JOHNSTONE SUPPLY - DEPARTURE RD -

RALEIGH, NORTH CAROLINA

VICINITY MAP

PROJECT TEAM ARCHITECT

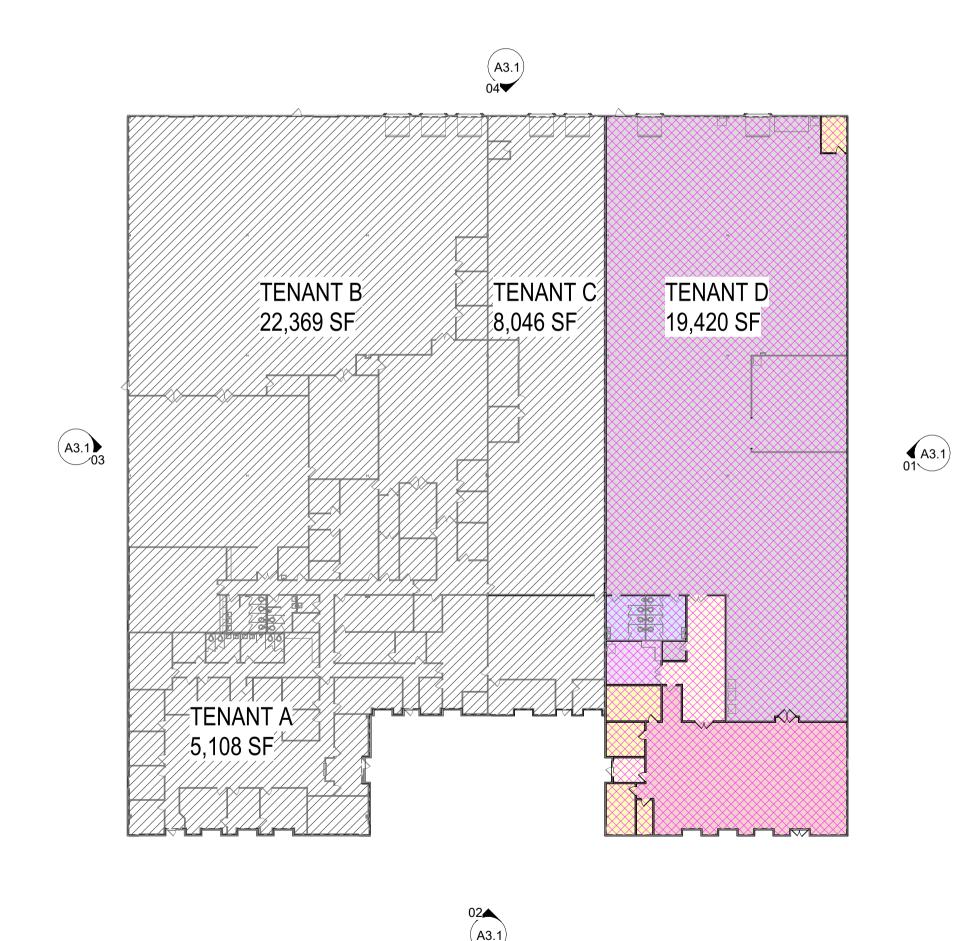
DESIGN DEVELOPMENT JIM SHERRER, AIA 800 SALEM WOODS DRIVE SUITE 102 RALEIGH, NC 27615 FAX (919) 848-9972

OVERALL PROJECT PLAN

M.E.P. ENGINEER

CRENSHAW CONSULTING JIM CRENSHAW, PE 3516 BUSH STREET SUITE 200 RALEIGH, NC PHONE (919) 871-1070 FAX (919) 871-5620

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PROJECT DESCRIPTION

This architectural drawing set covers the Level 2 alteration project for Johnstone Supply within North BLVD, North Industrial Center, Departure Drive, Raleigh N.C.. The scope entails demolition of partition walls, removal of existing superfluous non-structural elements, installation of new flooring materials, doors, and other associated works.

DEMOLITION:

Removal of partition walls, ceilings, floor finishes, and doors in designated areas for Tenant D. Elimination of existing non-structural elements deemed unnecessary for Tenant D's operations.

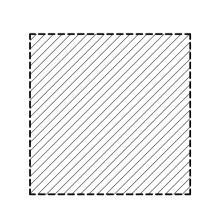
FLOORING:

Installation of new flooring materials.

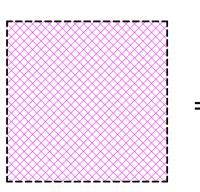
OTHER WORKS:

Any additional alterations or improvements necessary to accommodate Johnstone Supply's specific needs within the designated area. Refer to drawings for additional information

PROJECT SCOPE LEGEND



= NO WORK IN THESE AREAS



= AREAS OF SUBSTANTIAL

RECONFIGURATION OR EXTENSION OF ANY SYSTEM. OR THE INSTALLATION OF ANY ADDITIONAL

DRA	AWING SHEET LOG	LATEST DRAWING DATE	DRAWI DISTRI DATE	ING BUTION
● = DF	RAWING ISSUED	YY MM DD	24 08 20	
COVER				
T1	BUILDING CODE SUMMARY	24 08 20		
T2	BUILDING CODE SUMMARY	24 08 20		
ARCHITECT	ΓURAL			
A0.1	REFERENCE	24 08 20		
A0.2	GUIDELINES OR ACCESSIBILITY REQUIREMENTS	24 08 20		
A1.1	DEMOLITION PLAN	24 08 20		
A1.2	DEMOLITION REFLECTED CEILING PLAN	24 08 20		
A2.1	FLOOR PLAN	24 08 20		
A2.2	REFLECTED CEILING PLAN	24 08 20		
A2.3	FLOOR FINISHES PLAN	24 08 20		
A3.1	BUILDING ELEVATIONS	24 08 20		
ELECTRICA	NL			
E0.1	ELECTRICAL COVER	24 08 14		
E0.2	ELECTRICAL DETAILS	24 08 14		
E0.3	ELECTRICAL DETAILS	24 08 14		
E1.1	FLOOR PLAN - POWER & POWER DEMOLITION	24 08 14		
E2.1	FLOOR PLAN - LIGHTING & LIGHTING DEMOLITION	24 08 14		
E3.1	FLOOR PLAN - EQUIPMENT CONNECTIONS	24 08 14		
E4.1	ELECTRICAL RISER DIAGRAM	24 08 14		
E4.2 FIRE-ALARI	PANEL SCHEDULES M	24 08 14		
		04.00.44		
FA0.1 FA0.2	FIRE ALARM COVER SHEET FIRE ALARM DETAILS	24 08 14 24 08 14		
FA0.2	PARTIAL FLOOR PLAN - FIRE ALARM DEMOLITION	24 08 14		
FA1.1	PARTIAL FLOOR PLAN - FIRE ALARM DEMOLITION PARTIAL FLOOR PLAN - FIRE ALARM DEMOLITION	24 08 14		
FA1.3	PARTIAL FLOOR PLAN - FIRE ALARM PARTIAL FLOOR PLAN - FIRE ALARM	24 08 14		
FA1.4	PARTIALFLOOR PLAN - FIRE ALARM	24 08 14		
MECHANIC		210017		
M0.1	MECHANICAL COVER SHEET	24 08 14		
M1.1	FLOOR PLAN - MECHANICAL	24 08 14		
M1.2	ROOF PLAN - MECHANICAL	24 08 14		
M2.1	MECHANICAL SCHEDULES AND DETAILS	24 08 14		

RENOVATION **EXISTING BUILDING CODE ALTERATION LEVEL - 2**

PROJECT #:

COVER SHEET

DATE:

DIGITAL PRINT DATE:

Supply

Johnstone

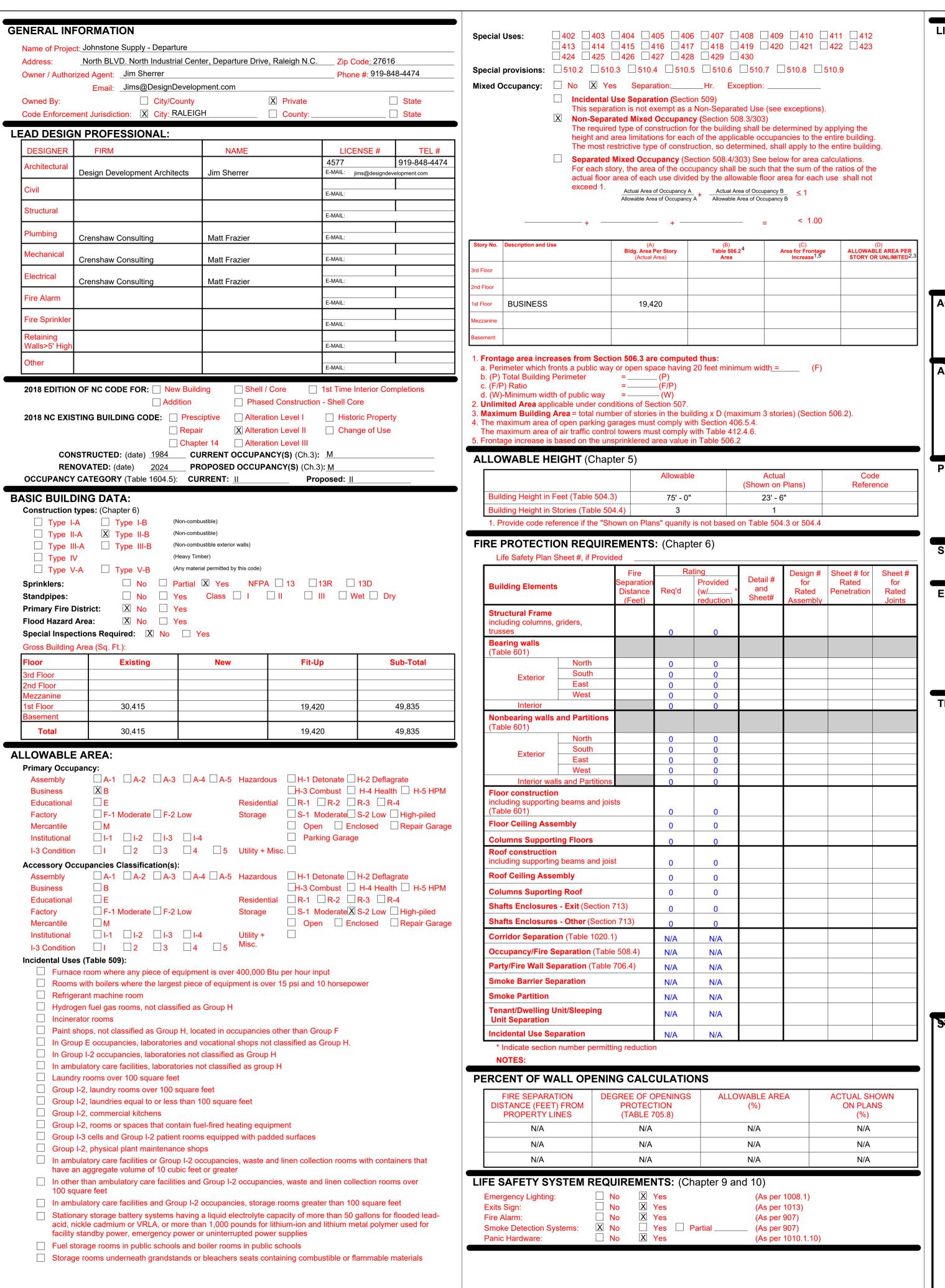
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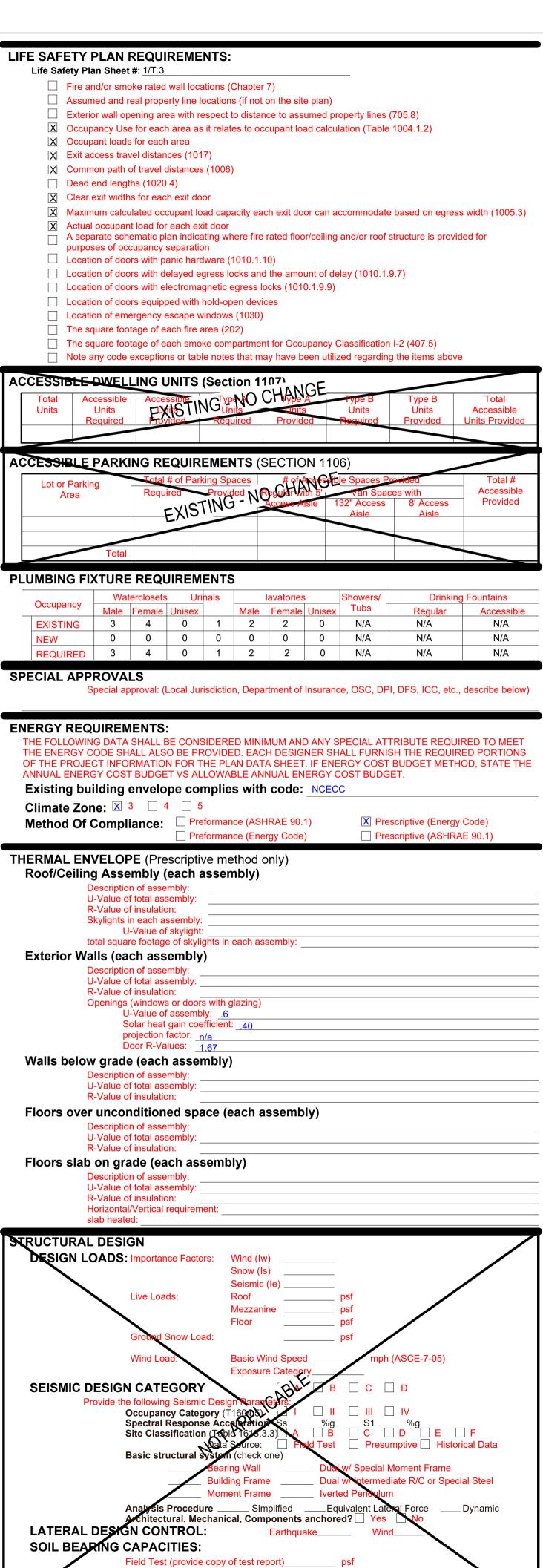
240012

08-20-2024

01 OVERALL FLOOR PLAN

1/32" = 1'-0"

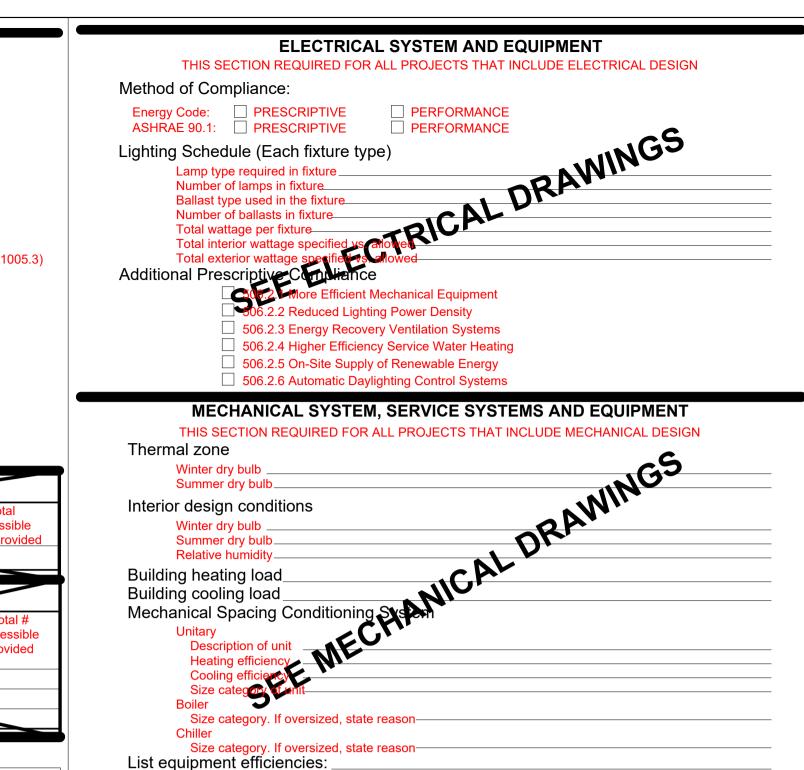




Presumptive Bearing capacity______ ps

Pile size, type, and capacity ____

SPECIAL INSPECTIONS REQUIRED: Ves No





out

Johnstone Supply

North BLVD. North Industrial Center,
Departure Drive, Raleigh N.C.

Γ2

BUILDING CODE

PROJECT #:

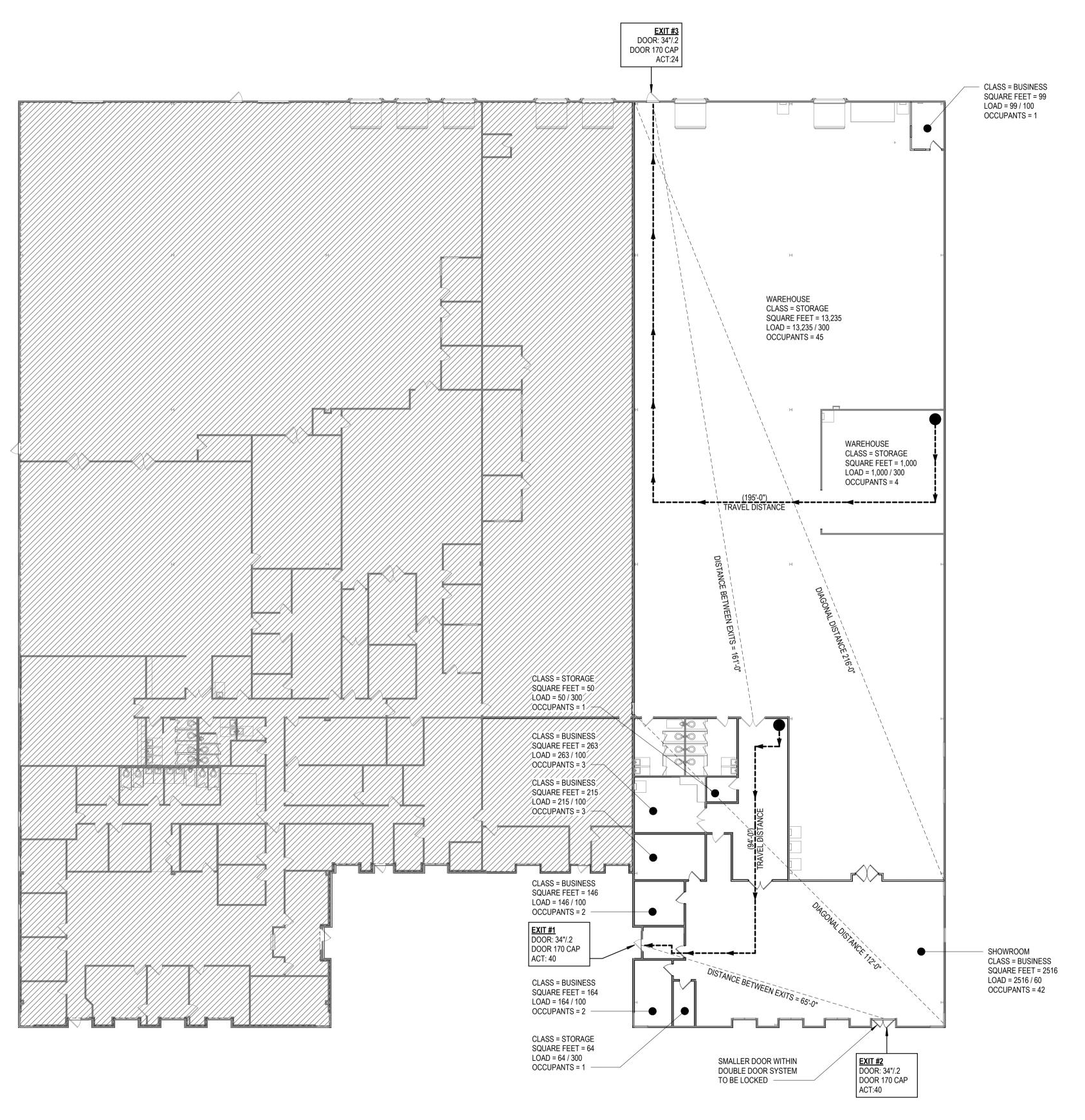
SUMMARY

DATE:

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240012

08-20-2024



TOTAL OCCUPANTS = 104

1 LIFE SAFETY PLAN
1/16" = 1'-0"

Supply

Johnstone Supply

North BLVD. North Industr

Departure Drive, Raleigh

THE DRAWINGS & DESIGN SHOWN ARE THE PROPERTY OF DESIGN DEV

PROJECT #: 240012

DATE: 08-20-2024

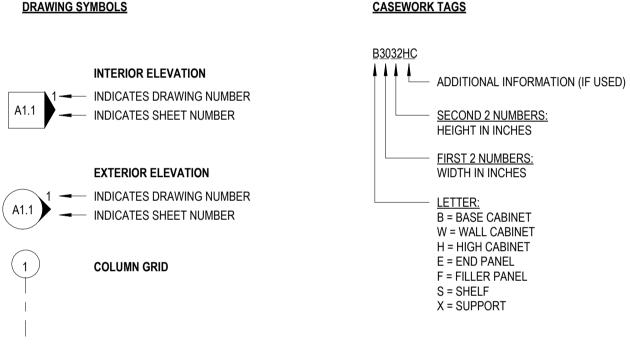
LIFE SAFETY PLAN

T3

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ARCHITECTURAL COMPONENT **MATERIAL & FINISH TAGS ROOM TAG** CPT-1 CARPET LUXURY VINYL TILE WINDOW TAG VINYL COMPOSITION TILE PORCELAIN TILE \prec AX3.3-3 \rangle WALL TAG RAILING TAG RUBBER BASE \subset C CEILING TAG VINYL BASE WOOD BASE REVISION WOOD TRIM SPECIAL EQUIPMENT WP-1 WALL PANEL PLUMBING TAG COUNTERTOR KEYNOTE TAG CONTROL NOTE: FOR MATERIALS & FINISHES JOINT THE NUMBER AFTER THE MARTIAL REVEAL ("XXX-1") WOULD BE A COLOR/FINISH

DRAWING SYMBOLS



EXISTING

WALL SECTION

A2.1 / — INDICATES SHEET NUMBER

BUILDING SECTION

A2.1 // INDICATES SHEET NUMBER

PLAN/DETAIL CALLOUT

2 \ — INDICATES DRAWING NUMBER

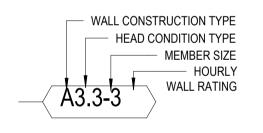
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CONTAINED IN

SIM — INDICATES SAME OR SIMILAR CONDITION

SIM — INDICATES SAME OR SIMILAR CONDITION

SIM INDICATES SAME OR SIMILAR CONDITION



READING LEFT TO RIGHT:

1. THE FIRST CHARACTER IN THE TAG INDICATES WHICH DETAIL TO REFERENCE FOR THE WALL CONSTRUCTION

2. THE SECOND CHARACTER INDICATES THE HEAD CONDITION "1" (FULL HEIGHT TO UNDERSIDE OF STRUCTURE). "2" (TO THE DIMENSION ABOVE THE CEILING AS INDICATED IN THE DETAIL), OR 3" (TO THE DIMENSION ABOVE FINISH FLOOR INDICATED IN THE PLANS)

3. THE THIRD CHARACTER INDICATES THE STUD SIZE.

REFERENCE THE DETAIL FOR THE STUD SIZE. 4. THE FOURTH CHARACTER INDICATES THE HOURLY

WALL RATING. SEE UL SHEET FOR UL DETAIL.

ABBREVIATIONS

AFF	ABOVE FINISH FLOOR		
AHU	AIR HANDLING UNIT	MEZZ.	MEZZANINE
AL.	ALUMINUM	MIN.	MINIMUM
ALT.	ALTERNATE	MO	MASONRY OPENING
BF	BARRIER FREE	MTD.	MOUNTED
BRG.	BEARING	N/A	NOT APPLICABLE
CJ	CONTROL JOINT	NC	NOISE CRITERIA
CLG.	CEILING	NIC	NOT IN CONTRACT
CMU	CONCRETE MASONRY UNIT	NO.	NUMBER
CO.	CLEANOUT	NRC	NOISE REDUCTION
CONC.	CONCRETE	COEFFICIENT	NOISE REDUCTION
CONST.	CONSTRUCTION	NTS	NOT TO SCALE
CONT.	CONTINUOUS	OC	ON CENTER
DIA.	DIAMETER	OD	OUTSIDE DIAMETER
DN.	DOWN	OH.	OVER HEAD
DS.	DOWNSPOUT	OPP.	OPPOSITE
EF		ORD	
	EXHAUST FAN ELEVATION	PERP.	OVERFLOW ROOF DRAIN
EL.			PERPENDICULAR
EJ	EXPANSION JOINT	PL. PSF	PLATE
EQ.	EQUAL		POUNDS PER SQUARE FOOT
EWC	ELECTRIC WATER COOLER	PSI	POUNDS PER SQUARE INCH
FD	FLOOR DRAIN	PVC	POLYVINYL CHLORIDE
FE	FIRE EXTINGUISHER	R	RADIUS
FEC	FIRE EXTINGUISHER & CABINET	REQD.	REQUIRED
FRT	FIRE RETARDANT TREATED	RD	ROOF DRAIN
FT.	FOOT/FEET	RO	ROUGH OPENING
GA.	GAUGE	SCH.	SCHEDULE
GALV.	GALVANIZED	SF	SQUARE FEET
GC	GENERAL CONTRACTOR	SIM.	SIMILAR
HB	HOSE BIBB	SP.	SPACE/SPACING
HP	HIGH POINT	SQ.	SQUARE
HORIZ.	HORIZONTAL	SS	STAINLESS STEEL
HVAC	HEATING VENTILATING AIR CONDITIONING	STD.	STANDARD
ID	INSIDE DIAMETER	TAN.	TANGENT
IE	INVERT ELEVATION	TOW	TOP OF WALL
IN.	INCH/INCHES	TYP.	TYPICAL
INSUL	INSULATION	UL	UNDERWRITERS LABORATORY
LAV.	LAVATORY	UNO	UNLESS NOTED OTHERWISE
LED	LIGHT EMITTING DIODE	VERT.	VERTICAL
LLH	LONG LEG HORIZONTAL	VTR	VENT THROUGH ROOF
LLV	LONG LEG VERTICAL	W/	WITH
LP	LOW POINT	WC	WATER CLOSET
MFR.	MANUFACTURER	WH	WATER HEATER
MAX.	MAXIMUM	W/O	WITHOUT
		WP.	WATERPROOF
		WT.	WEIGHT

SUBMITTALS

WHEN THE PROJECT DOCUMENTS CALL FOR SUBMITTALS. THE FOLLOWING SHALL APPLY:

CONTRACTOR TO PROVIDE ARCHITECT WITH SUBMITTAL SCHEDULE PRIOR TO FIRST PAY APPLICATION. THIS IS A REQUIREMENT FOR THE PROJECT AND IS DUE BEFORE THE FIRST APPLICATION FOR PAYMENT . THE ARCHITECT RESERVES THE RIGHT TO WITHHOLD PROJECT PAYMENT UNTIL A COMPLETE SUBMITTAL SCHEDULE IS FURNISHED. SCHEDULE SHALL OUTLINE ALL SUBMITTALS REQUIRED ON THE PROJECT ALONG WITH THE DATE EACH SUBMITTAL IS TO BE MADE BY THE CONTRACTOR.

2. QUANTITY AND PROCEDURE

SHOP DRAWINGS, PRODUCT DATA AND LITERATURE, AND OTHER SUCH PAPER-BASED SUBMITTALS: SUBMIT BY EMAIL ONE (1) PDF COPY TO ARCHITECT.

PHYSICAL SAMPLES:

SUBMIT TO ARCHITECT'S OFFICE.

3. CONTRACTOR REVIEW

REVIEW EACH SUBMITTAL AND CHECK FOR COORDINATION WITH OTHER WORK OF THE CONTRACT AND FOR COMPLIANCE WITH THE CONTRACT DOCUMENTS. NOTE CORRECTIONS AND FIELD DIMENSIONS. MARK WITH APPROVAL STAMP BEFORE SUBMITTING TO ARCHITECT. STAMP SHALL INCLUDE NAME OF REVIEWER, DATE OF CONTRACTOR'S APPROVAL, AND STATEMENT CERTIFYING THAT SUBMITTAL HAS BEEN REVIEWED, CHECKED, AND APPROVED FOR COMPLIANCE WITH THE CONTRACT

4. ARCHITECT / ENGINEER REVIEW

SHOP DRAWINGS AND SUBMITTALS SHALL BE SUBMITTED TO THE ARCHITECT FOR REVIEW BEFORE ANY CONSTRUCTION BEGINS. THESE SUBMITTALS WILL BE REVIEWED FOR OVERALL COMPLIANCE AS IT RELATES TO THE ARCHITECTURAL DESIGN OF THIS PROJECT. VERIFICATION OF THE SHOP DRAWINGS FOR DIMENSIONS. OR FOR ACTUAL FIELD CONDITIONS IS NOT THE RESPONSIBILITY OF THE ARCHITECT.

DOCUMENTS.

ALLOW ENOUGH TIME FOR SUBMITTAL REVIEW, INCLUDING TIME FOR RESUBMITTALS. TIME FOR REVIEW SHALL COMMENCE ON THE ARCHITECT'S RECEIPT OF SUBMITTAL.

ALLOW <u>15 DAYS</u> FOR INITIAL REVIEW OF EACH SUBMITTAL AND <u>15 DAYS</u> FOR REVIEW OF EACH RESUBMITTAL.

HIGHLIGHT, ENCIRCLE, OR OTHERWISE SPECIFICALLY IDENTIFY DEVIATIONS FROM THE CONTRACT DOCUMENTS ON SUBMITTALS.

SHOULD CHANGES MADE BY ARCHITECT IN THE SHOP DRAWING REVIEW PROCESS OR RESPONSES TO REQUESTS FOR INFORMATION (RFI'S) RESULT IN A CHANGE IN THE CONTRACT TIME OR PRICE, DO NOT PROCEED UNTIL A CHANGE ORDER IS SUBMITTED AND APPROVED.

8. OUT OF STOCK / OUT OF PRODUCTION

APPROVAL PRIOR TO CONSTRUCTION.

NOTIFY ARCHITECT IMMEDIATELY OF ANY OUT OF STOCK OR OUT OF PRODUCTION MATERIALS FOR AN ALTERNATE

SPECIFICATION.

9. SUBSTITUTIONS REQUEST FOR SUBSTITUTION OF MATERIALS OR COMPONENTS SHALL BE SUBMITTED IN WRITING TO ARCHITECT FOR

REQUEST FOR INFORMATION (RFI)

1. SUBMIT REQUESTS FOR INFORMATION BY EMAIL TO THE ARCHITECT.

2. EACH REQUEST SHALL BE INDIVIDUALLY NUMBERED.

3. ONLY ONE QUESTION PER RFI IS ALLOWED.

4. SUBMIT RFI ON ELECTRONIC FORM PROVIDED BY ARCHITECT.

5. FORM MUST BE FULLY COMPLETED TO BE ACCEPTED BY ARCHITECT.

GENERAL PROJECT NOTES & REQUIREMENTS

1. BUILDING CODES

ALL CONSTRUCTION SHALL BE IN COMPLIANCE WITH CURRENT APPLICABLE BUILDING CODE WITH LOCAL AMENDMENTS AND WITH ALL OTHER CODES, ORDINANCES AND REQUIREMENTS. IF THERE IS A CONFLICT THE MORE STRINGENT SHALL BE USED.

2. ADDITIONAL STANDARDS

ALL WORK RELATING TO THIS CONSTRUCTION SHALL COMPLY WITH U.S. DEPARTMENT OF LABOR, THE OCCUPATIONAL SAFETY AND HEALTH STANDARDS AND ALL RELATED APPLICABLE LOCAL BUILDING CODES AND ORDINANCES.

3. THE PROJECT DOCUMENTS

I) DO NOT SCALE DRAWINGS IN THE DOCUMENTS.

II) DRAWINGS ARE IN PART DIAGRAMMATIC AND DO NOT NECESSARILY SHOW COMPLETE DETAILS OF CONSTRUCTION WORK OR MATERIALS, PERFORMANCE OR INSTALLATION. DRAWINGS DO NOT NECESSARILY SHOW HOW CONSTRUCTION DETAILS, OTHER ITEMS OR WORK AND EQUIPMENT MAY AFFECT A PARTICULAR INSTALLATION. CONTRACTOR IS TO PROVIDE ALL MATERIALS AND CONSTRUCTION AS IS REASONABLY INFERRED AND CUSTOMARY FOR THE WORK AND FINISHED PRODUCT SHOWN ON THE DRAWINGS.

III) DIMENSIONS:

(i) INTERIOR DIMENSIONS ARE FROM FACE OF GYP BOARD TO FACE OF GYP BOARD UNLESS

(ii) DOOR & WINDOW DIMENSIONS: ARE ROUGH OPENING / NOMINAL DIMENSIONS UNLESS NOTED OTHERWISE

(iii) ALL DIMENSIONS ARE TO BE FIELD VERIFIED AND BACK CHECKED FOR CORRECTNESS. IF ANY DEVIATIONS OR DISCREPANCIES OCCUR. CONTACT THE ARCHITECT FOR VERIFICATION PRIOR TO PROCEEDING WITH THE WORK.

IV) THE PROJECT DOCUMENTS, INCLUDING PHYSICAL AND DIGITAL DOCUMENTS, ARE THE PROPERTY OF DESIGN DEVELOPMENT ARCHITECTS FOR USE SOLELY FOR THIS PROJECT AND SHALL NOT BE REPRODUCED, COPIED, OR USED FOR OTHER PURPOSES WITHOUT WRITTEN PERMISSION OF DESIGN DEVELOPMENT ARCHITECTS.

V) THE DESIGN PROFESSIONAL WHOSE SEAL APPEARS ON THESE DOCUMENTS IS THE ARCHITECT OF RECORD FOR THIS PROJECT. NO OTHER PARTY MAY REVISE, ALTER, OR DELETE THESE CONSTRUCTION DOCUMENTS. FOR THE PURPOSES OF THESE CONSTRUCTION DOCUMENTS THE ARCHITECT OF

RECORD AND DESIGN DEVELOPMENT ARCHITECTS SHALL BE CONSIDERED THE SAME ENTITY. VI) THE CONTRACTOR SHALL NOT ASSUME THAT DIGITAL FILES IN ANY OTHER FORMAT THAN PDF WILL

BE MADE AVAILABLE DURING BIDDING OR AFTER AWARD. IF OTHER DIGITAL FILES OR FILE FORMATS ARE REQUESTED. DESIGN DEVELOPMENT ARCHITECTS RESERVES THE RIGHT TO SELECTIVELY PROVIDE THEM, AND IF PROVIDED, RESERVES THE RIGHT TO REQUIRE ADDITIONAL CONSIDERATION FOR THE TIME INCURRED TO PREPARE THEM FOR

4. RECORD DRAWINGS

THE CONTRACTOR SHALL PREPARE AND MAINTAIN A COMPLETE SET OF RECORD CONSTRUCTION DRAWINGS INDICATING ALL ACTUAL WORK, MODIFICATIONS AND REVISIONS TO THE WORK DELINEATED ON THE CONSTRUCTION DOCUMENTS AS WELL AS ANY CONCEALED CONSTRUCTION WORK. INCLUDE ANY INFORMATION THAT WOULD BE HELPFUL TO THE

5. PERSPECTIVE RENDERINGS AND PRESENTATION RENDERINGS

ALL PERSPECTIVE RENDERINGS AND PRESENTATION RENDERINGS ARE FOR REFERENCE ONLY AND NOT TO BE CONSTRUCTED FROM - THIS INCLUDES PERSPECTIVE RENDERINGS OR VIEWS THAT ARE INCLUDED IN THE CONSTRUCTION DRAWING SET.

CONSTRUCTION METHODS AND MATERIALS NOT EXPLICITLY INDICATED OR IMPLIED ARE INTENDED TO BE CONTRACTOR DESIGNED. THE ARCHITECT SHALL BE NOTIFIED OF ANY VARIATION FROM THE DIMENSIONS AND/OR CONDITIONS SHOWN ON THESE DOCUMENTS. ANY SUCH VARIATION SHALL BE APPROVED BY THE ARCHITECT PRIOR TO PROCEEDING WITH THE WORK OR THE CONTRACTOR SHALL ACCEPT FULL RESPONSIBILITY FOR THE COST TO RECTIFY THE WORK. UNLESS SPECIFICALLY CONTRACTED OTHERWISE, CONTRACTOR DESIGNED WORK IS INCLUDED IN THE BASE BID AND SCHEDULE FOR THE PROJECT.

7. CONTRACTOR REVIEW AND COORDINATION

I) THE GENERAL CONTRACTOR AND ALL SUBCONTRACTORS SHALL CAREFULLY REVIEW THE DRAWINGS, SPECIFICATIONS DETAILS AND NOTES FOR INFORMATION REGARDING THE SCOPE OF THE WORK INTENDED PRIOR TO PROCEEDING WITH

II) THE GENERAL CONTRACTOR SHALL COORDINATE ALL BUILDING MANAGEMENT SYSTEMS, SECURITY SYSTEMS, AND LOCKING HARDWARE WITH THE OWNER PRIOR TO INSULATION. (SECURITY SYSTEMS EQUIPMENT FURNISHED BY OWNER. ALL CONDUIT BOXES BY ELECTRICAL SUBCONTRACTOR).

III) THE CONTRACTOR REPRESENTS AND WARRANTS THAT IT HAS EXAMINED THE PLANS, DRAWINGS, SPECIFICATIONS AND ALL CONSTRUCTION CRITERIA OF OWNER AND HAS SATISFIED ITSELF. THAT THE INFORMATION CONTAINED THEREIN SUFFICIENT TO FULLY AND COMPLETELY CONSTRUCT THE PROJECT.

IV) THE CONTRACTOR SHALL REVIEW THE CIVIL DOCUMENTS, THE SOILS REPORT, AND THESE DOCUMENTS (ALL IN THEIR ENTIRETY) TO INSURE THAT ALL REQUIRED EARTHWORK, PAVING, CURB AND STRUCTURAL SLAB WORK IS FULLY COVERED IN THE SCOPE OF THE CONTRACTOR'S BID. CONTRACTOR SHALL FULLY COORDINATE ALL OF THE ABOVE REFERENCED WORK WITH THE OWNERS REPRESENTATIVE, THE ARCHITECT AND CIVIL ENGINEER TO INSURE THAT ALL WORK IS FULLY COORDINATED AND COMPLETED.

V) THE CONTRACTOR AND SUB CONTRACTORS SHALL CAREFULLY REVIEW ALL THE PROJECT DOCUMENTS. INFORMATION REGARDING THE COMPLETE WORK IS DISPERSED THROUGHOUT THE PROJECT DOCUMENTS AND CANNOT BE ACCURATELY DETERMINED WITHOUT REFERENCE TO THE COMPLETE SET OF PROJECT DOCUMENTS, NOTIFY THE ARCHITECT OF ANY CONFLICTING INFORMATION PRIOR TO THE START OF CONSTRUCTION.

UNLESS OTHERWISE INDICATED , CONTRACTOR IS TO PROVIDE WRITTEN WARRANTY FOR A PERIOD OF ONE YEAR FROM THE DATE OF SUBSTANTIAL COMPLETION. THE WARRANTY SHALL STATE ALL WORK HAS BEEN COMPLETED IN CONFORMANCE WITH THE CONTRACT DOCUMENTS, APPLICABLE CODES AND ENFORCING AUTHORITIES AND THAT ALL WORK IS FREE FROM DEFECTS OF MATERIAL AND WORKMANSHIP. THIS IS IN ADDITION AND NOT A LIMITATION TO ANY PRODUCT MANUFACTURER'S PRODUCT WARRANTIES.

ALL PENETRATIONS THOUGH FIRE RATED PARTITIONS OR FIRE RATED CEILING ASSEMBLIES SHALL BE INSTALLED ACCORDING TO U.L. STANDARDS AND PER APPLICABLE CODES FOR REQUIRED HOUR FIRE RATED CONSTRUCTION.

WORKMANSHIP SHALL BE FIRST-CLASS AND PERFORMED BY EXPERIENCED AND SKILLED CRAFTSMEN.

11. MATERIAL INSTALLATION STANDARDS

ALL MATERIAL SHALL BE INSTALLED ACCORDING TO INDUSTRY STANDARDS, RECOMMENDATIONS REFERENCED IN THE SPECIFICATIONS, OR MANUFACTURERS RECOMMENDED INSTALLATION PROCEDURES, WHICHEVER IS THE MOST STRINGENT, IN ORDER TO PROVIDE A COMPLETE AND HIGH QUALITY PROJECT. 12. CUTTING AND PATCHING

CONTRACTOR IS TO INCLUDE ALL CUTTING AND PATCHING FOR PENETRATIONS THROUGH FLOORS, WALLS, CEILINGS AND ROOF. DO NOT CUT OR NOTCH ANY STRUCTURAL MEMBER TO REDUCE ITS LOAD CARRYING CAPACITY.

13. UNFORESEEN CONDITIONS

SHOULD UNFORESEEN CONDITIONS BE ENCOUNTERED THAT AFFECT DESIGN OR FUNCTION OF THE PROJECT, THE CONTRACTOR SHALL INVESTIGATE FULLY AND SUBMIT AN ACCURATE AND DETAILED REPORT TO THE ARCHITECT WITHOUT DELAY. WHILE AWAITING A RESPONSE, THE CONTRACTOR SHALL RESCHEDULE OPERATION AS REQUIRED TO AVOID DELAY OF THE OVERALL PROJECT.

14. DEFINED WORDS IN THE PROJECT DOCUMENTS.

THE TERM "PROVIDE" SHALL MEAN "TO FURNISH AND INSTALL".

15. CHANGES TO THE DESIGN

ONLY THE ARCHITECT HAS THE AUTHORITY TO CHANGE THE DESIGN.

MISCELLANEOUS PROJECT LABOR AND MATERIALS TO BE PROVIDED BY CONTRACTOR

1. WOOD BLOCKING

CONTRACTOR SHALL PROVIDE WOOD BLOCKING AS NECESSARY TO ADEQUATELY SUPPORT MOUNTED FINISHES, FIXTURES, BUILDING COMPONENTS, & EQUIPMENT - INCLUDING OWNER PROVIDED ITEMS. ADDITIONALLY, BLOCKING SHALL BE PROVIDED AS INDICATED ON THE DRAWINGS, WHETHER SPECIFICALLY IDENTIFIED AS BLOCKING OR NOT.

2. ACCESS PANELS

ACCESS PANELS (2'x2') SHALL BE PROVIDED IN ALL GYP BOARD PARTITIONS OR CEILING WHERE ELECTRICAL TRANSFORMERS, J-BOXES, PLUMBING VALVES, HVAC VAV BOXES, PTB BOXES, MOTORIZED DAMPERS, VOLUME DAMPERS, FIRE DAMPERS, SANITARY OR GREASE LINE TRAPS REQUIRING ACCESS LOCATED. NOTE THAT MANY OF THESE ITEMS ARE NOT INDICATED ON THESE DOCUMENTS, BUT ACCESS PANELS SHALL BE PROVIDED AS THOUGH THEY HAVE BEEN SHOWN THROUGHOUT (BURDEN TO DETERMINE QUANTITY IS ON THE CONTRACTOR). THE ARCHITECT SHALL COORDINATE THESE ACCESS PANELS WITH THE CONTRACTOR AT A LATER DATE SO AS

TO MINIMIZE THE IMPACT ON THE AESTHETIC DESIGN OF THE PROJECT. THE CONTRACTOR SHALL LOCATE ALL ELEMENTS WHICH REQUIRE ACCESS ABOVE NON-PUBLIC AREA CEILING OR ABOVE LAY-IN ACOUSTICAL TILE CEILINGS, IF POSSIBLE. THE CONTRACTOR SHALL PROVIDE A MARKED-UP PLAN TO THE ARCHITECT AND OWNER SHOWING ALL AREAS REQUIRING ACCESS.

3. FIRE EXTINGUISHERS

PROVIDE FIRE EXTINGUISHERS AS REQUIRED BY LOCAL CODE. PROVIDE SEMI-RECESSED CABINET TO MATCH SIZE OF EXTINGUISHER AND WALL CONSTRUCTION DIMENSIONS, WITH STAINLESS STEEL FINISH, FULL ACRYLIC GLASS DOOR, AND DOOR HANDLE. CONTRACTORS SHALL VERIFY ALL LOCATIONS, TYPES, AND QUANTITY OF FIRE EXTINGUISHERS WITH THE LOCAL CODE ENFORCEMENT OFFICIAL AND WITH THE ARCHITECT FOR APPROVAL PRIOR TO INSTALLATION. IF FIRE EXTINGUISHERS ARE SPECIFICALLY INDICATED ON THE PLANS, PROPOSED CHANGES TO ANY OF THOSE SPECIFIC LOCATIONS MUST BE APPROVED BY THE ARCHITECT PRIOR TO

4. NECESSARY PARTS, PIECES, LABOR, & COMPONENTS

SUBMIT FOR APPROVAL PRODUCT DATA AND WARRANTY.

CONTRACTOR SHALL PROVIDE ALL NECESSARY PARTS, PIECES, LABOR, AND COMPONENTS THAT ARE SUGGESTED OR IMPLIED IN WHOLE OR IN PART IN THIS DRAWING SET, WHETHER SPECIFICALLY DETAILED OR NOT.

5. KNOX BOX

INSTALLATION.

PROVIDE APPROVED KNOX BOX FOR PROJECTS THAT REQUIRE IT. FINAL LOCATION OF KNOX BOX MUST BE APPROVED BY BOTH THE ARCHITECT AND LOCAL CODE OFFICIAL.

6. TERMITE TREATMENT I) PROVIDE SOIL TREATMENT FOR TERMITE CONTROL A THE END OF EARTHWORK OPERATIONS.

II) COMPLY WITH GOVERNING CODES AND REGULATIONS. PROVIDE PRODUCTS OF ACCEPTABLE MANUFACTURERS WHICH HAVE BEEN IN SATISFACTORY USE IN SIMILAR SERVICE FOR THREE YEARS.

III) DELIVER, HANDLE, AND STORE MATERIALS IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.

IV) PROVIDE WRITTEN WARRANTY AGREEING TO RETREAT SOIL AND REPAIR DAMAGE CAUSED BY TÉRMITE INFESTATION, CARPENTER ANTS, AND OTHER PESTS DURING A FIVE YEAR PERIOD FROM THE DATE OF SUBSTANTIAL COMPLETION.

V) USE SOIL TREATMENT MATERIALS WHICH BEAR A FEDERAL REGISTRATION NUMBER WITH US ENVIRONMENTAL PROTECTION AGENCY AND ACCEPTABLE TO AUTHORITIES HAVING JURISDICTION.

VI) TREAT SOIL IN STRICT COMPLIANCE WITH NATIONAL PEST CONTROL ASSOCIATION STANDARDS AND WITH MANUFACTURER'S PRINTED INSTRUCTIONS AND RECOMMENDATIONS. DO NOT BEGIN TREATMENT WORK UNTIL ALL EXCAVATION, FILLING AND GRADING IS COMPLETED. DO NOT APPLY TREATMENT TO FROZEN OR EXCESSIVELY WET SOILS.

VII) POST SIGNS AND OTHER WARNINGS INDICATING THAT SOIL POISONING HAS BEEN APPLIED. PROTECT PERSONS AND PROPERTY FROM INJURY AND DAMAGE FROM SOIL TREATMENT WORK.

USE EXPERIENCED INSTALLERS.

PROVIDE ROLLER APPLIED WATERPROOFING SYSTEM FOR ALL MASONRY AND CAST IN PLACE CONCRETE WALLS BELOW GRADE. SUBMIT PRODUCT DATA FOR APPROVAL PRIOR TO ORDERING

8. BUILDING THERMAL INSULATION

WHETHER SPECIFICALLY DETAILED OR NOT, PROVIDE THERMAL INSULATION FOR THE PROJECT THAT MEETS THE MINIMUM STANDARDS AS REQUIRED BY THE JURISDICTION IN WHICH THE PROJECT IS LOCATED. INFORMATION CONTAINED IN THE PROJECT DOCUMENTS THAT SHOW A HIGHER LEVEL OF THERMAL INSULATION THAN THE MINIMUM REQUIRED SHALL BE INSTALLED AS INDICATED AND SHALL TAKE PRECEDENCE OVER THE MINIMUM STANDARD LANGUAGE WRITTEN ABOVE.

9. CONCRETE FLOOR SLAB PREPARATION

CONCRETE FLOOR SLABS SHALL BE INSTALLED AND FINISHED AS REQUIRED TO RECEIVE THE SCHEDULED FINISH MATERIAL. NO CURING COMPOUND SHOULD BE UTILIZED ON CONCRETE TO RECEIVE TILE. SPECIAL ATTENTION SHOULD BE PAID TO CONCRETE SLAB RECEIVING PORCELAIN OR CERAMIC, TILE AND THE RECOMMENDATIONS OF THE CERAMIC TILE INSTITUTE OF AMERICA SHALL BE STRICTLY ADHERED TO. THE ARCHITECT, IN CONJUNCTION WITH THE FLOOR TILE SUBCONTRACTOR, SHALL ESTABLISH LOCATIONS OF CONCRETE FLOOR SLAB CONTROL JOINTS SO AS TO MINIMIZE CUTTING OF

10. JOINT SEALERS

PROVIDE ALL JOINT SEALERS REQUIRED TO INSURE A WEATHERTIGHT BUILDING ENVELOPE. INSTALL PER MANUFACTURERS RECOMMENDATIONS AND PROVIDE ALL REQUIRED ACCESSORIES (INCLUDING BACKER ROD AND OTHER SUPPORTING ITEMS). SUBMIT MANUFACTURER'S DATA FOR APPROVAL.

SUBMIT ALL EXPOSED SEALANT COLORS, FROM MANUFACTURER'S STANDARD RANGE, TO ARCHITECT FOR APPROVAL.

Supply sto ohn

Description

Date

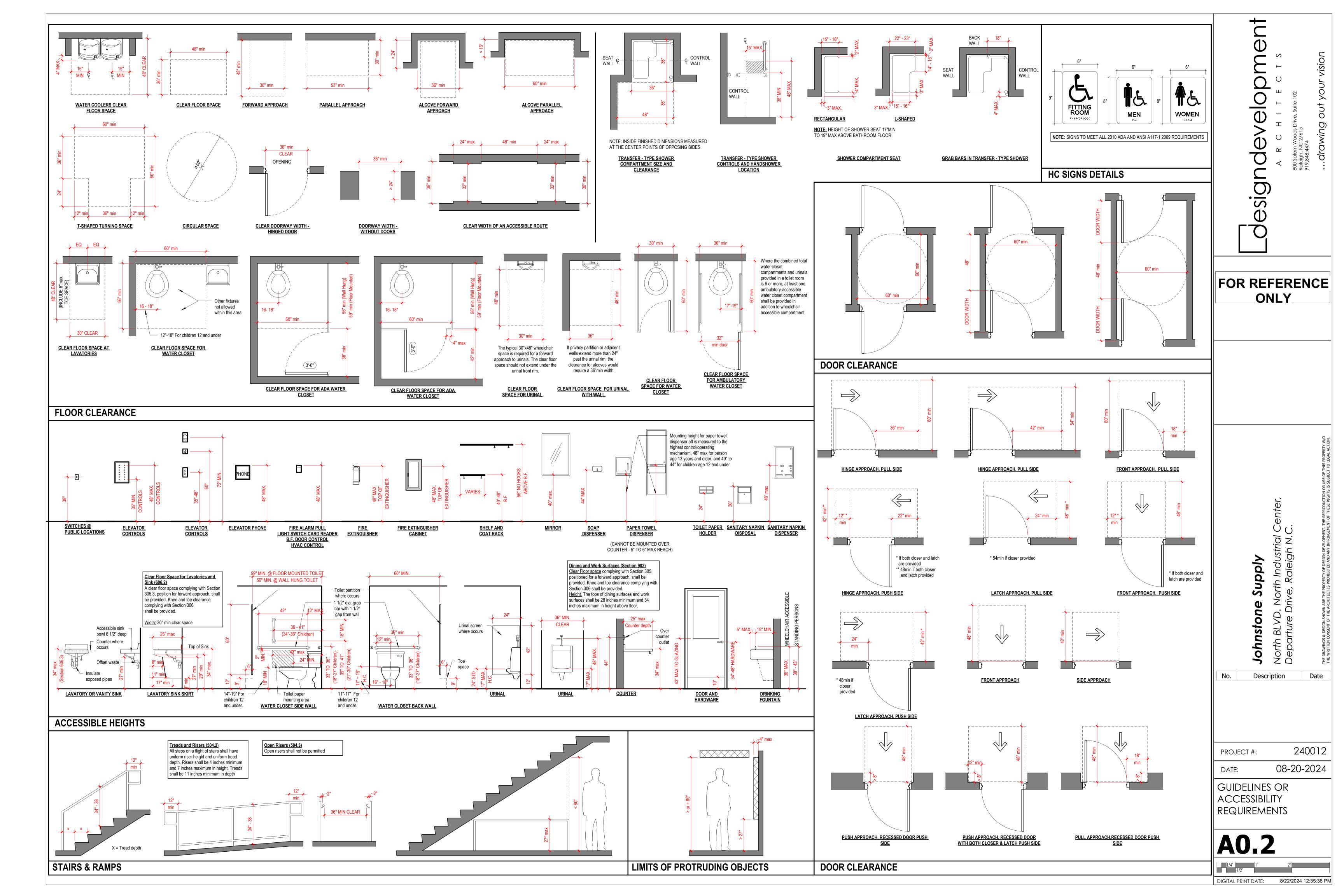
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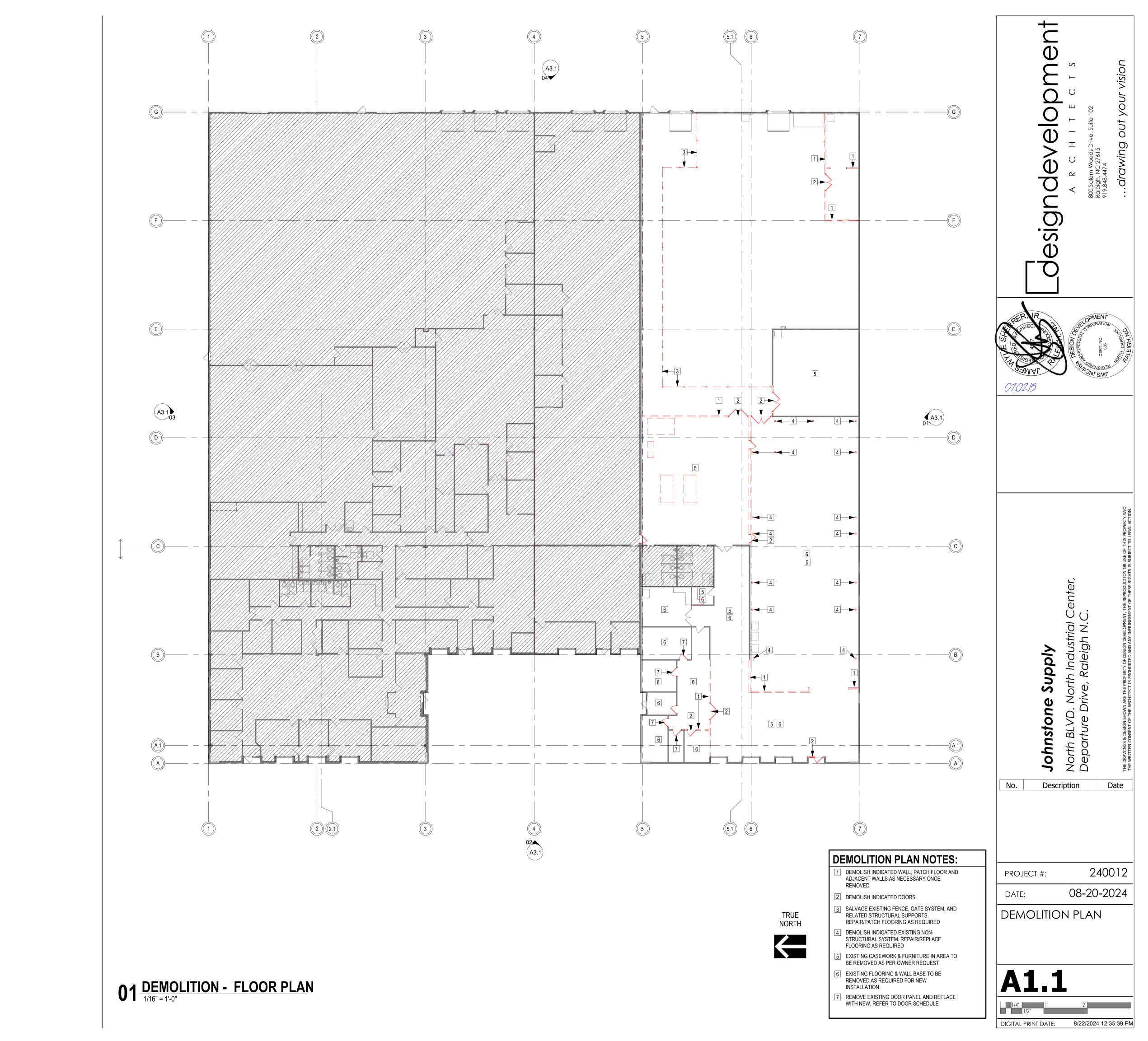
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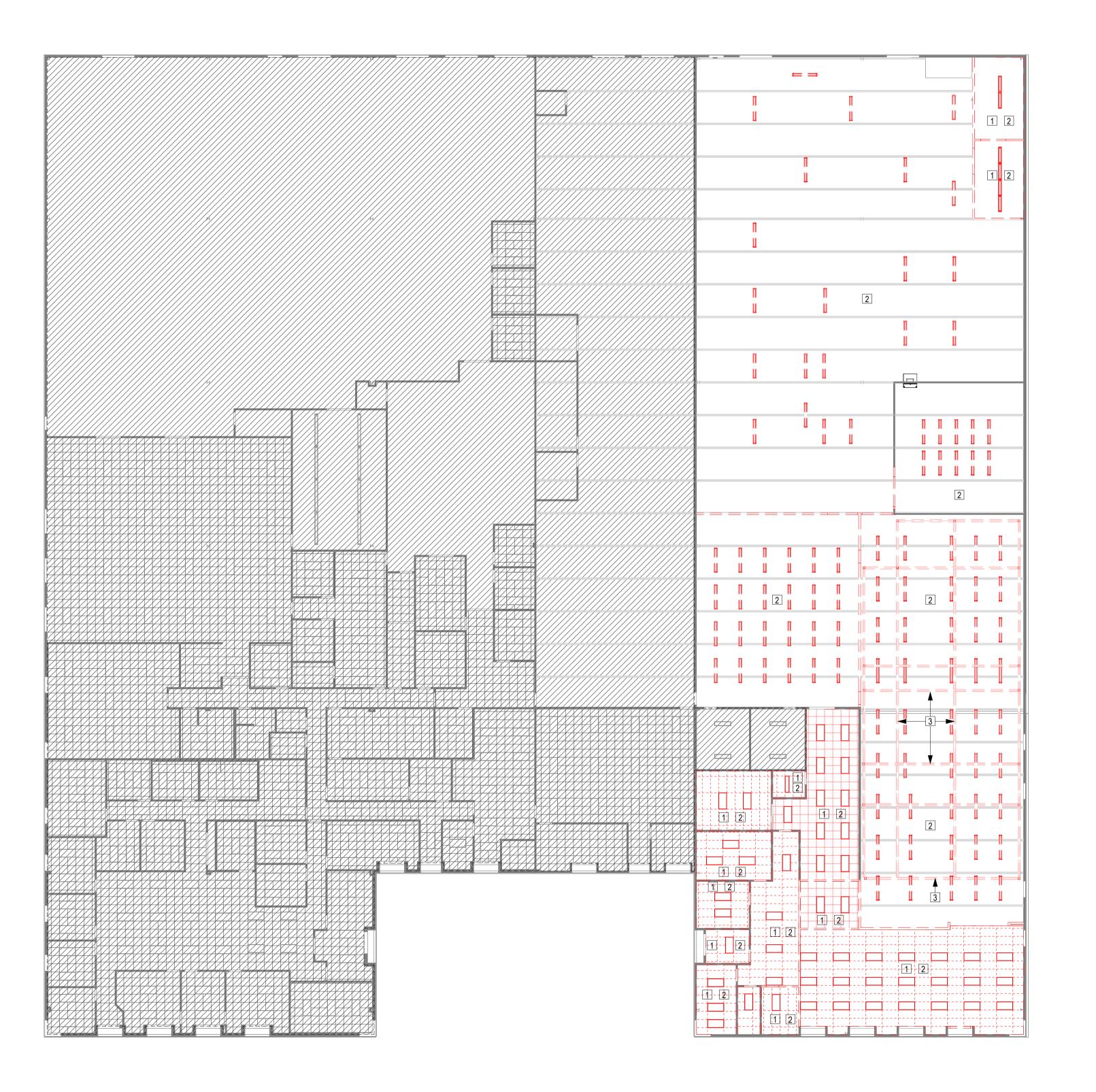
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TRUE NORTH

RCP DEMOLITION NOTES:

- DEMOLISH CEILING SYSTEM IN ITS ENTIRETY WITHIN SPACE
- 2 DEMOLISH LIGHT FIXTURES IN AREA
- 3 DEMOLISH INDICATED EXISTING NON-STRUCTURAL SYSTEM, TYP.

NOTE: THE EXISTING LOCATIONS SHOWN ON DEMO PLAN TO BE REMOVED, RELOCATED, OR SALVAGED ARE FOR REFERENCE ONLY AND SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO THE WORK. REFER TO ELECTRICAL DRAWINGS FOR ADDITIONAL INFORMATION

REFLECTED CEILING PLAN

DEMOLITION

PROJECT #:

DATE:

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Johnstone

Description

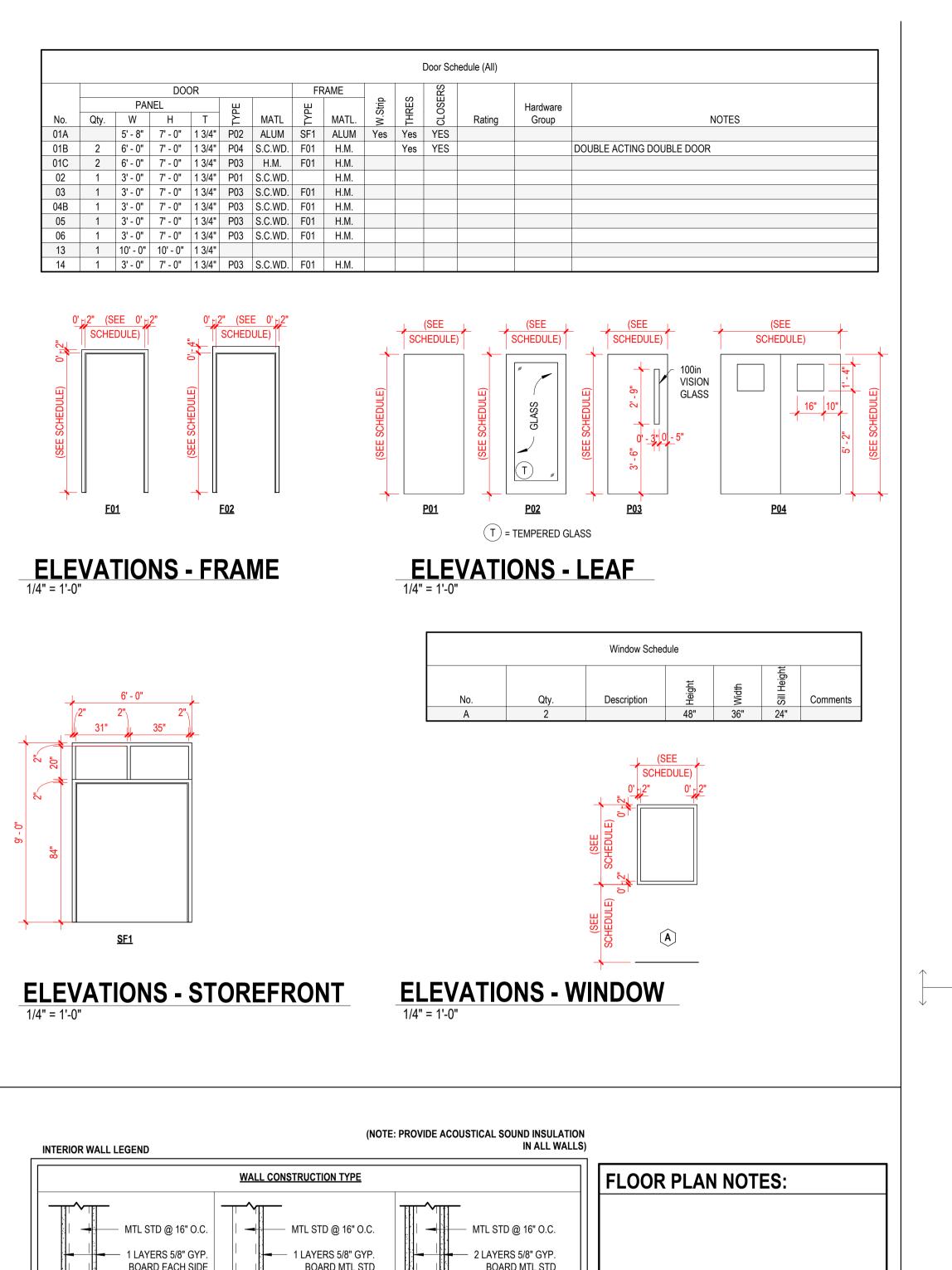
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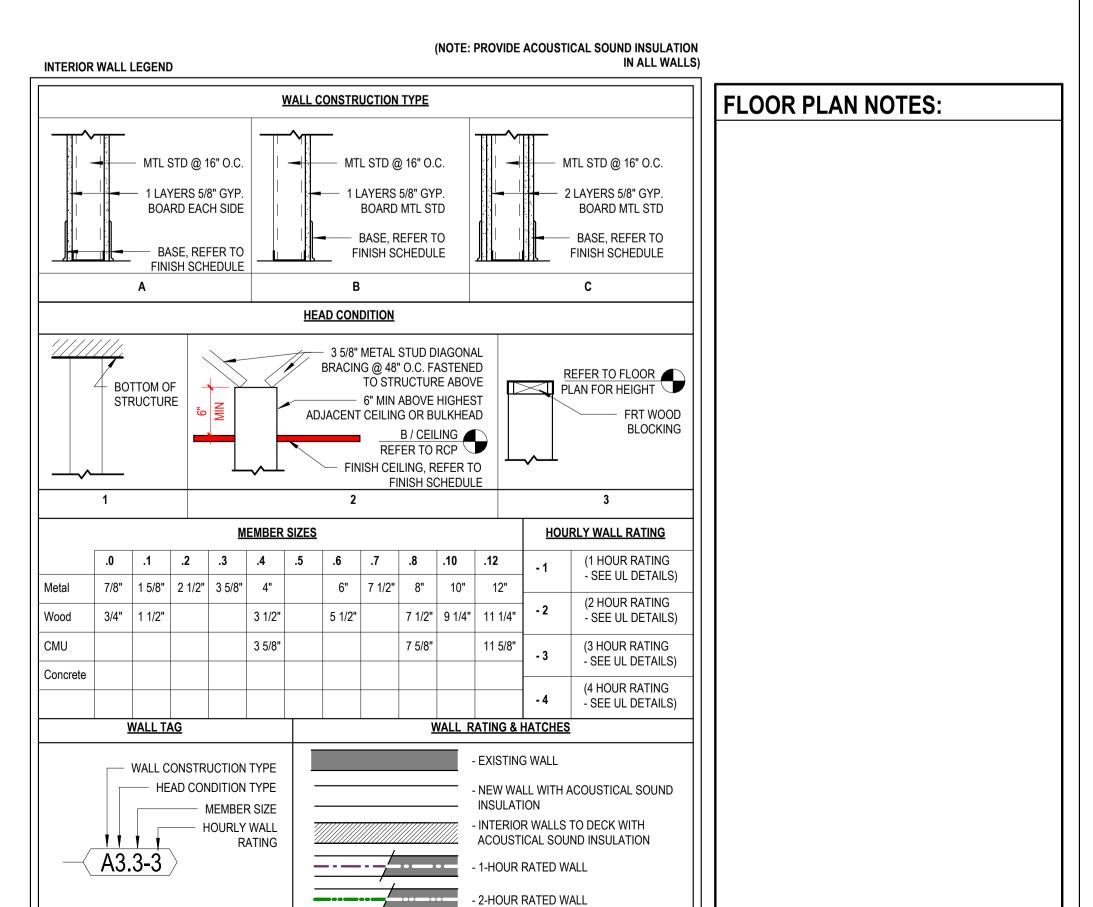
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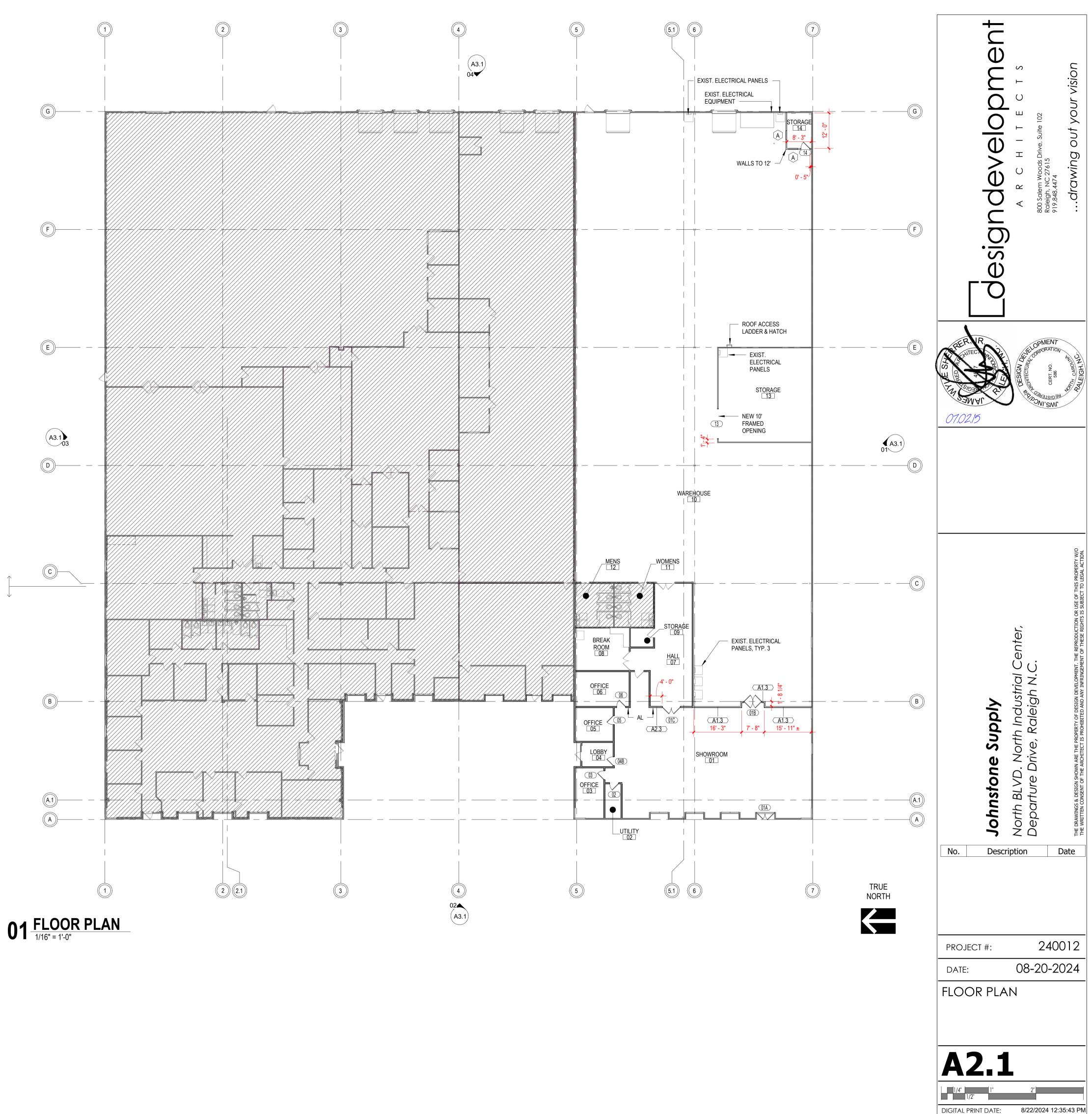
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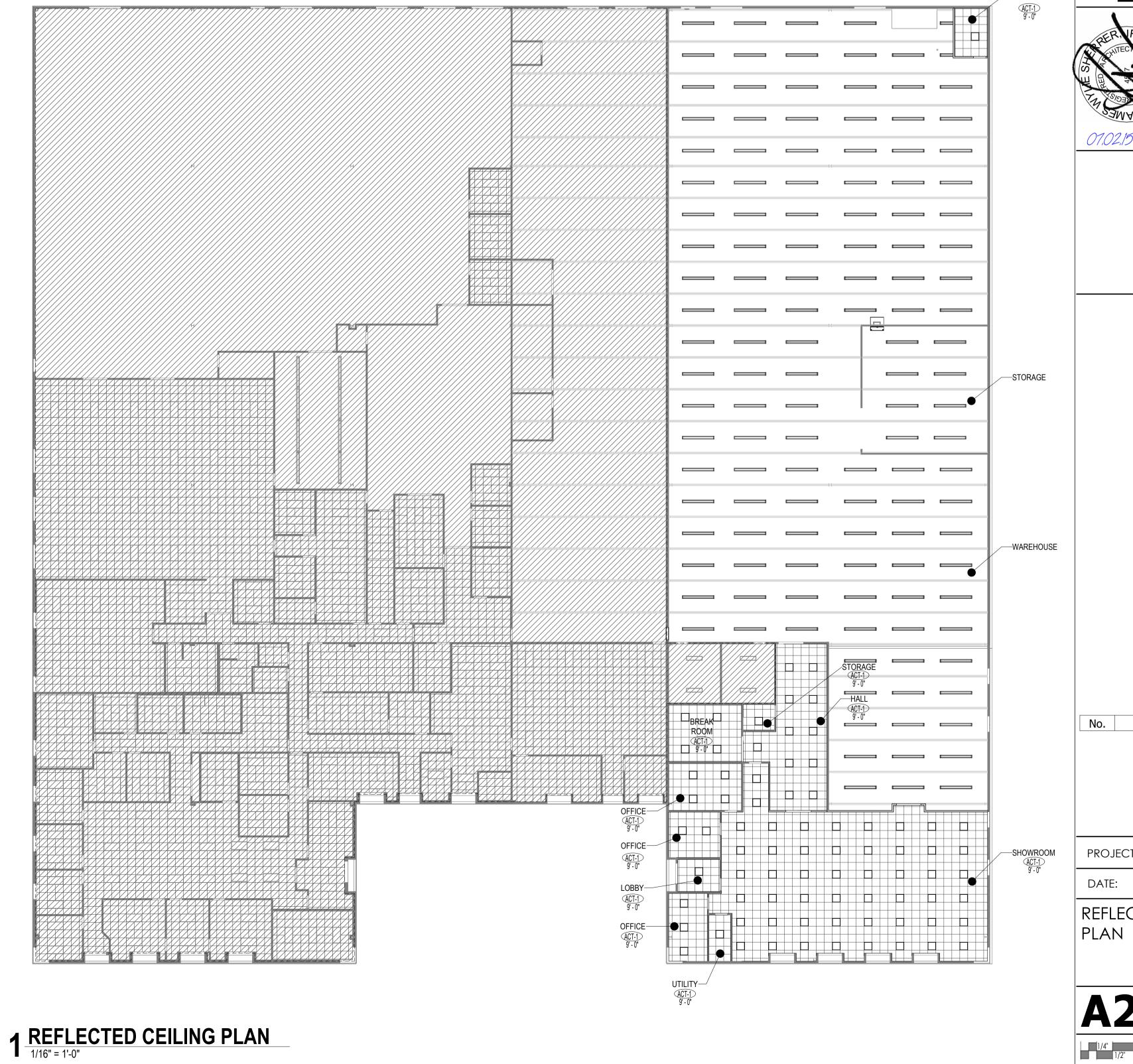
01 DEMOLITION REFLECTED CEILING PLAN
1/16" = 1'-0"







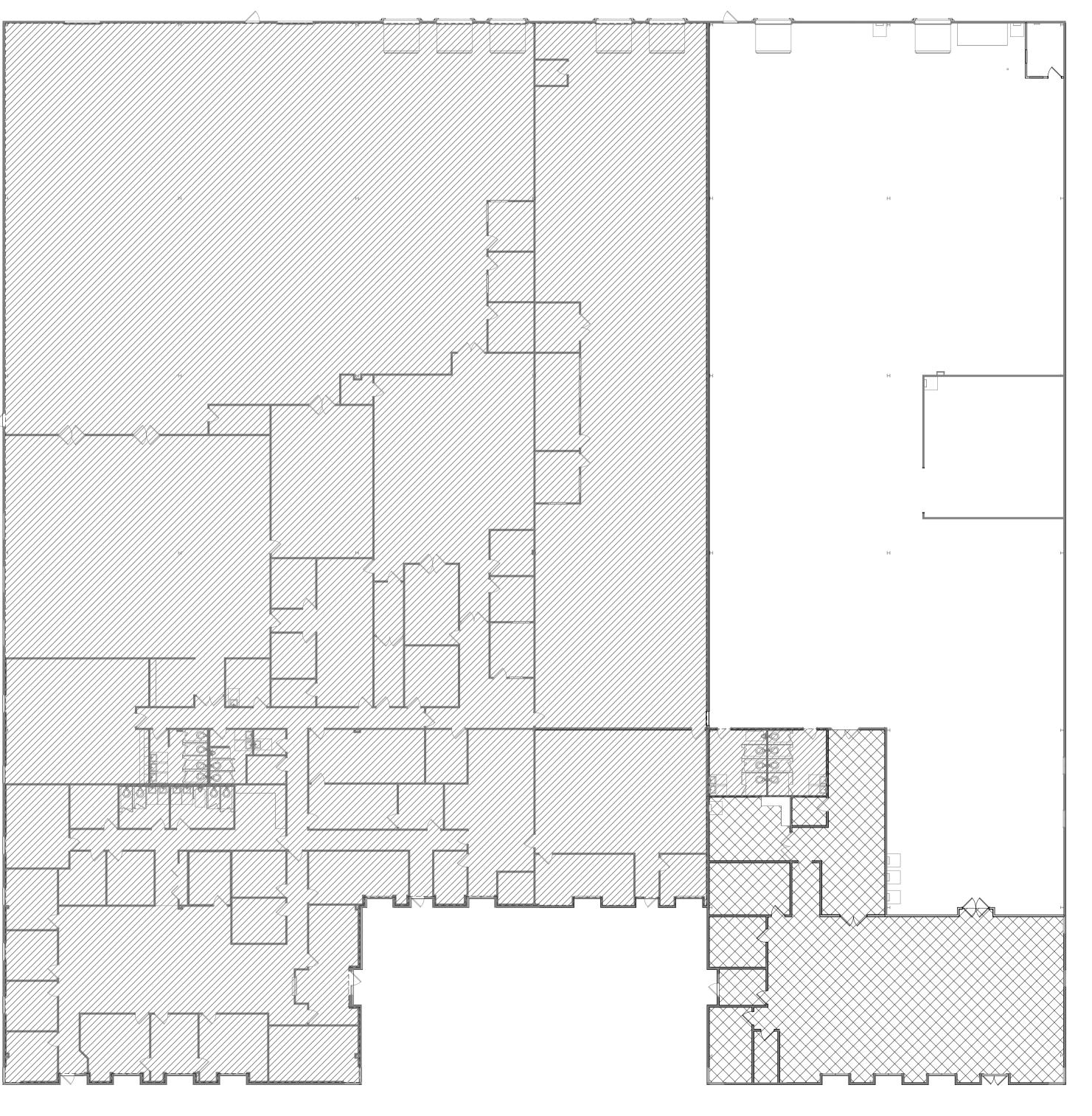
DESIGN INTENT. FIXTUR DRAWINGS FOR DETAILI		ANS ARE FOR REFERE HANICAL, FIRE SAFETY	
ELECTRICAL:		MECHANICAL:	
	- 2' x 2' FLUORESENT LIGHT		- RETURN LINEAR VENT
	- ROUND CAN LIGHT SUSPENDED LINEAR FLUORESENT LIGHT		- 2'x2' RETURN VENT
EXIT	- EXIT LIGHT		- 2'x2' SUPPLY VENT
		FIRE ALARM:	
		X II X	- FIRE ALARM - CEILING
			- SMOKE DETECTOR
		D N	- EMERGENCY LIGHTING
SYMBOLS:		FIRE SPRINKLER:	
FX FIRE EXTINGUISHER	SEE SPECS FOR MORE DETAILS. FINAL LOCATIONS MUST BE APPROVED BY ARCHITECT (IN ADDITION TO FIRE MARSHALL) PRIOR TO INSTALLATION.		- HANGING SPRINKLER HEAD - SEMI RECESSED SPRINKLER HEAD - RECESSED SPRINKLER HEAD
(K) KNOX BOX	TO BE INSTALLED IN THIS LOCATION. BOX TO BE FULLY		- SPRINKLER SIDEWALL
	RECESSED INTO EXTERIOR WALL.	AUDIO:	
	ARCHITECT (IN ADDITION TO FIRE MARSHAL) MUST APPROVE FINAL LOCATION. INSTALLATION SHALL ENDEAYOR TO COORSE OUT WITH EXTERIOR WALL MATERIALS.		- AUDIO SPEAKER - CEILING



Supply Johnstone Date Description 240012 PROJECT #: 08-20-2024 REFLECTED CEILING

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		ŀ	toom Finish Schedu	le		
No.	Name	Wall	Floor	Base	Ceiling	Remarks
01	SHOWROOM	GYP BD	LVT	RUBBER	ACT	
02	UTILITY	GYP BD	EXIST.	EXIST.	ACT	
03	OFFICE	GYP BD	LVT	VINYL	ACT	
04	LOBBY	GYP BD	LVT	VINYL	ACT	
05	OFFICE	GYP BD	LVT	VINYL	ACT	
06	OFFICE	GYP BD	LVT	VINYL	ACT	
07	HALL	GYP BD	LVT	RUBBER	ACT	
08	BREAK ROOM	GYP BD	LVT	VINYL	ACT	
09	STORAGE	GYP BD	LVT	RUBBER	ACT	
10	WAREHOUSE	GYP BD	EXIST.	EXIST.	OPEN	
11	WOMENS	EXIST	EXIST	EXIST.	EXIST	
12	MENS	EXIST	EXIST	EXIST.	EXIST.	
13	STORAGE	GYP BD	EXIST.	EXIST.	OPEN	
14	STORAGE	GYP BD	LVT	RUBBER	ACT	



FLOOR FINISH LEGEND LUXURY VINYL TILE

1 FLOOR FINISHES PLAN
1/16" = 1'-0"

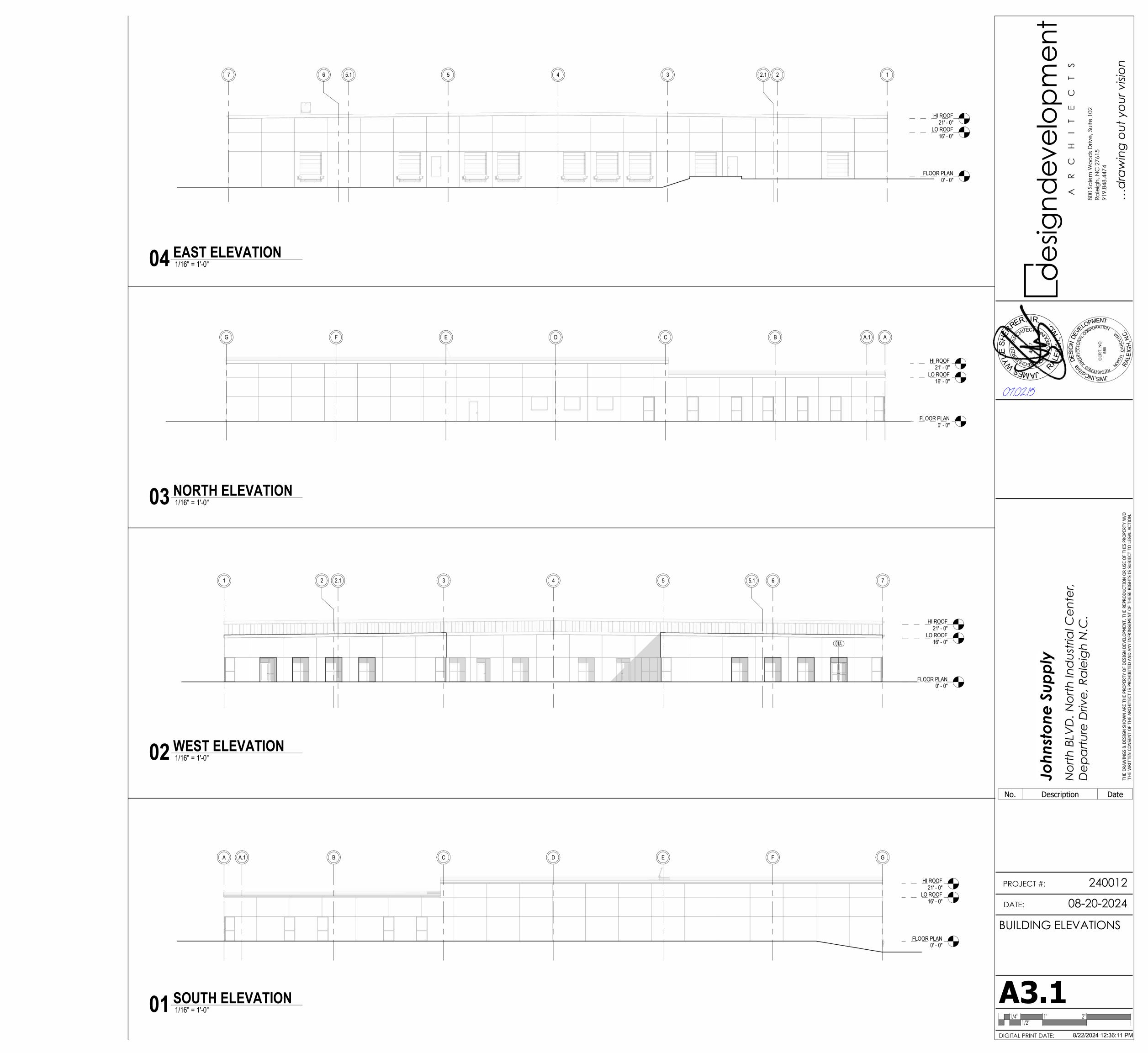
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08-20-2024 DATE:

FLOOR FINISHES PLAN

A2.3

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GENERAL NOTES AND REQUIREMENTS.

- WORKMANSHIP SHALL CONFORM TO NECA INSTALLATION STANDARDS INCLUDING NECA 1.
- 2. INSTALLATION SHALL COMPLY WITH NATIONAL ELECTRICAL CODE (NFPA 70), STATE BUILDING CODE, AND ALL REQUIREMENTS OF THE LOCAL INSPECTOR (FURNISH INSPECTION CERTIFICATE). ALL WORK SHALL BE BY LICENSED ELECTRICAL CONTRACTOR.
- THE CONTRACTOR SHALL REFER TO THE ARCHITECTURAL PLANS FOR FLOOR PLAN DIMENSIONS. DO NOT SCALE THESE DRAWINGS. THE LOCATION OF ALL WALL MOUNTED DEVICES, INCLUDING MOUNTING HEIGHTS, SHALL BE FIELD VERIFIED WITH THE ARCHITECT PRIDR TO INSTALLATION. COORDINATE LOCATIONS OF ALL LIGHT FIXTURES WITH THE REFLECTED CEILING PLANS. LIGHT FIXTURES INSTALLED IN MECHANICAL AREAS SHALL AVOID MECHANICAL PIPING, EQUIPMENT, DUCTWORK, ETC.
- THE ELECTRICAL CONTRACTOR SHALL COORDINATE ANY AND ALL WORK WITH OTHER TRADES INVOLVED IN THE PROJECT, PRIOR TO INSTALLATION OF ELEC. EQUIPMENT, SO AS TO AVOID CONFLICTS DURING CONSTRUCTION AND TO ALLOW FOR OPTIMUM
- ALL BRANCH CIRCUITS SHALL BE IN 3/4" MINIMUM ZINC-COATED EMT, IMC, OR RMC AS PERMITTED OR REQUIRED BY THE NATIONAL ELECTRICAL CODE. LFMC (OR FMC AS PERMITTED) SHALL BE USED FOR FINAL CONNECTIONS TO EQUIPMENT SUBJECT TO VIBRATION. A DEDUCT PRICE FOR MC CABLE MAY BE OFFERED FOR APPROVAL, WHERE PERMITTED AND COMPLETELY CONCEALED FROM VIEW. SCHEDULE 40 PVC CONDUIT MAY BE USED FOR UNDERGROUND FEEDERS AND BRANCH CIRCUITS OR UNDERGROUND LOW VOLTAGE SYSTEM CONDUITS LOCATED BELOW THE FLOOR SLAB ON GRADE OR BURIED ON THE EXTERIOR OF THE BUILDING, OR IN CONCRETE BLOCK WALLS. PVC SCHEDULE 80 CONDUIT MAY BE USED ON THE BUILDING EXTERIOR WHERE PERMITTED. CONTRACTOR SHALL INCLUDE COST OF PAINTING ALL EXPOSED CONDUITS IN FINISHED AREAS SUBJECT TO PUBLIC VIEW. CONDUIT SIZES NOTED ON THESE PLANS ARE BASED ON EMT CONDUIT. WHERE OTHER PERMITTED RACEWAY TYPES ARE USED, CONTRACTOR SHALL ADJUST CONDUIT SIZES AS NECESSARY BASED ON RACEWAY TYPE TO BE USED AND ALLOWABLE FILL. PROVIDE PULL WIRE IN ALL EMPTY CONDUIT. JUNCTION BOX COVERS SHALL BE PERMANENTLY LABELED AND CONDUIT SHALL BE LABELED EVERY 10'.
- 6. ALL CONDUCTORS SHALL BE COPPER TYPE THHN, OR XHHW, SOLID FOR #10 AWG OR #12 AWG, AND STRANDED FOR ALL LARGER SIZES, MINIMUM CONDUCTOR SIZE SHALL BE #12.
- CONDUITS AND CABLES SHALL BE CONCEALED WHEREVER POSSIBLE BY EITHER ROUTING ABOVE CEILING, IN INTERSTITIAL SPACES OR RUNNING EXPOSED IN UNFINISHED SPACES AS MUCH AS FEASIBLE. CONDUITS MAY BE RUN EXPOSED IN MECHANICAL AREAS OR OTHER AREAS NOT SUBJECT TO PUBLIC VIEW WHERE APPROVED BY THE OWNER. WHEREVER CONDUITS OR CABLES ARE APPROVED TO BE EXPOSED, CONDUITS AND CABLES SHALL BE RUN PARALLEL OR PERPENDICULAR TO STRUCTURAL ELEMENTS AND SHALL BE RUN AND BUNDLED IN GROUPS, AND THE INSTALLATION SHALL BE NEAT AND ORDERLY. EVEN WHEN EXPOSED, CONDUITS AND CABLES SHALL BE ROUTED TO MINIMIZE VIEW FROM PERSONNEL. SEAL ALL PENETRATIONS AIR TIGHT AROUND ALL CONDUITS PASSING THROUGH WALLS OR FLOORS USING APPROPRIATE PENETRATION PROTECTION WHEN PASSING INTO OR THROUGH RATED ASSEMBLIES.
- ALL WIRE AND CONDUIT SIZES ARE BASED ON 75° C THHN/THWN COPPER CONDUCTORS UNLESS OTHERWISE NOTED. ALL CONDUCTORS, TERMINATIONS & DEVICES SHALL BE RATED FOR MINIMUM 75°C. ALL CONDUCTOR AND CONDUIT SIZES ARE CALCULATED BASED ON INSTALLATION OF NO MORE THAN 3 CURRENT CARRYING CONDUCTORS PER CONDUIT, NEUTRAL(S) INCLUDED. UNLESS OTHERWISE NOTED, CONTRACTOR SHALL NOT INSTALL MORE THAN 3 CURRENT CARRYING CONDUCTORS PER CONDUIT WITH THE FOLLOWING EXCEPTION: UP TO 9 CURRENT CARRYING CONDUCTORS MAY BE USED IN A SINGLE RACEWAY WHERE PERMITTED BY THE NEC WHEN MINIMUM #12 AWG (THHN 90°C) IS USED AND WHEN ALL INCLUDED CIRCUITS ARE PROTECTED UPSTREAM BY 20 AMP OVERCURRENT DEVICES AND NO OTHER DERATING CONDITIONS EXIST.
- ALL LIGHT FIXTURES SHALL BE SUPPORTED INDEPENDENTLY OF THE SUSPENDED CEILING SYSTEM.
- 10. WHERE BRANCH CIRCUIT TOTAL LENGTH IS GREATER THAN SIXTY FIVE (65') FEET FROM THE PANELBOARD, SEE VOLTAGE DROP SCHEDULE.
- 11. ALL MOUNTING HEIGHTS ARE GIVEN TO THE BOTTOM OF THE DEVICE UNLESS NOTED OTHERWISE.
- 12. ALL FUSES, DISCONNECT SWITCHES, AND BREAKER SIZES, SHOWN FOR MECHANICAL EQUIPMENT, SHALL BE VERIFIED BEFORE
- THE PURCHASE OR INSTALLATION OF SAID EQUIPMENT, WITH THE EQUIPMENT SUPPLIER AND THE MECHANICAL CONTRACTOR. ALL DISCONNECT SWITCHES ARE TO BE FUSIBLE TYPE. FUSES SHALL BE THE APPROPRIATE TYPE FOR THE LOAD SERVED BY BUSSMAN OR EQUAL. UNLESS UNSUITABLE, FUSES RATED 1200A OR HIGHER SHALL BE CLASS L, FAST-ACTING, AND SHALL HAVE A CLEARING TIME OF 0.07 SECONDS AT THE AVAILABLE FAULT CURRENT PER NEC 240.67. SUBMIT FUSE TRIP CURVES ALDING WITH AVAILABLE FAULT CURRENT AT THE SERVICE ENTRANCE FOR ENGINEER VERIFICATION PRIOR TO BEGINNING WORK OR ORDERING EQUIPMENT. THE CONTRACTOR SHALL COMPARE ALL INSTALLED EQUIPMENT NAMEPLATE INFORMATION WITH THE ELECTRICAL PLANS AND NOTIFY THE ENGINEER IMMEDIATELY WITH ANY DISCREPANCIES. THE CONTRACTOR SHALL COORDINATE ALL FUSE SIZES WITH ACTUAL INSTALLED EQUIPMENT NAMEPLATE INFORMATION PRIOR TO PURCHASING OR INSTALLING FUSES. WHERE THE NAMEPLATE INFORMATION DOES NOT INDICATE AN OVERCURRENT PROTECTION SIZE OR MAXIMUM AMPACITY RATING, FUSES SHALL BE INSTALLED AS INDICATED ON THE ELECTRICAL PLANS WHERE IN AGREEMENT WITH NAMEPLATE DATA.
- THE ELECTRICAL CONTRACTOR SHALL PROVIDE ALL NECESSARY DISCONNECTS, SWITCHES, AND RECEPTACLES UNDER THE ELECTRICAL BID AND SHALL INCLUDE ALL NECESSARY CIRCUITS TO AND FINAL CONNECTIONS TO THE EQUIPMENT PROVIDED BY ALL SUPPLIERS, UNLESS NOTED OTHERWISE BY OTHER DISCIPLINES. COORDINATE CLOSELY
- 15. ALL ELECTRICAL EQUIPMENT SHALL BE INSTALLED SO THAT ALL CODE-REQUIRED AND MANUFACTURER-RECOMMENDED SERVICING CLEARANCES ARE MAINTAINED. INSTALLATIONS SHALL FULLY COMPLY WITH NEC 110.26 AND NEC 408.18 FOR CLEARANCE REQUIREMENTS.
- PROVIDE GROUNDING CONDUCTOR FOR ALL CIRCUITS PER N.E.C. AND BUILDING GROUND SHALL MEET ALL REQUIREMENTS OF NEC 250.
- 17. GROUND TELEPHONE EQUIPMENT PER NEC. IT IS NOTED THAT IF TELEPHONE SERVICE IS NOT LOCATED WITHIN 20' OF ELECTRICAL SERVICE, THEN PROVIDE SEPARATE GROUNDING ELECTRODE AS REQUIRED PER NEC 800.
- THE ELECTRICAL CONTRACTOR SHALL PATCH ANY WALL, CEILING, OR FLOOR OPENINGS (OR PENETRATIONS) RESULTING FROM DEMOLITION OR NEW WORK IN EXISTING AREAS. ANY RATED CONSTRUCTIONS OR ASSEMBLIES AFFECTED SHALL BE PATCHED, PROTECTED AND REFINISHED AS NECESSARY TO MAINTAIN THE RATING.
- 19. ALL MULTIWIRE BRANCH CIRCUITS SHALL HAVE MULTIPOLE BREAKERS AS REQUIRED BY NEC 210.7.
- 20. ALL CIRCUITS SHALL MEGDHMMETER TESTED (NON-DESTRUCTIVE) PRIOR TO ENERGIZING.
- 21. ALL WALL DUTLET BOXES, RECEPTACLES, SWITCHES, COVERPLATES, ETC. SHALL BE COMMERCIAL GRADE, STANDARD OF HEAVY DUTY EXCEPT AS SPECIFIED. VERIFY COLOR / MATERIALS FOR ALL DEVICES AND COVERPLATES PRIOR TO PURCHASE. PROVIDE LABEL FOR EACH DEVICE IDENTIFYING THE CIRCUIT SERVING THE DEVICE, VERIFY IF LABEL SHOULD BE ON INSIDE DUR DUTSIDE FACE OF COVERPLATE WITH OWNER/TENANT. PER NEC 406.12 ALL 15 AND 20 AMPERE, 125V AND 250V NON-LOCKING RECEPTACLES SHALL BE LISTED TAMPER RESISTANT WHEN INSTALLED IN THE FOLLOWING AREAS: DWELLING UNITS IN AREAS SPECIFIED BY NEC 210.52 AND 550.13, GUEST ROOMS AND GUEST SUITES OF HOTELS AND MOTELS, CHILD CARE FACILITIES, PRESCHOOL AND ELEMENTARY EDUCATION FACILITIES, AND THE PATIENT ROOMS, BATHROOMS, PLAYROOMS AND ACTIVITY ROOMS OF PEDIATRIC UNITS OR SIMILAR FACILITIES.
- THE CONTRACTOR IS RESPONSIBLE FOR PROPERLY DISPOSING OF ALL WASTE MATERIALS, DEMO MATERIALS AND OTHER TRASH. THIS INCLUDES BUT IS NOT LIMITED TO PROPER DISPOSAL OF MERCURY CONTAINING LAMPS, RECYCLABLE MATERIALS ETC.
- 23. CONTRACTOR SHALL PROVIDE ENGINEER WITH SHOP DRAWINGS / SUBMITTAL DATA FOR LIGHTS, SWITCHGEAR, PANELS, ETC. IN EITHER EDITABLE PDF FORMAT, OR THREE HARD COPIES DELIVERED TO OUR OFFICE PRIOR TO BEGINNING ANY WORK. MINIMUM EXPECTED REVIEW DURATION IS 2 WEEKS FROM DATE OF RECEIPT BY ENGINEER AND ALL SUBMISSIONS SHOULD INCLUDE AND ACKNOWLEDGE THIS REVIEW DURATION UNLESS OTHERWISE SPECIFICALLY DISCUSSED AND AGREED UPON IN ADVANCE.
- 24. IT IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR TO COORDINATE W/ ALL OTHER TRADES REGARDING VOLTAGES, LOADS, CIRCUIT BREAKERS, ETC. PRIOR TO BEGINNING ANY WORK.
- 25. AS USED ON THESE DOCUMENTS, THE WORD "PROVIDE" SHALL MEAN TO FURNISH AND INSTALL THE ITEM OR EQUIPMENT AND MAKE THE FINAL CONNECTION AS REQUIRED.
- 26. ALL PANELS AND SWITCHBOARDS / SWITCHGEAR SHALL BE COMMERCIAL GRADE FROM A REPUTABLE NATIONAL MANUFACTURER SUCH AS SQUARE 'D', G.E., SIEMENS AND EATON. PANELS SHALL BE RATED AS INDICATED ON PANEL SCHEDULES. BUS AMPACITY SHALL BE FULLY RATED TO THE VALUE INDICATED FOR THE BUS. LUGS OR MAIN BREAKER INDICATED FOR THE PANEL / BUS. WHERE SELECTIVE OVERCURRENT COORDINATION IS REQUIRED BY THE APPLICABLE CODE(S), THE GEAR SUPPLIER SHALL INCLUDE ALL NECESSARY EQUIPMENT AND DEVICES (INCLUDING ANY SUPPLEMENTARY EQUIPMENT NOT SHOWN ON THE PLANS) WITH ALL NECESSARY OPTIONS, FEATURES AND SETTINGS TO ACHIEVE THE REQUIRED COORDINATION UNDER
- CONTRACTOR IS RESPONSIBLE TO COMPLY WITH ALL REQUIREMENTS OF THE 2018 NORTH CAROLINA BUILDING CODE, ACCESSIBILITY CODE WHICH ARE APPLICABLE TO THIS PROJECT REGARDLESS OF WHETHER ALL DETAILS ARE INDICATED
- 28. CCE HAS RESERVED THE OPPORTUNITY TO CHOOSE THE SOFTWARE PACKAGE(S) OR OTHER MEANS DEEMED MOST EFFICIENT TO DELIVER THESE PLANS AND CONSIDERS ANY DIGITAL FILES OR SOFTWARE USED DURING THIS PROCESS AS INSTRUMENTS OF SERVICE, AND AS SUCH REMAIN THE SOLE PROPERTY OF CCE. THE CONTRACTOR SHOULD NOT ASSUME THAT DIGITAL FILES IN ANY FORMAT WILL BE MADE AVAILABLE DURING BIDDING OR AFTER AWARD. IF DIGITAL FILES ARE REQUESTED, CCE RESERVES THE RIGHT TO SELECTIVELY PROVIDE THEM WHEN AVAILABLE AND/OR REQUEST ADDITIONAL CONSIDERATION FOR THE TIME INCURRED TO PREPARE THEM.
- 29. CONTRACTOR SHALL VERIFY ALL AREAS THAT ARE USED AS A RETURN PLENUM WITH MECHANICAL CONTRACTOR AND PROVIDE PLENUM RATED CABLE FOR ALL CABLES NOT RUN IN METAL CONDUIT. THIS INCLUDES ALL TELECOMMUNICATIONS, FIRE ALARM, OR CONTROL WIRING ABOVE CEILING.
- 30. CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE SEISMIC REQUIREMENTS.
- 31. ALL UNDERGROUND RACEWAY ENTERING THE BUILDING, (I.E. THROUGH A FOUNDATION WALL OR THROUGH THE FLOOR) SHALL BE SEALED in accordance with nec 225.27 and 300.5(f). Raceway seals and sealants shall be approved and listed for the specific
- 32. CONTRACTOR SHALL PROVIDE SUPPORT BUSHINGS/CONDUIT STOPS FOR VERTICAL BRANCH CIRCUITS AND FEEDERS WHERE
- REQUIRED PER NEC 300.19(A). 33. FOR BUILDINGS EQUIPPED WITH A BI-DIRECTIONAL ANTENNA SYSTEM (BDA), THE CONTRACTOR SHALL TEST THE AREAS OF CONSTRUCTION BEFORE AND AFTER CONSTRUCTION ACTIVITIES PER NC FIRE CODE SECTION 510.6.1 AND SUPPLEMENT THE
- 34. ELECTRICAL BOXES AND WIRING SHALL NOT BE RECESSED INTO OR PENETRATE STRUCTURAL COLUMNS, BOXES/CONDUITS SHALL BE SURFACE MOUNTED TO COLUMN AND/OR RECESSED IN STUD WALL WHERE POSSIBLE, COORDINATE WITH ARCHITECT.
- 35. ALL RECEPTACLES, SWITCHES, AND ELECTRICAL DEVICES REQUIRED TO BE ADA ACCESSIBLE SHALL BE MOUNTED PER

EXISTING SYSTEM AS NECESSARY TO MEET THE REQUIREMENTS OF NC FIRE CODE SECTION 510.

- ANSI 117.1 SECTIONS 308 AND 309. 36. ALL EQUIPMENT CONNECTED TO OR ASSOCIATED WITH THE ELECTRICAL, FIRE ALARM OR TELECOM SYSTEMS OR OTHERWISE INCLUDED IN THE SCOPE OF WORK SHALL BE LISTED AND LABELED BY A THIRD PARTY ACCEPTABLE TO THE AUTHORITY
- E.C. SHALL PROVIDE ROUGH-INS FOR ALL E.C. PROVIDED EQUIPMENT (INCLUDING SUB-CONTRACTED EQUIPMENT AS APPLICABLE) AND DEVICES LOCATED ON THESE PLANS IN ACCORDANCE WITH NEC, NFPA, AND MANUFACTURER REQUIREMENTS. UNLESS OTHERWISE NOTED, BOX PROVIDED SHALL BE SUITABLE FOR AND SIZED FOR THE PURPOSE, WITH A MINIMUM 3/4" CONDUIT TO ACCESSIBLE LOCATION ABOVE CEILING OR CONDUIT SIZED AS APPROPRIATE FOR THE DEVICE IN QUESTION.
- ALL NON-LOCKING TYPE 120 VOLT, 15 AND 20 AMP RECEPTACLES THAT ARE CONTROLLED BY AN AUTOMATIC CONTROL DEVICE OR THAT INCORPORATE CONTROL FEATURES THAT REMOVE POWER FROM THE DUTLET FOR THE PURPOSE OF ENERGY MANAGEMENT OR BUILDING AUTOMATION SHALL BE MARKED PER NEC 406.3(E).
- 39. FLOOR MOUNTED ELECTRICAL EQUIPMENT SHALL BE PROVIDED WITH MINIMUM 4" TALL CONCRETE HOUSEKEEPING PADS. PADS SHALL EXTEND 4' BEYOND EDGE OF EQUIPMENT ON ALL SIDES EXCEPT WHERE EQUIPMENT IS INSTALLED DIRECTLY ADJACENT TO WALLS, THE SIDE OF THE PAD ADJACENT TO THE WALL MAY BE SHORTENED TO MANUFACTURER AND CODE

ELECTRICAL ABBREVIATIONS INDICATES A DEVICE IS TO BE MOUNTED WITH BOTTOM OF BOX 1 1/2" ABOVE BACKSPLASH UNLESS NOTED OTHERWISE. ABOVE FINISHED FLOOR COMBINATION OF 'A' AND 'G' ARCH INDICATES A DEVICE IS MOUNTED BELOW COUNTER WITHIN 12" OF COUNTERTOP INDICATES A DEVICE IS TO BE FLUSH MOUNTED IN CEILING TILE. ELECTRICAL CONTRACTOR EX. EXISTING EXT. EXTERIOR FIRE ALARM FAHRENHEI' FAH FURN **FURNITURE** INDICATES A DEVICE WITH INTEGRAL GROUND FAULT INTERRUPTER (GFI) PROTECTION. GFI SAME AS 'G' HOSPITAL GRADE DEVICE SHALL HAVE ISOLATED GROUND AND WILL REQUIRE ISOLATED GROUND CIRCUITRY. JUNCTION BOX LIGHTING CONTACTOR MC CABLE (WHEN REFERENCING NEC WIRING METHODS OR TYPE.) MECHANICAL CONTRACTOR (WHEN NOT REFERENCING NEC WIRING METHODS OR MECHANICAL CONTRACTOR NOT TO SCALE ON CENTER PLUMBING CONTRACTOR PLUMB PLUMBING CONTRACTOR PROV PROVIDED BY INDICATES DEVICE IS TO BE SURFACE MOUNTED. TAMPER RESISTANT DEVICE, DEVICE SHALL BE APPROVED FOR USE IN AREA SHOWN (CHILD CARE ETC.) INDICATES COMBINATION USB DUPLEX RECEPTACLE

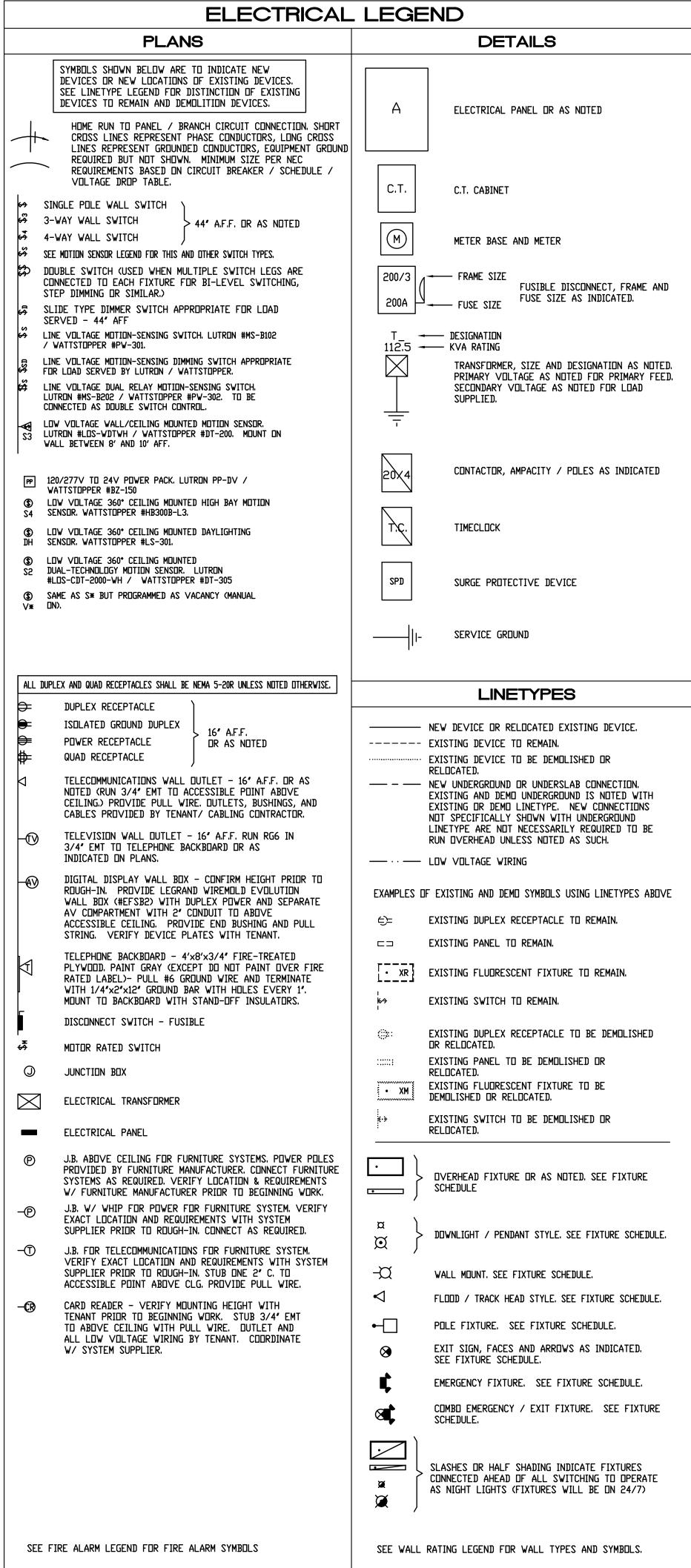
VOLTAGE DROP SCHEDULE 120 VOLT BRANCH CIRCUITS UP TO 8 AMPS (<0.96 KVA) RUN DISTANCE IN FEET CONDUCTOR SIZE (AWG) 180' _ 181 285' 286' **– 450**' 120 VOLT BRANCH CIRCUITS 9 AMPS TO 14 AMPS (1-1.68 KVA) RUN DISTANCE IN FEET CONDUCTOR SIZE (AWG) 65' 66' 100' _ 101' 165' 166' 260' _ 277 VOLT BRANCH CIRCUITS UP TO 14 AMPS (<3.9 KVA) RUN DISTANCE IN FEET CONDUCTOR SIZE (AWG) 235' _ 236' 380' 381' 600'

W/

ABOVE.

WITH

INDICATES A DEVICE THAT RATED FOR EXTERIOR TEMPERATURES AND IS WEATHERPROOF OR WEATHER RESISTANT WITH AN APPROVED (IN-USE) WEATHERPROOF COVER. THIS SCHEDULE APPLIES TO 15 AND 20 AMP BRANCH CIRCUITS AT THE VOLTAGES INDICATED. CONDUCTOR SIZES INDICATED IN GENERAL NOTES AND CONNECTIONS SCHEDULES ARE MINIMUM SIZES. CONTRACTOR SHALL UPSIZE CONDUCTORS (LINE, NEUTRAL, AND GROUND) BASED ON LOAD AND LENGTH OF RUN AS INDICATED IN SCHEDULE





3516 Bush Street, Suite 200 Raleigh, North Carolina 27609 919-871-1070 Fax 871-5620

RENOVATION NOTES:

- 1. CONTRACTOR SHALL VERIFY EXISTING CONDITIONS. 2. SEE ARCHITECTURAL FOR EXTENT OF RENOVATIONS. IN AREAS WHERE AN EXISTING CEILING IS BEING RAISED, OR A NEW CEILING IS BEING INSTALLED, THE CONTRACTOR SHALL INCLUDE ALL COSTS ASSOCIATED WITH RELOCATING EXISTING DEVICES AND SYSTEMS AS REQUIRED TO ACCOMMODATE THE NEW CEILING INSTALLATION. THIS SHALL INCLUDE RELOCATING ANY EQUIPMENT REQUIRING ACCESS WHEN A NEW OR CHANGED CEILING DOES NOT PROVIDE ACCESS.
- 3. DEVICES SHOWN TO REMAIN SHALL REMAIN CONNECTED
- OR BE RECONNECTED TO EXISTING CIRCUITS. 4. CIRCUITS BROKEN DURING DEMOLITION SHALL BE RECONNECTED WHEN REQUIRED TO STAY IN SERVICE FOR NEW OR EXISTING DEVICES TO REMAIN. WHERE THE REMOVAL OR RECONFIGURATION OF A DEVICE WILL RENDER A PORTION OF A BRANCH CIRCUIT (BUT NOT THE WHOLE BRANCH CIRCUIT) UNNECESSARY, THE UNNECESSARY PORTION OF THE BRANCH CIRCUIT (CONDUCTORS AND CONDUIT) SHALL BE REMOVED AS REQUIRED. WHERE THE ENTIRE BRANCH CIRCUIT IS MADE UNNECESSARY BY DEMOLITION ACTIVITIES. THE ENTIRE BRACH CIRCUIT (CONDUIT AND CONDUCTORS) SHALL BE REMOVED BACK TO THE PANEL, THE BREAKER TURNED OFF AND MARKED SPARE.
- 5. CLEAN ALL EXISTING FIXTURES TO REMAIN AND RELAMP IF NECESSARY, REPLACE ANY DEFECTIVE BALLASTS, LENSES, BATTERIES OR LAMPS SO THAT FIXTURE FUNCTIONS PROPERLY.
- 6. RECONNECT CIRCUITS AS SHOWN. 7. MOUNT NEW DUTLETS INSTALLED ON EXISTING WALLS
- FLUSH W/ CONDUIT CONCEALED. 8. EXISTING FIXTURES SHOWN WITHOUT CIRCUITRY OR
- SWITCHING ARE TO REMAIN AS CIRCUITED / CONTROLLED. RECONNECT EXISTING FIXTURES SHOWN WITH NEW CIRCUITRY AND / OR CONTROLS AS
- 9. CONTRACTOR SHALL RECONNECT ANY EXISTING EQUIPMENT TO REMAIN, WHERE THE EXISTING CIRCUIT OR PANEL WAS DEMOLISHED, TO NEW OR RELOCATED PANELS AS REQUIRED.

METHOD OF COMPLIANCE: Prescriptive

Total Interior Wattage Specified VS Allowed: 7,421 V/S 13,523

ELECTRICAL SYSTEM AND EQUIPMENT

See Exterior Lighting Summary for exterior energy code calculations. See Light Fixture Schedule for Lamp Type, Quantity, Ballast, Total Wattage and other information.

DESIGNER STATEMENT:

To the best of my knowledge and belief, the design of this building complies with the electrical system and equipment requirements of the North Carolina State Building Code, 2018 NC State Energy Conservation

Name: ERIK J. LOOMIS

Title: PROFESSIONAL ENGINEER

ENERGY CODE SECTION C406 COMPLIANCE THIS PROJECT IS COMPLYING WITH SECTION C406 OF THE ENERGY CODE UNDER THE PROVISIONS OF C406.3 (REDUCED LIGHTING POWER DENSITY). THE REMAINING PROVISIONS ARE THEREFORE NOT REQUIRED AND HAVE NOT BEEN INCLUDED IN THIS DESIGN.

BASIS OF DESIGN CODES

ALL WORK SHALL COMPLY WITH ALL APPLICABLE FEDERAL, STATE, AND LOCAL CODES AND REFERENCED DESIGN STANDARDS.

- 2018 NC BUILDING CODES
- 2018 NC ENERGY CONSERVATION CODE
- 2020 EDITION OF NFPA 70 NATIONAL ELECTRIC CODE W/ NC AMENDMENTS 2013 EDITION OF NFPA 72 - NATIONAL FIRE ALARM AND SIGNALING CODE 2009 ANSI A117.1 ACCESSIBLE AND USABLE BUILDINGS AND FACILITIES

ANY DIFFERENCES OR CONFLICTS BETWEEN THE REFERENCED STANDARDS AND LOCAL JURISDICTIONAL REQUIREMENTS OR CODE AMENDMENTS SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE ENGINEER OF RECORD.

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ELECTRICAL COVER

PROJECT #:



		LIGHT FIXTURE S		DULE						
TYPE	MANUFACTURER & MDDEL	DESCRIPTION	VOLTAGE	BALLAST/DRIVER TYPE & QUANTITY	DIMMING TYPE & MINIMUM LEVEL	LAMP TYPE	LUMENS	CCT (K)	MIN. CRI	LOAD (VA)
XD1	EXISTING TO BE DEMOLISHED	2X4 PARACUBIC 2 LAMP FLUDRESCENT	277/1	EXISTING	EXISTING	EX.	EXISTING	EX.	EX.	EX.
XD2	EXISTING TO BE DEMOLISHED	2X4 PARACUBIC 3 LAMP FLUDRESCENT	277/1	EXISTING	EXISTING	EX.	EXISTING	EX.	EX.	EX.
XD3	EXISTING TO BE DEMOLISHED	2X2 PARACUBIC 2 LAMP FLUDRESCENT	277/1	EXISTING	EXISTING	EX.	EXISTING	EX.	EX.	EX.
XD4	EXISTING TO BE DEMOLISHED	2X4 PRISMATIC 4 LAMP FLUORESCENT	277/1	EXISTING	EXISTING	EX.	EXISTING	EX.	EX.	EX.
XD5	EXISTING TO BE DEMOLISHED	1X4 PRISMATIC 2 LAMP FLUDRESCENT	277/1	EXISTING	EXISTING	EX.	EXISTING	EX.	EX.	EX.
XD6	EXISTING TO BE DEMOLISHED	1X8 2 LAMP FLUDRESCENT STRIP	277/1	EXISTING	EXISTING	EX.	EXISTING	EX.	EX.	EX.
XD7	EXISTING TO BE DEMOLISHED	CEILING PENDANT DOWNLIGHT	277/1	EXISTING	EXISTING	EX.	EXISTING	EX.	EX.	EX.
XR5	EXISTING TO REMAIN	1X4 PRISMATIC 2 LAMP FLUDRESCENT	277/1	EXISTING	EXISTING	EX.	EXISTING	EX.	EX.	EX.
XR8	EXISTING TO REMAIN	EXTERIOR WALL SCONCE	277/1	EXISTING	EXISTING	EX.	EXISTING	EX.	EX.	EX.
A	LITHONIA #STAK-2X2-4000LM-80CRI-35K-COL-MIN1 -ZT-MVOLT	2X2 LED TROFFER	277/1	1-LED DRIVER	0-10V, 1%	LED	4,126	3500	80	33
В	LITHONIA #CLX-L96-6000LM-SEF-WDL-MVOLT-EZ1-35K-80CRI -WH	8' LED STRIP	277/1	1-LED DRIVER	0-10V, 1%	LED	5,897	3500	80	37
EM		EMERGENCY WALLPACK (BATTERY)	120/277/1							
<u> </u>	LITHONIA #EXRG-EL-M6	EMERGENCY EXIT LIGHT (BATTERY)	120/277/1							
<u>~</u>		1								

NOTES:

- 1. ALL FIXTURES, BALLASTS, AND DRIVERS SHALL COMPLY WITH N.C. BUILDING CODE, 2018 NORTH CAROLINA ENERGY CONSERVATION CODE AND SHALL BE UL LISTED. ALL T8 BALLASTS SHALL BE INSTANT START, HIGH-PERFORMANCE ELECTRONIC WITH NORMAL BALLAST FACTOR (0.88) UNLESS OTHERWISE NOTED. ALL LED DRIVERS SHALL COMPLY WITH NEMA 410.
- 2. ALL FIXTURES NOTED AS EMERGENCY SHALL HAVE EMERGENCY ILLUMINATION FUNCTIONALITY AS DESCRIBED BELOW. IN ALL CASES, BATTERIES MUST BE RATED FOR THE ENVIRONMENT IN WHICH THEY ARE INSTALLED.

 •INTERIOR LINEAR FLUORESCENT & LED FIXTURES SHALL HAVE 1,100 LUMEN (MINIMUM) DUTPUT, 90 MINUTE BATTERY PACK OR SHALL BE PROVIDED WITH A FULL DUTPUT INVERTER.
- •EXTERIOR EMERGENCY LIGHTS SHALL HAVE AN INTEGRAL EXTERIOR RATED (0° F) OR REMOTE MOUNTED 1,100 LUMEN DUTPUT 90 MINUTE BATTERY.
 •TEST SWITCHES FOR EMERGENCY BATTERIES SHALL BE INTEGRAL TO THE FIXTURE SERVED BY THE BATTERY.
 •EMERGENCY FIXTURES SHALL OPERATE ONE LAMP WHERE MULTIPLE EMERGENCY FIXTURES ARE TO BE INSTALLED IN AN AREA, AND SHALL OPERATE TWO LAMPS WHERE THE LOSS OF A SINGLE LAMP WOULD RENDER THE SPACE IN TOTAL DARKNESS DURING
- •WHERE EMERGENCY LIGHTS PROVIDE EMERGENCY ILLUMINATION IN AREAS NORMALLY LIT BY METAL HALIDE FIXTURES (OR SIMILAR SOURCES) WITH RESTRIKE DELAY, THE EMERGENCY BATTERY SHALL BE PROVIDED WITH A TIME DELAY TO MAINTAIN BATTERY ILLUMINATION FOR 15 MINUTES AFTER THE RESTORATION OF NORMAL POWER.

 •EMERGENCY LIGHTING DESIGN IS BASED ON EXISTING FIXTURES LUMEN OUTPUTS AS DESCRIBED ABOVE. CONTRACTOR SHALL VERIFY ANY EXISTING EMERGENCY FIXTURE BATTERIES HAVE LUMEN OUTPUTS AS INDICATED AND SHALL REPLACE ANY BATTERIES RATED LESS.

 •EMERGENCY LIGHTING UNITS WITH DEDICATED EMERGENCY HEADS SHALL PROVIDE 1 F.C. FOR AT LEAST 25' FOR A MINIMUM OF 90 MINUTES.
- 3. ALL NEW, RELOCATED, OR RESWITCHED FIXTURES THAT UTILIZE BALLASTS SHALL BE PROVIDED WITH A LUMINAIRE DISCONNECT WHERE REQUIRED PER NEC SECTION 410.130(G). USE IDEAL POWERPLUG OR EQUAL INTERNAL TO FIXTURE.
- 4. LAMP COLOR TEMPERATURE FOR NEW LAMPS SHALL MATCH EXISTING LAMPS IN EXISTING FIXTURES TO REMAIN, AND ALL LAMP COLORS FOR DIFFERENT FIXTURE TYPES AND SOURCES SHALL BE CONSISTENT THROUGHOUT THE SPACE OR AREA UNLESS SPECIFICALLY NOTED OTHERWISE. NEW LAMPS WITH NO EXISTING LAMPS TO MATCH SHALL BE 3500K UNLESS OTHERWISE NOTED. CONTRACTOR SHALL ENSURE THAT ALL INTERIOR AND EXTERIOR LAMPS ARE THE SAME COLOR TEMPERATURE.
- 5. EQUALS MUST BE APPROVED BY ENGINEER PRIOR TO ORDER. VENDORS, CONTRACTORS OR MANUFACTURERS OF SUBMITTED ALTERNATE FIXTURE(S) SHALL BE PREPARED TO PROVIDE BOTH IES FILES OF THE PROPOSED FIXTURE(S) AS WELL A COMPLETE
- PHOTOMETRIC ANALYSIS OF THE ILLUMINATED AREA/SPACE TO DEMONSTRATE THE ALTERNATE FIXTURE(S) ARE PHOTOMETRICALLY EQUAL TO SPECIFIED FIXTURE(S).

 6. FIXTURES INDICATED AS DIMMABLE SHALL BE PROVIDE WITH ALL NECESSARY COMPONENTS (BALLAST, DRIVER, SWITCH ETC.) AS NECESSARY TO ACHIEVE 1% (OR LESS) MINIMUM DIMMING UNLESS A SPECIFIC MINIMUM DIMMING LEVEL IS INDICATED. CONTRACTOR
- SHALL PROVIDE ALL LOW-VOLTAGE CONTROL WIRING AS REQUIRED FOR PROPER DIMMING OPERATION.

 7. FIXTURES NOTED AS "SPECIFIED" BY OTHERS SHALL BE INCLUDED IN THE CONTRACTOR'S COST. THE CONTRACTOR SHALL EITHER VERIFY THE SPECIFICATION PRIOR TO PRICING OR PROVIDE AN ALLOWANCE OF AN AMOUNT TO BE CONFIRMED WITH THE GC/ARCHITECT ETC. VERIFY THAT THE COST OF FIXTURES NOTED AS "PROVIDED" OR "FURNISHED" BY OTHERS CAN BE EXCLUDED FROM THE CONTRACTOR'S PRICE WITH THE PARTY NOTED TO FURNISH THOSE FIXTURES. VERIFY ROUGH—IN REQUIREMENTS FOR
- FIXTURE PRIOR TO BEGINNING WORK. UNLESS SPECIFICALLY NOTED OTHERWISE, THE CONTRACTOR REMAINS RESPONSIBLE FOR INCLUDING THE INSTALLATION AND CONNECTION OF THE FIXTURES IN THEIR PRICE.

 8. CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING THE PROPER LAMP(S) FOR EACH FIXTURE, AS RECOMMENDED BY THE FIXTURE MANUFACTURER AND FIXTURE SCHEDULE.

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No. Description Date

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ELECTRICAL DETAILS

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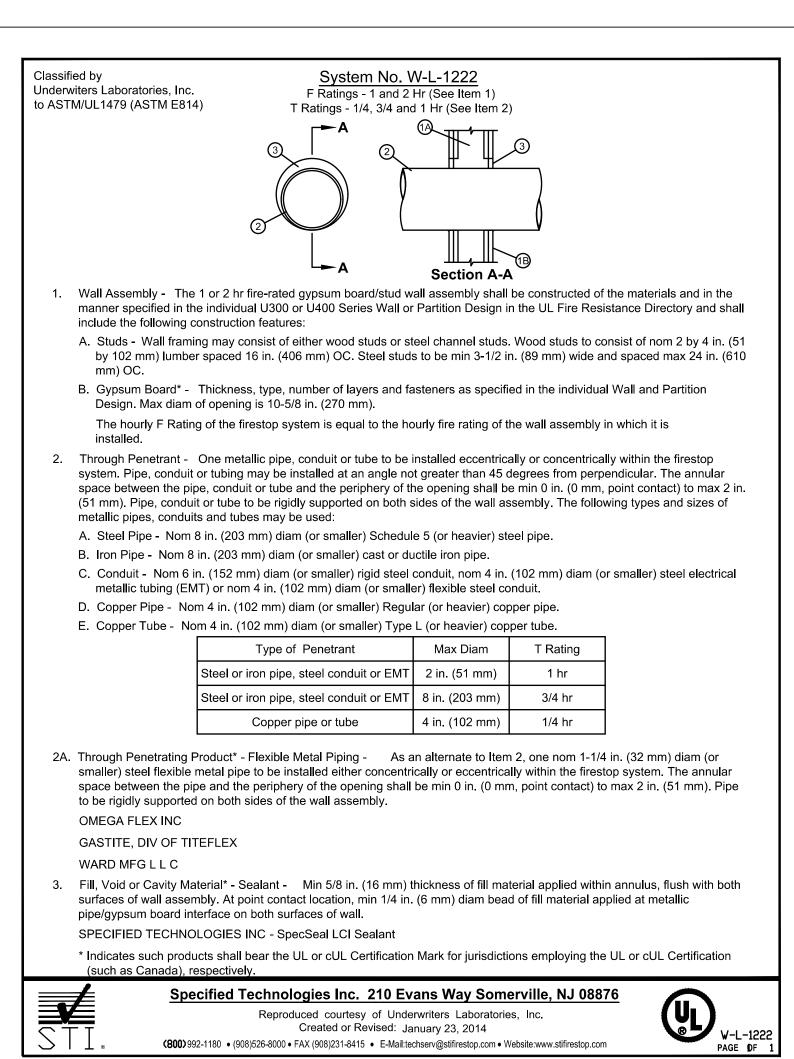
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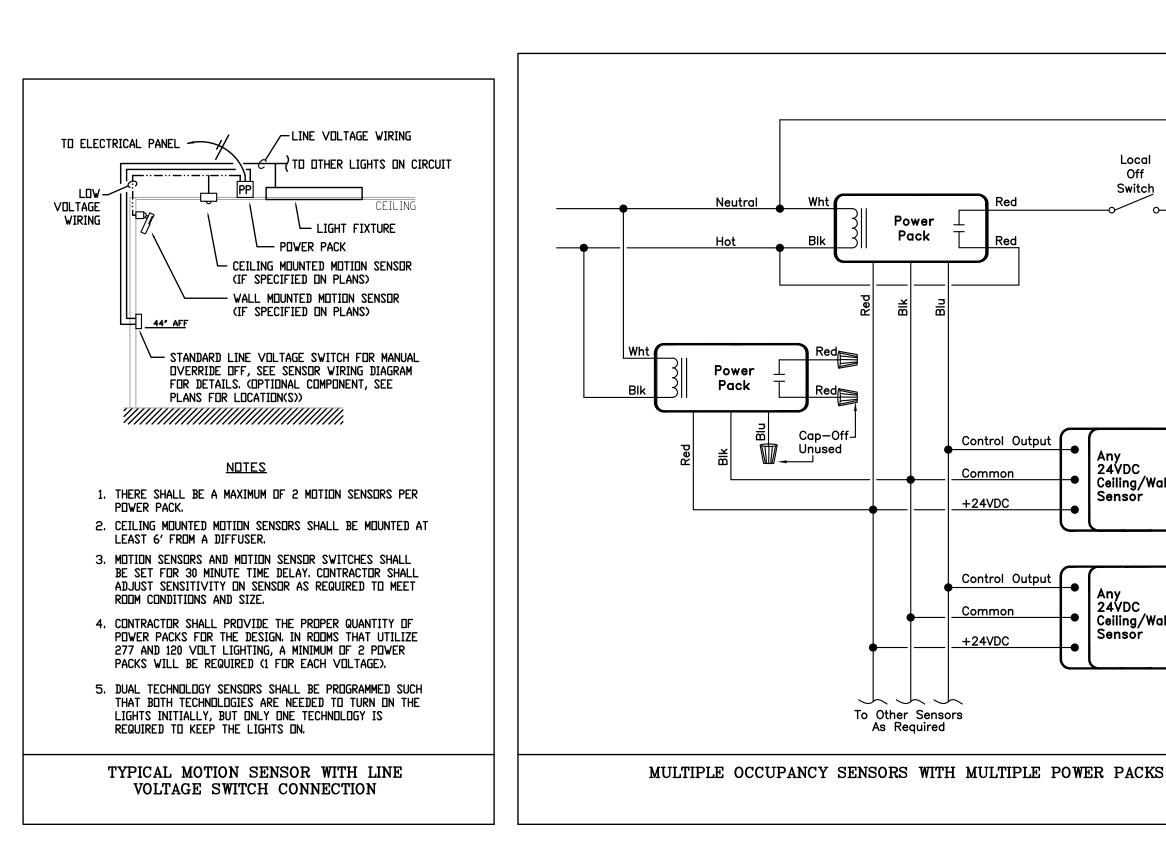
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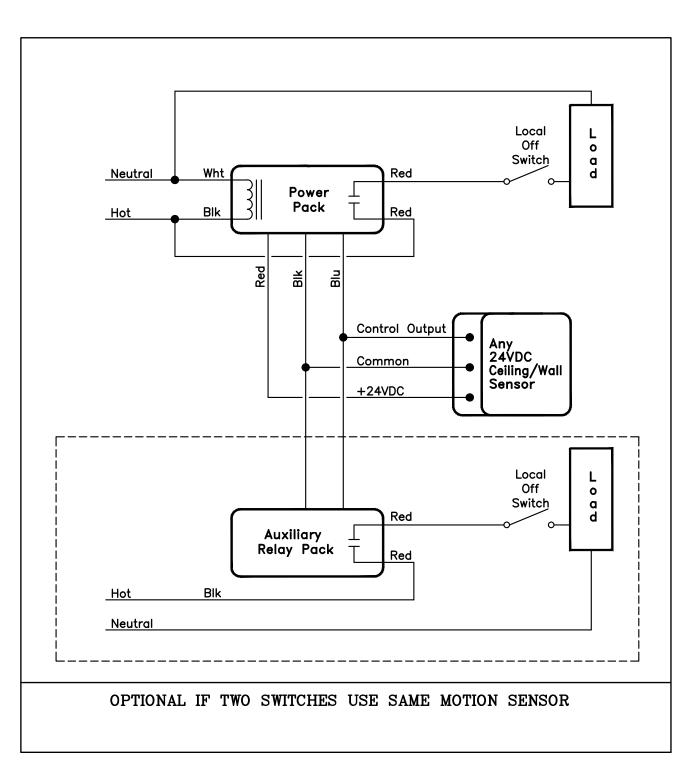
240012 08/14/2024

ELECTRICAL DETAILS



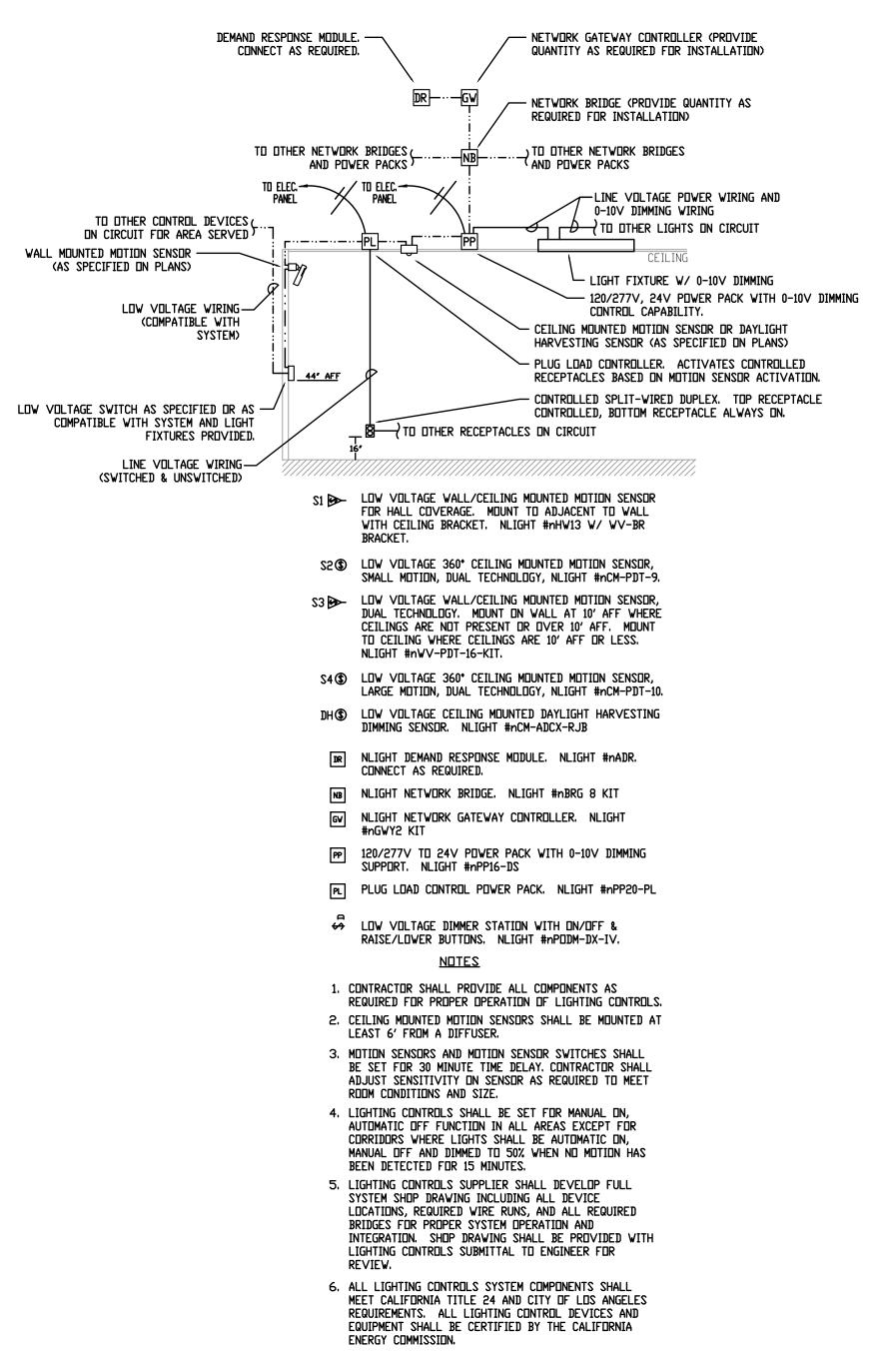
FOR FRAMED WALLS ONLY OR 2 HOUR PENETRATION FIRESTOP FOR METALLIC PIPE, CONDUIT, OR TUBING SCALE: NONE







24VDC



LOW VOLTAGE CONTROL DETAIL FOR LIGHTING AND RECEPTACLES

7. CONTRACTOR SHALL PROVIDE AN INSTALLATION

CERTIFICATE AS REQUIRED BY CALIFORNIA ENERGY CODE



Raleigh, North Carolina 27609

919-871-1070 Fax 871-5620

NOTES

- INDIVIDUAL BRANCH CIRCUITS ARE SHOWN WITH A DEDICATED NEUTRAL UNLESS INDICATED OTHERWISE. WHEN MULTIWIRE BRANCH CIRCUITS ARE TO BE INSTALLED, PROVIDE MULTIPOLE CIRCUIT BREAKERS AS REQUIRED BY NEC 210.7.
- ALL ELECTRICAL BOXES MOUNTED IN RATED WALLS SHALL COMPLY WITH ALL REQUIREMENTS OF THE 2018 NCSBC, SECTION 714.3.2. ALL ELECTRICAL BOXES MOUNTED IN RATED CEILINGS/HORIZONTAL ASSEMBLIES SHALL COMPLY WITH ALL REQUIREMENTS OF THE 2018 NCSBC, SECTION 714.4.2. UNLESS OTHERWISE NOTED, DEVICES SHOWN IN RATED ASSEMBLIES SHALL BE FLUSH WITH CONDUIT CONCEALED. PROVIDE HORIZONTAL SEPARATION, PUTTY PADS, RATED BOXES ETC. AS REQUIRED FOR REQUIRED INSTALLATION. ALL LOW VOLTAGE ELECTRICAL DEVICES MOUNTED IN RATED ASSEMBLIES SHALL BE PROTECTED IN ACCORDANCE WITH THE SECTIONS LISTED ABOVE.
- SEE VOLTAGE DROP SCHEDULE ON DETAILS SHEET FOR WIRE SIZING INFORMATION FOR ALL BRANCH CIRCUITS OVER 65' IN LENGTH.
- . ALL RECEPTACLES WITHIN 6 FEET FROM THE DUTSIDE EDGE OF ANY SINK SHALL BE GFI PER NEC 210.8(B)(5).
- GENERAL CONTRACTOR SHALL PROVIDE BOLLARDS IN FRONT OF ELECTRICAL PANELS AS REQUIRED BY THE BUILDING INSPECTOR. COORDINATE EXACT LOCATION AND QUANTITY WITH BUILDING INSPECTOR PRIOR TO BEGINNING WORK.

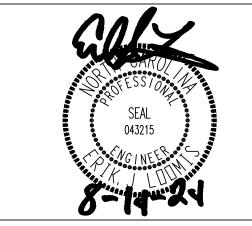
PLAN NOTES

- RELOCATE EXISTING PANEL "AP", TRANSFORMER "T-AP", AND DISCONNECT TO THE NEW LOCATION AS INDICATED ON THE POWER PLAN. EXTEND EXISTING CONDUCTORS AND CONDUIT TO NEW LOCATION AS REQUIRED. COORDINATE EXACT LOCATION WITH ARCHITECT/OWNER PRIOR TO BEGINNING WORK.
- PROVIDE DEDICATED RECEPTACLE ABOVE COUNTER FOR MICROWAVE. COORDINATE EXACT LOCATION WITH OWNER PRIOR TO INSTALLATION.

CONNECT FORKLIFT CHARGER AS REQUIRED. COORDINATE FINAL LOCATION WITH

DWNER/ARCHITECT PRIDR TO BEGINNING WORK.

- PROVIDE DEDICATED RECEPTACLE ABOVE COUNTER FOR TOASTER OVEN. COORDINATE EXACT LOCATION WITH OWNER PRIOR TO INSTALLATION.
- VERIFY NEW WALL LOCATION WILL NOT AFFECT INDICATED PANEL PRIOR TO BEGINNING WORK. COORDINATE WITH ARCHITECT.



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NOTE: THE EXISTING LOCATIONS SHOWN ON DEMO PLAN TO BE REMOVED OR RELOCATED ARE FOR REFERENCE ONLY AND SHALL BE VERIFIED BY REMOVED OR RELOCATED SHALL BE INCLUDED IN CONTRACTOR'S COST, WHETHER SHOWN ON THIS PLAN OR NOT. UNLESS SPECIFICALLY NOTED OTHERWISE, WHERE A DEVICE OR ITEM IS NOTED TO BE DEMOLISHED, THE WORK SHALL INCLUDE REMOVING ALL ASSOCIATED BOXES, CONDUITS, CONDUCTORS, CABLES ETC. AND SHALL INCLUDE ANY PATCH, REPAIR, PAINT OR REFINISH NECESSARY TO RESTORE THE LOCATION TO MATCH THE SURROUNDING. THE CONTRACTOR MAY REUSE ANY EXISTING CONDUCTORS, BOXES ETC. WHERE THEY HAVE BEEN INSPECTED AND ARE DETERMINED TO BE ACCEPTABLE TO THE OWNER AND/OR IN LIKE-NEW CONDITION.

WALL TYPES AND RATINGS LEGEND

REFER TO ARCHITECTURAL SHEETS FOR MORE INFORMATION ON RATINGS AND ADDITIONAL RATED CONSTRUCTIONS INCLUDING COLUMNS WHERE APPLICABLE. PROTECT ALL RATED CONSTRUCTIONS AS REQUIRED.

EXISTING WALL TO REMAIN NEW WALL TO BE CONSTRUCTED EXISTING WALL TO BE DEMOLISHED —— — — — — — ONE HOUR FIRE PARTITION

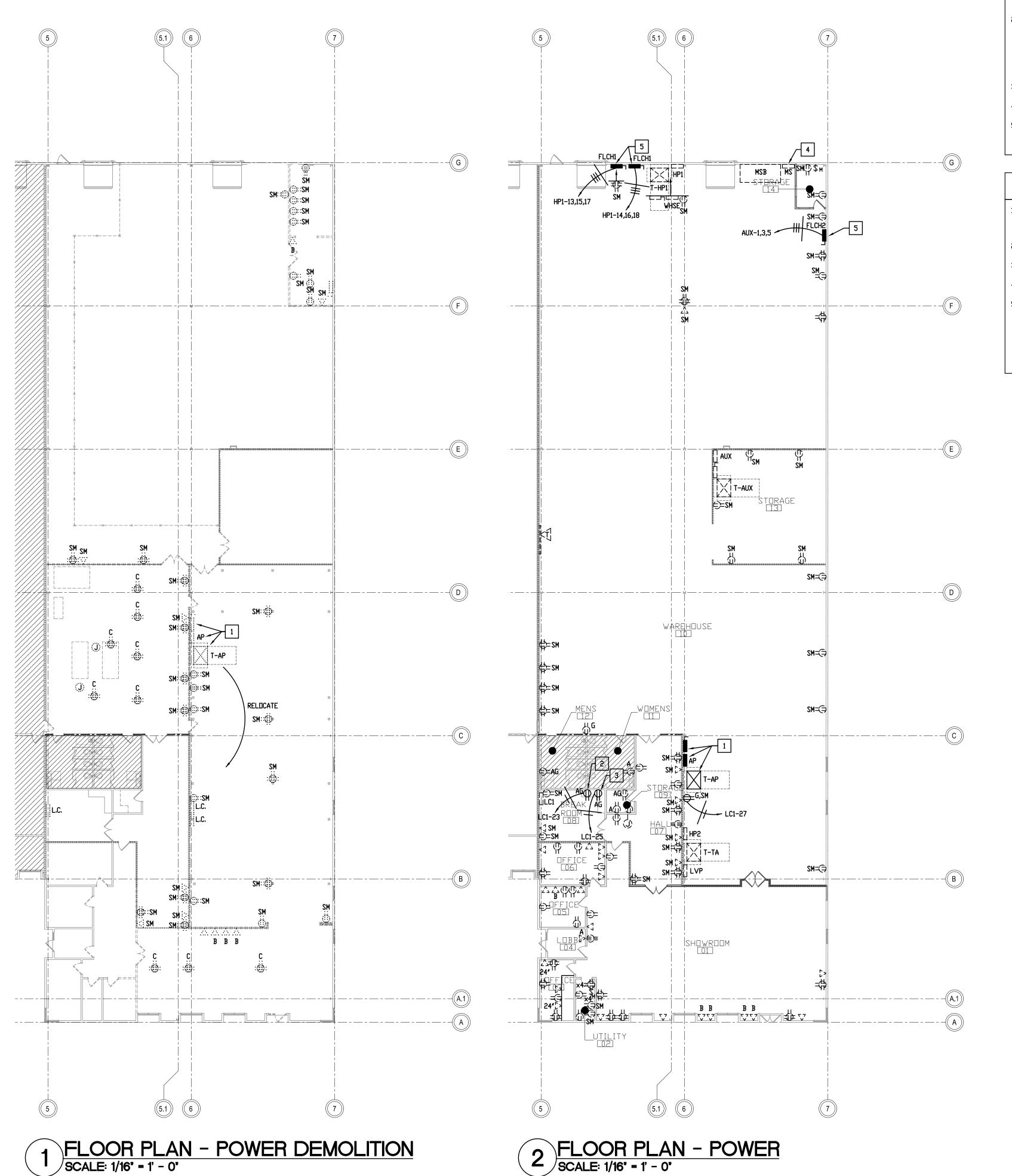
240012 PROJECT #: 08/14/2024 FLOOR PLAN - POWER

& POWER DEMOLITION

Supply

Johnston

Description





919-871-1070 Fax 871-5620

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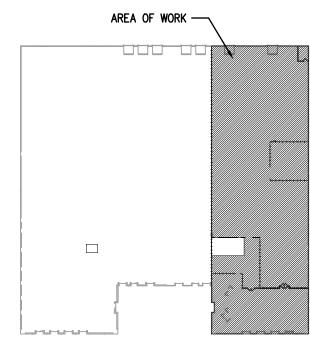
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NOTES

- CONNECT WALLPACKS OR OTHER NORMALLY OFF EMERGENCY LIGHTS, EXIT LIGHTS AND NIGHT LIGHTS AHEAD OF LOCAL SWITCHES, RELAYS, AND MOTION SENSOR POWER PACKS. (TOTAL FIXTURE UNSWITCHED). WHERE NOT INDICATED AS A NIGHT LIGHT, FIXTURES WITH EMERGENCY BATTERIES SHALL BE CONNECTED WITH THE BATTERY AHEAD OF SWITCH SO THAT EMERGENCY BALLAST COMES ON ONLY IN THE EVENT OF POWER LOSS. FIXTURE IS SWITCHED WITH OTHER LIGHTS UNDER NORMAL CONDITIONS.
- INDIVIDUAL BRANCH CIRCUITS ARE SHOWN WITH A DEDICATED NEUTRAL UNLESS INDICATED OTHERWISE. WHEN MULTIWIRE BRANCH CIRCUITS ARE TO BE INSTALLED, PROVIDE MULTIPOLE CIRCUIT BREAKERS AS REQUIRED BY NEC 210.7.
- ALL ELECTRICAL BOXES MOUNTED IN RATED WALLS SHALL COMPLY WITH ALL REQUIREMENTS OF THE 2018 NCSBC, SECTION 714.3.2. ALL ELECTRICAL BOXES MOUNTED IN RATED CEILINGS/HORIZONTAL ASSEMBLIES SHALL COMPLY WITH ALL REQUIREMENTS OF THE 2018 NCSBC, SECTION 714.4.2. UNLESS OTHERWISE NOTED, DEVICES SHOWN IN RATED ASSEMBLIES SHALL BE FLUSH WITH CONDUIT CONCEALED. PROVIDE HORIZONTAL SEPARATION, PUTTY PADS, RATED BOXES ETC. AS REQUIRED FOR REQUIRED INSTALLATION. ALL LOW VOLTAGE ELECTRICAL DEVICES MOUNTED IN RATED ASSEMBLIES SHALL BE PROTECTED IN ACCORDANCE WITH THE SECTIONS LISTED ABOVE.
- CONNECT EXHAUST FANS TO BE SWITCHED WITH LIGHTS.
- CIRCUIT BREAKERS USED FOR SWITCHING LIGHTS SHALL BE RATED FOR SWITCHING.
- CONTRACTOR MAY REUSE ANY EXISTING EMERGENCY/ EXIT LIGHT, GIVEN THAT THE DEVICE IS IN PROPER WORKING ORDER. REPLACE CHEVRONS AND ROTATE EXIT SIGNS AS SHOWN ON PLANS. SEE MOTION SENSOR DETAIL FOR DEVICE SPECIFICATIONS AND WIRING DETAILS.
- SEE VOLTAGE DROP SCHEDULE ON DETAILS SHEET FOR WIRE SIZING INFORMATION FOR ALL BRANCH CIRCUITS OVER 65' IN LENGTH.
- FOR LIGHTING CONTROLS WHICH INCLUDE DAYLIGHT OR OCCUPANT SENSING AUTOMATIC CONTROLS, AUTOMATIC SHUT-OFF CONTROLS, OCCUPANCY SENSORS, OR AUTOMATIC TIME SWITCHES, THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR TESTING THE LIGHTING CONTROLS PER SECTION C408.3 OF THE 2018 NC ENERGY CONSERVATION CODE TO ENSURE THAT CONTROL DEVICES, COMPONENTS, EQUIPMENT, AND SYSTEMS ARE CALIBRATED, ADJUSTED AND OPERATE IN ACCORDANCE WITH APPROVED PLANS AND SPECIFICATIONS. SEQUENCES OF OPERATION SHALL BE FUNCTIONALLY TESTED TO ENSURE THEY OPERATE IN ACCORDANCE WITH APPROVED PLANS AND
- CONTRACTOR SHALL VERIFY LOAD ON EACH DIMMER SWITCH AND PROVIDE ADDITIONAL SWITCHES AS NECESSARY TO MEET CONTROL INTENT SHOWN ON PLANS.
- CONTRACTOR SHALL VERIFY LIGHT FIXTURE MOUNTING HEIGHTS AND SUSPENSION LENGTHS WITH ARCHITECT PRIOR TO INSTALLATION.

PLAN NOTES

- CONNECT EMERGENCY AND EXIT LIGHTS AHEAD OF LOCAL SWITCH AS REQUIRED. (TOTAL FIXTURE UNSWITCHED). TYPICAL.
- MOTION SENSOR TO CONTROL ALL LIGHTS IN THIS ROOM. SEE MOTION SENSOR WIRING DIAGRAMS. PROVIDE POWER PACKS AS REQUIRED TO CONTROL ALL LIGHTS WITH OVERRIDE OFF SWITCHES





NOTE: THE EXISTING LOCATIONS SHOWN ON DEMO PLAN TO BE REMOVED OR RELOCATED ARE FOR REFERENCE ONLY AND SHALL BE VERIFIED BY REMOVED OR RELOCATED SHALL BE INCLUDED IN CONTRACTOR'S COST, WHETHER SHOWN ON THIS PLAN OR NOT. UNLESS SPECIFICALLY NOTED OTHERWISE, WHERE A DEVICE OR ITEM IS NOTED TO BE DEMOLISHED, THE SURRDUNDING. THE CONTRACTOR MAY REUSE ANY EXISTING CONDUCTORS, BOXES ETC. WHERE THEY HAVE BEEN INSPECTED AND ARE DETERMINED TO BE ACCEPTABLE TO THE OWNER AND/OR IN LIKE-NEW CONDITION.

WALL TYPES AND RATINGS LEGEND

REFER TO ARCHITECTURAL SHEETS FOR MORE INFORMATION ON RATINGS AND ADDITIONAL RATED CONSTRUCTIONS INCLUDING COLUMNS WHERE APPLICABLE. PROTECT ALL RATED CONSTRUCTIONS AS REQUIRED.

EXISTING WALL TO REMAIN NEW WALL TO BE CONSTRUCTED EXISTING WALL TO BE DEMOLISHED —— — — — — — — ONE HOUR FIRE PARTITION

FLOOR PLAN -LIGHTING & LIGHTING DEMOLITION

Supply

Johnston

Description

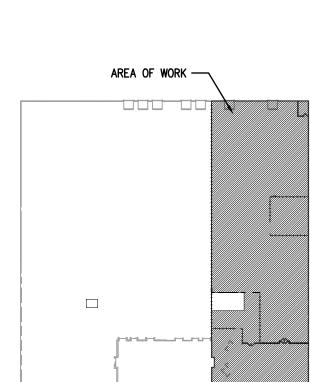
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08/14/2024



THESE DRAWINGS WILL BE AT THE SCALE INDICATED WHEN PLOTTED AT 24" X 36"





DATE:

PROJECT #:

Raleigh, North Carolina 27609 919-871-1070 Fax 871-5620

NOTES

- INDIVIDUAL BRANCH CIRCUITS ARE SHOWN WITH A DEDICATED NEUTRAL UNLESS INDICATED OTHERWISE. WHEN MULTIWIRE BRANCH CIRCUITS ARE TO BE INSTALLED, PROVIDE MULTIPOLE CIRCUIT BREAKERS AS REQUIRED BY NEC 210.7.
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- SEE VOLTAGE DROP SCHEDULE ON DETAILS SHEET FOR WIRE SIZING INFORMATION FOR ALL BRANCH CIRCUITS OVER 65' IN LENGTH.

PLAN NOTES

CONNECT ROOFTOP UNIT AS REQUIRED. COORDINATE WITH MECHANICAL. WP GFI RECEPTACLE ON ROOF FOR MAINTENANCE. CONNECT AS REQUIRED. COORDINATE W/ MECH.

WALL TYPES AND RATINGS LEGEND

EXISTING WALL TO REMAIN
 NEW WALL TO BE CONSTRUC
 EXISTING WALL TO BE DEMO
 ONE HOUR FIRE PARTITION

EQUIPMENT CONNECTIONS

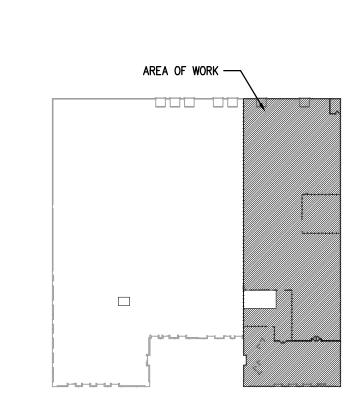
FLOOR PLAN -

PROJECT #:

HP2-37,39,41

2 FLOOR PLAN - EQUIPMENT CONNECTIONS SCALE: 1/16" = 1' - 0"

THESE DRAWINGS WILL BE AT THE SCALE INDICATED WHEN PLOTTED AT 24" X 36"





REFER TO ARCHITECTURAL SHEETS FOR MORE INFORMATION ON RATINGS AND ADDITIONAL RATED CONSTRUCTIONS INCLUDING COLUMNS WHERE APPLICABLE. PROTECT ALL RATED CONSTRUCTIONS AS REQUIRED.

CONSTRUCTED BE DEMOLISHED RTITION

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Description

Date

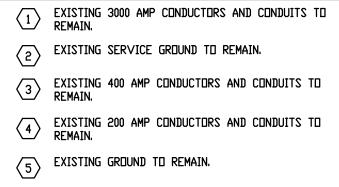
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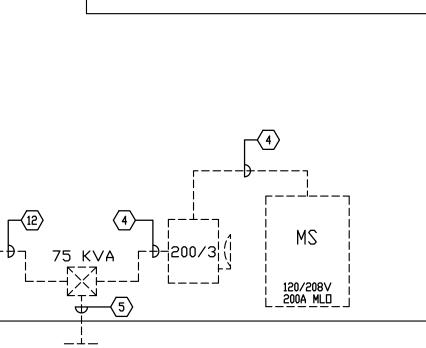






RISER KEY NOTES

- 6 EXISTING 100 AMP CONDUCTORS AND CONDUITS TO REMAIN.
- 7 Existing 150 amp conductors and conduit to Remain.
- 8 EXISTING 225 AMP CONDUCTORS AND CONDUIT TO REMAIN. 9 4-250KCM, #4 GND, 3" C



Description

Supply

Johnstone

PROJECT #:

DATE:

08/14/2024

Date

240012

orth Industrial Center, /e, Raleigh N.C.

ELECTRICAL RISER

DIAGRAM

(10) EXISTING PANEL AND TRANSFORMER TO BE RELOCATED. SEE PLAN FOR NEW LOCATION. EXTEND EXISTING CONDUCTORS AND CONDUIT TO NEW LOCATION AS REQUIRED. EXISTING 125 AMP CONDUCTORS AND CONDUIT TO REMAIN. PULL BOX _____ ļ-----(ESSENTIAL BUS) L______ ______ r-----r-----WHSE 75 KVA [EX. PAD-MOUNT (M) 75 KVA 277/480V 400A_MB 277/480V ___150A_MLD___ 120/208V ___200A_MB__ 120/208V ___100A_MB___ 277/480√ __400A_ML□__ 120/208V 225A MB POWER COMPANY 277/480V 3000A MB 5 4 5 <u>-</u><u>+</u>-

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PANEL SCHEDULE NOTES (FOR ALL PANELS):

- 1. VALUES FOR DEMAND LOADS INCLUDE ALL CODE FACTORS SUCH AS 125% FOR CONTINUOUS LOADS, 125% LARGEST MOTOR, ETC.
- 2. BREAKER SIZES SHOWN FOR NEW EQUIPMENT IN PANEL SCHEDULES ARE FOR REFERENCE ONLY, SEE EQUIPMENT CONNECTION SCHEDULE(S) FOR ADDITIONAL INFORMATION. WHERE BREAKER / FUSE SIZE BETWEEN SCHEDULES CONFLICT, THE EQUIPMENT CONNECTION SCHEDULE SHALL TAKE PRECEDENCE.
- 3. ALL PANEL DIRECTORIES SHALL BE COMPLETED IN ACCORDANCE WITH NEC 408.4.
- 4. CONTRACTOR SHALL PROVIDE MULTIPOLE BREAKERS IN LIEU OF ALL SINGLE POLE BREAKERS SHOWN WHEN MULTIWIRE BRANCH CIRCUITS ARE INSTALLED PER NEC 210.7.
- 5. CONTRACTOR SHALL LABEL ALL BREAKERS FEEDING EMERGENCY AND EXIT LIGHTING PER NEC 700.10(A).
- 6. PROVIDE ARC FLASH HAZARD WARNING LABELS AS REQUIRED ON ALL PANELS AFFECTED BY THIS WORK. COMPLY WITH NEC 110.16.
- 7. CONTRACTOR SHALL PROVIDE IDENTIFICATION FOR NEW FEEDERS AND ANY NEW BRANCH CIRCUITS PER NEC 200.6, 210.5, AND 215.12.
- 8. WHERE CIRCUIT BREAKERS OR FUSES ARE NOTED TO BE SERIES RATED, THE EQUIPMENT SHALL BE MARKED PER NEC 110.22 AS APPLICABLE. FOR TESTED SERIES COMBINATION SYSTEMS, THE MARKING SHALL STATE THE FOLLOWING "CAUTION - SERIES COMBINATION SYSTEM RATED ____ AMPERES. IDENTIFIED REPLACEMENT COMPONENTS REQUIRED." FOR ENGINEERED SERIES COMBINATION SYSTEMS, SEE NEC 110.22(B) FOR MARKING LANGUAGE.
- 9. ALL SHUNT TRIP TYPE BREAKERS SHALL BE 120V SHUNT TRIP ACTUATED UNLESS NOTED OTHERWISE.
- 10. PER NEC 240.83(D), CIRCUIT BREAKERS USED AS SWITCHES FOR HIGH INTENSITY DISCHARGE LIGHTING SHALL BE LISTED AND MARKED "HID" AND CIRCUIT BREAKERS USED AS SWITCHES FOR FLUORESCENT LIGHTING SHALL BE LISTED AND MARKED "SWD" DR "HID". ANY CIRCUIT BREAKERS USED FOR SWITCHING LIGHTS SHALL BE LISTED FOR SWITCHING AND MARKED PER NEC 240.83(D). CIRCUIT BREAKERS USED FOR HVAC EQUIPMENT SHALL BE "HACR" TYPE. BREAKERS SERVING HOT BOXES OR HEAT TRACE SHALL HAVE GROUND-FAULT EQUIPMENT PROTECTION.
- 11. BREAKER NOTATIONS IN PARENTHESIS IN PANEL SCHEDULES INDICATE THAT THE FOLLOWING FUNCTIONS BE PROVIDED:
- 11.1. (A) COMBINATION TYPE AFCI BREAKER PER NEC SECTION
- 11.2. (G) GROUND FAULT CIRCUIT INTERRUPTER (GFCI, 5 mA).
- 11.3. (GE) GROUND FAULT EQUIPMENT PROTECTION (GFEP, 30 mA). 11.4. (L) - BREAKER HANDLE LOCK. BREAKER LOCK SHALL BE ACCESSIBLE FROM OUTSIDE OF PANEL AND SHALL NOT REQUIRE THE REMOVAL OF PANEL COVER IN ORDER TO RESET THE
- 12. BOLDED TEXT INDICATES A NEW OR CHANGED CIRCUIT ON AN EXISTING PANEL, BOLDED BREAKERS ARE NEW OR RELOCATED TO LOCATION SHOWN.
- 13. ENGINEER HAS SHOWN NEW CIRCUITS IN LOCATIONS DETERMINED TO BE SPARE OR SPACE BASED ON PANEL DIRECTORIES AND OTHER AVAILABLE INFORMATION, CONTRACTOR SHALL VERIFY THAT PLACEMENT SHOWN DOES NOT INTERFERE WITH EXISTING CIRCUITS TO REMAIN. VERIFY AVAILABLE CIRCUITS BASED ON NEW AND DEMO PLANS AND CONTACT ENGINEER WITH ANY CONFLICTS.

Anel: AUX LOAD SERVED KVA BRKR. 2.2 FORKLIFT CHARGER FLCH2 2.2 SPARE 20/3	1 3 5	Ø A B	ONLY 2	Phase: BRKR.	3 KVA	Wires: 4
FORKLIFT CHARGER FLCH2 2.2 15/3 2.2 15/3	3 5	Α		BRKR.	KVA	
FORKLIFT CHARGER FLCH2 2.2 15/3 2.2	3 5					LOAD SERVED
2.2	5	В	1/2			
			4	20/3		SPARE
SPARE 20/3		C	6			
SPARE 20/3	7	Α	8		11.0	
20/3	9	В	10	80/3	7.3	PANEL MS THRU XFMR AUX
	11	С	12		9.0	
SPARE 20/2	13	Α	14	20/2		SPARE
	15	В	16			
	17	С	18	20/1		SPARE
SPARE 20/3	19	Α	20	20/2		SPARE
	21	В	22			
	23	C	24	20/1		SPARE
SPARE 20/3	25	Α	26	SPACE		SPACE
	27	В	28	SPACE		SPACE
SPACE SPACE	29	С	30	SPACE		SPACE
SPARE 20/2	31	Α	32	SPACE		SPACE
	33	В	34	SPACE		SPACE
SPACE SPACE	35	С	36	SPACE		SPACE
SPACE SPACE	37	Α	38	SPACE		SPACE
SPACE SPACE	39	В	40	SPACE		SPACE
SPACE SPACE	41	C.	42	SPACE		SPACE

2. FIRST 10 KVA AT 100%, REST AT 50%.

 X
 GROUND BAR
 NEMA 3R

 X
 SEPARATE NEUTRAL BAR
 FEED THRU LUGS

 U.L. S.E. RATED
 X
 EXISTING PANEL

X SURFACE MOUNTED

X SEPARATE NEUTRAL BAR

U.L. S.E. RATED X SURFACE MOUNTED

Panel: HP1				00 AN		-	42	Voltage: 277/480	
			MAII	N BREA	AKER	Phase:	3	Wires: 4	
LOAD SERVED	KVA	BRKR.		ø		BRKR.	KVA	LOAD SERVED	
SPACE		SPACE	1	Α	2		3.3		
SPACE		SPACE	3	В	4	15/3	3.3	EX. WIRE TWISTER	
WAREHOUSE LIGHTS	2.2	20/1	5	С	6		3.3		
WAREHOUSE LIGHTS	2.3	20/1	7	Α	8	20/1	0.3	STORAGE LIGHTS	
SPACE		SPACE	9	В	10	20/1		SPARE	
SPACE		SPACE	11	С	12	20/1		SPARE	
	3.0		13	Α	14	les .	3.0		
FORKLIFT CHARGER FLCH1	3.0	15/3	15	В	16	15/3	3.0	FORKLIFT CHARGER FLCH1	
	3.0		17	С	18		3.0		
	23.2		19	Α	20	SPACE		SPACE	
PNL LC1 THRU T-HP1	21.9	100/3	21	В	22	SPACE		SPACE	
	13.9		23	С	24	SPACE		SPACE	
SPACE		SPACE	25	Α	26	SPACE		SPACE	
SPACE		SPACE	27	В	28	SPACE		SPACE	
SPACE		SPACE	29	С	30	SPACE		SPACE	
SPACE		SPACE	31	Α	32	SPACE		SPACE	
SPACE		SPACE	33	В	34	SPACE		SPACE	
SPACE		SPACE	35	С	36	SPACE		SPACE	
SPACE		SPACE	37	Α	38	SPACE		SPACE	
SPACE		SPACE	39	В	40	SPACE		SPACE	
SPACE		SPACE	41	С	42	SPACE		SPACE	
				Load S		12			
Lighting:4.9 KVA			KVA					4.1 KVA <u>123.0</u> Amps	
Largest Motor: 0.0 KVA						Phase B:			
Gen Receptacles: 21.0 KVA						Phase C:			
All Other: 66.2 KVA	@ 100%	66.2	KVA	To	tal Par	nel Load: ₋	87	7.7 KVA105.5 Amps	
				1. ALL	BREAK	ERS SHAL	L MATO	CH EXISTING AIC.	

			MAI	N BRE	AKER	Phase:	3	Wires: 4				MAII	N BREA	ΑK
LOAD SERVED	KVA	BRKR.		ø		BRKR.	KVA	LOAD SERVED	LOAD SERVED	KVA	BRKR.		ø	Г
SPACE		SPACE	1	Α	2		3.3			5.9		1	Α	
SPACE		SPACE	3	В	4	15/3	3.3	EX. WIRE TWISTER	PNL LVP THRU T-TA	5.2	125/3	3	В	
WAREHOUSE LIGHTS	2.2	20/1	5	С	6		3.3			7.6		5	С	
WAREHOUSE LIGHTS	2.3	20/1	7	Α	8	20/1	0.3	STORAGE LIGHTS				7	Α	Г
SPACE		SPACE	9	В	10	20/1		SPARE	SPARE		20/3	9	В	Г
SPACE		SPACE	11	С	12	20/1		SPARE				11	С	
	3.0		13	Α	14		3.0					13	Α	Γ
FORKLIFT CHARGER FLCH1	3.0	15/3	15	В	16	15/3	3.0	FORKLIFT CHARGER FLCH1	SPARE		80/3	15	В	
	3.0	Ī	17	С	18		3.0					17	С	Г
	23.2		19	Α	20	SPACE		SPACE				19	Α	
PNL LC1 THRU T-HP1	21.9	100/3	21	В	22	SPACE		SPACE	SPARE		15/3	21	В	
	13.9	Ī	23	С	24	SPACE		SPACE				23	С	П
SPACE		SPACE	25	Α	26	SPACE		SPACE		32.8		25	Α	8
SPACE		SPACE	27	В	28	SPACE		SPACE	PNL AP THRU T-AP	32.8	150/3	27	В	
SPACE		SPACE	29	С	30	SPACE		SPACE		28.8		29	С	
SPACE		SPACE	31	Α	32	SPACE		SPACE		8.6		31	Α	
SPACE		SPACE	33	В	34	SPACE		SPACE	EX. RTU #18	8.6	40/3	33	В	
SPACE		SPACE	35	С	36	SPACE		SPACE		8.6		35	С	
SPACE		SPACE	37	Α	38	SPACE		SPACE		8.9		37	Α	
SPACE		SPACE	39	В	40	SPACE		SPACE	RTU #19	8.9	40/3	39	В	
SPACE		SPACE	41	С	42	SPACE		SPACE		8.9	l	41	С	
Lighting: 4.9 KVA Largest Motor: 0.0 KVA Gen Receptacles: 21.0 KVA All Other: 66.2 KVA	@ 125% NOTE 2	6.1 0.0 15.5	emand KVA KVA KVA			nry: Phase A: Phase B: Phase C: nel Load:	29	1.1 KVA 123.0 Amps 2.4 KVA 106.2 Amps 1.2 KVA 87.4 Amps 7.7 KVA 105.5 Amps	Lighting:5.3 KVA Largest Motor:0.0 KVA Gen Receptacles:40.2 KVA All Other:187.3 KVA	@ 125% NOTE 2	6.7 0.0	emand KVA KVA KVA KVA	Load S To	
X GROUND BAR X SEPARATE NEUTRAL BAR U.L. S.E. RATED X SURFACE MOUNTED	FE	MA 3R ED THRU L ISTING PA				(ERS SHAI VA AT 10		T AT 50%.	X GROUND BAR X SEPARATE NEUTRAL BAR U.L. S.E. RATED X SURFACE MOUNTED	FEE	MA 3R D THRU L STING PA	UGS	1. ALL 2. FIRS	

Panel: HP2			40	00 AN	ИP	Poles:	42	Voltage: 277/480	Panel: AP
			MAI	N BRE	AKER	Phase:	3	Wires: 4	
LOAD SERVED	KVA	BRKR.		ø		BRKR.	KVA	LOAD SERVED	LOAD SERVED
	5.9		1	Α	2		13.2		
PNL LVP THRU T-TA	5.2	125/3	3	В	4	125/3	9.4	PNL AUX THRU T-AUX	EX. X-RAY (SPARED)
	7.6		5	C	6		11.2		
			7	Α	8				
SPARE		20/3	9	В	10	20/3		SPARE	EX. BGA #2 (SPARED)
			11	С	12				
			13	Α	14				EX. BGA #1
SPARE		80/3	15	В	16	20/3		SPARE	EX. MICRO
			17	С	18				EX. SPARE
			19	Α	20				7
SPARE		15/3	21	В	22	25/3		SPARE	EX. BREAKER
			23	С	24				EX. BREAKER
	32.8		25	Α	26		10.0		EX. BUCK BOOST XFMR
PNL AP THRU T-AP	32.8	150/3	27	В	28	45/3	10.0	EX. RTU	
	28.8		29	С	30		10.0		SPACE
	8.6		31	Α	32	20/1	1.0	EX. BREAKER	SPACE
EX. RTU #18	8.6	40/3	33	В	34	20/1	1.7	OFFICE LIGHTS	SPACE
	8.6		35	С	36	20/1	0.9	OFFICE LIGHTS	SPACE
	8.9		37	Α	38	SPACE		SPACE	SPACE
RTU #19	8.9	40/3	39	В	40	SPACE		SPACE	SPACE
	8.9		41	С	42	SPACE		SPACE	SPACE
Lighting: 5.3 KVA Largest Motor: 0.0 KVA Gen Receptades: 40.2 KVA	@ 125% @ 125% NOTE 2	6.7 0.0 25.1	KVA KVA KVA			Phase A: Phase B: Phase C:	72	5.4 KVA 272.2 Amps 2.0 KVA 259.9 Amps 2.7 KVA 258.7 Amps	
All Other: <u>187.3</u> KVA	@ 100%	187.3	KVA	To	otal Par	nel Load:	219	9.0 KVA <u>263.5</u> Amps	
X GROUND BAR X SEPARATE NEUTRAL BAR U.L. S.E. RATED X SURFACE MOUNTED	FEE	MA 3R ED THRU L STING PA				(ERS SHAL		TH EXISTING AIC. TAT 50%.	X GROUND BAR X SEPARATE NEUTRAL BAI U.L. S.E. RATED X SURFACE MOUNTED

LOAD SERVED	KVA	BRKR.		ø		BRKR.	KVA	LOAD SERVED
EGAD SERVED	IX.V.	DIXIXIX.	1	A	2	20/1	IVA	EX. LAB REC DROP (SPARED)
EX. X-RAY (SPARED)		30/3	3	В	4	20/1		EX. LAB REC DROP (SPARED)
,		30,3	5	C	6	20/1		EX. LAB REC DROP (SPARED)
			7	Α	8	20/1	0.5	EX. EXHAUST FANS
EX. BGA #2 (SPARED)		30/3	9	В	10	,	5.8	
			11	С	12	60/3	5.8	EX. BTU
EX. BGA #1	1.9	20/1	13	Α	14		5.8	
EX. MICRO	1.5	20/1	15	В	16		2.9	
EX. SPARE		30/2	17	С	18	30/3	2.9	EX. BURN IN OVEN
			19	Α	20		2.9	
EX. BREAKER	1.0	20/1	21	В	22		9.6	
EX. BREAKER	1.0	20/1	23	С	24	100/3	9.6	EX. BREAKER
EX. BUCK BOOST XFMR	2.5	30/2	25	Α	26		9.6	
	2.5		27	В	28		9.6	
SPACE		SPACE	29	С	30	100/3	9.6	EX. DOVER SOLTEC
SPACE		SPACE	31	Α	32		9.6	
SPACE		SPACE	33	В	34	SPACE		SPACE
SPACE		SPACE	35	С	36	SPACE		SPACE
SPACE		SPACE	37	Α	38	SPACE		SPACE
SPACE		SPACE	39	В	40	SPACE		SPACE
SPACE		SPACE	41	С	42	SPACE		SPACE

X GROUND BAR X SEPARATE NEUTRAL BAR U.L. S.E. RATED X SURFACE MOUNTED	NEMA 3R FEED THRU LUGS X EXISTING PANEL	1. ALL BREAKERS SHALL MATCH EXISTING AIC. 2. FIRST 10 KVA AT 100%, REST AT 50%.

LOAD SERVED SPARE SPARE SPARE SPARE	KVA		20	00 AN	/IP	Poles:	48	Voltage: 120/208	
SPARE SPARE	KVA		MAII	N BRE	AKER	Phase:	3	Wires: 4	
SPARE		BRKR.		ø		BRKR.	KVA	LOAD SERVED	
		20/1	1	Α	2	20/1	1.0	EX. COMP RM DED RECS	
SPARE		20/1	3	В	4	20/1	1.0	EX. COMP RM DED RECS	
SITTLE		20/1	5	C	6	20/1	1.0	EX. COMP RM DED RECS	
EX. COPIER	1.2	20/1	7	Α	8	20/1	0.7	EX. OFFICE RECS	
EX. STORAGE REC	1.2	20/1	9	В	10	20/1	0.7	EX. OFFICE RECS	
EX. WATER HEATER	2.0	20/1	11	С	12	20/1	1.1	EX. OFFICE RECS	
EX. BATHRM LTS & EXHAUST FAN	0.6	20/1	13	Α	14	60/2	5.0	EX. AC UNIT	
EX. WATER FOUNTAIN	1.0	20/1	15	В	16		5.0		
EX. BATHRM/ROOF GFI RECS	1.1	20/1	17	С	18	20/1	1.3	EX. WAREHOUSE RECS	
EX. CONDENSING UNIT	2.5	30/2	19	Α	20	20/1	0.7	EX. WAREHOUSE RECS	
	2.5		21	В	22	20/1	0.7	EX. WAREHOUSE RECS	
BREAK RM MICROWAVE REC	1.5	20/1	23	С	24	20/1		SPARE	
BREAK RM TOASTER OVEN REC	1.2	20/1	25	Α	26	20/1	1.4	EX. SYSTEMS CUBICLES	
DED WAREHOUSE REC	0.2	20/1	27	В	28	20/1	1.4	EX. SYSTEMS CUBICLES	
SPARE		20/1	29	С	30	20/1	1.3	EX. SYSTEMS FRONT WALL REC	
SPARE		20/1	31	Α	32	20/1	1.3	EX. OFFICE RECS	
SPARE		20/1	33	В	34	20/2	0.5	EX. DRAIN PUMP	
SPARE		20/1	35	С	36		0.5		
			37	Α	38		3.8		
SPARE		30/3	39	В	40	40/3	3.8	EX. AC UNIT	
			41	C	42		3.8		
RTU GFI MAINT RECS	0.4	20/1	43	Α	44).		
RTU #20	3.8	40/2	45	В	46	200/3		MAIN BREAKER	
	3.8		47	С	48				
SPACE		SPACE	49	Α	50	SPACE		SPACE	
SPACE		SPACE	-51	-8-	5	SPACE		SPACE	
SPACE		SPACE	53	C	54	SPACE		SPACE	

KVA		MAI	N BREA	AKER	Phase:	3	Wires: 4
KVA	BRKR.		ø		BRKR.	KVA	LOAD SERVED
	20/1	1	A	2	20/1		SPARE
	20/1	3	В	4	20/1		SPARE
	20/1	5	C	6	20/1		SPARE
	20/1	7	Α	8	20/1	1.3	EX. POWER POLES
	20/1	9	В	10	20/1	1.1	EX. POWER POLES
0.4	20/1	11	С	12	20/1	1.3	EX. POWER POLES
	20/1	13	Α	14	20/1		SPARE
	20/1	15	В	16	20/1		SPARE
	20/1	17	С	18	20/1		SPARE
	20/1	19	Α	20	20/1	1.3	EX. POWER POLES
	20/1	21	В	22	20/1	1.3	EX. POWER POLES
1.1	20/1	23	С	24	20/1	1.0	EX. WAREHOUSE EMERGENCY LT
		25	Α	26	20/1	0.7	EX. WAREHOUSE EXIT
	100/3	27	В	28	20/1	0.5	EX. REPAIR WORK RECS
		29	С	30	20/1	0.7	EX. REPAIR WORK RECS
1.1	20/1	31	Α	32	20/1	0.7	EX. REPAIR WORK RECS
1.1	20/1	33	В	34	20/1		SPARE
0.9	20/1	35	С	36	20/1	0.3	EX. WAREHOUSE EMERGENCY LT
	20/1	37	Α	38	20/1	0.9	EX. POWER POLES
	20/1	39	В	40	20/1	1.3	EX. POWER POLES
1.1	20/1	41	С	42	20/1	0.9	EX. POWER POLES
	1.1 1.1 1.1 0.9	20/1 20/1 20/1 20/1 20/1 20/1 20/1 20/1	20/1 5 20/1 7 7 9 0.4 20/1 11 15 20/1 15 20/1 17 20/1 21 1.1 20/1 23 25 100/3 27 29 1.1 20/1 31 1.1 20/1 33 0.9 20/1 35 20/1 37 20/1 39	20/1 5 C 20/1 7 A 20/1 9 B 0.4 20/1 11 C 20/1 15 B 20/1 17 C 20/1 19 A 20/1 21 B 1.1 20/1 23 C 100/3 27 B 20/1 31 A 1.1 20/1 33 B 0.9 20/1 35 C 20/1 37 A 20/1 39 B	20/1 5 C 6	20/1 5 C 6 20/1	z0/1 5 C 6 20/1 z0/1 7 A 8 20/1 1.3 z0/1 9 B 10 20/1 1.1 0.4 20/1 11 C 12 20/1 1.3 z0/1 13 A 14 20/1 20/1 20/1 20/1 20/1 20/1 20/1 20/1 20/1 20/1 20/1 20/1 20/1 1.3 20/1 1.3 20/1 1.3 20/1 1.3 20/1 1.3 20/1 1.3 20/1 1.3 20/1 1.3 20/1 1.3 20/1 1.3 20/1 1.3 20/1 1.3 20/1 1.3 20/1 1.3 20/1 1.3 20/1 1.3 20/1 1.3 20/1 1.0 20/1 1.3 20/1 1.0 20/1 1.0 20/1 1.0 20/1 1.0 20/1 1.0 20/1 2.5 A 26 <

FEED THRU LUGS
X EXISTING PANEL

X SEPARATE NEUTRAL BAR U.L. S.E. RATED

X SURFACE MOUNTED

			IVIAI	N BRE	AKEK	Phase:	3	Wires: 4	
LOAD SERVED	KVA	BRKR.		ø		BRKR.	KVA	LOAD SERVED	
EX. MAIN BREAKER		100/2	1	Α	2	SPACE		SPACE	
			3	В	4	SPACE		SPACE	
EX. BREAKER		30/1	.5	C	6	30/1		EX. BREAKER	
EX. BREAKER		30/1	7	Α	8	30/1		EX. BREAKER	
EX. REC	1.0	20/1	9	В	10	20/1	1.0	EX. OUTSIDE LIGHT	
SPACE		SPACE	11	С	12	SPACE		SPACE	
SPACE		SPACE	13	Α	14	SPACE		SPACE	
SPACE		SPACE	15	В	16	SPACE		SPACE	
SPACE		SPACE	17	С	18	SPACE		SPACE	
SPACE		SPACE	19	Α	20	SPACE		SPACE	
SPACE		SPACE	21	В	22	SPACE		SPACE	
SPACE		SRACE	23	C	24	SPACE		SPACE	
SPACE		SPACE	25	Α	26	SPACE		SPACE	
SPACE		SPACE	27	\mathbb{X}	28	SPACE		SPACE	
SPACE		SPACE	29	С	30	SPACE		SPACE	
SPACE		SPACE	31	Α	32	SPACE		SPACE	
SPACE		SPACE	33	В	34	SPACE		SPACE	
SPACE		SPACE	35	С	36	SPACE		SPACE	
SPACE		SPACE	37	Α	38	SPACE		SRACE	
SPACE		SPACE	39	В	40	SPACE		SPACE	
SPACE		SPACE	41	C	42	SPACE		SPACE	

NEMA 3R

X SEPARATE NEUTRAL BAR U.L. S.E. RATED FEED THRU LUGS

X GROUND BAR

U.L. S.E. RATED

X SURFACE MOUNTED

1. ALL BREAKERS SHALL MATCH EXISTING AIC.

2. FIRST 10 KVA AT 100%, REST AT 50%.

			MAIN	LUGS	ONLY	Phase:	3	Wires: 4	
LOAD SERVED	KVA	BRKR.		ø		BRKR.	KVA	LOAD SERVED	
EX. LATHE REC	1.0	20/1	1	Α	2	20/1	1.0	EX. LATHE REC	
EX. LATHE REC	1.0	20/1	3	В	4	20/1	0.5	EX. EXHAUST FAI	
EX. BAND SAW	1.0	20/1	5	C	6	20/1		EX. SPARE	
EX. GRINDER & WORK TBL REC	1.0	20/1	7	Α	8		1.9		
EX. AC UNIT	1.9	20/1	9	В	10	20/3	1.9	EX. MILL	
EX. WELDER REC	4.2	50/2	11	С	12		1.9		
	4.2		13	Α	14		1.9		
SPACE		SPACE	15	В	16	20/3	1.9	EX. GRINDER	
SPACE		SPACE	17	С	18		1.9		
SPACE		SPACE	19	Α	20	SPACE		SPACE	
SPACE		SPACE	21	В	22	SPACE		SPACE	
SPACE		SPACE	23	C	24	SPACE		SPACE	
SPACE		SPACE	25	Α	26	SPACE		SPACE	
SPACE		SPACE	27	В	28	SPACE		SPACE	
SPACE		SPACE	29	С	30	SPACE		SPACE	
X GROUND BAR X SEPARATE NEUTRAL BAR U.L. S.E. RATED X SURFACE MOUNTED	FEE	MA 3R ED THRU L STING PA		1				H EXISTING AIC. T AT 50%.	

	/	MSB' BREA	AKER	SCHEDULE				
\ \	10	SIZE		SERVES				
		3000/3	EX. MAIN	N BREAKER				
	1	400/3	EX. ESSENTIAL BUS					
	2	150/3	EX. HOUSE POWER					
	3	3000/3	EX. UPS SUPPLY					
	4	-	-					
	5	-	_					
	6	-	-					
	7	-	-					
	8	-	-					
	9	-	-					
	10	-	-					
	EX. 277, 277, GROU	SEE DEMAND LOADS FOR PANEL LOAD INFORMATION.						

FEED THRU LUGS X EXISTING PANEL

DEMAND LOADS	FOR 'MSB'	
EXISTING LOADS * LIGHTS (1.2 W/SF FOR 19,332 SF) RECEPTACLES & MISC. FORKLIFT CHARGERS HVAC	66.2 KVA 23.2 KVA 3.3 KVA 24.6 KVA 34.1 KVA	4 4 4
181.0 AMPS @ 480V/3ø	TOTAL 150.5 KVA	- ነ

DEMAND LOADS	FOR 'I	MSB'	
EXISTING LOADS*		66.2	KVA
LIGHTS (1.2 W/SF FOR 19,332 SF)		23.2	KVA
RECEPTACLES & MISC.		3.3	KVA
FORKLIFT CHARGERS		24.6	KVA
HVAC		34.1	KVA
			_==
	TOTAL	150.5	KVA
181.0 AMPS @ 480V/3Ø			

			FQUI	PMF	NT C	ONNE	CTION	SCHI	=DU	II F			
SYMBOL	REMARKS	FURN. BY	KVA	HP	VOLTS	F.L.A.	M.C.A.	DISC.:	-103-30 00-30	CKT. BKR. OR	AWG SIZE	GND WIRE SIZE	CONDUI SIZE
FLCH1	FORKLIFT CHARGER	OTHERS	9.1	-	480/3	11.0	-	30/3	1	15/3	4 - #12	#12	3/4"
FLCH2	FORKLIFT CHARGER	OTHERS	6.5	-	480/3	7.8	-	30/3	1	15/3	4 - #12	#12	3/4"
RTU-19	ROOFTOP UNIT	MECH	26.6	-	480/3	-	32.0	60/3	3R	40/3	4 - #8	#10	3/4"
RTU-20	ROOFTOP UNIT	MECH	7.5	-	208/1	-	36.0	60/2	3R	40/2	3 - #8	#10	3/4"

EQUIPMENT CONNECTION SCHEDULE NOTES:

- BREAKER SIZES FOR ALL EQUIPMENT SIZED AT MOCP WHERE APPLICABLE.
- ALL DISCONNECTS FOR EQUIPMENT SHALL BE OF FUSIBLE TYPE AND SHALL BE FUSED AS INDICATED. AN 'M' IN THE DISCONNECT COLUMN INDICATES A MOTOR SWITCH IS TO BE USED AS THE DISCONNECTING MEANS EVERY EFFORT HAS BEEN MADE TO MATCH BREAKER/FUSE SIZES LISTING IN THIS TABLE WITH BREAKER SIZES LISTED IN PANEL SCHEDULES. WHERE DISCREPANCIES EXIST, VALUES SHOWN IN THIS TABLE SHALL BE USED. IN ALL CASES, CONTRACTOR SHALL COORDINATE REQUIRED BREAKER/FUSE SIZE WITH EQUIPMENT PROVIDER (MECH/PLUMB/ETC) AND ACTUAL EQUIPMENT INSTALLED ON
- \$\$ PROVIDE SHUNT TRIP BREAKER CONNECTED TO FIRE ALARM SYSTEM.
- ## UNIT HEATER PROVIDED WITH INTEGRAL DISCONNECT. && INDOOR UNIT POWERED THRU DUTDOOR UNIT. COORDINATE W/ MECHANICAL.

EQUIPMENT CONNECTION SCHEDULE													
SYMBOL	REMARKS	FURN. BY	KVA	HP	VOLTS	F.L.A.	M.C.A.	DISC. S	SW. NEMA	CKT. BKR. OR FUSE SIZE	AWG SIZE	GND WIRE SIZE	CONDUIT SIZE
CH1	FORKLIFT CHARGER	OTHERS	9.1	-	480/3	11.0	-	30/3	1	15/3	4 - #12	#12	3/4"
H2	FORKLIFT CHARGER	OTHERS	6.5	-	480/3	7.8	i e	30/3	1	15/3	4 - #12	#12	3/4"
J-19	ROOFTOP UNIT	MECH	26.6	-	480/3	-1	32.0	60/3	3R	40/3	4 - #8	#10	3/4"
1.20	POOFTOD LINIT	MECH	7.5		208/1		36.0	60/2	ЗD	40/2	3 #8	#10	3///"

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Supply

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Date

240012 PROJECT #: 08/14/2024

PANEL SCHEDULES

FIRE ALARM LEGEND MODEL NUMBER 24V, ADDRESSABLE, RED ENCLOSURE FIRE ALARM CONTROL PANEL HONEYWELL PANEL 4 DUTPUT NOTIFICATION APPLIANCE CIRCUITS WITH 8.0 NEW TO MATCH EXISTING FIRE ALARM POWER EXTENDER AMP FULL LOAD DUTPUT (3.0 AMP MAX PER CIRCUIT). FIRE ALARM ANNUNCIATOR PANEL MOUNT INSIDE FACP ENCLOSURE OR PROVIDE REMOTE INTERNAL DIGITAL COMMUNICATOR ENCLOSURE (NOTIFIER #ABS-8RB) AS REQUIRED. MOUNT AT 44" AFF TO CENTER OF BOX. NEW TO MATCH EXISTING ADDRESSABLE MANUAL PULL STATION AFF TO CENTER OF BOX. CONNECT VIA MONITOR MODULE NEW TO MATCH EXISTING LOCATED WITHIN CONDITIONED SPACE. FIRE ALARM SMOKE DETECTOR NEW TO MATCH EXISTING SMOKE DETECTOR SHALL BE PROGRAMMED FOR ELEVATOR FIRE ALARM SMOKE DETECTOR NEW TO MATCH EXISTING RECALL FUNCTION. FIXED TEMPERATURE DNLY FOR ELEVATOR SHUNT TRIP FIRE ALARM HEAT DETECTOR NEW TO MATCH EXISTING ACTIVATION, FIXED TEMP. AND RATE OF RISE FOR ALL OTHER APPLICATIONS NOT NOTED OTHERWISE. DUCT SMOKE DETECTOR WITH REMOTE LED INDICATOR NEW TO MATCH EXISTING CANDELA STROBE AS INDICATED ON PLANS, CONNECT AS WALL MOUNTED FIRE ALARM VISUAL REQUIRED. SEE MOUNTING HEIGHT DETAIL FOR MOUNTING NEW TO MATCH EXISTING STROBE ONLY - WHITE REQUIREMENTS. CENTER DEVICE IN CEILING TILE, DEVICE SHALL BE U.L. CEILING MOUNTED FIRE ALARM VISUAL LISTED FOR USE IN CEILINGS. CONNECT AS REQUIRED. NEW TO MATCH EXISTING STROBE AS INDICATED ON PLANS. CANDELA STROBE AS INDICATED ON PLANS, CONNECT AS WALL MOUNTED FIRE ALARM REQUIRED. SEE MOUNTING HEIGHT DETAIL FOR MOUNTING NEW TO MATCH EXISTING |HORN/STROBE - WHITE WALL MOUNTED FIRE ALARM CONNECT AS REQUIRED. SEE MOUNTING HEIGHT DETAIL ADJUSTABLE HORN ONLY (MINI HORN NEW TO MATCH EXISTING FOR MOUNTING REQUIREMENTS. NOT ACCEPTABLE) - WHITE

CENTER DEVICE IN CEILING TILE, DEVICE SHALL BE U.L. NEW TO MATCH EXISTING LISTED FOR USE IN CEILINGS. CONNECT AS REQUIRED. FIRE ALARM LINETYPE LEGEND - NEW DEVICE OR RELOCATED EXISTING DEVICE --- EXISTING DEVICE TO REMAIN --- EXISTING DEVICE TO BE DEMOLISHED OR RELOCATED EXISTING SLC CIRCUIT TO REMAIN. NUMBER INDICATES CIRCUIT IN CONTROL ----- NEW NAC CIRCUIT. NUMBER INDICATES CIRCUIT IN NAC PANEL.

STROBE AS INDICATED ON PLANS.

CENTER DEVICE IN CEILING TILE, DEVICE SHALL BE U.L.

LISTED FOR USE IN CEILINGS. CONNECT AS REQUIRED. | NEW TO MATCH EXISTING

SYMBOL | SYMBOL

(EXISTING) (DEMOLISH)

FACP

ANN

(PR)

(ACM)

 $\nabla(\circ) \triangleleft XX$

(ACM)

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ANN

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DESCRIPTION

MANUAL PULL STATION

RELAY MODULE

MONITOR MODULE

CONTROL MODULE

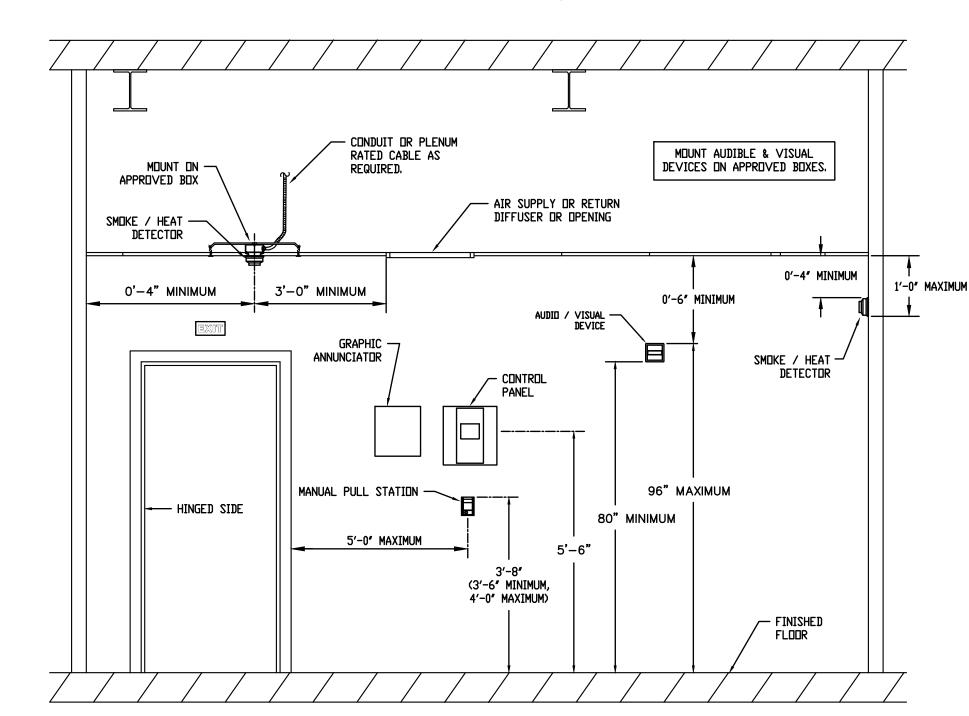
STROBE ONLY - WHITE

HORN/STROBE - WHITE

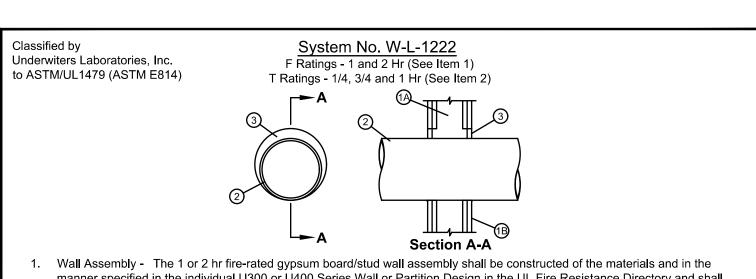
ADJUSTABLE HORN ONLY (MINI HORN

PAM RELAY MODULE

NFPA 72 AND ADA DEVICE INSTALLATION REQUIREMENTS



FIRE ALARM DEVICE MOUNTING HEIGHTS



- manner specified in the individual U300 or U400 Series Wall or Partition Design in the UL Fire Resistance Directory and shall include the following construction features:
- A. Studs Wall framing may consist of either wood studs or steel channel studs. Wood studs to consist of nom 2 by 4 in. (51 by 102 mm) lumber spaced 16 in. (406 mm) OC. Steel studs to be min 3-1/2 in. (89 mm) wide and spaced max 24 in. (610
- B. Gypsum Board* Thickness, type, number of layers and fasteners as specified in the individual Wall and Partition Design. Max diam of opening is 10-5/8 in. (270 mm).
- The hourly F Rating of the firestop system is equal to the hourly fire rating of the wall assembly in which it is
- Through Penetrant One metallic pipe, conduit or tube to be installed eccentrically or concentrically within the firestop system. Pipe, conduit or tubing may be installed at an angle not greater than 45 degrees from perpendicular. The annular space between the pipe, conduit or tube and the periphery of the opening shall be min 0 in. (0 mm, point contact) to max 2 in. (51 mm). Pipe, conduit or tube to be rigidly supported on both sides of the wall assembly. The following types and sizes of metallic pipes, conduits and tubes may be used:
- A. Steel Pipe Nom 8 in. (203 mm) diam (or smaller) Schedule 5 (or heavier) steel pipe.
- B. Iron Pipe Nom 8 in. (203 mm) diam (or smaller) cast or ductile iron pipe.
- C. Conduit Nom 6 in. (152 mm) diam (or smaller) rigid steel conduit, nom 4 in. (102 mm) diam (or smaller) steel electrical
- metallic tubing (EMT) or nom 4 in. (102 mm) diam (or smaller) flexible steel conduit. D. Copper Pipe - Nom 4 in. (102 mm) diam (or smaller) Regular (or heavier) copper pipe.
- E. Copper Tube Nom 4 in. (102 mm) diam (or smaller) Type L (or heavier) copper tube.

Type of Penetrant	Max Diam	T Rating
Steel or iron pipe, steel conduit or EMT	2 in. (51 mm)	1 hr
Steel or iron pipe, steel conduit or EMT	8 in. (203 mm)	3/4 hr
Copper pipe or tube	4 in. (102 mm)	1/4 hr

2A. Through Penetrating Product* - Flexible Metal Piping - As an alternate to Item 2, one nom 1-1/4 in. (32 mm) diam (or smaller) steel flexible metal pipe to be installed either concentrically or eccentrically within the firestop system. The annular space between the pipe and the periphery of the opening shall be min 0 in. (0 mm, point contact) to max 2 in. (51 mm). Pipe to be rigidly supported on both sides of the wall assembly.

GASTITE, DIV OF TITEFLEX

WARD MFG L L C

OMEGA FLEX INC

Fill. Void or Cavity Material* - Sealant - Min 5/8 in. (16 mm) thickness of fill material applied within annulus, flush with both surfaces of wall assembly. At point contact location, min 1/4 in. (6 mm) diam bead of fill material applied at metallic pipe/gypsum board interface on both surfaces of wall.

SPECIFIED TECHNOLOGIES INC - SpecSeal LCI Sealant * Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification

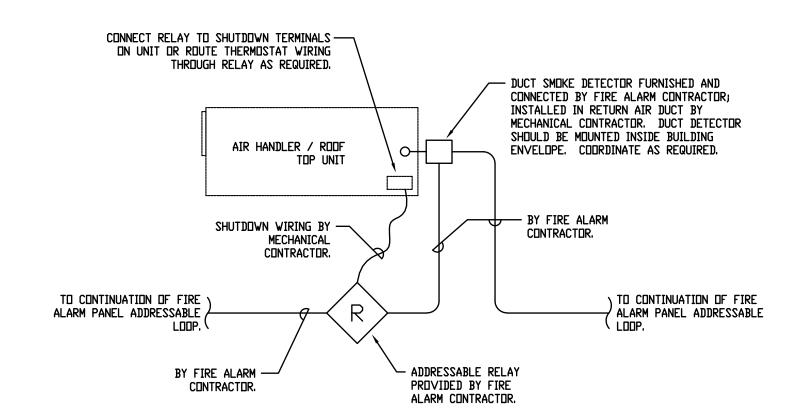


Specified Technologies Inc. 210 Evans Way Somerville, NJ 08876

Reproduced courtesy of Underwriters Laboratories, Inc. Created or Revised: January 23, 2014 **(800)** 992-1180 • (908)526-8000 • FAX (908)231-8415 • E-Mail:techserv@stifirestop.com • Website:www.stifirestop.com



FOR FRAMED WALLS ONLY OR 2 HOUR PENETRATION FIRESTOP FOR METALLIC PIPE, CONDUIT, OR TUBING



TYPICAL HVAC UNIT SHUTDOWN WIRING DIAGRAM

GENERAL NOTES AND REQUIREMENTS.

- , ALL BOXES MOUNTED IN RATED WALLS SHALL COMPLY WITH ALL REQUIREMENTS OF THE 2018 NCSBC, SECTION 714.3.2. UNLESS OTHERWISE NOTED, DEVICES SHOWN IN RATED WALLS SHALL BE FLUSH WITH CONDUIT CONCEALED. PROVIDE HORIZONTAL SEPARATION, PUTTY PADS, RATED BOXES ETC. AS REQUIRED FOR REQUIRED INSTALLATION.
- SEE ARCHITECTURAL CEILING PLANS FOR CEILING TYPES. WHERE NEW INACCESSIBLE GYP. CEILINGS ARE BEING INSTALLED THE CONTRACTOR SHALL NOT MOUNT ANY JUNCTION BOXES, CONDUIT BODIES OR OTHER EQUIPMENT OR FITTINGS REQUIRING ACCESS ABOVE THE NEW INACCESSIBLE CEILING, AND SHALL RELOCATE ALL SUCH ITEMS REQUIRING ACCESS TO ADJACENT AREAS WHERE ACCESS IS PROVIDED. NO ACCESS PANELS IN THE HARD CEILING ARE ALLOWED WITHOUT APPROVAL.
- 3, THE CONTRACTOR SHALL REFER TO THE ARCHITECTURAL PLANS FOR FLOOR PLAN DIMENSIONS. DO NOT SCALE THESE DRAWINGS. THE LOCATION OF ALL WALL MOUNTED DEVICES, INCLUDING MOUNTING HEIGHTS, SHALL BE FIELD VERIFIED WITH THE ARCHITECT REFLECTED CEILING PLANS, LIGHT FIXTURES INSTALLED IN MECHANICAL AREAS SHALL
- AVOID MECHANICAL PIPING, EQUIPMENT, DUCTWORK, ETC. 4. THE CONTRACTOR SHALL COORDINATE ANY AND ALL WORK WITH OTHER TRADES INVOLVED IN THE PROJECT, PRIOR TO INSTALLATION OF ELEC. EQUIPMENT, SO AS TO AVOID CONFLICTS DURING CONSTRUCTION AND TO ALLOW FOR OPTIMUM MAINTENANCE AND WORKING SPACE.
- 5, CONTRACTOR SHALL INCLUDE COST OF PAINTING ALL EXPOSED CONDUITS SUBJECT TO PUBLIC VIEW. JUNCTION BOX COVERS SHALL BE PERMANENTLY LABELED AND CONDUIT SHALL BE LABELED EVERY 10'.
- 6. CONDUITS AND CABLES SHALL BE CONCEALED WHEREVER POSSIBLE BY EITHER ROUTING ABOVE CEILING, IN INTERSTITIAL SPACES OR RUNNING EXPOSED IN UNFINISHED SPACES AS MUCH AS FEASIBLE. CONDUITS MAY BE RUN EXPOSED IN MECHANICAL AREAS OR OTHER AREAS NOT SUBJECT TO PUBLIC VIEW WHERE APPROVED BY THE OWNER. WHEREVER CONDUITS OR CABLES ARE EXPOSED, CONDUITS AND CABLES SHALL BE RUN PARALLEL OR PERPENDICULAR TO STRUCTURAL ELEMENTS AND SHALL BE RUN AND BUNDLED IN GROUPS, AND THE INSTALLATION SHALL BE NEAT AND ORDERLY. EVEN WHEN EXPOSED, CONDUITS AND CABLES SHALL BE ROUTED TO MINIMIZE VIEW FROM PERSONNEL. SEAL ALL PENETRATIONS AIR TIGHT AROUND ALL CONDUITS PASSING THROUGH WALLS OR FLOORS USING APPROPRIATE PENETRATION PROTECTION WHEN PASSING INTO OR THROUGH RATED
- 7. ALL MOUNTING HEIGHTS ARE GIVEN TO THE BOTTOM OF THE DEVICE UNLESS NOTED OTHERWISE.
- 8. THE CONTRACTOR SHALL PATCH ANY WALL, CEILING, OR FLOOR OPENINGS AND PENETRATIONS RESULTING FROM DEMOLITION OR NEW WORK IN EXISTING AREAS.
- 9. THE CONTRACTOR IS RESPONSIBLE FOR PROPERLY DISPOSING OF ALL WASTE MATERIALS, DEMO MATERIALS AND OTHER TRASH. THIS INCLUDES BUT IS NOT LIMITED TO PROPER DISPOSAL OF MERCURY CONTAINING LAMPS, RECYCLABLE MATERIALS ETC.
- 10. IT IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR TO COORDINATE W/ ALL OTHER TRADES REGARDING VOLTAGES, LOADS, CIRCUIT BREAKERS, ETC. PRIOR TO BEGINNING
- 11. AS USED ON THESE DOCUMENTS, THE WORD "PROVIDE" SHALL MEAN TO FURNISH AND INSTALL THE ITEM OR EQUIPMENT AND MAKE THE FINAL CONNECTION AS REQUIRED.
- 12. CONTRACTOR IS RESPONSIBLE TO COMPLY WITH ALL REQUIREMENTS OF THE 2018 NORTH CAROLINA BUILDING CODE, ACCESSIBILITY CODE WHICH ARE APPLICABLE TO THIS PROJECT REGARDLESS OF WHETHER ALL DETAILS ARE INDICATED ON PLANS.
- 13. ALL PULL STATIONS SHALL COMPLY WITH ALL REQUIREMENTS OF 2018 NORTH CAROLINA STATE BUILDING CODE, CHAPTER 11 ACCESSIBILITY CODE.
- 14. CONTRACTOR SHALL VERIFY ALL AREAS THAT ARE USED AS A RETURN PLENUM WITH MECHANICAL CONTRACTOR AND PROVIDE PLENUM RATED CABLE FOR ALL CABLES NOT RUN IN METAL CONDUIT. THIS INCLUDES ALL TELECOMMUNICATIONS, FIRE ALARM, OR CONTROL WIRING ABOVE CEILING.
- 15. CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE SEISMIC REQUIREMENTS.
- 16. BOXES AND WIRING SHALL NOT BE RECESSED INTO OR PENETRATE STRUCTURAL COLUMNS. BDXES/CONDUITS SHALL BE SURFACE MOUNTED TO COLUMN AND/OR RECESSED IN STUD WALL WHERE POSSIBLE. COORDINATE WITH ARCHITECT.
- 17. ALL EQUIPMENT CONNECTED TO OR ASSOCIATED WITH FIRE ALARM SYSTEM OR OTHERWISE INCLUDED IN THE SCOPE OF WORK SHALL BE LISTED AND LABELED BY A THIRD PARTY ACCEPTABLE TO THE AUTHORITY HAVING JURISDICTION.
- 18. CCE HAS RESERVED THE OPPORTUNITY TO CHOOSE THE SOFTWARE PACKAGE(S) OR OTHER MEANS DEEMED MOST EFFICIENT TO DELIVER THESE PLANS AND CONSIDERS ANY DIGITAL FILES OR SOFTWARE USED DURING THIS PROCESS AS INSTRUMENTS OF SERVICE, AND AS SUCH REMAIN THE SOLE PROPERTY OF CCE. THE CONTRACTOR SHOULD NOT ASSUME THAT DIGITAL FILES IN ANY FORMAT WILL BE MADE AVAILABLE DURING BIDDING OR AFTER AWARD. IF DIGITAL FILES ARE REQUESTED, CCE RESERVES THE RIGHT TO SELECTIVELY PROVIDE THEM WHEN AVAILABLE AND/OR REQUEST ADDITIONAL CONSIDERATION FOR THE TIME INCURRED TO PREPARE THEM.
- 19. CONTRACTOR SHALL NOT PUT AN ACCESS DOOR IN HARD CEILING FOR ANY REASON. CONTRACTOR SHALL INSTALL APPROPRIATE JUNCTION BOXES, ETC ABOVE THE CEILING IN AREAS THAT CAN BE ACCESSED BY THE REMOVAL OF LAY-IN GRID.
- 20. ALL NECESSARY CORE DRILLS SHALL BE LOCATED AND COORDINATED WITH THE AFFECTED TENANT SPACES ABOVE OR BELOW AS WELL AS THE BUILDING MANAGER OR OWNER, PRIOR TO BEGINNING WORK. SCHEDULE CORE DRILLS TO MINIMIZE INTERRUPTION AND ADDRESS SECURITY CONCERNS ETC.

919-871-1070 Fax 871-5620

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240012 PROJECT #: 08/14/2024

FIRE ALARM COVER SHEET

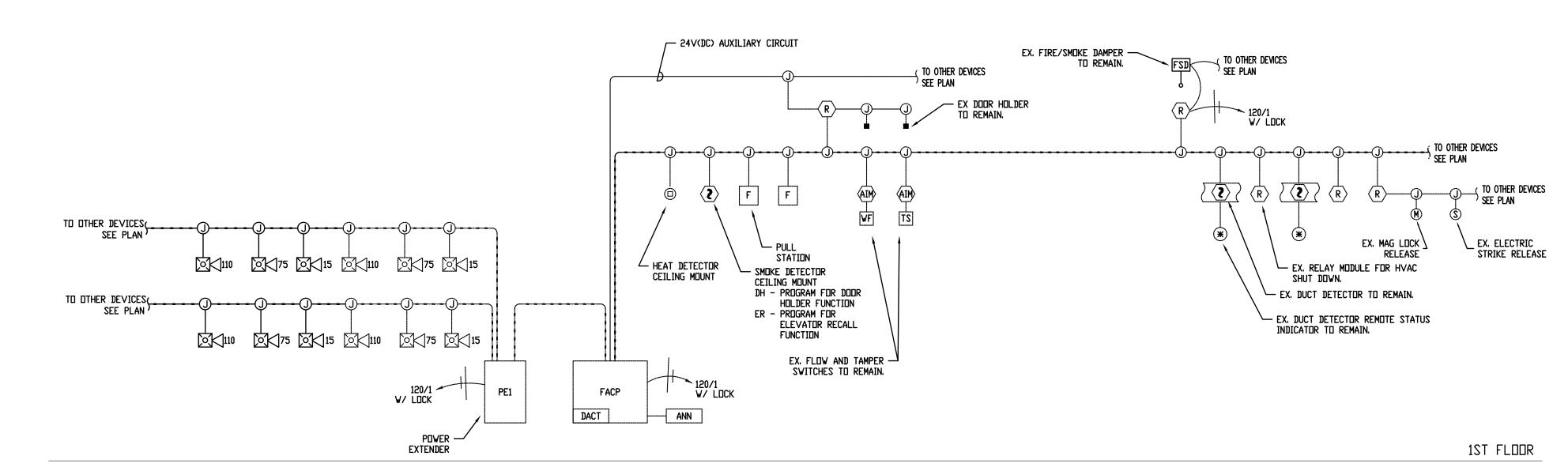
FIRE ALARM NOTES:

CODE, SECTION 907.7.2.

- SEE LEGEND & SPECIFICATIONS FOR MODEL NUMBERS.
- 2. ALL FIRE ALARM SYSTEM CONDUCTORS SHALL BE RUN IN 3/4' EMT CONDUIT UNLESS NOTED OTHERWISE. PROVIDE ALL HANGERS, JUNCTION BOXES, FITTINGS, SUPPORTS ETC. AS REQUIRED. J.B. COVERS FOR ALL FIRE ALARM JUNCTION BOXES SHALL BE LABELED AND PAINTED RED. CIRCUITS CAN BE COMBINED IN CONDUIT AS NECESSARY.
- 3. PROVIDE SYNCHRONIZATION AS REQUIRED BY ADA.
- 4. A DECIBEL LEVEL OF 15 DBA ABOVE AVERAGE AMBIENT (PER 2013 NFPA 72, TABLE A.18.4.3) SHALL BE MAINTAINED IN ALL OCCUPIABLE AREAS MEASURED 5' ABOVE THE FLOOR USING THE A-WEIGHTED SCALE UNLESS OTHERWISE NOTED. A MINIMUM OF 90 DBA SHALL BE MAINTAINED IN ALL MECHANICAL EQUIPMENT RODMS PER THE 2018 NORTH CAROLINA FIRE CODE, SECTION 907.5.2.1.1. THE TOTAL SOUND PRESSURE LEVEL PRODUCED BY COMBINING THE AMBIENT AND NOTIFICATION LEVELS SHALL NOT EXCEED 110 DBA ANYWHERE IN THE OCCUPIABLE AREA. DEVICES HAVE BEEN SHOWN TO PROVIDE THE GENERAL INFRASTRUCTURE TO ACHIEVE SUCH LEVELS HOWEVER, DUE TO SPECIFIC SITE CONSIDERATIONS INCLUDING WALL CONSTRUCTION AND SOUND ATTENUATION, IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO ADJUST THE LEVEL OF ALL AUDIBLE DEVICES AS NEEDED AND PROVIDE ANY ADDITIONAL AUDIBLE DEVICES AS REQUIRED TO MEET THESE AUDIBILITY REQUIREMENTS.
- 5. PROVIDE PLACARDS FOR THE ENTIRE FIRE ALARM SYSTEM FOR ZONES AND DEVICE ADDRESSES. PROVIDE PANEL AND CIRCUIT NUMBERS ON A ZONE MAP AFFIXED TO OR ADJACENT TO THE FACE OR AS REQUIRED BY THE FIRE MARSHAL.
- 6. FUNCTIONAL TESTING METHOD OF PROPER OPERATION OF SMOKE DETECTORS SHALL BE DETERMINED BY AHJ. 7. THE CONTRACTOR SHALL BE RESPONSIBLE TO ENSURE THAT THIS INSTALLATION AND DESIGN OF FIRE ALARM SYSTEM COMPLY WITH ALL REQUIREMENTS OF THE 2018 NCSBC FIRE CODE CHAPTER 9, 2018 NCSBC CHAPTER 9, 2013 NFPA 72, AND NFPA 70. CONTRACTOR SHALL REVIEW DESIGN DRAWINGS PRIOR TO BID/BEGINNING WORK AND SHALL NOTIFY ENGINEER IMMEDIATELY OF ANY ITEMS WHICH HE FEELS MAY BE OMITTED, INSUFFICIENT, ETC. CONTRACTOR SHALL BE RESPONSIBLE TO PROVIDE ANY ADDITIONAL REQUIRED ITEMS NOT NOTED TO ENGINEER PRIOR TO BEGINNING WORK AT NO ADDITIONAL COST TO OWNER.
- 8. CONTRACTOR SHALL PROVIDE ALL TESTING AND DOCUMENTATION AS REQUIRED BY THE LOCAL FIRE MARSHAL AND STATE AND LOCAL CODES, INCLUDING BUT NOT LIMITED TO: 1. ACCEPTANCE TESTS AS REQUIRED PER 2018 NC FIRE CDDE, SECTION 907.7. REQUIRED INSPECTIONS, TESTING AND MAINTENANCE AS REQUIRED BY THE 2018 NC FIRE CODE. 3. INSTRUCTIONS PER 2018 NC FIRE CODE, SECTION 907.7.3 AND RECORD OF COMPLETION PER 2018 NC FIRE
- 9. CONTRACTOR SHALL VERIFY THAT THE EXISTING SYSTEM IS CONNECTED TO A U.L. APPROVED CENTRAL MONITORING STATION AS REQUIRED BY THE APPLICABLE CODE AT THE TIME OF CONNECTION, IF AN APPROVED CONNECTION DOES NOT EXIST, THE CONTRACTOR SHALL PROVIDE A LISTED CELLULAR DIALER SYSTEM (WITH INTEGRAL 24 HOUR BATTERY BACKUP) THAT COMPLIES WITH 2013 NFPA 72, SECTION 26.6.3 AS THE SOLE/PRIMARY MEANS OF COMMUNICATION. PROVIDE FOR A SECONDARY METHOD OF COMMUNICATION WHERE REQUIRED BY THE AHJ. NOTE THAT 2013 NFPA 72 DOES NOT PERMIT TELEPHONE LINE(S) AS THE SOLE MEANS OF COMMUNICATION. IF ANOTHER APPROVED COMMUNICATION METHOD IS ELECTED, THE FIRE ALARM CONTRACTOR SHALL COORDINATE INSTALLATION OF ALL NECESSARY COMMUNICATION FOLIPMENT AN
- 10. DEVICES SHALL BE OF COLOR SPECIFIED OR MATCH THE COLOR OF ANY EXISTING FIXTURES TO REMAIN OR BE REUSED IN THE AREA OF WORK IF THERE ARE EXISTING DEVICES TO MATCH. 11. PULL STATIONS ARE ONLY PROVIDED AT REQUIRED EXITS.

PROVIDE 24 HOUR BATTERY BACKUP FOR ALL SUCH EQUIPMENT AS PART OF THE FIRE ALARM SCOPE.

- 12. THE CONTRACTOR SHALL SUBMIT FIRE ALARM SHOP DRAWINGS TO THE FIRE PREVENTION OFFICE PRIOR TO
- BEGINNING WORK. NO INSPECTIONS ALLOWED PRIOR TO RECEIVING APPROVAL FROM THE FIRE MARSHAL. 13. ALL FIRE ALARM DEVICES IN COMMON SIGHT LINES MUST BE VISUALLY SYNCHRONIZED AND ALL AUDIBLE FIRE ALARM DEVICES MUST BE AUDIBLY SYNCHRONIZED AND OF A CONSISTENT AUDIBLE SIGNAL THROUGHOUT THE BUILDING. REPLACE DEVICES AND / OR PROVIDE SYNC. MODULES IN BOOSTER PANELS / NAC OUTPUTS AS NECESSARY TO ACHIEVE SYNCHRONIZATION THROUGHOUT. EXISTING DEVICES / BOOSTER PANELS SHOWN TO REMAIN ON THESE DRAWINGS SHOULD BE CONSIDERED EXISTING TO REMAIN ONLY IF THE FIRE ALARM CONTRACTOR VERIFIES THEIR ABILITY TO SYNCHRONIZE, AND SHOULD BE CONSIDERED NEW OTHERWISE, ALL COST ASSOCIATED WITH SYNCHRONIZATION SHOULD BE IDENTIFIED AND INCLUDED IN ANY PRICING OR BIDS.
- 14. INTERLOCK FIRE ALARM SYSTEM WITH SECURITY SYSTEM SUCH THAT WHEN FIRE ALARM SYSTEM IS ACTIVATED, SECURITY SYSTEM UNLOCKS DOORS AS REQUIRED BY 2018 NORTH CAROLINA BUILDING CODE, SECTION 1010.1.9.8, NOTE #4. COORDINATE WITH SECURITY CONTRACTOR, SYSTEM SHALL FAIL SAFE OPEN UPON POWER LOSS,
- 15. THE CONTRACTOR SHALL PREPARE FIRE ALARM SHOP DRAWINGS INCLUDING A FLOOR PLAN(S) SHOWING DEVICE AND CIRCUIT LAYDUTS WITH A DETAILED RISER DIAGRAM SHOWING EACH DEVICE AND ALL CIRCUITRY. FIRE ALARM SHOP DRAWINGS SHALL INCLUDE DETAILED BATTERY AND VOLTAGE DROP CALCULATIONS AS REQUIRED BY THE 2018 NC FIRE CODE, SECTION 907. BATTERY CALCULATIONS SHALL SHOW BATTERY REQUIREMENTS FOR THE ENTIRE SYSTEM (INCLUDING ANY OTHER FITUPS). IF BATTERY CALCULATIONS SHOW THE SYSTEM AS INSUFFICIENT, CONTRACTOR SHALL PROVIDE ALTERNATE PRICE TO ADD A NEW 4 CIRCUIT POWER EXTENDER(S) AND CONNECT REQUIRED DEVICES TO IT. CONTRACTOR SHALL SUBMIT MINIMUM 5 COPIES OF PLAN, RISER DIAGRAM, BATTERY CALCULATIONS & VOLTAGE DROP CALCULATIONS WITH SUBMITTAL DATA TO ENGINEER FOR REVIEW PRIOR TO BEGINNING ANY WORK OR SUBMITTING TO THE LOCAL FIRE MARSHAL.
- 16. INITIATING DEVICE CIRCUITS SHALL BE LOADED TO A MAXIMUM OF 75% CAPACITY.
- 17. AUDID/VISUAL CIRCUITS SHALL BE LOADED TO A MAXIMUM OF 75% CAPACITY.
- 18. PROVIDE POWER EXTENDERS AS REQUIRED FOR NOTIFICATION APPLIANCE CIRCUITS. 19. RISER DIAGRAM DEVICES ARE GENERIC AND DO NOT REPRESENT DEVICE QUANTITIES REQUIRED FOR THIS PROJECT. SEE PLANS FOR QUANTITIES.
- 20. CONNECT SHUNT TRIP CIRCUIT BREAKERS FOR ELEVATOR CONTROLLER TO FIRE ALARM SYSTEM AS REQUIRED. SHUNT TRIP SIGNAL SHALL BE DELAYED TO ALLOW TIME FOR THE ELEVATOR CAR TO TRAVEL FROM THE TOP OF THE HOISTWAY TO THE LOWEST RECALL LEVEL. COORDINATE EXACT TIMING WITH ELEVATOR
- 21. IF THERE IS A SPRINKLER HEAD IN THE ELEVATOR PIT: PROVIDE A HEAT DETECTOR CONNECTED TO THE FIRE ALARM SYSTEM IN THE BOTTOM OF THE ELEVATOR SHAFT WITHIN 2 FEET OF THE SPRINKLER HEAD. HEAT DETECTOR MUST BE RATE-OF-RISE TYPE AND MUST INITIATE ALARM BEFORE ACTIVATION OF AUTOMATIC SPRINKLER HEADS IN HOISTWAYS. UPON ACTIVATION OF THIS HEAT DETECTOR, THE ELEVATOR POWER SHALL BE DISCONNECTED VIA THE SHUNT TRIP BREAKER WHICH IS ALSO CONNECTED TO THE FIRE ALARM SYSTEM, COORDINATE CONTROLS REQUIREMENTS WITH ELEVATOR CONTRACTOR AS REQUIRED.
- 22. IF THERE IS A SPRINKLER HEAD AT THE TOP OF THE ELEVATOR SHAFT: PROVIDE A HEAT DETECTOR CONNECTED TO THE FIRE ALARM SYSTEM AT THE TOP OF THE ELEVATOR SHAFT WITHIN 2 FEET OF THE SPRINKLER HEAD, HEAT DETECTOR MUST BE RATE-OF-RISE TYPE AND MUST INITIATE ALARM BEFORE ACTIVATION OF AUTOMATIC SPRINKLER HEADS IN HOISTWAYS. UPON ACTIVATION OF THIS HEAT DETECTOR, THE ELEVATOR POWER SHALL BE DISCONNECTED VIA THE SHUNT TRIP BREAKER WHICH IS ALSO CONNECTED TO THE FIRE ALARM SYSTEM. COORDINATE CONTROLS REQUIREMENTS WITH ELEVATOR CONTRACTOR AS
- 23. IF THERE IS A SPRINKLER HEAD AT THE TOP OF THE ELEVATOR SHAFT: PROVIDE A SMOKE DETECTOR CONNECTED TO THE FIRE ALARM SYSTEM AT THE TOP OF THE ELEVATOR SHAFT WITHIN 2 FEET OF THE SPRINKLER HEAD, UPON ACTIVATION OF THIS SMOKE DETECTOR, THE ELEVATOR SHALL RETURN TO THE DESIGNATED FLOOR, COORDINATE CONTROLS REQUIREMENTS WITH ELEVATOR CONTRACTOR AS REQUIRED.
- 24. PROVIDE DNE HEAT DETECTOR AND DNE SMOKE DETECTOR, EACH WITHIN 2' OF EACH SPRINKLER HEAD IN THE ELEVATOR EQUIPMENT ROOM. COORDINATE LOCATION AND QUANTITY WITH SPRINKLER CONTRACTOR.
- 25. CONTRACTOR SHALL VERIFY ALL OF THE ABOVE INFORMATION WITH THE ELEVATOR EQUIPMENT INSTALLER TO COURDINATE ANY ADDITIONAL ITEMS PRIOR TO BEGINNING WORK.
- 26. POWER EXTENDERS HAVE BEEN SHOWN ON PLANS AS A GENERAL GUIDELINE. THE CONTRACTOR SHALL PROVIDE A MINIMUM OF ONE POWER EXTENDER AS SPECIFIED FOR EACH FLOOR OF THE BUILDING, REGARDLESS OF FLOOR SIZE. NO POWER EXTENDER SHALL SERVE MORE THAN ONE FLOOR OR 25,000 SQUARE FEET OF TOTAL BUILDING AREA INCLUDING CORE AND FUTURE FITUP AREA.
- 27. DEVICES REQUIRED DURING SHELL CONSTRUCTION SHALL BE CONNECTED TO THE POWER EXTENDER SERVING THAT FLOOR, AND EACH CIRCUIT SHALL BE LOADED PRIOR TO USING ANOTHER CIRCUIT.



FIRE ALARM RISER DIAGRAM

SYSTEM INPUTS						Bl	JILDI	NG S	SYST	EM C	DUTP	JTS									CEN	VTR/	AL C		MUNK	CATOR	
MANUAL FIRE ALARM PULL STATION	X	X					X	X	X	X			X						X	11	X	X	X				
BUILDING SMOKE DETECTOR	X	X					X	X	X	X			X						X		X	X	X			1	
BUILDING HEAT DETECTOR	X	X					X	X	X	X			X						X		\overline{X}	X	X			1	
SPRINKLER WATERFLOW	X	X					X	X	X	X			X						X		X	X	X				
SPRINKLER TAMPER			X	X				X			X										X	X		X			
FIRE ALARM AC POWER FAILURE					X	X		X				X									X	X			X		
FIRE ALARM SYSTEM LOW BATTERY					X	X		X				X									X	X			X		
OPEN CIRCUIT					X	X		X				X									X	X			X		
GROUND FAULT					X	X		X				X									X	X			X		
NOTIFICATION APPLIANCE CIRCUIT SHORT					X	X		X				X									X	X			X		
DUCT DETECTORS			X	X				X			X		X								X	X		X			
SECONDARY FIRE SUPPRESSION SYSTEM ALARM SIGNAL	X	X					X	X	X	X			X						X		X	X	X				
SECONDARY FIRE SUPPRESSION SYSTEM TROUBLE SIGNAL					X	X		X				X									X	X			X		
SECONDARY FIRE SUPPRESSION SYSTEM SUPERVISORY SIGNAL			X	X				X			X										X	X		X			
FIRE ALARM SYSTEM MATRIX	78	ACTUATE CUM.	AND PROPERTY.	COME REPORTED	AND SURES	CIME SUBLY	RESTREET BUSINESS		1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		TENER S		PERVISIBLE TO	ANDE SIGNA	A SHITE TO	ELEVATING SALES	ELEVATING TO BANK	AS TO BELLE	S THE SHELL STUDIES	7 足裂 5 男	CHACK	TALLES C	TH STATE	EK STA	THE PLANS IN	CHREEN ISTAM STOME	CATE

FIRE ALARM SEQUENCE OF OPERATION:

UPON CHANGE IN STATUS OF ANY DEVICE ON THE SYSTEM, THE FIRE ALARM CONTROL PANEL SHALL ACTIVATE AUDIBLE AND VISIBLE CHANGE INDICATORS AND DISPLAY THE SYSTEM POINT NUMBER, POINT DESCRIPTION, AND MESSAGE ASSOCIATED WITH THE POINT.

REMOVAL OF ANY DEVICE, WIRING DISARRANGEMENT, OR SYSTEM COMPONENT FAILURE SHALL DISPLAY ON THE OPERATOR TERMINAL, THE CHANGE OF STATUS, TIME, DATE, POINT DESCRIPTION ON A POINT BY POINT BASIS, AND THE MESSAGE ASSOCIATED WITH THE POINT AND TRANSMIT A TROUBLE SIGNAL TO A U.L. LISTED CENTRAL

INDICATION EVACUATION TONE SHALL BE THREE BEAT TEMPORAL PATTERN, UNLESS HIGH RISE OR LARGE

FOR ELEVATOR SHUNT TRIP, CONTROL PANEL AND RELAY SHALL BE PROGRAMMED WITH A DELAY THAT WILL ALLOW TIME FOR THE ELEVATOR CAR TO TRAVEL FROM THE TOP OF THE HOISTWAY TO THE LOWEST RECALL LEVEL. FIELD COORDINATE EXACT TIMING WITH ELEVATOR VENDOR.

ACTIVATION OF ANY MANUAL STATION, KITCHEN HOOD EXTINGUISHING SYSTEM, WATERFLOW DEVICE, SMOKE DETECTOR, HEAT DETECTOR, SUPERVISORY DEVICE OR OTHER INITIATING DEVICE WILL CAUSE THE FOLLOWING FUNCTIONS TO OCCUR:

MANUAL STATION OPERATION SHALL:

- 1. ACTIVATE AUDIBLE AND VISUAL STATUS CHANGE INDICATORS AND DISPLAY POINT NUMBER, POINT DESCRIPTION, AND MESSAGE ASSOCIATED WITH THE POINT ON THE PANEL.
- 2. TRANSMIT AN ALARM SIGNAL TO A U.L. LISTED CENTRAL STATION. 3. ACTIVATE THE AUDIBLE AND VISUAL NOTIFICATION APPLIANCES IN THE BUILDING.
- 4. RELEASE THE DOOR LOCKING SYSTEMS OF ACCESS-CONTROLLED EGRESS DOORS.

5. SHUT DOWN AIR HANDLERS.

- WATERFLOW SWITCH OPERATION SHALL: 1. ACTIVATE AUDIBLE AND VISUAL STATUS CHANGE INDICATORS AND DISPLAY POINT NUMBER, POINT
- DESCRIPTION, AND MESSAGE ASSOCIATED WITH THE POINT ON THE PANEL. 2. TRANSMIT AN ALARM SIGNAL TO A U.L. LISTED CENTRAL STATION.
- 3. ACTIVATE THE AUDIBLE AND VISUAL NOTIFICATION APPLIANCES IN THE BUILDING. 4. RELEASE THE DOOR LOCKING SYSTEMS OF ACCESS-CONTROLLED EGRESS DOORS.
- 5. SHUT DOWN AIR HANDLERS.

SMOKE DETECTOR OR HEAT DETECTOR OPERATION SHALL:

- 1. ACTIVATE AUDIBLE AND VISUAL STATUS CHANGE INDICATORS AND DISPLAY POINT NUMBER, POINT
- DESCRIPTION, AND MESSAGE ASSOCIATED WITH THE POINT ON THE PANEL.
- 2. TRANSMIT AN ALARM SIGNAL TO A U.L. LISTED CENTRAL STATION. 3. ACTIVATE THE AUDIBLE AND VISUAL NOTIFICATION APPLIANCES IN THE BUILDING.
- 4. RELEASE THE DOOR LOCKING SYSTEMS OF ACCESS-CONTROLLED EGRESS DOORS.

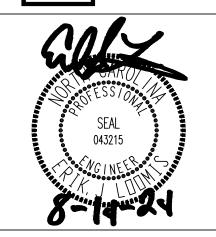
5. SHUT DOWN AIR HANDLERS.

- DUCT SMOKE DETECTOR ACTIVATION SHALL: 1. ACTIVATE AUDIBLE AND VISUAL STATUS CHANGE INDICATORS AND DISPLAY POINT NUMBER, POINT DESCRIPTION, AND MESSAGE ASSOCIATED WITH THE POINT ON THE PANEL.
- 2. TRANSMIT AN ALARM SIGNAL TO A U.L. LISTED CENTRAL STATION.
- 3. SHUT DOWN AIR HANDLERS AS FOLLOWS: • IN BUILDINGS WITH DNE TENANT DR COMMON HVAC SYSTEM DR DNE LARGE AIR VOLUME, ANY DUCT
- DETECTOR SHALL SHUT DOWN ALL AIR HANDLERS OF THE HVAC SYSTEM. • IN BUILDINGS WITH MULTIPLE TENANTS SEPARATED INTO DIFFERENT AIR VOLUMES WITH HVAC UNITS DEDICATED TO THOSE TENANTS / AIR VOLUMES, ANY DUCT DETECTOR WITHIN A GIVEN TENANT / AIR VOLUME SHALL SHUT DOWN ALL AIR HANDLERS ASSOCIATED WITH THAT TENANT / AIR VOLUME.

SUPERVISORY DEVICE ACTIVATION, INCLUDING VALVE SUPERVISORY DEVICES SHALL:

- 1. ACTIVATE AUDIBLE AND VISUAL STATUS CHANGE INDICATORS AND DISPLAY POINT NUMBER, POINT DESCRIPTION, AND MESSAGE ASSOCIATED WITH THE POINT ON THE PANEL.
- 2. TRANSMIT A SUPERVISORY SIGNAL TO A U.L. LISTED CENTRAL STATION. THIS SIGNAL SHALL BE DISTINCTLY DIFFERENT THAN A TROUBLE SIGNAL.

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Description Date

240012 PROJECT #:

08/14/2024

FIRE ALARM DETAILS



Raleigh, North Carolina 27609 919-871-1070 Fax 871-5620

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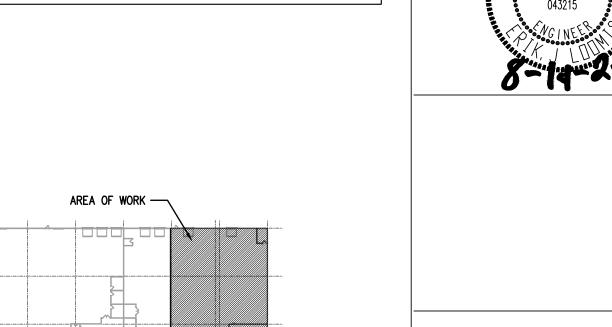
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- CONTRACTOR MAY REUSE EXISTING DEVICES BEING DEMOLISHED GIVEN THEY ARE IN PROPER WORKING ORDER, THE CANDELA IS APPROPRIATE AND THE DEVICE CAN BE SYNCHRONIZED WITH OTHER DEVICES, IF NEEDED.
- THE EXISTING BUILDING FACP IS LOCATED IN THE FIRST FLOOR FACP ROOM WITH EXISTING

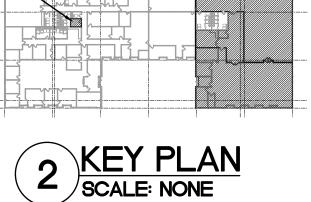
PLAN NOTES

EXISTING FACP LOCATION.

FACP LOCATION -

2. PROVIDE DUCT DETECTOR IN RETURN AIR DUCT AND CONNECT REMOTE LED INDICATOR IN CEILING GRID AS REQUIRED. COORDINATE W/ MECH. TYPICAL.





FIRE ALARM SCOPE/SYSTEM NOTE: THE SCOPE OF FIRE ALARM WORK FOR THIS PROJECT IS TO ADD NEW NOTIFICATION AND/OR INITIATING DEVICES AS NECESSARY TO PROVIDE CODE REQUIRED COVERAGE FOR THE TENANT SPACE INDICATED ON PLANS. THE EXISTING SYSTEM UTILIZES HORN/STROBE NOTIFICATION.

FIRE ALARM SYNCHRONIZATION NOTE: ALL FIRE ALARM DEVICES IN COMMON SIGHT LINES MUST BE VISUALLY SYNCHRONIZED AND ALL AUDIBLE FIRE ALARM DEVICES MUST BE AUDIBLY SYNCHRONIZED AND OF A CONSISTENT AUDIBLE SIGNAL THROUGHOUT THE BUILDING. REPLACE DEVICES AND / OR PROVIDE SYNC. MODULES IN BOOSTER PANELS / NAC OUTPUTS AS NECESSARY TO ACHIEVE SYNCHRONIZATION THROUGHOUT. EXISTING DEVICES / BOOSTER PANELS SHOWN TO REMAIN ON THESE DRAWINGS SHOULD BE CONSIDERED EXISTING TO REMAIN ONLY IF THE FIRE ALARM CONTRACTOR VERIFIES THEIR ABILITY TO SYNCHRONIZE, AND SHOULD BE CONSIDERED NEW OTHERWISE. ALL COST ASSOCIATED WITH SYNCHRONIZATION SHOULD BE IDENTIFIED AND

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NOTE: THE EXISTING LOCATIONS SHOWN ON DEMO PLAN TO BE REMOVED OR RELOCATED ARE FOR REFERENCE ONLY AND SHALL BE VERIFIED BY CONTRACTOR PRIOR TO BEGINNING WORK. ANY ITEMS REQUIRED TO BE REMOVED OR RELOCATED SHALL BE INCLUDED IN CONTRACTOR'S COST, WHETHER SHOWN ON THIS PLAN OR NOT. UNLESS SPECIFICALLY NOTED OTHERVISE, WHERE A DEVICE OR ITEM IS NOTED TO BE DEMOLISHED, THE WORK SHALL INCLUDE REMOVING ALL ASSOCIATED BOXES, CONDUITS, CONDUCTORS, CABLES ETC. AND SHALL INCLUDE ANY PATCH, REPAIR, PAINT OR REFINISH NECESSARY TO RESTORE THE LOCATION TO MATCH THE SURRDUNDING. THE CONTRACTOR MAY REUSE ANY EXISTING CONDUCTORS, BOXES ETC. WHERE THEY HAVE BEEN INSPECTED AND ARE DETERMINED TO

WALL TYPES AND RATINGS LEGEND

BE ACCEPTABLE TO THE OWNER AND/OR IN LIKE-NEW CONDITION.

REFER TO ARCHITECTURAL SHEETS FOR MORE INFORMATION ON RATINGS AND ADDITIONAL RATED CONSTRUCTIONS INCLUDING COLUMNS WHERE APPLICABLE. PROTECT ALL RATED CONSTRUCTIONS AS REQUIRED.

EXISTING WALL TO REMAIN NEW WALL TO BE CONSTRUCTED EXISTING WALL TO BE DEMOLISHED ONE HOUR FIRE PARTITION

Johnston Description

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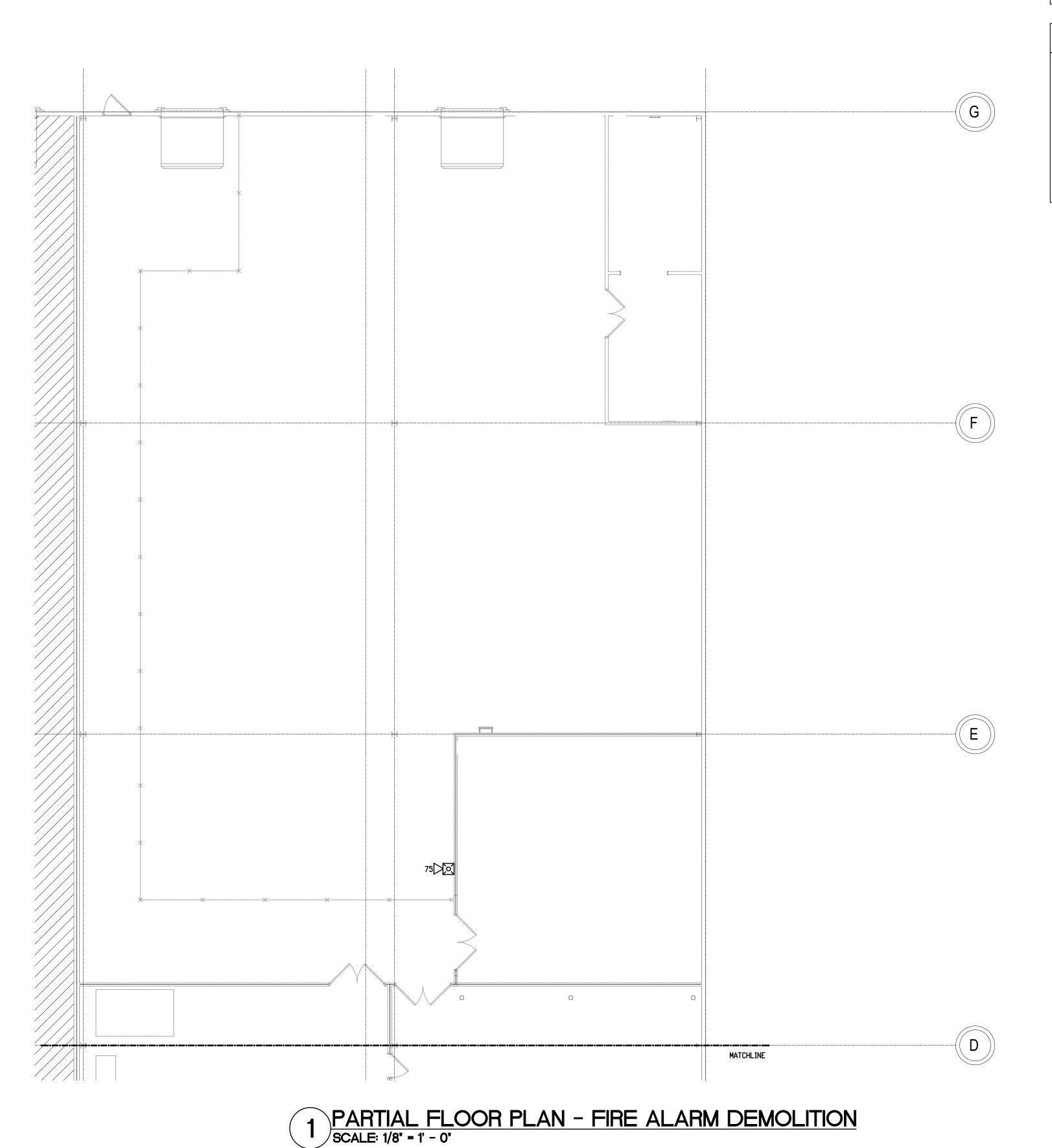
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PROJECT #:

240012 08/14/2024

PARTIAL FLOOR PLAN -FIRE ALARM DEMOLITION





NOTES

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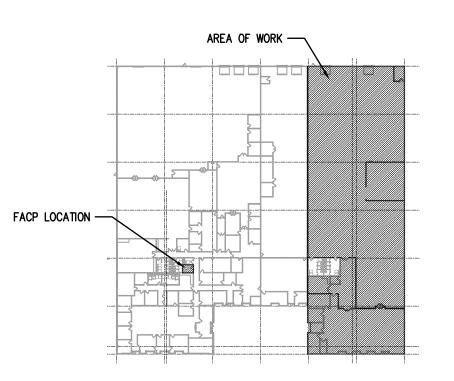
PLAN NOTES

EXISTING FACP LOCATION.

2. PROVIDE DUCT DETECTOR IN RETURN AIR DUCT AND CONNECT REMOTE LED INDICATOR IN CEILING GRID AS REQUIRED. COORDINATE W/ MECH. TYPICAL.



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FIRE ALARM SCOPE/SYSTEM NOTE: THE SCOPE OF FIRE ALARM WORK FOR THIS PROJECT IS TO ADD NEW NOTIFICATION AND/OR INITIATING DEVICES AS NECESSARY TO PROVIDE CODE REQUIRED COVERAGE FOR THE TENANT SPACE INDICATED ON PLANS. THE EXISTING SYSTEM UTILIZES HORN/STROBE NOTIFICATION.

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EXISTING WALL TO REMAIN NEW WALL TO BE CONSTRUCTED EXISTING WALL TO BE DEMOLISHED ONE HOUR FIRE PARTITION

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Description

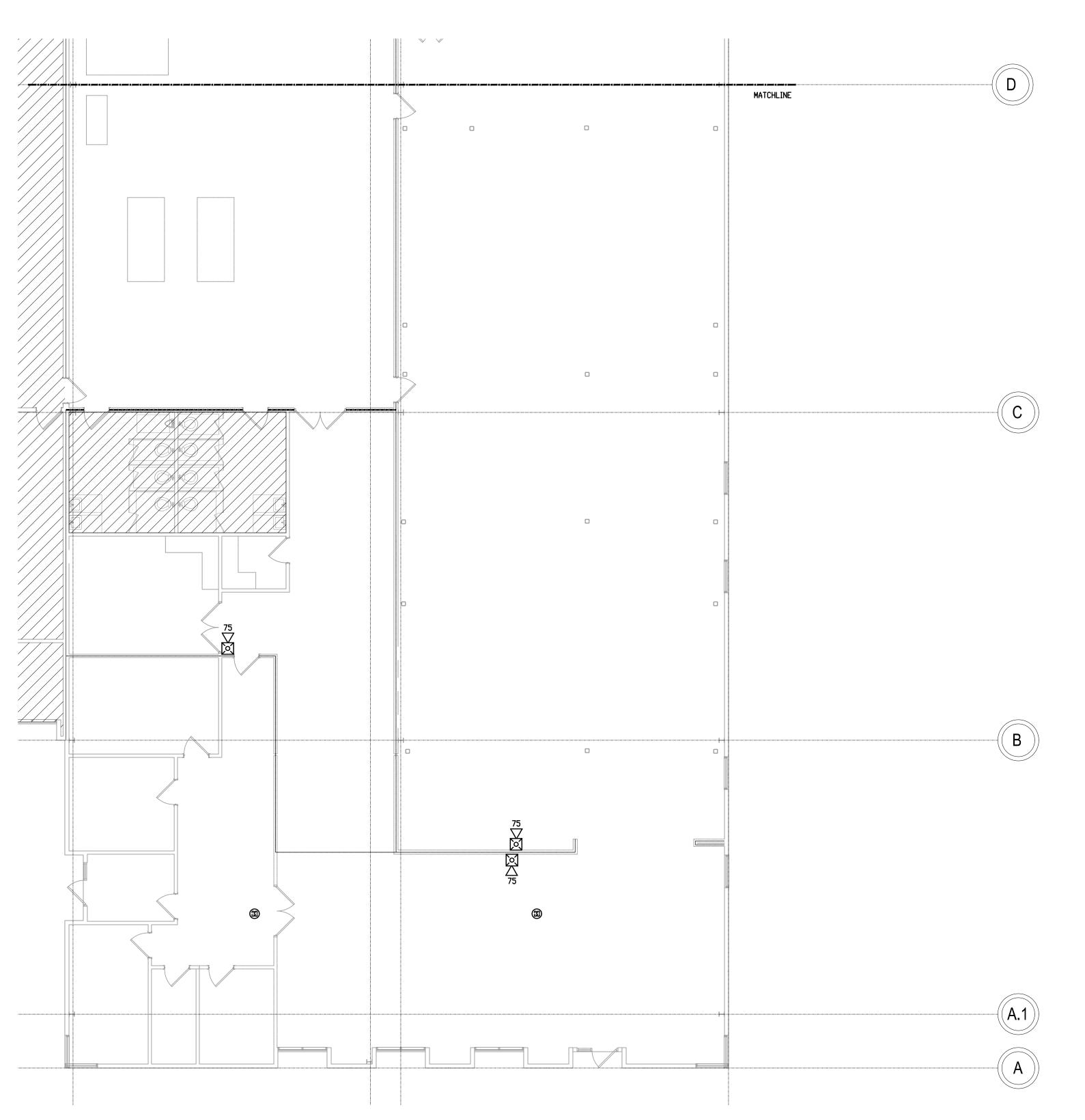
PROJECT #:

08/14/2024

240012

PARTIAL FLOOR PLAN -FIRE ALARM DEMOLITION

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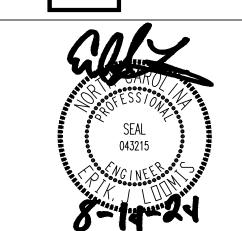
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PLAN NOTES

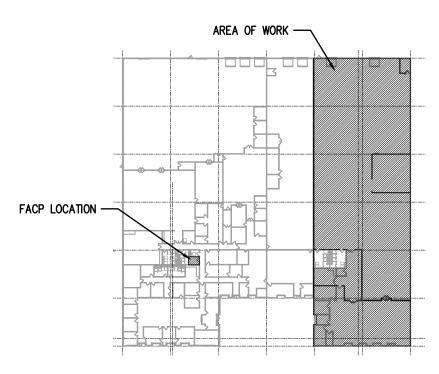
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EXISTING FACP LOCATION.

2. PROVIDE DUCT DETECTOR IN RETURN AIR DUCT AND CONNECT REMOTE LED INDICATOR IN CEILING GRID AS REQUIRED. COORDINATE W/ MECH. TYPICAL.



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3 KEY PLAN SCALE: NONE

FIRE ALARM SCOPE/SYSTEM NOTE: THE SCOPE OF FIRE ALARM WORK FOR THIS PROJECT IS TO ADD NEW NOTIFICATION AND/OR INITIATING DEVICES AS NECESSARY TO PROVIDE CODE REQUIRED COVERAGE FOR THE TENANT SPACE INDICATED ON PLANS. THE EXISTING SYSTEM UTILIZES HORN/STROBE NOTIFICATION.

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> EXISTING WALL TO REMAIN NEW WALL TO BE CONSTRUCTED EXISTING WALL TO BE DEMOLISHED ----- ONE HOUR FIRE PARTITION

240012 PROJECT #: 08/14/2024

PARTIAL FLOOR PLAN -FIRE ALARM

Supply

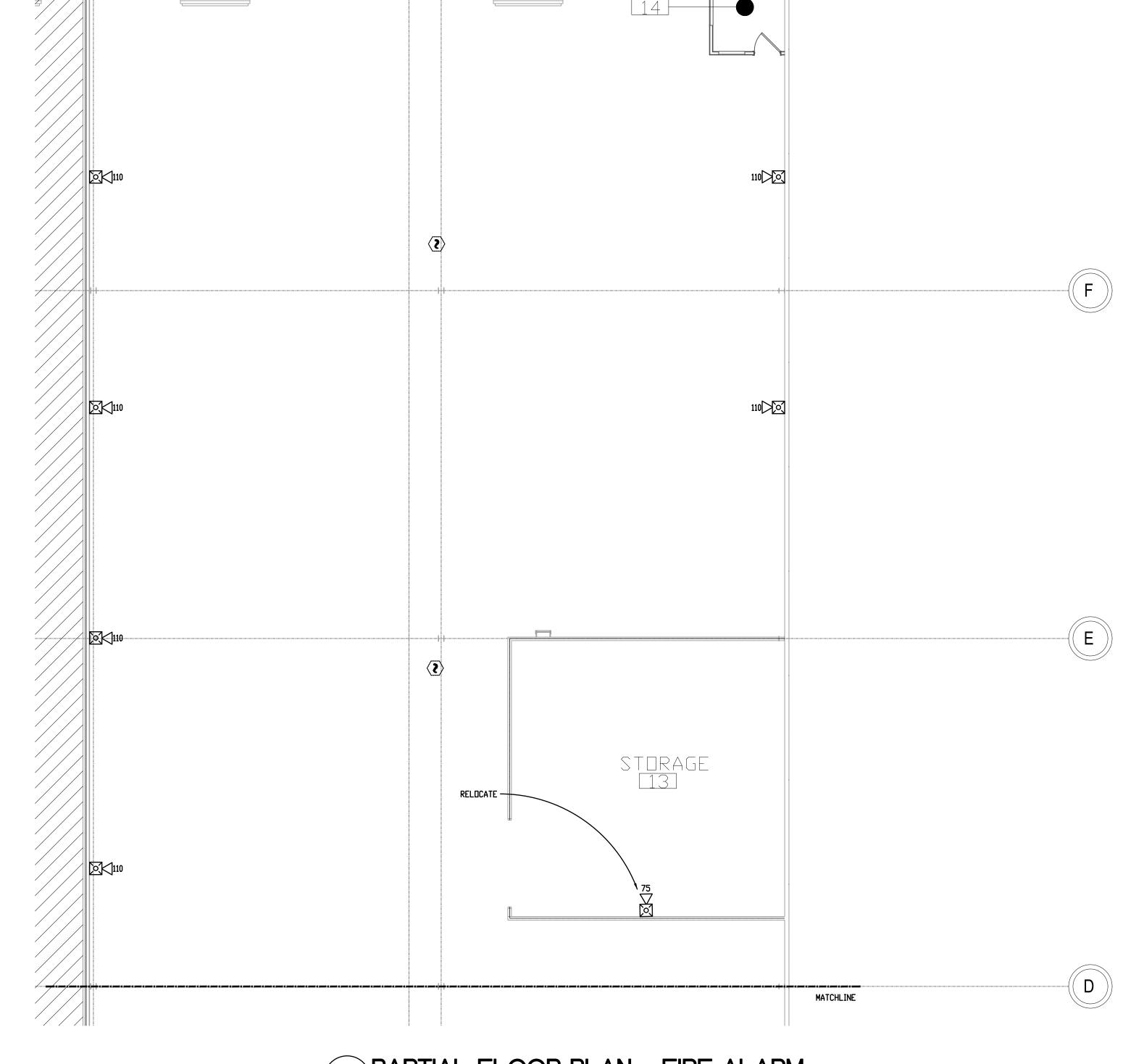
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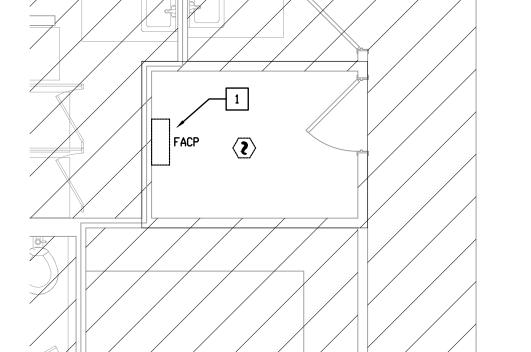
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2 ENLARGED FLOOR PLAN - FACP ROOM SCALE: 1/4" = 1' - 0"

PARTIAL FLOOR PLAN - FIRE ALARM
SCALE: 1/8' = 1' - 0'

919-871-1070 Fax 871-5620

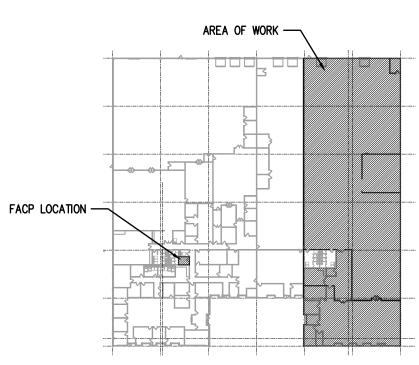
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PLAN NOTES

- EXISTING FACP LOCATION.
- 2. PROVIDE DUCT DETECTOR IN RETURN AIR DUCT AND CONNECT REMOTE LED INDICATOR IN CEILING GRID AS REQUIRED. COORDINATE W/ MECH. TYPICAL.







FIRE ALARM SCOPE/SYSTEM NOTE: THE SCOPE OF FIRE ALARM WORK FOR THIS PROJECT IS TO ADD NEW NOTIFICATION AND/OR INITIATING DEVICES AS NECESSARY TO PROVIDE CODE REQUIRED COVERAGE FOR THE TENANT SPACE INDICATED ON PLANS. THE EXISTING SYSTEM UTILIZES HORN/STROBE NOTIFICATION.

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BE ACCEPTABLE TO THE OWNER AND/OR IN LIKE-NEW CONDITION.

EXISTING WALL TO REMAIN NEW WALL TO BE CONSTRUCTED EXISTING WALL TO BE DEMOLISHED ONE HOUR FIRE PARTITION

Date

Description

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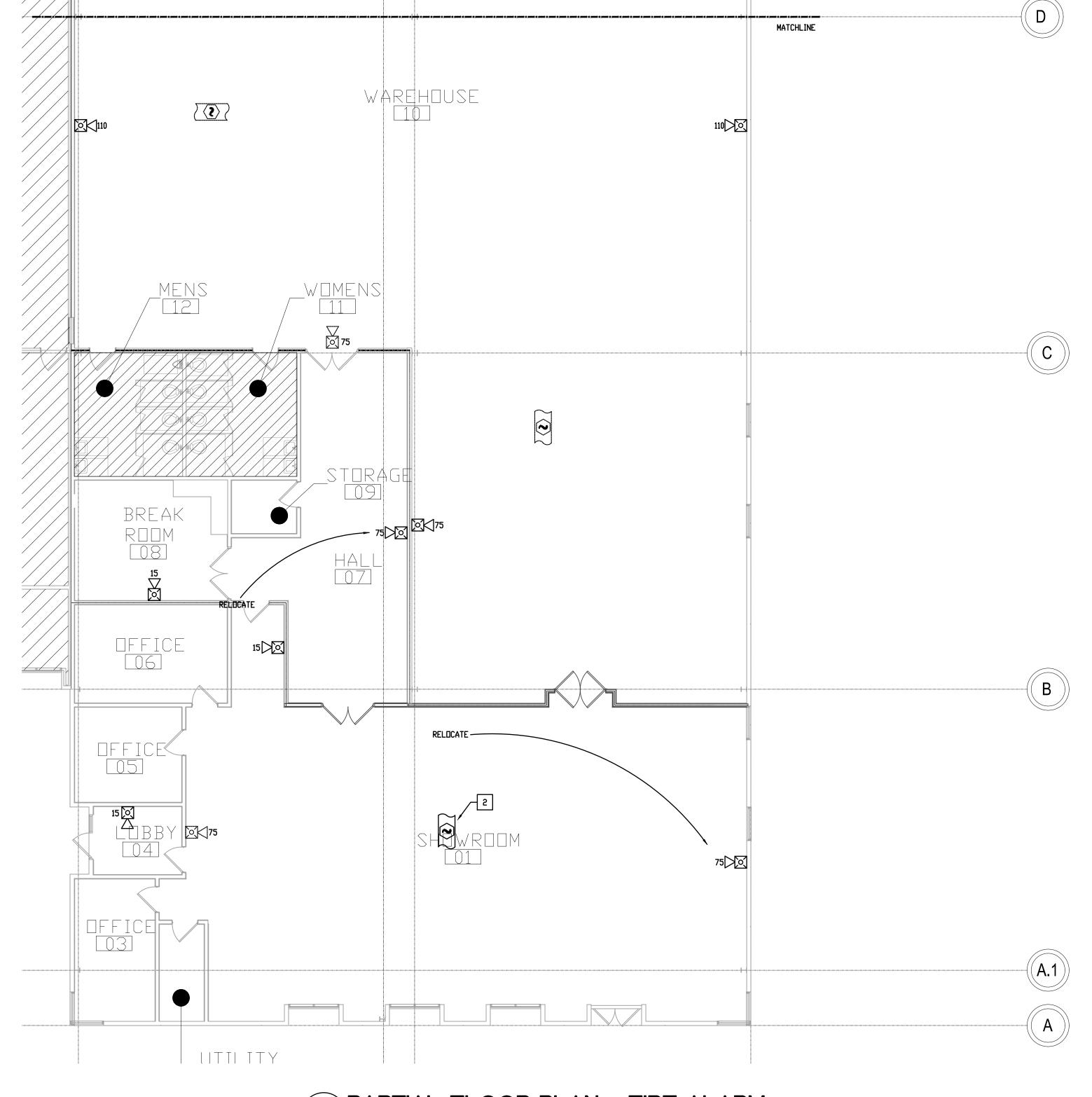
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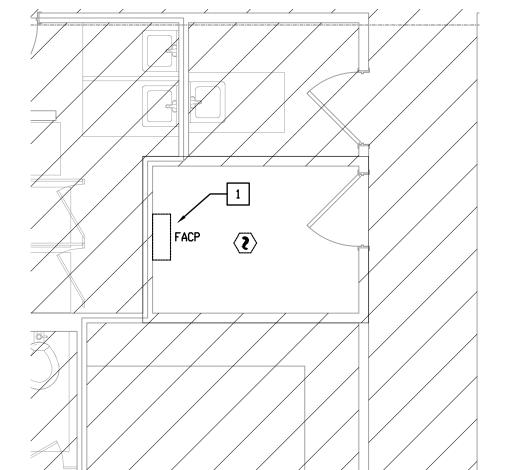
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240012 PROJECT #:

08/14/2024

PARTIAL FLOOR PLAN -FIRE ALARM





2 ENLARGED FLOOR PLAN - FACP ROOM SCALE: 1/4" = 1' - 0"

PARTIAL FLOOR PLAN - FIRE ALARM
SCALE: 1/8' = 1' - 0'

MECHANICAL NOTES AND SPECIFICATIONS

GENERAL REQUIREMENTS

1. THE HEATING AND AIR CONDITIONING CONTRACTOR (THE CONTRACTOR) SHALL PROVIDE ALL SPECIFIED AND MISCELLANEOUS MATERIAL AND LABOR AS REQUIRED FOR A COMPLETE AND OPERATING SYSTEM AS DESCRIBED BY THESE PLANS AND SPECIFICATIONS.

2. ALL EQUIPMENT AND MATERIALS SHALL BE INSTALLED IN ACCORDANCE WITH ALL LOCAL, STATE, AND NATIONAL CODES AND RECOMMENDATIONS OF THE MANUFACTURERS. IF THERE IS A CONFLICT IN THE ABOVE REQUIREMENTS, THE MORE STRINGENT SHALL BE USED.

3. THE CONTRACTOR SHALL OBTAIN AND PAY FOR ALL PERMITS, FEES, AND INSPECTIONS NECESSARY TO COMPLETE THEIR WORK UNDER THIS CONTRACT.

4. PRIOR TO BIDDING, THE CONTRACTOR SHALL VISIT THE SITE TO FAMILIARIZE THEMSELF WITH EXISTING CONDITIONS AND RESOLVE ANY CONFLICTS BETWEEN EXISTING CONDITIONS AND THESE PLANS WITH THE ENGINEER.

5. ALL DUCTWORK AND EQUIPMENT SHOWN ON THESE DRAWINGS IS STRICTLY DIAGRAMMATIC. ALL DUCTWORK SIZES SHOWN ARE FREE AREA SIZES. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO ENSURE THAT ITEMS FURNISHED UNDER THIS CONTRACT WILL FIT IN THE SPACE AVAILABLE. THE CONTRACTOR SHALL MAKE NECESSARY FIELD MEASUREMENTS TO ASCERTAIN SPACE REQUIREMENTS, INCLUDING THOSE FOR CONNECTIONS, AND SHALL PROVIDE SUCH SIZES AND SHAPES OF EQUIPMENT THAT ARE THE TRUE INTENT AND MEANING OF THESE DRAWINGS AND SPECIFICATIONS. ANY CONFLICTS SHALL BE RESOLVED WITH THE ENGINEER.

6. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL COORDINATE THEIR WORK WITH ALL OTHER TRADES. ALL DRAWINGS INDICATE THE GENERAL ARRANGEMENT DESIRED. THE EXACT LOCATIONS AND DETAILS OF CONSTRUCTION MAY BE SUCH THAT VARIANCES ARE REQUIRED. THE DRAWINGS DO NOT SHOW ALL BENDS, OFFSETS, AND FITTINGS THAT MAY BE REQUIRED FOR THE COMPLETE EXECUTION OF THIS CONTRACT. SUCH VARIANCES AND CONTINGENCIES SHALL BE ALLOWED FOR IN THE CONTRACTOR'S BID AND SHALL BE ACCOMPLISHED WITHOUT ADDITIONAL COST TO THE OWNER, PRIOR TO ORDERING EQUIPMENT, THE CONTRACTOR SHALL PREPARE COORDINATION DRAWINGS SHOWING HOW THEIR EQUIPMENT IS TO BE LOCATED IN THE SPACE INDICATED. THIS DRAWING SHALL SHOW THE NEW AND EXISTING WORK OF ALL OTHER TRADES. THE CONTRACTOR SHALL CONTACT THE OTHER CONTRACTORS INVOLVED FOR DIMENSIONS, LOCATIONS, AND REQUIRED CLEARANCES OF THE EQUIPMENT THEY INTEND TO PROVIDE FOR THIS JOB. THE AFOREMENTIONED COORDINATION DRAWINGS SHALL BE SUBMITTED TO THE ENGINEER FOR

7. DO NOT SCALE THESE DRAWINGS. REFER TO THE ARCHITECTURAL PLANS FOR DIMENSIONS.

8. ALL EQUIPMENT SHALL BE LOCATED AND INSTALLED TO PROVIDE MAXIMUM SPACE FOR MAINTENANCE AND SERVICE.

9. ALL MATERIALS USED SHALL BE NEW AND FREE OF DEFECTS. WHERE TRADE NAMES ARE MENTIONED. THEY ARE GIVEN AS A REFERENCE TO THE QUALITY OF THE APPARATUS REQUIRED. ALL MATERIALS AND EQUIPMENT SHALL BEAR THE UL LABEL OR EQUIVALENT WHERE APPLICABLE. OTHER MAKES MAY BE USED IF APPROVED IN WRITING BY THE ENGINEER. PROVIDE A COMPLETE LIST OF MATERIALS AND EQUIPMENT PROPOSED FOR USE IN THIS CONTRACT TO THE ENGINEER WITHIN TEN DAYS FOLLOWING THE AWARD OF CONTRACT. IF SUCH LIST IS NOT SUBMITTED, THE CONTRACTOR SHALL SUPPLY THE MATERIALS AND EQUIPMENT SPECIFIED OR AS DIRECTED BY THE ENGINEER. THE CONTRACTOR SHALL PROVIDE FOUR COPIES OF SUBMITTALS TO THE ENGINEER FOR REVIEW AND APPROVAL PRIOR TO ORDERING EQUIPMENT.

10. WORKMANSHIP SHALL BE FIRST-CLASS AND PERFORMED BY EXPERIENCED AND SKILLED CRAFTSMEN.

11. COORDINATE EXACT LOCATION OF ALL DIFFUSERS WITH LIGHTS. SPRINKLER HEADS. AND OTHER CEILING MOUNTED DEVICES. SEE THE REFLECTED CEILING PLAN.

12. UPON COMPLETION OF THE WORK, A TEST AND BALANCE SHALL BE PERFORMED IN ACCORDANCE WITH "AABC" REQUIREMENTS. FURNISH FINAL COPY OF ALL TESTING, ADJUSTING, AND BALANCING REPORTS AS A PART OF THE OPERATING AND MAINTENANCE MANUALS. INDICATE DEFICIENCIES PREVENTING PROPER TESTING, ADJUSTING AND BALANCING OF SYSTEMS AND EQUIPMENT TO ACHIEVE SPECIFIED PERFORMANCE. ADJUST AIR HANDLING SYSTEMS TO WITHIN PLUS OR MINUS 10 PERCENT OF DESIGN. ADJUST TOTAL AIR TO ALL AIR OUTLETS AND INLETS TO WITHIN PLUS 10 PERCENT AND MINUS 5 PERCENT OF DESIGN TO SPACE. ADJUST INDIVIDUAL OUTLETS AND INLETS IN SPACE TO WITHIN PLUS OR MINUS 10 PERCENT OF DESIGN. ADJUST AIR HANDLING AND DISTRIBUTION SYSTEMS TO OBTAIN REQUIRED OR DESIGN SUPPLY, RETURN AND EXHAUST AIR QUANTITIES. MEASURE AIR QUANTITIES AT AIR INLETS AND OUTLETS. VARY TOTAL SYSTEM AIR QUANTITIES BY ADJUSTMENT OF FAN SPEEDS. PROVIDE SHEAVE DRIVE CHANGES TO VARY FAN SPEED IF REQUIRED. VARY BRANCH AIR QUANTITIES BY DAMPER REGULATION. MEASURE STATIC AIR PRESSURE CONDITIONS ON AIR SUPPLY UNITS, INCLUDING FILTER AND COIL PRESSURE DROPS AND TOTAL PRESSURE ACROSS FAN. MAKE ALLOWANCES FOR 50 PERCENT LOADING OF FILTERS. ADJUST OUTSIDE AIR AUTOMATIC DAMPERS, OUTSIDE AIR, RETURN AIR, AND EXHAUST DAMPERS FOR DESIGN CONDITIONS. AT MODULATING DAMPER LOCATIONS, TAKE MEASUREMENTS AND BALANCE AT EXTREME CONDITIONS.

13. AS APPLICABLE, THE CONTRACTOR SHALL VERIFY THE OPERATION OF ALL EXISTING MECHANICAL EQUIPMENT IN THE AREA OF WORK. ALL MEASUREMENTS SHALL BE RECORDED NECESSARY TO ASCERTAIN THE PROPER OPERATION OF THE EQUIPMENT INCLUDING, BUT NOT LIMITED TO, AMPERAGE, GPM FLOW, INLET AND OUTLET TEMPERATURES, AIR FLOW, AND INLET AND OUTLET STATIC PRESSURES. ANY DEFICIENCY IN THE RATED OUTPUT OF THE EQUIPMENT SHALL BE REPORTED TO THE ENGINEER. IN ANY CASE, SAID REPORT SHALL BE SUBMITTED TO THE ENGINEER UPON REQUEST.

14. ALL EQUIPMENT SHALL BE PROVIDED WITH PERMANENT LABELS FOR IDENTIFICATION. ALL PIPE SHALL BE LABELED TO INDICATE PIPE FUNCTION AND DIRECTION OF FLOW. PROVIDE VALVE TAGS FOR ALL VALVES. COORDINATE NOMENCLATURE AND NUMBERING WITH OWNER PRIOR TO INSTALLATION.

15. THE CONTRACTOR SHALL FURNISH A BOUND SET OF OPERATING AND MAINTENANCE INSTRUCTIONS FOR ALL EQUIPMENT TO THE OWNER UPON COMPLETION OF PROJECT.

16. THE CONTRACTOR SHALL, AT THE COMPLETION OF THE WORK, CLEAN, POLISH, AND/OR WASH ALL EXPOSED ITEMS OF MATERIALS, EQUIPMENT, AND FIXTURES IN THEIR CONTRACT TO LEAVE SUCH ITEMS BRIGHT AND CLEAN. THE CONTRACTOR SHALL KEEP THE PREMISES CLEAR OF DEBRIS FROM THEIR WORK DURING CONSTRUCTION AND LEAVE THE AREA AND BUILDING CLEAN AT COMPLETION OF THE CONTRACT.

17. MECHANICAL AND ELECTRICAL EQUIPMENT SHALL OPERATE WITHOUT OBJECTIONABLE NOISE OR VIBRATION, AS DETERMINED BY THE ENGINEER. IF SUCH OBJECTIONABLE NOISE OR VIBRATION SHOULD BE PRODUCED AND TRANSMITTED TO OCCUPIED PORTIONS OF THE BUILDING, THE CONTRACTOR SHALL MAKE THE NECESSARY CHANGES TO CORRECT THE NOISE OR VIBRATION WITHOUT ADDITIONAL COST TO THE OWNER.

18. THE CONTRACTOR SHALL PROVIDE A COMPLETE 1-YEAR WARRANTY ON ALL LABOR AND MATERIALS UNDER THIS CONTRACT. REFRIGERATION COMPRESSORS PROVIDED UNDER THIS CONTRACT SHALL CARRY THE MANUFACTURER'S PUBLISHED 5-YEAR NON-PRORATED WARRANTY.

19. THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR ALL POWER CONNECTIONS TO THE EQUIPMENT PROVIDED UNDER THIS CONTRACT.

20. THE MECHANICAL CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CONTROL WIRING FOR THEIR

21. OUTSIDE AIR INTAKES SHALL BE LOCATED A MINIMUM OF 10 FEET FROM ALL EXHAUST DISCHARGE AND PLUMBING VENTS.

22. REPLACE ALL FILTERS JUST PRIOR TO ACCEPTANCE BY THE OWNER.

23. CONTRACTORS AND SUB-CONTRACTORS SHALL CAREFULLY REVIEW THE CONSTRUCTION DOCUMENTS. INFORMATION REGARDING THE COMPLETE WORK IS DISPERSED THROUGHOUT THE DOCUMENT SET AND CANNOT BE ACCURATELY DETERMINED WITHOUT REFERENCE TO THE COMPLETE DOCUMENT SETS.

MATERIALS AND EQUIPMENT

ALL SHEET-METAL DUCTWORK UNLESS OTHERWISE SPECIFIED SHALL BE CONSTRUCTED OF GALVANIZED STEEL SHEETS IN ACCORDANCE WITH SMACNA GAGES AND STANDARDS. DUCT UPSTREAM OF VAV DAMPERS SHALL BE CONSTRUCTED FOR 2" STATIC PRESSURE AND SEALED TO SMACNA CLASSIFICATION "A". DUCT DOWNSTREAM OF VAV BOXES AND FOR LOW PRESSURE EQUIPMENT SHALL BE CONSTRUCTED FOR 1" STATIC PRESSURE AND SEALED TO SMACNA CLASSIFICATION "B". INSULATE ALL DUCTWORK UNLESS OTHERWISE NOTED WITH FOIL-FACED 1 PSF DENSITY FIBERGLASS DUCT WRAP. INSULATION R-VALUE SHALL BE PER 2018 NC ENERGY CODE. FOR ROOFTOP EQUIPMENT, LINE SUPPLY AND RETURN DUCT TO FIVE FEET BEYOND FIRST ELBOW DOWNSTREAM OF DISCHARGE AND INTAKE OF UNIT. DUCT LINER SHALL BE 1" THICK, 1.5 POUND DENSITY ACOUSTICAL LINER.

FLEXIBLE DUCT: SHALL BE INSULATED. SOUND ATTENUATING. LOW VELOCITY TYPE AND SHALL COMPLY WITH NFPA 90A AND 90B. FLEXIBLE DUCT SHALL BEAR THE UL CLASS 1 AIR DUCT LABEL AS TESTED UNDER UL 181. FLEXIBLE DUCT SHALL BE FACTORY-FORMED, COMPOSED OF SPIRAL WOUND CORROSION RESISTANT WIRE BONDED TO AN INNER FABRIC LINER. DUCT SHALL BE FACTORY INSULATED WITH A FOIL VAPOR BARRIER JACKET. INSULATION R-VALUE SHALL BE PER 2018 NC ENERGY CODE.

THE INSTALLATION OF FLEX DUCT SHALL CONFORM TO THE REQUIREMENTS OF CHAPTER 3 OF THE SMACNA HVAC DUCT CONSTRUCTION STANDARDS. THIRD EDITION (2005). BENDS IN FLEXIBLE DUCT SHALL NOT BE LESS THAN TWO DUCT DIAMETERS CENTERLINE RADIUS AND BENDS SHALL NOT BEGIN WITHIN THREE INCHES OF A SHEET METAL CONNECTION. DUCT SHALL NOT BE COMPRESSED. SUPPORT DUCT FROM STRUCTURE AT INTERVALS NOT TO EXCEED TEN FEET. MAXIMUM PERMISSIBLE SAG IS 1/2 INCH PER FOOT OF SPACING BETWEEN SUPPORTS. HANGER OR SADDLE MATERIAL IN CONTACT WITH THE DUCT SHALL BE WIDE ENOUGH SO THAT IT DOES NOT REDUCE THE INTERNAL DIAMETER OF THE DUCT WHEN THE SUPPORTED SECTION RESTS ON THE SUPPORT AND IN NO CASE SHALL BE LESS THAN 1" WIDE.

DUCT ELBOWS: USE FULL-RADIUS ELBOWS OR SQUARE BENDS WITH TURNING VANES.

SYSTEM BALANCING: PROVIDE LOCKING QUADRANT TYPE MANUAL VOLUME DAMPER AT EACH FLEXIBLE DUCT RUNOUT. PROVIDE SPLITTER DAMPERS AT SUPPLY TEES AND EXTRACTORS AT ALL SUPPLY AIR BRANCHES. PROVIDE BALANCING DAMPERS IN ALL DUCTS WHERE REQUIRED FOR SYSTEM BALANCING AS SHOWN OR AS REQUIRED.

AIR DISTRIBUTION: PROVIDE ALL GRILLES, REGISTERS, AND DIFFUSERS PER THE SCHEDULE ON THE DRAWINGS. PROVIDE SUPPORT FROM THE STRUCTURE FOR EACH DIFFUSER AND DAMPER INSTALLED IN A LAY-IN CEILING. SLOT DIFFUSERS SHALL BE CONSTRUCTED SO THAT EACH SLOT MAY BE INDEPENDENTLY CONFIGURED TO INSURE A FULL 180° AIR CONTROL PATTERN. THE CONTRACTOR SHALL COORDINATE FINISH STYLES AND COLORS WITH THE ARCHITECT PRIOR TO ORDERING EQUIPMENT. THE BACKS OF ALL AIR DISTRIBUTION SHALL BE INSULATED FROM UNCONDITIONED SPACE.

FIRE DAMPERS: THE CONTRACTOR SHALL PROVIDE FIRE DAMPERS AT ALL DUCT PENETRATIONS OF RATED WALLS AS INDICATED ON THE DRAWINGS OR WHERE REQUIRED BY THE AUTHORITY HAVING JURISDICTION. FIRE DAMPERS SHALL BE UL LABELED, STYLE "B" CURTAIN TYPE. AND DYNAMICALLY RATED WITH INTEGRAL FACTORY SLEEVE. BLADES SHALL BE LOCATED OUT OF THE AIRSTREAM FOR MINIMUM AIR FLOW RESTRICTION. INSTALLATION SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE "FIRE, SMOKE, AND RADIATION DAMPER INSTALLATION GUIDE", PUBLISHED BY SMACNA, PROVIDE SUITABLE ACCESS DOOR FOR TESTING AND SERVICING DAMPER MECHANISM. PRIOR TO COMPLETION OF JOB, THE CONTRACTOR SHALL TEST EACH DAMPER FOR PROPER OPERATION AND MAKE ADJUSTMENTS AS NECESSARY.

FLEXIBLE DUCT CONNECTIONS: FURNISH AND INSTALL FLEXIBLE DUCT CONNECTORS ON SUPPLY AND RETURN CONNECTIONS OF ALL AIR HANDLING UNITS.

ESCUTCHEONS: FURNISH AND INSTALL ESCUTCHEONS IN ALL PLACES WHERE PIPING OR MECHANICAL EQUIPMENT PENETRATES A FINISHED WALL OR CEILING IN AN EXPOSED LOCATION.

SMOKE DETECTORS SHALL BE PROVIDED PER THE 2018 NC MECHANICAL CODE, SECTION 606.2.1. SMOKE DETECTORS SHALL BE U.L. LISTED FOR DUCT INSTALLATION AND BE LOCATED IN THE RETURN AIRSTREAM TO SHUT DOWN THE SUPPLY AIR FAN UPON ACTIVATION. THE SYSTEM SHALL BE WIRED SO THAT THE FAN IMMEDIATELY SHUTS DOWN UPON A SIGNAL FROM THE FIRE ALARM SYSTEM AND BYPASSES ANY BUILT-IN TIME DELAYS. THE FIRE ALARM CONTRACTOR SHALL FURNISH THE SMOKE DETECTOR, WIRE THE DETECTOR TO THE FIRE ALARM CONTROL PANEL AND PROVIDE A SHUT DOWN RELAY AT THE EQUIPMENT. THE MECHANICAL CONTRACTOR SHALL INSTALL THE SMOKE DETECTOR IN THE DUCT AND WIRE FROM THE SHUT DOWN RELAY TO THE SUPPLY FAN. AUDIBLE AND VISIBLE ALARMS SHALL BE PROVIDED THROUGH THE FIRE ALARM SYSTEM. DUCT DETECTORS SHALL BE INSTALLED PER THE MANUFACTURER'S RECOMMENDATIONS. COORDINATE SMOKE DETECTOR REQUIREMENTS WITH THE FIRE ALARM CONTRACTOR PRIOR TO INSTALLATION.

ACCESS PANELS: THE MECHANICAL CONTRACTOR SHALL PROVIDE ACCESS PANELS AS REQUIRED FOR ACCESS TO VALVES, DAMPERS, CONTROLS, OR ANY OTHER ITEM INSTALLED UNDER THIS CONTRACT WHERE SUCH ITEM IS CONCEALED BEHIND CONSTRUCTION WHICH RENDERS THE ITEM INACCESSIBLE FOR SERVICE OR ADJUSTMENT. SAID ACCESS PANELS OR DOORS SHALL BE FIRE RATED AS NECESSARY TO MAINTAIN THE INTEGRITY OF THE CONSTRUCTION WHEREIN THE PANEL OR DOOR IS INSTALLED.

HVAC EQUIPMENT: ALL EQUIPMENT SHALL BEAR THE UL, CSA, MET OR OTHER ACCREDITED TESTING LABORATORY LABEL WHERE APPROPRIATE ALL EQUIPMENT SHALL CONFORM TO THE TYPE, SIZE, RATING, AND

DRAWINGS PER THE SPECIFICATIONS.

PERFORMANCE OF THAT LISTED ON THE DRAWINGS UNDER THIS CONTRACT. SUBMIT SHOP

HVAC CONTROLS SHALL BE AS INDICATED ON THE DRAWINGS. IN EXISTING BUILDINGS, ALL NEW EQUIPMENT SHALL BE CONNECTED TO THE EXISTING BUILDING CONTROL SYSTEM UNLESS OTHERWISE NOTED. THE MECHANICAL CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE EXISTING BUILDING CONTROL SYSTEM PRIOR TO BID AND SHALL PROVIDE EQUIPMENT COMPATIBLE WITH THE EXISTING SYSTEM. IF THE EXISTING SYSTEM IS EQUIPPED WITH A GRAPHICAL INTERFACE, IT SHALL BE UPDATED AS A PART OF THIS PROJECT. NEW SENSORS SHALL MATCH THE BUILDING STANDARD UNLESS OTHERWISE NOTED. NEW EQUIPMENT PROVIDED FOR STANDALONE ZONE CONTROL SYSTEMS FOR INDIVIDUAL PIECES OF EQUIPMENT SHALL BE CONNECTED TO THE EXISTING ZONE CONTROL SYSTEM UNLESS OTHERWISE NOTED.

CONTROL WIRING: ALL CONTROL WIRING SHALL BE RUN IN A METALLIC RACEWAY. RACEWAY SHALL BE ROUTED PARALLEL AND PERPENDICULAR WITH THE BUILDING STRUCTURE. THE METALLIC RACEWAY MAY BE OMITTED WHERE PLENUM-RATED CABLE IS INSTALLED ABOVE AN ACCESSIBLE CEILING WITHIN THE BUILDING ENVELOPE. THERE SHALL BE NO SPLICES IN THE CONTROL SYSTEM WIRING OTHER THAN AT TERMINAL BLOCKS. WIRE NUTS AND CRIMP SPLICES ARE <u>NOT</u> PERMITTED.

ALL GAS PIPING SHALL BE INSTALLED BY THE MECHANICAL CONTRACTOR. GAS PIPE SHALL BE SCHEDULE 40 BLACK STEEL. PROVIDE ALL VALVES, FITTINGS AND CONTROLS AS REQUIRED BY LOCAL, STATE, AND NATIONAL CODES OR BY MANUFACTURER'S WRITTEN RECOMMENDATIONS FOR A COMPLETE AND OPERATIONAL SYSTEM.

	DRAV	VING LEGEND								
X		CEILING SUPPLY DIFFUSER								
[]=		SIDEWALL SUPPLY DIFFUSER								
		CEILING RETURN GRILLE								
		CEILING EXHAUST GRILLE								
[] -	_	SIDEWALL RETURN/EXHAUST GRILLE								
∑ wxH	\Box	RECTANGULAR DUCT (W = WIDTH, H = HEIGHT)								
₽ D"ø	3	ROUND DUCT (D = DIAMETER)								
У́	- ¬ ¬	EXISTING DUCT, DIFFUSER OR EQUIPMENT								
<u> </u>		EXISTING DUCT, DIFFUSER OR EQUIPMENT TO BE DEMOLISHED								
		EXISTING DIFFUSER TO BE RELOCATED								
		SPIN-IN TAP WITH TRANSITION FROM HARD TO FLEXIBLE DUCT								
7	\Box	MANUAL VOLUME DAMPER								
$[\times]$		RECTANGULAR DUCT TURNS DOWN								
		RECTANGULAR DUCT TURNS UP								
0		ROUND DUCT TURNS DOWN								
0		ROUND DUCT TURNS UP								
		FIRE DAMPER								
•		CONNECT TO EXISTING								
<u></u>		DUCT MOUNTED SMOKE DETECTOR								
A 150]	DIFFUSER TAG DIFFUSER TYPE CFM								
——G-		GAS PIPING								
	Ð	PIPING ELBOW TURNS DOWN								
	•	PIPING ELBOW TURNS UP								
	_	GAS SHUT-OFF VALVE								
1		WALL MOUNTED THERMOSTAT								
<u>(S)</u>		WALL MOUNTED TEMPERATURE SENSOR								
		MARKS								
AHU	AIR HA	NDLING UNIT								
EF	EXHAUS	ST FAN								
GUH	GAS UN	NIT HEATER								
HP	HEAT F	PUMP								
DTII	DACKA	CED DOCETOD LINIT								

RTU PACKAGED ROOFTOP UNIT

GRAVITY VENTILATOR

	WAF	REHOUSE FORK	LIFT BA	TTERY VENT	TILATIOI	N CALCU	ILATION		
NO. OF CELLS IN BATTERY	6-HOUR RATED CAPACITY (AMPERE-HOURS)	HYDROGEN PRODUCED DURING RECHARGE (CUB. FT.)	QUANTITY OF BATTERIES	TOTAL HYDROGEN PRODUCED (CUB. FT.)	FLOOR AREA (SQ. FT.)	SPACE VOLUME (CUB. FT.)	TOTAL HYDROGEN ALLOWED (CUB. FT.)	VENTILATION REQUIRED?	REMARKS
18	935	24.8	2	49.6	13,229	289,800	2,898	NO	10
18	850	11.3	1	11.3	13,229	289,800	2,898	NO	12

- (1) MAXIMUM CONCENTRATION OF HYDROGEN SHALL BE LESS THAN 1.0 PERCENT OF THE TOTAL ROOM VOLUME PER 502.4.1 OF THE 2018 NC MECHANICAL CODE.
- (2) VENTILATION PROVIDED THROUGH MECHANICAL EQUIPMENT PROVIDES GREATER THAN ONE AIR CHANGE EVERY FIVE HOURS. AT THIS RATE HYDROGEN PRODUCED DURING DAILY BATTERY CHARGING WILL NEVER BE GREATER THAN 1% OF THE TOTAL ROOM VOLUME.
- ③ LITHIUM—ION AND LITHIUM METAL POLYMER BATTERIES SHALL NOT REQUIRE ADDITIONAL VENTILATION BEYOND THAT REQUIRED FOR NORMAL HUMAN OCCUPANCY OF THE SPACE PER 502.4, EXCEPTION 1 OF THE 2018 NC MECHANICAL CODE.

		OUTSID	E AIR CA	LCUL	ATION				
UNIT IDENTIFICATION	SPACE CLASSIFICATION	FLOOR AREA (SQ. FT.)	PEOPLE PER 1000 SQ. FT.	TOTAL PEOPLE	CFM PER PERSON	CFM PER SF	REQUIRED CFM	DESIGN CFM	REMARKS
RTU-2	WAREHOUSE	7162	N/A	N/A	N/A	0.12	540	430	1
RTU-18	WAREHOUSE	7163	N/A	N/A	N/A	0.12	540	430	1
	OFFICE	305	5	2	5	0.06	29		1
DTI. 10	STORAGE	61	N/A	N/A	N/A	0.12	8	E40	1
RTU-19	LOBBY	84	10	1	5	0.06	14	540	10
	SALES	2506	15	24	5	0.12	601		1
	OFFICE	469	5	3	5	0.06	44		1
RTU-20	STORAGE	49	N/A	N/A	N/A	0.12	6	95	1
	CORRIDOR	605	N/A	N/A	N/A	0.06	37		1

1) PER 2018 NC MECHANICAL CODE, TABLE 403.3.1.1

(2) OCCUPANCY BASED ON ARCHITECTURAL FURNITURE LAYOUT AND ACTUAL OCCUPANCY COUNT FROM OWNER.

MECHANICAL SYSTEMS AND EQUIPMENT METHOD OF COMPLIANCE:

Prescriptive X Energy Cost Budget

Thermal Zone Exterior Design Conditions winter dry bulb summer dry bulb 95°F

Interior Design Conditions winter dry bulb summer dry bulb 75°F relative humidity 50%

Office Space Heating Load 32,800 BTU/hr

Office Space Cooling Load 32,800 BTU/hr

Mechanical Spacing Conditioning System Unitary - The warehouse space is served 1 existing packaged rooftop unit with gas heat and 1 packaged rooftop heat pump with auxiliary electric heat. the office space is served by 2 new packaged rooftop heat pumps with auxiliary electric heat.

Boiler - Not applicable to this project. Chiller - Not applicable to this project.

Equipment efficiencies

Efficiencies are listed on equipment schedules - See drawings.

Equipment schedules with motors.

Multispeed motors are used on this project and are included in the efficiency rating of the unit. See drawings for efficiencies.

DESIGNER STATEMENT:

To the best of my knowledge and belief, the design of this building complies with the mechanical system and equipment requirements of the 2018 NC Mechanical Code,

GENERAL NOTES:

- CONTRACTOR SHALL COMPLY WITH ALL REQUIREMENTS OF 2018 NC MECHANICAL CODE WITH REGARDS TO ALL MECHANICAL WORK.
- 2. MECHANICAL CONTRACTOR SHALL COORDINATE THE INSTALLATION OF ALL EQUIPMENT, PIPING, AND DUCTWORK UNDER THIS CONTRACT WITH THE BUILDING STRUCTURE. CONTRACTOR SHALL MAKE ADJUSTMENTS WHERE NECESSARY WITHOUT ADDITIONAL COST TO OWNER.
- 3. COORDINATE ALL SUPPLY, RETURN AND EXHAUST GRILLE LOCATIONS WITH ARCHITECTURAL REFLECTED CEILING PLAN.
- 4. LIMIT ALL FLEXIBLE SUPPLY DUCT LENGTHS TO A MAXIMUM OF 8'. LIMIT ALL FLEXIBLE RETURN DUCT LENGTHS TO 4'.
- 5. WHERE DUCTS AND/OR EQUIPMENT ARE SHOWN CROSSING, THE LARGER DUCT OR EQUIPMENT SHOULD TAKE PRECEDENCE. THE CONTRACTOR MUST PROVIDE TRANSITIONS SO THAT THE SMALLER OF THE DUCTS IS ROUTED UP AND OVER THE TOP OF LARGER DUCTS. DUCTS THAT ARE REQUIRED TO BE SLOPED AT A GIVEN RATE TAKE PRECEDENCE OVER ALL OTHERS
- 6. INSTALL FIRE DAMPERS AS REQUIRED FOR ALL DUCTS PENETRATING RATED PARTITIONS.
- 7. ALL ROOF MOUNTED EQUIPMENT SHALL BE LOCATED A MINIMUM OF 6 FEET FROM THE ROOF EDGE. COORDINATE ALL ROOF WORK WITH OWNER PRIOR TO CONSTRUCTION.
- 8. MECHANICAL CONTRACTOR SHALL INSPECT THE EXISTING DUCTWORK PRIOR TO BID. VERIFY DUCT SIZES AND LOCATIONS AND NEW DUCT ROUTING. REPAIR INSULATION AND PATCH DUCTWORK AS NECESSARY.
- 9. RELOCATE EXISTING THERMOSTATS/TEMPERATURE SENSORS AS SHOWN ON PLANS. REPLACE WHERE NECESSARY. VERIFY THAT ALL THERMOSTAT LOCATIONS ARE ACCEPTABLE TO OWNER/TENANT PRIOR TO CONSTRUCTION.
- 10. INSULATE ALL NEW SUPPLY AIR DUCTWORK WITH EXTERIOR DUCT WRAP.

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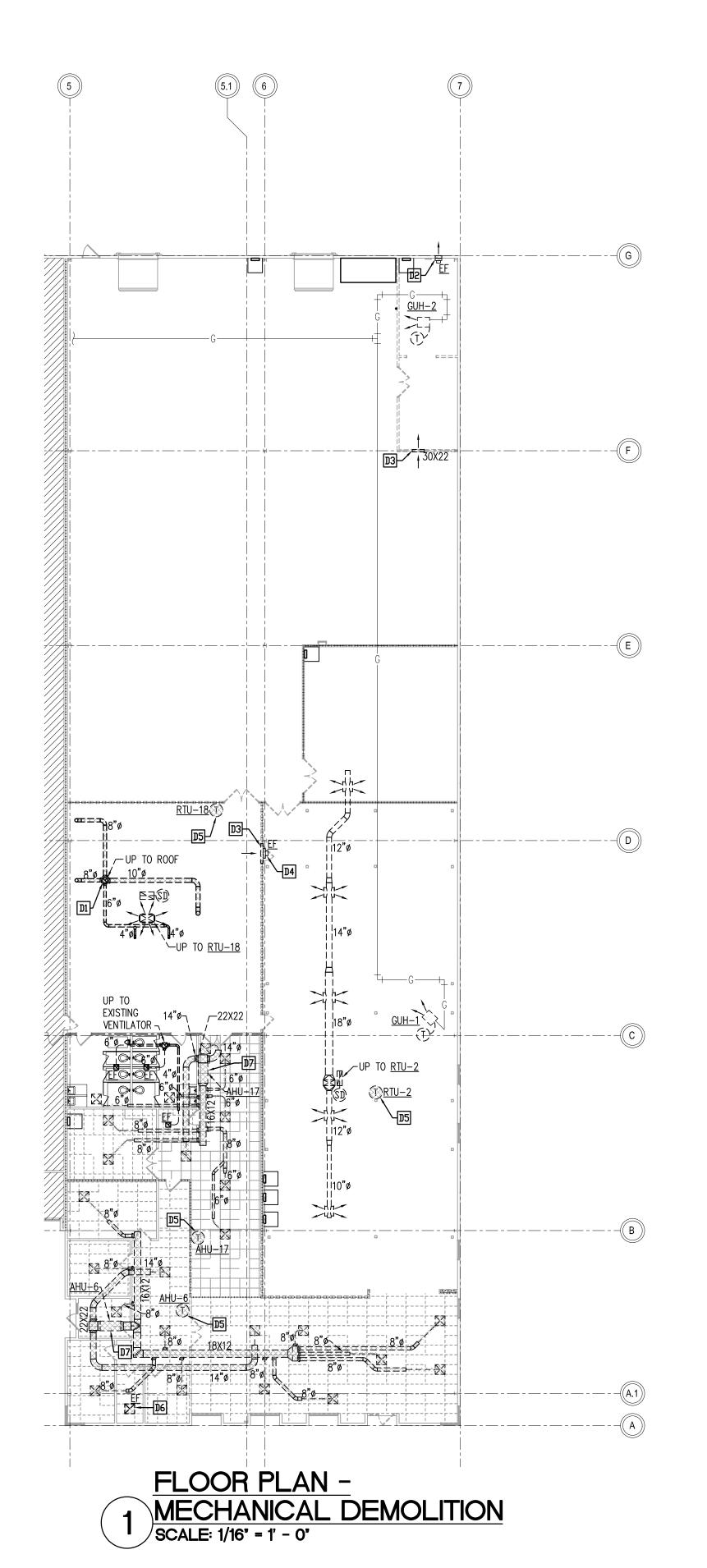
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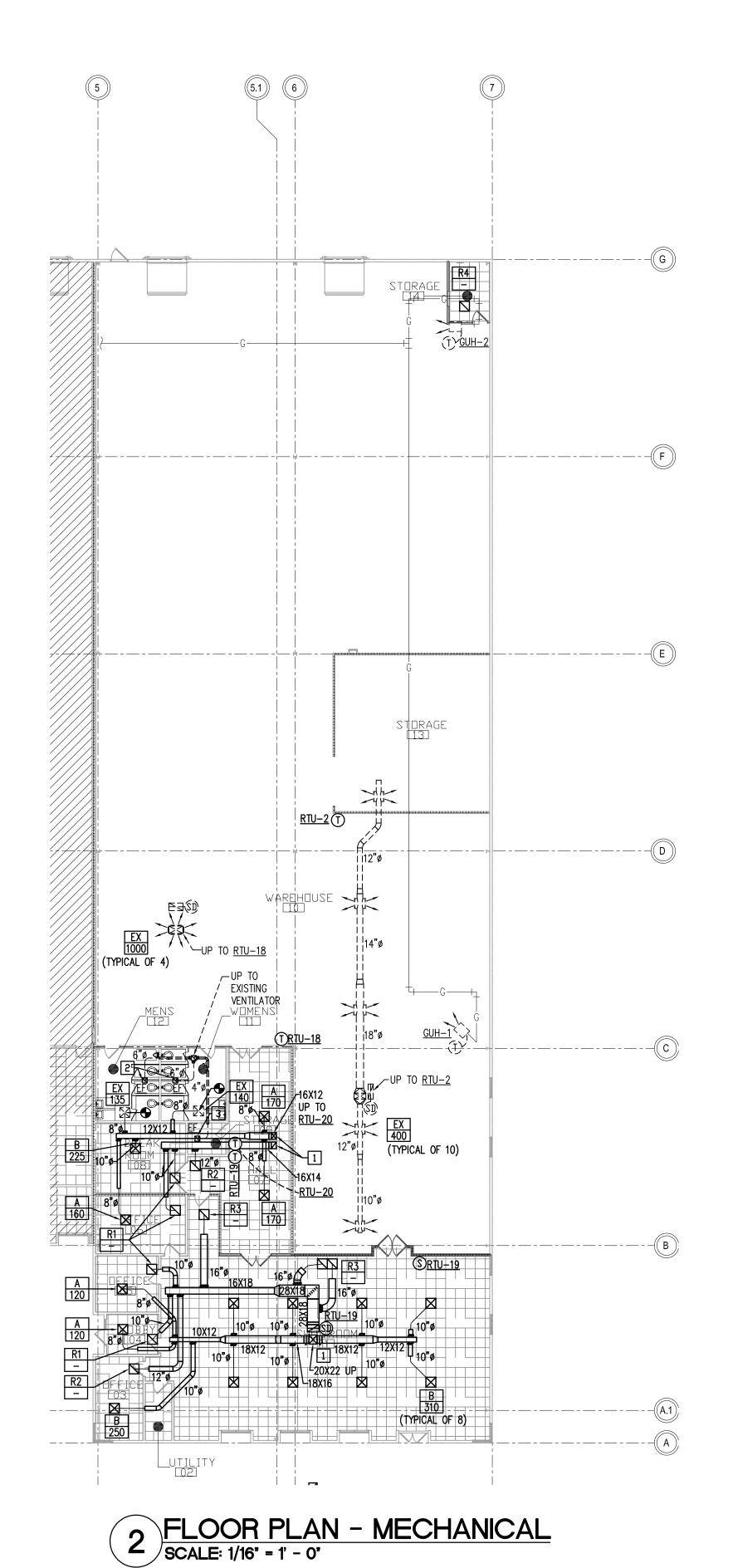
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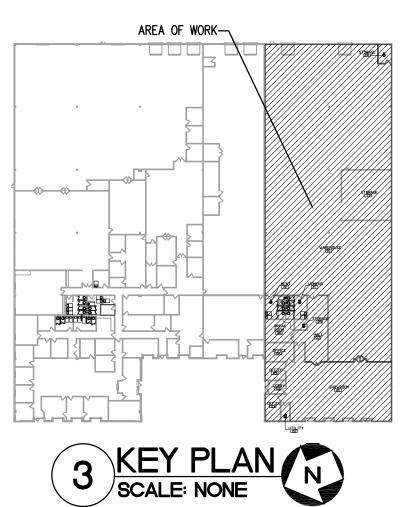
MECHANICAL COVER SHEET

PROJECT #:

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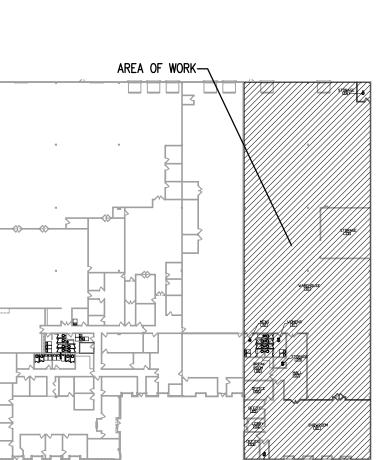
DEMOLITION NOTES:

- DEMOLISH EXISTING ROOF MOUNTED EXHAUST FAN AND ALL ASSOCIATED EXHAUST DUCTWORK AS INDICATED. COORDINATE REPAIR OF ROOF WITH

- D4 DEMOLISH EXISTING WALL MOUNTED EXHAUST FAN.
- D5 REMOVE THERMOSTAT AND RELOCATE AS INDICATED ON "FLOOR PLAN -
- D6 DEMOLISH EXHAUST FAN.
- VERIFY PROPER OPERATION OF EXISTING EXHAUST FAN. VERIFY FAN IS BALANCED TO EXHAUST 280 CFM. FAN SHALL BE SWITCHED WITH LIGHTS.
- VERIFY PROPER OPERATION OF EXISTING EXHAUST FAN. VERIFY FAN IS BALANCED TO EXHAUST 70 CFM. FAN SHALL BE SWITCHED WITH LIGHTS.

ADDITIONAL RATED CONSTRUCTIONS INCLUDING COLUMNS WHERE APPLICABLE. PROTECT ALL RATED CONSTRUCTIONS AS REQUIRED.

 EXISTING WALL TO REMAIN
NEW WALL TO BE CONSTRUCTED
 EXISTING WALL TO BE DEMOLISHED
 ONE HOUR FIRE PARTITION



GENERAL CONTRACTOR.

DEMOLISH EXISTING WALL MOUNTED EXHAUST FAN. COORDINATE REPAIR OF BUILDING ENVELOPE WITH GENERAL CONTRACTOR.

D3 DEMOLISH EXISTING LOUVER.

MECHANICAL."

D7 DEMOLISH EXISTING AIR HANDLING UNIT, SUPPLY AND RETURN AIR DUCTWORK, SUPPLY AND RETURN AIR SPIN IN TAPS, RETURN AIR GRILLES, AND SUPPLY AIR DIFFUSERS AS INDICATED. REMOVE ANY ASSOCIATED CONTROL WIRING. DIFFUSERS NOT INDICATED TO BE DEMOLISHED SHALL REMAIN FOR RECONNECTION DURING THE CONSTRUCTION PHASE.

PLAN NOTES:

DUCTWORK ROUTES DOWN FROM NEW RTU ABOVE. TRANSITION FROM RTU CONNECTIONS AS REQUIRED. ROUTE NEW SUPPLY AND RETURN DUCTWORK ABOVE CEILING, SIZED AS INDICATED.

WALL TYPES AND RATINGS LEGEND

REFER TO ARCHITECTURAL SHEETS FOR MORE INFORMATION ON RATINGS AND

EXISTING WALL TO REMAIN
NEW WALL TO BE CONSTRUCTED
 EXISTING WALL TO BE DEMOLISHED
 ONE HOUR FIRE PARTITION

2024-08-14

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FLOOR PLAN -MECHANICAL

PROJECT #:

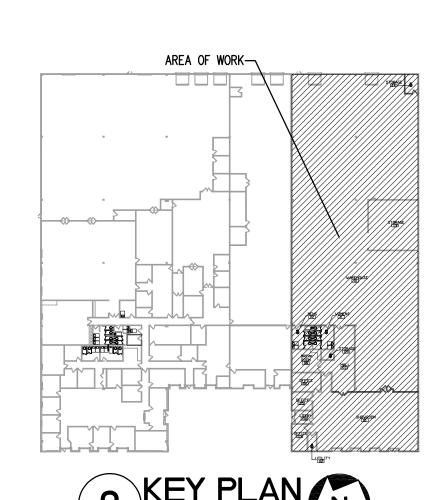


CRENSHAW CONSULTING Raleigh, North Carolina 27609 919-871-1070 Fax 871-5620

(5.1) (6) (5) ROOF ACCESS ROOF ACCESS - **D** EXISTING ROOF
MOUNTED <u>EF</u> ● EXISTING VENTILATOR RTU-2 RTU-2 - - - - - A

> ROOF PLAN - MECHANICAL DEMOLITION SCALE: 1/16" = 1' - 0"

2 ROOF PLAN - MECHANICAL SCALE: 1/16' = 1' - 0'



DEMOLITION NOTES:

- DEMOLISH EXISTING ROOF MOUNTED EXHAUST FAN AND ALL ASSOCIATED EXHAUST DUCTWORK AS INDICATED. COORDINATE REPAIR OF ROOF WITH GENERAL CONTRACTOR.
- DEMOLISH EXISTING ROOF MOUNTED HEAT PUMP. COORDINATE ANY NECESSARY REPAIR OF ROOF WITH GENERAL CONTRACTOR.

PLAN NOTES:

INSTALL NEW PACKAGED ROOFTOP UNIT PER MANUFACTURERS REQUIRED CLEARANCES AND INSTALLATION INSTRUCTIONS. INSTALL NEW RTU ON ROOF CURB. ROUTE CONDENSATE ACROSS ROOF AT LEAST 6' FROM RTU IN DIRECTION OF ROOF SLOPE. DISCHARGE ONTO ROOF SURFACE TOWARDS STORM DRAIN. MAINTAIN 6' FROM ROOF EDGE. MAINTAIN 10' BETWEEN OUTSIDE AIR INTAKE AND ANY EXHAUST AIR DISCHARGE OR ROOF VENT.

2 MANUFACTURER'S REQUIRED SERVICE CLEARANCES.

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Description

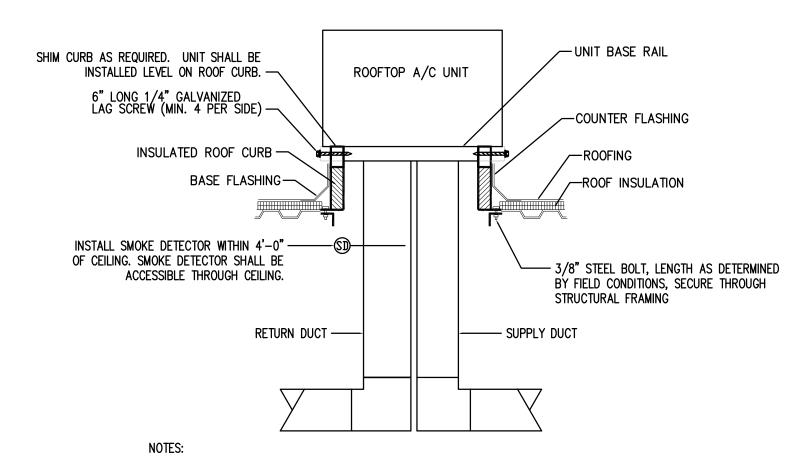
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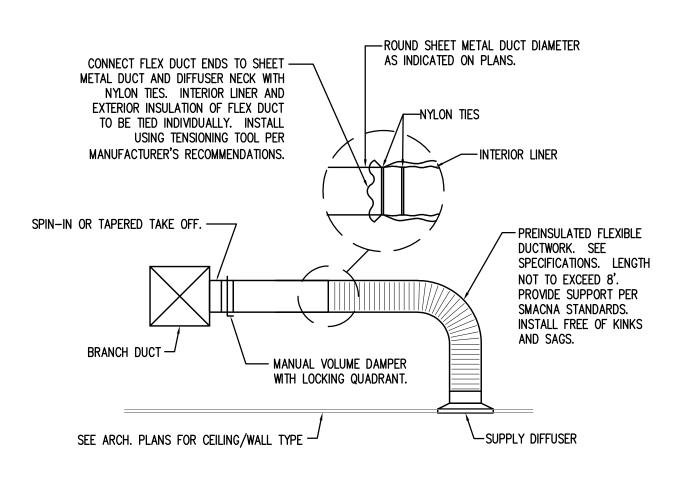
ROOF PLAN -MECHANICAL



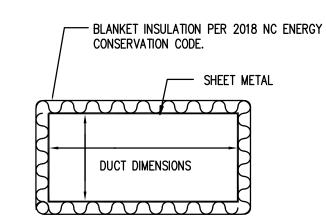


PROVIDE MANUFACTURER'S ACCESSORY ROOF CURB. ROOF DECKING TO BE LEFT INTACT INSIDE THE ROOF CURB. CUT OPENINGS IN ROOF DECK LARGE ENOUGH TO ACCOMMODATE THE SUPPLY AND RETURN OPENINGS ON THE UNIT. FILL VOID SPACE IN CURB WITH TWO LAYERS OF 5/8" SHEETROCK WITH OVERLAPPING JOINTS. COVER SHEETROCK WITH 6" OF BATT INSULATION. PROVIDE FLEXIBLE CANVAS DUCT CONNECTOR ON SUPPLY AND RETURN DUCT. MECHANICAL CONTRACTOR SHALL COORDINATE WITH OWNER'S ROOFING CONTRACTOR TO MAINTAIN ROOF WARRANTY.

ROOFTOP UNIT MOUNTING DETAIL SCALE: NONE



2 FLEXIBLE DUCT TAKE-OFF SCALE: NONE



NOTES: 1. ALL DUCT DIMENSIONS SHOWN ON THESE DRAWINGS ARE INSIDE CLEAR. 2. PROVIDE A MINIMUM OF R-6 INSULATION WHEN DUCT IS LOCATED IN UNCONDITIONED SPACE. 3. PROVIDE A MINIMUM OF R-8 INSULATION WHEN DUCT IS LOCATED OUTSIDE THE BUILDING ENVELOPE.

CONCEALED DUCT 3 FABRICATION DETAIL

		AIR DISTRIBUTION	SCHE	DULE		
MARK	MANUFACTURER	MODEL/DESCRIPTION	PANEL SIZE	TYPE	NECK SIZE	REMARKS
A	NAILOR	MODEL 4320, FLUSH FACE, STEEL, PERFORATED, 4-WAY DISCHARGE PATTERN	24X24	LAY-IN SUPPLY	8 " ø	1
В	NAILOR	MODEL 4320, FLUSH FACE, STEEL, PERFORATED, 4-WAY DISCHARGE PATTERN	24X24	LAY-IN SUPPLY	10 " ø	1
R1	NAILOR	MODEL 4360, STEEL, PERFORATED FACE WITH DUCT COLLAR.	24X24	LAY-IN RETURN	10 " ø	12
R2	NAILOR	MODEL 4360, STEEL, PERFORATED FACE WITH DUCT COLLAR.	24X24	LAY-IN RETURN	12 " ø	12
R3	NAILOR	MODEL 4360, STEEL, PERFORATED FACE WITH DUCT COLLAR.	24X24	LAY-IN RETURN	16 " ø	12
R4	NAILOR	MODEL 4360, STEEL, PERFORATED FACE.	24X24	LAY-IN RETURN	22X22	1
EX	EXISTING	RELOCATE/REBALANCE EXISTING DIFFUSER/GRILLE				3

- ① VERIFY ALL CEILING OR WALL TYPES WITH ARCHITECTURAL PLANS. COORDINATE COLOR WITH ARCHITECT. INSULATE ALL DIFFUSERS AND GRILLES FROM CEILING SPACE.

				-VIOTII	VIO DAG						T COL					
		r	E		NG PAC					UN			<u>.</u> E			
MARK	STATUS	TYPE	MANUFACTURER	NOMINAL TONNAGE	MODEL NO.	S.A. CFM	O.A. CFM	ESP (IN. H20)	FAN HP	DRIVE	ELEC. HEAT (KW)	HEAT STAGES	VOLT/PH	MCA	MOCP	REMARKS
RTU-2	EXISTING	HEAT PUMP	CARRIER	10.0	RHS120L0CA	4000	430	0.5	-	_	-	-	480/3	_	-	1023
RTU-18	EXISTING	COOLING/GAS HEAT	TRANE	10.0	YCD120C4L0AC	4000	430	0.5	1	_	_	2	480/3	31	40	000

- ① VERIFY PROPER OPERATION OF EXISTING ROOFTOP UNIT. REPAIR AS NECESSARY.
- ② REBALANCE TO CFM INDICATED.
- ③ VERIFY PROPER OPERATION OF EXISTING RETURN AIR SMOKE DETECTOR AND VERIFY SHUT DOWN UPON SIGNAL FROM FIRE ALARM SYSTEM. COORDINATE REPAIR/REPLACEMENT

(3)	VERIFY PROPER	OPERATION OF EX	ISTING RETURN
	AS NECESSARY	WITH FIRE ALARM	CONTRACTOR.

						PACK	AGE	D R	OOF	TOP	HEA	AT P	JMP	SCH	EDU	LE							
MARK	MANUFACTURER	NOMINAL TONNAGE	MODEL NO.	AHRI COOLING (MBH)	NO. OF COMPRESSORS (STAGES)	HEATING (MBH)	EER	IEER	SEER2	HSPF2	COP	S.A. CFM	O.A. CFM	ESP (IN. H20)	FAN HP	DRIVE	ELEC. HEAT (KW)	HEAT STAGES	VOLT/PH	MCA	МОСР	WEIGHT (LBS)	REMARKS
RTU-19	TRANE	7.5	WSC092H4	93.0	1 (2)	88.0	11.3	14.1	-	_	3.4	3000	540	0.8	1.0	BELT	9.0	1	480/3	32.0	40	1087	12345671
RTU-20	TRANE	2.5	4WCC4030E	29.8	1 (1)	28.6	-	-	13.4	7.0	1	1000	95	0.8	1/2	DIRECT	6.0	1	208/1	36.0	40	355	12348910

- 1 ARI COOLING CAPACITY BASED ON INDOOR ENTERING AIR CONDITION OF 80°F DRY BULB, 67°F WET BULB AND OUTDOOR AIR CONDITION OF 95°F DRY BULB.

- 6 PROVIDE SINGLE ZONE WALL MOUNTED TEMPERATURE REMOTE SENSOR. PROVIDE 7-DAY PROGRAMMABLE THERMOSTAT FOR ZONE CONTROL AND ADJUSTMENT WITH DIGITAL DISPLAY, OVERRIDE, SETPOINT ADJUSTMENT.
- ① UNIT SHALL BE PROVIDED WITH RETURN AIR SMOKE DETECTOR AND SHALL BE SHUT DOWN UPON SIGNAL FROM FIRE ALARM SYSTEM. CONTROLS BY FIRE ALARM CONTRACTOR. SMOKE DETECTOR SHALL BE FURNISHED AND WIRED BY FIRE ALARM CONTRACTOR. MECHANICAL CONTRACTOR SHALL INSTALL DETECTOR IN RETURN AIR DUCT.
- (9) SYSTEM DESIGN AIRFLOW CAPACITY IS NOT GREATER THAN 2000 CFM. NO DUCT SMOKE DETECTOR REQUIRED PER SECTION 606.2.1 OF THE 2018 NC MECHANICAL CODE.

② PRO	VIDE SQUAR	E-TO-ROUND TRANSI	TION AS REQUIRED													
			E	XISTI	NG PAC	KAG	ED	ROOF	-TOF	P UN	T SCH	EDUL	.E			
MARK	STATUS	TYPE	MANUFACTURER	NOMINAL TONNAGE	MODEL NO.	S.A. CFM	O.A. CFM	ESP (IN. H20)	FAN HP	DRIVE	ELEC. HEAT (KW)	HEAT STAGES	VOLT/PH	MCA	МОСР	REMARKS
RTU-2	EXISTING	HEAT PUMP	CARRIER	10.0	RHS120L0CA	4000	430	0.5	-	_	-	-	480/3	-	-	1023
RTU-18	EXISTING	COOLING/GAS HEAT	TRANE	10.0	YCD120C4L0AC	4000	430	0.5	1	_	-	2	480/3	31	40	1023

	PACKAGED ROOFTOP HEAT PUMP SCHEDULE																	
RS	HEATING (MBH)	EER	IEER	SEER2	HSPF2	COP	S.A. CFM	O.A. CFM	ESP (IN. H20)	FAN HP	DRIVE	ELEC. HEAT (KW)	HEAT STAGES	VOLT/PH	MCA	МОСР	WEIGHT (LBS)	REMARKS
	88.0	11.3	14.1	_	_	3.4	3000	540	0.8	1.0	BELT	9.0	1	480/3	32.0	40	1087	12345671
	28.6	-	-	13.4	7.0	-	1000	95	0.8	1/2	DIRECT	6.0	1	208/1	36.0	40	355	1234891

- ② HEAT PUMP ROOFTOP UNIT SHALL UTILIZE R410A REFRIGERANT.
- ③ PROVIDE UNIT WITH MANUFACTURER'S 14" ROOF CURB.
- 4) PROVIDE UNIT WITH ANTI-SHORT CYCLE TIMER, COIL GUARD, AND ALL ACCESSORIES REQUIRED FOR DOWNFLOW OPERATION.
- 5 PROVIDE UNIT WITH 100% OUTDOOR AIR, ENTHALPY CONTROLLED, FULLY MODULATING ECONOMIZER AND POWERED EXHAUST.

- 8 PROVIDE SINGLE ZONE WALL MOUNTED 7-DAY PROGRAMMABLE THERMOSTAT FOR ZONE CONTROL AND ADJUSTMENT WITH DIGITAL DISPLAY, OVERRIDE, AND SETPOINT ADJUSTMENT.
- 10) ACCEPTABLE EQUIPMENT MANUFACTURER ALTERNATES TO TRANE SHALL BE CARRIER, LENNOX, AAON, AND YORK. NO OTHER EQUIPMENT MANUFACTURER'S WILL BE ACCEPTED. ALTERNATIVE MANUFACTURER EQUIPMENT MUST MEET ALL SPECIFICATIONS AND ACCESSORY OPTIONS INCLUDED.

Sig

2024-08-14

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Description

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DETAILS

MECHANICAL

SCHEDULES AND

240012

08/14/2024