
Tenant Fit Plan

Project No. 23023
Issued For Construction: 05.24.2024

129 Commercial Street
Malden, MA 02148

Architect:



116 John Street, Suite 115
Lowell, MA 01852

Client:

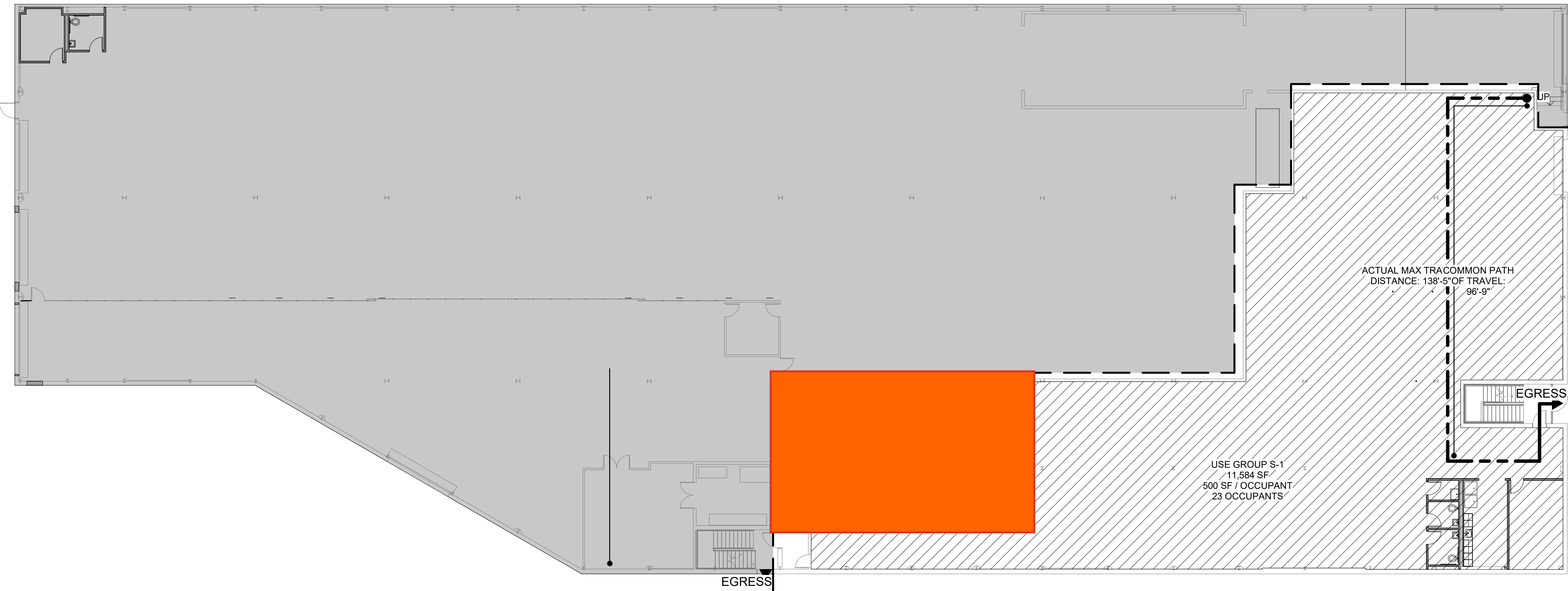
Historic Tours Of America
108 Sea Grove Main St.
St. Augustine, FL 32080

Consultant:

Avid Engineers
205 Portland Street, Suite 504
Boston, MA 02114



2 SECOND FLOOR USE GROUP AND EGRESS PLAN
SCALE: 1/16" = 1'-0"



1 FIRST FLOOR USE GROUP AND EGRESS PLAN
SCALE: 1/16" = 1'-0"

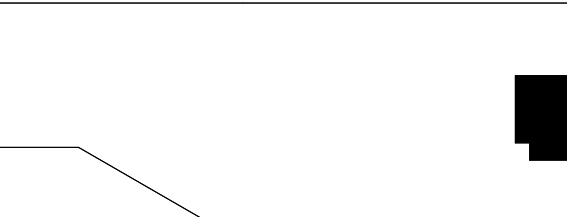
Notes:

USE GROUP LEGEND	
	USE GROUP S-1, MODERATE HAZZARD STORAGE
	USE GROUP B, BUSINESS

EGRESS PATH LEGEND	
	EGRESS PATH
	COMMON PATH OF TRAVEL

HATCH LEGEND	
	NOT IN SCOPE

Key Plan:



Stamp:



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ahp Project #: 23023

Scale: As Noted

Issue:	Date:
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Revisions:	Date:

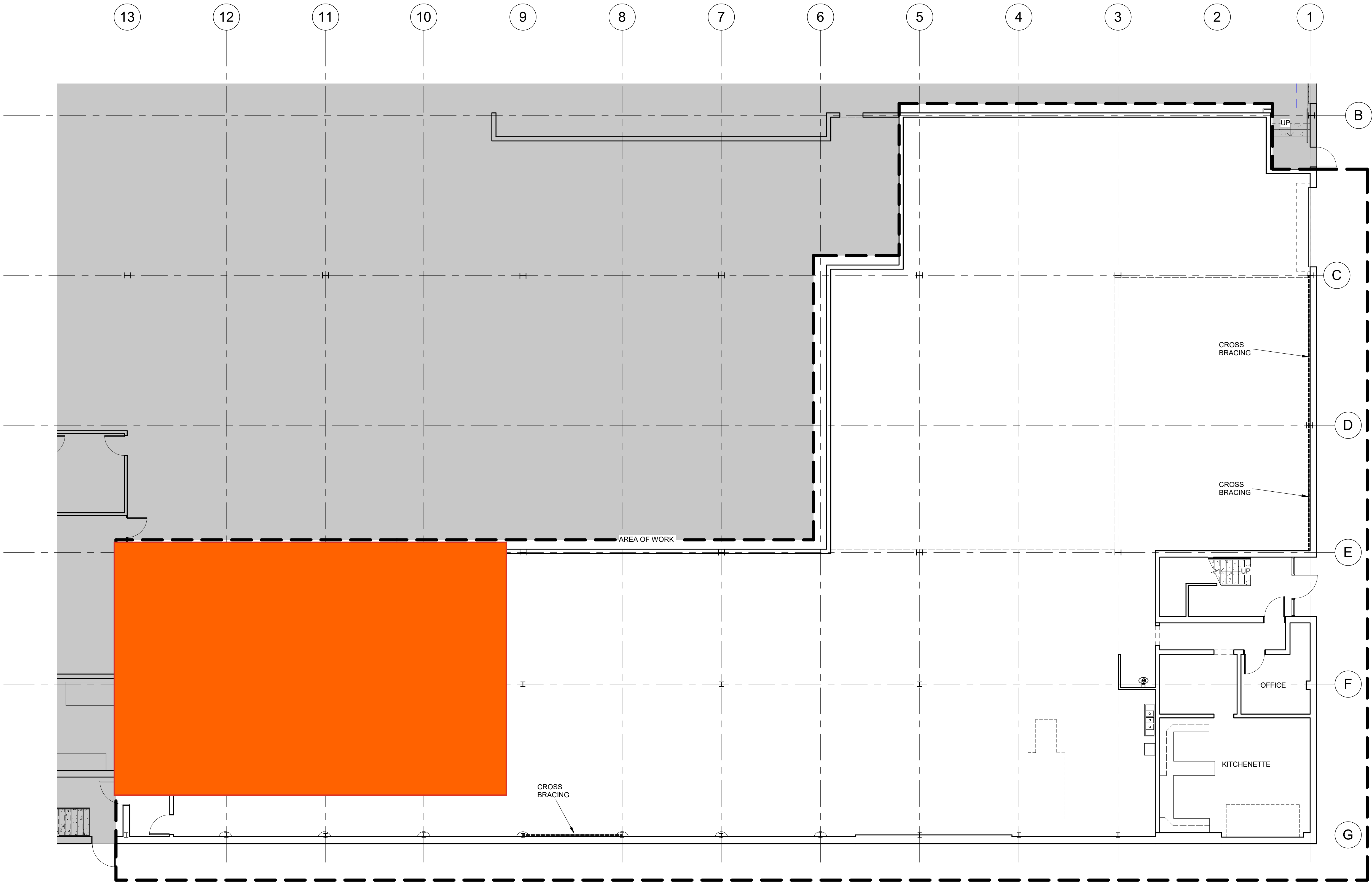
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USE GROUP AND EGRESS PLANS

Sheet Number:

A.002

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1 FIRST FLOOR EXISTING CONDITIONS PLAN
SCALE: 1/8" = 1'-0"

Notes:

**ARCHITECTURAL FLOOR
PLAN REFERENCE SYS.**

ROOM NAME	OFFICE
DESIGNATION	
ROOM NUMBER	101
DESIGNATION	

PARTITION LEGEND

	EXISTING WALL, VERIFY
	CONSTRUCTION IN FIELD

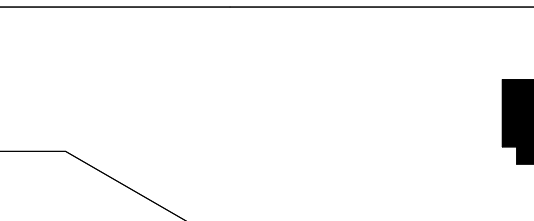
**EXISTING CONDITIONS
GENERAL NOTES**

IT IS THE RESPONSIBILITY OF THE GENERAL CONTRACTOR AND THE SUBCONTRACTOR TO REVIEW EXISTING CONDITIONS OF THE BUILDING AND TO INFORM THE ARCHITECT OF ANY DISCREPANCIES IN THE DOCUMENTS.

HATCH LEGEND

	NOT IN SCOPE
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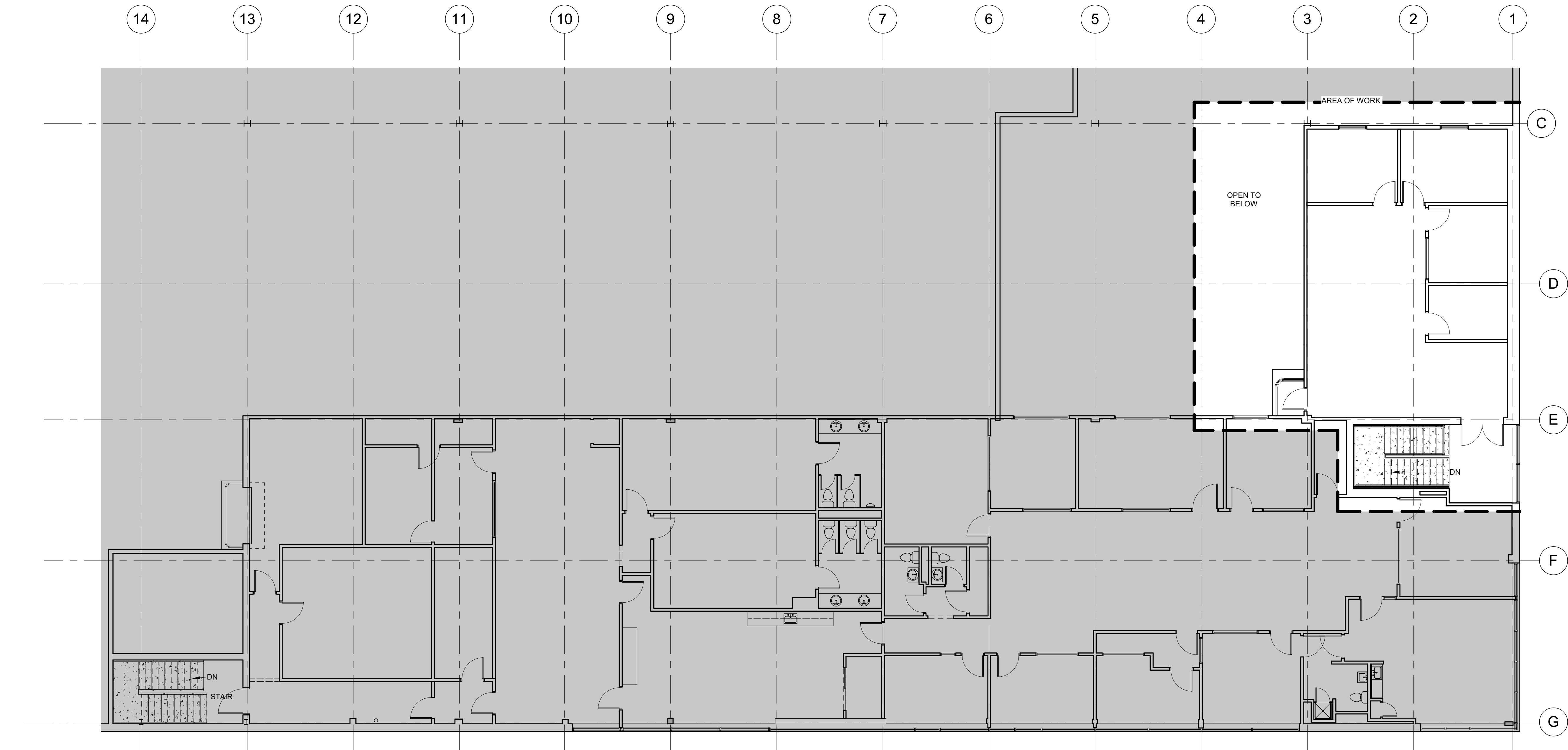
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FIRST FLOOR EXISTING CONDITIONS PLAN

Sheet Number:

AEX.101

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1 SECOND FLOOR EXISTING CONDITIONS PLAN
SCALE: 1/8" = 1'-0"

Notes:

**ARCHITECTURAL FLOOR
PLAN REFERENCE SYS.**

ROOM NAME
DESIGNATION
ROOM
NUMBER
DESIGNATION

OFFICE
101

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EXISTING WALL, VERIFY
CONSTRUCTION IN FIELD

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GENERAL NOTES**

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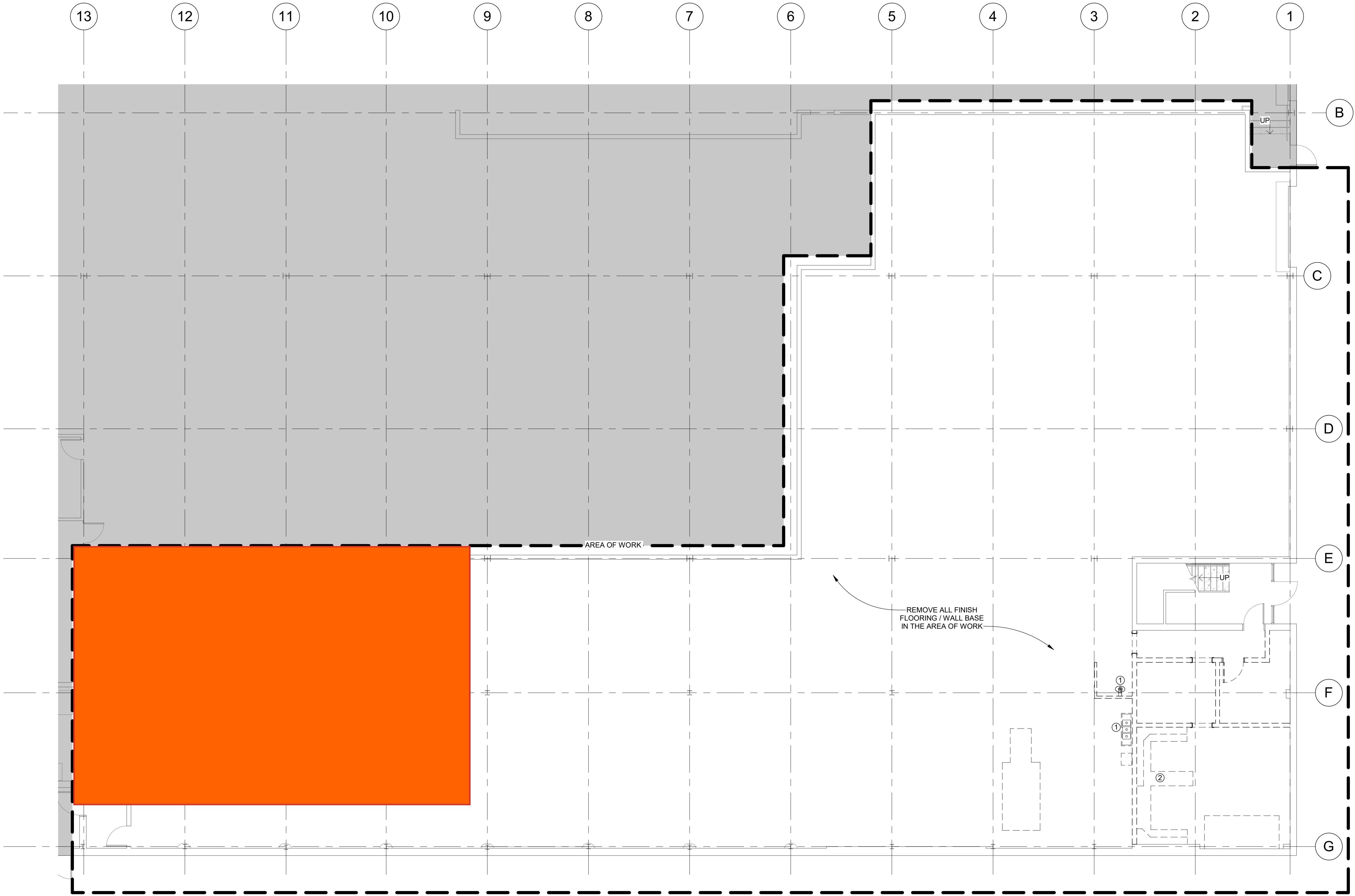
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PLAN

Sheet Number:

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1 FIRST FLOOR SELECTIVE REMOVAL PLAN
SCALE: 1/8" = 1'-0"

Notes:

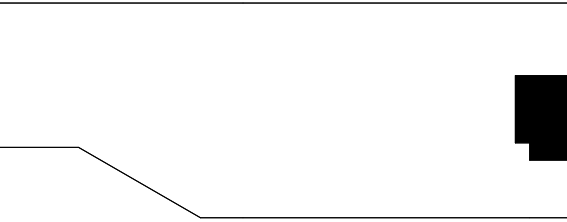
DEMOLITION LEGEND	
	EXISTING WALL, VERIFY CONSTRUCTION IN FIELD
	EXISTING TO BE REMOVED

SELECTIVE REMOVAL - GENERAL	
1. REMOVE ALL WALLS, DOORS, DOOR FRAMES, MASONRY, CEILINGS, LIGHTS, ETC. AS SHOWN ON THE PLANS & ELEVATIONS. SEE PROPOSED PLANS FOR ALL LOCATIONS.	
2. REMOVE ALL OBSOLETE WIRING, DUCTS, PIPES, ETC.	
3. TEST ALL SUSPECTED HAZARDOUS MATERIALS PRIOR TO REMOVAL.	
4. REMOVE & DISPOSE OF ALL CONFIRMED HAZARDOUS MATERIALS PER APPLICABLE EPA, STATE, AND FEDERAL REGULATIONS. PROVIDE OWNER WITH CERTIFICATION OF PROPER REMOVAL AND DISPOSAL.	

HATCH LEGEND	
	NOT IN SCOPE

KEYNOTES	
1	EXG PLUMBING FIXTURE TO BE REMOVED
2	EXISTING CASEWORK TO BE REMOVED

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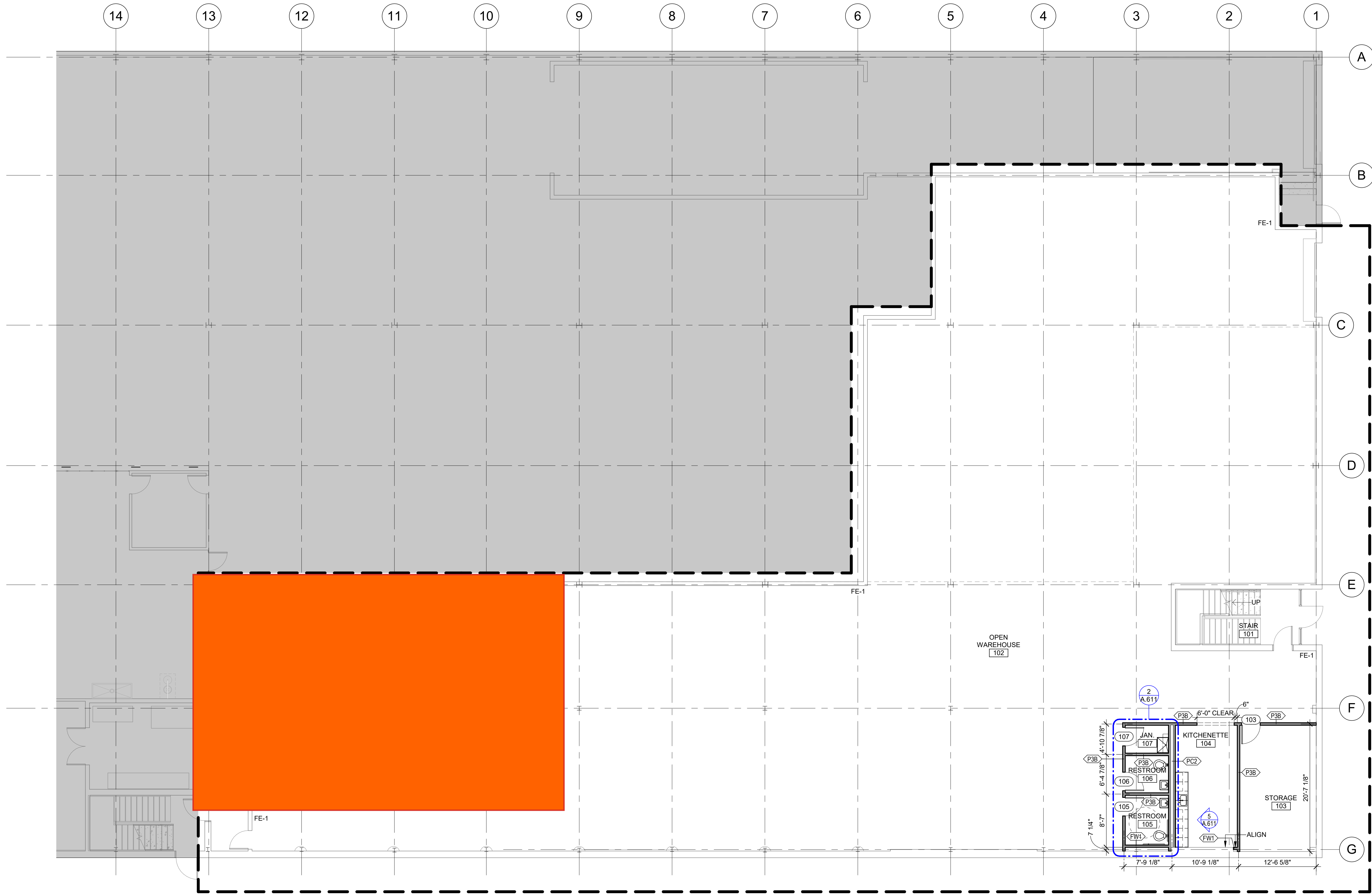
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FIRST FLOOR SELECTIVE REMOVAL PLAN

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ASR.101

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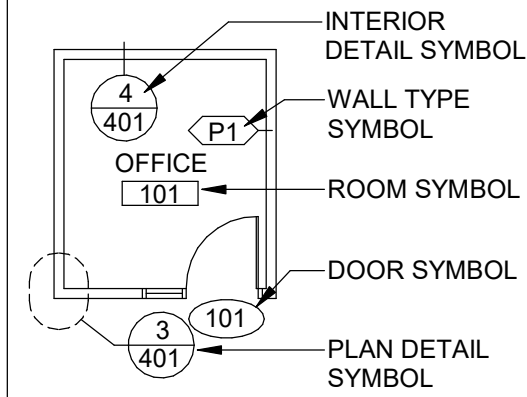
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1 FIRST FLOOR PLAN
SCALE: 1/8" = 1'-0"

Notes:

ARCHITECTURAL FLOOR PLAN
REFERENCE SYS.



PARTITION LEGEND

	EXISTING WALL, VERIFY CONSTRUCTION IN FIELD
	NEW INTERIOR PARTITION

GENERAL NOTES

1. ALL WALLS NOT KEYED IN BY WALL TYPE DESIGNATION TO BE PARTITION "P3B", TYP
2. REPAIR EXISTING WALLS AS REQUIRED WHERE ADJACENT WALLS WERE REMOVED
3. GO TO REVIEW CONDITION OF EXISTING TO REMAIN WALLS WITH TENANT/ OWNER

DIMENSION NOTES

1. INTERIOR PARTITIONS ARE DIMENSIONED TO THE CENTERLINE, UON
2. EXTERIOR MASONRY WALLS ARE DIMENSIONED TO THE FACE OF MASONRY
3. INTERIOR MASONRY WALLS ARE DIMENSIONED TO THE FACE OF MASONRY

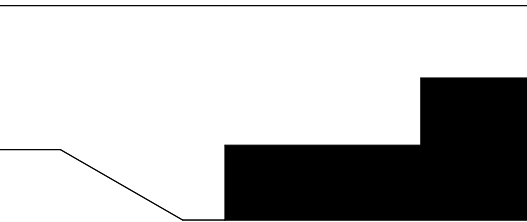
FIRE EXTINGUISHER SCHEDULE

FE-1	SURFACE MOUNT FIRE EXTINGUISHER, J.L. INDUSTRIES, PLASTIC SIGN # 24S BY J.L. INDUSTRIES TO BE MOUNTED ABOVE EXTINGUISHER
------	--

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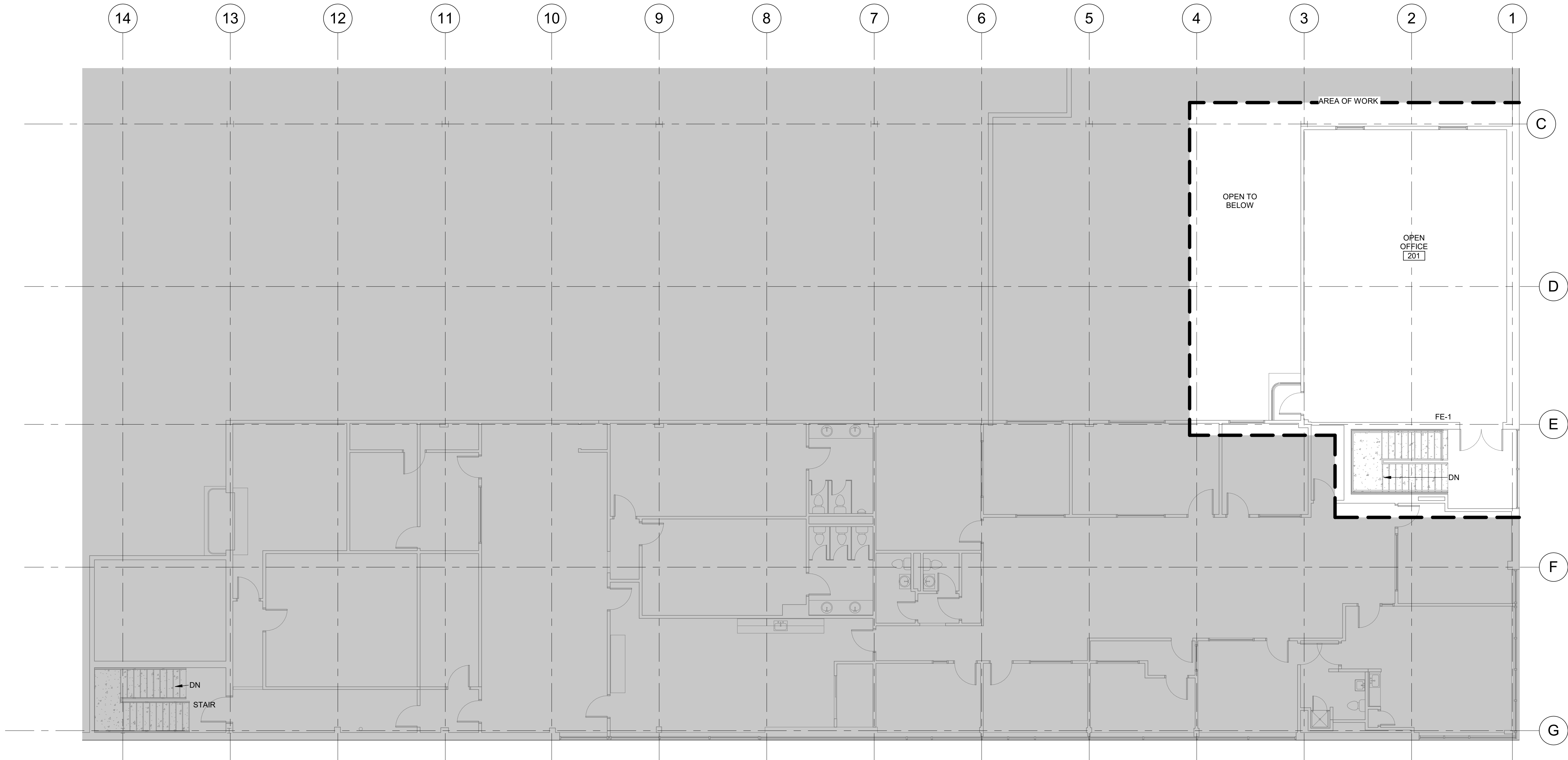
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FIRST FLOOR PLAN

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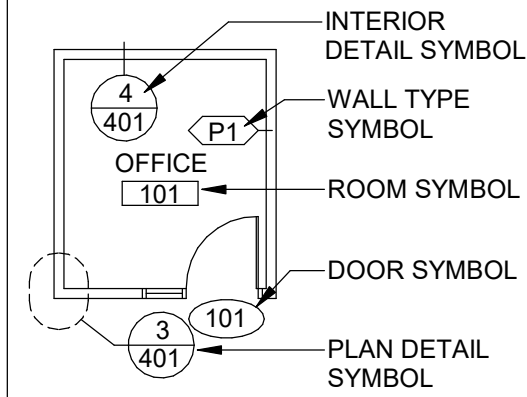
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1 SECOND FLOOR PLAN
SCALE: 1/8" = 1'-0"

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PARTITION LEGEND	
	EXISTING WALL, VERIFY CONSTRUCTION IN FIELD
	NEW INTERIOR PARTITION

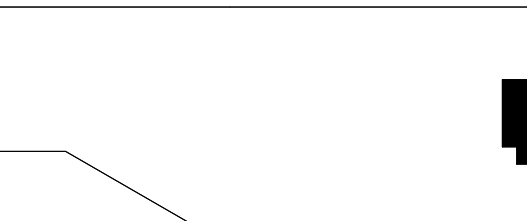
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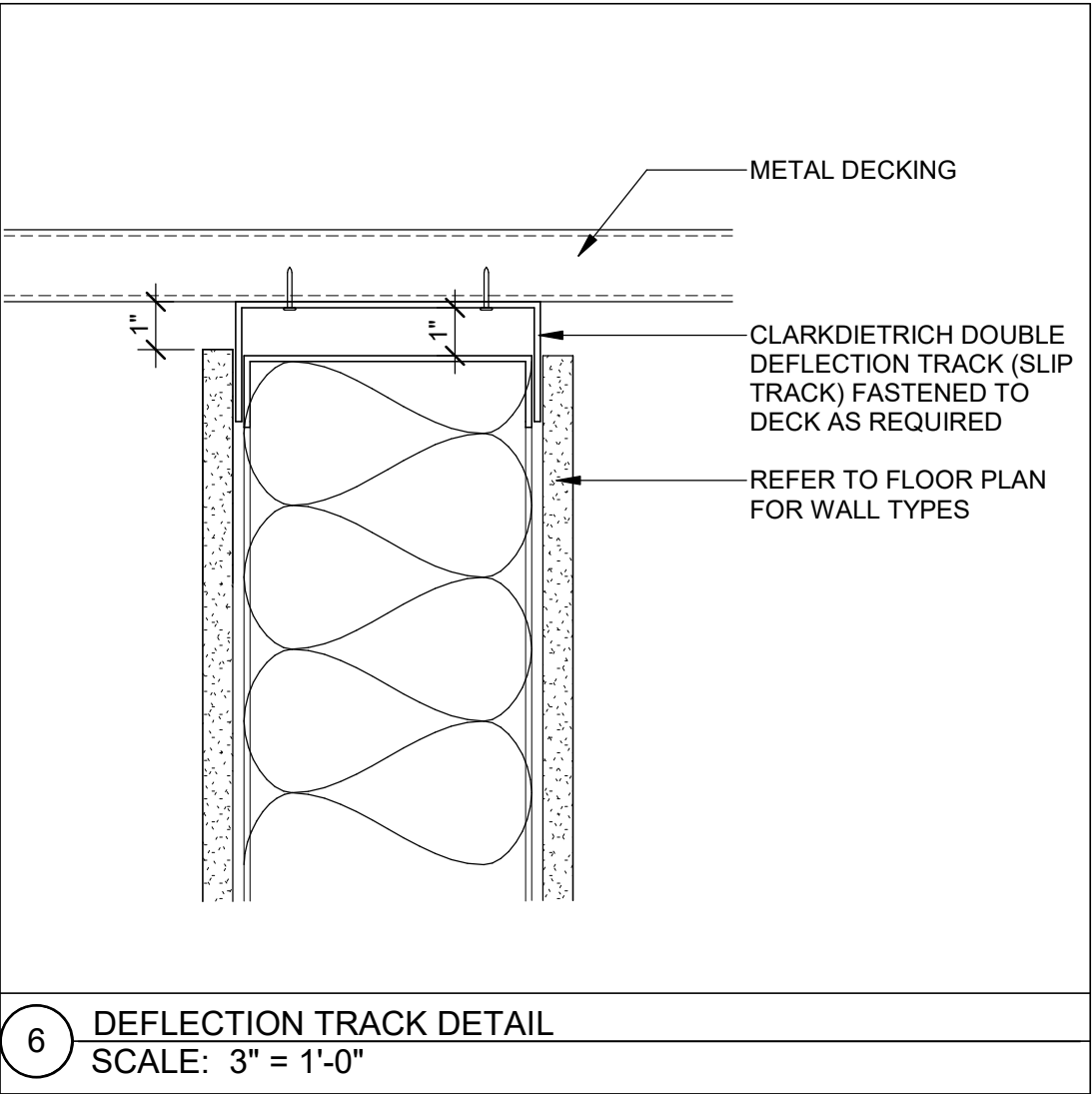
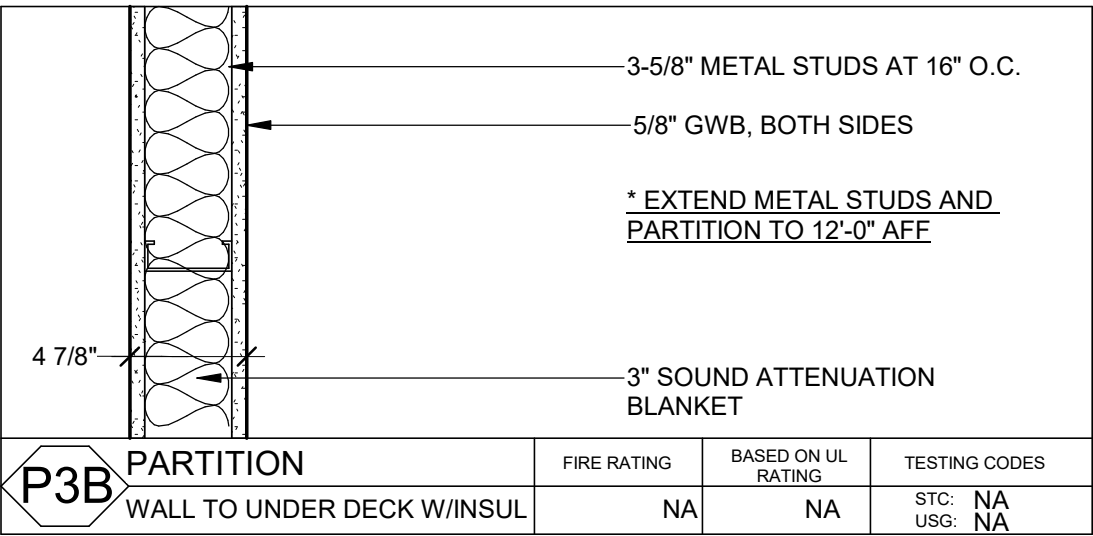
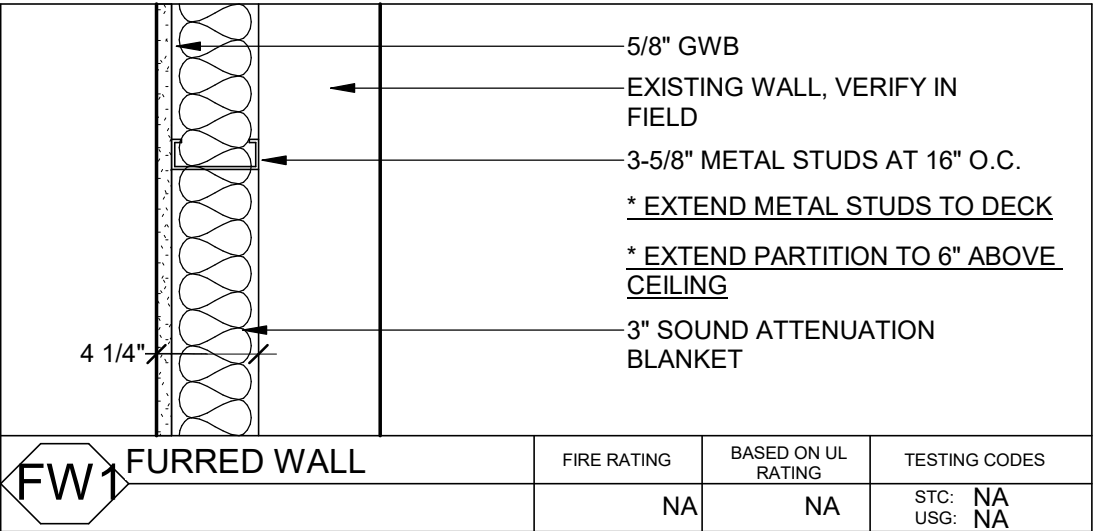
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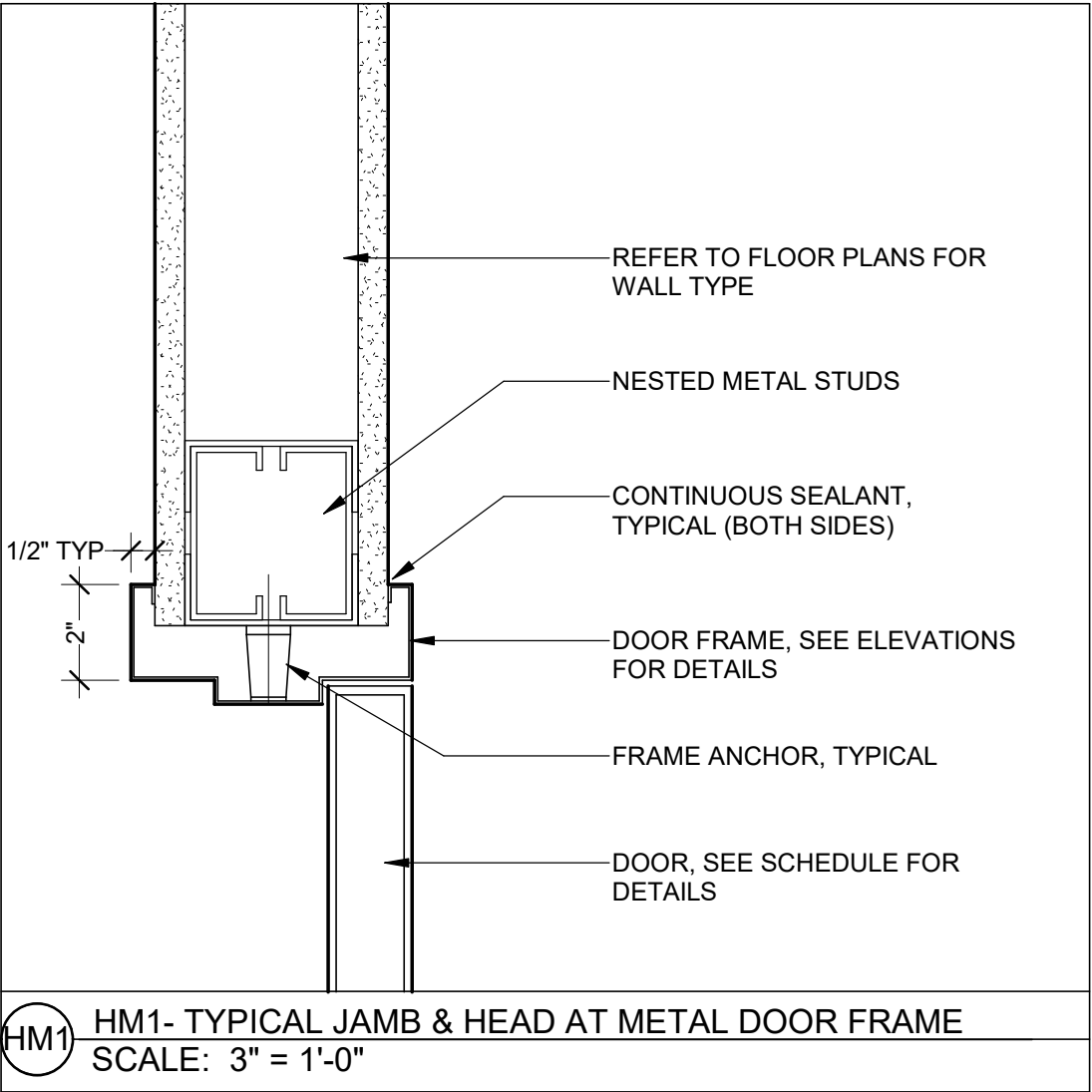
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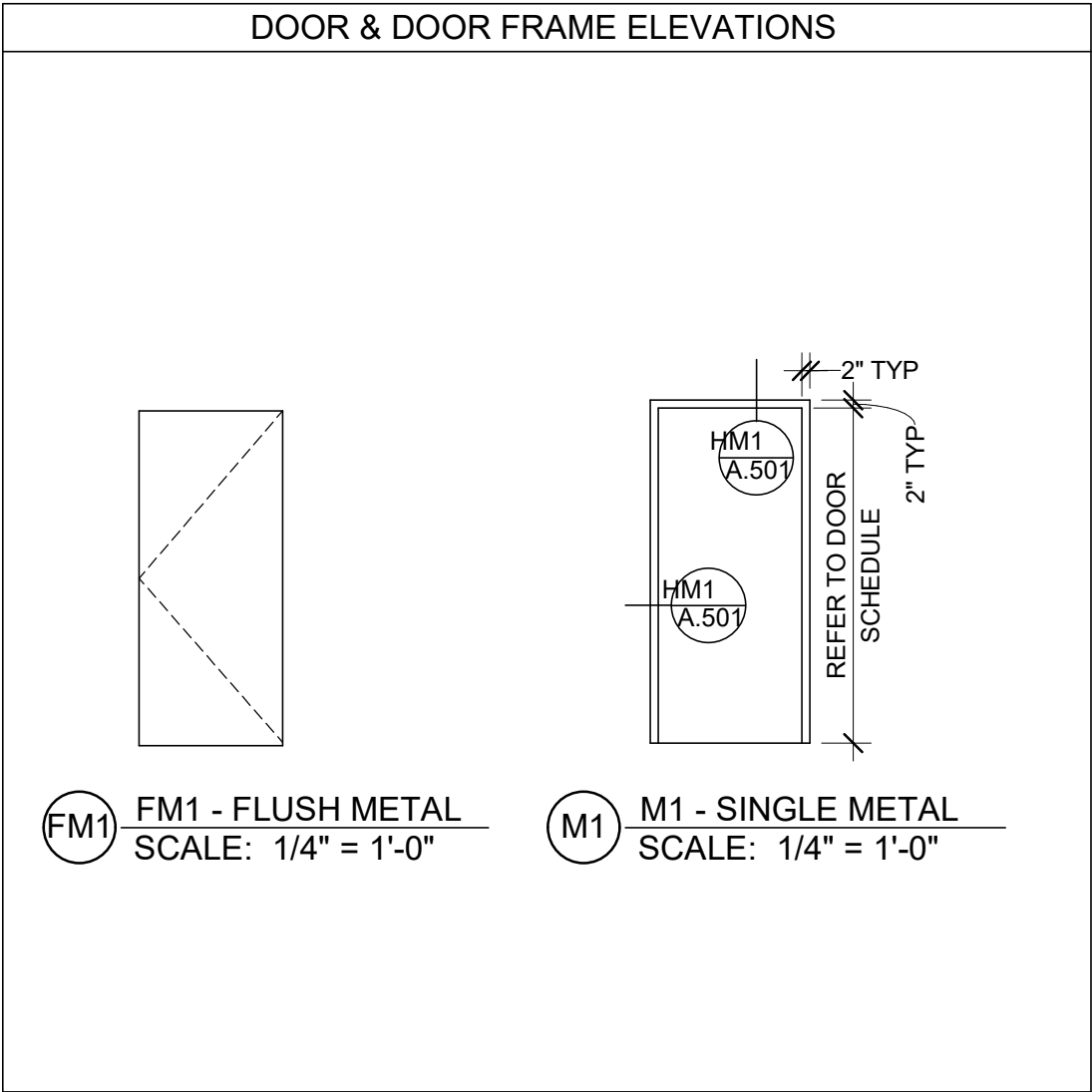
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Door Schedule													
Door Number	To Room: Name	Door						Fire Rating	Hardware	Frame			Comments
		Width	Height	Type	Thickness	Material	Finish			Type	Material	Finish	
103	STORAGE	3'-0"	7'-0"	FM1	1 3/4"	METAL	PAINT P2	-	1	M1	HOLLOW METAL	PAINT P2	
105	RESTROOM	3'-0"	7'-0"	FM1	1 3/4"	METAL	PAINT P2	-	2	M1	HOLLOW METAL	PAINT P2	
106	RESTROOM	3'-0"	7'-0"	FM1	1 3/4"	METAL	PAINT P2	-	2	M1	HOLLOW METAL	PAINT P2	
107	JAN.	3'-0"	7'-0"	FM1	1 3/4"	METAL	PAINT P2	-	1	M1	HOLLOW METAL	PAINT P2	



HARDWARE SETS	
GENERAL NOTES: - PROVIDE (3) HINGES FOR SINGLE DOORS (4 AT DOORS 8' OR TALLER) AND (6) HINGES FOR DOUBLE DOORS (8 AT DOORS 8' OR TALLER) - PROVIDE (3) SILENCERS FOR SINGLE DOORS AND (2) SILENCERS FOR DOUBLE DOORS	
SET # 1 STOREROOM LOCK: STOREROOM LEVER SET HINGES SILENCER DOOR STOP: FLOOR	SET # 2 PRIVACY BATHROOM: HINGES PASSAGE LEVER SET OCCUPANCY INDICATOR SILENCER DOOR STOP: FLOOR COAT HOOK CLOSER



Notes:

WALL TYPE CONSTRUCTION SYSTEM

METAL STUD AND DRYWALL CONSTRUCTION STANDARDS:
ALL DRYWALL AND METAL STUD INSTALLATION TO BE IN ACCORDANCE WITH "USG" PRODUCT FOLDERS.

UN - 30 STEEL FRAMING SYSTEMS
SA - 921 HIGH SOUND ATTENUATION SYSTEMS
SA - 923 DRYWALL / STEEL FRAMED SYSTEMS
SA - 927 GYPSUM PANELS & ASSEMBLIES

STUD GAUGE AND SPACING ARE MINIMUM ACCEPTABLE STANDARDS

DRYWALL TO BE TYPE "X" ON ALL INTERIOR FIRE RATED WALLS, UNLESS NOTED OTHERWISE AS TYPE "C"

FOLLOW STRICTER "USG" REQUIREMENTS FOR GAUGE AND SPACING WHERE REQUIRED BY PARTITION HEIGHT IN ORDER TO INSURE A MAXIMUM ALLOWABLE DEFLECTION OF 1/240

APPLY GWB VERTICALLY ON BOTH SIDES AND SCREW ATTACH. STAGGER AND FINISH ALL JOINTS.

APPLY CORNER BEADS AND J-BEAD AT ALL LOCATIONS WHERE APPLICABLE TO GWB CONSTRUCTION.

ALL DUCTWORK PENETRATIONS THROUGH FIRE RATED PARTITIONS AND STC RATED PARTITIONS TO BE COMPLETELY SEALED TO SURROUNDING GWB.

MOISTURE RESISTANT WALLS
ALL WALLS IN TOILETS, SHOWERS, JANITOR CLOSETS AND OTHER WET AREAS TO HAVE MOISTURE RESISTANT GWB.

SOUND ATTENUATION INSULATION
ALL SOUND ATTENUATION INSULATION TO BE SEMI-REFRACTORY MINERAL FIBER MANUFACTURED FROM SLAG (USG - THERMAFIBER)

DEFLECTION TRACKS
ALL FULL HEIGHT WALLS (I.E. - WALLS CONTINUING TO STRUCTURE AND / OR UNDERSIDE OF DECK) ARE TO HAVE DEFLECTION TRACKS AT TOP OF STUD WALL, REFER TO DETAIL

Key Plan:

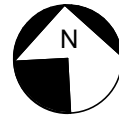
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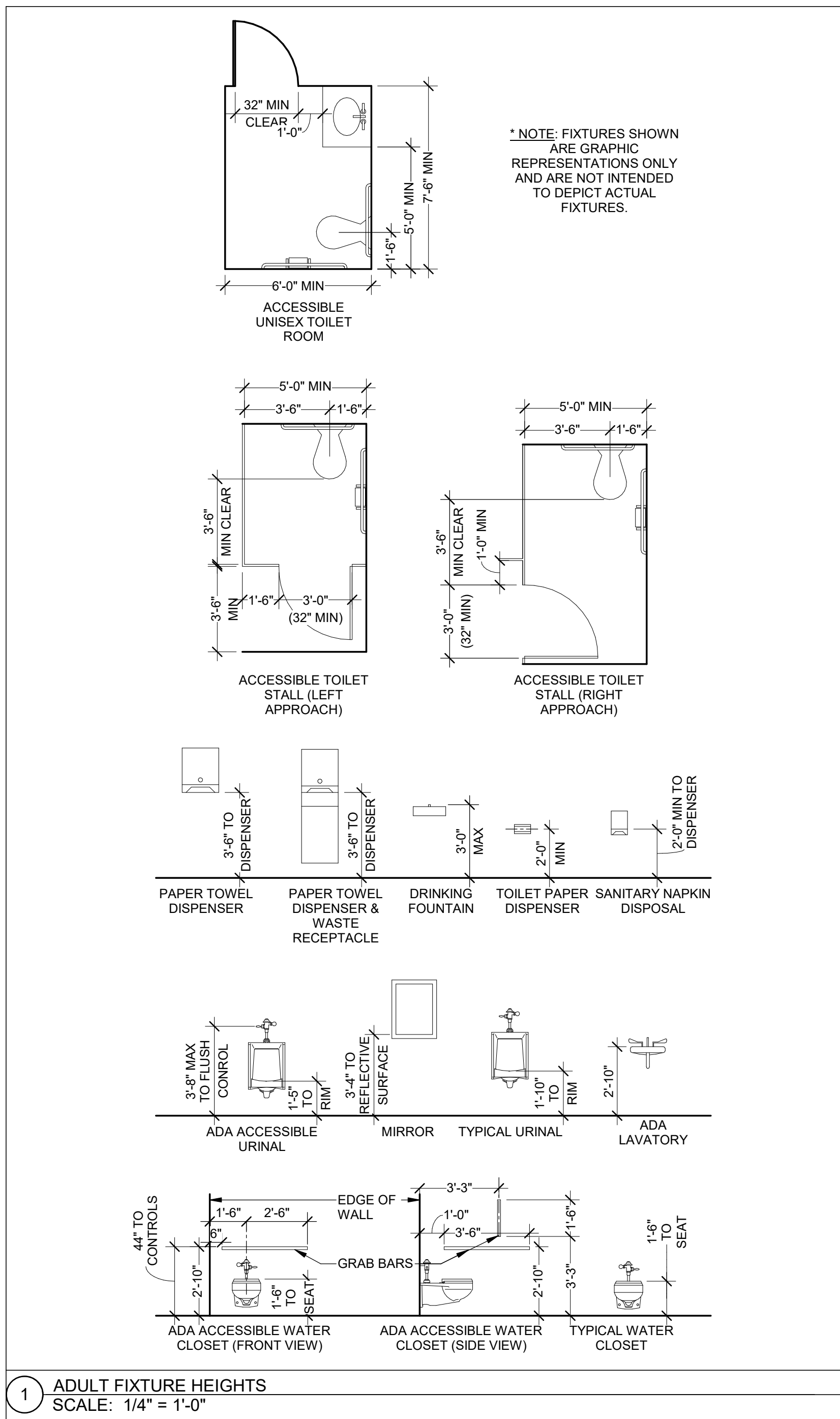
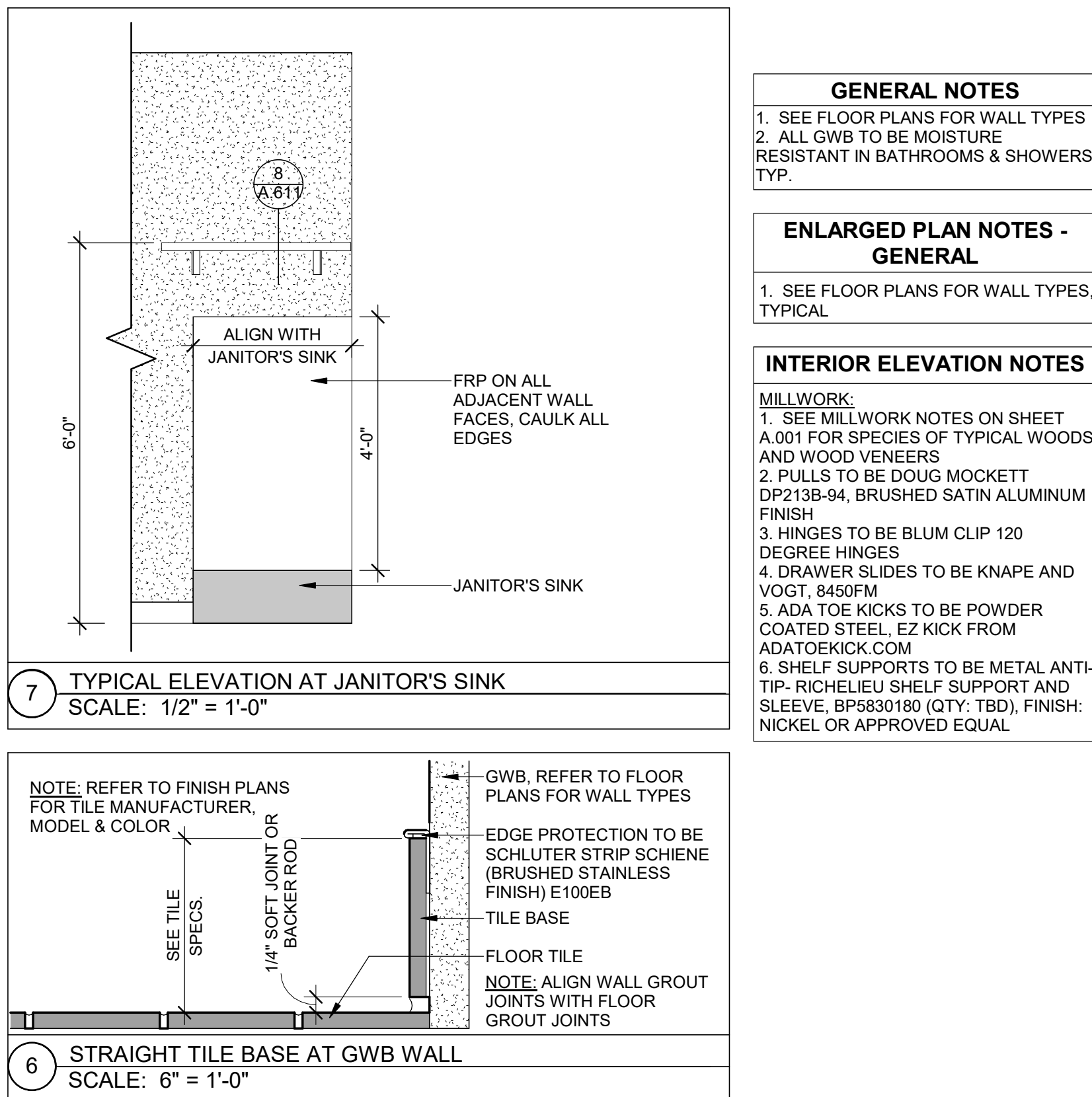
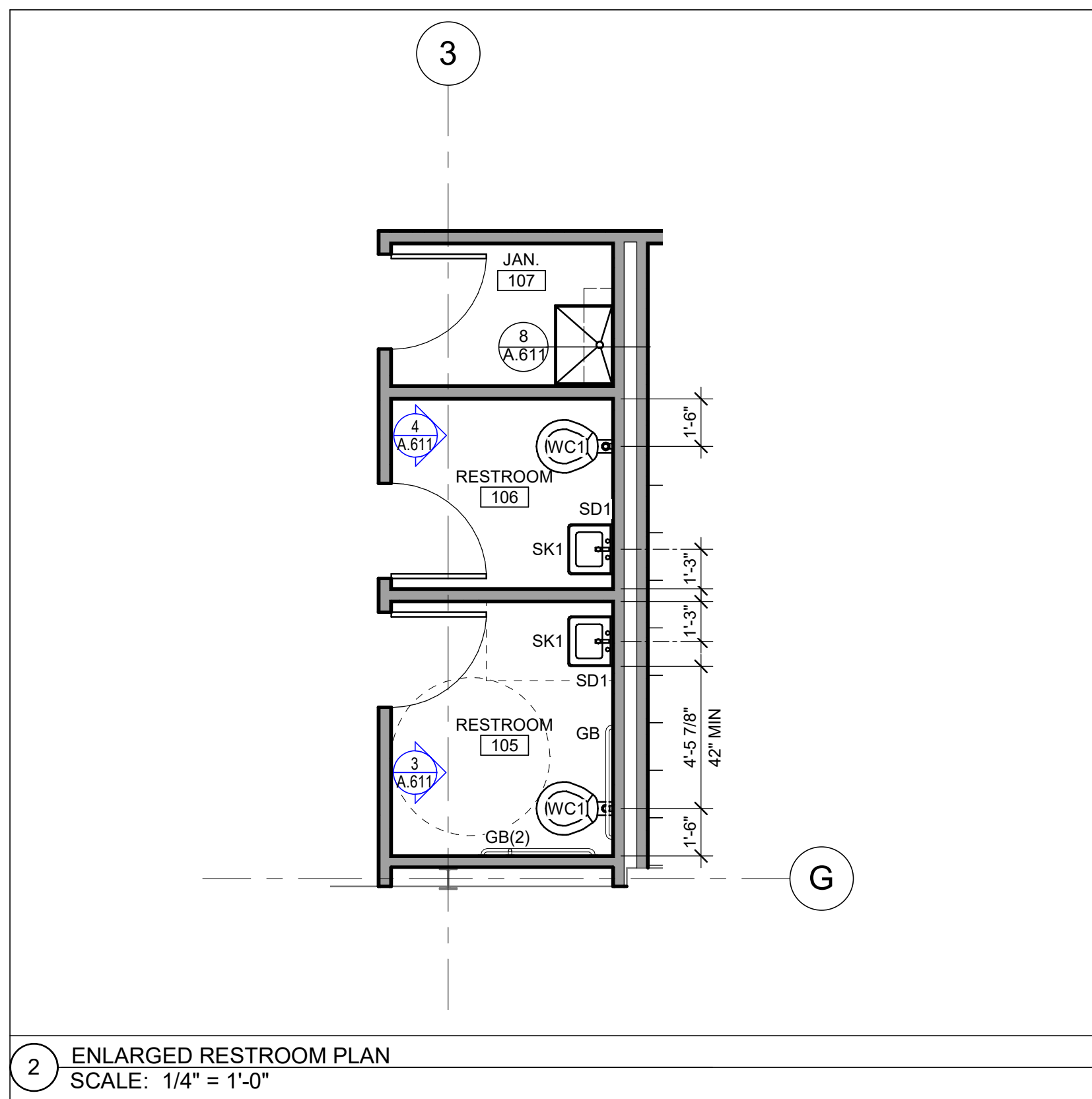
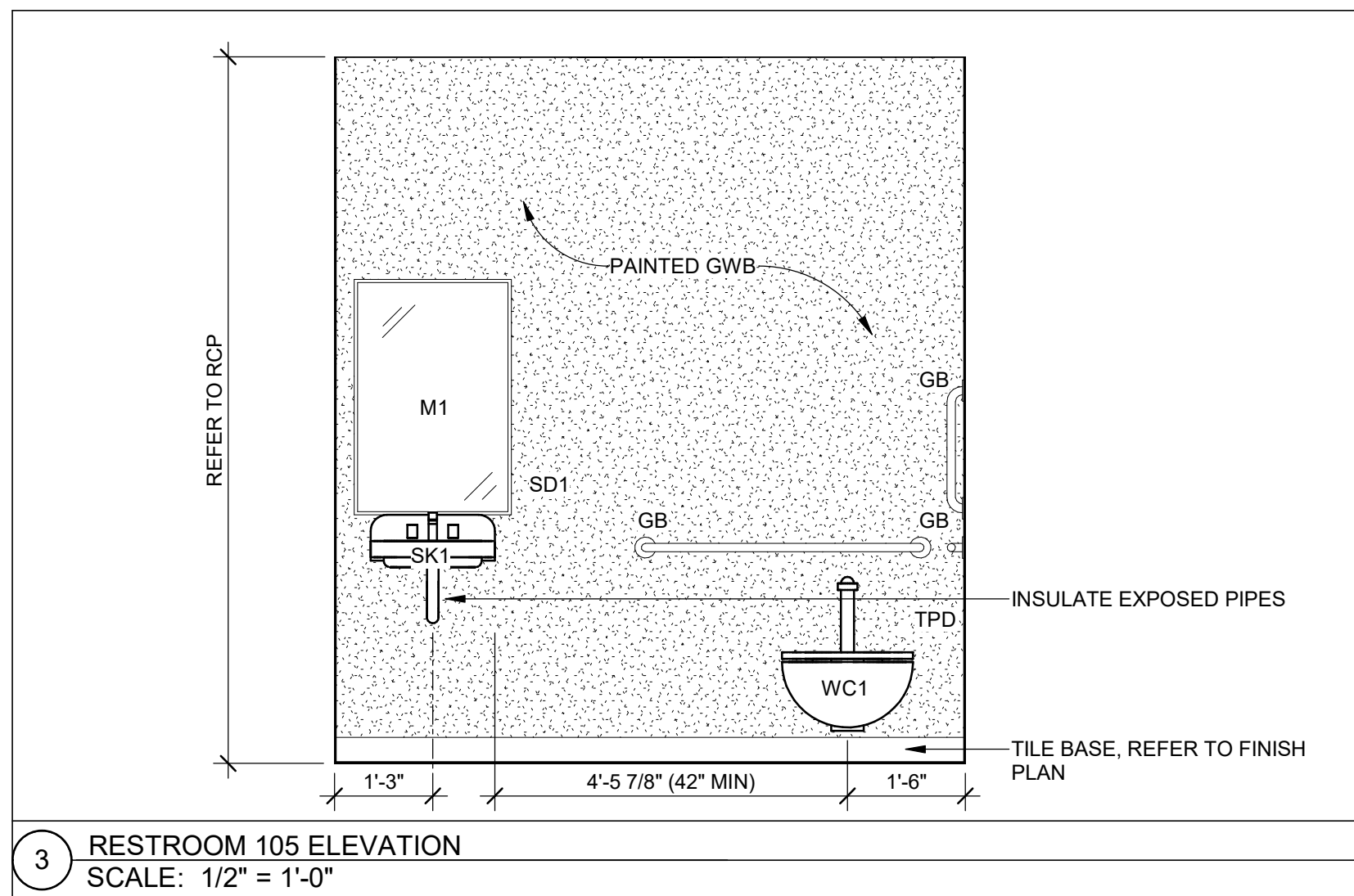
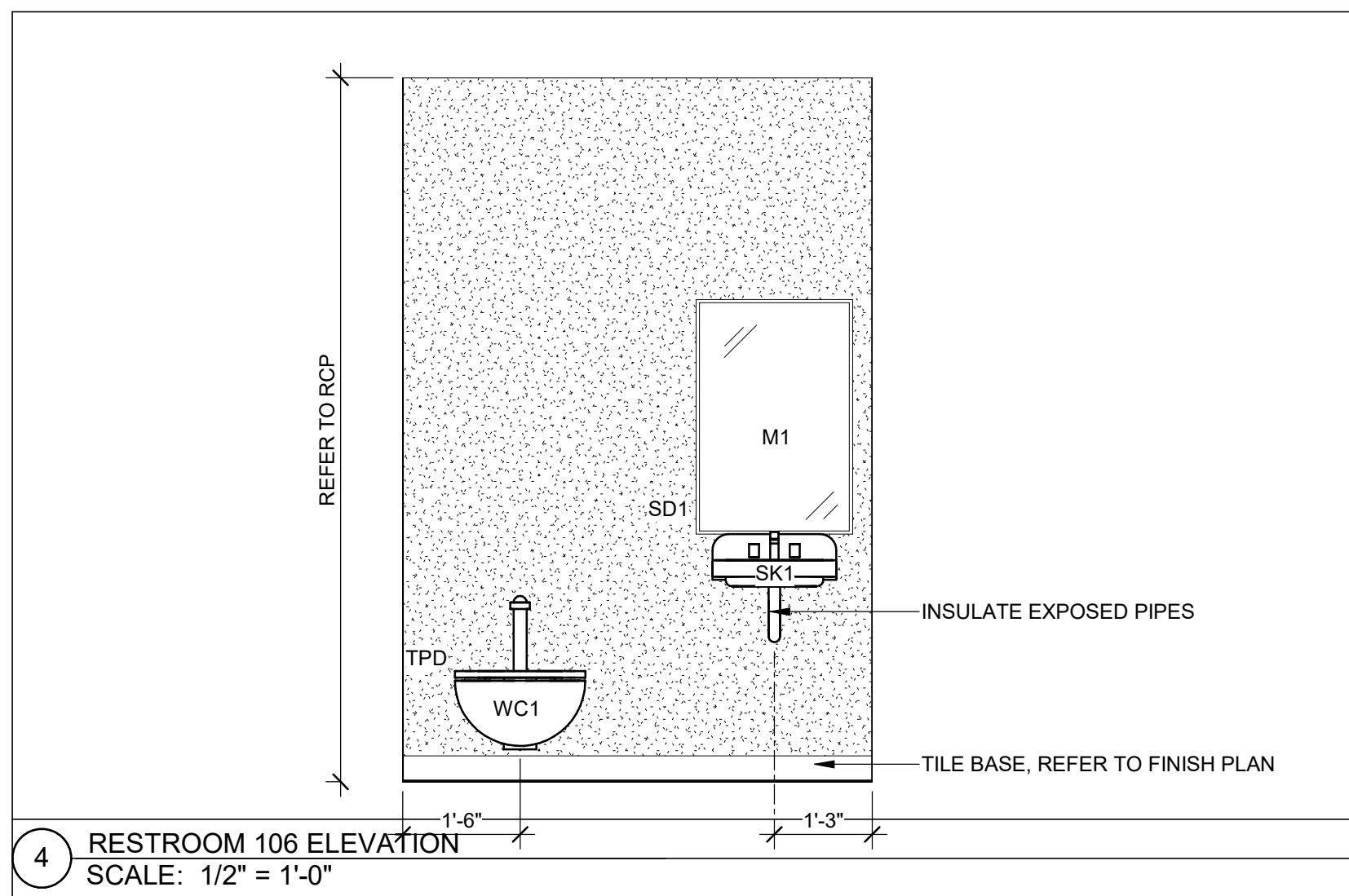
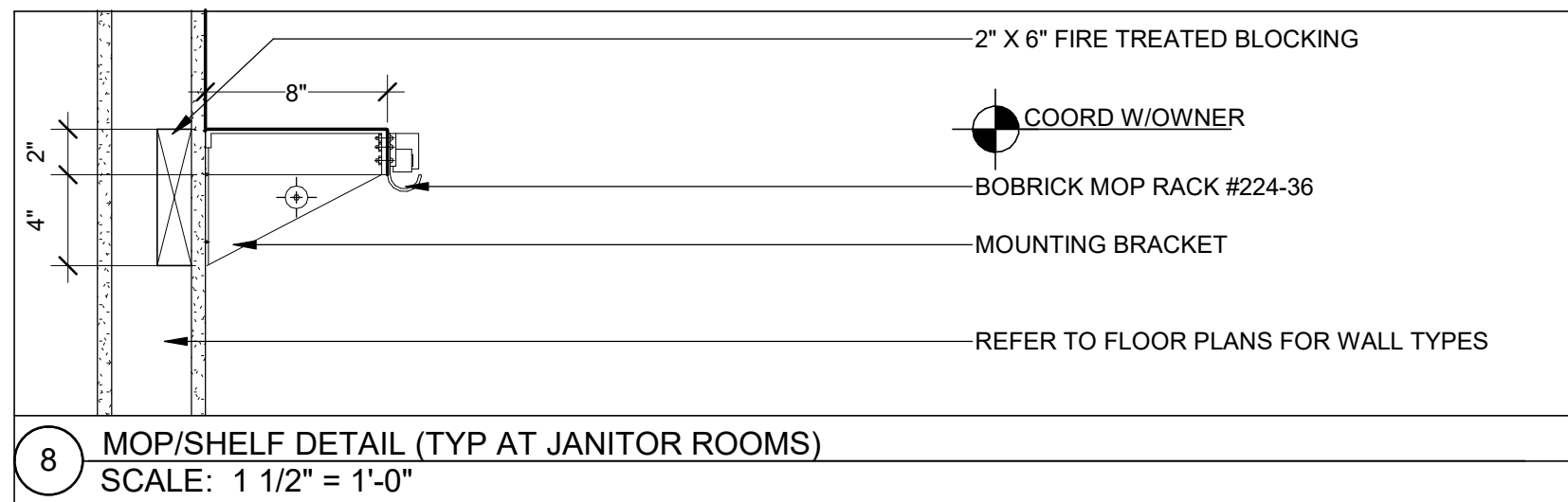
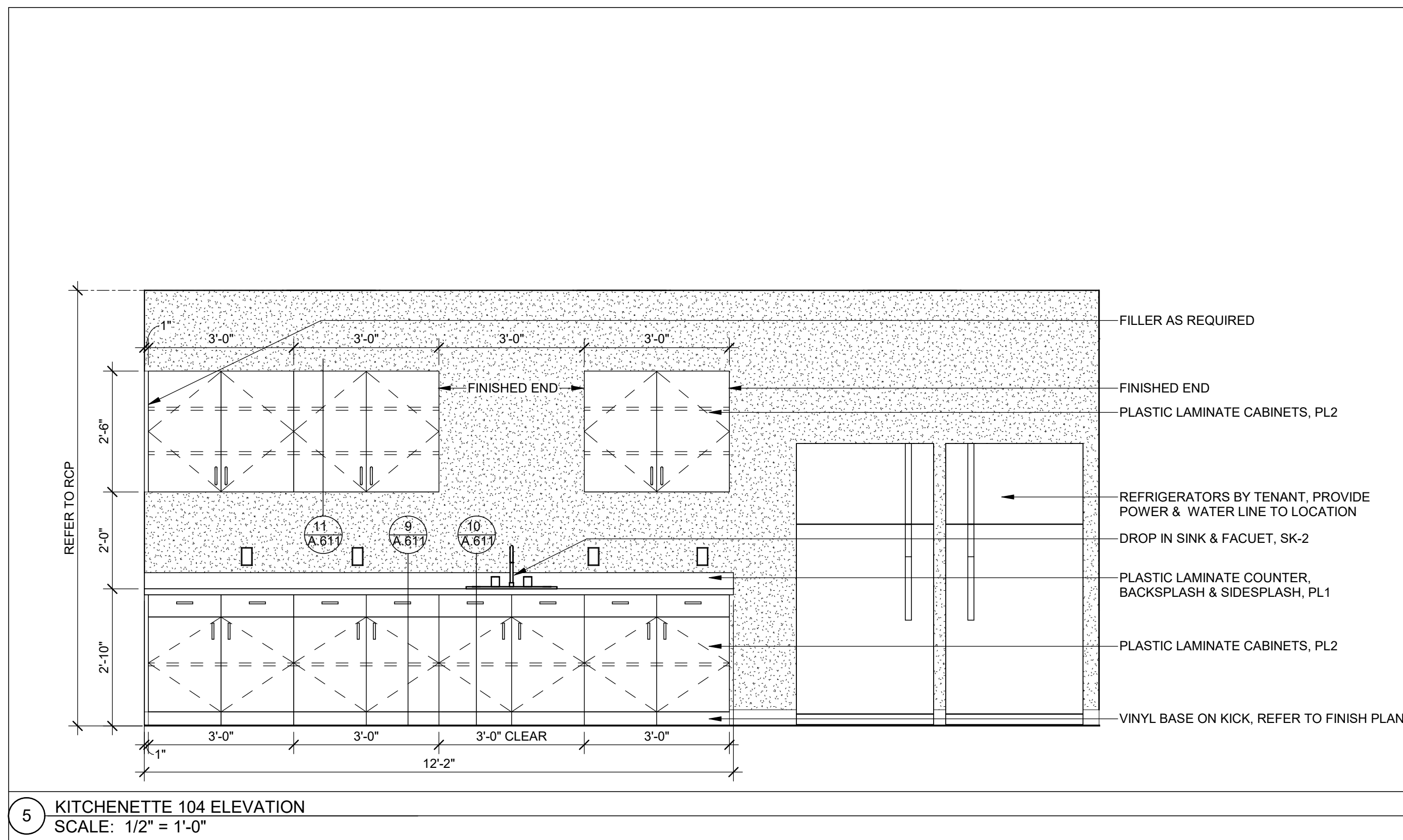
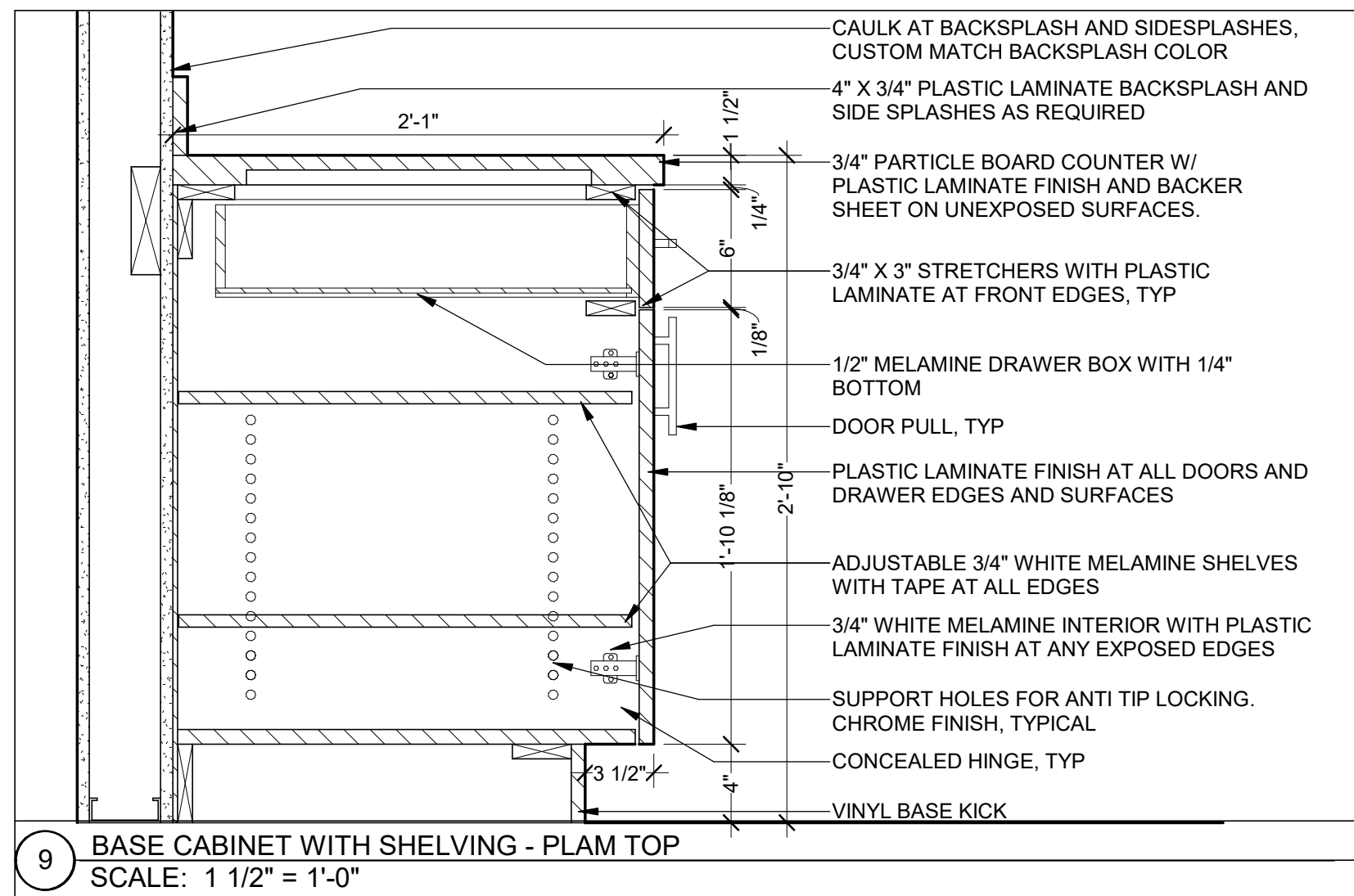
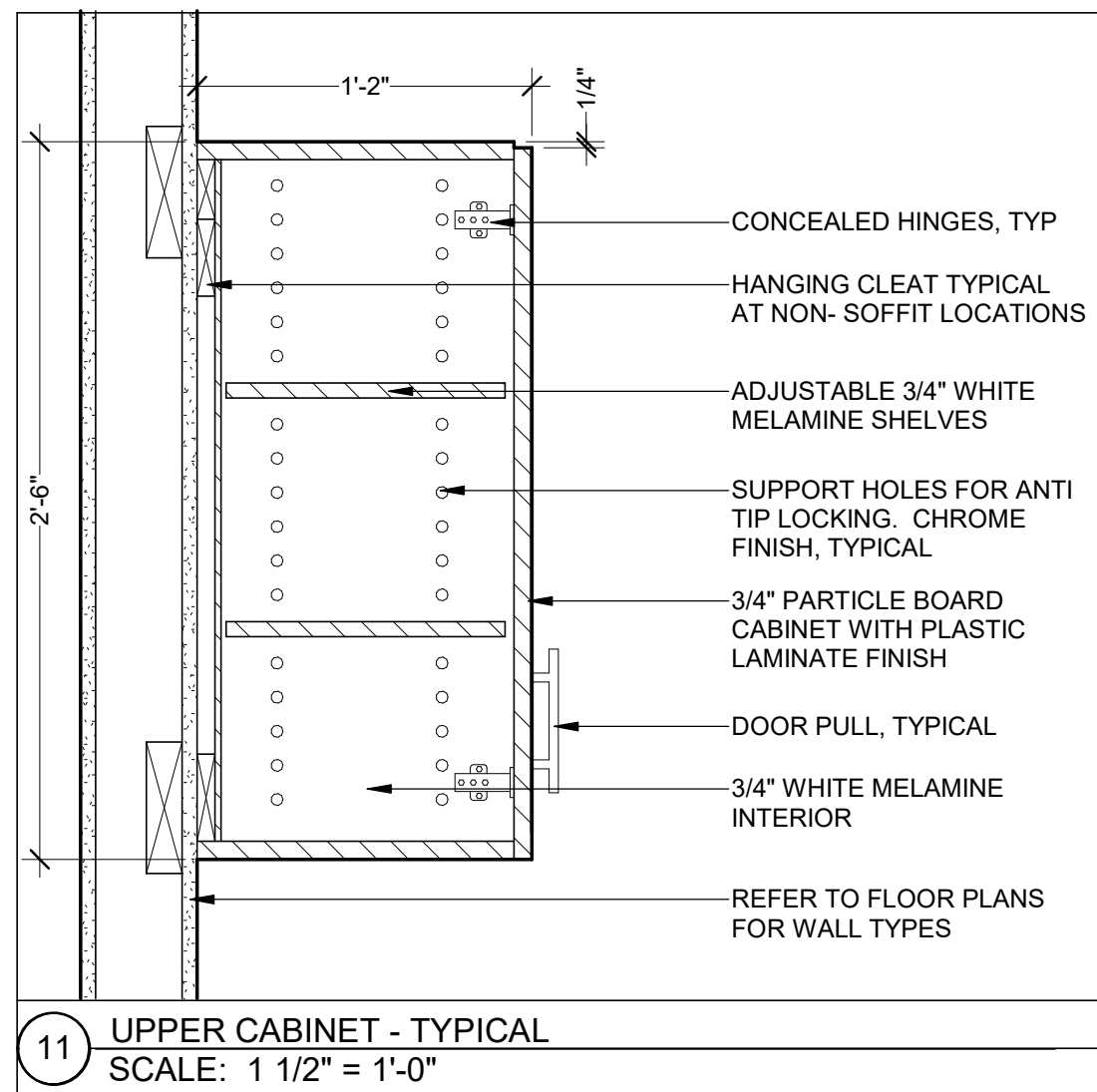
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INTERIOR DETAILS

Sheet Number:

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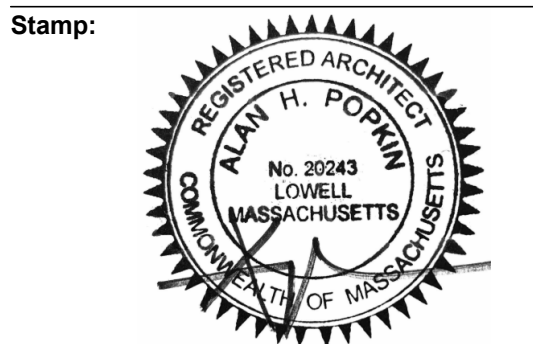
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PLUMBING FIXTURE LIST	
BELOW SPECS TO BE USED AS A BASIS OF DESIGN. PROVIDE BELOW FIXTURES OR APPROVED EQUAL.	
SK1: SINK	ZURN Z5360 W/ ZURN Z6915-XL FAUCET
SK2: SINK	KOHLER BACHATA K-2609-SU W/ KOHLER K-13460 FAUCET
WC1: WATER CLOSET (MOUNT AT ADA HEIGHT)	KOHLER KINGSTON K-4325 W/ MACH TRIPPOINT FLUSHOMETER
J1: JANITOR'S SINK	24"x24" FIB PLUMBING MODEL # MSB244 WITH SERVICE FAUCET, INSTALL FRP BACKSPLASH - REFER TO DETAIL
HB: HOSE BIB	CHICAGO 952
FD: SQUARE FLOOR DRAIN	ZURN Z415B

BATHROOM ACCESSORIES	
PTD1: PAPER TOWEL DISPENSER AND WASTE RECEPTACLE	GEORGIA PACIFIC RECESSED TOWEL DISPENSER MODEL NO. "5946" WITH WASTE RECEPT. MODEL NO. "59451"
TPD: TOILET PAPER DISPENSER	BRADLEY TOILET PAPER DISPENSER MODEL NO. B-3888
ND: NAPKIN DISPOSAL	BRADLEY NAPKIN DISPOSAL MODEL NO. B-4353
GB: GRAB BARS	(2) 1-1/2" DIA. X 42" & (1) 1-1/2" DIA. X 18" GRAB BARS WITH PEENED AND BRIGHT SURFACE & CONCEALED MOUNTING TO BE FRANKLIN BRASS "CENTURION" OR BOBRICK B-5806
M1: MIRROR	DIRECT ADHERED PLATE GLASS MIRROR WITH POLISHED EDGES
SD1: SOAP DISPENSER	AMERICAN SPECIALTIES 0332

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ahp Project #: 2302:

Scale: As Noted

Issue:	Date:
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[illegible]

Drawing Title:
ENLARGED RESTROOM PLANS AND
ELEVATIONS

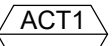
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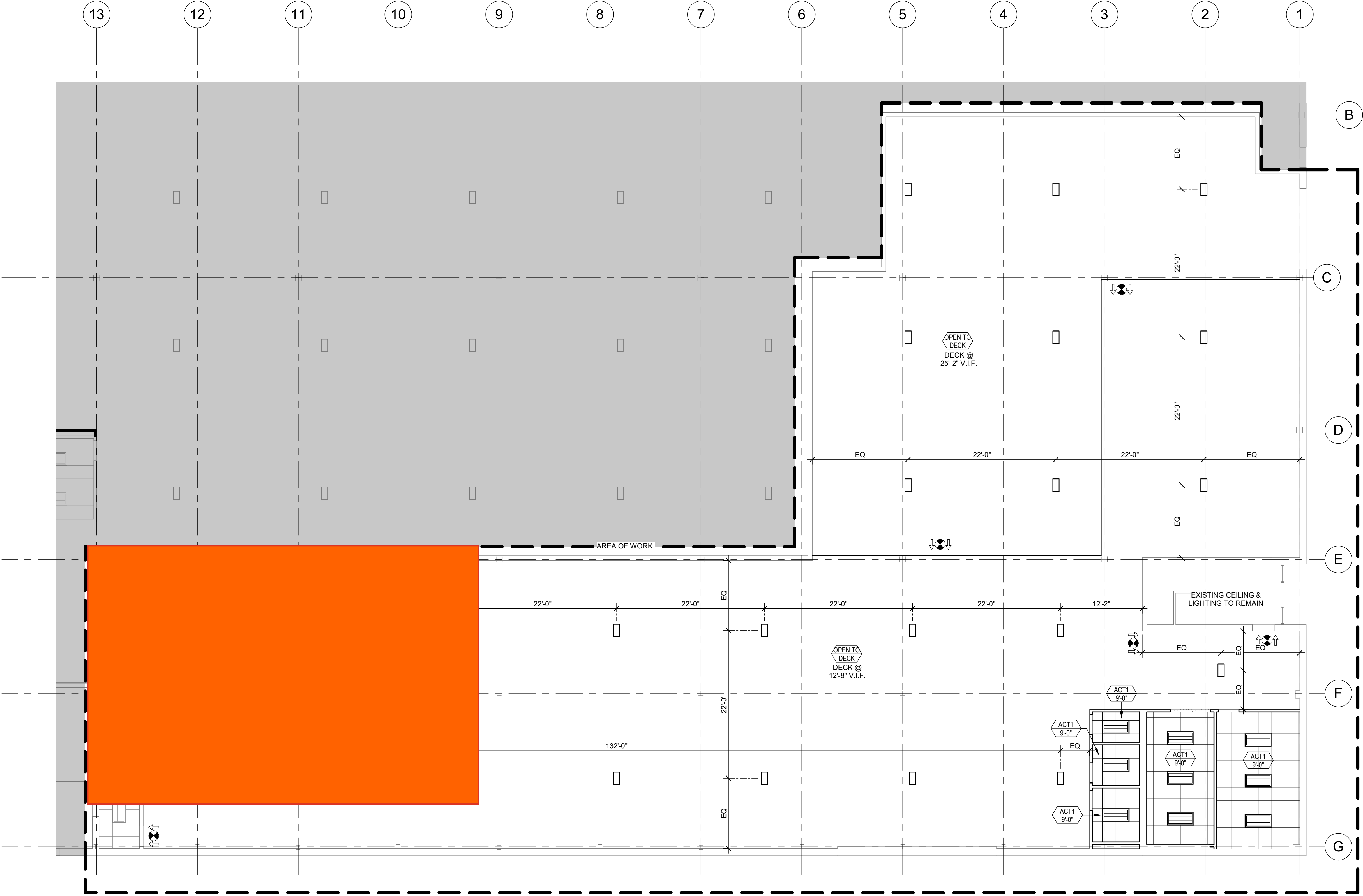
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SYMBOL / CODE:		DESCRIPTION:	TILE MANUF / PRODUCT:	GRID MANUF / PRODUCT:	LOCATION / NOTES
		ACOUSTICAL CEILING TILE	ARMSTRONG ULTIMA	2'X2', BEVELED TEGULAR. GRID: 9/16" SUPRAFINE, COLOR: WHITE	
		OPEN TO DECK ABOVE			PAINT ALL EXPOSED DECK, DUCTWORK, PIPING & CONDUIT IN AREAS WITHOUT CEILINGS. PAINTED CEILING WHITE, UON

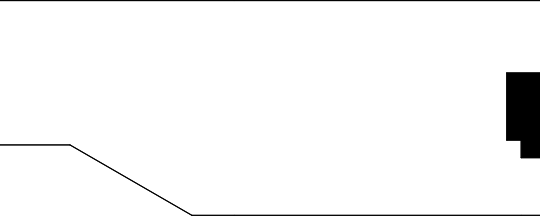
SYMBOL / CODE:		DESCRIPTION:	NOTES:
REFER TO ENGINEERING DRAWINGS FOR SPECIFICATIONS AND EMERGENCY BALLAST LOCATIONS			
	X	NEW 2'X4' INDIRECT/DIRECT LIGHT FIXTURE - MATCH BUILDING STANDARD	BOTTOM OF FIXTURE TO BE MOUNTED @ 22'-0" AFF
	X	NEW HIGH BAY LIGHT FIXTURE - MATCH BUILDING STANDARD	BOTTOM OF FIXTURE TO BE MOUNTED @ 22'-0" AFF
		NEW EXIT SIGN - MATCH BUILDING STANDARD	

Notes:	
CEILING NOTES	
1. NOTES ON SHEET A.621 ALSO APPLY TO FRAMING OF CEILING STRUCTURES, TYPICAL.	
2. ALL CEILING GRIDS ARE TO BE CENTERED IN ROOMS AND/OR SPACES UNLESS NOTED OTHERWISE	
3. ALL DOWN LIGHTS IN CEILING GRIDS ARE TO BE CENTERED IN GRID, TYPICAL	
4. ALL DOWN LIGHTS IN CONFERENCE ROOMS, OFFICES, BOARD ROOMS, ETC. ARE TO BE ON SEPARATE DIMMABLE SWITCHES, TYPICAL	
5. ALL EXIT SIGNS, LIGHTS WITH EMERGENCY BACKUP, AND RELATED LIFE SAFETY EQUIPMENT ARE THE RESPONSIBILITY OF THE ELECTRICAL ENGINEER. GC TO COORDINATE ENGINEERING DRAWINGS WITH ARCHITECTURALS	
6. EXISTING LIGHTS TO BE CLEANED AND RELAMPED AS REQUIRED	
HATCH LEGEND	
	NOT IN SCOPE



1 FIRST FLOOR REFLECTED CEILING PLAN
SCALE: 1/8" = 1'-0"

Key Plan:



Stamp:



Project:

Tenant Fit Plan
129 Commercial Street
Malden, MA 02148

Client:
Historic Tours Of America
108 Sea Grove Main St.
St. Augustine, FL 32080

ahp Project #: 23023
Scale: As Noted

Issue:	Date:
Construction	05.24.2024

Revisions:	Date:

Drawing Title:
FIRST FLOOR REFLECTED CEILING PLAN

Sheet Number:

A.701

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SYMBOL / CODE:		DESCRIPTION:	TILE MANUF / PRODUCT:	GRID MANUF / PRODUCT:	LOCATION / NOTES
	ACT1	ACOUSTICAL CEILING TILE	ARMSTRONG ULTIMA	2'X2', BEVELED TEGULAR. GRID: 9/16" SUPRAFINE, COLOR: WHITE	
	OPEN DECK	OPEN TO DECK ABOVE			PAINT ALL EXPOSED DECK, DUCTWORK, PIPING & CONDUIT IN AREAS WITHOUT CEILINGS. PAINTED CEILING WHITE, UON

SYMBOL / CODE:		DESCRIPTION:	NOTES:
REFER TO ENGINEERING DRAWINGS FOR SPECIFICATIONS AND EMERGENCY BALLAST LOCATIONS			
	X	NEW 2'X4' INDIRECT/DIRECT LIGHT FIXTURE - MATCH BUILDING STANDARD	BOTTOM OF FIXTURE TO BE MOUNTED @ 22'-0" AFF
	X	NEW HIGH BAY LIGHT FIXTURE - MATCH BUILDING STANDARD	BOTTOM OF FIXTURE TO BE MOUNTED @ 22'-0" AFF
		NEW EXIT SIGN - MATCH BUILDING STANDARD	

Notes:

CEILING NOTES

1. NOTES ON SHEET A.621 ALSO APPLY TO FRAMING OF CEILING STRUCTURES, TYPICAL.

2. ALL CEILING GRIDS ARE TO BE CENTERED IN ROOMS AND/OR SPACES UNLESS NOTED OTHERWISE

3. ALL DOWN LIGHTS IN CEILING GRIDS ARE TO BE CENTERED IN GRID, TYPICAL

4. ALL DOWN LIGHTS IN CONFERENCE ROOMS, OFFICES, BOARD ROOMS, ETC. ARE TO BE ON SEPARATE DIMMABLE SWITCHES, TYPICAL

5. ALL EXIT SIGNS, LIGHTS WITH EMERGENCY BACKUP, AND RELATED LIFE SAFETY EQUIPMENT ARE THE RESPONSIBILITY OF THE ELECTRICAL ENGINEER. GC TO COORDINATE ENGINEERING DRAWINGS WITH ARCHITECTURALS

6. EXISTING LIGHTS TO BE CLEANED AND RELAMPED AS REQUIRED

HATCH LEGEND

NOT IN SCOPE



1 SECOND FLOOR REFLECTED CEILING PLAN
SCALE: 1/8" = 1'-0"

Key Plan:

Stamp:



Project:

Tenant Fit Plan
129 Commercial Street
Malden, MA 02148

Client:
Historic Tours Of America
108 Sea Grove Main St.
St. Augustine, FL 32080



ahp Project #: 23023

Scale: As Noted

Issue:

Date:

Construction

05.24.2024

Revisions:

Date:

Drawing Title:

SECOND FLOOR REFLECTED CEILING PLAN

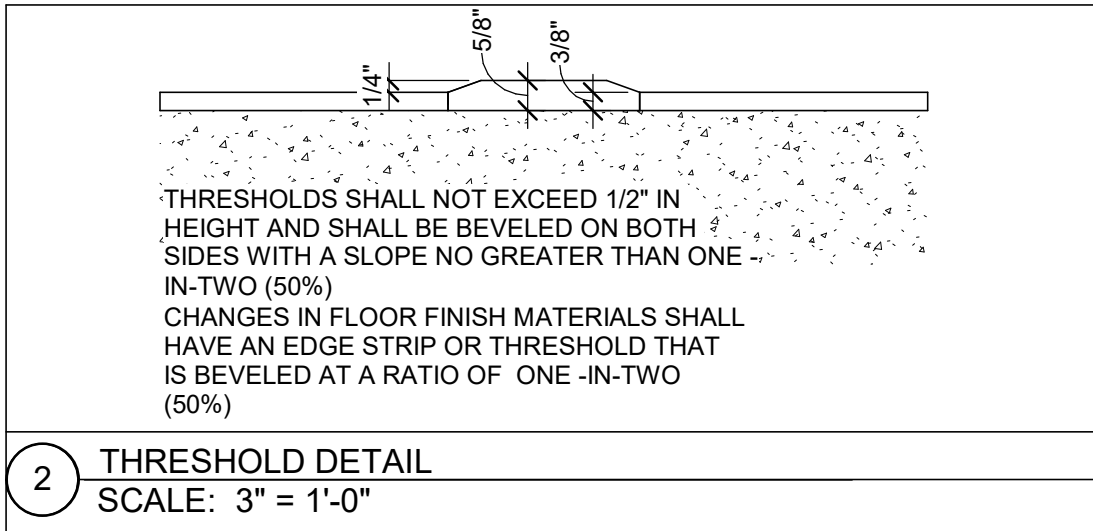
Sheet Number:

A.702

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CODE:	DESCRIPTION:	MANUFACTURER/ PRODUCT:	MODEL / COLOR:	LOCATION / NOTES / INSTALL METHOD:
FLOOR FINISHES:				
CONC1	SEALED CONCRETE	2 COATS BENJAMIN MOORE V156,		SCARIFY EXISTING CONCRETE PER MANUFACTURER'S RECOMMENDATION, ALLOW 30 DAYS FOR NEW CONCRETE TO CURE PRIOR TO APPLICATION
VCT1	VINYL COMPOSITION TILE			
T1	TILE			
CPT1				

←	INDICATES INSTALL DIRECTION OF FLOORING PATTERN	XX	FLOOR FINISH CODE INDICATION	FT	INDICATES LOCATION OF FULL TILE
X	ACCENT WALL AND BASE FINISH CODE INDICATION	EX	INDICATES EXISTING FINISHES TO REMAIN, INCLUDING WALL AND FLOOR TILE		AT DOORWAYS, ALL TRANSITIONS BETWEEN FLOORING MATERIAL SHOULD OCCUR CENTERED UNDER THE DOOR IN CLOSED POSITION (UNO)
MISCELLANEOUS:					
CG1	CORNER GUARD	INPRO CORP OR APPROVED EQUAL	1-1/2" STAINLESS STEEL CORNER GUARD	48" HIGH	

CODE:	DESCRIPTION:	MANUFACTURER/ PRODUCT:	MODEL / COLOR:	LOCATION / NOTES / INSTALL METHOD:
TRANSITION STRIP:				
TS1	ADA RESTROOM THRESHOLD	SCHLUTER, RENO-RAMP	STAINLESS STEEL	ADA COMPLIANT TILE TO CONCRETE
TS2	VCT TO CONCRETE	ROPPE, VINYL #172	MATCH VB1	COORDINATE WITH DOOR HARDWARE
TS3	CONCRETE TO CARPET	ROPPE, VINYL #169	MATCH VB1	

CODE:	DESCRIPTION:	MANUFACTURER/ PRODUCT:	MODEL / COLOR:	LOCATION / NOTES / INSTALL METHOD:
WALL BASE FINISHES:				
VB1	4" VINYL BASE	ROPPE 700 SERIES (ROLL GOOD)	COLOR: TBD	STRAIGHT AT CARPET, COVED AT HARD SURFACES
TB1	4" TILE BASE	MATCH FLOOR TILE SPEC, CUT TO 4" HEIGHT		SEE DETAIL FOR PROFILE
WALL FINISHES:				
P1	PAINT	BENJAMIN MOORE	COLOR: WHITE DOVE OC-17	PRIMARY PAINT
P2	PAINT	BENJAMIN MOORE	COLOR: KENDALL CHARCOAL HC-166	DOOR FRAME PAINT
FRP1	FRP BOARD	MARLITE	STANDARD FRP, PEBBLED SURFACE, COLOR WHITE	INSTALL PER THE CRANE ADHESIVE INSTALL GUIDE; INSTALL FROM TOP OF BASE TO UNDERSIDE OF CEILING



1 FIRST FLOOR FINISH PLAN
SCALE: 1/8" = 1'-0"

Notes:

- FINISH PLAN NOTES**
- SEE FINISH NOTES ON SHEET A.001
 - WALL FINISHES NOT DESIGNATED WITH A SPECIFIC COLOR ON PLANS ARE TO BE "P1"
 - METAL DOORS, FRAMES AND WINDOW FRAMES ARE TO BE PAINT "P2" UNLESS OTHERWISE NOTED ON FINISH PLANS.
 - WALL BASE TO BE VB1 UNLESS OTHERWISE NOTED ON FINISH PLANS
 - ALL ADHESIVES MUST COMPLY WITH FULL MANUFACTURER'S WARRANTY SPECIFICATIONS, PROVIDE SUBMITTALS FOR APPROVAL
 - UNDERSIDE OF ALL CEILING SOFFITS ARE TO BE PAINTED "CEILING WHITE", UNLESS NOTED OTHERWISE
 - REFER TO TILE NOTES ON A.001 REGARDING UNCOUPLING MEMBRANE, MOVEMENT JOINTS, ETC.
 - REFER TO FINISH SPECIFICATION ON SHEET A.801

HATCH LEGEND
NOT IN SCOPE

Key Plan:

Stamp:



Project:

Tenant Fit Plan
129 Commercial Street
Malden, MA 02148

Client:
Historic Tours Of America
108 Sea Grove Main St.
St. Augustine, FL 32080

ahp Project #: 23023

Scale: As Noted

Issue:	Date:
Construction	05.24.2024

Revisions:	Date:

Drawing Title:
FIRST FLOOR REFLECTED CEILING PLAN

Sheet Number:

A.801

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1 SECOND FLOOR FINISH PLAN
SCALE: 1/8" = 1'-0"

Notes:

- FINISH PLAN NOTES**
1. SEE FINISH NOTES ON SHEET A.001
 2. WALL FINISHES NOT DESIGNATED WITH A SPECIFIC COLOR ON PLANS ARE TO BE "P1"
 3. METAL DOORS, FRAMES AND WINDOW FRAMES ARE TO BE PAINT "P2" UNLESS OTHERWISE NOTED ON FINISH PLANS.
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 7. REFER TO TILE NOTES ON A.001 REGARDING UNCOUPLING MEMBRANE, MOVEMENT JOINTS, ETC.
 8. REFER TO FINISH SPECIFICATION ON SHEET A.801

HATCH LEGEND	
	NOT IN SCOPE

Key Plan:

Stamp:



Project:

Tenant Fit Plan
129 Commercial Street
Malden, MA 02148

Client:
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108 Sea Grove Main St.
St. Augustine, FL 32080

ahp Project #: 23023

Scale: As Noted

Issue:	Date:
Construction	05.24.2024

Revisions:	Date:

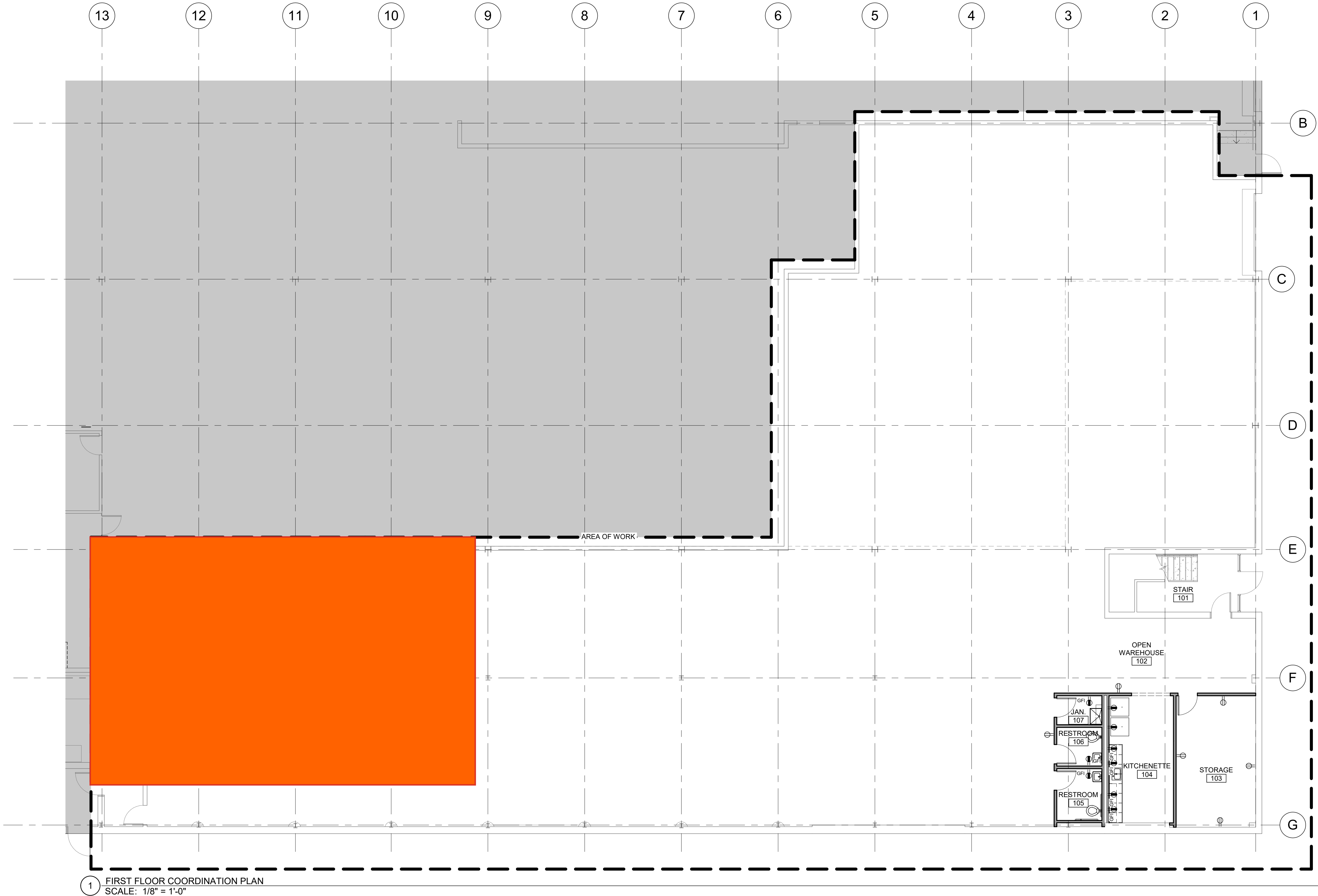
Drawing Title:
SECOND FLOOR FINISH PLAN

Sheet Number:

A.802

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1 FIRST FLOOR COORDINATION PLAN
SCALE: 1/8" = 1'-0"

Notes:

ELECTRICAL LEGEND	
	DUPLEX OUTLET - CENTER OF OUTLET AT 18" AFF
	DUPLEX OUTLET - CENTER OF OUTLET AT 4" ABOVE BACKSPLASH OR AT 48" AFF
	DUPLEX OUTLET (G.F.I.) - CENTER OF OUTLET AT 4" ABOVE BACKSPLASH OR AT 48" AFF
	COMBINATION TELEPHONE / DATA JACK - CENTER OF OUTLET AT 18" AFF

ELECTRICAL NOTES	
1. ELECTRICAL SUBCONTRACTOR IS TO PROVIDE PULL STRINGS AND JUNCTION BOXES FOR ALL DATA LINES, TYPICAL.	
2. ARCHITECTURAL PLANS DEPICT ELECTRICAL OUTLET TYPES AND LOCATIONS ARE FOR COORDINATION PURPOSES ONLY. FINAL OUTLET TYPES AND LOCATIONS TO BE DETERMINED BY ELECTRICAL ENGINEER.	
3. NEW ELECTRICAL OUTLETS AND COVER PLATES TO BE WHITE. EXISTING NON-WHITE OUTLETS AND COVER PLATES THROUGHOUT AREA OF WORK TO BE REPLACED WITH NEW WHITE DEVICES UON	

HATCH LEGEND	
	NOT IN SCOPE

Key Plan:

Stamp:



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Malden, MA 02148

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Historic Tours Of America
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ahp Project #: 23023
Scale: As Noted

Issue:	Date:
Construction	05.24.2024

Revisions:	Date:

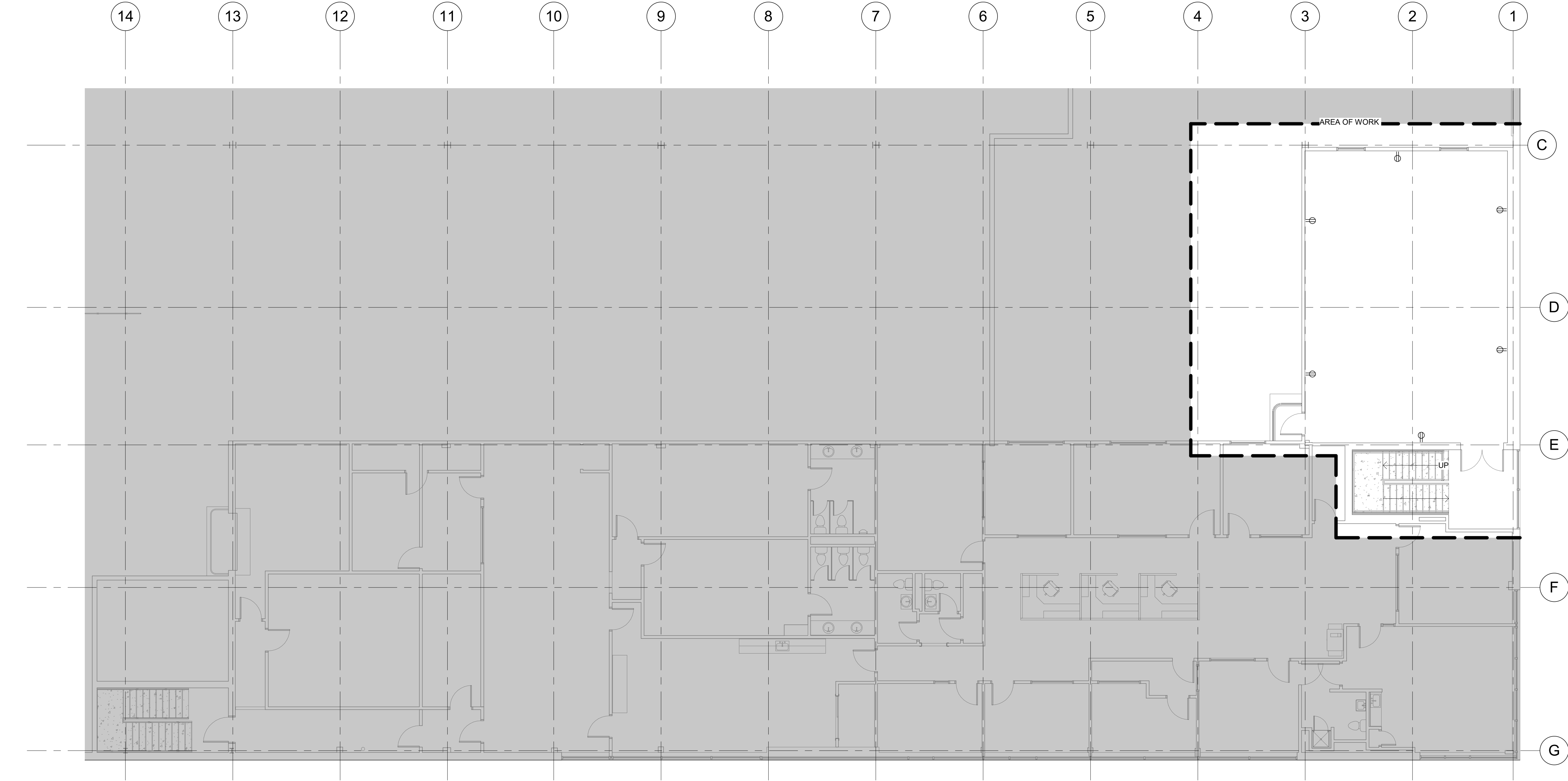
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FIRST FLOOR COORDINATION PLAN

Sheet Number:

A.901

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1 SECOND FLOOR COORDINATION PLAN
SCALE: 1/8" = 1'-0"

Notes:

ELECTRICAL LEGEND	
	DUPLEX OUTLET - CENTER OF OUTLET AT 18" AFF
	DUPLEX OUTLET - CENTER OF OUTLET AT 4" ABOVE BACKSPLASH OR AT 48" AFF
	DUPLEX OUTLET (G.F.I.) - CENTER OF OUTLET AT 4" ABOVE BACKSPLASH OR AT 48" AFF
	COMBINATION TELEPHONE / DATA JACK - CENTER OF OUTLET AT 18" AFF

ELECTRICAL NOTES	
1. ELECTRICAL SUBCONTRACTOR IS TO PROVIDE PULL STRINGS AND JUNCTION BOXES FOR ALL DATA LINES, TYPICAL.	
2. ARCHITECTURAL PLANS DEPICT ELECTRICAL OUTLET TYPES AND LOCATIONS ARE FOR COORDINATION PURPOSES ONLY. FINAL OUTLET TYPES AND LOCATIONS TO BE DETERMINED BY ELECTRICAL ENGINEER.	
3. NEW ELECTRICAL OUTLETS AND COVER PLATES TO BE WHITE. EXISTING NON-WHITE OUTLETS AND COVER PLATES THROUGHOUT AREA OF WORK TO BE REPLACED WITH NEW WHITE DEVICES UON	

HATCH LEGEND	
	NOT IN SCOPE

Key Plan:

Stamp:



Project:

Tenant Fit Plan
129 Commercial Street
Malden, MA 02148

Client:
Historic Tours Of America
108 Sea Grove Main St.
St. Augustine, FL 32080



ahp Project #: 23023
Scale: As Noted

Issue:	Date:
Construction	05.24.2024

Revisions:	Date:

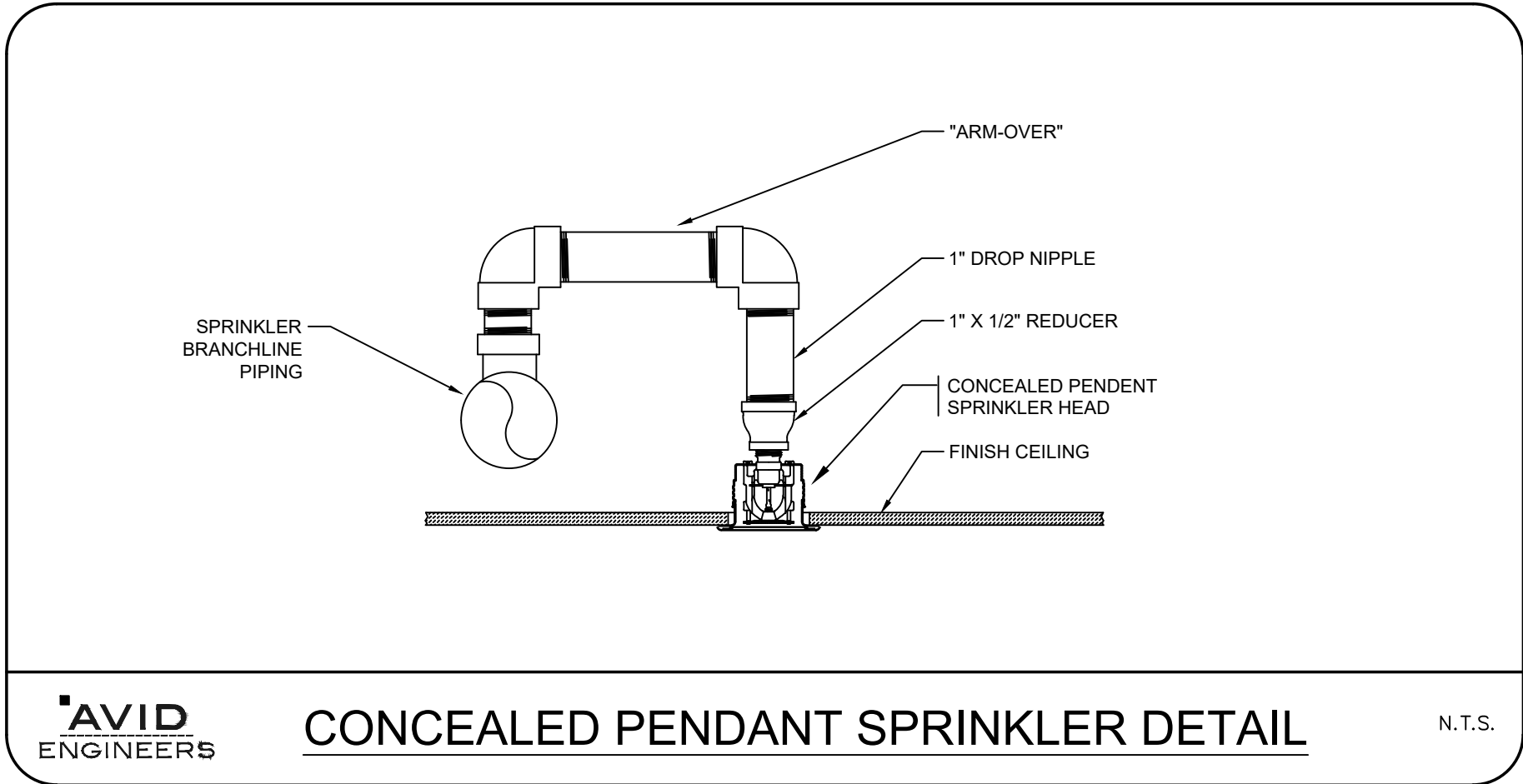
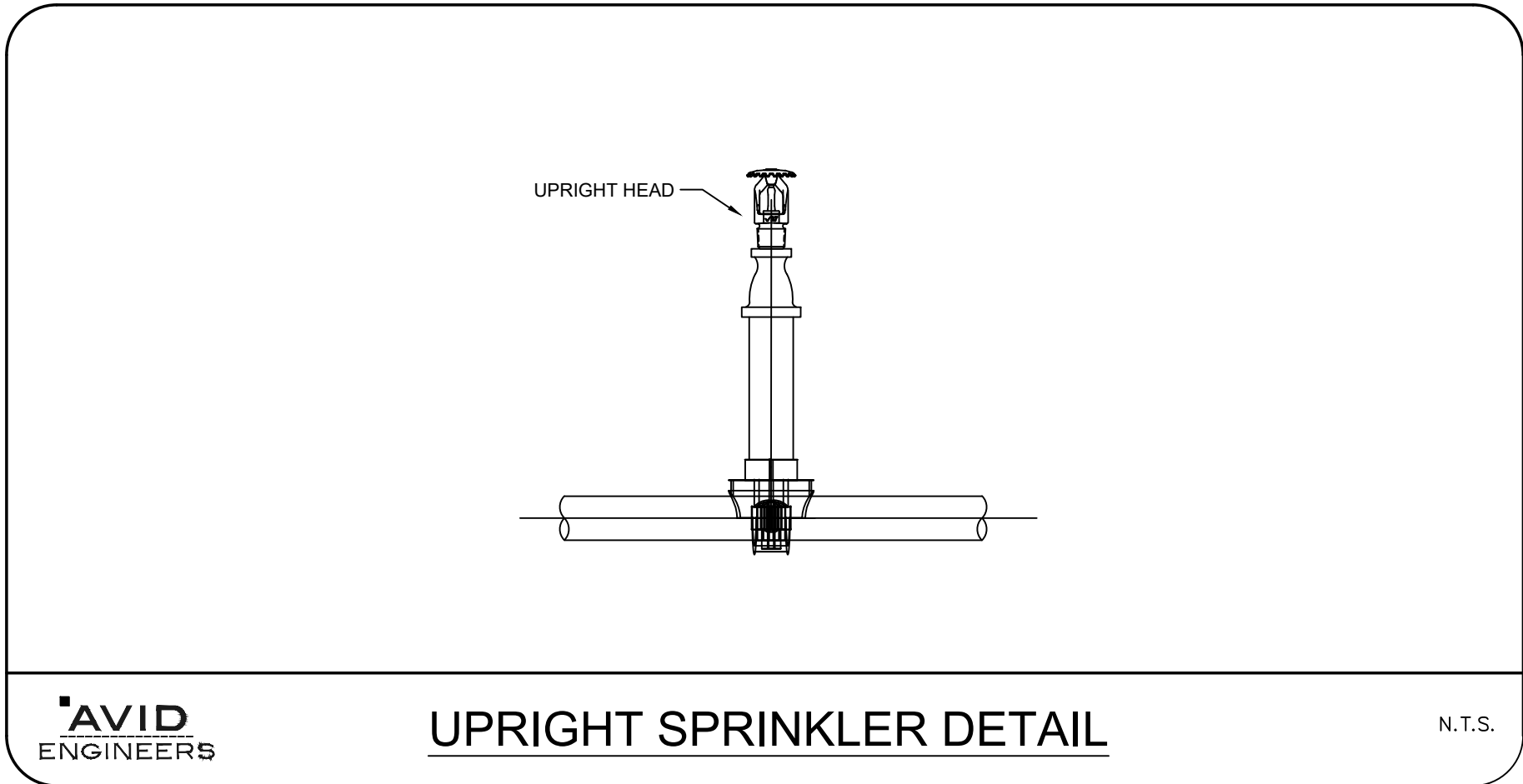
Drawing Title:
SECOND FLOOR COORDINATION PLAN

Sheet Number:

A.902

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LEGEND		
SP	SP/SPR	WET PIPE SPRINKLER SYSTEM PIPING
ETR	ETR	EXISTING PIPING TO REMAIN
CTE	CTE	CONNECT TO EXISTING

SPRINKLER SCHEDULE							
SYMBOL	CONDITION	RESPONSE	ORIENTATION / DESCRIPTION	COVERAGE	K-FACTOR	FINISH	TEMP RATING
	EXISTING TO REMAIN	QUICK	UPRIGHT	-	-	-	-
	EXISTING TO BE REMOVED	QUICK	UPRIGHT				
	EXISTING TO BE REMOVED	QUICK	CONCEALED PENDENT	STANDARD	5.6	WHITE	ORDINARY
	NEW	QUICK	CONCEALED PENDENT	STANDARD	5.6	WHITE	ORDINARY
	NEW	QUICK	UPRIGHT	STANDARD	5.6	BRASS	ORDINARY
NOTES: 1. ACCEPTABLE SPRINKLER MANUFACTURERS: VICTAULIC, VIKING, RELIABLE, TYCO							

- ### FIRE PROTECTION GENERAL NOTES
- ALL WORK IS TO BE PERFORMED IN STRICT COMPLIANCE WITH LOCAL CODES AND ALL OTHER REGULATIONS GOVERNING WORK OF THIS NATURE, INCLUDING; 2015 INTERNATIONAL BUILDING CODE AND 780 - CMR MASSACHUSETTS AMENDMENTS TO THE IBC, NATIONAL FIRE PROTECTION CODES 13. ALL FIRE PROTECTION SYSTEMS MUST BE INSTALLED AND TESTED BY A CONTRACTOR THAT IS LICENSED IN THE STATE IN WHICH THE WORK IS BEING PERFORMED.
 - THE DRAWINGS ARE INTENDED TO BE DIAGRAMMATIC. THEY ARE NOT INTENDED TO SHOW THE EXACT ROUTING OF SYSTEMS OR LOCATION OF COMPONENTS. THE EXACT LOCATIONS, DIMENSIONS AND ALL OTHER DETAILS OF THE FIRE PROTECTION SYSTEM SHALL BE DESCRIBED IN A COMPLETE SET OF WORKING PLANS THAT ARE PREPARED IN ACCORDANCE WITH NFPA 13 AND 14. SUBMIT PLANS WITH HYDRAULIC CALCULATIONS PROVING SYSTEM MODIFICATIONS. PLANS AND CALCULATIONS MUST BE SIGNED AND SEALED BY A PROFESSIONAL ENGINEER LICENSED TO PRACTICE FIRE PROTECTION IN THE STATE IN WHICH THE WORK IS BEING PERFORMED. SUBMIT PLANS AND CALCULATIONS TO ALL AUTHORITIES HAVING JURISDICTION INCLUDING; ARCHITECT, INSURANCE UNDERWRITER AND FIRE DEPARTMENT. THE SIGNING PROFESSIONAL ENGINEER SHALL BE CONSIDERED THE ENGINEER OF RECORD.
 - WORKING PLANS SHALL BE AT LEAST 1/8 IN. = 1' 0" SCALE ON SHEETS OF UNIFORM SIZE. WORKING PLANS SHALL SHOW ALL DATA REQUIRED BY NFPA 13. SUBMIT WORKING PLANS AND HYDRAULIC CALCULATIONS IN ONE COMPLETE PACKAGE.
 - WORKING PLANS WILL BE SUBJECT TO ARCHITECT'S FINAL APPROVAL. SUBMIT TO ARCHITECT AFTER REVIEW BY OTHER AUTHORITIES. IF NECESSARY TO SUBMIT PLANS TO ARCHITECT BEFORE REVIEW BY OTHER AUTHORITIES, IDENTIFY AUTHORITIES THAT HAVE NOT REVIEWED PLANS AND RESUBMIT FOR FINAL APPROVAL WHEN REVIEW BY ALL PARTIES IS COMPLETE.
 - THIS CONTRACTOR SHALL SECURE ALL PERMITS OR APPLICATIONS AND PAY ANY AND ALL FEES.
 - PITCH ALL PIPING TO DRAIN. PROVIDE AN AUXILIARY DRAIN AT ALL LOW POINTS.
 - PROVIDE TAMPER/SUPERVISORY SWITCHES ON ALL VALVES SERVING FIRE PROTECTION MAINS. WIRE SWITCHES TO THE FIRE ALARM CONTROL PANEL.
 - THIS CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS AND EXISTING CONDITIONS PRIOR TO PROCEEDING WITH ANY WORK. WHERE DISCREPANCIES OCCUR BETWEEN THESE DOCUMENTS AND EXISTING CONDITIONS, THE DISCREPANCY SHALL BE REPORTED TO THE OWNER AND/OR ENGINEER FOR EXPEDITING AND RESOLVE.
 - ALL SHUT DOWNS OF EXISTING SYSTEMS SHALL BE SCHEDULED AND APPROVED BY THE OWNER PRIOR TO COMMENCING WITH WORK.
 - CLEAN THE JOB SITE DAILY AND REMOVE FROM THE PREMISES ALL DIRT AND DEBRIS CAUSED BY THE PERFORMANCE OF THE WORK INCLUDED IN THIS CONTRACT.
 - USE OF THE OWNER'S ELEVATORS AND BUILDING CORRIDORS FOR HANDLING OF EQUIPMENT AND MATERIALS SHALL BE AT THE DIRECTION OF THE OWNER AND SHALL BE COORDINATED WITH HIS OPERATIONS.
 - THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE SAFEKEEPING OF HIS OWN PROPERTY ON THE JOB SITE. OWNER ASSUMES NO RESPONSIBILITY FOR PROTECTION OF PROPERTIES AGAINST FIRE, THEFT AND ENVIRONMENTAL CONDITIONS.
 - SUCCESSFULLY PRESSURE TEST ALL REROUTED PIPING SYSTEMS. TEST SHALL BE PERFORMED AT NORMAL SYSTEM OPERATING PRESSURES. REPAIR AND RETEST AS REQUIRED UNTIL SYSTEMS PROVE TIGHT.
 - THIS CONTRACTOR SHALL PROVIDE FIRE STOPPING AT ALL PENETRATIONS THROUGH FIRE WALLS.
 - THIS CONTRACTOR SHALL COORDINATE HIS WORK WITH ALL OTHER TRADES PRIOR TO FABRICATION, PURCHASE AND/OR INSTALLATION OF ALL WORK. ALL OFFSETS IN PIPING TO AVOID OBSTRUCTIONS SHALL BE PROVIDED AT NO COST TO THE OWNER.
 - PROVIDE ACCESS PANELS FOR ALL CONCEALED VALVES AND EQUIPMENT.
 - REFER TO ARCHITECTURAL REFLECTED CEILING PLAN FOR EXACT LOCATION OF SPRINKLER HEADS.
 - THE CONTRACTOR IS RESPONSIBLE FOR ALL WORK, MATERIALS AND LABOR TO SATISFY A COMPLETE WORKING SYSTEM WHETHER SPECIFIED OR IMPLIED.
 - THE CONTRACTOR SHALL, BEFORE SUBMITTING ANY PROPOSAL, EXAMINE THE PROPOSED SITE AND SHALL DETERMINE FOR HIMSELF THE CONDITIONS THAT MAY AFFECT THE WORK. ABSOLUTELY NO CLAIMS FOR ADDITIONAL COMPENSATION WILL BE CONSIDERED FOR CONDITIONS REASONABLY VISIBLE UPON EXAMINATION OF SITE.

- ### FIRE PROTECTION WORKING DRAWING
- THE FIRE PROTECTION DRAWINGS WERE PREPARED AS PRELIMINARY DRAWINGS IN ACCORDANCE WITH NFPA 13. THE CONTRACTOR IS RESPONSIBLE TO PREPARE FULLY COORDINATED WORKING DRAWINGS IN ACCORDANCE WITH NFPA 13. THE WORKING DRAWINGS SHALL DEPICT THE REQUIRED SPRINKLER COVERAGE, PIPE SIZING, SPRINKLER TYPES, HYDRAULIC CALCULATIONS, ETC AND SHALL COORDINATE WITH ALL BUILDING ELEMENTS TO IDENTIFY AND ACCOMMODATE MINIMUM CLEARANCES TO OBSTRUCTIONS, CONCEALED COMBUSTIBLE SPACES, ETC.
- THIS CONTRACTOR SHALL PROVIDE SPRINKLER PROTECTION FOR ANY AND ALL COMBUSTIBLE CONCEALED SPACES AS DEFINED BY NFPA 13. ABSOLUTELY NO CLAIMS FOR ADDITIONAL COMPENSATION WILL BE CONSIDERED FOR ANY SPRINKLER HEADS REQUIRED IN COMBUSTIBLE CONCEALED SPACES THAT MAY NOT BE SHOWN ON THESE DRAWINGS. IT IS THE RESPONSIBILITY OF THE GC & SUBCONTRACTOR TO THOROUGHLY REVIEW THE DRAWINGS AND SPECIFICATIONS AND ENSURE THAT A COMPLETE AND CODE COMPLIANT SYSTEM IS PROVIDED. ANY DISCREPANCIES SHALL BE BROUGHT TO ATTENTION OF THE DESIGN TEAM DURING THE BIDDING PHASE. G.C. TO COORDINATE AS REQUIRED.

DESIGN CRITERIA	
BUILDING OCCUPANCY: OFFICES, RESTROOMS, AND SIMILAR SPACES BUILDING CLASSIFICATION: LIGHT HAZARD MINIMUM AREA/DENSITY: 0.10-GPM / 1,500 S.F. 100-GPM OUTSIDE HOSE ALLOWANCE 225S.F. PER SPRINKLER (MAX)	
BUILDING OCCUPANCY: SHELL SPACE, MAINTENANCE ROOM, LOW PILED STORAGE, MAINTENANCE, ELECTRICAL ROOM BUILDING CLASSIFICATION: ORDINARY HAZARD GROUP II MINIMUM AREA/DENSITY: 0.20 GPM /1,500 S.F. 250-GPM OUTSIDE HOSE ALLOWANCE 130 S.F. PER SPRINKLER (MAX)	
CONTRACTOR TO PROVIDE HYDRAULIC CALCULATIONS PER NFPA 13. CALCULATIONS TO INCLUDE MINIMUM 10 PSI SAFETY FACTOR.	

FLOW TEST PERFORMED BY IMPACT FIRE PROTECTION ON 4/02/2024:
STATIC 105 PSI
RESIDUAL 90 PSI
FLOW 978 GPM

Notes:

avid.
www.avidengineers.com

Key Plan:

Stamp:



Project:

Tenant Fit Plan
129 Commercial Street
Malden, MA 02148
Client:
Historic Tours Of America
108 Sea Grove Main St.
St. Augustine, FL 32080

ahp Project #: 23023
Scale: N.T.S

Issue:	Date:
100% CDs	05/28/2024

Revisions:	Date:

Drawing Title:
FIRE PROTECTION
LEGEND

Sheet Number:

FP.001

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PART-1: GENERAL

1.00 GENERAL PROVISIONS:

- a. THESE DRAWINGS ARE DIAGRAMMATIC, INDICATE GENERAL ARRANGEMENT OF WORK IN CONTRACT AND OUTLINE THE EXTENT, CHARACTER AND LOCATION OF WORK INCLUDED. OFFSETS AND/OR CHANGES IN ELEVATION OF UTILITIES DUE TO STRUCTURAL OR OTHER INTERFERENCES SHALL BE PROVIDED AT THE ADDITIONAL COST.
- b. THESE DRAWINGS ARE INTENDED FOR PURPOSES OF OBTAINING A BUILDING PERMIT AND AS A BASIS OF DESIGN FOR PREPARATION OF DETAILED SHOP DRAWINGS (WORKING DRAWINGS). THE DRAWINGS ARE NOT INTENDED TO SHOW EXACT LOCATIONS, BUT TO DEMONSTRATE THE CONFIGURATION OF MAJOR SYSTEM COMPONENTS, OVERALL SYSTEM LAYOUT, AND APPROXIMATE SPRINKLER LOCATIONS. VERIFY EXACT LOCATIONS OF ALL SPRINKLERS AND SYSTEM PIPING.

1.01 RELATED DOCUMENTS:

- a. THE FIRE PROTECTION DRAWINGS APPLY TO THE WORK OF THIS SECTION. THE CONTRACTOR SHALL NOTE THE DRAWINGS ARE DIAGRAMMATIC, AND INDICATE THE GENERAL INTENT OF THE PROJECT SCOPE. REFER TO DRAWINGS FROM OTHER DISCIPLINES FOR RELATED DETAILS TO THE INSTALLATION AS APPLICABLE.
- 1.02 INSPECTION OF SITE:
- a. PROSPECTIVE BIDDERS SHALL VISIT THE SITE, AND EXAMINE THE EXISTING CONDITIONS ASSOCIATED WITH THE PROJECT SCOPE PRIOR TO THE SUBMISSION OF BID. THIS CONTRACTOR SHALL ALSO FIELD VERIFY DIMENSIONS AND EXISTING CONDITIONS PRIOR TO PROCEEDING.
- b. WHERE DISCREPANCIES OR CONFLICTS OCCUR BETWEEN THESE DOCUMENTS AND EXISTING CONDITIONS, THE DISCREPANCY SHALL BE REPORTED (IN WRITING BEFORE THE AWARD OF THE CONTRACT) TO THE OWNER AND/OR ENGINEER FOR EXPEDITING AND RESOLVE.
- c. ABSOLUTELY NO CLAIMS FOR ADDITIONAL COMPENSATION WILL BE CONSIDERED FOR CONDITIONS REASONABLY VISIBLE UPON EXAMINATION OF EITHER THE SITE OR THE DOCUMENTS.

1.03 BIDDER'S REPRESENTATION:

- a. BY THE ACT OF SUBMITTING A BID FOR THE PROPOSED CONTRACT, THE BIDDER REPRESENTS THAT:
1. THE BIDDER AND ALL SUBCONTRACTORS THE BIDDER INTENDS TO USE HAVE CAREFULLY AND THOROUGHLY REVIEWED THE DRAWINGS, SPECIFICATIONS AND OTHER CONSTRUCTION CONTRACT DOCUMENTS AND HAVE FOUND THEM COMPLETE AND FREE FROM AMBIGUITIES AND SUFFICIENT FOR THE PURPOSE INTENDED.
 2. THE BIDDER AND ALL WORKMEN, EMPLOYEES AND SUBCONTRACTORS THE BIDDER INTENDS TO USE ARE SKILLED AND EXPERIENCED IN THE TYPE OF CONSTRUCTION REPRESENTED BY THE CONSTRUCTION CONTRACT DOCUMENTS BID UPON.
 3. A LICENSED SUPERVISOR WITH FIVE (5) YEARS EXPERIENCE SHALL BE IN CHARGE OF THE WORK DESCRIBED IN THE CONTRACT DOCUMENTS AND SHALL BE PRESENT AS REQUIRED TO PROPERLY PERFORM HIS DUTIES.
- b. NEITHER THE BIDDER NOR ANY OF THE BIDDER'S EMPLOYEES, AGENTS, INTENDED SUPPLIERS OR SUBCONTRACTORS HAVE RELIED UPON ANY VERBAL REPRESENTATIONS, ALLEGED AUTHORIZED OR UNAUTHORIZED FROM THE OWNER, OR THE OWNER'S EMPLOYEES OR AGENTS INCLUDING ARCHITECTS, ENGINEERS OR CONSULTANTS IN ASSEMBLING THE BID FIGURE. THE BID FIGURE SHALL BE BASED SOLELY UPON THE CONSTRUCTION CONTRACT DOCUMENTS AND PROPERLY ISSUED WRITTEN ADDENDA AND NOT UPON ANY OTHER WRITTEN REPRESENTATION.

1.04 WORK INCLUDED:

- a. PROVIDE ALL MATERIAL AND LABOR TO COMPLETE THE WORK OF THIS SECTION, AND TO ENSURE THE SYSTEMS ARE COMPLETE AND FULLY OPERATIONAL. THE SCOPE OF WORK SHALL INCLUDE, BUT IS NOT LIMITED TO:
- HYDRANT FLOW TEST
 - AUTOMATIC WET-PIPE SPRINKLER SYSTEM TO PROVIDE PROTECTION FOR A FULLY SPRINKLERED BUILDING AS DEFINED AND REQUIRED BY THE STATE BUILDING CODE
 - PREPARATION AND SUBMISSION OF PRODUCT DATA AND SHOP DRAWINGS IN ACCORDANCE WITH THE STATE BUILDING CODE AND NFPA STANDARDS.
 - TESTING
 - CLOSEOUT DOCUMENTATION
 - GUARANTEE

1.05 RELATED WORK OF OTHER SECTIONS:

- a. THE CONTRACTOR SHALL NOTE THE FOLLOWING SCOPE ITEMS ARE NOT INCLUDED IN THIS SECTION, BUT WILL BE PROVIDED UNDER OTHER SECTIONS:
- TEMPORARY LIGHTING, POWER, WATER, HEAT, GAS AND SANITARY FACILITIES FOR USE DURING CONSTRUCTION
 - PAINTING
 - FLASHING ASSOCIATED WITH ROOF AND/OR WALL PENETRATIONS
 - EXCAVATION AND BACKFILLING
 - CONCRETE WORK
 - STRUCTURAL SUPPORT OF SPECIFIED EQUIPMENT
 - GYPSUM DRYWALL ENCLOSURES FOR CHASES
 - OUTDOOR OR INTAKE LOUVERS

1.06 QUALITY ASSURANCE:

- a. USE AN ADEQUATE NUMBER OF SKILLED LABORERS WHO ARE TRAINED AND EXPERIENCED IN THE NECESSARY CRAFTS, AND WHO ARE COMPLETELY FAMILIAR WITH THE SPECIFIED REQUIREMENTS AND METHODS NEEDED FOR THE PROPER PERFORMANCE OF THE WORK.
- b. ALL WORK SHALL BE OF THE HIGHEST QUALITY IN CONFORMANCE WITH THE BEST PRACTICES OF THE TRADE, AND IN COMPLIANCE WITH GOVERNING CODES
- c. ALL WORK SHALL BE COMPLETED IN ACCORDANCE WITH OSHA AND OWNER SAFETY REQUIREMENTS.
- d. IF THESE DOCUMENTS DO NOT COINCIDE WITH MANUFACTURER'S RECOMMENDED INSTALLATION PROCEDURES, OR APPLICABLE CODES, THIS CONTRACTOR SHALL REPORT THESE FINDINGS TO THE ENGINEER. IF THERE IS A CONFLICT WITHIN THE DOCUMENTS, THIS CONTRACTOR SHALL INSTALL THE MATERIAL, EQUIPMENT, SYSTEMS OR METHODS OF THE HIGHER STANDARD. THIS CONTRACTOR IS RESPONSIBLE FOR ALL WORK, MATERIALS AND LABOR TO SATISFY A COMPLETE WORKING SYSTEM WHETHER SPECIFIED OR IMPLIED.
- e. MAINTAIN ON-SITE ONE SET OF RECORD DRAWINGS. LEGIBLY MARK EACH ITEM TO RECORD THE ACTUAL INSTALLED CONDITIONS. BEFORE COMPLETION OF THE PROJECT, RECORD AS-BUILT CONDITIONS ELECTRONICALLY IN AUTOCAD FORMAT. SUBMIT DOCUMENTS TO THE ENGINEER FOR FINAL APPROVAL. NO APPROVAL FOR FINAL PAYMENT WILL BE GIVEN UNTIL ACCURATE AS-BUILT DRAWINGS HAVE BEEN SUBMITTED.

1.07 CODES, PERMITS, FEES, REGULATIONS:

- a. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE RULES AND REGULATIONS MASSACHUSETTS STATE CODES, INCLUDING:
- 2015 INTERNATIONAL BUILDING CODE (IBC) WITH AMENDMENTS APPLICABLE TO THE STATE OF MASSACHUSETTS (780 CMR 9TH EDITION)
 - MASSACHUSETTS COMPREHENSIVE FIRE SAFETY CODE (527 CMR 1.00)
 - 2021 INTERNATIONAL ENERGY CONSERVATION CODE (IECC) WITH AMENDMENTS APPLICABLE TO THE STATE OF MASSACHUSETTS (780 CMR CHAPTER-13 AND 225 CMR 22.00 / 23.00)
 - ALL OTHER APPLICABLE STATE / FEDERAL CODES AND REGULATIONS HAVING JURISDICTION

1.08 INTERPRETATION OF DOCUMENTS:

- a. THE DRAWINGS DEPICT THE ARRANGEMENT OF ALL SYSTEMS AND APPROXIMATE LOCATIONS OF EQUIPMENT AND ASSOCIATED UTILITIES. THE EXACT LOCATIONS AND ROUTING SHALL BE COORDINATED BY THIS CONTRACTOR BASED ON ANY STRUCTURAL CONDITIONS AND POSSIBLE OBSTRUCTIONS. THIS SHALL NOT BE CONSTRUED TO MEAN THAT THE DESIGN MAY BE CHANGED, BUT REFERS ONLY TO EXACT RUNS BETWEEN DEVICES.
- b. THIS CONTRACTOR IS RESPONSIBLE FOR ALL WORK, MATERIALS AND LABOR TO SATISFY A COMPLETE WORKING SYSTEM, WHETHER SPECIFIED OR IMPLIED. ITEMS OR SYSTEMS MENTIONED IN THE SPECIFICATION, BUT NOT ON THE DRAWINGS (OR VICE VERSA) MUST BE SUPPLIED, BE COMPLETED IN ALL RESPECTS AND MADE FULLY OPERATIONAL WITHOUT ADDITIONAL EXPENSE TO THE OWNER.
- c. IF THERE IS A CONFLICT WITHIN THE CONTRACT DOCUMENTS, THE CONTRACTOR SHALL INSTALL THE EQUIPMENT, SYSTEMS OR METHODS OF THE HIGHER STANDARD.
- d. THE ENGINEER RESERVES THE RIGHT TO REVISE THE DRAWINGS PERIODICALLY TO INDICATE CHANGES IN SCOPE.
- e. WHERE DRAWINGS OR SPECIFICATIONS DO NOT COINCIDE WITH MANUFACTURER'S RECOMMENDATIONS, OR ARE UNCLEAR AS TO THE INTENT OR REQUIRED QUALITY, ADVISE THE ENGINEER IN WRITING BEFORE PROCEEDING WITH THE WORK. ALL COSTS FOR REWORK NECESSARY TO RESOLVE DISCREPANCIES SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.

1.09 SUBMITTALS:

- a. SHOP DRAWINGS SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW FOR THE LIMITED PURPOSE OF CONFIRMING CONFORMANCE WITH THE DESIGN CONCEPT EXPRESSED IN THE CONTRACT DOCUMENTS. PROVIDE ELECTRONIC COPIES OF SHOP DRAWINGS FOR ALL MATERIAL AND EQUIPMENT FURNISHED AND INSTALLED UNDER THIS CONTRACT.
- b. THE SCHEDULED EQUIPMENT IS SPECIFIED TO ESTABLISH A STANDARD FOR THAT ITEM. SUBSTITUTIONS ARE ALLOWED PROVIDED THEY COMPLY WITH THE REQUIREMENTS OUTLINED IN THE CONTRACT DRAWINGS. SUBSTITUTED EQUIPMENT SHALL NOT CREATE ADDITIONAL WORK OR HARDSHIP FOR OTHER TRADES.
- c. SUBSTITUTED EQUIPMENT MUST MEET ALL PERFORMANCE CRITERIA, MUST FIT WITHIN THE AVAILABLE SPACE WITHOUT MODIFICATION, MUST BE CAPABLE OF BEING SUPPORTED BY THE PROPOSED STRUCTURE AND MUST MEET ALL ARCHITECTURAL CONSIDERATIONS. THIS CONTRACTOR MUST CONFIRM THAT SUBSTITUTED MATERIALS OR EQUIPMENT MEET THESE CRITERIA PRIOR TO SUBMISSION.
- d. GENERIC CATALOG DATA FOR EQUIPMENT WILL NOT BE ACCEPTED. SUBMITTALS SHALL INCLUDE JOB-SPECIFIC EQUIPMENT CUT SHEETS AND SELECTIONS BASED ON PROJECT SCHEDULES AND SPECIFICATIONS.
- e. DEVIATIONS FROM SPECIFIED ITEMS SHALL BE AT THE SOLE RISK OF THE CONTRACTOR. PROPOSED DEVIATIONS FROM CONTRACT DOCUMENTS SHALL BE REQUESTED INDIVIDUALLY IN WRITING. WHETHER DEVIATIONS RESULT FROM FIELD CONDITIONS, STANDARD SHOP PRACTICE, OR OTHER CAUSE. SUBMIT LETTER WITH TRANSMITTAL OF SHOP DRAWINGS WHICH FLAGS THE DEVIATION TO THE ATTENTION OF THE OWNER'S REPRESENTATIVE. THE CONTRACTOR SHALL HOLD THE ENGINEER, HIS CONSULTANTS, AND THE OWNER HARMLESS FOR ANY AND ALL ADVERSE CONSEQUENCES RESULTING FROM THE DEVIATIONS BEING IMPLEMENTED, REGARDLESS OF THE REVIEW AND APPROVAL OF SHOP DRAWINGS CONTAINING THE DEVIATION.
- f. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL ASSOCIATED CHANGES TO THIS AND OTHER TRADES TO CONFORM TO THE SUBMITTED ALTERNATE PRODUCT.
- g. ENGINEER SHALL BE PROVIDED WITH TEN (10) WORKING DAYS PROCESSING AND REVIEW OF EACH SUBMITTAL. ALL SUBMITTALS SHALL INDICATE PRIOR REVIEWER AND APPROVAL BY THE RESPONSIBLE CONTRACTOR.
- h. SUBMIT MANUFACTURER'S TECHNICAL PRODUCT DATA SHEETS FOR ALL SPECIFIED MATERIALS, AND OTHER PROJECT DATA, INCLUDING BUT NOT LIMITED TO:
- PIPE, FITTINGS, AND JOINTS FOR EACH PIPING APPLICATION
 - HANGERS, INSERTS, AND ANCHORS
 - SEISMIC RESTRAINT ASSEMBLIES AND MATERIALS
 - VALVES INCLUDING GATE, BUTTERFLY, AND CHECK VALVES
 - SPRINKLERS FOR EACH APPLICATION
 - ALARM, SUPERVISORY, AND AIR PRESSURE SWITCHES
 - PRESSURE GAUGES
 - INSPECTOR'S TEST CONNECTIONS
 - IDENTIFICATION PLACARDS, VALVE TAGS AND CHARTS
 - FIRE STOPPING
 - ACCESS PANELS
 - SPARE PARTS
 - HYDRANT FLOW TEST DATA
 - HYDRAULIC CALCULATION FOR EACH HAZARD IN EACH SYSTEM CORRESPONDING WITH THE SYSTEM WORKING PLANS
 - SYSTEM WORKING PLANS IN ACCORDANCE WITH NFPA 13.
 - THE PLANS SHALL BE NO SMALLER THAN $\frac{1}{8}"=1'-0"$.
 - WORKING PLANS SHALL BE PREPARED BY A NICET CERTIFIED LEVEL III OR IV AUTOMATIC SPRINKLER SYSTEM ENGINEERING TECHNICIAN OR STAMPED BY A REGISTERED PROFESSIONAL FIRE PROTECTION ENGINEER. PROVIDE NICET TECHNICIAN CREDENTIALS OR PROFESSIONAL FIRE PROTECTION ENGINEER SEAL.
 - SUBMIT WORKING PLANS AND HYDRAULIC CALCULATIONS IN ONE (1) COMPLETE PACKAGE.
 - PROVIDE MINIMUM 10 PSI SAFETY FACTOR FOR ALL SPRINKLER SYSTEM HYDRAULIC CALCULATIONS.

- NFPA 13 CONTRACTOR'S MATERIAL AND TEST CERTIFICATES FOR ABOVEGROUND PIPING.
- OPERATION AND MAINTENANCE MANUALS
- AS-BUILT DRAWINGS

1.10 REQUESTS FOR INFORMATION:

- e. ANY RFI FOR RESOLVING AN APPARENT CONFLICT OR UNCLARITY, OR A REQUEST FOR ADDITIONAL DETAIL, SHALL INCLUDE A SKETCH OR EQUIVALENT DESCRIPTION OF THE CONTRACTOR'S PROPOSED SOLUTION.
- f. RFIS SUBMITTED WITHOUT THE CONTRACTOR'S PROPOSED SUGGESTION OR RESOLUTION, OR RFIS THAT DO NOT CLEARLY DESCRIBE THE CONDITION AND SUBSEQUENTLY ASK THE ENGINEER FOR DIRECTION WILL BE RETURNED REQUESTING MORE INFORMATION AND CLARITY.

1.11 PROTECTION OF WORK AND PROPERTY:

- a. THIS CONTRACTOR SHALL BE RESPONSIBLE FOR THE CARE AND PROTECTION OF ALL WORK INCLUDED UNDER THIS SECTION UNTIL THE COMPLETION AND FINAL ACCEPTANCE OF THIS PROJECT. PROTECT ALL EQUIPMENT AND MATERIALS FROM DAMAGE FROM ALL CAUSES INCLUDING, BUT NOT LIMITED TO, FIRE, VANDALISM AND THEFT. ALL MATERIALS AND EQUIPMENT DAMAGED OR STOLEN SHALL BE REPAIRED OR REPLACED WITH EQUAL MATERIALS OR EQUIPMENT AT NO ADDITIONAL COST TO THE OWNER. PROTECT ALL EQUIPMENT, OUTLETS AND OPENINGS, AND ROOF PENETRATIONS WITH TEMPORARY PLUGS, CAPS AND COVERS.
- b. PROTECT WORK AND MATERIALS OF OTHER TRADES FROM DAMAGE THAT MIGHT BE CAUSED BY WORK OR WORKMEN UNDER THIS SECTION AND MAKE GOOD DAMAGE THUS CAUSED. DAMAGED MATERIALS ARE TO BE REMOVED FROM THE SITE; NO SITE STORAGE OF DAMAGED MATERIALS WILL BE ALLOWED. ANY DAMAGE TO EXISTING SYSTEMS AND EQUIPMENT CAUSED BY THIS CONTRACTOR DURING INSTALLATION SHALL BE REPAIRED AND/OR REPLACED AT THIS CONTRACTOR'S EXPENSE TO THE COMPLETE SATISFACTION OF THE BUILDING OWNER.
- c. PROVIDE THE APPROPRIATE FIRE WATCHMAN ON SITE DURING ALL WELDING WORK. WATCHMAN SHALL BE PRESENT DURING THE WELDING AND FOR A PERIOD OF 30-MINUTES AFTER WELDING IS COMPLETE.

1.12 COORDINATION WITH OTHER TRADES:

- a. THIS CONTRACTOR SHALL COOPERATE TO THE FULLEST EXTENT WITH OTHER TRADES. THE WORK EFFORT OF THIS SECTION SHALL BE PLANNED SO AS NOT TO DELAY ANY OTHER TRADES, OR HINDER THE PROGRESS OF THE WORK.
- b. COORDINATE SCHEDULING, SUBMITTALS AND WORK OF THE VARIOUS SECTIONS OF THE CONTRACT DOCUMENTS TO ENSURE EFFICIENT AN ORDERLY SEQUENCE OF INSTALLATION OF INTERDEPENDENT CONSTRUCTION ELEMENTS.
- c. INCLUDE PROVISIONS FOR ACCOMMODATING ITEMS INSTALLED AT A LATER DATE.
- d. VERIFY UTILITY REQUIREMENTS AND CHARACTERISTICS OF OPERATION EQUIPMENT ARE COMPATIBLE WITH BUILDING UTILITIES.
- e. COORDINATE WORK OF VARIOUS SECTIONS HAVING INTERDEPENDENT RESPONSIBILITIES FOR INSTALLING, CONNECTING AND PLACING INTO SERVICE SUCH EQUIPMENT.
- f. COORDINATE SPACE REQUIREMENTS, RIGGING PATHS, SUPPORTS AND INSTALLATION AS INDICATED IN A DIAGRAMMATIC FASHION WITHIN CONTRACT DOCUMENTS.

1.13 COORDINATION DRAWINGS:

- a. COORDINATION DRAWINGS, SHOWING PROPOSED LAYOUT OF EQUIPMENT (WITH CLEARANCES), PIPING, DUCTS, REGISTERS ETC. SHALL BE PREPARED IN COORDINATION WITH ALL OTHER TRADES AND SUBMITTED FOR REVIEW BY THE ENGINEER. THE INTENT OF THE COORDINATION DRAWINGS IS TO IDENTIFY CONFLICTS BEFORE THEY OCCUR AND INTERFERE WITH THE WORK TO BE PERFORMED BY THIS OR ANY OTHER TRADE.
- b. THE GENERAL CONTRACTOR IS RESPONSIBLE FOR COORDINATING SUB-CONTRACTOR'S WORK AND RESOLVING CONFLICTS AS REQUIRED. IF THE CONSTRUCTION TEAM IS UNABLE TO RESOLVE A CONFLICT, AN RFI SHALL BE SUBMITTED FOR ENGINEER'S REVIEW.
- c. THE ENGINEER'S REVIEW OF COORDINATION DRAWINGS DOES NOT RELIEVE THE CONTRACTOR OF HIS RESPONSIBILITY TO PROPERLY COORDINATE THE WORK. ALL DISTRIBUTION SYSTEMS WHICH REQUIRE PITCH OR SLOPE SUCH AS CONDENSATE DRAINS AND WATER PIPING SHALL HAVE THE RIGHT OF WAY OVER THOSE WHICH DO NOT.

1.14 SUPPLEMENTAL CONSTRUCTION MEANS & METHODS:

- a. SUPPORTS:
1. THIS CONTRACTOR SHALL FURNISH AND INSTALL ALL STEEL SUPPORTS AND HANGERS REQUIRED TO PROPERLY INSTALL THE WORK SHOWN IN THE CONTRACT DOCUMENTS. INSTALL ALL SUPPLEMENTAL STEEL IN A NEAT AND WORKMANLIKE MANNER.
 2. PROVIDE ALL STEEL CHANNEL SUPPORTS AND HANGERS REQUIRED TO INSTALL THE EQUIPMENT SHOWN ON THE DOCUMENTS.
- b. CUTTING & PATCHING:
1. CONTRACTOR SHALL PROVIDE ALL CORING, CUTTING, PATCHING AND FIREPROOFING NECESSARY FOR THE EXECUTION OF THE WORK OF THIS SECTION. STRUCTURAL ELEMENTS SHALL NOT BE CUT WITHOUT WRITTEN APPROVAL OF THE ARCHITECT.
 2. REPAIR AND PATCH AROUND THE WORK SPECIFIED HEREIN TO MATCH THE EXISTING ADJACENT SURFACES TO THE SATISFACTION OF THE ARCHITECT. FILL AND PATCH ALL OPENINGS OR HOLES LEFT IN THE EXISTING STRUCTURES BY THE REMOVAL OF EXISTING EQUIPMENT THAT IS PART OF THIS SECTION OR THE SPECIFICATIONS.
 3. PROVIDE FIRE STOPPING TO MAINTAIN THE FIRE RATING OF THE FIRE RESISTANCE RATED ASSEMBLY. ALL PENETRATIONS AND ASSOCIATED FIRESTOPPING SHALL BE INSTALLED IN ACCORDANCE WITH THE FIRE STOPPING MANUFACTURER'S LISTED INSTALLATION DETAILS AND BE LISTED BY UL OR FM.
- c. HOISTING, SCAFFOLDING, PLANKING:
1. PROVIDE ALL HOIST, LIFTS, SCAFFOLDING, PLANKS, AND/OR OTHER MEANS OF EQUIPMENT/MATERIAL TRANSFER, (INCLUDING FURNISHING AND SET-UP PROCEDURES), REQUIRED TO COMPLETE THE INTENDED PROJECT SCOPE.

1.15 HAZARDOUS MATERIALS:

- a. THIS CONTRACTOR SHALL DISPOSE OF ALL HAZARDOUS MATERIAL IN ACCORDANCE WITH STATE AND FEDERAL LAWS. MAINTAIN A HAZARDOUS WASTE MANIFEST DOCUMENTING ALL DISPOSALS. HANDLE HAZARDOUS MATERIALS IN ACCORDANCE WITH EPA PROCEDURES. A LICENSED ASBESTOS ABATEMENT PROFESSIONAL MUST PERFORM ALL ABATEMENT OF ASBESTOS CONTAINING MATERIALS.

1.16 ACCESSIBILITY:

- a. ALL WORK PROVIDED UNDER THIS SECTION OF THE SPECIFICATION SHALL BE INSTALLED SO THAT PARTS REQUIRING PERIODIC INSPECTION, MAINTENANCE AND REPAIR ARE READILY ACCESSIBLE. WORK OF THIS TRADE SHALL NOT INFRIEGE UPON CLEARANCES REQUIRED BY EQUIPMENT OF OTHER TRADES, ESPECIALLY CODE REQUIRED CLEARANCES TO EQUIPMENT.
- b. ACCESS PANELS PROVIDED MUST BE EQUAL TO THE FIRE-RATINGS OF THE PARTITION AND SHALL BE PROVIDED WITH SCREWDRIVER OPERATED CAM LOCKS.
- c. ACCESS PANEL SIZE SHALL BE 12"x12" MINIMUM. EXACT LOCATION AND SIZE OF EACH ACCESS PANEL SHALL BE REVIEWED WITH, AND APPROVED BY, THE ENGINEER.

1.17 SEISMIC RESTRAINT:

- a. PROVIDE SEISMIC BRACING AND CLEARANCES IN ACCORDANCE WITH THE REQUIREMENTS OF THE APPLICABLE STATE BUILDING CODE.

1.18 SHUTDOWNS / INTERRUPTIONS:

- a. ALL POWER SHUTDOWNS, AND/OR INTERRUPTIONS TO THE OWNER'S OPERATION SHALL BE AS SHORT AS POSSIBLE, AND AT A TIME AND DURATION REVIEWED BY, AND COORDINATED WITH THE OWNER AND THE ENGINEER.
- b. POWER SHUTDOWNS SHALL BE SCHEDULED AT LEAST (2) WEEKS IN-ADVANCE. WORK DURING SHUTDOWNS MAY BE REQUIRED TO OCCUR OFF-HOURS AT NIGHT, AND/OR ON A WEEKEND DAY. INCLUDE ALL PREMIUM TIME ASSOCIATED WITH THE ANTICIPATED SHUTDOWNS.
- c. PREPARE IMPAIRMENT PLANS FOR ALL LIFE SAFETY SYSTEM IMPAIRMENTS. SUBMIT AND GAIN APPROVAL FROM THE AUTHORITY HAVING JURISDICTION FOR ALL SYSTEM IMPAIRMENTS PRIOR TO IMPAIRING ANY LIFE SAFETY SYSTEM.

1.19 INSTRUCTION OF OWNER'S PERSONNEL:

- a. AFTER COMPLETION OF ALL WORK, ALL TESTING AND AT SUCH TIME AS DESIGNATED BY THE OWNER, PROVIDE THE NECESSARY SKILLED PERSONNEL TO INSTRUCT THE OWNER ON HOW TO OPERATE THE ENTIRE INSTALLATION. AN INSTRUCTIONAL PERIOD OF FORTY (40) HOURS SHALL BE PROVIDED. INSTRUCTIONAL PERIODS SHALL BE SCHEDULED WITH THE OWNER AND SHALL BE BROKEN DOWN INTO FOUR (4) OR EIGHT (8) HOUR SESSIONS. ALL SESSIONS SHALL BE VIDEOTAPED AND PROVIDED TO THE OWNER.

PART-2: PRODUCTS

2.00 GENERAL:

- a. REFER TO THIS SPECIFICATION, NOTES, AND PRODUCT SCHEDULES ON THESE DRAWINGS FOR ALL REQUIREMENTS.
- b. ALL EQUIPMENT SUPPLIED AS PART OF THE FIRE PROTECTION SYSTEM INSTALLATION SHALL BE NEW, UL-LISTED AND/OR FM-APPROVED FOR FIRE PROTECTION SERVICE, INSTALLED PER THE LISTING AND MANUFACTURER'S REQUIREMENTS, AND INSTALLED IN ACCORDANCE WITH THE STATE BUILDING CODE AND ADOPTED STANDARDS.

2.01 WET PIPE SPRINKLER AND STANDPIPE SYSTEM (175 PSI MAXIMUM WORKING PRESSURE):

- a. PIPE: UL 852, ASTM A53 WELDED AND SEAMLESS CARBON STEEL.
- a.a. 1". SCHEDULE 40 THREADED AND COUPLED.
- a.b. 1 $\frac{1}{2}"$ AND LARGER: SCHEDULE 40 THREADED AND COUPLED; OR SCHEDULE 10 ROLL GROOVED. (CUT GROOVE IS NOT ALLOWED)
- b. FITTINGS: ANSI/ASME B16.4 CAST IRON CLASS 125 THREADED; OR UL 213, ASTM A536 DUCTILE IRON GROOVED.
- c. HOLE CUT OUTLETS: UL 213 TWO PIECE DUCTILE IRON (ASTM A536) BODY, BOLT ASSEMBLED WITH GRADE 'E' EPDM GASKET. LISTED FOR SAME (MINIMUM) WORKING PRESSURE AS PIPE.

2.02 SPRINKLERS:

- a. REFER TO SPRINKLER SCHEDULE.

2.03 HANGERS, ANCHORS, AND PIPE SUPPORT:

- a. HANGERS SHALL BE INSTALLED, AS REQUIRED, TO MEET CODE COMPLIANCE AS TO LOCATIONS/SPACING AND MANUFACTURERS STANDARDIZATION SOCIETY (MSS), STANDARD PRACTICE BULLETINS SP-58 & 69, UL 203 COMPLIANT.
- b. SPRINGERS SHALL BE COMPATIBLE WITH PIPING MATERIALS WITH WHICH IT COMES IN CONTACT.
- c. HANGERS SHALL BE INSTALLED, IN ADDITION TO THE ABOVE, AT ALL CHANGES OF DIRECTION (HORIZONTAL AND VERTICAL), VALVES AND EQUIPMENT CONNECTIONS. HANGERS SHALL BE LOCATED SO THAT THEIR REMOVAL IS NOT REQUIRED TO SERVICE, ASSEMBLE OR REMOVE EQUIPMENT.
- d. VERTICAL SUPPORTS SHALL BE BY MEANS OF RISER CLAMPS (ANCHORS WITH SPLIT RING TYPE ALLOWABLE UP TO 2" SIZE ONLY) AND ADJUSTABLE PIPE SUPPORT WITH FLANGE ANCHORED TO FLOOR.
- e. PROVIDE STEEL BAND HANGERS FOR PIPING 4" AND SMALLER, PIPING LARGER THAN 4" SHALL BE SUPPORTED WITH CLEVIS TYPE HANGERS. SUPPORT PIPING FROM BUILDING STRUCTURE TO MAINTAIN REQUIRED GRADE AND PITCH OF PIPE LINES, PREVENT VIBRATION AND SECURE PIPING IN PLACE. SECURE HANGERS TO INSERTS WHERE PRACTICAL. HANGER RODS SHALL HAVE MACHINE THREAD.
- f. HANGER RODS SHALL BE CONNECTED TO BEAM CLAMPS, UL-APPROVED CONCRETE INSERTS, PHILLIPS OR APPROVED EQUAL EXPANSION SHIELDS. RAMSET OR POWDER DRIVEN INSERTS WILL NOT BE ALLOWED.
- g. ALL HANGERS, RODS AND CLAMPS INSTALLED IN EXTERIOR LOCATIONS OR SUBJECT TO A CORROSIVE ATMOSPHERE SHALL BE ELECTRO-GALVANIZED COATED.

2.05 ATTACHMENTS AND APPURTENANCES:

- a. GAUGES: UL 393 AIR/WATER 4.5" DIAMETER (MINIMUM). DIAL GRADIATION IN PSI WITH NORMAL OPERATING PRESSURE NEAR THE MIDDLE OF THE SCALE.

PART-3: EXECUTION

3.00 PREPARATION, PRIOR TO BEGINNING WORK:

- a. SITE VISIT: VISIT AND EXAMINE SITE FOR CONNECTING TO EXISTING FIRE SPRINKLER SYSTEM, PARTITIONS TO BE PENETRATED, CLEARANCES TO OBSTRUCTIONS, AND OTHER EXISTING FACILITY FEATURES THAT WILL AFFECT THE WORK.
- b. PERFORM HYDRANT FLOW TEST OR, WHERE APPLICABLE, SECURE MOST RECENT FIRE PUMP TEST OR PRESSURE REGULATING VALVE TEST RESULTS FROM THE OWNER.
- c. SUBMITTALS: PRIOR TO BEGINNING WORK, PREPARE AND SUBMIT FOR REVIEW AND IN ONE COMPLETE PACKAGE PRODUCT DATA "CUT-SHEETS" FOR EACH PRODUCT SPECIFIED AND SHOP DRAWINGS INCLUSIVE OF INFORMATION REQUIRED BY NFPA 13 FOR WORKING PLANS WITH HYDRAULIC CALCULATIONS PREPARED IN ACCORDANCE WITH NFPA 13. CALCULATION SAFETY FACTOR SHALL BE AT LEAST 10 PSI OR 10% OF AVAILABLE SUPPLY AT DEMAND FLOW.
- d. OBTAIN NECESSARY PERMITS AND APPROVALS FROM LOCAL AUTHORITIES HAVING JURISDICTION.

3.01 IMPAIRMENT AND TEMPORARY PROTECTION:

- a. COORDINATE SYSTEM IMPAIRMENTS WITH THE OWNER AND LOCAL AUTHORITIES HAVING JURISDICTION.
- b. PROVIDE TEMPORARY FIRE SPRINKLER PROTECTION, TEMPORARY HOSE VALVE INSTALLATION AND/OR SIMILAR PROVISIONS IN ACCORDANCE WITH LOCAL REQUIREMENTS.
- c. DO NOT INTERRUPT EXISTING SERVICES WITHOUT OWNER'S APPROVAL.

3.02 COORDINATION:

- a. COORDINATE INSTALLATION WITH OTHER SECTIONS OF THE WORK.
- b. COORDINATE FIRE ALARM MONITORING DEVICE TESTING WITH THE FIRE ALARM PORTION OF THE WORK.

3.03 GENERAL SYSTEM INSTALLATION:

- a. INSTALL PIPING IN A NEAT AND WORKMANLIKE MANNER WITH PIPING PARALLEL OR PERPENDICULAR TO INTERIOR BUILDING FEATURES.
- b. INSTALL PIPE WITH PROPER PITCH FOR DRAINAGE. INSTALL AUXILIARY DRAIN VALVES AND PLUGS AS REQUIRED BY NFPA 13 WHERE TRAPPED SECTIONS OF PIPING CANNOT BE AVOIDED.
- c. SUPPORT PIPING WITH HANGERS SPACED IN ACCORDANCE WITH NFPA 13. ALL ATTACHMENTS SHALL BE TO BUILDING STRUCTURAL ELEMENTS.
- d. PROTECT SYSTEM EARTHQUAKE DAMAGE VIA SWAY-BRACING INSTALLED IN ACCORDANCE WITH NFPA 13.
- e. INSTALL VALVES IN ACCESSIBLE LOCATIONS WITH INDICATORS VISIBLE FROM THE ADJACENT FLOOR LEVEL.
- f. PROVIDE PROPER ACCESS TO EQUIPMENT THAT REQUIRES INSPECTION, MAINTENANCE, OR SERVICE AFTER INITIAL INSTALLATION. PROVIDE ACCESS PANELS WHERE REQUIRED TO FACILITATE ACCESS TO EQUIPMENT. COORDINATE ACCESS PANEL SIZE AND LOCATION WITH THE ENGINEER AND ARCHITECT.
- g. INSTALL FIRE ALARM MONITORING DEVICES IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS. ADJUST WATER FLOW SWITCH RETARD FEATURE TO 30-SECONDS

3.04 IDENTIFICATION:

- a. FURNISH AND AFFIX APPROVED ADHESIVE BANDS IDENTIFYING THE SERVICE AND DIRECTION OF FLOW OF EACH PIPING SYSTEM INSTALLED UNDER THIS DIVISION.
- b. PROVIDE VALVE TAGS ON ALL VALVES. VALVE NUMBERS AND LEGEND ON VALVE TAGS SHALL CORRESPOND TO NUMBERS INDICATED ON RECORD DRAWINGS AND VALVE LIST.

3.05 TESTING:

- a. HYDROSTATICALLY TEST SYSTEMS AS REQUIRED BY NFPA. EXISTING SYSTEM RETROFITS WHERE NEW WORK CANNOT BE ISOLATED FROM EXISTING PIPING SHALL BE TESTED AT NORMAL SYSTEM PRESSURE. MONITOR FOR LEAKS FOR A PERIOD OF TWO (2) HOURS. REMOVE DEFECTIVE MATERIALS, REPLACE WITH NEW AND RETEST AS NECESSARY.
- b. COORDINATE FIRE ALARM MONITORING DEVICE TESTING WITH FIRE ALARM PORTION OF WORK. OPERATE AND ADJUST SWITCHES TO ACHIEVE SATISFACTORY RESULTS.

3.06 MATERIALS AND WORKSMANSHIP:

- a. MAINTAIN MAXIMUM HEADROOM AT ALL TIMES. DO NOT RUN PIPES EXPOSED UNLESS SHOWN EXPOSED ON DRAWINGS. MATERIAL AND EQUIPMENT SHALL BE NEW AND INSTALLED ACCORDING TO MANUFACTURERS RECOMMENDED BEST PRACTICE SO THAT COMPLETED INSTALLATION SHALL OPERATE SAFELY AND EFFICIENTLY.

3.07 CLEANING:

- a. CLEAN SYSTEMS THOROUGHLY BEFORE TESTING. FIXTURES, EQUIPMENT, PIPE, VALVES AND FITTINGS SHALL BE FREE OF GREASE, METAL CUTTINGS, DIRT, FABRICATION MARKINGS AND OTHER FOREIGN MATERIAL. PRE-PRINTED MANUFACTURERS IDENTIFICATION SHALL REMAIN.
- b. CLEAN ALL EQUIPMENT - INTERIOR AND EXTERIOR, FROM CONSTRUCTION DUST AND DEBRIS. SURFACES DAMAGED DURING CONSTRUCTION SHALL BE REPAIRED AND/OR REPLACED IF REQUIRED BY THE OWNER OR OWNER'S REPRESENTATIVE. COLLECT ALL EQUIPMENT KEYS AND TURN OVER TO THE OWNER.

PART-4: PROJECT CLOSEOUT

4.00 PROJECT CLOSE-OUT:

- a. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL ITEMS ASSOCIATED WITH PROJECT CLOSE-OUT. ALLOW SUFFICIENT TIME IN THE CONSTRUCTION SCHEDULE TO ENSURE REQUIRED TESTING IS PERFORMED, AND ASSOCIATED DOCUMENTATION IS SUBMITTED TO THE ENGINEER IN-ADVANCE OF SUBSTANTIAL COMPLETION.

4.01 AS-BUILT DRAWINGS:

- a. AS-BUILT DRAWING FILES SHALL BE SUBMITTED AT THE COMPLETION OF THE PROJECT SHOWING THE "AS-BUILT" CONDITION INCLUDING WORK INSTALLED AND MODIFICATIONS OR ADDITIONS TO THE ORIGINAL DESIGN. OBTAIN AUTOCAD FILES FROM THE ARCHITECT. THE ARCHITECT/ENGINEER ARE NOT GRANTING ANY OWNERSHIP OR PROPERTY INTEREST IN THE CAD DRAWINGS BY DELIVERY OF THE CAD FILES. ANY REUSE AND/OR OTHER USE BY THE CONTRACTOR WILL BE AT THE SOLE RISK OF THE CONTRACTOR AND WITHOUT LIABILITY TO THE ARCHITECT/ENGINEER.
- b. SUBMIT ONE ELECTRONIC SET FOR REVIEW AND APPROVAL BY THE ENGINEER. UPON APPROVAL, SUBMIT ONE HARD COPY FULL-SIZE SET AND USB DRIVE WITH ELECTRONIC FILES OF THE CONSTRUCTION DOCUMENTS. DRAWING FILES SHALL BE AUTOCAD, DWG FILE FORMAT, AND .PDF FILE FORMAT.

4.02 OPERATION & MAINTENANCE MANUALS:

- a. SUBMIT ELECTRONIC MANUALS FOR APPROVAL PRIOR TO COMPLETION OF THE PROJECT. ALL MAJOR EQUIPMENT, MATERIALS AND SYSTEMS SHALL BE REPRESENTED.
- b. O&M MANUALS SHOULD INCLUDE, BUT NOT LIMITED TO, THE FOLLOWING:
- DESIGN CRITERIA
 - MAINTENANCE INSTRUCTIONS
 - PARTS LISTS
 - OPERATING INSTRUCTIONS
 - EQUIPMENT LIST
 - SHOP DRAWINGS
 - CERTIFICATES OF APPROVAL
 - WARRANTIES

4.03 WARRANTY:

- a. THE CONTRACTOR SHALL PROVIDE THE OWNER WITH A WARRANTY, IN WRITING, OF ONE (1) YEAR FROM THE DATE OF OWNERS' ACCEPTANCE OF CERTIFICATE OF SUBSTANTIAL COMPLETION.
- b. WHERE INDIVIDUAL EQUIPMENT SECTIONS SPECIFY LONGER WARRANTIES, PROVIDE THE LONGER WARRANTY.
- c. ANY WARRANTY CLAIMS BY THE OWNER SHALL BE REPAIRED, REPLACED OR PROVIDED WITH TEMPORARY ACCOMMODATIONS WITHIN A REASONABLE TIMEFRAME.
- d. WARRANTY SHALL INCLUDE A CONTACT PERSON (NAME AND 24-HOUR TELEPHONE NUMBER) TO ACCEPT SERVICE REQUESTS.
- e. ANY DAMAGE OR REWORK REQUIRED TO RESOLVE WARRANTY CLAIMS SHALL BE AT THE SOLE COST OF THE CONTRACTOR.

4.04 CONTRACTOR CERTIFICATION:

- a. PROVIDE CONTRACTOR COMPLETION CERTIFICATE PER 780 CMR 107.6.3 STATING ALL WORK HAS BEEN PROVIDED AS DESCRIBED IN THE CONSTRUCTION DOCUMENTS, AND THAT THE INSTALLATION WAS COMPLETED IN CONFORMANCE WITH ALL APPLICABLE LOCAL, STATE AND FEDERAL REGULATIONS.
- b. A CONTRACTOR COMPLETION CERTIFICATE SHALL BE PROVIDED BY THE GENERAL CONTRACTOR, AS WELL AS THE RESPECTIVE TRADE SUB-CONTRACTOR.
- c. NFPA TEST CERTIFICATES

4.05 FIRE PROTECTION ENGINEER CERTIFICATION:

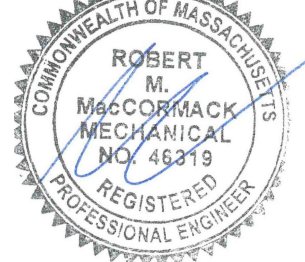
- a. ENGINEER CERTIFICATION / AFFIDAVIT FORM SHALL BE PROVIDED UPON COMPLETION, AND/OR RECEIPT OF THE FOLLOWING:
- ALL WORK ASSOCIATED WITH THE FIRE PROTECTION SYSTEMS IS COMPLETE WITH NO FUNCTIONAL DEFICIENCIES
 - FIRE PROTECTION SYSTEMS TEST DOCUMENTATION - NFPA 13 CONTRACTOR'S MATERIAL AND TEST CERTIFICATES FOR UNDERGROUND AND ABOVEGROUND PIPING.
 - CONTRACTOR "SIGN-OFF" ON OUTSTANDING ITEMS LISTED IN FIELD REPORT / PUNCHLIST CONFIRMING COMPLETION

Notes:

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Key Plan:

Stamp:



Project:

Tenant Fit Plan

129 Commercial Street
Malden, MA 02148

Client:

Historic Tours Of America
108 Sea Grouse Main St.
St. Augustine, FL 32080

ahp Project #: 23023

Scale: N.T.S

Issue:

100% CDs

Date:

05/28/2024

Revisions:

Date:

Drawing Title:

FIRE PROTECTION
SPECIFICATIONS

Sheet Number:

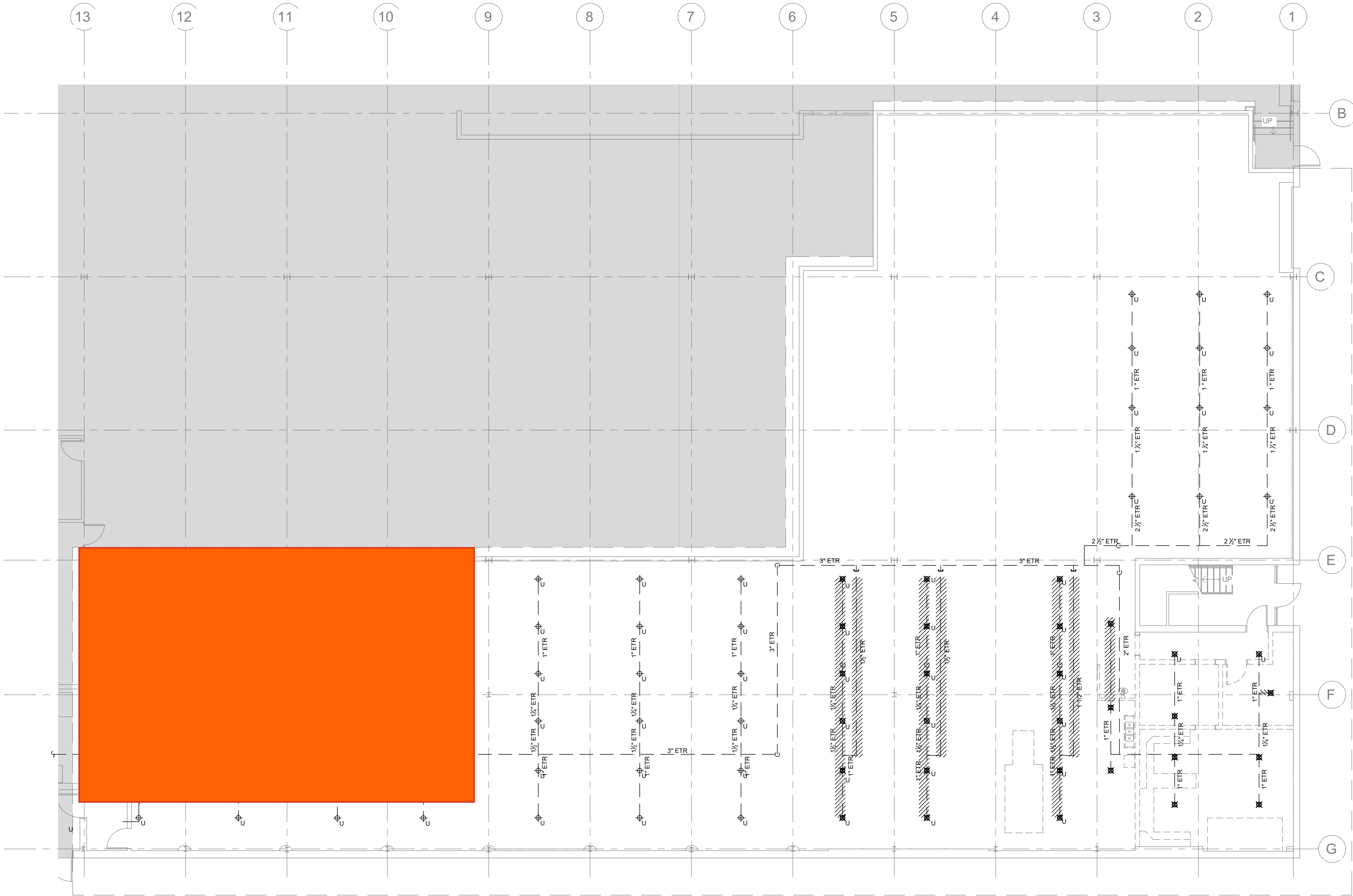
FP.002



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Notes:



1 FIRE PROTECTION FIRST FLOOR DEMOLITION PLAN
SCALE: 1/8" = 1'-0"

Key Plan:

Stamp:



Project:

Tenant Fit Plan
129 Commercial Street
Malden, MA 02148

Client:
Historic Tours Of America
108 Sea Grove Main St.
St. Augustine, FL 32080

ahp Project #: 23023
Scale: 1/8" = 1'-0"

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FIRE PROTECTION
FIRST FLOOR
DEMOLITION PLAN

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Notes:



1 FIRE PROTECTION MEZZANINE DEMOLITION PLAN
SCALE: 1/8" = 1'-0"

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Malden, MA 02148

Client:
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108 Sea Grove Main St.
St. Augustine, FL 32080

ahp Project #: 23023
Scale: 1/8" = 1'-0"

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Revisions:	Date:

Drawing Title:

FIRE PROTECTION
MEZZANINE
DEMOLITION PLAN

Sheet Number:

FP.101



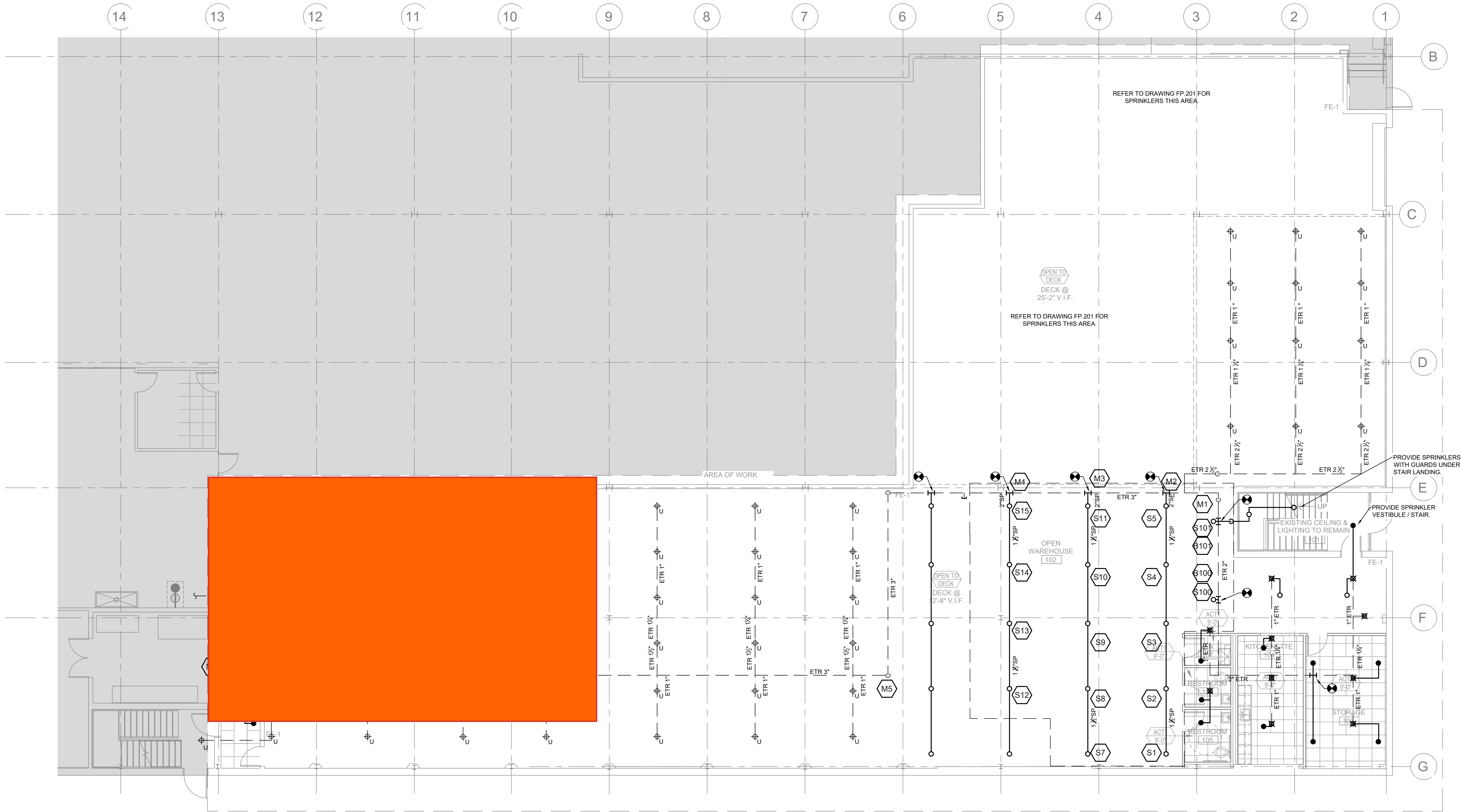
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NOTES

1. REFER TO DRAWING FP.001 FOR SYMBOLS AND GENERAL PROJECT REQUIREMENTS.
2. REFER TO DRAWING FP.002 FOR SPECIFICATIONS.
3. REMOVE EXISTING FIRE SPRINKLER SYSTEM TO THE EXTENT INDICATED. PERFORM NECESSARY PERMANENT OR TEMPORARY TIE-INS TO MAINTAIN OPERATION OF PORTIONS OF EXISTING FIRE SPRINKLER SYSTEM TO REMAIN.
4. CONFIRM EXACT LOCATIONS OF SPRINKLERS, PIPING, FIRE HOSE VALVES AND OTHER EQUIPMENT IN FIELD.
5. COORDINATE SYSTEM IMPAIRMENTS AND TEMPORARY FIRE PROTECTION PROVISIONS WITH THE OWNER AND LOCAL AUTHORITIES.
6. REMOVAL SHALL BE PERFORMED BY SPRINKLER FITTERS LICENSED IN MASSACHUSETTS.
7. REFER TO ARCHITECTURAL & STRUCTURAL SERIES DRAWINGS FOR STRUCTURAL FRAMING PLANS, DETAILED REFLECTED CEILING PLANS, ELEVATIONS, AND SECTIONS.
8. MAINTAIN SPRINKLER CLEARANCE FROM STRUCTUAL MEMBERS IN ACCORDANCE WITH THE SPECIFIC REQUIREMENTS OF NFPA 13.
9. MAINTAIN SPRINKLER CLEARANCE FROM CEILING AND FLOOR MOUNTED OBSTRUCTIONS SIMILAR TO (BUT NOT LIMITED TO) SHELVING, ROOM DIVIDERS, LIGHT FIXTURES, EXIT SIGNS, SOFFITS AND CHANGES IN CEILING ELEVATION, IN ACCORDANCE WITH THE SPECIFIC REQUIREMENTS OF NFPA 13.
10. INSTALL SPRINKLERS IN CENTER OF SUSPENDED CEILING TILE, ALONG CENTER-LINE OF CEILING FEATURES AND IN-LINE WITH ADJACENT CEILING FIXTURES.
11. THROUGHOUT THE SCOPE OF WORK, INSTALL SUPPORTS ON EXISTING PIPING WHERE EXISTING SUPPORT SPACING EXCEEDS NFPA 13 REQUIREMENTS.
12. REPLACE EXISTING 1-INCH BRANCH CONNECTIONS TO MAINS WHERE CONNECTION IS MADE VIA 3/4"x1" INCREASER BY PLUGGING EXISTING 3/4" OUTLET AND CONNECTING TO MAIN WITH NEW HOLE CUT FITTING.

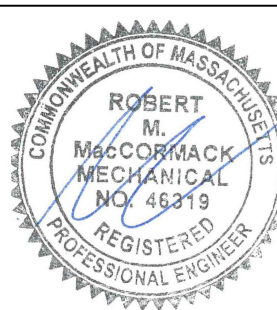
HYDRAULIC DESIGN DATA:	
HAZARD:	ORDINARY HAZARD GROUP II
DENSITY:	20 GPM/SQ.FT
AREA:	1500 SQ.FT
HEADS FLOWING:	16
SPRINKLER DEMAND:	415.163 GPM
HOSE ALLOWANCE:	250 GPM
TOTAL:	665.193 GPM @ 85.801 PSI
SAFETY FACTOR:	AT TEST 11.85 PSI
ADDITIONAL INFO:	WET SYSTEM



1 FIRE PROTECTION FIRST FLOOR PLAN
SCALE: 1/8" = 1'-0"

Key Plan:

Stamp:



Project:

Tenant Fit Plan

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Client:

Historic Tours Of America
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St. Augustine, FL 32080

ahp Project #: 23023

Scale: 1/8" = 1'-0"

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Date:

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FIRE PROTECTION
FIRST FLOOR
PLAN

Sheet Number:

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NOTES

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Key Plan:

Stamp:



Project:

Tenant Fit Plan
129 Commercial Street
Malden, MA 02148

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Historic Tours Of America
108 Sea Grove Main St.
St. Augustine, FL 32080



ahp Project #: 23023
Scale: 1/8" = 1'-0"

Issue:	Date:
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Revisions:	Date:

Drawing Title:
FIRE PROTECTION
MEZZANINE
PLAN

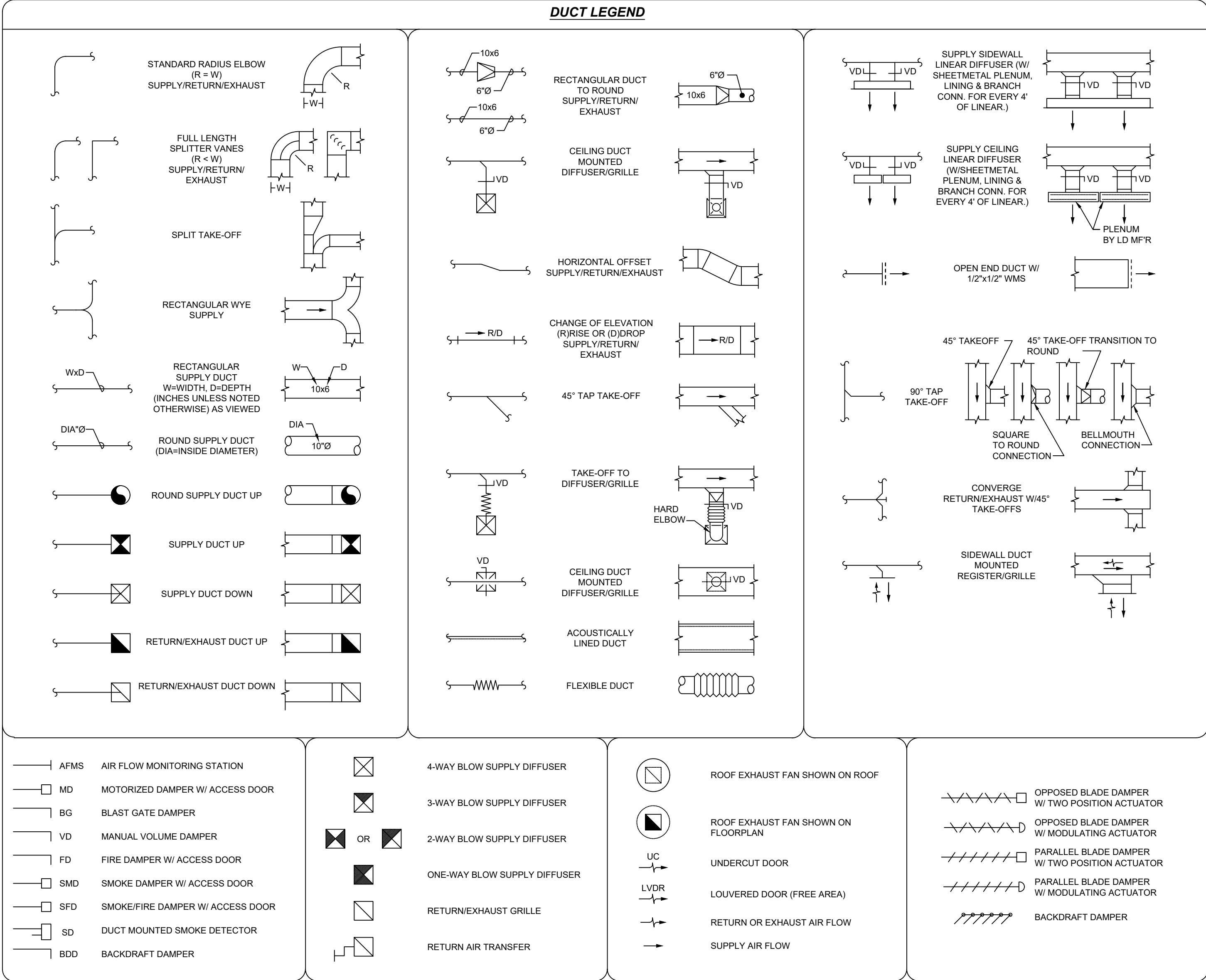
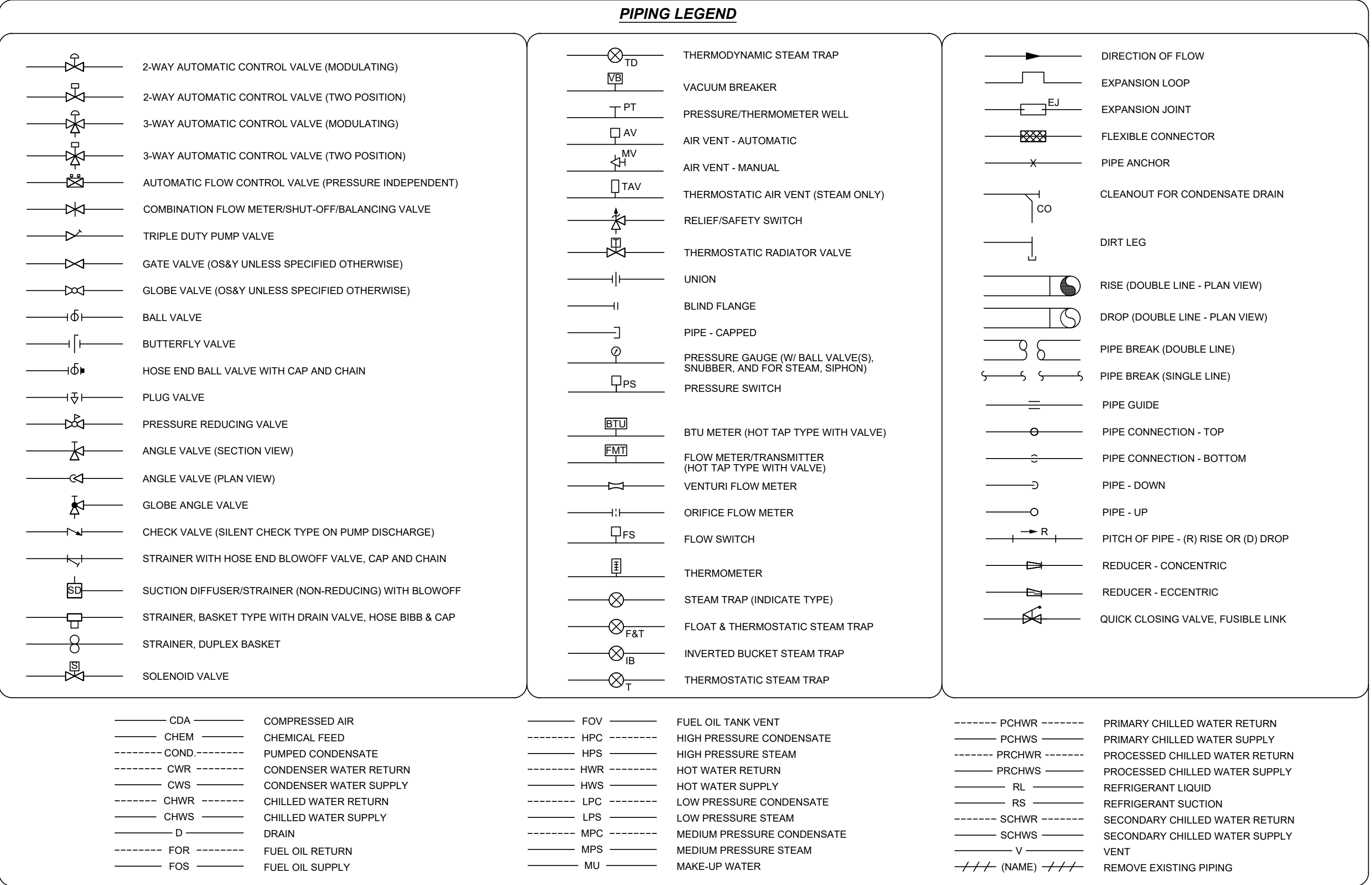
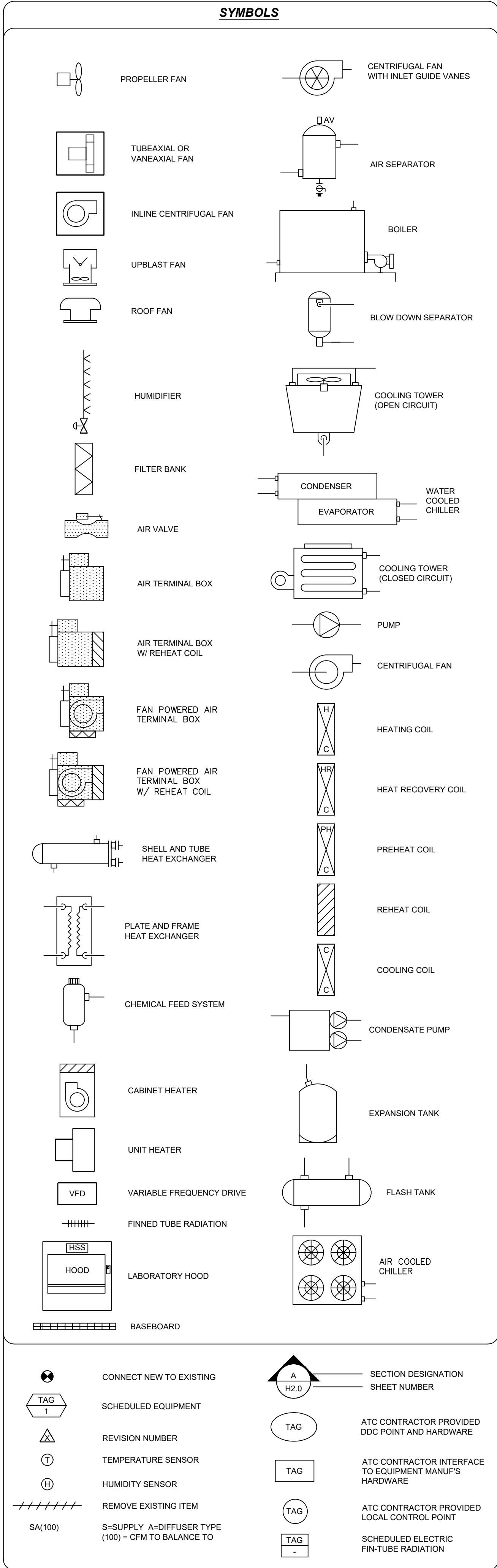
Sheet Number:

FP.201



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ABBREVIATIONS / CONTROL ABBREVIATIONS			
AAV	AUTOMATIC AIR VENT	L	LENGTH
AS	AIR SEPARATOR	LAT	LEAVING AIR TEMPERATURE
AC	AIR CONDITIONING	LB	POUND
ACC	AIR COOLED CONDENSING UNIT	LF	LINEAR FEET
AJU	AIR CONDITIONING UNIT	LD	LINEAR DIFFUSER
AHU	AIR HANDLING UNIT	LRA	LOCKED ROTOR AMPS
ADDL	ADDITIONAL	LUVR	LOUVER
AFF	ABOVE FINISHED FLOOR	LVR	LOUVERED DOOR
AFMS	AIR FLOW MEASURING STATION	LVS	LEAVING
ALT	ALTITUDE OR ALTERNATE	LWT	LEAVING WATER TEMPERATURE
AMP	AMPERE	MCC	MOTOR CONTROL CENTER
AP	ACCESS PANEL	MAX	MAXIMUM
APD	AIR PRESSURE DROP	MBH	THOUSAND BTUH
ARCH	ARCHITECT	MCA	MINIMUM CIRCUIT AMPS
ATC	AUTOMATIC TEMP. CONTROL	MD	MOTOR OPERATED DAMPER
ATM	ATMOSPHERE	MECH	MECHANICAL
AVE	AVERAGE	MEZZ	MEZZANINE
BB	BASEBOARD HEATER	MFR	MANUFACTURER
BDD	BACKDRAFT DAMPER	MIN	MINIMUM
BG	BLAST GATE DAMPER	MJA	MAKE-UP AIR
BHP	BACKWARDS INCLINED		
BI	BUILDING	N/A	NOT APPLICABLE
BLDG	BUILDING	NA	NORMALLY CLOSED
BOD	BOTTOM OF DUCT	NC	NOISE CRITERIA
BOP	BOTTOM OF PIPE	NIC	NOT IN CONTRACT
BSMT	BASEMENT	NO	NORMALLY OPEN
BTU	BRITISH THERMAL UNIT	NT	NUMBER
BTUH	BTU PER HOUR	NOM	NOMINAL
		NTS	NOT TO SCALE
CA	COMPRESSED AIR		
CACU	COMPUTER ROOM AC UNIT	OA	OUTSIDE AIR
CC	COOLING COIL	OD	OUTSIDE DIAMETER
CENT	CENTRIFUGAL	ODP	OPEN DRIP PROOF
CF	CUBIC FEET	OED	OPEN END DUCT
CFM	CUBIC FEET PER MINUTE	OV	OUTLET VELOCITY
CL	CENTERLINE		
CLG	CEILING OR COOLING	P	PUMP
CO	CLEAN-OUT	PH	PRESSURE DROP
CO	CARBON MONOXIDE	PH	PHASE
COL	COLUMN	PHC	PREHEAT COIL
CONC	CONCRETE	PBG	PLUMBING
CONN	CONNECTION	POS	PROVIDED BY OTHER SECTION
CONTR	CONTRACTOR	PSI	POUNDS PER SQUARE INCH
CV	CONSTANT VOLUME	PSIA	PSI ABSOLUTE
CUH	CABINET UNIT HEATER	PSID	PSI DIFFERENTIAL
		PSIG	PSI GAUGE
D	DRAIN OR DEPTH	PVC	POLYVINYL CHLORIDE
DB	DRY BULB TEMPERATURE	PRV	PRESSURE REDUCING VALVE
DC	DRY COOLER		
DEG	DEGREE	QTY	QUANTITY
DDC	DIRECT DIGITAL CONTROL		
DIA	DIAMETER	R	RADIUS
DIFF	DIFFUSER	RA	RETURN AIR
DIM	DIMENSION	REG	REGISTER
DN	DOWN	RET	RETURN
DP	DIFFERENTIAL PRESSURE	REQ'D	REQUIRED
DWDI	DOUBLE WIDTH DOUBLE INLET	RG	RETURN GRILLE
DX	DIRECT EXPANSION	RH	RELATIVE HUMIDITY
EA	EACH OR EXHAUST AIR	RLA	RUNNING LOAD AMPS
EAT	ENTERING AIR TEMPERATURE	RM	ROOM
ECU	ELECTRIC CABINET HEATER	RPM	REVOLUTIONS PER MINUTE
EF	EXHAUST FAN	RHC	REHEAT COIL
EHC	ELECTRICAL HEATING COIL	RTU	ROOF TOP UNIT
EFF	EFFICIENCY		
ELEC	ELECTRICAL	SA	SOUND ATTENUATOR
ELEV	ELEVATION	SA	SUPPLY AIR
EMER	EMERGENCY	SCH	SCHEDULE
EMS	ENERGY MANAGEMENT SYSTEM	SD	SMOKE DETECTOR
ENT	ENTER	SEN	SENSIBLE
ESP	EXTERNAL STATIC PRESSURE	SG	SUPPLY GRILLE
EWT	ENTERING WATER TEMPERATURE	SHC	SENSIBLE HEAT CAPACITY
EXH	EXHAUST	SP	STATIC PRESSURE
EXIST.	EXISTING	SPECS	SPECIFICATIONS
ET	EXPANSION TANK	SQ	SQUARE
EUH	ELECTRIC UNIT HEATER	SF	SQUARE FEET
		SS	STAINLESS STEEL
F	FAHRENHEIT OR FAN	STL	STEEL
FB	FAN BOX	SUP	SUPPLY
FCU	FAN COIL UNIT	SWSI	SINGLE WITH SINGLE INLET
FA	FREE AREA		
FD	FIRE DAMPER (ACCESS DOOR)	T	TEMPERATURE
FLA	FULL LOAD AMPS	TEL	TELEPHONE
FLX	FLEXIBLE	TEFC	TOT. ENCLOSED FAN COOLED
FPM	FEET PER MINUTE	TEMP	TEMPERATURE
FPS	FEET PER SECOND	TSTAT	THERMOSTAT
FRP	FIBERGLASS REINFORCED PLASTIC	TD	TOP OF DUCT
FS	FLOW SWITCH	TON	12,000 BTUH
FT	FEET	TOP	TOP OF PIPE
FTR	FINNED TUBE RADIATION	TOT	TOTAL
G	GALLONS	TSP	TOTAL STATIC PRESSURE
GAL	GALLONS	TYP	TYPICAL
GALV	GALVANIZED		
GC	GENERAL CONTRACTOR	UH	UNIT HEATER
GFU	GLYCOL FEED UNIT	UV	UNIT VENTILATOR
GPH	GALLONS PER HOUR		
GPM	GALLONS PER MINUTE	V	VENT
GWB	GYPSPUM WALL BOARD	VB	VACUUM BREAKER
H	HUMIDIFIER	VD	VOLUME DAMPER
HB	HOSE BIBB	V	VOLTS (ELECTRICAL)
HC	HEATING COIL	VEL	VELOCITY
HGT	HEIGHT	VAV	VARIABLE AIR VOLUME BOX
HP	HORSEPOWER	VFD	VARIABLE FREQUENCY DRIVE
HR	HOUR		
HP	HEAT PUMP	W	WIDTH OR WATT
HTG	HEATING	WITH	
HZ	HERTZ (FREQUENCY)	WB	WET BULB TEMPERATURE
HWR	HOT WATER HEATING COIL	WC	WATER COLUMN
HV	HEATING & VENTILATING UNIT	WG	WATER GAUGE
HEX	HEAT EXCHANGER	WMS	WIRE MESH SCREEN
		WTD	WITHOUT
ID	INSIDE DIAMETER	WPD	WATER PRESSURE DROP
IN	INCHES	WTD	WATER TEMPERATURE DIFF.
KW	KILOWATT		
ACD	AUTOMATIC CONTROL DAMPER	LAT	LEAVING AIR TEMPERATURE
ACV	AUTOMATIC CONTROL VALVE	LS	LOW STATIC PRESSURE SWITCH
AFMS	AIR FLOW MEASURING STATION	LS	LEVEL SENSOR
ALM	ALARM	MAT	MIXED AIR TEMPERATURE SENSOR
ATC	AUTOMATIC TEMPERATURE CONTROL	MD	MOTORIZED DAMPER
BDD	BACKDRAFT DAMPER	NC	NORMALLY CLOSED (POWER LOSS)
BV	BYPASS VALVE	NO	NORMALLY OPEN (POWER LOSS)
C02	CARBON DIOXIDE SENSOR		
CLT	COOLING COIL LAT SENSOR	OAD	OUTSIDE AIR DAMPER
CHRT	CHILLED WATER RETURN TEMP	OAH	OUTSIDE AIR HUMIDITY SENSOR
CHST	CHILLED WATER SUPPLY TEMP	OAT	OUTSIDE AIR TEMP. SENSOR
CO	CARBON MONOXIDE SENSOR		
CT	CURRENT TRANSFORMER	PAD	PRIMARY AIR DAMPER
CV	COOLING COIL CONTROL VALVE	PCHT	PRIMARY CHW RETURN TEMP.
DAT	DISCHARGE AIR TEMPERATURE	PCHST	PRIMARY CHW SUPPLY TEMP.
DDC	DIRECT DIGITAL CONTROL		
DPS	DIFFERENTIAL PRESSURE SWITCH	RAD	RETURN AIR DAMPER
DPT	DIFFERENTIAL PRESSURE SENSOR	RAH	RETURN AIR HUMIDITY SENSOR
DPV	DIFF. PRESSURE BYPASS VALVE	RAT	RETURN AIR TEMPERATURE
DSP	DISCHARGE STATIC PRESS. SENSOR	RV	REHEAT CONTROL VALVE
DWDI	DOUBLE WIDTH DOUBLE INLET	RH	RELATIVE HUMIDITY
EAD	EXHAUST AIR DAMPER		
ES	END SWITCH	S	SWITCH
FM	FLOW METER/TRANSMITTER	SAD	SUPPLY AIR DAMPER
FZ	FREEZESTAT	SCHRT	SECONDARY CHW RETURN TEMP.
H	HUMIDITY SENSOR	SCHST	SECONDARY CHW SUPPLY TEMP.
HCLT	HEATING COIL LAT SENSOR	SD	SMOKE DETECTOR
HEPA	HIGH EFF. PARTICULATE AIR FILTER	SFD	SMOKE/FIRE DETECTOR
HGB	HOT GAS BYPASS	SMD	SMOKE DAMPER
HHL	HIGH HUMIDITY LIMIT SENSOR	SP	STATIC PRESSURE SENSOR
HIV	HUMIDIFIER ISOLATION VALVE	SFD	SPEED CONTROL
HQA	HANDS-OFF AUTOMATIC SWITCH	S/S	START/STOP
HV	HEATING COIL CONTROL VALVE	SID	SMOKE ISOLATION DAMPER
HWRT	HOT WATER RETURN TEMP. SENSOR	T	TEMPERATURE SENSOR
HWST	HOT WATER SUPPLY TEMP. SENSOR	WC	WATER COLUMN

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St. Augustine, FL 32080

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Date:

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MECHANICAL
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PART-1: GENERAL

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- THESE DRAWINGS ARE DIAGRAMMATIC. INDICATE GENERAL ARRANGEMENT OF WORK IN CONTRACT AND OUTLINE THE EXTENT, CHARACTER AND LOCATION OF WORK INCLUDED. OFFSETS AND/OR CHANGES IN ELEVATION OF UTILITIES DUE TO STRUCTURAL OR OTHER INTERFERENCES SHALL BE PROVIDED AT NO ADDITIONAL COST.

1.01 RELATED DOCUMENTS:

- THE MECHANICAL DRAWINGS APPLY TO THE WORK OF THIS SECTION. THE CONTRACTOR SHALL NOTE THE DRAWINGS ARE DIAGRAMMATIC, AND INDICATE THE GENERAL INTENT OF THE PROJECT SCOPE. REFER TO DRAWINGS FROM OTHER DISCIPLINES FOR RELATED DETAILS TO THE INSTALLATION AS APPLICABLE.

1.02 INSPECTION OF SITE:

- PROSPECTIVE BIDDERS SHALL VISIT THE SITE, AND EXAMINE THE EXISTING CONDITIONS ASSOCIATED WITH THE PROJECT SCOPE PRIOR TO THE SUBMISSION OF BID. THIS CONTRACTOR SHALL ALSO FIELD VERIFY DIMENSIONS AND EXISTING CONDITIONS PRIOR TO PROCEEDING.
- WHERE DISCREPANCIES OR CONFLICTS OCCUR BETWEEN THESE DOCUMENTS AND EXISTING CONDITIONS, THE DISCREPANCY SHALL BE REPORTED (IN WRITING BEFORE THE AWARD OF THE CONTRACT) TO THE OWNER AND/OR ENGINEER FOR EXPEDITING AND RESOLVE.
- ABSOLUTELY NO CLAIMS FOR ADDITIONAL COMPENSATION WILL BE CONSIDERED FOR CONDITIONS REASONABLY VISIBLE UPON EXAMINATION OF EITHER THE SITE OR THE DOCUMENTS.

1.03 BIDDER'S REPRESENTATION:

- BY THE ACT OF SUBMITTING A BID FOR THE PROPOSED CONTRACT, THE BIDDER REPRESENTS THAT:
 - THE BIDDER AND ALL SUBCONTRACTORS THE BIDDER INTENDS TO USE HAVE CAREFULLY AND THOROUGHLY REVIEWED THE DRAWINGS, SPECIFICATIONS AND OTHER CONSTRUCTION CONTRACT DOCUMENTS AND HAVE FOUND THEM COMPLETE AND FREE FROM AMBIGUITIES AND SUFFICIENT FOR THE PURPOSE INTENDED.
 - THE BIDDER AND ALL WORKMEN, EMPLOYEES AND SUBCONTRACTORS THE BIDDER INTENDS TO USE ARE SKILLED AND EXPERIENCED IN THE TYPE OF CONSTRUCTION REPRESENTED BY THE CONSTRUCTION CONTRACT DOCUMENTS BID UPON.
 - A LICENSED SUPERVISOR WITH FIVE (5) YEARS EXPERIENCE SHALL BE IN CHARGE OF THE WORK DESCRIBED IN THE CONTRACT DOCUMENTS AND SHALL BE PRESENT AS REQUIRED TO PROPERLY PERFORM HIS DUTIES.
 - NEITHER THE BIDDER NOR ANY OF THE BIDDER'S EMPLOYEES, AGENTS, INTENDED SUPPLIERS OR SUBCONTRACTORS HAVE RELIED UPON ANY VERBAL REPRESENTATIONS, ALLEGED AUTHORIZED OR UNAUTHORIZED FROM THE OWNER, OR THE OWNER'S EMPLOYEES OR AGENTS INCLUDING ARCHITECTS, ENGINEERS OR CONSULTANTS IN ASSEMBLING THE BID FIGURE. THE BID FIGURE SHALL BE BASED SOLELY UPON THE CONSTRUCTION CONTRACT DOCUMENTS AND PROPERLY ISSUED WRITTEN ADDENDA AND NOT UPON ANY OTHER WRITTEN REPRESENTATION.

1.04 WORK INCLUDED:

- PROVIDE ALL MATERIAL AND LABOR TO COMPLETE THE WORK OF THIS SECTION, AND TO ENSURE THE SYSTEMS ARE COMPLETE AND FULLY OPERATIONAL. THE SCOPE OF WORK SHALL INCLUDE, BUT IS NOT LIMITED TO:
 - HVAC DUCT SYSTEM, INCLUDING DIFFUSERS, REGISTERS, GRILLES, DAMPERS, ETC
 - GAS UNIT HEATERS AND ASSOCIATED FLUES
 - MISCELLANEOUS HANGERS, SUPPORTS, ETC AS REQUIRED
 - INSULATION, THERMAL AND/OR ACOUSTICAL, FOR DUCTWORK
 - RELOCATION OF EXISTING HVAC COMPONENTS THAT INTERFERE WITH NEW WORK
 - TESTING AND BALANCING OF AIR SYSTEM
 - BUILDING AUTOMATION SYSTEMS

1.05 RELATED WORK OF OTHER SECTIONS:

- THE CONTRACTOR SHALL NOTE THE FOLLOWING SCOPE ITEMS ARE NOT INCLUDED IN THIS SECTION, BUT WILL BE PROVIDED UNDER OTHER SECTIONS:
 - TEMPORARY LIGHTING, POWER, WATER AND SANITARY FACILITIES FOR USE DURING CONSTRUCTION

1.06 QUALITY ASSURANCE:

- USE AN ADEQUATE NUMBER OF SKILLED LABORERS WHO ARE TRAINED AND EXPERIENCED IN THE NECESSARY CRAFTS, AND WHO ARE COMPLETELY FAMILIAR WITH THE SPECIFIED REQUIREMENTS AND METHODS NEEDED FOR THE PROPER PERFORMANCE OF THE WORK
- ALL WORK SHALL BE OF THE HIGHEST QUALITY IN CONFORMANCE WITH THE BEST PRACTICES OF THE TRADE, AND IN COMPLIANCE WITH GOVERNING CODES.
- ALL WORK SHALL BE COMPLETED IN ACCORDANCE WITH OSHA AND OWNER SAFETY REQUIREMENTS.
- IF THESE DOCUMENTS DO NOT COINCIDE WITH MANUFACTURER'S RECOMMENDED INSTALLATION PROCEDURES, OR APPLICABLE CODES, THIS CONTRACTOR SHALL REPORT THESE FINDINGS TO THE ENGINEER. IF THERE IS A CONFLICT WITHIN THE DOCUMENTS, THIS CONTRACTOR SHALL INSTALL THE MATERIAL, EQUIPMENT, SYSTEMS OR METHODS OF THE HIGHER STANDARD. THIS CONTRACTOR IS RESPONSIBLE FOR ALL WORK, MATERIALS AND LABOR TO SATISFY A COMPLETE WORKING SYSTEM WHETHER SPECIFIED OR IMPLIED.
- MAINTAIN ON-SITE ONE SET OF RECORD DRAWINGS. LEGIBLY MARK EACH ITEM TO RECORD THE ACTUAL INSTALLED CONDITIONS. BEFORE COMPLETION OF THE PROJECT, RECORD AS-BUILT CONDITIONS ELECTRONICALLY IN AUTOCAD FORMAT. SUBMIT DOCUMENTS TO THE ENGINEER FOR FINAL APPROVAL. NO APPROVAL FOR FINAL PAYMENT WILL BE GIVEN UNTIL ACCURATE AS-BUILT DRAWINGS HAVE BEEN SUBMITTED.

1.07 CODES, PERMITS, FEES, REGULATIONS:

- ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE RULES AND REGULATIONS MASSACHUSETTS STATE CODES, INCLUDING:
 - 2015 INTERNATIONAL BUILDING CODE (IBC) WITH AMENDMENTS APPLICABLE TO THE STATE OF MASSACHUSETTS (780 CMR 9TH EDITION)
 - 2021 INTERNATIONAL ENERGY CONSERVATION CODE (IECC) WITH AMENDMENTS APPLICABLE TO THE STATE OF MASSACHUSETTS (780 CMR CHAPTER 13 AND 225 CMR 22.00 / 23.00)
 - 2015 INTERNATIONAL MECHANICAL CODE (IMC) WITH AMENDMENTS APPLICABLE TO THE STATE OF MASSACHUSETTS
 - ALL OTHER APPLICABLE STATE / FEDERAL CODES AND REGULATIONS HAVING JURISDICTION

1.08 INTERPRETATION OF DOCUMENTS:

- THE DRAWINGS DEPICT THE ARRANGEMENT OF ALL SYSTEMS AND APPROXIMATE LOCATIONS OF EQUIPMENT AND ASSOCIATED UTILITIES. THE EXACT LOCATIONS AND ROUTING SHALL BE COORDINATED BY THIS CONTRACTOR BASED ON ANY STRUCTURAL CONDITIONS AND POSSIBLE OBSTRUCTIONS. THIS SHALL NOT BE CONSTRUED TO MEAN THAT THE DESIGN MAY BE CHANGED, BUT REFERS ONLY TO EXACT RUNS BETWEEN GIVEN POINTS.
- THIS CONTRACTOR IS RESPONSIBLE FOR ALL WORK, MATERIALS AND LABOR TO SATISFY A COMPLETE WORKING SYSTEM, WHETHER SPECIFIED OR IMPLIED. ITEMS OR SYSTEMS MENTIONED IN THE SPECIFICATION, BUT NOT ON THE DRAWINGS (OR VICE VERSA) MUST BE SUPPLIED, BE COMPLETED IN ALL RESPECTS AND MADE FULLY OPERATIONAL WITHOUT ADDITIONAL EXPENSE TO THE OWNER.
- IF THERE IS A CONFLICT WITHIN THE CONTRACT DOCUMENTS, THE CONTRACTOR SHALL INSTALL THE EQUIPMENT, SYSTEMS OR METHODS OF THE HIGHER STANDARD.
- THE ENGINEER RESERVES THE RIGHT TO REVISE THE DRAWINGS PERIODICALLY TO INDICATE CHANGES IN SCOPE.
- WHERE DRAWINGS OR SPECIFICATIONS DO NOT COINCIDE WITH MANUFACTURER'S RECOMMENDATIONS, OR ARE UNCLEAR AS TO THE INTENT OR REQUIRED QUALITY, ADVISE THE ENGINEER IN WRITING BEFORE PROCEEDING WITH THE WORK. ALL COSTS FOR REWORK NECESSARY TO RESOLVE DISCREPANCIES SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.

1.09 SUBMITTALS:

- SHOP DRAWINGS SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW FOR THE LIMITED PURPOSE OF CONFIRMING CONFORMANCE WITH THE DESIGN CONCEPT EXPRESSED IN THE CONTRACT DOCUMENTS. PROVIDE ELECTRONIC COPIES OF SHOP DRAWINGS FOR ALL MATERIAL AND EQUIPMENT FURNISHED AND INSTALLED UNDER THIS CONTRACT.
- THE SCHEDULED EQUIPMENT IS SPECIFIED TO ESTABLISH A STANDARD FOR THAT ITEM. SUBSTITUTIONS ARE ALLOWED PROVIDED THEY COMPLY WITH THE REQUIREMENTS OF THE EQUIPMENT CONTRACT DRAWINGS. SUBSTITUTED EQUIPMENT SHALL NOT CREATE ADDITIONAL WORK OR HARDSHIP FOR OTHER TRADES.
- SUBSTITUTED EQUIPMENT MUST MEET ALL PERFORMANCE CRITERIA, MUST FIT WITHIN THE AVAILABLE SPACE WITHOUT MODIFICATION, MUST BE CAPABLE OF BEING SUPPORTED BY THE PROPOSED STRUCTURE AND MUST MEET ALL ARCHITECTURAL CONSIDERATIONS. THIS CONTRACTOR MUST CONFIRM THAT SUBSTITUTED MATERIALS OR EQUIPMENT MEET THESE CRITERIA PRIOR TO SUBMISSION.
- GENERIC CATALOG DATA FOR EQUIPMENT WILL NOT BE ACCEPTED. SUBMITTALS SHALL INCLUDE JOB-SPECIFIC EQUIPMENT CUT SHEETS AND SELECTIONS BASED ON PROJECT SCHEDULES AND SPECIFICATIONS.
- DEVIATIONS FROM SPECIFIED ITEMS SHALL BE AT THE SOLE RISK OF THE CONTRACTOR. PROPOSED DEVIATIONS FROM CONTRACT DOCUMENTS SHALL BE REQUESTED INDIVIDUALLY IN WRITING WHETHER THE DEVIATIONS RESULT FROM FIELD CONDITIONS, STANDARD SHOP PRACTICE, OR OTHER CAUSE. SUBMIT LETTER WITH TRANSMITTAL OF SHOP DRAWINGS WHICH FLAGS THE DEVIATION TO THE ATTENTION OF THE OWNER'S REPRESENTATIVE. THE CONTRACTOR SHALL HOLD THE ENGINEER, HIS CONSULTANTS, AND THE OWNER HARMLESS FOR ANY AND ALL ADVERSE CONSEQUENCES RESULTING FROM THE DEVIATIONS BEING IMPLEMENTED, REGARDLESS OF THE REVIEW AND APPROVAL OF SHOP DRAWINGS CONTAINING THE DEVIATION
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL ASSOCIATED CHANGES TO THIS AND OTHER TRADES TO CONFORM TO THE SUBMITTED ALTERNATE PRODUCT.
- ENGINEER SHALL BE PROVIDED WITH TEN (10) WORKING DAYS PROCESSING AND REVIEW OF EACH SUBMITTAL. ALL SUBMITTALS SHALL INDICATE PRIOR REVIEW AND APPROVAL BY THE RESPONSIBLE CONTRACTOR.
- SUBMIT MANUFACTURER'S TECHNICAL PRODUCT DATA SHEETS FOR ALL SPECIFIED MATERIALS, AND OTHER PROJECT DATA, INCLUDING BUT NOT LIMITED TO:
 - DUCTWORK STANDARDS
 - SCHEDULED EQUIPMENT
 - INSULATION, INCLUDING SCHEDULE OF THICKNESSES
 - REGISTERS, GRILLES AND DIFFUSERS
 - AIR BALANCING REPORT
 - AS-BUILT DRAWINGS

1.10 REQUESTS FOR INFORMATION:

- ANY RFI FOR RESOLVING AN APPARENT CONFLICT OR UNCLEARITY, OR A REQUEST FOR ADDITIONAL DETAIL, SHALL INCLUDE A SKETCH OR EQUIVALENT DESCRIPTION OF THE CONTRACTOR'S PROPOSED SOLUTION.
- RFIS SUBMITTED WITHOUT THE CONTRACTOR'S PROPOSED SUGGESTION OR RESOLUTION, OR RFIS THAT DO NOT CLEARLY DESCRIBE THE CONDITION AND SUBSEQUENTLY ASK THE ENGINEER FOR DIRECTION WILL BE RETURNED REQUESTING MORE INFORMATION AND CLARITY.

1.11 PROTECTION OF WORK AND PROPERTY:

- THIS CONTRACTOR SHALL BE RESPONSIBLE FOR THE CARE AND PROTECTION OF ALL WORK INCLUDED UNDER THIS SECTION UNTIL THE COMPLETION AND FINAL ACCEPTANCE OF THIS PROJECT. PROTECT ALL EQUIPMENT AND MATERIALS FROM DAMAGE FROM ALL CAUSES INCLUDING, BUT NOT LIMITED TO, FIRE, VANDALISM AND THEFT. ALL MATERIALS AND EQUIPMENT DAMAGED

OR STOLEN SHALL BE REPAIRED OR REPLACED WITH EQUAL MATERIALS OR EQUIPMENT AT NO ADDITIONAL COST TO THE OWNER. PROTECT ALL EQUIPMENT, OUTLETS AND OPENINGS, AND ROOF PENETRATIONS WITH TEMPORARY PLUGS, CAPS AND COVERS.

- PROTECT WORK AND MATERIALS OF OTHER TRADES FROM DAMAGE THAT MIGHT BE CAUSED BY WORK OR WORKMEN UNDER THIS SECTION AND MAKE GOOD DAMAGE THUS CAUSED. DAMAGED MATERIALS ARE TO BE REMOVED FROM THE SITE; NO SITE STORAGE OF DAMAGED MATERIALS WILL BE ALLOWED. ANY DAMAGE TO EXISTING SYSTEMS AND EQUIPMENT CAUSED BY THIS CONTRACTOR DURING INSTALLATION SHALL BE REPAIRED AND/OR REPLACED AT THIS CONTRACTOR'S EXPENSE TO THE COMPLETE SATISFACTION OF THE BUILDING OWNER.
- PROVIDE THE APPROPRIATE FIRE WATCHMAN ON SITE DURING ALL WELDING WORK. WATCHMAN SHALL BE PRESENT DURING THE WELDING AND FOR A PERIOD OF 30-MINUTES AFTER WELDING IS COMPLETE.

1.12 COORDINATION WITH OTHER TRADES:

- THIS CONTRACTOR SHALL COOPERATE TO THE FULLEST EXTENT WITH OTHER TRADES. THE WORK EFFORT OF THIS SECTION SHALL BE PLANNED SO AS NOT TO DELAY ANY OTHER TRADES, OR HINDER THE PROGRESS OF THE WORK.
- COORDINATE SCHEDULING, SUBMITTALS AND WORK OF THE VARIOUS SECTIONS OF THE CONTRACT DOCUMENTS TO ENSURE EFFICIENT AN ORDERLY SEQUENCE OF INSTALLATION OF INTERDEPENDENT CONSTRUCTION ELEMENTS.
- INCLUDE PROVISIONS FOR ACCOMMODATING ITEMS INSTALLED AT A LATER DATE.
- VERIFY UTILITY REQUIREMENTS AND CHARACTERISTICS OF OPERATION EQUIPMENT ARE COMPATIBLE WITH BUILDING UTILITIES.
- COORDINATE WORK OF VARIOUS SECTIONS HAVING INTERDEPENDENT RESPONSIBILITIES FOR INSTALLING, CONNECTING AND PLACING INTO SERVICE SUCH EQUIPMENT.
- COORDINATE SPACE REQUIREMENTS, RIGGING PATHS, SUPPORTS AND INSTALLATION AS INDICATED IN A DIAGRAMMATIC FASHION WITHIN CONTRACT DOCUMENTS.

1.13 COORDINATION DRAWINGS:

- COORDINATION DRAWINGS, SHOWING PROPOSED LAYOUT OF EQUIPMENT (WITH CLEARANCES), PIPING, DUCTS, REGISTERS ETC. SHALL BE PREPARED IN COORDINATION WITH ALL OTHER TRADES AND SUBMITTED FOR REVIEW BY THE ENGINEER. THE INTENT OF THE COORDINATION DRAWINGS IS TO IDENTIFY CONFLICTS BEFORE THEY OCCUR AND INTERFERE WITH THE WORK TO BE PERFORMED BY THIS OR ANY OTHER TRADE.
- THE GENERAL CONTRACTOR IS RESPONSIBLE FOR COORDINATING SUB-CONTRACTOR'S WORK AND RESOLVING CONFLICTS AS REQUIRED. IF THE CONSTRUCTION TEAM IS UNABLE TO RESOLVE A CONFLICT, AN RFI SHALL BE SUBMITTED FOR ENGINEER'S REVIEW.
- THE ENGINEER'S REVIEW OF COORDINATION DRAWINGS DOES NOT RELIEVE THE CONTRACTOR OF HIS RESPONSIBILITY TO PROPERLY COORDINATE THE WORK. ALL DISTRIBUTION SYSTEMS WHICH REQUIRE PITCH OR SLOPE SUCH AS CONDENSATE DRAINS AND WATER PIPING SHALL HAVE THE RIGHT OF WAY OVER THOSE WHICH DO NOT.

1.14 SUPPLEMENTAL CONSTRUCTION MEANS & METHODS:

- SUPPORTS:
 - THIS CONTRACTOR SHALL FURNISH AND INSTALL ALL STEEL SUPPORTS AND HANGERS REQUIRED TO PROPERLY INSTALL THE WORK SHOWN IN THE CONTRACT DOCUMENTS. INSTALL ALL SUPPLEMENTAL STEEL IN A NEAT AND WORKMANLIKE MANNER.
 - PROVIDE ALL STEEL CHANNEL SUPPORTS AND HANGERS REQUIRED TO INSTALL THE EQUIPMENT SHOWN ON THE DOCUMENTS.
- CUTTING & PATCHING:
 - CONTRACTOR SHALL PROVIDE ALL CORING, CUTTING, PATCHING AND FIREPROOFING NECESSARY FOR THE EXECUTION OF THE WORK OF THIS SECTION. STRUCTURAL ELEMENTS SHALL NOT BE CUT WITHOUT WRITTEN APPROVAL OF THE ARCHITECT.
 - REPAIR AND PATCH AROUND THE WORK SPECIFIED HEREIN TO MATCH THE EXISTING ADJACENT SURFACES TO THE SATISFACTION OF THE ARCHITECT. FILL AND PATCH ALL OPENINGS OR HOLES LEFT IN THE EXISTING STRUCTURES BY THE REMOVAL OF EXISTING EQUIPMENT THAT IS PART OF THIS SECTION OR THE SPECIFICATIONS.
 - PROVIDE FIRE STOPPING TO MAINTAIN THE FIRE RATING OF THE FIRE RESISTANCE RATED ASSEMBLY. ALL PENETRATIONS AND ASSOCIATED FIRESTOPPING SHALL BE INSTALLED IN ACCORDANCE WITH THE FIRE STOPPING MANUFACTURER'S LISTED INSTALLATION DETAILS AND BE LISTED BY UL OR FM.
- HOISTING, SCAFFOLDING, PLANKING:
 - PROVIDE ALL HOIST, LIFTS, SCAFFOLDING, PLANKS, AND/OR OTHER MEANS OF EQUIPMENT/MATERIAL TRANSFER, (INCLUDING FURNISHING AND SET-UP PROCEDURES), REQUIRED TO COMPLETE THE INTENDED PROJECT SCOPE.

1.15 ACCESSIBILITY:

- ALL WORK PROVIDED UNDER THIS SECTION OF THE SPECIFICATION SHALL BE INSTALLED SO THAT PARTS REQUIRING PERIODIC INSPECTION, MAINTENANCE AND REPAIR ARE READILY ACCESSIBLE. WORK OF THIS TRADE SHALL NOT INFRINGE UPON CLEARANCES REQUIRED BY EQUIPMENT OF OTHER TRADES, ESPECIALLY CODE REQUIRED CLEARANCES TO EQUIPMENT.
- ACCESS PANELS PROVIDED MUST BE EQUAL TO THE FIRE-RATING OF THE PARTITION AND SHALL BE PROVIDED WITH SCREWDRIVER OPERATED CAM LOCKS.
- ACCESS PANEL SIZE SHALL BE 12"x12" MINIMUM. EXACT LOCATION AND SIZE OF EACH ACCESS PANEL SHALL BE REVIEWED WITH, AND APPROVED BY, THE ENGINEER.

1.16 SEISMIC RESTRAINT:

- PROVIDE SEISMIC BRACING AND CLEARANCES IN ACCORDANCE WITH THE REQUIREMENTS OF THE APPLICABLE STATE BUILDING CODE.

1.17 SHUTDOWNS / INTERRUPTIONS:

- ALL POWER SHUTDOWNS, AND/OR INTERRUPTIONS TO THE OWNER'S OPERATION SHALL BE AS SHORT AS POSSIBLE, AND AT A TIME AND DURATION REVIEWED BY, AND COORDINATED WITH THE OWNER AND THE ENGINEER.
- POWER SHUTDOWNS SHALL BE SCHEDULED AT LEAST (2) WEEKS IN-ADVANCE. WORK DURING SHUTDOWNS MAY BE REQUIRED TO OCCUR OFF-HOURS AT NIGHT, AND/OR ON A WEEKEND DAY. INCLUDE ALL PREMIUM TIME ASSOCIATED WITH THE ANTICIPATED SHUTDOWN(S).

1.18 INSTRUCTION OF OWNER'S PERSONNEL:

- AFTER COMPLETION OF ALL WORK, ALL TESTING AND AT SUCH TIME AS DESIGNATED BY THE OWNER, PROVIDE THE NECESSARY SKILLED PERSONNEL TO INSTRUCT THE OWNER ON HOW TO OPERATE THE ENTIRE INSTALLATION. AN INSTRUCTIONAL PERIOD OF FORTY (40) HOURS SHALL BE PROVIDED. INSTRUCTIONAL PERIODS SHALL BE SCHEDULED WITH THE OWNER AND SHALL BE BROKEN DOWN INTO FOUR (4) OR EIGHT (8) HOUR SESSIONS. ALL SESSIONS SHALL BE VIDEOTAPED AND PROVIDED TO THE OWNER.

PART-2: PRODUCTS

2.01 DUCTWORK - GENERAL:

- FOR THE HEATING, VENTILATING AND AIR CONDITIONING SYSTEMS, PROVIDE GALVANIZED SHEET METAL DUCTS FABRICATED AND INSTALLED TO PERTINENT ASHRAE AND SMACNA STANDARDS, EXCEPT AS OTHERWISE INDICATED. THE MINIMUM GAUGE THICKNESS FOR ANY DUCT SHALL BE NO LESS THAN 24.
- SHEET METAL DUCTWORK SHALL COMPLY WITH THE PRESSURE VELOCITY CLASSIFICATIONS LISTED IN THE SMACNA HVAC DUCT CONSTRUCTION STANDARDS.
- FURNISH AND INSTALL THE SIZE, CONNECTION AND RUN OF DUCTS AS INDICATED ON THE DRAWINGS. DRAWINGS INDICATE INSIDE CLEAR DIMENSIONS.
- THE SHEET METAL DUCTWORK SHALL, WHETHER INDICATED OR NOT, RISE, DROP AND CHANGE SHAPE TO CLEAR LIGHTING FIXTURES, AND PLUMBING, STRUCTURAL OR OTHER OBSTRUCTIONS TO MAINTAIN DESIRED CLEARANCES WITHIN THE SPACES. TRANSITIONS SHALL MAINTAIN THE FULL CROSS-SECTIONAL AREA OF THE DUCT SHOWN ON THE DRAWINGS.
- NO PIPE, CONDUIT, HANGERS ETC. MAY PASS THROUGH DUCTWORK WITHOUT THE ENGINEER'S WRITTEN APPROVAL.
- ALL DUCTWORK AND EQUIPMENT SHALL BE PROPERLY SUPPORTED AND SHALL BE VIBRATION FREE.
- DUCT SLEEVES SHALL BE PROVIDED FOR ROUND DUCTS 15" OR LESS IN DIAMETER WHERE THEY PASS THROUGH FLOORS, WALLS, CEILINGS OR ROOFS. INSTALL SLEEVES DURING CONSTRUCTION OF THE WALL. ROUND DUCTS LARGER THAN 15" IN DIAMETER, OR SQUARE, RECTANGULAR AND OVAL DUCTS PASSING THROUGH FLOORS, WALL, CEILINGS OR ROOFS SHALL BE INSTALLED THROUGH FRAMED PREPARED OPENINGS. SLEEVES OR FRAMED OPENING SHALL PROVIDE 1" OF CLEARANCE BETWEEN THE DUCT AND SLEEVE OR THE INSULATION AND SLEEVE (WHERE INSULATED).
- PROVIDE CLOSURE COLLARS ON EXPOSED DUCT ON EITHER SIDE OF WALL OR FLOOR WHERE SLEEVES OR PREPARED OPENING ARE PROVIDED.
- THE DUCTWORK SHALL BE CONTINUOUS, WITH AIR TIGHT JOINTS AND SEAMS PRESENTING A SMOOTH SURFACE ON THE INSIDE AND NEAT FINISH ON THE OUTSIDE. DUCTS SHALL BE CONSTRUCTED WITH CURVES AND BENDS SO AS TO CREATE AN EASY FLOW OF AIR. UNLESS OTHERWISE NOTED, THE INSIDE RADIUS OF ALL CURVES AND BENDS SHALL NOT BE LESS THAN THE DUCT WIDTH. WHERE THE INSIDE DUCT RADIUS MUST BE LESS THAN FULL SIZE, IT SHALL BE A MINIMUM OF 2" AND SPLITTER VANES SHALL BE PROVIDED PER SMACNA.
- DIVERGING TRANSITIONS IN DUCTWORK SHALL BE MADE WITH EACH SIDE PITCHED AT 15 DEGREES. CONVERGING TRANSITIONS IN DUCTWORK SHALL BE MADE WITH EACH SIDE PITCHED AT 30 DEGREES.
- ROUND DUCT SHALL BE FURNISHED WHERE SHOWN. THIS CONTRACTOR MAY SUBSTITUTE ROUND DUCT FOR RECTANGULAR WHEN APPROVED BY THE ENGINEER. ROUND DUCT SHALL BE OF SPIRAL LOCKSEAM CONSTRUCTION.
- SEAL ALL DUCT SEAMS, TRAVERSE AND LONGITUDINAL, AIR TIGHT WITH 3M "ED800" OR EQUAL DUCT SEALING COMPOUND.

2.02 DUCTWORK - TYPE, MATERIAL AND PRESSURE CLASS:

- ALL DUCT SHALL BE RATED 2" W.C

2.03 DUCTWORK - ACCESSORIES:

- FLEXIBLE DUCT MAY ONLY BE USED WHERE INDICATED AND SHALL NOT EXCEED 6 FEET IN LENGTH. FLEXIBLE DUCT SHALL BE 1" THICK INSULATED LOW PRESSURE TYPE W/ VAPOR BARRIER AS MANUFACTURED BY AUTOMATION INDUSTRIES, THERMAFLEX TYPE MKE OR EQUAL. FOR FLEXIBLE DUCTWORK LOCATED IN ATTIC SPACE PROVIDE 1-1/2" THICK INSULATION. SECURE WITH THE STRAPS AND FIBERGLASS REINFORCED FOIL DUCT TAPE. SUPPLY RUNOUTS SHALL BE PREINSULATED AND MUST BE UL LISTED AND NFPA COMPLIANT. RETURN RUNOUTS NEED NOT BE INSULATED. INSULATION SHALL NOT BE EXPOSED TO AIRFLOW. SEAL JOINTS WITH DUCT SEALER AND SECURE WITH METAL BANDS.
- SEAL ALL DUCT SEAMS, TRAVERSE AND LONGITUDINAL, AIR TIGHT WITH 3M "ED800" OR EQUAL DUCT SEALING COMPOUND.
- PROVIDE ACCESS DOORS AT ALL AIR INLETS, AIR FLOW SWITCHES AND WHERE SHOWN AS CLEANOUTS OR CALLED OUT ON DRAWINGS. ACCESS DOORS SHALL BE BY RUSKIN, INLAND STEEL OR MIAMI-CAREY. DOORS MUST BE HINGED AND INSULATED. PROVIDE LOCKS AND ULTRA-LOW LEAKAGE FOAM GASKETS. MATERIAL TO BE SAME AS DUCT.
- ALL BRANCH TAKE-OFFS SHALL BE MADE WITH 45 DEGREE OR FULL BELLMOUTH TYPE FITTINGS.
- PROVIDE SINGLE AND/OR MULTI-BLADE, MANUALLY ADJUSTABLE VOLUME DAMPERS AS SHOWN ON DRAWINGS AND AT ALL DUCT SPLITS AND BRANCH CONNECTIONS OF SUPPLY AND EXHAUST AIR SYSTEMS. DAMPERS SHALL BE TWO GAUGES HEAVIER THAN THE DUCT IN WHICH IT IS INSTALLED. MULTI BLADE, OPPOSED BLADE DAMPERS SHALL BE PROVIDED FOR ALL DUCTS GREATER

THAN 15" DEEP. DAMPERS SHALL NOT BE GREATER THAN 48" WIDE. BEARING PLATES SHALL BE INSTALLED FLUSH WITH INSULATION. PROVIDE WITH INDICATING, LOCKING QUADRANT OPERATING LEVER. FOR DAMPERS IN INACCESSIBLE LOCATIONS (SUCH AS ABOVE GYPSUM CEILINGS) PROVIDE REMOTE ACTUATED DAMPERS AS REQUIRED.

2.04 DUCT INSULATION:

- ALL SYSTEMS MUST BE INSULATED IN ACCORDANCE WITH THE 2021 INTERNATIONAL ENERGY CONSERVATION CODE AND ASHRAE 90.1-2019. SYSTEMS TO BE INSULATED INCLUDE, BUT NOT LIMITED TO, CONDITIONED SUPPLY AIR, RAW OUTDOOR AIR, EXHAUST AIR ASSOCIATED WITH ENERGY RECOVERY. ALL INSULATING MATERIALS MUST HAVE A FLAME SPREAD/FUEL CONTRIBUTED/SMOKE DEVELOPED RATING OF 25/50/50 IN ACCORDANCE WITH ASTM E84. ALL MATERIALS MUST BE UL LISTED AND ASBESTOS FREE. PROVIDE ALL INSULATION WITH JACKETING.
- ALL INSULATION MATERIAL SHALL BE NON-COMBUSTIBLE (I.E. FOIL-WRAPPED FIBERGLASS OR MINERAL FIBER WOOL) OR FM APPROVED (MEETING STANDARD 4924, PIPE AND DUCT INSULATION).
- ALL INSULATION SHALL BE INSTALLED BY A LICENSED CONTRACTOR AND CONFORM TO THE MANUFACTURER'S INSTALLATION INSTRUCTIONS. INSTALLATION SHALL CONFORM TO TRADE AND INDUSTRY STANDARDS AS WELL AS APPLICABLE LOCAL, STATE AND FEDERAL CODES.
- INSULATION MATERIALS SHALL BE PROTECTED FROM DIRT, WATER AND OTHER DAMAGE. SHOULD ANY SECTION OF INSULATION BE DAMAGED PRIOR TO THE COMPLETION OF CONSTRUCTION, IT SHALL BE REPLACED AT NO COST.
- ALL INSULATING MUST BE COMPLETED BY A COMPANY WITH THREE (3) YEARS MINIMUM EXPERIENCE SPECIALIZING IN MECHANICAL SYSTEMS INSULATION APPLICATION. NO VOIDS IN INSULATION WILL BE ACCEPTED. THIS INCLUDES ALL FITTINGS, EQUIPMENT AND VALVES. INSTALL MATERIALS AFTER PIPING HAS BEEN TESTED AND APPROVED. INSTALL MATERIALS IN STRICT ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS. CONTINUE ALL INSULATION THROUGH PENETRATIONS. IN PIPING EXPOSED TO VIEW, LOCATE INSULATION AND COVER SEAMS IN LEAST VISIBLE LOCATIONS. ON PIPING NOT REQUIRING CONDENSATION CONTROL (I.E. STEAM, CONDENSATE, HOT WATER) DO NOT INSULATE FLANGES AND UNIONS AT EQUIPMENT, BUT BEVEL AND SEAL ENDS OF INSULATION AT SUCH LOCATIONS.
- PER THE 2021 INTERNATIONAL ENERGY CONSERVATION CODE, ALL SUPPLY AND RETURN DUCT AND ALL PLENUMS LOCATED IN UNCONDITIONED SPACES (INCLUDING CONCEALED SUPPLY DUCTWORK WITHIN CEILING PLENUM) MUST BE INSULATED WITH A MINIMUM OF INSULATION. TO ACHIEVE THIS THERMAL RESISTIVITY USE A 2-1/2" THICK BLANKET OF JM MICROLITE FIBERGLASS INSULATION, DENSITY OF 0.75-LB/CUBIC-FOOT, K-FACTOR OF 0.29 AT 75°F AND SERVICE TEMPERATURE OF 350°F. VAPOR BARRIER JACKET SHALL BE FSK ALUMINUM FOIL REINFORCED WITH FIBERGLASS SCRM LAMINATED TO UL RATED KRAFT PAPER WITH MAXIMUM PERMEANCE OF 0.02 PERMS. SECURE JACKET WITH UL LISTED PRESSURE SENSITIVE TAPE AND/OR OUTWARD CLINCHED EXPANDABLE STAPLES AND VAPOR BARRIER MASTIC.
- EXHAUST DUCTS SHOULD NOT BE INSULATED UNLESS EXHAUSTING AIR AT TEMPERATURES GREATER THAN 90°F OR LESS THAN 60°F.
- RETURN DUCTS SHOULD NOT BE INSULATED UNLESS EXPOSED TO AMBIENT CONDITIONS GREATER THAN 90°F OR LESS THAN 60°F (CONCEALED SHAFTS OR PLENUMS).
- EXPOSED SUPPLY DUCT IS NOT REQUIRED TO BE INSULATED.
- IF DUCT IS INTERNALLY-LINED WITH 1 INCH OF INSULATION PROVIDE 1/2 INCH OF EXTERNAL DUCT WRAP TO MEET ENERGY CODE.
- DUCTWORK INSULATION SHALL BE MANUFACTURED BY JOHNS MANVILLE, CERTAIN-TEED, KNAUF, OWENS CORNING OR APPROVED EQUAL.

2.05 REGISTERS, GRILLES AND DIFFUSERS:

- REGISTERS, GRILLES AND DIFFUSERS SHALL BE INSTALLED AS SHOWN AND SHALL BE OF THE TYPE, SIZE AND QUANTITIES INDICATED ON THE DRAWINGS. REFER TO REGISTERS, GRILLES AND DIFFUSERS SCHEDULE FOR MORE INFORMATION.
- MANUFACTURERS SHALL BE TITUS, PRICE, KRUEGER OR METAL AIRE.
- EVERY DIFFUSER AND REGISTER SHALL BE PROVIDED WITH A VOLUME DAMPER.

2.06 UNIT HEATERS - GAS FIRED:

- HEATERS SHALL BE EQUIPPED FOR USE WITH NATURAL GAS AND HAVE A SINGLE STAGE GAS CONTROL AND INTERMITTENT SPARK IGNITION ELECTRONIC FLAME SENSING AND TIMED LOGOUT. ALL ELECTRICALS SHALL BE 80% THERMAL EFFICIENCY CABINETS AND TRIM PIECES SHALL BE FABRICATED FROM 20 GAUGE COLD-ROLLED STEEL, FINISHED ON ALL FOUR SIDES WITH GRAY ENAMEL PAINT OR PRE-PAINTED STOCK. ALL UNITS AND COMPONENT ASSEMBLIES SHALL BE WARRANTED FOR A PERIOD OF ONE YEAR.
- HEAT EXCHANGER MUST CONSIST OF TUBE SECTIONS NOT LIGHTER THAN 20 GAUGE AND CONNECTING PLATES NOT LIGHTER THAN 18 GAUGE MATERIAL. MATERIAL, BURNERS ARE TO BE PRESSED STEEL, TYPE 409 STAINLESS AND SHALL BE EQUIPPED WITH A STAINLESS STEEL BURNER SHADE.
- ALL LINE VOLTAGE SHALL BE COMPLETELY ENCLOSED IN FLEXIBLE CONDUIT. HEATER SHALL BE EQUIPPED WITH A 115/24 TRANSFORMER. A FAN TIME DELAY SWITCH SHALL BE PROVIDED AND WILL BE CONTROLLED BY A LOW VOLTAGE THERMOSTAT.
- UNIT SHALL BE EQUIPPED WITH A LOW VOLTAGE AUTOMATIC RESET HIGH TEMPERATURE CONTROLS WIRED TO SHUT OFF THE MAIN GAS VALVE AND CAUSE THE HEATER FAN TO OPERATE UNTIL LIMIT RESETS.

2.07 FLUES:

- PROVIDE THE SERVICES OF A LICENSED PLUMBER OR GASFITTER TO BE RESPONSIBLE FOR, SUPERVISE, AND/OR INSTALL FLUE VENTING SYSTEM(S) FOR ALL GAS-FIRED EQUIPMENT BASED ON THE EQUIPMENT CAPACITY PER 248 CMR 5.00 AND 7.00. THIS LICENSED PLUMBER OR GAS FITTER SHALL OBTAIN A GAS FITTING PERMIT IN COMPLIANCE WITH 258 CMR 3.00.
- THE FLUE SYSTEM SHALL BE INSTALLED WITH ALL ELBOWS, INCREASERS/REDUCERS, HANGERS, GUY WIRES, BAROMETRIC FLUE DAMPERS ETC REQUIRED TO PROVIDE A COMPLETE WORKING SYSTEM AND SHALL COMPLY WITH NFPA 54 AND 211.

PART-3: EXECUTION

3.01 DEMOLITION:

- THE EXTENT OF THE DEMOLITION IS NOT REFLECTED ON THE PLANS. THIS CONTRACTOR MUST VISIT THE SITE (BEFORE SUBMITTING HIS BID) TO BECOME FAMILIAR WITH THE DEMOLITION SCOPE. NO EXTRA COMPENSATION WILL BE ALLOWED FOR WORK THAT IS EITHER REQUIRED BY THIS SECTION OR REQUIRED TO OVERCOME EXISTING CONDITIONS.
- THE HVAC DEMOLITION WORK SHALL BE PERFORMED BY THE CONTRACTOR IN COOPERATION WITH THE OTHER TRADES AND AS SCHEDULED AND APPROVED BY THE OWNER'S REPRESENTATIVE.
- THE LOCATIONS OF EXISTING EQUIPMENT TO REMAIN INCLUDING PIPING, DUCTWORK, CONDUITS, ETC., ARE SHOWN IN AN APPROXIMATE WAY ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING EQUIPMENT BEFORE COMMENCING WORK.
- IT IS THE HVAC CONTRACTOR'S RESPONSIBILITY TO COORDINATE THE DEMOLITION AND TO ASSURE THAT NO SYSTEMS SERVING OTHER BUILDINGS ARE DISRUPTED EITHER BEFORE, DURING OR AFTER DEMOLITION.
- DISRUPTIONS OF SERVICE CAUSED BY DEMOLITION THAT AFFECT OTHER AREAS SHALL BE HELD TO A MINIMUM. SHUTDOWNS SHALL BE COORDINATED WITH THE USERS AND THE OWNER. NIGHT, WEEKEND AND/OR HOLIDAY TIME REQUIRED TO PERFORM DEMOLITION WORK OR NEW WORK SHALL BE CARRIED AS PART OF THE CONTRACT COST.
- THE ARCHITECTURAL DRAWINGS ILLUSTRATE THE FULL EXTENT OF THE SCOPE OF DEMOLITION, TO FULLY COMPLY WITH VARIOUS REQUIREMENTS OF THESE SPECIFICATIONS, THE PLUMBING SCOPE MAY EXTEND BEYOND THE AREA DEFINED BY THE ARCHITECTURAL DEMOLITION LIMITS.
- THE HVAC PLANS ARE NOT INTENDED TO SHOW ALL ITEMS TO BE REMOVED OR RETAINED. ALL EQUIPMENT, DUCTWORK AND PIPING SHALL BE DEMOLISHED. THE HVAC CONTRACTOR SHALL NOTIFY THE OWNER'S REPRESENTATIVE OF ANY UNANTICIPATED HIDDEN CONDITIONS ENCOUNTERED DURING DEMOLITION.
- THE HVAC CONTRACTOR SHALL BE RESPONSIBLE FOR THE REPAIR OF ALL SYSTEMS OR BUILDING COMPONENTS DAMAGED DURING THE EXECUTION OF THE WORK. DAMAGE SHALL INCLUDE BUT NOT BE LIMITED TO DESTRUCTION OR DISPOSAL OF ITEMS INTENDED TO REMAIN OR TO BE SALVAGED.
- THE HVAC CONTRACTOR SHALL TEMPORARILY SUPPORT ALL ITEMS TO REMAIN THAT ARE AFFECTED BY THE DEMOLITION OF BUILDING STRUCTURAL COMPONENTS (WALLS, CEILINGS, ETC.). TEMPORARILY SUPPORTED ITEMS SHALL BE PERMANENTLY SUPPORTED AND INSTALLED WHEN FINALIZED STRUCTURES ARE IN PLACE.
- ALL REMOVED ITEMS SHALL BE LEGALLY DISPOSED OF UNLESS IDENTIFIED FOR REUSE.
- THE OWNER'S REPRESENTATIVE SHALL INSPECT ALL RETAINED ITEMS PRIOR TO PLACEMENT IN THE IDENTIFIED STORAGE LOCATION BY THE HVAC CONTRACTOR. SELECTED ITEMS WILL BE DISPOSED AT NO ADDITIONAL COST TO THE PROJECT.

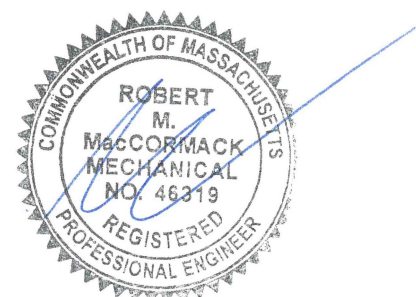
3.02 GENERAL EXECUTION OF NEW WORK:

- EXAMINE THE AREAS AND CONDITIONS UNDER WHICH THE HVAC WORK IS TO BE PERFORMED. CORRECT CONDITIONS DETRIMENTAL TO TIMELY AND PROPER COMPLETION OF THE WORK. DO NOT PROCEED UNTIL UNSATISFACTORY CONDITIONS ARE CORRECTED. VERIFY ALL DIMENSIONS AND REPORT ALL DISCREPANCIES TO THE OWNER/ENGINEER FOR EXPEDITING AND RESOLVE.
- ALL WORK SHALL BE PERFORMED IN A CLEAN AND WORKMANLIKE MANNER. CARE SHALL BE EXERCISED TO MINIMIZE ANY INCONVENIENCE OR DISTURBANCE TO OTHER AREAS OF THE BUILDING WHICH ARE TO REMAIN IN OPERATION. ISOLATE WORK AREAS BY MEANS OF TEMPORARY PARTITIONS AND/OR TARPS TO KEEP DUST AND WITHIN THE CONSTRUCTION AREA.
- NO PIPING, EQUIPMENT, ETC. SHALL BE REMOVED, DISCONNECTED OR SHUT DOWN WITHOUT PRIOR REVIEW WITH THE OWNER AND/OR ENGINEER TO CONFIRM THAT AREAS TO REMAIN IN OPERATION WILL NOT BE AFFECTED. IF ANY AREAS NOT WITHIN THE SCOPE OF WORK ARE AFFECTED BY ANY SHUTDOWN, REMOVAL OR DISCONNECTION, 1 WEEK ADVANCE NOTICE MUST BE GIVEN TO THE OWNER INDICATING WHICH AREAS WILL BE AFFECTED, WHEN THE PROPOSED SHUTDOWN WILL OCCUR, AND FOR HOW LONG A PERIOD OF TIME.
- ALL ITEMS REMOVED SHALL BECOME PROPERTY OF THE OWNER AND SHALL BE DISPOSED OF AS PER OWNER'S INSTRUCTIONS, UNLESS INDICATED OTHERWISE. ALL ITEMS WHICH ARE NOT TO BE STORED ON SITE BY OWNERS SHALL BE REMOVED FROM THE BUILDING IMMEDIATELY. EXISTING MATERIALS THAT ARE REMOVED SHALL NOT BE REUSED IN NEW SYSTEMS, EXCEPT WHERE INDICATED AS SUCH ON THE DRAWINGS.
- ALL NEW, RELOCATED OR EXISTING EQUIPMENT AFFECTED BY THIS SCOPE OF WORK SHALL BE REBALANCED BEFORE BEING PLACED IN SERVICE.
- INSTALL ALL NEW EQUIPMENT IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. INSTALL ALL EQUIPMENT SO THAT SECTIONS REQUIRING MAINTENANCE, REPAIR OR INSPECTION ARE READILY ACCESSIBLE.
- CLEAN THE JOB SITE DAILY AND REMOVE FROM THE PREMISES ALL DIRT AND DEBRIS CAUSED BY THE PERFORMANCE OF THE WORK INCLUDED IN THIS CONTRACT.
- USE OF THE OWNER'S ELEVATORS AND BUILDING CORRIDORS FOR HANDLING OF THE OWNER'S AND REMOVED EQUIPMENT AND MATERIALS SHALL BE AT THE DIRECTION OF THE OWNER AND SHALL BE COORDINATED WITH HIS OPERATIONS.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE SAFEKEEPING OF HIS OWN PROPERTY ON THE JOB SITE. OWNER ASSUMES NO RESPONSIBILITY FOR PROTECTION OF PROPERTIES AGAINST FIRE, THEFT AND ENVIRONMENTAL CONDITIONS.
- PROVIDE ACCESS PANELS FOR ALL CONCEALED DAMPERS, VALVES AND EQUIPMENT.
- CONTRACTOR SHALL SPRAY PAINT INSIDE OF DUCT BLACK, BEHIND ALL GRILLES AND REGISTERS.

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3.03 IDENTIFICATION, MARKING AND TAGGING:

- a. ALL EQUIPMENT INSTALLED UNDER THIS SECTION SHALL BE LABELED, MARKED OR TAGGED FOR EASE OF IDENTIFICATION. SUBMIT SAMPLES OF MARKING AND TAGGING DEVICES AND WORDING, LETTERING AND NUMBERING SCHEME FOR EACH SYSTEM.
- b. PROVIDE EQUIPMENT IDENTIFICATION MARKERS ON EACH PIECE OF EQUIPMENT. MARKERS SHALL BE RIGID BLACK BAKELITE OR PHENOLIC CONSTRUCTION WITH WHITE ENGRAVING OR INCISED LETTERS..

3.06 ADDITIONAL SUPPORTS:

- a. PROVIDE MISCELLANEOUS SUPPORTS AS REQUIRED TO FACILITATE THE INSTALLATION OF THE EQUIPMENT, DUCT ETC. LISTED IN THE CONTRACT DOCUMENTS. SUPPORTS SHALL BE OF SUFFICIENT SIZE, STRENGTH AND TYPE TO PROPERLY SECURE THE SUBJECT EQUIPMENT.
- b. PROVIDE ALL COORDINATION WITH THE GENERAL CONTRACTOR TO FACILITATE PROPER INSTALLATION OF INSERTS, SLEEVES, PADS ETC.

3.07 DUCTWORK:

- a. DUCTWORK SHALL BE INSTALLED IN ACCORDANCE WITH THE SMACNA DUCT CONSTRUCTIONS STANDARD.
- b. INSTALLATION OF DUCTWORK SHALL BE COORDINATED WITH OTHER WORK AS NECESSARY TO INTERFACE INSTALLATION OF DUCTWORK WITH OTHER COMPONENTS OF SYSTEMS. DUCT SIZES SHOWN ON THE DRAWINGS AT CONNECTION TO FANS OR OTHER EQUIPMENT MAY VARY IN ACTUAL INSTALLATION. CONTRACTOR SHALL PROVIDE TRANSITION PIECES AS REQUIRED. DUCTS, CASINGS AND HANGERS SHALL BE INSTALLED STRAIGHT AND LEVEL AND SHALL BE FREE OF VIBRATION AND NOISE WHEN FANS ARE OPERATING.
- c. SEAL DUCTWORK WITH SUITABLE SEALANT EQUAL TO "3M SCOTCH SEAL DUCT SEALANT".
- d. THE BALANCING CONTRACTOR SHALL REVIEW THE PLANS PRIOR TO THE INSTALLATION OF ANY DUCT AND SHALL COMMENT ON THE PLACEMENT AND QUANTITY OF ALL BALANCING DEVICES. IF DEFICIENCIES ARE FOUND THEY MUST BE REPORTED TO THE ENGINEER (IN WRITING) PRIOR TO THE INSTALLATION OF ANY DUCTWORK.
- e. IF A SECTION OF DUCT IS NOT LABELED FOR SIZE, THAN THE LARGER SIZE INDICATED ON THE DRAWINGS SHALL PREVAIL. SIZE OF DUCT RUN-OUTS TO DIFFUSERS SHALL EQUAL DIFFUSER NECK SIZE.
- f. DUCT SHALL NOT RUN ALONG FULL HEIGHT PARTITIONS.
- g. REFER TO ARCHITECTURAL REFLECTED CEILING PLAN FOR EXACT LOCATION OF REGISTERS, DIFFUSERS AND GRILLES.
- h. ALL DUCT SHALL BE INSTALLED AS INDICATED ON THE DRAWINGS IN A NEAT AND WORKMANLIKE MANNER AND BE SUPPORTED AS REQUIRED BY CODES. DUCT SHALL BE SET UP AND DOWN AND OFFSET AS REQUIRED TO SUIT FIELD CONDITIONS.

3.08 TESTING AND BALANCING - GENERAL:

- a. ALL TESTING AND BALANCING SHALL BE PERFORMED BY AN INDEPENDENT CONTRACTOR THAT IS EITHER AABC OR NEBB CERTIFIED AND ALL TESTING SHALL CONFORM TO NEBB, AABC, SMACNA OR ASHRAE STANDARDS.
- b. THE BALANCING CONTRACTOR SHALL REVIEW THE PLANS PRIOR TO THE INSTALLATION OF ANY DUCT AND SHALL COMMENT ON THE PLACEMENT AND QUANTITY OF BALANCING DEVICES. IF DEFICIENCIES ARE FOUND THEY MUST BE REPORTED TO THE ENGINEER (IN WRITING) PRIOR TO THE INSTALLATION OF ANY DUCTWORK. IF DURING BALANCING, BALANCING DEVICES OR OTHER EQUIPMENT ARE FOUND TO BE DEFICIENT, THIS CONTRACTOR SHALL BE CORRECT THE PROBLEM AT NO COST TO THE OWNER. (THIS INCLUDES REPLACEMENT OF BELTS AND SHEAVES.) THE TESTING AND BALANCING CONTRACTOR SHALL RETURN AS MANY TIMES AS REQUIRED TO COMPLETE THE TESTING AND BALANCING PROCESS.
- c. IF THE EXISTING HVAC SYSTEM (RTU'S, DIFFUSERS, ETC.) IS THE SUBJECT OF THE WORK DESCRIBED IN THESE DOCUMENTS, SUFFICIENT READINGS SHALL BE TAKEN PRIOR TO THE COMMENCEMENT OF DEMOLITION TO ASSURE THAT (IF DESIRED) THE SYSTEM CAN BE RETURNED TO ITS INITIAL OPERATIONAL CONDITIONS.
- d. THE ATC CONTRACTOR SHALL BE PRESENT DURING BALANCING TO SUPPORT THE TESTING AND BALANCING PROCESS. BALANCING SHALL INCLUDE A COMPLETE DEMONSTRATION OF THE ATC SYSTEM TO THE OWNER'S SATISFACTION.
- e. PRIOR TO PERFORMING ANY TESTING AND BALANCING THE TAB CONTRACTOR SHALL SUBMIT FOR REVIEW QUALIFICATIONS LISTING THE FIRM AS A NEBB OR AABC CERTIFIED AND COPIES OF ALL FORMS WHICH WILL BE USED TO DOCUMENT THE BALANCING PROCESS.
- f. BALANCING REPORTS SHALL BE ORGANIZED BY SYSTEM AND SHALL CLEARLY IDENTIFY EACH TESTED ITEM. COPIES OF INFORMATION REQUIRED FOR BALANCING SHALL BE INCLUDED IN THE REPORT. PRIOR TO SUBMITTING A REPORT TO THE ENGINEER, THE TAB CONTRACTOR SHALL SEND A REPORT LISTING ALL SYSTEM DEFICIENCIES TO THE HVAC CONTRACTOR. THE HVAC CONTRACTOR SHALL CORRECT ALL LISTED ITEMS, AND THE SYSTEM SHALL BE REBALANCED BEFORE THE FINAL REPORT IS ASSEMBLED AND PRESENTED FOR REVIEW. PRIOR TO THE COMPLETION OF ALL WORK AND THE FINAL INSPECTION OF THE INSTALLATION BY THE OWNER, SUBMIT ELECTRONIC COPIES OF THE TESTING AND BALANCING REPORT TO THE OWNER AND ENGINEER FOR REVIEW AND APPROVAL.
- g. ALL SETPOINTS (AND TEST PORTS IN DUCTWORK) SHALL BE PERMANENTLY MARKED.
- h. VARIABLE FREQUENCY DRIVES SHALL BE TESTED FOR FREQUENCIES THAT CAUSE VIBRATION. THESE FREQUENCIES SHALL BE IDENTIFIED AND LOCKED-OUT.

3.09 TESTING AND BALANCING - AIR SYSTEMS:

- a. AIR SYSTEMS SHALL BE ADJUSTED UNTIL ACTUAL FLOWS ARE WITHIN PLUS 10% AND MINUS 5% OF STATED FLOWS. FANS SHALL BE CHECKED FOR PROPER ROTATIONAL DIRECTION, SPEED AND AMPERAGE DRAW. FIRE AND SMOKE DAMPER OPERATION SHALL BE TESTED.
- b. THE FIRST MEANS OF AIR ADJUSTMENT SHALL BE BY FAN SPEED ADJUSTMENT.
- c. REPLACE ALL FILTERS PRIOR TO BALANCING. BALANCE SYSTEM WITH FILTERS SIMULATED AT HALF DIRTY. SIMULATE DIRTY FILTERS WITH CHEESE CLOTH.

3.10 QUIET OPERATION:

- a. WHEN PLACED IN SERVICE, ALL SYSTEMS SHALL BE FREE OF ANY SOUND CONSIDERED OBJECTIONABLE BY THE ENGINEER. THIS CONTRACTOR SHALL PROVIDE ALL SERVICES REQUIRED TO PROVIDE A QUIET SYSTEM AND SHALL WITHSTAND ALL EXPENSES ASSOCIATED WITH THE CORRECTION OF OBJECTIONABLE NOISES.

3.16 TRAINING:

- a. THIS CONTRACTOR SHALL PROVIDE 40-HOURS OF TRAINING ON THE HVAC SYSTEM. ALL TRAINING SHALL BE VIDEOTAPED BY THE CONTRACTOR. DURING THE TRAINING PERIOD, THE ATC AND HVAC CONTRACTORS SHALL DEMONSTRATE THE FULL EXTENT OF THE INSTALLED SYSTEMS TO THE COMPLETE SATISFACTION OF THE OWNER.

PART 4: PROJECT CLOSEOUT

4.01 PROJECT CLOSE-OUT:

- a. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL ITEMS ASSOCIATED WITH PROJECT CLOSE-OUT. ALLOW SUFFICIENT TIME IN THE CONSTRUCTION SCHEDULE TO ENSURE REQUIRED TESTING IS PERFORMED, AND ASSOCIATED DOCUMENTATION IS SUBMITTED TO THE ENGINEER IN-ADVANCE OF SUBSTANTIAL COMPLETION.

4.02 AS-BUILT DRAWINGS:

- a. AS-BUILT DRAWING FILES SHALL BE SUBMITTED AT THE COMPLETION OF THE PROJECT SHOWING THE "AS-BUILT" CONDITION INCLUDING WORK INSTALLED AND MODIFICATIONS OR ADDITIONS TO THE ORIGINAL DESIGN. OBTAIN AUTOCAD FILES FROM THE ARCHITECT. THE ARCHITECT/ENGINEER ARE NOT GRANTING ANY OWNERSHIP OR PROPERTY INTEREST IN THE CAD DRAWINGS BY DELIVERY OF THE CAD FILES. ANY REUSE AND/OR OTHER USE BY THE CONTRACTOR WILL BE AT THE SOLE RISK OF THE CONTRACTOR AND WITHOUT LIABILITY TO THE ARCHITECT/ENGINEER.
- b. SUBMIT ONE ELECTRONIC SET FOR REVIEW AND APPROVAL BY THE ENGINEER. UPON APPROVAL, SUBMIT ONE HARD COPY FULL-SIZE SET AND USB DRIVE WITH ELECTRONIC FILES OF THE CONSTRUCTION DOCUMENTS. DRAWING FILES SHALL BE AUTOCAD .DWG FILE FORMAT, AND .PDF FILE FORMAT.

4.03 OPERATION & MAINTENANCE MANUALS:

- a. SUBMIT ELECTRONIC O&M MANUALS FOR APPROVAL PRIOR TO COMPLETION OF THE PROJECT. ALL MAJOR EQUIPMENT, MATERIALS AND SYSTEMS SHALL BE REPRESENTED.
- b. O&M MANUALS SHOULD INCLUDE, BUT NOT LIMITED TO, THE FOLLOWING:
- DESIGN CRITERIA
 - MAINTENANCE INSTRUCTIONS
 - PARTS LISTS
 - OPERATING INSTRUCTIONS
 - EQUIPMENT LIST
 - SHOP DRAWINGS
 - CERTIFICATES OF APPROVAL
 - WARRANTIES

4.04 CLEANING:

- a. CLEAN ALL EQUIPMENT - INTERIOR AND EXTERIOR, FROM CONSTRUCTION DUST AND DEBRIS. SURFACES DAMAGED DURING CONSTRUCTION SHALL BE REPAIRED AND/OR REPLACED IF REQUIRED BY THE OWNER.

4.05 WARRANTY:

- a. THE CONTRACTOR SHALL PROVIDE THE OWNER WITH A WARRANTY, IN WRITING, OF ONE (1) YEAR FROM THE DATE OF OWNER'S ACCEPTANCE OF CERTIFICATE OF SUBSTANTIAL COMPLETION.
- b. WHERE INDIVIDUAL EQUIPMENT SECTIONS SPECIFY LONGER WARRANTIES, PROVIDE THE LONGER WARRANTY.
- c. ANY WARRANTY CLAIMS BY THE OWNER SHALL BE REPAIRED, REPLACED OR PROVIDED WITH TEMPORARY ACCOMMODATIONS WITHIN A REASONABLE TIMEFRAME.
- d. WARRANTY SHALL INCLUDE A CONTACT PERSON (NAME AND 24-HOUR TELEPHONE NUMBER) TO ACCEPT SERVICE REQUESTS.
- e. ANY DAMAGE OR REWORK REQUIRED TO RESOLVE WARRANTY CLAIMS SHALL BE AT THE SOLE COST OF THE CONTRACTOR.

4.06 GUARANTEE:

- a. PROVIDE ONE YEAR GUARANTEE AGAINST DEFECTIVE MATERIALS AND WORKMANSHIP AFTER FINAL ACCEPTANCE BY OWNER.

4.07 CONTRACTOR CERTIFICATION:

- a. PROVIDE CONTRACTOR COMPLETION CERTIFICATE STATING ALL WORK HAS BEEN PROVIDED AS DESCRIBED IN THE CONSTRUCTION DOCUMENTS, AND THAT THE INSTALLATION WAS COMPLETED IN CONFORMANCE WITH ALL APPLICABLE LOCAL, STATE AND FEDERAL REGULATIONS.
- b. A CONTRACTOR COMPLETION CERTIFICATE SHALL BE PROVIDED BY THE GENERAL CONTRACTOR, AS WELL AS THE RESPECTIVE TRADE SUB-CONTRACTOR.

4.08 MECHANICAL ENGINEER CERTIFICATION:

- a. ENGINEER CERTIFICATION / AFFIDAVIT FORM SHALL BE PROVIDED UPON COMPLETION, AND/OR RECEIPT OF THE FOLLOWING:
- TESTING AND BALANCING REPORTS FOR ALL SYSTEMS
 - CONTRACTOR "SIGN-OFF" ON OUTSTANDING ITEMS LISTED IN FIELD REPORT / PUNCHLIST CONFIRMING COMPLETION

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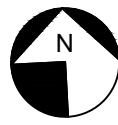
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Malden, MA 02148

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108 Sea Grove Main St.
St. Augustine, FL 32080



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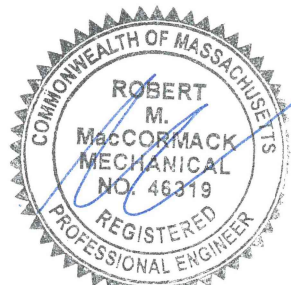
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DEMOLITION PLAN - DUCTWORK
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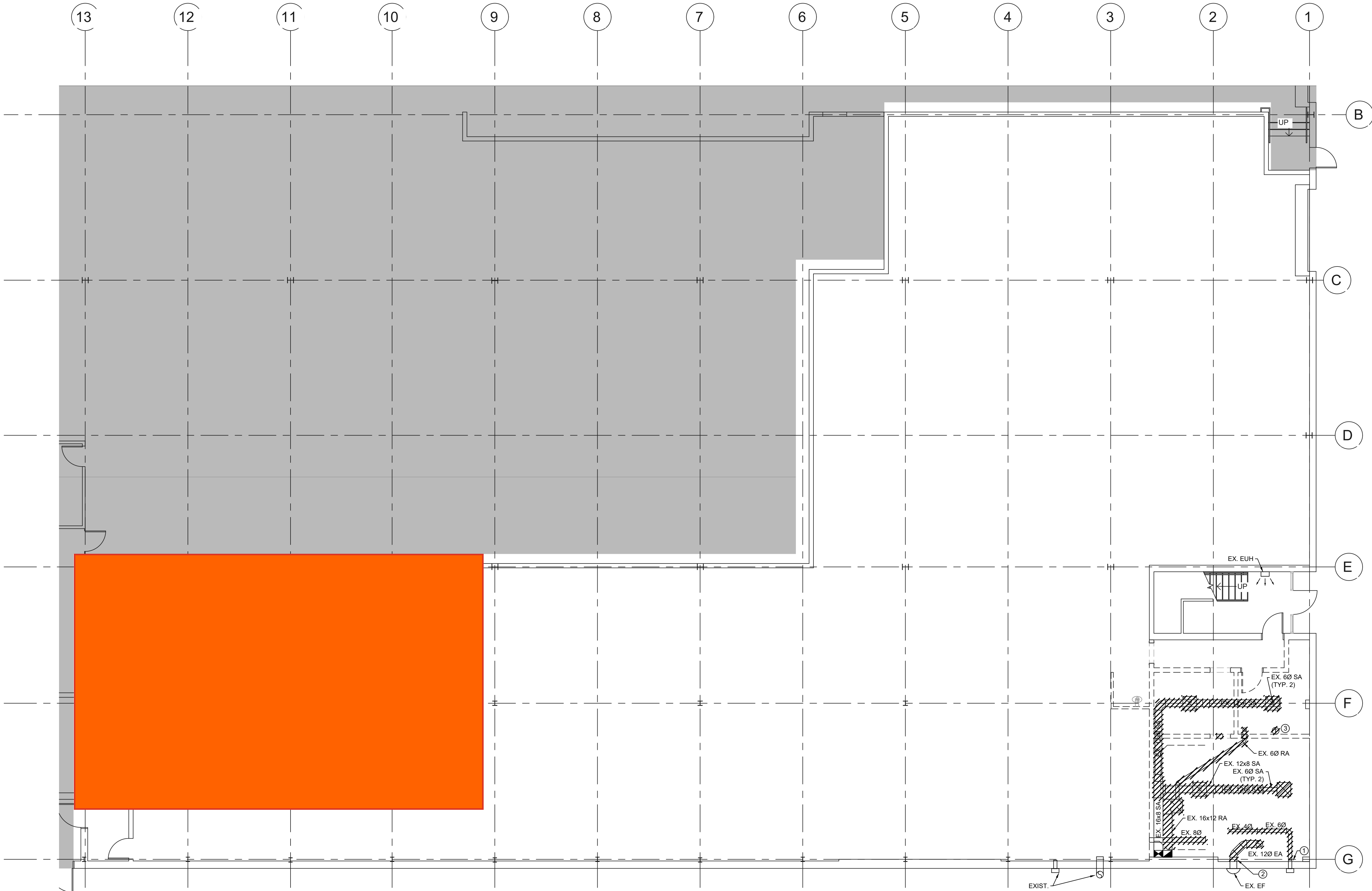
KEYED NOTES - DUCTWORK:

- EXISTING ABANDONED VENTS TO BE CAPPED.
- DEMOLISH EXISTING DUCTWORK TO THIS POINT. MAKE TRUE FOR NEW CONNECTION.
- EXISTING THERMOSTAT TO BE DEMOLISHED.

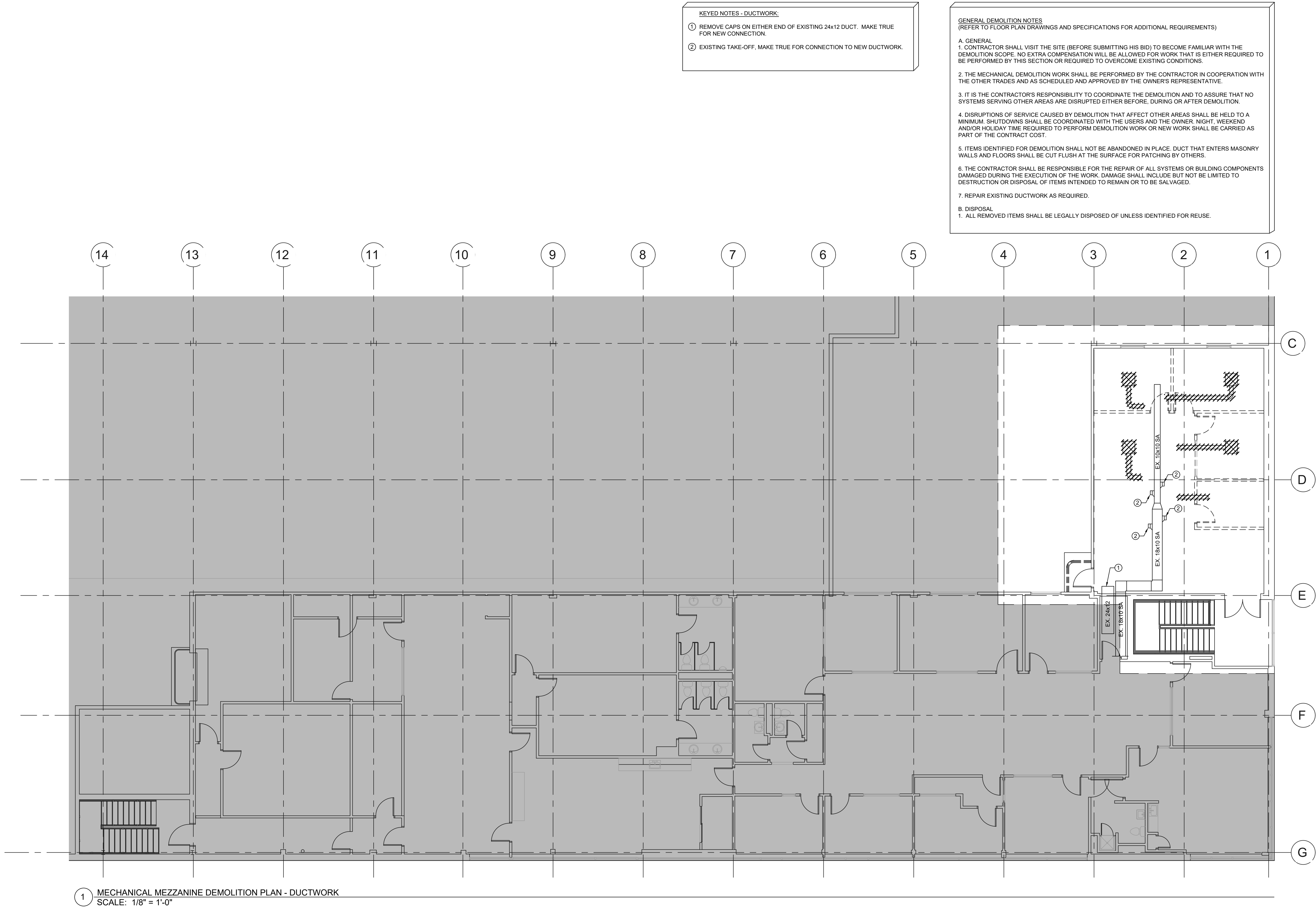
GENERAL DEMOLITION NOTES

(REFER TO FLOOR PLAN DRAWINGS AND SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS)

- A. GENERAL
- CONTRACTOR SHALL VISIT THE SITE (BEFORE SUBMITTING HIS BID) TO BECOME FAMILIAR WITH THE DEMOLITION SCOPE. NO EXTRA COMPENSATION WILL BE ALLOWED FOR WORK THAT IS EITHER REQUIRED TO BE PERFORMED BY THIS SECTION OR REQUIRED TO OVERCOME EXISTING CONDITIONS.
 - THE MECHANICAL DEMOLITION WORK SHALL BE PERFORMED BY THE CONTRACTOR IN COOPERATION WITH THE OTHER TRADES AND AS SCHEDULED AND APPROVED BY THE OWNER'S REPRESENTATIVE.
 - IT IS THE CONTRACTOR'S RESPONSIBILITY TO COORDINATE THE DEMOLITION AND TO ASSURE THAT NO SYSTEMS SERVING OTHER AREAS ARE DISRUPTED EITHER BEFORE, DURING OR AFTER DEMOLITION.
 - DISRUPTIONS OF SERVICE CAUSED BY DEMOLITION THAT AFFECT OTHER AREAS SHALL BE HELD TO A MINIMUM. SHUTDOWNS SHALL BE COORDINATED WITH THE USERS AND THE OWNER. NIGHT, WEEKEND AND/OR HOLIDAY TIME REQUIRED TO PERFORM DEMOLITION WORK OR NEW WORK SHALL BE CARRIED AS PART OF THE CONTRACT COST.
 - ITEMS IDENTIFIED FOR DEMOLITION SHALL NOT BE ABANDONED IN PLACE. DUCT THAT ENTERS MASONRY WALLS AND FLOORS SHALL BE CUT FLUSH AT THE SURFACE FOR PATCHING BY OTHERS.
 - THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REPAIR OF ALL SYSTEMS OR BUILDING COMPONENTS DAMAGED DURING THE EXECUTION OF THE WORK. DAMAGE SHALL INCLUDE BUT NOT BE LIMITED TO DESTRUCTION OR DISPOSAL OF ITEMS INTENDED TO REMAIN OR TO BE SALVAGED.
- B. DISPOSAL
- ALL REMOVED ITEMS SHALL BE LEGALLY DISPOSED OF UNLESS IDENTIFIED FOR REUSE.



1 MECHANICAL FIRST FLOOR DEMOLITION PLAN - DUCTWORK
SCALE: 1/8" = 1'-0"



1 MECHANICAL MEZZANINE DEMOLITION PLAN - DUCTWORK
SCALE: 1/8" = 1'-0"

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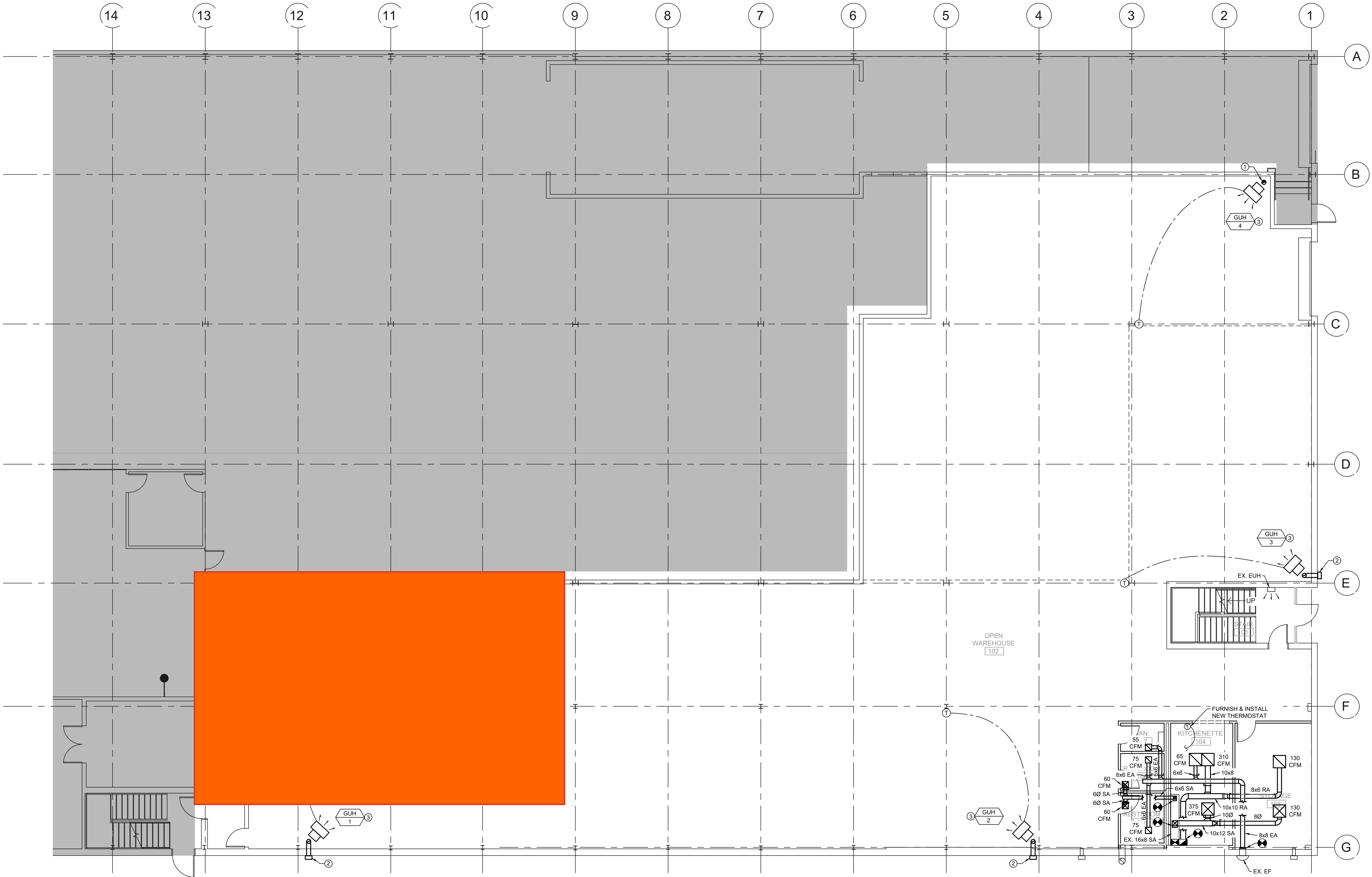
30 GAS VENT PIPE UP THROUGH ROOF. FOLLOW MANUFACTURER VENT KIT INSTRUCTIONS CAREFULLY TO COMPLETE INSTALLATION.

2

30 GAS VENT PIPE THROUGH PERIMETER WALL. FOLLOW MANUFACTURER VENT KIT INSTRUCTIONS CAREFULLY TO COMPLETE INSTALLATION.

3

GUH(S) MOUNTING HEIGHT SHALL BE PER MANUFACTURER'S INSTALLATION INSTRUCTIONS. CONTRACTOR TO COORDINATE WITH RACKING LAYOUT IN FIELD PRIOR TO INSTALL.



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Notes:

KEYED NOTES - DUCTWORK:

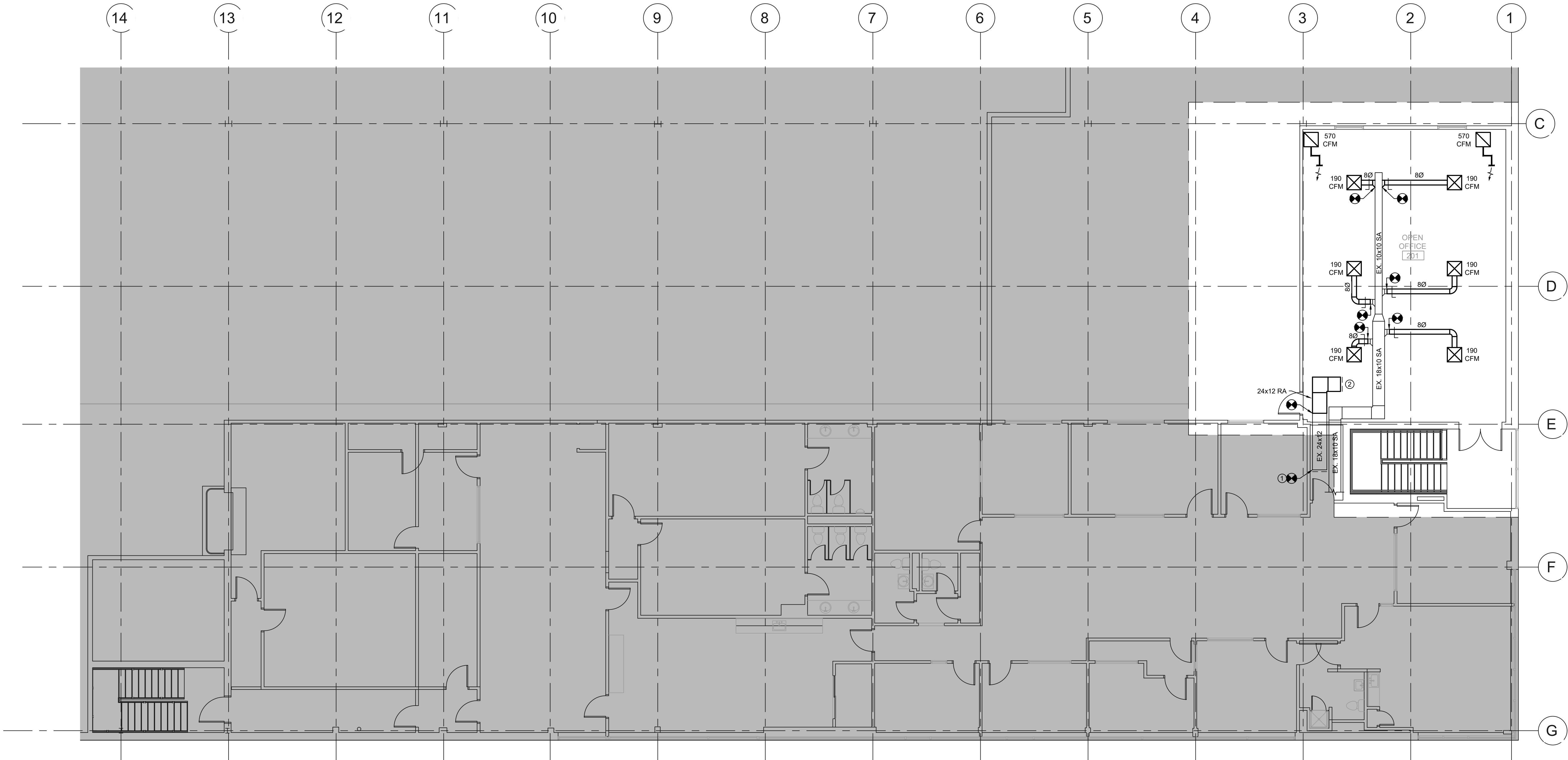
① FURNISH AND INSTALL WIRE MESH SCREEN.

② OPEN ENDED DUCT WITH WIRE MESH SCREEN.

GENERAL NOTES - DUCTWORK:

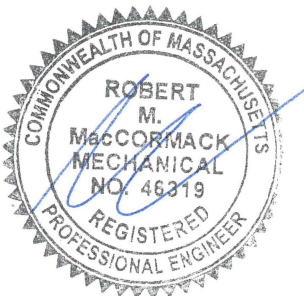
1. CONTRACTOR TO MOUNT DUCTWORK TIGHT TO UNDERSIDE OF STRUCTURE, WHERE EVER POSSIBLE.

2. ALL DUCT SIZES SHOWN ARE CLEAR INSIDE DIMENSIONS.



Key Plan:

Stamp:



Project:

Tenant Fit Plan
129 Commercial Street
Malden, MA 02148

Client:
Historic Tours Of America
108 Sea Grove Main St.
St. Augustine, FL 32080

ahp Project #: 23023
Scale: 1/8" = 1'-0"

Issue:	Date:
100% CDs	05/28/2024

Revisions:	Date:

Drawing Title:

MECHANICAL

MEZZANINE

PLAN - DUCTWORK

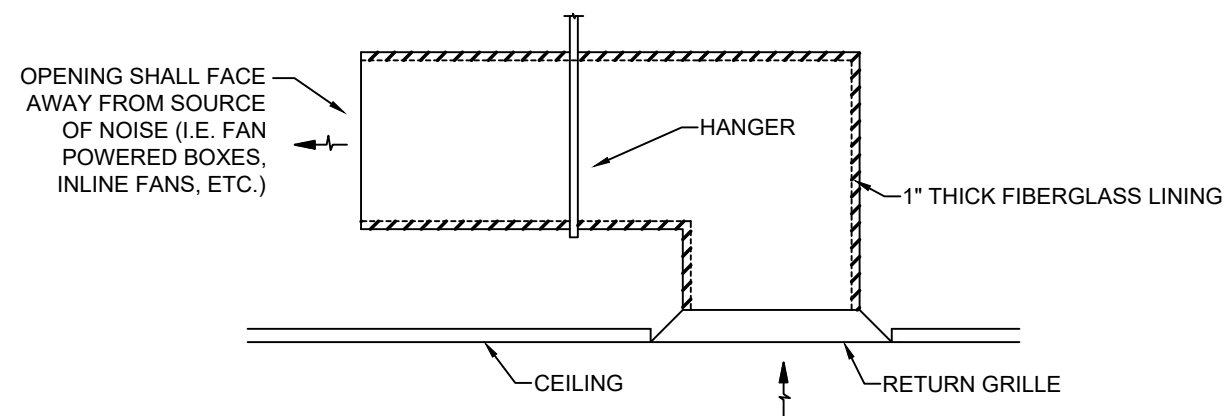
Sheet Number:

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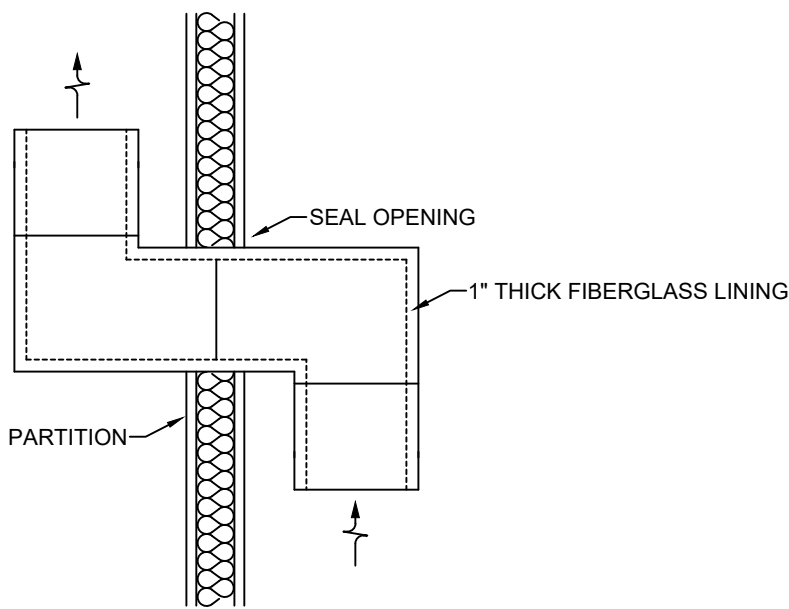


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SIZE	CFM
6X8	0-100
8X8	101-150
10X10	151-200
12X12	201-300
14X14	301-400
16X16	401-500
18X18	501-600
20X20	601-800
22X22	801-1,000
24X24	1,001-1,200

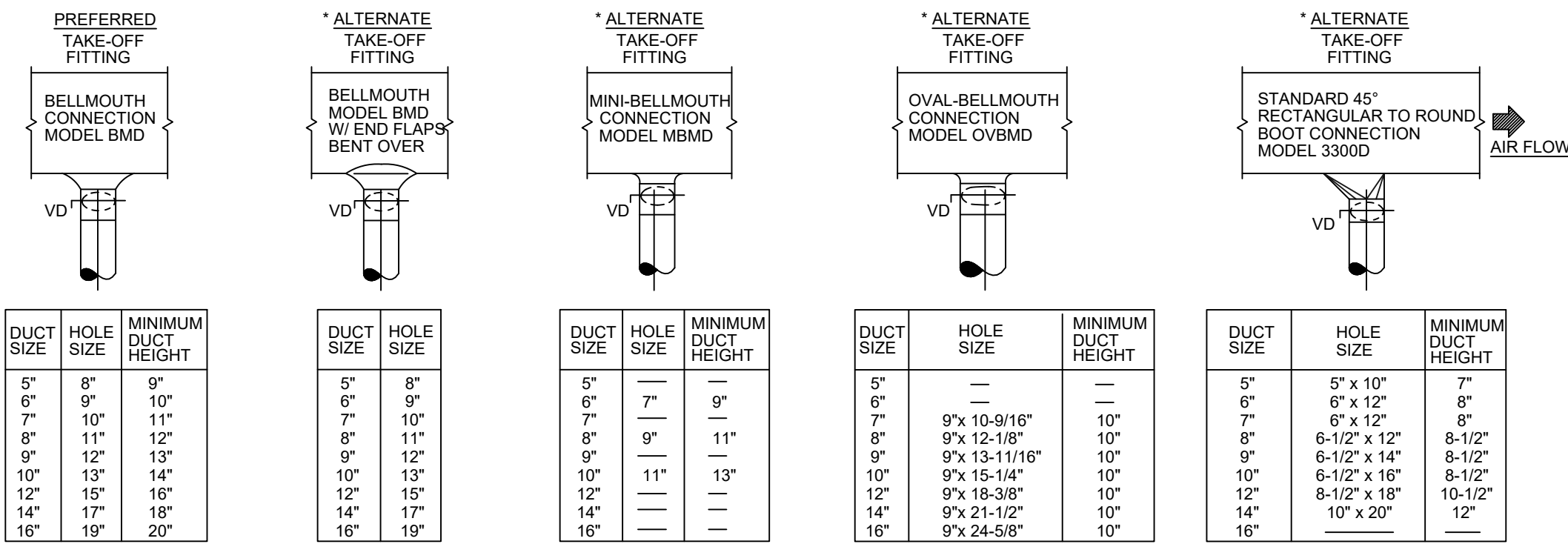


AVID
ENGINEERS

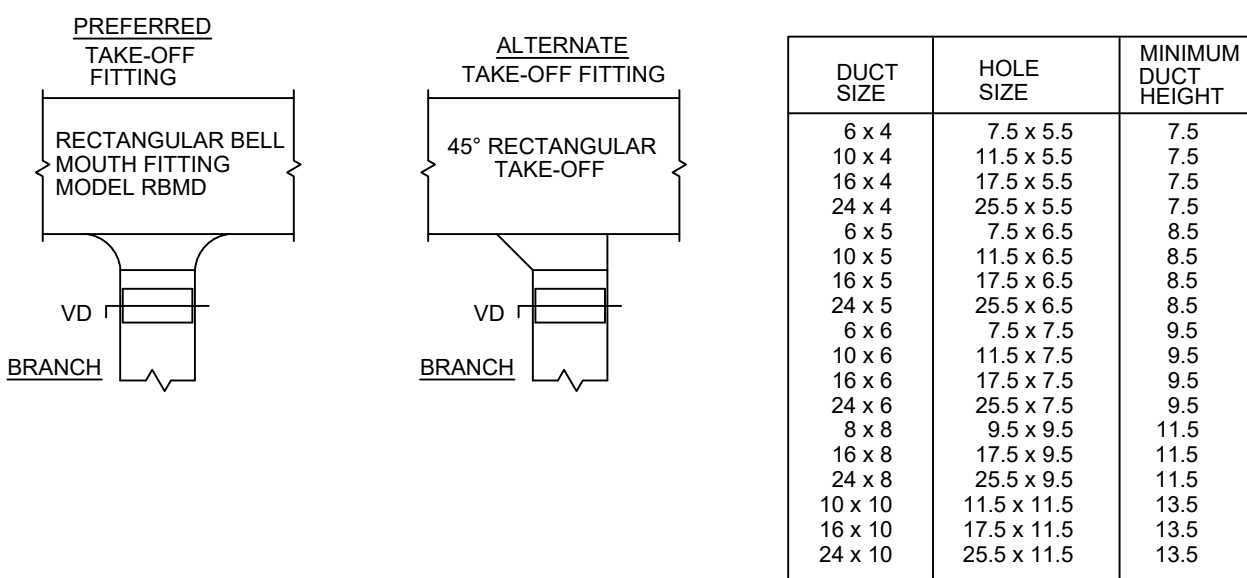
RETURN AIR TRANSFERS DETAIL

N.T.S.

ROUND DUCT TAKE-OFFS



RECTANGULAR DUCT TAKE-OFFS

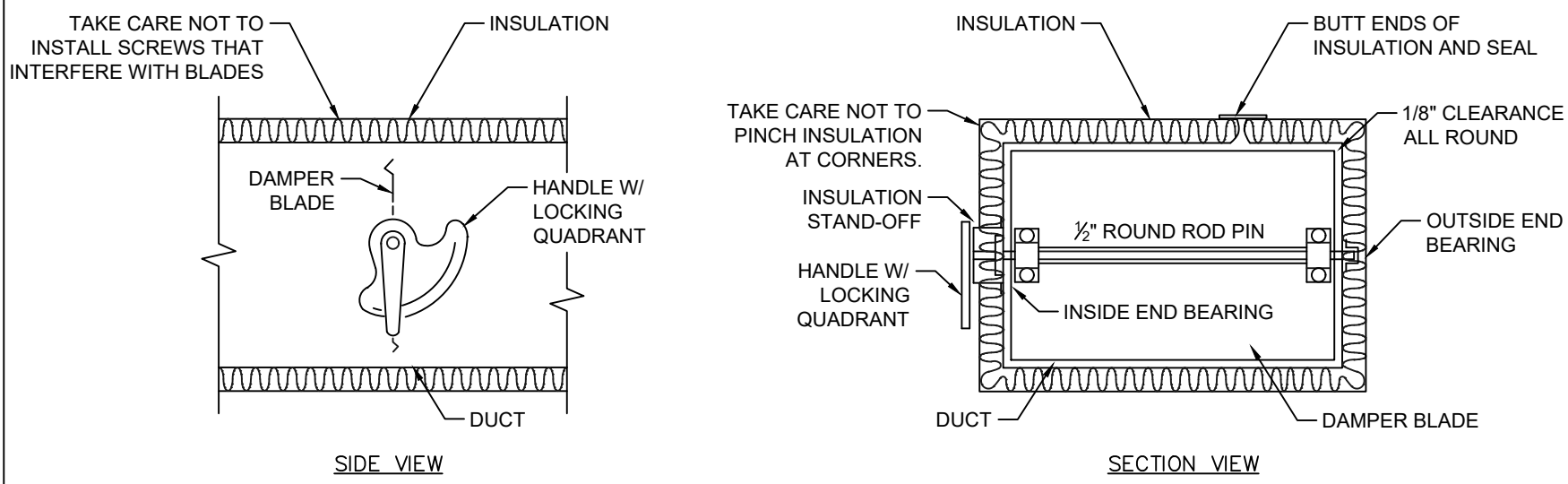


- NOTES:
1. PROVIDE TAKE-OFF FITTINGS WITH PRE-DRILLED HOLES AND NEOPRENE GASKET.
2. TAKE-OFFS SHALL BE CONSTRUCTED OF HEAVY GALVANIZED STEEL.
3. PROVIDE VOLUME DAMPERS IN ACCORDANCE WITH VOLUME DAMPER DETAIL.

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DUCT TAKE-OFFS DETAIL

N.T.S.

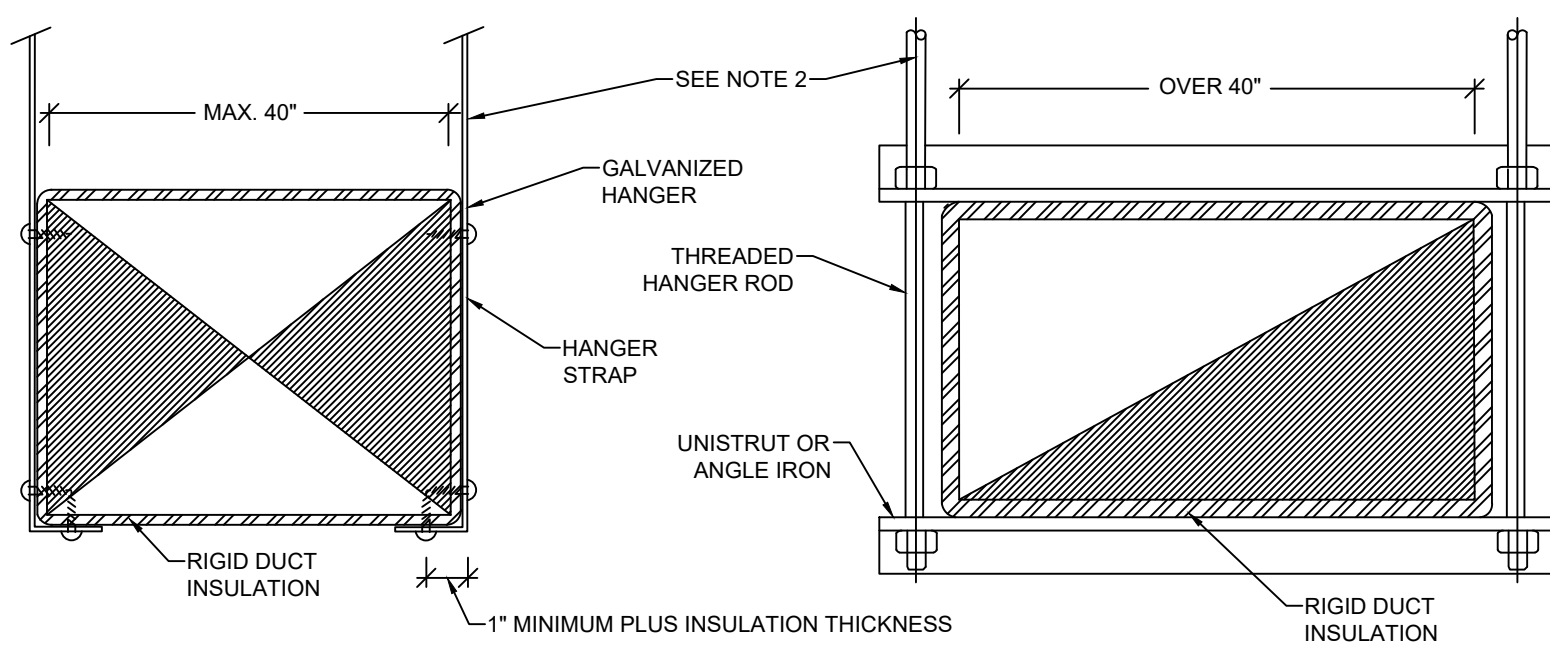


- NOTES:
1. DAMPER SHALL BE OF SAME MATERIAL AS DUCT.
2. DAMPER GAUGE SHALL BE 2 GAUGES HEAVIER THAN DUCTWORK.
3. DELETE INSULATION STAND-OFF ON DUCTWORK WITHOUT EXTERIOR INSULATION.
4. DETAIL SHOWS RECTANGULAR DUCTWORK. DAMPER INSTALLATION SHALL BE SIMILAR FOR ROUND DUCT.

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VOLUME DAMPER & INSULATION DETAIL

N.T.S.

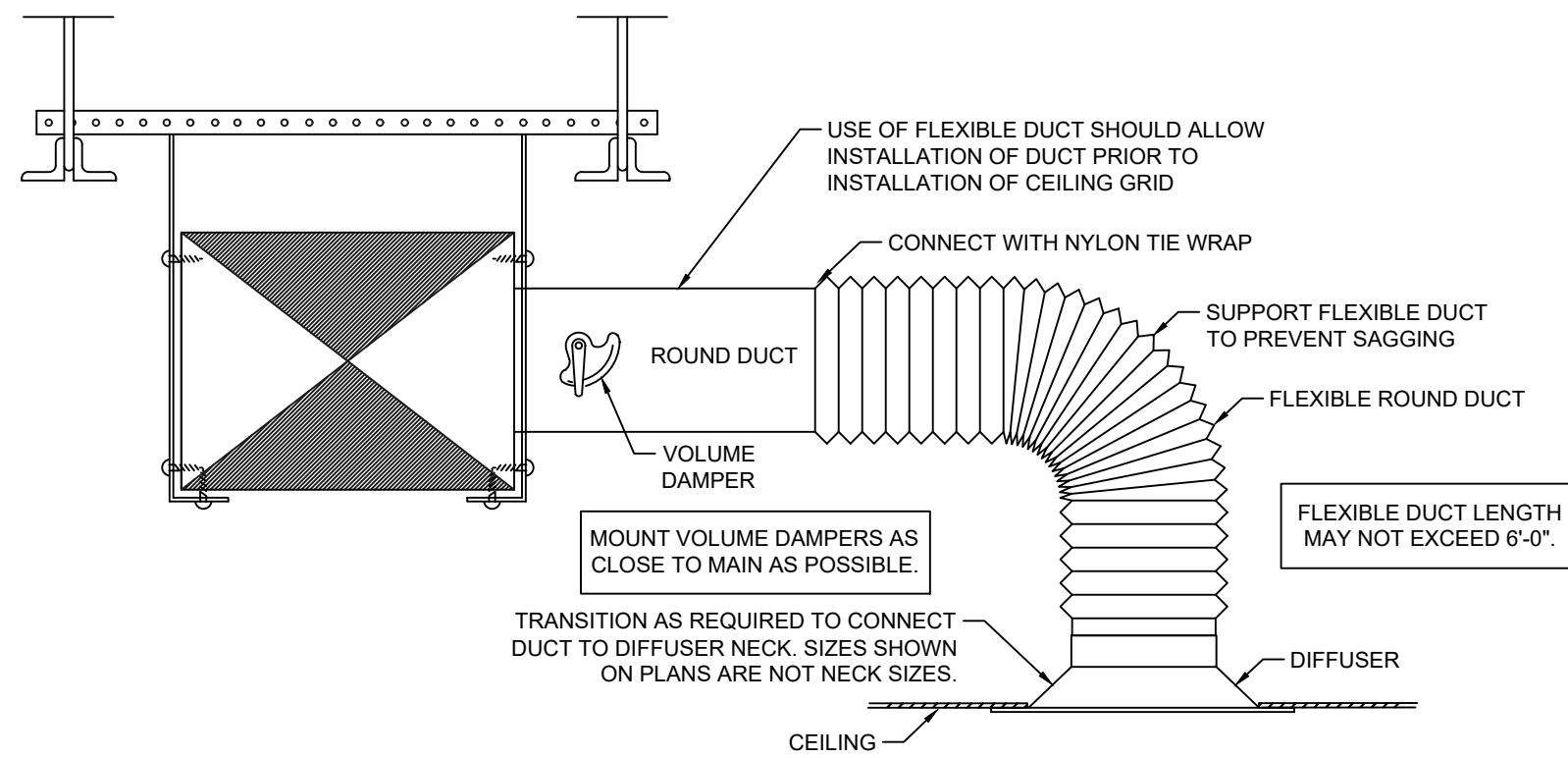


- NOTES:
1. CUTTING AND PATCHING SHALL BE LIMITED TO A MINIMUM AS REQUIRED FOR PROPER INSULATION.
2. SUPPORTS SHALL BE SPACED AND SIZED AS PER SMACNA.

AVID
ENGINEERS

RECTANGULAR DUCT HANGER SUPPORT DETAIL

N.T.S.



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DIFFUSER CONNECTION DETAIL

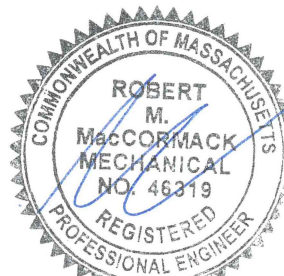
N.T.S.

Notes:

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ahp Project #: 23023
Scale: N.T.S.

Issue: 100% CDs Date: 05/28/2024

Revisions:	Date:

Drawing Title:
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DETAILS

Sheet Number:

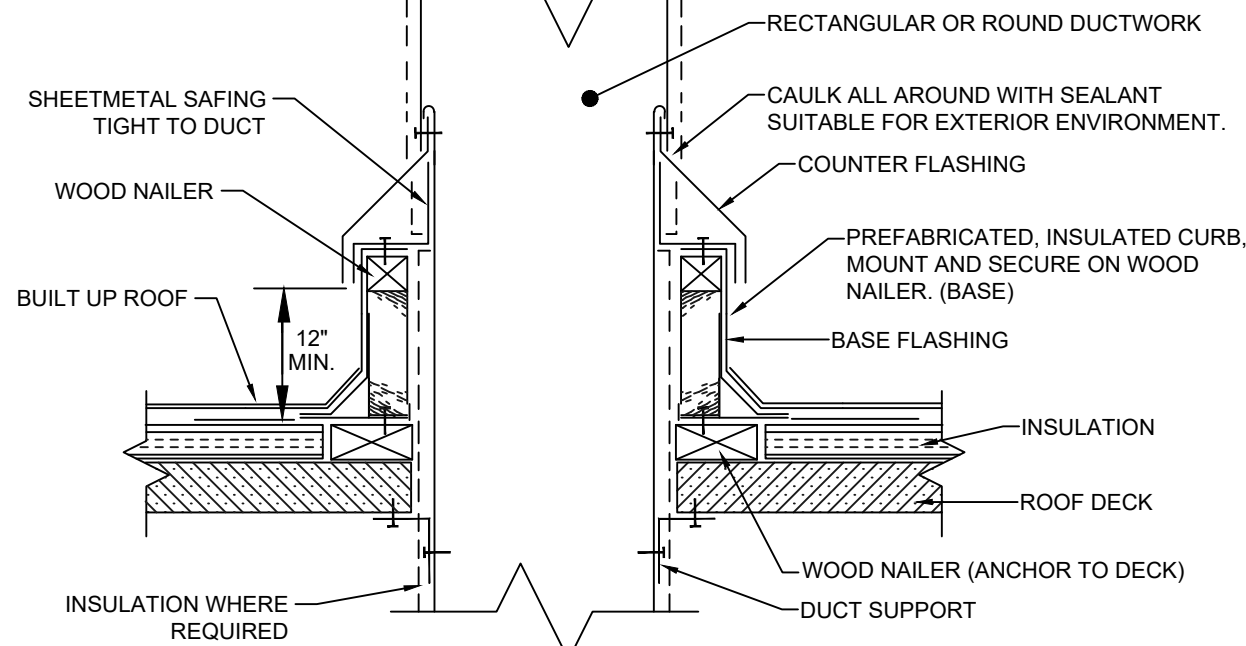
M.300

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CREATIVE THINKING

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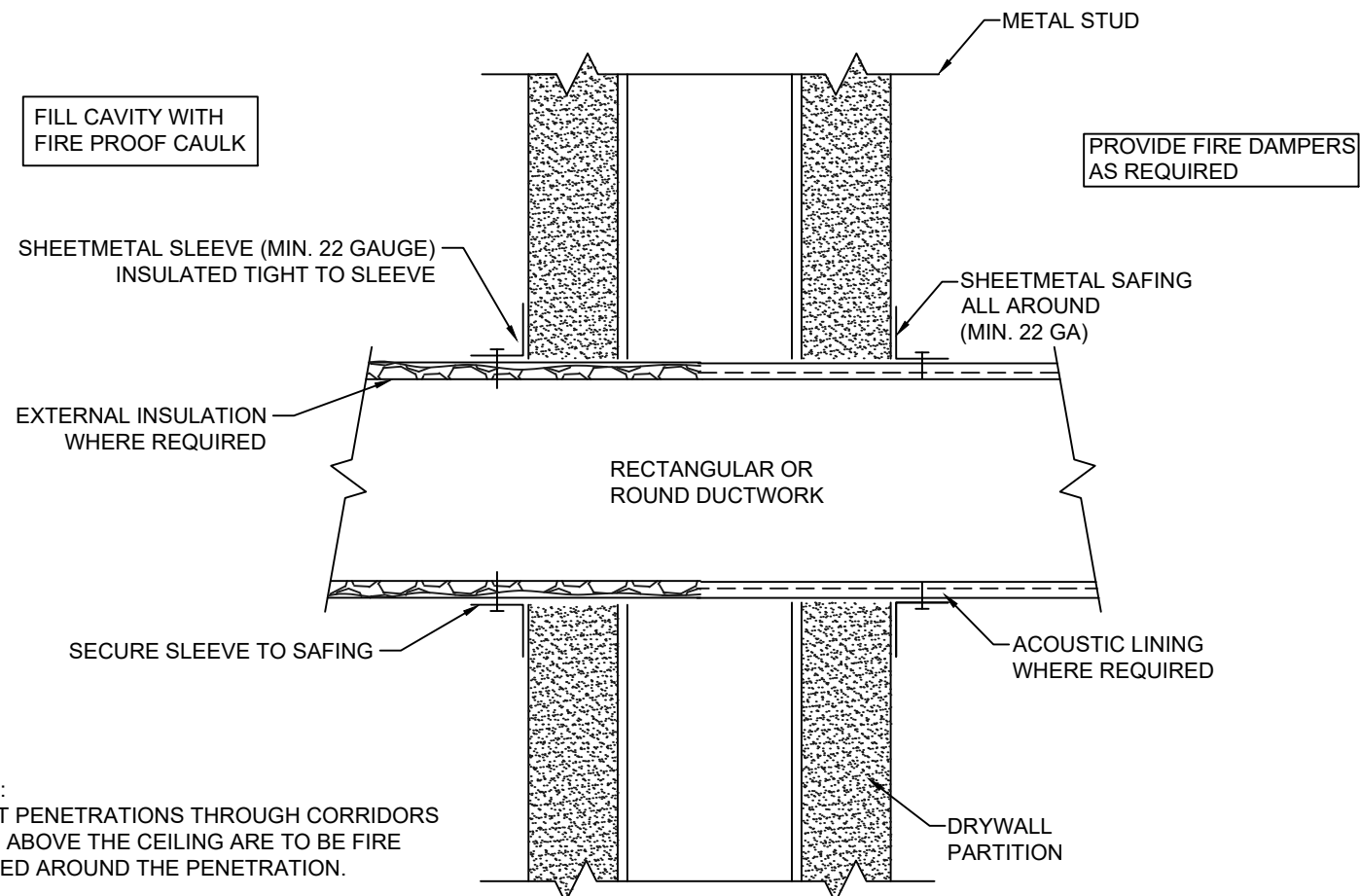
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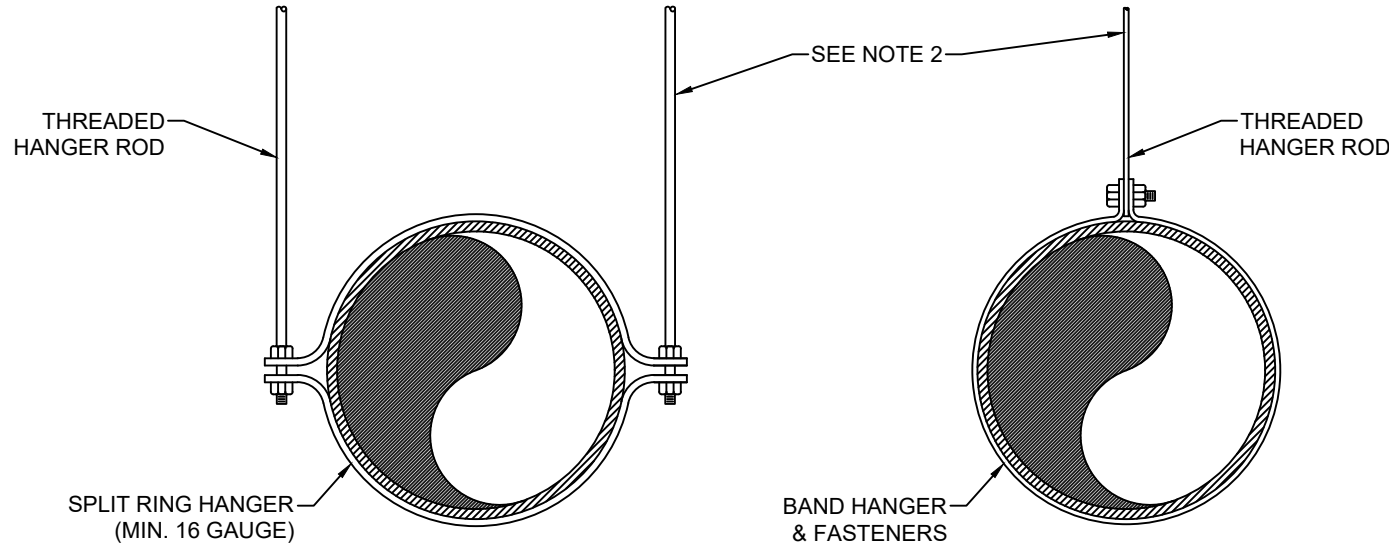
DUCT PENETRATION THROUGH ROOF DETAIL

N.T.S.



DUCT PENETRATION THRU
NON-FIRE RATED WALL DETAIL

N.T.S.



NOTES:
1. CUTTING AND PATCHING SHALL BE LIMITED TO A MINIMUM AS REQUIRED FOR PROPER INSULATION.
2. SUPPORTS SHALL BE SPACED AND SIZED AS PER SMACNA.

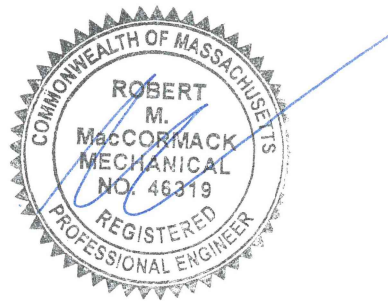


ROUND DUCT HANGER SUPPORT DETAIL

N.T.S.

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Historic Tours Of America
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St. Augustine, FL 32080



ahp Project #: 23023
Scale: N.T.S

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DETAILS

Sheet Number:

M.301



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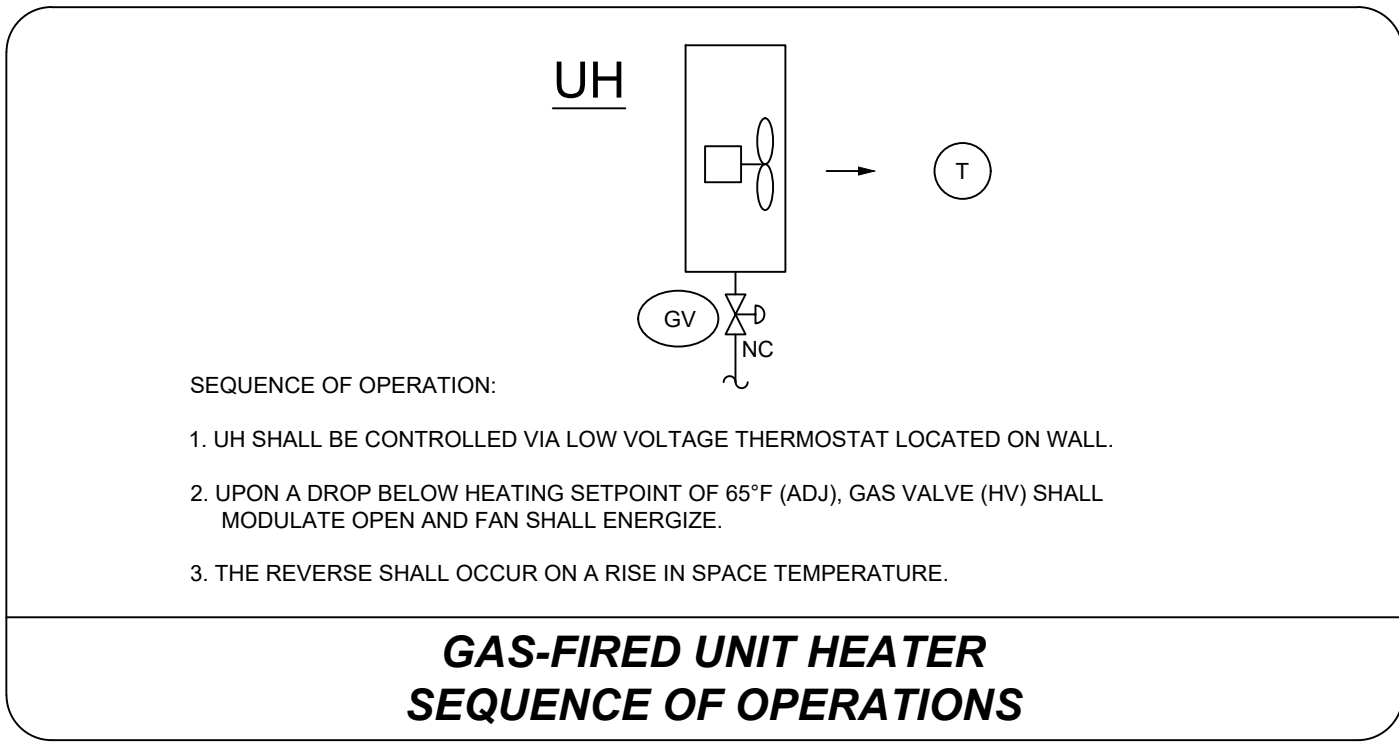
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Notes:

HVAC GENERAL NOTES													
1. ALL WORK SHALL BE PERFORMED IN A CLEAN AND WORKMANLIKE MANNER. CARE SHALL BE EXERCISED TO MINIMIZE ANY INCONVENIENCE OR DISTURBANCE TO OTHER AREAS OF THE BUILDING WHICH ARE TO REMAIN IN OPERATION. ISOLATE WORK AREAS BY MEANS OF TEMPORARY PARTITIONS AND/OR TARPS TO KEEP DUST AND DEBRIS WITHIN THE CONSTRUCTION AREA. 2. NO DUCTWORK, PIPING, EQUIPMENT, ETC. SHALL BE REMOVED, DISCONNECTED OR SHUT DOWN WITHOUT PRIOR REVIEW WITH THE OWNER AND/OR ENGINEER TO CONFIRM THAT AREAS TO REMAIN IN OPERATION WILL NOT BE AFFECTED. IF ANY AREAS NOT WITHIN THE SCOPE OF WORK ARE AFFECTED BY ANY SHUTDOWN, REMOVAL OR DISCONNECTION, 1 WEEK ADVANCE NOTICE MUST BE GIVEN TO THE OWNER INDICATING WHICH AREAS WILL BE AFFECTED, WHEN THE PROPOSED SHUTDOWN WILL OCCUR, AND FOR HOW LONG A PERIOD OF TIME. 3. ALL ITEMS REMOVED SHALL BECOME PROPERTY OF THE OWNER AND SHALL BE DISPOSED OF AS PER OWNER'S INSTRUCTIONS, UNLESS INDICATED OTHERWISE. ALL ITEMS WHICH ARE NOT TO BE STORED ON SITE BY OWNERS SHALL BE REMOVED FROM THE BUILDING IMMEDIATELY. 4. THIS CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS AND EXISTING CONDITIONS PRIOR TO PROCEEDING WITH ANY WORK. WHERE DISCREPANCIES OCCUR BETWEEN THESE DOCUMENTS AND EXISTING CONDITIONS, THE DISCREPANCY SHALL BE REPORTED TO THE OWNER AND/OR ENGINEER FOR EXPEDITING AND RESOLVE. 5. ALL SHUT DOWNS OF EXISTING SYSTEMS SHALL BE SCHEDULED AND APPROVED BY THE OWNER PRIOR TO COMMENCING WITH WORK. 6. CLEAN THE JOB SITE DAILY AND REMOVE FROM THE PREMISES ANY DIRT AND DEBRIS CAUSED BY THE PERFORMANCE OF THE WORK INCLUDED IN THIS CONTRACT. 7. USE OF THE OWNER'S ELEVATORS AND BUILDING CORRIDORS FOR HANDLING OF THE OWNER'S AND REMOVED EQUIPMENT AND MATERIALS SHALL BE AT THE DIRECTION OF THE OWNER AND SHALL BE COORDINATED WITH HIS OPERATIONS. 8. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE SAFEKEEPING OF HIS OWN PROPERTY ON THE JOB SITE. OWNER ASSUMES NO RESPONSIBILITY FOR PROTECTION OF PROPERTIES AGAINST FIRE, THEFT AND ENVIRONMENTAL CONDITIONS. 9. SUCCESSFULLY PRESSURE TEST ALL REROUTED PIPING SYSTEMS. TEST SHALL BE PERFORMED AT NORMAL SYSTEM OPERATING PRESSURES. REPAIR AND RETEST AS REQUIRED UNTIL SYSTEMS PROVE TIGHT. 10. EXISTING MATERIALS THAT ARE REMOVED SHALL NOT BE REUSED IN NEW SYSTEMS, EXCEPT WHERE INDICATED AS SUCH ON THE DRAWINGS. ALL MATERIALS AND EQUIPMENT LISTED AS NEW MUST BE NEW. 11. PROVIDE ALL NECESSARY TEMPORARY OR PERMANENT CAPS OR PLUGS FOR PIPING. DO NOT LEAVE PIPING OPEN ENDED. 12. WHERE USED THE TERM "PROVIDE" SHALL MEAN "FURNISH AND INSTALL". 13. THIS CONTRACTOR SHALL COORDINATE HIS WORK WITH ALL OTHER TRADES PRIOR TO FABRICATION, PURCHASE AND/OR INSTALLATION OF ALL WORK. ALL OFFSETS IN PIPING AND DUCTS TO AVOID OBSTRUCTIONS SHALL BE PROVIDED AT NO COST TO THE OWNER. 14. PROVIDE ACCESS PANELS FOR ALL CONCEALED DAMPERS, VALVES AND EQUIPMENT. 15. CONTRACTOR SHALL SPRAY PAINT INSIDE OF DUCT BLACK, BEHIND ALL GRILLES AND REGISTERS. 16. IF A SECTION OF DUCT OR PIPE IS NOT LABELED FOR SIZE, THAN THE LARGER SIZE INDICATED ON THE DRAWINGS SHALL PREVAIL. SIZE OF DUCT RUN-OUTS TO DIFFUSERS SHALL EQUAL DIFFUSER NECK SIZE. 17. ALL NEW, RELOCATED OR EXISTING EQUIPMENT AFFECTED BY THIS SCOPE OF WORK SHALL BE REBALANCED BEFORE BEING PLACED IN SERVICE. 18. DUCT AND PIPE SHALL NOT RUN ALONG FULL HEIGHT PARTITIONS. 19. REFER TO ARCHITECTURAL REFLECTED CEILING PLAN FOR EXACT LOCATION OF REGISTERS, DIFFUSERS AND GRILLES. 20. ALL DUCTWORK AND PIPING SHALL BE INSTALLED AS INDICATED ON THE DRAWINGS IN A NEAT AND WORKMANLIKE MANNER AND BE SUPPORTED AS REQUIRED BY CODES. DUCTWORK AND PIPING SHALL BE SET UP AND DOWN AND OFFSET AS REQUIRED TO SUIT FIELD CONDITIONS. DIELECTRIC COUPLINGS SHALL BE USED WHERE DISSIMILAR METALS ARE JOINED. 21. CONTRACTOR SHALL PROVIDE ALL TEMPERATURE CONTROLS INCLUDING WIRING, TUBING AND THERMOSTATS (WITH LOCKING COVERS) AND ALL MISCELLANEOUS APPURTENANCES TO MEET THE INTENT OF THESE DOCUMENTS. PROTECT EXISTING THERMOSTATS AND INSTALL NEW AT 4.5 FEET AFF. 22. THE CONTRACTOR IS RESPONSIBLE FOR ALL WORK, MATERIALS AND LABOR TO SATISFY A COMPLETE WORKING SYSTEM WHETHER SPECIFIED OR IMPLIED. 23. ALL WORK IS TO BE PERFORMED IN STRICT COMPLIANCE WITH LOCAL CODES AND ALL OTHER REGULATIONS GOVERNING WORK OF THIS NATURE. 24. THE CONTRACTOR SHALL, BEFORE SUBMITTING ANY PROPOSAL, EXAMINE THE PROPOSED SITE AND SHALL DETERMINE FOR HIMSELF THE CONDITIONS THAT MAY AFFECT THE WORK. ABSOLUTELY NO CLAIMS FOR ADDITIONAL COMPENSATION WILL BE CONSIDERED FOR CONDITIONS REASONABLY VISIBLE UPON EXAMINATION OF SITE. 25. ALL EQUIPMENT AND MATERIALS SHALL BE AS SPECIFIED OR "APPROVED EQUAL" BY THE ENGINEER OR ARCHITECT. 26. THE CONTRACTOR SHALL SECURE ALL PERMITS OR APPLICATIONS AND PAY ANY AND ALL FEES. 27. THE MECHANICAL PLANS ARE INTENDED TO BE DIAGRAMMATIC AND ARE BASED ON ONE MANUFACTURER'S EQUIPMENT. THEY ARE NOT INTENDED TO SHOW THE EXACT ROUTING OF SYSTEMS OR LOCATION OF COMPONENTS. THE EXACT LOCATIONS, DIMENSIONS AND ALL OTHER DETAILS OF EQUIPMENT ARE THE RESPONSIBILITY OF THIS CONTRACTOR. THIS CONTRACTOR SHALL VERIFY THE ACTUAL DIMENSIONS OF THE EQUIPMENT PROPOSED TO ENSURE THAT THE EQUIPMENT WILL FIT IN THE AVAILABLE SPACE. PROVIDE ALL DUCT AND PIPE TRANSITIONS REQUIRED FOR CONNECTION TO EQUIPMENT. 28. THE FIRE PROOFING OF THE EXISTING STRUCTURE IS NOT TO BE REMOVED FOR THE INSTALLATION OF HANGERS, SUPPORTS AND DUCTWORK ETC. IF FIRE PROOFING IS DAMAGED, IT SHALL BE REPAIRED AT THE EXPENSE OF THE TRADE.													

REGISTERS, GRILLES & DIFFUSERS SCHEDULE											
LOCATION	TYPE	MANUFACTURER	MODEL	DIFFUSER SIZE	NECK SIZE	CFM RANGE	THROW @ 0" (100-FPM)	DIRECTION OF BLOW	MAX NC	MAX SP	NOTES
-	SUPPLY DIFFUSER	PRICE	SPD	12"x12"	6"Ø	0-100	-	SEE PLANS	25	.10"	1, 2
-	SUPPLY DIFFUSER	PRICE	SPD	24"x24"	8"Ø	101-250	-	SEE PLANS	25	.10"	1, 2
-	SUPPLY DIFFUSER	PRICE	SPD	24"x24"	10"Ø	251-450	-	SEE PLANS	25	.10"	1, 2
-	RETURN/EXHAUST PERFORATED PANEL	PRICE	PDDR	12"x12"	6"x6"	0-125	-	N/A	20	.16"	1, 2, 3
-	RETURN/EXHAUST PERFORATED PANEL	PRICE	PDDR	24"x24"	18"x18"	126-1100	-	N/A	20	.16"	1, 2, 3
1. COORDINATE FINISH WITH ARCHITECT. 2. BORDER TYPE 3 (LAY IN) 3. COORDINATE GRILLE SIZES WITH DUCTWORK.											

GAS FIRED UNIT HEATER SCHEDULE															
TAG	LOCATION	TYPE	AIR			MOTOR				GAS FIRED HEATER			MANUFACTURER AND MODEL NUMBER (AS STANDARD)	REMARKS	
			CFM	EAT (°F)	LAT (°F)	RPM	BHP	HP	ELECTRIC SERVICE			CAPACITY (MBH)			
									HZ	V	PH	INPUT	OUTPUT		
GUH-1	WAREHOUSE	PROPELLER	505	55	99	1,550	-	1/15	60	208	1	30	24.9	MODINE HD30	1-5
GUH-2	WAREHOUSE	PROPELLER	505	55	99	1,550	-	1/15	60	208	1	30	24.9	MODINE HD30	1-5
GUH-3	WAREHOUSE	PROPELLER	505	55	99	1,550	-	1/15	60	208	1	30	24.9	MODINE HD30	1-5
GUH-4	WAREHOUSE	PROPELLER	505	55	99	1,550	-	1/15	60	208	1	30	24.9	MODINE HD30	1-5
NOTES:															
1. PROVIDE WITH LOW VOLTAGE THERMOSTAT.															
2. PROVIDE WITH AIRFLOW PROVING SWITCH.															
3. PROVIDE WITH MANUFACTURER'S VERTICAL CONCENTRIC VENT KIT.															
4. PROVIDE WITH MANUFACTURER'S MOUNTING KIT.															
5. PROVIDE WITH 30 DEGREE DISCHARGE LOUVER OPTION.															



Key Plan:

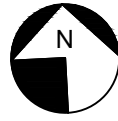
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