NOA NOA

05.22.2024 | ISSUE FOR CONSTRUCTION

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#	DESCRIPTION	ISSUED TO	DATE
0	ISSUED FOR CONSTRUCTION	OWNER / GC / AHJ	05.22.2024

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PROPERTY INFORMATION

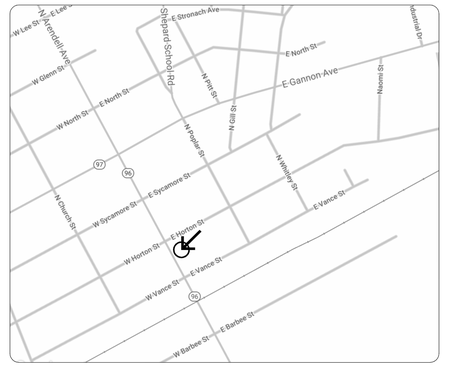
PARCEL ID #: 2705347749

PROPERTY DESCRIPTION:

BEING all of Lots 36 and 37 in Block 18 on the map of the property of the Zebulon Company filed in the office of the Register of Deeds of Wake County, North Carolina in Book of Maps 1885, Page 68, save and except from the southern portion of Lot 37 the following described parcel: BP,GJNNING at a point in the eastern margin of Arendell Avenue at the northern intersection of Arendell Avenue with a fifleen foot alley; thence North 23°40' West approximately 22.30 feet along the eastern margin of Arendell to the center of the brick wall dividing the North Carolina Bank And Trust Company property into two store spaces; thence through the center line of said brick dividing wall North 66°20' East approximately 130 feet to a point in the western margin of a 20 foot alley; thence South 23°40' East approximately 22.30 feet to another point in said 20 foot alley where it intersects with the northern margin of a 15 foot alley (which intersects with Arendell Avenue); thence South 60°20' West along the northern margin of said 15 fOOt alley fipproximately 130 feet to a point where said 15 foot alley intersects with the eastern margin of Arendell Avenue, the point of BEGINNING; and being the same land conveyed by deed from Gurney P. Wood, Commissioner of Banks for the State of North Carolina, ex rel. North Carolina Bank And Trust Company, to H. Baer, recorded in Book 723, Page 346, Wake County Registry.

The property is the same as parcel 2 conveyed to the grantor by deed recorded in Book 7952, Page 546, Wake County Registry, with a street address of 122 N. Arendell Avenue.

PROJECT LOCATION



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ARCHITECTURAL COMPANY
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NORTH CAROLINA
ZEBULON, N.C.

NORTH CAROLINA
LICENSED
14427
ARCHITECT
MICHAEL A. GERMANO
05.22.2024

sheet information

#	date	description
0	05.22.2024	CONSTRUCTION SET

project #:	23049
drawn by:	MAG
checked by:	MAG

COVER

THESE PLANS ARE NOT TO BE REPRODUCED, CHANGED OR COPIED IN ANY FORM OR MANNER WHATSOEVER | CONSTRUCTION IS RESPONSIBLE FOR ESTABLISHING MEANS OF ALL SAFETY

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GENERAL NOTES

1. THE CONTRACTOR SHALL FIELD VERIFY ALL CONDITIONS AND DIMENSIONS PRIOR TO COMMENCING ANY WORK.
2. ALL CONSTRUCTION SHALL COMPLY WITH APPLICABLE CODES AND RESTRICTIONS ENFORCED BY AUTHORITIES HAVING JURISDICTION.
3. DO NOT SCALE DRAWINGS. DIMENSIONS SHALL GOVERN. ALL DIMENSIONS ON FLOOR PLANS INDICATE NOMINAL WIDTH UNLESS NOTED OTHERWISE ON DRAWINGS. DETAILS SHALL GOVERN OVER PLAN AND ELEVATIONS DRAWINGS. LARGE SCALE DETAILS SHALL GOVERN OVER SMALL DETAILS. CONTACT ARCHITECT FOR UNKNOWN DIMENSIONS.
4. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO CONTACT LOCAL UTILITY COMPANIES TO LOCATE ALL EXISTING UTILITIES AND TO PROTECT THEM FROM DAMAGE. THE CONTRACTOR SHALL BEAR ALL EXPENSES OF REPAIR OR REPLACEMENT OF UTILITIES OR OTHER PROPERTY DAMAGED BY OPERATIONS IN CONJUNCTION WITH THE EXECUTION OF THE WORK. ALL FINAL CONNECTIONS FROM THE BUILDING TO EXISTING UTILITIES SHALL BE BY THIS CONTRACTOR.
5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE SECURITY OF THE SITE AS REQUIRED IN THE CONTRACT DOCUMENTS.
6. ALL DEBRIS SHALL BE REMOVED FROM THE PREMISES BY THE CONTRACTOR AND ALL AREAS SHALL BE LEFT IN A CLEAN CONDITION AT ALL TIMES DURING CONSTRUCTION.
7. THE GC SHALL TAKE ALL NECESSARY PRECAUTIONS TO ENSURE THE SAFETY OF THE OCCUPANTS AND WORKERS AS REQUIRED BY GENERAL CONDITIONS AND ALL APPLICABLE LOCAL, STATE, AND FEDERAL REGULATIONS.
8. CONTRACTOR SHALL ENGAGE A NORTH CAROLINA REGISTERED SPECIALTY ENGINEER TO DETERMINE METAL STUD GAUGES AND DESIGN STUD FRAMING. METAL STUD GAUGES SHALL MEET RECOMMENDATIONS AND/OR REQUIREMENTS OF THE STUD MFR'R AND ALL APPLICABLE CODES. SHOP DRAWINGS SHALL BE SUBMITTED TO THE ARCHITECT FOR REVIEW.
9. PROVIDE DRAFT STOPPING IN CANOPIES AT INTERVALS NOT TO EXCEED 3,000 SQ. FT. & WHERE SPECIFICALLY CALLED FOR ON DRAWINGS. DRAFT STOPPING SHALL BE 1/2" GYP. BD. ON ONE SIDE OF LIGHT GAUGE METAL FRAMING.
10. CONTRACT SHALL OBTAIN A COPY OF THE SOILS INVESTIGATION REPORT FROM THE OWNER, AND SHALL COMPLY WITH ALL REQUIREMENTS OF THE REPORT.
11. DISCREPANCIES BETWEEN PORTIONS OF THE CONTRACT DOCUMENTS ARE NOT INTENDED. THE CONTRACTOR IS TO CLARIFY WITH THE ARCHITECT ANY DISCREPANCIES WHICH MAY OCCUR PRIOR TO COMMENCING ANY CONSTRUCTION.
12. ALL FIRE-RATED CONSTRUCTION SHALL CONFORM TO MOST CURRENT UL TESTED STANDARDS AND/OR LOCAL REQUIREMENTS.
13. DO NOT OBSTRUCT STREETS, SIDEWALKS, ALLEYS OR OTHER RIGHT-OF-WAYS WITHOUT FIRST OBTAINING PROPER PERMITS.
14. ALL PENETRATIONS THRU FIRE RATED CONSTRUCTION SHALL COMPLY WITH UL & ALL APPLICABLE CODES & ORDINANCES.
15. ALL EXTERIOR MATERIALS TO MEET ALL LOCAL & STATE WIND & IMPACT TEST REQUIREMENTS. SUBMIT PRODUCT APPROVAL NUMBERS TO AUTHORITY HAVING JURISDICTION FOR REVIEW IN ACCORDANCE WITH THEIR REQUIREMENTS.
16. DIMENSIONS ARE TO COLUMN GRID, FACE OF MASONRY/CONCRETE/PRECAST, FACE OF METAL/WOOD STUD, UNO.
17. CONTRACTOR TO PROVIDE & INSTALL FIRE EXTINGUISHERS AS REQUIRED BY LOCAL FIRE MARSHAL COORDINATE LOCATIONS / PLACEMENTS WITH FIRE MARSHAL. INSTALL QUANTITY AS REQUIRED SO AS NOT TO EXCEED 75' OF TRAVEL TO AN EXTINGUISHER.
18. ALL INTERIOR WALL AND CEILING FINISHES SHALL COMPLY WITH NFPA 101, CHAPTER 10 AND NCBC SECTION 803.
19. JOINTS WHICH OCCUR IN RATED PARTITIONS SHALL BE STAGGERED IN ACCORDANCE WITH THE DESIGN ASSEMBLY REQUIREMENT. WHERE OPENINGS ARE MADE IN EXISTING RATED PARTITIONS, OR WHERE OPENINGS IN EXISTING PARTITIONS ARE CLOSED, THE EXISTING GYPSUM BOARD MAY BE REMOVED ON ONE SIDE OF THE PARTITIONS BACK TO THE NEXT STUD TO ASSURE THE PROPER STAGGERING OF THE JOINTS.
20. SEAL / CAULK PERIMETER OF RATED WALLS AND PENETRATIONS OF RATED WALLS IN ACCORDANCE WITH APPLICABLE UL DESIGN AND REQUIREMENTS OF THE AUTHORITY HAVING JURISDICTION.
22. ELECTRICAL DEVICES WHICH OCCUR IN RATED PARTITIONS SHALL BE LOCATED SO THAT BACK BOXES WITHIN A SINGLE STUD CAVITY SHALL NOT EXCEED A TOTAL OF 16 SQUARE INCHES IN AREA OR EXCEED A TOTAL OF 100 SQUARE INCHES IN ANY 100 SQUARE FEET OF WALL AREA. ON OPPOSITE SIDES OF WALLS OR PARTITIONS SHALL BE SEPARATED BY A MIN. HORIZ. DISTANCE OF 24". WHERE THIS REQUIREMENT CANNOT BE MET, BACK BOXES IN EXCESS OF THE ALLOWED MAXIMUM SHALL BE BACKED WITH PUTTY PADS.
23. ALL DENOTED FUTURE TENANTS ARE TO SUBMIT ALL REQUIRED INTERIOR DRAWINGS & SPECIFICATIONS, INCLUDING BUT NOT LIMITED TO ALL EQUIPMENT, SHELVING, TENANT IMPROVEMENT WORK, AND WILL REQUIRE SEPARATE PERMIT FOR OCCUPANCY. ITEMS SHOWN UNDER THESE SET OF CONTRACT DOCUMENTS ARE ONLY ITEMS TO BE INSTALLED BY LANDLORD SCOPE OF WORK.
24. SHELVING MUST BE MOUNTED SO AS NOT TO ALLOW STORAGE WITHIN 18 INCHES OF THE FIRE SPRINKLER NOZZLE HORIZONTAL PLANE.
25. IT IS THE RESPONSIBILITY OF THE GC TO VERIFY ALL WATERPROOFING AND FLASHING CONDITIONS. IF THERE IS NOT A DETAIL FOR THE WATERPROOFING CONDITION, IT IS THE RESPONSIBILITY OF THE GC TO CONTACT THE ARCHITECT OR WATERPROOFING CONSULTANT PRIOR TO CONSTRUCTION.
26. EVERY TENANT'S ADDRESS SHALL BE DISPLAYED ON BUILDING IN NUMBERS OF SUFFICIENT SIZE AND CONTRASTING COLOR VISIBLE FROM THE ROAD DAY OR NIGHT.
27. IF THE LOCATION OF ANY BUILDING ELEMENT IS NOT OBVIOUS OR CANNOT BE DETERMINED BY DIMENSION OR MATHEMATICS, CONTACT THE ARCHITECT PRIOR TO LOCATING THE ELEMENT.
28. THE CONTRACTOR SHALL FURNISH AND INSTALL A FULLY AUTOMATIC FIRE SPRINKLER SYSTEM THROUGHOUT THE BUILDING AND CANOPY ATTIC SPACES. THE SPRINKLER SYSTEM SHALL CONFORM TO ALL LOCAL, STATE, AND NFPA CODES, AND SHALL BE DESIGNED BY A STATE OF NORTH CAROLINA REGISTERED ENGINEER. SIGNED AND SEALED SHOP DRAWINGS SHALL BE SUBMITTED TO THE FIRE MARSHAL FOR APPROVAL PRIOR TO INSTALLATION. LOCATION OF ALL SPRINKLER HEADS AND ALL DISTRIBUTION LINES SHALL BE COORDINATED SO AS NOT TO INTERFERE WITH THE LOCATION OF ANY LIGHT FIXTURE OR H.V.A.C. WORK. ALL SPRINKLER HEAD HEIGHTS SHALL BE COORDINATED WITH INTENDED HEIGHT OF CEILING. VERIFY ALL CEILING HEIGHTS PRIOR TO INSTALLATION. REFER TO DRAWINGS AND SPECIFICATIONS FOR REQUIREMENTS. THE CONNECTION FROM TAP TO RISERS INSIDE THE BUILDING MUST BE INSTALLED BY A STATE CERTIFIED FIRE PROTECTION CONTRACTOR
29. NAILERS, BLOCKING, AND OTHER ROUGH CARPENTRY ITEMS INDICATED AS "WOOD", "TREATED WOOD", OR "PT WOOD" SHALL BE TREATED FOR FIRE RESISTANCE.
30. ALL EXTERIOR SIDEWALK CONTROL JOINTS AND EXPANSION JOINTS TO RECEIVE POUR GRADE SEALANT (SL2 MANUFACTURED BY SONNEBORN OR APPROVED EQUAL).
31. NAILERS, BLOCKING, AND OTHER ROUGH CARPENTRY ITEMS INDICATED AS "WOOD", "TREATED WOOD", OR "PT WOOD" SHALL BE TREATED FOR FIRE RESISTANCE.

BIDDING NOTES

1. CONTRACTOR SHALL BE FAMILIAR WITH JOB SITE CONDITIONS AND THE LACK OF SPECIFIC INFORMATION ON THE DRAWINGS SHALL NOT RELIEVE HIM OF ANY RESPONSIBILITY. CONTRACTOR SHALL THOROUGHLY ACQUAINT HIMSELF WITH THE CONSTRUCTION DETAILS BEFORE SUBMITTING HIS BID AS NO ALLOWANCES WILL BE MADE BECAUSE OF THE CONTRACTOR'S UNFAMILIARITY WITH THE JOB SITE CONDITIONS.
2. PRIOR TO EXECUTING CONSTRUCTION CONTRACT, GC MAY BE REQUESTED TO REVISE THEIR BID TO REFLECT THE FINAL CONSTRUCTION SET THAT MAY CONTAIN BIDDING ADDENDA'S, REGULATORY COMMENTS, CLIENT REVISIONS, DRAWING CLARIFICATIONS, OR VARIOUS OTHER MODIFICATIONS.
3. NO DOCUMENT SET OTHER THAN THE CONSTRUCTION SET SHALL BE USED FOR CONSTRUCTION, NOR ALLOWED AFTER CULMINATION OF THE BIDDING PHASE ON SITE OR DISTRIBUTED TO ANY SUB CONTRACTORS/VENDORS/TRADES WITHOUT CLIENT/ARCHITECT APPROVAL AND SPECIFIC NOTIFICATION TO THE RECIPIENT THAT THE DOCUMENTS BEING PROVIDED ARE NOT THE FINAL "CONSTRUCTION SET" AND SHALL NOT BE USED FOR CONSTRUCTION.
4. IF CONFLICTS EXIST, IN DRAWINGS AND/OR SPECIFICATIONS, THE GC IS TO BID THE MOST EXPENSIVE OPTION TO RESOLVE THE CONFLICT UNLESS TOLD OTHERWISE VIA ADDENDUM.
5. SCOPE OF WORK SHALL INCLUDE ALL LABOR, MATERIALS, TOOLS, EQUIPMENT, RIGGING ETC. TO PERFORM THE WORK AS INDICATED ON THE DRAWINGS AND HEREIN SPECIFIED FOR A COMPLETE INSTALLATION.
6. WHERE THE TERMS "APPROVED EQUAL", "EQUAL TO", OR OTHER GENERAL QUALIFYING TERMS ARE USED, IT SHALL BE UNDERSTOOD THAT REFERENCE IS MADE TO THE RULING AND JUDGEMENT OF THE ARCHITECT.
7. THE GC IS RESPONSIBLE FOR ENSURING THE SUB-CONTRACTOR'S ARE BIDDING FROM A COMPLETE SET OF DRAWINGS. NO ADD-ONS WILL BE APPROVED BY THE ARCHITECT DUE TO THE SUBS FAILURE TO COORDINATE BETWEEN ALL DRAWINGS.
8. THE GC IS RESPONSIBLE FOR THE COORDINATION OF ALL WORK BY ALL TRADES, INCLUDING THOSE PROVIDED AND DIRECTED BY THE OWNER.

ABBREVIATIONS

AFG	ABOVE FINISH GRADE
AFF	ABOVE FINISHED FLOOR
ACT	ACOUSTICAL CEILING TILE
ALT	ALTERNATE
ALUM	ALUMINUM
ANCH	ANCHOR
APPROX	APPROXIMATE
ARCH	ARCHITECT (ARCHITECTURAL)
BM	BEAM
BRG	BEARING
BTWN	BETWEEN
BYND	BEYOND
BLK	BLOCK
BD	BOARD
B0T	BOTTOM
B/, B.O.	BOTTOM OF
BLDG	BUILDING
BUR	BUILT-UP ROOF
CPT	CARPET
CIP	CAST IN PLACE
CLG	CEILING
CL	CENTER LINE
CT	CERAMIC TILE
CO	CLEAN-OUT
CLR	CLEAR
CTBS	COLOR TO BE SELECTED
COL	COLUMN
CONC	CONCRETE
CMU	CONCRETE MASONRY UNIT(S)
CONST	CONSTRUCTION
CONT	CONTINUOUS
CJ	CONTROL JOINT
DEG, °	DEGREE
DEMO	DEMOLITION
DET	DETAIL
DIA, Ø	DIAMETER
DIM	DIMENSION(S)
DW	DISHWASHER
DNS	DO NOT SCALE
DR	DOOR
DBL	DOUBLE
DN	DOWN
DS	DOWNSPOUT
DWG	DRAWING
DF	DRINKING FOUNTAIN
EA	EACH
EW	EACH WAY
E	EAST
EOS	EDGE OF SLAB
ELEC	ELECTRICAL
ELEV, EL	ELEVATION
EQ	EQUAL
EQUIP	EQUIPMENT
EXH	EXHAUST
EXST, [E]	EXISTING
EJ	EXPANSION JOINT
EIFS	EXT. INSUL. AND FIN. SYSTEM
EXT	EXTERIOR
FRP	FIBERGLASS REINF. PANEL
FV	FIELD VERIFY
FIN	FINISH
FRX	FIRE / PRESSURE TREATED
FE	FIRE EXTINGUISHER
FEC	FIRE EXTINGUISHER CABINET
FRT	FIRE RETARDANT TREATED
FLR	FLOOR
FD	FLOOR DRAIN
FLUOR	FLUORESCENT
FT, '	FOOT (FEET)
FTG	FOOTING
FND	FOUNDATION
GALV	GALVANIZED
GA	GAUGE
GC	GENERAL CONTRACTOR
GL	GLASS
GR	GRADE
GYP	GYPSUM
GWB	GYPSUM WALL BOARD
HDW	HARDWARE
HGT	HEIGHT
HP	HIGH POINT
HM	HOLLOW METAL
HORIZ	HORIZONTAL
HR	HOUR
ILO	IN LIEU OF
INCDSNT	INCANDESCENT
IN, "	INCH
ID	INSIDE DIMENSION
INSUL	INSULATION
INT	INTERIOR
JT	JOINT
LAM	LAMINATED
LAV	LAVATORY
LH	LEFT-HAND
LP	LOW POINT
MFR'D	MANUFACTURED
MFR'R	MANUFACTURER
MAS	MASONRY
MO	MASONRY OPENING
MATL	MATERIAL
MAX	MAXIMUM
MECH	MECHANICAL
MTL	METAL
MEZZ	MEZZANINE
MIN	MINIMUM
MISC	MISCELLANEOUS
MR	MOISTURE RESISTANT
MLDG	MOULDING
MTG	MOUNTING
MULL	MULLION
[N]	NEW
NOM	NOMINAL
N	NORTH
NIC	NOT IN CONTRACT
NTS	NOT TO SCALE
NO, #	NUMBER
OC	ON CENTER
OPG	OPENING
OPP	OPPOSITE
OD	OUTSIDE DIMENSION
OH	OVERHEAD
OP/CI	OWNER PROVIDED / CONTRACTOR INSTALLED
PTD	PAINTED
PNL	PANEL (PANELING)
PRTN	PARTITION
PH	PHYSICALLY HANDICAPPED
PLAS	PLASTER
PLAM	PLASTIC LAMINATE
PLBG	PLUMBING
PLYWD	PLYWOOD
LB	POUND
PT	PRESSURE TREATED
PROP	PROPERTY
r	RADIUS
RNG	RANGE
REF	REFER TO
REFR	REFRIGERATOR
REINF	REINFORCED (REINFORCING)
REQ'D	REQUIRED
REV	REVERSE
RH	RIGHT HAND
R	RISER
RTU	ROOF TOP UNIT
RM	ROOM
RO	ROUGH OPENING
SCHED	SCHEDULE
SLNT	SEALANT
SEC	SECTION
SIM	SIMILAR
SL	SLOPE
STC	SOUND TRANSMISSION COEFFICIENT
S	SOUTH
SPEC	SPECIFICATION
SPNK	SPRINKLER
SQ	SQUARE
SF	SQUARE FEET (FOOTAGE)
SS	STAINLESS STEEL
STD	STANDARD
STL	STEEL
STF	STOREFRONT
STRUCT	STRUCTURAL
SUSP	SUSPENDED
SW	SWITCH
TEL	TELEPHONE
TEMP	TEMPERED
TI	TENANT IMPROVEMENT
THK	THICKNESS
THRES	THRESHOLD
TPD	TOILET PAPER DISPENSER
T&G	TONGUE AND GROOVE
T&B	TOP AND BOTTOM
T/0, T.O.	TOP OF
T	TREAD
TS	TUBE STEEL
TYP	TYPICAL
U/S	UNDERSIDE
UNFIN	UNFINISHED
UNO	UNLESS NOTED OTHERWISE
VIF	VERIFY IN FIELD
VERT	VERTICAL
VEST	VESTIBULE
VCT	VINYL COMPOSITE TILE
VWC	VINYL WALL COVERING
VP	VISION PANEL
WC	WATER CLOSET
WH	WATER HEATER
WR	WATER RESISTANT
WP	WATERPROOF
WRB	WEATHER RESISTANT BARRIER
WWM	WELDED WIRE MESH
W	WEST
W/	WITH
W/O	WITHOUT
WD	WOOD

SUBMITTAL MATRIX

SUBMITTAL NAME	PRODUCT DATA	COLOR SELECTION	SAMPLES	SHOP DRAWINGS	PRODUCT SCHEDULE	QUALIFICATION DATA	DESIGN DATA	DELEGATED DESIGN	CERT. OF COMPLIANCE	MANF'R WARRANTY	MAINT. DATA	COMMENTS
ARCHITECTURAL MILLWORK	x	x	x	x								
DOORS & DOOR HARDWARE	x				x							
ENGINEERED TRUSSES / JOISTS	x			x			x					
EXTERIOR CLADDING	x	x										
FIRE-RATED ACCESS PANELS												
FIRESTOPPING SYSTEMS	x	x			x							
FLOORING & UNDERLAYMENT	x	x	x									
GUARDRAILS & HANDRAILS	x	x		x								
INSULATION	x											
LIGHTING FIXTURES	x											
METAL AWNINGS	x	x		x			x	x				
PAINT - EXTERIOR	x				x							
PAINT - INTERIOR	x				x							
PLUMBING FIXTURES	x				x							
RESTROOM ACCESSORIES	x	x		x	x							
STAIRS	x			x			x	x				
STOREFRONT SYSTEMS	x	x	x	x								
STUCCO & ACCESSORIES	x	x										
WATERPROOFING	x											
WINDOWS	x	x		x								

ARCHITECTURAL SYMBOLS

NORTH ARROW

ROOM TAG — ROOM NAME / 101

ROOM FINISH TAG — 101 Name — ROOM NUMBER; C: XX-XX CEILING FINISH; W: XX-XX WALL FINISH; B: XX-XX WALL BASE; F: XX-XX FLOOR FINISH

DRAWING TITLE — 01 | VIEW NAME, 1/8" = 1'-0"

ELEVATION MARKER — LEVEL 0'-0"

GRID LINE — # EXISTING; # NEW

SECTION MARKER — DRAWING NUMBER / SHEET NUMBER; 1 / A101 SIM

EXTERIOR ELEVATION — DRAWING NUMBER / SHEET NUMBER; 1 / A101

INTERIOR ELEVATION — DRAWING NUMBER / SHEET NUMBER; A101

DETAIL MARKER — 1 / A101 SIM; DRAWING NUMBER; SHEET NUMBER

WALL TAG — W4.11.15 [A] (SEE PARTITION LEGEND)

DOOR TAG — 101

WINDOW TAG — A

REVISION CLOUD /TAG — 1

CENTERLINE

KEYNOTE — 8.1

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122 N. ARENDELL AVE.
ZEBULON NC 27597

GERMANO ARCHITECTURE + INTERIORS, PLLC — ARCHITECTURAL COMPANY — 53568 — NORTH CAROLINA — ZEBULON, N.C.

NORTH CAROLINA — LICENSED — 14422 — ARCHITECT — MICHAEL A. GERMANO

05.22.2024

sheet information

#	date	description
0	05.22.2024	CONSTRUCTION SET

project #:	23049
drawn by:	MAG
checked by:	MAG

ARCHITECTURAL GENERAL NOTES & SYMBOLS

A0.01

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2018 APPENDIX B
BUILDING CODE SUMMARY FOR ALL COMMERCIAL PROJECTS
(except 1 and 2-family dwellings and townhouses)
(Reproduce the following data on the building plans sheet 1 or 2)

Name of...	Arendell Restaurant				
Address:	122 N. Arendell Ave			Zip...	27597
Owner/Authorized...	Javier Ortiz	Phone...	919.744.7432	E-Mail:	ja.services@outlook.com

Owned By: Private
Code Enforcement... City / County

PROJECT SUMMARY

Building Description:
Existing 2-story Masonry structure.

Scope of Work:
Renovation of existing restaurant building. New Floor and Roof structure, Kitchen, and exterior dining areas.

Code Compliance Summary:

CONTACT:

DESIGNER	FIRM	NAME	LICENSE	PHONE	E-MAIL
Architectu...	Germano Architecture + Interiors	Michael A. Germano	14422	919.404.8085	michael@germanoai.com
Civil					
Electrical	Barton Associates	Dustin M. Metayer	044428	919.341.4247	dmm@maple-eng.com
Fire Alarm	Barton Associates	Dustin M. Metayer	044428	919.341.4247	dmm@maple-eng.com
Plumbing	Barton Associates	Dustin M. Metayer	044428	919.341.4247	dmm@maple-eng.com
Mechanical	Barton Associates	Dustin M. Metayer	044428	919.341.4247	dmm@maple-eng.com
Sprinkler-Standpipe					
Structural	Stewart	Andrew Pordon	035263	919.866.4765	apordon@stewartinc.com
Retaining Walls >5' High					
Landscape					
Other					
Other					
Other					

("Other" should include firms and individuals such as truss, precast, pre-engineered, interior designers, etc.)

2018 NC BUILDING... Alteration
2018 NC EXISTING BUILDING... Alteration...
(Select all that apply)
CONSTRUCTED:... 1920 **CURRENT OCCUPANCY(S) (Ch....** A-2
RENOVATED:... 1955 **PROPOSED OCCUPANCY(S) (C...** A-2
OCCUPANCY CATEGORY (Table 1604.5):... II **Proposed:** II

BASIC BUILDING DATA

Construction Type: II-B
Sprinklers: No
Standpip... No
Primary Fire... Yes **Flood Hazard Area:** No
Special Inspections... Yes

GROSS BUILDING AREA TABLE

FLOOR	EXISTING (SQ FT)	NEW (SQ FT)	SUB-TOTAL
4th Floor			0
3rd Floor			0
2nd Floor		2,397	2,397
Mezzani...			0
1st Floor	2,322	162	2,484
Basement			0
TOTAL	2,322	2,559	4,881

Primary Occupancy... Assembly - A-2
(Select all that apply)
Accessory Occupancy...
Incidental Uses (Table...
Special Uses (Chapter 4 - List Code...
Special Provisions (Chapter 5 - List Code...
Mixed... No **Separati...** N/A **Exception:**

$$\frac{\text{Actual Area of Occupancy A}}{\text{Allowable Area of Occupancy A}} + \frac{\text{Actual Area of Occupancy B}}{\text{Allowable Area of Occupancy B}} = \leq 1$$

____ + ____ = =≤ 1

STORY NO.	DESCRIPTION AND USE	[A] BLDG AREA PER STORY (ACTUAL)	[B] TABLE 506.2 AREA (4)	[C] AREA FOR FRONTAGE INCREASE (1,5)	[D] ALLOWABLE AREA PER STORY OR UNLIMITED(2,3)
1	Restaurant	2,484	9,500	n/a	9,500
2	Restaurant	2,397	9,500	n/a	9,500

1: Frontage area increases from Section 506.2 are computed thus:
a. Perimeter which fronts a public way or open space having 20 feet minimum... ft (F)
b. Total Building Perimete... ft (P)
c. Ratio (F/P) = (F/P)
d. W = Minimum width of public way = ft (W)
2: Unlimited area applicable under conditions of Section 507.
3: Maximum Building Area = total number of stories in the building x D (maximum3 stories) (506.2).
4: The maximum area of open parking garages must comply with Table 406.5.4. The maximum area of air traffic control towers must comply with Table 412.3.1.
5: Frontage increase is based on the unsprinklered area value in Table 506.2.

ALLOWABLE HEIGHT

	ALLOWABLE	SHOWN ON PLANS(1)	CODE REFERENCE
Building Height in Feet (Table 504.3)	55	31	
Building Height in Stories (Table...	2	2	

1: Provide code reference if the "Shown on Plans" quantity is not based on Table 504.3 or 504.4.

FIRE PROTECTION REQUIREMENTS

BUILDING ELEMENT	FIRE SEPARATION DISTANCE (FEET)	RATING REQ'D	RATING PROVIDED (W/____* REDUCTION)	DETAIL # AND SHEET #	DESIGN # FOR RATED ASSEMBLY	SHEET # FOR RATED PENETRATION	SHEET # FOR RATED JOINTS
Structural Frame, including columns, girders, trusses		0				SEE PME DRAWING SHEETS	SEE PME DRAWING SHEETS
Bearing Walls							
Exterior							
North	0	2			Existing Masonry		
East	>30	0					
West	>30	0					
South	0	2			Existing Masonry		
Interior		0					
Nonbearing Walls and...							
Exterior							
North	0	2			Existing Masonry		
East	>30	0					
West	>30	0					
South	0	2			Existing Masonry		
Interior walls and partitions		0					
Floor Construction, including supporting beams and joists		0					
Floor Ceiling Assembly		0					
Columns Supporting Floors		0					
Roof Construction, including supporting beams and joists		0					
Roof Ceiling Assembly		0					
Columns Supporting Roof		0					
Shaft Enclosures - Exit		0					
Shaft Enclosures - Others		1		A0.31	UL# U419		
Corridor Separation		0					
Occupancy/Fire Barrier Separation		0					
Party/Fire Wall Separation		2			UL #U905		
Smoke Barrier Separation		0					
Smoke Partition		0					
Tenant/Dwelling Unit/Sleeping Unit Separation		0					
Incidental Use Separation		0					

*Indicate section number permitting reduction

PERCENTAGE OF WALL OPENING CALCULATIONS

FIRE SEPARATION DISTANCE (ft) FROM PROPERTY LINES	DEGREE OF OPENINGS PROTECTION (TABLE 705.8)	ALLOWABLE AREA (%)	ACTUAL SHOWN ON PLANS (%)
North / South	-		No Openings
East / West	>30'	No Limit	

LIFE SAFETY SYSTEM REQUIREMENTS

Emergency Lighting: YES
Exit Signs: YES
Fire Alarm: YES
Smoke Detection Systems: NO
Carbon Monoxide... NO

LIFE SAFETY PLAN REQUIREMENTS

Life Safety plan sheet #: A0.03

- [x] Fire and/or smoke rated wall locations (Chapter 7)
- [x] Assumed and real property line locations (if not on the site plan)
- [ ] Exterior wall opening area with respect to distance to assumed property lines (705.8)
- [x] Occupancy Use for each area as it relates to occupant load calculation (Table 1004.1.2)
- [x] Occupant loads for each area
- [x] Exit access travel distances (1017)
- [x] Common path of travel distances (Tables 1006.2.1 & 1006.3.2(1))
- [x] Dead end lengths (1020.4)
- [x] Clear exit widths for each exit door
- [x] Maximum calculated occupant load capacity each exit door can accommodate based on egress width (1005.3)
- [x] Actual occupant load for each exit door
- [ ] A separate schematic plan indicating where fire rated floor/ceiling and/or roof structure is provided for purposes...
- [x] Location of doors with panic hardware (1010.1.10)
- [ ] Location of doors with delayed egress locks and the amount of delay (1010.1.9.7)
- [ ] Location of doors with electromagnetic egress locks (1010.1.9.9)
- [ ] Location of doors equipped with hold-open devices
- [ ] Location of emergency escape windows (1030)
- [ ] The square footage of each fire area (202)
- [ ] The square footage of each smoke compartment for Occupancy Classification I-2 (407.5)
- [ ] Note any code exceptions or table notes that may have been utilized regarding the items above

ACCESSIBLE DWELLING UNITS
(SECTION 1107)

TOTAL UNITS	ACCESSIBLE UNITS REQUIRED	ACCESSIBLE UNITS PROVIDED	TYPE 'A' UNITS REQUIRED	TYPE 'A' UNITS PROVIDED	TYPE 'B' UNITS REQUIRED	TYPE 'B' UNITS PROVIDED	TOTAL ACCESSIBLE UNITS PROVIDED
N/A							

ACCESSIBLE PARKING
(SECTION 1106)

LOT OR PARKING AREA	TOTAL # OF PARKING SPACES		# OF ACCESSIBLE PARKING SPACES			TOTAL # ACCESSIBLE PROVIDED
	REQUIRED	PROVIDED	REGULAR WITH 5' AISLE	VAN SPACES WITH 132" AISLE	VAN SPACES WITH 8' AISLE	
N/A						

PLUMBING FIXTURE REQUIREMENTS
(TABLE 2902.1)

USE		WATER CLOSETS MALE	WATER CLOSETS FEMALE	WATER CLOSETS UNISEX	URINALS	LAVATORIES MALE	LAVATORIES FEMALE	LAVATORIES UNISEX	SHOWER / TUBS	DRINKING... REGULAR	DRINKING... ACCESSIB...
A2	EXIST	-	-	-	-	-	-	-	-	-	-
	NEW	2	2	-	-	2	2	-	-	-	-
	REQ'D	2	2	-	-	1	1	-	-	0	0

SPECIAL APPROVALS

Special approval: (Local Jurisdiction, Department of Insurance, OSC, DPI, DHHS, etc., describe below)

ENERGY SUMMARY

ENERGY...
The following data shall be considered minimum and any special attribute required to meet the energy code shall also be provided. Each Designer shall furnish the required portions of the project information for the plan data sheet. If performance method, state the annual energy cost for the standard reference design vs annual energy cost for the...

Existing building envelope complies with... YES (The remainder of this section is not applicable)
Exempt... No Provide code or statutory... ____
Climate Zone: 4A
Method of... ENERGY CODE - PRESCRIPTIVE
if "Other"; specify... ____

THERMAL ENVELOPE (Prescriptive...

Roof/ceiling Assembly (each assembly)

Description of...	Rigid insulation over metal deck and steel framing.
U-Value of total assembly:	-
R-Value of insulation:	30ci
Skylights in each assembly:	-
U-Value of skylight:	-
total square footage of skylights in each...	-

Exterior Walls (each assembly)

Description of...	NEW | Brick veneer, over 1.5" air space, over 1.5" rigid insulation, over exterior sheathing with integral weather resistive barrier, over metal studs with batt...
U-Value of total assembly:	-
R-Value of insulation:	13, 7.5ci
Openings (windows or doors with glazing)	
U-Value of assembly:	
Solar heat gain coefficient:	
Projection Factor:	2
Door R-Values:	0.5

Walls Below Grade (each assembly)

Description of...	N/A
U-Value of total assembly:	
R-Value of insulation:	

Floors over unconditioned space (each assembly)

Description of...	Rigid insulation over concrete on metal deck and steel framing.
U-Value of total assembly:	
R-Value of insulation:	30ci

Floors - Slab on Grade (each assembly)

Description of...	Concrete slab over vapor barrier over stone
U-Value of total assembly:	
R-Value of insulation:	15
Horizontal/vertical requirement:	24"
Slab Heated:	

2018 APPENDIX B
BUILDING CODE SUMMARY FOR ALL COMMERCIAL PROJECTS
STRUCTURAL DESIGN
REFER TO STRUCTURAL SHEETS

DESIGN LOADS:

Importance...
Wind (IW): ____
Snow (IS): ____
Seismic... ____

Live Loads:
Roof: ____ psf
Mezzanine: ____ psf
Floor: ____ psf

Ground Snow... ____ psf

Wind Load:
Basic Speed: ____ mph (ASCE-7)
Exposure Category:

SEISMIC DESIGN CATEGORY:
Provide the following Seismic Design Parameters:

Occupancy Category (Table...
Spectral Response... SS ____ %g S1 ____ %g

Site Classification (ASCE 7):
Data Source:

Basic structural system:
Analysis...
Architectural, Mechanical, Components...

LATERAL DESIGN...

SOIL BEARING...
Pile size, type, and... ____ psf

2018 APPENDIX B
BUILDING CODE SUMMARY FOR ALL COMMERCIAL PROJECTS
MECHANICAL DESIGN
REFER TO MECHANICAL SHEETS

MECHANICAL SUMMARY

MECHANICAL SYSTEMS, SERVICE SYSTEMS AND EQUIPMENT

Thermal Zone
Winter Dry Bulb: ____
Summer Dry Bulb: ____

Interior Design Conditions
Winter Dry Bulb: ____
Summer Dry Bulb: ____
Relative Humidity: ____

Buildind Heating... ____

Building Cooling... ____

Mechanical Spacing Conditioning System
Unitary
Description of... ____
Heating... ____
Cooling... ____

Boiler
Size category. If oversized, state... ____

Chiller
Size category. If oversized, state... ____

List equipment efficiencies: ____

2018 APPENDIX B
BUILDING CODE SUMMARY FOR ALL COMMERCIAL PROJECTS
ELECTRICAL DESIGN
REFER TO ELECTRICAL SHEETS

ELECTRICAL SUMMARY

ELECTRICAL SYSTEM AND...

Method of...

Lighting schedule (each fixture...
lamp type required in fixture
number of lamps in fixture
ballast type used in the fixture
number of ballasts in fixture
total wattage per fixture
total interior wattage specified vs. allowed (whole...
total exterior wattage specified vs. allowed

Additional Efficiency Package...
(When using the 2018 NCECC; not required for...
- [ ] C406.2 More Efficient HVAC Equipment Performance
- [ ] C406.3 Reduced Lighting Power Density
- [ ] C406.4 Enhanced Digital Lighting Controls
- [ ] C406.5 On-Site Renewable Energy
- [ ] C406.6 Dedicated Outdoor Air System
- [ ] C406.7 Reduced Energy Use in Service Water Heating

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14422
ARCHITECT
MICHAEL A. GERMANO
05.22.2024

sheet information

#	date	description
0	05.22.2024	CONSTRUCTION SET

project #:	23049
drawn by:	MAG
checked by:	MAG

CODE SUMMARY

A0.02

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Design No. U905
Bearing Wall Rating — 2 HR.
Nonbearing Wall Rating — 2 HR

This design was evaluated using a load design method other than the Limit States Design Method (e.g., Working Stress Design Method). For jurisdictions employing the Limit States Design Method, such as Canada, a load restriction factor shall be used — See Guide BXUV or BXUV7

*** Indicates such products shall bear the UL Certification Mark for jurisdictions employing the UL .**

1. Concrete Blocks* — Various designs. Classification D-2 (2 hr).
See Concrete Blocks category for list of eligible manufacturers.

2. Mortar — Blocks laid in full bed of mortar, nom. 3/8 in. thick, of not less than 2-1/4 and not more than 3-1/2 parts of clean sharp sand to 1 part Portland cement (proportioned by volume) and not more than 50 percent hydrated lime (by cement volume). Vertical joints staggered.

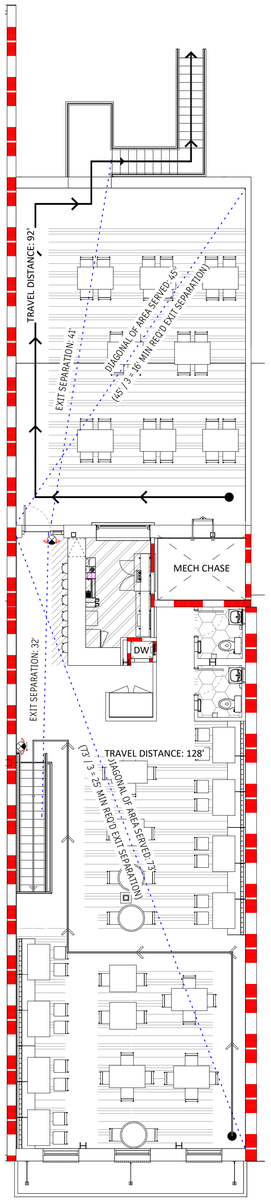
3. Portland Cement Stucco or Gypsum Plaster — Add 1/2 hr to classification if used. Where combustible members are framed in wall, plaster or stucco must be applied on the face opposite framing to achieve a max. Classification of 1-1/2 hr. Attached to concrete blocks (Item 1).

4. Loose Masonry Fill — If all core spaces are filled with loose dry expanded slag, expanded clay or shale (Rotary Kiln Process), water repellant vermiculite masonry fill insulation, or silicone treated perlite loose fill insulation add 2 hr to classification.

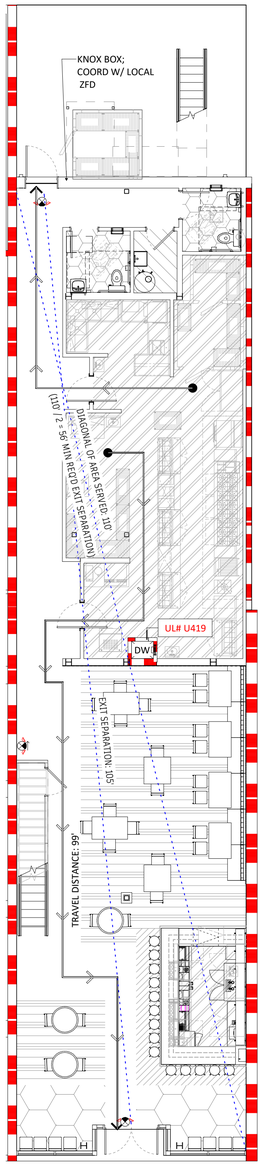
5. Foamed Plastic* — (Optional-Not Shown) — 1-1/2 in. thick max, 4 ft wide sheathing attached to concrete blocks (Item 1).
ATLAS ROOFING CORP — "EnergyShield Pro Wall Insulation", "EnergyShield Pro 2 Wall Insulation", EnergyShield CGF Pro and EnergyShield Ply Pro
CARLISLE COATINGS & WATERPROOFING INC — Type R2+ SHEATHE
FIRESTONE BUILDING PRODUCTS CO LLC — "Enverge™ CI Foil Exterior Wall Insulation" and "Enverge™ CI Glass Exterior Wall Insulation"
HUNTER PANELS — Types Xci-Class A, Xci 286
RMAX OPERATING LLC — "TSX-8500", "TSX-8510", "Thermasheath-XP", "ECOMAXci", "Thermasheath-3", "Durasheath-3"
THE DOW CHEMICAL CO — Types Thermax Sheathing, Thermax Light Duty Insulation, Thermax Heavy Duty Insulation, Thermax Metal Building Board, Thermax White Finish Insulation, Thermax ci Exterior Insulation, Thermax XARMOR ci Exterior Insulation, Thermax IH Insulation, Thermax Plus Liner Panel, Thermax Heavy Duty Plus (HDP) and TUFF-R™ ci Insulation

5A. Building Units — As an alternate to Items 5, min. 1-in thick polyisocyanurate composite foamed plastic insulation boards, nom. 48 by 48 or 96 in.
RMAX OPERATING LLC — "Thermasheath-SI", "ECOBASEci", "ThermaBase-CI"

4 | U.L. DESIGN #U905 2-HOUR FIRE RATING
1" = 1'-0"



2 | 2nd FLOOR
1/8" = 1'-0"



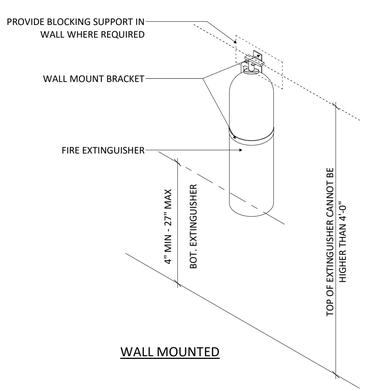
1 | 1st FLOOR
1/8" = 1'-0"

OCCUPANCY CALCULATIONS

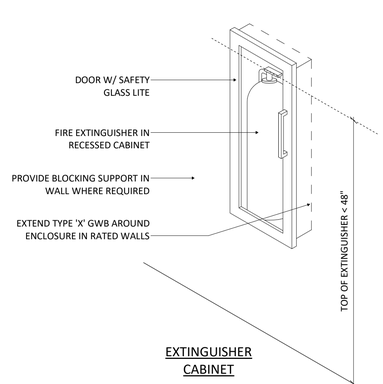
FUNCTION	S.F. / PERSON	AREA	PERSONS
A-2 (RESTAURANT)			
1st FLOOR			
ACCESSORY STORAGE AREAS, MECHANICAL EQUIPMENT ROOM	300 | GROSS	36 SF	1
ASSEMBLY STANDING SPACE	5 | NET	147 SF	30
ASSEMBLY UNCONCENTRATED (TABLES AND CHAIRS)	15 | NET	601 SF	41
ASSEMBLY WITH FIXED SEATS	0 | SEE SECTION 1004.7	70 SF	14
CIRCULATION	0 | -	658 SF	0
KITCHENS, COMMERCIAL	200 | GROSS	868 SF	5
RESTROOM	0 | -	104 SF	0
		2,485 SF	91
2nd FLOOR			
ASSEMBLY UNCONCENTRATED (TABLES AND CHAIRS)	15 | NET	696 SF	48
ASSEMBLY WITH FIXED SEATS	0 | SEE SECTION 1004.7	26 SF	0
CIRCULATION	0 | -	549 SF	6
KITCHENS, COMMERCIAL	200 | GROSS	85 SF	1
RESTROOM	0 | -	57 SF	0
		1,413 SF	55
A-5 (EXTERIOR PATIO)			
2nd FLOOR			
ASSEMBLY UNCONCENTRATED (TABLES AND CHAIRS)	15 | NET	645 SF	44
CIRCULATION	0 | -	304 SF	0
		950 SF	44
		4,847 SF	190

OCCUPANCY TYPE

- ACCESSORY STORAGE AREAS, MECHANICAL EQUIPMENT ROOM
- ASSEMBLY CONCENTRATED (CHAIRS ONLY—NOT FIXED)
- ASSEMBLY STANDING SPACE
- ASSEMBLY UNCONCENTRATED (TABLES AND CHAIRS)
- ASSEMBLY WITH FIXED SEATS
- BUSINESS AREAS
- CIRCULATION
- KITCHENS, COMMERCIAL
- RESTROOM



WALL MOUNTED



EXTINGUISHER CABINET

| TYP. FIRE EXTINGUISHER
NOT TO SCALE

LIFE SAFETY NOTES

1. REFER TO ELECTRICAL DOCUMENTS FOR COMPLETE ELECTRICAL AND LIFE SAFETY DEVICE REQUIREMENTS.
2. NEW FIRE SPRINKLER SYSTEM TO BE INSTALLED, DELEGATED DESIGN. PROVIDE SHOP DRAWINGS FOR REVIEW.
3. CONTRACTOR TO REPAIR ANY DAMAGE TO EXISTING FIRE-PROOFING AS REQUIRED.
4. REFER TO SHEET SHEET A1.11 FOR WALL PARTITION DETAILS AND A0.3_ SERIES FOR UL DETAILS.
5. SHELVING MUST BE MOUNTED SO AS NOT TO ALLOW STORAGE WITHIN 18 INCHES OF THE FIRE SPRINKLER NOZZLE HORIZONTAL PLANE.
6. AT ALL TIMES, THE CONTRACTOR SHALL KEEP ALL REQUIRED EGRESS EXIT PATHS UNOBSTRUCTED, ILLUMINATED AND PROTECTED FROM CONSTRUCTION ACTIVITY.
7. CONTRACTOR TO CONFIRM LOCATIONS OF FIRE EXTINGUISHERS WITH LOCAL FIRE MARSHAL.
8. REFER TO SHEET A0.02 FOR LIST OF CURRENT APPLICABLE CODES.

LIFE SAFETY LEGEND

- 0'-0" — TRAVEL DISTANCE MAX. EGRESS PATH
- 0'-0" — TRAVEL DISTANCE COMMON EGRESS PATH
- 0'-0" — TRAVEL DISTANCE DEAD-END CORRIDOR
- FEC — FIRE EXTINGUISHER CABINET RECESSED **(JL INUDSTURIES 1815V10)**
- FEC — FIRE EXTINGUISHER CABINET SURFACE MOUNT
- FE — FIRE EXTINGUISHER (WALL MOUNT)
- EXIT SIGN (SEE ELECTRICAL) ARROWS: DIRECTION OF EGRESS SHADING: SIGNAGE ORIENTATION
- EMERGENCY LIGHT FIXTURE (SEE ELECTRICAL)
- EMERGENCY LIGHT/ SIGN COMBO FIXTURE (SEE ELECTRICAL)
- 1-HR RATED WALL (REFER TO UL DETAIL)
- 2-HR RATED WALL (REFER TO UL DETAIL)
- 3-HR RATED WALL (REFER TO UL DETAIL)
- 4-HR RATED WALL (REFER TO UL DETAIL)

FIRE WALLS, FIRE BARRIERS, FIRE PARTITIONS, SMOKE BARRIERS AND SMOKE PARTITIONS OR ANY OTHER WALL REQUIRED TO HAVE PROTECTED OPENINGS OR PENETRATIONS SHALL BE EFFECTIVELY AND PERMANENTLY IDENTIFIED WITH SIGNS OR STENCILING. SUCH IDENTIFICATION SHALL:
1. BE LOCATED IN ACCESSIBLE CONCEALED FLOOR, FLOOR-CEILING, ABOVE ANY DECORATIVE CEILING, OR IN ATTIC SPACES;
2. BE LOCATED WITHIN 15 FEET OF THE END OF EACH WALL AND AT INTERVALS NOT EXCEEDING 15 FEET MEASURED HORIZONTALLY ALONG THE WALL OR PARTITION; AND
3. INCLUDE LETTERING NOT LESS THAN 6 INCHES IN HEIGHT WITH A MINIMUM 1/2 INCH STROKE IN A CONTRASTING COLOR INCORPORATING THE SUGGESTED WORDING: "FIRE AND/OR SMOKE BARRIER - PROTECT ALL OPENINGS" OR SIMILAR LANGUAGE.

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NORTH CAROLINA
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NORTH CAROLINA LICENSED
14427
ARCHITECT
MICHAEL A. GERMANO
05.22.2024

sheet information

#	date	description
0	05.22.2024	CONSTRUCTION SET

project #:	23049
drawn by:	MAG
checked by:	MAG

LIFE SAFETY PLAN

A0.03

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304 - TURNING SPACE

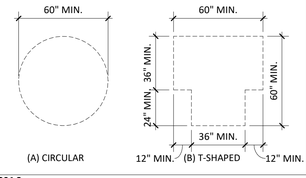


FIG. 304.3
SIZE OF TURNING SPACE

305 - CLEAR FLOOR SPACE

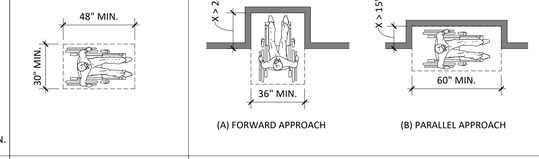


FIG. 305.3
SIZE OF CLEAR FLOOR SPACE

FIG. 305.7
MANEUVERING CLEARANCE IN AN ALCOVE

307 - PROTRUDING OBJECTS

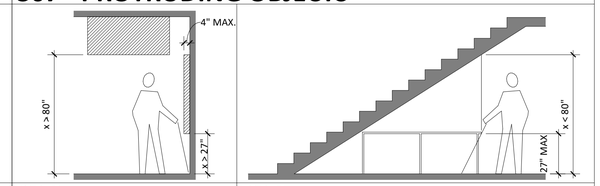


FIG. 307.2
LIMITS OF PROTRUDING OBJECTS

FIG. 307.4
VERTICAL CLEARANCE

ACCESSIBILITY NOTES

1. CODE REFERENCES ARE TAKEN FROM THE 2018 NORTH CAROLINA ACCESSIBILITY CODE [ICC A117.1-2009].
2. THE DIAGRAMS SHOWN HEREWITHIN ARE FOR REFERENCE ONLY AND DO NOT REPRESENT THE ACCESIBILITY CODE IN ITS ENTIRETY; NOT ALL CONDITIONS SHOWN WILL APPLY.
3. REFER TO NORTH CAROLINA ACCESSIBILITY CODE FOR FURTHER INFORMATION; ADDITIONAL REQUIREMENTS MAY APPLY.

308 - REACH RANGES

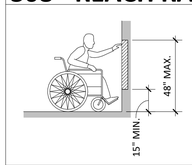


FIG. 308.2.1
UNOBSTRUCTED FORWARD REACH

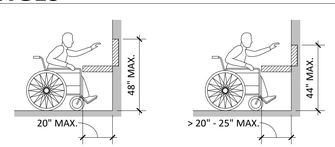


FIG. 308.2.2
OBSTRUCTED HIGH FORWARD REACH

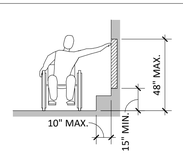


FIG. 308.3.1
UNOBSTRUCTED SIDE REACH

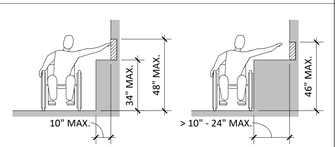


FIG. 308.3.2
OBSTRUCTED HIGH SIDE REACH

404 - DOORS AND DOORWAYS

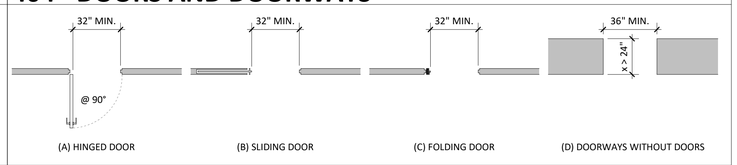


FIG. 404.2.2
CLEAR WIDTH OF DOORWAYS

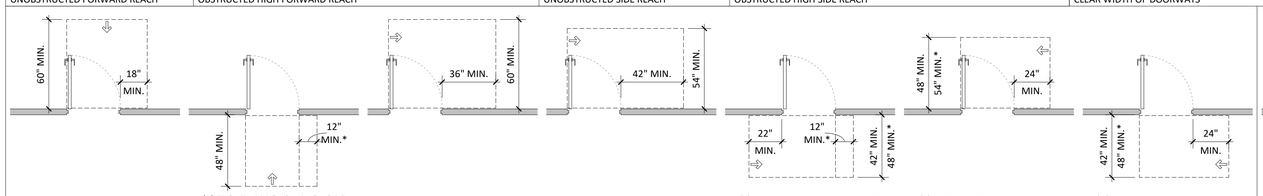


FIG. 404.2.3.2
MANEUVERING CLEARANCES AT MANUAL SWING DOORS

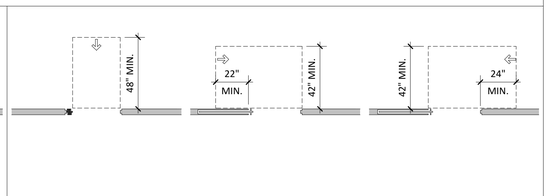


FIG. 404.2.3.3
MANEUVERING CLEARANCES AT SLIDING AND FOLDING DOORS

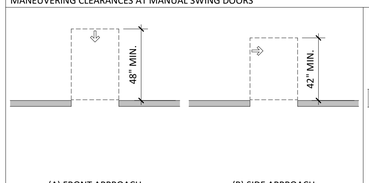


FIG. 404.2.3.4
MANEUVERING CLEARANCES AT DOORWAYS WITHOUT DOORS

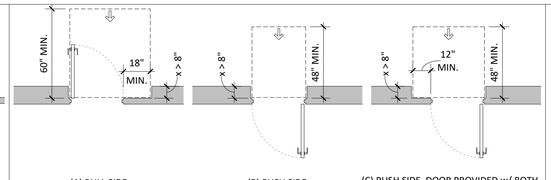


FIG. 404.2.3.5
MANEUVERING CLEARANCES AT RECESSED DOORS

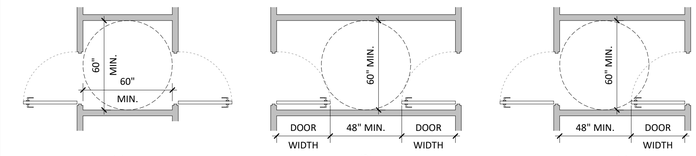
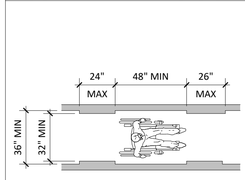
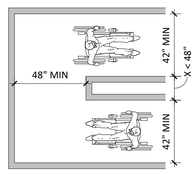


FIG. 404.2.5
TWO DOORS IN A SERIES

403 - WALKING SURFACES





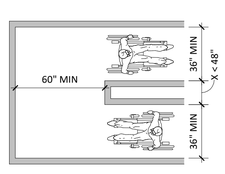


FIG. 403.5
CLEAR WIDTH OF AN ACCESSIBLE ROUTE

FIG. 403.5.1
CLEAR WIDTH AT TURN

405 - RAMPS

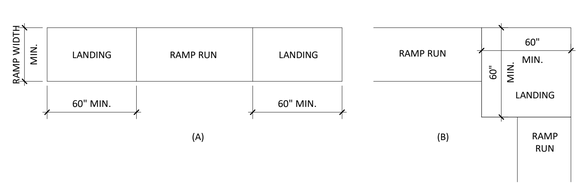


FIG. 405.7
RAMP LANDINGS

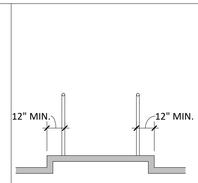


FIG. 405.9.1
EXTENDED SURFACE EDGE PROTECTION

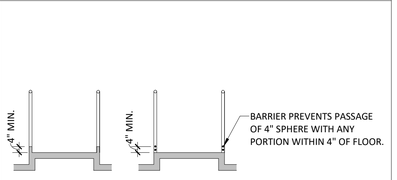


FIG. 405.9.2
RAMP EDGE PROTECTION

603 - TOILET AND BATHING ROOMS

MAXIMUM REACH DEPTH:	½"	2"	5"	6"	9"	11"
MAXIMUM REACH HEIGHT:	48"	46"	42"	40"	36"	34"

603.6
MAXIMUM REACH DEPTH AND HEIGHT

604 - WATER CLOSETS AND TOILET COMPARTMENTS

FIG. 604.2
WATER CLOSET LOCATION

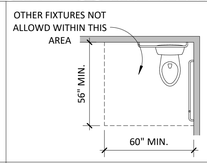


FIG. 604.3
SIZE OF CLEARANCE FOR WATER CLOSET

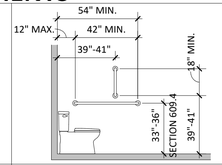


FIG. 604.5.1
SIDE WALL GRAB BAR FOR WATER CLOSET

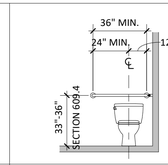


FIG. 604.5.2
REAR WALL GRAB BAR FOR WATER CLOSET

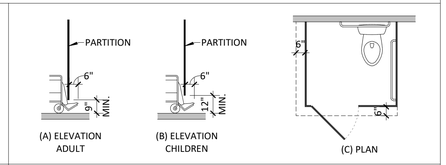
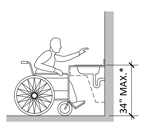


FIG. 604.9.5
WHEELCHAIR ACCESSIBLE COMPARTMNET TOE CLEARANCE

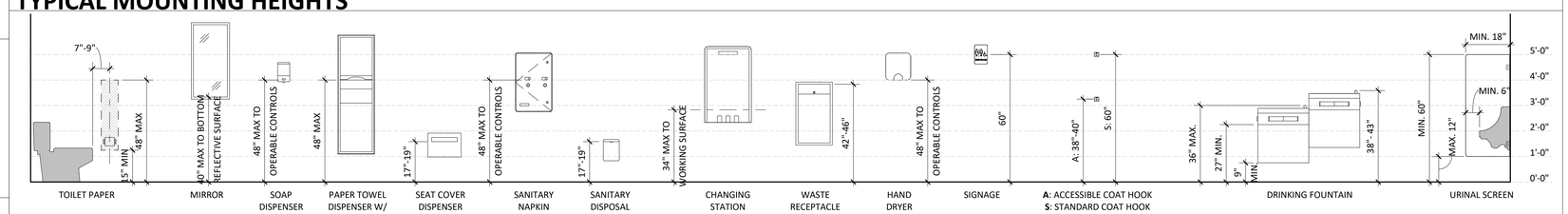
606 - LAVATORIES AND SINKS



* TO HIGHER OF SINK RIM OR COUNTER SURFACE

FIG. 606.3
HEIGHT OF LAVATORIES AND SINKS

TYPICAL MOUNTING HEIGHTS



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NORTH CAROLINA LICENSED
14427
ARCHITECT
MICHAEL A. GERMANO
05.22.2024

sheet information

#	date	description
0	05.22.2024	CONSTRUCTION SET

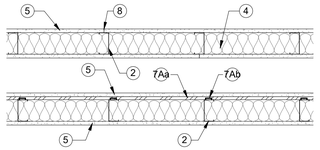
project #:	23049
drawn by:	MAG
checked by:	MAG

ACCESSIBILITY DETAILS

A0.11

THESE PLANS, SPECIFICATIONS, AND DESIGNS, AS INSTRUMENTS OF SERVICE, ARE AND SHALL REMAIN THE PROPERTY OF GERMANO ARCHITECTURE + INTERIORS, PLLC WHETHER THE PROJECT FOR WHICH THEY ARE MADE IS EXECUTED OR NOT. THEY ARE NOT TO BE USED BY THE OWNER OR OTHERS ON EXTENSIONS OF THIS PROJECT OR ON ANY OTHER PROJECT WITHOUT THE WRITTEN AGREEMENT OF GERMANO ARCHITECTURE + INTERIORS, PLLC. ALL COMMON LAW, STATUTORY AND OTHER RESERVED RIGHTS, INCLUDING COPYRIGHT, ARE RETAINED BY GERMANO ARCHITECTURE + INTERIORS, PLLC.

Design No. U419
Nonbearing Wall Ratings — 1, 2, 3 or 4 Hr (See Items 4 & 5 through 5J)
* Indicates such products shall bear the UL Certification Mark for jurisdictions employing the UL Certification.



1. Floor and Ceiling Runners — (Not Shown) — For use with Item 2 — Channel shaped, fabricated from min 25 MSG corrosion-protected steel, min depth to accommodate stud size, with min 1-1/4 in. long legs, attached to floor and ceiling with fasteners 24 in. OC max.

1A. Framing Members* — Floor and Ceiling Runner — Not Shown — In lieu of Item 1 — For use with Item 2B, proprietary channel shaped runners, 3-5/8 in. deep attached to floor and ceiling with fasteners 24 in. OC max.
CALIFORNIA EXPANDED METAL PRODUCTS CO — Viper25™ Track
CRACO MFG INC — SmartTrack25™
MARINO/WARE, DIV OF WARE INDUSTRIES INC — Viper25™ Track
FUSION BUILDING PRODUCTS — Viper25™ Track
IMPERIAL MANUFACTURING GROUP INC — Viper25™ Track

1B. Framing Members* — Floor and Ceiling Runner — Not Shown — In lieu of Item 1 — For use with Item 2C, proprietary channel shaped runners, 1-1/4 in. wide by 3-5/8 in. deep fabricated from min 0.018 in. thick galv steel, attached to floor and ceiling with fasteners spaced 24 in. OC max.
CALIFORNIA EXPANDED METAL PRODUCTS CO — Viper20™ Track
MARINO/WARE, DIV OF WARE INDUSTRIES INC — Viper20™ Track
FUSION BUILDING PRODUCTS — Viper20™ Track
IMPERIAL MANUFACTURING GROUP INC — Viper20™ Track

1C. Framing Members* — Floor and Ceiling Runners — (Not Shown) — In lieu of Item 1 — Channel shaped, attached to floor and ceiling with fasteners 24 in. OC. max.
ALLSTEEL & GYPSUM PRODUCTS INC — Type SUPREME D24/30EQD and Type SUPREME D20
CONSOLIDATED FABRICATORS CORP, BUILDING PRODUCTS DIV — Type SUPREME D24/30EQD and Type SUPREME D20
QUAIL RUN BUILDING MATERIALS INC — Type SUPREME D24/30EQD and Type SUPREME D20
SCAFCO STEEL STUD MANUFACTURING CO — Type SUPREME D24/30EQD and Type SUPREME D20
STEEL CONSTRUCTION SYSTEMS INC — Type SUPREME D24/30EQD and Type SUPREME D20
TELLING INDUSTRIES LLC — Type SUPREME D24/30EQD and Type SUPREME D20
UNITED METAL PRODUCTS INC — Type SUPREME D24/30EQD and Type SUPREME D20

1D. Floor and Ceiling Runners — (Not Shown) — For use with Item 2A — Channel shaped, fabricated from min 20 MSG corrosion-protected or galv steel, min depth to accommodate stud size, with min 1 in. long legs, attached to floor and ceiling with fasteners spaced max 24 in. OC.

1E. Framing Members* — Floor and Ceiling Runners — (Not Shown, As an alternate to Item 1) — For use with Items 2E, 5F or 5G or 5I only, channel shaped, fabricated from min. 0.015 in. (min bare metal thickness) galvanized steel, attached to floor and ceiling with fasteners 24 in. OC. max.
CLARKDIETRICH BUILDING SYSTEMS — CD ProTRAK
DMFCWBS LLC — ProTRAK
MBA METAL FRAMING — ProTRAK
RAM SALES LLC — Ram ProTRAK
STEEL STRUCTURAL PRODUCTS LLC — Tri-S ProTRAK

1F. Framing Members* — Floor and Ceiling Runner — Not Shown — In lieu of Item 1 — For use with Item 2F, proprietary channel shaped runners, minimum width to accommodate stud size, with 1- 1/8 in. long legs fabricated from min 0.015 in. (min bare metal thickness) galv steel, attached to floor and ceiling with fasteners spaced 24 in. OC max.
SUPER STUD BUILDING PRODUCTS — The Edge

1G. Framing Members* — Floor and Ceiling Runner — For use with Item 2G, proprietary channel shaped runners, minimum width to accommodate stud size attached to floor and ceiling with fasteners 24 in. OC max.
STUDCO BUILDING SYSTEMS — CROCSTUD Track

1H. Floor and Ceiling Runners — (Not Shown) — Channel shaped, fabricated from min 0.02 in. galv steel, min width to accommodate stud size, with min 1 in. long legs, for use with studs specified below and fabricated from min 0.018 in. galv steel or thicker, attached to floor and ceiling with fasteners spaced max 24 in. OC.
MARINO/WARE, DIV OF WARE INDUSTRIES INC — Viper20™ Track VT100
FUSION BUILDING PRODUCTS — Viper20™ Track VT100
IMPERIAL MANUFACTURING GROUP INC — Viper20™ Track VT100

1I. Framing Members* — Floor and Ceiling Runners — (Not Shown, As an alternate to Item 1) — For use with Items 2H, channel shaped, fabricated from min. 0.015 in. (min bare metal thickness) galvanized steel, attached to floor and ceiling with fasteners 24 in. OC. max.
TELLING INDUSTRIES LLC — TRUE-TRACK™

1J. Framing Members* — Floor and Ceiling Runner — Not Shown — In lieu of Item 1 — For use with Item 2I, proprietary channel shaped runners, 3-5/8 in. deep attached to floor and ceiling with fasteners 24 in. OC max.

1K. Framing Members* — Floor and Ceiling Runner — Not Shown — In lieu of Item 1 — For use with Item 2J, proprietary channel shaped runners, 1-1/4 in. wide by 3-5/8 in. deep fabricated from min 0.018 in. thick galv steel, attached to floor and ceiling with fasteners spaced 24 in. OC max.

1L. Framing Members* — Floor and Ceiling Runner — Not Shown — In lieu of Item 1 — For use with Item 2N, proprietary channel shaped runners, 1-1/4 in. wide by min. 3-1/2 in. deep fabricated from min 0.018 in. thick galv steel, attached to floor and ceiling with fasteners spaced 24 in. OC max.
RESCUE METAL FRAMING, LLC — AlphaTRAK

1M. Framing Members* — Floor and Ceiling Runners — Not Shown — As an alternate to Item 1 — For use with Item 2O, proprietary channel shaped runners, min width to accommodate stud size, galv steel, attached to floor and ceiling with fasteners spaced 24 in. OC max.
RONDO BUILDING SERVICES PTY LTD — Rondo Wall Track

1N. Framing Members* — Floor and Ceiling Runners — Not Shown — As an alternate to Item 1 — For use with Item 2P, proprietary channel shaped runners, min width to accommodate stud size, galv steel, attached to floor and ceiling with fasteners spaced 24 in. OC max.
OEG BUILDING MATERIALS — OEG Track

1O. Framing Members* — Floor and Ceiling Runner — Not Shown — In lieu of Item 1 — For use with Item 2Q, proprietary channel shaped runners, min width to accommodate stud size, fabricated from min. 25 MSG (0.018 in. min. bare metal thickness), attached to floor and ceiling with fasteners spaced 24 in. OC max.
CALIFORNIA EXPANDED METAL PRODUCTS CO — Viper X Track

2. Steel Studs — Channel shaped, fabricated from min 25 MSG corrosion-protected steel, min depth as indicated under Item 5, spaced a max of 24 in. OC. Studs to be cut 3/8 to 3/4 in. less than assembly height.

2A. Steel Studs — (As an alternate to Item 2, For use with Items 5B, 5E, 5H, 5J or Type ULIX) — Channel shaped, fabricated from min 20 MSG corrosion-protected or galv steel, 3-1/2 in. min depth, spaced a max of 16 in. OC. Studs friction-fit into floor and ceiling runners. Studs to be cut 5/8 to 3/4 in. less than assembly height.

2B. Framing Members* - Steel Studs — (As an alternate to Item 2, For use with Items 5C, 5I or Type ULIX) — Proprietary channel shaped studs, 3-5/8 in. deep spaced a max of 24 in. OC studs to be cut 3/4 in less than the assembly height and installed with a 1/2 in. gap between the end of the stud and track at the bottom of the wall. For direct attachment of gypsum board only.
CALIFORNIA EXPANDED METAL PRODUCTS CO — Viper25™
CRACO MFG INC — SmartStud25™
MARINO/WARE, DIV OF WARE INDUSTRIES INC — Viper25™
FUSION BUILDING PRODUCTS — Viper25™
IMPERIAL MANUFACTURING GROUP INC — Viper25™

2C. Framing Members* — Steel Studs — Not Shown — In lieu of Item 2 — proprietary channel shaped steel studs, min depth as indicated under Item 5, spaced a max if 24 in. OC, fabricated from min 0.018 in. thick galv steel. Studs cut 3/8 in. to 3/4 in. less in lengths than assembly heights.
CALIFORNIA EXPANDED METAL PRODUCTS CO — Viper20™
MARINO/WARE, DIV OF WARE INDUSTRIES INC — Viper20™
FUSION BUILDING PRODUCTS — Viper20™
IMPERIAL MANUFACTURING GROUP INC — Viper20™

2D. Framing Members* — Steel Studs — In lieu of Item 2 — Channel shaped studs, min depth as indicated under Item 5, spaced a max of 24 in. OC. Studs to be cut 3/4 in. less than assembly height.
ALLSTEEL & GYPSUM PRODUCTS INC — Type SUPREME D24/30EQD and Type SUPREME D20
CONSOLIDATED FABRICATORS CORP, BUILDING PRODUCTS DIV — Type SUPREME D24/30EQD and Type SUPREME D20
QUAIL RUN BUILDING MATERIALS INC — Type SUPREME D24/30EQD and Type SUPREME D20
SCAFCO STEEL STUD MANUFACTURING CO — Type SUPREME D24/30EQD and Type SUPREME D20
STEEL CONSTRUCTION SYSTEMS INC — Type SUPREME D24/30EQD and Type SUPREME D20
TELLING INDUSTRIES LLC — Type SUPREME D24/30EQD and Type SUPREME D20
UNITED METAL PRODUCTS INC — Type SUPREME D24/30EQD and Type SUPREME D20

2E. Framing Members* — Steel Studs — (Not Shown, As an alternate to Item 2) — For use with Items 5F or 5G or 5I or Type ULIX only, channel shaped studs, min depth as indicated under Item 5F, 5G or 5I, fabricated from min. 0.015 in. (min bare metal thickness) galvanized steel, spaced a max of 24 in. OC. Studs to be cut 3/4 in. less than assembly height.
CLARKDIETRICH BUILDING SYSTEMS — CD ProSTUD
DMFCWBS LLC — ProSTUD
MBA METAL FRAMING — ProSTUD
RAM SALES LLC — Ram ProSTUD
STEEL STRUCTURAL PRODUCTS LLC — Tri-S ProSTUD

2F. Framing Members* — Steel Studs — Not Shown — In lieu of Item 2 — proprietary channel shaped steel studs, minimum width indicated under Item 5, 1-1/4 in. deep fabricated from min 0.015 in. (min bare metal thickness) galvanized steel. Studs 3/8 in. to 3/4 in. less in lengths than assembly heights.
SUPER STUD BUILDING PRODUCTS — The Edge

2G. Framing Members* — Steel Studs — Not Shown — In lieu of Item 2 — proprietary channel shaped studs, minimum width indicated under Item 5, Studs to be cut 3/8 to 3/4 in less than the assembly height.
STUDCO BUILDING SYSTEMS — CROCSTUD

2H. Framing Members* — Steel Studs — (Not Shown, As an alternate to Item 2) — Fabricated from min. 0.015 in. (min bare metal thickness) galvanized steel, spaced a max of 24 in. OC. Studs to be cut 3/4 in. less than assembly height.
TELLING INDUSTRIES LLC — TRUE-STUD™

2I. Framing Members* — Steel Studs —

2J. Framing Members* — Metal Studs — Not Shown — In lieu of Item 2 — proprietary channel shaped steel studs, min depth as indicated under Item 5, spaced a max if 24 in. OC, fabricated from min 0.018 in. thick galv steel. Studs cut 3/8 in. to 3/4 in. less in lengths than assembly heights.

2K. Framing Members* — Steel Studs — As an alternate to Item 2 — For use with Item 1, channel shaped studs, fabricated from min 25 MSG corrosion-protected steel, min depth as indicated under Item 5, spaced a max of 24 in. OC. Studs to be cut 3/8 to 3/4 in. less than assembly height.
EB METAL INC — NITROSTUD

2L. Framing Members* — Steel Studs — As an alternate to Item 2 — For use with Item 1, channel shaped studs, fabricated from min 25 MSG corrosion-protected steel, min depth as indicated under Item 5, spaced a max of 24 in. OC. Studs to be cut 3/8 to 3/4 in. less than assembly height.
OLMAR SUPPLY INC — PRIMESTUD

2M. Framing Members* — Steel Studs — As an alternate to Item 2 — For use with Item 1, channel shaped studs, fabricated from min 25 MSG corrosion-protected steel, min depth as indicated under Item 5, spaced a max of 24 in. OC. Studs to be cut 3/8 to 3/4 in. less than assembly height.
MARINO/WARE, DIV OF WARE INDUSTRIES INC — StudRite™

2N. Framing Members* — Steel Studs — As an alternate to Item 2 — proprietary channel shaped steel studs, min depth 3-1/2 in. and as indicated under Item 5, spaced a max of 24 in. OC, fabricated from min 0.018 in. thick galv steel. Studs cut 3/8 in. to 3/4 in. less in length than assembly height.
RESCUE METAL FRAMING, LLC — AlphaSTUD

2O. Framing Members* — Steel Studs — As an alternate to Item 2 — proprietary channel shaped steel studs, min width as indicated under Item 5, galv steel. Studs to be cut 3/8 to 3/4 in. less in lengths than assembly height. Spaced 24 in. OC max.
RONDO BUILDING SERVICES PTY LTD — Rondo Lipped Wall Stud

2P. Framing Members* — Steel Studs — As an alternate to Item 2 — proprietary channel shaped steel studs, min width as indicated under Item 5, min 25 MSG galv steel. Studs to be cut 3/8 to 3/4 in. less in lengths than assembly height. Spaced 24 in. OC max.
OEG BUILDING MATERIALS — OEG Stud

2Q. Framing Members* — Steel Studs — Not Shown — In lieu of Item 2 — For use with Item 1O, proprietary channel shaped steel studs, min depth as indicated under Item 5, spaced a max of 24 in. OC, fabricated from min 25 MSG (0.018 in. min. bare metal thickness). Studs cut 3/8 in. to 3/4 in. less in lengths than assembly heights.
CALIFORNIA EXPANDED METAL PRODUCTS CO — Viper X

3. Wood Structural Panel Sheathing — (Optional, For use with Item 5 Only) — (Not Shown) — 4 ft wide, 7/16 in. thick oriented strand board (OSB) or 15/32 in. thick structural 1 sheathing (plywood) complying with DOC PS1 or PS2, or APA Standard PRP-108, manufactured with exterior glue, applied horizontally or vertically to the steel studs. Vertical joints centered on studs, and staggered one stud space from wallboard joints. Attached to studs with flat-head self-drilling tapping screws with a min. head diam. of 0.292 in. at maximum 6 in. OC. in the perimeter and 12 in. OC. in the field. When used, gypsum panels attached over OSB or plywood panels and fastener lengths for gypsum panels increased by min. 1/2 in.

4. Batts and Blankets* — (Required as indicated under Item 5) — Mineral wool batts, friction fitted between studs and runners. Min nom thickness as indicated under Item 5.
See **Batts and Blankets** (BKNV or BZJZ) Categories for names of Classified companies.

4A. Batts and Blankets* — (Optional) — Placed in stud cavities, any glass fiber or mineral wool insulation bearing the UL Classification Marking as to Surface Burning Characteristics and/or Fire Resistance.
See **Batts and Blankets** (BKNV or BZJZ) Categories for names of Classified companies.

4B. Fiber, Sprayed* — (Optional, for use with Type ULIX) Where insulation is required - Spray applied granulated mineral fiber material. The fiber is applied with adhesive at a minimum density of 4.0 pcf to completely fill the wall cavity in accordance with the application instructions supplied with the product. See Fiber, Sprayed (CCAZ).
AMERICAN ROCKWOOL MANUFACTURING, LLC — Type Rockwool Premium Plus

4C. Foamed Plastic* — (Where Batts and Blankets*, Item 4, are optional, for use with Item 5K) — Spray applied, foamed plastic insulation, at any thickness from partial fill to completely filling stud cavity, for 2 hour rated assemblies only. When foamed plastic is used, minimum stud depth shall be 3-1/2 in.
CARLISLE SPRAY FOAM INSULATION — Types SealTite Pro Closed Cell (CC), SealTite Pro Open Cell (OC), SealTite Pro OCX, SealTite Pro No Trim 21, SealTite Pro One Zero, Foamsulate Closed Cell, Foamsulate OCX, Foamsulate 70, and Foamsulate HFO.

5. Gypsum Board* — Gypsum panels with beveled, square or tapered edges, applied vertically or horizontally. Vertical joints centered over studs and staggered one stud cavity on opposite sides of studs. Vertical joints in adjacent layers (multilayer systems) staggered one stud cavity. Horizontal joints need not be backed by steel framing. Horizontal edge joints and horizontal butt joints on opposite sides of studs need not be staggered. Horizontal edge joints and horizontal butt joints in adjacent layers (multilayer systems) staggered a min of 12 in. Horizontal edge joints and horizontal butt joints in adjacent layers (multilayer systems) with Type ULIX need not be staggered. The thickness and number of layers for the 1 hr, 2 hr, 3 hr and 4 hr ratings are as follows:

Gypsum Board Protection on Each Side of Wall

Rating, Hr	Min Stud Depth, in. (Items 2, 2C, 2D, 2F, 2G, 2O)	No. of Layers & Thkns of Panel	Min Thkns of Insulation (Item 4)
1	3-1/2	1 layer, 5/8 in. thick	Optional
1	2-1/2	1 layer, 1/2 in. thick	1-1/2 in.
1	1-5/8	1 layer, 3/4 in. thick	Optional
2	1-5/8	2 layers, 1/2 in. thick	Optional
2	1-5/8	2 layers, 5/8 in. thick	Optional
2	3-1/2	1 layer, 3/4 in. thick	3 in.
3	1-5/8	3 layers, 1/2 in. thick	Optional
3	1-5/8	2 layers, 3/4 in. thick	Optional
3	1-5/8	3 layers, 5/8 in. thick	Optional
4	1-5/8	4 layers, 5/8 in. thick	Optional
4	1-5/8	4 layers, 1/2 in. thick	Optional
4	2-1/2	2 layers, 3/4 in. thick	2 in.

CGC INC — 1/2 in. thick Type C, IP-X2 or IPC-AR; WRC, 5/8 in. thick Type AR, C, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SHX, ULIX, WRX or WRC; 3/4 in. thick Types IP-X3 or ULTRACODE
THE SIAM GYPSUM INDUSTRY (SONGKHLA) CO — 1/2 in. thick Type C and 5/8 in. thick Type SCX
UNITED STATES GYPSUM CO — 1/2 in. thick Type C, IP-X2, IPC-AR or WRC; 5/8 in. thick Type SCX, SGX, SHX, ULIX, WRX, IP-X1, AR, C, WRC, FRX-G, IP-AR, IP-X2, IPC-AR; 3/4 in. thick Types IP-X3 or ULTRACODE
USG BORAL DRYWALL SFZ LLC — 1/2 in. Type C; 5/8 in. Types C, SCX, SGX, ULTRACODE
USG MEXICO S A DE C V — 1/2 in. thick Type C, IP-X2, IPC-AR or WRC; 5/8 in. thick Type AR, C, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SHX, WRX, WRC or; 3/4 in. thick Types IP-X3 or ULTRACODE

When **Item 7B, Steel Framing Members***, is used, Nonbearing Wall Rating is limited to 1 Hr. Min. stud depth is 3-1/2 in., min. thickness of insulation (Item 4) is 3 in., and two layers of gypsum board panels (1/2 in. or 5/8 in. thick) shall be attached to furring channels as described in Item 6. One layer of gypsum board panels (1/2 in. or 5/8 in. thick) attached to opposite side of stud without furring channels as described in Item 6.

5A. Gypsum Board* — (As an alternate to Item 5) — 5/8 in. thick, 24 to 54 in. wide, applied horizontally as the outer layer to one side of the assembly. Secured as described in Item 6.
CGC INC — Type SHX.
UNITED STATES GYPSUM CO — Type FRX-G, SHX.
USG MEXICO S A DE C V — Type SHX.

5B. Gypsum Board* — (Not Shown) — As an alternate to Item 5 when used as the base layer on one or both sides of wall when 5/8 in or 3/4 in. thick products are specified. For direct attachment only to steel studs Item 2A, (not to be used with Item 3) — Nom 5/8 in. or 3/4 in. may be used as alternate to all 5/8 in. or 3/4 in. shown in Item 5, Wallboard Protection on Each Side of Wall table. Nom 5/8 in. or 3/4 in. thick lead backed gypsum panels with beveled, square or tapered edges, applied vertically. Vertical joints centered over studs and staggered min 1 stud cavity on opposite sides of studs. Gypsum board secured to 20 MSG steel studs Item 2A with 1-1/4 in. long Type S-12 steel screws spaced 8 in. OC at perimeter and 12 in. OC in the field. To be used with Lead Batten Strips (see Item 11) or Lead Discs or Tabs (see Item 12).
RAY-BAR ENGINEERING CORP — Type RB-LBG

5C. Gypsum Board* — (For Use With Item 2B) — Rating Limited to 1 Hour. 5/8 in. thick, 48 in. wide, Gypsum panels with beveled, square or tapered edges, applied vertically or horizontally. (Vertical Application) - The gypsum board is to be installed on each side of the studs with 1 in. long Type S coated steel screws spaced 8 in. OC starting 4 in. from the edge of the board at the vertical edges and 12 in. OC starting 6 in. from the edge of the board at the center of each board. Gypsum boards are to be secured to the top and bottom track with screws spaced 8 in. OC starting 4 in. from the board edge. Fasteners shall not penetrate through both the stud and the track at the same time. Vertical joints are to be centered over studs and staggered one stud cavity on opposite sides of studs. (Horizontal Application) - The gypsum board is to be installed on each side of the studs with 1 in. long Type S coated steel screws spaced 8 in. OC starting 4 in. from the edge of the board at the vertical edges and 12 in. OC starting 6 in. from the edge of the board at the center of each board. Gypsum boards are to be secured to the top and bottom track with screws spaced 8 in. OC starting 4 in. from the board edge. Fasteners shall not penetrate through both the stud and the track at the same time. All horizontal joints are to be backed as outlined under section VI of Volume 1 in the Fire Resistive Directory.
CGC INC — Type SCX, ULIX.
THE SIAM GYPSUM INDUSTRY (SONGKHLA) CO — Type SCX
UNITED STATES GYPSUM CO — Type SCX, SGX, ULIX.
USG BORAL DRYWALL SFZ LLC — Type SCX
USG MEXICO S A DE C V — Type SCX

5D. Gypsum Board* — (As an alternate to Item 5) — 5/8 in. thick, 48 in. wide, applied vertically or horizontally. Secured as described in Item 6. For use with Items 1 and 2 only.
CGC INC — Type USGX
UNITED STATES GYPSUM CO — Type USGX
USG BORAL DRYWALL SFZ LLC — Type USGX
USG MEXICO S A DE C V — Type USGX

5E. Gypsum Board* — (Not Shown) — (As an alternate to Item 5 when used as the base layer on one or both sides of wall when 1/2 in. or 5/8 in thick products are specified, For direct attachment only to steel studs Item 2A, not to be used with Item 3). Nominal 5/8 in. thick lead backed gypsum panels with beveled, square or tapered edges, applied vertically. Vertical joints centered over studs and staggered min 1 stud cavity on opposite sides of studs. Wallboard secured to studs with 1-1/4 in. long Type S-12 (or No. 6 by 1-1/4 in. long bugle head fine driller) steel screws spaced 8 in. OC at perimeter and 12 in. OC in the field.
NEW ENGLAND LEAD BURNING CO INC, DBA NELCO — Nelco

5F. Gypsum Board* — (As an alternate to Item 5) — For use with Items 1E and 2E and limited to 1 Hour Rating only, Gypsum panels with beveled, square or tapered edges, applied vertically, and fastened to the steel studs with 1 in. long Type S screws spaced 8 in. OC along vertical and bottom edges and 12 in. OC in the field. Vertical joints centered over studs and staggered one stud cavity on opposite sides of studs. Steel stud depth shall be a minimum 3-5/8 in.
THE SIAM GYPSUM INDUSTRY (SONGKHLA) CO — Type SCX
UNITED STATES GYPSUM CO — 5/8 in. thick Type SCX, SGX, ULIX
USG BORAL DRYWALL SFZ LLC — 5/8 in. thick Type SCX, SGX

5G. Gypsum Board* — (As an alternate to Item 5) — For use with Items 1E and 2E only, Gypsum panels with beveled, square or tapered edges, applied vertically or horizontally, as specified in the table below and fastened to the steel studs as described in Item 6. Vertical joints centered over studs and staggered one stud cavity on opposite sides of studs. Vertical joints in adjacent layers (multilayer systems) staggered one stud cavity. Horizontal joints need not be backed by steel framing. Horizontal edge joints and horizontal butt joints on opposite sides of studs need not be staggered. Horizontal edge joints and horizontal butt joints in adjacent layers (multilayer systems) staggered a min of 12 in. The thickness and number of layers for the 2 hr, 3 hr and 4 hr ratings are as follows:

Gypsum Board Protection on Each Side of Wall

Rating,Hr	Min Stud Depth, in. (Item 2E)	No. of Layers & Thickness of Panel	Min Thkns of Insulation (Item 4)
2	1-5/8	2 layers, 1/2 in. thick	Optional
2	1-5/8	2 layers, 5/8 in. thick	Optional
3	1-5/8	3 layers, 1/2 in. thick	Optional
3	1-5/8	3 layers, 5/8 in. thick	Optional
4	1-5/8	4 layers, 5/8 in. thick	Optional
4	1-5/8	4 layers, 1/2 in. thick	Optional

CGC INC — 1/2 in. thick Type C, IP-X2 or IPC-AR; WRC, 5/8 in. thick Type AR, C, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SHX, ULIX, WRX or WRC; 3/4 in. thick Types IP-X3 or ULTRACODE
THE SIAM GYPSUM INDUSTRY (SONGKHLA) CO — 1/2 in. thick Type C and 5/8 in. thick Type SCX
UNITED STATES GYPSUM CO — 1/2 in. thick Type C, IP-X2, IPC-AR or WRC; 5/8 in. thick Type SCX, SGX, SHX, ULIX, WRX, IP-X1, AR, C, WRC, FRX-G, IP-AR, IP-X2, IPC-AR; 3/4 in. thick Types IP-X3 or ULTRACODE
USG BORAL DRYWALL SFZ LLC — 1/2 in. Type C; 5/8 in. Types C, SCX, SGX, ULTRACODE
USG MEXICO S A DE C V — 1/2 in. thick Type C, IP-X2, IPC-AR or WRC; 5/8 in. thick Type AR, C, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SHX, WRX, WRC or; 3/4 in. thick Types IP-X3 or ULTRACODE

5H. Gypsum Board* — (Not Shown) — (As an alternate to Item 5 when used as the base layer on one or both sides of wall when 5/8 or 3/4 in thick products are specified. For direct attachment only to steel studs Item 2A, (not to be used with Item 3) - Nom 5/8 or 3/4 in. may be used as alternate to all 5/8 or 3/4 in. shown in Item 5, Wallboard Protection on Each Side of Wall table. Nom 5/8 or 3/4 in. thick lead backed gypsum panels with beveled, square or tapered edges, applied vertically. Vertical joints centered over 20 MSG steel studs and staggered min 1 stud cavity on opposite sides of studs. Wallboard secured to studs with 1-1/4 in. long Type S-12 steel screws spaced 8 in. OC at perimeter and 12 in. OC in the field. Gypsum board secured to 20 MSG steel studs Item 2B with 1-1/4 in. long Type S-12 steel screws spaced 8 in. OC at perimeter and 12 in. OC in the field. For Joint Compound see Item 5. To be used with Lead Batten Strips (see Item 11A) or Lead Discs (see Item 12A).
MAYCO INDUSTRIES INC — Type X-Ray Shielded Gypsum

5I. Gypsum Board* — (As an alternate to Item 5) — Nom. 5/8 in. thick gypsum panels with beveled, square or tapered edges installed as described in Item 5. Steel stud minimum depth shall be as indicated in Item 5.
CGC INC — Type ULIX, ULX
UNITED STATES GYPSUM CO — Type ULIX, ULX
USG MEXICO S A DE C V — Type ULIX

5J. Gypsum Board* — (Not Shown) — (As an alternate to Item 5 when used as the base layer on one or both sides of wall when 1/2 in. or 5/8 in thick products are specified, For direct attachment only to steel studs Item 2A, not to be used with Item 3). Nom 5/8 in. thick lead backed gypsum panels with beveled, square or tapered edges, applied vertically. Vertical joints centered over studs and staggered min 1 stud cavity on opposite sides of studs. Wallboard secured to studs with 1-1/4 in. long Type S-12 steel screws gypsum panel steel screws spaced 8 in. OC at perimeter and 12 in. OC in the field. Lead batten strips required behind vertical joints of lead backed gypsum wallboard and optional at remaining stud locations. Lead batten strips, min 2 in. wide, max 8 ft long with a max thickness of 0.14 in. placed on the face of studs and attached to the stud with construction adhesive and two 1 in. long Type S-12 pan head steel screws, one at the top of the strip and one at the bottom of the strip. Lead discs, nominal 3/8 in. diam by max 0.085 in. thick. Compression fitted or adhered over the screw heads. Lead batten strips and discs to have a purity of 99.9% meeting the Federal specification QQ-L-201f, Grade "C".
RADIATION PROTECTION PRODUCTS INC — Type RPP - Lead Lined Drywall

5K. Gypsum Board* — (As an alternate to Item 5 when Foam Plastic insulation (Item 4C) is used) — Any 5/8 in. thick, 4 ft. wide, Gypsum Board listed in Item 5 above. Applied vertically with vertical joints centered over studs and staggered one stud cavity on opposite sides of studs. Gypsum panels secured to studs with 1 in. long Type S steel screws spaced 8 in. OC at perimeter and in the field. For 2 layer assemblies outer layer will be attached to studs over inner layer with the 1-5/8 in. long steel screws spaced 8 in. OC.

6. Fasteners — (Not Shown) — For use with Items 2 and 2F - Type S or S-12 steel screws used to attach panels to studs (Item 2) or furring channels (Item 7). Single layer systems: 1 in. long for 1/2 and 5/8 in. thick panels or 1-1/4 in. long for 3/4 in. thick panels, spaced 8 in. OC when panels are applied horizontally, or 8 in. OC along vertical and bottom edges and 12 in. OC in the field when panels are applied vertically. Single layer system with Type ULIX: 1 in. long, spaced 12 in. OC in the field and perimeter, when panels are applied horizontally or vertically.Two layer systems: First layer- 1 in. long for 1/2 and 5/8 in. thick panels or 1-1/4 in. long for 3/4 in. thick panels, spaced 16 in. OC. Second layer- 1-5/8 in. long for 1/2 in., 5/8 in. thick panels or 2-1/4 in. long for 3/4 in. thick panels, spaced 16 in. OC with screws offset 8 in. from first layer.Three-layer systems: First layer- 1 in. long for 1/2 in., 5/8 in. thick panels, spaced 24 in. OC. Second layer- 1-5/8 in. long for 1/2 in., 5/8 in. thick panels, spaced 24 in. OC. Third layer- 2-1/4 in. long for 1/2 in., 5/8 in. thick panels or 2-5/8 in. long for 5/8 in. thick panels, spaced 12 in. OC. Screws offset min 6 in. from layer below. Four-layer systems: First layer- 1 in. long for 1/2 in., 5/8 in. thick panels, spaced 24 in. OC. Second layer- 1-5/8 in. long for 1/2 in., 5/8 in. thick panels, spaced 24 in. OC. Third layer- 2-1/4 in. long for 1/2 in. thick panels or 2-5/8 in. long for 5/8 in. thick panels, spaced 24 in. OC. Fourth layer- 2-5/8 in. long for 1/2 in. thick panels or 3 in. long for 5/8 in. thick panels, spaced 12 in. OC. Screws offset min 6 in. from layer below.

7. Furring Channels — (Optional, Not Shown, for single or double layer systems) — Resilient furring channels fabricated from min 25 MSG corrosion-protected steel, spaced vertically a max of 24 in. OC. Flange portion attached to each intersecting stud with 1/2 in. long Type S-12 steel screws. Not for use with Item 5A.

7A. Framing Members* — (Optional on one or both sides, not shown, for single or double layer systems) — As an alternate to Item 7, furring channels and Steel Framing Members as described below:
a. Furring Channels — Formed of No. 25 MSG galv steel. 2-9/16 in. or 2-23/32 in. wide by 7/8 in. deep, spaced max. 24 in. OC perpendicular to studs. Channels secured to studs as described in Item b. Gypsum board attached to furring channels as described in Item 6. Not for use with Item 5A.
b. Steel Framing Members* — Used to attach furring channels (Item 7Aa) to studs (Item 2). Clips spaced max. 48 in. OC. RSIC-1 and RSIC-1 (2.75) clips secured to studs with No. 8 x 1-1/2 in. minimum self-drilling, S-12 steel screw through the center grommet. RSIC-V and RSIC-V (2.75) clips secured to studs with No. 8 x 9/16 in. minimum self-drilling, S-12 steel screw through the center hole. Furring channels are friction fitted into clips. RSIC-1 and RSIC-V clips for use with 2-9/16 in. wide furring channels. RSIC-1 (2.75) and RSIC-V (2.75) clips for use with 2-23/32 in. wide furring channels.
PAC INTERNATIONAL LLC — Types RSIC-1, RSIC-V, RSIC-1 (2.75), RSIC-V (2.75).

7B. Framing Members* — (Optional, Not Shown) — As an alternate to Item 7, for single or double layer systems, furring channels and Steel Framing Members on only one side of studs as described below:
a. Furring Channels — Formed of No. 25 MSG galv steel, spaced 24 in. OC perpendicular to studs. Channels secured to studs as described in Item b. Batts and Blankets placed in stud cavity as described in Item 5. Two layers of gypsum board attached to furring channels as described in Item 5. Not for use with Item 5A.
b. Steel Framing Members* — Used to attach furring channels (Item 7Ba) to one side of studs (Item 2) only. Clips spaced 48 in. OC., and secured to studs with two No. 8 x 2-1/2 in. coarse drywall screws, one through the hole at each end of the clip. Furring channels are friction fitted into clips.
KINETICS NOISE CONTROL INC — Type Isomax

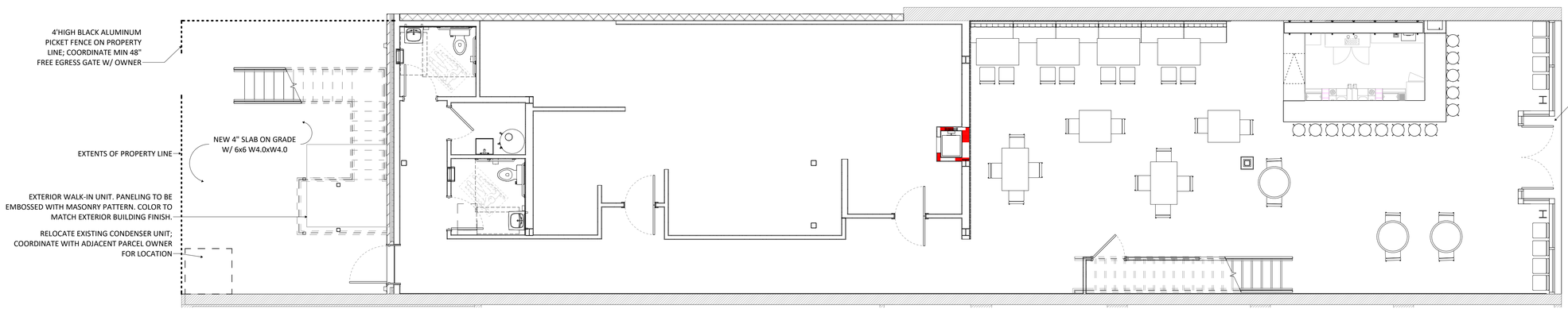
7C. Framing Members* — (Not Shown) — (Optional on one or both sides, not shown, for single or double layer systems) — As an alternate to Item 7, furring channels and Steel Framing Members as described below:
a. Furring Channels — Formed of No. 25 MSG galv steel. 2-3/8 in. wide by 7/8 in. deep, spaced max. 24 in. OC perpendicular to studs. Channels secured to studs as described in Item b. Gypsum board attached to furring channels as described in Item 6. Not for use with Item 5A.
b. Steel Framing Members* — Used to attach furring channels (Item 7Ca) to studs (Item 2). Clips spaced max. 48 in. OC. GENIECLIPS secured to studs with No. 8 x 1-1/2 in. minimum self-drilling, S-12 steel screw through the center grommet. Furring channels are friction fitted into clips.
PLITEQ INC — Type GENIECLIP

7D. Steel Framing Members* — (Optional on one or both sides, not shown, for single or double layer systems) — Furring channels and Steel Framing Members as described below:
a. Furring Channels — Formed of No. 25 MSG galv steel. Spaced 24 in. OC perpendicular to studs. Channels secured to studs as described in Item b. Ends of adjoining channels overlapped 6 in. and tied together with double strand of No. 18 AWG galvanized steel wire.. Gypsum board attached to furring channels as described in Item 6. Not for use with Item 5A.
b. Steel Framing Members* — Used to attach furring channels (Item 7Da) to studs. Clips spaced 48 in. OC., and secured to studs with 2 in. coarse drywall screw with 1 in. diam washer through the center hole. Furring channels are friction fitted into clips
STUDCO BUILDING SYSTEMS — RESILMOUNT Sound Isolation Clips - Type A237 or A237R

7E. Steel Framing Members* — (Optional on one or both sides, not shown, for single or double layer systems) — Furring channels and Steel Framing Members as described below:
a. Furring Channels — Formed of No. 25 MSG galv steel. Spaced 24 in. OC perpendicular to studs. Channels secured to studs as described in Item 7Eb. Ends of adjoining channels overlapped 6 in. and tied together with double strand of No. 18 AWG galvanized steel wire.. Gypsum board attached to furring channels as described in Item 6. Not for use with Item 5A and 5E.
b. Steel Framing Members* — Used to attach furring channels (Item 7Ea) to studs. Cl

SITE NOTES

1. THE SITE PLAN INFORMATION CONTAINED ON THIS SHEET IS PROVIDED FOR REFERENCE ONLY. REFER TO CIVIL DRAWINGS FOR DETAILED SITE INFORMATION. CIVIL DRAWINGS ARE CONTAINED IN A SEPARATE PERMIT PACKAGE.
2. THIS IS NOT A SURVEY. REFER TO THE PLATTED SURVEY FOR ACCURACY.
3. EXISTING BUILDING TO REMAIN.
4. NO SIGNAGE IS INCLUDED IN THIS PACKAGE. SIGNAGE SHOWN FOR REFERENCE ONLY. ALL SIGNAGE MUST BE PERMITTED SEPARATELY.



1 | ARCHITECTURAL SITE PLAN

3/16" = 1'-0"

germano architecture + interiors
106 N. Arendell Ave.
Zebulon NC 27597
919.404.8085
germanoai.com

NOA NOA
122 N. ARENDELL AVE.
ZEBULON NC 27597

GERMANO ARCHITECTURE + INTERIORS, PLLC
ARCHITECTURAL COMPANY
53568
NORTH CAROLINA
ZEBULON, N.C.

NORTH CAROLINA
LICENSED
14427
ARCHITECT
MICHAEL A. GERMANO
05.22.2024

sheet information

#	date	description
0	05.22.2024	CONSTRUCTION SET

project #:	23049
drawn by:	Author
checked by:	Checker

ARCHITECTURAL SITE PLAN

A0.41

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SECTION 012500
SUBSTITUTION PROCEDURES

PART 1 GENERAL

1.01 DEFINITIONS

A. Substitutions: Changes from Contract Documents requirements proposed by Contractor to materials, products, assemblies, and equipment.
   1. Substitutions for Cause: Proposed due to changed Project circumstances beyond Contractor's control.
   2. Substitutions for Convenience: Proposed due to possibility of offering substantial advantage to the Project.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION

3.01 GENERAL REQUIREMENTS

A. A Substitution Request for products, assemblies, materials, and equipment constitutes a representation that the submitter:
   1. Has investigated proposed product and determined that it meets or exceeds the quality level of the specified product, equipment, assembly, or system.
   2. Agrees to provide the same warranty for the substitution as for the specified product.
   3. Agrees to provide same or equivalent maintenance service and source of replacement parts, as applicable.
   4. Agrees to coordinate installation and make changes to other work that may be required for the work to be complete, with no additional cost to Owner.
   5. Waives claims for additional costs or time extension that may subsequently become apparent.

B. Document each request with complete data substantiating compliance of proposed substitution with Contract Documents. Burden of proof is on proposer.
   1. Note explicitly any non-compliant characteristics.

C. Content: Include information necessary for tracking the status of each Substitution Request, and information necessary to provide an actionable response.
   1. No specific form is required. Contractor's Substitution Request documentation must include the following:
      a. Project Information:
         1) Official project name and number, and any additional required identifiers established in Contract Documents.
         2) Owner's, Architect's, and Contractor's names.
      b. Substitution Request Information:
         1) Discrete and consecutive Substitution Request number, and descriptive subject/title.
         2) Indication of whether the substitution is for cause or convenience.
         3) Issue date.
         4) Reference to particular Contract Document(s) specification section number, title, and article/paragraph(s).
         5) Description of Substitution.
         6) Reason why the specified item cannot be provided.
         7) Differences between proposed substitution and specified item.
         8) Description of how proposed substitution affects other parts of work.
      c. Attached Comparative Data: Provide point-by-point, side-by-side comparison addressing essential attributes specified, as appropriate and relevant for the item:
         1) Physical characteristics.
         2) Visual effect.
         3) Warranties.
         4) Other salient features and requirements.
      d. Impact of Substitution:
         1) Savings to Owner for accepting substitution.
         2) Change to Contract Time due to accepting substitution.

D. Limit each request to a single proposed substitution item.

3.02 SUBSTITUTION PROCEDURES DURING CONSTRUCTION

A. Submit request for Substitution for Cause within 14 days of discovery of need for substitution, but not later than 14 days prior to time required for review and approval by Architect, in order to stay on approved project schedule.

B. Submit request for Substitution for Convenience within 14 days of discovery of its potential advantage to the project, but not later than 14 days prior to time required for review and approval by Architect, in order to stay on approved project schedule.
   1. In addition to meeting general documentation requirements, document how the requested substitution benefits the Owner through cost savings, time savings, greater energy conservation, or in other specific ways.
   2. Document means of coordinating of substitution item with other portions of the work, including work by affected subcontractors.
   3. Bear the costs engendered by proposed substitution of:
      a. Owner's compensation to the Architect for any required redesign, time spent processing and evaluating the request.

3.03 RESOLUTION

A. Architect may request additional information and documentation prior to rendering a decision. Provide this data in an expeditious manner.

B. Architect will notify Contractor in writing of decision to accept or reject request.

3.04 ACCEPTANCE

A. Accepted substitutions change the work of the Project. They will be documented and incorporated into work of the project by Change Order, Construction Change Directive, Architectural Supplementary Instructions, or similar instruments provided for in the Conditions of the Contract.

3.05 CLOSEOUT ACTIVITIES

A. Include completed Substitution Request Forms as part of the Project record. Include both approved and rejected Requests.

SECTION 042613
MASONRY VENEER

PART 1 GENERAL

1.01 SUBMITTALS

A. Product Data: Provide data for masonry units, fabricated wire reinforcement, and mortar.

B. Samples: Submit two samples of decorative block units to illustrate color, texture, and extremes of color range.

PART 2 PRODUCTS

SECTION 068316
FIBERGLASS REINFORCED PANELING

PART 1 GENERAL

1.01 SUBMITTALS

A. Product Data: Provide data on specified products, describing physical and performance characteristics; including sizes, patterns and colors available; and installation instructions.

B. Samples: Submit two samples 4 by 4 inch (100 x 100 mm) in size illustrating material and surface design of panels.

PART 2 PRODUCTS

2.01 PANEL SYSTEMS

A. Wall Panels:
   1. Panel Size: 4 by 8 feet (1.2 by 2.4 m).
   2. Panel Thickness: 0.10 inch (2.5 mm).
   3. Surface Design: Embossed.
   4. Color: White.
   5. Attachment Method: Mechanical fasteners concealed by trim, with sealant in joints.

2.02 MATERIALS

A. Panels: Fiberglass reinforced plastic (FRP), complying with ASTM D5319.
   1. Surface Burning Characteristics: Maximum flame spread index of 25 and smoke developed index of 450; when system tested in accordance with ASTM E84.

B. Trim: Vinyl; color coordinating with panel.

C. Fasteners: Nylon rivets.

D. Adhesive: Type recommended by panel manufacturer.

E. Sealant: Type recommended by panel manufacturer; white.

PART 3 EXECUTION

3.01 INSTALLATION - WALLS

A. Install panels in accordance with manufacturer's instructions.

B. Seal gaps at floor, ceiling, and between panels with applicable sealant to prevent moisture intrusion.

SECTION 077600
ROOF PAVERS

PART 1 GENERAL

1.01 SUBMITTALS

A. Product Data: Provide data indicating paver and pedestal materials.

B. Shop Drawings: Submit shop drawings that indicate paver and pedestal layout, including overall plan and detail drawings of system components.

C. Warranty Documentation:
   1. Submit manufacturer warranty and ensure that forms have been completed in Owner's name and registered with manufacturer.

D. Maintenance Materials: Furnish the following for Owner's use in maintenance of project:
   1. Deliver supply of maintenance materials to Owner, of not less than one percent for maintenance materials from materials installed, and enclosed in protective packaging with appropriate identifying labels.

1.02 WARRANTY

A. Manufacturer Warranty: Provide 5-year manufacturer warranty to replace material that shows manufacturing defects. Complete forms in Owner's name and register with manufacturer.

B. Installer Warranty: Provide 2-year warranty for defects of labor and/or workmanship commencing on the Date of Substantial Completion. Complete forms in Owner's name and register with installer.

PART 2 PRODUCTS

2.01 ROOF PAVERS

A. Wood Roof Pavers: Ipe (Ironwood) wood tile decking, constructed from wood face slats, at least 13/16 inch (20.6 mm) thick, and secured to wood battens with stainless steel screws.
   1. Comply with local wind load resistance requirements of ASCE 7.
   2. Surface Burning Characteristics: Comply with flame spread index (FSI) of 0 to 25, Class A, and smoke developed index (SDI) of 450 or less when tested in accordance with ASTM E84.
   3. Wood Texture: As selected by Architect from manufacturer's standard line.
   4. Wood Finish: As selected by Architect from manufacturer's standard line.
   5. Length and Width: 23-5/8 by 23-5/8 inches (600 by 600 mm), nominal.
   6. Thickness: 1-5/8 inches (42 mm), nominal.

2.02 PEDESTALS

A. Pedestals: High impact plastic; adjustable height.
   1. Comply with local wind load resistance requirements of ASCE 7.
   2. Self-Ignition Temperature: Provide plastic pedestal components with self-ignition temperature greater than 650 degrees F (343 degrees C) in accordance with ASTM D1929 test method.
   3. Base Diameter: 6 inches (___ mm), minimum.
   4. Pedestal Height: Within 1/2 inch (___ mm) to 8 inches (___ mm), with use of 4-3/16 inch (107 mm) diameter SDR-35 PVC pipe, with maximum static load of 2,000 lb (907 kg) per pedestal in system.

2.03 ACCESSORIES

A. Paver Support Spacers: Paver corner supports to reduce noise from vibration in raised deck frame applications; adhere to corners of paver and paver substrate.
   1. Thickness: 1/16-inch (1.6 mm) thick base.
   2. Size: Base is 3 by 3 inches (76 by 76 mm) and five sided, with four tabs that are 1/4 inch tall, 3/16 inch wide, and 5/8 inch long (6.4 mm tall, 4.8 mm wide, and 15.9 mm long).
   3. Spacer Type: Flexible black.

B. Paver Edge Restraints: Provide closure to underside of pavers along perimeter edge of pavers or areas that change elevation or step-down; provide restraint system that fully contain pavers and tie back into building wall or parapet.
   1. Metal Flashing: Two piece metal edge, at least 22 gauge, 0.03 inch (0.76 mm) prefinished galvanized metal supported from paver edge and ledger board anchored to pedestals.

PART 3 EXECUTION

3.01 PREPARATION

A. Substrate surface that will support paver and pedestal system must be structurally capable of carrying dead and live loads anticipated.
   1. Insulation Over Roofing Membrane: Insulation and/or protection board must be applied over waterproofing substrate and/or specified drainage mat. Install system in accordance with roofing membrane manufacturer's recommended installation instructions.

3.02 INSTALLATION

A. Perform work in accordance with manufacturer's written installation instructions and applicable requirements in coordination with project attributes, paver type being installed, pattern, grid layout, starting point, and finished elevation as indicated on approved shop drawings.

SECTION 092116
GYPSUM BOARD ASSEMBLIES

PART 1 GENERAL

1.01 SUBMITTALS

A. Product Data:
   1. Provide data on gypsum board, accessories, and joint finishing system.

1.02 QUALITY ASSURANCE

PART 2 PRODUCTS

2.01 GYPSUM BOARD ASSEMBLIES

A. Provide completed assemblies complying with ASTM C840 and GA-216.

B. Interior Partitions, Indicated as Acoustic: Provide completed assemblies with the following characteristics:
   1. Acoustic Attenuation: STC of 45-49 calculated in accordance with ASTM E413, based on tests conducted in accordance with ASTM E90.

C. Fire-Resistance-Rated Assemblies: Provide completed assemblies complying with applicable code.

2.02 METAL FRAMING MATERIALS

A. Steel Sheet: ASTM A1003/A1003M, subject to the ductility limitations indicated in AISI S220 or equivalent.

B. Nonstructural Framing System Components: AISI S220; galvanized sheet steel, of size and properties necessary to comply with ASTM C754 for the spacing indicated, with maximum deflection of wall framing of L/120 at 5 psf (L/120 at 240 Pa).
   1. Studs: C-shaped with knurled or embossed faces.
   2. Runners: U shaped, sized to match studs.
   3. Furring Members: Hat-shaped sections, minimum depth of 7/8 inch (22 mm).
   4. Furring Members: U-shaped sections, minimum depth of 3/4 inch (19 mm).
   5. Furring Members: Zee-shaped sections, minimum depth of 1 inch (25 mm).

C. Partition Head To Structure Connections: Provide track fastened to structure with legs of sufficient length to accommodate deflection, for friction fit of studs cut short and fastened as indicated on drawings.

2.03 BOARD MATERIALS

A. Gypsum Wallboard: Paper-faced gypsum panels as defined in ASTM C1396/C1396M; sizes to minimize joints in place; ends square cut.
   1. Application: Use for vertical surfaces and ceilings, unless otherwise indicated.
   2. Thickness:
      a. Vertical Surfaces: 5/8 inch (16 mm).
      b. Ceilings: 5/8 inch (16 mm).
      c. Multi-Layer Assemblies: Thicknesses as indicated on drawings.

B. Backing Board For Wet Areas: One of the following products:
   1. Application: Surfaces behind tile in wet areas including kitchens, bars, restrooms, and utility closets.
   2. Mold Resistance: Score of 10, when tested in accordance with ASTM D3273.
   3. ASTM Cement-Based Board: Non-gypsum-based, cementitious board complying with ASTM C1288.

C. Exterior Sheathing Board: Sizes to minimize joints in place; ends square cut.
   1. Application: Exterior sheathing, unless otherwise indicated.
   2. Glass Mat Faced Sheathing: Glass mat faced gypsum substrate as defined in ASTM C1177/C1177M.
   3. Core Type: Regular and Type X, as indicated.
   4. Type X Thickness: 5/8 inch (16 mm).
   5. Regular Board Thickness: 1/2 inch (13 mm).
   6. Edges: Square.

2.04 GYPSUM BOARD ACCESSORIES

A. Acoustic Insulation: ASTM C665; preformed mineral-fiber, friction fit type, unfaced; thickness 2 inches (51 mm).

B. Water-Resistive Barrier: Plastic sheet complying with ICC-ES AC38.

C. Beads, Joint Accessories, and Other Trim: ASTM C1047, rigid plastic, galvanized steel, or rolled zinc, unless noted otherwise.

D. Joint Materials: ASTM C475/C475M and as recommended by gypsum board manufacturer for project conditions.
   1. Paper Tape: 2 inch (50 mm) wide, creased paper tape for joints and corners, except as otherwise indicated.

E. Screws for Fastening of Gypsum Panel Products to Steel Members from 0.033 to 0.112 inch (0.84 to 2.84 mm) in Thickness: ASTM C954; steel drill screws, corrosion-resistant.

PART 3 EXECUTION

3.01 FRAMING INSTALLATION

A. Metal Framing: Install in accordance with ASTM C1007AISI S220 and manufacturer's instructions.

3.02 ACOUSTIC ACCESSORIES INSTALLATION

A. Acoustic Insulation: Place tightly within spaces, around cut openings, behind and around electrical and mechanical items within partitions, and tight to items passing through partitions.

3.03 BOARD INSTALLATION

A. Comply with ASTM C840, GA-216, and manufacturer's instructions. Install to minimize butt end joints, especially in highly visible locations.

B. Single-Layer Nonrated: Install gypsum board in most economical direction, with ends and edges occurring over firm bearing.

C. Fire-Resistance-Rated Construction: Install gypsum board in strict compliance with requirements of assembly listing.

D. Exposed Gypsum Board in Interior Wet Areas: Seal joints, cut edges, and holes with water-resistant sealant.

E. Exterior Sheathing: Comply with ASTM C1280. Install sheathing vertically, with edges butted tight and ends occurring over firm bearing.

F. Exterior Soffits: Install exterior soffit board perpendicular to framing, with staggered end joints over framing members or other solid backing.

G. Installation on Metal Framing: Use screws for attachment of gypsum board except face layer of nonrated double-layer assemblies, which may be installed by means of adhesive lamination.

3.04 JOINT TREATMENT

A. Paper Faced Gypsum Board: Use paper joint tape, embed with drying type joint compound and finish with drying type joint compound.

B. Finish gypsum board in accordance with levels defined in ASTM C840, as follows:
   1. Level 4: Walls and ceilings to receive paint finish or wall coverings, unless otherwise indicated.
   2. Level 2: In utility areas, behind cabinetry, and on backing board to receive tile finish.
   3. Level 1: Fire-resistance-rated wall areas above finished ceilings, whether or not accessible in the completed construction.

SECTION 141200
ELECTRIC DUMBWAITERS

PART 1 GENERAL

1.01 SUBMITTALS

A. Product Data: Provide data on following items:
   1. Signal and operating fixtures, operating panels, indicators.
   2. Cab and hoistway door and frame details.
   3. Electrical characteristics and connection requirements.

B. Shop Drawings: Submit the following information:
   1. Driving machine, controller, selector, governor and other component locations.
   2. Car, counterweight, sheaves, machine and sheave beams, guide rails, buffers, ropes, and other components in hoistway.
   3. Rail bracket spacing; maximum loads imposed on guide rails requiring load transfer to building structural framing.
   4. Location and sizes of access doors, doors, and frames.

1.02 QUALITY ASSURANCE

A. Designer Qualifications: Design guide rails under direct supervision of a licensed Professional Structural Engineer experienced in design of this type of work and licensed in the State in which the Project is located.

B. Perform Work in accordance with applicable code and as supplemented in this section.

C. Fabricate and install door and frame assemblies in accordance with NFPA 80.

D. Perform electrical work in accordance with NFPA 70.

E. Products Requiring Fire Resistance Rating: Listed and classified by UL (DIR).

1.03 WARRANTY

A. Correct defective Work within a five year period after Date of Substantial Completion.

B. Provide five year manufacturer warranty for 5 years.
   1. Include coverage for dumbwaiter system, operating equipment, and devices.

PART 2 PRODUCTS

2.01 DESCRIPTION

A. Electric Dumbwaiters:
   1. Rated Net Capacity: 300 lbs (____ Kg).
   2. Rated Speed: 24 ft/min (___ m/min).
   3. Number of Stops: Two.
   4. Number of Openings: Front - 1 , Rear - 1 , .
   5. Door Type: Single leaf, vertical slide up.
   6. Door Operation: Manual.

2.02 CONTROLS

A. Provide automatic operation with full bank of operating buttons at each landing numbered to correspond to landings served.
   1. Call or dispatch car to various landings by momentary pressure of respective buttons when landing doors are closed.
   2. Indicate arrival of car at landings by light at landing.
   3. Program doors to open automatically when car arrives at landing.

2.03 LANDING CONTROLS

A. Landing Buttons: Stainless steel type.

2.04 MATERIALS

A. Stainless Steel Sheet: ASTM A666, Type 304, No. 4 finish.

B. Aluminum: ASTM B221 (ASTM B221M), extruded 6063 Alloy, with T6 Temper, natural anodized finish.

2.05 EQUIPMENT

A. Motors, Controller, Controls, Buttons, Wiring and Devices, Indicators: As required by NFPA 70.

B. Lubrication of Equipment: Provide grease fittings for lubricating bearings requiring periodic lubrication, automatic feed type grease cups, and visible and easily accessible lubrication points.

C. Guide Rails, Ropes, Counterweights, Sheaves, Attachment Brackets and Anchors: Purpose designed, sized according to code with safety factors.

2.06 CAR AND CAB

A. Car Frame: Rigid rolled steel sections, braced.

B. Car Enclosure: Sheet steel panels attached to steel frame.

C. Walls and Ceiling:
   1. Stainless steel, 16 gauge, 0.0625 inch (1.59 mm), minimum metal thickness.

D. Flooring:
   1. Stainless steel, 16 gauge, 0.0625 inch (1.59 mm), minimum metal thickness.

E. Cab Doors: Flush design, rigid construction.
   1. Stainless steel, 16 gauge, 0.0625 inch (1.59 mm) minimum metal thickness.

F. Cab Door Frames: Welded corner design, smooth joints.
   1. Stainless steel, 16 gauge, 0.0625 inch (1.59 mm) minimum metal thickness.

2.07 LANDING ENTRANCES

A. Landing Doors: Flush design, rigid construction.
   1. Sheet steel with enamel finish, 16 gauge, 0.0598 inch (1.52 mm) minimum metal thickness.

B. Landing Door Frames: Welded corner design, smooth joints.
   1. Sheet steel with enamel finish, 16 gauge, 0.0598 inch (1.52 mm) minimum metal thickness.

2.08 FINISHES

A. Galvanized Surfaces: Clean with neutralizing solvent; prime one coat.

PART 3 EXECUTION

3.01 INSTALLATION

A. Install system and components in accordance with ASME A17.1.

B. Mount machine on vibration and acoustic isolators, on bed plate and concrete pad.

3.02 MAINTENANCE

A. Provide a separate maintenance contract for specified maintenance service.

B. Provide service and maintenance of dumbwaiter system and components for one year from Date of Substantial Completion.

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05.22.2024

sheet information

#	date	description
0	05.22.2024	CONSTRUCTION SET

project #:	23049
drawn by:	MAG
checked by:	MAG

ARCHITECTURAL SPECIFICATIONS

A0.51

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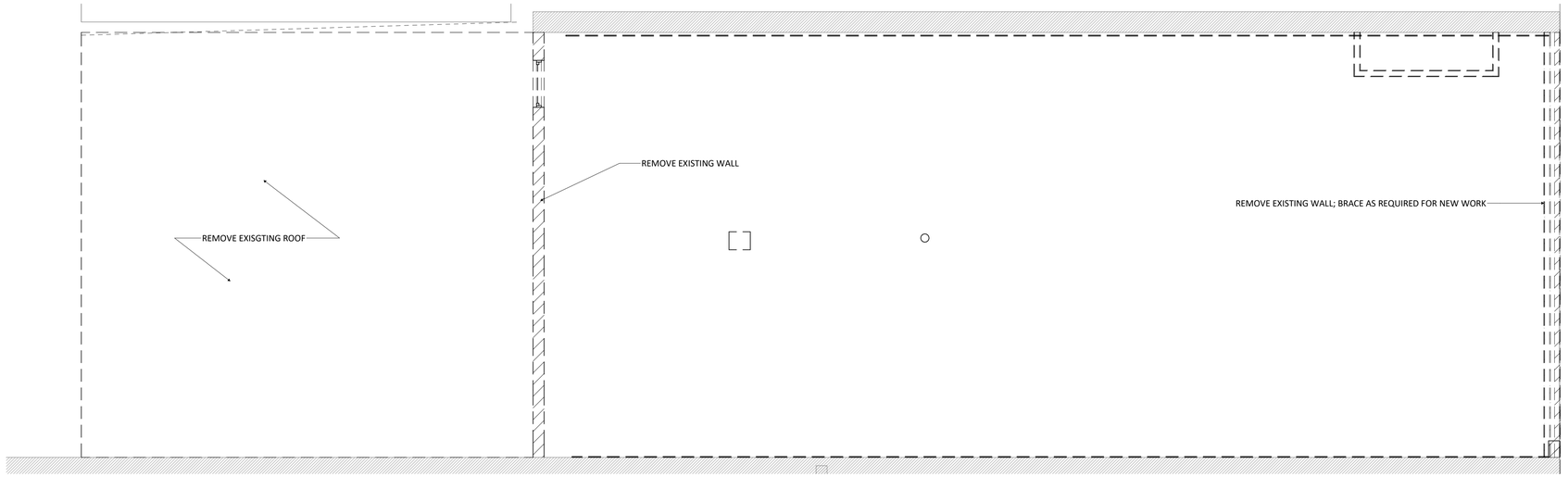
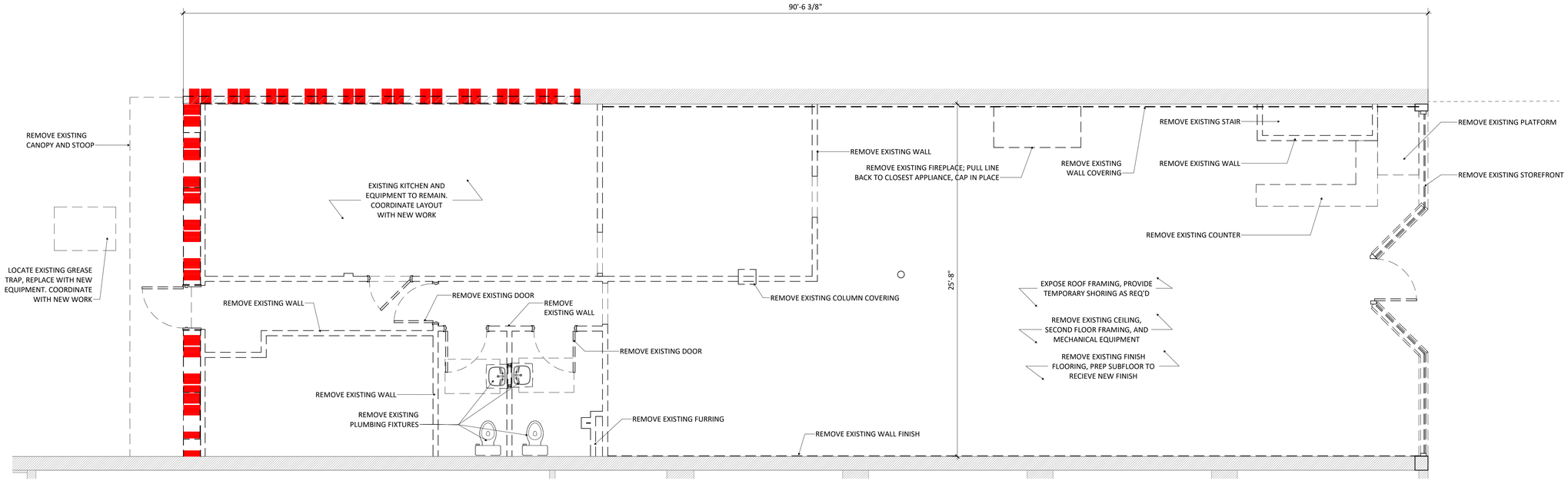


2 | DEMO PLAN 2nd FLOOR

1/4" = 1'-0"



1 | DEMO PLAN 1st FLOOR

1/4" = 1'-0"

DEMOLITION NOTES

1. DEMOLITION WORK IS TO BE DONE IN ADHERENCE TO THE OWNER/LANDLORD'S REQUIREMENTS FOR TIME AND DURATION OF HEAVY NOISE. CONTRACTOR TO COORDINATE WITH FACILITY ABOUT HOURS OF WORK, AND USE OF OCCUPIED SPACE.
2. SOME MINOR DEMOLITION IS NECESSARY FOR NEW CONSTRUCTION THAT IS NOT NOTED IN THIS PLAN.
3. CONTRACTOR TO PROTECT IN PLACE EXISTING UTILITIES OR REPAIR AS NEEDED FOR NEW CONSTRUCTION.
4. CONTRACTOR TO REPAIR ANY DAMAGE TO EXISTING TENANT FIRE RATED WALLS OR FIREPROOFING AS NECESSARY.
5. ITEMS IDENTIFIED FOR RE-USE ARE TO BE CAREFULLY REMOVED AND STORED AS DIRECTED BY THE LANDLORD. CONTRACTOR SHALL PROVIDE THE BUILDING OWNER WITH AN INVENTORY OF THESE ITEMS.
6. CONFIRM WIDTH & HEIGHT OF DOORS AND HARDWARE; ALERT ARCHITECT OF ANY DISCREPANCIES.
7. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PROTECT ALL EXISTING BUILDING AREAS AND FINISHES FROM DAMAGE & SHALL, AT HIS EXPENSE, RESTORE TO ORIGINAL CONDITION ANY AREAS OR FINISHES DAMAGED BY HIS WORK.
8. ELECTRICAL OUTLETS & SWITCHES THAT OCCUR IN WALLS TO BE REMOVED SHALL HAVE THE WIRING PULLED BACK TO THE J-BOX OR PANEL.
9. PATCH & REPAIR WALLS WHICH ARE TO REMAIN WHEN ADJACENT PERPENDICULAR WALLS ARE REMOVED.
10. WHERE NEW FLOORING IS SCHEDULED, REMOVE EXISTING FLOOR FINISH AND PREPARE SURFACE FOR INSTALLATION OF NEW FLOORING, UNO. COORDINATE WITH FLOOR FINISH PLANS.
11. CONTRACTOR TO VERIFY EXISTING CONDITIONS AND DIMENSIONS PRIOR TO BEGINNING WORK. DIMENSIONS SHOWN ON DEMOLITION DRAWINGS ARE APPROXIMATE.
12. AT ALL TIMES, THE CONTRACTOR SHALL KEEP ALL REQUIRED EGRESS EXIT PATHS UNOBSTRUCTED, ILLUMINATED AND PROTECTED FROM CONSTRUCTION ACTIVITY.
13. REMOVAL PROCEDURES OF THE EXISTING FINISH CAN VARY DEPENDING ON THE CONDITION OF THE EXISTING SUBSTRATE. NOTIFY ARCHITECT & OWNER IF THERE IS ANY DETRIMENTAL CONDITION SEEN BEYOND THE SCOPE OF WORK.
14. ALL HANGERS, STRAPS & OTHER ACCESSORY OBJECTS CONNECTED TO ITEMS BEING REMOVED SHALL BE REMOVED AS WELL.
15. ON REMAINING WALLS ADJACENT TO THOSE BEING DEMOLISHED, EXISTING BASE SHALL BE REMOVED BACK TO NEAREST INSIDE CORNER AND WALLS SHALL BE REPAIRED SO AS TO CREATE A SMOOTH SURFACE READY TO RECEIVE NEW BASE.
16. CONTRACTOR SHALL REMOVE ALL WIRING, CABLE AND CONDUIT NOT IN USE IN AREAS OF WORK FROM WITHIN WALLS AND ABOVE CEILING. COORDINATE WITH BUILDING OWNER/MANAGER.

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sheet information

#	date	description
0	05.22.2024	CONSTRUCTION SET

project #:	23049
drawn by:	MAG
checked by:	MAG

DEMOLITION PLAN

A1.01

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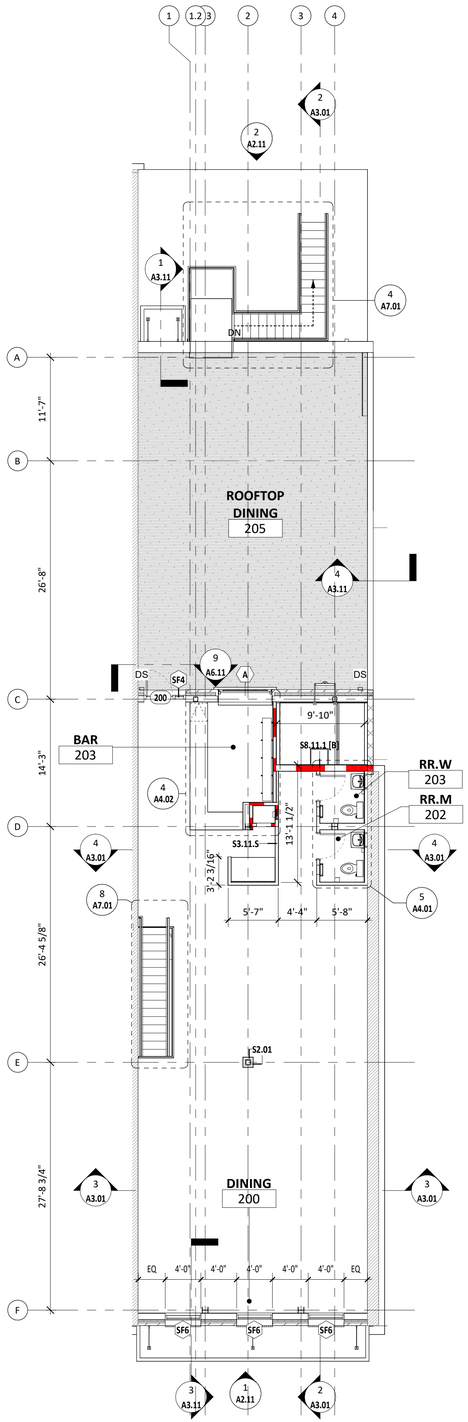
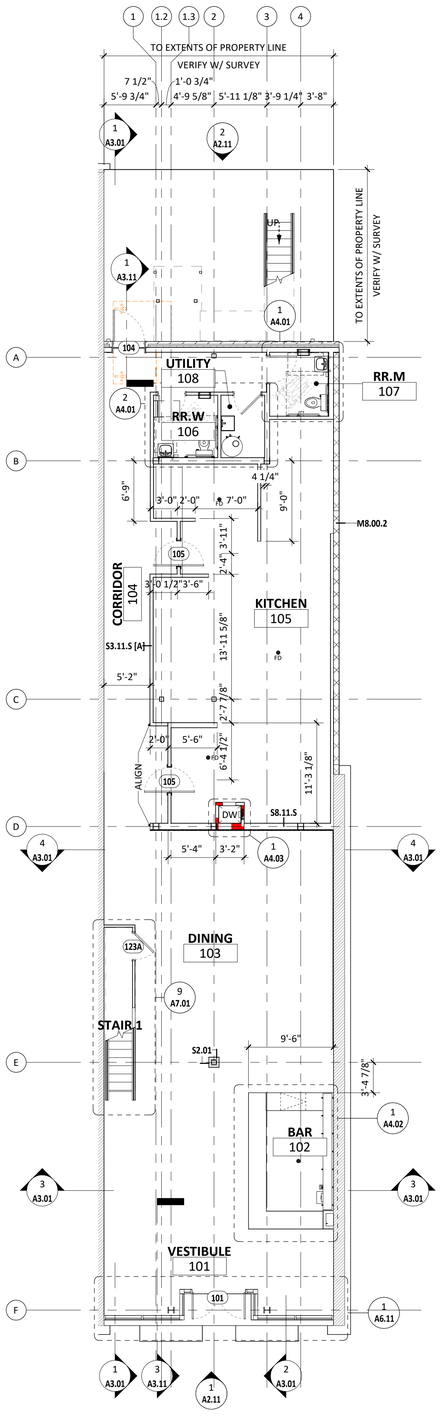


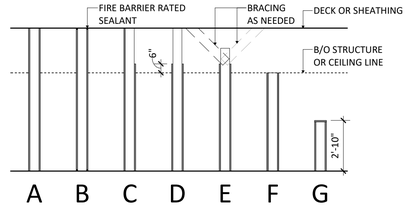
7 | 2nd FLOOR

1/8" = 1'-0"



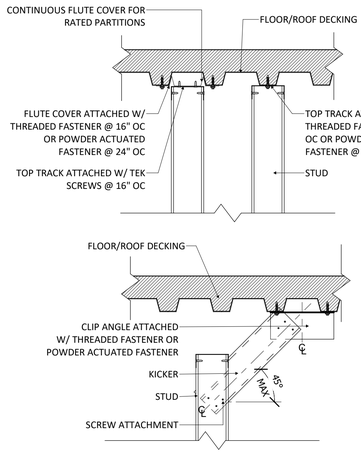
6 | 1st FLOOR

1/8" = 1'-0"



PARTITION TOP CONNECTION

1/4" = 1'-0"



3 | CONNECTIONS TO DECK

1 1/2" = 1'-0"

PARTITION LEGEND

MATERIAL DESIGNATION:

C - CONCRETE **M** - MASONRY
S - STEEL STUD **W** - WOOD STUD **H** - SHAFTWALL

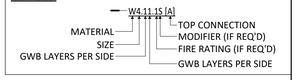
SIZE DESIGNATION:

CONCRETE	MASONRY	STEEL/SHAFT	WOOD
-	-	**1** - 1 ¾"	**1** - ¾"
-	-	**2** - 2 ½"	**2** - 1 ½"
-	-	**3** - 3 ⅝"	-
4 - 4"	**4** - 4 ¾"	**4** - 4"	**4** - 3 ½"
-	-	**5** - 5 ½"	-
6 - 6"	**6** - 5 ¾"	**6** - 6"	**6** - 5 ½"
8 - 8"	**8** - 7 ¾"	**8** - 8"	**8** - 7 ¼"
10 - 10"	**10** - 9 ¾"	-	**10** - 9 ¾"
12 - 12"	**12** - 11 ⅝"	-	**12** - 11 ¼"

MODIFIER:

S: SOUND ATTENUATION IN CAVITY
X: BARRIER MESH ON SECURE SIDE OF WALL UNDER GWB

WALL TAG:



PARITION NOTES

1 PROVIDE GLASS MAT FACED GYPSUM BOARD TILE BACKER UNIT AT ALL WALLS THAT RECEIVE TILE.
2 PROVIDE DRYWALL CONTROL JOINTS AT 30' MAX. JOINTS TO BE LOCATED AT NEAREST DOOR JAMB WHERE POSSIBLE.
3 PROVIDE GLASS MAT FACED GYPSUM BOARD AT THE FOLLOWING LOCATIONS UNO: WALLS AND CEILINGS OF TOILET ROOMS, JANITORS' CLOSETS, WITHIN 48 INCHES OF SINKS AND DRINKING FOUNTAINS, MECHANICAL ROOMS AND INTERIOR CLADDING OF EXTERIOR WALLS.
4 EXTEND FIRE RATED WALL CONSTRUCTION BEHIND RECESSED OR BUILT-IN EQUIPMENT SUCH AS FIRE EXTINGUISHER CABINETS (FEC), ELECTRICAL WATER COOLERS (EWC), ELECTRIC PANELS, ETC.
5 PROVIDE AND INSTALL ALL STIFFENERS, BRACING, BACK UP PLATES AND SUPPORTING BRACKETS REQUIRED FOR THE INSTALLATION OF ALL CASEWORK AND OF ALL FLOOR MOUNTED OR SUSPENDED MECHANICAL OR ELECTRICAL EQUIPMENT.
6 WHERE HVAC OR OTHER MECHANICAL, ELECTRICAL AND PLUMBING ITEMS PENETRATE PARTITIONS, STUDS SHALL BE BRACED AND FRAMED TO STRUCTURE AS REQUIRED TO PROVIDE ADEQUATE SUPPORT. ALL PENETRATIONS THROUGH RATED WALLS SHALL BE SEALED TO PROVIDE FIRE, SMOKE, AND /OR ACOUSTICAL ISOLATION OF SPACES WITH APPROPRIATE FIRESTOP MATERIAL. REFER TO FIRE RATED PENETRATION DETAIL.
7 THERE SHALL BE NO BACK-TO-BACK ELECTRICAL, TELEPHONE, OR OTHER OUTLETS, EXCEPT WHERE SPECIFICALLY INDICATED. AT ACOUSTICALLY SENSITIVE AREAS, SUCH AS CONFERENCE ROOMS, OFFSET OUTLETS IN OPPOSITE SIDES OF THE WALL BY AT LEAST TWO STUD CAVITIES.
8 WHERE INSULATION IS INDICATED ON WALL TYPES, PROVIDE ACOUSTICAL (SOUND) SEALANT AT NON-RATED WALLS AND FIRE-RATED SEALANT AT RATED WALLS AS REQUIRED BY FIRE RATING TEST NUMBER.

PLAN NOTES

1 DIMENSIONS ARE TO COLUMN GRID, FACE OF MASONRY/CONCRETE/PRECAST, FACE OF METAL/WOOD STUD, UNO.
2 REFER TO SHEET A0.21 FOR PARTITION DETAILS.
3 ALL WOOD FRAMING IN CONTACT WITH CONCRETE OR MASONRY SHALL BE PRESSURE TREATED.
4 ALL PARTITIONS NOT LABELED ON THE PLANS SHALL BE PARTITION TYPE S3.11[A].
5 ALL FURRING NOT LABELED ON THE PLANS SHALL BE FURRING TYPE S3.01[D].
6 DASHED LINES REPRESENT ITEMS ABOVE. REFER TO REFLECTED CEILING PLAN ON SHEET A1.41 FOR OVERHEAD CONDITIONS.
8 REFER TO SHEET A0.03 FOR FIRE EXTINGUISHER LOCATIONS.
9 COORDINATE STUD PLACEMENT WITH LIGHT FIXTURES, COMMUNICATION DEVICES, ETC.
10 PROVIDE EXPANSION JOINTS IN PARTITIONS AS NECESSARY TO MATCH EXTERIOR CONDITIONS OR WHERE PARTITIONS ARE CONTINUOUS GREATER THEN OR EQUAL TO 50'-0" LONG. PROVIDE SUBMITTAL OF EXPANSION JOINT TO ARCHITECT FOR APPROVAL PRIOR TO ORDERING OR INSTALLATION.
11 ALL RECESSED ACCESSORIES LOCATED IN FIRE RATED PARTITIONS SHALL BE EITHER OF FIRE RATED CONSTRUCTION OR COORDINATED WITH THE ADJACENT TRADES TO ALLOW THE GYPSUM BOARD TO BE CONTINUOUS BEHIND THE ACCESSORIES.
12 REFER TO LIFE SAFETY SHEETS FOR RATED WALL LOCATION & TYPE.
13 KITCHEN EQUIPMENT SHOWN FOR REFERENCE ONLY. REFER TO SHEET A8.21 FOR DETAILS.
14 GC TO SLOPE ALL SLABS TO AREA FLOOR DRAIN. REFER TO STRUCTURAL DRAWINGS.

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MICHAEL A GERMANO
05.22.2024

sheet information

#	date	description
0	05.22.2024	CONSTRUCTION SET

project #:	23049
drawn by:	MAG
checked by:	MAG

FLOOR PLAN

A1.11

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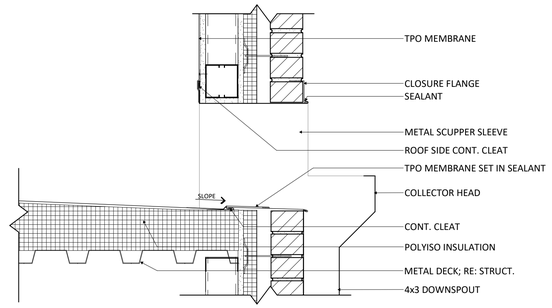
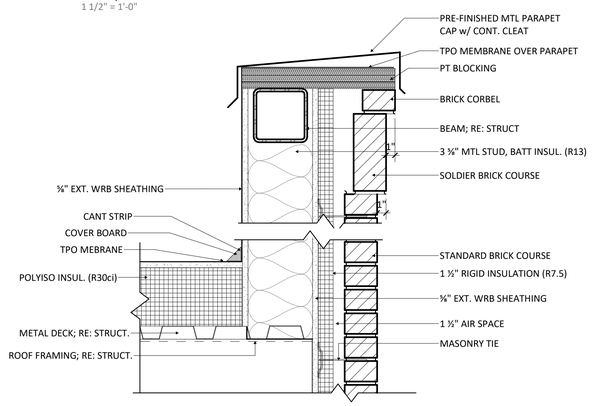
ROOF NOTES

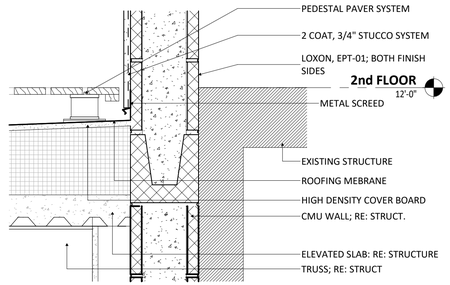
1. ARROW INDICATES DOWNWARD DIRECTION OF ROOF SLOPE. ALL SLOPES TO BE 1/4" PER FOOT MINIMUM.
2. ALL ROOF INSULATION TO EQUAL R-30 MIN.
3. USE 3x4 DOWNSPOUT, TYP. UNO. REFER TO FLOOR PLAN & ELEVATIONS FOR LOCATIONS.
4. MECHANICAL EQUIPMENT SHOWN FOR REFERENCE ONLY. REFER TO MECHANICAL SHEETS.
5. ANY ROOF PENETRATIONS CREATED AFTER ROOF INSTALLATION ARE TO BE PERFORMED BY THE ROOF CONTRACTOR.
6. MAINTAIN EXISTING ROOFS AND WALLS IN A WATERPROOF CONDITION. SEAL OPENINGS AND EXPOSED PORTIONS OF CONSTRUCTION WATERTIGHT UNTIL NEW WORK IS IN PLACE.
7. REFER TO MECHANICAL & PLUMBING DRAWINGS FOR LOCATION OF FLUES AND VENTS.
8. PENETRATIONS ARE REQUIRED TO BE A MINIMUM OF 12" FROM A WALL OR OTHER PENETRATIONS.
9. OVERFLOW DRAINS SHALL BE INSTALLED WITH THE INLET FLOW LINE LOCATED NOT LESS THAN 2 INCHES OR MORE THAN 4 INCHES ABOVE THE LOW POINT OF THE FINISHED ROOFING SURFACE.



4 | TYP. SCUPPER w/ DOWNSPOUT
1 1/2" = 1'-0"

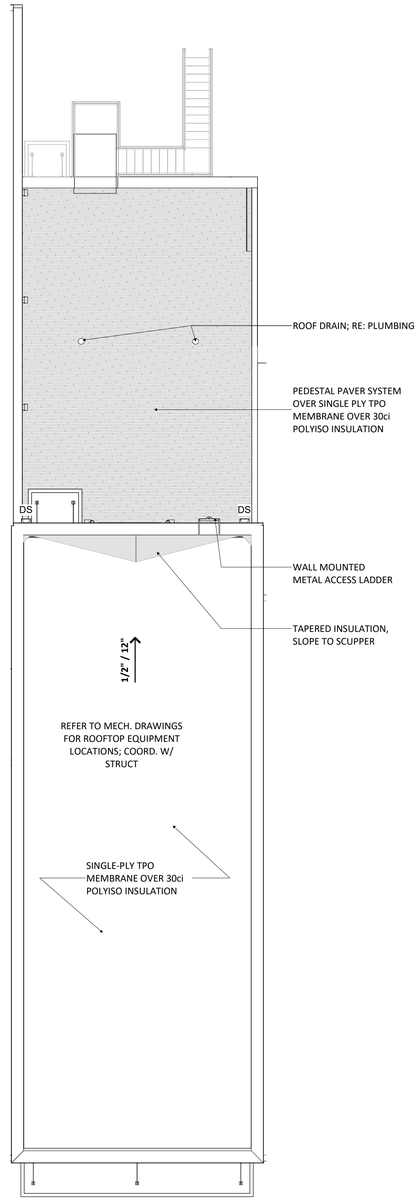


5 | PARAPET DETAIL
1 1/2" = 1'-0"



NOTE: COORDINATE WITH CONSTRUCTION ON ADJACENT PARCEL

2 | EXISITING ROOF CONNECTION
1 1/2" = 1'-0"



1 | ROOF PLAN
1/8" = 1'-0"

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05.22.2024

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project #:	23049
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ROOF PLAN

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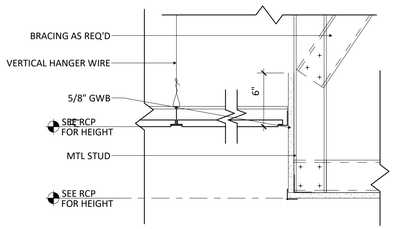
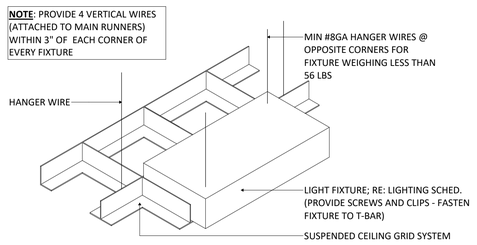
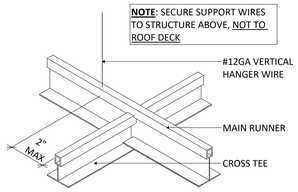


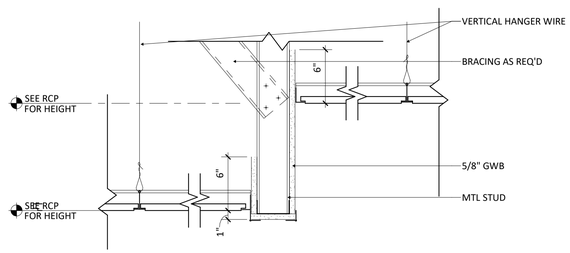
9 | BAR SOFFIT DETAIL
1 1/2" = 1'-0"



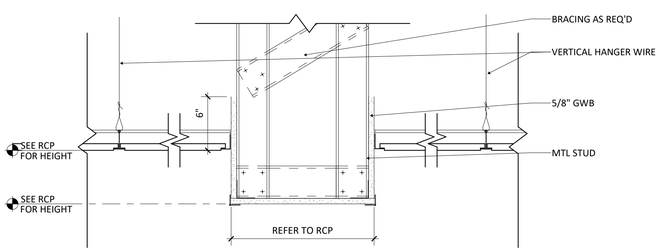
8 | TYP LIGHT FIXTURE IN CEILING GRID
3" = 1'-0"



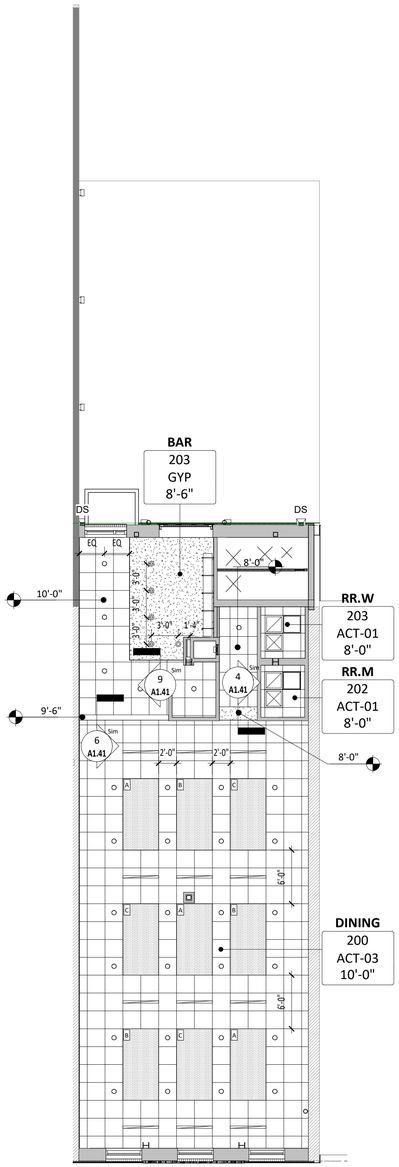
7 | TYP CEILING GRID DETAIL
3" = 1'-0"



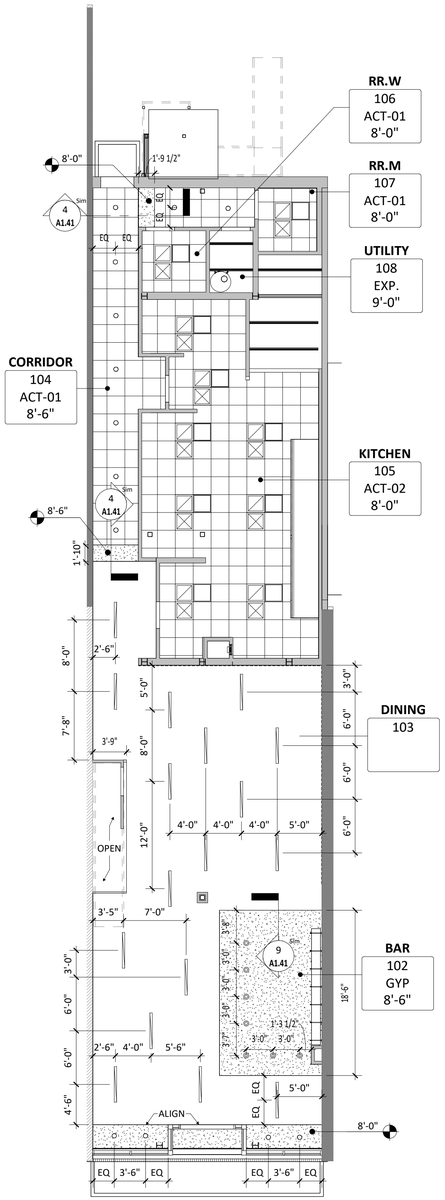
6 | CEILING DETAIL
1 1/2" = 1'-0"



4 | CEILING DETAIL
1 1/2" = 1'-0"



2 | 2nd FLOOR CEILING PLAN
1/8" = 1'-0"



1 | 1st FLOOR CEILING PLAN
1/8" = 1'-0"

CEILING NOTES

1. ALL CEILING HEIGHTS ARE ABOVE FINISHED FLOOR.
2. SINGLE LIGHT FIXTURES IN GYPSUM BOARD CEILINGS TO BE CENTERED IN BOTH DIRECTIONS UNO.
3. COMMUNICATION DEVICES AND CEILING MOUNTED EQUIPMENT TO BE CENTERED IN CEILING TILE UNO.
4. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO COORDINATE ALL AUDIO/VISUAL REQUIREMENTS WITH TENANT AND/OR AV CONSULTANT.
5. ATTACH ALL GRID SUPPORTED LIGHT FIXTURES TO CEILING AND TO BUILDING STRUCTURE.
6. LOUVERS AND PANEL FRONTS SHALL BE SPRAY PAINTED TO MATCH ADJACENT SURFACES, INCLUDING FACTORY FINISHED ITEMS, UNO. BRUSH PAINTING OF THESE ITEMS WILL NOT BE PERMITTED.
7. ALL EXPOSED GYPSUM BOARD SHALL BE PRIMED WITH ONE COAT OF PRIMER-SEALER, FOLLOWED BY TWO COATS PER PAINT FINISH W/ SMOOTH FINISH.
8. DO NOT LOCATE ANY JUNCTION BOXES, HVAC BOXES, TRANSFORMERS, ETC. ABOVE HARD CEILING AREA. ANY ITEMS ABOVE HARD CEILING REQUIRING AN ACCESS PANEL SHALL BE RELOCATED SO AS TO AVOID NECESSITY OF ACCESS PANEL.
9. APPROVAL FOR ANY ADDITIONAL ACCESS PANELS REQUIRED IN ANY CONSTRUCTION WITHIN THIS PROJECT SHALL BE REQUESTED IN WRITING TO THE ARCHITECT.
10. ACCESS PANELS TO BE PAINTED TO MATCH ADJACENT CEILING FINISH UNO.
11. CEILING TILES SHALL BE INSTALLED SO GRAIN LINES OF TILE ARE RUNNING IN SAME DIRECTION ON ALL CEILINGS.
12. CEILING TILES SHALL BE MIXED IN A UNIFORM MANNER TO ELIMINATE BANDING OR BATCHING.
13. ARCHITECTURAL CEILING PLAN SHALL GOVERN FOR LOCATIONS OF ALL DEVICES AS SHOWN. ENGINEERING DOCUMENTS SHALL PREVAIL ONLY IN CASE OF SCOPE OF WORK AND ELEMENTS OCCURRING ABOVE CEILING. DISCREPANCIES BETWEEN ARCHITECTURAL AND ENGINEERING DOCUMENTS MUST BE BROUGHT TO THE ARCHITECT'S ATTENTION.

CEILING LEGEND

- SUPPLY DIFFUSER; RE: MECHANICAL DRAWINGS
- RETURN DIFFUSER; RE: MECHANICAL DRAWINGS
- EXHAUST FAN; RE: MECHANICAL DRAWINGS
- DOWNLIGHT RECESSED CAN, 6"; RE: ELECTRICAL DRAWINGS
- LED STRIP LIGHT; RE: ELECTRICAL DRAWINGS
- LED 2x2; RE: ELECTRICAL DRAWINGS
- WALL MOUNT LED; RE: ELECTRICAL DRAWINGS
- PENDANT LIGHT; RE: ELECTRICAL DRAWINGS
- 2x2 ACOUSTICAL CEILING,
- EXPOSED / NO CEILING
- GWB CEILING
- 4'x8' SUSPENDED, FELT ACOUSTIC CLOUD
  - A: ACT-06; RE. FINISH SCHED.
  - B: ACT-04; RE. FINISH SCHED.
  - C: ACT-05; RE. FINISH SCHED.
- 4' SUSPENDED, LEDALITE-TRUGROOVE LIGHTING

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MICHAEL A. GERMANO
05.22.2024

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CEILING PLAN AND DETAILS

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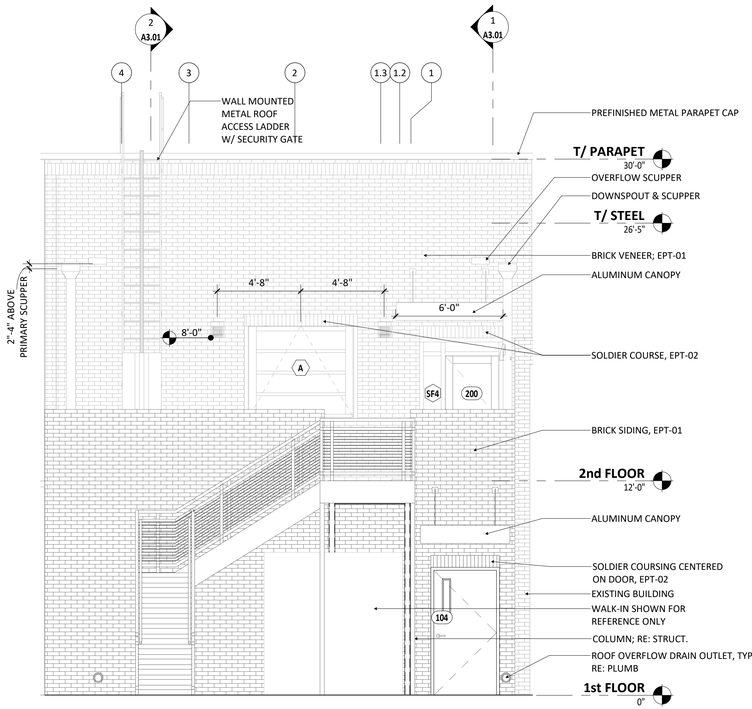
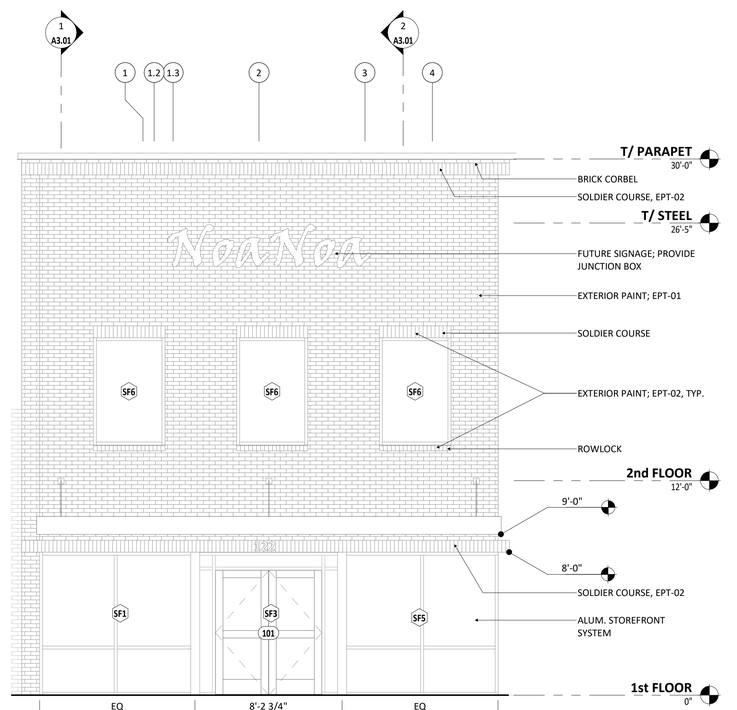
ELEVATION NOTES

1. EXTERIOR PAINT TO INCLUDE M1 ADDITIVE TO PREVENT MILDEW AND FUNGUS GROWTH.
2. PAINT SHALL BE SHERWIN WILLIAMS 25 YR SUPER PAINT OR APPROVED EQ.
3. ALL METAL PAINT TO BE ENAMEL BASE.
4. CONTRACTOR TO PROVIDE SHOP DRAWINGS FOR ALL EXTERIOR LIGHT FIXTURES PRIOR TO PURCHASE AND INSTALLATION FOR APPROVAL BY ARCHITECT AND OWNER.
5. CONTRACTOR TO PAINT ALL EXPOSED PIPES, CONDUCTS, DISCONNECTS & JUNCTION BOXES TO MATCH ADJACENT SURFACE.
6. ELEVATION HEIGHTS ARE FOR REFERENCE ONLY TO THE ARCHITECTURAL DRAWINGS. SEE CIVIL FOR ACTUAL FLOOR HEIGHT ABOVE SEA LEVEL. CONTACT ARCHITECT OF RECORD IF HEIGHTS DIFFER.
7. NO SIGNAGE IS INCLUDED IN THIS PACKAGE. SIGNAGE SHOWN FOR REFERENCE ONLY. ALL SIGNS MUST BE PERMITTED SEPARATELY.
8. COLOR SAMPLES TO BE APPROVED BY OWNER BEFORE APPLICATION.
9. WHERE COLOR IS SHOWN AS BEING SPECIFIC TO ONE MANUFACTURER, AN EQUIVALENT COLOR BY ANOTHER MANUFACTURER MAY BE SUBMITTED FOR APPROVAL. MANUFACTURERS AND MATERIALS SPECIFIED ARE NOT INTENDED TO LIMIT THE SELECTION OF EQUAL COLORS AND PERFORMANCE FROM OTHER
10. DO NOT TRANSITION PAINT COLORS ON AN EXTERIOR CORNER. ALL COLOR CHANGES SHOULD BE AT INTERIOR CORNERS, UNO. CONTACT ARCHITECT IF A CONFLICT OCCURS.



2 | REAR ELEVATION

1/4" = 1'-0"



1 | FRONT ELEVATION

1/4" = 1'-0"

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BUILDING ELEVATIONS

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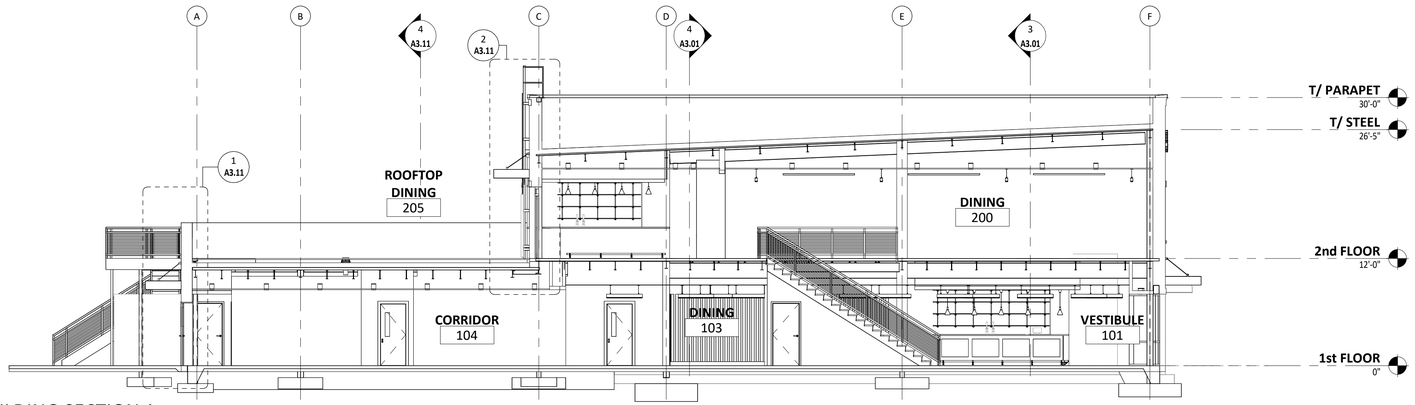
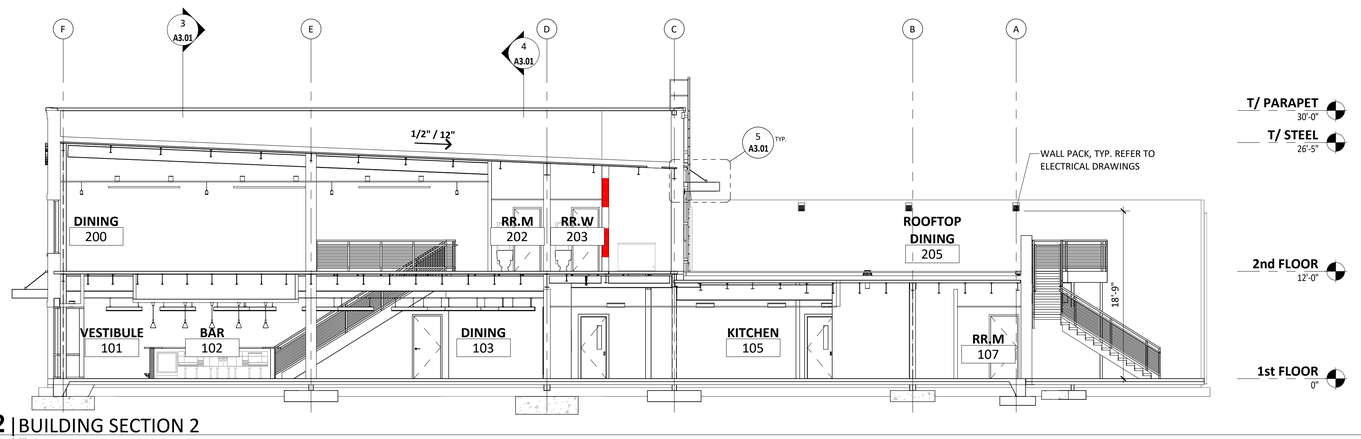
SECTION NOTES

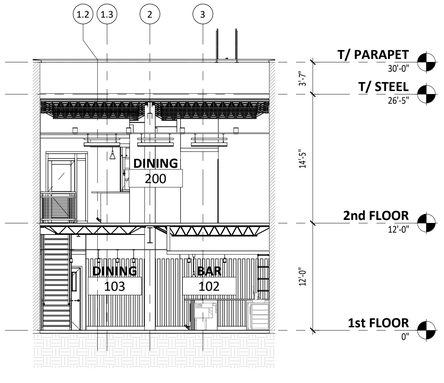
1 EXISTING STRUCTURE SHOWN FOR REFERENCE ONLY.
2 NEW STRUCTURAL ELEMENTS SHOWN FOR REFERENCE ONLY. SEE STRUCTURAL DRAWINGS FOR MORE INFORMATION.
3 FURNITURE PROVIDED BY TENANT & SHOWN FOR REFERENCE ONLY, UNO.



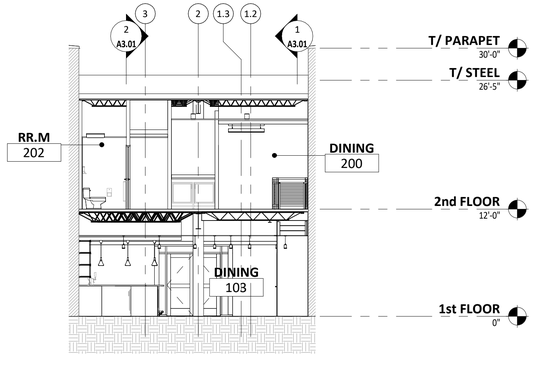
1 | BUILDING SECTION 1
1/8" = 1'-0"



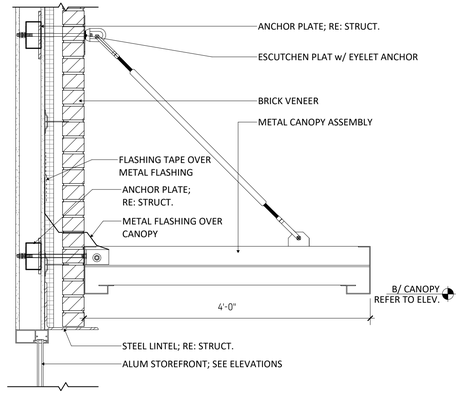
2 | BUILDING SECTION 2
1/8" = 1'-0"



3 | BUILDING SECTION 3
1/8" = 1'-0"



4 | BUILDING SECTION 4
1/8" = 1'-0"



5 | CANOPY DETAIL
1" = 1'-0"

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BUILDING SECTIONS

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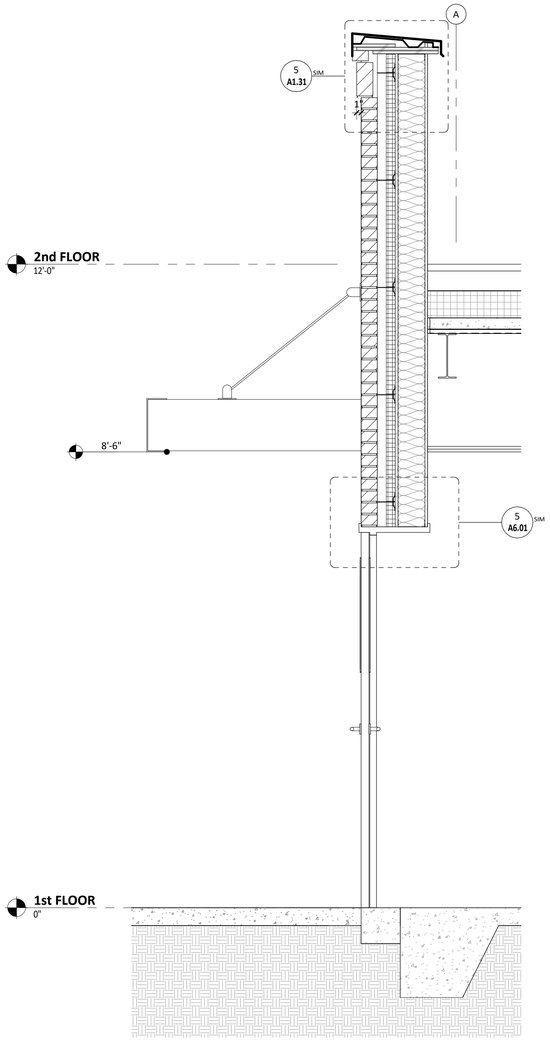
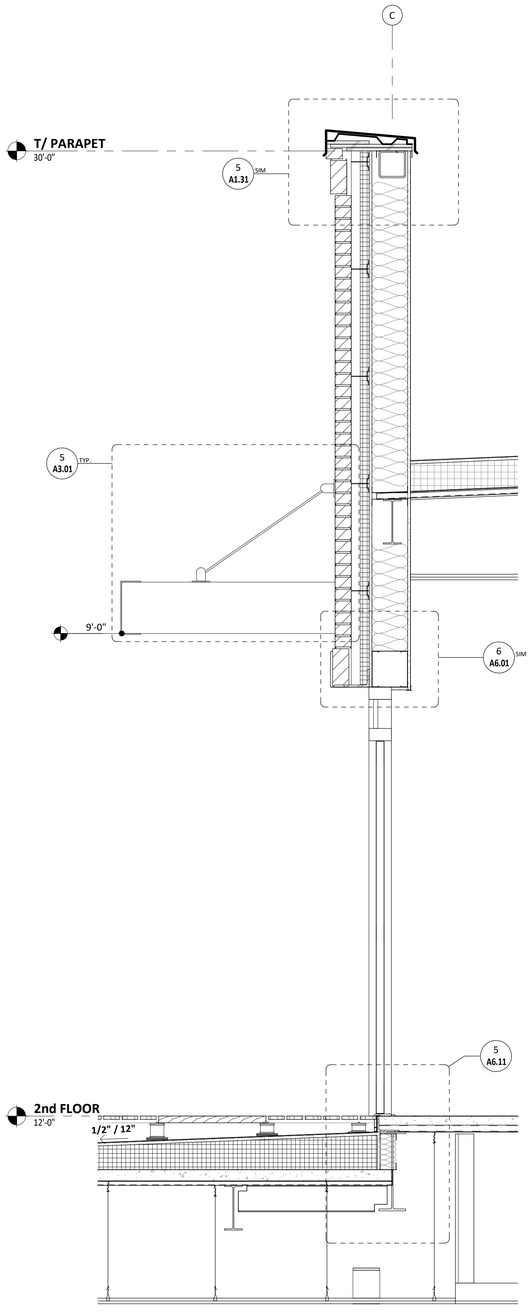
SECTION NOTES

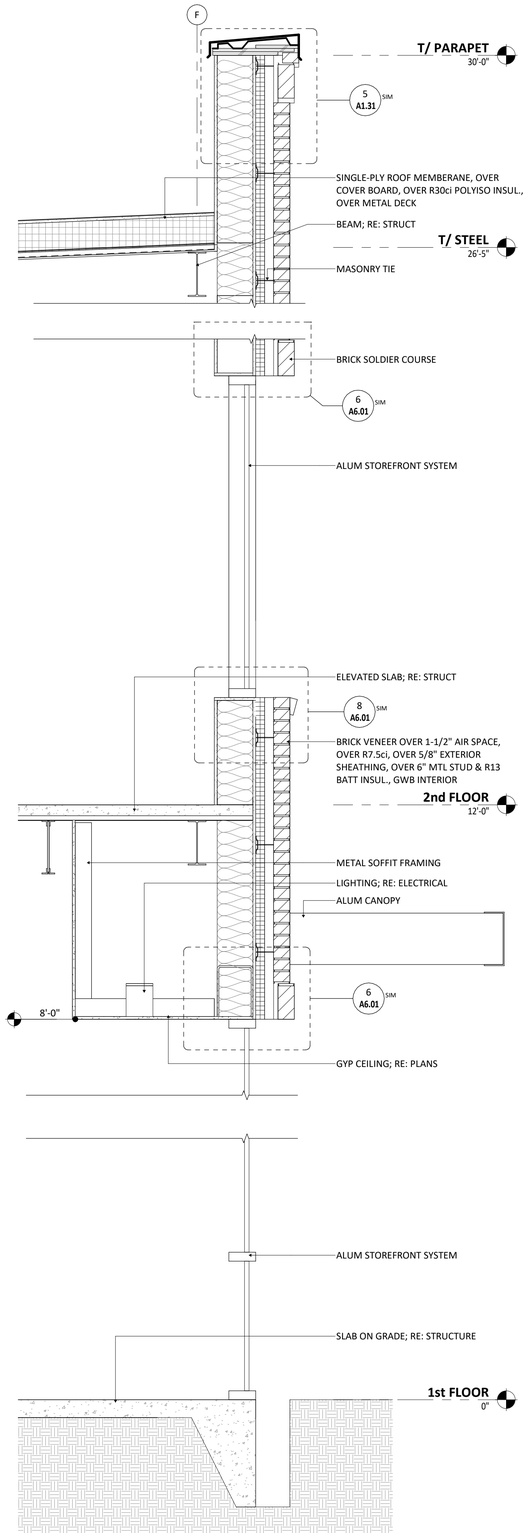
1. PARAPET DIMENSIONS ARE TO TOP OF WALL AND NAILERS OCCUR ABOVE THIS DIMENSIONED HEIGHT.
2. EXISTING STRUCTURE SHOWN FOR REFERENCE ONLY.
3. NEW STRUCTURAL ELEMENTS SHOWN FOR REFERENCE ONLY. SEE STRUCTURAL DRAWINGS FOR MORE INFORMATION.
4. FURNITURE PROVIDED BY TENANT & SHOWN FOR REFERENCE ONLY, UNO.



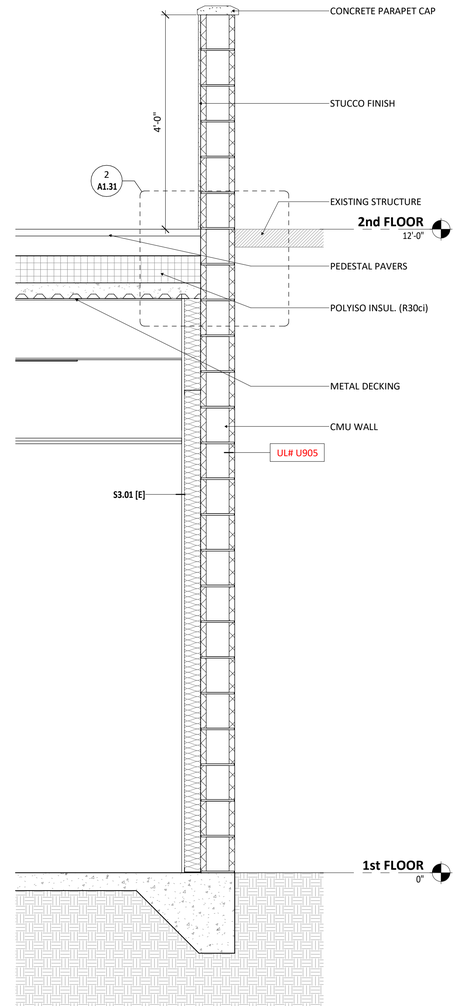
1 | WALL SECTION
3/4" = 1'-0"



2 | WALL SECTION
3/4" = 1'-0"



3 | WALL SECTION
3/4" = 1'-0"



4 | NEW PARTY WALL SECTION
3/4" = 1'-0"

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ARCHITECT
MICHAEL A. GERMANO
05.22.2024

sheet information

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drawn by:	MAG
checked by:	MAG

WALL SECTIONS

A3.11

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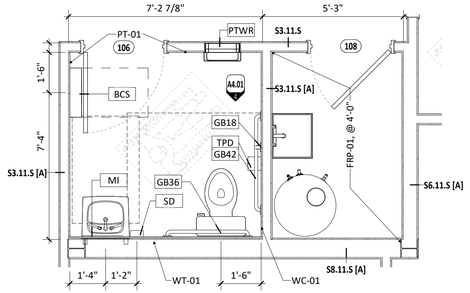
ACCESSORIES SCHEDULE

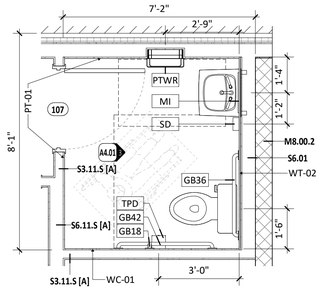
MARK	DESCRIPTION	MANUFACTURER	MODEL # / STYLE	FINISH	COMMENTS
GB18	18" VERTICAL GRAB BAR	BOBRICK	B-5806 X 18	STAINLESS STEEL	OR APPROVED EQUAL
GB36	36" HORIZONTAL GRAB BAR	BOBRICK	B-5806 X 36	STAINLESS STEEL	OR APPROVED EQUAL
GB42	42" HORIZONTAL GRAB BAR	BOBRICK	B-5806 X 42	STAINLESS STEEL	OR APPROVED EQUAL
MI	VANITY MIRROR	BOBRICK	B-165 1824	STAINLESS STEEL	OR APPROVED EQUAL
PTWR	PAPER TOWEL DISPENSER AND WASTE RECEPTACLE, SEMI-RECESSED	BOBRICK	B-3942	STAINLESS STEEL	OR APPROVED EQUAL
SD	SOAP DISPENSER, VANITY MOUNTED	BOBRICK	B-2013	STAINLESS STEEL	OR APPROVED EQUAL
TPD	MULTI-ROLL TOILET TISSUE DISPENSER, SURFACE MOUNTED	BOBRICK	B-4288	STAINLESS STEEL	OR APPROVED EQUAL

RESTROOM NOTES

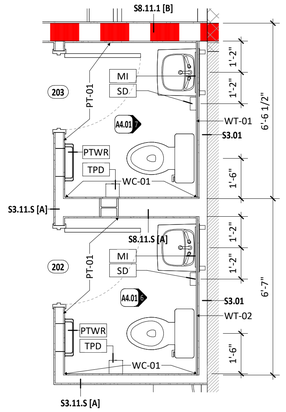
1. GRAB BARS SHALL BE 1-1/2" Ø AND SHALL PROVIDE 1-1/2" OF CLEARANCE BETWEEN THE RAIL AND WALL. GRAB BARS SHALL BE STAINLESS STEEL AND SHALL SUPPORT A LOAD OF 250 LBS. APPLIED AT ANY POINT DOWNWARD OR HORIZONTALLY.
2. ACCESSORY TYPE AND MANUFACTURER ARE SPECIFIED FOR DESIGN INTENT. ALTERNATE FIXTURES MUST BE APPROVED BY ARCHITECT PRIOR TO BIDDING.
3. LAVATORIES SHALL HAVE MOTION-SENSOR OPERATED FAUCETS.
4. HOT WATER AND DRAIN PIPES UNDER LAVATORIES SHALL BE INSULATED OR OTHERWISE PROTECTED. THERE SHALL BE NO SHARP OR ABRASIVE SURFACES UNDER LAVATORIES.
5. PROVIDE A MIRROR IN EACH TOILET ROOM AS SHOWN. ALTERNATES SHALL BE A MINIMUM OF 24" x 36" AT EACH SINK.
6. PROVIDE BLOCKING AS REQUIRED FOR ALL RESTROOM ACCESSORIES AND FIXTURES.
7. WATER RESISTANT GWB TO BE USED ON ALL RESTROOM WALLS.
8. SOUND INSULATE ALL PLUMBING LINES ABOVE SLAB.
9. VERIFY TOILET ROOM DIMENSIONS WITH SELECTED PLUMBING FIXTURES AND REQUIRED CLEARANCES PRIOR TO FRAMING.
10. REFER TO LEGEND & SCHEDULE FOR INFORMATION AND TYPICAL FIXTURE MOUNTING REQUIREMENTS.
11. IF APPLICABLE, THE TOILET'S FLUSH LEVER SHALL BE ON THE OPEN SIDE OF THE STALL.
12. TOILET, BATHING AND SHOWER ROOM FLOOR FINISH MATERIALS SHALL HAVE A SMOOTH, HARD, NONABSORBENT SURFACE. THE INTERSECTION OF SUCH FLOORS WITH WALL SHALL HAVE A SMOOTH, HARD, NONABSORBENT VERTICAL BASE THAT EXTENDS UPWARD ONTO THE WALLS AT LEAST 4".
13. ALL EXPOSED PLUMBING SHALL BE CHROME PLATED.
14. ALL PLUMBING LINES LOCATED OUTSIDE OF THE BUILDING THERMAL ENVELOPE SHALL BE INSULATED TO PREVENT FREEZING WITHIN THE LINE.
15. TOILET ROOMS SHALL COMPLY WITH ALL APPLICABLE REQUIREMENTS & NORTH CAROLINA ACCESSIBILITY CODES.



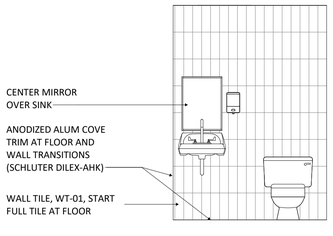
2 | 1ST FLOOR - W. RESTROOM
3/8" = 1'-0"



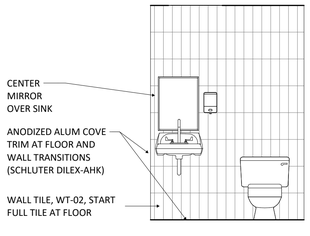
1 | 1st FLOOR - M. RESTROOM
3/8" = 1'-0"



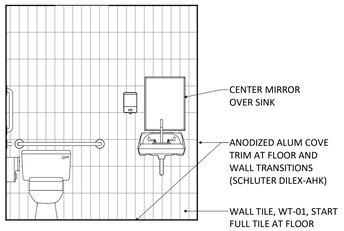
5 | RESTROOM PLAN - 2nd FLOOR
3/8" = 1'-0"



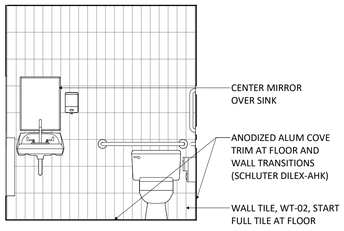
7 | W. RESTROOM - 2ND FLOOR
3/8" = 1'-0"



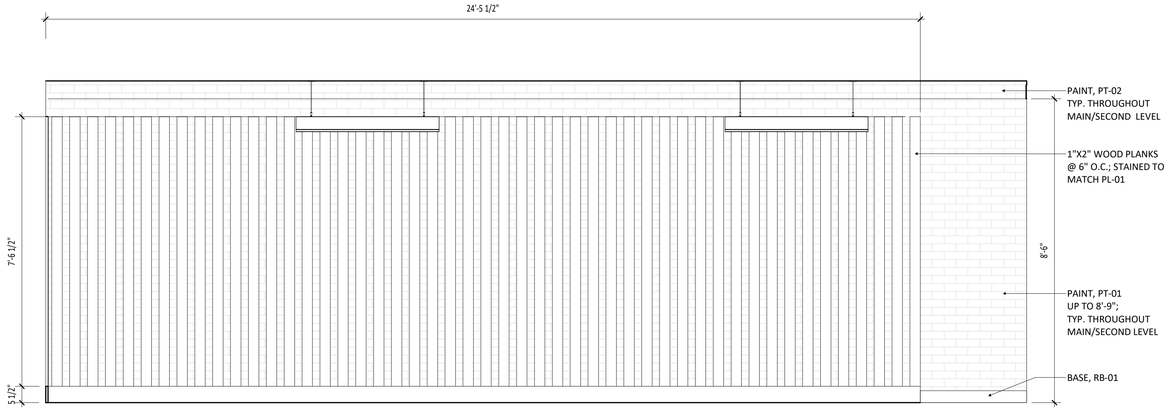
6 | M. RESTROOM - 2ND FLOOR
3/8" = 1'-0"



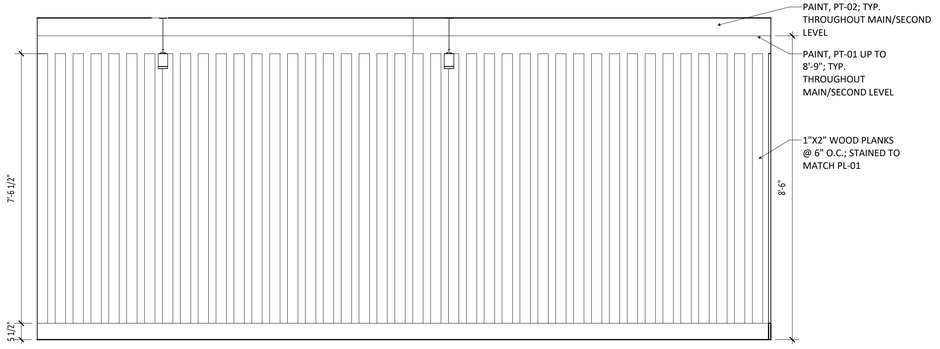
4 | W. RESTROOM - 1ST FLOOR
3/8" = 1'-0"



3 | M. RESTROOM - 1ST FLOOR
3/8" = 1'-0"



8 | MAIN LEVEL - BOOTH ELEVATION
1/2" = 1'-0"



9 | MAIN DINING ELEVATION
1/2" = 1'-0"

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05.22.2024

sheet information

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project #:	23049
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checked by:	MAG

ENLARGED PLANS AND ELEVATIONS

A4.01

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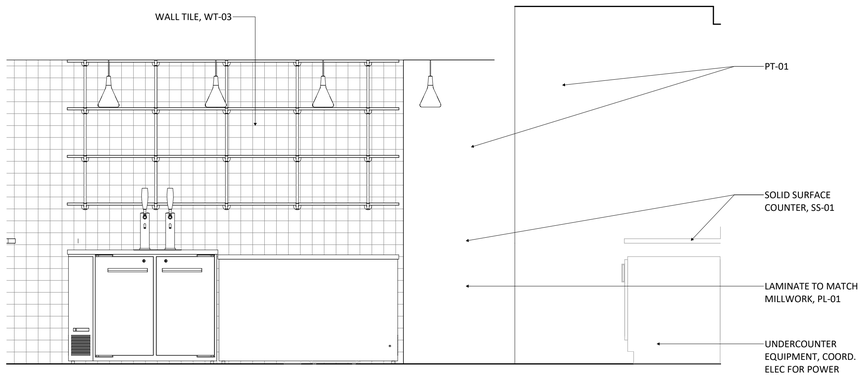
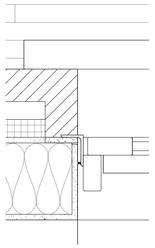
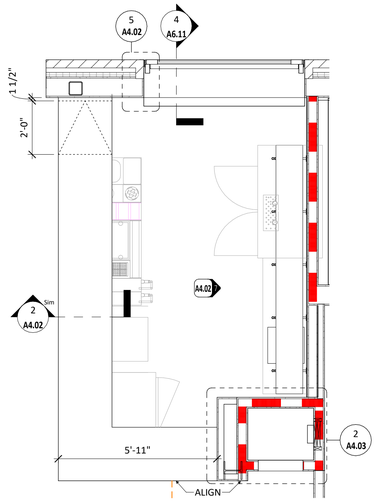


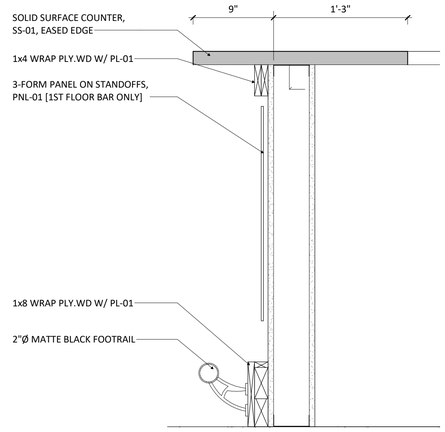
7 | 2nd FLOOR - BAR ELEVATION
1/2" = 1'-0"



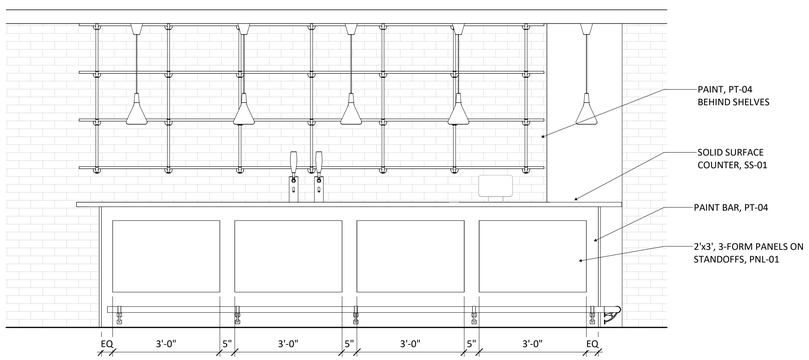
5 | SECTION DETAIL WINDOW JAMB
1 1/2" = 1'-0"



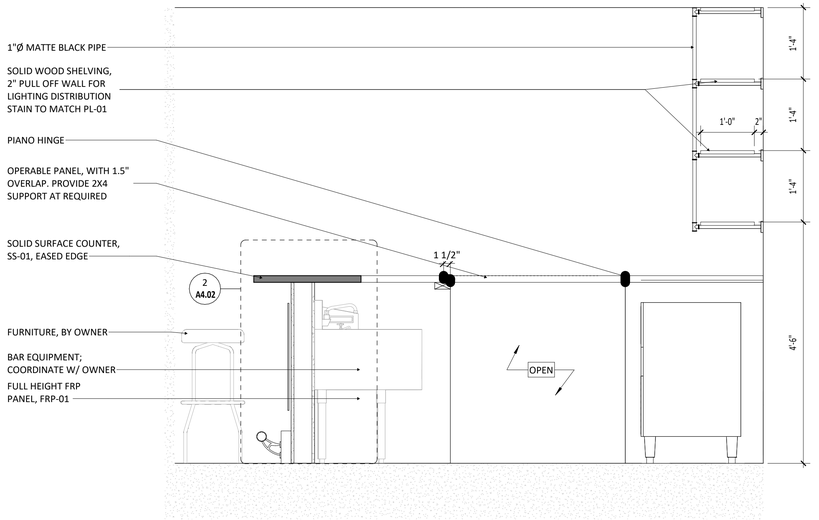
4 | ENLARGED BAR PLAN- LEVEL 2
3/8" = 1'-0"



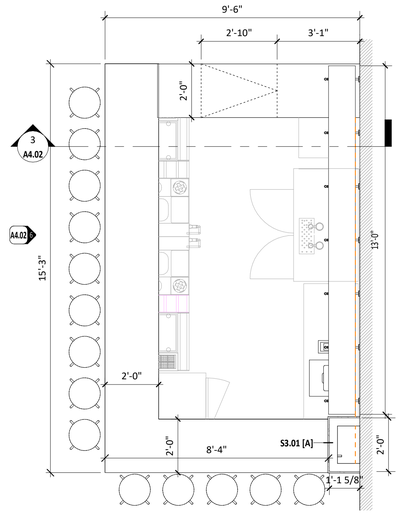
2 | BAR COUNTERTOP, TYP
1 1/2" = 1'-0"



6 | 1st FLOOR - BAR ELEVATION
1/2" = 1'-0"



3 | 1st FLOOR BAR
3/4" = 1'-0"



1 | ENLARGED BAR PLAN- LEVEL 1
3/8" = 1'-0"

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05.22.2024

sheet information

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project #:	23049
drawn by:	MAG
checked by:	MAG

ENLARGED PLANS AND ELEVATIONS - KITCHEN & BAR

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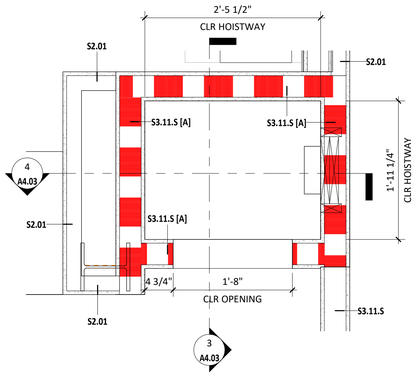
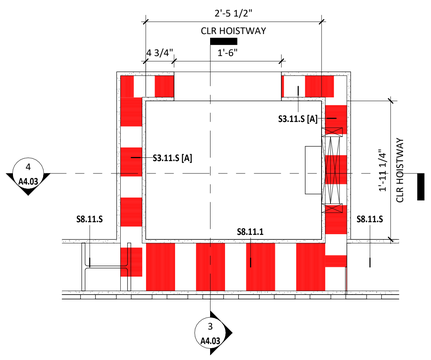


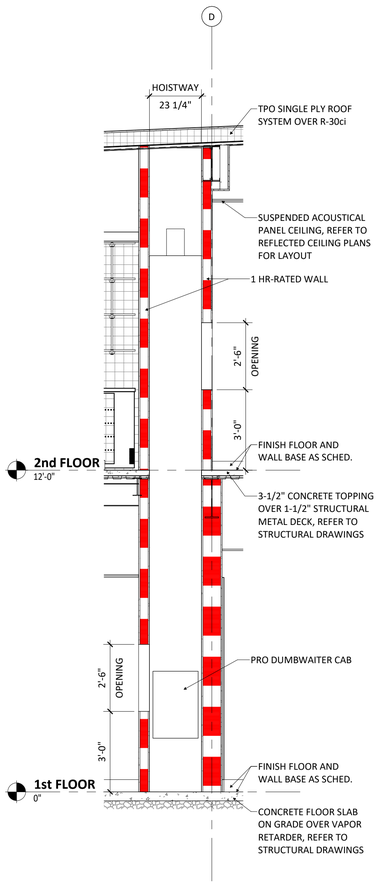
2 | ENLARGED PLAN - ELEVATOR LEVEL 2

1" = 1'-0"



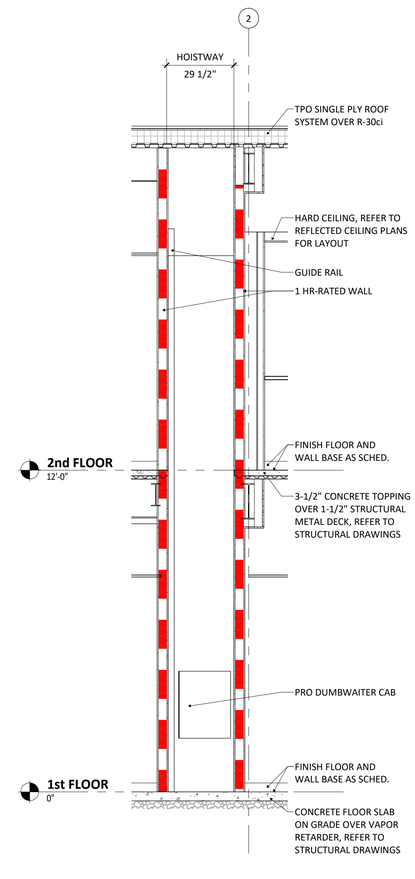
1 | ENLARGED PLAN - ELEVATOR LEVEL 1

1" = 1'-0"



3 | ELEVATOR SECTION E/W

3/8" = 1'-0"



4 | ELEVATOR SECTION N/S

3/8" = 1'-0"

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DANIELA GERMANO
05.22.2024

sheet information

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checked by:	Checker

ENLARGED PLANS - ELEVATOR

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DOOR SCHEDULE

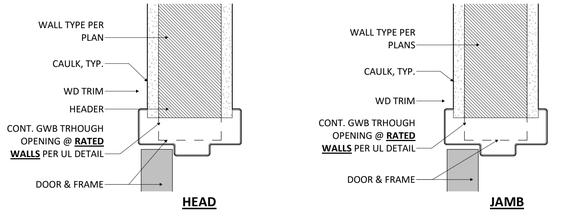
#	PANEL					FRAME					GLAZING		EGRESS	DOOR HARDWARE									COMMENTS
	TYPE	MTRL	SIZE			TYPE	MTRL	DETAILS			TYPE	THK		FUNCTION	EGRESS BAR	MAGNETIC HOLD	FLOOR STOP	CLOSER	SILENCER	THRESHOLD	RAIN GUARD	WEATHER STRIPPING	
			WIDTH	HEIGHT	THK			HEAD	JAMB	THRES													
101	FG	ALUM.	6'-0"	7'-0"	1 3/4"	-	-	PER MFR	PER MFR	3/A6.11	INSUL., TEMP.	1/2"	X	ENTRANCE	Yes		Yes	Yes		Yes	Yes	Yes	
104	HG	HM	3'-6"	7'-0"	1 3/4"	A	HM	5/A6.01	3/A6.01	1/A6.01	INSUL., TEMP.	1/2"	X	ENTRANCE	Yes		Yes	Yes		Yes	Yes	Yes	
105	VG	SS	3'-0"	7'-0"	1 3/4"	A	MTL	4/A6.01	4/A6.01		TEMP.	1/4"		DBL ACTING									ELIASON SCP WOOD DOOR; MATCH OTHER DOOR FINISH. 36" STEEL IMPACT PLATE. PROVIDE HM CASED OPENING, COORDINATE WITH MFR INSTALLATION.
105	VG	SS	3'-0"	7'-0"	1 3/4"	A	MTL	4/A6.01	4/A6.01		TEMP.	1/4"		DBL ACTING	No								ELIASON SCP WOOD DOOR; MATCH OTHER DOOR FINISH. 36" STEEL IMPACT PLATE. PROVIDE HM CASED OPENING, COORDINATE WITH MFR INSTALLATION.
106	F	WD	3'-0"	7'-0"	1 3/4"	A	HM	4/A6.01	4/A6.01					PUSH/PULL			Yes	Yes	Yes				
107	F	WD	3'-0"	7'-0"	1 3/4"	A	HM	4/A6.01	4/A6.01					PUSH/PULL	No		Yes	Yes	Yes				
108	F	WD	3'-0"	7'-0"	1 3/4"	A	HM	4/A6.01	4/A6.01					STOREROOM				Yes					
123A	F	WD	3'-0"	7'-0"	1 3/4"	A	HM	4/A6.01	4/A6.01					STOREROOM				Yes					
200	FG	ALUM.	3'-0"	7'-0"	1 3/4"	-	-	PER MFR	PER MFR	3/A6.11	INSUL., TEMP.	1/2"	X	ENTRANCE	Yes		Yes	Yes		Yes	Yes	Yes	
202	F	WD	2'-10"	7'-0"	1 3/4"	A	HM	4/A6.01	4/A6.01					PUSH/PULL			Yes	Yes	Yes				
203	F	WD	2'-10"	7'-0"	1 3/4"	A	HM	4/A6.01	4/A6.01					PUSH/PULL			Yes	Yes	Yes				

DOOR NOTES

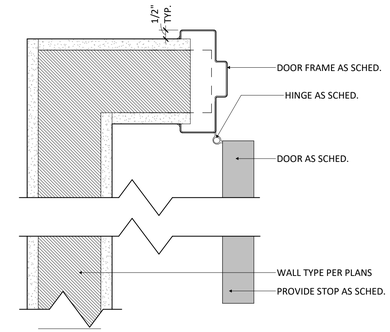
1 VERIFY ALL DIMENSIONS IN FIELD PRIOR TO GENERATING SHOP DRAWINGS.
2 ALL GLAZING TO BE IMPACT GLAZING AND TEMPERED.
3 SEE PLAN FOR DOOR SWING DIRECTIONS.
4 INTERIOR WOOD DOORS TO BE SOLID CORE BIRCH.
5 HM AND WD DOOR FINISH TO BE PT-2.
6 HM DOOR FRAMES TO BE PAINTED OR PRE-FINISHED, PT-2.
7 ALL STOREFRONT EXIT DOORS WITH THUMB-TURN LOCKS TO HAVE DECAL STATING: "THIS DOOR TO REMAIN UNLOCKED WHEN BUILDING IS OCCUPIED". (NCBC 1010.1.9.3)
8 HM FRAMES TO BE REPAIRED FOR DENTS / DINGS AND REPAINTED; REPLACE AS NEEDED.
9 DOOR FRAME THICKNESS SHALL FIT WALL THICKNESS, CONTRACTOR TO VERIFY WALL THICKNESS IN FIELD & COORDINATE WITH SUPPLIER AND ARCHITECT.
10 DOOR FIRE RATING BASED ON NCBC TABLE 716.5.
11 DOORS SHALL OPERATE FREELY WITHOUT BINDING.
12 DOOR FRAMES SHALL BE SECURED RIGIDLY IN PLACE AND BRACED TO FLOOR AND STRUCTURE ABOVE TO PREVENT BREAK OUT TO PARTITIONS.
13 DOOR UNDERCUTS SHALL BE KEPT TO A MINIMAL DIMENSION AND SHALL BE UNIFORM THROUGHOUT PROJECT, UNO.
14 REINFORCE WALL AT STUDS FOR WALL STOP, AS NEEDED.
15 REFER TO SHEET A6.01 FOR DOOR FRAME AND PANEL FINISHES.
16 ALL EXTERIOR HOLLOW CORE METAL DOORS ARE TO BE INSULATED. DOOR AND FRAME TO BE SHOP PRIMED AND PAINTED.
17 CAULK DOOR JAMBS AND HEADS AT DOORS LOCATED IN SOUND INSULATED WALLS.

HARDWARE NOTES

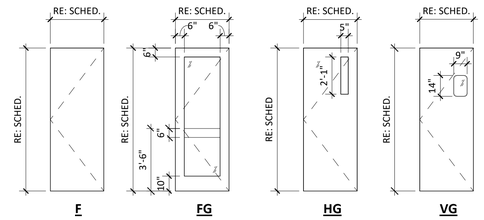
1 CONFIRM ALL LOCKSETS AND DOOR OPERATIONS WITH TENANT AND/OR OWNER PRIOR TO ORDERING; PROVIDE SHOP DRAWINGS FOR REVIEW.
2 CONTRACTOR SHALL COORDINATE KEYING OF LOCKS WITH TENANT UPON SUBSTANTIAL COMPLETION OF SPACE. BUDGET FOR THIS FUNCTION SHALL BE INCLUDED IN INITIAL BIDS.
3 CONTRACTOR TO COORDINATE THE ELECTRICAL AND LOW VOLTAGE NEEDS FOR ALL EXTERIOR / SUITE DOORS FOR ACCESS CONTROL, ELECTRIC STRIKES AND SECURITY DEVICES.
4 PROVIDE MANUAL FLUSH BOLTS ON INACTIVE LEAF OF ALL DOUBLE DOORS. FINISH TO MATCH DOOR HARDWARE.
5 PROVIDE "T" ASTRAGAL ON ALL DOUBLE DOORS. FINISH TO MATCH DOORS.
6 ALL DOOR HARDWARE TO HAVE "LEVER" TYPE HANDLES, COMPLIANT WITH ADA.
7 ALL HARDWARE SHALL BE UNLOCKED IN THE DIRECTION OF EGRESS, REGARDLESS OF OTHER LOCK FUNCTIONS.
8 ALL DOORS AND HARDWARE TO COMPLY WITH THE NORTH CAROLINA ACCESSIBILITY CODE.
9 ADJUST ALL INTERIOR CLOSERS TO HAVE A MAX OPENING FORCE OF 5 LBS.
10 ADJUST ALL EXTERIOR CLOSERS TO HAVE A MAX OPENING FORCE OF 8 LBS.
11 REFER TO SPECIFICATION 087100 FOR ADDITIONAL INFORMATION.
12 ALL EXISTING DOORS TO REMAIN SHALL BE BROUGHT TO BUILDING STANDARD AS DESIGNED IN THIS DRAWING PACKAGE.



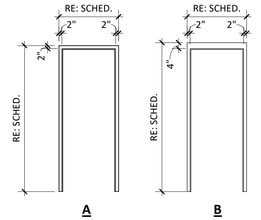
4 | TYP. INTERIOR DOOR
3" = 1'-0"



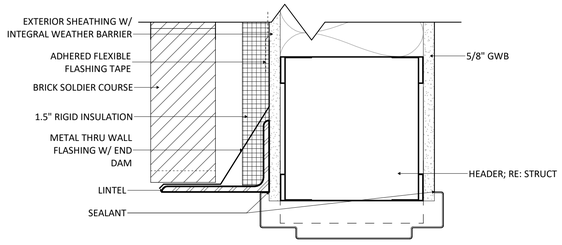
2 | TYP. INTERIOR RETURN
3" = 1'-0"



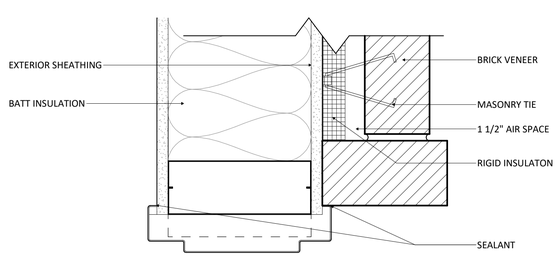
DOOR TYPES
1/4" = 1'-0"



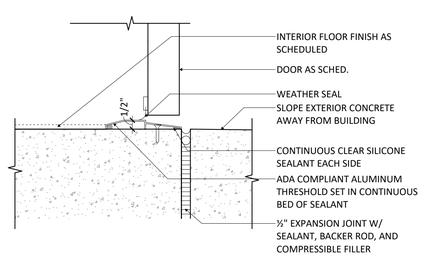
FRAME TYPES
1/4" = 1'-0"



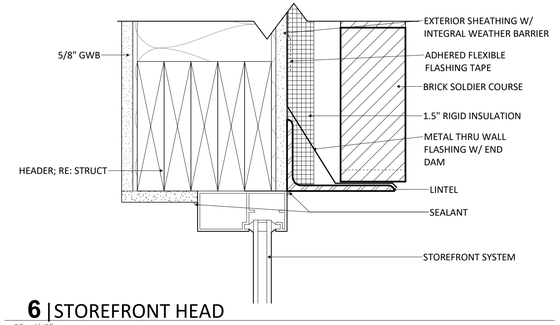
5 | HM FRAME IN BRICK WALL
3" = 1'-0"



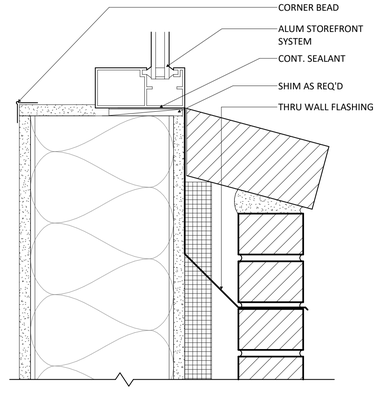
3 | DOOR JAMB
3" = 1'-0"



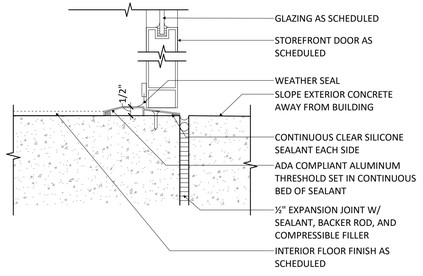
1 | DOOR THRESHOLD
3" = 1'-0"



6 | STOREFRONT HEAD
3" = 1'-0"



8 | STOREFRONT SILL
3" = 1'-0"



7 | STOREFRONT THRESHOLD
3" = 1'-0"

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ARCHITECT
MICHAEL A. GERMANO
05.22.2024

sheet information

#	date	description
0	05.22.2024	CONSTRUCTION SET

project #:	23049
drawn by:	MAG
checked by:	MAG

DOOR SCHEDULES & DETAILS

A6.01

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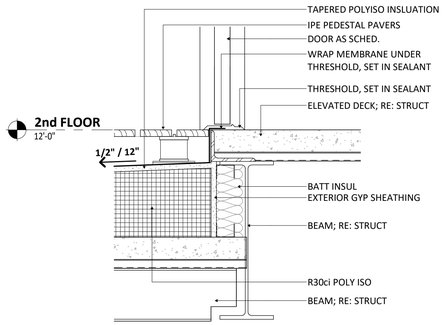
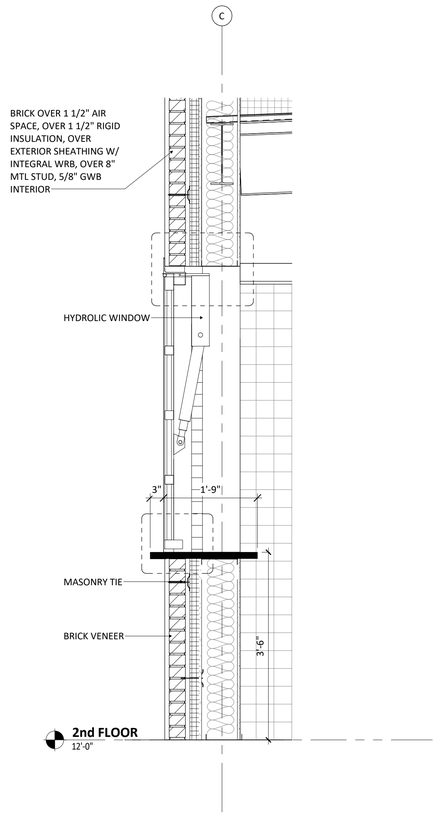
WINDOW SCHEDULE							
#	DESCRIPTION	DIMENSIONS			MANUFACTURER	MODEL	COMMENTS
		HEIGHT	WIDTH	HEAD HEIGHT			
A	Single-Piece, Hydraulically-operated Door or Window	5'-1 5/8"	5'-10"	8'-7 5/8"	Crown LLC	Single-Swing	



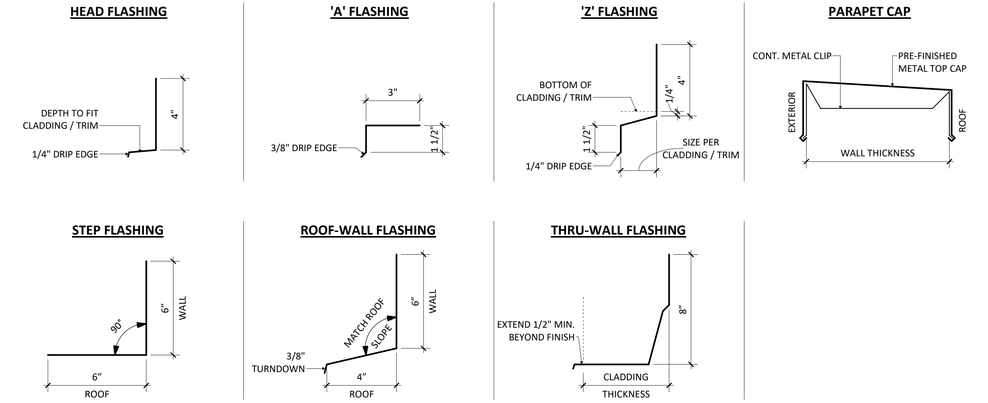
5 | PATIO THRESHOLD
1 1/2" = 1'-0"



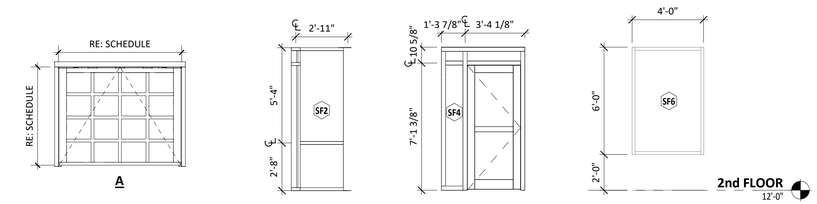
4 | BAR SECTION 1 - 2ND FLOOR
3/4" = 1'-0"

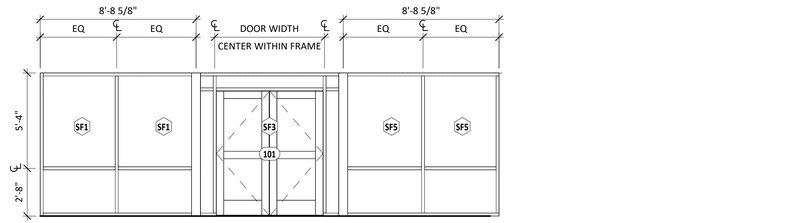
WINDOW NOTES
1 FIELD VERIFY ALL DIMENSIONS PRIOR TO FABRICATION.
2 ALL GLAZING SHALL BE CLEAR, TEMPERED GLASS UNO.

GLAZING NOTES
1 SEE SHEET A6.11 FOR TYPICAL STOREFRONT DETAILS.
2 SEE LEGEND ON SHEET A6.11 FOR STOREFRONT MULLION AND PANEL TYPES.
3 CONTRACTOR SHALL HAVE STOREFRONT SUBCONTRACTOR VERIFY ALL DIMENSIONS IN FIELD PRIOR TO GENERATING SHOP DRAWINGS FOR STOREFRONTS.
4 SEE PLAN FOR DOOR SWING DIRECTIONS.
5 CONTRACTOR TO PROVIDE AND SUBMIT SHOP DRAWINGS FOR REVIEW / APPROVAL BY ARCHITECT PRIOR TO ORDERING AND / OR INSTALLING ANY ALTERNATES.
6 SEE ELEVATIONS FOR GLASS TYPE LOCATIONS.

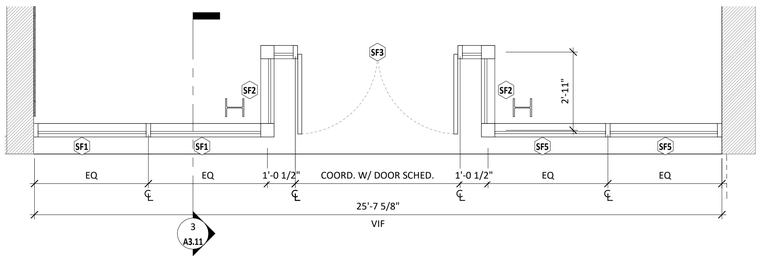


| FLASHING PROFILE TYPES
NOT TO SCALE





WINDOW LEGEND
1/4" = 1'-0"



1 | ENLARGED ENTRY STOREFRONT PLAN
3/8" = 1'-0"

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WINDOW SCHEDULES & DETAILS

A6.11

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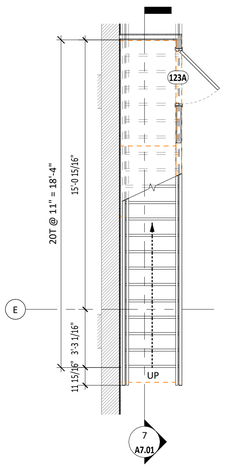
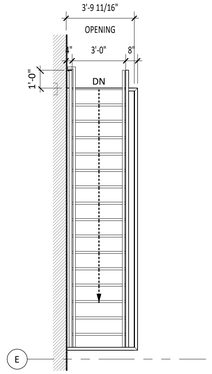


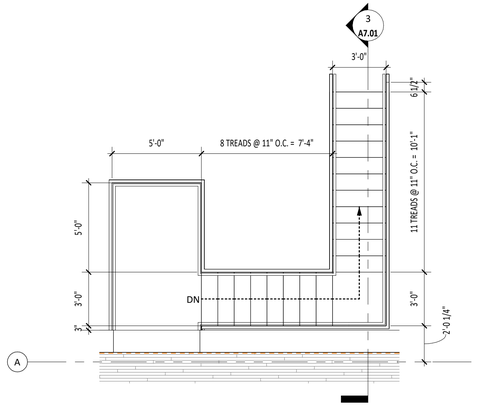
9 | STAIR 1 - LEVEL 1

1/4" = 1'-0"



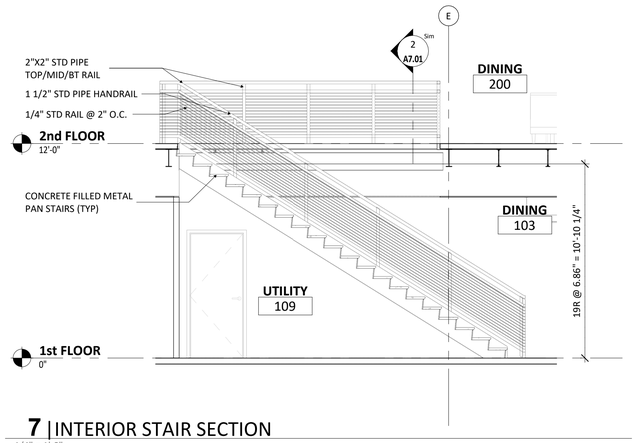
8 | STAIR 1 - LEVEL 2

1/4" = 1'-0"



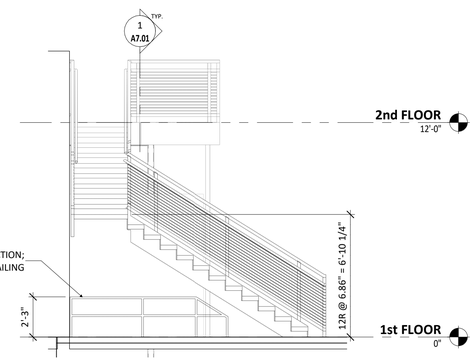
4 | EXTERIOR STAIR PLAN

1/4" = 1'-0"



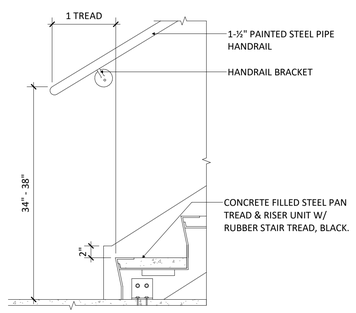
7 | INTERIOR STAIR SECTION

1/4" = 1'-0"



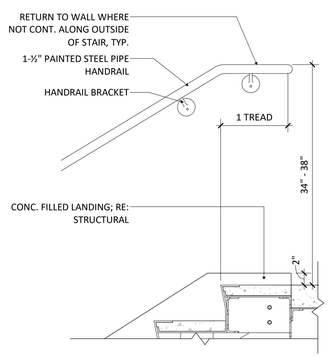
3 | EXTERIOR STAIR SECTION_2

1/4" = 1'-0"



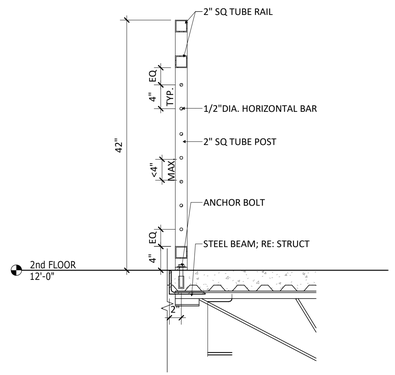
6 | BOT. OF STAIR

1" = 1'-0"



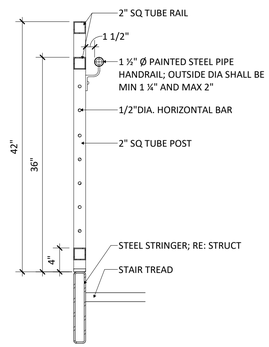
5 | TOP OF STAIR

1" = 1'-0"



2 | GUARDRAIL DETAIL

1" = 1'-0"



1 | HANDRAIL DETAIL

1" = 1'-0"

STAIR NOTES

1. REQUIRED GUARDS SHALL NOT HAVE OPENINGS WHICH ALLOW PASSAGE OF A SPHERE 4" IN DIAMETER FROM THE WALKING SURFACE TO THE REQUIRED GUARD HEIGHT. A BOTTOM RAIL SHALL BE PROVIDED TO REJECT THE PASSAGE OF A SHERE 2" IN DIAMETER FROM THE WALKING SURFACE. (NCBC 1015.4)
2. FROM A HEIGHT OF 36" TO 42", GUARDS SHALL NOT HAVE OPENINGS WHICH ALLOW PASSAGE OF A SPHERE 4 3/8" IN DIAMETER. (NCBC 1015.4, EXCEPTION #1)
3. THE TRIANGULAR OPENINGS AT THE OPEN SIDE OF A STAIR, FORMED BY THE RISER, TREAD AND BOTTOM RAIL SHALL NOT ALLOW PASSAGE OF A SPHERE 6" IN DIAMETER. (NCBC 1015.4, EXCEPTION #2)
4. HANDRAIL HEIGHT, MEASURED ABOVE STAIR TREAD NOSINGS, OR FINISH SURFACE OF RAMP SLOPE, SHALL BE UNIFORM, NOT LESS THAN 34" AND NOT MORE THAN 38". (NCBC 1014.2)
5. WHEN HANDRAIL FITTINGS OR BENDINGS ARE USED TO PROVIDE CONTINUOUS TRANSITION BETWEEN FLIGHTS, THE FITTINGS OR BENDINGS SHALL BE PERMITTED TO EXCEED THE MAXIMUM HEIGHT. (NCBC 1014.2, EXCEPTION #1)
6. EXISTING STRUCTURE SHOWN FOR REFERENCE ONLY.
7. NEW STRUCTURAL ELEMENTS SHOWN FOR REFERENCE ONLY. SEE STRUCTURAL DRAWINGS FOR MORE INFORMATION.
8. ALL VERTICAL PICKETS TO BE SPACED 4" MAX.
9. GUARDRAILS POSTS TO BE SPACED EQUALLY SPACE, 5'-0" OC MAX.
10. GUARDRAILS SHALL BE PROVIDED WHERE THE VERTICAL CLEARANCE IS LESS THAN 80 INCHES HIGH. THE LEADING EDGE OF SUCH GUARDRAIL SHALL BE LOCATED 27 INCHES MAXIMUM ABOVE THE FINISH FLOOR. (ICC A117.1)

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checked by:	MAG

STAIR PLANS & DETAILS

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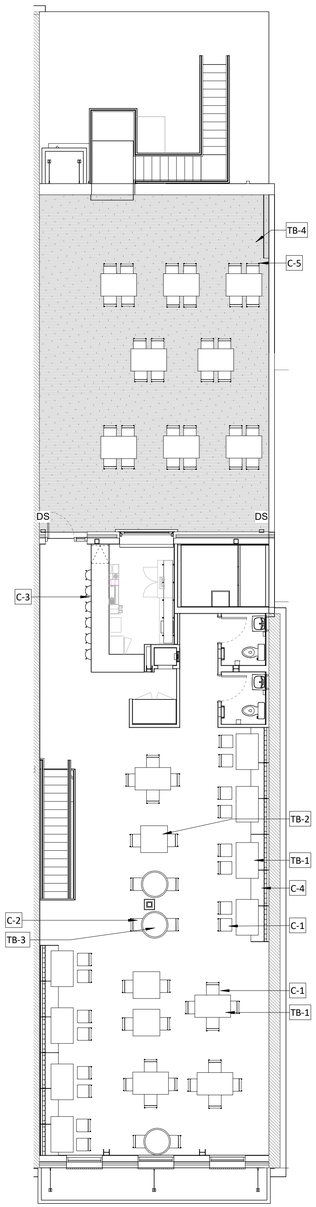
FURNITURE SCHEDULE

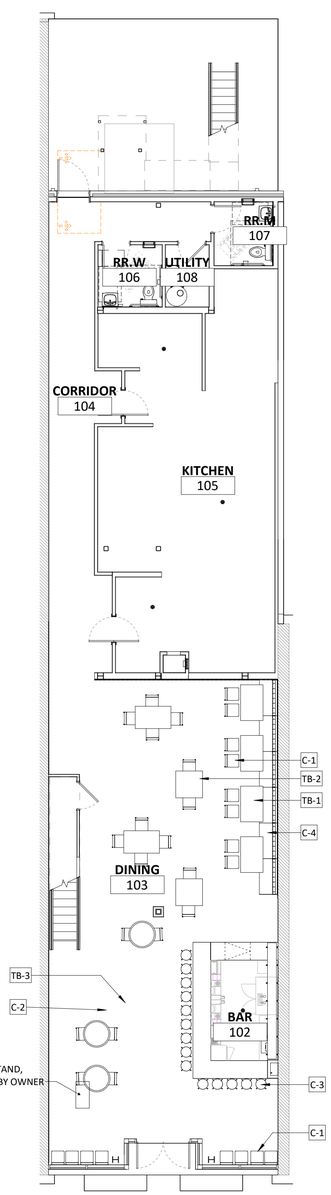
Type Mark	Type	Type Comments	Comments	Count
C-1	DINING CHAIR	SLED BASE OR LEGS, STACKABLE IF POSSIBLE	FB-01	66
C-2	HIGH-TOP DINING CHAIR		FB-01	12
C-3	BAR STOOLS	SAME AS HIGH TOP DINING CHAIR	FB-01	3
C-4	Continuous Booth Bench	NO FEET, NO LEGS. VINYL SEAT, FABRIC BACK	FB-02/FB-03	18
C-5	EXTERIOR DINING CHAIR	METAL OR PLASTIC, DRAINAGE HOLES	-	32
TB-1	RECTANGLE TABLE, SEATS 4	WOOD TOP, BLACK BASE	-	18
TB-2	SQUARE TABLE, SEATS 2	WOOD TOP, BLACK BASE	-	5
TB-3	ROUND, HIGH-TOP TABLE, SEATS 2	WOOD TOP, BLACK BASE	-	6
TB-4	EXTERIOR DINING TABLE	LEGS, SLATTED FOR DRAINAGE	-	8

Grand total: 168



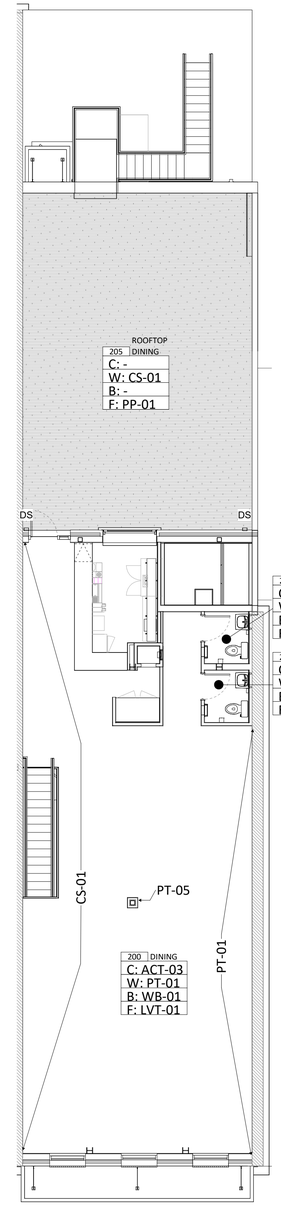
4 | 2nd FLOOR-FURNITURE PLAN

1/8" = 1'-0"



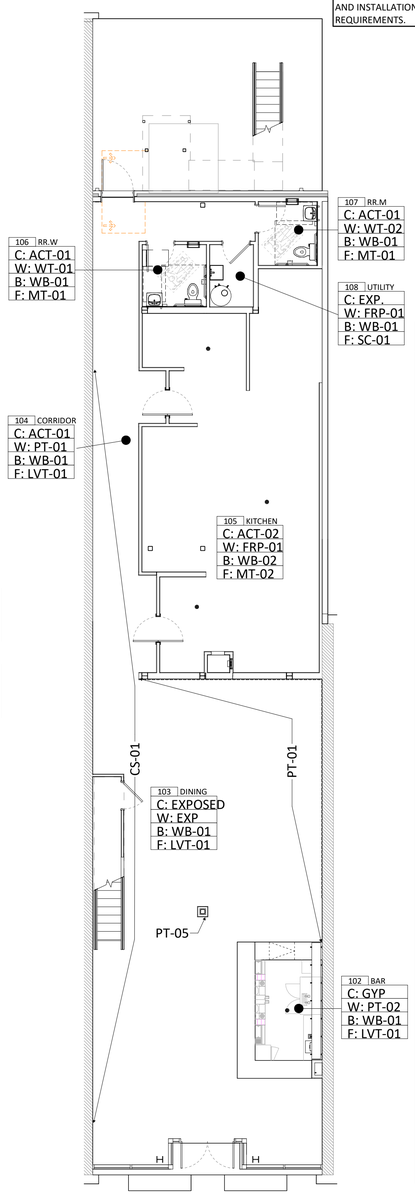
3 | 1st FLOOR-FURNITURE PLAN

1/8" = 1'-0"



2 | 2nd FLOOR-FINISH PLAN

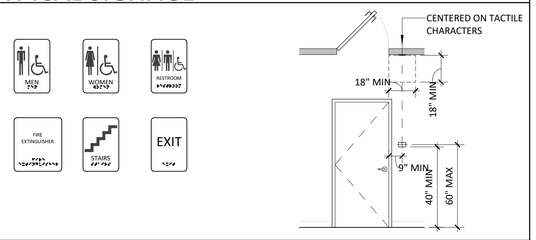
1/8" = 1'-0"



1 | 1st FLOOR-FINISH PLAN

1/8" = 1'-0"

TYPICAL SIGNAGE



NOTE:
CONTRACTOR TO VERIFY THAT ALL SIGNAGE MEETS THE REQUIREMENTS OF NC ASSECCIBILITY CODE 703 [ICC A117.1-2009] AND ALL OTHER LOCAL CODES AND THAT ALL SIGNAGE HAS BEEN APPROVED BY LOCAL CODE OFFICIALS PRIOR TO PURCHASE AND INSTALLATION. LOCAL CODE OFFICIALS MAY REQUIRE VARIED OR ADDITIONAL SIGNAGE IN ORDER TO MEET LOCAL CODE REQUIREMENTS.

FINISH NOTES

1. CONTRACTOR SHALL PROVIDE ALL INTERIOR FINISHES AS SPECIFIED HEREIN. ARCHITECT SHALL BE NOTIFIED OF ANY DISCREPANCIES OR OMISSIONS PRIOR TO PROCEEDING WITH WORK.
2. ALL FINISH DIMENSION LINES ARE FROM THE FINISHED WALL/FLOOR/CEILING.
3. ALL INTERIOR FINISHES SHALL MEET OR EXCEED THE FLAME SPREAD INDEX PROVIDED IN NCBC TABLE 803.11
4. VARIATIONS IN FLOOR LEVEL IN EXCESS OF ½" FOR EVERY 20'-0" AT ANY GIVEN POINT SHALL BE LEVELED BY CONTRACTOR. LEVELING SHALL BE COMPLETED WITH FLOOR READY TO RECEIVE NEW FINISHES AS SPECIFIED. CONTRACTOR SHALL VERIFY SLAB CONDITION PRIOR TO BID SUBMISSION AND BRING SUCH CONDITIONS TO ARCHITECT'S ATTENTION. CONTRACTOR SHALL BRIDGE ANY EXISTING CONCRETE CRACKS PRIOR TO FLOORING INSTALL.
5. ALL MISCELLANEOUS GRILLES, PLATES, OR OTHER DEVICES SHALL BE SPRAY PAINTED TO MATCH ADJACENT SURFACES IN WHICH THEY ARE INSTALLED. BRUSH PAINTING OF THESE ITEMS WILL NOT BE PERMITTED.
6. ALL WALL SURFACES SHALL BE PAINTED FROM CORNER TO CORNER WHERE NEW WORK AFFECTS EXISTING WALLS.
7. ALL WALLS THAT ARE NOT NOTED WITH AN ACCENT COLOR ARE TO BE PAINTED PT-1.
8. ALL WALLS TO BE LIGHT TEXTURED FINISH, WITH LEVEL 4 FINISH OR BETTER.
9. PAINT FOR WALL FINISHES SHALL BE PROVIDED AS A (3) COAT EGGSHELL LATEX ENAMEL PAINT INSTALLATION - (1) PRIME AND (2) FINISH COATS; COLORS AS SPECIFIED. COOKING AREAS, STEEL ELEMENTS, WOOD & STEEL DOOR FRAMES AND WOOD WINDOW FRAMES SHALL HAVE A (3) COAT SEMI-GLOSS ENAMEL FINISH.

INTERIOR SIGNAGE

1. CHARACTERS, SYMBOLS, AND THEIR BACKGROUND SHALL HAVE A NON-GLARE FINISH.
2. CHARACTERS, SYMBOLS, AND THEIR BACKGROUND SHALL CONTRAST WITH THEIR BACKGROUND.

FINISH LEGEND

MARK	DESCRIPTION	MANUFACTURER	STYLE	COLOR	COMMENTS
BASE					
WB-02	WALL BASE	<varies>	<varies>	<varies>	<varies>
CEILING					
ACT-01	ACOUSTICAL CEILING TILE	ARMSTRONG	DUNE	WHITE	15/16" GRID, SQAURE EDGE
ACT-02	ACOUSTICAL CEILING TILE	ARMSTRONG	CLEAN ROOM	WHITE	15/16" GRID, SQAURE EDGE, VINYL WRAPPED
ACT-03	ACOUSTICAL CEILING TILE	ARMSTRONG	DUNE	BLACK, PT-04	15/16" GRID, SQAURE EDGE, VINYL WRAPPED
ACT-04	ACOUSTICAL CEILING PANEL	ARMSTRONG	TECTUM	SW-6021 DREAMY WHITE	SUSPENDED AT 6"
ACT-05	ACOUSTICAL CEILING PANEL	ARMSTRONG	TECTUM	SW-6385 DOVER WHITE	SUSPENDED AT 6"
ACT-06	ACOUSTICAL CEILING PANEL	ARMSTRONG	TECTUM	SW-7631 CITY LOFT	SUSPENDED AT 6"
COUNTERTOP					
SS-01	BAR COUNTER	CAMBRIA		HERMITAGE	EASED EDGE
FABRIC					
FB-01	DINING CHAIRS	STINSON	AMPLIFY	AMP 32 CONCORD	
FB-02	BOOTH BACK	ANZEA TEXTILES	HORIZON	ZION	
FB-03	BOOTH SEAT	STINSON	MOCCASIN 2.0	MOC 224 BUCK	
FLOORING					
LVT-01	MAIN DINING	MOHAWK GROUP	TAKING ROOT COLLECTION	868 BARK	18" X 26" INSTALL 1/3 OFFSET
MT-01	RESTROOM FLOOR TILE	DALTILE	MOSAICS - COLOR WHEEL	MATTE BISCUIT K775 (1)	GROUT: LATICRETE 17 MARBLE BEIGE
MT-02	KITCHEN FLOOR TILE	DALTILE	QUARRY	ARID GRAY 0Q42	GROUT: LATICRETE 17 MARBLE BEIGE
PP-01	PATIO PAVER SYSTEM	TILETECH	WOOD DECK TILE	IPE	24"x48" PANEL
SC-01	SEALED CONCRETE	SCOFIELD	CURESEAL-W	CLEAR	
MILLWORK					
PL-01	BAR - PLASTIC LAMINATE	FORMICA		FINNISH OAK 118-58, MATTE FINISH	
MISC.					
CS-01	STUCCO	AMERIMIX	PREMIUMS PLUS	PT-01	SMOOTH FINISH
FRP-01	FRP PANEL	MARLITE	SMOOTH	WHITE	8' HIGH, UNO
PL-02	WOOD PLANK		SMOOTH		1"x4" SLATS; 3" SPACING
PL-03	WOOD SHELVING BOARD		SMOOTH		
PNL-01		3 FORM	SAVU ADOBE		VARIA 3/8" SANDSTONE F01
WC-01	WALL COVERING	JILL MALEK	COCOON	CHARCOAL	
PAINT					
EPT-01	EXTERIOR PAINT	SHERWIN WILLIAMS	LOXON XP	SW0022 PATCHWORK PLUM	
EPT-02	EXTERIOR PAINT	SHERWIN WILLIAMS	LOXON XP	SW0021 QUEEN ANNE LILAC	
PT-01	GENERAL WALL PAINT	SHERWIN WILLIAMS	SATIN	SW7103 - WHITETAIL	
PT-02	DOOR / TRIM PAINT	SHERWIN WILLIAMS	SEMI-GLOSS	SW6991- BLACK MAGIC	
PT-03	CEILING PAINT	SHERWIN WILLIAMS	FLAT	SW7007- CEILING BRIGHT WHITE	
PT-04	CEILING PAINT	SHERWIN WILLIAMS	FLAT	SW6991- BLACK MAGIC	
PT-05	COLUMN PAINT	SHERWIN WILLIAMS	SATIN	SW0022 PATCHWORK PLUM	
WS-01	WOOD DOOR STAIN	MINWAX	SATIN	HONEYMEADE - MW 453	
TILE					
WT-01	WALL TILE - WOMEN	CERAMIC TECHNICS	MARRADO ART DECO 2.5"X10.5" STACKED VERTICAL	FLAMBE LINES	1/16" GROUT LINE, LATICRETE 17 MARBLE BEIGE
WT-02	WALL TILE - MEN	CERAMIC TECHNICS	MARRADO ART DECO 2.5"X10.5" STACKED VERTICAL	JADE LINES	1/16" GROUT LINE, LATICRETE 17 MARBLE BEIGE
WT-03	WALL TILE - BAR	DALTILE	LATTICE WEAVE MOSAIC	PLUM CRAZY 1178 (3)	LATICRETE 17 MARBLE BEIGE

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sheet information

#	date	description
0	05.22.2024	CONSTRUCTION SET

project #:	23049
drawn by:	MAG
checked by:	MAG

FINISH PLANS & DETAILS

A8.01

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GENERAL

1. THESE GENERAL NOTES ARE NOT INTENDED TO REPLACE SPECIFICATIONS (IF PROVIDED). SEE SPECIFICATIONS FOR REQUIREMENTS IN ADDITION TO THE GENERAL NOTES.
2. DO NOT SCALE DIMENSIONS FROM DRAWINGS. THE CONTRACTOR SHALL REQUEST NECESSARY DIMENSIONS NOT SHOWN ON THE DRAWINGS.
3. WHERE A DETAIL IS SHOWN FOR ONE CONDITION, IT SHALL APPLY FOR ALL LIKE OR SIMILAR CONDITIONS EVEN THOUGH NOT SPECIFICALLY REFERENCED ON THE DRAWINGS.
4. WHERE A CONFLICT BETWEEN DRAWINGS AND SPECIFICATIONS OCCURS THE MORE STRINGENT REQUIREMENT SHALL APPLY.
5. IF ANY BIDDER IS IN DOUBT AS TO THE INTENT OF THE DRAWINGS OR SPECIFICATIONS, THEY SHALL REQUEST AN INTERPRETATION IN WRITING PRIOR TO THE SCHEDULED BID DATE.
6. THE CONTRACTOR SHALL CHECK AND VERIFY ALL DIMENSIONS AND GRADE CONDITIONS (BOTH NEW AND EXISTING), REPORTING ANY DISCREPANCIES TO THE ENGINEER OF RECORD PRIOR TO FABRICATION OR PROCEEDING WITH STRUCTURAL WORK.
7. THE CONTRACTOR SHALL COMPARE THE STRUCTURAL DRAWINGS WITH THE ARCHITECTURAL DRAWINGS, AND REPORT ANY DISCREPANCIES TO THE ENGINEER OF RECORD PRIOR TO FABRICATION OR PROCEEDING WITH STRUCTURAL WORK.
8. SEE ARCHITECTURAL DRAWINGS FOR FLOOR ELEVATIONS, FLOOR SLOPES, AND THE LOCATION OF DEPRESSED FLOOR AREAS.

CONTRACTOR RESPONSIBILITY

1. THE STRUCTURAL DRAWINGS AND SPECIFICATIONS (IF PROVIDED) REPRESENT THE FINISHED STRUCTURE, AND, EXCEPT WHERE SPECIFICALLY SHOWN, DO NOT INDICATE THE METHOD OR MEANS OF CONSTRUCTION. THE CONTRACTOR SHALL SUPERVISE AND DIRECT THE WORK AND SHALL BE SOLELY RESPONSIBLE FOR ALL CONSTRUCTION MEANS, METHODS, PROCEDURES, TECHNIQUES, AND SEQUENCE. ALL APPLICABLE SAFETY REGULATIONS TO BE FOLLOWED STRICTLY.
2. THE STRUCTURE HAS BEEN DESIGNED TO RESIST DESIGN LOADS ONLY AS A COMPLETED STRUCTURE. APPLICATIONS OF CONSTRUCTION LOADS TO THE PARTIALLY COMPLETED STRUCTURE SHALL BE CONSIDERED BY THE CONTRACTOR AND SO INCLUDED IN THE DESIGN OF SHORING, BRACING, FORMWORK, AND ANY OTHER SUPPORTING ELEMENTS PROVIDED FOR CONSTRUCTION OF THE STRUCTURE. DURING ERECTION AND UNTIL ALL PERMANENT CONNECTIONS ARE MADE, THE CONTRACTOR MUST PROVIDE TEMPORARY BRACING FOR THE STRUCTURE IN ALL DIRECTIONS UNTIL THE STRUCTURAL WORK IS COMPLETE.
3. ALL INTERIOR HANGING COMPONENTS (CEILING, DUCTWORK, PIPING, EQUIPMENT, ETC.) SHALL BE COORDINATED BY THE CONTRACTOR TO ENSURE LOADS APPLIED TO THE STRUCTURE DO NOT EXCEED THE LIMITS SHOWN IN THE DESIGN CRITERIA OR ELSEWHERE IN THE DRAWINGS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE ADEQUACY OF THE CONNECTIONS TO THE SUPPORTING STRUCTURAL ELEMENTS AND THE ADEQUACY OF THE HANGING SYSTEM TO SUPPORT THE COMPONENTS.
4. ALL ARCHITECTURAL, ELECTRICAL, MECHANICAL, AND PLUMBING COMPONENTS NOT SHOWN ON THE STRUCTURAL DRAWINGS, THAT FRAME TO THE UNDERSIDE OF STRUCTURE ABOVE, SHALL BE DETAILED AND FRAMED BY THE CONTRACTOR TO ALLOW FOR DEFLECTION OF THE STRUCTURAL FRAMING. SEE THE DESIGN CRITERIA FOR THE LIMITS USED IN THE DESIGN.
5. PRINCIPAL OPENINGS IN THE STRUCTURE ARE SHOWN ON THESE DRAWINGS. THE CONTRACTOR SHALL EXAMINE THE ARCHITECTURAL, MECHANICAL, ELECTRICAL, AND PLUMBING DRAWINGS FOR ALL REQUIRED OPENINGS. SUPPORT FRAMING FOR ALL OPENINGS SHALL BE PROVIDED AND INSTALLED PER TYPICAL DETAILS HEREIN WHETHER SHOWN ON THESE DRAWINGS OR NOT. THE CONTRACTOR SHALL VERIFY SIZE AND LOCATION OF ALL OPENINGS WITH ALL SUBCONTRACTORS AND THEIR APPROVED SHOP DRAWINGS PRIOR TO CONSTRUCTION.
6. ALL EXTERIOR WALL AND ROOF COMPONENTS AND CLADDING ENGINEERED BY THE COMPONENT MANUFACTURER ARE TO BE DESIGNED BY THE MANUFACTURER'S ENGINEER FOR COMPONENTS AND CLADDING WIND LOADS NOTED IN THE DESIGN CRITERIA.
7. ALL ARCHITECTURAL, ELECTRICAL, MECHANICAL, AND PLUMBING COMPONENTS ARE TO BE ATTACHED AS REQUIRED BY ASCE/SEI 7 CHAPTER 13, "SEISMIC DESIGN REQUIREMENTS FOR NONSTRUCTURAL COMPONENTS". EACH INDIVIDUAL CONTRACTOR RESPONSIBLE FOR THE COMPONENT MUST PROVIDE PROJECT SPECIFIC DESIGN AND DOCUMENTATION PREPARED BY AN ENGINEER LICENSED IN THE STATE IN WHICH THE PROJECT IS LOCATED. CHAPTER 13 DEFINES THE FORCE REQUIRED TO SUPPORT THE COMPONENT FOR THE ANCHORAGE AND BRACING. THE COST OF PREPARING THIS INFORMATION AND DESIGN SHALL BE INCLUDED IN EACH CONTRACTOR'S BID THAT IS PROVIDING THE COMPONENT.
8. SEVERAL ITEMS NOTED HEREIN (WHERE CHECKED) AND IN THE SPECIFICATIONS REQUIRE THE CONTRACTOR TO ENGAGE A PROFESSIONAL ENGINEER LICENSED IN THE STATE IN WHICH THE PROJECT IS LOCATED, TO PROVIDE DESIGN AND/OR DETAILING OF STRUCTURAL ELEMENTS. SEE INDIVIDUAL NOTES AND SPECIFICATION SECTIONS FOR ADDITIONAL INFORMATION AND REQUIREMENTS. DELEGATED DESIGN ELEMENTS INCLUDE, BUT ARE NOT LIMITED TO:
   - ☐ SPECIALTY FOUNDATION SYSTEM
   - ☐ POST-TENSIONED CONCRETE (LAYOUT AND STRESSING)
   - ☐ STRUCTURAL PRECAST CONCRETE
   - ☐ ARCHITECTURAL PRECAST CONCRETE
   - ☒ STRUCTURAL STEEL (CONNECTIONS)
   - ☐ PREFABRICATED METAL BUILDING
   - ☒ STEEL STAIRS AND RAILINGS
   - ☒ STEEL JOISTS AND STEEL JOIST GIRDERS
   - ☐ ROOF ANCHORS
   - ☒ NON-LOAD BEARING COLD-FORMED STEEL
   - ☐ LOAD BEARING COLD-FORMED STEEL
   - ☐ LIGHT GAUGE COLD-FORMED STEEL TRUSSES
   - ☐ PREFABRICATED WOOD TRUSSES
   - ☐ ANCHOR TIE-DOWN SYSTEM FOR WOOD SHEAR WALLS

FOUNDATIONS

1. FOUNDATION DESIGN IS BASED ON A PRESUMPTIVE NET ALLOWABLE SOIL BEARING PRESSURE OF 2,000 PSF AS RECOMMENDED BY SOUTHERN ENGINEERING IN E-MAIL DATED MARCH 20, 2024. THIS PRESUMPTIVE BEARING PRESSURE MUST BE FIELD VERIFIED BY A GEOTECHNICAL ENGINEER IN WRITING PRIOR TO FOUNDATION CONCRETE PLACEMENT.
2. FOOTINGS SHALL BE CARRIED TO LOWER ELEVATIONS THAN THOSE SHOWN ON THE DRAWINGS IF REQUIRED BY THE GEOTECHNICAL ENGINEER OR TESTING LAB TO REACH SOIL CAPABLE OF PROVIDING THE DESIGN NET ALLOWABLE SOIL BEARING PRESSURE. ALL EXPANSIVE AND/OR LOOSE SOILS BELOW STRUCTURAL FOUNDATIONS SHALL BE REMOVED AND REPLACED AS DIRECTED HEREIN.
3. MINIMUM SUBGRADE PREPARATION REQUIREMENTS ARE AS FOLLOWS:
   1. PREPARE SUBGRADE AND UNDERFLOOR FILL TO A POINT THAT EXTENDS 3'-0" (MINIMUM) BEYOND THE LIMITS OF THE FOUNDATIONS.
   2. COMPACT ALL FILL UNDER BUILDING TO 98% MAXIMUM DRY DENSITY AS DETERMINED BY ASTM D698.
   3. PLACE IN LIFTS OF 8" (MAXIMUM) LOOSE THICKNESS WHEN USING LARGE RIDING COMPACTORS (REDUCE THICKNESS AS NECESSARY FOR SMALLER EQUIPMENT).
   4. SLABS ON GRADE SHALL BE SUPPORTED ON A BASE LAYER OF POROUS FILL (WASHED STONE OR CLEAN SAND) WITH A MINIMUM THICKNESS OF 4".
4. FIELD COMPACTION SHALL BE VERIFIED WITH AT LEAST ONE TEST PER 2,000 SQUARE FEET PER LIFT (AT LEAST ONE PER LIFT), IN ACCORDANCE WITH ASTM D1556 (SAND-CONE METHOD), ASTM D6938 (NUCLEAR METHODS, SHALLOW DEPTH), ASTM D2167 (RUBBER BALLOON METHOD), AND/OR ASTM D2937 (DRIVE-CYLINDER METHOD). SEE SPECIFICATIONS FOR OTHER TESTING REQUIREMENTS.
5. WALLS RETAINING SOIL SHALL BE TEMPORARILY BRACED DURING BACKFILLING AND UNTIL ALL SUPPORTING SOIL AND SLABS ARE IN PLACE AND ARE AT DESIGN STRENGTH UNLESS NOTED OTHERWISE ON PLANS AND DETAILS.
6. WALLS RETAINING SOIL HAVE BEEN DESIGNED UTILIZING THE FOLLOWING PARAMETERS:

MOIST SOIL UNIT WEIGHT	120 PCF
ACTIVE PRESSURE COEFFICIENT	0.33
AT-REST PRESSURE COEFFICIENT	0.55
PASSIVE PRESSURE COEFFICIENT	2.50
COEFFICIENT OF FRICTION	0.35

7. UTILITY LINES SHALL NOT BE PLACED THROUGH OR BELOW FOUNDATIONS WITHOUT APPROVAL OF THE STRUCTURAL ENGINEER. CONTRACTOR SHALL SUBMIT DETAILED DRAWINGS OF ALL SUCH CONDITIONS PRIOR TO CONSTRUCTION.

DESIGN CRITERIA

1. PROJECT LOCATION: 122 NORTH ARENDELL AVENUE | ZEBULON, NC 27597
2. APPLICABLE CODES:
   2018 NORTH CAROLINA BUILDING CODE (2015 INTERNATIONAL BUILDING CODE WITH REVISIONS)
   WORK AREA COMPLIANCE METHOD; ALTERATIONS - LEVEL 3
   MINIMUM DESIGN LOADS FOR BUILDINGS AND OTHER STRUCTURES (ASCE/SEI 7-10)
   BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE (ACI 318-14)
   BUILDING CODE REQUIREMENTS|SPECIFICATIONS FOR MASONRY STRUCTURES (ACI 530|530.1-13)
   SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS (AISC 360-10)
   NATIONAL DESIGN SPECIFICATION FOR WOOD CONSTRUCTION (ANSI/AWC NDS-2015)
   NORTH AMERICAN SPECIFICATION FOR THE DESIGN OF COLD-FORMED STEEL STRUCTURAL MEMBERS (AISI S100-12)
3. RISK CATEGORY: II
4. DEFLECTION:

FLOOR FRAMING	L/240 FOR TOTAL LOADING (1.50" FOR 30' SPAN), L/360 FOR LIVE LOADING (1.00" FOR 30' SPAN)
ROOF FRAMING	L/180 FOR TOTAL LOADING (2.00" FOR 30' SPAN), L/240 FOR LIVE LOADING (1.50" FOR 30' SPAN)
MEMBERS SUPPORTING BRICK	L/600 FOR LIVE LOADING (0.60" FOR 30' SPAN)
STRUCTURAL DRIFT LIMITS	WIND, H/400 (USING V = 76 MPH AND MEAN RECURRENCE INTERVAL OF 10 YEARS)
	SEISMIC, PER ASCE 7 12.12

5. LIVE LOADS:

	UNIFORM (PSF)	CONCENTRATED (LB)
RESTAURANT	100	1,000
ROOF	20	300
STAIRS	100	300

6. SNOW LOAD:

GROUND SNOW LOAD	p_g = 15 PSF
IMPORTANCE FACTOR	I_s = 1.00
SNOW EXPOSURE FACTOR	C_e = 1.00
THERMAL FACTOR	C_t = 1.00
FLAT SNOW ROOF LOAD	p_f = 15.5 PSF (INCLUDES RAIN ON SNOW)

7. WIND LOAD:

BASIC DESIGN WIND SPEED	V = 115 MPH (ALLOWABLE STRESS DESIGN WIND SPEED, V_{asd} = 89 MPH)
EXPOSURE CATEGORY	B
INTERNAL PRESSURE COEFFICIENTS	±0.18
BASE SHEAR (1.0xW)	V_x = 58k V_y = 12k

   COMPONENTS AND CLADDING -
   ALL EXTERIOR WALL AND ROOF COMPONENTS AND CLADDING ENGINEERED BY THE COMPONENT MANUFACTURER ARE TO BE DESIGNED BY THE MANUFACTURER'S ENGINEER FOR COMPONENTS AND CLADDING WIND LOADS AS DETERMINED PER THE GOVERNING BUILDING CODE FOR THE ULTIMATE DESIGN WIND SPEED AND EXPOSURE CATEGORY LISTED ABOVE. ALTERNATIVELY, THE COMPONENT MANUFACTURER MAY USE THE WORST-CASE PRESSURES (PSF) BELOW:

ZONE		EFFECTIVE WIND AREA (SF)			
		10	50	100	500
ROOF	1	+16	+16	+16	+16
		-38	-32	-30	-24
	2	+21	+20	+18	+16
		-50	-42	-39	-32
	3	+21	+20	+18	+16
		-50	-42	-39	-32
WALL	4	+21	+20	+18	+16
		-23	-21	-20	-18
	5	+21	+20	+18	+16
		-29	-24	-22	-18

8. SEISMIC LOAD:
   DESIGN METHOD - EQUIVALENT LATERAL FORCE PROCEDURE

S_S	14.4 %g
S_1	7.2 %g
S_{DS}	15.3 %g
S_{D1}	11.5 %g
IMPORTANCE FACTOR	I_e = 1.00
SITE CLASS	D (ASSUMED)
SEISMIC DESIGN CATEGORY	B
SEISMIC FORCE-RESISTING SYSTEM -	X-DIRECTION: STEEL SYSTEMS NOT SPECIFICALLY DETAILED FOR SEISMIC RESISTANCE, EXCLUDING CANTILEVER COLUMN SYSTEMS
	Y-DIRECTION: ORDINARY PLAIN MASONRY SHEAR WALLS.

9. Y-DIRECTION: ORDINARY PLAIN MASONRY SHEAR WALLS.

RESPONSE MODIFICATION COEFFICIENT	R_x = 3	R_y = 1.5
DEFLECTION AMPLIFICATION FACTOR	C_{dx} = 3	C_{dy} = 1.25
SEISMIC RESPONSE COEFFICIENT	C_{sx} = 0.051	C_{sy} = 0.102
BASE SHEAR (1.0xE)	V_x = 28k	V_y = 55k

10. FUTURE LOADS:
    UNLESS SPECIFICALLY NOTED, THERE ARE NO PROVISIONS MADE FOR FUTURE FLOORS, ROOFS, OR OTHER LOADS.

CONCRETE | REINFORCING STEEL

1. ALL CONCRETE DESIGN AND CONSTRUCTION SHALL CONFORM TO THE REFERENCED EDITION OF THE BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE (ACI 318).
2. CONCRETE MIXTURES AS REQUIRED (BASED ON CLASS DESIGNATION):

CLASS A - FOOTINGS, GRADE/TIE BEAMS	NWC	3,000 PSI	
CLASS B - INTERIOR SLABS ON GRADE	NWC	3,000 PSI	
CLASS C - INTERIOR NWC SLABS ON METAL DECK	NWC	4,000 PSI	
CLASS D - EXTERIOR SLABS ON GRADE, PADS, TOPPINGS	NWC	4,500 PSI W/ AIR CONTENT 6%	
CLASS E - EXTERIOR NWC SLABS ON METAL DECK	NWC	4,500 PSI W/ AIR CONTENT 6%	
CLASS F - INTERIOR METAL PAN STAIRS/LANDINGS	NWC	2,500 PSI	(SEE **STEEL STAIRS AND RAILINGS** NOTES)

3. REINFORCING:
   TYPICAL - ASTM A615, GRADE 60
   REINFORCING TO BE WELDED - ASTM A706
   DEFORMED BAR ANCHORS - ASTM A496
   WELDED WIRE FABRIC - ASTM A1064 (FLAT SHEETS ONLY)
4. GROUT UNDER BASE PLATES TO BE HIGH STRENGTH (5,000 PSI), NON-SHRINK.
5. REFER TO THE DRAWINGS FOR REINFORCING LAP REQUIREMENTS. WHERE LAP SPLICES ARE NOT SHOWN, LAP PER ACI 318 OR CRSI STANDARDS.
6. LAP WELDED WIRE FABRIC SHEETS 8" MINIMUM.
7. CLEAR COVER FROM FACE OF CONCRETE:
   CAST IN PLACE CONCRETE (MEASURE TO OUTERMOST REINFORCING) -

CONCRETE CAST AGAINST AND EXPOSED TO EARTH	3"
CONCRETE EXPOSED TO EARTH/WEATHER	2" FOR #6 BARS AND LARGER, 1 1/2" ELSE
CONCRETE NOT EXPOSED TO EARTH/WEATHER	3/4" FOR SLABS AND WALLS, 1 1/2" (TO TIES) FOR BEAMS AND COLUMNS

8. PROVIDE REINFORCING IN SLABS ON GRADE, 1-1/2" FROM TOP OF SLAB:

4" SLABS	6x6-W2.1xW2.1
5" SLABS	6x6-W2.9xW2.9
6" SLABS	#3@12"OC EACH WAY

9. WHERE SCHEDULED BARS ARE NOT PRESENT, PROVIDE CONTINUOUS #5 TOP AND BOTTOM BARS TO SUPPORT STIRRUPS AS REQUIRED FOR THE LENGTH OF THE STIRRUP SPACING IN ALL BEAMS.
10. WALL FOOTING REINFORCING SHALL BE CONTINUOUS THROUGH ADJACENT COLUMN FOOTINGS.
11. PROVIDE VERTICAL DOVETAIL SLOTS AT 24"OC WITH TIES AT 16"OC VERTICALLY IN ALL CONCRETE WALLS BACKING-UP MASONRY VENEER.
12. BAR SUPPORTS FOR CONCRETE EXPOSED TO VIEW SHALL HAVE PLASTIC COATED LEGS OR BE HOT-DIP GALVANIZED AFTER FABRICATION.
13. MECHANICAL AND ELECTRICAL CONDUIT IN SLABS ON GRADE SHALL RUN UNDER TOP LAYER OF SLAB REINFORCING. PROVIDE A MINIMUM OF 1-1/2" CLEAR BETWEEN INDIVIDUAL CONDUITS AND REINFORCING. IF MAXIMUM SIZE OF CONDUIT EXCEEDS ONE THIRD OF THE SLAB DEPTH, ADDITIONAL FRAMING OR REINFORCING MAY BE NECESSARY AT ENGINEER'S DISCRETION.
14. MECHANICAL AND ELECTRICAL CONDUIT IN ELEVATED SLABS IS NOT ALLOWED UNLESS SPECIFICALLY REVIEWED AND APPROVED BY THE STRUCTURAL ENGINEER PRIOR TO PLACEMENT.
15. HEADED CONCRETE ANCHORS SHALL CONFORM TO THE REQUIREMENTS OF ASTM A108, GRADES 1010, 1015, 1017, OR 1020. STUDS SHALL BE AUTOMATICALLY END WELDED IN THE SHOP OR FIELD IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
16. EMBED PLATES MUST BE SET IN THE FORM BEFORE POURING CONCRETE, NOT PLACED INTO TOP OF WET CONCRETE. THE CONTRACTOR SHALL CONTACT THE ARCHITECT FOR CORRECTIVE DETAILS FOR ANY EMBED PLATES LEFT OUT OF CONCRETE POURS.
17. FOR SLABS ON GRADE, SLAB AND FOOTING REINFORCING SHALL BE HELD IN PLACE BY BAR SUPPORTS WITH SAND PLATES, OR PRECAST CONCRETE BAR SUPPORTS AS DESCRIBED IN CHAPTER 3 OF THE CRSI MANUAL OF STANDARD PRACTICE. BAR SUPPORTS SHALL BE SPACED AT A MAXIMUM OF 4'-0"OC BOTH WAYS. ROCKS, CMU, OR CLAY BRICK WILL NOT BE USED AS SUPPORTS.
18. THE CONTRACTOR SHALL ASSUME CONCRETE OVERAGES IN ELEVATED DECK POURS DUE TO MEMBER AND DECK DEFLECTIONS. UNLESS SHOWN ON PLANS, BEAMS ARE NOT CAMBERED. CONCRETE OVERAGES MAY BE CALCULATED BY THE CONTRACTOR FOR BEAM DEFLECTIONS EQUALING L/300 INCLUDING ADDITIONAL DEFLECTIONS DUE TO PONDING AND DECK DEFLECTIONS PER SDI.
19. REBAR SHALL NOT BE HEATED WITH A TORCH IN THE FIELD.
20. THE CONTRACTOR SHALL NOTIFY THE ARCHITECT/ENGINEER FAR ENOUGH IN ADVANCE (48 HOURS) OF EACH CONCRETE POUR TO ALLOW AMPLE TIME TO CHECK THE LAYOUT OF THE STEEL BEFORE THE BEGINNING OF THE ACTUAL POUR, BUT NOT PRIOR TO 90% OF THE STEEL HAVING BEEN PLACED.

CONCRETE CONSTRUCTION JOINTS

1. CONTRACTOR SHALL PROVIDE NECESSARY CONSTRUCTION JOINTS IN MONOLITHIC CONCRETE POURS SO THAT THE QUALITY OF PLACEMENT AND FINISH MEETS THE REQUIREMENTS OF PLANS AND SPECIFICATIONS. THE CONTRACTOR SHALL SUBMIT A PLAN SHOWING THE LOCATION OF ALL CONSTRUCTION JOINTS TO THE STRUCTURAL ENGINEER FOR APPROVAL.
2. THERE SHALL BE NO HORIZONTAL CONSTRUCTION JOINTS IN CONCRETE POURS. ALL VERTICAL CONSTRUCTION JOINTS IN SLABS AND BEAMS SHALL BE MADE WITH BULKHEADS. ADDITIONAL REINFORCING AT CONSTRUCTION JOINTS SHALL BE AS SPECIFIED BY THE STRUCTURAL ENGINEER. SEE TYPICAL CONSTRUCTION JOINT DETAILS.

STRUCTURAL STEEL

1. DESIGN, FABRICATION, AND ERECTION SHALL BE PER THE SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS (ANSI/AISC 360).
2. STRUCTURAL STEEL MATERIALS:
   WIDE FLANGE SHAPES (W SECTIONS) - ASTM A992, GRADE 50 (FY=50 KSI)
   CHANNELS AND ANGLES - ASTM A36 (FY=36 KSI)
   PLATES AND BARS - ASTM A36 (FY=36 KSI) OR ASTM A572, GRADE 50 (FY=50 KSI) AS INDICATED ON THE DRAWINGS.
   SQUARE AND RECTANGULAR TUBES - ASTM A500, GRADE B (FY=46 KSI)
   PIPES OR ROUND TUBES - ASTM A53, GRADE B (FY=35 KSI) OR ASTM A500, GRADE B (FY=42 KSI)
3. A QUALIFIED FABRICATOR SHALL HAVE A MINIMUM OF 5 YEARS OF EXPERIENCE IN FABRICATING STRUCTURAL STEEL LIKE THAT INDICATED FOR THIS PROJECT AND SUFFICIENT CAPACITY TO FABRICATE THE STRUCTURAL STEEL WITHOUT DELAYING THE WORK, AND SHALL MEET ONE OF THE FOLLOWING:
   A. FABRICATOR PARTICIPATES IN THE AISC QUALITY CERTIFICATION PROGRAM AND IS DESIGNATED AN AISC-CERTIFIED PLANT, CATEGORY (BU) OR IS ACCREDITED BY THE IAS FABRICATOR INSPECTION PROGRAM FOR STRUCTURAL STEEL (ACCREDITATION CRITERIA 172).
   B. FABRICATOR HAS AN ESTABLISHED AND MAINTAINED QUALITY CONTROL PROGRAM TO ENSURE THAT THE WORK IS PERFORMED IN ACCORDANCE WITH THE REQUIREMENTS IN ANSI/AISC 303, ANSI/AISC 360, AND THE CONTRACT DOCUMENTS. PROGRAM SHALL AT A MINIMUM ADDRESS INSPECTION OF THE ITEMS NOTED IN ANSI/AISC 360 N2.
4. A QUALIFIED ERECTOR SHALL HAVE A MINIMUM OF 5 YEARS OF EXPERIENCE IN ERECTING STRUCTURAL STEEL LIKE THAT INDICATED FOR THIS PROJECT AND SUFFICIENT CAPACITY TO ERECT THE STRUCTURAL STEEL WITHOUT DELAYING THE WORK, AND SHALL MEET ONE OF THE FOLLOWING:
   A. ERECTOR PARTICIPATES IN THE AISC QUALITY CERTIFICATION PROGRAM AND IS DESIGNATED AN AISC-CERTIFIED ERECTOR, CATEGORY (CSE).
   B. ERECTOR HAS AN ESTABLISHED AND MAINTAINED QUALITY CONTROL PROGRAM TO ENSURE THAT THE WORK IS PERFORMED IN ACCORDANCE WITH THE REQUIREMENTS IN ANSI/AISC 303, ANSI/AISC 360, AND THE CONTRACT DOCUMENTS. PROGRAM SHALL AT A MINIMUM ADDRESS INSPECTION OF THE ITEMS NOTED IN ANSI/AISC 360 N2.
5. BEAM SIMPLE SHEAR, BRACED FRAME, AND ALL MOMENT CONNECTIONS NOT DETAILED ON STRUCTURAL DRAWINGS SHALL BE DESIGNED BY A PROFESSIONAL ENGINEER RETAINED BY THE STEEL SUPPLIER AND REGISTERED IN THE STATE IN WHICH THE PROJECT IS LOCATED. THE CONNECTION ENGINEER SHALL SUBMIT A SIGNED AND SEALED LETTER STATING THEY HAVE REVIEWED THE STEEL SHOP DRAWINGS AND THE CONNECTIONS ARE CONSISTENT WITH THEIR CALCULATIONS AND INTENT.
6. THE CONNECTIONS FOR NON-COMPOSITE BEAMS SHALL BE DESIGNED FOR REACTIONS SHOWN ON DRAWINGS OR FOR REACTIONS DETERMINED BY USING THE MAXIMUM TOTAL UNIFORM LOAD TABULATED IN PART 3 OF THE AISC STEEL CONSTRUCTION MANUAL FOR THE SECTION, SPAN, AND STRENGTH OF STEEL SPECIFIED. THE CONNECTIONS FOR COMPOSITE BEAMS SHALL BE DESIGNED FOR REACTIONS SHOWN ON DRAWINGS OR AS INDICATED BY THE TYPICAL COMPOSITE SLAB DETAIL.
7. SIMPLE SHEAR CONNECTIONS SHALL BE MADE WITH ASTM A325 3/4"Ø BOLTS (MINIMUM), TIGHTENED TO A SNUG-TIGHT CONDITION PER AISC REQUIREMENTS.
8. ALL WELDING SHALL CONFORM TO THE AMERICAN WELDING SOCIETY CODE. USE E70 SERIES ELECTRODES FOR ALL STRUCTURAL STEEL WELDS. WHERE STEEL MEMBERS ARE WELDED AND NO SIZE IS SPECIFIED, PROVIDE FULL LENGTH FILLET WELDS BOTH SIDES OF MEMBER. SIZE OF FILLETS SHALL BE 3/16" FOR MEMBER THICKNESS UP TO 5/16", AND THE MEMBER THICKNESS MINUS 3/16" FOR ALL THICKER MATERIALS.
9. ANCHOR AND THREADED RODS SHALL CONFORM TO ASTM F1554, GRADE 36, 55, OR 105 AS INDICATED ON THE DRAWINGS. CONTRACTOR TO COORDINATE INSTALLATION OF ITEMS TO BE EMBEDDED IN OR ATTACHED TO OTHER CONSTRUCTION WITHOUT DELAYING THE WORK.
10. STEEL SHALL BE PRIMED WITH FABRICATOR'S STANDARD LEAD- AND CHROMATE-FREE, NON-ASPHALTIC, RUST-INHIBITING PRIMER COMPLYING WITH MPI#79 (MINIMUM COAT OF 3 MILS, MAXIMUM OF 5 MILS). CONTRACTOR TO COORDINATE SELECTION OF PRIMER WITH TOPCOATS TO BE APPLIED TO ENSURE THE TWO ARE COMPATIBLE. MEMBERS TO RECEIVE FIREPROOFING OR TO BE ENCASED IN CONCRETE SHALL NOT BE PRIMED.
11. SEE THE ARCHITECTURAL AND STRUCTURAL DRAWINGS FOR ALL ITEMS REQUIRED TO BE HOT-DIP GALVANIZED AFTER FABRICATION.
12. STRUCTURAL STEEL SHALL BE PUNCHED FOR WOOD BLOCKING, NAILERS, CLIPS AND TIES IN ACCORDANCE WITH THE ARCHITECTURAL AND STRUCTURAL DRAWINGS.
13. CAP ALL OPEN HSS OR PIPE MEMBERS OUTSIDE THE BUILDING ENVELOPE WITH A 1/4" (MINIMUM) FITTED PLATE, UNO.
14. ERECTOR SHALL SET STRUCTURAL STEEL IN LOCATIONS AND TO ELEVATIONS IN ACCORDANCE WITH ANSI/AISC 303 AND 360. MAINTAIN THE FRAME WITHIN ERECTION TOLERANCES PER ANSI/AISC 303.
15. PROMPTLY PACK SHRINKAGE-RESISTANT GROUT SOLIDLY BETWEEN BEARING SURFACES AND PLATES SO NO VOIDS REMAIN.
16. SPLICING OF STRUCTURAL STEEL MEMBERS IS PROHIBITED WITHOUT PRIOR APPROVAL OF THE ENGINEER AS TO LOCATION AND TYPE OF SPLICE TO BE MADE. ANY MEMBER HAVING A SPLICE NOT SHOWN AND DETAILED ON SHOP DRAWINGS WILL BE REJECTED. THERMAL CUTTING MAY NOT BE USED IN THE FIELD DURING ERECTION.
17. QUALITY CONTROL INSPECTION TASKS SHALL BE PERFORMED BY BOTH THE FABRICATOR AND ERECTOR IN ACCORDANCE WITH ANSI/AISC 360 N5. NON-DESTRUCTIVE TESTING (NDT) OF WELDED JOINTS PROVIDED DURING FABRICATION SHALL BE IN ACCORDANCE WITH N5.5 AND PERFORMED BY AN INDEPENDENT AND QUALIFIED TESTING AGENCY OR THE FABRICATOR'S QCI. ALL TESTING REPORTS SHALL BE SUBMITTED TO THE OWNER FOR REVIEW.
18. AT THE COMPLETION OF FABRICATION AND ERECTION, THE FABRICATOR AND ERECTOR SHALL EACH SUBMIT A CERTIFICATE OF COMPLIANCE TO THE OWNER STATING THE MATERIALS SUPPLIED AND WORK PERFORMED ARE IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.
19. NON-DESTRUCTIVE TESTING (NDT) OF WELDED JOINTS PROVIDED DURING ERECTION SHALL BE IN ACCORDANCE WITH N5.5 AND PERFORMED BY AN INDEPENDENT AND QUALIFIED TESTING AGENCY. ALL TESTING REPORTS SHALL BE SUBMITTED TO THE OWNER FOR REVIEW.

STEEL STAIRS AND RAILINGS

1. STEEL STAIRS AND LANDINGS AND ALL CONNECTIONS SHALL BE DESIGNED BY THE SUPPLIER FOR A LIVE LOAD OF 100 PSF. TREADS SHALL BE DESIGNED FOR A 300 POUND POINT LOAD DISTRIBUTED OVER 4 SQUARE INCHES. ALL STAIR SHOP DRAWINGS SHALL BEAR THE SEAL OF A REGISTERED PROFESSIONAL ENGINEER LICENSED IN THE STATE IN WHICH THE PROJECT IS LOCATED. CALCULATIONS SHALL BE SUBMITTED FOR REVIEW WITH THE STAIR SHOP DRAWINGS.
2. ALL RAILINGS (STEEL OR OTHERWISE) AND THEIR CONNECTIONS SHALL BE DESIGNED FOR A LATERAL LOAD OF 50 PLF APPLIED TO THE TOP OF THE RAIL OR A 200 POUND LOAD AT ANY POINT IN ANY DIRECTION, WHICHEVER GOVERNS THE DESIGN. ALL RAILING SHOP DRAWINGS SHALL BEAR THE SEAL OF A REGISTERED PROFESSIONAL ENGINEER LICENSED IN THE STATE IN WHICH THE PROJECT IS LOCATED. CALCULATIONS SHALL BE SUBMITTED FOR REVIEW WITH THE RAILING SHOP DRAWINGS.
3. INTERIOR STAIRS THAT USE CONCRETE FILL FOR THE LANDINGS AND/OR TREADS SHALL BE REINFORCED WITH EITHER MICROSYNTHETIC MONOFILAMENT FIBERS (AT A MINIMUM DOSAGE RATE OF 1.0 LBS/CY) OR 4x4-W1.4xW1.4 WELDED WIRE FABRIC. THE CONTRACTOR SHALL COORDINATE THIS SCOPE BETWEEN THE CONCRETE AND STEEL STAIR SUPPLIERS.

STEEL JOISTS

1. ALL STEEL JOISTS SHALL BE OPEN-WEB TYPE CONFORMING TO THE LATEST EDITION OF "STANDARD SPECIFICATIONS, LOAD TABLES AND WEIGHT TABLES FOR STEEL JOISTS AND JOIST GIRDERS" PUBLISHED BY THE STEEL JOIST INSTITUTE.
2. PROVIDE BRIDGING PER STEEL JOIST INSTITUTE STANDARD SPECIFICATION. ALL BRIDGING SHALL BE BOLTED OR WELDED AT ALL JOISTS AND AT ALL CROSSINGS AND ANCHORED TO SPANDREL MEMBERS. ALL BRIDGING FOR JOISTS USED AS SPANDREL MEMBERS (AT EDGE OF DECK) SHALL BE "X" BRIDGING. SIZE OF BRIDGING SHALL BE DETERMINED BY THE JOIST SUPPLIER. JOIST SUPPLIER TO PROVIDE ADDITIONAL BRIDGING AS REQUIRED FOR UPLIFT LOADS.
3. ALL JOISTS SHALL HAVE ANGLE BOTTOM CHORD MEMBERS UNLESS OTHERWISE APPROVED.
4. ALL K-SERIES JOISTS SHALL BE WELDED TO SUPPORT STEEL WITH A MINIMUM OF 2" OF 1/8" FILLET WELD AT BOTH SIDES OF JOIST SEAT.
5. WHERE JO

NON-LOAD BEARING COLD-FORMED STEEL (METAL STUDS)

1. ALL STRUCTURAL MEMBERS SHALL BE MANUFACTURED IN ACCORDANCE WITH THE REFERENCED EDITION OF THE NORTH AMERICAN SPECIFICATION FOR THE DESIGN OF COLD-FORMED STEEL STRUCTURAL MEMBERS BY THE AMERICAN IRON AND STEEL INSTITUTE.
2. ALL COLD-FORMED LIGHT GAUGE METAL FRAMING AND CONNECTIONS SHALL BE DESIGNED BY THE SUPPLIER'S ENGINEER. AT ARCHITECT'S OR ENGINEER'S REQUEST CONTRACTOR SHALL SUBMIT CALCULATIONS FOR ALL COLD-FORMED METAL FRAMING USED TO SUPPORT CEILINGS AND EXTERIOR CLADDING.
3. ALL MEMBERS SHALL HAVE A MINIMUM YIELD STRENGTH OF 33 KSI AND BE FORMED FROM STEEL HAVING A G-60 GALVANIZED COATING MEETING THE REQUIREMENTS OF ASTM A653 AND C955.
4. ALL THE COLD-FORMED STEEL STRUCTURAL MEMBERS SHALL COME FROM A SINGLE SOURCE MANUFACTURER. ONLY MANUFACTURERS WHO ARE MEMBERS OF THE STEEL STUD MANUFACTURERS ASSOCIATION (SSMA) OR THE STEEL FRAMING INDUSTRY ASSOCIATION (SFIA) WILL BE ACCEPTED. THE INSTALLATION SHALL COMPLY WITH THE MANUFACTURER'S RECOMMENDATIONS.
5. SUBMIT SHOP DRAWINGS FOR ALL COLD-FORMED METAL FRAMING USED TO SUPPORT CEILINGS AND EXTERIOR CLADDING. SHOP DRAWINGS SHALL INDICATE PLACING OF ALL FRAMING MEMBERS SHOWING TYPE, SIZE, GAUGE, NUMBER, LOCATION AND SPACING. THEY SHALL ALSO INDICATE SUPPLEMENTAL STRAPPING, BRACING, SPLICES, BRIDGING, ACCESSORIES AND DETAILS REQUIRED FOR PROPER INSTALLATION.
6. SHOP DRAWINGS SHALL SHOW SIZE AND LENGTH OF WELDS FOR ALL WELDED CONNECTIONS AND TYPE, SIZE AND NUMBER OF SCREWS FOR ALL SCREWED CONNECTIONS. SUBMIT MANUFACTURER'S DATA GIVING STRENGTH VALUES FOR SCREWS USED.
7. SHOP DRAWINGS SUBMITTED MUST BE PREPARED UNDER THE SUPERVISION OF AND SEALED BY A REGISTERED PROFESSIONAL ENGINEER LICENSED IN THE STATE IN WHICH THE PROJECT IS LOCATED.
8. ALL STRUCTURAL FRAMING ACCESSORIES SHALL BE FORMED FROM STRUCTURAL QUALITY STEEL WITH A MINIMUM YIELD STRENGTH OF 50 KSI AND HAVE MINIMUM PROTECTIVE COATING EQUAL TO ASTM A653 G-60 GALVANIZED COATING.
9. VERTICAL DEFLECTION CLIPS ARE REQUIRED TO BE CAPABLE OF ACCOMMODATING UPWARD AND DOWNWARD VERTICAL DISPLACEMENT OF THE STRUCTURE THROUGH POSITIVE MECHANICAL ATTACHMENT TO STUD WEB. MECHANICAL ATTACHMENT TO STRUCTURE AND SCREW ATTACHMENT TO STUD WEB USING STEP-BUSHINGS TO PERMIT FRICTIONLESS VERTICAL MOVEMENT. CONNECTORS MUST BE TESTED IN ACCORDANCE TO ICC AC261 CRITERIA AND HOLD A VALID ICC-ES EVALUATION SERVICE REPORT TO BE ACCEPTABLE.

STRUCTURAL MASONRY

1. ALL MASONRY DESIGN AND CONSTRUCTION SHALL CONFORM TO THE REFERENCED EDITION OF THE BUILDING CODE REQUIREMENTS AND SPECIFICATION FOR MASONRY STRUCTURES (TMS 402|602).
2. LOAD BEARING MASONRY WALLS, PILASTERS, PIERS, RETAINING WALLS, FOUNDATION WALLS AND ANY OTHER MASONRY SO DESIGNATED ON DRAWINGS IS CONSIDERED HERE TO BE STRUCTURAL MASONRY.
3. REQUIRED COMPRESSIVE STRENGTH OF MASONRY UNITS:
   SOLID CLAY UNITS - 6,200 PSI
   CONCRETE UNITS - 2,000 PSI ON NET AREA
4. CONCRETE MASONRY UNITS (CMU) SHALL BE LIGHT WEIGHT (105 PCF) CONFORMING TO ASTM C90. REFER TO ARCHITECTURAL DRAWINGS AND SPECIFICATIONS FOR UNIT SIZE, FACE, COLOR, JOINTING, ETC.
5. MORTAR SHALL BE TYPE S, ASTM C270.
6. GROUT FOR REINFORCED MASONRY SHALL BE FINE GROUT, ASTM C476. MINIMUM 28-DAY COMPRESSIVE STRENGTH SHALL BE 2,000 PSI.
7. MINIMUM 28-DAY COMPRESSIVE STRENGTH (F'_m) OF THE MASONRY WALLS SHALL BE 2,000 PSI. MASONRY STRENGTH SHALL BE DETERMINED BY THE UNIT STRENGTH METHOD OR THE PRISM TEST METHOD AS DESCRIBED BY ACI 530.
8. REINFORCING:
   TYPICAL - ASTM A615, GRADE 60
   ALL REINFORCING TO BE WELDED - ASTM A706
9. REFER TO THE DRAWINGS FOR REINFORCING LAP TYPICAL DETAIL AND SCHEDULE REQUIREMENTS.
10. MAXIMUM HEIGHT TO WHICH MASONRY SHALL BE LAID BEFORE GROUTING IS 5 FEET ABOVE CONSTRUCTION SURFACE OR PREVIOUSLY GROUTED MASONRY. IF GROUT POUR HEIGHT EXCEEDS 5 FEET, THEN "HIGH LIFT" GROUTING PROCEDURE MUST BE FOLLOWED. PROVIDE CLEANOUT OPENINGS AT THE BOTTOM OF EACH GROUT POUR HEIGHT. CLEANOUT OPENINGS SHALL BE PROVIDED AT EACH CELL TO BE FILLED WITH GROUT.
11. ALL GROUT PLACED OVER 12" IN HEIGHT SHALL BE MECHANICALLY CONSOLIDATED DURING GROUTING. GROUT SHALL BE RECONSOLIDATED BY MECHANICAL VIBRATION AFTER INITIAL WATER LOSS AND SETTLEMENT HAS OCCURRED.
12. MAXIMUM GROUT LIFT (GROUT POURED IN ONE CONTINUOUS OPERATION) IS 5 FEET. THIS LIMIT ALSO APPLIES TO "HIGH LIFT" GROUTING.
13. REINFORCE MASONRY WHERE SHOWN ON STRUCTURAL DRAWINGS. TIE REINFORCING IN POSITION AND PLACE GROUT AROUND REINFORCING. DO NOT PUSH REINFORCING DOWN INTO PREVIOUSLY PLACED GROUT FILL. SET BOLTS SIMILARLY.
14. TIE MASONRY WYTHES WITH HORIZONTAL REINFORCING AS SPECIFIED.
15. PROVIDE VERTICAL BARS, SIZE MATCHING WALL REINFORCING, AT ALL CORNERS, ENDS OF WALLS, EACH SIDE OF CONTROL JOINTS AND EACH SIDE OF WALL OPENINGS. TIE EACH BAR TO THE FOUNDATION WITH A MATCHING DOWEL.
16. ALL CORNERS OF STRUCTURAL MASONRY WALLS SHALL BE CONSTRUCTED BY INTERLOCKING COURSES. AT INTERSECTIONS WHERE SEQUENCING OR BLOCK COURSING PROHIBITS INTERLOCKED CONSTRUCTION SEE ALTERNATE DETAILS HEREIN.
17. ALL LINTELS TO BEAR 8" MINIMUM EACH SIDE OF OPENING, UNLESS NOTED OTHERWISE.
18. GROUT ALL MASONRY WALLS AND CAVITY BELOW GRADE SOLID. GROUT ALL WALLS ABOVE GRADE AT THE REINFORCED CELLS (MINIMUM) OR AS INDICATED IN SPECIFIC SECTIONS.
19. ONE 3/4"Ø (MAXIMUM) VERTICAL CONDUIT ALLOWED IN ANY REINFORCED CELL PROVIDED 1" CLEAR IS MAINTAINED BETWEEN REINFORCING AND CONDUIT. NO OTHER VERTICAL OR HORIZONTAL CONDUITS, PIPES, OR SLEEVES SHALL BE LOCATED IN REINFORCED CELLS UNLESS OTHERWISE APPROVED BY THE STRUCTURAL ENGINEER. CONTRACTOR SHALL COORDINATE LAYOUT TO AVOID REINFORCED CELLS.

ADHESIVE AND MECHANICAL POST-INSTALLED ANCHORS

1. ANCHOR BOLTS, REINFORCING STEEL, THREADED RODS, STAIR HANDRAILS, AND OTHER EMBEDDED STEEL ITEMS SHALL BE SET INTO HARDENED CONCRETE WITH ADHESIVE OR MECHANICAL POST-INSTALLED ANCHORS ONLY WHERE DETAILED ON THE DRAWINGS OR WHERE APPROVED BY THE ENGINEER OF RECORD.
2. PRE-APPROVED MANUFACTURERS ARE HILTI, SIMPSON STRONG-TIE, AND DEWALT. WHERE DETAILS INDICATE SPECIFIC ADHESIVE OR MECHANICAL POST-INSTALLED ANCHORS, IT IS ACCEPTABLE AT THE CONTRACTOR'S OPTION TO SUBMIT AN ALTERNATE SIMILAR PRODUCT PROVIDED BY A DIFFERENT MANUFACTURER AS LONG AS THE MANUFACTURER'S DATA PROVIDES EQUIVALENT LOAD CAPACITY TO THE ANCHOR SPECIFIED. THE CONTRACTOR SHALL PROVIDE SIGNED AND SEALED CALCULATIONS THAT DEMONSTRATE THE ALTERNATE PRODUCT IS CAPABLE OF MEETING THE PERFORMANCE OF THE SPECIFIED ANCHOR. SUBSTITUTIONS WILL BE EVALUATED BY THEIR HAVING AN ICC-ESR SHOWING COMPLIANCE WITH THE GOVERNING BUILDING CODE FOR SEISMIC USE, LOAD RESISTANCE, INSTALLATION CATEGORY, AND THE AVAILABILITY OF COMPREHENSIVE INSTALLATION INSTRUCTIONS. ADHESIVE ANCHOR EVALUATION WILL ALSO CONSIDER CREEP, IN-SERVICE TEMPERATURE, INSTALLATION TEMPERATURE, MOISTURE CONDITION OF CONCRETE, AND DRILLING METHODS.
3. BASIS OF DESIGN FOR ADHESIVE ANCHORS DETAILED ON THE DRAWINGS INCLUDES THE FOLLOWING PARAMETERS: CRACKED CONCRETE; WATER-SATURATED CONCRETE; BASE MATERIAL BETWEEN 25 AND 100 DEGREES FAHRENHEIT; AND HOLES MADE BY HAMMER DRILL, HOLLOW DRILL BIT SYSTEM, OR CORE-DRILLING.
4. INSTALL ANCHORS PER THE MANUFACTURER'S PRINTED INSTALLATION INSTRUCTIONS, AS INCLUDED IN THE ANCHOR PACKAGING. HEED ALL LABEL WARNINGS. INSTALL IN ACCORDANCE WITH APPLICABLE SAFETY LAWS. ALL HOLES SHALL BE DRILLED WITH A DIAMETER NO LARGER THAN 1/8" GREATER THAN THE DIAMETER OF THE ANCHOR BEING INSTALLED. ALL HOLES SHALL BE CLEANED WITH COMPRESSED AIR AND SHALL BE DRY PRIOR TO INSTALLATION OF ADHESIVE. HOLES SHALL BE FREE OF ALL DELETERIOUS MATERIAL SUCH AS LAITANCE, DUST, DIRT, AND OIL.
5. ANCHOR CAPACITY IS DEPENDENT UPON SPACING BETWEEN ADJACENT ANCHORS AND PROXIMITY OF ANCHORS TO EDGE OF CONCRETE. INSTALL ANCHORS IN ACCORDANCE WITH SPACING AND EDGE CLEARANCES INDICATED ON THE DRAWINGS.
6. WHERE ADHESIVE ANCHORS ARE TO BE INSTALLED IN HOLLOW MATERIAL WITH UNKNOWN CAPACITY, THE CONTRACTOR SHALL INSTALL THE ANCHOR IN STRICT ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS. THE ADHESIVE SHALL BE INSTALLED IN THE HOLLOW BASE MATERIAL USING SCREEN TUBES SUPPLIED BY THE MANUFACTURER. THE ADHESIVE SHALL BE CAPABLE OF SUSTAINING MINIMUM TENSION AND SHEAR LOAD CAPACITIES NOTED ON THE DRAWINGS MULTIPLIED BY A FACTOR OF SAFETY OF 4. ALL HARDWARE AND MATERIAL SHALL BE SUPPLIED BY THE ANCHOR MANUFACTURER.
7. CONTRACTOR PERFORMING ADHESIVE WORK SHALL BE AN APPROVED CONTRACTOR BY THE MANUFACTURER FURNISHING THE ADHESIVE MATERIALS, AND SHALL HAVE NO LESS THAN FIVE YEARS EXPERIENCE IN THE VARIOUS TYPES OF ADHESIVE RELATED WORK REQUIRED IN THIS PROJECT. ALTERNATIVELY, THE CONTRACTOR SHALL ARRANGE FOR A REPRESENTATIVE OF THE ANCHOR MANUFACTURER TO PROVIDE ONSITE INSTALLATION TRAINING FOR ALL ANCHOR PRODUCTS SPECIFIED. DOCUMENTATION THAT ALL PERSONNEL INSTALLING ANCHORS ARE TRAINED SHALL BE SUBMITTED TO THE ENGINEER OF RECORD PRIOR TO THE COMMENCEMENT OF ANCHOR INSTALLATION.
8. SEE "CONNECTION TO MASONRY WALLS" DETAIL FOR ANCHOR FIELD TESTING REQUIREMENTS.

DEMOLITION

1. THE CONTRACTOR SHALL NOTIFY ALL LOCAL AGENCIES HAVING JURISDICTION, AND SHALL OBTAIN ALL NECESSARY PERMITS REQUIRED FOR THE DEMOLITION AND REMOVAL OF THE DEBRIS RESULTING FROM THE DEMOLITION.
2. CONTRACTOR SHALL RETAIN, AT THEIR EXPENSE, A REGISTERED PROFESSIONAL ENGINEER LICENSED IN THE STATE IN WHICH THE PROJECT IS LOCATED, TO DETERMINE ALL CONSTRUCTION PHASE SHORING REQUIREMENTS. CONTRACTOR SHALL SUBMIT TO THE OWNER AND THE ENGINEER OF RECORD, SIGNED AND SEALED DRAWINGS, OUTLINING OPERATIONAL SEQUENCES, SHORING CONCEPTUAL PLANS, METHODS USED FOR THE PROTECTION OF STRUCTURES TO REMAIN AND NEIGHBORING STRUCTURES.
3. CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR THE PROTECTION AND STABILITY OF EXISTING AND NEW STRUCTURES DURING CONSTRUCTION.
4. BEFORE UNDERTAKING ANY DEMOLITION WORK OR ORDERING MATERIAL, ASCERTAIN BY SURVEY THE EXISTING CONDITIONS OF THE PROPERTIES AND BUILDINGS ADJOINING OR IN CLOSE PROXIMITY TO THE PREMISES. THE ARCHITECT SHALL BE NOTIFIED OF ANY DISCREPANCY.
5. PROVIDE AND MAINTAIN BRACING AND SHORING AS NEEDED. KEEP SUPPORTING STRUCTURE IN PLACE DURING NEW CONSTRUCTION AND UNTIL NEW STRUCTURE IS COMPLETED.
6. STORE AND PROTECT ALL MATERIAL TO BE REMOVED AND REUSED.
7. IF SAFETY OR INTEGRITY OF STRUCTURAL SYSTEM APPEARS TO BE COMPROMISED, CEASE OPERATIONS IMMEDIATELY AND NOTIFY THE OWNER AND THE ENGINEER. PROPERLY BRACE AND SUPPORT STRUCTURE BEFORE RESUMING OPERATIONS.
8. ANY DAMAGE OCCURRING TO THE EXISTING STRUCTURE, ADJACENT STRUCTURES, STREETS, SIDEWALKS, UTILITY LINES OR ANY OTHER PUBLIC OR PRIVATE PROPERTIES, SHALL BE REINSTALLED TO THE ORIGINAL CONDITION BY THE CONTRACTOR AT NO COST TO THE OWNER OR THE ENGINEER.
9. ALL OPENINGS IN EXISTING CONSTRUCTION SHALL BE SAW CUT OR DRILLED.
10. ALL EXISTING INFORMATION SHOWN IS AS PROVIDED TO THIS OFFICE OR BASED ON SITE VISIT(S) TO REVIEW THE EXISTING STRUCTURE IN ITS CURRENT CONDITION.

ABBREVIATIONS

@	AT
&	AND
Ø	DIAMETER
AB	ANCHOR BOLTS
ACI	AMERICAN CONCRETE INSTITUTE
ADDL	ADDITIONAL
ADH	ADHESIVE
AFF	ABOVE FINISHED FLOOR
AISC	AMERICAN INSTITUTE OF STEEL CONSTRUCTION
AISI	AMERICAN IRON AND STEEL INSTITUTE
ALT	ALTERNATE
ARCH	ARCHITECT'S / ARCHITECTURAL
ASTM	AMERICAN SOCIETY FOR TESTING AND MATERIALS
AWS	AMERICAN WELDING SOCIETY
B/ or BOT	BOTTOM
BCX	BOTTOM CHORD EXTENSION
BFB	BOTTOM FLANGE BRACE
BFF	BELOW FINISHED FLOOR
BLDG	BUILDING
BM	BEAM
BOS	BOTTOM OF STEEL
BRG	BEARING
BTWN	BETWEEN
CANT	CANTILEVER
CJ	CONTROL JOINT
CL	CENTERLINE
CLR	CLEAR
CMU	CONCRETE MASONRY UNIT
COL	COLUMN
CONC	CONCRETE
CONN	CONNECTION
CONST JT	CONSTRUCTION JOINT
CONT	CONTINUOUS
CONTR	CONTRACTOR
COORD	COORDINATE
CTRD	CENTERED
d	NAILS (PENNY)
DBA	DEFORMED BAR ANCHOR
DEFL	DEFLECTION
DEPR	DEPRESSION / DEPRESSED
DET	DETAIL
DIAG	DIAGONAL
DIM	DIMENSION
DIST	DISTANCE
DWG(S)	DRAWING(S)
DWL(S)	DOWEL(S)
EA	EACH
EE	EACH END
EF	EACH FACE
EJ	EXPANSION JOINT
EL	ELEVATION
ELEV	ELEVATOR
EMBED	EMBEDDED / EMBEDMENT
ENGR	ENGINEER
EOD	EDGE OF DECK
EOS	EDGE OF SLAB
EQ	EQUAL
EQUIP	EQUIPMENT
EW	EACH WAY
EXIST	EXISTING
EXP	EXPANSION
EXT	EXTERIOR
FDN	FOUNDATION
FFE	FINISHED FLOOR ELEVATION
FOM	FACE OF MASONRY
FOW	FACE OF WALL
FS	FAR SIDE
FTG	FOOTING
GA	GAUGE
GALV	GALVANIZED
GT	GIRDER TRUSS
HD	HEADED
HI	HIGH
HORIZ	HORIZONTAL
HSS	HOLLOW STRUCTURAL SECTION
INT	INTERIOR
JT	JOINT
K	KIP(S)
KB	KNEE BRACE
KSI	KIPS PER SQUARE INCH
LB	LONG BAR
LBS	POUNDS
LLH	LONG LEG HORIZONTAL
LLV	LONG LEG VERTICAL
LO	LOW
LOC	LOCATION
LSH	LONG SIDE HORIZONTAL
LSV	LONG SIDE VERTICAL
LWC	LIGHT WEIGHT CONCRETE
MAX	MAXIMUM
MC	MOMENT CONNECTION
MCJ	MASONRY CONTROL JOINT
MECH	MECHANICAL
MFR	MANUFACTURER
MID	MIDDLE
MIN	MINIMUM
MISC	MISCELLANEOUS
MOW	MIDDLE OF WALL
MP	MASONRY PILASTER
No or #	NUMBER
NS	NEAR SIDE
NTS	NOT TO SCALE
NWC	NORMAL WEIGHT CONCRETE
OC	ON CENTER
OPNG	OPENING
OPP	OPPOSITE HAND
PAF	POWDER ACTUATED FASTENER
PED	PEDESTAL
PL	PLATE
PSF	POUNDS PER SQUARE FOOT
PSI	POUNDS PER SQUARE INCH
PT	PRESSURE TREATED
P-T	POST-TENSIONED
REF	REFERENCE
REINF	REINFORCING
REQD	REQUIRED
RTU	ROOF TOP UNIT (MECHANICAL EQUIP)
SB	SHORT BAR
SCHD	SCHEDULE
SIM	SIMILAR
SOG	SLAB ON GRADE
SPEC(S)	SPECIFICATION(S)
SQ	SQUARE
STD	STANDARD
STIFF	STIFFENER
STIRR	STIRRUP(S)
STL	STEEL
STR	STRUCTURAL
T/	TOP
TCX	TOP CHORD EXTENSION
TOC	TOP CHORD CONCRETE
TOF	TOP OF FOOTING
TOS	TOP OF STEEL
TOW	TOP OF WALL
TYP	TYPICAL
UNO	UNLESS NOTED OTHERWISE
VERT	VERTICAL
VIF	VERIFY IN FIELD
W/	WITH
WWF	WELDED WIRE FABRIC
WP	WORK POINT

SYMBOL LEGEND

SYMBOL	MEANING
	SPOT ELEVATION. ELEVATION RELATIVE TO REFERENCE ELEVATION.
<No>	TOP OF FOOTING, GRADE BEAM, PILE CAP, OR DRILLED PIER. ELEVATION RELATIVE TO REFERENCE ELEVATION.
<No> <No>	STEP IN TOP OF FOOTING ELEVATION, SEE "TYPICAL STEP IN WALL FOOTING" DETAIL. ELEVATION RELATIVE TO REFERENCE ELEVATION.
No	DEPRESSED OR RAISED SLAB ELEVATION, SEE "TYPICAL STEP IN SLAB ON GRADE" DETAIL. ELEVATION RELATIVE TO REFERENCE ELEVATION.
[No]	TOP OF WALL OR PEDESTAL. ELEVATION RELATIVE TO REFERENCE ELEVATION.
(No) | [+No]	TOP OF STEEL/JOIST BEARING ELEVATION | TOP OF STEEL ABOVE STEEL/JOIST BEARING ELEVATION.
	SLOPED | STEPPED SLAB.
F#	SPREAD FOOTING TYPE, SEE SCHEDULE.
P#	CONCRETE PEDESTAL TYPE, SEE SCHEDULE.
PC#	PILE CAP TYPE, SEE SCHEDULE.
GB# WxD	CONCRETE GRADE BEAM TYPE, SEE SCHEDULE. "W" INDICATES BEAM WIDTH AND "D" INDICATES BEAM DEPTH (IN INCHES).
CB# WxD	CONCRETE BEAM TYPE, SEE SCHEDULE. "W" INDICATES BEAM WIDTH AND "D" INDICATES BEAM DEPTH (IN INCHES).
CJ# WxD	CONCRETE JOIST TYPE, SEE SCHEDULE. "W" INDICATES NOMINAL JOIST WIDTH AND "D" INDICATES JOIST DEPTH (IN INCHES).
PCB WxD	PRECAST CONCRETE BEAM. "W" INDICATES ASSUMED BEAM WIDTH AND "D" INDICATES ASSUMED BEAM DEPTH (IN INCHES).
PT# WxD	POST-TENSIONED CONCRETE BEAM TYPE, SEE SCHEDULE. "W" INDICATES BEAM WIDTH AND "D" INDICATES BEAM DEPTH (IN INCHES).
SR#	STUD RAIL REINFORCING TYPE, SEE "ELEVATED SLABS STUD RAILS" DETAIL.
CSW#	CONCRETE SHEAR WALL TYPE, SEE SCHEDULE.
MP#	MASONRY PILASTER TYPE, SEE "TYPICAL MASONRY PILASTERS" DETAIL.
ML#	MASONRY LINTEL TYPE, SEE "TYPICAL LOAD BEARING LINTELS" DETAIL.
BP#	STEEL BEARING PLATE TYPE, SEE "TYPICAL STEEL BEAM BEARING" DETAIL.
MSW#	MASONRY SHEAR WALL TYPE, SEE SCHEDULE.
D1	SPAN DIRECTION OF METAL ROOF DECK, SEE "TYPICAL 1 1/2" METAL ROOF DECK" DETAIL. CONSTRUCTION SHALL BE 1 1/2"-22GA METAL ROOF DECK.
S1	SPAN DIRECTION OF NON-COMPOSITE SLAB ON DECK, SEE "TYPICAL NON-COMPOSITE SLAB" DETAIL. CONSTRUCTION SHALL BE 2 1/2" NORMAL WEIGHT CONCRETE ON 1"-24 GA TYPE C FORM DECK (3 1/2" TOTAL THICKNESS). TOP OF STEEL/JOIST BEARING ELEVATION 6" BELOW FINISHED FLOOR ELEVATION, UNO.
W10	COMPOSITE W10x15 STEEL BEAM WITH HEADED STUDS @24"OC.
W12	COMPOSITE W12x16 STEEL BEAM WITH HEADED STUDS @24"OC.
V#, M#, L#, A#, T#	STEEL BEAM DESIGN END REACTIONS (WHERE APPLICABLE). "V" INDICATES VERTICAL SHEAR, "M" INDICATES BENDING MOMENT, "H" INDICATES LATERAL SHEAR, "A" INDICATES AXIAL TENSION/COMPRESSION, AND "T" INDICATES TORSION. ALL LOADS ARE FACTORED FOR STRENGTH DESIGN IN UNITS OF KIP AND KIP-FT. ALL LOADS SHALL BE CONSIDERED REVERSIBLE, UNO.
TF#	BEAM AXIAL TRANSFER FORCE FOR STRENGTH DESIGN IN UNITS OF KIPS. DESIGN BOTH BEAM CONNECTIONS TO COLUMN (ONE EACH SIDE OF COL) FOR INDICATED FORCE.
	STEEL BEAM MOMENT CONNECTION.
VF#	VERTICAL FRAME TYPE, SEE ELEVATIONS.
SSW#	METAL STUD SHEAR WALL TYPE, SEE SCHEDULE.
C#	WOOD COLUMN TYPE, SEE SCHEDULE. ALL COLUMNS ARE TO BE EXTENDED TO THE FOUNDATION WHETHER SHOWN ON PLAN OR NOT.
H#	WOOD HEADER TYPE, SEE SCHEDULE.
WSW#	WOOD SHEAR WALL TYPE, SEE SCHEDULE.

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ANDREW S. PORBON
5/22/2024

sheet information

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GENERAL NOTES, ABBREVIATIONS, SYMBOL LEGEND

S0.02

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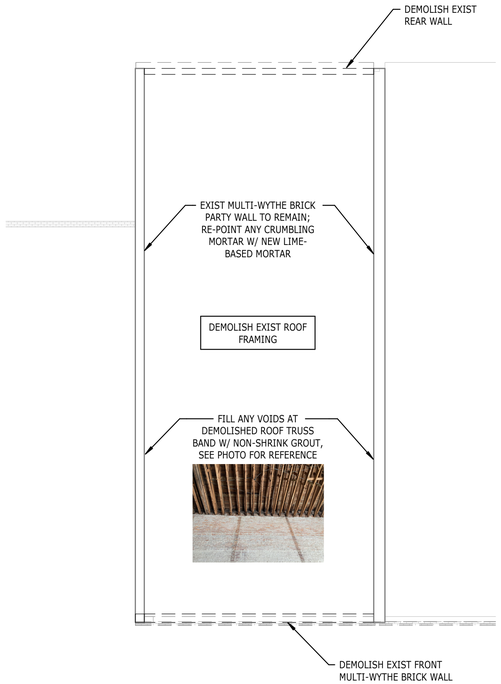
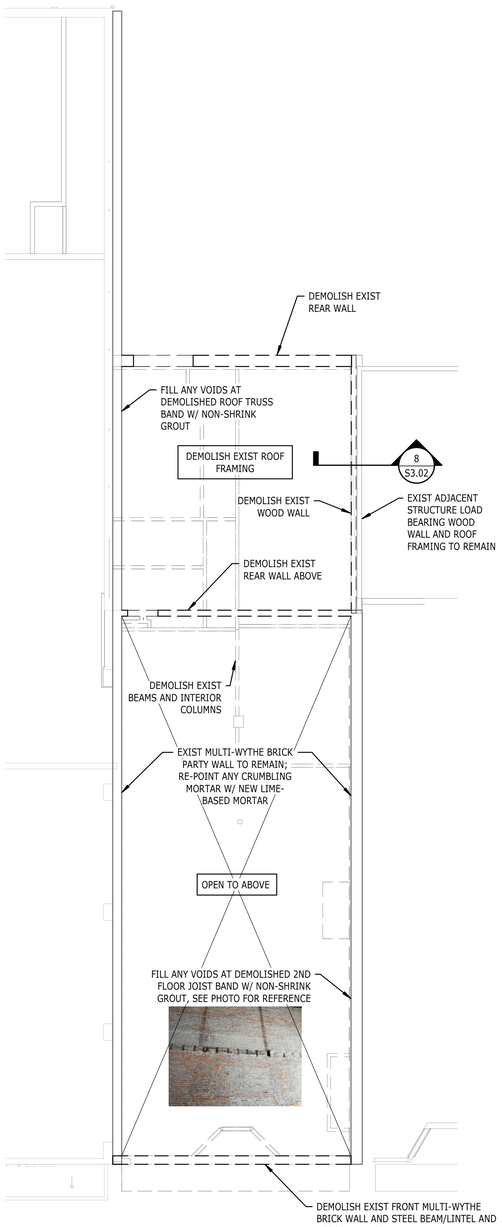


3 S1.01 ROOF FRAMING DEMOLITION PLAN

1/8" = 1'-0"

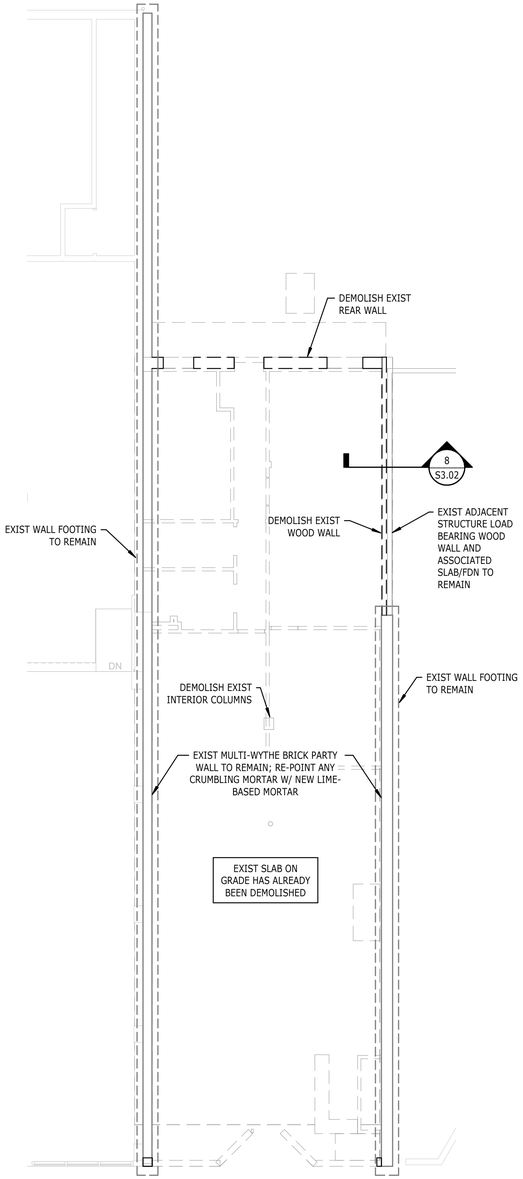
NOTES:
1. FOR DEMOLITION NOTES, SEE SHEET S0.02. BRACE EXISTING PARTY WALLS AS REQUIRED.
2. CONTRACTOR SHALL VERIFY EXISTING CONDITIONS IN THE FIELD AND REPORT ANY DISCREPANCIES TO THE ARCHITECT AND EOR.



2 S1.01 2ND FLOOR FRAMING DEMOLITION PLAN

1/8" = 1'-0"

NOTES:
1. FOR DEMOLITION NOTES, SEE SHEET S0.02. BRACE EXISTING PARTY WALLS AS REQUIRED.
2. CONTRACTOR SHALL VERIFY EXISTING CONDITIONS IN THE FIELD AND REPORT ANY DISCREPANCIES TO THE ARCHITECT AND EOR.



1 S1.01 FOUNDATION DEMOLITION PLAN

1/8" = 1'-0"

NOTES:
1. FOR DEMOLITION NOTES, SEE SHEET S0.02. BRACE EXISTING PARTY WALLS AS REQUIRED.
2. CONTRACTOR SHALL VERIFY EXISTING CONDITIONS IN THE FIELD AND REPORT ANY DISCREPANCIES TO THE ARCHITECT AND EOR.

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checked by:	ASP

STRUCTURAL DEMOLITION PLANS

S1.01

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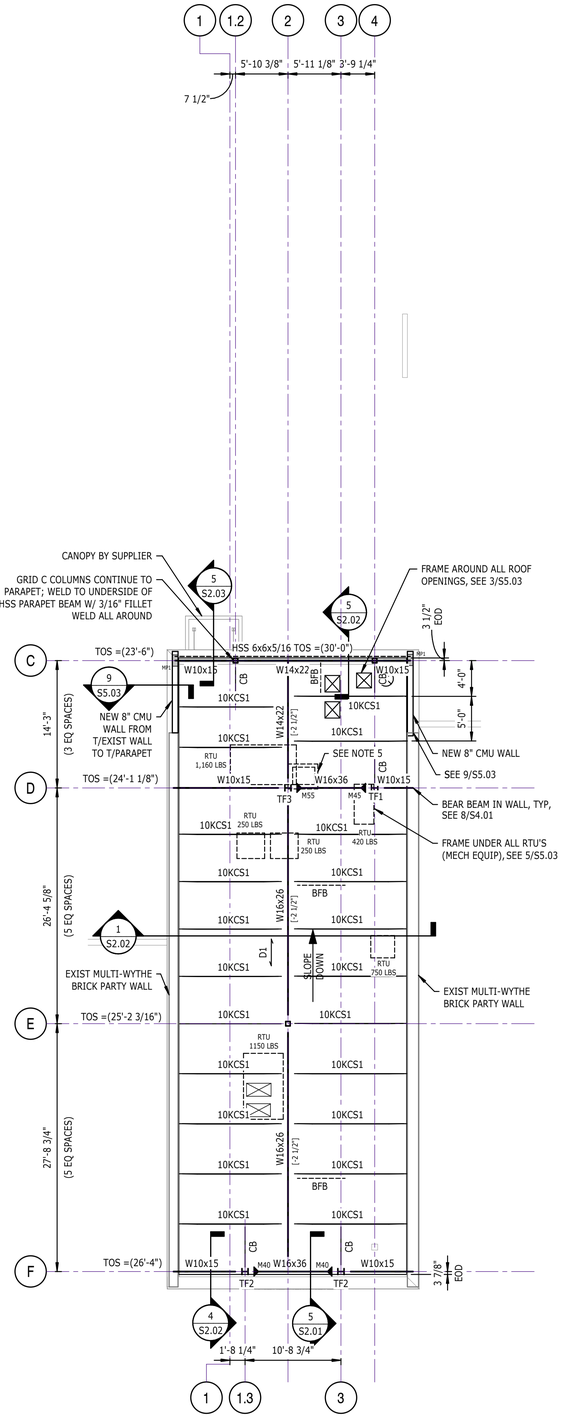
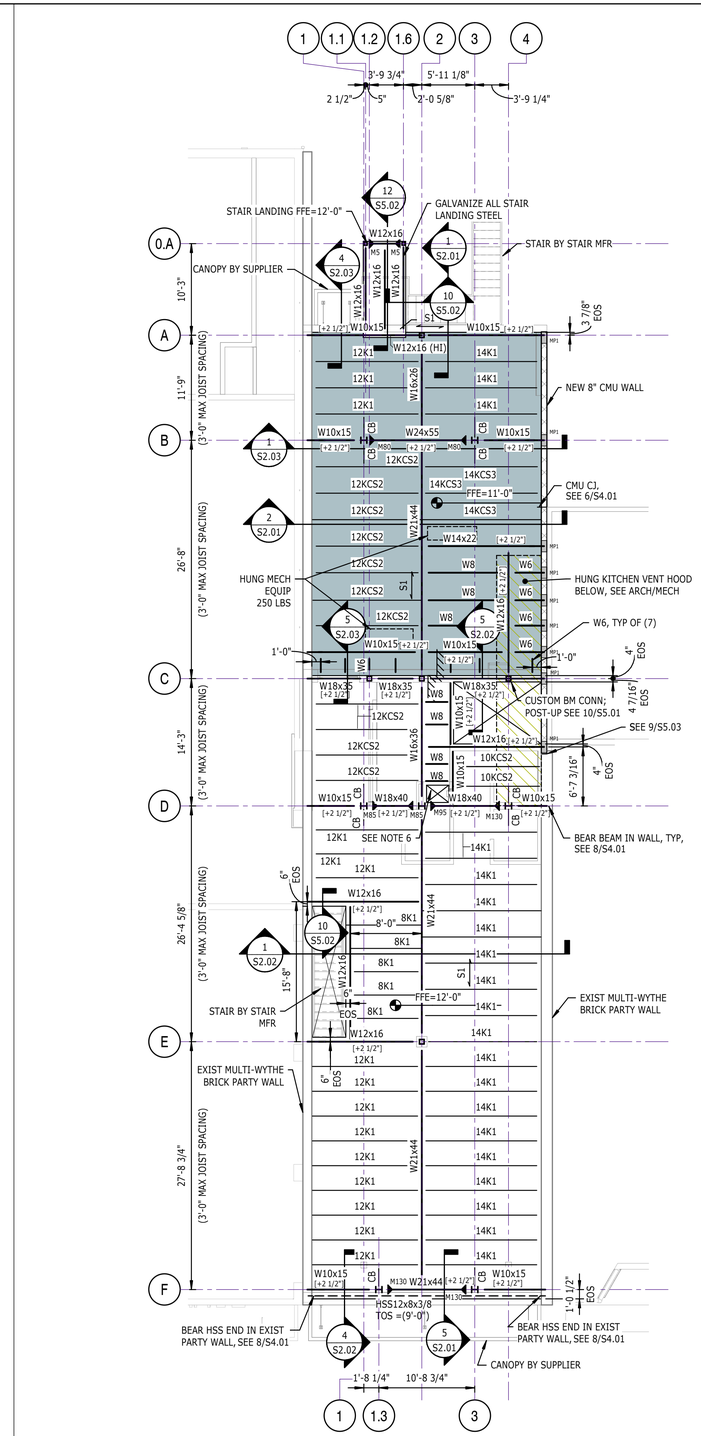


3 S1.11 ROOF FRAMING PLAN

1/8" = 1'-0"

ROOF FRAMING PLAN NOTES:

1. SEE S0 SERIES SHEETS FOR GENERAL NOTES, ABBREVIATIONS, AND SYMBOL LEGEND.
2. SEE S5.03 FOR TYPICAL STEEL ROOF FRAMING DETAILS.
3. SEE S5.01 FOR STEEL COLUMN SCHEDULE.
4. SEE ARCHITECTURAL DRAWINGS FOR ALL ROOF SLOPES.
5. AT DUMBWAITER SHAFT WALL, PROVIDE WOOD STUD PACKS TO RECEIVE & SUPPORT DUMBWAITER RAIL ATTACHMENTS. CONTRACTOR TO COORDINATE WITH DUMBWAITER SUPPLIER.
6. "BFB" INDICATES BOTTOM FLANGE BRACE, SEE DETAILS ON S5.03.
7. "CB" INDICATES COLUMN BRACE, SEE DETAIL ON S5.02.

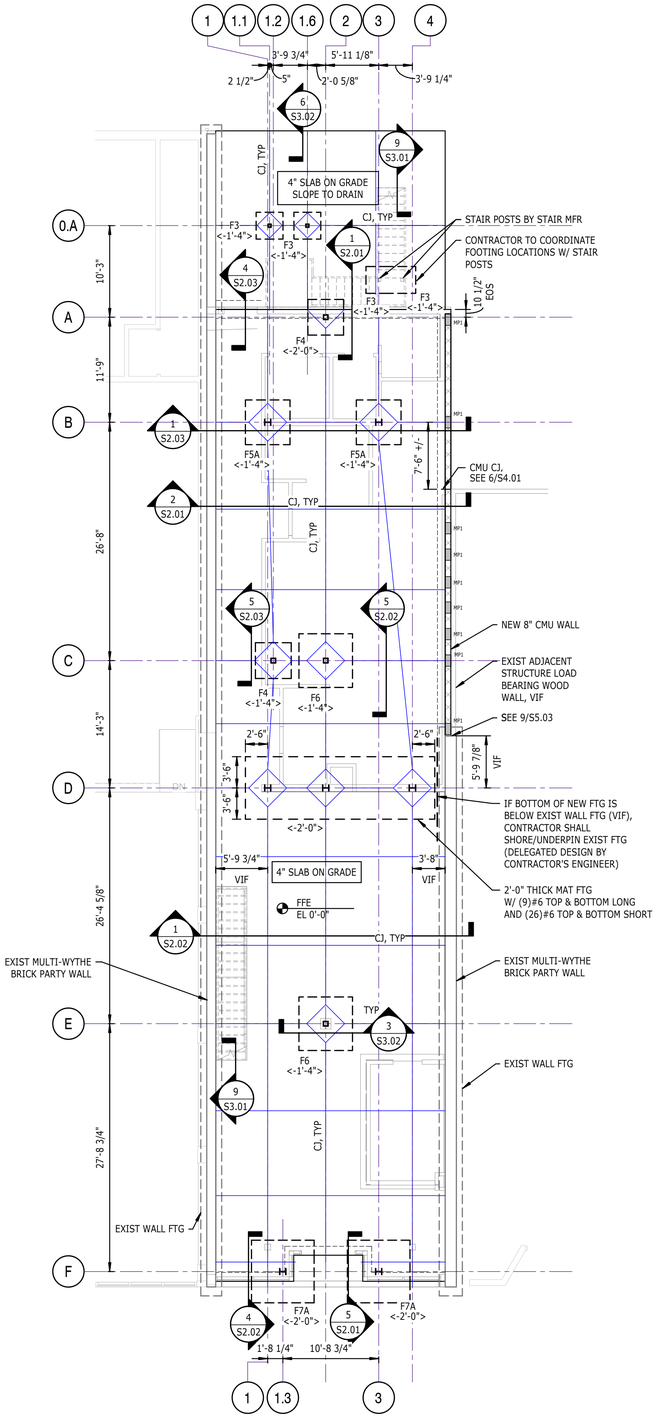


2 S1.11 2ND FLOOR FRAMING PLAN

1/8" = 1'-0"

FLOOR FRAMING PLAN NOTES:

1. SEE S0 SERIES SHEETS FOR GENERAL NOTES, ABBREVIATIONS, AND SYMBOL LEGEND.
2. SEE S5.02 FOR TYPICAL SLAB AND STEEL CONSTRUCTION DETAILS.
3. SEE S5.01 FOR STEEL COLUMN SCHEDULE.
4. "W8" INDICATES W8X10 BEAM W/ ELEVATION [+2 1/2"].
5. "W6" INDICATES W6X9 BEAM W/ ELEVATION [+2 1/2"].
6. AT DUMBWAITER SHAFT WALL, PROVIDE WOOD STUD PACKS TO RECEIVE & SUPPORT DUMBWAITER RAIL ATTACHMENTS. CONTRACTOR TO COORDINATE WITH DUMBWAITER SUPPLIER.
7. "CB" INDICATES COLUMN BRACE, SEE DETAIL ON S5.02.



1 S1.11 FOUNDATION PLAN

1/8" = 1'-0"

FOUNDATION PLAN NOTES:

1. SEE S0 SERIES SHEETS FOR GENERAL NOTES, ABBREVIATIONS, AND SYMBOL LEGEND.
2. REFERENCE FINISHED FLOOR ELEVATION 0'-0".
3. SEE S3.01 FOR TYPICAL SLAB CONSTRUCTION DETAILS.
4. SEE S5.01 FOR STEEL COLUMN SCHEDULE.
5. TOP OF FOOTING ELEVATION 1'-4" BELOW FINISHED FLOOR ELEVATION, UNO.
6. SLOPE EXTERIOR SLABS, SIDEWALKS, AND PAVING AS INDICATED ON THE ARCHITECTURAL DRAWINGS.
7. AT DUMBWAITER SHAFT WALL, PROVIDE WOOD STUD PACKS TO RECEIVE & SUPPORT DUMBWAITER RAIL ATTACHMENTS. CONTRACTOR TO COORDINATE WITH DUMBWAITER SUPPLIER.

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STRUCTURAL FOUNDATION AND FRAMING PLANS

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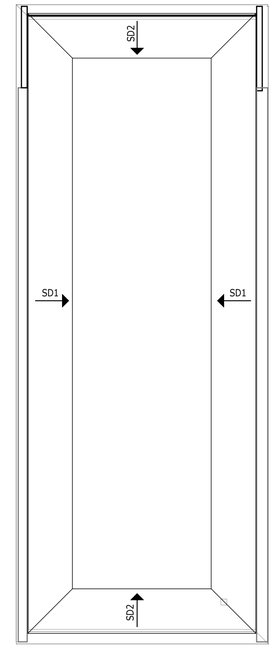

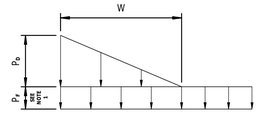

SLOPED SNOW DRIFT LOADING			
MARK	DRIFT LOAD, P_b	DRIFT WIDTH, W	BALANCED LOAD, R
SD1	16 PSF	4'-0"	10.5 PSF
SD2	30 PSF	7'-6"	10.5 PSF

SNOW LOADING PROFILE AND DIAGRAM

NOTES:
1. "Pr" DESIGNATES A BALANCED SNOW LOAD THAT IS APPLIED IN ADDITION TO THE INDICATED SLOPED SNOW DRIFT SURCHARGE, "Pb".

1 / S1.12 SNOW DRIFT LOADING PLAN
1/8" = 1'-0"

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SNOW DRIFT LOADING PLAN

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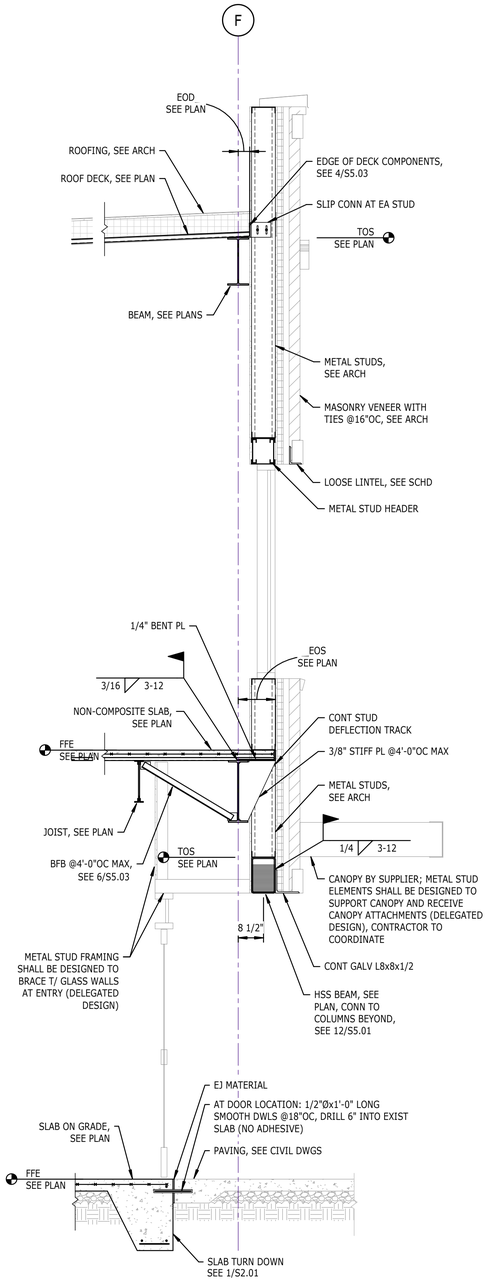
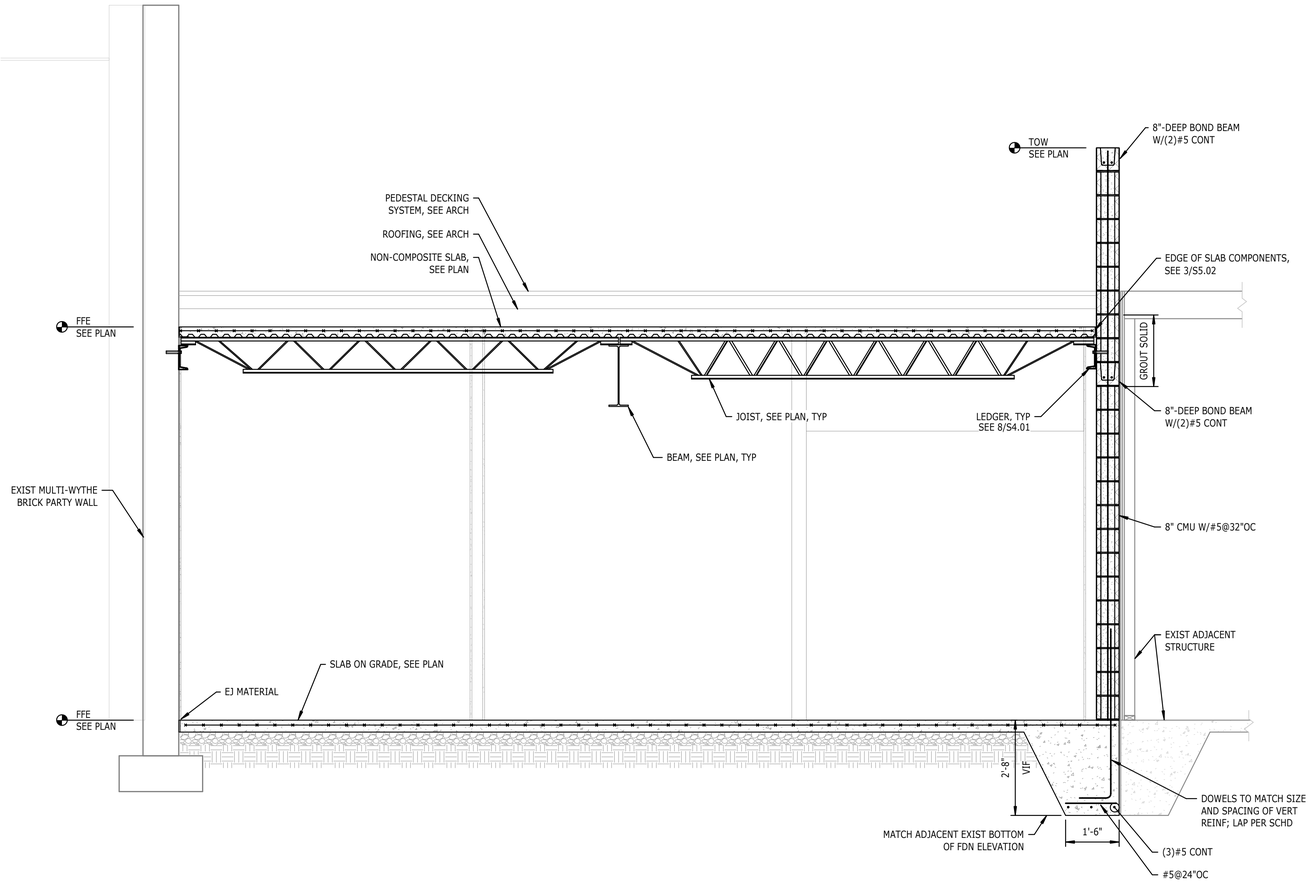
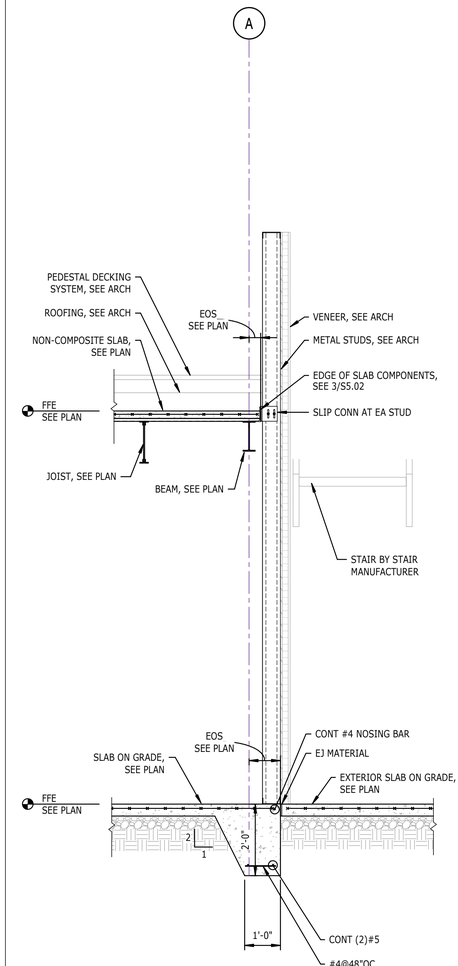


5 SECTION
S2.01 1/2" = 1'-0"



2 SECTION
S2.01 1/2" = 1'-0"



1 SECTION
S2.01 1/2" = 1'-0"

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BUILDING SECTIONS

S2.01

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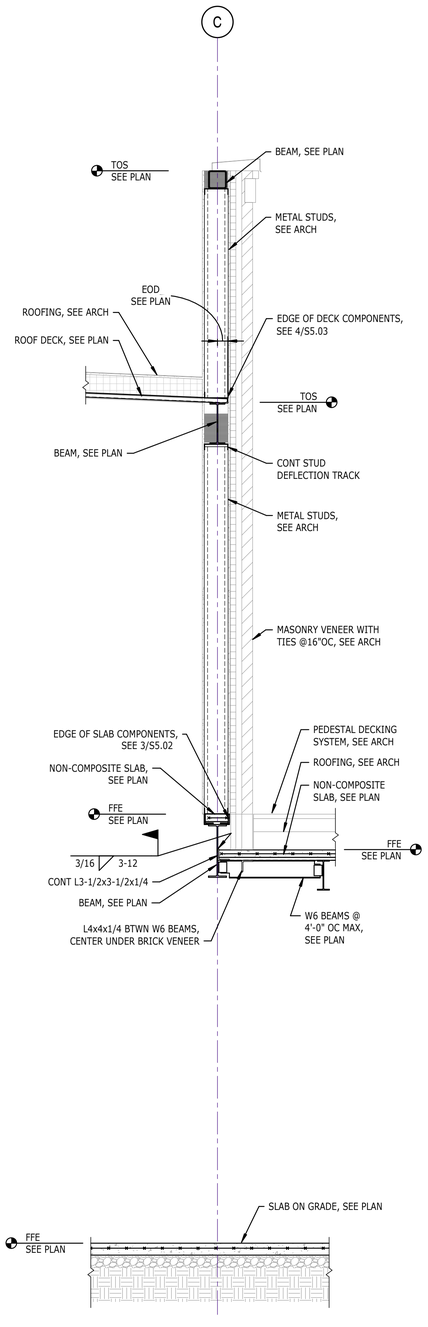
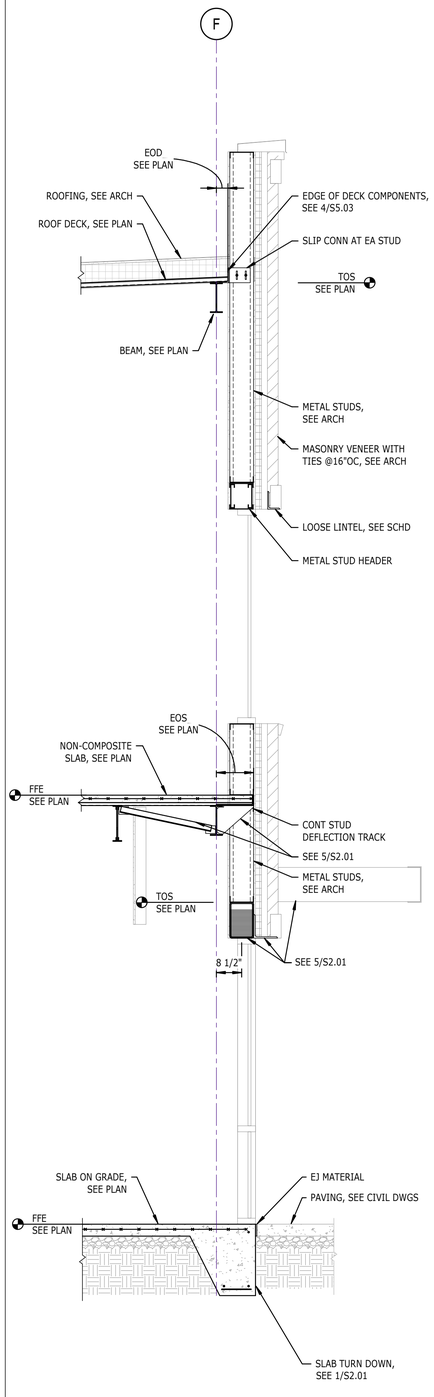
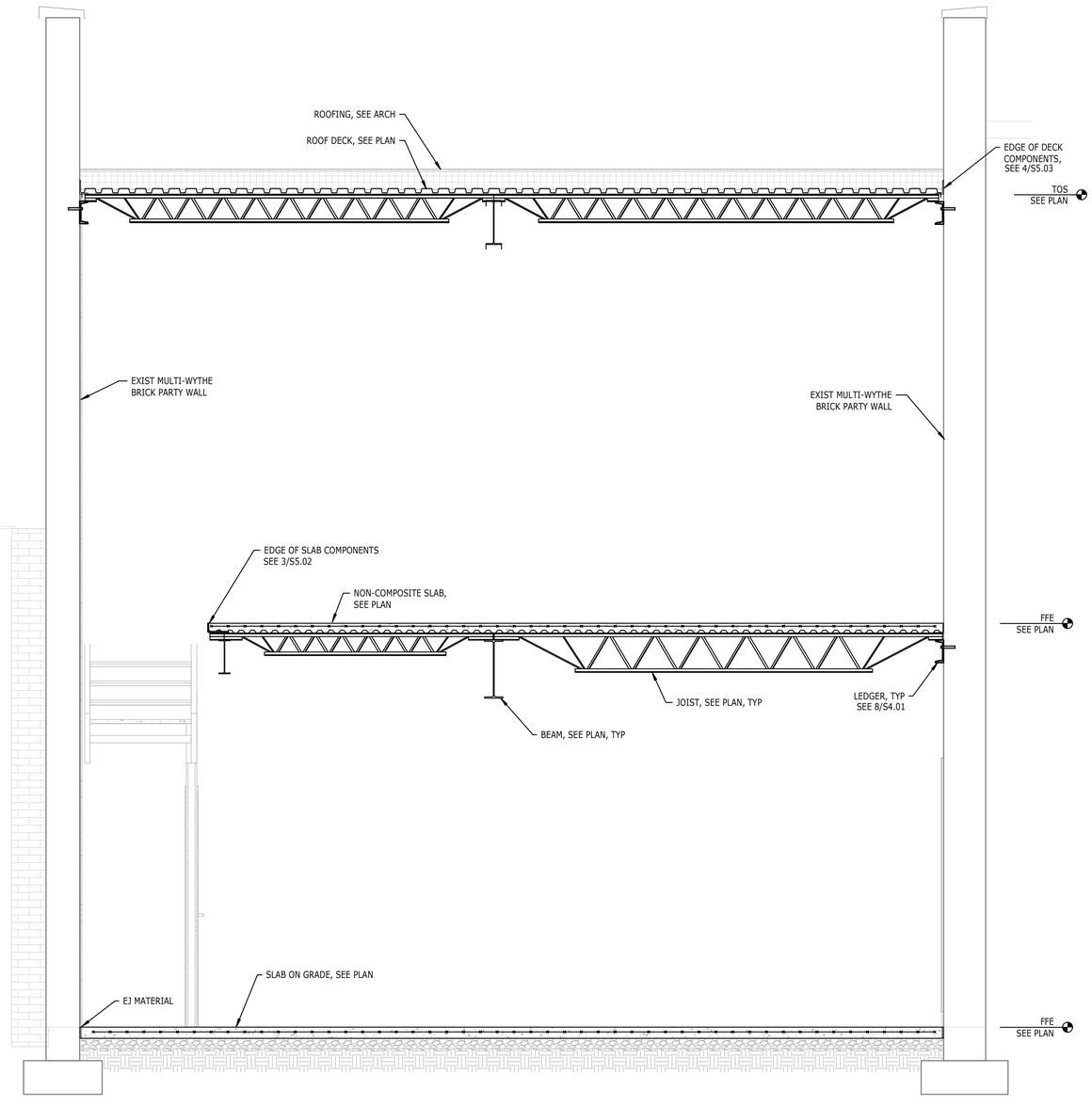


5 SECTION
S2.02 1/2" = 1'-0"



4 SECTION
S2.02 1/2" = 1'-0"



1 SECTION
S2.02 1/2" = 1'-0"

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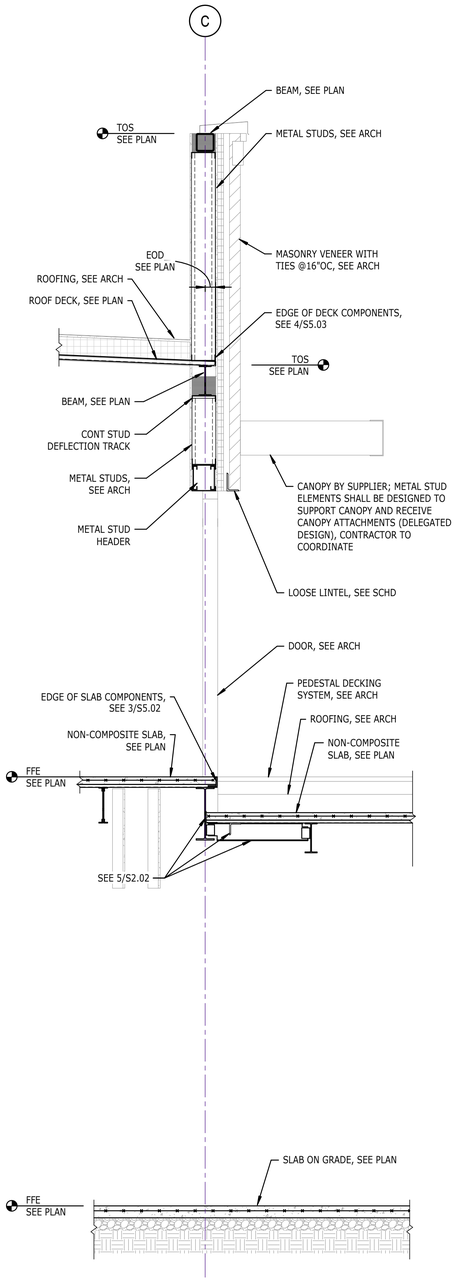
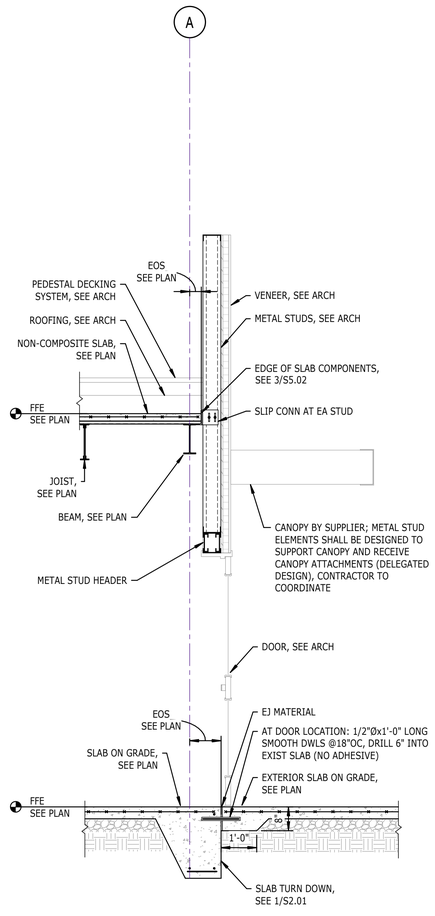
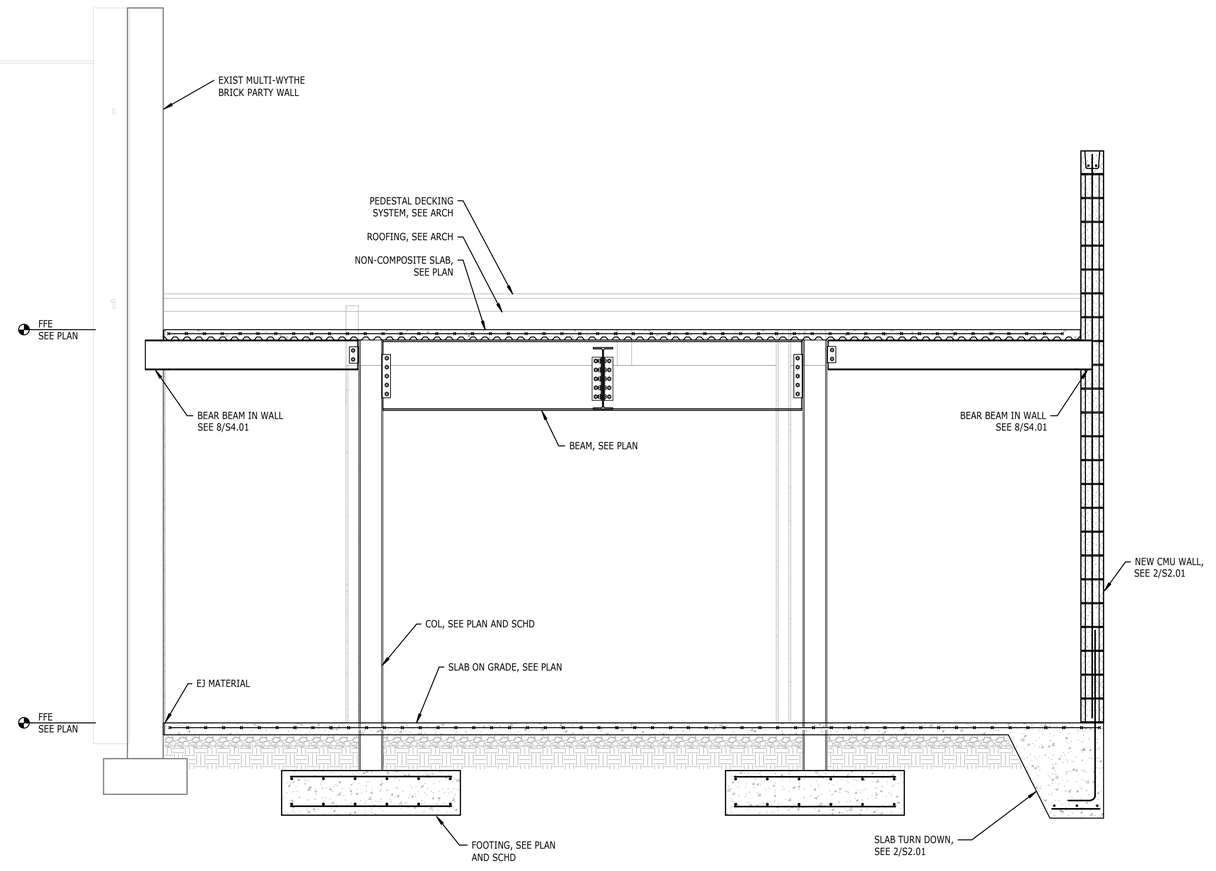


5 S2.03 SECTION
1/2" = 1'-0"



4 S2.03 SECTION
1/2" = 1'-0"



1 S2.03 SECTION
1/2" = 1'-0"

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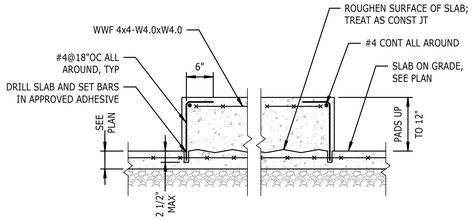
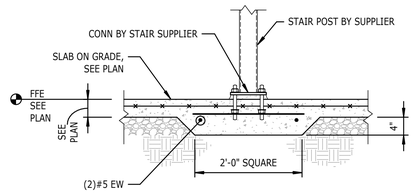
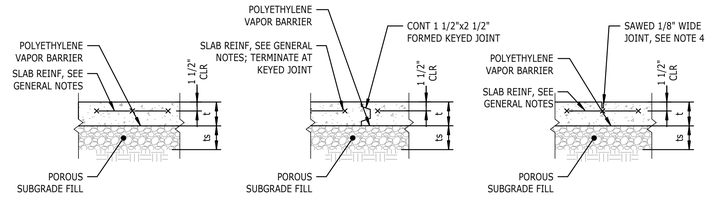


NOTES:
1. THE EXACT SIZE, SHAPE, AND LOCATION OF EQUIPMENT (HOUSEKEEPING) PAD(S) SHALL BE DETERMINED BY THE CONTRACTOR AFTER APPROVAL OF EQUIPMENT SHOP DRAWINGS. ANCHOR BOLTS WHERE REQUIRED SHALL BE SIZED AND LOCATED ACCORDING TO MANUFACTURER'S REQUIREMENTS.

10 / S3.01 TYPICAL EQUIPMENT PAD
NTS

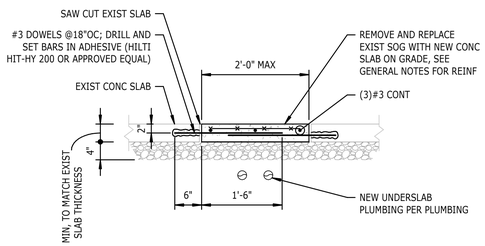


7 / S3.01 TYPICAL THICKENED SLAB AT STAIR POST
NTS



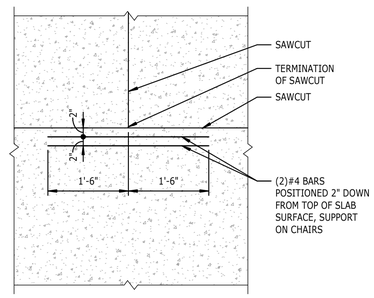
NOTES:
1. 't' DENOTES SLAB THICKNESS, SEE PLANS. 'ts' DENOTES POROUS SUBGRADE FILL THICKNESS, SEE "FOUNDATION" GENERAL NOTES.
2. LOCATION OF SLAB ON GRADE CONSTRUCTION JOINTS SHALL BE DETERMINED BY THE CONTRACTOR. JOINT LOCATIONS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PRIOR TO CONSTRUCTION.
3. SEE PLANS FOR LOCATION OF CONTROL JOINTS. WHERE NOT SHOWN ON PLAN, CONTACT THE ENGINEER.
4. CUT JOINTS SHALL BE 1/4t (1/3t FOR FIBER-REINFORCED SLABS) OR 1" DEEP WHICHEVER IS GREATER. SAW CUT CONTROL JOINTS WITHIN 8 HOURS OF SLAB POUR.
5. 15ML-THICK POLYETHYLENE VAPOR BARRIOR TO BE PLACED UNDER ALL SLABS, TURNDOWNS, TRENCHES, TRENCH DRAINS, GRADE BEAMS, ETC.

1 / S3.01 TYPICAL SLAB ON GRADE
NTS

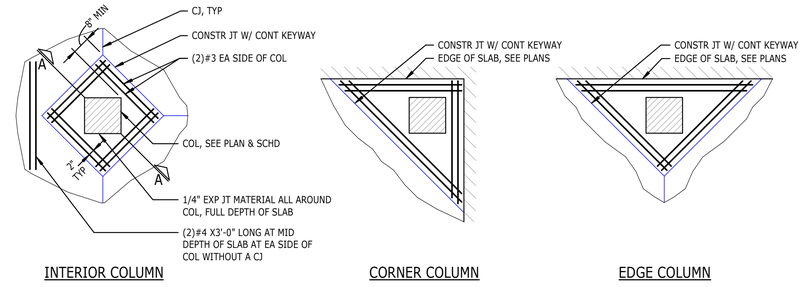


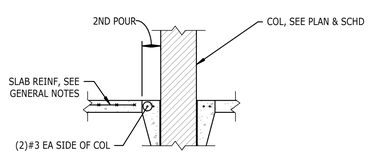
NOTES:
1. SEE ARCHITECTURAL AND PLUMBING DRAWINGS FOR LOCATIONS WHERE EXISTING SLAB REMOVAL AND REPLACEMENT IS REQUIRED.
2. INFILL ANY TRENCHES REQUIRED FOR UPFIT WITH COMPACTED #57 STONE PRIOR TO REPLACING SLAB ON GRADE.
3. SEAL JOINT IN NEW VAPOR BARRIER WITH EXISTING.

11 / S3.01 TYPICAL SLAB ON GRADE REPAIR
NTS



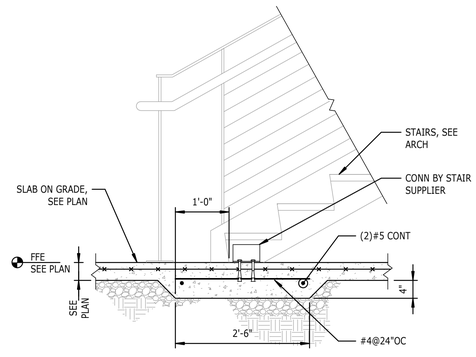
8 / S3.01 TYPICAL AT CONTROL JOINT TERMINATION
NTS



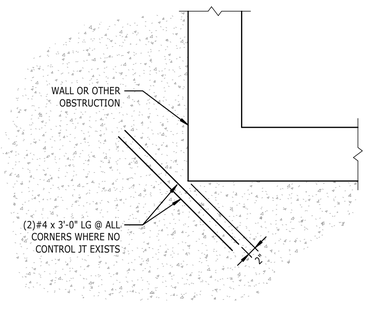


SECTION A-A

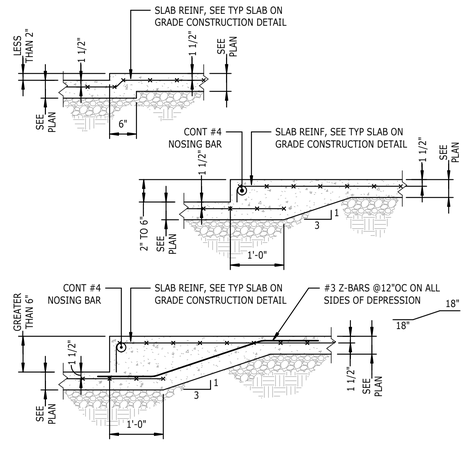
2 / S3.01 TYPICAL COLUMN ISOLATION JOINTS
NTS



9 / S3.01 TYPICAL THICKENED SLAB AT STAIR STRINGER
NTS



6 / S3.01 TYPICAL SLAB AT CORNERS
NTS



3 / S3.01 TYPICAL STEP IN SLAB ON GRADE
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5/22/2024

sheet information

#	date	description

project #:	23049
drawn by:	VNA
checked by:	ASP

SLAB ON GRADE DETAILS

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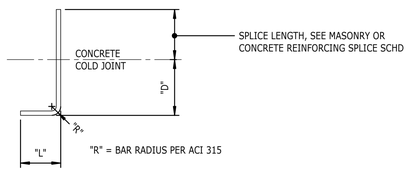
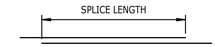
CONCRETE REINFORCING DOWEL EMBEDMENT				
BAR SIZE	LEG DIM, "L"	EMBEDMENT, "D"		
		f'c = 3,000 PSI	f'c = 4,000 PSI	f'c = 5,000 PSI
#3	6"	6"	6"	6"
#4	8"	8"	7"	6"
#5	10"	10"	9"	8"
#6	12"	12"	10"	9"
#7	14"	14"	12"	11"
#8	16"	16"	14"	12"
#9	19"	18"	15"	14"
#10	22"	20"	17"	15"
#11	24"	22"	19"	17"



NOTES:
1. FOR CONCRETE STRENGTHS NOT PROVIDED, USE THE EMBEDMENT LENGTH FOR THE LOWER CONCRETE STRENGTH AS SHOWN IN THE TABLE.
2. DOWEL LENGTHS BASED ON NORMAL WEIGHT CONCRETE. FOR LIGHT WEIGHT, INCREASE DOWEL LENGTH "D" BY 20%.
3. SIDE COVER ON BARS MUST BE GREATER THAN 2 1/2". END COVER ON 90° HOOKED BARS MUST BE GREATER THAN 2".
4. FOR EPOXY-COATED BARS, INCREASE THE DOWEL LENGTH "D" BY 20%.

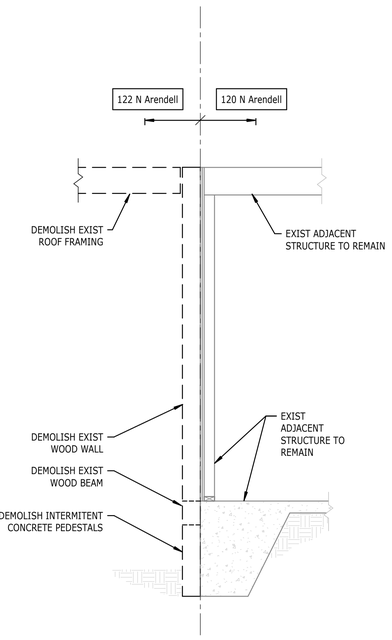
4 S3.02 DOWEL EMBEDMENT LENGTH SCHEDULE
NTS

CONCRETE REINFORCING SPLICES			
BAR SIZE	f'c = 3,000 PSI	f'c = 4,000 PSI	f'c = 5,000 PSI
#3	1'-10"	1'-7"	1'-5"
#4	2'-4"	2'-1"	1'-10"
#5	3'-0"	2'-7"	2'-4"
#6	3'-7"	3'-1"	2'-9"
#7	5'-2"	4'-6"	4'-1"
#8	5'-11"	5'-2"	4'-8"
#9	6'-6"	5'-10"	5'-3"
#10	7'-6"	6'-6"	5'-10"
#11	8'-4"	7'-3"	6'-6"

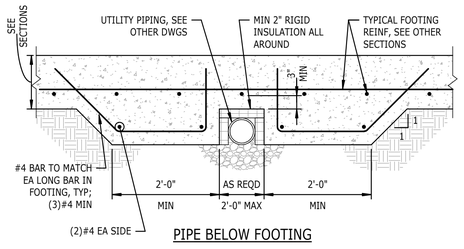


NOTES:
1. FOR CLASS B LAP SPLICE, SPLICE LENGTH = 1.3 x DEVELOPMENT LENGTH.
2. APPLIES TO BOTTOM BARS ONLY (LESS THAN 12" OF FRESH CONCRETE BELOW BAR).
3. APPLIES WHERE THE CLEAR COVER IS GREATER THAN THE BAR DIAMETER.
4. WHEN MORE THAN 12" OF FRESH CONCRETE BELOW SPLICE, THEN INCREASE SPLICE TO 1.3 x SPLICE LENGTH.

1 S3.02 CONCRETE REINFORCING SPLICE SCHEDULE
NTS



8 S3.02 DEMOLITION SECTION
1/2" = 1'-0"

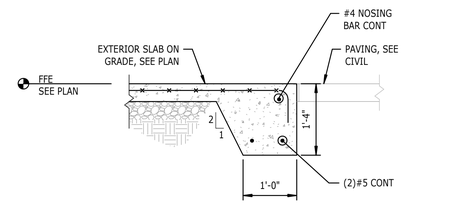


PIPE BELOW FOOTING

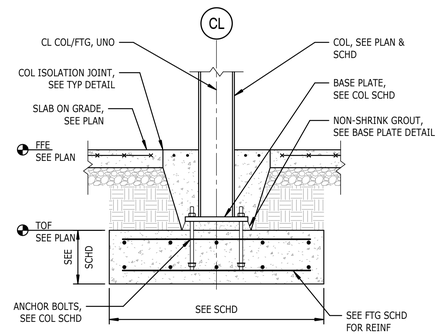
5 S3.02 TYPICAL UTILITY BELOW FOOTING
NTS

SPREAD FOOTING SCHEDULE					
MARK	SIZE			REINFORCEMENT (EACH WAY)	
	WIDTH	LENGTH	DEPTH	TOP	BOTTOM
F3	3'-0"	3'-0"	1'-0"	NA	(4)#5
F4	4'-0"	4'-0"	1'-0"	NA	(6)#5
F5A	5'-0"	5'-0"	1'-3"	(7)#5	(7)#5
F6	6'-0"	6'-0"	1'-3"	NA	(7)#5
F7A	7'-0"	7'-0"	1'-6"	(8)#6	(8)#6

2 S3.02 SPREAD FOOTING SCHEDULE
NTS



6 S3.02 TYPICAL EXTERIOR SLAB TURNDOWN
NTS



3 S3.02 TYPICAL FOOTING AT STEEL COLUMN
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Andrew S. Pordon
5/22/2024

sheet information

#	date	description

project #:	23049
drawn by:	VNA
checked by:	ASP

FOUNDATION DETAILS

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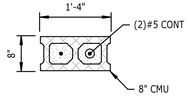
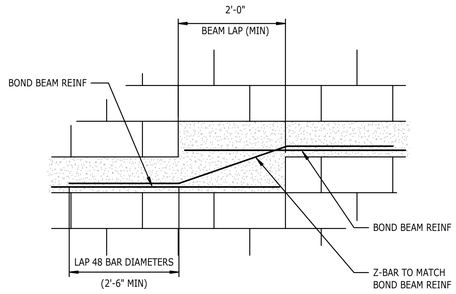


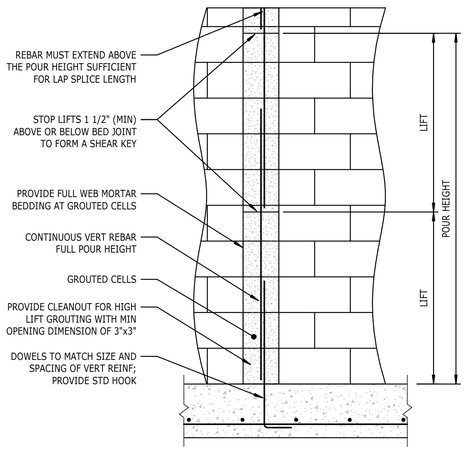
MP1

NOTES:
1. ALL DIMENSIONS SHOWN ARE NOMINAL DIMENSIONS.
2. SEE MINIMUM SPLICE AND EMBEDMENT LENGTH SCHEDULE FOR LAP REQUIREMENTS.
3. GROUT CELLS SOLID.

10 S4.01 TYPICAL MASONRY PILASTERS
NTS



7 S4.01 TYPICAL STEP IN BOND BEAM
NTS



GENERAL GROUTING REQUIREMENTS:
1. ALL REINFORCED CELLS SHALL BE GROUTED SOLID.
2. REINFORCING BARS SHALL BE IN PROPER POSITION PRIOR TO PLACEMENT OF GROUT, NOT PUSHED DOWN INTO PREVIOUSLY PLACED GROUT. SAME REQUIREMENT APPLIES FOR EMBEDDED BOLTS AND FASTENERS.
3. MORTAR BEDDING UNDER THE FIRST COURSE OF BLOCK CELLS TO BE GROUTED SHALL PERMIT GROUT TO COME INTO DIRECT CONTACT WITH FOUNDATION.
4. PLACE MORTAR ON CROSS WEBS ADJACENT TO ALL GROUTED CELLS.
5. MORTAR THAT PROJECTS MORE THAN 1/2" INTO CELLS THAT ARE TO BE GROUTED SHALL BE REMOVED.
6. GROUTED CELLS SHALL BE MECHANICALLY VIBRATED DURING PLACEMENT OF GROUT. TEN MINUTES AFTER PLACING GROUT, EACH GROUTED CELL SHALL BE RECONSOLIDATED WITH A VIBRATOR.
7. METAL LATH SHALL BE PLACED UNDER ALL BOND BEAMS IN ORDER TO CONTAIN GROUT. FELT OR OTHER BOND BREAKING MATERIAL IS NOT PERMITTED. AS AN ALTERNATIVE TO THIS, "U"-SHAPED LINTEL BLOCKS MAY BE USED FOR BOND BEAMS.
8. EITHER LOW LIFT GROUTING OR HIGH LIFT GROUTING PROCEDURES MAY BE UTILIZED, AT THE CONTRACTOR'S OPTION.

LOW LIFT GROUTING PROCEDURE:
1. LAY WALL TO MAXIMUM OF 5'-0".
2. CLEAN MORTAR AND OTHER DEBRIS FROM CELLS TO BE GROUTED.
3. PLACE REINFORCING BARS IN PROPER POSITION.
4. PLACE GROUT UP TO LIFT HEIGHT AND VIBRATE.

HIGH LIFT GROUTING PROCEDURE:
1. CLEANOUT OPENINGS SHALL BE PROVIDED IN THE FACE SHELLS OF THE BOTTOM COURSE OF ALL CELLS TO BE GROUTED. OPENINGS SHALL BE LARGE ENOUGH TO ALLOW REMOVAL OF DEBRIS.
2. LAY WALL TO MAXIMUM POUR HEIGHT AND CLEAN DEBRIS FROM OPENINGS. PLACE REINFORCING BARS IN PROPER POSITION.
3. CLEAN MORTAR AND OTHER DEBRIS FROM CELLS TO BE GROUTED.
4. MASONRY SHALL CURE A MINIMUM OF 4 HOURS PRIOR TO GROUTING.
5. PLACE GROUT TO THE FOLLOWING HEIGHTS: MAXIMUM LIFT HEIGHT IS 5'-0"; MAXIMUM POUR HEIGHT IS 12'-0" UNLESS EXPRESSLY COORDINATED WITH THE STRUCTURAL ENGINEER.
6. AFTER THE LIFT IS POURED, VIBRATE TO ELIMINATE ALL AIR VOIDS. WAIT BETWEEN 3 AND 10 MINUTES, THEN RECONSOLIDATE BY VIBRATING AGAIN. CONTINUE THIS PROCEDURE FOR FULL POUR HEIGHT. RECONSOLIDATE THE PRIOR LIFT BY EXTENDING THE VIBRATOR THROUGH THE CURRENT LIFT INTO THE PREVIOUS LIFT.
7. GROUT SLUMP MUST BE MAINTAINED BETWEEN 10 AND 11 INCHES FOR HIGH LIFT GROUTING.

4 S4.01 TYPICAL MASONRY GROUT REQUIREMENTS
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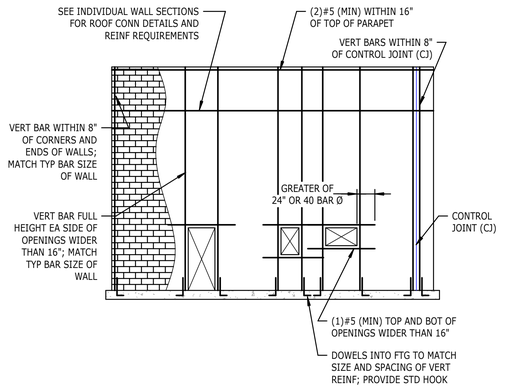

NOTES:
1. REINFORCING SHOWN IS A MINIMUM REQUIREMENT, INDIVIDUAL WALL SECTION REINFORCING REQUIREMENTS (SUCH AS NUMBER OR SIZE OF BARS) SHALL TAKE PRECEDENCE OVER THE REQUIREMENTS SHOWN HEREIN. SEE INDIVIDUAL WALL SECTIONS AND SCHEDULES FOR VERTICAL REINFORCING REQUIREMENTS.
2. ALL DISCONTINUOUS REINFORCEMENT SHALL BE LAPPED PER MINIMUM SPLICE AND EMBEDMENT LENGTH SCHEDULE.
3. VERTICAL STEEL MUST BE SECURED IN PLACE BEFORE THE BLOCKS ARE LAID. ALL VERTICAL REINFORCEMENT SHALL BE CONTINUOUS THROUGH MASONRY LINTELS AND BOND BEAMS, UNO.
4. AT OPENINGS WHERE STEEL BEAM LINTELS ARE PROVIDED, REINFORCE THE JAMB CELL TO THE BEARING ELEVATION OF THE LINTEL, AND REINFORCE THE NEXT ADJACENT CELL PAST THE END OF THE BEAM FULL HEIGHT AS SHOWN IN THIS DETAIL.
5. DETAIL DOES NOT APPLY TO INTERIOR NON-LOAD BEARING PARTITION WALLS.
6. PROVIDE MINIMUM (2) LEGS OF W1.7 HORIZONTAL JOINT REINFORCING @ 16"OC VERTICALLY.

1 S4.01 MINIMUM WALL REINFORCING
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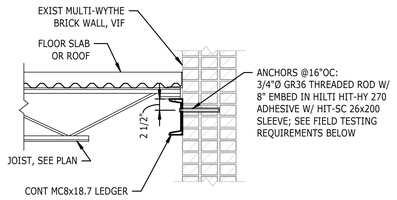
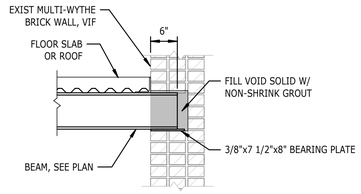
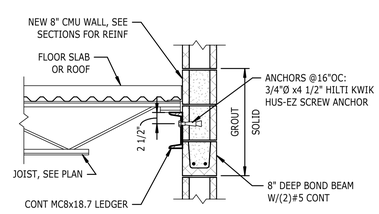


LEDGER TO EXIST WALL

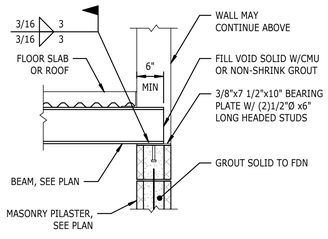
ANCHOR FIELD TESTING REQUIREMENTS:
1. THE TENSION AND SHEAR CAPACITY OF THE SPECIFIED ANCHORS SHALL BE VERIFIED BY A JOB SITE TEST PERFORMED ON A MINIMUM OF FOUR INSTALLED SAMPLES (TWO IN EACH PARTY WALL) WHICH ARE REPRESENTATIVE OF THE ACTUAL INSTALLATIONS.
2. PERFORM TENSION TEST TO 3,940 LBS AND SHEAR TEST TO 4,960 LBS AND CONFIRM ADEQUATE PERFORMANCE AT THESE LOADS WITH NO FAILURE. FOR REFERENCE, THESE ARE 2.5 TIMES THE ANCHOR ALLOWABLE DESIGN LOADS.
3. TESTING SHALL BE PERFORMED BY THE ADHESIVE ANCHOR MAUFACTURER OR HIS APPROVED REPRESENTATIVE AND SHALL BE DOCUMENTED FOR THE DESIGN PROFESSIONAL.



BEAM TO EXIST WALL



LEDGER TO NEW WALL



BEAM TO NEW WALL

8 S4.01 CONNECTION TO MASONRY WALLS
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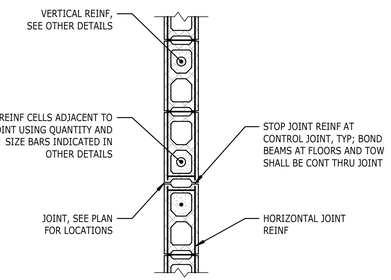
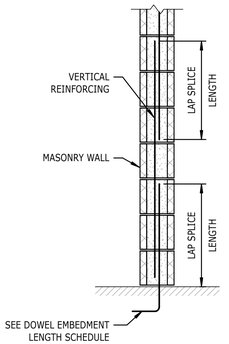


NOTES:
1. PROVIDE DOWELS TO FOUNDATION MATCHING SIZE OF VERTICAL REINFORCING, TYPICAL. SEE GENERAL NOTES OR MINIMUM SPLICE AND EMBEDMENT LENGTH SCHEDULE FOR LAP REQUIREMENTS.
2. ALL CONTROL JOINT LOCATIONS SHALL BE COORDINATED WITH THE ARCHITECTURAL DRAWINGS. FOR INTERIOR PARTITION WALLS, JOINTS SHALL HAVE A MAXIMUM SPACING DETERMINED FROM THE LESSER OF 1 1/2 TIMES THE WALL HEIGHT AND 25 FEET. FOR STRUCTURAL WALLS, CONTACT THE ENGINEER OF RECORD IF JOINTS ARE NOT LOCATED ON PLAN.
3. MASONRY WALL CONTROL JOINTS SHALL NOT BE LOCATED WITHIN 24" OF THE EDGES OF WALL OPENINGS.
4. DO NOT INSTALL CONTROL JOINTS IN STAIR OR ELEVATOR CORE WALLS.
5. MASONRY WALL CONTROL JOINTS DO NOT NECESSARILY ALIGN WITH VENEER CONTROL JOINT LOCATIONS. DO NOT INSTALL MASONRY WALL CONTROL JOINTS ONLY AT VENEER JOINT LOCATIONS.
6. WHERE A CONTROL JOINT OCCURS WITHIN A MASONRY SHEAR WALL, END WALL REINFORCING MUST BE INSTALLED ON EACH SIDE OF THE JOINT.

6 S4.01 TYPICAL MASONRY WALL CONTROL JOINT
NTS

MINIMUM SPLICE AND EMBEDMENT LENGTH SCHEDULE	
BAR SIZE	LAP SPLICE
#3	18"
#4	24"
#5	30"
#6	36"
#7	42"
#8	48"



3 S4.01 MASONRY REINFORCING SPLICE SCHEDULE
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sheet information

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project #:	23049
drawn by:	VNA
checked by:	ASP

CMU DETAILS

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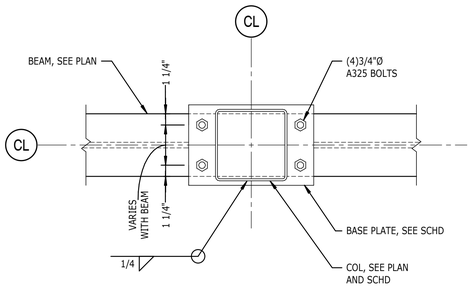

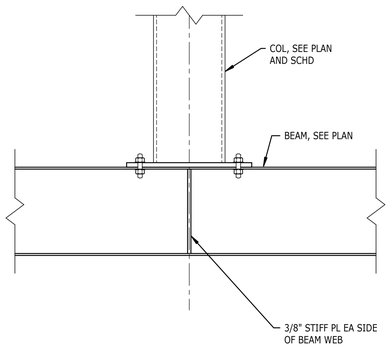

10 S5.01 TYPICAL COLUMN BEARING ON BEAM
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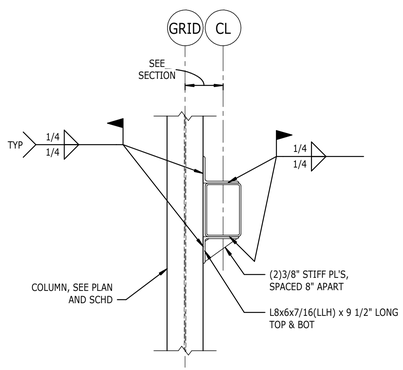
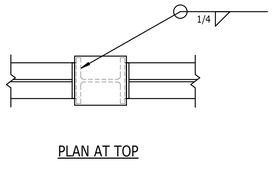


12 S5.01 TYPICAL GIRT CONNECTION TO COLUMN
NTS

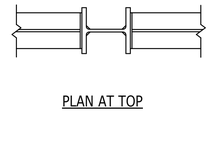
STEEL COLUMN SCHEDULE

T/ PARAPET															T/ PARAPET
30'-0" T/ STEEL															30'-0" T/ STEEL
26'-5" 2nd FLOOR				HSS6X6X5/16		HSS6X6X5/16		W8x40	W8x48	HSS6X6X5/16	W8x40	W8x40			26'-5" 2nd FLOOR
12'-0" FFE	HSS6X6X5/16	W8x31	W8x31		HSS6X6X5/16		W8x35						HSS4x4x3/8	HSS4x4x3/8	12'-0" FFE
0"															0"
Column Locations	A-2	B-1	B-3	C-1.2	C-2	C-4	D-1	D-2	D-4	E-2	F-1.3	F-3	0.A-1.1	0.A-1.6	

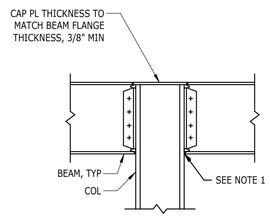
1 S5.01 STEEL COLUMN SCHEDULE
NTS



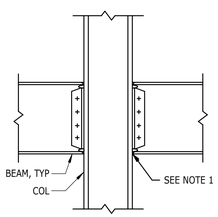
PLAN AT TOP



PLAN AT TOP



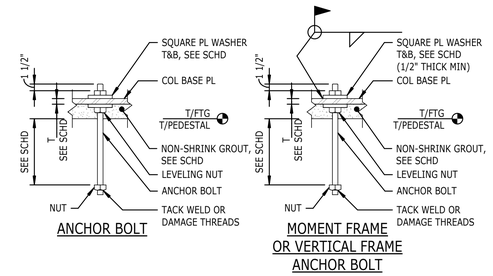
ELEVATION
TYP BEAM-TO-COLUMN FLANGE MOMENT CONNECTION
(INDICATED AS "►— " IN PLANS)

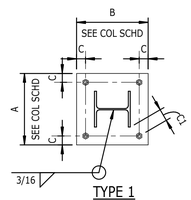


ELEVATION
TYP BEAM-TO-COLUMN FLANGE MOMENT CONNECTION
(INDICATED AS "►— " IN PLANS)

NOTES:
1. FABRICATOR SHALL DESIGN MOMENT CONNECTIONS FOR MOMENT INDICATED ON PLAN (LRFD FACTORED MOMENT)

5 S5.01 MOMENT CONNECTION DETAILS
NTS





TYPE 1

BOLT SIZE	3/4"Ø	1"Ø	1 1/4"Ø
BOLT GRADE (KSI)	36	36	36
DIMENSION "C"	1 1/2"	2"	2"
SQUARE PL WASHER SIZE	1/4"x2"	3/8"x3"	1/2"x3"
GROUT THICKNESS	2"	2"	2"
TIGHTENING CLEARANCE "C1"	1 3/16"	1 3/8"	1 13/16"

STEEL COLUMN BASE PLATE SCHEDULE

LOCATION	SIZE	BASE PLATE SIZE	ANCHOR BOLTS	PATTERN TYPE	EMBEDMENT DEPTH
0.A-1.1	HSS4x4x3/8	3/4"x10"x10"	(4)3/4"Ø	1	7"
0.A-1.6	HSS4x4x3/8	3/4"x10"x10"	(4)3/4"Ø	1	7"
A-2	HSS6X6X5/16	3/4"x12"x12"	(4)3/4"Ø	1	7"
B-1	W8x31	1 1/4"x14"x14"	(4)3/4"Ø	1	9"
B-3	W8x31	1 1/4"x14"x14"	(4)3/4"Ø	1	9"
C-1.2	HSS6X6X5/16	3/4"x12"x12"	(4)3/4"Ø	1	7"
C-2	HSS6X6X5/16	3/4"x12"x12"	(4)3/4"Ø	1	7"
C-4	HSS6X6X5/16	3/4"x7"x12"		1	
D-1	W8x35	1 1/4"x14"x14"	(4)3/4"Ø	1	9"
D-2	W8x40	1 1/4"x14"x14"	(4)3/4"Ø	1	9"
D-4	W8x48	1 1/4"x14"x14"	(4)3/4"Ø	1	9"
E-2	HSS6X6X5/16	3/4"x12"x12"	(4)3/4"Ø	1	7"
F-1.3	W8x40	1 1/4"x14"x14"	(4)3/4"Ø	1	9"
F-3	W8x40	1 1/4"x14"x14"	(4)3/4"Ø	1	9"

NOTES:
1. "C1" DIMENSION IS MINIMUM FOR BASE PLATE SIZE. DETAILER TO LAYOUT ANCHOR BOLTS BASED ON "C" DIMENSION FROM EDGE OF BASE PLATE DIMENSION IN COLUMN SCHEDULE.

2 S5.01 STEEL COLUMN BASE PLATE SCHEDULE
NTS

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NORTH CAROLINA PROFESSIONAL Andrew S. Pardon 035263 ENGINEER ANDREW S. PARDON
5/22/2024

sheet information

#	date	description

project #:	23049
drawn by:	VNA
checked by:	ASP

STEEL COLUMN DETAILS AND SCHEDULES

S5.01

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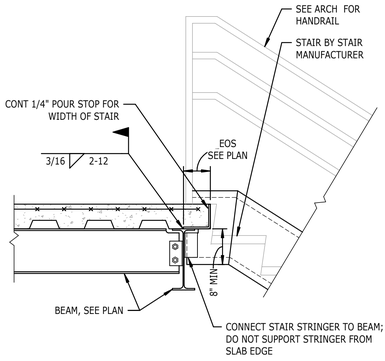
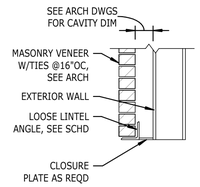


10 S5.02 SECTION AT TOP OF STAIR
NTS

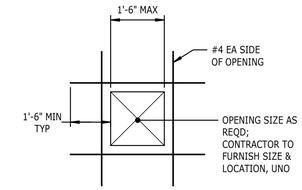
STEEL LOOSE LINTEL ANGLE SUPPORTING MASONRY VENEER	
CLEAR OPENING	LOOSE LINTEL ANGLE
UP TO 5'-0"	L4x4x3/8
5'-1" TO 8'-0"	L6x4x3/8 (LLV)



WITH CLOSURE PLATE

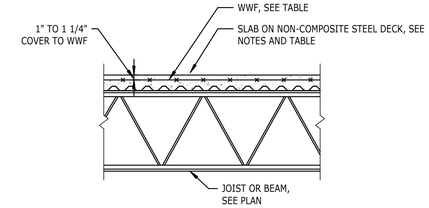
NOTES:
1. ALL LOOSE LINTELS SHALL BE PAINTED OR GALVANIZED, SEE ARCHITECTURAL DRAWINGS.
2. PROVIDE 6" MINIMUM BEARING FOR OPENINGS UP TO 8'-0" WIDE. PROVIDE 8" MINIMUM BEARING FOR OPENINGS OVER 8'-0" WIDE.
3. SEE ARCHITECTURAL DRAWINGS FOR ANGLE PLACEMENT AND FLASHING.
4. LOOSE LINTEL ANGLES ARE NOT SHOWN ON THE STRUCTURAL DRAWINGS. SEE ARCHITECTURAL DRAWINGS FOR ALL LOCATIONS OF OPENINGS REQUIRING ANGLES.
5. FOR CLEAR OPENING DIMENSIONS GREATER THAN THOSE SHOWN IN THE SCHEDULE, SEE OTHER DETAILS OR CONTACT THE ENGINEER OF RECORD.

7 S5.02 STEEL LOOSE LINTEL SCHEDULE
NTS



OPENINGS
10" TO 1'-6"

NOTES:
1. PROVIDE REINFORCING AROUND ALL DUCT PENETRATIONS, CHASES, ELECTRICAL BOXES, PLUMBING PIPES, AND OTHER OPENINGS IN SLABS, FOR OPENINGS FROM 10"x10" (OR 10"Ø) TO 1'-6"x1'-6" (OR 18"Ø).
2. OPENINGS THAT ARE SPACED CLOSER THAN (2) TIMES THE OPENING SIZE SHALL BE CONSIDERED ONE OPENING.
3. MINIMUM CLEAR DISTANCE BETWEEN OPENINGS IS 1'-6".
4. ALL OPENINGS 10" TO 1'-6" MAY NOT BE SHOWN ON STRUCTURAL DRAWINGS.
5. OPENINGS GREATER THAN 1'-6" NOT SHOWN ON STRUCTURAL DRAWINGS REQUIRE APPROVAL BY THE ENGINEER OF RECORD.



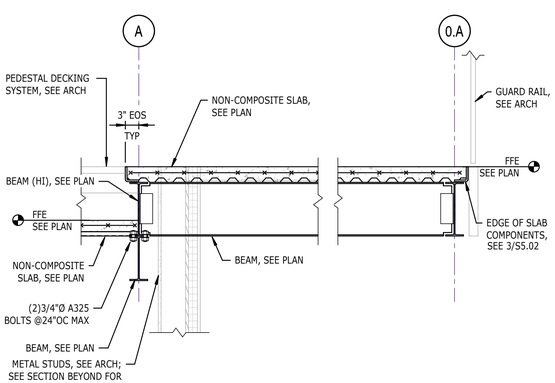
NON-COMPOSITE DECK ATTACHMENT DETAIL

NOTES:
1. THIS DETAIL APPLIES TO DECK SUPPORTED NON-COMPOSITE SLABS, AS INDICATED ON PLANS.
2. NON-COMPOSITE SLABS HAVE BEEN DESIGNED AS "UNSHORED CONSTRUCTION".
3. DECK SHALL BE CONTINUOUS OVER (2) OR MORE SPANS, TYPICAL. IF A SINGLE SPAN CONDITION IS REQUIRED AND SUPPORT BEAM SPACING EXCEEDS VALUE IN TABLE, CONTRACTOR SHALL SHORE AREA.
4. ATTACH DECK TO SUPPORTING MEMBERS WITH SELF-DRILLING SELF-TAPPING HEX WASHER HEAD SCREWS. USE #12-24 FOR DECK ATTACHMENT TO SUPPORTS AND #10-16 FOR SIDELAP ATTACHMENT.
5. AT DECK BEARING SUPPORTS, PROVIDE SCREWS @11"OC (33/4 PATTERN).
6. AT SUPPORTS PARALLEL TO DECK SPAN, PROVIDE SCREWS @11"OC, TYPICAL.
7. AT DECK SIDELAPS/PERIMETER EDGE, PROVIDE SCREWS @11"OC, TYPICAL. WELDING OF SIDELAPS IS NOT PERMITTED FOR 24GA DECK.
8. ALL DECK ENDS TO BE LAPPED ON BOTH ENDS. DO NOT BUTT JOINTS.
9. DECK SECTION MINIMUM PROPERTIES: SEE TABLE BELOW.
10. WELDS WITH WELDING WASHERS MAY BE USED FOR DECK ATTACHMENT TO SUPPORTS AT SAME SPACING SPECIFIED ABOVE. SIDELAP FASTENING MUST BE SCREWED AS DESCRIBED ABOVE.

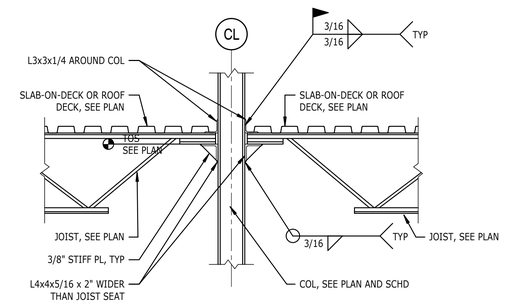
MINIMUM UNSHORED COMPOSITE STEEL DECK SPANS								
SLAB TYPE	TOTAL DEPTH	DECK DEPTH	DECK GAGE	CONC WEIGHT	SINGLE SPAN	TWO SPAN	THREE SPAN	WWF
S1	3 1/4"	1"	24 GA	NW	3'-0" MAX	3'-0" MAX	3'-0" MAX	6x6-W1.4xW1.4

DECK TYPE	DESIGN THICKNESS (in)	DECK WEIGHT (psf)	I_D (in⁴/ft)	S_D (in³/ft)	I_n (in⁴/ft)	S_n (in³/ft)	V_a (lbs/ft)	F_y (ksi)
C24	0.0239	1.28	0.057	0.098	0.059	0.103	3867	60

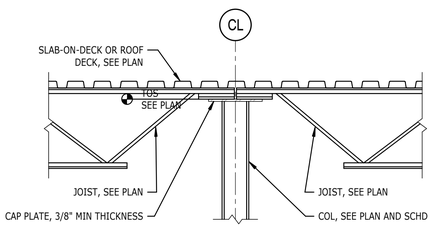
1 S5.02 NON-COMPOSITE FLOOR CONSTRUCTION DETAIL
NTS



11 S5.02 TYPICAL COLUMN BRACE
NTS



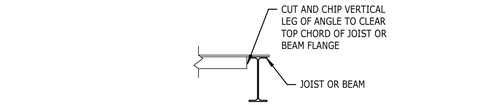
JOIST BEARING AT CONTINUOUS COLUMN



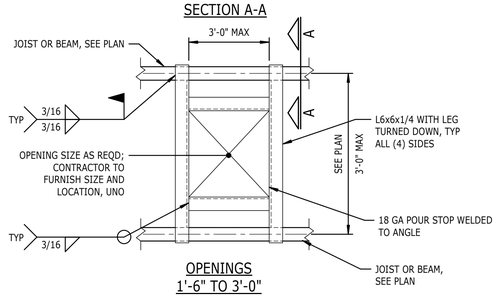
JOIST BEARING AT TOP OF COLUMN

12 S5.02 SECTION
3/4" = 1'-0"

8 S5.02 TYPICAL JOIST BEARING AT COLUMN DETAILS
NTS



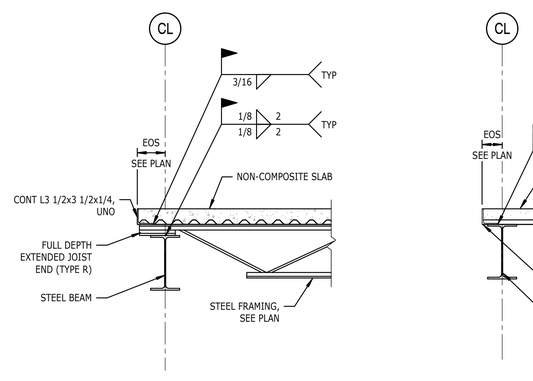
SECTION A-A



OPENINGS
1'-6" TO 3'-0"

NOTES:
1. PROVIDE ANGLE FRAME AROUND ALL DUCT PENETRATIONS, CHASES, ELECTRICAL BOXES, PLUMBING PIPES, AND OTHER OPENINGS IN SLABS, FOR OPENINGS LARGER THAN 1'-6"x1'-6" (OR 18"Ø).
2. OPENINGS THAT ARE SPACED CLOSER THAN (2) TIMES THE OPENING SIZE SHALL BE CONSIDERED ONE OPENING.
3. MINIMUM CLEAR DISTANCE BETWEEN OPENINGS IS 1'-0".
4. OPENINGS GREATER THAN 1'-6" NOT SHOWN ON STRUCTURAL DRAWINGS REQUIRE APPROVAL BY THE ENGINEER OF RECORD.

4 S5.02 TYPICAL FRAMING AROUND SLAB OPENINGS
NTS



AT BYPASSING EXTERIOR WALL STUDS

NOTES:
1. SEE OTHER DETAILS FOR INFORMATION NOT SHOWN.

3 S5.02 TYPICAL EDGE OF SLAB
NTS

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Andrew S. Pordom
5/22/2024

sheet information

#	date	description

project #:	23049
drawn by:	VNA
checked by:	ASP

STEEL FRAMING DETAILS

S5.02

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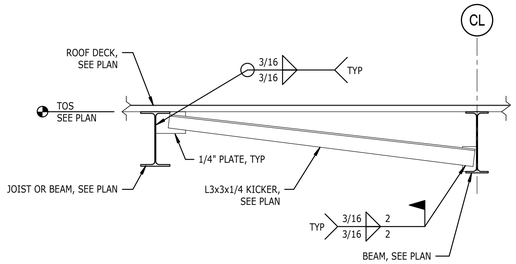
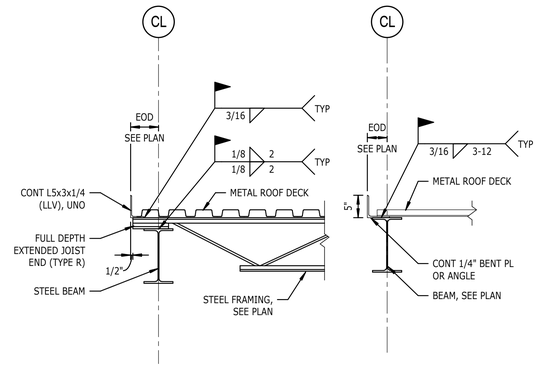


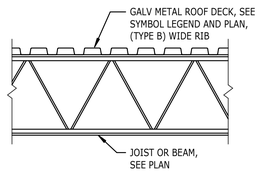
NOTES:
1. LOCATIONS INDICATED BY "BFB" ON PLAN.

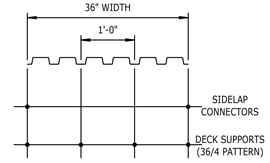
7 S5.03 TYPICAL BEAM BOTTOM FLANGE BRACING
NTS



NOTES:
1. SEE OTHER DETAILS FOR INFORMATION NOT SHOWN.

4 S5.03 TYPICAL EDGE OF DECK
NTS



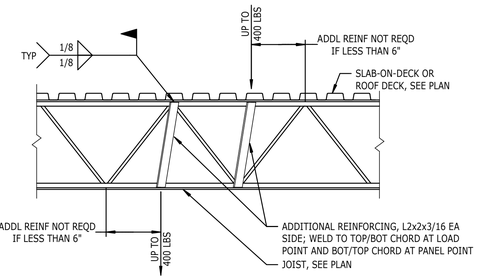


ROOF DECK ATTACHMENT DETAIL

NOTES:
1. ATTACH DECK TO SUPPORTING MEMBERS WITH SELF-DRILLING SELF-TAPPING HEX WASHER HEAD SCREWS. USE #12-24 FOR DECK ATTACHMENT TO SUPPORTS AND #10-16 FOR SIDELAP ATTACHMENT.
2. AT DECK BEARING SUPPORTS, PROVIDE SCREWS @12"OC (36/4 PATTERN).
3. AT SUPPORTS PARALLEL TO DECK SPAN, PROVIDE SCREWS @12"OC, TYPICAL.
4. AT DECK SIDELAPS/PERIMETER EDGE, PROVIDE SCREWS @12"OC, TYPICAL. WELDING OF SIDELAPS IS NOT PERMITTED FOR 22GA DECK.
5. ALL DECK ENDS TO BE LAPPED ON BOTH ENDS. DO NOT BUTT JOINTS.
6. DECK SECTION MINIMUM PROPERTIES: SEE TABLE BELOW.
7. DECK SHALL BE CONTINUOUS OVER (2) OR MORE SPANS, TYPICAL.
8. 5/8"Ø PUDDLE WELDS MAY BE USED FOR DECK ATTACHMENT TO SUPPORTS AT SAME SPACING SPECIFIED ABOVE. SIDELAP FASTENING MUST BE SCREWED AS DESCRIBED ABOVE.
9. CONTRACTOR OPTION TO SUBMIT MECHANICAL FASTENERS BY HILTI, SIMPSON STRONG-TIE, OR APPROVED EQUAL. SUBSTITUTION REQUESTS FOR PRODUCTS MAY BE SUBMITTED BY THE CONTRACTOR TO THE ENGINEER-OF-RECORD (EOR) FOR REVIEW. SUBSTITUTIONS WILL ONLY BE CONSIDERED FOR PRODUCTS THAT MEET THE CODE REQUIREMENTS FOR DECK ATTACHMENT, POSSESS A FM GLOBAL APPROVAL AND POSSESS A CODE REPORT (ICC-ES) RECOGNIZING THE PRODUCT FOR THE APPROPRIATE APPLICATION. SUBSTITUTION REQUESTS SHALL INCLUDE CALCULATIONS THAT DEMONSTRATE THE SUBSTITUTED PRODUCT IS CAPABLE OF ACHIEVING THE EQUIVALENT PERFORMANCE VALUES OF THE DESIGN BASIS PRODUCT. CONTRACTOR SHALL CONTACT MANUFACTURER'S REPRESENTATIVE FOR PRODUCT INSTALLATION TRAINING AND A LETTER SHALL BE SUBMITTED TO THE EOR INDICATING TRAINING HAS TAKEN PLACE. FASTENERS SHALL BE COLLATED AND INSTALLED USING THE MANUFACTURER'S DELIVERY TOOL AND FOLLOWING MANUFACTURER'S INSTRUCTIONS.

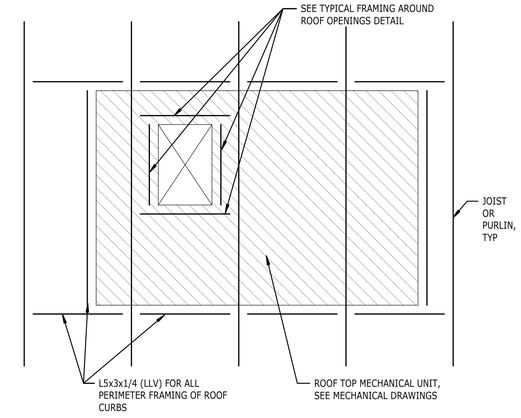
DECK TYPE	DESIGN THICKNESS (in)	DECK WEIGHT (psf)	I_p (in⁴/ft)	S_p (in³/ft)	I_n (in⁴/ft)	S_n (in³/ft)	V_s (lbs/ft)	F_y (ksi)
B22	0.0295	1.78	0.155	0.186	0.183	0.192	1818	33

1 S5.03 TYPICAL 1 1/2" METAL ROOF DECK
NTS



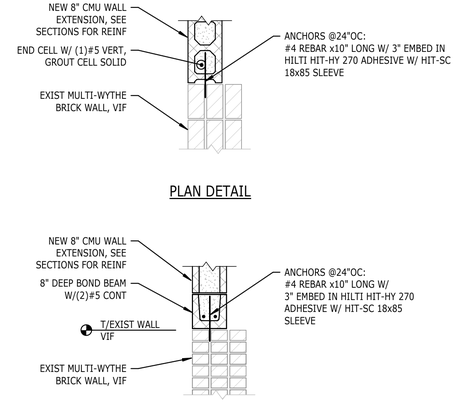
NOTES:
1. WHERE POSSIBLE, ALL LOADS ARE TO BE SUPPORTED FROM PANEL POINTS. WHERE NOT POSSIBLE, PROVIDE REINFORCEMENT AS DETAILED.
2. LOADS LESS THAN 100 LBS REQUIRE NO ADDITIONAL REINFORCING. LOADS LARGER THAN 400 LBS PER JOIST REQUIRE SPECIAL SUPPORT CONDITIONS TO BE APPROVED BY THE ENGINEER OF RECORD.
3. BOTTOM CHORDS EXTENDING UNSUPPORTED PAST THE FIRST BOTTOM PANEL POINT TOWARD JOIST BEARING LOCATION ARE NOT TO BE USED TO SUPPORT ANY LOAD WITHOUT WRITTEN PERMISSION FROM THE ENGINEER OF RECORD.

8 S5.03 TYPICAL JOIST REINFORCING AT POINT LOADS
NTS

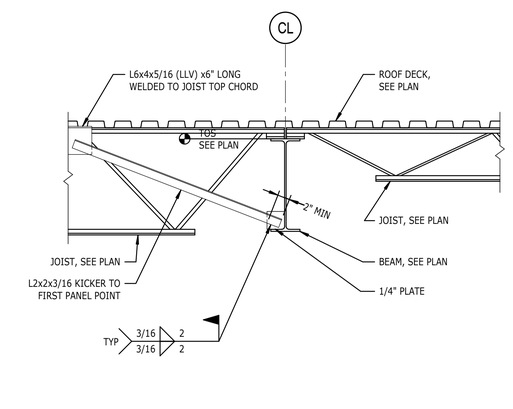


NOTES:
1. ALL MEMBERS NOT SIZED ON FRAMING PLAN SHALL BE L5x3x1/4.

5 S5.03 TYPICAL MECHANICAL RTU FRAMING
NTS

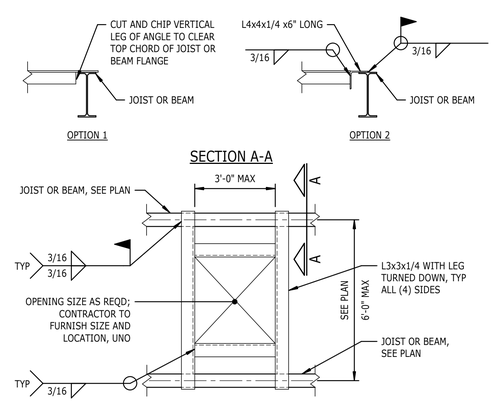


9 S5.03 DETAIL - NEW TO EXIST WALL
NTS



NOTES:
1. LOCATIONS INDICATED BY "BFB" ON PLAN.

6 S5.03 TYPICAL BEAM BOTTOM FLANGE BRACING
NTS



NOTES:
1. PROVIDE ANGLE FRAMING AROUND ALL OPENINGS LARGER THAN 10"x10" (10"Ø).

3 S5.03 TYPICAL FRAMING AT 1 1/2" DECK OPENINGS
NTS

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PROJECT #S24009

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NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 035283 ANDREW S. PORDOMINGO
5/22/2024

sheet information

#	date	description

project #:	23049
drawn by:	VNA
checked by:	ASP

STEEL ROOF DETAILS

S5.03

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GENERAL PLUMBING NOTES

I. GENERAL REQUIREMENTS:

1. PLUMBING CONTRACTOR IS TO FURNISH & PAY FOR ALL LABOR, MATERIAL, EQUIPMENT, PERMITS, & FEES REQUIRED FOR THE COMPLETE INSTALLATION OF ALL SYSTEMS IN THIS SECTION OF WORK.
2. ALL WORK IS TO BE PERFORMED IN ACCORDANCE W/ 2018 NCPC & ALL OTHER APPLICABLE CODES. P.C. IS TO COORDINATE W/ G.C. IN REGARDS TO PROJECT TIMELINE, WORK HOURS, AS WELL AS ANY BONDING OR INSURANCE REQUIREMENTS.
3. ALL PLUMBING FIXTURES & PLUMBING SYSTEM EQUIPMENT SHALL BE PROVIDED COMPLETE W/ ALL ACCESSORIES, HANGERS, VALVES, STOPS, TAILPIECES, TRAPS, FAUCETS, STRAINERS, ETC. REGARDLESS OF PRESENCE ON PLANS, SEE FIXTURE SCHEDULE.
4. ALL EQUIPMENT, MATERIALS, & INSTALLATION SHALL BE GUARANTEED TO BE FREE OF DEFECTS FOR A PERIOD OF ONE (1) YEAR AFTER FINAL ACCEPTANCE OF WORK OR IN ACCORDANCE W/ THE MFG'S STANDARD GUARANTEE, IF LONGER. EXISTING EQUIPMENT IS EXCLUDED FROM WARRANTY REQUIREMENT.
5. THESE DRAWINGS ARE DIAGRAMMATIC & SHOW GENERAL LOCATION & ARRANGEMENT OF ALL MATERIALS & EQUIPMENT. THE DRAWINGS SHALL BE FOLLOWED AS CLOSELY AS BUILDING CONSTRUCTION & ALL OTHER WORK WILL PERMIT.
6. DO NOT SCALE DRAWINGS FOR MEASUREMENT.
7. INFORMATION GIVEN IN SCHEDULES INCLUDES BOTH DESCRIPTION OF PRODUCT & MFG'S MODEL NUMBER. IF CONFLICT IS PRESENT BETWEEN DESCRIPTION & MODEL NUMBER, EQUIPMENT DESCRIPTION SHALL TAKE PRECEDENT. IN CASE OF CONFLICT BETWEEN THE PLANS & NOTES/ SPECIFICATIONS OR CONFLICT BETWEEN INFORMATION PRESENTED ON THE PLANS OR IN THE NOTES/SPECIFICATIONS, THEN THE MOST RESTRICTIVE SHALL TAKE PRECEDENT.
8. BEFORE BID P.C. IS RESPONSIBLE FOR CLARIFYING W/ G.C. ANY CONFUSION IN REGARDS TO RESPONSIBILITY OF WORK TO BE PERFORMED OR MATERIALS TO BE PROVIDED. THE SUBMITTAL OF THE BID BY THE CONTRACTOR WILL BE HELD AS PROOF THAT THE CONTRACTOR UNDERSTANDS THOROUGHLY & COMPLETELY THE SCOPE OF THE WORK INVOLVED, & HAS INCLUDED ON THE BID ALL THE NECESSARY ITEMS TO CARRY OUT THIS SECTION OF WORK.
9. AS SOON AS POSSIBLE (& NOT MORE THAN 30 DAYS) AFTER CONTRACT IS SIGNED, THE P.C. SHALL PROVIDE SUBMITTALS OF PLUMBING EQUIPMENT HE/SHE INTENDS TO PURCHASE FOR REVIEW & COMMENT BY THE ENGINEER. ENGINEER IS TO APPROVE SUBMITTALS BEFORE EQUIPMENT IS ORDERED.
10. ALL QUESTIONS MUST BE SUBMITTED IN RFI FORMAT TO THE ARCHITECT & MUST BE ADDRESSED BY THE APPROPRIATE DESIGNER OF RECORD PRIOR TO BECOMING A PROPOSED CHANGE ORDER.
11. P.C. IS TO REVIEW COMPLETE DRAWING SET. P.C. IS RESPONSIBLE FOR WORK EXPLICITLY SHOWN & WORK IMPLIED, UNLESS OTHERWISE NOTED. FINAL PLUMBING CONNECTION TO ALL EQUIPMENT, FIXTURES, ETC. IS THE RESPONSIBILITY OF THE P.C..

II. DIVISION OF WORK:

1. ALL ROOF PENETRATIONS, FLASHING, ETC. ARE TO BE PERFORMED BY ROOFING CONTRACTOR.
2. ALL LOW VOLTAGE WIRING RELATED TO PLUMBING EQUIPMENT & SYSTEMS IS THE RESPONSIBILITY OF THE PLUMBING CONTRACTOR. ALL HIGH VOLTAGE CONNECTIONS TO PLUMBING EQUIPMENT, INCLUDING DISCONNECTS, TO BE PROVIDED & INSTALLED BY E.C.
3. G.C. TO BE RESPONSIBLE FOR PROVIDING & INSTALLING ANY ACCESS DOORS RELATED TO PLUMBING SYSTEM (W/ EXCEPTION OF CLEANOUT COVERS, BY P.C.). P.C. RESPONSIBLE FOR COMMUNICATING TO G.C. SIZE & LOCATION OF REQUIRED ACCESS DOOR(S).
4. PLUMBING CONTRACTOR IS TO EMPLOY THE SERVICES OF THE G.C. FOR CUTTING & PATCHING OF WALLS, FLOORS, & CEILINGS RELATED TO THE INSTALLATION OF PLUMBING EQUIPMENT & SYSTEMS.
5. G.C. TO BE RESPONSIBLE FOR PROVIDING & INSTALLING ANY WATER HEATER PLATFORMS, EITHER FLOOR/WALL MOUNTED OR SUSPENDED. P.C. TO COMMUNICATE REQUIREMENTS TO G.C.
6. ALL GAS PIPING IS BY MECHANICAL CONTRACTOR.
7. WATER HEATER VENT BY PLUMBING CONTRACTOR.

III. MATERIALS:

1. ALL MATERIALS SHALL BE NEW UNLESS OTHERWISE SHOWN OR SPECIFIED.
2. PIPING MATERIALS & FITTINGS SHALL BE AS FOLLOWS:
   WASTE & VENT (ABOVE & BELOW SLAB):
   PVC PIPE, PVC SOCKET FITTINGS, & SOLVENT-CEMENTED FITTINGS.
   DOMESTIC WATER (BELOW SLAB):
   TYPE 'K' COPPER.
   OR
   CONTINUOUS PEX.
   DOMESTIC WATER (ABOVE SLAB):
   TYPE 'L' COPPER W/ SWEATED SOCKET FITTINGS. THREADED FITTINGS MAY BE USED AT VALVES, FIXTURES, & SIMILAR.
   OR
   CPVC PIPING W/ SOLVENT-CEMENTED FITTINGS. THREADED FITTINGS MAY BE USED AT VALVES, FIXTURES, & SIMILAR.
   OR
   PEX PIPING W/ FLARED OR MECHANICAL JOINTS/FITTINGS. DO NOT USE IN EXPOSED AREAS.
   STORM PIPING (ABOVE & BELOW SLAB):
   PVC PIPE, PVC SOCKET FITTINGS, & SOLVENT-CEMENTED FITTINGS.
3. FOR AUTOMATIC-CIRCULATING HOT WATER SYSTEMS, PIPING SHALL BE INSULATED W/ 1" OF INSULATION HAVING A CONDUCTIVITY NOT EXCEEDING 0.27 BTU•IN/HR x FT² x °F. THE FIRST 8' OF PIPING IN NON- CIRCULATING SYSTEMS SERVED BY EQUIPMENT W/OUT INTEGRAL HEAT TRAPS SHALL BE INSULATED W/ 0.5" OF MATERIAL HAVING A CONDUCTIVITY NOT EXCEEDING 0.27 BTU•IN/HR x FT² x °F. (2018 NCECC C404.4)
4. INSULATION IS REQUIRED ON ALL ROOF DRAIN BODIES & PIPING (ABOVE SLAB). 1/2" THICK RIGID MOLDED FIBERGLASS W/ FITTINGS INSERTS, PVC COVERS, & VAPOR BARRIER JACKET.
5. PROVIDE HANGERS & SUPPORTS APPROVED FOR USE PER NCPC.
6. ANY PLUMBING FIXTURES W/ A COMMON SHUT-OFF VALVE (I.E. PRE-RINSE, KITCHEN SINK, MOP SINK) ARE TO INCLUDE A CHECK VALVE ON THE HOT & COLD WATER VALVES TO PREVENT INTERCONNECTION OF HOT & COLD WATER LINES.
7. VENT MATERIAL SERVING ANY GAS FIRED APPLIANCE TO BE LISTED & LABELED, PER MFG'S INSTRUCTIONS & 2018 NCMC. IF CONFLICT IS NOTED CONTACT ENGINEER.

IV. COORDINATION:

1. BEFORE BEGINNING WORK, INVERT ELEVATIONS SHALL BE ESTABLISHED. P.C. IS TO ENSURE PROPER SLOPES OF ALL WASTE & STORM PIPING CAN BE MAINTAINED. CONTACT ENGINEER IMMEDIATELY IF PROBLEM/ISSUE IS DISCOVERED.
2. P.C. TO COORDINATE LOCATION OF ALL ROOF PENETRATIONS W/ ROOFING CONTRACTOR & MECHANICAL CONTRACTOR. P.C. & M.C. TO COORDINATE TO ENSURE NO PLUMBING VENTS ARE LOCATED WITHIN 10' OF ANY OUTSIDE AIR INTAKES.
3. P.C. TO COORDINATE W/ G.C. & ARCH PLANS TO ENSURE NECESSARY BACKING/SUPPORTS ARE INSTALLED TO ALLOW INSTALLATION OF PLUMBING FIXTURES.
4. THE PLUMBING CONTRACTOR SHALL COORDINATE CLOSELY W/ ALL OTHER TRADES TO AVOID CONFLICT & ENSURE OTHER TRADES PROVIDE MEASURES TO ACCOMMODATE PLUMBING WORK (I.E. ACCESS DOORS, SLAB/WALL/ROOF OPENINGS, ELECTRICAL CONNECTIONS, ETC.)
5. PIPING SHOULD BE COORDINATED W/ ALL STRUCTURAL FOOTINGS & FOUNDATIONS. PIPE SHOULD BE OFFSET TO AVOID CONTACT W/ FOOTINGS & FOUNDATION WALLS. IF PIPING MUST RUN UNDER A FOOTING OR THROUGH A FOUNDATION WALL, THE PIPE MUST BE INSTALLED W/ A RELIEVING ARCH OR IN A PIPE SLEEVE PER NCPC 305.3.
6. P.C. TO REFER TO ARCHITECTURAL DRAWINGS FOR MOUNTING HEIGHTS OF PLUMBING FIXTURES.

V. EXECUTION:

1. P.C. TO FOLLOW MFG'S INSTRUCTIONS WHEN INSTALLING PLUMBING EQUIPMENT. ENSURE REQUIRED MAINTENANCE ACCESS & CLEARANCES ARE MAINTAINED. IF CONFLICT EXISTS BETWEEN THESE PLANS & MFG'S INSTRUCTIONS, CONTACT ENGINEER.
2. P.C. RESPONSIBLE FOR EXECUTING ALL CODE REQUIRED TESTS & INSPECTIONS, INCLUDING BUT NOT LIMITED TO, LEAK & PRESSURE TESTING OF WASTE, VENT, & WATER PIPING, & SANITIZING OF WATER PIPING.
3. WATER SERVICE & BUILDING SEWER PIPING MUST BE SEPARATED PER NCPC 603.2.
4. ENSURE PIPING LOCATED ON EXTERIOR WALLS (OR OTHER WALLS EXPOSED TO FREEZING CONDITIONS) IS INSTALLED ON WARM-SIDE OF WALL INSULATION PER NCPC 305.4.
5. ALL WATER PIPING INSTALLED BELOW GRADE TO BE PROTECTED AGAINST FREEZING BY BURYING NOT LESS THAN 6" BELOW THE FROST LINE OR NOT LESS THAN 12" BELOW FINISHED GRADE, WHICHEVER IS GREATER PER NCPC 305.4.
6. A 14 AWG INSULATED COPPER WIRE IS TO BE PROVIDED ON ALL PLASTIC PIPE FROM THE CLEANOUT AT THE BUILDING DRAIN/BUILDING SEWER CONNECTION TO ALL POINTS DOWNSTREAM PER NCPC 306.2.4.
7. ANY NOTCHING, DRILLING, BORING, OR OTHER ALTERATION TO BUILDING STRUCTURE SHALL BE PERFORMED IN A CODE APPROVED METHOD & NOT THREATEN THE INTEGRITY OF THE BUILDING STRUCTURE.
8. SUPPORT ALL PIPING IN ACCORDANCE W/ NCPC. ANY SUSPENDED MATERIALS SHALL BE DIRECTLY SUPPORTED BY THE BUILDING STRUCTURE. DO NOT ATTACH ANYTHING TO THE ROOF DECK.
9. PROVIDE A U.L. LISTED ASSEMBLY FOR ALL PENETRATIONS THRU FIRE RATED WALLS, FLOORS, & CEILINGS.
10. PENETRATIONS OF ALL EXTERIOR WALLS, FLOORS, & CEILINGS SHALL BE SEALED IN AN AIR TIGHT MANNER & IN ACCORDANCE W/ 2018 NCECC.
11. CLEANOUT PLUGS SHALL BE INSTALLED IN ACCORDANCE W/ PLUMBING CODE REQUIREMENTS. PROVIDE CLEANOUTS AS PLANS INDICATED & AT THE BASE OF ALL WASTE STACKS, AT EVERY FOUR 45 DEGREE TURNS IN SERIES (W/ ONE 90° ELBOW COUNTING AS TWO 45° BENDS), AT EVERY 100 FEET, & AT THE BASE OF ALL ROOF LEADERS. CLEANOUTS SHALL BE PLACED IN READILY ACCESSIBLE LOCATIONS.
12. SUPPLY BRANCH LINES SERVING MORE THAN ONE (1) FIXTURE SHALL INCLUDE SHUT-OFF VALVE. LABEL VALVE & LOCATE AS CLOSE TO RISER/MAIN AS POSSIBLE. (NCPC 606.2.1)
13. VALVES NOT DIRECTLY AT EQUIPMENT SHALL BE LABELED INDICATING THE FIXTURE OR AREA SERVED. (NCPC 606.4)
14. PROVIDE SHUT-OFF VALVES ON THE FIXTURE SUPPLY TO EACH PLUMBING FIXTURE, APPLIANCE, OR MECHANICAL EQUIPMENT.
15. WATER HEATER SHALL BE FILLED W/ WATER & PURGED AS SOON AS INSTALLED OR IN NO EVENT LATER THAN GAS/ELECTRIC HOOK-UP.
16. COPPER PIPING SHALL BE PROTECTED AGAINST CONTACT W/ MASONRY OR DISSIMILAR METALS. ALL HANGERS, SUPPORTS, ANCHORS, & CLIPS SHALL BE COPPER OR COPPER PLATED. WHERE COPPER PIPING IS CARRIED ON IRON TRAPEZE HANGERS W/ OTHER PIPING, SATISFACTORY & PERMANENT ELECTROLYTIC ISOLATION MATERIAL SHALL PROTECT THE COPPER AGAINST CONTACT W/ OTHER METALS.
17. WHERE COPPER PIPING IS SLEEVED THROUGH MASONRY, SLEEVES SHALL BE COPPER OR RED BRASS. WHERE COPPER MUST BE CONCEALED IN A MASONRY PARTITION OR AGAINST MASONRY, CONTACT SHALL BE PREVENTED BY COATING THE COPPER HEAVILY W/ ASPHALTIC ENAMEL & PROVIDING 15# ASPHALT SATURATED FELT BETWEEN THE PIPE & MASONRY.
18. ALL PIPE INSULATION SHALL RUN CONTINUOUSLY THROUGH FLOORS, WALLS, & PARTITIONS. PIPE INSULATION SHALL BE MITERED AT ELBOWS & TEES TO ENSURE COMPLETE COVERAGE OF PIPING.
19. VACUUM BREAKERS SHALL BE PROVIDED FOR ALL FIXTURES TO WHICH HOSES MAY BE ATTACHED. VACUUM BREAKERS SHALL BE PERMANENTLY ATTACHED.
20. THE PLUMBING CONTRACTOR SHALL PROVIDE WATER HAMMER PROTECTION ON ALL WATER DISTRIBUTION PIPING SERVING EQUIPMENT W/ QUICK CLOSING VALVES (ICE MAKERS, DISHWASHERS, FLUSH VALVES, WASHING MACHINES, WATER COOLERS, ETC.) SEE SHOCK ARRESTOR SCHEDULE.
21. ACCESS DOORS TO BE PROVIDED FOR ALL VALVES & DEVICES REQUIRING ACCESS WHEN LOCATED IN WALLS OR ABOVE INACCESSIBLE CEILING CONSTRUCTION. ACCESS DOORS TO BE RATED WHERE INSTALLED IN RATED ASSEMBLIES.
22. P.C. IS TO ENSURE THAT THEIR INSTALLATION OF NEW CONDUITS, PIPES, DUCTWORK, & SIMILAR DOES NOT BLOCK ACCESS TO NEW OR EXISTING AREA EQUIPMENT & THAT THE FORE MENTIONED DOES NOT INTERFERE W/ THE REQUIRED SERVICE CLEARANCE OF NEW OR EXISTING EQUIPMENT. COORDINATE W/ OTHER TRADE CONTRACTORS & CONTACT ENGINEER IF UNCERTAINTY EXISTS REGARDING EQUIPMENT SERVICE CLEARANCE REQUIREMENTS.
23. THE PLUMBING CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING ALL PLUMBING EQUIPMENT FROM FOREIGN MATERIAL DURING CONSTRUCTION (PAINT, SPACKLE, ETC.). UPON COMPLETION OF WORK, THE PLUMBING CONTRACTOR SHALL CLEAN, WASH, ETC. ALL ITEMS & EQUIPMENT WITHIN HIS SCOPE OF WORK & LEAVE ALL ITEMS BRIGHT & CLEAN.
24. NO INSULATION PERMITTED ON BACKFLOW PREVENTER ASSEMBLY.
25. PROVIDE PRESSURE REDUCING VALVE IF INCOMING WATER PRESSURE EXCEEDS 80 PSI.

PLUMBING FIXTURE SPECIFICATIONS AND CONNECTION SCHEDULE

MARK	FIXTURE	TYPE	MANUFACTURER	MODEL NO.	MATERIAL	STYLE	FAUCET/VALVE				DRAIN		SUPPLIES AND STOPS	PIPE SIZES				MOUNTING	REMARKS
							MANUFACT. MODEL NO.	SPOUT	HANDLES	CENTERS	TYPE	SIZE		WASTE	VENT	CW	HW		
P-1	WATER CLOSET	FLUSH TANK	AMERICAN STANDARD	LEFT: 215AA.104 RIGHT: 215AA.105	VITREOUS CHINA	ADA ELONGATED	-	-	-	-	-	-	BRASSCRAFT OCR1912DL	3"	2"	½"	–	FLOOR	PROVIDE OPEN FRONT SEAT WITH NO LID.
P-2	LAVATORY	WALL MOUNT	AMERICAN STANDARD	0355.012	VITREOUS CHINA	ADA D-SHAPE	AMER. STD. 6056.205 (W/ TV-1)	CENTER	AUTO	4" 3-HOLE	GRID	1½"	BRASSCRAFT OCR1912A	2"	1½"	½"	½"	WALL	W/ WALL BRACKET. 0.5 GPM. MOUNT AT ADA HEIGHT. AC PWR. W/ TV-1, SET TO 100°F.
P-3	MOP SINK	FLOOR MOUNT	FIAT	MSB2424	MOLDED STONE	ONE-PIECE 24x24	FIAT 830AA (W/ CHECK VALVES)	CENTER	2	8" 2-HOLE	DOME	3"	-	3"	1½"	½"	½"	FLOOR	W/ WALL BRACKET. W/ MOP HANG. W/ HOSE & HOSE BRACKET. W/ VACUUM BREAKER.
FCO	FLOOR CLEANOUT	ADJUSTABLE	ZURN	CO-2450	PVC BODY, NICKEL CVR.	FINISHED FLOOR	-	-	-	-	-	-	-	SEE PLAN	–	–	–	FLOOR	
FD	FLOOR DRAIN	FINISHED FLOOR	ZURN	FD1	PVC	ADJUSTABLE	-	-	-	-	-	-	-	SEE PLAN	–	–	–	FLOOR	W/ DEEP SEAL TRAP.
FPHB	HOSE BIB	EXPOSED, ANTI-SIPHON	ZURN	Z1346	BRONZE	NON-FREEZE	-	-	-	-	-	-	-	–	–	½"	–	WALL	VERIFY WALL DEPTH. INTEGRAL VACUUM BREAKER. LOOSE KEY TYPE.
FS	FLOOR SINK	6" DEEP	ZURN	FD-2375	CAST IRON, PORCELAIN ENAMEL	ANTI-SPLASH	-	-	-	-	-	-	-	SEE PLAN	–	–	–	FLOOR	W/ DOME STRAINER. W/ DEEP SEAL TRAP. W/ HALF GRATE
GCO	GRADE CLEANOUT	ADJUSTABLE	ZURN	CO-2450	PVC BODY, NICKEL CVR.	-	-	-	-	-	-	-	-	SEE PLAN	–	–	–	GRADE	W/ CONCRETE PAD.
HB-1	HOSE BIB	EXPOSED, ANTI-SIPHON	ZURN	Z1341	BRONZE	-	-	-	-	-	-	-	-	–	–	½"	–	WALL	INTEGRAL VACUUM BREAKER. LOOSE KEY TYPE.
HB-2	HOSE BIB	EXPOSED, ANTI-SIPHON	ZURN	Z1341	BRONZE	-	-	-	-	-	-	-	-	–	–	½"	–	WALL	INTEGRAL VACUUM BREAKER.
RD	ROOF DRAIN	GRAVITY	ZURN	FROET 100C	CAST IRON	-	-	-	-	-	-	-	-	SEE PLAN	–	–	–	ROOF	W/ SECURED DUCTILE IRON DOME. INTERNAL OVERFLOW STANDPIPE. COORD. REQ'D CLAMPS, FITTINGS, ETC. W/ ROOF CONSTRUCTION.
WCO	WALL CLEANOUT	TEE	CHARLOTTE PIPE	PVC-445	PVC	FLUSH PLUG	-	-	-	-	-	-	-	SEE PLAN	–	–	–	WALL	W/ ZURN CO-2530 WALL COVER. W/ PVC PLUG W/ THREADED TAP.
BFP-1	BACK FLOW PREVENTER	RED. PRESS. ZONE	WATTS	LF909 (SMALL)	LEAD-FREE, CAST COPPER	HORIZONTAL	-	-	-	-	-	-	-	–	–	2"	–	WALL	W/ STRAINER & BALL VALVES. W/ TEST PORTS. DRAIN W/ AIR GAP. MAINTAIN MFG'S CLEARANCES.
RP-1	RECIRC. PUMP	DIRECT DRIVE	TACO	MODEL 003	BRONZE OR STAINLESS STEEL	MAINT. FREE	-	-	-	-	-	-	-	–	–	–	½"	IN-LINE	MAX 3.8 GPM @ 3FT TDH. 115V/1Ø, 50W, 0.43 F.L.A. W/ TIMER.
WH-1	WATER HEATER	GAS DIR. VENT	AO SMITH	BTH-199(A) (W/ CONDENSATE NEUTRALIZER KIT)	GLASS LINED	UPRIGHT	-	-	-	-	-	-	-	–	–	1½"	1½"	FLOOR (STAND)	100 GAL. 199 MBH, 115V. 235GPH @ 100°F RISE. SET TO 140°F. W/ TV-2.

NOTES:
1. ALL FIXTURE COLORS & FINISHES TO BE APPROVED BY OWNER & ARCHITECT BEFORE PURCHASING.
2. PROVIDE P-TRAP AND SUPPLY LINE SAFETY COVERS FOR ALL ADA SINK AND LAVATORY INSTALLATIONS.
3. WATER CLOSET HANDLES TO BE LOCATED ON "WIDE SIDE" OF STALL FOR ADA FIXTURES.
4. SEE DETAILS FOR ADDITIONAL ITEMS TO BE PROVIDED/INSTALLED W/ FIXTURES LISTED ABOVE.

SHOCK ARRESTOR SCHEDULE

FIXTURE UNITS	UNIT SIZE (CONN. SIZE)	MFG & MODEL (OR EQUAL)
1-4	AA (1/2")	SIOUX CHIEF "MINI-RESTER"
5-11	A (1/2")	SIOUX CHIEF "HYDRA-RESTER"

NOTES:
1. LOCATE SHOCK ARRESTORS IN ACCESSIBLE LOCATION OR PROVIDE SHOCK ARRESTORS THAT ALLOW CONCEALMENT PER MANUFACTURER'S GUIDELINES.
2. SEE PLAN, RISERS, & SCHEDULES FOR ARRESTOR LOCATIONS. IF LOCATION NOT INDICATED, INSTALL IN ACCORDNCE W/ MANUFACTURER'S GUIDELINES.
3. SHOCK ARRESTORS **NOT** REQUIRED ON PLASTIC PIPE PER 2018 NCPC 604.9.

VALVE SCHEDULE

TAG	DESCRIPTION	MFG & MODEL (OR EQUAL)
BV-1	FULL-PORT BALL VALVE	WATTS LFB6081 (1/2" TO 2")
CV-1	DUAL CHECK VALVE	WATTS SD-2 (ASSE 1032; <1/2") WATTS LF92 (ASSE 1012; 1/2" & 3/4")
DTV-1	DRAIN TEMPERING VALVE	THERMOMEGATECH DTV 325-000000-140 (1/2")
PRV-1	PRESS. RED. VALVE	WATTS LF223-S (SET TO 70 PSI; ASSE 1003; 1/2" TO 2-1/2")
TV-1	IND. THERMO. MIX. VALVE	WATTS LFUSG-B (0.25 TO 2.5 GPM; 3/8") (SET TO 100°F DISCHARGE; ASSE 1070)
TV-2	THERMO. MIX. VALVE	WATTS LFMMV (0.5 TO 20 GPM; 1/2" TO 1") (SET TO 120°F DISCHARGE)

NOTES:
1. SEE PLAN FOR SIZE. VALVE SIZE TO EQUAL LINE SIZE.
2. BALL VALVES TO INCLUDE REMOVABLE HANDLES.
3. IF AVAILABLE, VALVES MAY BE THREADED OR SWEATED CONNECTIONS. USE EXTREME CARE & LOW TEMP SOLDER TO PROTECT VALVE SEATS IF SWEATED CONNECTIONS ARE USED.

GREASE INTERCEPTOR (GI-1) SPEC

1. GREASE INTERCEPTOR TO BE EQUAL TO OLDCASTLE GI-1500, 1500 GALLON PRECAST CONCRETE MODEL.
2. GREASE INTERCEPTOR TO BE INSTALLED BELOW GRADE.
3. ACCESS COVERS TO BE TRAFFIC RATED.
4. NEW GREASE INTERCEPTOR TO REPLACE IN-PLACE EXISTING 500 GALLON GREASE INTERCEPTOR.
5. SEE INSTALLATION DETAILS FOR ADDITIONAL INFORMATION.

PLUMBING LEGEND

DOMESTIC COLD WATER PIPING	AAV AIR ADMITTANCE VALVE
DOMESTIC HOT WATER PIPING	ABV ABOVE
HWR DOMESTIC HOT WATER RETURN	AHJ AUTHORITY HAVING JURISDICTION
VENT PIPING	AFF ABOVE FINISHED FLOOR
WASTE (SANITARY SEWER) PIPING	BFF BELOW FINISHED FLOOR
GW WASTE (GREASE) PIPING	BFP BACK FLOW PREVENTER
G GAS PIPING	BV BALL OR BALANCING VALVE (SEE SCHED)
SD STORM PIPING	CV CHECK VALVE
VALVE	CW COLD WATER
VALVE	DN DOWN
CHECK VALVE	E.C. ELECTRICAL SUB-CONTRACTOR
PIPE UP/DOWN	FCO FLOOR CLEAN OUT
FLOOR DRAIN	FD FLOOR DRAIN
FLOOR SINK	FR FROM
CLEANOUT	FS FLOOR SINK
### KITCHEN EQUIPMENT TAG	G.C. GENERAL CONTRACTOR
	HB HOSE BIBB
	HD HUB DRAIN
	HW HOT WATER
	M.C. MECHANICAL SUB-CONTRACTOR
	P.C. PLUMBING SUB-CONTRACTOR
	PRV PRESSURE REDUCING VALVE
	RHD ROOF HYDRANT
	SS SANITARY SEWER
	TV TEMPERING VALVE
	WF WALL FAUCET
	WH WATER HEATER
	WHD WALL HYDRANT
	YHD YARD HYDRANT

PLUMBING FIXTURE REQUIREMENTS

WASTE			WATER			
BUILDING DRAIN SIZE	NUMBER OF BUILDING DRAINS	TOTAL FIXTURE UNIT LOAD	WATER SERVICE SIZE	NUMBER OF WATER SERVICES	TOTAL FIXTURE UNIT LOAD	NOTES
4"	1	80	2"	1	72	TENANT SPACE ONLY

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sheet issue

#	date	description
PR	05-22-2024	PERMIT SET

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 044529 DAVID M. METCALF 5/22/24

sheet information

project #:	23049
drawn by:	CWH
checked by:	DMM

PLUMBING SCHEDULES AND NOTES

P0.01

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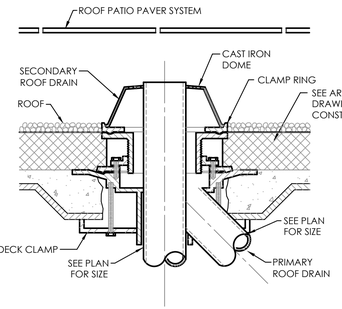
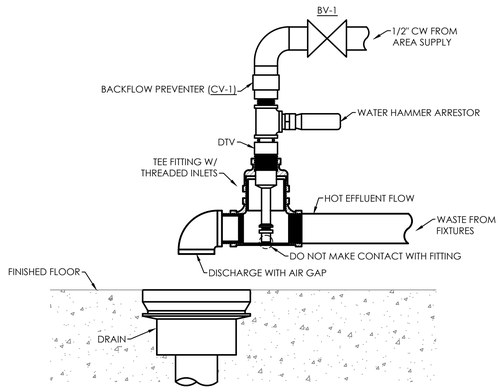
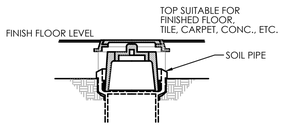
NOTE:
ROOF DRAIN TO BE INSTALLED BELOW PAVERS WITH TAPERED INSULATION. SEE ARCH PLANS FOR MORE INFORMATION.



12 COMBO ROOF DRAIN DETAIL
NO SCALE



13 DRAIN WATER TEMPERING VALVE DETAIL
NO SCALE



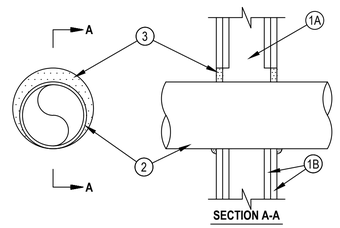
11 FLOOR CLEANOUT DETAIL
NO SCALE

System No. W-L-1054

WL 1054

Classified by Underwriters Laboratories, Inc. to UL 1479 and CAN/ULC-S115

ANSI/UL1479 (ASTM E814)	CAN/ULC S115
F Ratings —1 and 2 Hr (See Items 1 and 3)	F Ratings — 1 and 2 Hr (See Items 1 and 3)
T Rating — 0 Hr	FT Rating — 0 Hr
L Rating at Ambient — Less Than 1 CFM/sq ft	FH Ratings —1 and 2 Hr (See Items 1 and 3)
L Rating at 400 F — Less Than 1 CFM/sq ft	FTH Rating — 0 Hr
	L Rating at Ambient — Less Than 1 CFM/sq ft
	L Rating at 400 F — Less Than 1 CFM/sq ft



1. Wall Assembly — The 1 or 2 hr fire-rated gypsum wallboard/stud wall assembly shall be constructed of the materials and in the manner specified in the individual U300 or U400 Series Wall and Partition Designs in the UL Fire Resistance Directory and shall include the following construction features:
   A. Studs — Wall framing may consist of either wood studs or steel channel studs. Wood studs to consist of nom 2 by 4 in. (51 by 102 mm) lumber spaced 16 in. (406 mm) OC. Steel studs to be min 2-1/2 in. (64 mm) wide and spaced max 24 in. (610 mm) OC. When steel studs are used and the diam of opening exceeds the width of stud cavity, the opening shall be framed on all sides using lengths of steel stud installed between the vertical studs and screw-attached to the steel studs at each end. The framed opening in the wall shall be 4 to 6 in. (102 to 152 mm) wider and 4 to 6 in. (102 to 152 mm) higher than the diam of the penetrating item such that, when the penetrating item is installed in the opening, a 2 to 3 in. (51 to 76 mm) clearance is present between the penetrating item and the framing on all four sides.
   B. Gypsum Board* — 5/8 in. (16 mm) thick, 4 ft (122 cm) wide with square or tapered edges. The gypsum board type, thickness, number of layers, fastener type and sheet orientation shall be as specified in the individual U300 or U400 Series Design in the UL Fire Resistance Directory. Max diam of opening is 32-1/4 in. (819 mm) for steel stud walls. Max diam of opening is 14-1/2 in. (368 mm) for wood stud walls.

   The F and FH Ratings of the firestop system are equal to the fire rating of the wall assembly.

2. Through-Penetrants — One metallic pipe, conduit or tubing to be installed either concentrically or eccentrically within the firestop system. The annular space shall be nom 0 in. to max 2-1/4 in. (57 mm). Pipe may be installed with continuous point contact. Pipe, conduit or tubing to be rigidly supported on both sides of wall assembly. The following types and sizes of metallic pipes, conduits or tubing may be used:
   A. Steel Pipe — Nom 30 in. (762 mm) diam (or smaller) Schedule 10 (or heavier) steel pipe.
   B. Iron Pipe — Nom 30 in. (762 mm) diam (or smaller) cast or ductile iron pipe.
   C. Conduit — Nom 4 in. (102 mm) diam (or smaller) steel electrical metallic tubing or 6 in. (152 mm) . diam steel conduit.
   D. Copper Tubing — Nom 6 in. (152 mm) diam (or smaller) Type L (or heavier) copper tubing.
   E. Copper Pipe — Nom 6 in. (152 mm) diam (or smaller) regular (or heavier) copper pipe.
3. Fill, Void or Cavity Material* — Sealant — Min 5/8 in. (16 mm) thickness of fill material applied within the annulus, flush with both surfaces of wall. At the point or continuous contact locations between pipe and wall, a min 1/2 in. (13 mm) diam bead of fill material shall be applied at the pipe wall interface on both surfaces of wall.
   HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — FS-One Sealant or FS-ONE MAX Intumescent Sealant

* Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.

HILTI
Hilti Firestop Systems

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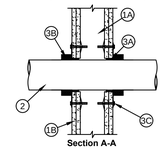
October 14, 2015

10 METALLIC PIPE (GYPSUM WALL) DETAIL
NO SCALE

System No. W-L-2059
F Ratings - 1 and 2 Hr (See Items 2 and 3)
T Ratings - 3/4, 1, 1-1/2 and 2 Hr (See Items 2 and 3)
L Rating At Ambient - 1 CFM/sq ft
L Rating At 400 F - Less Than 1 CFM/sq ft



1. Wall Assembly - The 1 or 2 hr fire rated gypsum board/stud wall assembly shall be constructed of the materials and in the manner described in the individual U300, U400 and V400 Series Wall and Partition Designs in the UL Fire Resistance Directory and shall include the following construction features:
   A. Studs - Wall framing may consist of either wood studs or steel channel studs. Wood studs to consist of nom 2 by 4 in. (51 by 102 mm) lumber spaced 16 in. (406 mm) OC. Steel studs to be min 2-1/2 in. (64 mm) wide and spaced max 24 in. (610 mm) OC.
   B. Gypsum Board* - 5/8 in. (16 mm) thick, 4 ft (1219 mm) wide with square or tapered edges. The gypsum board type, thickness, number of layers, fastener type and sheet orientation shall be as specified in the individual U300, U400 or V400 Series Design in the UL Fire Resistance Directory. Max diam of opening is 5 in. (127 mm).
2. Through-Penetrants - One nonmetallic pipe or conduit to be centered within the firestop system. The annular space shall be max 1/4 in. (6 mm). Pipe or conduit to be rigidly supported on both sides of the wall assembly. The following types and sizes of nonmetallic pipes or conduits may be used:
   A. Polyvinyl Chloride (PVC) Pipe - Nom 4 in. (102 mm) diam (or smaller) Schedule 40 or 80 solid or cellular core PVC pipe for use in closed (process or supply) or vented (drain, waste or vent) piping systems. When Schedule 80 PVC pipe is used, the F and T Ratings are 1 hr. When Scheduled 80 PVC pipe is used in closed (process or supply) piping systems, the F and T Ratings are equal to the assembly rating of the wall in which it is installed.
   B. Rigid Nonmetallic Conduit - Nom 4 in. (102 mm) diam (or smaller) Schedule 40 or 80 PVC conduit installed in accordance with Article 347 of the National Electrical Code (NFPA No. 70). When Schedule 80 PVC conduit is used, the F and T Ratings are 1 hr.
   C. Chlorinated Polyvinyl Chloride (CPVC) Pipe - Nom 4 in. (102 mm) diam (or smaller) SDR 13.5 CPVC pipe for use in closed (process or supply) piping systems.
   D. Acrylonitrile Butadiene Styrene (ABS) Pipe - Nom 4 in. (102 mm) diam (or smaller) Schedule 40 solid or foamed core ABS pipe for use in closed (process or supply) or vented (drain, waste or vent) piping systems.
   E. Fire Retardant Polypropylene (FRPP) Pipe - Nom 4 in. (102 mm) diam (or smaller) Schedule 40 FRPP pipe for use in closed (process or supply) or vented (drain, waste or vent) piping systems.
   F. Polyvinylidene Fluoride (PVDF) Pipe - Nom 4 in. (102 mm) diam (or smaller) Schedule 40 PVDF pipe for use in closed (process or supply) or vented (drain, waste or vent) piping systems.
   G. Fiberglass Reinforced Pipe (FRP) Pipe - Nom 4 in. (102 mm) diam (or smaller) glass fiber reinforced thermosetting resin pipe for use in closed (process or control) or vented (drain, waste or vent) piping systems. When FRP pipe is used, T Rating is 3/4 hr.
   H. High Density Polyethylene (HDPE) Pipe - Nom 4 in. (102 mm) diam (or smaller) Schedule 40 HDPE pipe for use in closed (process or supply) piping systems.
3. Firestop System - The firestop system shall consist of the following:
   A. Fill, Void or Cavity Material* - Sealant - Fill material forced into annular space to max extent possible. Caulk shall be installed flush with both surfaces of wall assembly.

      SPECIFIED TECHNOLOGIES INC - SpecSeal 100, 101, 102, 105, 120 or 129 Sealant, SpecSeal LCI Sealant, Pensil 300 Sealant or SpecSeal Series SIL300 Sealant
   B. Fill, Void or Cavity Material - Wrap Strip - Nom 1/8 or 3/16 in. (3.2 or 4.8 mm) thick intumescent material faced on both sides with a plastic film, supplied in 2 in. (51 mm) wide strips or nom 1/4 in. (6 mm) thick intumescent material faced on both sides with a plastic film, supplied in 1-1/2 in. (38 mm) wide strips. The layers of wrap strips are individually wrapped around the through-penetrant with ends butted and held in place with masking tape. Butted ends in successive layers shall be aligned.

Fire Rating of Wall Hr	Max Diam of Through Penetrant in. (mm)	No. of Wrap Strip Layers	F Rating Hr	T Rating Hr
1	1-1/2 (38)	1	1	1
2	1-1/2 (38)	1	2	1-1/2
1	2 (51)	1	1	1
2	2 (51)	1	2	1-1/2
1	3 (76)	2	1	1
2	3 (76)	2	2	2
1	4 (102)	3	1	1
2	4 (102)	3	2	2

   Except as noted in item 2, the F and T Rating of the firestop system is dependent upon the fire rating of wall, diam of through penetrant and the number of wrap strips as tabulated below:

   SPECIFIED TECHNOLOGIES INC - SpecSeal BLU Wrap Strip, SpecSeal BLU2 Wrap Strip or SpecSeal RED Wrap Strip
   C. Steel Collar - Collar fabricated from coils of precut 0.016 in. (0.4 mm) thick (30 MSG) galv sheet steel available from wrap strip manufacturer. Collar shall be min 1-1/2 in. (38 mm) deep with 1 in. (25 mm) wide by 2 in. (53 mm) long anchor tabs for securement to the concrete floor or wall. Retainer tabs, 3/4 in. (19 mm) wide tapering down to 1/4 in. (6 mm) wide and located opposite the anchor tabs, are folded 90 degree toward pipe surface to maintain the annular space around the pipe and to retain the wrap strips. Steel collar wrapped around wrap strips and pipe with a 1 in. (25 mm) wide overlap along its perimeter joint and secured together by means of a min 1/2 in. (13 mm) wide by 0.028 in. (0.7 mm) thick stainless steel hose clamp installed at mid-depth of the steel collar. As an alternate to the steel hose clamp, the steel collar may be secured together by means of three No. 8 by 1/4 in. (6 mm) long steel sheet metal screws when more than one layer of wrap strip is used.

      Wrap strip/collar assembly is slid along the through-penetrant until abuts the surface of the wall. Collar secured to wall by 1/8 in. (3.2 mm) diam by 1-3/4 in. (44 mm) long steel molly bolts in conjunction with 1-1/4 in. (32 mm) diam steel fender washers. The number of molly bolts used is dependent upon the nom diam of the through penetrant. Two molly bolts, symmetrically located, are required for nom 1-1/2 in. (38 mm) and 2 in. (51 mm) diam through penetrants. Three molly bolts, symmetrically located, are required for nom 2-1/2 in. (64 mm) and 3 in. (76 mm) diam through penetrants. Four molly bolts, symmetrically located, are required for nom 3-1/2 in. (89 mm) and 4 in. (102 mm) diam through penetrants. Steel collars are installed on each side of wall.
   D. Firestop Device* - (Optional, Not Shown) - As an alternate to item 3B and 3C, galv steel collar lined with an intumescent material sized to fit the specific diam of the through-penetrant. Device shall be installed around through-penetrant in accordance with accompanying installation instructions. Device incorporates anchor tabs for securement to each surface of wall assembly by means of 1/8 in. (3 mm) diam by 1-3/4 in. (45 mm) long steel molly bolts in conjunction with 1/4 in. (6 mm) diam by 1-1/2 in. (38 mm) diam steel fender washers.

      SPECIFIED TECHNOLOGIES INC - SpecSeal Firestop Collar, SpecSeal LCC Collar or SpecSeal SSC Collar . When SpecSeal LCC Collar or SpecSeal SSC Collar are used, the max annular space shall be 1/8 in. (3 mm) for max 2-1/2 in. (64 mm) diam pipe and shall be max 1/4 in. (6 mm) for pipe larger than 2-1/2 in. (64 mm) diam.

      *Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.

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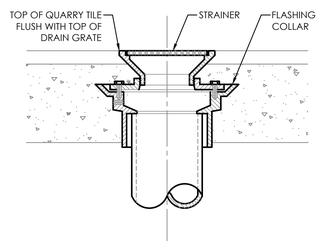
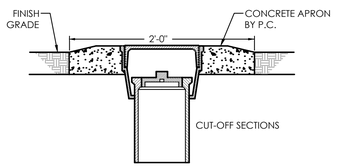
Created or Revised: November 27, 2012
(800)992-1180 • (908)526-8000 • FAX (908)231-8415 • E-Mail:techserv@stifirestop.com • Website:www.stifirestop.com
W-L-2059

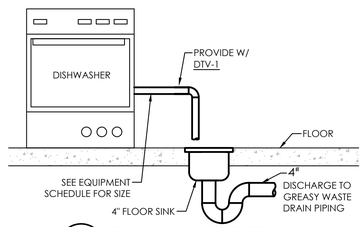
9 NON-METALLIC PIPE (GYPSUM WALL) DETAIL
NO SCALE



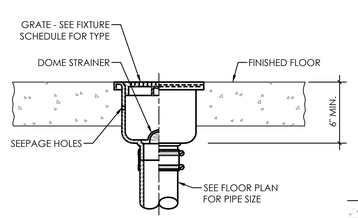
8 FLOOR DRAIN DETAIL
NO SCALE



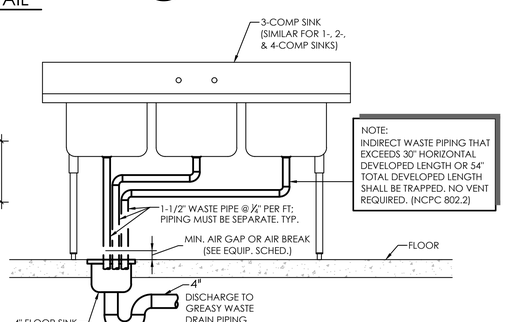
7 EXTERIOR CLEANOUT DETAIL
NO SCALE



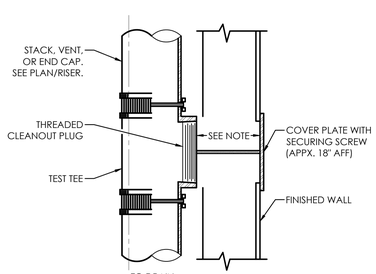
6 DISHWASHER DETAIL
NO SCALE



5 FLOOR SINK DETAIL
NO SCALE

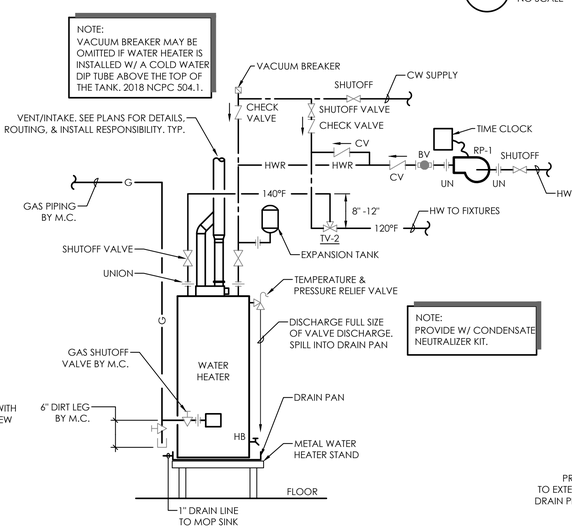


4 PREP/UTENSIL WASH DETAIL
NO SCALE



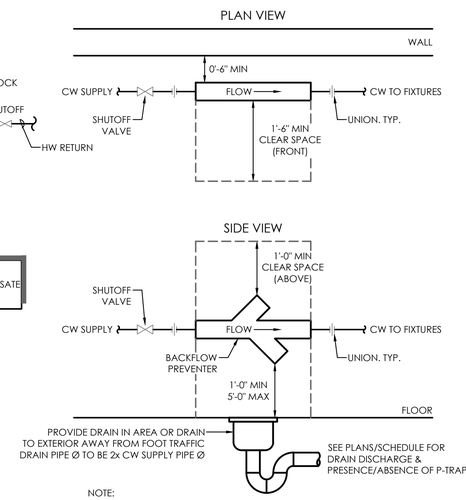
NOTE:
EXTEND TEST TEE OPENING IF PLUG IS GREATER THAN 8" FROM FINISHED WALL.

3 WALL CLEANOUT DETAIL
NO SCALE



NOTE:
1. INSTALL WATER HEATER PER MFG'S INSTRUCTIONS
2. PROVIDE HEAT TRAP ON HW/CW LINES PER ENERGY CODE
3. SET TIME CLOCK TO HOURS OF OPERATION. COORDINATE W/ OWNER
4. ELEVATE DRAIN PAN AS NECESSARY TO ALLOW PROPER FLOW TO MOP SINK

2 WATER HEATER DETAIL (FLOOR)
NO SCALE



NOTE:
1. INSTALL PER MANUFACTURER'S INSTRUCTIONS.
2. CONSULT ALL LOCAL AHJ GUIDELINES FOR ADDITIONAL CLEARANCE AND CLEAR SPACE REQUIREMENTS.
3. ALL NEW BACKFLOW PREVENTERS DOWNSTREAM OF A DOMESTIC WATER METER CONNECTED TO THE DOMESTIC WATER LINE MUST BE LEAD FREE.

1 BACKFLOW PREVENTER DETAIL
NO SCALE

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ZEBULON, NC 27597

sheet issue

#	date	description
PR	05-22-2024	PERMIT SET

NORTH CAROLINA REGISTERED LICENSED PROFESSIONAL ENGINEER SEAL 044528 MECHANICAL 5/22/24

sheet information

project #:	23049
drawn by:	CWH
checked by:	DMM

PLUMBING DETAILS

P0.02

5/22/2024 2:10 PM
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From: FOG <FatOG.FOG@raleighnc.gov>
Sent: Thursday, March 28, 2024 10:20 AM
To: Richard Groat <rdg@ba-inc.com>
Cc: FOG <FatOG.FOG@raleighnc.gov>; Sanders, Courtney <Courtney.Sanders@raleighnc.gov>
Subject: 122 Arendell St. Grease Interceptor

CAUTION: This email originated from outside your organization. Exercise caution when opening attachments or clicking links, especially from unknown senders.

Richard,

Raleigh Water Fats, Oil, and Grease offers no objection to **Arendell Restaurant located at 122 Arendell St, NC 27597** installing a 1500 gallon single use grease interceptor. The grease interceptor shall conform to S40,41 and 25 detail.

C. DeCarlo Sanders
Utilities Analyst
City of Raleigh
Public Utilities | Raleigh Water
Sewer Maintenance Division
Raleigh, NC 27604
919-996-2334 (office) | 919-280-1300 (mobile)
Courtney.Sanders@raleighnc.gov

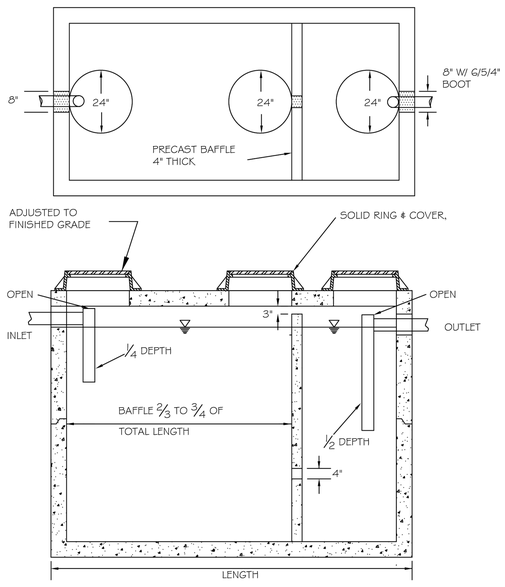
2 GREASE INTERCEPTOR APPROVAL
NO SCALE

LOCALLY AVAILABLE SIZES	
INTERCEPTORS CAPACITY (GAL.)	SEPARATORS CAPACITY (GAL.)
300	1000
550	1200
750	1600
1000	
1200	
1500	
2000	
2500	
3000	
4000	
5000	
6000	
8000	

NOTES:

1. BAFFLE WALL LOCATED AT A DISTANCE FROM INLET WALL 2/3 TO 3/4 OF THE TOTAL LENGTH OF THE INTERCEPTOR OR SEPARATOR AS SHOWN ON DETAIL S-40.
   BAFFLE WALLS LOCATED AT A DISTANCE APPROXIMATELY OF 1/3 OF THE TOTAL LENGTH OF THE SEPARATOR AS SHOWN ON DETAIL S-40.01.
2. EACH INTERCEPTOR OR SEPARATOR SHALL HAVE INLET AND OUTLET TEES. THE OUTLET TEE SHALL EXTEND 50% INTO THE LIQUID DEPTH. THE INLET TEE SHALL EXTEND 25% INTO THE LIQUID DEPTH. INLET AND OUTLET TEES MUST BE OPEN TO ALLOW THE COLLECTION OF F.O.G. SAMPLE.
3. ACESS OPENINGS OVER EACH COMPARTMENT WITHIN THE INTERCEPTOR OR SEPARATOR SHALL BE 24 INCHES IN DIAMETER AND CONTAIN PICK HOLES. ALL COVERS SHALL BE CONSTRUCTED OF CAST IRON OR EQUIVALENT TRAFFIC BEARING MATERIAL. MANHOLE COVERS MUST EXTEND TO FINISH GRADE AND BE INSTALLED TO EXCLUDE THE ENTRANCE OF STORMWATER INTO THE INTERCEPTOR OR SEPARATOR.
4. FULL SIZE DUAL SWEEP CLEANOUTS SHALL BE INSTALLED ON THE INLET AND OUTLET SIDES OF THE INTERCEPTOR OR SEPARATOR.
5. INTERCEPTORS AND SEPARATORS MUST BE VENTED IN ACCORDANCE WITH THE NC STATE PLUMBING CODE.
6. CONCRETE: 4000 PSI @ 28 DAYS.
7. DESIGN: ACI 318 BUILDING CODE
   ASTM C1613-06 FOR GREASE INTERCEPTORS
   ASTM C913-02 FOR WATER AND WASTEWATER STRUCTURES
   ASTM C890-06 FOR MINIMAL STRUCTURAL DESIGN LOADING
8. INTERCEPTORS AND SEPARATORS SHALL BE DESIGNED TO WITHSTAND AN H-20 WHEEL LOAD.
9. INTERCEPTORS OR SEPARATORS MADE OF POLYETHYLENE OR FIBERGLASS SHALL INCLUDE A MINIMUM 12,000 PSI TENSILE STRENGTH, 19,000 PSI FLEXURAL STRENGTH, AND 800,000 PSI FLEXURAL MODULUS.
10. ALL INTERCEPTORS AND SEPARATORS SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURERS SPECIFICATIONS.

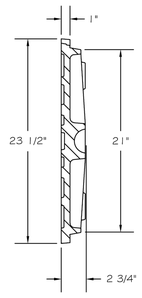
CITY OF RALEIGH				
DEPARTMENT OF PUBLIC UTILITIES				
DIMENSIONS: GREASE INTERCEPTORS OIL-WATER-SAND SEPARATORS				
DWG. NO.	REVISIONS	DATE	REVISIONS	DATE
S-41	RRH 3/9/00		D.H.L.	6/18/08
	ABB	3/19/04		



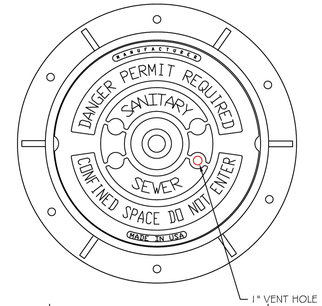
NOTES:
1. REINFORCEMENT: H-20 BRIDGE LOADING (TRAFFIC RATED)
2. CONCRETE: 4000 PSI @28 DAYS
3. EARTHCOVER: 0' TO 5' MAX.

CITY OF RALEIGH				
DEPARTMENT OF PUBLIC UTILITIES				
1000 GALLON GREASE INTERCEPTOR				
DWG. NO.	REVISIONS	DATE	REVISIONS	DATE
S-40	RRH 3/9/00		D.H.L.	6/18/08
	ABB	3/19/04		

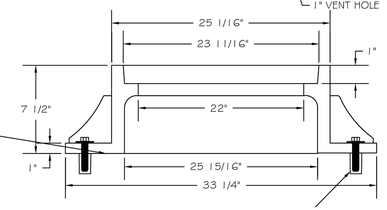
COVER 120 LBS. MINIMUM



MANHOLE FRAME AND COVER



1" VENT HOLE



NOTES:
1) ALL MANHOLE FRAMES SHALL BE DOMESTICALLY CAST.
2) FRAME SHALL BE A MINIMUM WEIGHT OF 182 LBS. WITHIN PUBLIC ROW AND 160 LBS. WITHIN EASEMENTS.
3) COVER SHALL WEIGH A MIN. OF 120 LBS.
4) ALL MANHOLE FRAMES OUTSIDE OF PAVED SURFACES SHALL BE BOLTED TO THE CONE SECTION OR RING WITH A MINIMUM OF 4 BOLTS PER FRAME.

5/8"X3" LAGSHIELD IN HOLE DRILLED INTO CONE OR RING WITH ANCHOR SUNK TO DESIGN DEPTH, AND 3/8"X3" HOT DIPPED GALVANIZED LAG BOLT AND WASHER.

CITY OF RALEIGH				
DEPARTMENT OF PUBLIC UTILITIES				
STANDARD MANHOLE COVER				
DWG. NO.	REVISIONS	DATE	REVISIONS	DATE
S-25	3-1-87	3-1-87	A.B.B.	2-9-05
	RRH	3-30-00	D.H.L.	6-18-08

1 GREASE INTERCEPTOR DETAILS
NO SCALE

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sheet issue

#	date	description
PR	05-22-2024	PERMIT SET

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 044528 CHRISTOPHER MICHAEL METZGER 5/22/24

sheet information

project #:	23049
drawn by:	CWH
checked by:	DMM

PLUMBING DETAILS

P0.03

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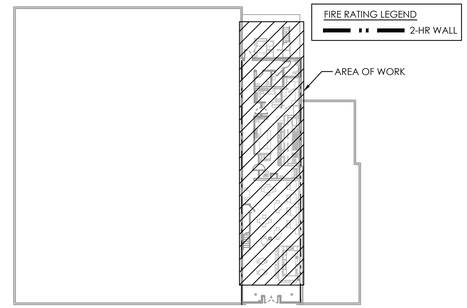
EQUIPMENT SCHEDULE

ITEM #	DESCRIPTION	HOT WATER SIZE (IN.)	COLD WATER SIZE (IN.)	INDIR. DRAIN SIZE (IN)	DIRECT DRAIN SIZE (IN)	PLUMBING NOTES
14	ICE MACHINE	-	0.5	0.5	-	PROVIDE W/ SHOCK ARRESTOR & CV-1; DRAIN TO FLOOR SINK W/ 1" AIR GAP
19	PREP SINK	0.5	0.5	1.5	-	DRAIN TO FLOOR SINK W/ 3" AIR GAP
22	SOILED DISH TABLE W/ PRE-RINSE	0.5	0.5	1.5	-	DRAIN TO FLOOR SINK W/ 3" AIR GAP
25	3-COMPARTMENT SINK	(2)0.5	(2)0.5	(3)1.5	-	(3) 1.5" DRAINS TO FLOOR SINK W/ AIR BREAK
27	DISH MACHINE	-	0.75	1.5	-	PROVIDE W/ SHOCK ARRESTOR & CV-1; DRAIN TO FLOOR SINK W/ 3" AIR GAP & DTV-1
28	HAND SINK	0.5	0.5	-	1.5	-
34	BEVERAGE/ICE DISPENSER	-	0.5	0.5	-	PROVIDE W/ SHOCK ARRESTOR & CV-1; DRAIN TO FLOOR SINK W/ 1" AIR GAP
35	TEA BREWER	-	0.5	-	-	PROVIDE W/ SHOCK ARRESTOR & CV-1
39	DRAFT BEER DISPENSING UNIT	-	-	0.5	-	DRAIN TO FLOOR SINK W/ 1" AIR GAP
40	ICE BIN	-	-	0.75	-	DRAIN TO FLOOR SINK W/ 1.5" AIR GAP
41	SODA GUN	-	0.5	-	-	PROVIDE W/ SHOCK ARRESTOR & CV-1
42	HAND/DUMP SINK COMBO	0.5	0.5	1.5	-	DRAIN TO FLOOR SINK W/ 3" AIR GAP
43	GLASS STORAGE RACK	-	-	0.5	-	DRAIN TO FLOOR SINK W/ 1" AIR GAP
44	GLASS WASHER	-	0.5	0.75	-	PROVIDE W/ SHOCK ARRESTOR & CV-1; DRAIN TO FLOOR SINK W/ 1.5" AIR GAP & DTV-1

NOTE:
P.C. TO VERIFY EXACT TYPE, QTY, LOCATION OF EQUIPMENT PLUMBING CONNECTIONS BEFORE BEGINNING WORK.
P.C. RESPONSIBLE FOR PROVIDING AND INSTALLING ALL REQUIRED FITTINGS, ACCESSORIES AND SIMILAR. FINAL CONNECTION TO EQUIPMENT BY P.C.



K1 KEY PLAN - 1ST FLOOR
NO SCALE

NORTH

NOTE:
ALL EXISTING PLUMBING IN SPACE TO BE DEMO'D UNLESS OTHERWISE NOTED.

NOTE:
P.C. TO VERIFY ALL WASTE LINES. P.C. TO TAKE ALL MEASURES POSSIBLE TO ENSURE GREASY WASTE & SANITARY SEWER SYSTEMS DO NOT BECOME INTERCONNECTED. P.C. RESPONSIBLE FOR ANY INTERCONNECTION THAT OCCURS.

GENERAL NOTES - THIS SHEET

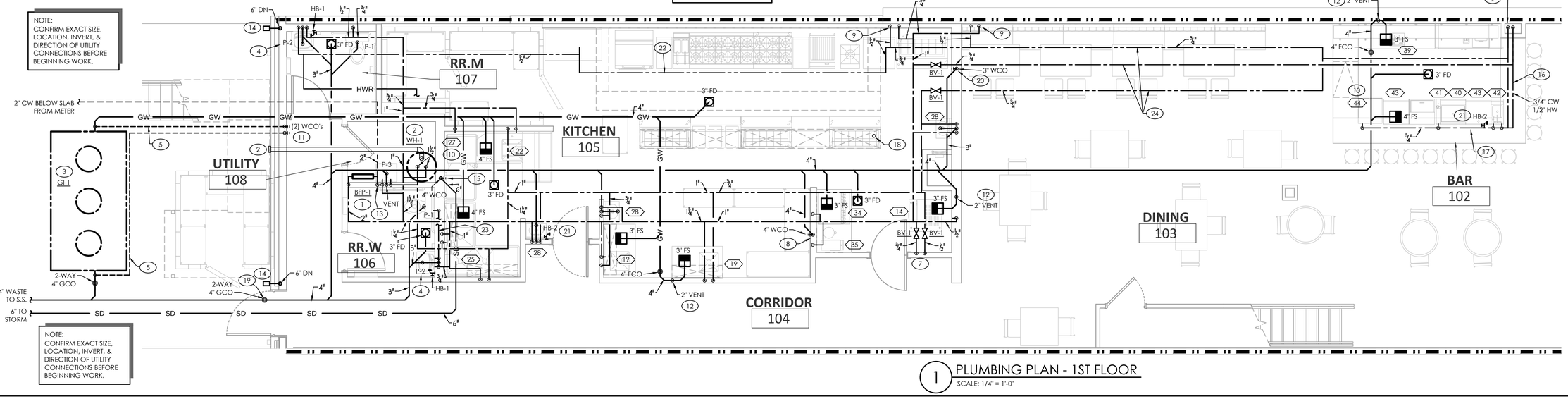
1. WATER SERVICE & BUILDING SEWER PIPING MUST BE SEPARATED PER 2018 NCPC 603.2.
2. P.C. TO VERIFY THAT NO FIXTURES ARE CONNECTED UPSTREAM OF BACKFLOW PREVENTER.
3. SEE KITCHEN EQUIPMENT SCHEDULE FOR ADDITIONAL EQUIPMENT INFORMATION & REQUIRED ACCESSORIES (I.E. SHOCK ARRESTORS, CHECK VALVES).

TAGGED NOTES - THIS SHEET

1. BACKFLOW PREVENTER, BFP-1, LOCATED ALONG WALL IN UTILITY ROOM. DRAIN TO MOP SINK IN AREA. ENSURE REQUIRED CLEARANCES CAN BE MAINTAINED.
2. WATER HEATER, WH-1, ON STAND IN UTILITY CLOSET. ELEVATE AS NECESSARY FOR DRAIN TO MOP SINK. P.C. TO PROVIDE PVC CONCENTRIC FLUE VENT & INTAKE TO EXTERIOR WALL. VENT TO BE ROUTED ABOVE CEILING. PROVIDE W/ CONDENSATE NEUTRALIZER KIT. ENSURE VENT HAS 10' HORIZONTAL OR 3' VERTICAL CLEARANCE FROM ALL BUILDING AIR INTAKES/EXHAUSTS. INSTALL PER MFG'S INSTRUCTIONS.
3. DEMO & REPLACE EXISTING GREASE INTERCEPTOR. NEW GREASE INTERCEPTOR BE INSTALLED BELOW SLAB IN AREA. INSTALLATION OF GREASE TRAP NOT TO INTERFERE W/ INTEGRITY OF BUILDING FOOTINGS & STRUCTURE. COORDINATE INSTALLATION W/ STRUCTURAL ENGINEER.
4. PROVIDE TEMPERING VALVE, TV-1, BELOW SINK. SET TO 100°F.
5. 2" VENT BELOW SLAB. VENT TO RISE 6" VERTICALLY BEFORE TURNING HORIZONTAL. ENSURE MINIMUM OF 2% SLOPE.
6. CW/HW DOWN IN FALSE WALL TO RUN BELOW BAR TO PLUMBING FIXTURES.
7. CW/HW PIPING UP TO FIXTURE(S) AT SECOND FLOOR BAR. SEE SHEET P1.02 FOR CONTINUATION.
8. WASTE DOWN IN WALL FROM SECOND FLOOR BAR. PROVIDE WALL CLEANOUT AT BASE OF STACK. SEE SHEET P1.02 FOR CONTINUATION.
9. CW/HW PIPING UP TO FIXTURE(S) AT SECOND FLOOR RESTROOM. SEE SHEET P1.02 FOR CONTINUATION.
10. PROVIDE DRAIN TEMPERING VALVE, DTV-1, AT FIXTURE. SEE VALVE SCHEDULE.
11. 2" VENTS UP IN WALL. PROVIDE CLEANOUTS AT BASE OF RISER. SEE RISER DIAGRAM FOR CONNECTION AND CONTINUATION.
12. PORTION OF BRANCH LINE IS PART OF CIRCUIT VENT SYSTEM. MAXIMUM SLOPE 8%. TURN DOWN AS NECESSARY AFTER MOST DOWNSTREAM FIXTURE. IF SLOPE REQUIREMENTS CANNOT BE MAINTAINED, ADDITIONAL VENTS WILL BE REQUIRED.
13. CW UP IN WALL FROM BELOW SLAB. PROVIDE W/ MAIN BV-1 UPSTREAM OF BACKFLOW PREVENTER, LOW ALONG WALL.
14. 6" SECONDARY STORM DRAIN DOWN IN WALL TO COW TONGUE. SEE SHEET P1.03.
15. 4" PRIMARY STORM DRAIN DOWN IN WALL TO BELOW SLAB. PROVIDE WALL CLEANOUT AT BASE OF STACK. STORM PIPING TO TRANSITION TO 6" AT TURN TO HORIZONTAL.
16. 1/2" CW/HW TO RUN HORIZONTALLY BELOW BAR.
17. 1/2" CW TO RUN HORIZONTALLY BELOW BAR.
18. VENT PIPING UP IN WALL ON SECOND FLOOR ABOVE. SEE SHEET P1.02 FOR CONTINUATION. SEE RISER FOR FULL VENTING LAYOUT.
19. INVERT OF EXISTING SANITARY SEWER IS LIMITED. COORDINATE ELEVATION OF START OF LINE BEFORE BEGINNING WORK. MINIMUM INVERT AT THIS POINT TO BE 27" BELOW SLAB.
20. WASTE DOWN IN WALL FROM BATHROOMS ON FLOOR ABOVE. SEE SHEET P1.02 FOR CONTINUATION.
21. HOSE BIB TO BE INSTALLED BELOW SINK.
22. COORDINATE HW LOOP ROUTING WITH EXHAUST AND MAKEUP AIR DUCTWORK AT KITCHEN HOOD PRIOR TO BEGINNING WORK.
23. CW PIPING TO BE ROUTED HORIZONTALLY IN WALL.
24. CW/HW PIPING ABOVE DINING/BAR IS EXPOSED. ROUTE PIPING HIGH IN SPACE, TIGHT TO STRUCTURE.

NOTE:
ALL PIPING WITHIN 18" OF HOOD OR GREASE EXHAUST DUCT MUST BE METAL.

NOTE:
CONFIRM EXACT SIZE, LOCATION, INVERT, & DIRECTION OF UTILITY CONNECTIONS BEFORE BEGINNING WORK.



1 PLUMBING PLAN - 1ST FLOOR
SCALE: 1/4" = 1'-0"

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#	date	description
PR	05-22-2024	PERMIT SET

NORTH CAROLINA REGISTERED PROFESSIONAL ENGINEER SEAL 044528 DAVID W. METRY 5/22/24

sheet information

project #:	23049
drawn by:	CWH
checked by:	DMM

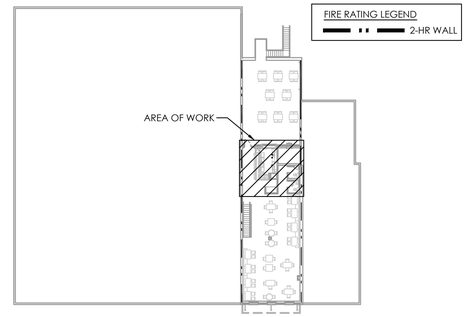
PLUMBING PLANS - FIRST FLOOR

P1.01

EQUIPMENT SCHEDULE

ITEM #	DESCRIPTION	HOT WATER SIZE (IN.)	COLD WATER SIZE (IN.)	INDIR. DRAIN SIZE (IN)	DIRECT DRAIN SIZE (IN)	PLUMBING NOTES
39	DRAFT BEER DISPENSING UNIT	-	-	0.5	-	DRAIN TO FLOOR SINK W/ 1" AIR GAP
40	ICE BIN	-	-	0.75	-	DRAIN TO FLOOR SINK W/ 1.5" AIR GAP
41	SODA GUN	-	0.5	-	-	PROVIDE W/ SHOCK ARRESTOR & CV-1
42	HAND/DUMP SINK COMBO	0.5	0.5	1.5	-	DRAIN TO FLOOR SINK W/ 3" AIR GAP
43	GLASS STORAGE RACK	-	-	0.5	-	DRAIN TO FLOOR SINK W/ 1" AIR GAP
44	GLASS WASHER	-	0.5	0.75	-	PROVIDE W/ SHOCK ARRESTOR & CV-1; DRAIN TO FLOOR SINK W/ 1.5" AIR GAP & DTV-1

NOTE:
P.C. TO VERIFY EXACT TYPE, QTY, LOCATION OF EQUIPMENT PLUMBING CONNECTIONS BEFORE BEGINNING WORK. P.C. RESPONSIBLE FOR PROVIDING AND INSTALLING ALL REQUIRED FITTINGS, ACCESSORIES AND SIMILAR. FINAL CONNECTION TO EQUIPMENT BY P.C.



K2 KEY PLAN - 2ND FLOOR
NO SCALE

NORTH

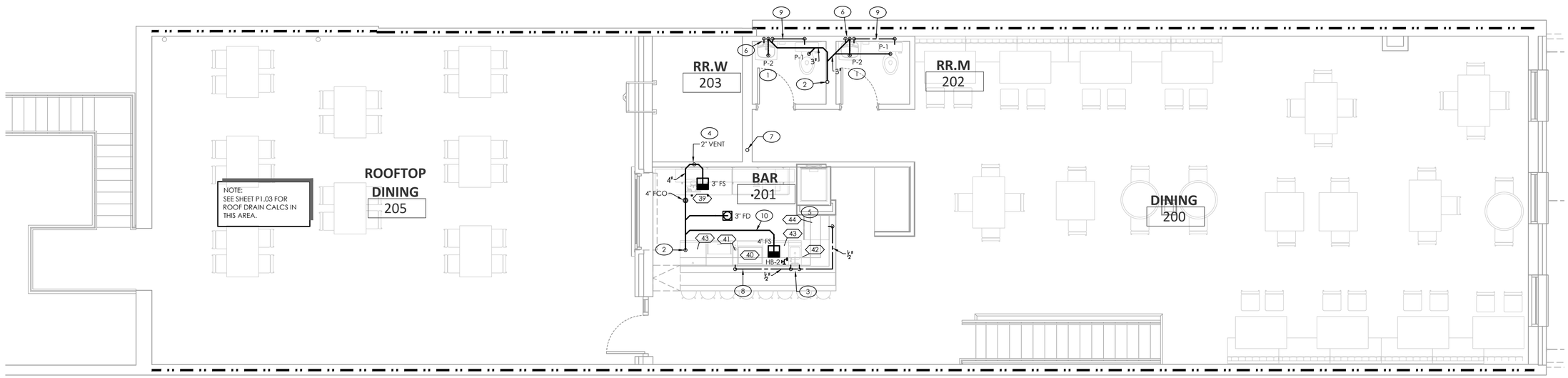
NOTE:
ALL EXISTING PLUMBING IN SPACE TO BE DEMO'D UNLESS OTHERWISE NOTED.

GENERAL NOTES - THIS SHEET

1. SEE KITCHEN EQUIPMENT SCHEDULE FOR ADDITIONAL EQUIPMENT INFORMATION & REQUIRED ACCESSORIES (I.E. SHOCK ARRESTORS, CHECK VALVES).

TAGGED NOTES - THIS SHEET

1. PROVIDE TEMPERING VALVE, TV-1, BELOW SINK. SET TO 100°F.
2. WASTE DOWN IN FIRST FLOOR WALL BELOW. SEE SHEET P1.01 FOR CONTINUATION.
3. CW/HW PIPING UP IN BAR FROM BELOW. SEE SHEET P1.01 FOR CONTINUATION.
4. PORTION OF BRANCH LINE IS PART OF CIRCUIT VENT SYSTEM. MAXIMUM SLOPE 8%. TURN DOWN AS NECESSARY AFTER MOST DOWNSTREAM FIXTURE. IF SLOPE REQUIREMENTS CANNOT BE MAINTAINED, ADDITIONAL VENTS WILL BE REQUIRED.
5. PROVIDE DRAIN TEMPERING VALVE, DTV-1, AT FIXTURE. SEE VALVE SCHEDULE.
6. CW/HW PIPING UP IN WALL FROM BELOW TO FEED BATHROOM FIXTURES. SEE SHEET P1.01 FOR CONTINUATION.
7. 2" VENT PIPING UP IN WALL FROM BELOW. SEE SHEET P1.01 FOR CONTINUATION.
8. 1/2" CW TO RUN HORIZONTALLY BELOW BAR.
9. 1/2" CW TO RUN HORIZONTALLY IN WALL.
10. P.C. TO ENSURE DISTANCE FROM TRAP TO VENT (OR WET/CIRCUIT VENT) DOES NOT EXCEED 8' FOR 2"Ø PIPE, 12' FOR 3"Ø PIPE, OR 16' FOR 4"Ø PIPE.



2 PLUMBING PLAN - 2ND FLOOR
SCALE: 1/4" = 1'-0"

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#	date	description
PR	05-22-2024	PERMIT SET

NORTH CAROLINA PROFESSIONAL SEAL 044528 ENGINEER DAVID MICHAEL THORNTON
5/22/24

sheet information

project #:	23049
drawn by:	CWH
checked by:	DMM

PLUMBING PLANS - SECOND FLOOR

P1.02

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SECONDARY CONDUCTORS (VERT.)

PIPE SIZE (IN)	PROJECTED ROOF AREA DRAINED (SQFT) RAINFALL RATE = 7.2 IN/HR
3	1,228 SQFT
4	2,564 SQFT
6	7,522 SQFT
8	16,156 SQFT

BASED UPON CHAPTER 11 OF THE 2018 NC PLUMBING CODE.

PRIMARY CONDUCTORS (VERT.)

PIPE SIZE (IN)	PROJECTED ROOF AREA DRAINED (SQFT) RAINFALL RATE = 4.0 IN/HR
3	2,200 SQFT
4	4,600 SQFT
6	13,500 SQFT
8	29,000 SQFT

BASED UPON CHAPTER 11 OF THE 2018 NC PLUMBING CODE.

SCUPPERS

DIMENSIONS (IN)	HEAD (IN)	CAPACITY (GPM)
4 x 4	2	30.5 GPM
6 x 4	2	47.5 GPM
8 x 4	2	64.4 GPM
10 x 4	2	81.4 GPM
12 x 4	2	98.5 GPM
18 x 4	2	149.4 GPM
24 x 4	2	200.3 GPM

BASED UPON CHAPTER 11 OF THE 2018 NC PLUMBING CODE.

SECONDARY CONDUCTORS (HORIZ.)

PIPE SIZE (IN)	PROJECTED ROOF AREA DRAINED (SQFT) RAINFALL RATE = 7.2 IN/HR
3	456 SQFT
4	1,044 SQFT
6	2,971 SQFT
8	6,333 SQFT
10	11,500 SQFT

BASED UPON CHAPTER 11 OF THE 2018 NC PLUMBING CODE.
STORM DRAINAGE CALCULATED ASSUMING A 1% SLOPE.

PRIMARY CONDUCTORS (HORIZ.)

PIPE SIZE (IN)	PROJECTED ROOF AREA DRAINED (SQFT) RAINFALL RATE = 4.0 IN/HR
3	822 SQFT
4	1,800 SQFT
6	5,350 SQFT
8	11,500 SQFT
10	20,700 SQFT

BASED UPON CHAPTER 11 OF THE 2018 NC PLUMBING CODE.
STORM DRAINAGE CALCULATED ASSUMING A 1% SLOPE.

RECTANGULAR CONDUCTORS (VERT.)

DIMENSIONS (IN)	PROJECTED ROOF AREA DRAINED (SQFT) RAINFALL RATE = 4.0 IN/HR
2 x 3	1,380 SQFT
2-3/4 x 4-1/4	3,200 SQFT
3 x 4	3,300 SQFT
3-1/2 x 4	3,970 SQFT
3-1/2 x 5	5,320 SQFT

BASED UPON CHAPTER 11 OF THE 2018 NC PLUMBING CODE.

NOTE:
ROOF DRAINS TO BE INSTALLED BELOW PAVERS WITH TAPERED INSULATION, SEE ROOF DRAIN DETAIL FOR MORE INFORMATION.

TAGGED NOTES - THIS SHEET

1. BOTTOM OF SECONDARY SCUPPER TO BE INSTALLED ABOVE THE TOP OF PRIMARY SCUPPER TO AVOID ACCIDENTAL DRAINAGE.
2. 4" PRIMARY STORM DRAIN DOWN IN WALL TO BELOW. SEE SHEET P1.01 DWG #1 FOR CONTINUATION OF STORM PIPING.
3. 6" SECONDARY STORM DRAIN DOWN IN WALL TO COW TONGUE AT GRADE. SEE SHEET P1.01 DWG #1 FOR CONTINUATION OF STORM PIPING.
4. DUAL OUTLET ROOF DRAIN INCLUDES BOTH PRIMARY AND SECONDARY DISCHARGE.
5. COORDINATE STORM DRAIN PIPING WITH DUCTWORK. STORM PIPING TO BE ROUTED HIGH IN SPACE NEAR ROOF.

ROOF CALCs (AREA 2)

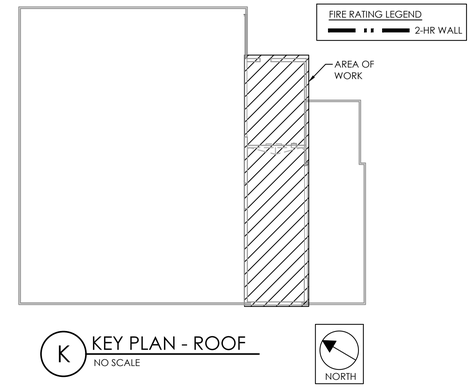
BASED ON 2018 NCPC SEC 1106	
ROOF AREA (SQFT)	500
PARAPET 1 (OR SIMILAR) LENGTH (FT)	37.3
PARAPET 1 (OR SIMILAR) HEIGHT (FT)	3.5
PARAPET 2 (OR SIMILAR) LENGTH (FT)	12.8
PARAPET 2 (OR SIMILAR) HEIGHT (FT)	3.5
PARAPET 3 (OR SIMILAR) LENGTH (FT)	12.8
PARAPET 3 (OR SIMILAR) HEIGHT (FT)	18.0
ROOF AREA + ½ VERT. AREAS (SQFT)	703

ROOF CALCs (AREA 1) SECONDARY SCUPPER

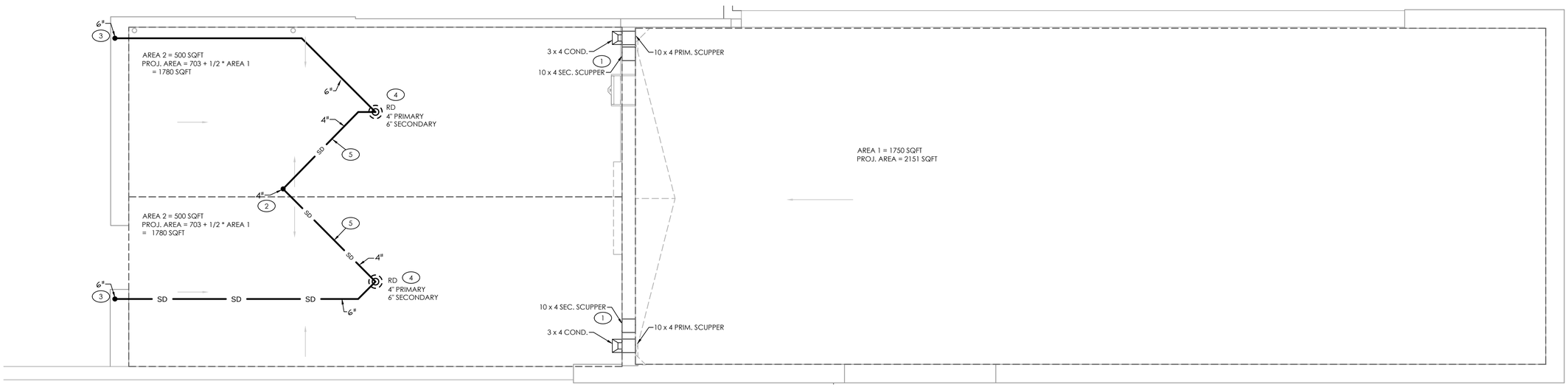
BASED ON 2018 NCPC SEC 1106	
ROOF AREA (SQFT)	1750
PARAPET 1 (OR SIMILAR) LENGTH (FT)	68.8
PARAPET 1 (OR SIMILAR) HEIGHT (FT)	4.3
PARAPET 2 (OR SIMILAR) LENGTH (FT)	68.8
PARAPET 2 (OR SIMILAR) HEIGHT (FT)	4.3
PARAPET 3 (OR SIMILAR) LENGTH (FT)	25.7
PARAPET 3 (OR SIMILAR) HEIGHT (FT)	5.5
PARAPET 4 (OR SIMILAR) LENGTH (FT)	25.7
PARAPET 4 (OR SIMILAR) HEIGHT (FT)	3.0
ROOF AREA + ½ VERT. AREAS (SQFT)	2151
15 MIN. RAINFALL RATE (IN/HR)	7.2
15 MIN. RAINFALL RATE (GPM)	161
# OF SCUPPERS	2
REQ'D GPM PER SCUPPER	80
SCUPPER DIMENSIONS (WxH, IN)	10 x 4
SELECTED HEAD (IN)	2
SCUPPER RATED GPM (FIG 1106.5)	81.4

ROOF CALCs (AREA 1) PRIMARY SCUPPER

BASED ON 2018 NCPC SEC 1106	
ROOF AREA (SQFT)	1750
PARAPET 1 (OR SIMILAR) LENGTH (FT)	68.8
PARAPET 1 (OR SIMILAR) HEIGHT (FT)	4.3
PARAPET 2 (OR SIMILAR) LENGTH (FT)	68.8
PARAPET 2 (OR SIMILAR) HEIGHT (FT)	4.3
PARAPET 3 (OR SIMILAR) LENGTH (FT)	25.7
PARAPET 3 (OR SIMILAR) HEIGHT (FT)	5.5
PARAPET 4 (OR SIMILAR) LENGTH (FT)	25.7
PARAPET 4 (OR SIMILAR) HEIGHT (FT)	3.0
ROOF AREA + ½ VERT. AREAS (SQFT)	2151
60 MIN. RAINFALL RATE (IN/HR)	4.0
60 MIN. RAINFALL RATE (GPM)	89
# OF SCUPPERS	2
REQ'D GPM PER SCUPPER	45
SCUPPER DIMENSIONS (WxH, IN)	8 x 4
SELECTED HEAD (IN)	2
SCUPPER RATED GPM (FIG 1106.5)	64.4



K KEY PLAN - ROOF
NO SCALE



1 PLUMBING PLAN - ROOF
SCALE: 1/4" = 1'-0"

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ZEBULON, NC 27597

sheet issue

#	date	description
PR	05-22-2024	PERMIT SET

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 044528 CHRISTOPHER W. HETA 5/22/24

sheet information

project #:	23049
drawn by:	CWH
checked by:	DMM

ROOF PLAN

P1.03

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Storage Tank Water Heater Sizing Calculator

Developed by the Plan Review Unit of the Environmental Health Services Section
NC Division of Environmental Health

Facility Name:	122 Arendell Restaurant Upfit
Address:	122 N. Arendell Ave, Zebulon, NC 27597

EQUIPMENT						GPH CALCULATED
Enter the description, and number and size of compartments for each sink below	Description	Number of compartments	(inches) Length	Width	Depth	Gallons Per Hour (GPH)
Largest Sink #1	3-Comp	3	20	20	12	47
Sink #2						0
Sink #3						0
Bar sink						0
Sinks are calculated at 75% capacity					**Total**	47

Enter type of prep sink and number of sink compartments for each sink below	Type of prep sink (vegetable, meat, seafood)	Number of compartments	Gallons Per Hour (GPH)
Prep sink #1	meat	1	5
Prep sink #2	vegetable	1	5
Prep sink#3			0
Prep sinks are calculated at 5 gallons per compartment		**Total**	10

Enter the quantity of equipment below	Quantity	Gallons Per Hour (GPH)
Hand sinks	5	25
Can wash		0
Mop sink	1	5
Hose reel		0
Clothes washer		0

Enter a description and estimated gallon per hour (GPH) usage for other equipment below	Description	Estimated gallons per hour (GPH) usage	
Other Equipment	(4) Lavs	1	1
Other Equipment			0
Other Equipment			0
Other Equipment			0
Hand sinks and mop sinks are calculated at 5 GPH each, can washes at 10 GPH each. Hose reels are calculated at 5 GPH, clothes washers at 15 GPH, other equipment at the usage entered		**Total**	31

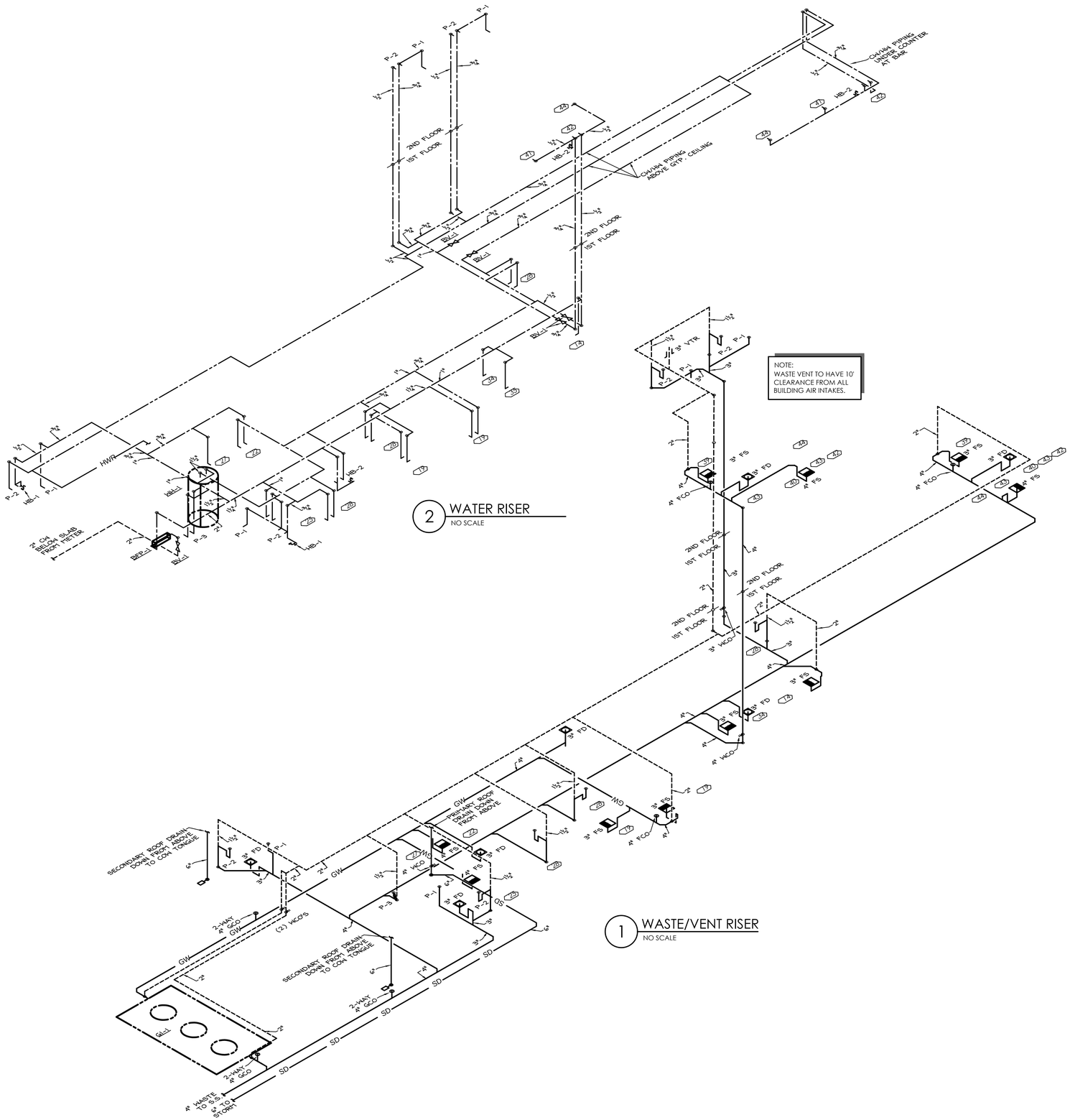
Enter the make, model and Final Rinse Usage in gallons per hour (GPH) for dishmachines	Make	Model	Final Rinse Usage (GPH) Found in "Dishmachine Specs" sheet below or on manufacturer's spec sheet	Gallons Per Hour (GPH)
Dishmachine #1				0
Dishmachine #2				0

Enter the quantity of pre-rinse units	Quantity	Gallons Per Hour (GPH)
Pre-rinse	1	45
Dishmachines are calculated at 70% of the final rinse usage specified by the manufacturer. Pre-rinses are calculated at 45 GPH	**Total**	45

Recovery Rate Needed (GPH):	**133**

Water Heater Input (BTU or kW) Needed:

Gas Water Heater	Electric Water Heater
117 ,000 BTU at 80°F rise	26 kW at 80°F rise
131 ,000 BTU at 90°F rise	29 kW at 90°F rise
146 ,000 BTU at 100°F rise	32 kW at 100°F rise



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NORTH CAROLINA REGISTERED PROFESSIONAL ENGINEER SEAL 044528 JUSTIN W. METAYER 5/22/24

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project #:	23049
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PLUMBING RISERS

P2.01

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GENERAL HVAC NOTES

GENERAL REQUIREMENTS:

1. MECHANICAL CONTRACTOR IS TO FURNISH AND PAY FOR ALL LABOR, MATERIAL, EQUIPMENT, PERMITS & FEES REQUIRED FOR THE COMPLETE INSTALLATION OF ALL SYSTEMS IN THIS SECTION OF WORK.
2. ALL WORK IS TO BE PERFORMED IN ACCORDANCE WITH NC MECHANICAL CODES AND ALL OTHER APPLICABLE CODES. MC IS TO COORDINATE W/ G.C. IN REGARDS TO PROJECT TIMELINE, WORK HOURS, AS WELL AS ANY BONDING OR INSURANCE REQUIREMENTS.
3. ALL MECHANICAL EQUIPMENT SHALL BE PROVIDED COMPLETE WITH ALL ACCESSORIES, HANGERS, SUPPORTS, CONTROLS, ETC FOR A FULLY FUNCTIONING SYSTEM REGARDLESS OF PRESENCE ON PLANS.
4. ALL EQUIPMENT, MATERIALS AND INSTALLATION SHALL BE GUARANTEED TO BE FREE OF DEFECTS FOR A PERIOD OF ONE (1) YEAR AFTER FINAL ACCEPTANCE OF WORK OR IN ACCORDANCE WITH THE MANUFACTURER'S STANDARD GUARANTEE, IF LONGER. ALL COMPRESSORS ARE TO INCLUDE FIVE (5) YEAR WARRANTY. EXISTING EQUIPMENT IS EXCLUDED FROM WARRANTY REQUIREMENT.
5. THESE DRAWINGS ARE DIAGRAMMATIC AND SHOW GENERAL LOCATION AND ARRANGEMENT OF ALL MATERIALS AND EQUIPMENT. THE DRAWINGS SHALL BE FOLLOWED AS CLOSELY AS BUILDING CONSTRUCTION AND ALL OTHER WORK WILL PERMIT.
6. DO NOT SCALE DRAWINGS FOR MEASUREMENT.
7. ALL DUCT DIMENSIONS SHOWN ARE INTERIOR CLEAR DUCT DIMENSIONS AND DO NOT INCLUDE REQUIRED ADJUSTMENTS FOR INSULATION. IF EXTERNAL INSULATION IS TO BE USED THE ACTUAL METAL DUCT DIMENSIONS SHALL MATCH THE DUCT DIMENSIONS SHOWN. IF INTERNAL INSULATION IS TO BE USED, THE ACTUAL METAL DUCT DIMENSIONS MUST BE INCREASED SO THAT THE INSIDE CLEAR DIMENSION (INSULATION FACE TO INSULATION FACE) MATCHES THE DIMENSIONS SHOWN ON THE PLAN.
8. INFORMATION GIVEN IN SCHEDULES INCLUDES BOTH DESCRIPTION OF PRODUCT AND MANUFACTURER'S MODEL #. IF CONFLICT IS PRESENT BETWEEN DESCRIPTION AND MODEL #, EQUIPMENT DESCRIPTION SHALL TAKE PRECEDENT. IN CASE OF CONFLICT BETWEEN THE PLANS AND NOTES/SPECIFICATIONS OR CONFLICT BETWEEN INFORMATION PRESENTED ON THE PLANS OR IN THE NOTES/SPECIFICATIONS, THEN THE MOST RESTRICTIVE SHALL TAKE PRECEDENT.
9. BEFORE BID MC IS RESPONSIBLE FOR CLARIFYING W/ G.C. ANY CONFUSION IN REGARDS TO RESPONSIBILITY OF WORK TO BE PERFORMED OR MATERIALS TO BE PROVIDED. THE SUBMITTAL OF THE BID BY THE CONTRACTOR WILL BE HELD AS PROOF THAT THE CONTRACTOR UNDERSTANDS THOROUGHLY AND COMPLETELY THE SCOPE OF THE WORK INVOLVED, AND HAS INCLUDED ON THE BID ALL THE NECESSARY ITEMS TO CARRY OUT THIS SECTION OF WORK.
10. AS SOON AS POSSIBLE (AND NOT MORE THAN 30 DAYS) AFTER CONTRACT IS SIGNED, THE MC SHALL PROVIDE SUBMITTALS OF MECHANICAL EQUIPMENT HE/SHE INTENDS TO PURCHASE FOR REVIEW AND COMMENT BY THE ENGINEER. ENGINEER IS TO APPROVE SUBMITTALS BEFORE EQUIPMENT IS ORDERED.
11. ALL QUESTIONS MUST BE SUBMITTED IN RFI FORMAT TO THE ARCHITECT AND MUST BE ADDRESSED BY THE APPROPRIATE DESIGNER OF RECORD PRIOR TO BECOMING A PROPOSED CHANGE ORDER.
12. UPON COMPLETION OF WORK M.C. IS TO PROVIDE OWNER W/ COMPLETE BOUND SET OF ALL EQUIPMENT OPERATION & MAINTENANCE MANUALS. PACKAGE IS ALSO TO INCLUDE AND WARRANTY & GUARANTEE INFORMATION.
13. M.C. IS TO PROVIDE TRAINING TO OWNER OR OWNER'S REPRESENTATIVE IN REGARDS TO OPERATION, FUNCTION, AND MAINTENANCE OF ALL MECHANICAL EQUIPMENT, CONTROLS, ETC.
14. M.C. IS TO REVIEW COMPLETE DRAWING SET. M.C. IS RESPONSIBLE FOR WORK EXPLICITLY SHOWN AND WORK IMPLIED.

DIVISION OF WORK:

1. ALL ROOF WORK INCLUDING PENETRATIONS, OPENINGS, FLASHING, CURB INSTALLS, ROOFTOP UNIT CURB INSULATION, OTHER LARGE CURB INSULATION, ETC ARE TO BE PERFORMED BY ROOFING CONTRACTOR. M.C. RESPONSIBLE FOR PROVIDING ANY ROOF CURBS, EQUIPMENT RAILS, VENTS, ETC AND COMMUNICATING ALL REQ'S WITH G.C. & ROOFING CONTRACTOR.
2. ALL LOW VOLTAGE WIRING RELATED TO MECHANICAL EQUIPMENT AND SYSTEMS IS THE RESPONSIBILITY OF THE MECHANICAL CONTRACTOR (ANY LOW VOLTAGE FIRE ALARM WIRING TO BE BY E.C.). ALL HIGH VOLTAGE CONNECTIONS TO MECHANICAL EQUIPMENT, TO BE PROVIDED AND INSTALLED BY E.C. (SEE EQUIPMENT SCHEDULE FOR DISCONNECT RESPONSIBILITY).
3. G.C. TO BE RESPONSIBLE FOR PROVIDING AND INSTALLING ANY ACCESS DOORS (WALL, FLOOR, CEILING) RELATED TO MECHANICAL SYSTEM. M.C. RESPONSIBLE FOR COMMUNICATING TO G.C. SIZE AND LOCATION OF REQ'D ACCESS DOOR(S).
4. MECHANICAL CONTRACTOR IS TO EMPLOY THE SERVICES OF THE G.C. FOR CUTTING AND PATCHING OF WALLS, FLOORS & CEILINGS RELATED TO THE INSTALLATION OF MECHANICAL EQUIPMENT & SYSTEMS.
5. G.C. RESPONSIBLE FOR PAINTING OF ANY EXPOSED DUCT, PIPING, GRILLES, ETC. M.C. RESPONSIBLE FOR CLEANING AND PREPARING ITEMS FOR PAINT, COORDINATE W/ G.C.
6. G.C. TO BE RESPONSIBLE FOR PROVIDING AND INSTALLING ANY ACCESS PLATFORMS, GUARD RAILS, LADDERS, CONCRETE PADS. M.C. TO COMMUNICATE REQ'S TO G.C.
7. G.C. TO BE RESPONSIBLE FOR PROVIDING AND INSTALLING ANY WALL LOUVERS BRICK VENTS OR SIMILAR. M.C. TO PROVIDE AND INSTALL ANY WALL CAPS.
8. ALL GAS PIPING IS BY MECHANICAL CONTRACTOR. SEE GAS MATERIAL AND EXECUTION NOTES.

COORDINATION:

1. THE MECHANICAL CONTRACTOR SHALL COORDINATE CLOSELY WITH ALL OTHER TRADES TO AVOID CONFLICT AND ENSURE OTHER TRADES PROVIDE MEASURES TO ACCOMMODATE MECHANICAL WORK (I.E. ACCESS DOORS, SLAB/WALL/ROOF OPENINGS, ELECTRICAL CONNECTIONS, ETC).
2. MECHANICAL CONTRACTOR SHALL VERIFY LOCATION OF ALL PENETRATIONS FOR RELIEF HOODS, OUTSIDE AIR HOODS, LOUVERS, AND WALL CAPS WITH ARCHITECT & OWNER PRIOR TO INSTALLATION.
3. M.C. TO COORDINATE LOCATION OF ALL ROOF PENETRATIONS W/ ROOFING CONTRACTOR. P.C. & M.C. TO COORDINATE TO ENSURE NO PLUMBING VENTS OR ANY OTHER SOURCES OF BUILDING EXHAUST ARE LOCATED WITHIN 10' OF ANY OUTSIDE AIR INTAKES.

MATERIALS:

1. ALL MATERIALS SHALL BE NEW UNLESS OTHERWISE SHOWN OR SPECIFIED.
2. PROVIDE HANGERS & SUPPORTS APPROVED FOR USE BY 2018 NC MECHANICAL CODE.
3. ALL MAIN DUCTWORK (SUPPLY, RETURN, EXHAUST, OUTSIDE AIR) SHALL BE GALVANIZED SHEET METAL CONSTRUCTED IN ACCORDANCE WITH SMACNA STANDARDS.
4. RUNOUTS FROM MAIN/BRANCH DUCTS MAY BE FLEXIBLE DUCT CONFORMING TO THE REQUIREMENTS OF UL 181 FOR CLASS 1.
   - 4.1. FLEXIBLE AIR DUCTS SHALL BE LIMITED TO 14' IN LENGTH.
   - 4.2. FLEXIBLE AIR CONNECTORS SHALL BE LIMITED TO 14' IN LENGTH. FLEXIBLE AIR CONNECTORS SHALL NOT PASS THROUGH ANY WALL, FLOOR OR CEILING.
5. NO FLEXIBLE DUCT ALLOWED FOR NEGATIVE PRESSURE EXHAUST APPLICATIONS.
6. IN COMMERCIAL BUILDINGS: INSULATION OF DUCTWORK IN UNCONDITIONED SPACE INSIDE THE BUILDING SHALL BE MINIMUM R-6 PER 2018 NCECC. INSULATION OF DUCTWORK OUTDOORS OR WITHIN A BUILDING ENVELOPE ASSEMBLY (I.E. WITHIN A WALL OF THE BUILDING THERMAL ENVELOPE) SHALL BE MINIMUM R-8 (CLIMATE ZONES 3 & 4) OR R-12 (CLIMATE ZONE 5) PER NCECC. INSULATION ON SUPPLY DUCTS LOCATED INSIDE CONDITIONED SPACE SHALL BE R-4.2 MINIMUM EXCEPT EXPOSED SINGLE-WALLED DUCTWORK TO BE UNINSULATED. RETURN DUCTS WITHIN CONDITIONED SPACE TO BE UNINSULATED. ALL NOTES ON INSULATION ABOVE ARE APPLICABLE UNLESS NOTED OTHERWISE ON THE MECHANICAL PLAN(S).
7. CONCEALED SHEET METAL SUPPLY & RETURN DUCT MAY BE EXTERNALLY INSULATED WITH MINERAL FIBER BOARD OR BLANKET OR MAY BE INTERNALLY INSULATED WITH ACOUSTICAL DUCT LINER.
8. ALL MAIN DUCTWORK (INCLUDING EXHAUST) TO BE SEALED ACCORDING TO NCECC AND AT A MINIMUM INCLUDE SEALING OF ALL DUCT SEAMS W/ NON-HARDENING MASTIC. SEALING BY TAPE ALONE NOT ALLOWED.
9. DUCTWORK ELBOWS SHALL BE FULL RADIUS OR MITERED WITH TURNING VANES.
10. CONDENSATE DRAIN PIPING AND FITTINGS NOT IN A RETURN PLENUM SHALL BE SCHEDULE 40 PVC. DRAINS FROM AIR HANDLING UNITS SHALL BE TRAPPED (2" MINIMUM). TRAPS ON INTERIOR OF BUILDINGS TO BE INSULATED. PIPING IN RETURN PLENUM TO BE COPPER OR PLENUM RATED CPVC.
11. CONDENSATE PUMPS TO BE 120V W/ 24' LIFT. RECEPTACLE TYPE WHERE EXPOSED, HARD WIRED WHERE ABOVE CEILING. PUMPS SHALL EITHER BE INSTALLED IN THE UNIT AUXILIARY DRAIN PAN (AUX DRAIN PAN MUST INCLUDE FLOAT SWITCH THAT WILL SHUT DOWN UNIT UPON WATER DETECTION) OR SHALL BE EQUIPPED WITH AN INTEGRAL OVERFLOW SWITCH SUCH THAT THE AIR HANDLER WILL BE SHUT DOWN UPON FAILURE OF THE PUMP.
12. KITCHEN HOOD EXHAUST DUCT SHALL BE 16 GAUGE CARBON STEEL OR 18 GAUGE STAINLESS STEEL. ALL JOINTS AND SEAMS SHALL BE CONSTRUCTED WITH A CONTINUOUS LIQUID-TIGHT EXTERNAL WELD. FIRE-APPROVED U.L. LISTED FACTORY BUILD EXHAUST SYSTEM (SUBMIT FOR APPROVAL BY ENGINEER BEFORE PURCHASE). SEE PLANS FOR LOCATION OF PRE-FAB DUCT.
13. "FIRE WRAP" OR OTHER CLEARANCE REDUCING INSULATION INSTALLED ON GREASE EXHAUST DUCT TO BE EQUAL TO "3M FIRE BARRIER DUCT WRAP 615+".
14. ALL DUCTWORK WITHIN 18' OF TYPE I HOODS TO BE SHEET METAL WITH NON-COMBUSTIBLE LINER/INSULATION.
15. VENT MATERIAL SERVING ANY GAS FIRED APPLIANCE TO BE LISTED & LABELED, PER MFG'S INSTRUCTIONS AND 2018 NC MECHANICAL CODE. IF CONFLICT IS NOTED CONTACT ENGINEER.
16. ALL DAMPERS TO INCLUDE SET SCREW OR SIMILAR FEATURE FOR LOCKING IN POSITION.
17. ALL REFRIGERANT LINE MATERIAL AS PER MFG'S REQUIREMENTS. SIZE PER MFG INSTRUCTIONS. SUCTION LINE INSULATION TO BE MINIMUM 1-1/2" THICK W/ THERMAL CONDUCTIVITY (K) LESS THAN OR EQUAL TO 0.27 PER NCECC COMMERCIAL PROVISIONS. INSULATION SHALL HAVE TAPED OR SEALED SEAMS.
18. ALL PROGRAMMABLE THERMOSTATS TO INCLUDE BATTERY BACK-UP AND HAVE CAPABILITY TO SETBACK TO 55°F (HEATING) & 85°F (COOLING). AUTO-CHANGEOVER THERMOSTATS TO HAVE A MIN. 5°F DEADBAND.

EXECUTION:

1. M.C. TO FOLLOW MANUFACTURER'S INSTRUCTIONS WHEN INSTALLING MECHANICAL EQUIPMENT. ENSURE REQUIRED MAINTENANCE ACCESS AND CLEARANCES ARE MAINTAINED. IF CONFLICT EXISTS BETWEEN THESE PLANS AND MFG INSTRUCTIONS CONTACT ENGINEER.
2. ALL PENETRATIONS THROUGH EXTERIOR WALLS & ROOF SHALL BE FLASHED & COUNTER-FLASHED IN A WATERPROOF MANNER.
3. INSTALL ALL CONTROL DEVICES, INCLUDING THERMOSTATS AND SWITCHES, 4'-0" ABOVE FINISHED FLOOR.
4. CONTRACTOR SHALL BALANCE SYSTEM TO AIR QUANTITIES INDICATED ON PLANS AND IN ACCORDANCE W/ 2018 NCECC C408.2.2. M.C. TO PROVIDE OWNER'S REPRESENTATIVE & ENGINEER WITH COMPLETE BALANCE REPORT. MC RESPONSIBLE FOR PROVIDING ANY DAMPERS, VALVES, PORTS, ETC. NECESSARY FOR A COMPLETE SYSTEM BALANCE.
5. ALL REFRIGERANT PIPING SHALL BE INSTALLED PER MFG'S INSTRUCTIONS IN REGARDS TO SUPPORTS, BENDS, FITTINGS, OIL TRAPS, ETC. NAIL (SHIELDING) PLATES ARE TO BE PROVIDED AT ANY POINT REFRIGERANT PIPING PASSES THROUGH WALL, FLOOR OR ATTIC/ROOF FRAMING.
6. PENETRATIONS OF NON-RATED WALLS, PARTITIONS AND FLOOR OF COMBUSTIBLE CONSTRUCTION SHALL BE FIRESTOPPED WITH MATERIALS EQUIVALENT TO TWO INCHES OF WOOD. FIRESTOPPING SHALL COMPLY WITH ASTM E-814.
7. ANY NOTCHING, DRILLING, BORING OR OTHER ALTERATION TO BUILDING STRUCTURE SHALL BE PERFORMED IN A CODE APPROVED METHOD AND NOT THREATEN THE INTEGRITY OF THE BUILDING STRUCTURE.
8. SUPPORT ALL DUCTWORK AND PIPING IN ACCORDANCE W/ 2018 NC MECHANICAL CODE. ANY SUSPENDED MATERIALS SHALL BE DIRECTLY SUPPORTED BY THE BUILDING STRUCTURE. DO NOT ATTACH ANYTHING TO THE ROOF DECK.
9. PENETRATIONS OF ALL EXTERIOR WALLS, FLOORS AND CEILINGS SHALL BE SEALED IN AN AIR TIGHT MANNER AND IN ACCORDANCE W/ 2018 NCECC. ALL PENETRATIONS OF WALLS, FLOORS & CEILINGS IN RETURN OR EXHAUST PLENUMS SHALL BE SEALED IN AN AIR TIGHT MANNER.
10. DUCT ACCESS DOORS TO BE PROVIDED AT ALL FIRE, RADIATION & SMOKE DAMPERS, SMOKE DETECTORS, CLEANOUTS AND ANY OTHER CODE REQUIRED LOCATIONS.
11. THE MECHANICAL CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING ALL MECHANICAL EQUIPMENT FROM FOREIGN MATERIAL DURING CONSTRUCTION (PAINT, SPACKLE, ETC.), UPON COMPLETION OF WORK THE MECHANICAL CONTRACTOR SHALL CLEAN, WASH, ETC ALL ITEMS AND EQUIPMENT WITHIN HIS SCOPE OF WORK AND LEAVE ALL ITEMS BRIGHT AND CLEAN.
12. M.C. IS TO ENSURE THAT THEIR INSTALLATION OF NEW CONDUITS, PIPES, DUCTWORK, AND SIMILAR DOES NOT BLOCK ACCESS TO NEW OR EXISTING AREA EQUIPMENT AND THAT THE FORE MENTIONED DOES NOT INTERFERE WITH THE REQUIRED SERVICE CLEARANCE OF NEW OR EXISTING EQUIPMENT. COORDINATE WITH OTHER TRADE CONTRACTORS AND CONTACT ENGINEER IF UNCERTAINTY EXISTS REGARDING EQUIPMENT SERVICE CLEARANCE REQUIREMENTS.

SPLIT SYSTEM HEAT PUMP UNIT SCHEDULE

AIR HANDLING UNIT DATA														HEAT PUMP									
			FAN DATA				COOLING		HEAT	AUX.	ELECTRICAL DATA			WEIGHT	GENERAL DATA				ELECTRICAL DATA			WEIGHT	
UNIT TAG	AREA SERVED	MANUF. MODEL	FAN CFM	ESP (" OF WG)	MOTOR (HP)	OA (CFM)	TOTAL (MBH)	SENS. (MBH)	TOTAL (MBH)	HEAT (KW@208)	VOLTAGE (V/PH)	MCA (A)	MOCP (A)	WEIGHT (LBS)	UNIT TAG	MANUF. MODEL	TONNAGE	EFF. (SEER)	VOLTAGE (V/PH)	MCA (A)	MOCP (A)	WEIGHT (LBS)	NOTES
AH-1	KITCHEN	TRANE GAM580C60	2000	0.40	1.0	N/A	60.0	48.0	60.0	7.20	208V/3Ø	34.0	35	190	HP-1	TRANE 4TWA4060	5.0	14.0	208V/3Ø	21.0	35	248	1,2,3,4,5,6,7,8,9,10
AH-2	KITCHEN	TRANE GAM580C60	2000	0.40	1.0	N/A	60.0	48.0	60.0	N/A	208V/3Ø	10.0	15	190	HP-2	TRANE 4TWA4060	5.0	14.0	208V/3Ø	21.0	35	248	1,2,3,4,5,6,7,8,9,10

NOTES:

1. COOLING CAPACITIES ARE RATED IN ACCORDANCE WITH AHRI STANDARD 210/240 AT 95°F AMBIENT OUTDOOR AIR TEMP., 80°F DRY BULB, 67°F WET BULB ENTERING AIR TEMP., AND AIR QUANTITY LISTED BY MFG. UNITS ABOVE 5 TONS ARE RATED IN ACCORDANCE WITH AHRI STANDARD 340/360.
2. REFRIG. PIPING TO BE SIZED PER TOTAL INSTALL. EQUIV. LENGTH. LONG-LINE APP.TO BE PROVIDED WHENEVER MFG. RECOMM. LENGTHS ARE EXCEEDED, INCL. LIQ. LINE SOLENOID VALVES, ACCUMULATOR, ETC. MAX T.E.L. IS PER MFG.
3. PROVIDE SINGLE POINT ELECTRICAL CONNECTION FOR AIR HANDLING UNIT.
4. PROVIDE 3 SETS OF NEW FILTERS FOR EACH UNIT. PROVIDE ONE AT INSTALLATION, ONE PRIOR TO AIR BALANCE AND ONE AT TURNOVER TO OWNER.
5. PROVIDE HONEYWELL TH8321 SERIES 7 DAY PROGRAMMABLE THERMOSTAT W/ MANUAL OVERRIDE.
6. OUTDOOR UNITS SHALL HAVE A MINIMUM 14.0 SEER RATING.
7. PROVIDE BI-FLOW TXV FOR HEAT PUMP OPERATION.
8. OUTDOOR THERMOSTAT TO LOCK-OUT ELECTRIC HEAT WHEN TEMPERATURE IS 40°F OR HIGHER. PROVIDE UNIT WITH EMERGENCY HEAT OVERRIDE OPTION.
9. LOW AMBIENT KIT DOWN TO 20°F.
10. PROVIDE CONDENSATE PUMP.

PACKAGED DX COOLING/GAS-ELEC HEATING ROOF TOP UNIT SCHEDULE

		EVAPORATOR FAN DATA						COOLING SECTION						HEATING SECTION				ELECTRICAL DATA			GENERAL DATA				
UNIT TAG	AREA SERVED	FAN CFM	OA, MAX (CFM)	OA, MIN (CFM)	ESP (" OF WG)	MOTOR (HP)	FAN RPM.	AMBIENT DB/WB (°F)	ENT. AIR DB/WB (°F)	TOTAL (MBH)	SENS. (MBH)	# OF STAGES	REHEAT (MBH)	INPUT (MBH)	OUTPUT (MBH)	ELEC HEAT (KW)	# OF STAGES	VOLTAGE (V/PH)	MCA (A)	MOCP (A)	MANUF. MODEL	NOM. TON.	EFF. (EER)	WT. (LBS)	NOTES
RTU-1	1ST FLOOR DINING	3400	3400	500	0.55	2.75	MFG.	93/76	80/67	98.1	77.9	2	78.2	120.0	96.0	N/A	1	208V/3Ø	42.0	50	TRANE YHC102	8.5	12.4	1160	1,2,3,4,5,6,7,8
RTU-2	2ND FLOOR DINING	3000	3000	500	0.40	2.75	MFG.	93/76	80/67	92.0	68.6	2	68.7	120.0	96.0	N/A	1	208V/3Ø	42.4	50	TRANE YHC092	7.5	12.6	1150	1,2,3,4,5,6,7

NOTES:

1. COOLING CAPACITIES ARE RATED IN ACCORDANCE WITH AT LEAST ONE OF THE FOLLOWING ARI STANDARDS; 210-94, 270-95, OR 360-93 AT 95°F AMBIENT OUTDOOR AIR TEMP., 80°F DRY BULB, 67° WET BULB ENTRANCE AIR TEMP., AND AIR QUANTITY LISTED BY MFG.
2. PROVIDE HONEYWELL TH8321 SERIES 7 DAY PROGRAMMABLE THERMOSTAT/HUMIDISTAT W/ MANUAL OVERRIDE & REMOTE TEMPERATURE/HUMIDITY SENSOR. UNIT TO UTILIZE REHEAT BASED HUMIDITY CONTROL. SET RH TO 60%.
3. PROVIDE 3 SETS OF NEW FILTERS FOR EACH UNIT. PROVIDE ONE AT INSTALLATION, ONE PRIOR TO AIR BALANCE AND ONE AT TURNOVER TO OWNER.
4. PROVIDE FACTORY ROOF CURB.
5. PROVIDE WITH AIR SIDE DIFFERENTIAL ENTHALPY ECONOMIZER SECTION WITH BAROMETRIC RELIEF DAMPER.
6. W/ FACTORY INSTALLED CONDENSATE DRAIN PAN OVERFLOW SWITCH.
7. SUPPLY FAN TO BE INTERLOCKED WITH HOOD OPERATIONS SUCH THAT SUPPLY FAN IS ACTIVE ANYTIME HOOD EXHAUST FAN(S) ARE ACTIVE.
8. WITH HORIZONTAL SUPPLY AND RETURN DISCHARGE ON ROOF.

NOTE: SEE SHEET M0.02 FOR GAS MATERIAL AND EXECUTION NOTES.

NOTE: SEE HOOD & FAN DRAWINGS FOR ADDITIONAL INFORMATION.

DIFFUSER SCHEDULE

SYMBOL	CFM	NECK SIZE	MODULE SIZE	FRAME TYPE	PATTERN	DAMPER	MATERIAL	SERVICE	FINISH	MANUFACTURER & MODEL NO.	NOTES
A	AS NOTED	AS NOTED	24x24	LAY-IN	PERF.	NO	ALUM.	SUPPLY	NOTE 2	TITUS PAR-AA	1,2,3,4
B	AS NOTED	AS NOTED	24x24	LAY-IN	2-WAY	YES	STEEL	SUPPLY	NOTE 2	TITUS TDC	1,2,3,5
C	AS NOTED	AS NOTED	24x24	LAY-IN	4-WAY	YES	STEEL	SUPPLY	NOTE 2	TITUS TDC	1,2,3,5
D	AS NOTED	AS NOTED	24x24	SURFACE	PERF.	NO	STEEL	RETURN	NOTE 2	TITUS PAR	1,2
E	AS NOTED	AS NOTED	24x24	LAY-IN	PERF.	NO	ALUM.	RETURN/ EXHAUST	NOTE 2	TITUS PAR-AA	1,2
F	AS NOTED	AS NOTED	24x24	LAY-IN	PERF.	NO	ALUM.	SUPPLY	NOTE 2	TITUS PAS-AA	1,2,3
G	AS NOTED	AS NOTED	12x12	SURFACE	PLAQUE	NO	STEEL	SUPPLY	NOTE 2	TITUS OMNI	1,2,3,6
H	AS NOTED	N/A	AS NOTED	DUCT MTD.	DBL. DEFL.	YES WITH EXTRACTOR	ALUM.	SUPPLY	NOTE 2	TITUS S300FS	1,2,7
I	AS NOTED	N/A	AS NOTED	SURFACE	LOUVERED	NO	STEEL	RETURN	NOTE 2	TITUS 350RL	1,2

NOTES:

GENERAL - MC RESPONSIBLE FOR VERIFYING QTY, COLOR & FRAME TYPE OF DIFFUSERS/GRILLES BEFORE ORDERING. PROVIDE SQR TO RND TRANSITIONS & PLENUMS AS NECESSARY.

1. DIFFUSER DESIGNATIONS ON PLANS AS FOLLOWS:
   DIFFUSER OR NECK SIZE. / AIR QUANTITY — 8x4 0° / 75 — (A) — VERTICAL BLADE SPREAD (WHERE APPLICABLE) / DIFFUSER TYPE AS NOTED ABOVE
2. FINISH TO MATCH / BE ABLE MATCH CEILING OR WALL OR DOOR.
3. FACTORY INSULATION BACKING ON GRILLES EXPOSED TO NON-CONDITIONED AREAS. ALTERNATELY, FIELD SUPPLY AND INSTALL.
4. RETURN GRILLE TO BE USED AS A SUPPLY DEVICE FOR "AIR-DROP" EFFECT.
5. PROVIDE DIFFUSER W/ 18X18 SQUARE INLET SIZE FOR A CONSISTENT DIFFUSER FACE APPEARANCE. ROUND ADAPTER TO BE SIZED PER DIFFUSER TAG ON PLANS.
6. PROVIDE W/ DAMPER WHERE TAP IS INACCESSIBLE.
7. SET TO 45° BLADE SPREAD UNLESS NOTED OTHERWISE.

MECHANICAL LEGEND

18x14	RECTANGULAR DUCT
6Ø	ROUND METAL DUCT
6Ø	FLEX/RIGID ROUND DUCT
	ELBOW WITH TURNING VANES
	VOLUME DAMPER
	SUPPLY TAP WITH VOLUME DAMPER
	SUPPLY TAP
	SUPPLY DIFFUSER/GRILLE OR RISER
	RETURN REGISTER/GRILLE OR RISER
	EXHAUST REGISTER/GRILLE OR RISER
	SIDEWALL DIFFUSER/GRILLE
T	T-STAT
	3/4" DOOR UNDER CUT
R	WIRELESS REMOTE TEMP/HUMIDITY SENSOR
P	REMOTE PULL STATION
###	KITCHEN EQUIPMENT TAG
G	GAS PIPING
SD	DUCT SMOKE DETECTOR

ENERGY REQUIREMENTS:

MECHANICAL SYSTEMS, SERVICE SYSTEMS AND EQUIPMENT

METHOD OF COMPLIANCE

PRESCRIPTIVE [X] ENERGY COST BUDGET [ ]

THERMAL ZONE	4A
EXTERIOR DESIGN CONDITIONS	
WINTER DRY BULB	14
SUMMER DRY BULB	93
INTERIOR DESIGN CONDITIONS	
WINTER DRY BULB	70
SUMMER DRY BULB	76
RELATIVE HUMIDITY	50%
AREA OF WORK HEATING LOAD (MBH)	97
AREA OF WORK COOLING LOAD (MBH)	320
MECHANICAL SPACING CONDITIONING SYSTEM	
UNITARY	
DESCRIPTION OF UNIT	SEE SCHEDULES
HEATING EFFICIENCY	SEE SCHEDULES
COOLING EFFICIENCY	SEE SCHEDULES
HEAT OUTPUT OF UNIT	SEE SCHEDULES
COOLING OUTPUT OF UNIT	SEE SCHEDULES
BOILER	
TOTAL BOILER OUTPUT	NA
CHILLER	
TOTAL CHILLER OUTPUT	NA
LIST EQUIPMENT EFFICIENCIES	SEE SCHEDULES

DESIGNER'S STATEMENT:
TO THE BEST OF MY KNOWLEDGE AND BELIEF, THE DESIGN OF THIS BUILDING COMPLIES WITH THE MECHANICAL SYSTEMS, SERVICE SYSTEMS AND EQUIPMENT REQUIREMENTS OF THE N.C.S. ENERGY CODE.

SIGNED: Dustin M. Metayer

NAME: DUSTIN M. METAYER, PE

TITLE: MECHANICAL ENGINEER

FAN SCHEDULE

UNIT NO.	SERVICE	AREA SERVED	CFM	S.P.	RPM	TYPE & ARRANGEMENT	MIN. MOTOR HP & VOLTAGE	MANUFACTURER & MODEL NO.	DRIVE	CONTROL SCHEME	NOTES
EF-1	EXHAUST	1ST FLOOR BATHROOM	150	0.30"	MFG	INLINE, CENTRIFUGAL	1/6 HP 120V/1Ø	GREENHECK SQ-65-VG	DIRECT	A	1,2,3,4
EF-2	EXHAUST	2ND FLOOR BATHROOM	150	0.30"	MFG	INLINE, CENTRIFUGAL	1/6 HP 120V/1Ø	GREENHECK SQ-65-VG	DIRECT	A	1,2,3,5

NOTES:

1. SCREEN
2. BACKDRAFT DAMPER
3. INTEGRAL DISCONNECT SWITCH
4. INLINE FAN TO UTILIZE STRAIGHT THROUGH DISCHARGE
5. INLINE FAN TO UTILIZE LEFT SIDE DISCHARGE

CONTROL OPTIONS:

A. CONTROL W/ ROOM LIGHTS

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PR	05-22-2024	PERMIT SET

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 044528 DUSTIN M. METAYER 5/22/24

sheet information

project #:	23049
drawn by:	HBS
checked by:	DMM

MECHANICAL SCHEDULES AND NOTES

M0.01

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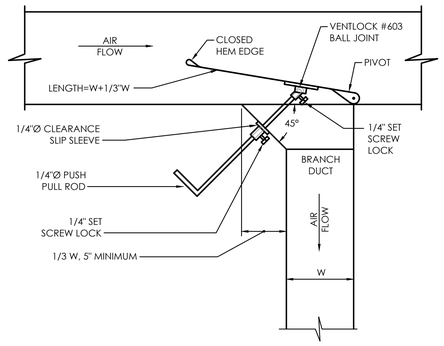
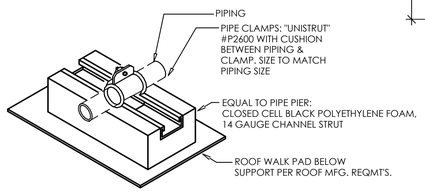


NOTES:

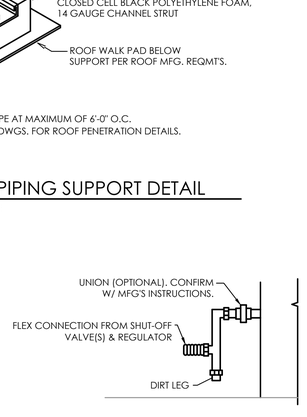
1. SEE FLOOR PLANS AND SPECIFICATIONS FOR DUCT INSULATION REQUIREMENTS.
2. TAP OFF TOP/SIDE/BOTTOM OF DUCT AS REQUIRED

12 BRANCH TAKE-OFF TO MULTIPLE OUTLETS
NO SCALE

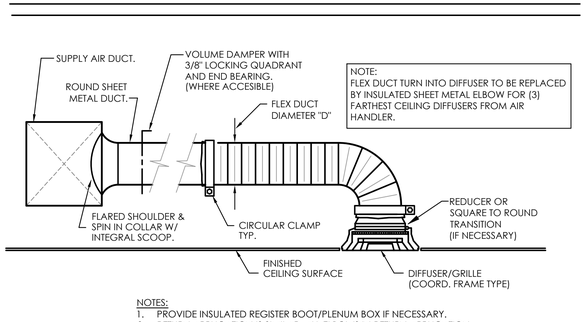


NOTE:
SUPPORT PIPE AT MAXIMUM OF 6'-0" O.C.
SEE ARCH. DWGS. FOR ROOF PENETRATION DETAILS.

9 GAS PIPING SUPPORT DETAIL
NO SCALE

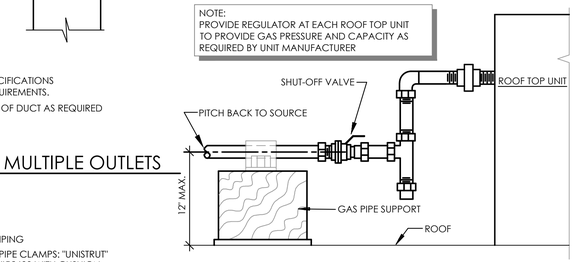


8 GAS CONNECTION DETAIL
NO SCALE

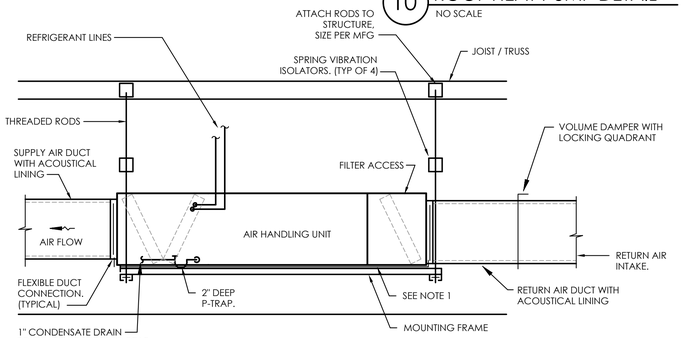


NOTES:
1. PROVIDE INSULATED REGISTER BOOT/PLENUM BOX IF NECESSARY.
2. RETURN APPLICATION IS SIMILAR. ALL ELBOWS IN RETURN APPLICATION TO BE INSULATED SHEET METAL (NO FLEX ELBOWS).

4 DIFFUSER DETAIL
NO SCALE

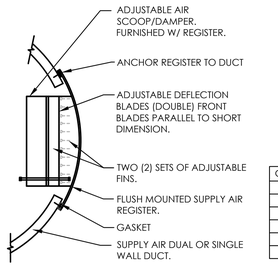


11 GAS PIPING RTU CONNECTION
NO SCALE



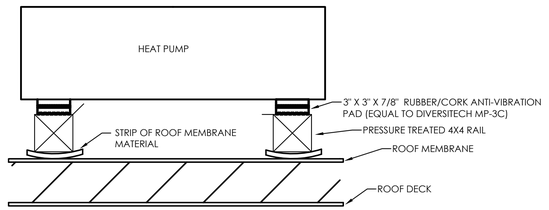
NOTE:
1. AUXILIARY DRAIN PAN WITH MICROFLOAT SWITCH. INTERLOCK FLOAT SWITCH WITH AIR HANDLER. INSTALL FLOAT SWITCH IN ONE CORNER OF PAN AND TILT PAN TO THAT CORNER.

7 AIR HANDLING UNIT DETAIL (SUSPENDED)
NO SCALE



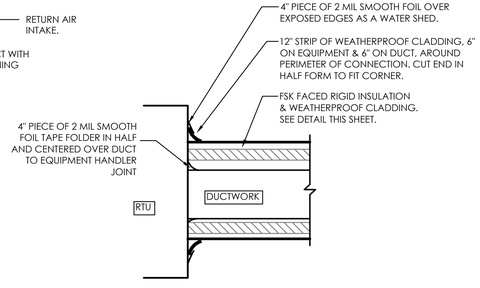
GRILLE HEIGHT	MIN. DUCT Ø
3"	6"
4"	8"
6"	10"
8"	12"
10"	14"
12"	16"

13 SPIRAL DUCT REGISTER (FLUSH)
NO SCALE

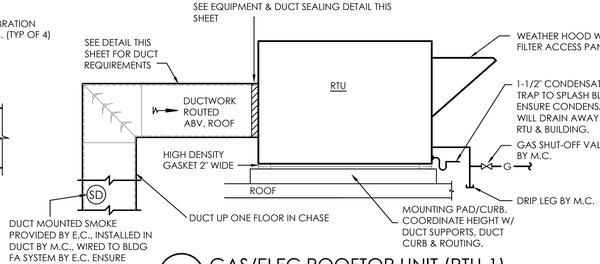


NOTES:
1. ANTI-VIBRATION PAD TO BE INSTALLED AT ALL (4) CORNERS OF UNIT.

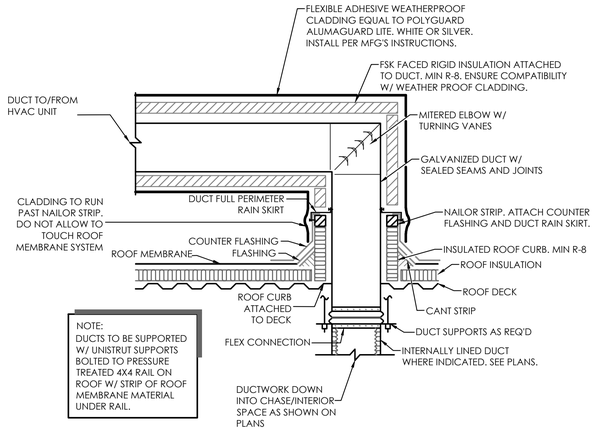
10 ROOF HEAT PUMP DETAIL
NO SCALE



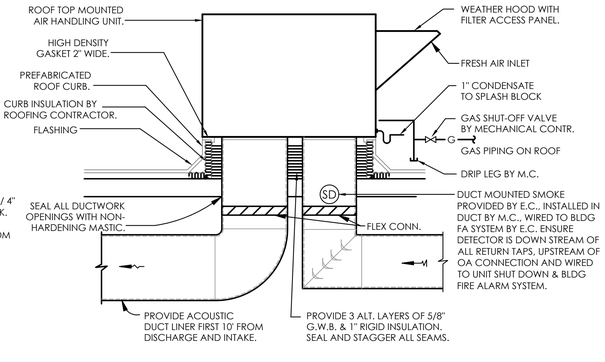
6 EQUIPMENT & DUCT SEALING DETAIL
NO SCALE



2 GAS/ELEC ROOFTOP UNIT (RTU-1)
NO SCALE



5 DUCT ROOF PENETRATION DETAIL
NO SCALE



1 GAS/ELEC ROOFTOP UNIT (RTU-2)
NO SCALE

GAS MATERIAL AND EXECUTION NOTES

MATERIALS:

1. GAS PIPING TO BE:
   - 1.1. ABOVE GRADE - SCHEDULE 40 BLACK STEEL PIPE W/ THREADED FITTINGS. THREADED FITTINGS IN SIZES LARGER THAN 4" SHALL NOT BE USED. APPROVED FLEXIBLE GAS PIPING MAY BE USED AT CONNECTION TO EQUIPMENT.
2. GAS PIPE FITTINGS IN CONCEALED LOCATIONS SHALL BE LIMITED TO:
   - 2.1. THREADED, ELBOWS, TEES AND COUPLINGS.
   - 2.2. WELDED FITTINGS.
   - 2.3. FITTINGS LISTED TO ANSI LC-1/CSA 6.26 OR ANSI LC-4.

EXECUTION:

1. GAS PIPING SHALL NOT BE INSTALLED IN OR THROUGH A DUCTED SUPPLY, RETURN OR EXHAUST, OR A CLOTHES CHUTE, CHIMNEY OR GAS VENT, DUMBWAITER OR ELEVATOR SHAFT.
2. GAS PIPING SHALL NOT BE LOCATED IN SOLID PARTITIONS AND SOLID WALLS, UNLESS INSTALLED IN A CHASE OR CASING.
3. ABOVE-GROUND OUTDOOR GAS PIPING SHALL BE PROTECTED IN ACCORDANCE WITH NCFGC 404.9. PIPING SHALL NOT BE ELEVATED LESS THAN 3-1/2" ABOVE GROUND AND ROOF SURFACES.
4. EXPOSED GAS PIPING SHALL BE LABELED PER THE REQUIREMENTS OF THE 2018 NCFGC 401.5.
5. SUPPORT ALL PIPING IN ACCORDANCE W/ 2018 NC FUEL GAS CODE. ANY SUSPENDED MATERIALS SHALL BE DIRECTLY SUPPORTED BY THE BUILDING STRUCTURE. DO NOT ATTACH ANYTHING TO THE ROOF DECK.
6. WHERE A SEDIMENT TRAP IS NOT INCORPORATED AS PART OF THE APPLIANCE, SEDIMENT TRAPS SHALL BE INSTALLED PER THE REQUIREMENTS OF NCFGC 408.4.
7. EACH GAS-FIRED APPLIANCE SHALL BE PROVIDED WITH A SHUTOFF VALVE IN ACCORDANCE WITH NCFGC 409.5 AND SHALL BE LOCATED WITHIN 6 FEET OF THE APPLIANCE.
8. GAS SHUTOFF VALVES SHALL BE OF AN APPROVED TYPE; SHALL BE CONSTRUCTED OF MATERIALS COMPATIBLE WITH THE PIPING; AND SHALL COMPLY WITH THE STANDARD THAT IS APPLICABLE FOR THE PRESSURE AND APPLICATION IN ACCORDANCE WITH NCFGC TABLE 409.1.1. SHUTOFF VALVES SHALL BE ACCESSIBLE AND PROTECTED PER NCFGC 409.1.3.
9. MEDIUM PRESSURE REGULATORS (REDUCING PRESSURE FROM 0.5 PSI - 5 PSI TO A LOWER PRESSURE) SHALL BE INSTALLED IN COMPLIANCE WITH NCFGC 410.1 & 410.2 BUT NOT LIMITED TO THE FOLLOWING:
   - 9.1. THE MP REGULATOR SHALL BE PROVIDED WITH ACCESS.
   - 9.2. WHERE LOCATED INDOORS, THE REGULATOR SHALL BE VENTED TO THE OUTDOORS OR SHALL BE EQUIPPED WITH A LEAK-LIMITING DEVICE IN EITHER CASE COMPLYING WITH NCFGC 410.3.
   - 9.3. A TEE FITTING WITH ONE OPENING CAPPED OR PLUGGED SHALL BE INSTALLED BETWEEN THE MP REGULATOR AND ITS UPSTREAM SHUTOFF VALVE. SUCH TEE FITTING SHALL BE POSITIONED TO ALLOW CONNECTION OF A PRESSURE-MEASURING INSTRUMENT AND TO SERVE AS A SEDIMENT TRAP.
   - 9.4. A MEANS TO TEST PRESSURE SHALL BE INSTALLED NOT LESS THAN 10 PIPE DIAMETERS DOWNSTREAM OF THE MP REGULATOR OUTLET. SUCH FITTING SHALL BE POSITIONED TO ALLOW CONNECTION OF A PRESSURE-MEASURING INSTRUMENT.
   - 9.5. A LISTED SHUTOFF VALVE SHALL BE INSTALLED IMMEDIATELY AHEAD OF EACH MP REGULATOR (NCFGC 409.4).
10. PRESSURE REGULATORS REQUIRING VENTING SHALL BE INSTALLED IN ACCORDANCE WITH NCFGC 410.3. ALL REQUIRED CLEARANCES SHALL BE MAINTAINED.
11. GAS FIRED COOKING APPLIANCES INSTALLED ON CASTERS AND APPLIANCES THAT ARE MOVED FOR CLEANING, SANITATION PURPOSES, PERIODIC MOVEMENT OR RELOCATION FOR SUCH PURPOSES AS MAINTENANCE SHALL BE CONNECTED TO THE PIPING SYSTEM WITH AN APPLIANCE CONNECTOR LISTED AS COMPLYING WITH ANSI Z21.69. MOVEMENT OF APPLIANCES WITH CASTERS SHALL BE LIMITED BY A RESTRAINING DEVICE INSTALLED IN ACCORDANCE WITH THE CONNECTOR AND APPLIANCE MANUFACTURER'S INSTRUCTIONS. (NCFGC 411.1.1).
12. CONNECTORS SHALL BE PROTECTED AND INSTALLED PER NCFGC 411.1.2 AND 411.1.3. CONNECTORS SHALL HAVE A MAXIMUM OVERALL LENGTH OF 6 FEET AND SHALL NOT BE CONCEALED WITHIN OR EXTENDED THROUGH WALLS, FLOORS, PARTITIONS, CEILINGS OR APPLIANCE HOUSINGS.
13. A UNION FITTING SHALL BE PROVIDED FOR APPLIANCES CONNECTED BY RIGID METALLIC PIPE PER THE REQUIREMENTS OF NCFGC 411.1.6. SUCH UNIONS SHALL BE ACCESSIBLE AND LOCATED WITHIN 6 FEET OF THE APPLIANCE.
14. EACH NON-CSST ABOVE-GRADE PORTION OF THE GAS PIPING SYSTEM THAT IS LIKELY TO BE ENERGIZED SHALL BE ELECTRICALLY CONTINUOUS AND BONDED TO AN EFFECTIVE GROUND-FAULT CURRENT PATH. CSST GAS PIPING SYSTEMS CONTAINING ONE OR MORE SEGMENTS OF CSST SHALL BE BONDED TO THE ELECTRICAL SERVICE GROUNDING ELECTRODE SYSTEM. BONDING SHALL BE IN ACCORDANCE WITH NCFGC SECTION 310. BONDING CONNECTIONS SHALL BE IN ACCORDANCE WITH NFPA 70. DEVICES USED FOR MAKING THE BONDING CONNECTIONS SHALL BE LISTED FOR THE APPLICATION IN ACCORDANCE WITH UL 467.
15. M.C. RESPONSIBLE FOR EXECUTING ALL CODE REQUIRED TESTS AND INSPECTIONS INCLUDING BUT NOT LIMITED TO THE LEAK AND PRESSURE TESTING OF GAS AS DESCRIBED IN NCFGC SECTION 406. PURGING OF GAS LINES SHALL BE PERFORMED IN ACCORDANCE WITH NCFGC 406.7.

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NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 044528 BRIAN S. WETZEL 5/22/24

sheet information

project #:	23049
drawn by:	HBS
checked by:	DMM

MECHANICAL DETAILS

M0.02

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Ventilation Calculations

Calc's Based on the 2018 NCMC Chapter 4

AH/RTU: **AH-1/AH-2** Spaces: **Kitchen**

Occupancy	Area (sqft)	Occ. Density (ppl/1000 sqft)	# People	CFM/Sqft	CFM/Person	Area CFM	People CFM	Total Gross CFM	Vent. Eff	Req'd CFM
105 Kitchen	690		-	0.7	-	483	-	483	Exhaust	483
Total Req'd OA CFM										0
Total Req'd Exhaust CFM										483
Supplied OA CFM										0
Supplied Exhaust CFM**										918

**Exhausted CFM is equal to the net difference between KEFs and KMUAs.

AH/RTU: **RTU-1** Spaces: **1st Floor Dining**

Occupancy	Area (sqft)	Occ. Density (ppl/1000 sqft)	# People	CFM/Sqft	CFM/Person	Area CFM	People CFM	Total Gross CFM	Vent. Eff*	Req'd CFM
101 Vestibule	144	30	4.32	0.06	7.5	9	32	41	1.0	41
102 Bar	114	100	11.4	0.18	7.5	21	86	106	1.0	106
103 Dining	318	70	22.26	0.18	7.5	57	167	224	1.0	224
104 Corridor	89	0	0	0.06	0	5	0	5	1.0	5
103 Dining - Natural Vent.	500	Oper Openings:	20	Sqft	20	/	500	4.0%	>4.0%	0
*Ceiling or Floor Supply Cool Air (Space will be unoccupied or only partially occupied when in heating) (2018 NCMC 403.3.1.1.1.2)									**Total Req'd CFM**	336
									Supplied CFM	500

AH/RTU: **RTU-2** Spaces: **2nd Floor**

Occupancy	Area (sqft)	Occ. Density (ppl/1000 sqft)	# People	CFM/Sqft	CFM/Person	Area CFM	People CFM	Total Gross CFM	Vent. Eff*	Req'd CFM
200 Dining	607	70	42.49	0.18	7.5	109	319	428	1.0	428
201 Bar	72	100	7.2	0.18	7.5	13	54	67	1.0	67
Corridor	1	0	0	0.06	0	0	0	0	1.0	0
200 Dining - Natural Vent.	500	Oper Openings:	20	Sqft	20	/	500	4.0%	>4.0%	0
*Ceiling or Floor Supply Cool Air (Space will be unoccupied or only partially occupied when in heating) (2018 NCMC 403.3.1.1.1.2)									**Total Req'd CFM**	495
									Supplied CFM	500

KITCHEN HOOD NOTES

1. ALL GREASE EXHAUST WORK IS TO BE DONE IN ACCORDANCE W/ 2018 NCMC SEC 506 & ALL OTHER APPLICABLE CODES. M.C. IS TO REVIEW REQUIREMENTS OF 2018 NCMC SEC 506 BEFORE BEGINNING WORK.
2. KITCHEN EXHAUST DUCT TO BE CONSTRUCTED OF MIN. 16 GAUGE STEEL. JOINTS TO BE CONTINUOUS EXTERNAL LIQUID-TIGHT WELDS.
3. EXHAUST DUCT TO SLOPE BACK TO HOOD OR APPROVED GREASE RESERVOIR. DUCT TO MAINTAIN MIN. 2% SLOPE FOR DUCT SYSTEMS 75' OR LESS IN LENGTH AND 8.3% SLOPE FOR DUCT SYSTEMS GREATER THAN 75' IN LENGTH.
4. ALL BENDS TO BE RADIUS THROAT AND RADIUS BACK TYPE. CENTER LINE RADIUS 1.0 TIMES DUCT DIMENSION OR GREATER.
5. CLEANOUTS TO BE PROVIDED WITHIN 10' OF ALL CHANGES IN DUCT DIRECTION & EVERY 20' ON CENTER IN HORIZONTAL RUNS. CONSULT LOCAL CODES REGARDING ADDITIONAL CLEANOUT LOCATIONS, CLEANOUT PROTECT, SIZING, AND ORIENTATION ON DUCT.
6. ALL GREASE EXHAUST DUCT(S) IS TO BE INSTALLED PER CODE REQUIREMENTS REGARDING CLEARANCE, DUCT ENCLOSURES, AND ACCESS. 18" CLEARANCE IS TO BE MAINTAINED FROM DUCT TO SURROUNDING COMBUSTIBLE CONSTRUCTION AND 3" CLEARANCE IS TO BE MAINTAINED FROM NON-COMBUSTIBLE CONSTRUCTION (6" REQ'D FOR DUCT ENCLOSURES). SOME CLEARANCE OR DUCT ENCLOSURE REQUIREMENTS MAY BE OMITTED THROUGH THE USE OF APPROVED DUCTWRAP/FIREWRAP. DUCTWRAP USED FOR CLEARANCE REDUCTION AROUND GREASE DUCT TO BE 2-LAYERS OF "3M FIRE BARRIER DUCT WRAP 615+" OR EQUAL, CONSULT LOCAL AHJ.
7. ALL DUCTWRAP/FIREWRAP OR SIMILAR IS TO BE INSTALLED PER MFG. RECOMMENDATIONS.
8. GC IS TO PROVIDE RATED ENCLOSURE (WHEN NEEDED) WITH RATED ACCESS DOORS AS REQUIRED. GC TO SPACE STRUCTURE TO ACCOMMODATE DUCTS WITH WRAP, DUCT ENCLOSURES, AND ACCESS DOORS AS NECESSARY.
9. HOOD TO BE INSTALLED SUCH THAT CODE REQUIRED MIN. DISTANCE BETWEEN LOWEST EDGE OF GREASE FILTER(S) AND COOKING/HEATING SURFACE IS NOT VIOLATED. MIN. DISTANCE EQUALS 12" FOR SURFACES WITH NO EXPOSED FLAME, 24" FOR SURFACES WITH EXPOSED FLAME AND BURNERS & 42" FOR EXPOSED CHARCOAL AND CHARBROIL TYPE SURFACES. LOWEST EDGE OF HOOD MUST NOT BE MORE THAN 48" FROM COOKING SURFACE(S).
10. HOOD CAPTURE SIZED BASED UPON EQUIPMENT SCHEDULED TO BE UNDER HOOD PLUS MIN. 6" OVERHANG ON ALL EXPOSED SIDES PER CODE. FIELD VERIFY & COORDINATE ACTUAL FURNISHED EQUIPMENT WITH SPECIFIED HOOD SIZE.
11. EXHAUST DUCT CONNECTION TO HOOD TO BE CONTINUOUS LIQUID TIGHT WELD. ALTERNATE GASKETED BOLT TYPE CONNECTION IS PERMISSIBLE IF ALLOWED BY LOCAL CODES. ALTERNATE CONNECTION MUST BE MADE EXACTLY AS DIRECTED BY LOCAL CODES.
12. MC TO VERIFY EXACT DIMENSIONS OF HOOD EXHAUST AND MAKE UP AIR CONNECTION WITH HOOD MFG. PRIOR TO FABRICATION OR ORDERING OF RELATED EQUIPMENT (BALANCING DAMPERS, ETC.)
13. HOOD MUST MEET U.L. 710.
14. KITCHEN EQUIPMENT SERVED BY HOOD INTERLOCKED WITH HOOD CONTROLS. OPERATION OF KITCHEN EQUIPMENT TO BE IMPOSSIBLE WITHOUT OPERATION OF HOOD EXHAUST FAN. HOOD ACTIVATION BY TEMPERATURE SENSOR IS ACCEPTABLE ALTERNATIVE.
15. MC RESPONSIBLE FOR VIEWING ALL OTHER APPLICABLE KITCHEN PLANS FROM KITCHEN EQUIPMENT PROVIDER AND ARCHITECT PRIOR TO BEGINNING WORK. MC TO MAKE KNOWN ANY SIGNIFICANT DISCREPANCIES BETWEEN PLANS TO G.C., ARCHITECT OR ENGINEER.
16. PRIOR TO USE OR CONCEALMENT OF ANY PORTION OF THE GREASE DUCT SYSTEM A LEAKAGE TEST SHALL BE PERFORMED IN THE PRESENCE OF THE LOCAL AHJ. TEST TO BE PERFORMED AS OUTLINED IN 2018 NCMC SEC. 506.3.2.5.
17. AFTER INSTALLATION MC TO PERFORM BOTH "PERFORMANCE" AND "CAPTURE AND CONTAINMENT" TESTS IN THE PRESENCE OF THE LOCAL AHJ. SEE 2018 NCMC SEC. 507.6.

KITCHEN HOOD FIRE SUPPRESSION SYSTEM

PROVIDE A PRE-ENGINEERED, WET CHEMICAL W/ WATER ASSIST FIRE PROTECTION SYSTEM EQUAL TO TANK/CAS ELECTRIC WET CHEMICAL SYSTEM, DESIGNED IN COMPLIANCE WITH UL300 REQUIREMENTS. THE SYSTEM SHALL BE CAPABLE OF AUTOMATIC DETECTION AND REMOTE ACTUATION. THE SYSTEM SHALL BE IN ACCORDANCE WITH NFPA 96 AND LOCAL AHJ. DISCHARGE NOZZLES WILL PROVIDE COVERAGE OF, BUT NOT LIMITED TO, THE HOOD AREA AND EXHAUST DUCT. FURNISH ELECTRIC OPERATED GAS SHUT OFF VALVE.

HOOD FIRE SUPPRESSION SEQUENCE OF OPERATION:
UPON ACTIVATION OF THE KITCHEN HOOD FIRE SUPPRESSION SYSTEM ALL HOOD MAKE-UP AIR FANS AND KITCHEN RTU SUPPLY FANS ARE TO SHUT DOWN. HOOD EXHAUST FANS ARE TO ACTIVATE. GAS SOLENOID VALVE IS TO CLOSE. ALARM SIGNAL IS TO BE SENT TO THE BUILDING FIRE ALARM SYSTEM CONTROL PANEL. EQUIPMENT SHUNT TRIP BREAKER TO STOP POWER TO ALL EQUIPMENT.

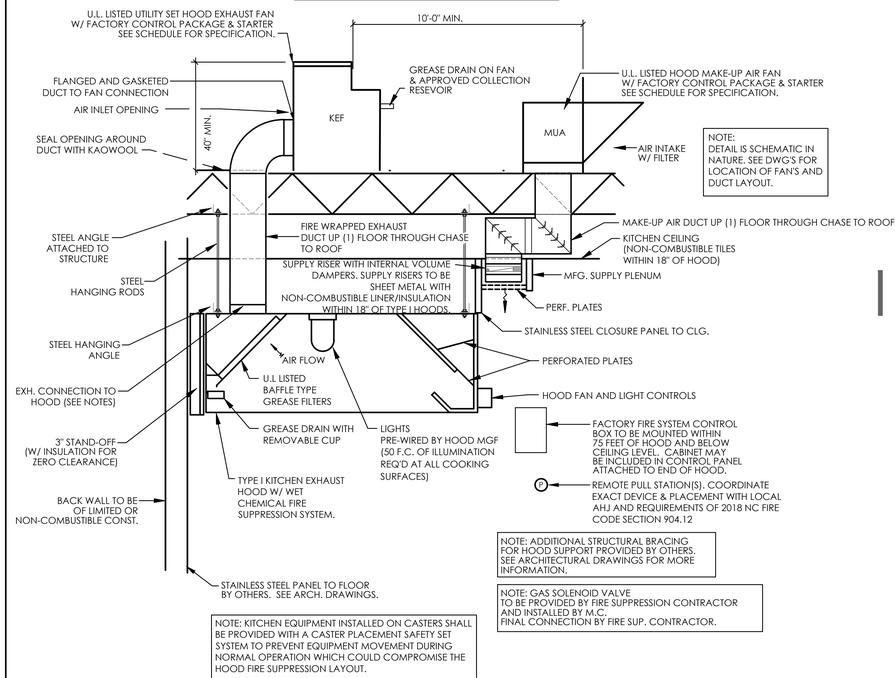
NOTE:
KEF TO TO SERVE HOOD 1 AND HOOD 2.

NOTE: SEE HOOD/FAN MFG DRAWINGS FOR MORE INFO.

EXHAUST FAN NOTES

NORMAL TEMPERATURE TEST
EXHAUST FAN MUST OPERATE CONTINUOUSLY WHILE EXHAUSTING AIR AT 400°F (204°C) UNTIL ALL FAN PARTS HAVE REACHED THERMAL EQUILIBRIUM, AND WITHOUT ANY DETERIORATING EFFECTS TO THE FAN WHICH WOULD CAUSE UNSAFE OPERATION.

ABNORMAL FLARE-UP TEST
EXHAUST FAN MUST OPERATE CONTINUOUSLY WHILE EXHAUSTING BURNING GREASE VAPORS AT 600°F (315°C) FOR A PERIOD OF 15 MINUTES WITHOUT THE FAN BECOMING DAMAGED TO ANY EXTENT THAT COULD CAUSE AN UNSAFE CONDITION.



1 KITCHEN HOOD DETAIL (TYPE 1, WALL)
NO SCALE

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#	date	description
PR	05-22-2024	PERMIT SET

NORTH CAROLINA PROFESSIONAL SEAL 044529 ENGINEER DAVID M. METAYER 5/22/24

sheet information

project #:	23049
drawn by:	HBS
checked by:	DMM

MECHANICAL DETAILS

M0.03

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Building Air Balance

Kitchen

Equipment	Supply	Exhaust
KEF-1	0	5074
KMUA-1	4156	0
Totals	4156	5074
Kitchen	**918**	**CFM Negative**

Dining & Other

Equipment	Supply	Exhaust
RTU-1	500	0
RTU-2	500	0
EF-1	0	150
EF-2	0	150
Transfer to Kit	0	918
Totals	1000	1218
Bldg	**218**	**CFM Negative**

GENERAL NOTES - THIS SHEET

1. ENSURE THAT ALL SOURCES OF BUILDING EXHAUST ARE A MINIMUM OF 10' HORIZONTALLY FROM OR A MINIMUM OF 3' ABOVE ANY AREA OUTSIDE AIR INTAKES.
2. M.C. TO SEE HOOD & FAN DRAWINGS FOR ADDITIONAL INFORMATION.

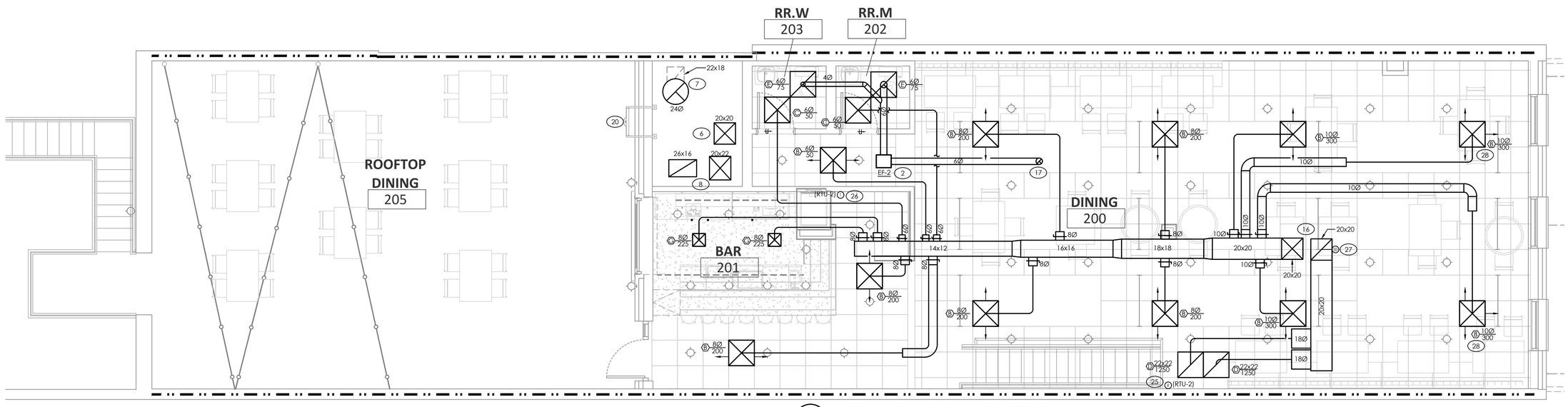
NOTE:
CARBON MONOXIDE DETECTORS REQUIRED IN GROUP A-2 OCCUPANCIES WITH GAS EQUIPMENT. E.C. TO PROVIDE DETECTORS. COORDINATE W/ E.C.

NOTE:
ABOVE-CEILING SPACE ON FIRST FLOOR IS LIMITED. COORDINATE HEIGHTS OF CROSSING DUCTWORK AND EXISTING CONDITIONS PRIOR TO BEGINNING WORK.

TAGGED NOTES - THIS SHEET

1. SUSPENDED AIR HANDLER INSTALLED ABOVE LAY-IN CEILING. ENSURE ALL MFG REQ'D MAINTENANCE CLEARANCES ARE MAINTAINED. ROUTE CONDENSATE TO GRADE AT BUILDING REAR AWAY FROM FOOT TRAFFIC VIA CONDENSATE PUMP. SEE DETAIL.
2. INLINE EXHAUST FAN INSTALLED ABOVE LAY-IN CEILING. ENSURE ALL MFG REQ'D MAINTENANCE CLEARANCES ARE MAINTAINED. SEE DETAIL.
3. 20x20 DN FROM KSF ON ROOF. PROVIDE MITERED ELBOW W/ TURNING VANES AT VERTICAL TO HORIZONTAL BEND.
4. EXHAUST DUCT TO WALL CAP W/ SCREEN AND BDD. CAULK AROUND AND BEHIND CAP WITH 100% SILICONE. MAINTAIN 3' VERTICAL CLEARANCE FROM BUILDING AIR INTAKES.
5. T-STATS ON WALL ABOVE SINK. LABEL T-STATS WITH CORRESPONDING AIR HANDLER/RTU. T-STAT FOR RTU-1 TO BE CONTROLS ONLY. SEE PLAN FOR WIRELESS REMOTE TEMPERATURE SENSOR LOCATION.
6. MUA DUCT DOWN ONE FLOOR IN CHASE TO ABOVE 1ST FLOOR CEILING.
7. GREASE EXHAUST DUCT UP ONE FLOOR IN CHASE TO ROOF. DUCT TO JOG PLAN SOUTH WITHIN CHASE TO ALIGN WITH KEF ON ROOF ABOVE. TRANSITION TO PRE-FAB 24Ø ROUND DUCT WITHIN CHASE.
8. SUPPLY/RETURN DUCTS FROM RTU-1 ABOVE DOWN ONE FLOOR IN CHASE TO ABOVE 1ST FLOOR CEILING CEILING.
9. REMOTE PULL STATION FOR HOOD FIRE SUPPRESSION SYSTEM. SEE DETAIL. COORD. EXACT LOCATION W/ LOCAL AHJ.
10. 16x12 GREASE EXHAUST DOWN TO HOOD. TRANSITION AT HOOD AS NECESSARY.
11. 22x18 GREASE EXHAUST DUCT UP TO KEF ON ROOF.
12. SUPPLY TAP W/ VOLUME DAMPER DOWN TO HOOD CONNECTION. COORDINATE EXACT QTY, SIZE AND CFM OF TAPS W/ HOOD MFG AND DRAWINGS. TYPICAL.
13. UTILITY CABINET FOR HOOD FIRE SUPPRESSION SYSTEM.
14. RETURN DUCT ROUTED AS HIGH AS POSSIBLE ABOVE CEILING, TIGHT TO STRUCTURE.
15. EXHAUST DUCT ROUTED EXPOSED HIGH IN UTILITY AREA.
16. SUPPLY/RETURN DOWN FROM RTU-2 ON ROOF TO ABOVE 2ND FLOOR CEILING.
17. EXHAUST DUCT UP TO MFG'S ROOF JACK WITH INSECT SCREEN AND BDD. MAINTAIN 10' CLEARANCE FROM ALL BUILDING AIR INTAKES.
18. PROVIDE CONDENSATE PUMP FOR WALK-IN COOLER/FREEZER CONDENSATE. ROUTE TO GRADE AT BUILDING REAR AWAY FROM FOOT TRAFFIC.
19. WIRELESS REMOTE TEMPERATURE/HUMIDITY SENSOR LOCATION. THERMOSTAT CONTROLS LOCATED IN KITCHEN.
20. ROOF ACCESS VIA EXTERIOR STAIRS WITH LOCKED DOOR BY G.C.
21. LOUVERED SIDEWALL RETURN GRILLE HIGH ON WALL. TURN BLADES TO FACE UP.
22. TRANSITION TO DOUBLE WALL SPIRAL DUCTWORK ABOVE CEILING.
23. EXPOSED DOUBLE WALL SPIRAL DUCTWORK HIGH IN SPACE TIGHT TO STRUCTURE. BOTTOM OF DUCT TO BE APPROX 8'-9" AFF.
24. TRANSITION TO RECTANGULAR DUCTWORK ABOVE GYPSUM CEILING.
25. WIRELESS REMOTE TEMPERATURE/HUMIDITY SENSOR LOCATION, THERMOSTAT CONTROLS LOCATED ON WALL AT BAR.
26. T-STAT CONTROLS ONLY. LABEL T-STAT WITH CORRESPONDING RTU. SEE PLAN FOR WIRELESS REMOTE TEMPERATURE SENSOR LOCATION.
27. DUCT SMOKE DETECTOR IN RETURN DUCT WIRED TO RTU SHUTDOWN AND BUILDING FA SYSTEM. SEE DETAIL.
28. DIFFUSER SET UP FOR 3-WAY THROW AS SHOWN.

FIRE RATING LEGEND
2-HR WALL



2 MECHANICAL PLAN - 2ND FLOOR
SCALE: 1/4" = 1'-0"

1 MECHANICAL PLAN - 1ST FLOOR
SCALE: 1/4" = 1'-0"

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NORTH CAROLINA REGISTERED PROFESSIONAL ENGINEER SEAL 044528 DAVID M. METAK 5/22/24

sheet information

project #:	23049
drawn by:	HBS
checked by:	DMM

MECHANICAL PLANS

M1.01

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GENERAL NOTES - THIS SHEET

1. ENSURE THAT ALL SOURCES OF BUILDING EXHAUST ARE A MINIMUM OF 10' HORIZONTALLY FROM OR A MINIMUM OF 3' ABOVE ANY AREA OUTSIDE AIR INTAKES.
2. M.C. TO SEE HOOD & FAN DRAWINGS FOR ADDITIONAL INFORMATION.

TAGGED NOTES - THIS SHEET

(1) UTILITY SET EXHAUST FAN ON ROOF. ENSURE 10' HORIZONTAL OR 3' VERTICAL CLEARANCE FROM ALL BUILDING AIR INTAKES. PROVIDE 24" WIND BANDS TO DIRECT FLOW AWAY FROM AREA EQUIPMENT. SEE DETAIL.

(2) KITCHEN MAKEUP AIR FAN SET UP FOR SIDE DISCHARGE ON ROOF. ENSURE 10' HORIZONTAL CLEARANCE FROM ALL BUILDING EXHAUST.

(3) HEAT PUMP INSTALLED ON EQUIPMENT PAD ON ROOF. ENSURE ALL MFG REQ'D MAINTENANCE CLEARANCES ARE MAINTAINED. SEE DETAIL.

(4) RTU SET UP FOR SIDE DISCHARGE ON MFG ROOF CURB. ENSURE ALL MFG REQ'D MAINTENANCE CLEARANCES ARE MAINTAINED. SEE DETAIL.

(5) RTU SET UP FOR DOWNWARD DISCHARGE ON MFG ROOF CURB. ENSURE ALL MFG REQ'D MAINTENANCE CLEARANCES ARE MAINTAINED. SEE DETAIL.

(6) 6Ø EXHAUST DUCT UP TO MFG'S ROOF JACK WITH INSECT SCREEN AND BDD. MAINTAIN 10' CLEARANCE FROM ALL BUILDING AIR INTAKES.

(7) COORDINATE EXACT LOCATION OF ROOF EQUIPMENT W/ STRUCTURE BELOW. POSITION EQUIPMENT AS CLOSE TO SUPPORTING ELEMENTS AS POSSIBLE.

(8) PRE-FABRICATED DOUBLE WALL WEATHERPROOF GREASE EXHAUST DUCT ALONG ROOF TO KEF. ENSURE DUCTWORK IS INSTALLED/INSULATED PER MFG REQUIREMENTS. INCLUDE WEATHERPROOF LINER. SEE HOOD DRAWINGS FOR MORE INFORMATION.

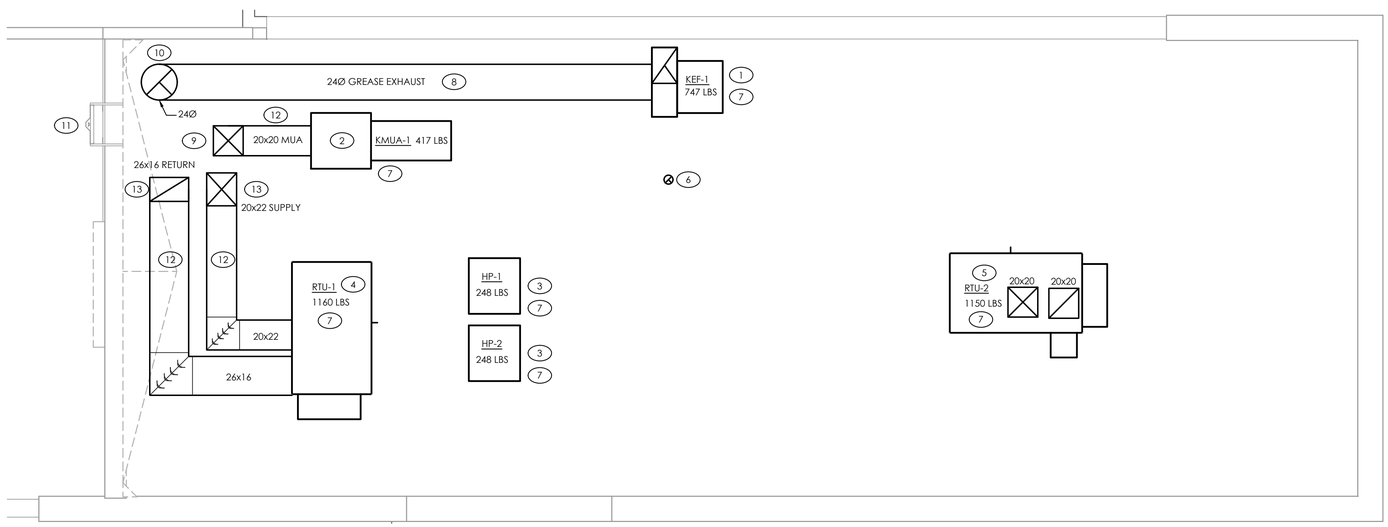
(9) 20x20 KMUA SUPPLY DUCT DOWN THROUGH CHASE TO ABOVE 1ST FLOOR CEILING. SEE SHEET M101 FOR CONTINUATION OF DUCT.

(10) 24Ø GREASE EXHAUST DUCT UP FROM CHASE TO KEF ON ROOF. SEE SHEET M101 FOR CONTINUATION OF DUCT. SEE HOOD DRAWINGS FOR MORE INFORMATION.

(11) EXTERIOR ROOF LADDER UP FROM SECOND FLOOR PATIO BY G.C.

(12) WEATHERPROOF SUPPLY/RETURN DUCT ON ROOF.

(13) SUPPLY/RETURN DUCT DOWN ONE FLOOR IN CHASE TO ABOVE 1ST FLOOR CEILING. SEE SHEET M101 FOR CONTINUATION OF DUCT.



1 MECHANICAL PLAN - ROOF
SCALE: 1/4" = 1'-0"

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NORTH CAROLINA PROFESSIONAL SEAL 044528 ENGINEER DAVID M. METAYER 5/22/24

sheet information

project #:	23049
drawn by:	HBS
checked by:	DMM

MECHANICAL PLAN - ROOF

M1.02

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FIRE RATING LEGEND
2-HR WALL

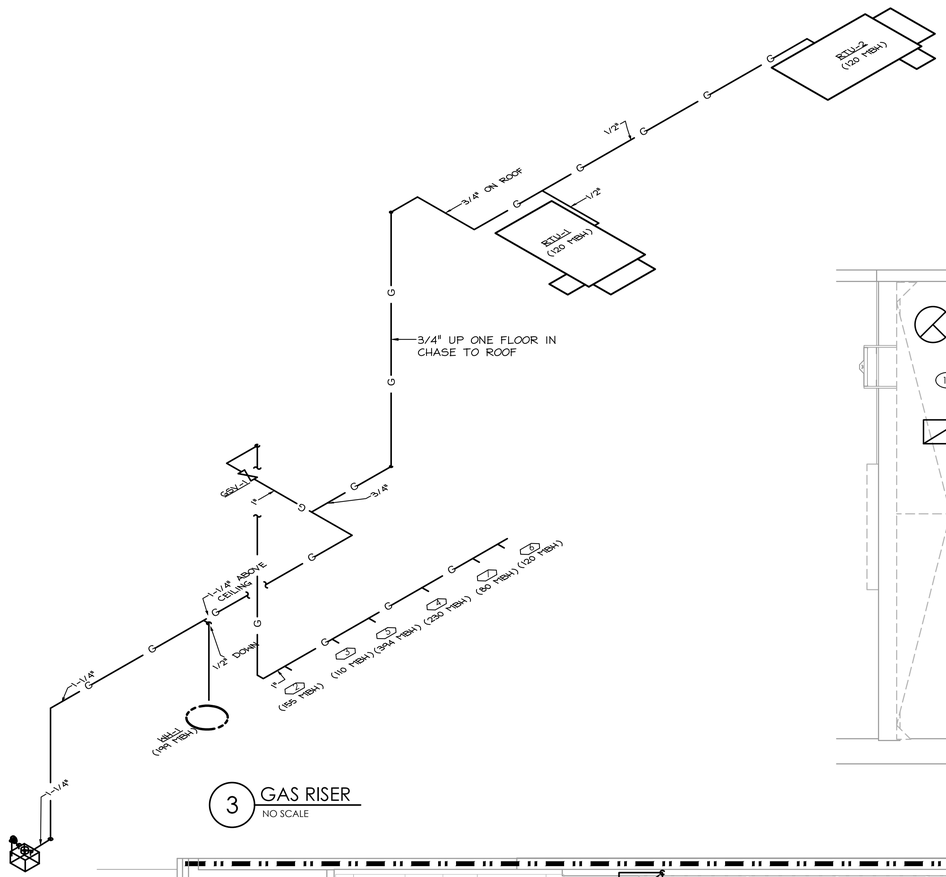
NATURAL GAS CALCULATIONS TABLE 402.4(5)

PIPE SIZE (IN.)	MAX CAPACITY OF PIPE IN MBH
	EQUIV. LENGTH = 175 FT
1/2	344 MBH
3/4	695 MBH
1	1,270 MBH
1-1/4	2,601 MBH

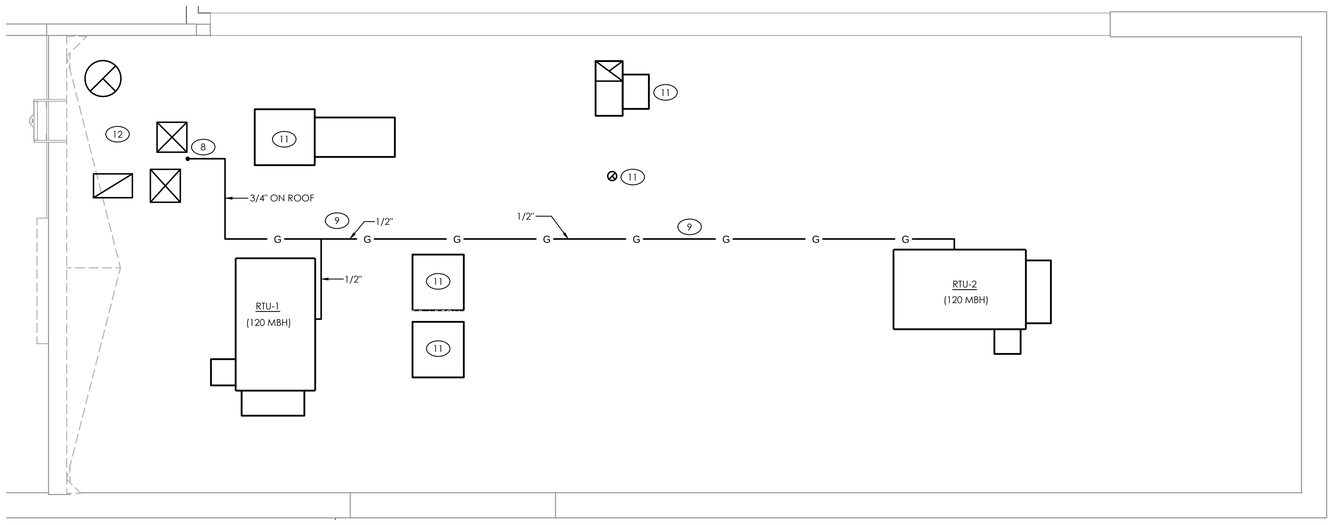
BASED UPON CHAPTER 4 OF THE 2018 NORTH CAROLINA FUEL GAS CODE.
2.0 PSI INLET PRESSURE, 1.0 PSI PRESSURE DROP.

GAS SYSTEM LOAD

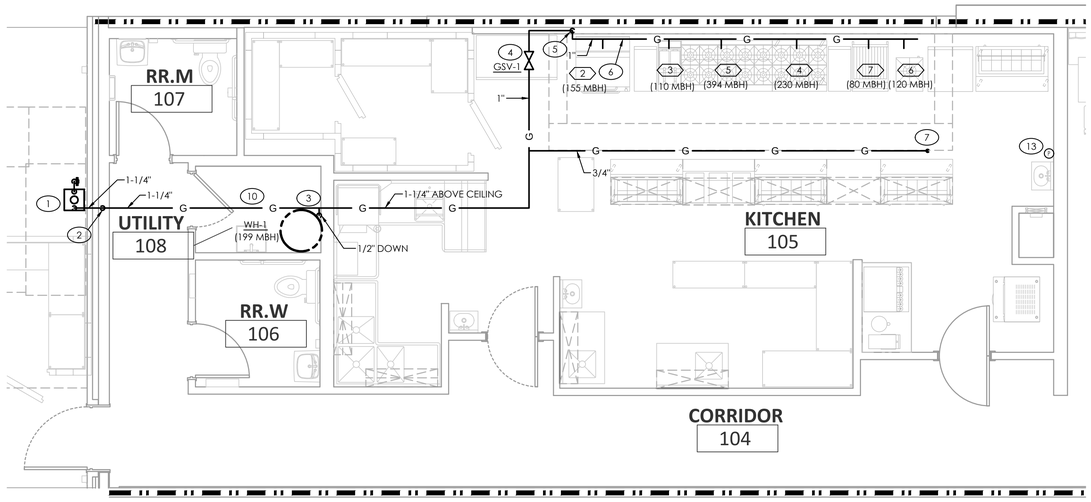
EQUIPMENT	MBH (INPUT)
BROILER W/ OVEN	155.0
FRYER	110.0
6-BURNER RANGE W/ OVEN	230.0
10-BURNER RANGE W/ OVEN	394.0
STOCK POT RANGE	120.0
CHAR-BROILER	80.0
WH-1	199.0
RTU-1	120.0
RTU-2	120.0
TOTAL:	1528.0



3 GAS RISER
NO SCALE



2 GAS PIPING PLAN - ROOF
SCALE: 1/4" = 1'-0"



1 GAS PIPING PLAN - 1ST FLOOR
SCALE: 1/4" = 1'-0"

EQUIPMENT SCHEDULE

ITEM #	DESCRIPTION	GAS LINE SIZE (IN)	GAS INPUT (MBTUH)
2	BROILER W/ OVEN	1.0	155.0
3	FRYER	0.75	110.0
4	6-BURNER RANGE W/ OVEN	0.75	230.0
5	10-BURNER RANGE W/ OVEN	0.75	394.0
6	STOCK POT RANGE	0.75	120.0
7	CHAR-BROILER	0.75	80.0

NOTE:
M.C. TO VERIFY EXACT TYPE, QTY. LOCATION OF EQUIPMENT PLUMBING CONNECTIONS BEFORE BEGINNING WORK. M.C. RESPONSIBLE FOR PROVIDING AND INSTALLING ALL REQUIRED FITTINGS, ACCESSORIES AND SIMILAR. FINAL CONNECTION TO EQUIPMENT BY M.C.

GENERAL NOTES - THIS SHEET

1. M.C. IS TO PROVIDE REGULATOR, FLEX CONNECTION & SHUT-OFF VALVE AT EACH EQUIPMENT CONNECTION. COORDINATE AND VERIFY EXACT SIZE AND LOCATION OF EQUIPMENT GAS CONNECTION(S) BEFORE BEGINNING WORK.
2. PROVIDE LABELING ON GAS PIPING AS REQUIRED BY 2018 NCFGC SEC. 401.5 & 401.7.
3. ABOVE-GRADE GAS PIPING TO BE INSTALLED AND PROTECTED PER 2018 NCFGC 404.9.
4. M.C. IS RESPONSIBLE FOR VENTING REGULATORS TO EXTERIOR AS REQ'D.

NOTE:
SEE SHEETS M002 FOR GAS MATERIAL AND EXECUTION NOTES AND DETAILS.

TAGGED NOTES - THIS SHEET

1. NEW GAS METER AND 2.0 PSI REGULATOR BY UTILITY. M.C. TO COORDINATE. GAS PIPING SYSTEM DESIGNED FOR 1528 MBH TOTAL LOAD AND 175 FT EQUIVALENT LENGTH.
2. GAS LINE UP IN WALL TO ABOVE 1ST FLOOR CEILING.
3. GAS LINE DOWN TO WATER HEATER CONNECTION.
4. INSTALL GAS SOLENOID VALVE ABOVE CEILING. SOLENOID VALVE TO BE CONNECTED TO HOOD FIRE SUPPRESSION SYSTEM. COORDINATE WITH HOOD PROVIDER.
5. GAS LINE DOWN IN WALL. GAS LINE TO PENETRATE WALL BEHIND COOK LINE 12" AFF.
6. 1" GAS HEADER 12" AFF BEHIND COOK LINE.
7. GAS LINE UP ONE FLOOR IN CHASE TO ROOF.
8. GAS LINE UP IN CHASE FROM FIRST FLOOR.
9. GAS LINE ON ROOF TO RTU CONNECTION.
10. GAS LINE ROUTED EXPOSED HIGH IN UTILITY AREA.
11. ROOF EQUIPMENT SHOWN FOR REFERENCE. SEE SHEET M102 FOR MORE INFORMATION.
12. DUCTWORK DOWN IN CHASE SHOWN FOR REFERENCE. SEE SHEET M101 FOR MORE INFORMATION. HORIZONTAL DUCTWORK ON ROOF NOT SHOWN ON GAS PLAN.
13. REMOTE PULL STATION FOR HOOD FIRE SUPPRESSION SYSTEM. SEE DETAIL. COORD. EXACT LOCATION W/ LOCAL AHJ.

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NORTH CAROLINA REGISTERED PROFESSIONAL ENGINEER SEAL 044528 HOWARD BEARDSLEY MECHANICAL 5/22/24

sheet information

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drawn by:	HBS
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GAS PIPING PLANS AND DETAILS

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PATENT NUMBERS

AC-PSP (UNITED STATES) - US PATENT 7963830 B2.
AC-PSP WALL (CANADA) - CA PATENT 2820509.
AC-PSP ISLAND (CANADA) - CA PATENT 2520330.

HOOD INFORMATION - JOB#6492399

HOOD NO	TAG	MODEL	MANUFACTURER	LENGTH	MAX COOKING TEMP	TYPE	APPLIANCE DUTY	DESIGN CFM/FT	TOTAL EXH CFM	EXHAUST PLENUM RISER(S) WIDTH	LENG	HEIGHT	DIA	CFM	VEL	SP	TOTAL SUPPLY CFM	HOOD CONSTRUCTION	HOOD CONFIG END TO END	ROW
1	Hood 1L	6024 EX-2-PSP-F	ECON-AIR	10' 3"	600 DEG	I	HEAVY	270	2768	16"	12"	4"		2768	2076	-1.176"	2076	430 SS WHERE EXPOSED	LEFT	ALONE
2	Hood 1R	6024 EX-2-PSP-F	ECON-AIR	10' 3"	600 DEG	I	HEAVY	225	2306	16"	12"	4"		2306	1729	-0.816"	2075	430 SS WHERE EXPOSED	RIGHT	ALONE

HOOD INFORMATION

HOOD NO	TAG	FILTER(S) TYPE	QTY	HEIGHT	LENGTH	EFFICIENCY @ 7 MICRONS	LIGHT(S) QTY	TYPE	WIRE GUARD	UTILITY CABINET(S) LOCATION	SIZE	FIRE SYSTEM TYPE	FIRE SYSTEM SIZE	ELECTRICAL MODEL #	SWITCHES QUANTITY	FIRE SYSTEM PIPING	HOOD HANGING WEIGHT
1	Hood 1L	CAPTRATE SOLO FILTER	7	20"	16"	85% SEE FILTER SPEC	7	L55 SERIES E26	NO	LEFT	12"x60"x24"			SC-311110MA	1 LIGHT 1 FAN	YES	855 LBS
2	Hood 1R	CAPTRATE SOLO FILTER	7	20"	16"	85% SEE FILTER SPEC	7	L55 SERIES E26	NO	RIGHT	12"x60"x24"	TANK FS	4.0/4.0/4.0/4.0			YES	1176 LBS

HOOD OPTIONS

HOOD NO	TAG	OPTION
1	Hood 1L	FIELD WRAPPER 17.00" HIGH FRONT, LEFT.
		BACKSPLASH 122.00" HIGH X 306.00" LONG 430 SS VERTICAL.
		RISER SENSOR INSTALL 6IN PLEN.
		LEFT VERTICAL END PANEL 27" TOP WIDTH, 21" BOTTOM WIDTH, 80" HIGH INSULATED 430 SS.
2	Hood 1R	FIELD WRAPPER 17.00" HIGH FRONT, RIGHT.
		RIGHT QUARTER END PANEL 23" TOP WIDTH, 0" BOTTOM WIDTH, 23" HIGH 430 SS.
		RISER SENSOR INSTALL 6IN PLEN.

PERFORATED SUPPLY PLENUM(S)

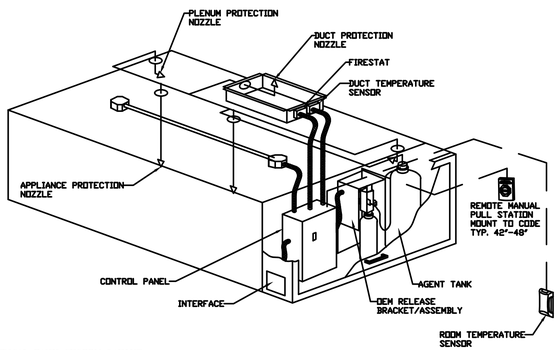
HOOD NO	TAG	POS	LENGTH	WIDTH	HEIGHT	RISER(S) TYPE	WIDTH	LENG	DIA	CFM	SP
1	Hood 1L	Front	135"	18"	6"	MUA	12"	28"		692	0.181"
						MUA	12"	28"		692	0.181"
						MUA	12"	28"		692	0.181"
2	Hood 1R	Front	135"	18"	6"	MUA	12"	28"		691	0.181"
						MUA	12"	28"		691	0.181"
						MUA	12"	28"		691	0.181"

FIRE SYSTEM INFORMATION - JOB#6492399

FIRE SYSTEM NO	TAG	TYPE	SIZE	MAX FP	DESIGN FP	INSTALLATION SYSTEM	LOCATION ON HOOD
1	FS	TANK FS	4.0/4.0/4.0/4.0	80	77	FIRE CABINET RIGHT	RIGHT, HOOD 2

GAS VALVE(S)

FIRE SYSTEM NO	TAG	TYPE	SIZE	SUPPLIED BY
1	FS	SC ELECTRICAL	1.000	ECON-AIR



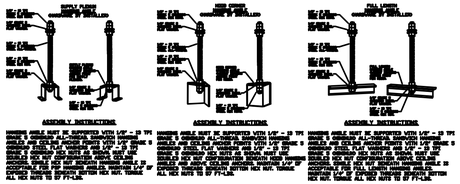
TYPICAL TANK SYSTEM LAYOUT

SPECIFICATIONS:

THE RESTAURANT FIRE SUPPRESSION SYSTEM SHALL BE THE PRE-ENGINEERED TYPE WITH A FIXED NOZZLE AGENT DISTRIBUTION NETWORK. IT SHALL BE LISTED WITH UNDERWRITERS LABORATORIES, INC. (UL)

THE SYSTEM CONTROLS SHALL PROVIDE ALL NECESSARY MONITORING, TIMING AND SUPERVISION FUNCTIONS REQUIRED FOR THE RELIABLE OPERATION OF THE WET CHEMICAL FIRE SUPPRESSION SYSTEM. ALL DEVICES THAT ARE CRITICAL TO PROPER OPERATION SHALL BE SUPERVISED. THE SYSTEM SHALL INCLUDE A BATTERY BACK UP SYSTEM. IN THE EVENT OF A LOSS OF POWER TO THE BUILDING, THE BACKUP SYSTEM SHALL POWER ALL SYSTEMS NECESSARY FOR PROPER OPERATION.

THE SYSTEM SHALL BE CAPABLE OF AUTOMATIC DETECTION AND ACTUATION WITH LOCAL OR REMOTE MANUAL ACTUATION. THE DETECTION PORTION OF THE FIRE SUPPRESSION SYSTEM ALLOWS FOR AUTOMATIC DETECTION BY MEANS OF AN ELECTRIC THERMAL DETECTOR(S) LOCATED IN THE HOOD DUCT CONNECTION(S).



SPECIFICATION: CAPTRATE® GREASE-STOP® SOLO FILTER

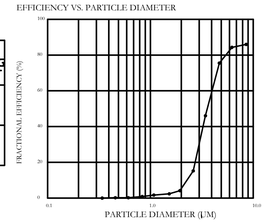
THE CAPTRATE GREASE-STOP SOLO FILTER IS A SINGLE-STAGE FILTER FEATURING A UNIQUE S-BAFFLE DESIGN IN CONJUNCTION WITH A SLOTTED REAR BAFFLE DESIGN, TO DELIVER EXCEPTIONAL FILTRATION EFFICIENCY.

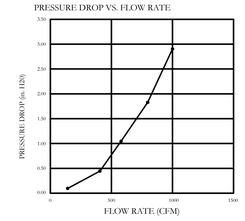
FILTER IS STAINLESS STEEL CONSTRUCTION, AND SIZED TO FIT INTO STANDARD 2-INCH DEEP HOOD CHANNEL(S).

UNITS SHALL INCLUDE STAINLESS STEEL HANDLES AND A FASTENING DEVICE TO SECURE THE TWO COMPONENTS WHEN ASSEMBLED.

GREASE EXTRACTION EFFICIENCY PERFORMANCE SHALL REMOVE AT LEAST 75% OF GREASE PARTICLES FIVE MICRONS IN SIZE, AND 85% GREASE PARTICLES SEVEN MICRONS IN SIZE AND LARGER, WITH A CORRESPONDING PRESSURE DROP NOT TO EXCEED 1.0 INCHES OF WATER GAUGE.

THE CAPTRATE GREASE-STOP SOLO WAS TESTED TO ASTM STANDARD ASTM F2519-05. MANUFACTURER APPROVED FOR USE IN SOLID FUEL APPLICATIONS AS A SPARK ARRESTER.





CAPTRATE FILTERS ARE BUILT IN COMPLIANCE WITH.
NFPA #96.
NSF STANDARD #2.
UL STANDARD #1046.
INT. MECH. CODE (IMC).
ULC-S649.

FOR QUESTIONS, CALL THE
CHARLOTTE, NORTH CAROLINA OFFICE
Jenna Liseo
PHONE: 704-591-4518
EMAIL: reg30@captiveaire.com

CAPTIVE-AIRE HOODS ARE ETL LISTED AND LABELED IN COMPLIANCE WITH

NFPA #96
NSF
UL 710 & ULC710 STANDARDS
E.T.L. LISTED 3054804-001

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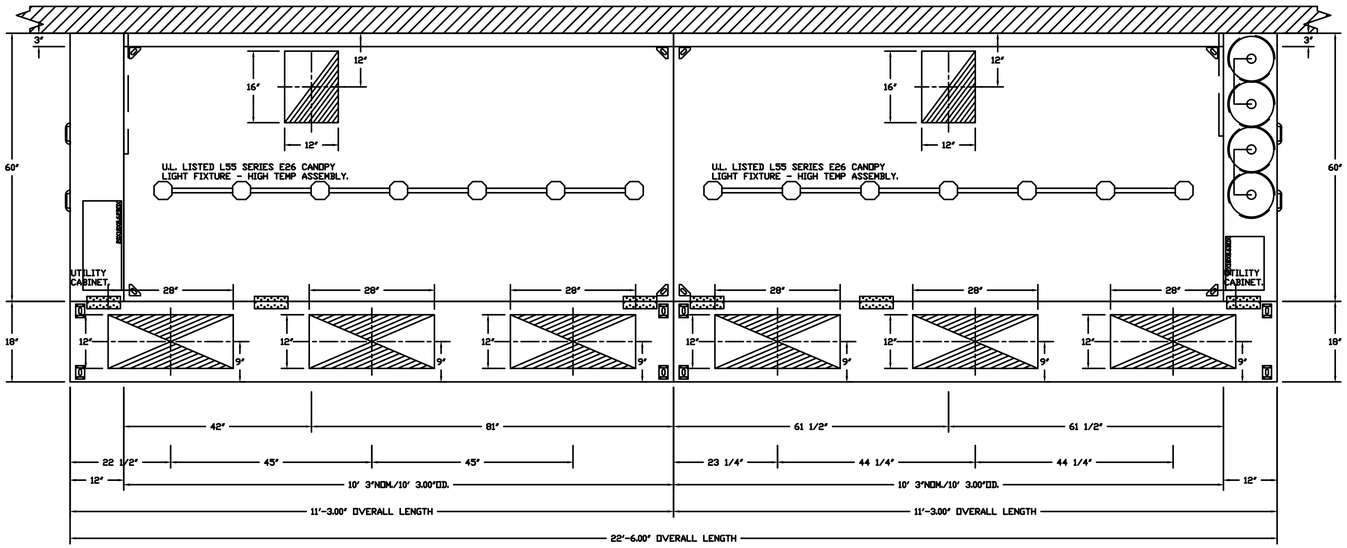
NOTE:
SEE ADDITIONAL HOOD DRAWINGS & MECHANICAL DRAWINGS FOR ADDITIONAL INFORMATION.



PLAN VIEW - HOOD #1 (Hood 1L)
10' 3.00" LONG 6024EX-2-PSP-F

PLAN VIEW - HOOD #2 (Hood 1R)
10' 3.00" LONG 6024EX-2-PSP-F

REVISIONS

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DATE: 3/27/2024
DWG.#: 6492399
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SHEET NO.
1

sheet issue

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NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 044529 DUSTIN M. METAYER 5/22/24

sheet information

project #:	23049
drawn by:	HBS
checked by:	DMM

HOOD DRAWINGS

HD0.01

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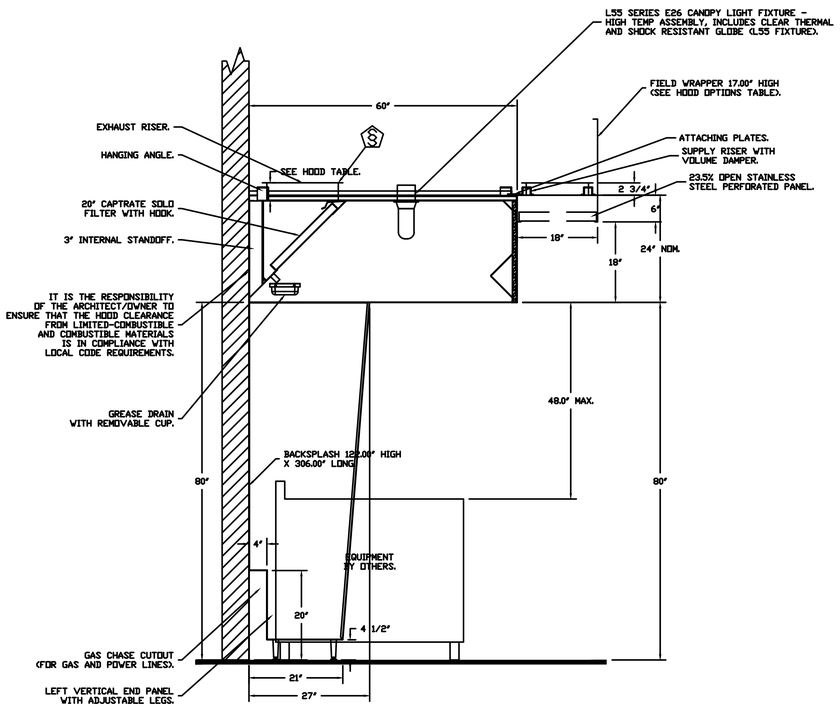
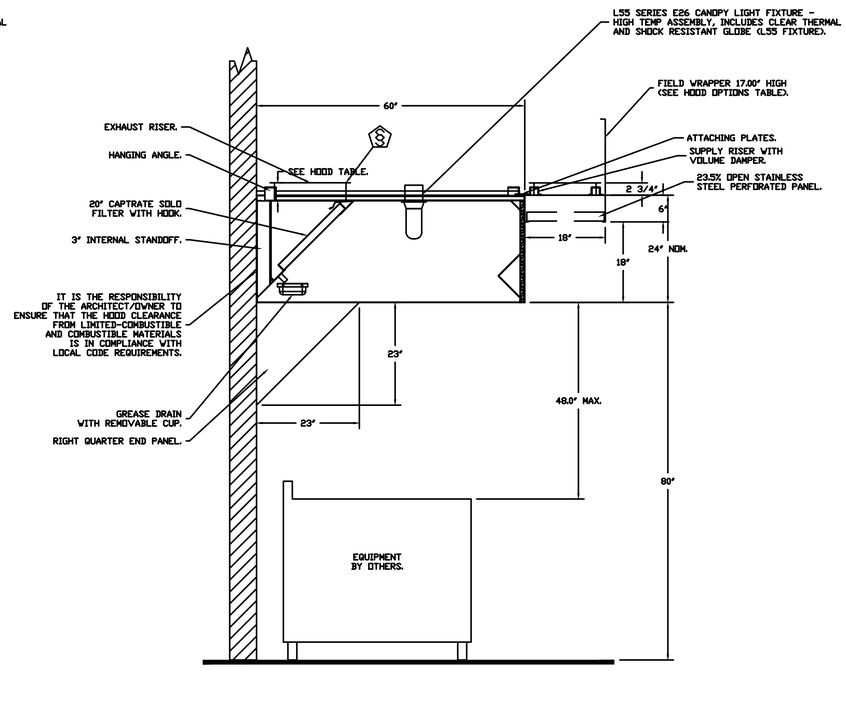


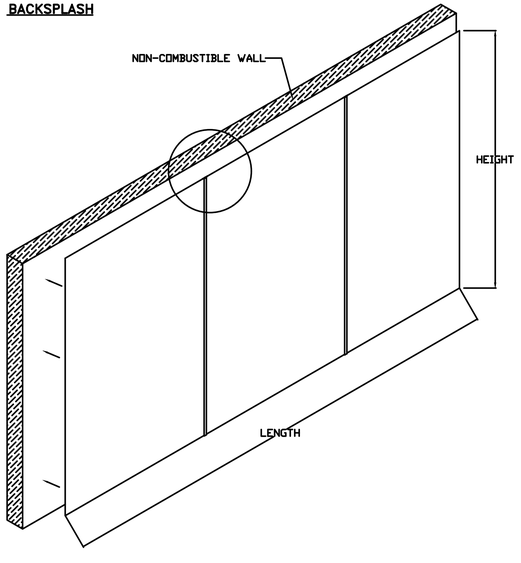
SECTION VIEW - MODEL 6024EX-2-PSP-F
HOOD - #1 (Hood 1L)

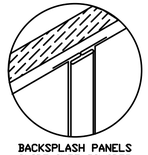


SECTION VIEW - MODEL 6024EX-2-PSP-F
HOOD - #2 (Hood 1R)

SECTION VIEW - MODEL 6024EX-2-PSP-F
HOOD - #1 (Hood 1L)

BACKSPLASH





BACKSPLASH PANELS SLIDE INTO DIVIDER BAR

- BACKSPLASH IS NOT INSULATED AND IS UNSUITABLE FOR INSTALL AGAINST COMBUSTIBLE WALLS

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NOTE:
SEE ADDITIONAL HOOD DRAWINGS & MECHANICAL DRAWINGS FOR ADDITIONAL INFORMATION.

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DATE: 3/27/2024

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NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 044528 REGISTERED DAVID M. METCALF 5/22/24

sheet information

project #:	23049
drawn by:	HBS
checked by:	DMM

HOOD DRAWINGS

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EXHAUST FAN INFORMATION – JOB#6492399

FAN UNIT NO	TAG	QTY	FAN UNIT MODEL #	MANUFACTURER	CFM	ESP	RPM	MOTOR ENCL	HP	BHP	PHASE	VOLT	FLA	DISCHARGE VELOCITY	WEIGHT (LBS)	SONES
1	EF1-2	1	USBI24DD-RM	CAPTIVEAIRE	5074	2.500	1208	ODP,PREMIUM	5.000	4.0700	3	208	15.8	1681 FPM	747	29.5

MUA FAN INFORMATION – JOB#6492399

FAN UNIT NO	TAG	QTY	FAN UNIT MODEL #	BLOWER	HOUSING	MIN CFM	DESIGN CFM	ESP	RPM	MOTOR ENCL	HP	BHP	PHASE	VOLT	FLA	MCA	MOCP	WEIGHT (LBS)	SONES
2	SF1-2	1	EA-A2-20D	20MF-2-MOD	A2	1500	4156	0.500	1381	ODP,PREMIUM	2.000	1.4900	3	208	8.3	10.4A	15A	417	16.4

FAN OPTIONS

FAN UNIT NO	TAG	QTY	DESCRIPTION
1	EF1-2	1	BI24 - INLET SERVICE DUCT CONNECTION. USED TO CONNECT TO STANDARD 24" GREASE DUCT OR FIELD WELDED DUCT. INCLUDES (2) 7" RISERS BOLTED TO STANDARD INLET RISER
		1	UTILITY SET GREASE CUP
		1	BI24 - 24" DISCHARGE EXTENSION
		1	BI - DISCHARGE ORIENTATION VERTICAL UPPER LEFT - CW INLET SIDE
		1	BI24 - INLET CONNECTION STANDARD 24" FLANGED GREASE DUCT
		1	UTILITY SET - SPRING VIBRATION ISOLATORS - BI24 THRU BI30 / EQUIVALENT SIZED UTILITY SET / SIF 24-30 + FILTER BANK - INDOOR/OUTDOOR USE
		1	2 YEAR PARTS WARRANTY
2	SF1-2	1	2 YEAR PARTS WARRANTY

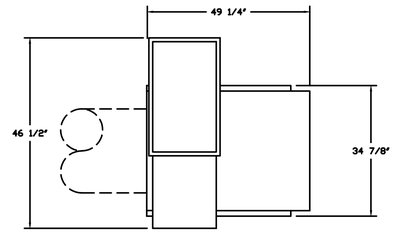
FAN ACCESSORIES

FAN UNIT NO	TAG	EXHAUST			SUPPLY			
		GREASE CUP	GRAVITY DAMPER	WALL MOUNT	SIDE DISCHARGE	GRAVITY DAMPER	MOTORIZED DAMPER	WALL MOUNT
1	EF1-2	YES						
2	SF1-2				YES			

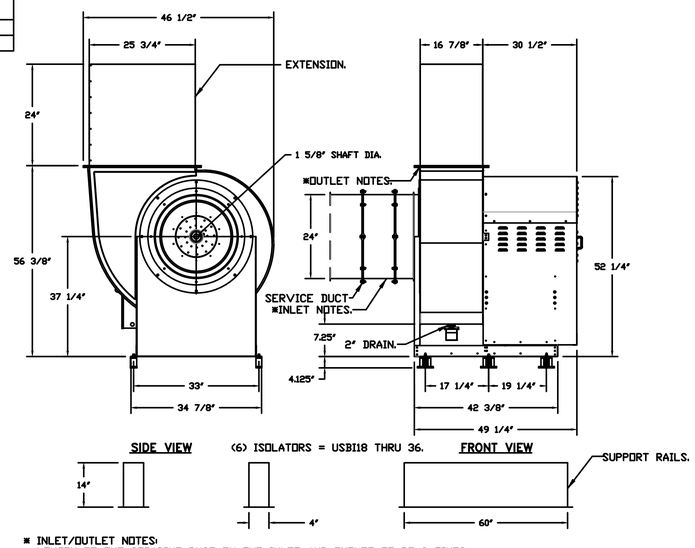
CURB ASSEMBLIES

NO	DN FAN	TAG	WEIGHT	ITEM	SIZE
1	# 1	EF1-2	47 LBS	RAIL	4.000"W X 60.000"L X 14.000"H COMES AS A SET OF 2.
2	# 2	SF1-2	42 LBS	CURB	31.000"W X 31.000"L X 15.000"H.

FAN #1 USBI24DD-RM-S - EXHAUST FAN (EF1-2)



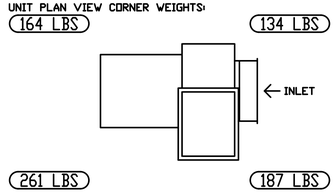
TOP VIEW



SIDE VIEW (6) ISOLATORS = USBI18 THRU 36. FRONT VIEW

* INLET/OUTLET NOTES:
LENGTH OF THE STRAIGHT DUCT ON THE INLET AND OUTLET TO BE 3 TIMES THE EQUIVALENT DUCT DIAMETER BEFORE CONNECTING TO ANY FITTINGS SUCH AS ELBOWS TO AVOID SYSTEM EFFECT.

UNIT PLAN VIEW CORNER WEIGHTS:



CORNER WEIGHTS ARE CALCULATED BASED ON VERTICAL DISCHARGE. SUPPORT DUCT PROPERLY BEFORE FAN TO ENSURE CORNER WEIGHTS ARE NOT AFFECTED.

NORMAL TEMPERATURE TEST DIRECT DRIVE
EXHAUST FAN MUST OPERATE CONTINUOUSLY WHILE EXHAUSTING AIR AT 350°F (176°C) UNTIL ALL FAN PARTS HAVE REACHED THERMAL EQUILIBRIUM, AND WITHOUT ANY DETERIORATING EFFECTS TO THE FAN WHICH WOULD CAUSE UNSAFE OPERATION.

FEATURES:

- ROOF MOUNTED FANS.
- UL705.
- UL762 AND ULC-S645 (RESTAURANT MODEL).
- HIGH HEAT OPERATION DIRECT DRIVE 350°F (176°C).
- HEAT SLINGER.
- NEMA 3R SAFETY DISCONNECT SWITCH.
- GREASE CLASSIFICATION TESTING.
- 2" DRAIN.
- MOTOR WEATHER COVER.
- FULLY SEALED SCROLL HOUSING.
- SCROLL ACCESS DOOR.
- FLANGE 2".

OPTIONS

- BI24 - INLET SERVICE DUCT CONNECTION. USED TO CONNECT TO STANDARD 24" GREASE DUCT OR FIELD WELDED DUCT. INCLUDES (2) 7" RISERS BOLTED TO STANDARD INLET RISER.
- UTILITY SET GREASE CUP.
- BI24 - 24" DISCHARGE EXTENSION.
- BI - DISCHARGE ORIENTATION VERTICAL UPPER LEFT - CW INLET SIDE.
- BI24 - INLET CONNECTION STANDARD 24" FLANGED GREASE DUCT.
- UTILITY SET - SPRING VIBRATION ISOLATORS - BI24 THRU BI30 / EQUIVALENT SIZED UTILITY SET / SIF 24-30 + FILTER BANK - INDOOR/OUTDOOR USE.
- 2 YEAR PARTS WARRANTY.

NOTE:
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NOTE:
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NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 044528 5/22/24

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checked by:	DMM

HOOD DRAWINGS

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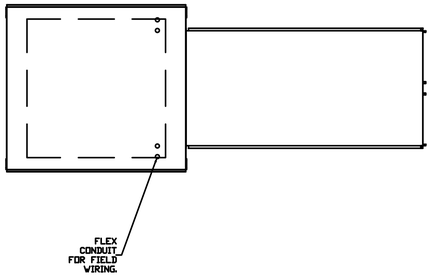
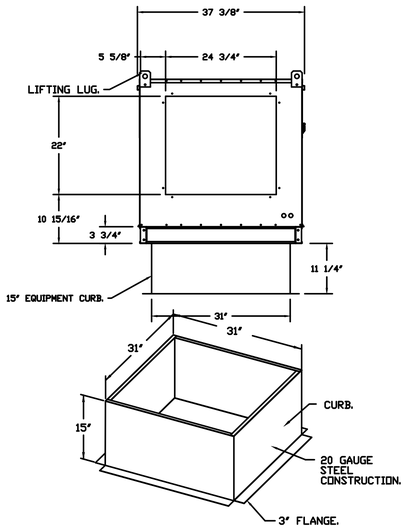
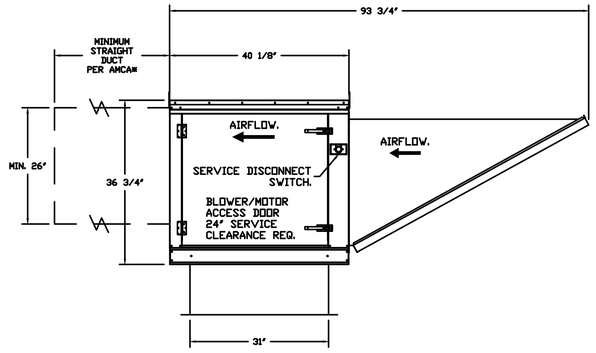
FAN #2 EA-A2-20D - SUPPLY FAN (SF1-2)
1. UNTEMPERED SUPPLY UNIT WITH 20" MIXED FLOW DIRECT DRIVE FAN IN SIZE #2 HOUSING.
2. INTAKE HOOD WITH EZ FILTERS.
3. SIDE DISCHARGE -> AIR FLOW RIGHT -> LEFT.
4. HINGED DOUBLE WALL INSULATED DOOR ASSEMBLY (BURNER/BLOWER SECTION).
5. 2 YEAR PARTS WARRANTY.

*NOTE: SUPPLY DUCT MUST BE INSTALLED TO MEET SMACNA STANDARDS. A MINIMUM STRAIGHT DUCT LENGTH MUST BE MAINTAINED DOWNSTREAM OF UNIT DISCHARGE AS OUTLINED IN AMCA PUBLICATION 201. WHEN USING RECTANGULAR DUCTWORK, ELBOWS MUST BE RADIUS THROAT, RADIUS BACK WITH TURNING VANES. FLEXIBLE DUCTWORK AND SQUARE THROAT/SQUARE BACK ELBOWS SHOULD NOT BE USED. ANY TRANSITION AND/OR TURNS IN THE DUCTWORK WILL CAUSE SYSTEM EFFECT. SYSTEM EFFECT WILL DRASTICALLY INCREASE STATIC PRESSURE AND REDUCE AIRFLOW. DO NOT RELY ON UNIT TO SUPPORT DUCT IN ANY WAY. FAILURE TO PROPERLY SIZE DUCTWORK MAY CAUSE SYSTEM EFFECTS AND REDUCE PERFORMANCE OF THE EQUIPMENT. SUGGESTED STRAIGHT DUCT SIZE IS 26" x 26".







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NOTE:
SEE ADDITIONAL HOOD DRAWINGS & MECHANICAL DRAWINGS FOR ADDITIONAL INFORMATION.

REVISIONS

	DESCRIPTION	DATE:
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DATE: 3/27/2024
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sheet issue

#	date	description
PR	05-22-2024	PERMIT SET

NORTH CAROLINA PROFESSIONAL SEAL 044528 ENGINEER DAVID M. METCALF 5/22/24

sheet information

project #:	23049
drawn by:	HBS
checked by:	DMM

HOOD DRAWINGS

HD0.04

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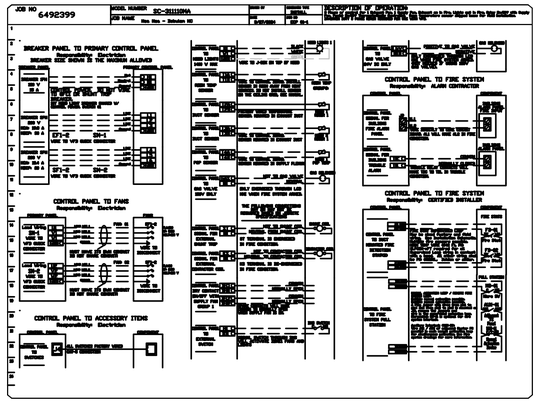
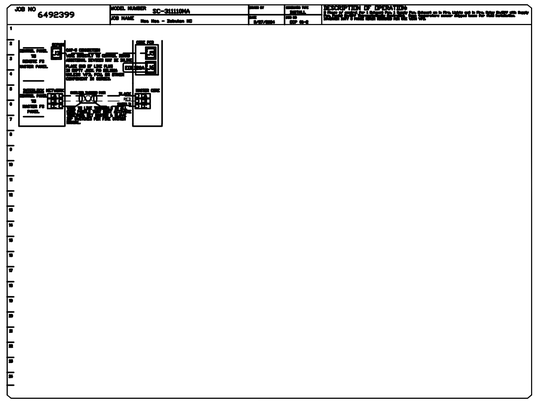
ELECTRICAL PACKAGE - JOB#6492399

NO	TAG	PACKAGE #	LOCATION	SWITCHES		OPTION	FANS CONTROLLED				
				LOCATION	QUANTITY		FAN TAG	TYPE	#	HP	VOLT	FLA
1		SC-20111109A	UTILITY CABINET LEFT	UTILITY CABINET LEFT	1 LIGHT	SMART CONTROLS THERMOSTATIC CONTROL W/ RELAY ON/OFF WITH SUPPLY	EF1-E	EXHAUST	3	0.500	208	15.0
				HOOD # 1	1 FAN		EF1-E	SUPPLY	3	0.500	208	9.3





SYSTEM DESIGN VERIFICATION (SDV)

IF ORDERED, CAS SERVICE WILL PERFORM A SYSTEM DESIGN VERIFICATION (SDV) ONCE ALL EQUIPMENT HAS HAD A COMPLETE START UP PER THE OPERATION AND INSTALLATION MANUAL. TYPICALLY, THE SDV WILL BE PERFORMED AFTER ALL INSPECTIONS ARE COMPLETE.

ANY FIELD RELATED DISCREPANCIES THAT ARE DISCOVERED DURING THE SDV WILL BE BROUGHT TO THE ATTENTION OF THE GENERAL CONTRACTOR AND CORRESPONDING TRADES ON SITE. THESE ISSUES WILL BE DOCUMENTED AND FORWARDED TO THE APPROPRIATE SALES OFFICE. IF CAS SERVICE HAS TO RESOLVE A DISCREPANCY THAT IS A FIELD ISSUE, THE GENERAL CONTRACTOR WILL BE NOTIFIED AND BILLED FOR THE WORK. SHOULD A RETURN TRIP BE REQUIRED DUE TO ANY FIELD RELATED DISCREPANCY THAT CANNOT BE RESOLVED DURING THE SDV, THERE WILL BE ADDITIONAL TRIP CHARGES.

DURING THE SDV, CAS SERVICE WILL ADDRESS ANY DISCREPANCY THAT IS THE FAULT OF THE MANUFACTURER. SHOULD A RETURN TRIP BE REQUIRED, THE GENERAL CONTRACTOR AND APPROPRIATE SALES OFFICE WILL BE NOTIFIED. THERE WILL BE NO ADDITIONAL CHARGES FOR MANUFACTURER DISCREPANCIES.

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sheet issue

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NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 044528 DAVID M. METAYER 5/22/24

sheet information

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checked by:	DMM

HOOD DRAWINGS

HD0.05

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GENERAL ELECTRICAL NOTES

I. GENERAL REQUIREMENTS:

1. ELECTRICAL CONTRACTOR IS TO FURNISH AND PAY FOR ALL LABOR, MATERIAL, EQUIPMENT, PERMITS & FEES REQUIRED FOR THE COMPLETE INSTALLATION OF ALL SYSTEMS IN THIS SECTION OF WORK.
2. ALL WORK IS TO BE PERFORMED IN ACCORDANCE WITH NEC AND ALL OTHER APPLICABLE CODES. EC IS TO COORDINATE W/ G.C. IN REGARDS TO PROJECT TIMELINE, WORK HOURS, AS WELL AS ANY BONDING OR INSURANCE REQUIREMENTS.
3. ALL ELECTRICAL & LIGHTING EQUIPMENT SHALL BE PROVIDED COMPLETE WITH ALL ACCESSORIES, HANGERS, SUPPORTS, CONTROLS, ETC FOR A FULLY FUNCTIONING SYSTEM REGARDLESS OF PRESENCE ON PLANS.
4. ALL EQUIPMENT, MATERIALS AND INSTALLATION SHALL BE GUARANTEED TO BE FREE OF DEFECTS FOR A PERIOD OF ONE (1) YEAR AFTER FINAL ACCEPTANCE OF WORK OR IN ACCORDANCE WITH THE MANUFACTURER'S STANDARD GUARANTEE, IF LONGER. EXISTING EQUIPMENT IS EXCLUDED FROM WARRANTY REQUIREMENT.
5. THESE DRAWINGS ARE DIAGRAMMATIC AND SHOW GENERAL LOCATION AND ARRANGEMENT OF ALL MATERIALS AND EQUIPMENT. THE DRAWINGS SHALL BE FOLLOWED AS CLOSELY AS BUILDING CONSTRUCTION AND ALL OTHER WORK WILL PERMIT.
6. DO NO SCALE DRAWINGS FOR MEASUREMENT. IF PRECISE DIMENSIONS ARE NEEDED, ELECTRONIC DRAWINGS ARE AVAILABLE UPON REQUEST FROM ARCH/ENGINEER FOR PREPARATION OF COORDINATION DRAWINGS BY CONTRACTOR.
7. INFORMATION GIVEN IN SCHEDULES INCLUDES BOTH DESCRIPTION OF PRODUCT AND MANUFACTURER'S MODEL #. IF CONFLICT IS PRESENT BETWEEN DESCRIPTION AND MODEL #, EQUIPMENT DESCRIPTION SHALL TAKE PRECEDENT. IN CASE OF CONFLICT BETWEEN THE PLANS AND NOTES/SPECIFICATIONS OR CONFLICT BETWEEN INFORMATION PRESENTED ON THE PLANS OR IN THE NOTES/SPECIFICATIONS, THEN THE MOST RESTRICTIVE SHALL TAKE PRECEDENT.
8. BEFORE BID EC IS RESPONSIBLE FOR CLARIFYING W/ G.C. ANY CONFUSION IN REGARDS TO RESPONSIBILITY OF WORK TO BE PERFORMED OR MATERIALS TO BE PROVIDED. THE SUBMITTAL OF THE BID BY THE CONTRACTOR WILL BE HELD AS PROOF THAT THE CONTRACTOR UNDERSTANDS THOROUGHLY AND COMPLETELY THE SCOPE OF THE WORK INVOLVED, AND HAS INCLUDED ON THE BID ALL THE NECESSARY ITEMS TO CARRY OUT THIS SECTION OF WORK.
9. AS SOON AS POSSIBLE (AND NOT MORE THAN 30 DAYS) AFTER CONTRACT IS SIGNED, THE EC SHALL PROVIDE SUBMITTALS OF EQUIPMENT HE/SHE INTENDS TO PURCHASE FOR REVIEW AND COMMENT BY THE ENGINEER. ENGINEER IS TO APPROVE SUBMITTALS BEFORE EQUIPMENT IS ORDERED.
10. E.C. & G.C. SHALL CONSULT OWNER OR OWNER'S REPRESENTATIVE REGARDING DISPOSAL, STORING OR RESALE OF ALL DEMO/REMOVED EQUIPMENT AND MATERIALS.
11. ALL EXISTING EQUIPMENT AND SYSTEMS ARE ASSUMED BY ENGINEER TO BE IN GOOD WORKING ORDER. BEFORE BEGINNING WORK E.C. IS TO ENSURE ANY EQUIPMENT & SYSTEMS TO REMAIN ARE PROPERLY FUNCTIONING, NOTIFY G.C. IMMEDIATELY IF PROBLEMS ARE DISCOVERED.
12. ALL QUESTIONS MUST BE SUBMITTED IN RFI FORMAT TO THE ARCHITECT AND MUST BE ADDRESSED BY THE APPROPRIATE DESIGNER OF RECORD PRIOR TO BECOMING A PROPOSED CHANGE ORDER.
13. E.C. IS TO REVIEW COMPLETE DRAWING SET. E.C. IS RESPONSIBLE FOR WORK EXPLICITLY SHOWN AND WORK IMPLIED. UNLESS OTHERWISE NOTED FINAL ELECTRICAL CONNECTION TO ALL EQUIPMENT, FURNITURE (I.E. CUBICLES, WORKSTATIONS, ETC) IS THE RESPONSIBILITY OF THE E.C..

II. DIVISION OF WORK:

1. ALL ROOF WORK INCLUDING PENETRATIONS, OPENINGS, FLASHING, CURB INSTALLS, ETC ARE TO BE PERFORMED BY ROOFING CONTRACTOR. E.C. RESPONSIBLE FOR PROVIDING ANY ROOF CURBS, EQUIPMENT RAILS, VENTS, ETC AND COMMUNICATING ALL REQ'S WITH G.C. & ROOFING CONTRACTOR.
2. ALL LOW VOLTAGE WIRING RELATED TO MECHANICAL EQUIPMENT AND SYSTEMS IS THE RESPONSIBILITY OF THE MECHANICAL CONTRACTOR (ANY LOW VOLTAGE FIRE ALARM WIRING TO BE BY E.C.). ALL HIGH VOLTAGE CONNECTIONS TO MECHANICAL EQUIPMENT, TO BE PROVIDED AND INSTALLED BY E.C. (SEE EQUIPMENT SCHEDULE FOR DISCONNECT RESPONSIBILITY).
3. G.C. TO BE RESPONSIBLE FOR PROVIDING AND INSTALLING ANY ACCESS DOORS (WALL, FLOOR, CEILING) RELATED TO ELECTRICAL SYSTEM. E.C. RESPONSIBLE FOR COMMUNICATING TO G.C. SIZE AND LOCATION OF REQ'D ACCESS DOOR(S).
4. ELECTRICAL CONTRACTOR IS TO EMPLOY THE SERVICES OF THE G.C. FOR CUTTING AND PATCHING OF WALLS, FLOORS & CEILINGS RELATED TO THE INSTALLATION OF ELECTRICAL EQUIPMENT & SYSTEMS.
5. G.C. RESPONSIBLE FOR PAINTING OF ANY EXPOSED CONDUIT, WIRE, BOXES ETC. E.C. RESPONSIBLE FOR CLEANING AND PREPARING ITEMS FOR PAINT. COORDINATE W/ G.C.
6. E.C. TO COORDINATE W/ G.C. PRIOR TO BID REGARDING HIRING OF FIRE ALARM, DATA/TELE & SECURITY SUB-CONTRACTORS (IF APPLICABLE).

III. MATERIALS:

1. ALL MATERIAL, DEVICES, APPLIANCES, AND EQUIPMENT SHALL BE NEW UNLESS OTHERWISE NOTED AND SHALL CONFORM TO THE STANDARDS OF THE UNDERWRITER'S LABORATORIES, INC., AND THE NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION.
2. PROVIDE HANGERS & SUPPORTS APPROVED FOR USE BY NEC.
3. CONDUCTORS SHALL BE COPPER RATED AT NOT LESS THAN 600 VOLTS.MINIMUM SIZE SHALL BE #12 AWG UNLESS OTHERWISE NOTED ON THE DRAWINGS, ALL WIRE #8 AWG AND LARGER SHALL BE STRANDED. ALL CONDUCTORS #10 AND SMALLER MAY BE SOLID OR STRANDED, UNLESS OTHERWISE NOTED. CONDUCTOR INSULATION SHALL BE TYPE THHN UNLESS OTHERWISE NOTED. ALL EXTERIOR CABLE OR OTHER WIRE EXPOSED TO SUNLIGHT SHALL BE RATED FOR EXTERIOR USE & SUNLIGHT RESISTANT.
4. ALL WIRING SHALL BE INSTALLED IN GALVANIZED RIGID CONDUIT, INTERMEDIATE METAL CONDUIT, OR EMT, EXCEPT AS ALLOWED BELOW. EMT SHALL NOT BE USED IN OR UNDER CONCRETE SLABS, OR IN MASONRY WALLS. USE SCHEDULE 40 PVC OUTDOORS WHERE NOT SUBJECT TO PHYSICAL DAMAGE OR BELOW FLOOR SLAB. PVC NOT TO BE USED IN PATIENT CARE AREAS. MINIMUM CONDUIT SIZE TO BE 1/2". TYPE MC AND AC CABLE MAY BE USED WHERE PERMISSIBLE BY NEC. FLEXIBLE CONDUIT SHALL BE USED FOR CONNECTIONS TO VIBRATING EQUIPMENT AND LUMINAIRES, BUT SHALL NOT EXCEED 6' IN LENGTH. NO NM CABLE ALLOWED. SEE CONSTRUCTION TYPE.
5. METAL CONDUIT COUPLINGS TO BE COMPRESSION TYPE OR THREADED WHEN ACCESSIBLE TO BUILDING OCCUPANTS. METAL COUNDUIT COUPLINGS MAY BE SET-SCREW TYPE WHEN CONCEALED IN BUILDING STRUCTURE OR LOCATED MORE THAN 10' AFF. PLASTIC CONDUIT COUPLINGS TO BE SOCKET GLUED TYPE.
6. FUSES 0 - 600 AMPS SHALL BE UL CLASS "RK-1" LOW PEAK DUAL ELEMENT TIME DELAY WITH 200,000 AMPERE INTERRUPTING RATING AS MANUFACTURED BY BUSSMANN, UNLESS NOTED OTHERWISE.
7. IN ASSEMBLY OCCUPANCIES OF OVER 100 PEOPLE WIRING MATERIALS AND METHODS SHALL COMPLY WITH NEC SEC 518 AND THE WIRING METHOD/MATERIAL ITSELF SHALL QUALIFY AS AN EQUIPMENT GROUNDING CONDUCTOR IN ACCORDANCE WITH NEC 250.118 OR SHALL CONTAIN AN INSULATED EQUIPMENT GROUNDING CONDUCTOR.
8. ALL TERMINALS/LUGS SHALL BE 60/75° RATED. ALL TERMINALS, SPLICING CONNECTORS, LUGS, ETC SHALL BE IDENTIFIED FOR USE WITH THE MATERIAL (CU/AL) OF THE CONDUCTOR AND SHALL BE PROPERLY INSTALLED.
9. RECEPTACLES IN COMMERCIAL AREAS SHALL BE 20 AMP COMMERCIAL SPECIFICATION GRADE EQUAL TO HUBBELL SERIES. GROUND FAULT RECEPTACLES SHALL BE EQUAL TO COOPER VGF SERIES.
10. LIGHTING SWITCHES IN COMMERCIAL AREAS SHALL BE 20 AMP COMMERCIAL SPECIFICATION GRADE EQUAL TO HUBBELL SERIES.
11. ALL EXTERIOR FIXTURES AND DEVICES SHALL BE RATED FOR OPERATION AT 0° F AND SHALL BE DAMP OR WET LABELED AS REQUIRED.
12. ANY MULTI-WIRE BRANCH CIRCUITS ARE TO PROVIDED WITH MULTI-POLE BREAKERS.

IV. COORDINATION:

1. THE ELECTRICAL CONTRACTOR SHALL COORDINATE CLOSELY WITH ALL OTHER TRADES TO AVOID CONFLICT AND ENSURE OTHER TRADES PROVIDE MEASURES TO ACCOMMODATE ELECTRICAL WORK (I.E. ACCESS DOORS, SLAB/WALL/ROOF OPENINGS, ETC).
2. E.C. TO COORDINATE ELEVATION OF WALL MOUNTED LIGHTS (INTERIOR & EXTERIOR) W/ ARCHITECT/ARCH PLANS.
3. E.C. TO COORDINATE W/ P.C. & M.C. REGARDING POWER AND FIRE ALARM CONNECTIONS TO MECHANICAL AND PLUMBING EQUIPMENT.
4. E.C. TO VERIFY ALL REQUIREMENTS AND COORDINATE EXACT LOCATION OF INCOMING ELECTRICAL SERVICE WITH LOCAL POWER COMPANY PRIOR TO PROJECT START-UP. NOTIFY ENGINEER OF ANY CHANGES AS MAY BE REQUIRED.
5. E.C. TO VERIFY DEVICE PLATE COLOR AND MATERIAL WITH ARCHITECT PRIOR TO PURCHASE.

V. EXECUTION:

1. E.C. TO FOLLOW MANUFACTURER'S INSTRUCTIONS WHEN INSTALLING ELECTRICAL EQUIPMENT. ENSURE REQUIRED MAINTENANCE ACCESS AND CLEARANCES ARE MAINTAINED. IF CONFLICT EXISTS BETWEEN THESE PLANS AND MFG INSTRUCTIONS CONTACT ENGINEER.
2. E.C. IS TO ENSURE THAT THEIR INSTALLATION OF NEW CONDUITS, PIPES, DUCTWORK, AND SIMILAR DOES NOT BLOCK ACCESS TO NEW OR EXISTING AREA EQUIPMENT AND THAT THE FORE MENTIONED DOES NOT INTERFERE WITH THE REQUIRED SERVICE CLEARANCE OF NEW OR EXISTING EQUIPMENT. COORDINATE WITH OTHER TRADE CONTRACTORS AND CONTACT ENGINEER IF UNCERTAINTY EXISTS REGARDING EQUIPMENT SERVICE CLEARANCE REQUIREMENTS.
3. A COMPLETE GROUNDING SYSTEM SHALL BE PROVIDED AND INSTALLED IN ACCORDANCE WITH ARTICLE 250 OF THE NEC, AND AS SHOWN ON THE DRAWINGS.
4. PROVIDE A PULLWIRE IN ALL EMPTY CONDUITS.
5. PROVIDE A TYPED DIRECTORY IN ALL PANELBOARDS CLEARLY DESCRIBING THE LOCATION OF AND TYPE OF LOAD BEING SERVED FOR ALL CIRCUITS. PROVIDE ENGRAVED PHENOLIC NAMEPLATES FOR ALL PANELBOARDS AND DISCONNECT SWITCHES, WHITE LETTERS ON BLACK BACKGROUND.
6. ALL PENETRATIONS THROUGH EXTERIOR WALLS & ROOF SHALL BE FLASHED & COUNTER-FLASHED IN A WATERPROOF MANNER.
7. PENETRATIONS OF NON-RATED WALLS, PARTITIONS AND FLOOR OF COMBUSTIBLE CONSTRUCTION SHALL BE FIRESTOPPED WITH MATERIALS EQUIVALENT TO TWO INCHES OF WOOD. FIRESTOPPING SHALL COMPLY WITH ASTM E-814.
8. ANY NOTCHING, DRILLING, BORING OR OTHER ALTERATION TO BUILDING STRUCTURE SHALL BE PERFORMED IN A CODE APPROVED METHOD AND NOT THREATEN THE INTEGRITY OF THE BUILDING STRUCTURE.
9. SUPPORT ALL CONDUIT AND EQUIPMENT IN ACCORDANCE W/ NEC. ANY SUSPENDED MATERIALS SHALL BE DIRECTLY SUPPORTED BY THE BUILDING STRUCTURE. DO NOT ATTACH ANYTHING TO THE ROOF DECK.
10. PENETRATIONS OF ALL EXTERIOR WALLS, FLOORS AND CEILINGS SHALL BE SEALED IN AN AIR TIGHT MANNER AND IN ACCORDANCE W/ 2018 NCECC C402.5.1.1 FOR COMMERCIAL PROJECTS & R402.4.2 FOR RESIDENTIAL PROJECTS.
11. THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING ALL ELECTRICAL EQUIPMENT FROM FOREIGN MATERIAL DURING CONSTRUCTION (PAINT, SPACKLE, ETC.). UPON COMPLETION OF WORK THE ELECTRICAL CONTRACTOR SHALL CLEAN, WASH, ETC ALL ITEMS AND EQUIPMENT WITHIN HIS SCOPE OF WORK AND LEAVE ALL ITEMS BRIGHT AND CLEAN.
12. UNLESS OTHERWISE INDICATED THE ELECTRICAL CONTRACTOR AT HIS/HER DISCRETION MAY COMBINE MULTIPLE CIRCUITS INTO A SINGLE CONDUIT AND DE-RATE WIRE. COMBINING AND DE-RATING IS TO BE DONE IN STRICT ACCORDANCE W/ NEC.
13. DEVICES INCLUDING GFCI PROTECTION MUST HAVE THEIR TESTING MEANS READILY ACCESSIBLE. PROVIDE REMOTE TESTING MEANS OR GFCI BREAKER FOR GFCI RECEPTACLES AND SIMILAR DEVICES WHICH ARE NOT READILY ACCESSIBLE (I.E. BEHIND EQUIPMENT, AT CEILING, ETC). (NEC 210.8).
14. COORDINATE WITH THE CABLE TV AND TELEPHONE UTILITIES FOR SERVICE ENTRANCE AND CABLING REQUIREMENTS PRIOR TO ANY PURCHASING. INSTALLATION MUST COMPLY WITH THEIR RESPECTIVE REGULATIONS AND REQUIREMENTS.
15. ALL EXIT & EMERGENCY LIGHTS ARE TO BE CIRCUITED TO UN-SWITCHED LEG OF LOCAL NORMALLY ON LIGHTING CIRCUIT.
16. RECEPTACLE, LIGHT SWITCHES AND OTHER CONTROL DEVICES ARE TO BE INSTALLED IN ACCORDANCE W/ ANSI A117.1 AND ADA REQ'S CONCERNING HEIGHT AND ACCESSIBILITY. FHA REQ'S TO BE FOLLOWED FOR MULTI-FAMILY AND RESIDENTIAL PROJECTS.
17. E.C. IS TO CONFIRM EXACT ELECTRICAL NAMEPLATE DATA OF ALL PLUMBING, MECHANICAL AND ELECTRICAL EQUIPMENT INCLUDING, BUT NOT LIMITED TO, MCA, MOCP, VOLTAGE & PHASE BEFORE BEGINNING WORK.
18. CEILING MOUNTED ELECTRICAL FIXTURES SHALL BE A MINIMUM OF 80 INCHES ABOVE THE FINISHED FLOOR UNLESS ABOVE COUNTERTOPS OR SIMILAR FIXED OBSTRUCTIONS.
19. E.C. TO IDENTIFY AND PERMANENTLY MARK BOXES, ENCLOSURES, EXPOSED CABLE, AND RACEWAY SYSTEMS SERVING EMERGENCY SYSTEMS IN ACCORDANCE TO NEC 700.10. E.C. TO ALSO PROVIDE CLEARLY IDENTIFIED LABEL OF EMERGENCY BRANCH CIRCUIT AT PANEL (NEC 700.12(F)(2)(4)).
20. CORRUGATED STAINLESS STEEL TUBING (CSST) GAS PIPING SYSTEMS AND PIPING SYSTEMS CONTAINING ONE OR MORE SEGMENTS OF CSST SHALL BE BONDED TO THE ELECTRICAL SERVICE GROUNDING ELECTRODE IN ACCORDANCE TO 2018 NCFGC SEC. 310.1.1. EXISTING NON-CSST PIPING SYSTEMS MUST BE BONDED WHEN CSST IS ADDED TO THE SYSTEM REGARDLESS OF THE LENGTH OF CSST ADDED.

NOTE:
NO NM CABLE ALLOWED.
TYPE II-B CONSTRUCTION.

MOTION SENSOR LEGEND

MS	WALL SWITCH DUAL TECH. (INFRARED AND ULTRASONIC) OCCUPANCY SENSOR EQUAL TO SENSOR SWITCH MODEL WSX PDT. 120/277V. TIME DELAYS 15 MINUTES FOR ON/OFF. LINE VOLTAGE.
MS	CORNER MOUNTED DUAL TECH. (INFRARED AND ULTRASONIC) OCCUPANCY SENSOR EQUAL TO SENSOR SWITCH MODEL WV PDT 16. TIME DELAYS 20 MINUTES FOR ON/OFF. LOW VOLTAGE. PROVIDE SENSOR SWITCH PP-20 POWER PACKS W/ RELAYS AS NEEDED FOR POWERING OF SENSORS AND CONTROL OF LIGHTING CIRCUITS. NOTE: THE CONTRACTOR IS TO PROVIDE AND INSTALL ALL RELAYS, CONTROLS, SWITCHES, ETC FOR A FULLY FUNCTIONING SYSTEM REGARDLESS OF PRESENCE OR ABSENCE ON PLANS.

LIGHTING FIXTURE SCHEDULE

MARK	MANUF.	CATALOG NUMBER	LAMP DATA NO.	LAMP DATA TYPE	VOLTS	BALLAST DATA NO.	BALLAST DATA TYPE	INPUT WATTS	MOUNTING	DESCRIPTION
B	SUNPARK	P209D	-	LED	120	-	-	9	SUSPENDED	SUSPENDED MINI PENDANT FIXTURE. PROVIDE W/ (1) 9W E26 LED DIMMABLE LED BULB. 3500K TEMP. 90 CRI. COORDINATE FINISH AND TRIM WITH ARCH.
D	LITHONIA	LDN6	-	LED	MVOLT	1	DRIVER	9W	RECESSED/ LAY-IN	6" ROUND DOWNLIGHT. 750 LUMENS. 3500K COLOR TEMP. 90 CRI. DOWNLIGHT TRIM. CLEAR COLOR. SEMI-SPECULAR FINISH.
D1	LITHONIA	LDN6	-	LED	MVOLT	1	DRIVER	9W	RECESSED/ LAY-IN	6" ROUND DOWNLIGHT. 750 LUMENS. 3500K COLOR TEMP. 90 CRI. 0-10V DIMMING TO 10%. DOWNLIGHT TRIM. CLEAR COLOR. SEMI-SPECULAR FINISH.
D2	LITHONIA	LDN4	-	LED	MVOLT	1	DRIVER	9W	RECESSED	4" ROUND DOWNLIGHT. 500 LUMENS. 3500K COLOR TEMP. 90 CRI. 0-10V DIMMING TO 10%. DOWNLIGHT TRIM. CLEAR COLOR. SEMI-SPECULAR FINISH.
G	ASD	ASD-WLP02A-30DAC-BK	-	LED	120	-	-	30	WALL	COLD & WET LOCATION LISTED ADJUSTABLE WALL SCONCE. BLACK FINISH. 3000K COLOR TEMP. 3675 LUMENS.
K	KASON	1810LX6000	-	LED	120-277	1	DRIVER	58	SURFACE	4' LED VAPOR PROOF GASKETED SURFACE MOUNT FIXTURE. -40°F AND WET LOCATION RATED.
M	LEDALITE	TRUGROOVE SUSPENDED	-	LED	MVOLT	1	DRIVER	15W	SUSPENDED	4' SUSPENDED LINEAR. 3500K COLOR TEMP. DIRECT DISTRIBUTION. 90 CRI. 1500 LUMENS. 0-10V DIMMING TO 1%. OPTIC AND FINISH BY ARCH.
M2	LEDALITE	TRUGROOVE SUSPENDED	-	LED	MVOLT	1	DRIVER	22	SUSPENDED	4' SUSPENDED LINEAR. 3500K COLOR TEMP. DIRECT DISTRIBUTION. 90 CRI. 2200 LUMENS. 0-10V DIMMING TO 1%. OPTIC AND FINISH BY ARCH.
OUT-1	-	-	-	-	120	-	-	5W/FT MAX	STRING	COLD & WET LOCATION LISTED STRING LIGHTS. SELECTED BY OTHERS. PROVIDED AND INSTALLED BY E.C.. PROVIDE $500/FIXTURE ALLOWANCE IN BID.
S1	-	-	-	-	120	-	-	24 MAX	WALL	COLD & WET LOCATION LISTED WALL SCONCE. SELECTED BY OTHERS. PROVIDED AND INSTALLED BY E.C.. PROVIDE $200/FIXTURE ALLOWANCE IN BID.
T	LITHONIA	EPANL 2X2	-	LED	MVOLT	1	DRIVER	32	LAY-IN	2x2 LED ACRYLIC LENSED LAY-IN RECESSED FLAT PANEL TROFFER. 4000 LUMENS. 3500K COLOR TEMP. 80 CRI.
T2	LITHONIA	EPANL 2X2	-	LED	MVOLT	1	DRIVER	32	LAY-IN	2x2 LED ACRYLIC LENSED LAY-IN RECESSED FLAT PANEL TROFFER. 4000 LUMENS. 3500K COLOR TEMP. 80 CRI. NSF RATED.
UC	WAC LIGHTING	LED-TX24	-	-	120	1	DRIVER	4W/FT	UNDER BAR	LED TAPE LIGHT. 330 LUMENS/FT. DAMP LOCATION LISTED. 3500K COLOR TEMPERATURE. PROVIDE WITH 96W REMOTE DRIVER. MAX RUN LENGTH IS 25'-0".
Z	LITHONIA	ZL1D	-	LED	MVOLT	1	DRIVER	30	SUSPENDED	4' LED STRIP LIGHT. DROP LENS DIFFUSER. 3000 LUMENS. 3500K COLOR TEMP.. 80 CRI. WHITE FINISH.
	LITHONIA	LHQM LED	2	1.5W	120, 277	-	-	3.0	WALL	LED EXIT-EMERGENCY LIGHT COMBO. (2) ADJ. HEADS. BATTERY BACK-UP. RED ILLUMINATED EXIT SIGN. HOUSING COLOR BY ARCH.
	LITHONIA	LHQM LED	2	1.5W	120, 277	-	-	3.0	CEILING	LED EXIT-EMERGENCY LIGHT COMBO. (2) ADJ. HEADS. BATTERY BACK-UP. RED ILLUMINATED EXIT SIGN. HOUSING COLOR BY ARCH.
EX	KENALL	METEC	2	6.5W LED	120, 277	-	-	3.3	WALL	EXIT-EMG LIGHT COMBO. (2) ADJ. HEADS. BATTERY BACK-UP. TEXT COLOR BY ARCH. HOUSING COLOR BY ARCH. WET LOCATION & COLD TEMP LISTED.
	LITHONIA	ELM2L LED	2	1.5 W	120, 277	-	-	1.4	SEE PLAN	GEN. PURPOSE EMERGENCY LED LIGHT. (2) ADJ. HEADS. BATTERY BACK-UP.
	BARRON LIGHTING GROUP	TR-WB-BR-CL	2	6W XENON	120, 277	-	-	-	WALL	REMOTE EXTERIOR EMERGENCY LIGHT. PAINTABLE. COLD WEATHER OPTION. BATTERY BACK-UP. W/ TEST SWITCH. WET LOC LISTED. NEC 700.16 COMPLIANT.
EMG-BAT	-	-	-	-	120, 277	-	-	MFG	CONCEALED	EMG. 90 MIN. BATTERY PACK. COORD. W/ FIXTURE TYPE/MFG. W/ TEST SWITCH/LIGHT. TO BE COLD TEMP RATED IN UNCONDITIONED SPACES/EXTERIOR.

NOTES:
1. UNLESS OTHERWISE NOTED COLOR & FINISH OF FIXTURE HOUSING, BAFFLE, OR SIMILAR EXPOSED ELEMENTS TO BE BY ARCHITECT.
2. EXIT AND EMERGENCY LIGHTING FIXTURES SHALL BE CIRCUITED TO AN UNSWITCHED LEG OF A NORMALLY ON LOCAL LIGHTING CIRCUIT (UNLESS NOTED OTHERWISE).INCLUDE 90 MINUTE BATTERY BACKUP & TESTING MEANS.
3. FIXTURES WITH A STANDARD FACTORY INSTALLED EMERGENCY OPTION SHOULD USE THAT WHERE "EMG-BAT" IS SHOWN.
4. ALL LAMPS OF A SINGLE FIXTURE TYPE INSTALLED IN EACH AREA/ROOM/SPACE ARE TO BE OF SAME TEMPERATURE/COLOR.

LIGHTING SYSTEMS
NCECC SECTION C405 & C406

LIGHTING POWER DENSITY CALCULATION COMPLIANCE

INTERIOR LIGHTING POWER DENSITY CALCULATION PER TABLE C405.4.2. SEE LIGHTING FIXTURE SCHEDULE FOR FIXTURE INFORMATION.

INTERIOR WATTAGE SPECIFIED VS. ALLOWED 1612 VS. 2795

EXTERIOR LIGHTING POWER DENSITY CALCULATION PER TABLE C405.5.1. SEE LIGHTING FIXTURE SCHEDULE FOR FIXTURE INFORMATION.

TRADABLE EXTERIOR WATTAGE SPECIFIED VS. ALLOWED 452 VS. 500
NONTRADABLE EXTERIOR WATTAGE SPECIFIED VS. ALLOWED NA VS. NA

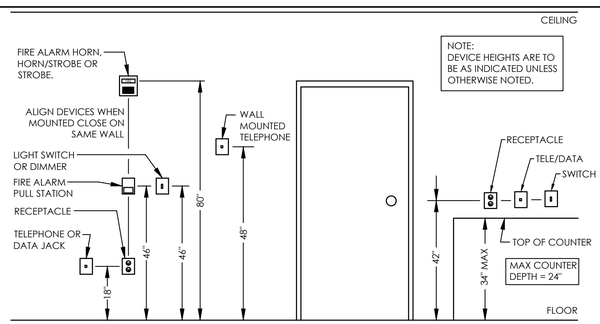
DESIGNER STATEMENT:

TO THE BEST OF MY KNOWLEDGE AND BELIEF, THE DESIGN OF THIS BUILDING COMPLIES WITH THE LIGHTING SYSTEMS REQUIREMENTS OF THE NORTH CAROLINA ENERGY CONSERVATION CODE, SECTION C405 & C406 AND ANY LOCAL AMENDMENTS THEREOF.

SIGNED:
NAME: DUSTIN M. METAYER, PE
TITLE: ELECTRICAL ENGINEER

ADDITIONAL PRESCRIPTIVE COMPLIANCE

NOT APPLICABLE (RENOVATION PROJECT)		C406.5 ON-SITE RENEWABLE ENERGY	
C406.2 MORE EFFICIENT MECHANICAL EQUIPMENT		C406.6 DEDICATED OUTDOOR AIR SYSTEM	
C406.3 REDUCED LIGHTING POWER DENSITY	X	C406.7 REDUCED ENERGY USE IN SERVICE WATER HEATING	
C406.4 ENHANCED DIGITAL LIGHTING CONTROLS			



NOTE:
MOUNTING LOCATIONS OF RECEPTACLES, SWITCHES AND ALL OTHER CONTROL DEVICES SHALL BE IN ACCORDANCE WITH ANSI A117.1 AND ADA REQUIREMENTS (FHA REQ'S FOR MULTI-FAMILY AND RESIDENTIAL PROJECTS)

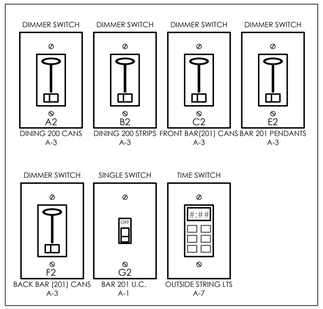
1 TYPICAL DEVICE MOUNTING HEIGHTS
NO SCALE

ELECTRICAL SYMBOL LEGEND

	CIRCUIT CONDUCTORS CONCEALED IN FLOOR, WALL OR CEILING.
	ARROWHEAD INDICATES HOMERUN TO PANEL NOTED.
	INDICATES HOT LEG OF CIRCUIT TO BE CARRIED OVER TO NEXT DEVICE. SEE PLANS FOR CONTROL SCHEME.
J	JUNCTION BOX CEILING MOUNTED.
J	JUNCTION BOX FLOOR MOUNTED.
J	JUNCTION BOX WALL MOUNTED AT HEIGHT INDICATED ON DRAWINGS.
S	SINGLE POLE SWITCH. 20A, 120/277 VOLT, 48" A.F.F. TO CENTER. "3" INDICATES 3-WAY SWITCH. "4" INDICATES 4-WAY SWITCH. "D" INDICATES DIMMER SWITCH OF TYPE TO SUIT LOAD. "M" INDICATES 120V, 20A MOTOR RATED TOGGLE SWITCH. "DP" INDICATES DOUBLE POLE
SS	INDICATES FLUORESCENT FIXTURES DUAL SWITCHED, INBOARD/OUTBOARD SWITCHED SEPARATELY.
	SINGLE RECEPTACLE. 20 AMP, 120 VOLT, 18" A.F.F. TO CENTER.
	DUPLEX RECEPTACLE. 20 AMP (15 AMP RESIDENTIAL, UON), 120 VOLT, 18" A.F.F. TO CENTER. "GFI" INDICATES GROUND FAULT CIRCUIT INTERRUPTER TYPE. "WP" INDICATES WEATHERPROOF. "EWC" INDICATES RECEPTACLE INSIDE ENCLOSURE OF ELECTRIC WATER COOLER PROVIDE GFI BREAKER FOR CIRCUIT. "ASW" INDICATES ABOVE SHOW WINDOW, PER NEC SHOW WINDOW REQ'S.
	QUADRUPLEX RECEPTACLE, AS ABOVE, 18" A.F.F.
	DUPLEX RECEPTACLE, AS ABOVE, SPLIT WIRED, TOP HALF SWITCHED, 18" A.F.F.
	DUPLEX RECEPTACLE, AS ABOVE, MOUNTED 6" ABOVE COUNTER TOP OR 4" ABOVE BACKSPLASH, AS APPROPRIATE, OR AT HEIGHT INDICATED.
	DUPLEX RECEPTACLE, AS ABOVE, MOUNTED 6" ABOVE COUNTER TOP OR 4" ABOVE BACKSPLASH, AS APPROPRIATE, OR AT HEIGHT INDICATED, WITH GFI PROTECTION.
	RECESSED FLUSH FLOOR DUPLEX RECEPTACLE WITH BRASS COVERPLATE. COORDINATE EXACT FINISH WITH ARCHITECT AND OWNER.
	208V RECEPTACLE. SEE PLANS FOR NEMA CONFIGURATION.
	TELEPHONE/DATA OUTLET, 18" A.F.F. TO CENTER OR ALIGN MOUNTING HEIGHT WITH ADJACENT DEVICE, UNLESS OTHERWISE NOTED. COORDINATE EXACT DEVICE TYPE AND REQUIRED FACEPLATE W/ OWNER/TENANT.
30/3/FPN	HEAVY DUTY FUSIBLE/NON-FUSIBLE DISCONNECT SWITCH, NUMBERS INDICATE FRAME SIZE, NUMBER OF POLES AND FUSING. PROVIDE NEMA 1 ENCLOSURE INSIDE. PROVIDE NEMA 3 ENCLOSURE FOR ALL SWITCHES LOCATED OUTSIDE. "FPN" INDICATES FUSE PER EQUIPMENT NAMEPLATE "NF" INDICATES NON-FUSED. "MS" INDICATES MOTOR STARTER OF TYPE TO SUIT LOAD.
	208Y/120V PANEL, SURFACE OR RECESS MOUNTED, SEE SCHEDULE FOR DETAILS.
	480Y/277V PANEL, SURFACE OR RECESS MOUNTED, SEE SCHEDULE FOR DETAILS.
EF	FAN, PROVIDED AND INSTALLED BY MECHANICAL CONTRACTOR, WIRED BY ELECTRICAL CONTRACTOR. PROVIDE DISCONNECTING MEANS AS REQUIRED.
	RECESSED MOUNTED 2x4 FLUORESCENT TROFFER. SEE FIXTURE SCHEDULE FOR DETAILS.
	TRACK LIGHTING FIXTURE, SEE FIXTURE SCHEDULE FOR DETAILS.
	SURFACE MOUNTED FLUORESCENT STRIP, SEE FIXTURE SCHEDULE FOR DETAILS.
	WALL MOUNTED LIGHTING FIXTURE, SEE FIXTURE SCHEDULE FOR DETAILS.
	SURFACE, RECESSED OR GROUND MOUNTED LIGHTING FIXTURE, SEE FIXTURE SCHEDULE FOR DETAILS.
	ELECTRIC UTILITY METER LOCATION.
###	KITCHEN EQUIPMENT TAG.
	DEMO'D LIGHT FIXTURE OR SIMILAR.
	DEMO'D RECEPTACLE OR SIMILAR.
	CABLE TV OUTLET, 18" A.F.F. TO CENTER, UNLESS OTHERWISE NOTED.
	STAND ALONE 120 VOLT CARBON MONOXIDE DETECTOR WITH BATTERY BACK-UP AND SILENCE SWITCH. TO BE INTERCONNECTED TO OTHER DETECTORS IN UNIT. DEVICE TO BE INSTALLED PER UL 217.

ELECTRICAL ABBREVIATIONS

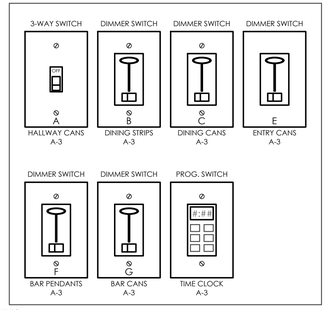
18"	DIMENSION INDICATES HEIGHT ABOVE FINISHED FLOOR AT WHICH CENTER OF DEVICE IS TO BE MOUNTED.
AFF	ABOVE FINISHED FLOOR.
AFG	ABOVE FINISHED GRADE.
E.C.	ELECTRICAL CONTRACTOR.
FPN	FUSE PER EQUIPMENT NAMEPLATE REQUIREMENTS.
G.C.	GENERAL CONTRACTOR.
M.C.	MECHANICAL CONTRACTOR.
P.C.	PLUMBING



SWITCH BANK NOTES:

1. COORDINATE EXACT SWITCH TYPE W/ OWNER AND FIXTURES & BALLAST(S) BEING CONTROLLED.
2. LABEL SWITCHES W/ DESIGNATION SHOWN (I.E. "A", "AN", "W", ETC) & CIRCUIT #.
3. PROVIDE PLACARD AT EACH SWITCH INDICATING AREA CONTROLLED.
4. DIMMER SWITCH TO INCLUDE ON-OFF SWITCH AT BOTTOM TO ALLOW FOR ONE-TIME ADJUSTMENT OF LIGHT LEVELS.
5. HIGHEST POSITION OF HIGHEST SWITCH TO BE NO GREATER THAN 48" AFF (ANSI A117.1)
6. PROGRAMMABLE TIME SWITCH TO BE EQUAL TO LEVITON VPT24-1PZ, 7-DAY PROGRAMMABLE W/ HOLIDAY SCHEDULING & DAYLIGHT SAVINGS TIME ADJUSTMENT. SWITCH TO INCLUDE TIME OVERRIDE FEATURE (2-HOUR MAXIMUM) AND BATTERY BACK-UP.

4 SECOND FLOOR SWITCH BANK DETAIL
NO SCALE



SWITCH BANK NOTES:

1. COORDINATE EXACT SWITCH TYPE W/ OWNER AND FIXTURES & BALLAST(S) BEING CONTROLLED.
2. LABEL SWITCHES W/ DESIGNATION SHOWN (I.E. "A", "AN", "W", ETC) & CIRCUIT #.
3. PROVIDE PLACARD AT EACH SWITCH INDICATING AREA CONTROLLED.
4. DIMMER SWITCH TO INCLUDE ON-OFF SWITCH AT BOTTOM TO ALLOW FOR ONE-TIME ADJUSTMENT OF LIGHT LEVELS.
5. HIGHEST POSITION OF HIGHEST SWITCH TO BE NO GREATER THAN 48" AFF (ANSI A117.1)
6. PROGRAMMABLE TIME SWITCH TO BE EQUAL TO LEVITON VPT24-1PZ, 7-DAY PROGRAMMABLE W/ HOLIDAY SCHEDULING & DAYLIGHT SAVINGS TIME ADJUSTMENT. SWITCH TO INCLUDE TIME OVERRIDE FEATURE (2-HOUR MAXIMUM) AND BATTERY BACK-UP.

3 FIRST FLOOR SWITCH BANK DETAIL
NO SCALE

FIRE RATING LEGEND
2-HR WALL

TAGGED NOTES - THIS SHEET

1. POWER CIRCUIT FOR AREA LIGHT FIXTURE TO BE WIRED VIA AREA MOTION SENSOR. MOTION SENSOR TO BE UPSTREAM OF AREA SWITCHES. SEE DETAIL.
2. FIXTURE TO BE WIRED AS A NIGHT LIGHT. FIXTURE TO BE PROVIDED WITH INTEGRAL EMERGENCY BATTERY BACKUP.
3. PROPOSED SWITCH BANK LOCATION. E.C. TO VERIFY W/ OWNER.
4. LIGHTING CIRCUIT TO BE CONTROLLED VIA TIME CLOCK. SEE PANEL SCHEDULE.
5. HOOD PROVIDED WITH INTEGRAL LIGHTING.
6. FIXTURE TO BE WIRED AS A NIGHT LIGHT. FIXTURE TO INCLUDE INTEGRAL EMERGENCY BATTERY BACKUP.
7. PROVIDE UNDER COUNTER STRIP LIGHTING AT BAR COUNTER FOR CLEANING.
8. LIGHTING CIRCUIT TO BE CONTROLLED VIA PHOTOCELL. SEE PANEL SCHEDULE.
9. PROVIDE SWITCH FOR BAR CLEANING LIGHTS UNDER COUNTER. COORDINATE EXACT LOCATION WITH OWNER.

TAGGED NOTES - THIS SHEET

10. PROVIDE RECEPTACLE HIGH ON WALL FOR STRING LIGHTS. STRING LIGHT CIRCUIT TO BE CONTROLLED VIA TIMESWITCH AT BAR. SEE SWITCH BANK DETAIL. STRING LIGHT CIRCUIT TO BE WIRED VIA GFI BREAKER AT PANEL. SEE PANEL SCHEDULE.
11. INLINE EXHAUST FAN TO BE ON WHEN LIGHTS IN EITHER BATHROOM ARE ON. SEE DETAIL FOR WIRING INFORMATION.
12. FIXTURE TO BE SUSPENDED SO BOTTOM OF FIXTURE IS 8'-6" AFF. TYPICAL OF FIXTURE 'M'. CONFIRM SUSPENSION HEIGHT WITH ARCH PRIOR TO BEGINNING WORK.
13. FIXTURE TO BE SUSPENDED SO BOTTOM OF FIXTURE IS 8'-6" AFF. TYPICAL OF FIXTURE 'M2'. CONFIRM SUSPENSION HEIGHT WITH ARCH PRIOR TO BEGINNING WORK.

GENERAL NOTES - THIS SHEET

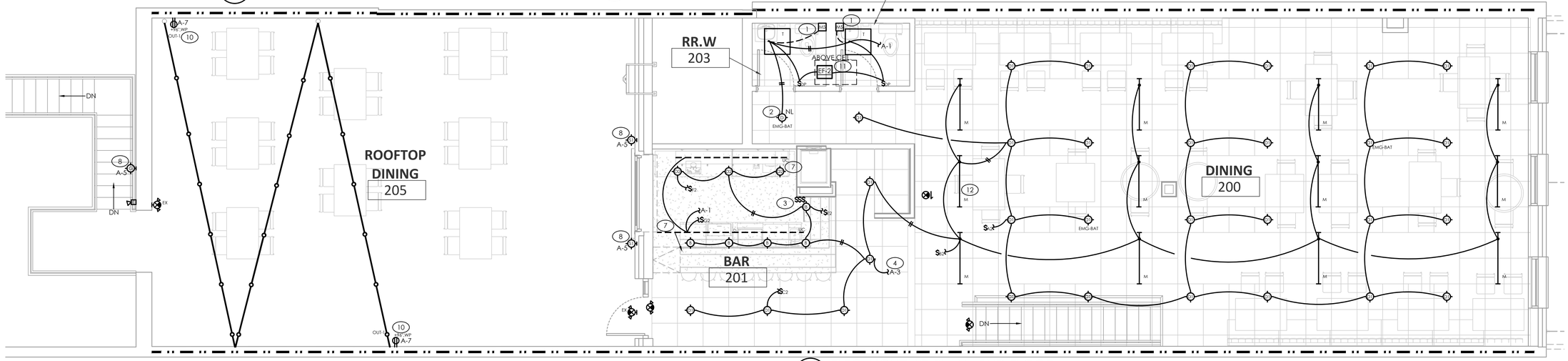
1. ENSURE THAT ALL EXIT AND EMERGENCY LIGHTS ARE CONNECTED TO LOCAL NORMALLY ON LIGHTING CIRCUIT AND ARE WIRED UPSTREAM OF ALL SWITCHES, CONTACTORS, AND SIMILAR.
2. CONDUITS ENTERING WALK-IN FREEZER AND/OR COOLER ARE TO BE SEALED IN ACCORDANCE W/ NEC 300.7.
3. IN ASSEMBLY OCCUPANCIES OF OVER 100 PEOPLE WIRING MATERIALS AND METHODS SHALL COMPLY WITH NEC SEC 518 AND THE WIRING METHOD/MATERIAL ITSELF SHALL QUALIFY AS AN EQUIPMENT GROUNDING CONDUCTOR IN ACCORDANCE WITH NEC 250.118 OR SHALL CONTAIN AN INSULATED EQUIPMENT GROUNDING CONDUCTOR SIZED IN ACCORDANCE WITH NEC TABLE 250.122. NO NM CABLE ALLOWED.

NOTE:
ALL DEVICES AND FIXTURES ON DEMISING WALL TO BE SURFACE MOUNTED.

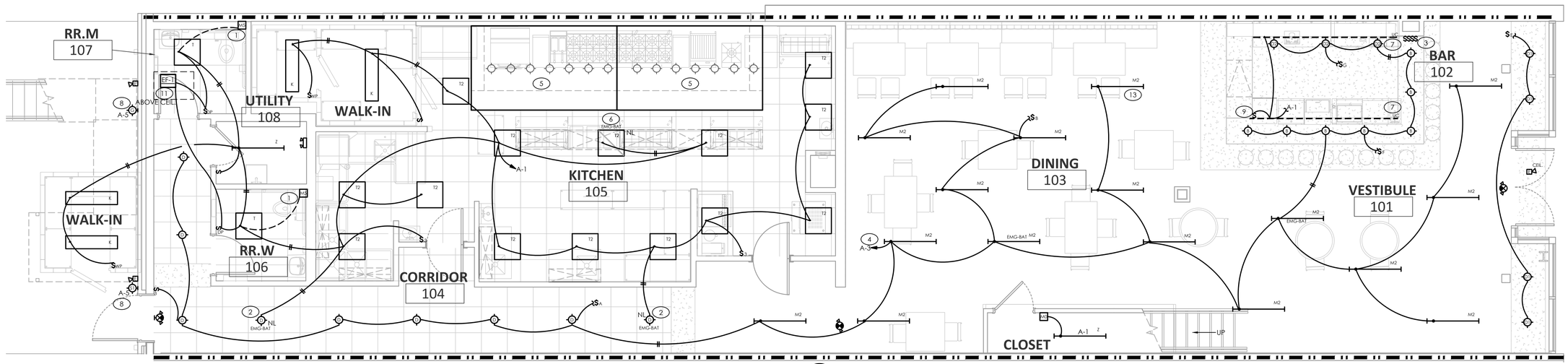
NOTE:
ALL SUSPENDED STRIP LIGHTS TO BE SUPPORTED FROM STRUCTURE ABOVE LAY-IN.

NOTE:
EXISTING CITY OWNED STREET/SIDEWALK LIGHTING PRESENT AT FRONT OF BUILDING. TO PROVIDE EGRESS LIGHTING .

NOTE:
EXISTING LIGHTING AND SWITCHING IN SCOPE OF WORK TO BE DEMO'D.



2 ELEC. LIGHTING PLAN - 2ND FLOOR
SCALE: 1/4" = 1'-0"



1 ELEC. LIGHTING PLAN - 1ST FLOOR
SCALE: 1/4" = 1'-0"

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sheet issue

#	date	description
PR	05-22-2024	PERMIT SET

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 044528 SCOTT D. METAIRIE 5/22/24

sheet information

project #:	23049
drawn by:	SDS
checked by:	DMM

ELECTRICAL LIGHTING PLANS

E1.01

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EQUIPMENT SCHEDULE

ITEM #	DESCRIPTION	VOLT	PHASE	AMPS	DIR. CONN.	PLUG
2	BROILER W/ OVEN	120	1	1.0	-	X
4	6-BURNER RANGE W/ OVEN	120	1	5.9	-	X
5	10-BURNER RANGE W/ OVEN	120	1	5.9	-	X
8	3-WELL HOT FOOD UNIT	120	1	12.5	-	X
9	48" SANDWICH UNIT	120	1	5.8	-	X
10	SANDWICH UNIT	120	1	5.8	-	X
11	2-DOOR FREEZER	120	1	9.6	-	X
12	36" HEAT LAMP	208	1	5.5	X	-
13	48" HEAT LAMP	208	1	7.7	X	-
14	ICE MACHINE	208	1	9.9	X	-
27	DISH MACHINE	208	3	45.6	X	-
29A	INTERIOR COOLER CONDENSER	208	1	8.9	X	-
29B	INTERIOR COOLER EVAPORATOR	208	1	0.6	X	-
29C	INTERIOR FREEZER CONDENSER	208	3	10.8	X	-
29D	INTERIOR FREEZER EVAPORATOR	208	1	6.0	X	-
30A	EXTERIOR COOLER CONDENSER	208	3	7.6	X	-
30B	EXTERIOR COOLER EVAPORATOR	208	1	0.6	X	-
34	BEVERAGE/ICE DISPENSER	120	1	5.0	-	X
35	TEA BREWER	120	1	13.8	-	X
37	52" BACK BAR UNIT	120	1	3.5	-	X
38	72" BACK BAR UNIT	120	1	7.0	-	X
39	DRAFT BEER DISPENSING UNIT	120	1	5.7	-	X
44	GLASS WASHER	208	1	26.3	X	-
45	MUG FROSTER	120	1	6.0	-	X

NOTE:
E.C. TO VERIFY EXACT TYPE, QTY, LOCATION OF EQUIPMENT ELECTRICAL CONNECTIONS BEFORE BEGINNING WORK. E.C. TO ALSO VERIFY ACTUAL EQUIPMENT NAMEPLATE VALUES. FINAL CONNECTION TO EQUIPMENT BY E.C..

TAGGED NOTES - THIS SHEET

1. PROVIDE POWER FOR SIGN CIRCUIT. COORDINATE EXACT LOCATION, SIGN REQUIREMENTS AND SCOPE OF WORK W/ OWNER.
2. CONFIRM EXACT LOCATION OF TV OUTLET W/ OWNER.
3. PROVIDE FIRE RATED PLYWOOD FOR TELE/DATA BOARD. PROVIDE #6 CU BONDING WIRE TO BUILDING GROUNDING SYSTEM.
4. PROVIDE (2) 4" CONDUITS W/ PULL STRING TO TELE/DATA & CATV DEMARK POINTS. COORDINATE W/ G.C. AND OWNER.
5. NOT USED.
6. PROVIDE POWER FOR SMCP.
7. PROVIDE POWER FOR 4G DIALER.
8. PROVIDE NEW SERVICE EQUIPMENT. SEE RISER.
9. AREA OF RESCUE ASSISTANCE CALL STATION. SEE DETAIL. COORDINATE LOCATION WITH AREA OF REFUGE LOCATION ON ARCHITECTURAL PLANS.
10. MAIN ANNUNCIATOR PANEL FOR AREA OF RESCUE ASSISTANCE. SEE DETAIL.
11. PROVIDE BATTERY BACKUP FOR 2-WAY COMMUNICATION SYSTEM FOR AREA OF RESCUE ASSISTANCE HIGH ON WALL. SEE DETAIL.
12. PROVIDE POWER AT CEILING FOR HEAT LAMP. HEAT LAMP INCLUDES INTEGRAL CONTROL SWITCH.
13. PROVIDE POWER FOR HOOD LIGHTS & CONTROLS. SEE HOOD DRAWINGS FOR ADDITIONAL WIRING RESPONSIBILITY.

TAGGED NOTES - THIS SHEET

14. FAN PROVIDED WITH INTEGRAL WEATHERPROOF DISCONNECT FROM MANUFACTURER.
15. CIRCUIT FAN VIA HOOD CONTROL PANEL. SEE HOOD DRAWINGS FOR MORE INFORMATION.
16. PROVIDE REMOTE GFI DEVICE FOR RECEPTACLE BEHIND COOKING EQUIPMENT. PROVIDE GFI RECEPTACLE IN A READILY ACCEPTABLE LOCATION.
17. RECEPTACLE FOR COOKING EQUIPMENT TO BE WIRED DOWNSTREAM OF REMOTE GFI TEST DEVICE.
18. PROVIDE POWER FOR POWERED WINDOW. COORDINATE EXACT REQUIREMENTS WITH EQUIPMENT SUPPLIER.
19. E.C. TO PROVIDE POWER ADJACENT TO WATER HEATER FOR RECIRC PUMPS. COORDINATE EXACT LOCATION WITH P.C.
20. PROVIDE DISCONNECT FOR DISHWASHER. DISCONNECT TO BE LOCATED IN ACCESSIBLE LOCATION. CONFIRM LOCATION WITH OWNER AND G.C..
21. PROVIDE STAND ALONE CO DETECTOR AT FIRST OUTLET OF GAS FIRED RTU. COORDINATE EXACT LOCATION WITH M.C..
22. PROVIDE STAND ALONE CO DETECTOR AT GAS FIRED APPLIANCE.
23. PROVIDE STAND ALONE CO DETECTOR AT GAS FIRED WATER HEATER.
24. RECEPTACLE TO BE WIRED VIA LOAD SIDE OF NEARBY GFI OUTLET SHOWN.
25. PROVIDE RECEPTACLE FOR LAVATORY POWER JUST BELOW SINK. COORDINATE W/ P.C..

TAGGED NOTES - THIS SHEET

26. ENSURE THAT SERVICE RECEPTACLE IS PRESENT WITHIN 25' AND LINE OF SIGHT OF EQUIPMENT. IF ABSENT PROVIDE NEW GFI, WEATHER PROOF RECEPTACLE.
27. NOT USED.
28. NOT USED.
29. PROVIDE POWER POLE FROM CEILING FOR KITCHEN EQUIPMENT. CONFIRM POLE LOCATION WITH KITCHEN EQUIPMENT SUPPLIER AND OWNER PRIOR TO BEGINNING WORK.
30. E.C. TO PROVIDE HARDWIRED POWER ABOVE CEILING, ADJACENT TO AIR HANDLERS FOR CONDENSATE PUMPS. COORDINATE EXACT LOCATION WITH M.C.
31. PROVIDE POWER AND MOTOR RATED, DOUBLE POLE DISCONNECT SWITCH FOR WALK-IN EVAP.
32. PROVIDE POWER FOR EVAP UNIT CONDENSATE PUMP.
33. PROVIDE DEDICATED RECEPTACLE FOR DUMBWAITER CONTROLLER. CONFIRM EXACT LOCATION WITH DUMBWAITER SUPPLIER.

FIRE RATING LEGEND
2-HR WALL

GENERAL NOTES - THIS SHEET

1. SEE PANEL SCHEDULES FOR GFI PROTECTION OF SOME OUTLETS.
2. E.C. TO COORDINATE EXACT LOCATION AND INSTALLATION OF ALL KITCHEN EQUIPMENT W/ OWNER.
3. CONDUITS ENTERING WALK-IN FREEZER AND/OR COOLER ARE TO BE SEALED IN ACCORDANCE W/ NEC 300.7.
4. FINAL CONNECTION TO ALL EQUIPMENT/FURNITURE BY E.C..
5. IN ASSEMBLY OCCUPANCIES OF OVER 100 PEOPLE WIRING MATERIALS AND METHODS SHALL COMPLY WITH NEC SEC 518 AND THE WIRING METHOD/MATERIAL ITSELF SHALL QUALIFY AS AN EQUIPMENT GROUNDING CONDUCTOR IN ACCORDANCE WITH NEC 250.118 OR SHALL CONTAIN AN INSULATED EQUIPMENT GROUNDING CONDUCTOR SIZED IN ACCORDANCE WITH NEC TABLE 250.122. NO NM CABLE ALLOWED.

NOTE:
EXISTING POWER AND EQUIPMENT TO BE DEMO'D. EXISTING SERVICE METER, DISCONNECT, AND PANELS IN SCOPE OF WORK TO BE DEMO'D.

NOTE:
ALL DEVICES ON DEMISING WALL TO BE SURFACE MOUNTED.

NOTE:
CONDUIT FOR ROOF POWER TO BE ROUTED IN CHASE. COORDINATE EXACT ROUTING WITH M.C. PRIOR TO BEGINNING WORK.

2 ELEC. POWER PLAN - 2ND FLOOR
SCALE: 1/4" = 1'-0"

1 ELEC. POWER PLAN - 1ST FLOOR
SCALE: 1/4" = 1'-0"

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NORTH CAROLINA REGISTERED PROFESSIONAL ENGINEER SEAL 044528 DAVID M. METAYER
5/22/24

sheet information

project #:	23049
drawn by:	SDS
checked by:	DMM

ELECTRICAL POWER PLANS

E1.02

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PANEL A & B LOAD SUMMARY

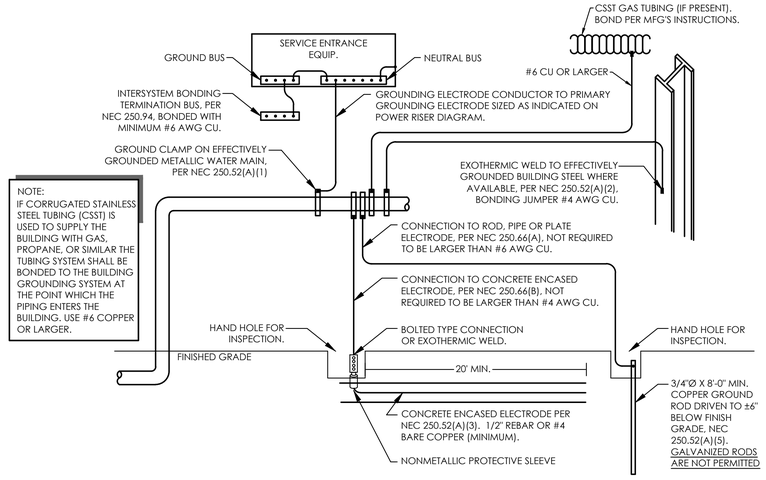
LOAD TYPE		kVA CONN.	DEM. FACT.	kVA DEM.
LOADS ON 400 AMP DISCONNECT				
LIGHTS (4428 SQFT @ 1.5 W/SQFT > CONN. LOAD)		6.6	1.00	6.6
RECEPTACLES	1st 10 kVA	6.2	1.0	6.2
	REMAINDER	0.0	0.5	0.0
	SHOW-WINDOW (30 FEET)	6.0	1.0	6.0
HVAC & R	ELEC HEAT	7.2	1.0	7.2
	LARGEST MOTOR	12.2	1.25	15.3
	REMAINDER	39.4	1.0	39.4
WATER HEATER (GAS)		0.2	1.25	0.3
KITCHEN EQUIPMENT		48.0	0.65	31.2
# PIECES COOKING EQUIPMENT: 24				
SIGN CIRCUIT(S)		1.2	1.25	1.5
TELE/DATA BAORD, FACP, DACT, DUMBWAITER, RECIRC PUMP, COMMUNICATION SYSTEM, POWERED WINDOW		4.1	1.0	4.1
KEF, KMUA		8.7	1.25	10.9
TOTALS		139.8		128.6
TOTAL AMPS @ 208 V 3 PHASE				356.9

		UTILITY												3 PHASE, 4 WIRE
VOLTAGE: 208Y/120V		PANEL: B												FLUSH MOUNTED
AMPS: 400-MLO					LOAD PER PHASE									NEMA 1
-DESCRIPTION-	POLE	WIRE SIZE	BRK SIZE	CKT #	A	B	C	CKT #	BRK SIZE	WIRE SIZE	POLE	-DESCRIPTION-		
RECIRC PUMP	1	12	20	1	0.2	0.1		2	15	12	2	INDOOR COOLER EVAP	#10	
AH CONDENSATE PUMPS	1	12	20	3		0.4	0.1	4						
WALK IN CONDENSATE	1	12	20	5			0.4	0.5	6	15	12	2	INDOOR FREEZER EVAP	#10
#11 HOOD LIGHTS & CONTROLS	1	12	15	7	0.5	0.5		8						
#10 DUMBWAITER	1	12	20	9		1.0	0.1	10	15	12	2	OUTDOOR COOLER EVAP	#10	
SPACE	1	-	-	11			0	0.1	12					
L POWERED WINDOW	1	12	20	13	0.2	0.9		14	20	12	2	INDOOR COOLER COND.	#10	
TC SIGN	1	12	20	15		1.2	0.9	16						
BROILER	1	12	20	17			0.1	0.8	18	20	12	1	REC: BAR 102, DINING 200	
#8 SHUNT				19	0	1.0				20	12	1	REC: 2ND FLOOR RESTROOM	
6 BURNER RANGE	1	12	20	21		0.7	1.4			22	20	12	1	REC: EXTER. DINING &ROOF
#8 SHUNT				23			0	0	24	20	-	1	SPARE	
10 BURNER RANGE	1	12	20	25	0.7	0				26	20	-	1	SPARE
#8 SHUNT				27		0	0			28	20	-	1	SPARE
GFI 2-DOOR FREEZER	1	12	20	29			1.2	0.4	30	20	12	1	TELE/DATA BOARD	
L 48" HEAT LAMP #1	2	12	20	31	0.8	0.2			32	20	12	1	WATER HEATER	
				33		0.8	0.2		34	20	12	1	COMMUNICATION SYSTEM	LO
L 48" HEAT LAMP #2	2	12	20	35			0.8	0.4	36	20	12	1	FACP	LO,#9
				37	0.8	0.4			38	20	12	1	4G DIALER	LO,#9
L 48" HEAT LAMP #3	2	12	20	39		0.8	0		40	-	-	1	SPACE	
				41			0.8	0	42	-	-	1	SPACE	
L 36" HEAT LAMP	2	12	20	43	0.6	1.2			44	20	12	1	REC: 1ST FLOOR RESTROOMS	
				45		0.5	1.0		46	20	12	1	REC: KITCHEN	
GFI SANDWICH UNIT	1	12	20	47			0.7	2.0	48	20	12	1	REC: SHOW WINDOW #1	
GFI HOT WELL	1	12	20	49	1.5	2.0			50	20	12	1	REC: SHOW WINDOW #2	
GFI 48" SANDWICH UNIT #1	1	12	20	51		0.7	2.0		52	20	12	1	REC: SHOW WINDOW #3	
GFI 48" SANDWICH UNITS #2&3	1	12	20	53			0.7	0.8	54	20	12	1	REC: FIRST FLOOR DINING	
					11.6	11.8	9.7							
TOTAL CONNECTED kVA:					33.1			DEMAND kVA:				128.6		
PANEL RMS SYM. AMPS:		SEE RISER						DEMAND AMPS:				356.9		

1. PANEL SHALL BE EQUAL TO SQUARE D NQ
2. L - INDICATES LOCK-OFF ATTACHMENT REQUIRED (ATTACHMENT TO MEET NEC REQ'S FOR APPLIANCE DISCONNECT)
3. LO - INDICATES LOCK-ON ATTACHMENT REQUIRED
4. PROVIDE HACR BREAKERS FOR HVAC & REFRIGERATION EQUIPMENT.
5. GFI - PROVIDE GFCI BREAKER FOR CIRCUIT. GFCI RECEPTACLES MAY BE USED IN LIEU OF GFCI BREAKERS SO LONG AS THE DEVICE(S) CONFORM TO NEC CODE REQUIREMENTS FOR GFCI PROTECTION & ACCESSIBILITY.
6. TC - CIRCUIT THROUGH 7-DAY PROGRAMMABLE ASTRONOMICAL TIME SWITCH WITH AUTO-DUSK, AUTO-DAWN FEATURE EQUAL TO LEVITON VPT24-1PZ. SWITCH TO INCLUDE MANUAL OVERRIDE AND BATTERY BACK-UP.
7. NOT USED.
8. CONNECT SHUNT TRIP TO HOOD FIRE SUPPRESSION CONTROL PANEL. BREAKER TO TURN OFF UPON ACTIVATION OF HOOD FIRE SUPPRESSION SYSTEM.
9. CIRCUIT BREAKER SHALL HAVE RED IDENTIFICATION AND INCLUDE LOCK-ON ATTACHMENT. BREAKER TO BE LOCKED IN ON POSITION. NEC 760.41
10. VERIFY BREAKER AND WIRE SIZE REQUIREMENTS WITH EQUIPMENT NAMEPLATE BEFORE BEGINNING WORK.
11. WIRE VIA HOOD CONTROL PANEL
12. PANEL TO BE WIRED IN FEED THROUGH CONFIGURATION PROVIDE WITH NECESSARY LUGS.

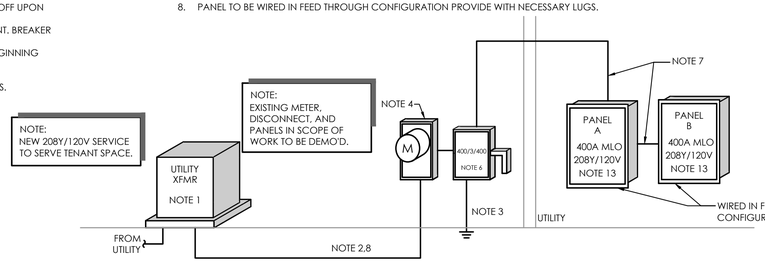
		UTILITY												3 PHASE, 4 WIRE
VOLTAGE: 208Y/120V		PANEL: A												FLUSH MOUNTED
AMPS: 400-MLO					LOAD PER PHASE									NEMA 1
-DESCRIPTION-	POLE	WIRE SIZE	BRK SIZE	CKT #	A	B	C	CKT #	BRK SIZE	WIRE SIZE	POLE	-DESCRIPTION-		
LTS:KITCHEN/RESTROOMS	1	12	20	1	0	4.1		2						
TC LTS: DINING/BAR	1	12	20	3		0	4.0	4	50	6	3	RTU-1		
PC LTS: EXTERIOR	1	12	20	5			0	4.0	6					
GFI,TC STRING LIGHTS	1	12	20	7	0	4.1			8					
ICE MACHINE	2	12	20	9		1.0	4.0		10	50	6	3	RTU-2	
				11			1.1	4.1	12					
GFI BEVERAGE DISPENSER	1	12	20	13	0.6	2.0			14					
GFI TEA BREWER	1	12	20	15		1.7	2.0		16	35	8	3	HP-1	
GFI 72" BACK BAR UNIT 1ST FLR	1	12	20	17			0.8	2.0	18					
GFI BAR 201 GLASSWAHSER	2	10	30	19	2.8	2.0			20					
				21		2.7	2.0		22	35	8	3	HP-2	
GFI BAR 102 GLASSWAHSER	2	10	30	23			2.8	2.0	24					
				25	2.7	3.3			26					
SPARE	1	-	20	27		0	3.3		28	35	8	3	AH-1	
SPARE	1	-	20	29			0	3.2	30					
				31	1.9	0.9			32					
#7 KEF-1	3	10	30	33		1.9	1.0		34	15	12	3	AH-2	
				35			1.9	1.0	36					
				37	1.0	5.5			38					
#7 KMUA-1	3	12	20	39		1.0	5.4		40	50	6	3	DISHWASHER	GFI
				41			1.0	5.5	42					
GFI 1ST FLOOR BEER DISPENSER	1	12	20	43	0.7	1.3			44					
GFI 1ST FLOOR MUG FROSTER	1	12	20	45		0.7	1.3		46	20	12	3	FREEZER CONDENSER	#6
GFI 52" BACK BAR 2ND FLOOR	1	12	20	47			0.4	1.3	48					
GFI 2ND FLOOR BEER DISPENSER	1	12	20	49	0.7	0.9			50					
GFI 2ND FLOOR MUG FROSTER	1	12	20	51		0.7	0.9		52	20	12	3	EXTERIOR COOLER COND.	#6
SPARE	1	-	20	53			0	0.9	54					
					34.5	33.6	32.0							
TOTAL CONNECTED kVA:					100.1			DEMAND kVA:				128.6		
PANEL RMS SYM. AMPS:		SEE RISER						DEMAND AMPS:				356.9		

1. PANEL SHALL BE EQUAL TO SQUARE D NQ.
2. PROVIDE HACR BREAKERS FOR HVAC & REFRIGERATION EQUIPMENT.
3. GFI - PROVIDE GFCI BREAKER FOR CIRCUIT. GFCI RECEPTACLES MAY BE USED IN LIEU OF GFCI BREAKERS SO LONG AS THE DEVICE(S) CONFORM TO NEC CODE REQUIREMENTS FOR GFCI PROTECTION & ACCESSIBILITY.
4. TC - CIRCUIT THROUGH 7-DAY PROGRAMMABLE ASTRONOMICAL TIME SWITCH WITH AUTO-DUSK, AUTO-DAWN FEATURE EQUAL TO LEVITON VPT24-1PZ. SWITCH TO INCLUDE MANUAL OVERRIDE AND BATTERY BACK-UP.
5. PC - CIRCUIT THROUGH PHOTOCELL LOCATED ON NORTH FACE OF BUILDING.
6. VERIFY BREAKER AND WIRE SIZE REQUIREMENTS WITH EQUIPMENT NAMEPLATE BEFORE BEGINNING WORK.
7. WIRE VIA HOOD CONTROL PANEL
8. PANEL TO BE WIRED IN FEED THROUGH CONFIGURATION PROVIDE WITH NECESSARY LUGS.



NOTE:
GROUNDING ELECTRODES SHALL BE PROVIDED IN ACCORDANCE WITH NEC SECTION 250. ALL GROUNDING ELECTRODE CONDUCTORS SIZED AS INDICATED ON POWER RISER DIAGRAM. ALL METHODS OF CREATING THE GROUNDING SYSTEM MAY NOT BE REQUIRED OR AVAILABLE.

2 GROUNDING DETAIL
NO SCALE



1 ELECTRICAL POWER RISER
NO SCALE

RISER DIAGRAM NOTES:
1. PAD MOUNTED TRANSFORMER BY UTILITY.
2. SECONDARY CONDUCTORS SIZED, PROVIDED & INSTALLED BY E.C., CONFIRM INSTALLATION W/ UTILITY BEFORE BEGINNING WORK. IF RUN LENGTH EXCEEDS 150' CONTACT ENGINEER PRIOR TO PURCHASING MATERIAL OR BEGINNING WORK.
3. #1/0 CU MAIN GROUNDING ELECTRODE CONDUCTOR TO GROUNDING SYSTEM (SEE DETAIL). BUILDING SHALL HAVE ONE GROUNDING ELECTRODE SYSTEM.
4. 320/400A METER BASE PER UTILITY REQUIREMENTS. METER BY UTILITY.
5. NOT USED.
6. SERVICE ENTRANCE RATED WEATHERPROOF DISCONNECT SIZED AND FUSED AS INDICATED.
7. (4)#500 CU. #3 CU GND. 3" CONDUIT.
8. (4)500kcmil CU. 3" CONDUIT.
9. NOT USED.
10. PROVIDE PLACARD AT PANEL(S)/DISCONNECT(S) INDICATING SUITE/TENANT & PANEL SERVED.
11. PROVIDE PLACARD INDICATING AVAILABLE AIC FAULT CURRENT (NEC 110.24).
12. PROVIDE PLACARD INDICATING ARC-FLASH HAZARD AT PANEL(S)/DISCONNECT(S). (NEC 110.16)
13. UTILITY TRANSFORMER SPECS UNKNOWN AT TIME OF DESIGN COMPLETION. DESIGN IS BASED ON 65,000AIC. E.C. TO VERIFY TRANSFORMER PROPERTIES WITH UTILITY PRIOR TO PURCHASING EQUIPMENT. IF TRANSFORMER AIC IS LESS LOWER RATED EQUIPMENT MAY BE USED. IF HIGHER CONTACT ENGINEER. CIRCUIT BREAKERS WITH A LESSER LABELED AIC RATING MAY BE USED IF THOSE BREAKERS ARE PAIRED WITH AN UPSTREAM BREAKER OR FUSE AS PART OF A UL SERIES RATED COMBINATION. PAIRED DEVICES MUST BE IN ACCORDANCE WITH NEC 240.86. LABEL PER NEC 110.22(C). CONFIRM W/ EQUIPMENT MFG BEFORE PURCHASE. E.C. TO PROVIDE FIELD INSPECTOR WITH MFG'S DOCUMENTATION REGARDING UL SERIES RATING OF PAIRED BREAKERS/FUSES.

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NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 044529 DAVID M. METNIK 5/22/24

sheet information

project #:	23049
drawn by:	SDS
checked by:	DMM

ELECTRICAL PANEL SCHEDULES AND RISERS

E2.01

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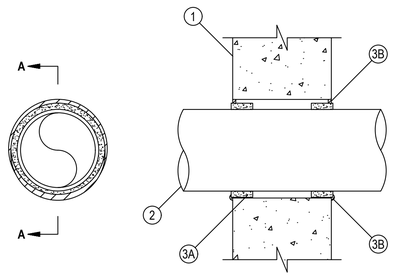
System No. W-J-2205

F Ratings - 1 and 2 Hr (See Item 3B)
T Rating - 0 Hr
L Rating At Ambient - 1.2 CFM/sq ft (See Item 3B)
L Rating At 400 F - Less Than 1 CFM/sq ft (See Item 3B)

WJ 2205



SECTION A-A

1. Wall Assembly — Min 6 in. (152 mm) thick reinforced lightweight or normal weight (100-150 pcf or 1600-2400 kg/m3) concrete. Wall may also be constructed of any UL Classified Concrete Blocks*. See Table under Item 3B for max diam of opening.

See Concrete Blocks (CAZT) category in the Fire Resistance Directory for names of manufacturers.

2. Through-Penetrants — One nonmetallic pipe installed within the firestop system. See Table under Item 3B for annular space required in the firestop system. Pipe to be rigidly supported on both sides of wall assembly. The following types and sizes of nonmetallic pipes may be used:

A. Polyvinyl Chloride (PVC) Pipe — Nom 6 in. (152 mm) diam (or smaller) Schedule 40 cellular or solid core PVC pipe for use in closed (process or supply) or vented (drain, waste or vent) piping system.
B. Chlorinated Polyvinyl Chloride (CPVC) Pipe — Nom 6 in. (152 mm) diam (or smaller) SDR 13.5 CPVC pipe for use in closed (process or supply) piping system.
C. Acrylonitrile Butadiene Styrene (ABS) Pipe — Nom 4 in. (102 mm) diam (or smaller) Schedule 40 cellular or solid core ABS pipe for use in closed (process or supply) or vented (drain, waste or vent) piping system.

3. Firestop System — The firestop system shall consist of the following:

A. Fill, Void or Cavity Material* — Wrap Strip — See Table under Item 3B for min size of intumescent wrap strip. The wrap strip is continuously wrapped around the outer circumference of the pipe once and slid into the annular space such that approx 1/8 in. (3 mm) of the wrap strip protrudes from the wall surface. Wrap strip is held in place with integral fastening tape. Wrap strip installed on each surface of wall.
HILTI CONSTRUCTION CHEMICALS, DIV OF
HILTI INC — CP 648S - 1.5" US, CP 648S - 2" US, CP 648S - 3" US, CP 648S - 4" US and CP 648S - 6" US

B. Fill, Void or Cavity Material* — Caulk — Min 1/4 in. (6 mm) thickness of fill material applied within the annulus, flush with both surfaces of wall. For 2 hr fire-rated walls, 1/4 in. (6 mm) bead fill material also applied at wrap strip/wall interface. In 1 hr fire-rated walls, fill material is optional for nom 1-1/2, 2, 3 and 4 in. (38, 51, 76 and 102 mm) diam penetrants. In 2 hr fire-rated walls, fill material is optional for nom 1-1/2, 2 and 3 in. (38, 51 and 76 mm) diam penetrants. Fill material is required to be used to attain L Ratings.
HILTI CONSTRUCTION CHEMICALS, DIV OF
HILTI INC — FS-One Sealant

Nom Pipe Diam, in. (mm)	Wrap Strip	Wrap Strip Size, thick. x width, in. (mm)	Max Diam of Opening,in. (mm)	Annular Space, in. (mm)	
				Min.	Max.
1-1/2 (38)	CP 648S - 1.5" US	3/16 x 1 (5 x 25)	2-3/8 (60)	3/16 (5)	5/16 (8)
2 (51)	CP 648S - 2" US	3/16 x 1 (5 x 25)	3 (76)	3/16 (5)	5/16 (8)
3 (76)	CP 648S - 3" US	3/16 x 1-3/4 (5 x 44)	4 (102)	3/16 (5)	5/16 (8)
4 (102)	CP 648S - 4" US	3/8 x 1-3/4 (10 x 44)	5-3/8 (137)	3/8 (10)	1/2 (13)
6 (152)	CP 648S - 6" US	1/2 x 1-3/4 (13 x 44)	8 (203)	9/16 (14)	13/16 (21)

*Bearing the UL Classification Mark

HILTI
Hilti Firestop Systems

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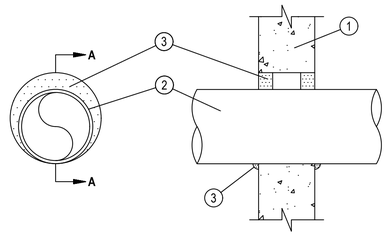
November 29, 2005

C UL US

System No. W-J-1168

F Ratings -- 1 and 2 Hr (See Item 3)
T Rating -- 0 Hr

WJ 1168



SECTION A-A

1. Wall Assembly -- Min 3-3/4 in. and 5 in. thick reinforced lightweight or normal weight (100-150 pcf) concrete for 1 and 2 hr rated assemblies, respectively. Wall may also be constructed of any UL Classified Concrete Blocks*. Max diameter of opening 26-5/8 in.
See Concrete Blocks (CAZT) category in the Fire Resistance Directory for names of manufacturers
2. Through Penetrant -- One metallic pipe, conduit or tubing installed concentrically or eccentrically within the firestop system. Pipe, conduit or tube to be rigidly supported on both sides of wall assembly. See Table below for annular space between the pipe, conduit or tube and periphery of the opening . The following types and sizes of metallic pipes, conduit or tube may be used:
A. Steel Pipe -- Nom 24 in. diam (or smaller) Schedule 10 (or heavier) steel pipe.
B. Iron Pipe -- Nom 24 in. diam (or smaller) service weight (or heavier) cast iron soil pipe.
C. Conduit -- Nom 4 in. diam (or smaller) steel electrical metallic tubing or 6 in. diam (or smaller) steel conduit.
D. Copper Tube -- Nom 6 in. diam (or smaller) Type L (or heavier) copper tube.
E. Copper Pipe -- Nom 6 in. diam (or smaller) Regular (or heavier) copper pipe.

Pipe	Max Nom Diam, in.	Min - Max Annular Space, in.
A,B	10	0 to 1-1/2
A,B	24	0 to 7/8
C	6,4	0 to 1-1/2
D,E	4	0 to 1-1/2
D,E	6	0 to 7/8

3. Fill, Void or Cavity Material* - Sealant -- Min 5/8 in. and 1-1/4 in. thickness of fill material applied within the annulus, flush with both surfaces of wall for 1 and 2 hr rated wall assemblies, respectively. When the annular space does not exceed 7/8 in., min 5/8 in. thickness of fill material is required for both 1 and 2 hr rated walls. At the point contact location between penetrant and wall, a min 1/2 in. diam bead of fill material shall be applied at the penetrant/wall interface.
HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC -- CP601S Elastomeric Firestop Sealant
*Bearing the UL Classification Mark

HILTI
FIRESTOP SYSTEMS

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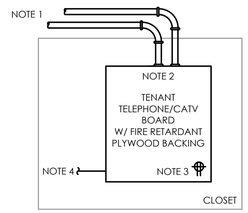
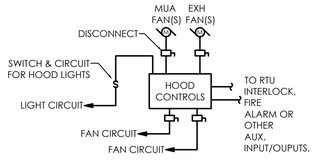
C UL US



7 TELEPHONE OR CATV RISER
NO SCALE

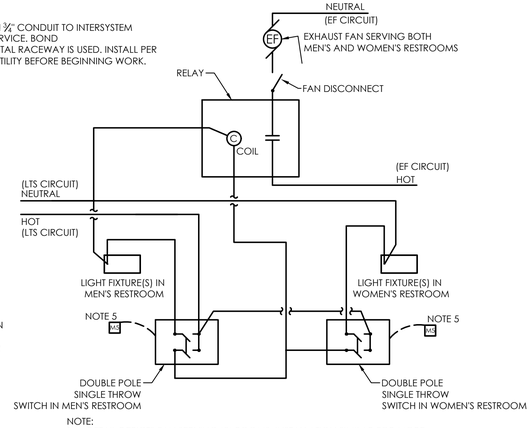
NOTES:

1. PROVIDE (2) 4" CONDUIT FROM UTILITY DEMARC POINT W/ PULL STRING, CLEARLY LABEL AND COORDINATE EXACT TERMINATION LOCATION AND DETAILS WITH OWNER AND UTILITY.
2. 3/4" FINISH GRADE PLYWOOD BACKBOARD PAINTED WITH FLAME RETARDANT PAINT, COORDINATE SIZE & EXACT LOCATION W/ OWNER.
3. PROVIDE 120V QUAD RECEPTACLE ON A DEDICATED CIRCUIT FOR TELEPHONE AND OTHER COMMUNICATION EQUIPMENT (SEE POWER PLANS).
4. PROVIDE #6 CU GROUNDING/BONDING CONDUCTOR IN ¾" CONDUIT TO INTERSYSTEM BONDING TERMINATION (IBT) AT BUILDING ELECTRICAL SERVICE. BOND CONDUIT/CONDUCTOR AT EACH END OF CONDUIT IF METAL RACEWAY IS USED. INSTALL PER NEC 250.94 & NEC 800.100. CONFIRM INSTALLATION W/ UTILITY BEFORE BEGINNING WORK.



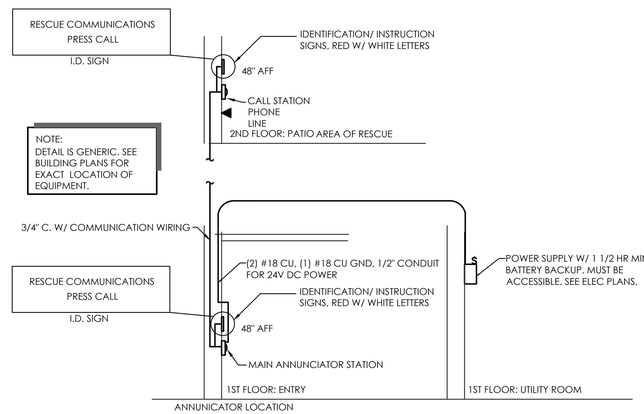
NOTES:
1. HOOD(S) CONTROL PANELS BY OTHERS. CONFIRM INSTALLATION W/ HOOD MFG. SEE HOOD DRAWINGS FOR ADDITIONAL INFO.
2. INSIDE FAN CIRCUIT DISCONNECTS MAY BE OMITTED IF BREAKER PANEL IS WITHIN LINE OF SIGHT.
3. E.C. TO COORDINATE EXACT # OF FANS.
4. SEE PANEL SCHEDULES FOR CIRCUIT INFORMATION.

6 HOOD WIRING DETAIL
NO SCALE



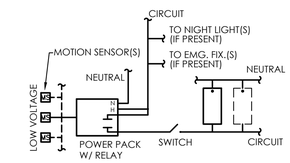
NOTE:
1. DETAIL DEPICTS FAN SERVING (2) ROOMS. INSTALLATION SIMILAR FOR MORE THAN 2 FANS.
2. COORDINATE RELAY SELECTION WITH LIGHTS AND EXHAUST FAN ELECTRICAL SPECS.
3. RELAY TO BE IN ACCESSIBLE LOCATION FOR REPAIR/REPLACEMENT.
4. RELAY TO CLOSE FAN CIRCUIT WHEN LIGHTS IN ANY BATHROOM ARE ON. FAN CIRCUIT/RELAY TO BE OPEN (FAN OFF) WHEN LIGHTS IN ALL BATHROOMS ARE OFF.
5. LOW VOLTAGE MOTION SENSOR. SEE LEGEND.

5 COMMON FAN WIRING SCHEMATIC
NO SCALE



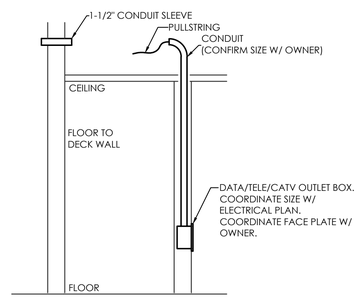
NOTES:
1. CALL STATION EQUAL TO CORNELL 4201 V/BM WITH LED INDICATOR AND MUSHROOM SWITCH, WEATHERPROOF TYPE. CALL STATION TO INCLUDE TELEPHONE ACCESS KIT WITH TIMED AUTO DIALER TO 911 OR OTHER LOCAL AHJ APPROVED MONITORING SERVICE.
2. ANNUNCIATOR PANEL EQUAL TO CORNELL A-4204.
3. FURNISH W/ POWER SUPPLY, COMMUNICATION CABLES, REQUIRED SIGNAGE AND ALL OTHER COMPONENTS REQUIRED FOR A FULLY FUNCTIONING SYSTEM.

1 AREA OF RESCUE ASST. RISER
NO SCALE



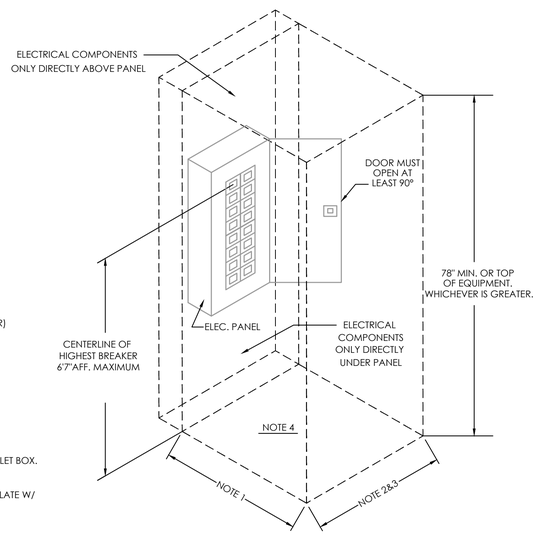
NOTE:
1. SEE PLAN FOR QTY. OF SENSORS. COORDINATE POWER PACK/RELAY/CONTACTOR REQ'S W/ MFG.
2. WIRING SIMILAR FOR BI-LEVEL (INBOARD/OUTBOARD) & 3-WAY SWITCHING.
3. CEILING MOUNTED DEVICES ARE TO BE INSTALLED AT LEAST 6'-0" FROM DIFFUSERS, GRILLES, FANS, AND OTHER SIMILAR SOURCES OF VIBRATION.

4 MOTION SENSOR WIRING (LOW VOLT.)
NO SCALE



NOTE:
FOR INTERIOR WALLS WITHOUT INSULATION. E.C. MAY OMIT CONDUIT & OUTLET BOX. PROVIDE PULL STRING & PLASTER RING.

3 DATA/TELE/CATV OUTLET
NO SCALE



NOTES:
1. FROM FACE OF PANEL: 42" MIN FOR 480/277V AND 240/120V 3Ø HIGH LEG DELTA SYSTEMS. 36" MIN FOR 208/120V AND 240/120V SYSTEMS.
2. THE WIDTH OF THE WORKING SPACE IN FRONT OF THE ELECTRICAL EQUIPMENT SHALL BE THE WIDTH OF THE EQUIPMENT OR 30", WHICHEVER IS GREATER.
3. WORKING SPACE DOES NOT HAVE TO BE CENTERED ON PANEL BUT MUST EXTEND TO/PAST EACH EDGE OF PANEL.
4. OTHER AREA PANELS MAY SHARE CLEARANCE SPACE.

2 ELECTRICAL PANEL MOUNTING DETAIL
NO SCALE

8 METALLIC PIPE (CONCRETE WALL) DETAIL
NO SCALE

9 NON-METALLIC PIPE (CONCRETE WALL) DETAIL
NO SCALE

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NORTH CAROLINA PROFESSIONAL SEAL 044528 ENGINEER DAVID M. METNER 5/22/24

sheet information

project #:	23049
drawn by:	SDS
checked by:	DMM

ELECTRICAL DETAILS

E2.02

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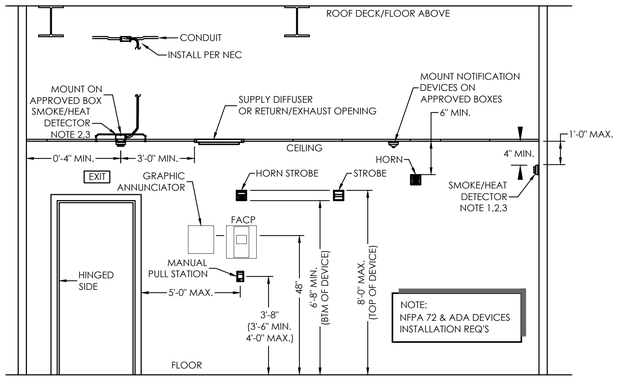
FIRE RATING LEGEND

2-HR WALL

FIRE ALARM SYMBOL LEGEND

FACP	FIRE ALARM CONTROL UNIT
DACT	DIGITAL ALARM COMMUNICATOR TRANSMITTER
F	PULL STATION/FIRE ALARM
	SMOKE DETECTOR/SENSOR (DEFAULT PHOTOELECTRIC TYPE)
15	VISUAL ONLY APPLIANCE (WALL MOUNTED)
15	AUDIBLE/VISUAL APPLIANCE (WALL MOUNTED)
	ANSUL HOOD SYSTEM "ALARM" OUTPUT.
	DUCT SMOKE DETECTOR (NFPA 72, SECTION 17.7.5.5)



DEVICE DETAIL NOTES:

1. PLACE SMOKE/HEAT DETECTOR AT HIGHEST POINT IN VAULTED CEILINGS.
2. PLACE SMOKE/HEAT DETECTOR NO LESS THAN 3FT FROM BATHROOM/SHOWER ROOM DOORS (2018 NCBC 907.2.11.4)
3. PLACE PHOTOELECTRIC SMOKE/HEAT ALARMS NO LESS THAN 6FT FROM PERMANENTLY INSTALLED COOKING APPLIANCES (2018 NCBC 907.2.11.3.3). PLACE IONIZATION SMOKE/HEAT DETECTORS WITH AN ALARM-SILENCING SWITCH NO LESS THAN 10FT FROM A PERMANENTLY INSTALLED COOKING APPLIANCE (2018 NCBC 907.2.11.3.2). PLACE IONIZATION SMOKE/HEAT DETECTORS WITHOUT AN ALARM-SILENCING SWITCH NO LESS THAN 20FT FROM A PERMANENTLY INSTALLED COOKING APPLIANCE (2018 NCBC 907.2.11.3.1).

5 FIRE ALARM AND SIMILAR DEVICE LOCATIONS
NO SCALE

GENERAL FIRE ALARM NOTES

1. THE FIRE ALARM CONTRACTOR IS TO BE HELD TO THE SAME REQUIREMENTS AS THE ELECTRICAL CONTRACTOR. FIRE ALARM CONTRACTOR SHALL REVIEW ELECTRICAL PLANS AND ELECTRICAL "GENERAL NOTES" BEFORE COMPLETING BID
2. FIRE ALARM CONTRACTOR IS TO VERIFY PROPOSED SYSTEM HAS BATTERY AND VOLTAGE CAPACITY TO HANDLE ALL DEVICES PLUS REQUIRED CAPACITY FOR POTENTIAL FUTURE DEVICES. PROVIDE FIRE ALARM SHOP DRAWINGS TO LOCAL AHJ.
3. AUDIBLE FIRE ALARM NOTIFICATION APPLIANCES SHALL PROVIDE A SOUND PRESSURE LEVEL OF 15 dBA ABOVE THE AVERAGE AMBIENT SOUND PRESSURE LEVEL OR 5 dBA ABOVE THE MAXIMUM SOUND LEVEL HAVING A DURATION OF AT LEAST 60 SECONDS, WHICHEVER IS GREATER, AT ALL LOCATIONS WITHIN THE OCCUPIABLE SPACE (TYPICAL AVERAGE AMBIENT SOUND PRESSURE LEVELS ARE GIVEN IN NFPA 72 TABLE A.18.4.3). THE MINIMUM SOUND PRESSURE LEVEL SHALL BE 75 dBA IN OCCUPANCY GROUPS R AND I-1, 90 dBA IN MECHANICAL EQUIPMENT ROOMS, AND 60 dBA IN ALL OTHER OCCUPANCIES. THE MAXIMUM SOUND PRESSURE LEVEL SHALL BE 110 dBA AT THE MINIMUM HEARING DISTANCE FROM ANY AUDIBLE APPLIANCE.
4. IF THREE OR MORE FIRE ALARM SYSTEM VISUAL NOTIFICATION APPLIANCES ARE LOCATED WITHIN AN OBSERVERS FIELD OF VIEW (135°) AND WITHIN 55'-0" OF THE OBSERVER, THEN THE DEVICES SHALL BE SYNCHRONIZED.
5. FIRE ALARM DEVICES ARE TO BE INSTALLED IN ACCORDANCE WITH NFPA 72 AND 'ADA'.
6. ALL FIRE ALARM WIRING SHALL BE IN CONDUIT OR AS ALLOWED BY NEC OR LOCAL AHJ.
7. ELECTRICAL CONTRACTOR SHALL PROVIDE AN UPDATED FIRE ALARM LAYOUT PLAN AT THE FACP.
8. TESTING OF THE FIRE ALARM SYSTEM SHALL BE THE RESPONSIBILITY OF THE ELECTRICAL CONTRACTOR.
9. FIRE ALARM DEVICES COLOR TO BE SELECTED BY THE ARCHITECT.

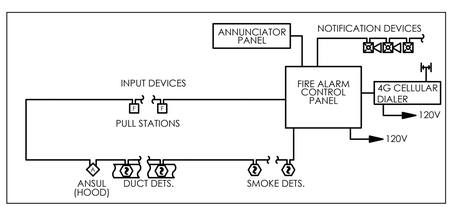
TAGGED NOTES - THIS SHEET

1. DEVICE TO BE SURFACE MOUNTED ON GLASS MULLION POST. CONFIRM LOCATION WITH ARCH.
2. HOOD FIRE SUPPRESSION SYSTEM TO BE INTERLOCKED TO BLDG FIRE ALARM SYSTEM. UPON ACTIVATION OF HOOD SUPPRESSION SYSTEM BLDG FIRE ALARM SYSTEM IS TO ACTIVATE.

FIRE ALARM SYSTEM INPUT/OUTPUT MATRIX

	SYSTEM INPUTS	SYSTEM OUTPUTS: FACP ANNUNCIATION — ACTUATE COMMON ALARM SIGNAL INDICATOR	NOTIFICATION — ACTUATE AUDIBLE ALARM SIGNAL	NOTIFICATION — ACTUATE AUDIBLE SUPERVISORY SIGNAL INDICATOR	NOTIFICATION — ACTUATE COMMON TROUBLE SIGNAL INDICATOR	NOTIFICATION — ACTUATE AUDIBLE TROUBLE SIGNAL	NOTIFICATION — ACTUATE COMMON TROUBLE SIGNAL	NOTIFICATION — DISPLAY GENERAL ALARM/FIRE ALARM INDICATOR	NOTIFICATION — DISPLAY GENERAL ALARM/FIRE ALARM ADDRESS	NOTIFICATION — DISPLAY CHANGE OF STATUS	REQUIRED FIRE SAFETY CONTROL — TRANSMIT FIRE ALARM SIGNAL TO CENTRAL STATION	REQUIRED FIRE SAFETY CONTROL — TRANSMIT SUPERVISORY SIGNAL TO CENTRAL STATION	REQUIRED FIRE SAFETY CONTROL — TRANSMIT TROUBLE SIGNAL TO CENTRAL STATION	REQUIRED FIRE SAFETY CONTROL — ACTIVATE HOOD EXHAUST, DISABLE HOOD MAKE-UP	
		A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	
1	FIRE ALARM SYSTEM AC POWER FAILURE					O	O						O														1
2	FIRE ALARM SYSTEM LOW BATTERY					O	O						O														2
3	OPEN CIRCUIT					O	O						O														3
4	GROUND FAULT					O	O						O														4
5	NOTIFICATION APPLIANCE CIRCUIT SHORT					O	O						O														5
6	BUILDING MANUAL PULL STATIONS	O	O					O	O	O	O																6
7																											7
8	AREA SMOKE DETECTORS	O	O					O	O	O	O																8
9																											9
10		O	O					O	O	O	O																10
11	HOOD OR ROOM FIRE SUPPRESSION SYSTEM ALARM	O	O					O	O	O	O															O	11
		A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	

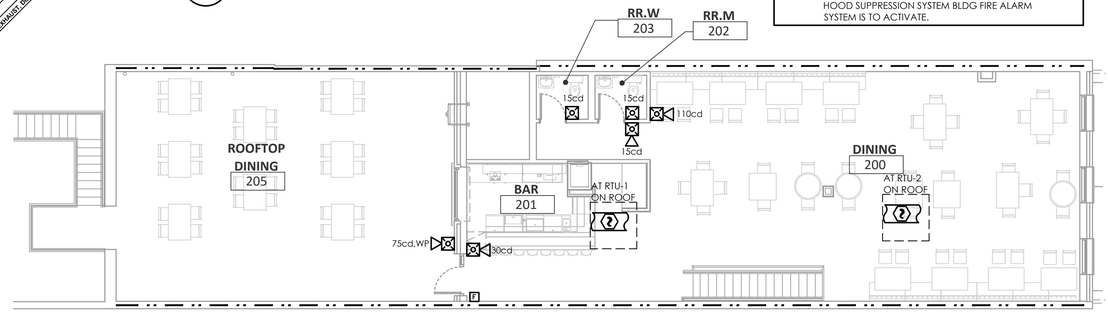
4 FIRE ALARM DEVICE MATRIX
NO SCALE



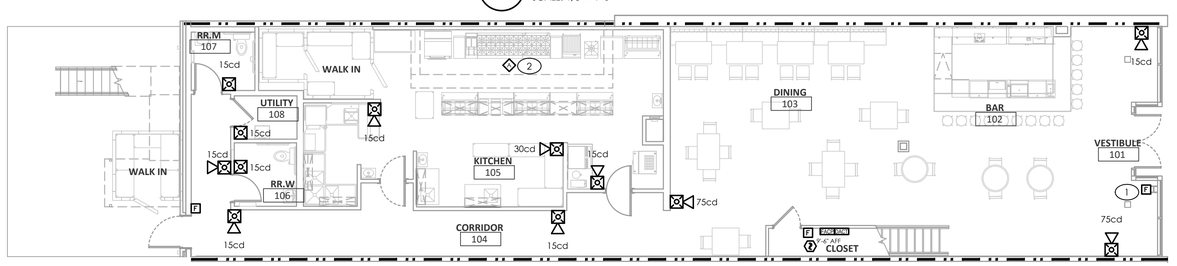
RISER NOTES:

1. FIRE ALARM CONTROL PANEL TO BE EQUAL TO FIRE-LITE ES-200X W/ FIRE-LITE IPGSM-4G DIGITAL CELLULAR FIRE COMMUNICATOR W/ BATTERY BACK-UP (POWER AND TELECOM LINES FOR DEVICE MUST BE IN CONDUIT. SEE MANUFACTURER'S INSTRUCTIONS) AND ANN-80 ANNUNCIATOR PANEL. PROVIDE FCPS24-FSB POWER SUPPLIES AS REQUIRED.
2. ENSURE ALL DEVICES/APPLIANCES USED ARE COMPATIBLE WITH FACP. PROVIDE ALL PROGRAMMING AND FINAL CONNECTION BY A FACTORY TRAINED TECHNICIAN.

3 FIRE ALARM RISER DIAGRAM
NO SCALE



2 FIRE ALARM PLAN - 2ND FLOOR
SCALE: 1/8" = 1'-0"



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

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sheet information

project #:	23049
drawn by:	SDS
checked by:	DMM

FIRE ALARM PLANS, SCHEDULE, AND DETAILS

FA1.01

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