS WITH A TOTAL INSTALLED LENGTH GREATER THAN 75 FEET AND/OR BRANCH CIRCUIT HOMERUNS LONGER THAN 50 FEET, I.E.; #12 AWG INCREASED TO #10 AWG FOR RECEPTACLE BRANCH CIRCUITS OVER 75 FEET TOTAL LENGTH (INCLUDING THE HOMERUN SEGMENT) AND HOMERUNS OVER 50 FEET.</div><div>30. KEEP CONDUCTOR SPLICES TO A MINIMUM. INSTALL SPLICES AND TAPES THAT POSSESS EQUIVALENT OR BETTER MECHANICAL STRENGTH AND INSULATION RATINGS THAN CONDUCTORS BEING SPLICED. USE SPLICE AND TAP CONNECTORS COMPATIBLE WITH CONDUCTOR MATERIAL. INSTALL CONDUCTORS AT EACH OUTLET WITH AT LEAST 6 INCHES OF SLACK. CONNECT OUTLETS AND COMPONENTS TO WIRING AND TO GROUND AS INDICATED AND INSTRUCTED BY THE MANUFACTURER.</div><div>31. DO NOT SPLICE BRANCH CIRCUIT HOMERUNS WITHOUT THE PERMISSION OF THE ARCHITECT/ENGINEER. HOMERUNS SHALL BE CONTINUOUS FROM THE LAST OUTLET BOX TO THE SERVING PANELBOARD.</div><div>32. DO NOT COMBINE BRANCH CIRCUIT HOMERUNS UNLESS SPECIFICALLY INDICATED ON THE DRAWINGS.</div><div>33. DO NOT CHANGE CIRCUITING SHOWN WITHOUT PERMISSION OF THE ARCHITECT/ENGINEER.</div><div>34. TROUGH TAPS SHALL BE AT SWITCH AMPACITY, UNLESS NOTED OTHERWISE.</div><div>35. INSTALL WIRING DEVICES AT HEIGHTS AS SHOWN ON THE DRAWINGS. ALSO COORDINATE MOUNTING HEIGHTS WITH THE ARCHITECTURAL DRAWINGS AND CASEWORK DETAILS. IF CONFLICTING, ARCHITECTURAL DRAWINGS AND DETAILS SHALL GOVERN.</div><div>36. PROVIDE GROUND FAULT CIRCUIT-INTERRUPTER PROTECTION FOR PERSONNEL IN ACCORDANCE WITH THE NEC INCLUDING ALL ELECTRIC WATER COOLERS, EXTERIOR RECEPTACLES AND RECEPTACLES IN AREAS SUBJECT TO POSSIBLE WET CONDITIONS. ALL RECEPTACLES INSTALLED WITHIN 6 FEET OF A SINK SHALL BE GFI PROTECTED. ALL RECEPTACLES IN NON-RESIDENTIAL KITCHENS SHALL BE GFI PROTECTED.</div><div>37. COORDINATE LOCATIONS OF PLUMBING, MECHANICAL, DATA AND TELEPHONE AND AUDIO/VISUAL EQUIPMENT AND OF OWNER-PROVIDED EQUIPMENT WITH THE RESPECTIVE CONTRACTORS AND VENDORS AND THE OWNER BEFORE ROUGH-IN. ADJUST LIGHTING FIXTURES, RECEPTACLES AND ELECTRICAL EQUIPMENT TO ACCOMMODATE THIS EQUIPMENT. ADVISE THE ARCHITECT/ENGINEER OF CONFLICTS BEFORE ROUGH-IN.</div><div>38. BEFORE COMMENCING WORK OR ORDERING MATERIALS, THE CONTRACTOR SHALL COORDINATE WITH OTHER TRADES AND VERIFY THE NAMEPLATE RATINGS OF ALL EQUIPMENT (MOTORS, HEATERS, COMPRESSORS, ETC.) AND ADJUST THE RATINGS OF THE ELECTRICAL EQUIPMENT (SWITCHES, FUSES, CIRCUIT BREAKERS, FEEDERS, ETC.) AS APPROPRIATE TO SERVE THIS EQUIPMENT.</div><div>39. ENERGIZE EQUIPMENT ONLY AFTER OBTAINING PERMISSION FROM THE CONTRACTOR PROVIDING THE EQUIPMENT.</div><div>40. UNLESS SPECIFICALLY NOTED OTHERWISE, THE ELECTRICAL CONTRACTOR SHALL MAKE FINAL CONNECTIONS TO ALL UTILIZATION EQUIPMENT SHOWN ON THE DRAWINGS. VERIFY THE TYPE OF FINAL CONNECTION AND PROVIDE APPROPRIATE WIRING METHOD. THE ELECTRICAL CONTRACTOR SHALL COORDINATE WITH THE MECHANICAL, PLUMBING AND GENERAL CONTRACTORS, PRIOR TO ORDERING OR INSTALLATION OF ANY EQUIPMENT, TO VERIFY MECHANICAL AND PLUMBING EQUIPMENT REQUIREMENTS ARE PROVIDED IN THE ELECTRICAL DESIGN. THE CONTRACTOR WILL NOT BE COMPENSATED FOR COSTS ASSOCIATED WITH CHANGING THE ELECTRICAL SYSTEMS TO MATCH UTILIZATION EQUIPMENT, EVEN IF THE ELECTRICAL WORK IS INSTALLED PER THE ELECTRICAL DRAWINGS.</div><div>41. THE MECHANICAL AND PLUMBING CONTRACTORS SHALL FURNISH ALL STARTERS AND CONTROLS FOR THEIR EQUIPMENT. THE ELECTRICAL CONTRACTOR SHALL MOUNT STARTERS FURNISHED BY THE MECHANICAL AND PLUMBING CONTRACTORS. THE ELECTRICAL CONTRACTOR PROVIDE ALL SAFETY SWITCHES, WIRING AND CONNECTIONS TO LINE SIDE AND LOAD SIDE OF STARTERS AND SAFETY SWITCHES COMPLETE TO MECHANICAL EQUIPMENT. FOR RESISTANCE TYPE LOADS WHERE STARTERS OR CONTRACTORS ARE NOT REQUIRED, THE ELECTRICAL CONTRACTOR SHALL PROVIDE ALL POWER WIRING AND CONNECTIONS COMPLETE TO EQUIPMENT. THE MECHANICAL AND PLUMBING CONTRACTORS SHALL PROVIDE ALL CONTROL WIRING AND CONNECTIONS AND DEVICES FOR THEIR EQUIPMENT.</div><div>42. THE ELECTRICAL CONTRACTOR SHALL COORDINATE ALL EQUIPMENT TERMINATIONS, PLUGS AND CORDSETS WITH VENDOR EQUIPMENT AND VERIFY ALL DEVICE LOCATIONS FOR SPECIALITY EQUIPMENT WITH CASEWORK PRIOR TO ROUGH-IN.</div><div>43. THE LAYOUT AND PLACEMENT OF ELECTRICAL DISTRIBUTION EQUIPMENT IN ELECTRICAL AND MECHANICAL EQUIPMENT ROOMS IS BASED ON PUBLISHED EQUIPMENT SIZES AND SHALL BE FOLLOWED AS CLOSELY AS POSSIBLE. DEVIATIONS FROM CONFIGURATIONS SHOWN IS THE RESPONSIBILITY OF THE CONTRACTOR. PROVIDE NATIONAL ELECTRIC CODE REQUIRED CLEARANCES FOR ALL ELECTRICAL EQUIPMENT, PANELBOARDS, TRANSFORMERS, SAFETY SWITCHES, ITCHBOARDS, ETC. COORDINATE RESOLUTION OF CONFLICTS WITH OTHER TRADES. ADVISE THE ARCHITECT/ENGINEER OF CONFLICTS BEFORE ROUGH-IN.</div><div>44. COORDINATION WITH THE UTILITY COMPANY FOR PLACEMENT OF THE UTILITY'S FACILITIES AND THE CONTRACTOR'S SERVICE ENTRANCE RACEWAYS AND CONNECTIONS TO THE CONTRACTOR'S SERVICE ENTRANCE CONDUCTORS IS THE RESPONSIBILITY OF THE ELECTRICAL CONTRACTOR.</div><div>45. THE CONTRACTOR SHALL PERFORM ALL CUTTING AND PATCHING NECESSARY TO INSTALL ALL EQUIPMENT AS REQUIRED AND SHALL REESTABLISH ALL FINISHES TO THEIR ORIGINAL CONDITION WHERE CUTTING AND PATCHING OCCUR. ALL CUTTING AND PATCHING SHALL BE DONE IN A THOROUGHLY WORKMANSHIP MANNER. SAW CUT CONCRETE AND MASONRY PRIOR TO BREAKING OUT SECTIONS. ALL PATCHING MATERIALS AND WORKMANSHIP SHALL BE PERFORMED BY TRADESMEN EXPERIENCED IN THAT WORK. ALL WORK SHALL BE SUBJECT TO THE APPROVAL OF THE ARCHITECT/ENGINEER.</div><div>46. CORE DRILL HOLES IN EXISTING CONCRETE WALLS AS REQUIRED.</div><div>47. INSTALL WORK AT SUCH TIME AS TO REQUIRE THE MINIMUM AMOUNT TO CUTTING AND PATCHING.</div><div>48. CUT OPENINGS ONLY LARGE ENOUGH TO ALLOW EASY INSTALLATION OF THE CONDUIT.</div><div>49. WHEN INDICATED, CONNECT NEW LOADS TO EXISTING ABANDONED CIRCUITS SERVING THE SAME</div></div><div><div>AREA AND NOTE CIRCUITS ON AS-BUILT DRAWINGS.</div><div>50. EXISTING CIRCUITING WHERE SHOWN IS FOR CONVENIENCE PURPOSES ONLY. VERIFICATION OF EXISTING WIRING DESTINATION, TERMINATION AND ADDITIONS OF NEW LOADS IS THE RESPONSIBILITY OF THE CONTRACTOR.</div><div>51. MAINTAIN CONTINUITY OF ALL EXISTING CIRCUITS TO REMAIN OR PORTIONS THEREOF AFFECTED BY THIS WORK.</div><div>52. DESIGN AND ADDITION OF NEW CIRCUITING IS BASED ON THE ENGINEER'S BEST INFORMATION REGARDING EXISTING CONDITIONS AND LIMITED FIELD VERIFICATION BY THE ENGINEER. AVAILABILITY OF ADEQUATE CIRCUIT BREAKER SPACE FOR NEW WORK IN EXISTING PANELBOARDS SHALL BE VERIFIED BY THE CONTRACTOR AFTER DEMOLITION OF THE EXISTING SPACE. IF ADEQUATE SPACE IS NOT AVAILABLE FOR NEW CIRCUIT BREAKERS THE CONTRACTOR SHALL NOTIFY THE ENGINEER FOR RESOLUTION.</div><div>53. ABANDONED POWER WIRING, RACEWAYS AND CONDUCTORS, SHALL BE REMOVED BACK TO THEIR SOURCE. THE ACCESSIBLE PORTIONS OF ABANDONED CABLES (VOICE, DATA, VIDEO, ALARM, ETC.) SHALL BE REMOVED.</div><div>54. INsofar AS POSSIBLE, MATCH EXISTING EXPOSED DEVICES IN FINISHED AREAS IN TYPE, COLOR AND FINISH.</div><div>55. THE EXISTING ELECTRICAL SYSTEMS DEPICTED ON THESE DRAWINGS HAVE BEEN COMPILED BY THE ENGINEER FROM THE OWNER'S RECORD DRAWINGS AND LIMITED FIELD VERIFICATION OF THE EXISTING CONDITIONS FOR THE PURPOSE OF INDICATING THE WORK REQUIRED AND ARE BELIEVED TO BE CORRECT. NOTWITHSTANDING, THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS, POINTS OF ACCESS AND FIELD CONDITIONS AFFECTING HIS WORK.</div><div>56. THE CONTRACTOR SHALL VISIT THE SITE AND BECOME FAMILIAR WITH THE EXISTING ELECTRICAL SYSTEMS AND THE EXISTING BUILDING. THE SUBMISSION OF THE PROPOSAL BY THE CONTRACTOR SHALL BE CONSIDERED EVIDENCE THAT HE OR HIS REPRESENTATIVE HAS VISITED THE SITE AND BUILDINGS AND NOTED THE LOCATION AND CONDITIONS UNDER WHICH THE WORK WILL BE PERFORMED AND THAT HE TAKES FULL RESPONSIBILITY OF ALL FACTORS GOVERNING HIS WORK. NO EXTRAS WILL BE CONSIDERED BECAUSE OF ADDITIONAL WORK NECESSITATED BY EXISTING JOB CONDITIONS THAT ARE NOT INDICATED ON THE DRAWINGS.</div><div>57. PROTECT ALL EXISTING POWER, COMMUNICATIONS, DATA, LIFE SAFETY SYSTEMS, FIRE ALARM AND PUBLIC ADDRESS SYSTEMS AND MAINTAIN THEM IN OPERATION THROUGHOUT THE PROGRESS OF THE WORK. NOTIFY THE OWNER AND ARCHITECT/ENGINEER IF SHUTDOWNS ARE REQUIRED PRIOR TO ANY OUTAGE OF SERVICE. WHERE THE DURATION OF A PROPOSED OUTAGE CANNOT BE TOLERATED BY THE OWNER, PROVIDE TEMPORARY CONNECTIONS AS REQUIRED TO MAINTAIN SERVICE.</div><div>58. SOME EXISTING RECEPTACLE, LIGHTING OR OTHER LOADS MAY BE SERVED BY CIRCUITS INDICATED TO BE REMOVED. IF SUCH CONDITIONS ARE DISCOVERED, REQUEST THE ARCHITECT/ENGINEER PROVIDE NEW CIRCUIT NUMBER FOR THE LOAD. DO NOT INDISCRIMINATELY CONNECT TO THE NEAREST CIRCUIT.</div><div>59. ALL UNUSED OUTLET BOXES SHALL BE REMOVED OR, WITH SPECIFIC APPROVAL OF THE ARCHITECT/ENGINEER, SHALL BE BLANKED WITH STAINLESS STEEL PLATES. ALL OPENINGS IN EXISTING WALLS AND CEILINGS MADE BY THIS CONTRACTOR SHALL BE REPAIRED TO AN EQUAL FINISH AS ADJACENT SURFACES.</div><div>60. PROVIDE ALL ELECTRICAL RELOCATION WORK ASSOCIATED WITH THE RELOCATING OF EQUIPMENT FOR THE EXISTING FACILITIES, INCLUDING DISCONNECTING ALL EXISTING WIRING AND CONDUITS AND PROVIDING NEW WIRING AND CONDUITS TO THE RELOCATED EQUIPMENT.</div><div>61. THE EXISTING FACILITIES WILL REMAIN OCCUPIED BY STUDENTS AND THE STAFF THROUGHOUT THE PROJECT. AS SUCH, WORK WILL BE DONE IN PHASES AND WILL REQUIRE SPECIAL EFFORT BY THIS CONTRACTOR TO ALLOW THE WORK TO PROCEED IN A TIMELY MANNER. ALL ELECTRICAL WORK SHALL BE COORDINATED WITH THE OWNER AND GENERAL CONTRACTOR SO AS TO MINIMIZE DISRUPTION OF THE OWNER'S USE OF THE FACILITIES AND MAINTAIN THE CONSTRUCTION SEQUENCE OF THE GENERAL CONTRACTOR. SEE ARCHITECTURAL DRAWINGS AND SPECIFICATIONS FOR ADDITIONAL INSTRUCTIONS CONCERNING PHASING AND SEQUENCE OF WORK.</div><div>62. SEE "SELECTIVE DEMOLITION NOTES" FOR ADDITIONAL REQUIREMENTS.</div><div>63. SAFETY: COMPLY WITH OSHA AND NEC ARC FLASH PROTECTION REQUIREMENTS.</div><div>64. ELECTRICAL CONTRACTOR IS RESPONSIBLE FOR FIRE ALARM WORK ON THIS PROJECT. THIS INCLUDES BUT NOT LIMITED TO DE-PROGRAMMING REMOVED DEVICES, PUTTING SYSTEM ON TEST, PROTECTING EXISTING DEVICES DURING CONSTRUCTION, ETC. EC SHALL INCLUDE IN BID THE COST FOR THE SCHOOL'S FIRE ALARM VENDOR TO PERFORM THIS WORK. THE CURRENT NHCS FIRE ALARM VENDOR IS KELLER'S, INC. THE EC SHALL BE RESPONSIBLE FOR PAYING FOR ANY FALSE ALARMS CAUSED BY THE CONSTRUCTION FOR THIS PROJECT.</div></div><div><div>DEMOLITION NOTES:</div><div><div>1. SELECTIVE ELECTRICAL DEMOLITION SHALL BE PROVIDED BY THE ELECTRICAL CONTRACTOR AS DESCRIBED HEREIN AND AS SHOWN ON THE CONTRACT DRAWINGS. GROSS DEMOLITION WILL BE PROVIDED BY THE GENERAL CONTRACTOR. IDENTIFY ACTIVE UTILITIES, AND AT THE APPROPRIATE TIME, DISCONNECT AND CAP OFF SUCH UTILITIES AND PROVIDE EXPERIENCED PERSONNEL ON SITE DURING GENERAL CONTRACTOR DEMOLITION OPERATIONS TO PERFORM SUCH OPERATIONS AND RESOLVE ISSUES. REMOVE MATERIALS NOTED FOR SALVAGE AND REUSE. IDENTIFY AND MARK WIRING AND DEVICES TO REMAIN FOR THE GENERAL CONTRACTOR.</div><div>2. THE ELECTRICAL CONTRACTOR SHALL REVIEW THE ARCHITECTURAL, MECHANICAL, PLUMBING AND ELECTRICAL DRAWINGS AND SPECIFICATIONS FOR DEMOLITION REQUIREMENTS AND CARRY OUT HIS WORK IN A COMPATIBLE AND COMPLEMENTARY MANNER. REMOVE ALL WIRING DEVICES, BOXES, FIXTURES, EXPOSED ABANDONED RACEWAYS, HANGARS, ETC., AND THOSE MADE OBSOLETE BY THESE ALTERATIONS AND AS SHOWN ON THE ELECTRICAL DRAWINGS. ALL ITEMS TO BE REMOVED OR MODIFIED MAY NOT BE SHOWN, HOWEVER, THIS CONTRACTOR SHALL REMOVE ANY ELECTRICAL WORK AS REQUIRED BY THE CONSTRUCTION OR AS DIRECTED BY THE OWNER OR ARCHITECT/ENGINEER. SURVEY THE AFFECTED AREAS BEFORE SUBMITTING A BID AS ALL EXISTING CONDITIONS CANNOT BE COMPLETELY DEPicted ON THE DRAWINGS AND SOME UNUSUAL CONDITIONS MAY EXIST.</div><div>3. REMOVE, RELOCATE, AND EXTEND EXISTING INSTALLATIONS TO ACCOMMODATE NEW CONSTRUCTION.</div><div>4. ALL EXISTING ELECTRICAL EQUIPMENT AND DEVICES SHALL REMAIN UNLESS SPECIFICALLY NOTED TO BE REMOVED.</div><div>5. VERIFY FIELD MEASUREMENTS AND CIRCUITING ARRANGEMENTS ARE AS SHOWN ON DRAWINGS.</div><div>6. VERIFY THAT ABANDONED WIRING AND EQUIPMENT SERVE ONLY ABANDONED FACILITIES.</div><div>7. DISCONNECT AND/OR DE-ENERGIZE ELECTRICAL SYSTEMS IN WALLS, FLOORS, AND CEILINGS SCHEDULED FOR REMOVAL.</div><div>8. PROVIDE TEMPORARY AND/OR PERMANENT WIRING AND CONNECTIONS AS SHOWN AND/OR AS REQUIRED BY CONDITIONS TO MAINTAIN EXISTING SYSTEMS IN SERVICE DURING CONSTRUCTION. WHEN WORK MUST BE PERFORMED ON ENERGIZED EQUIPMENT OR CIRCUITS, AND WHEN SUCH WORK IS SPECIFICALLY APPROVED BY THE OWNER AND PERMITTED BY REGULATORY AUTHORITIES, USE PERSONNEL EXPERIENCED IN SUCH OPERATIONS.</div><div>9. EXISTING ELECTRICAL SERVICE: COORDINATE POWER OUTAGES WITH THE OWNER AND UTILITY COMPANY. MAINTAIN EXISTING SYSTEMS IN SERVICE. DISABLE SYSTEMS ONLY TO MAKE SWITCHOVERS AND CONNECTIONS. OBTAIN PERMISSION FROM THE OWNER AT LEAST 24 HOURS BEFORE PARTIALLY OR COMPLETELY DISABLING SYSTEM. MINIMIZE OUTAGE DURATION. MAKE TEMPORARY CONNECTIONS TO MAINTAIN SERVICE IN AREAS ADJACENT TO WORK AREA.</div><div>10. CONTINUOUS SERVICE IS REQUIRED ON ALL CIRCUITS AND OUTLETS AFFECTED BY THESE CHANGES, EXCEPT WHERE THE OWNER WILL PERMIT AN OUTAGE FOR A SPECIFIC TIME. OBTAIN OWNER'S CONSENT BEFORE REMOVING ANY CIRCUIT FROM CONTINUOUS SERVICE.</div><div>11. PROTECT ALL EXISTING TELEPHONE, DATA, LIFE SAFETY SYSTEMS, FIRE ALARM, SECURITY, ACCESS CONTROL AND PUBLIC ADDRESS SYSTEMS AND MAINTAIN THEM IN OPERATION THROUGHOUT THE PROGRESS OF THE WORK. NOTIFY THE OWNER AND ARCHITECT/ENGINEER IN WRITING IF SHUTDOWNS ARE REQUIRED PRIOR TO ANY OUTAGE OF SERVICE. WHERE THE DURATION OF A PROPOSED OUTAGE CANNOT BE TOLERATED BY THE OWNER, PROVIDE TEMPORARY CONNECTIONS AS REQUIRED TO MAINTAIN SERVICE.</div><div>12. WHERE ELECTRICAL SYSTEMS PASS THROUGH THE DEMOLITION AREAS TO SERVE OTHER PORTIONS OF THE PREMISES, THEY SHALL BE PROTECTED FROM DAMAGE AND REMAIN OR BE SUITABLY RELOCATED UTILIZING MATCHING SIZE AND TYPE MATERIALS AND THE SYSTEM RESTORED TO NORMAL OPERATION. ADVISE THE ARCHITECT/ENGINEER IMMEDIATELY IF SUCH CONDITIONS ARE UNCOVERED BEFORE PROCEEDING WITH ADDITIONAL WORK.</div><div>13. EXISTING FIRE ALARM SYSTEM: COORDINATE WORK WITH THE OWNER'S FIRE ALARM SYSTEM VENDOR AND MAINTAIN THE EXISTING SYSTEM IN SERVICE. DISABLE SYSTEM ONLY TO MAKE SWITCHOVERS AND CONNECTIONS. NOTIFY THE OWNER AND LOCAL FIRE SERVICE AT LEAST 24 HOURS BEFORE PARTIALLY OR COMPLETELY DISABLING SYSTEM. LIMIT OUTAGES TO NORMAL BUSINESS HOURS ONLY AND MINIMIZE OUTAGE DURATION. MAKE TEMPORARY CONNECTIONS TO MAINTAIN SERVICE IN AREAS ADJACENT TO WORK AREA.</div><div>14. MAINTAIN ACCESS TO EXISTING ELECTRICAL INSTALLATIONS WHICH REMAIN ACTIVE. MODIFY INSTALLATION OR PROVIDE ACCESS PANEL AS APPROPRIATE.</div><div>15. ENDS OF ALL CONDUITS TO REMAIN SHALL BE TIGHTLY PLUGGED TO EXCLUDE DUST AND MOISTURE WHILE THE BUILDING IS UNDER RENOVATION.</div><div>16. PROTECT EXISTING CIRCUITS TO REMAIN AND EXTEND AS REQUIRED UTILIZING MATCHING CONDUCTORS AND CONDUIT SIZE AND TYPE.</div><div>17. SECURE ALL CIRCUITS, RACEWAYS, CABLE AND CONDUCTORS THAT, AS A RESULT FROM THIS CONSTRUCTION, ARE ABANDONED OR UNUSED. REMOVE UNUSED EXPOSED CONDUIT AND WIRING BACK TO POINT OF CONCEALMENT INCLUDING ABANDONED CONDUIT ABOVE ACCESSIBLE CEILINGS. REMOVE UNUSED WIRING IN CONCEALED CONDUITS BACK TO SOURCE OR NEAREST POINT OF USAGE. BLANK ABANDONED KNOCKOUTS IN REMAINING BOXES. INSTALL BLANK PLATES FOR ALL UNUSED OUTLETS THAT WILL REMAIN AS A RESULT OF THIS CONSTRUCTION. ALL SUCH WORK SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES AND ORDINANCES.</div><div>18. TRACE OUT EXISTING WIRING THAT IS TO BE RELOCATED OR REMOVED AND PERFORM THE RELOCATION OR REMOVAL WORK AS REQUIRED FOR A COMPLETE OPERATING AND SAFE SYSTEM.</div><div>19. RECONNECT EXISTING CIRCUITS SEPARATED AS A RESULT OF THIS CONSTRUCTION.</div><div>20. EXTEND EXISTING SWITCH LEGS TO NEW SWITCH LOCATIONS AS SHOWN AND/OR REQUIRED.</div><div>21. DELIVER ALL REMOVED AND SALVAGED LIGHTING FIXTURES, WIRING DEVICES, FIRE ALARM DEVICES, SPEAKERS, ETC., TO THE OWNER, OR AT THE OWNER'S OPTION, DISPOSE OF PROPERLY OFF SITE IN ACCORDANCE WITH LOCAL, STATE AND FEDERAL ENVIRONMENTAL REGULATIONS. FEES ASSOCIATED WITH DISPOSAL SHALL BE INCLUDED IN THE CONTRACTOR'S BASE BID.</div><div>22. REMOVE ALL FLUSH MOUNTED DEVICES THAT CONFLICT WITH NEW CONSTRUCTION AND SECURE THEIR ASSOCIATED BRANCH CIRCUITS.</div><div>23. COORDINATE WITH THE OTHER TRADES, PRIOR TO BID, AND INCLUDE IN THE BASE BID THE ELECTRICAL DISCONNECTION OF ANY EQUIPMENT BEING DEMOLISHED, EVEN IF NOT EXPLICITLY SHOWN. UNLESS NOTED OTHERWISE, REMOVE ALL DEMOLISHED EQUIPMENT FROM THE PROPERTY AND IDENTIFIED IN THE ELECTRICAL DRAWINGS.</div><div>24. THESE DRAWINGS ARE COMPILED BY THE ARCHITECT/ENGINEER FROM THE OWNER'S RECORD DRAWINGS AND LIMITED FIELD VERIFICATION OF EXISTING CONDITIONS FOR THE PURPOSE OF INDICATING THE WORK REQUIRED AND ARE BELIEVED TO BE CORRECT. NOTWITHSTANDING, THE CONTRACTOR SHALL VERIFY ALL CIRCUITS, WIRING, CONDUIT, DIMENSIONS, POINTS OF ACCESS AND ALL FIELD CONDITIONS AFFECTING HIS WORK. BEGINNING OF DEMOLITION MEANS THE CONTRACTOR ACCEPTS EXISTING CONDITIONS.</div><div>25. THE CONTRACTOR IS RESPONSIBLE FOR DISPOSAL OF ALL LAMPS CONTAINING MERCURY IN A LINED LANDFILL IN ACCORDANCE WITH NC GEN STATUTE 309.10M.</div><div>26. SEE GENERAL NOTES FOR ADDITIONAL REQUIREMENTS.</div></div></div></div></div>								
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EDWIN A. ALDERMAN ELEMENTARY SCHOOL
RTU REPLACEMENT PHASE 2
2025 INDEPENDENCE BLVD.
WILMINGTON, NC 28403

ELECTRICAL
GENERAL AND
DEMOLITION NOTES

JOB NO.:20166
DRAWN:GAS
DESIGNED:GAS
CHECKED:JPF

DRAWING NO:
E-002

REVISION:
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02.08.2021
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DISPOSITION:
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2246 Yaucon Drive
Wilmington, NC 28401
Phone: 910.791.4000
Fax: 910.791.5266
www.cbhfe.com
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2246 Yaupon Drive
Wilmington, NC 28401
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Fax: 910.791.15266
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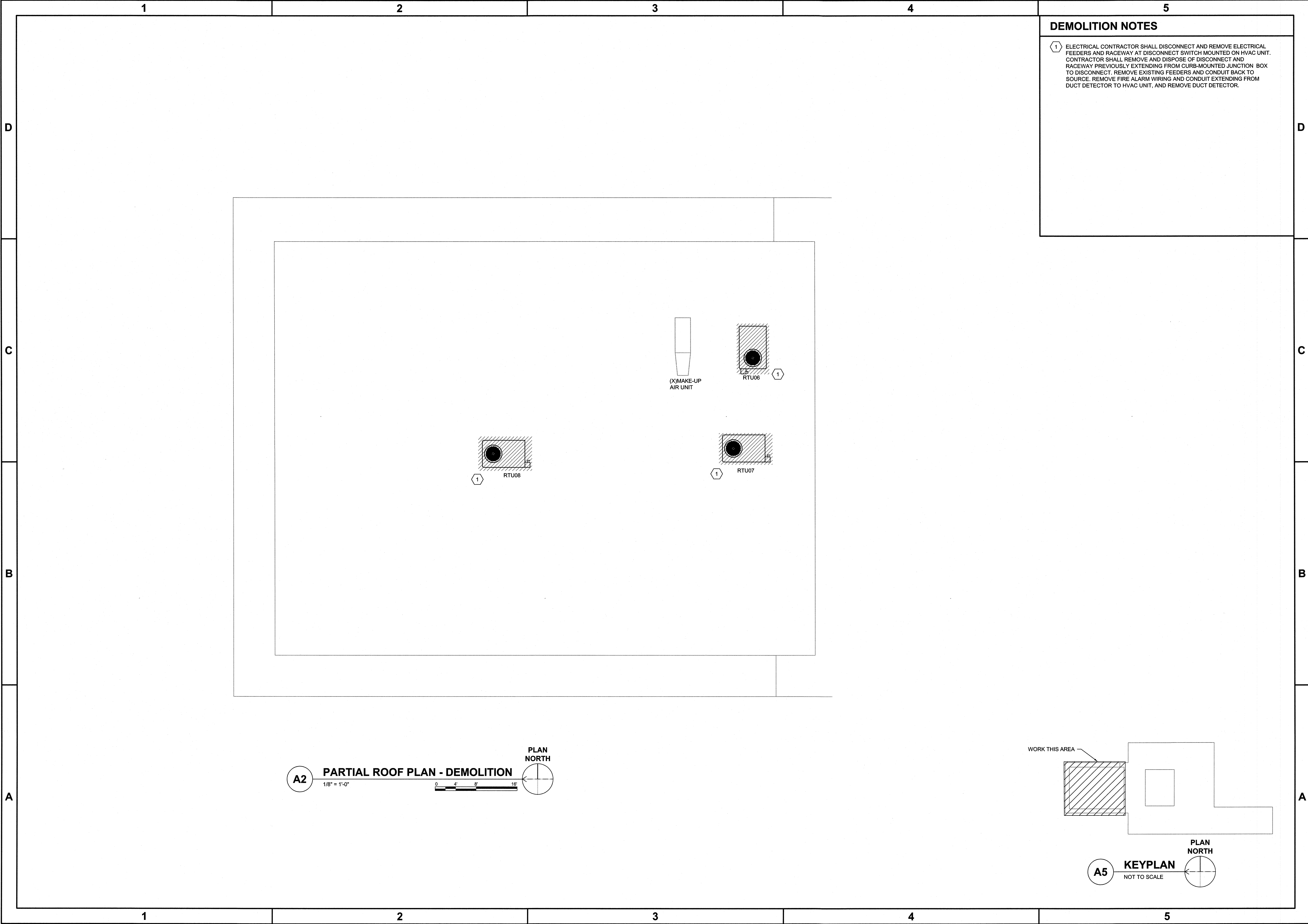
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RTU REPLACEMENT PHASE 2
2025 INDEPENDENCE BLVD.
WILMINGTON, NC 28403

ELECTRICAL
GENERAL AND
DEMOLITION NOTES

JOB NO.: 20156
DRAWN: GAS
DESIGNED: GAS
CHECKED: JPF

DRAWING NO:
E-002

REVISION:
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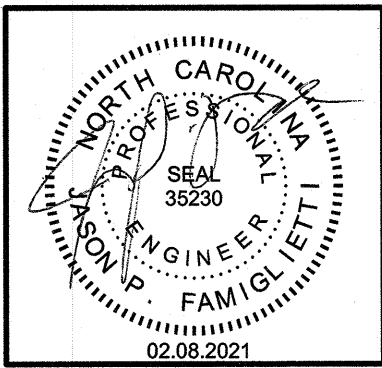
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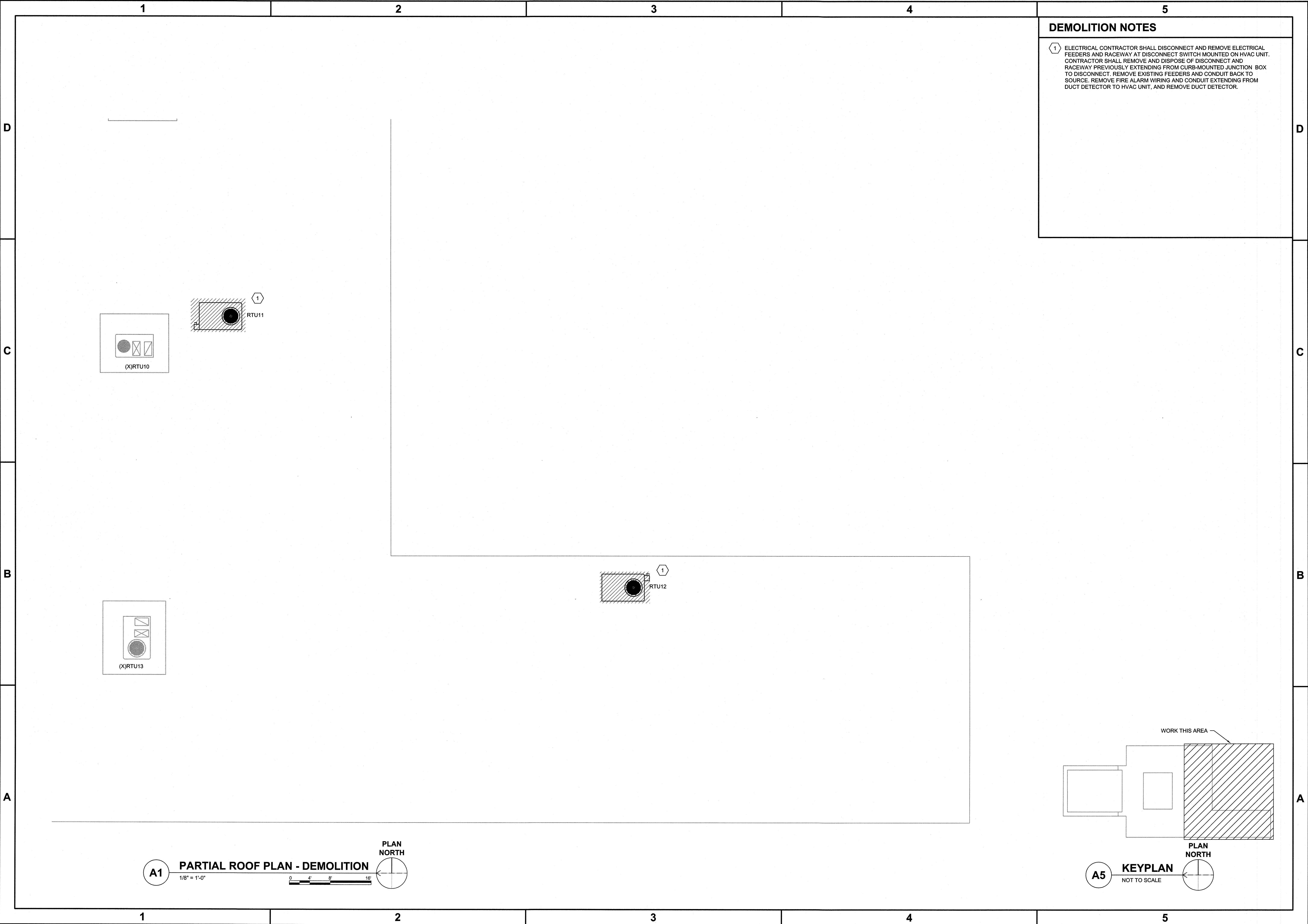
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ELECTRICAL
PARTIAL ROOF PLAN - DEMOLITION

JOB NO.:	20156
DRAWN:	GAS
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DEMOLITION NOTES

1 ELECTRICAL CONTRACTOR SHALL DISCONNECT AND REMOVE ELECTRICAL FEEDERS AND RACEWAY AT DISCONNECT SWITCH MOUNTED ON HVAC UNIT. CONTRACTOR SHALL REMOVE AND DISPOSE OF DISCONNECT AND RACEWAY PREVIOUSLY EXTENDING FROM CURB-MOUNTED JUNCTION BOX TO DISCONNECT. REMOVE EXISTING FEEDERS AND CONDUIT BACK TO SOURCE. REMOVE FIRE ALARM WIRING AND CONDUIT EXTENDING FROM DUCT DETECTOR TO HVAC UNIT, AND REMOVE DUCT DETECTOR.

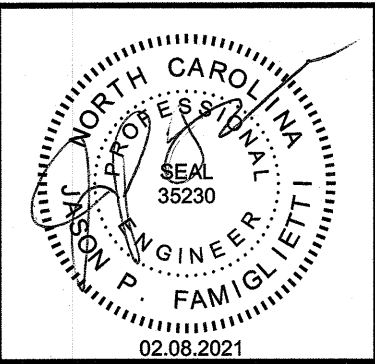
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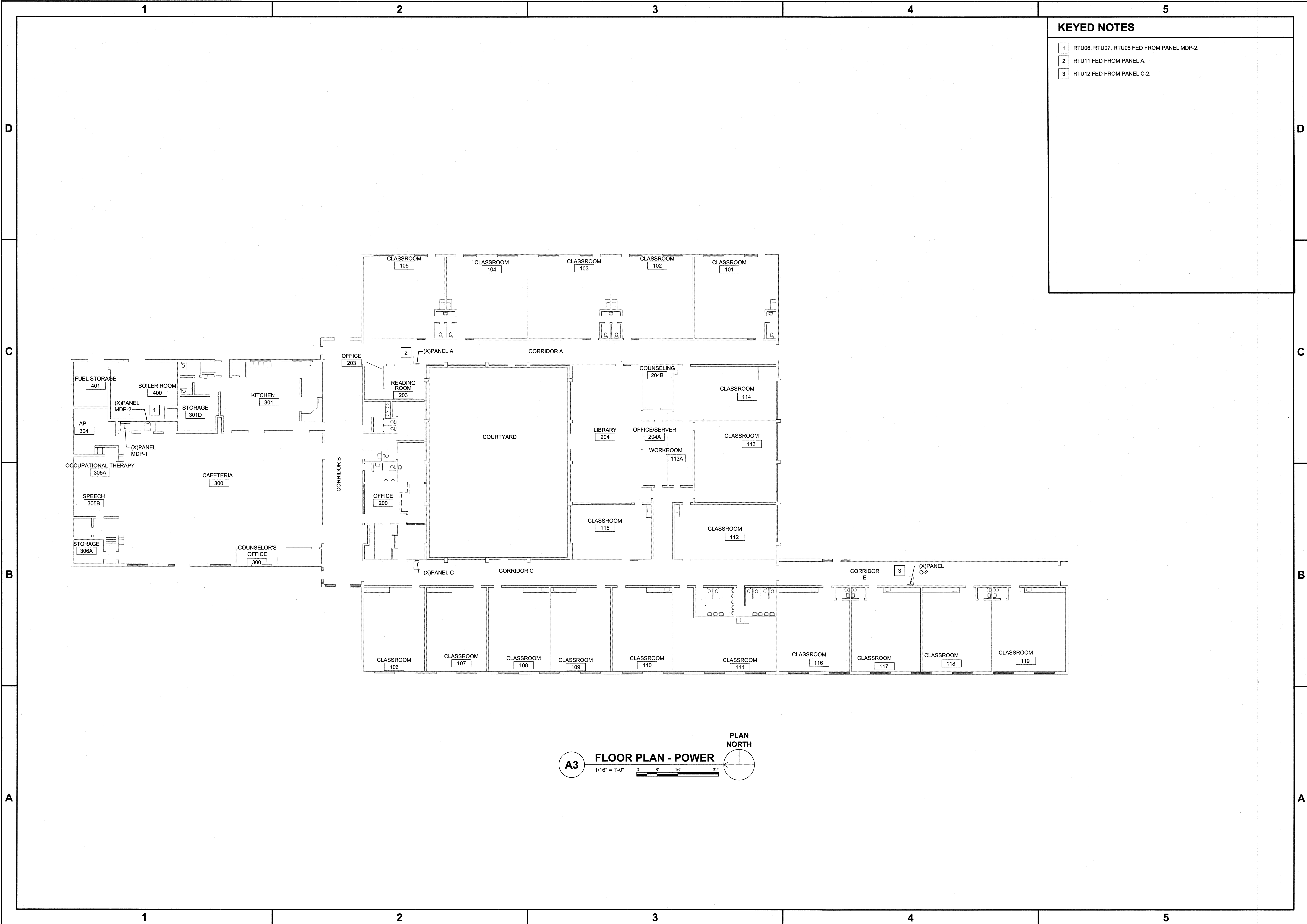
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ELECTRICAL
PARTIAL ROOF PLAN - DEMOLITION

JOB NO.:	20156
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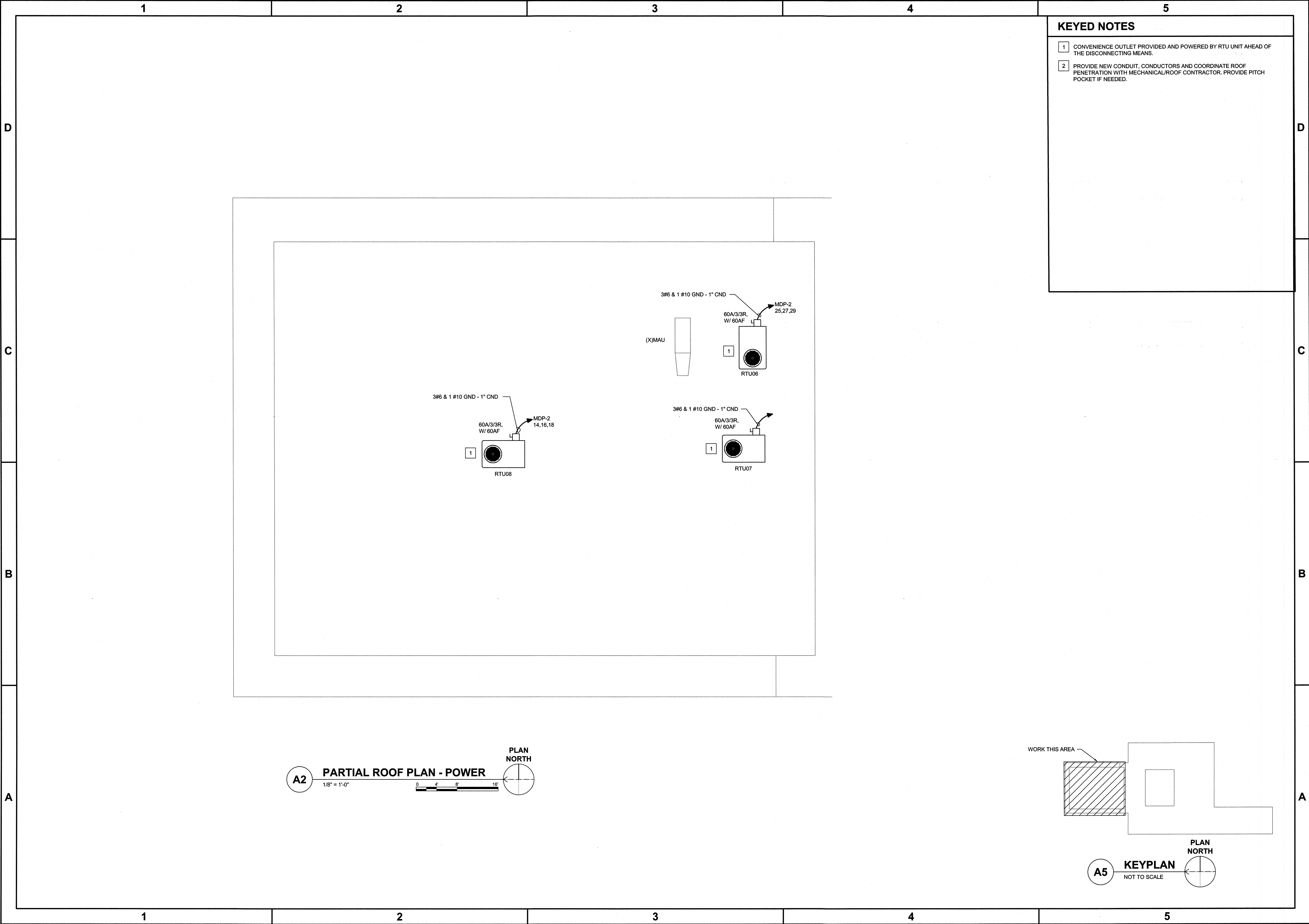
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JOB NO.: 20158
DRAWN: GAS
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ELECTRICAL PARTIAL ROOF PLAN - POWER	

JOB NO.:	20156
DRAWN:	GAS
DESIGNED:	GAS
CHECKED:	JPF

DRAWING NO.:
EP102

REVISION:
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GENERAL NOTES

1.

ELECTRICAL CONTRACTOR IS RESPONSIBLE FOR FIRE ALARM WORK ON THIS PROJECT. THIS INCLUDES BUT NOT LIMITED TO DE-PROGRAMMING REMOVED DEVICES, PUTTING SYSTEM ON TEST, PROTECTING EXISTING DEVICES DURING CONSTRUCTION, ETC. EC SHALL INCLUDE IN BID THE COST FOR THE SCHOOL'S FIRE ALARM VENDOR TO PERFORM THIS WORK. THE CURRENT NHCS FIRE ALARM VENDOR IS KELLER'S INC. THE EC SHALL BE RESPONSIBLE FOR PAYING FOR ANY FALSE ALARMS CAUSED BY THE CONSTRUCTION FOR THIS PROJECT.

2.

COORDINATE FIRE ALARM SYSTEM MODIFICATIONS IF REQUIRED WITH THE OWNER AND THE OWNER'S FIRE ALARM SYSTEM VENDOR. THE EXISTING SYSTEM SHALL REMAIN OPERATIONAL AT ALL TIMES UNLESS PRIOR ARRANGEMENTS HAVE BEEN MADE WITH THE OWNER.

3.

PROTECT ALL EXISTING POWER, COMMUNICATIONS, DATA, LIFE SAFETY SYSTEMS, FIRE ALARM, SECURITY AND PUBLIC ADDRESS SYSTEMS AND MAINTAIN THEM IN OPERATION THROUGHOUT THE PROGRESS OF THE WORK. NOTIFY THE OWNER AND ARCHITECT/ENGINEER IF SHUTDOWNS ARE REQUIRED PRIOR TO ANY OUTAGE OF SERVICE. WHERE THE DURATION OF A PROPOSED OUTAGE CANNOT BE TOLERATED BY THE OWNER, PROVIDE TEMPORARY CONNECTIONS AS REQUIRED TO MAINTAIN SERVICE.

4.

THE MANUFACTURER'S AUTHORIZED REPRESENTATIVE SHALL PROVIDE SUPERVISION OF FINAL SYSTEM PANEL CONNECTIONS, PERFORM A COMPLETE FUNCTIONAL TEST OF THE SYSTEM, AND A WRITTEN REPORT TO THE CONTRACTOR ATTESTING THE PROPER OPERATION OF THE COMPLETED SYSTEM.

5.

THE CONTRACTOR SHALL PROVIDE A ONE YEAR WARRANTY FOR THE ALARM SYSTEM, ALONG WITH OTHER FORMS OR CERTIFICATE REQUIRED BY THE LOCAL JURISDICTION.

6.

SYSTEM INSTALLATION SHALL BE COORDINATED WITH KELLER SYSTEMS.

7.

ALL DEVICES SHALL BE COMPATIBLE WITH THE EXISTING FIRE ALARM SYSTEM.

8.

SHOP DRAWINGS MUST BE SUBMITTED BY THE FIRE ALARM CONTRACTOR COMPLYING WITH THE FIRE ALARM PLAN REVIEW REQUIREMENTS POLICY - JANUARY 2006 BEFORE PERMITTING BY THE WILMINGTON FIRE DEPT. THESE DRAWINGS DO NOT CONSTITUTE APPROVAL AND MAY CHANGE AFTER A FULL REVIEW BY THE WILMINGTON FIRE DEPT. A SEPARATE PERMIT MUST BE OBTAINED PRIOR TO INSTALLATION

9.

ALL FIRE ALARM WORK AND DEVICES SHALL BE INSTALLED AND TERMINATED BY A NICET LEVEL 2 FIRE ALARM TECHNICIAN.

FIRE ALARM LEGEND

SYMBOL	DESCRIPTION
	CO DETECTOR 60" AFF, SYSTEM SENSOR CO1224 SERIES OR APPROVED EQUAL.
	MONITOR MODULE COMPATIBLE WITH EXISTING FIRE ALARM CONTROL PANEL.
	DUCT MOUNTED SMOKE DETECTOR

(SYMBOLS SHOWN FOR REFERENCE ONLY AND MAY NOT IMPLY CONTRACTUAL REQUIREMENTS)

RTU FA RAIL INSTALLATION DETAIL

NOT TO SCALE

BRUSHED ALUMINUM OR STAINLESS STEEL PLATE, SIZE AS REQUIRED BY QUANTITY OF RAILS

MULTI-GANG OUTLET BOX, SIZE AS REQUIRED BY QUANTITY OF RAILS

DUCT DETECTOR RAIL (TYPICAL)

RTU

ENGRAVED NAMEPLATE (TYPICAL)

PARTIAL FIRE ALARM RISER

NOT TO SCALE

(EXISTING) FIRE ALARM CONTROL PANEL

FIRE ALARM POWER SUPPLY

120 VOLT POWER SOURCE

(CO DETECTORS, TYPICAL EACH CORRIDOR)

02.08.2021

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EDWIN A. ALDERMAN ELEMENTARY SCHOOL

RTU REPLACEMENT PHASE 2

2025 INDEPENDENCE BLVD.

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FIRE ALARM

LEGEND, NOTES, DETAIL, AND RISER

JOB NO.: 20156

DRAWN: GAS

DESIGNED: GAS

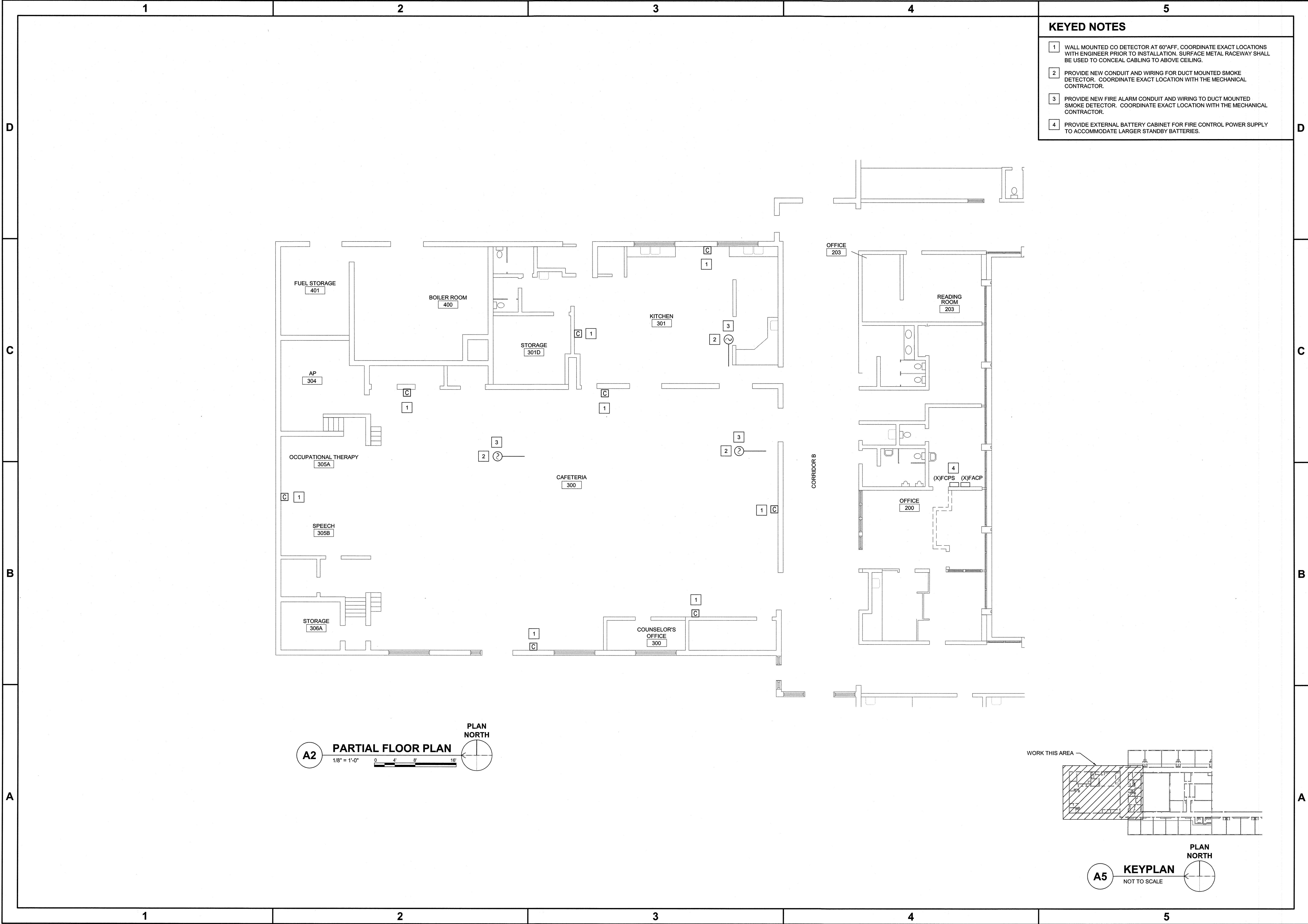
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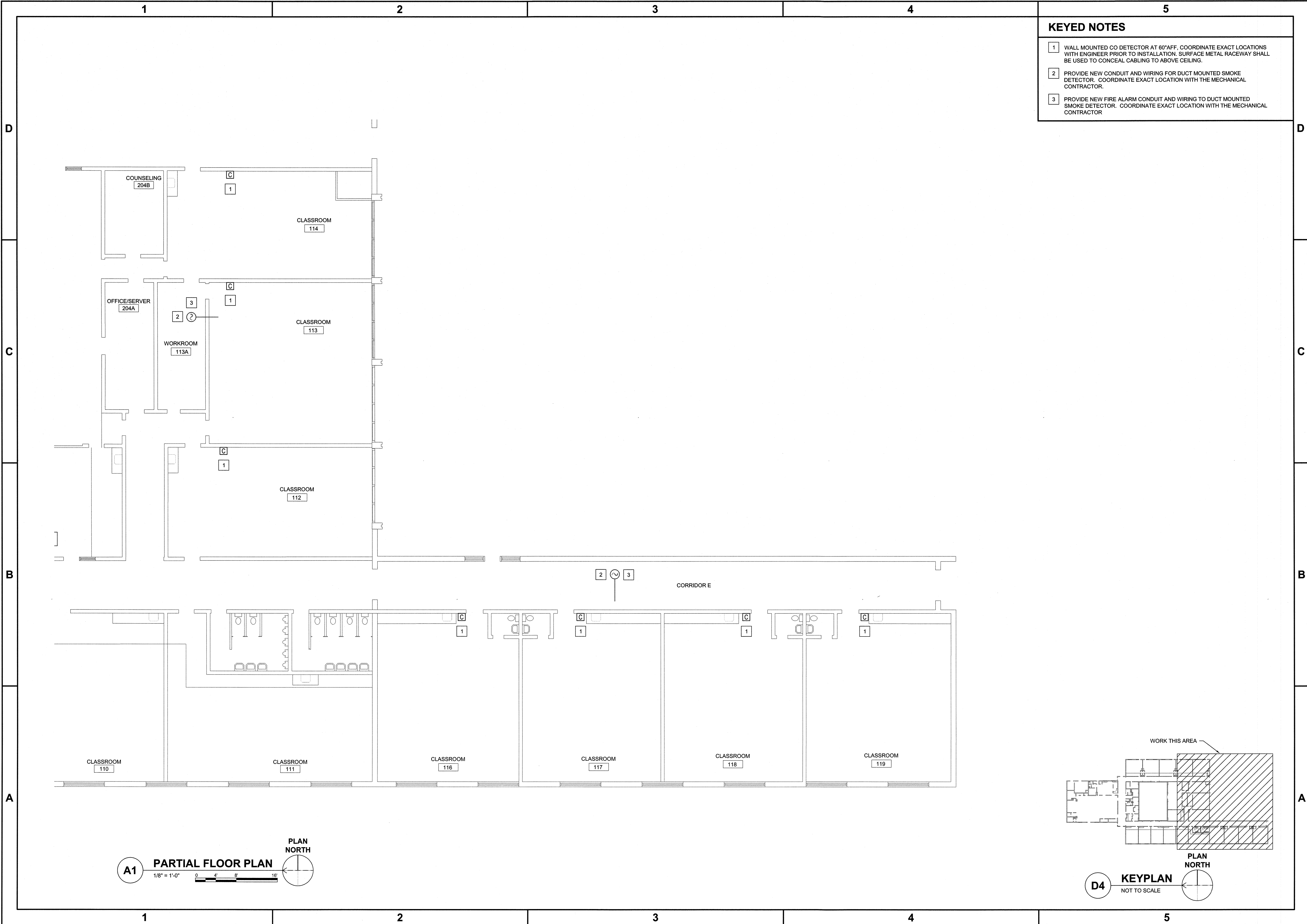
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**FIRE ALARM
PARTIAL FLOOR PLAN**

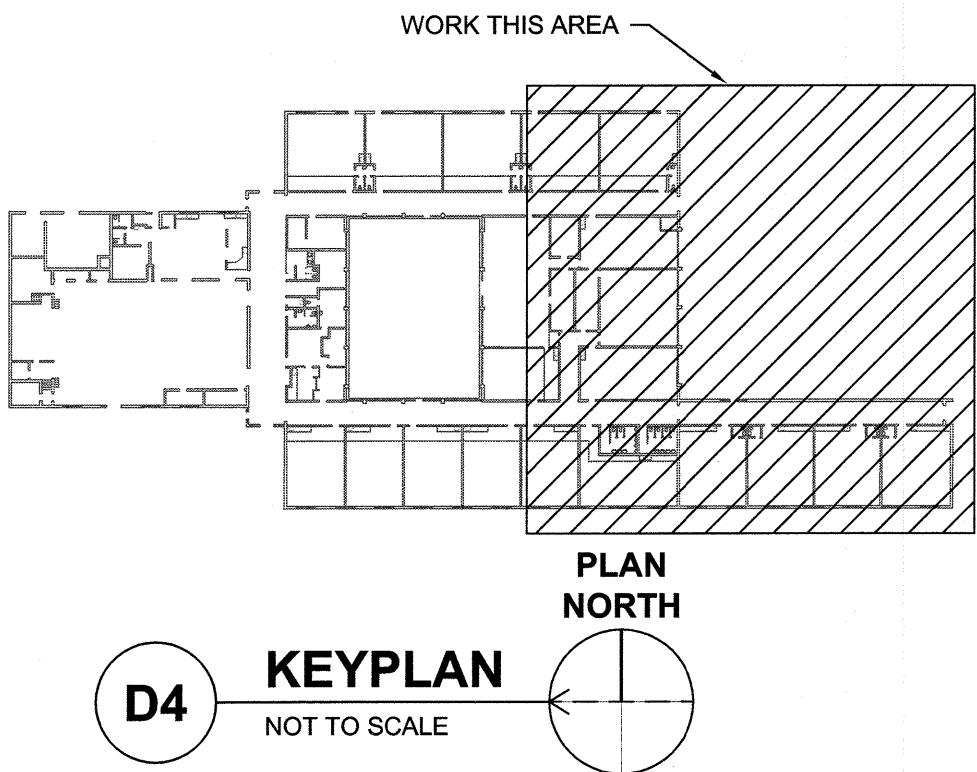
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KEYED NOTES	
1	WALL MOUNTED CO DETECTOR AT 60" AFF. COORDINATE EXACT LOCATIONS WITH ENGINEER PRIOR TO INSTALLATION. SURFACE METAL RACEWAY SHALL BE USED TO CONCEAL CABLING TO ABOVE CEILING.
2	PROVIDE NEW CONDUIT AND WIRING FOR DUCT MOUNTED SMOKE DETECTOR. COORDINATE EXACT LOCATION WITH THE MECHANICAL CONTRACTOR.
3	PROVIDE NEW FIRE ALARM CONDUIT AND WIRING TO DUCT MOUNTED SMOKE DETECTOR. COORDINATE EXACT LOCATION WITH THE MECHANICAL CONTRACTOR.



EDWIN A. ALDERMAN ELEMENTARY SCHOOL RTU REPLACEMENT PHASE 2 2026 INDEPENDENCE BLVD. WILMINGTON, NC 28403	
FIRE ALARM PARTIAL FLOOR PLAN	
JOB NO.: 20156	DATE: 02.08.2021
DRAWN: GAS	REVISION: 0
DESIGNED: GAS	ISSUED FOR CONSTRUCTION
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