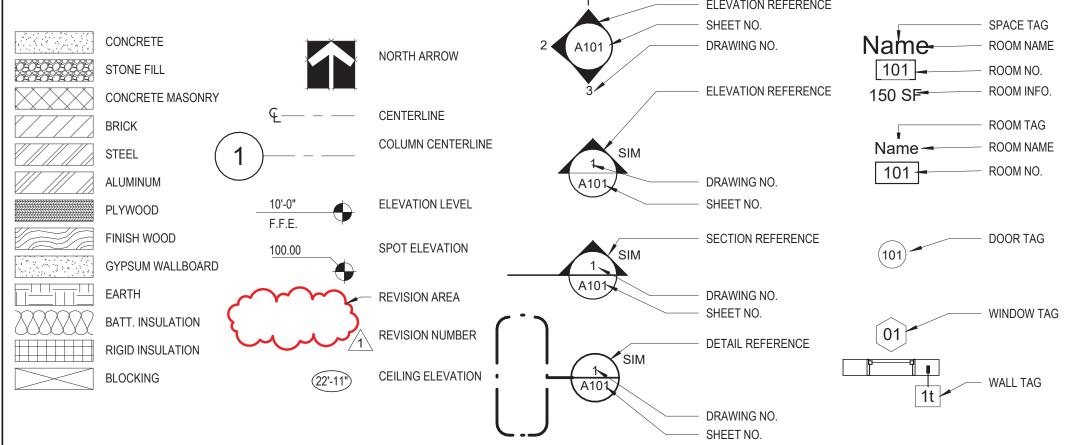
LEGEND



ABBREVIATIONS

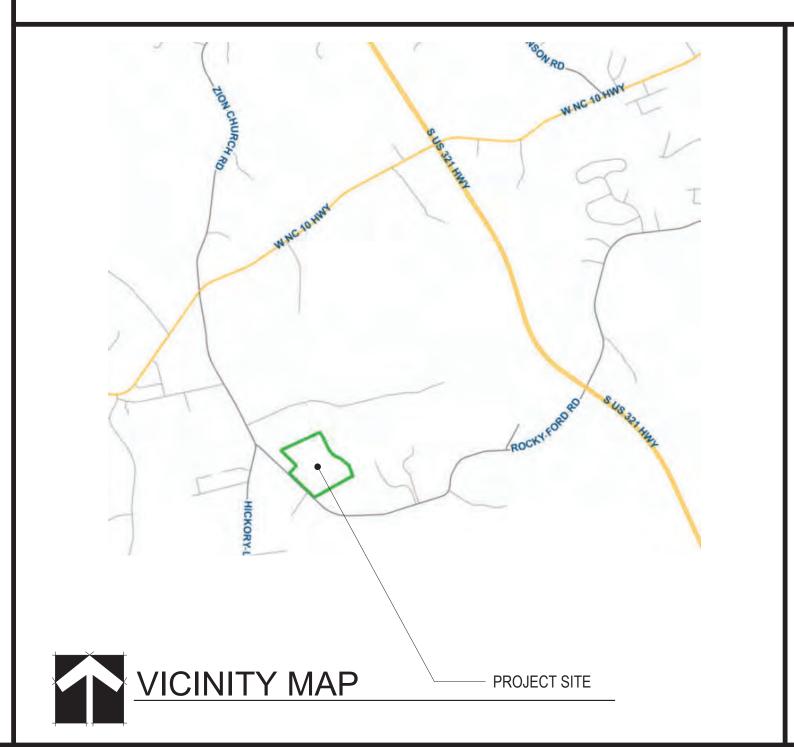
A.B.	ANCHOR BOLT	E	EAST	INT.	INTERIOR	REQD.	REQUIRED
ACOUST.	ACOUSTICAL	EA	EACH	J.B.	JOIST BEARING	RESIL.	RESILIENT
ACT	ACOUSTICAL CEILING TILE	E.B.	EXPANSION BOLT	JT.	JOINT	REV.	REVISION
A.F.F.	ABOVE FINISH FLOOR	E.I.F.S.	EXTERIOR INSULATION FINISH SYSTEM	LAM.	LAMINATED	RM	ROOM
ALUM.	ALUMINUM	E.J.	EXPANSION JOINT	LF	LINEAR FEET	R.O.	ROUGH OPENING
APPROX.	APPROXIMATELY	EL.	ELEVATION (FLOOR)	LG	LONG, LARGE	RQMTS.	REQUIREMENTS
ARCH.	ARCHITECT, ARCHITECTURAL	ELEV.	ELEVATION	LLH	LONG LEG HORIZONTAL	RTU	ROOF TOP UNIT
BD.	BOARD	ELEC.	ELECTRICAL	LLV	LONG LEG VERTICAL	R.W.L.	RAIN WATER LEADER
BLDNG.	BUILDING	EQ.	EQUAL	L.P.	LOW POINT	SCHED.	SCHEDULE
BLK.	BLOCK	EQUIP.	EQUIPMENT	MAS.	MASONRY	S.F.	SQUARE FEET
BM.	BEAM	E/W	EACH WAY	MATL.	MATERIAL	SHT.	SHEET
B.O.S.	BOTTOM OF STEEL	EWC	ELECTRIC WATER COOLER	MAX.	MAXIMUM	SIM.	SIMILAR
BRG.	BEARING	EXIST.	EXISTING	MECH.	MECHANICAL	S.M.S.	SHEET METAL SCREW
BS	BOTH SIDES	EXP.	EXPOSED, EXPANSION	MED.	MEDIUM	SPECS	SPECIFICATIONS
BTM.	BOTTOM	EXT.	EXTERIOR	MFR.	MANUFACTURER	SQ.	SQUARE
BUR	BUILT-UP ROOF	F.D.	FLOOR DRAIN	MIN.	MINIMUM	S.S.	STAINLESS STEEL
C.I.	CAST IRON	F.E.	FIRE EXTINGUISHER	MISC.	MISCELLANEOUS	STD.	STANDARD
C.J.	CONTROL JOINT	F.F.E.	FINISH FLOOR ELEVATION	M.O.	MASONRY OPENING	STL.	STEEL
C.T.	CERAMIC TILE	F/O	FACE OF	M.R.	MOISTURE-RESISTANT	STOR.	STORAGE
CAB.	CABINET	FIN.	FINISH	M.R.G.B.	MOISTURE-RESISTANT GYPSUM BOARD	STRUCT.	STRUCTURAL
CEM.	CEMENTITIOUS	FL./FLR.	FLOOR	MTD.	MOUNTED	SUSP.	SUSPENDED
CG	CORNER GUARD	FLUOR.	FLUORESCENT	MTL.	METAL	T	TREAD
CLR.	CLEAR	FDN.	FOUNDATION	N N	NORTH	T/B	TOP & BOTTOM
CLNG.	CEILING	F.S.	FLOOR SINK	N.I.C.	NOT IN CONTRACT	TEL	TELEPHONE
CMU	CONCRETE MASONRY UNIT	FTG.	FOOTING	NO.,#	NUMBER	T/O	TOP OF
CO	CLEAN OUT	General contractor	GENERAL CONTRACTOR	NTS	NOT TO SCALE	T.O.M.	TOP OF MASONRY
COL	COLUMN	GA.	GAUGE	O/A	OVERALL	T.O.S.	TOP OF STEEL
CONC.	CONCRETE	GALV.	GALVANIZED	0.F.D.	OVERFLOW DRAIN	TH	THICK(NESS)
CONST.	CONSTRUCTION	GEN.	GENERAL	0.1 .b.	OVERHEAD	TYP.	TYPICAL
CONT.	CONTINUOUS	GL.	GLASS/GLAZING	0/0	OUT TO OUT	U.L.	
CONTR.	CONTRACTOR	GL. GWB	GYPSUM WALLBOARD	0/0 0.C.	ON CENTER	U.O.N.	UNDERWRITERS LABORATORY UNLESS OTHERWISE NOTED
CPT.	CARPET	GYP.	GYPSUM WALLBOARD	O.C. O.D.	OUTSIDE DIAMETER	V.O.N.	VOLT
CP1.	CARPET CARTRAIL/CHAIRRAIL	H H	HIGH	O.D.	OPENING	VCT	-
CSX	COUNTERSUNK	HB	HOSE BIBB	OPNG.	OPPOSITE	VERT.	VINYL COMPOSITION TILE VERTICAL
D				P OPP.		W W	
	DEPTH	HC HDW	HANDICAPPED		PAINT		WEST, WIDTH, WASTE, WIRE
DBL.	DOUBLE		HARDWARE	PC.	PIECE	W/	WATER OLOOFT
DEMO	DEMOLITION	H.M.	HOLLOW METAL	PL.	PLATE DI ACTIO	W.C.	WATER CLOSET
DET.	DETAIL	HORIZ.	HORIZONTAL	PLAS.	PLASTER, PLASTIC	WD.	WOOD
DIA.	DIAMETER	H.P.	HIGH POINT	PLYWD.	PLYWOOD	WT	WEIGHT
DN.	DOWN	HT.	HEIGHT	PTD.	PAINTED	WH, W/H	WATER HEATER
DIM.	DIMENSION	HVAC	HEATING, VENTILATION & AIR CONDITIONING	QUAN.	QUANTITY	W/I	WITHIN
D.O.	DOOR OPENING	I.D.	INTERIOR DIAMETER	Q.T.	QUARRY TILE	W/O	WITHOUT
ъ.	I I W M M D C MAINIC ?	INCL.	INCLUDE	R	RADIUS, RISER	WWF	WELDED WIRE FABRIC
D.S.	DOOR SWING			_		_	
D.S. DWG.	DRAWING DRAWING	INSUL.	INSULATION	R.D. REINF.	ROOF DRAIN REINFORCING	X XTR	EXISTING TO REMAIN EXISTING TO BE REMOVED

GENERAL NOTES

- 1. GENERAL CONTRACTOR SHALL NOTIFY ARCHITECT OF ANY DISCREPANCIES FOUND IN THE PLANS, DETAILS AND/OR SPECIFICATIONS PRIOR TO PROCEEDING WITH CONSTRUCTION. 2. CONTRACTOR SHALL BEAR RESPONSIBILITY FOR VERIFYING COMPLIANCE OF SHOP DRAWINGS WITH THE CONTRACT DOCUMENTS PRIOR TO ORDERING MATERIALS OR BEGINNING FABRICATION.
- 3. GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING ALL WORK INCLUDED IN THE CONTRACT DOCUMENTS. ALL CORRESPONDENCE FROM THE SUBCONTRACTORS SHALL BE THROUGH THE GENERAL CONTRACTOR
- 4. CONTRACTOR SHALL BE RESPONSIBLE FOR COMPLYING WITH ALL APPLICABLE CODES AND STATUTES, WHETHER SPECIFICALLY REFERENCED BY THE PLANS OR NOT. 5. CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL REQUIRED PERMITS AND SECURING REQUIRED INSPECTIONS.
- 6. BUILDING SIGNAGE IS TO BE PROVIDED UNDER SEPARATE CONTRACT BY OTHERS.
- 7. GENERAL CONTRACTOR IS RESPONSIBLE FOR PROVIDING ALL SIGNAGE IN COMPLIANCE WITH THE AMERICANS WITH DISABILITIES ACT (A.D.A.), ICC/ANSI A117.1-2009, AND THE LATEST EDITION OF THE NORTH CAROLINA BUILDING CODE
- 8. ALL MATERIALS ARE TO BE NEW UNLESS OTHERWISE NOTED.
- 9. ANY DEFECTIVE WORK AND ANY DAMAGE RESULTING THEREFROM SHALL BE REPAIRED AT NO COST TO THE OWNER
- 10. ALTHOUGH THESE DRAWINGS ARE DRAWN TO SCALE, NO DIMENSIONS ARE TO BE DETERMINED BY SCALING THE DRAWINGS. ANY QUESTIONS OR DISCREPANCIES ARE TO BE BROUGHT TO THE ATTENTION OF THE ARCHITECT.
- 11. CONTRACTOR IS RESPONSIBLE FOR REMOVING AND LEGALLY DISPOSING OF ALL REFUSE FROM THE PROJECT.
- 12. NO SMOKING WILL BE PERMITTED INSIDE THE PROJECT AREA.
- 13. CONTRACTOR SHALL PROVIDE BLOCKING AS REQUIRED TO SUPPORT ALL CONTRACTOR-SUPPLIED AND OWNER-SUPPLIED WALL-HUNG EQUIPMENT OR CASEWORK. CONFIRM LOCATIONS WITH OWNER PRIOR TO INSTALLATION.
- 14. THE ADJACENT SITE MAY BE OCCUPIED BY THE PUBLIC DURING CONSTRUCTION. THE GENERAL CONTRACTOR. SHALL TAKE ALL PRECAUTIONS NECESSARY TO SAFEGUARD THE HEALTH AND WELFARE OF THE PUBLIC. ALL REQUIRED MEANS OF EGRESS SHALL BE KEPT CLEAR AND ACCESSIBLE AT ALL TIMES.
- 15. THE GENERAL CONTRACTOR SHALL THOROUGHLY REVIEW MANUFACTURER'S LITERATURE AND SHOP DRAWINGS FOR ALL FIXTURES AND/OR EQUIPMENT (WHETHER PROVIDED BY THE OWNER, TENANT OR CONTRACTOR) PRIOR TO ROUGH-IN FOR UTILITIES. CONFIRM ANY DISCREPANCIES PRIOR TO COMMENCEMENT OF WORK
- 16. LABEL ALL FIRE-RATED WALLS ABOVE CEILING AS REQUIRED BY NC BUILDING CODE 2018, SECTION 703.7. SUGGESTED WORDING: "__- HR RATED FIRE AND/OR SMOKE BARRIER. PROTECT ALL OPENINGS."
- 17. THE GENERAL CONTRACTOR SHALL PROVIDE KNOX BOX, IF REQUIRED BY LOCAL JURISDICTION

NEW SCALE HOUSE for MA BLACKBURN SOLID WASTE FACILITY

CATAWBA COUNTY 4017 ROCKY FORD RD NEWTON, NC 28658



ARCHITECT:

GONTRAM ARCHITECTURE, INC WAKE FOREST NC, 27587 P:(919) 876-5331

STRUCTURAL ENGINEER:

ROSS LINDEN ENGINEERS, PC 709 W. JONES ST. RALEIGH NC, 27603 P:(919) 832-5680 brian@rosslinden.com

PLUMBING, MECHANICAL AND **ELECTRICAL ENGINEERS:**

ATLANTEC ENGINEERS, P.A. 3221 BLUE RIDGE RD., SUITE 113 RALEIGH, NC 27612 P:(919) 571-1111 david@atlantecengineers.com

CIVIL ENGINEERING:

GARREII & MOORE 1029 WEST SOUTH STREET RALEIGH NC, 27603 P: (919) 210-2844 bgarrett@garrett-moore.com

DESCRIPTION Sheet

G101	COVER SHEET	12/05/2024	
G102	BUILDING CODE SUMMARY, LIFE SAFETY PLAN	12/05/2024	
RCHIT	ECTURAL		
A101	FLOOR PLAN, SCHEDULES	12/05/2024	
A201	ROOF PLAN, REFLECTED CEILING PLAN	12/05/2024	
A401	DOOR, WINDOW, SCHEDULES AND DETAILS	12/05/2024	
A501	BUILDING ELEVATIONS	12/05/2024	
A502	BUILDING INTERIOR ELEVATIONS	12/05/2024	
A601	BUILDING SECTION	12/05/2024	
A701	WALL SECTIONS	12/05/2024	
A801	DETAILS	12/05/2024	
AS101	ARCHITECTURAL SPECIFICATIONS	12/05/2024	
AS102	ARCHITECTURAL SPECIFICATIONS	12/05/2024	
AS103	ARCHITECTURAL SPECIFICATIONS	12/05/2024	
AS104	ARCHITECTURAL SPECIFICATIONS	12/05/2024	

INDEX OF DRAWINGS

S101	FOUNDATION AND FRAMING PLANS	12/04/2024
S201	SECTIONS AND DETAILS	12/04/2024
PLUMBIN	G	

P001	PLUMBING NOTES, LEGENDS, DETAILS & FIXTURES SCHEDULE	10/17/2024	i
P101	PLUMBING PLAN AND DETAILS	10/17/2024	
MECHAN	ICAI		
MECHAIN	ICAL		

MECHAN	ICAL		
M001	MECHANICAL PLAN, NOTES, LEGEND, SCHEDULES, DETAILS	10/17/2024	
ELECTRI	CAL		

O I I XII	O/ (E		
001	ELECTRICAL SYMBOL LEGEND, NOTES, DETAILS	10/17/2024	
101	ELECTRICAL PLANS	10/17/2024	
201	POWER RISER, PANEL SCHEDULE	10/17/2024	



WAKE FOREST, NC 27587

www.gontramarchitecture.com



LATEST REVISION

CONSTRUCTION



PLOT DATE: 12/05/2024 12/05/2024 FOR CONSTRUCTION DRAWN BY: PJA PROJECT NO.: RECORD: CONTENTS COVER SHEET

INCLUDING, BUT NOT LIMITED TO:

SECURITY AND TELECOMMUNICATIONS: THE OWNER SHALL CONTRACT WITH SEPARATE FIRMS TO PROVIDE SECURITY AND TELECOMMUNICATIONS EQUIPMENT AND INSTALLATION. GENERAL CONTRACTOR SHALL PROVIDE BOXES AND CONDUIT AS INDICATED IN THESE DRAWINGS.

FURNITURE: FURNITURE INDICATED IN PLAN SHALL BE PROVIDED BY THE OWNER UNLESS OTHERWISE NOTED. THE OWNER SHALL BE RESPONSIBLE FOR SETTING THE FURNITURE IN PLACE. THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING FURNITURE DELIVERY, ENSURING ADEQUATE CLEARANCES, AND MAKING FINAL UTILITY CONNECTIONS, IF

SEPARATE CONTRACTS:

BUILDING CODE SUMMARY

2018 APPENDIX B

BUILDING CODE SUMMARY FOR ALL COMMERCIAL PROJECTS

(EXCEPT FOR 1 AND 2- FAMILY DWELLINGS AND TOWNHOUSES)

NAME OF PROJECT:	NEW SCALE HOL	JSE FOR BLACKBU	RN SOLID WASTE FA	CILITY
ADDRESS:	4017 ROCKY FOR	RD ROAD	NEWTON, NC	ZIP CODE: 28658
PROPOSED USE:	NEW SCALE HOU	JSE CONTROL ROC	OM	
OWNER OR AUTHORIZ	ZED AGENT:	client	PHONE: client phone	E-MAIL: client email
OWNED BY:		■ CITY/COU	NTY PRIVA	TE \square STATE
CODE ENFORCEMENT	JURISDICTION:	□ CITY	COUNT	ΓY □ STATE

CONTACT: _	EDMUND J. GONTRAM II	II, AIA GONTRAM ARCHITE	CTURE INC.		
DESIGNER:	FIRM	NAME	LICENSE#	TELEPHONE #	E-MAIL
ARCHITECT:	GONTRAM ARCHITECTURE INC.	EDMUND J. GONTRAM III, AIA	7177	(919) 876-5331	eddie@gontramarchitecture.com
CIVIL:	(NOT APPLICABLE)	(NOT APPLICABLE)			
ELECTRICAL:	ATLANTEC ENGINEERS	MATTHEW C. BRILEY, PE	048828	(919) 571-1111	matthew@atlantecengineers.com
FIRE ALARM:	(NOT APPLICABLE)	(NOT APPLICABLE)			
PLUMBING:	ATLANTEC ENGINEERS	JAMES B. DELPAPA JR, PE	22035	(919) 571-1111	jim@atlantecengineers.com
MECHANICAI	: ATLANTEC ENGINEERS	PATRICK J. MCCABE, PE	051195	(919) 571-1111	patrick@atlantecengineers.com
SPRK-STNDP:	(NOT APPLICABLE)	(NOT APPLICABLE)			
STRUCTURAL	: ROSS LINDEN ENGINEERS PC	BRIAN M. ROSS, PE	25539	(919) 832-5680	brian@rosslinden.com
RET.WAL>5' H	[:_(NOT APPLICABLE)	(NOT APPLICABLE)			
OTHER:	_(NOT APPLICABLE)	(NOT APPLICABLE)			

2018 NC BUILDING CODE: ■ NEW BUILDING □ ADDITION □ RENOVATION □ 1st TIME INTERIOR COMPLETION
☐ SHELL/CORE ☐ PHASED CONSTRUCTION - SHELL/CORE
2018 NC EXISTING BUILDING CODE: □ PRESCRIPTIVE □ REPAIR □ CHAPTER 14
\square ALTERATION -LEVEL $___$ \square HISTORIC PROPERTY \square CHANGE OF USE
CONCERNICED (1.1)
CONSTRUCTED: (date) CURRENT OCCUPANCY(S) (Ch.3)

PROPOSED OCCUPANCY(S) (Ch.3) B

SCOPE OF WORK:

RENOVATED: (date)

NEW 311 SQUARE FOOT BUILDING FOR SCALE CONTROL ROOM

OCCUPANCY CATEGORY (Table 1604.5): Current: II Proposed: II

BASIC BUILDING DATA

ONSTRUCTION TYPE:	□ I-A	\square II-A \square III-A	\square IV	□ V-A	
	□ I_R	□ II_R □ III_R		■ V-B	

SPRINKLERS: \square NO \square PARTIAL \square YES \square NFPA 13 \square NFPA 13R \square NFPA 13D STANDPIPES: \square NO \square YES CLASS: \square I \square III \square WET \square DRY FIRE DISTRICT: \square NO \square YES FLOOD HAZARD AREA: \square NO \square YES SPECIAL INSPECTIONS REQUIRED: NO

GROSS BUILDING AREA TABLE

ا ا	FLOOR	EXISTING (SQ. FT.)	NEW (SQ. FT.)	SUB-TOTAL
П	4TH FLOOR			
П	3RD FLOOR			
П	2ND FLOOR			
	1ST FLOOR		311	
	BASEMENT			
	T	OTAL	311	

PROJECT AREA:

ALLOWABLE AREA

ASSEMBLY:	□ A-1 □ A-2 □	□ A-3 □ A-4	□ A-5
BUSINESS			

FACTORY: \Box F-1 Moderate \Box F-2 Low

PRIMARY OCCUPANCY CLASSIFICATION(S):

EDUCATIONAL

HIGH-HAZARD: ☐ H-1 (Detonate) ☐ H-2 (Deflagrate) ☐ H-3 (Combust) ☐ H-4 (Health) ☐ H-5 (HPM)

INSTITUTIONAL: \Box I-1 Condition \Box 1 \Box 2 \square I-2 Condition \square 1 \square 2 \square I-3 Condition \square 1 \square 2 \square 3 \square 4 \square 5

MERCANTILE

□ I-4

RESIDENTIAL: \square R-1 \square R-2 \square R-3 \square R-4

STORAGE: \square S-1 Moderate \square S-2 Low \square High-Piled

☐ Parking Garage ☐ Open ☐ Enclosed ☐ Repair Garage

UTILITY AND MISCELLANEOUS □

ACCESSORY OCCUPANCY CLASSIFICATION(S):

INCIDENTAL USES (TABLE 509): SPECIAL USES (CHAPTER 4- List code sections):

SPECIAL PROVISIONS (CHAPTER 5 -List code sections):

MIXED OCCUPANCY: \blacksquare NO \square YES SEPARATION _____ Hr.

EXCEPTION □ NON-SEPARATED MIXED OCCUPANCY (508.3)

The required type of construction for the building shall be determined by applying the height and area limitations for each of the applicable occupancies to the entire building. The most restrictive type of construction, so determined, shall apply to the entire building.

☐ SEPARATED MIXED OCCUPANCY (508.4) - SEE BELOW FOR AREA CALCULATIONS For each story, the area of the occupancy shall be such that the sum of the ratios of the actual floor area of each use divided by the allowable floor area for each use shall not exceed 1.

 $\frac{\text{ACTUAL AREA OF OCCUPANCY A}}{\text{ALLOWABLE AREA OF OCCUPANCY A}} + \frac{\text{ACTUAL AREA OF OCCUPANCY B}}{\text{ALLOWABLE AREA OF OCCUPANCY B}} \leq \underline{1}$

(D) ALLOWABLE FLOOR AREA OR STORY DESCRIPTION AND BLDG AREA ABLE 506.24 AREA FOR FRONTAGE INCREASE 1,5 AREA UNLIMITED^{2,3} STORY (ACTUAL) BUSINESS (E

¹ Frontage area increases from Section 506.3 are computed thus: Perimeter which fronts a public way or open space having 20 feet minimum width = (F)

Total Building Perimeter Ratio (F/P) =

⁵ Frontage increase is based on the unsprinklered area value in Table 506.2.

W = Minimum width of public way = _ Percent of frontage increase $I_f = 100[F/P - 0.25] \times W/30 =$ ______(%)

Unlimited area applicable under conditions of Section 507.

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.

ALLOWABLE HEIGHT

	ALLOWABLE	SHOWN ON PLANS	CODE REFERENCE
BUILDING HEIGHT IN FEET (TABLE 504.3)	<u>H= 40</u>	<u>12 FT</u>	
BUILDING HEIGHT IN STORIES (TABLE 504.4)	<u>S= 2</u>	<u>1</u>	

¹ Provide code reference if the Shown on Plans' quantity is not based on Table 504.3 or 504.4. ² The maximum height of air traffic control towers must comply with Table 412.3.1. The maximum height of open parking garages must comply with Table 406.5.4.

FIRE PROTECTION REQUIREMENTS

BUILDING	FIRE		RATING	DETAIL#	DESIGN#	DESIGN#	DESIGN#
ELEMENT	SEPARATION DISTANCE (FEET)	REQ'D	PROVIDED (W/* REDUCTION)	AND SHEET#	FOR RATED ASSEMBLY	FOR RATED PENETRATION	FOR RATED JOINTS
STRUCTURAL FRAME- INCLUDING: COLUMNS, GIRDERS, AND TRUSSES							
BEARING WALLS							
EXTERIOR							
NORTH		0					
EAST		0					
WEST		0					
SOUTH		0					
INTERIOR		N/A					
NONBEARING WALLS ANI EXTERIOR WALLS	D PARTITIONS	IN/A					
NORTH	1	N/A					
EAST		N/A					
WEST		N/A					
SOUTH		N/A					
INTERIOR WALLS AND P.	ARTITIONS	11// (
FLOOR CONSTRUCTION-INCLUDING SUPPORTING JOISTS.	BEAMS AND	N/A					
FLOOR CEILING ASSEMBL	Y	N/A					
COLUMNS SUPPORTING F		N/A					
ROOF CONSTRUCTION- INCLUDING: SUPPORTING BEAMS AND JOISTS		0					
ROOF CEILING ASSEMBLY	7	N/A					
COLUMNS SUPPORTING R	OOF	N/A					
SHAFT ENCLOSURES - EXI	ΙΤ	N/A					
SHAFTS ENCLOSURES- OT	HER	N/A					
CORRIDOR SEPARATION		N/A					
OCCUPANCY/FIRE BARRIE	ER SEPARATION	N/A					
PARTY/FIREWALL SEPARA	ATION	N/A					
SMOKE BARRIER SEPARA	TION	N/A					
SMOKE PARTITION		N/A					
TENANT/DWELLING UNIT SLEEPING UNIT SEPARATI		N/A					
INCIDENTAL USE SEPARA	TION	N/A					

* INDICATE SECTION NUMBER PERMITTING REDUCTION.

PERCENTAGE OF WALL OPENINGS CALCULATIONS

FIRE SEPARATION DISTANCE (FEET) FROM PROPERTY LINES	DEGREE OF OPENINGS PROTECTION (TABLE 705.8)	ALLOWABLE AREA (%)	ACTUAL SHOWN ON PLANS (%)
> 30 FT (ALL SIDES)	UP, USP	NO LIMIT	

LIFE SAFETY SYSTEM REQUIREMENTS

EMERGENCY LIGHTING:	NO	YES	
EXIT SIGNS:	NO	YES	
FIRE ALARM:	NO	YES	
SMOKE DETECTION SYSTEMS:	NO	YES	□ PARTIAL
CARBON MONOXIDE DETECTION:	NO	YES	

LIFE SAFETY PLAN REQUIREMENTS

LIFE SAFETY PLAN SHEET #: G103

- ☐ Fire and/or smoke rated wall locations (Chapter 7)
- ☐ Assumed and real property line locations
- ☐ Exterior wall opening area with respect to distance to assumed property lines (705.8) Occupancy Use for each area as it relates to occupant load calculation. (Table 1004.1.2)
- Occupant loads for each area
- Exit sign locations (1013)
- Exit access travel distances (1017) ☐ Common path of travel distances (1006.2.1 & 1006.3.2(1))
- ☐ Dead end lengths (1020.4) ■ Clear exit widths for each exit door
- Maximum calculated occupant load capacity each exit door can accommodate based on egress width (1005.3) 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 of occupancy separation.
- ☐ 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 (1010.1.9.8)
- ☐ Location of doors equipped with hold-open devices
- ☐ Location of emergency escape windows (1030)
- \Box 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) (NOT APPLICABLE)

		`			· ·	,
ACCESSIBLE	ACCESSIBLE	TYPE A	TYPE A	TYPE B	TYPE B	TOTAL
UNITS	UNITS	UNITS	UNITS	UNITS	UNITS	ACCESSIBLE
REQUIRED	PROVIDED	REQUIRED	PROVIDED	REQUIRED	PROVIDED	UNITS PROVIDED

ACCESSIBILITY PARKING

(SECTION 1106)

OR ING AREA	PROVIDED	# OF ACC	EESSIBLE SPACES PROVIDED 132" SPACES	TOTAL # ACCESSIBLE PROVIDED
L				

PLUMBING FIXTURE REQUIREMENTS

(TABLE 2902.1)

USE		W.	ATERCLO	OSETS	URINALS		LAVATOR	IES	SHOWERS/	DRINKING	FOUNTAINS
		MALE	FEMALE	UNISEX		MALE	FEMALE	UNISEX	TUBS	REGULAR	ACCESSIBLE
	EXISTING										
	NEW			1				1			
	REQUIRED			1				1		**	**

**NOTE: PER NCPC 410.2, DRINKING FOUNTAINS SHALL NOT BE REQUIRED FOR AN OCCUPANT LOAD OF 30 OR FEWER

SPECIAL APPROVALS

SPECIAL APPROVAL: (Local Jurisdiction, Department of Insurance, OSC, DPI, DHHS, etc. describe below) (NOT APPLICABLE)

ENERGY SUMMARY

ENERGY REQUIREMENTS: 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 versus the annual energy cost for the proposed design

EXISTING BUILDING ENVELOPE COMPLIES WITH CODE:
NO
YES (the remainder of this section is not applicable) EXEMPT BUILDING:

NO

YES (provide code or statutory reference)

CLIMATE ZONE: □ 3A ■ 4A □ 5A METHOD OF COMPLIANCE:

☐ ENERGY CODE - PERFORMANCE ■ ENERGY CODE - PRESCRIPTIVE ☐ OTHER ☐ ASHRAE 90.1 - PERFORMANCE ☐ ASHRAE 90.1 - PRESCRIPTIVE If "other" specify source here

THERMAL ENVELOPE (Prescriptive method only)

R-VALUE OF INSULATION

ROOF/CEILING ASSEMBLY (each assembly) SHINGLES OVER ICE/WATER SHIELD OVER EXTERIOR DESCRIPTION OF ASSEMBLY

SHEATHING. BATT INSULATION IN ATTIC U-VALUE OF TOTAL ASSEMBLY R-VALUE OF INSULATION SKYLIGHTS IN EACH ASSEMBLY U-VALUE OF SKYLIGHT

TOTAL SQUARE FOOTAGE OF SKYLIGHTS IN EACH ASSEMBLY EXTERIOR WALLS (each assembly) CMU VENEER OVER AIR BARRIER OVER SHEATHING OVER DESCRIPTION OF ASSEMBLY 2x6 STUDS. BATT INSULATION. 5/8" GYPSUM WALLBOARD U-VALUE OF TOTAL ASSEMBLY R-VALUE OF INSULATION OPENINGS (windows or doors with glazing) U-VALUE OF ASSEMBLY SOLAR HEAT GAIN COEFFICIENT

PROJECTION FACTOR DOOR R-VALUES WALLS BELOW GRADE (each assembly) DESCRIPTION OF ASSEMBLY U-VALUE OF TOTAL ASSEMBLY

FLOORS OVER UNCONDITIONED SPACE (each assembly) DESCRIPTION OF ASSEMBLY U-VALUE OF TOTAL ASSEMBLY R-VALUE OF INSULATION

FLOORS SLAB ON GRADE (each assembly) 4" THICK 3000 PSI CONCRETE OVER 10 MIL VAPOR BARRIER OVER 4" DESCRIPTION OF ASSEMBLY COMPACTED STONE BASE U-VALUE OF TOTAL ASSEMBLY R-VALUE OF INSULATION

not required HORIZONTAL/VERTICAL REQUIREMENT SLAB HEATED UNHEATED

STRUCTURAL DESIGN

DESIGN LOADS: IMPORTANCE FACTORS: SNOW (I_S) SEISMIC (I_e)

LIVE LOADS: ROOF 20 MEZZANINE FLOOR 100 PSF

GROUND SNOW LOAD: ____15 PSF

WIND LOAD: BASIC WIND SPEED <u>115</u> MPH (ASCE-7) EXPOSURE CATEGORY

SEISMIC DESIGN CATEGORY \Box A \Box B \blacksquare C \Box D Provide the following Seismic Design Parameters: Risk Category (Table 1604.5) \square I \square III \square IV Spectral Response Acceleration S_s 0.222 %g S₁ 0.096 %g Site Classification (ASCE 7) \square A \square B \square C \blacksquare D \square E \square F Basic Structural System:

Bearing Wall ☐ Dual w/Special Moment Frame

☐ Building Frame ☐ Dual w/Intermediate R/C or Special Steel ☐ Inverted Pendulum ☐ Moment Frame Analysis Procedure \square Simplified \square Equiv. Lateral Force Dynamic Architectural, Mechanical, Components anchored?

LATERAL DESIGN CONTROL ☐ Earthquake ☐ Wind

SOIL BEARING CAPACITIES Field Test (provide copy of test report) Presumptive Bearing Capacity _____ ps Pile size, type, and capacity

MECHANICAL SYSTEMS, SERVICE SYSTEMS AND EQUIPMENT (SEE MECHANICAL DRAWINGS FOR MECHANICAL ENERGY CODE CALCULATIONS.)

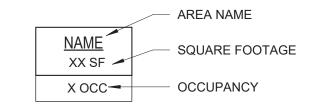
ELECTRICAL SYSTEM AND EQUIPMENT

(SEE ELECTRICAL DRAWINGS FOR ELECTRICAL ENERGY CODE CALCULATIONS.)

LIFE SAFETY PLAN LEGEND



BUSINESS (B) - 100 GROSS



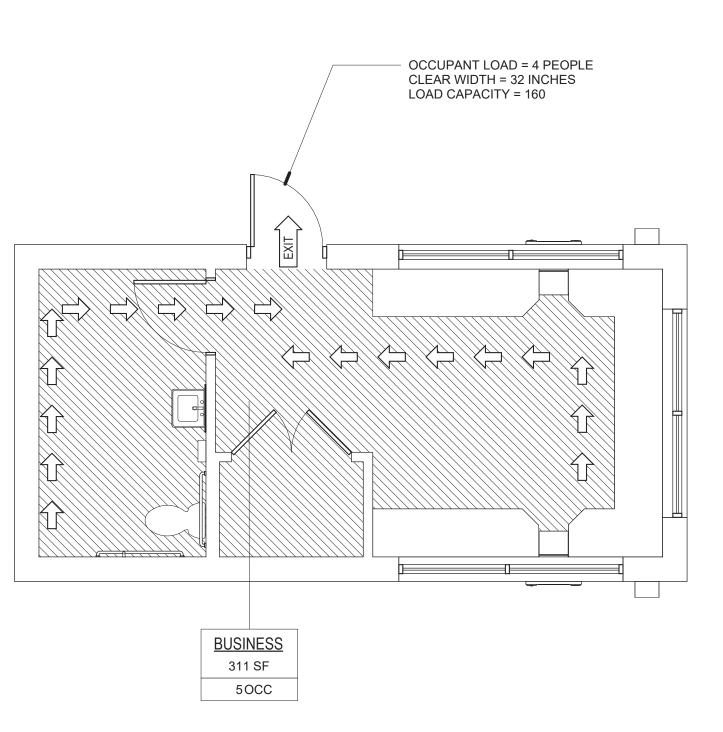








LIGHT



2 LIFE SAFETY PLAN
1/4" = 1'-0"

SINGLE EXIT ALLOWED (NCBC 1006.3.2). BUILDING OCCUPANT

IS LESS THAN 75 FEET.

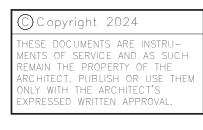
LOAD IS LESS THAN 50 PEOPLE

AND MAXIMUM TRAVEL DISTANCE



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eddie@gontramarchitecture.com www.gontramarchitecture.com







S WASTE SOLID BA RD SC ACKBURN NEW

PLOT DATE: 12/05/2024 ISSUED: 12/05/2024 FOR CONSTRUCTION APPROVED: DRAWN BY: PJA EJG

24002 CONTENTS: **BUILDING CODE** SUMMARY, LIFE SAFETY PLAN

PROJECT NO.: RECORD:

	FINISH SCHEDULE									
ROOM			BASE	NORTH	EAST	SOUTH	WEST		CEILING	
NO.	ROOM NAME	FLOOR	MAT'L	WALL	WALL	WALL	WALL	CEILING	HG	NOTES
101	CONTROL ROOM	VCT	RUBBER	GWB - PTD	9' 8"					
102	CLOSET	VCT	RUBBER	GWB - PTD	9' 8"					
103	RESTROOM	VCT	RUBBER	GWB - PTD	9' 8"					

NOTE: NORTH, EAST, SOUTH AND WEST ARE BASED ON PLAN NORTH, EAST, SOUTH, AND WEST

GENERAL FINISH NOTES:

1. ALL NEW EXPOSED STRUCTURAL STEEL, MECHANICAL DUCTWORK. ELECTRICAL CONDUIT, ETC. IS TO BE PAINTED. COLOR TO BE CONFIRMED BY OWNER.

2. INTERIOR FINISHES SHALL NOT HAVE A FLAME SPREAD RATING EXCEEDING THAT ALLOWED FOR TYPE V-B CONSTRUCTION.

3. ALL FINISH MATERIALS TO BE INSTALLED IN STRICT COMPLIANCE WITH MANUFACTURER'S SPECIFICATIONS.

4. ALL FINISHES TO BE NEW UNLESS OTHERWISE NOTED.

5.ALL GYPSUM WALL BOARD (GWB) TO BE PAINTED. GWB IN RESTROOMS TO BE EPOXY PAINT

6. CONFIRM ALL FINISHES WITH OWNER, PRIOR TO CONSTRUCTION.

ABBREVIATIONS:

GWB: GYPSUM WALLBOARD PTD: PAINTED

VCT: VINYL COMPOSITION TILE

FINISH MATERIAL SPECIFICATIONS

VCT: STANDARD EXCELON BY ARMSTRONG OR EQUAL, 2- COLOR PATTERN BY OWNER RUBBER BASE: 4" HIGH BY ROPPE, JOHSONITE, ARMSTRONG OR EQUAL. COLOR BY OWNER

PAINT: SHERWIN WILLIAMS OR EQUAL. COLOR AND SHEEN TO BE DETERMINED BY OWNER

TO	TOILET ACCESSORY LEGEND							
MARK	DESCRIPTION	MODEL#						
T1 ▶	TOILET TISSUE DISPENSER	BOBRICK B-6867						
T2 🕨	18" GRAB BAR (VERTICAL)	BOBRICK B-6806.99 x 18						
T3 ►	42" GRAB BAR (HORIZONTAL)	BOBRICK B-6806.99 x 42						
T4 🕨	36" GRAB BAR (HORIZONTAL)	BOBRICK B-6806.99 x 36						
T5 ►	WALL MOUNTED PAPER TOWEL DISPENSER	BOBRICK B-262						
T6 ►	SOAP DISPENSER	BY OWNER						
T7 🕨	COAT HOOK	BOBRICK B-542						
T8 ►	MIRROR	BOBRICK B-165 2436						
Т9 ▶	RESTROOM SIGNAGE	UNISEX/ACCESSIBLE, MEN/ACCESSIBLE AND WOMEN/ACCESSIBLE. SEE DETAIL:						

NOTES:

1. ALL TOILET ACCESSORIES MODEL NUMBERS IN THIS SCHEDULE ARE BASED ON BOBRICK WASHROOM EQUIPMENT. INC, UNLESS NOTED OTHERWISE, AND SHALL COMPLY WITH ADA. ALL WALL MOUNTED ACCESSORIES SHALL NOT INTERFERE W/ REQUIRED CLEARANCES PER 2010 ADA STANDARDS FOR ACCESSIBLE DESIGN. EQUALS APPROVED BY TENANT/OWNER ARE ACCEPTABLE

2. ACCESSORY MOUNTING HEIGHT TO BE ADJUSTED AS REQUIRED TO COORDINATE WITH PLUMBING FIXTURES.

3. INSTALL FIRE RETARDANT TREATED WOOD OR METAL STUD BLOCKING FOR ALL WALL MOUNTED TOILET ACCESSORIES

PLAN NOTES:

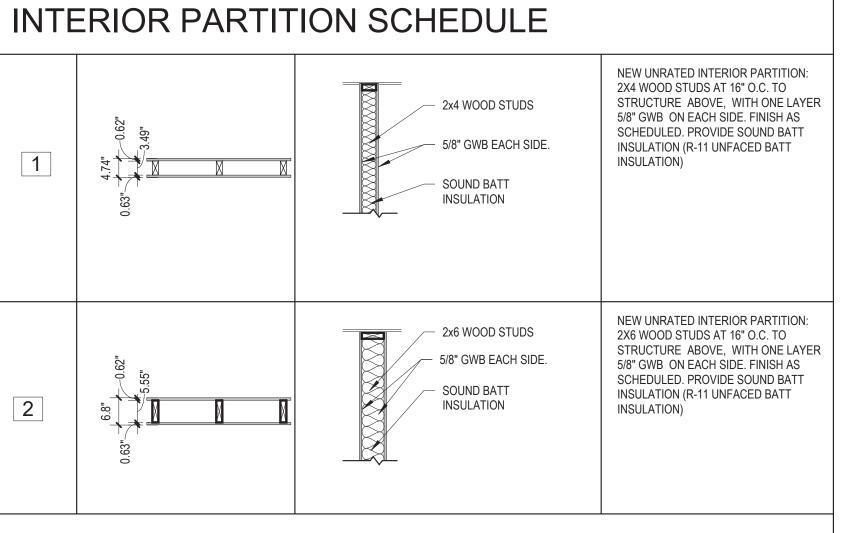
1. EXTERIOR DIMENSIONS SHOWN ARE FROM FACE OF CMU TO FACE OF CMU.

2. INTERIOR DIMENSIONS SHOWN ARE FROM FACE OF NEW STUD TO FACE OF NEW STUD OR CENTERLINE TO CENTERLINE

3. DIMENSIONS INDICATED AS "CLEAR" OR "CLR" ARE FROM FINISHED SURFACE TO FINISHED SURFACE.

4. DIMENSIONS INDICATED AS "MIN." OR "MINIMUM" ARE ABSOLUTE MINIMUM DIMENSIONS AND ARE NOT TO BE DECREASED. DIMENSIONS INDICATED AS "MAX." OR "MAXIMUM" ARE ABSOLUTE MAXIMUM DIMENSIONS AND ARE NOT TO BE INCREASED.

5. ALTHOUGH THESE DRAWINGS ARE DRAWN TO SCALE, NO DIMENSIONS ARE TO BE DETERMINED BY SCALING THE DRAWINGS. ANY QUESTIONS OR DISCREPANCIES ARE TO BE BROUGHT TO THE ATTENTION OF THE ARCHITECT.

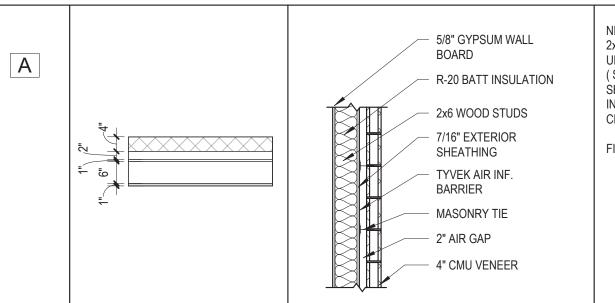


1. PARTITION TYPE #1 IS TYPICAL THROUGHOUT PROJECT, UNLESS OTHERWISE NOTED.

2. WHERE PARTITIONS OF VARIOUS THICKNESS MEET, MAINTAIN A FLUSH SURFACE ON THE SIDE WHERE FACES ARE STRAIGHT AND CONTINUOUS, UNLESS OTHERWISE NOTED.

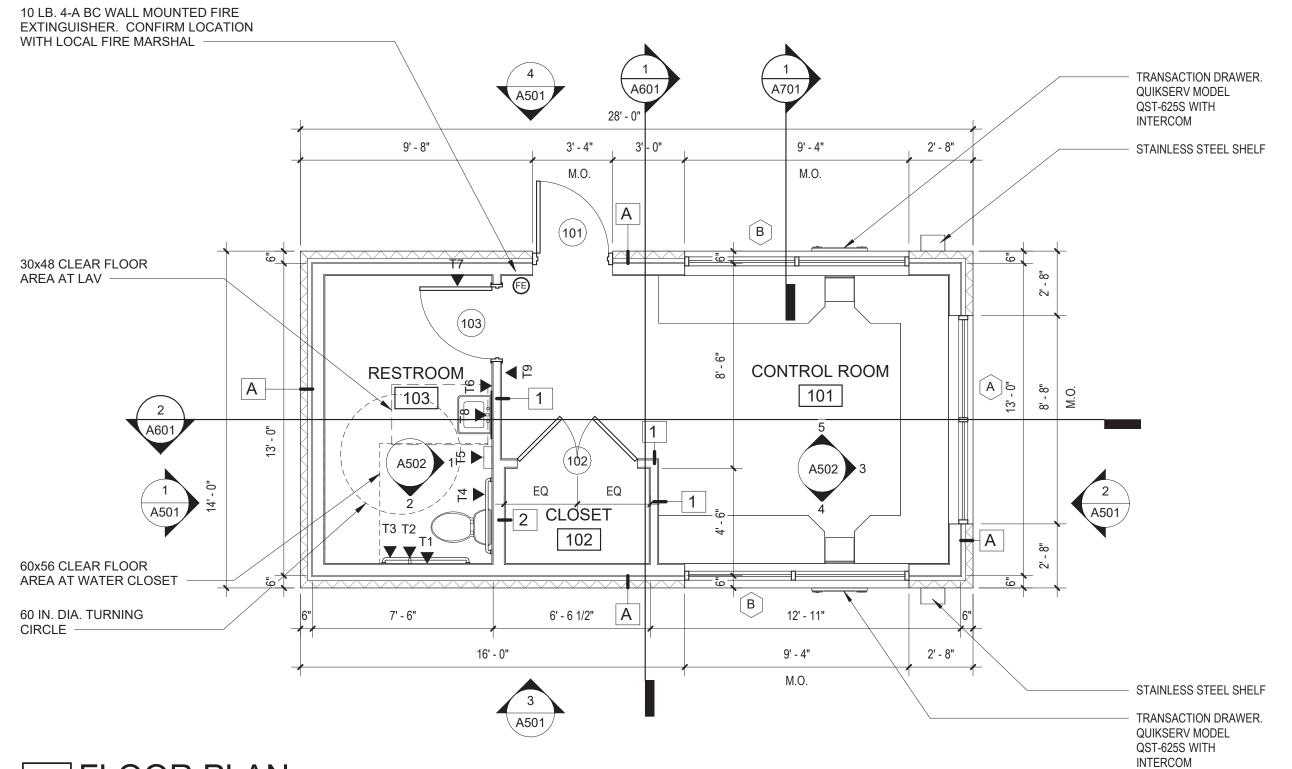
3. PARTITIONS IN ALL TOILET ROOMS TO HAVE WATER RESISTANT TYPE "X" GYPSUM BOARD IN THICKNESS TO MATCH SCHEDULED.

EXTERIOR WALL SCHEDULE

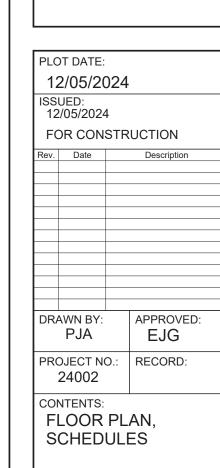


NEW EXTERIOR LOAD BEARING WALL:. 2x6 WOOD STUDS AT 16" O.C., R-20 UNFACED BATT INSULATION, 7/16" OSB (SEE STRUCTURAL) EXTERIOR SHEATHING, AND TYVEK AIR INFILTRATION BARRIER, 2" AIR GAP, 4" CMU VENEER

FINISH AS SCHEDULED







WASTE F.

BLACKBURN SOLID

SC,

NEW

CATAWBA ROCKY FORD RD

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eddie@gontramarchitecture.com

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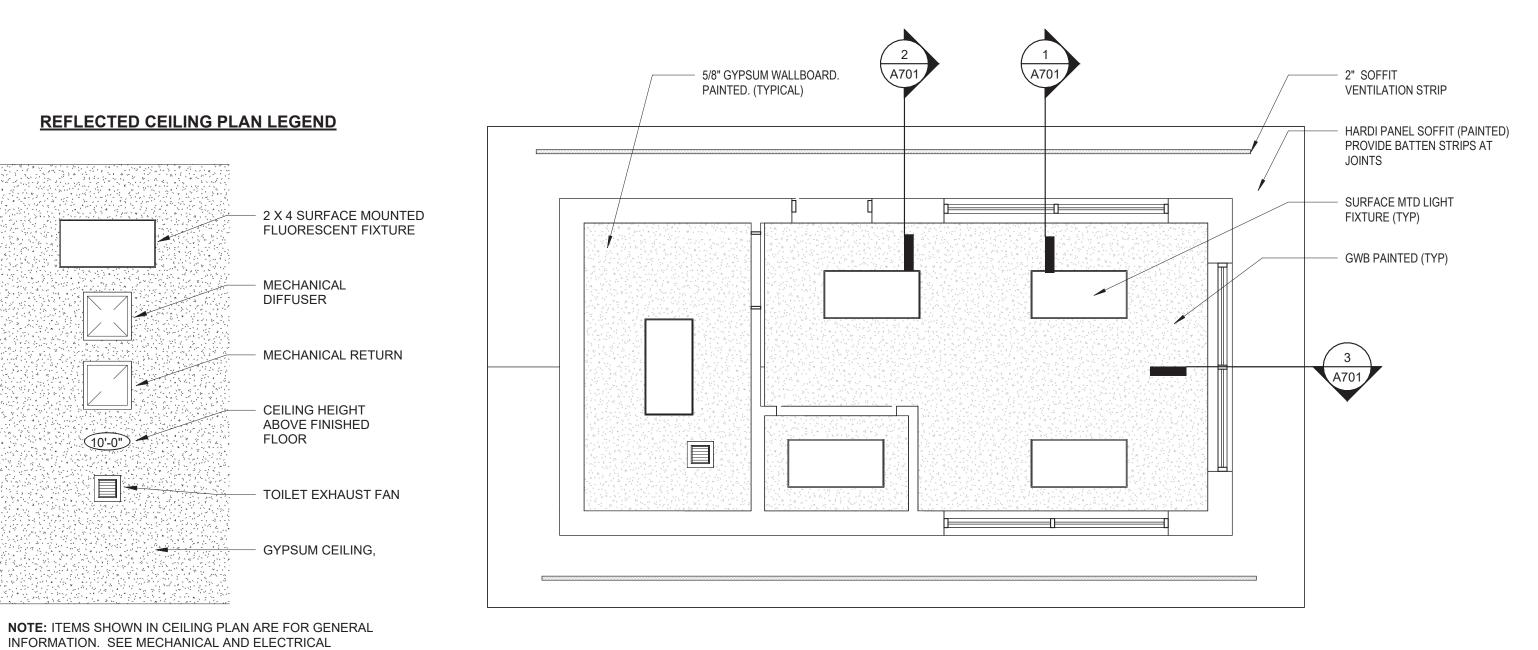
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PHONE:

1 ROOF PLAN
1/4" = 1'-0"



2 REFLECTED CEILING PLAN
1/4" = 1'-0"

DRAWINGS FOR ADDITIONAL INFORMATION



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NEW SCALE HOUSE for
BLACKBURN SOLID WASTE FACILITY
CATAWBA COUNTY
A017 ROCKY FORD RD NEWTON, NC 28658

PLOT DATE:
12/05/2024
ISSUED:
12/05/2024
FOR CONSTRUCTION

Rev. Date Description

DRAWN BY: APPROVED: EJG

PROJECT NO.: 24002

CONTENTS:
ROOF PLAN,
REFLECTED

SHEET:

CEILING PLAN

						DO	OR SC	HEDU	LE			
				D	OOR			FRA	AME	FIRE	HDW	
MARK	ROOM	WIDTH	HEIGHT	THK	TYPE	MATERIAL	FINISH	MATERIAL	FINISH	RATING	SET	NOTES
101	CONTROL ROOM	3' - 0"	7' - 0"	1 3/4"	Α	HM	PAINT	HM	PTD	NR	1	
102	CLOSET	5' - 0"	7' - 0"	1 3/4"	С	WOOD	PAINT	HM	PTD	NR	2	PAIR OF 2'-6" LEAVES
103	RESTROOM	3' - 0"	7' - 0"	1 3/4"	В	WOOD	PAINT	HM	PTD	NR	3	

DOOR NOTES

- 1. PROVIDE DOOR, FRAME AND HARDWARE SUBMITTAL FOR ARCHITECT'S REVIEW PRIOR TO ORDERING DOORS. INCLUDE PRODUCT DATA FOR EACH TYPE OF DOOR. COMPLY WITH AWI QUALITY STANDARD PREMIUM FOR DOORS.
- 2. WOOD DOORS TO BE FLUSH SOLID CORE PAINT GRADE WOOD.
- 3. METAL 18 GAUGE COLD-ROLLED STEEL HOLLOW METAL INTERIOR DOOR FRAME WITH PAINTED FINISH. INTERIOR FRAME SHALL BE KNOCK-DOWN WRAP AROUND TYPE FRAME WITH 2" HEAD AND JAMB. DOOR FRAME SHALL HAVE A PAINTED FINISH.
- 4. HARDWARE FINISH TO BE US26D SATIN CHROME. HARDWARE TO BE STANDARD-DUTY, COMMERCIAL HARDWARE, SCHLAGE AL SERIES "JUPITER" (OR APPROVED EQUAL). CONFIRM STYLE AND FINISH WITH OWNER.
- 5. PROVIDE HARDWARE THAT COMPLIES WITH THE NCBC, THE AMERICAN'S WITH DISABILITIES ACT AND ICC/ANSI A117.1.
- 6. ALL DOORS AND FRAMES TO BE FINISHED AS SCHEDULED.
- 7. G.C. TO COORDINATE FINAL HARDWARE SELECTION/ SCHEDULING/ KEYING WITH OWNER. ALL DOORS WILL BE KEYED TO OWNER'S MASTER KEYING SYSTEM.
- 8. G.C. TO PROVIDE ADDITIONAL HARDWARE AS REQUIRED BY DOOR MANUFACTURER

<u>HARDWARE SCHEDULE</u>:

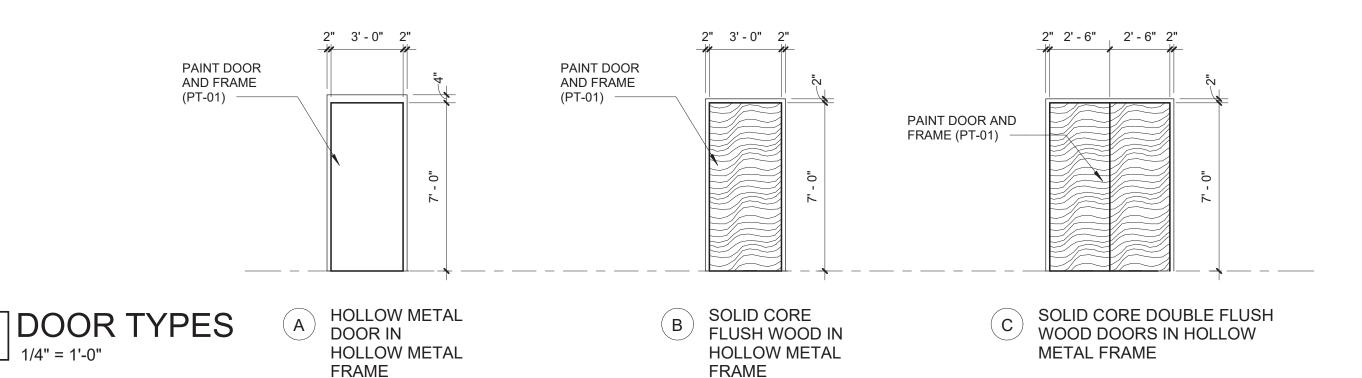
HARDWARE SET NO. 1 (ENTRANCE DOOR): HEAVY DUTY BUTT HINGES: (3)

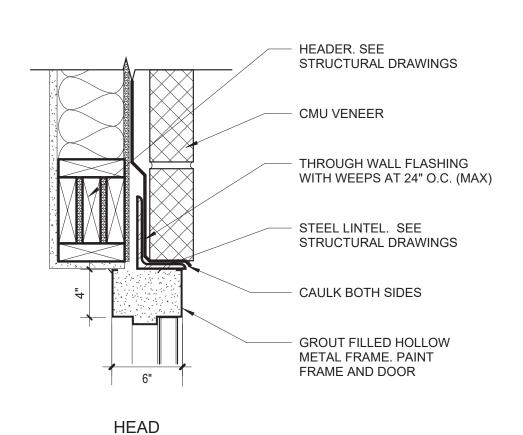
- ENTRANCE SET: (1)
 WEATHER GASKETING: (3)
 ADA COMPLIANT THRESHOLD: (1)
- HARDWARE SET NO. 2 (DOUBLE DOORS):
- BUTT HINGES: (3) STOREROOM LOCKSET: (1) SILENCERS: (3)
- OVERHEAD STOP: (1)
 WALL STOP: (1)

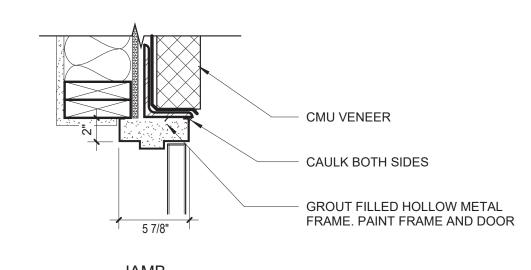
FLUSHBOLTS: (1)

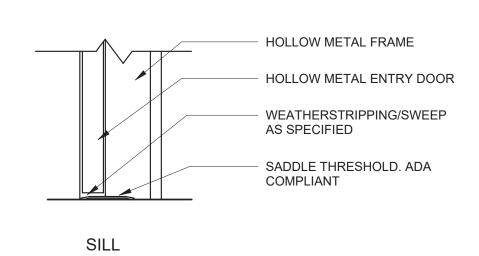
CLOSER: (1)

- HARDWARE SET NO. 3 (RESTROOM DOOR):
- BUTT HINGES: (3)
 PRIVACY SET: (1)
 SILENCERS: (3)
- WALL/FLOOR STOP: (1) CLOSER: (1)

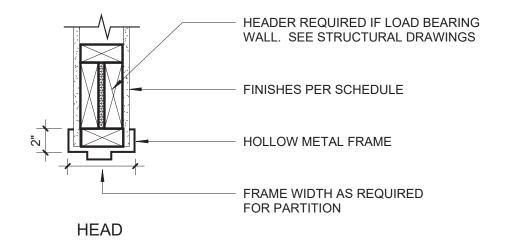


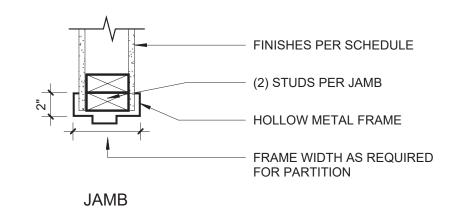






2 HOLLOW MTL FRAME (EXTERIOR)





3 HOLLOW MTL FRAME (INTERIOR)

4 WINDOW ELEVATIONS

1' - 8 7/8" 2' - 3 3/4"

4' - 5"

8' - 8"

5' - 3 1/2"

4' - 1"

NOTE: VERIFY TRANSACTION

DIMENSIONS WITH SUPPLIER

DRAWER ROUGH-IN

 $\langle B \rangle$

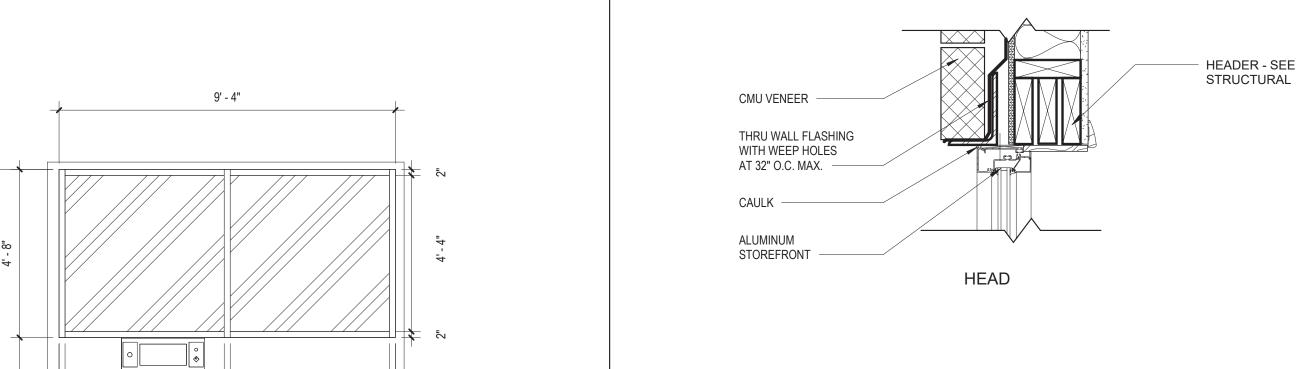
QUIKSERV MODEL QST-625S OR EQUAL

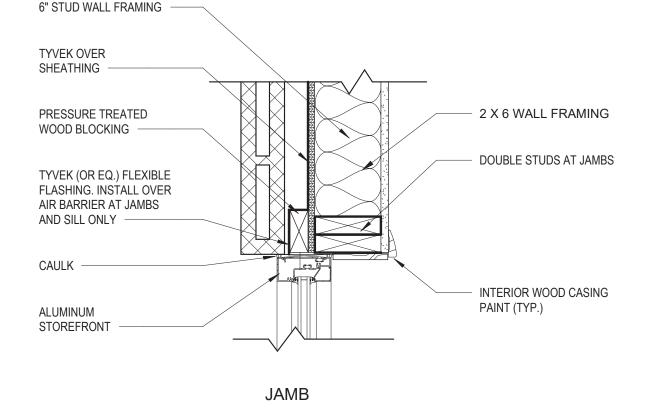
TRANSACTION DRAWER TO BE

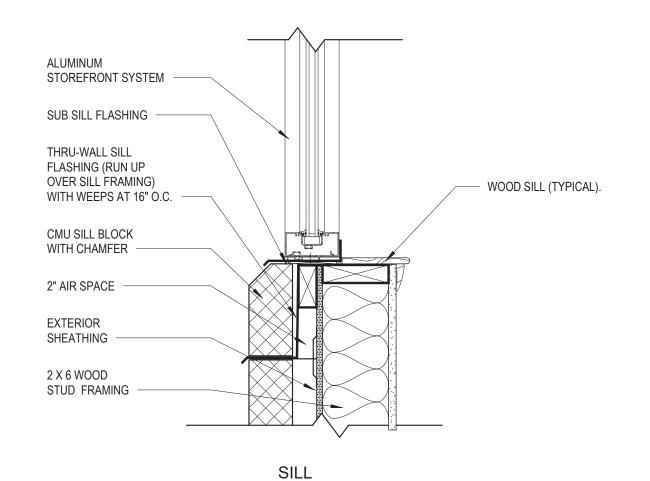
	WINDOW SCHEDULE								
MARK	RK WIDTH HEIGHT MATERIAL NOTES								
Α	8' - 8"	4' - 8"	ANODIZED ALUMINUM	1" INSULATED GLASS					
В	9' - 4"	4' - 8"	ANODIZED ALUMINUM	1" INSULATED GLASS					

WINDOW NOTES

- 1. GLAZING TYPE FOR EXTERIOR STOREFRONT ASSEMBLIES TO BE 1" INSULATED GLAZING LOW-E UNITS, GREY TINTED GLASS (MAX U-VALUE = .32 MAX SHGC = .33
- 2. STOREFRONT ASSEMBLIES TO BE CLEAR ANODIZED ALUMINUM. EXTERIOR FRAMES TO BE THERMALLY BROKEN FRAMES.
- 3. ALL WINDOWS TO BE PROPERLY FLASHED AT HEAD, JAMBS AND SILLS. PROVIDE FLASHING WITH END DAMS AT ALL SILLS
- 4. DIMENSIONS SHOWN ARE NOT TO BE USED FOR FABRICATION. ALL DIMENSIONS ARE TO BE CONFIRMED WITH SHOP DRAWINGS AND FIELD MEASUREMENTS AFTER COMPLETION OF CONSTRUCTION OF OPENINGS AND PRIOR TO FABRICATION OF WINDOW ASSEMBLIES.
- 5. SEE STRUCTURAL DRAWINGS FOR HEADER CONSTRUCTION
- 6. PROVIDE TEMPERED GLAZING WHERE INDICATED AND WHERE REQUIRED BY CODE.





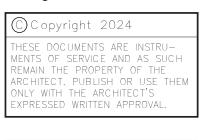


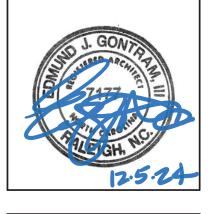
5 SECTION - EXTERIOR WINDOW



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BLACKBURN SOLID WASTE FACILITY

CATAWBA COUNTY

CATAWBA COUNTY

CATAWBA COUNTY

O17 ROCKY FORD RD NEWTON, NC 28658

PLOT DATE:

12/05/2024

ISSUED:
12/05/2024

FOR CONSTRUCTION

Rev. Date Description

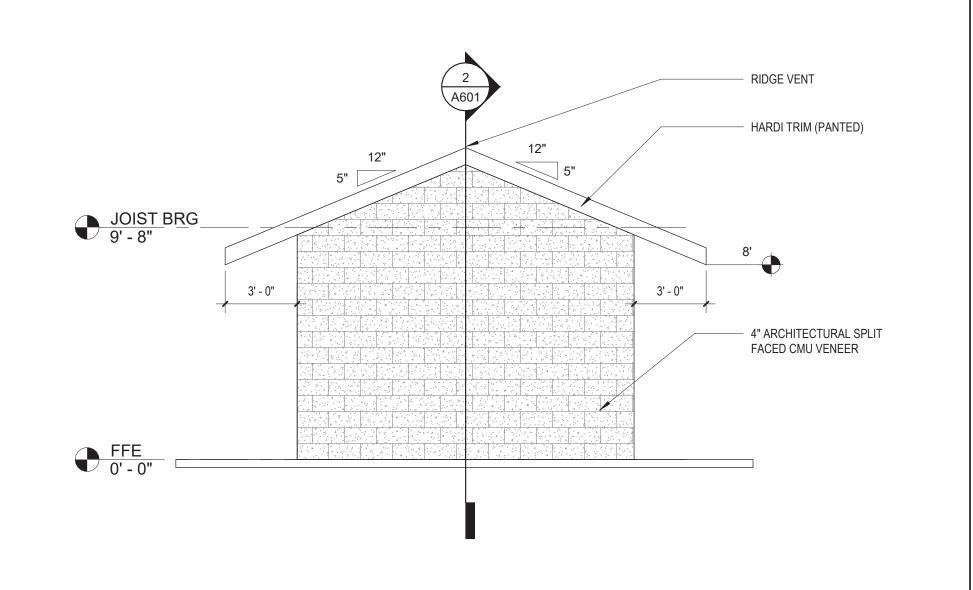
DRAWN BY: APPROVED:
PJA EJG

PROJECT NO.: 24002

CONTENTS:
DOOR, WINDOW, SCHEDULES AND

A401

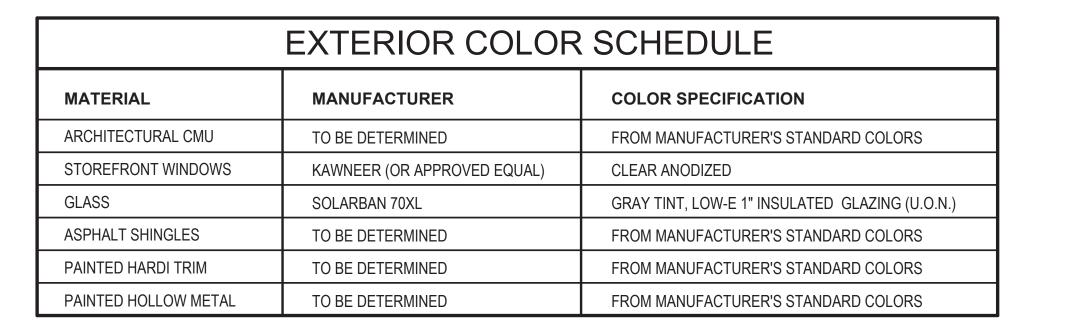
DETAILS



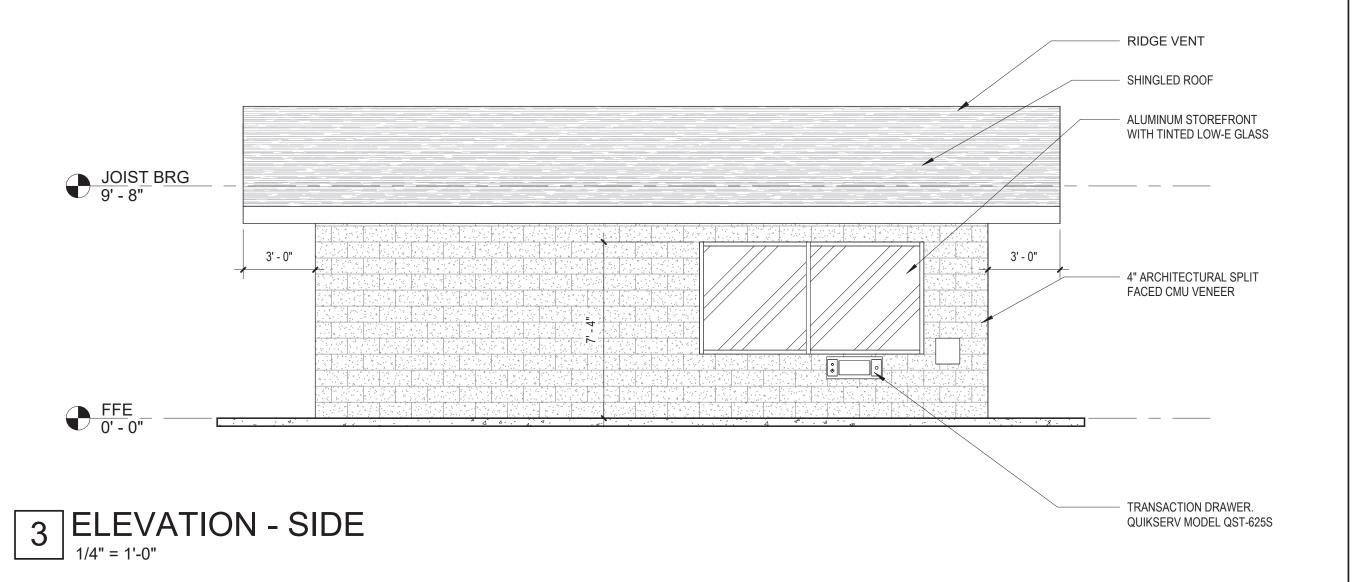
1 ELEVATION - END
1/4" = 1'-0"

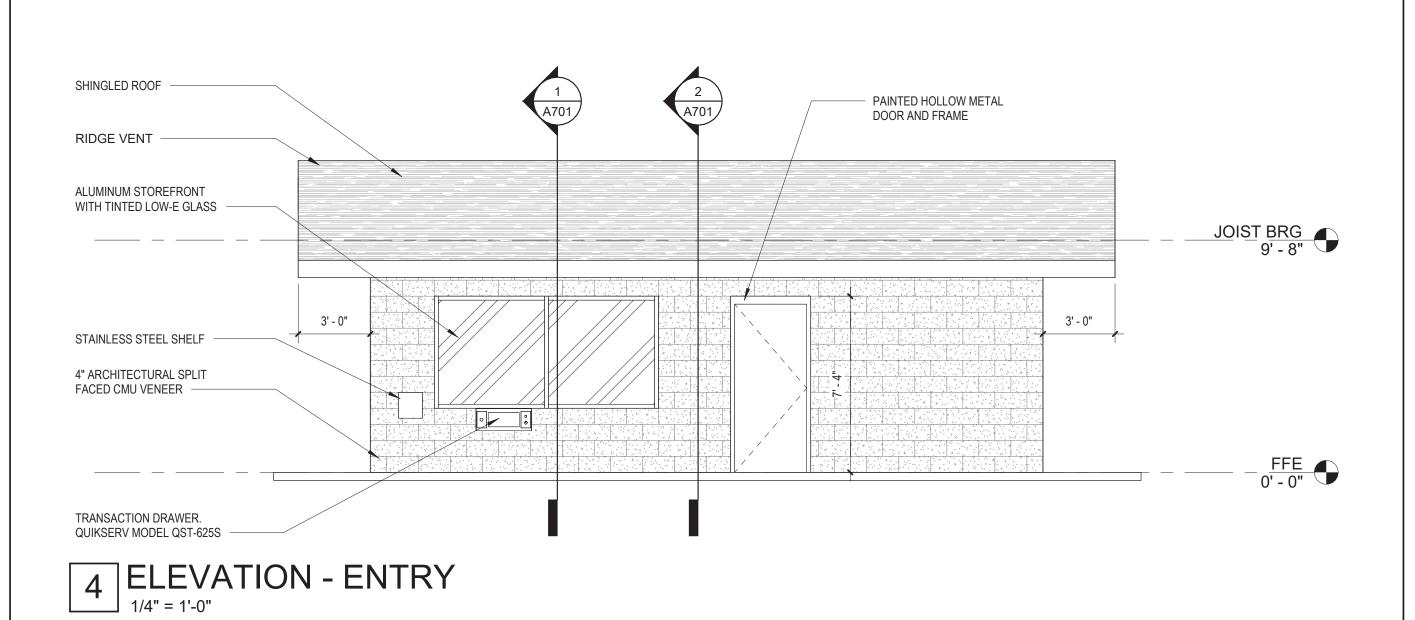
RIDGE VENT	2
HARDI TRIM (PANTED)	A601
	12" 5" 5" 5"
8'	3'-0" JOIST BRG 9'-8"
4" ARCHITECTURAL SPLIT FACED CMU VENEER	
ALUMINUM STOREFRONT WITH TINTED LOW-E GLASS	FFE 0' - 0"
	O' - O" STAINLESS STEEL

2 ELEVATION - TRANSACTION END



5 EXTERIOR COLOR SCHEDULE







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NEW SCALE HOUSE for BLACKBURN SOLID WASTE FACILITY

CATAWBA COUNTY

CATAWBA CO

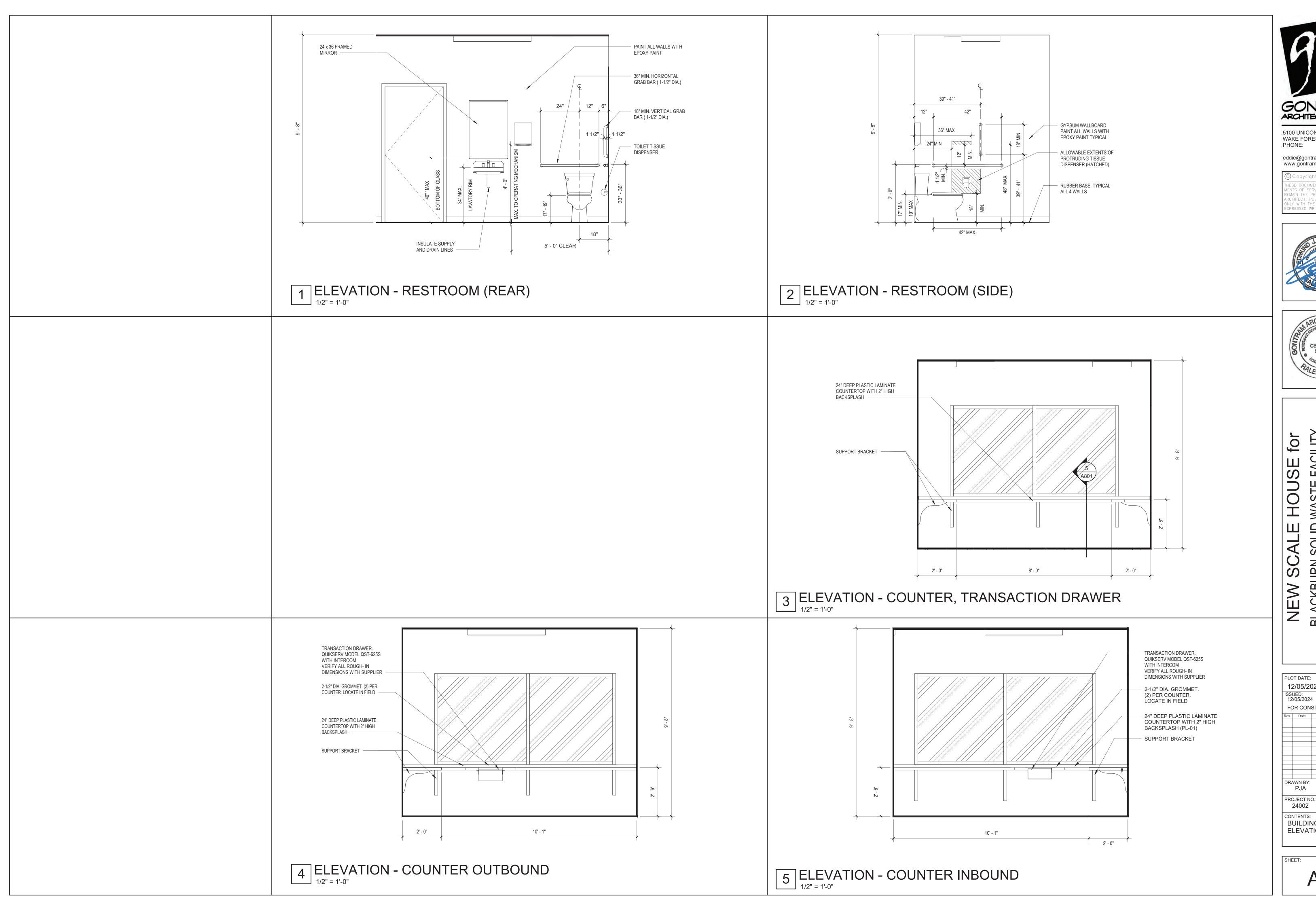
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Rev. Date Description

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PROJECT NO.: 24002

CONTENTS:
BUILDING
ELEVATIONS





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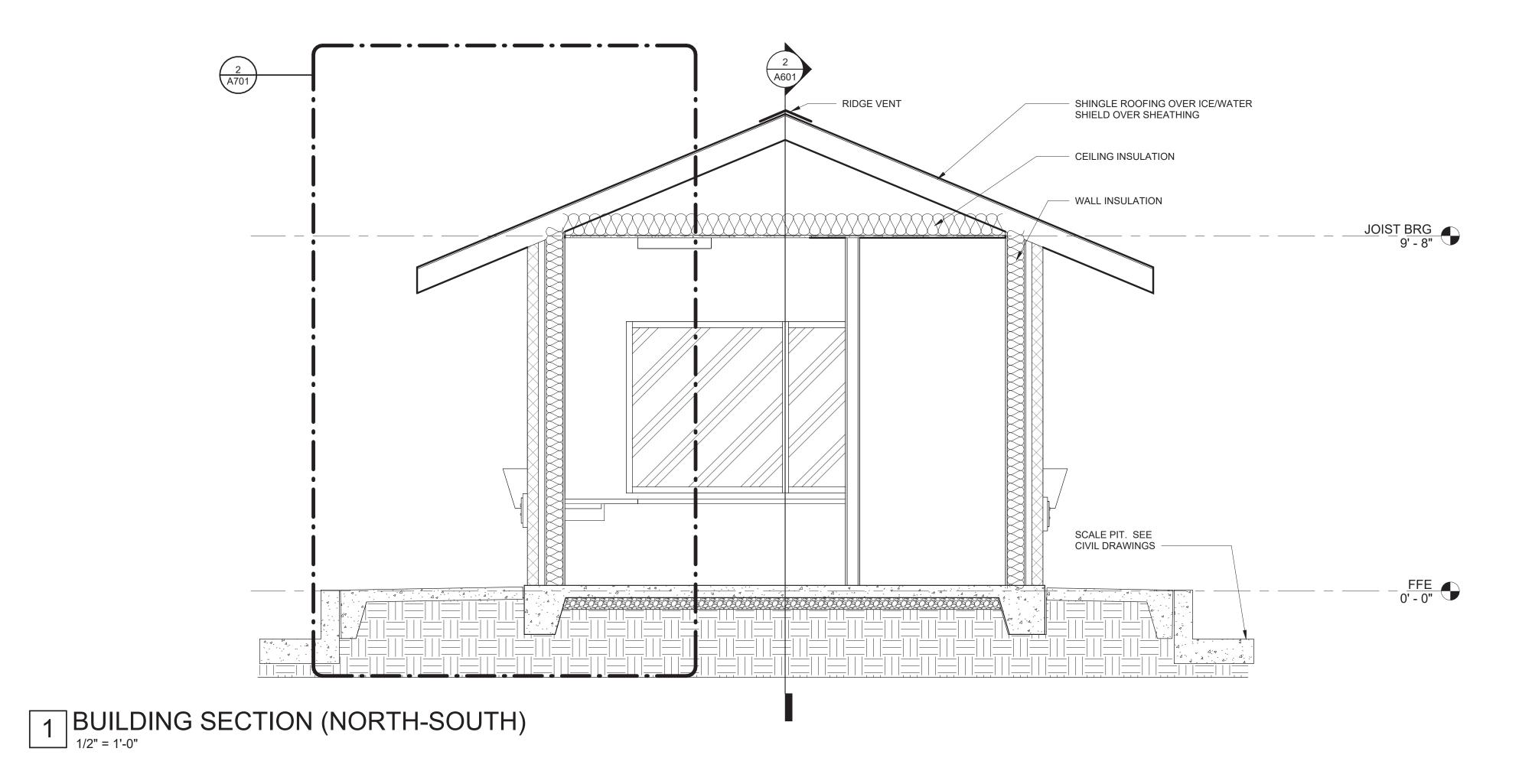
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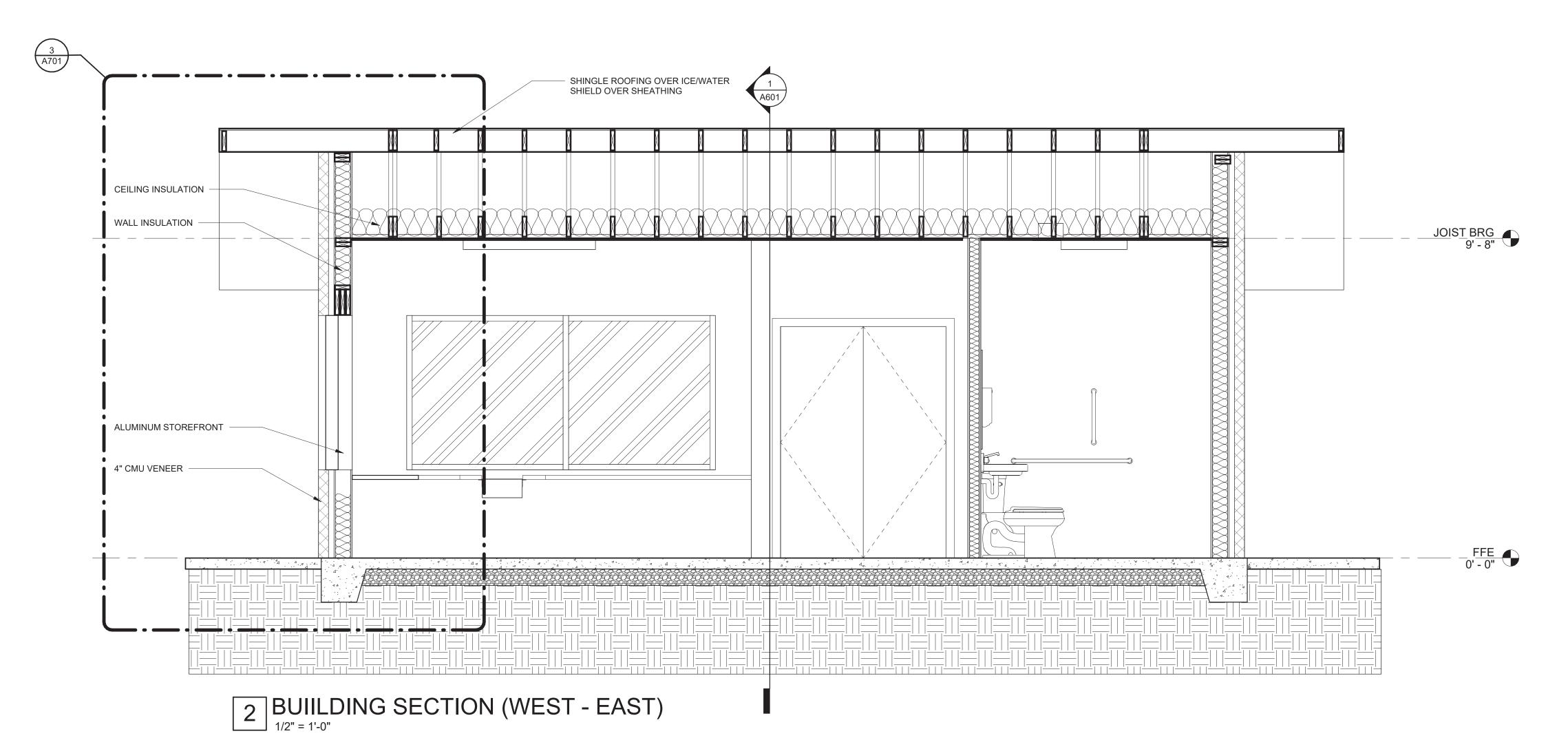




BLACKBURN SOLID WASTE F CATAWBA COUNTY 4017 ROCKY FORD RD NEWTON,

PLC	PLOT DATE:					
12	2/05/20	24				
ISSUED: 12/05/2024						
FC	OR CONS	STR	UCTION			
Rev.	Date		Description			
DRA	AWN BY: PJA		APPROVED: EJG			
PROJECT NO.: RECORD: 24002						







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CATAWBA COUNTY
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CATAWBA COUNTY
CATAWBA COUNTY
CATAWBA COUNTY
A017 ROCKY FORD RD NEWTON, NC 28658

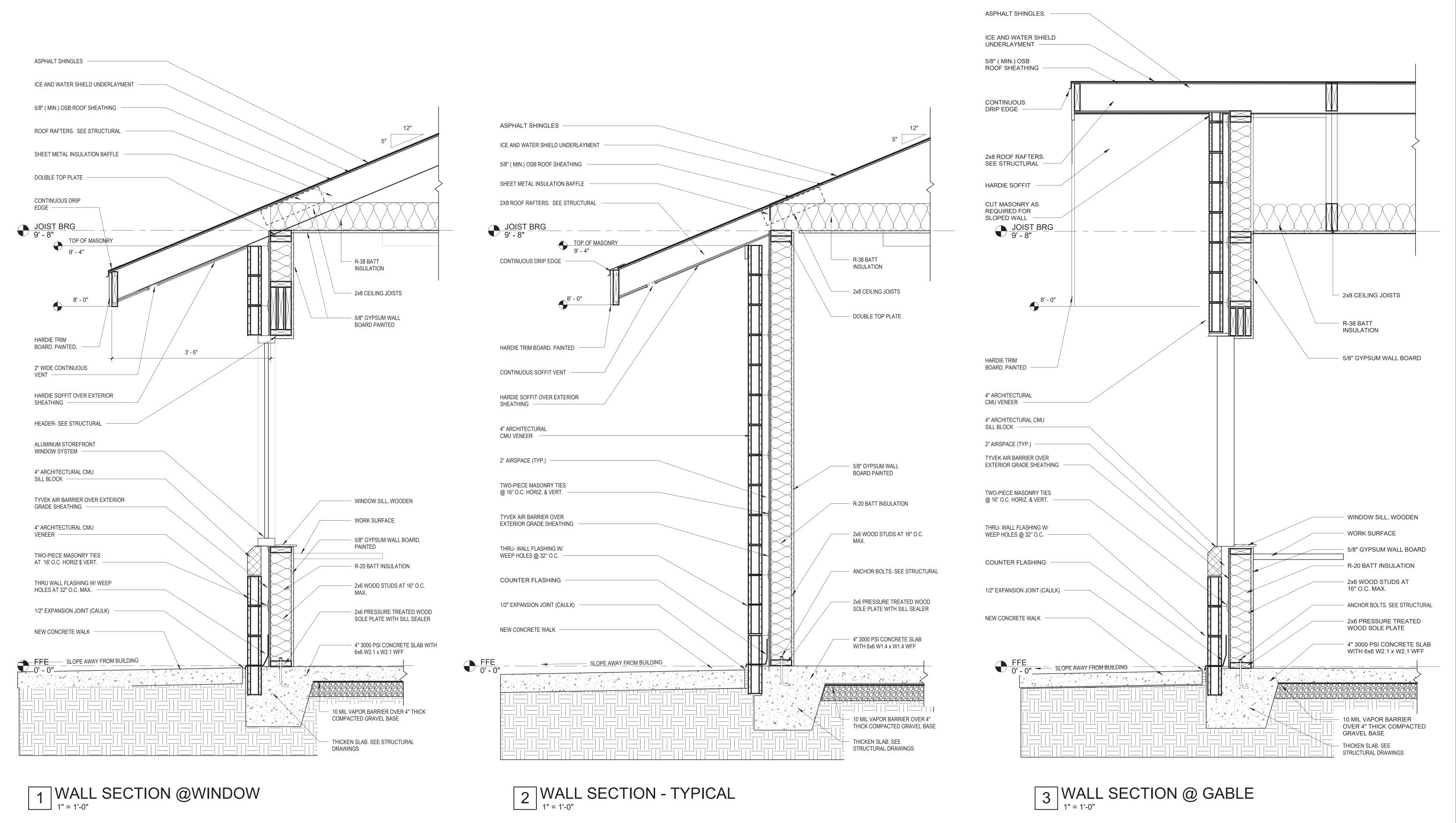
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12/05/2024
FOR CONSTRUCTION

Rev. Date Description

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FJA EJG

PROJECT NO.: 24002

CONTENTS:
BUILDING SECTION





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ENTS OF SERVICE AND AS SUC DNLY WITH THE ARCHITECT'S XPRESSED WRITTEN APPROVAL.



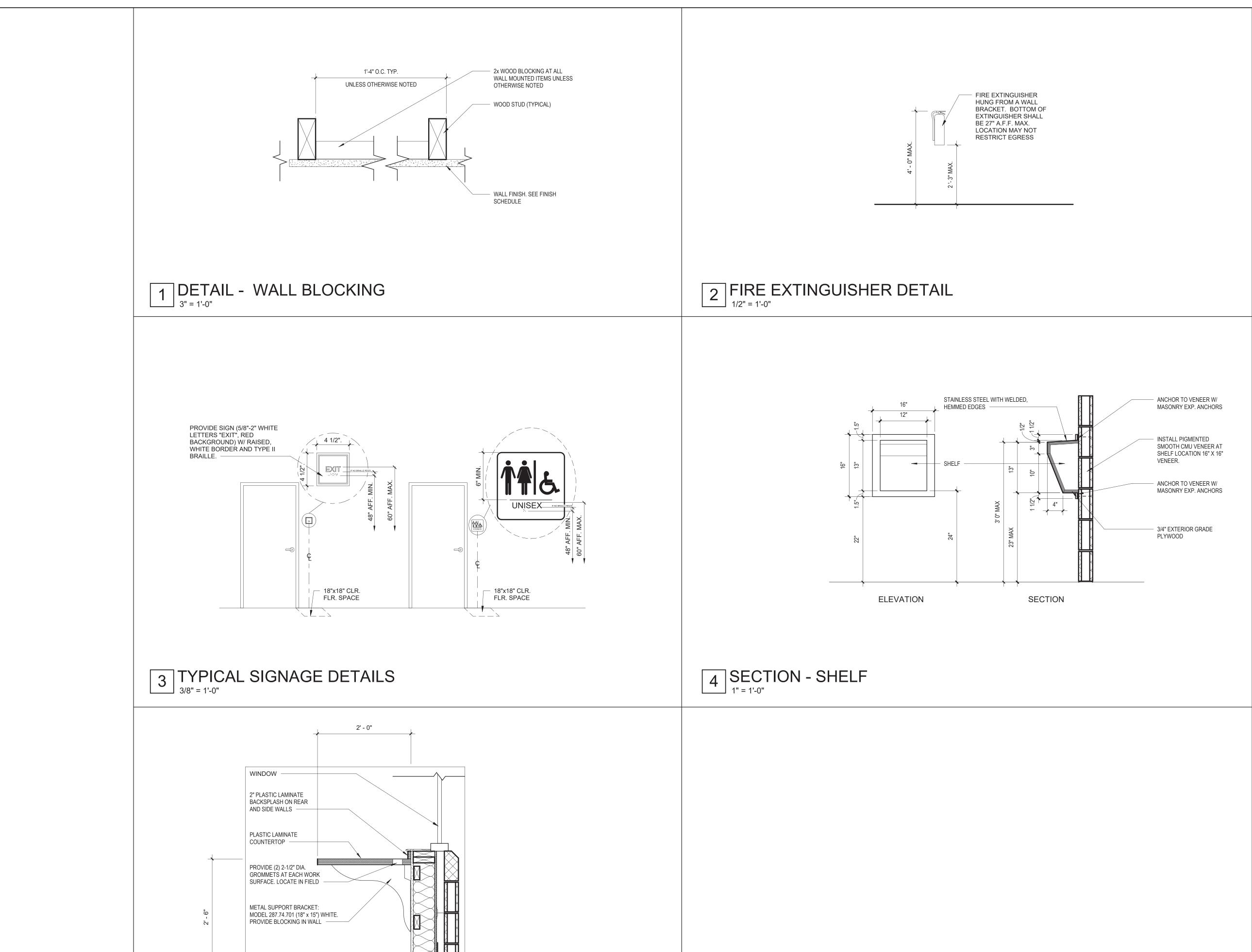






HOUSE COUNTY NEWTON, WASTE SOLID ALE CATAWBA (ROCKY FORD RD SC BLACKBURN NEW NEW

PLO	T DATE:		
12	2/05/20	24	
	JED: /05/2024		
FC	R CONS	TR	UCTION
Rev.	Date		Description
DRA	WN BY: PJA		APPROVED: EJG
PROJECT NO.: 24002			RECORD:



- 4, 47, 9, 4 , 1 - 7 24 ()

5 SECTION - COUNTER

GONTRAM ARCHITECTURE, INC.

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HOUSE BLACKBURN SOLID WASTE F CATAWBA COUNTY 4017 ROCKY FORD RD NEWTON, **NEW SCALE**

PLOT DATE: 12/05/2024 ISSUED: 12/05/2024 FOR CONSTRUCTION APPROVED: EJG DRAWN BY: PJA PROJECT NO.: RECORD: 24002 CONTENTS:

DETAILS

DIVISION 03 - CONCRETE **SECTION 032000** CONCRETE REINFORCING

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Reinforcing steel for cast-in-place concrete.
- B. Supports and accessories for steel reinforcement.

1.02 REFERENCE STANDARDS

- A. ACI SPEC-301 Specifications for Concrete Construction; 2020.
- B. ASTM A184/A184M Standard Specification for Welded Deformed Steel Bar Mats for
- Concrete Reinforcement; 2019. C. ASTM A615/A615M - Standard Specification for Deformed and Plain Carbon-Steel Bars
- for Concrete Reinforcement; 2022. D. ASTM A767/A767M - Standard Specification for Zinc-Coated (Galvanized) Steel Bars
- for Concrete Reinforcement; 2019. E. ASTM D3963/D3963M - Standard Specification for Fabrication and Jobsite Handling of
- Epoxy-Coated Steel Reinforcing Bars; 2021. F. AWS D1.4/D1.4M - Structural Welding Code - Steel Reinforcing Bars; 2018, with
- Amendment (2020).
- G. CRSI (DA4) Manual of Standard Practice; 2023.

H. CRSI (P1) - Placing Reinforcing Bars, 10th Edition; 2019. 1.03 SUBMITTALS

- A. See Section 013000 Administrative Requirements, for submittal procedures.
- B. Shop Drawings: Include bar schedules, shapes of bent bars, spacing of bars, and location of splices. Show complete layout plan for each layer of reinforcing.

PART 2 PRODUCTS

2.01 REINFORCEMENT

- A. Reinforcing Steel: ASTM A615/A615M, Grade as indicated in drawings.
- Deformed billet-steel bars. Unfinished.
- B. Steel Welded Wire Reinforcement (WWR): as indicated in drawings.
- Form: Flat Sheets.
- C. Reinforcement Accessories:
- Tie Wire: Annealed, minimum 16 gauge, 0.0508 inch (1.29 mm).
- Chairs, Bolsters, Bar Supports, Spacers: Sized and shaped for adequate support
- of reinforcement during concrete placement. 2.02 FABRICATION

A. Fabricate concrete reinforcing in accordance with CRSI (DA4) - Manual of Standard Practice.

PART 3 EXECUTION

3.01 PLACEMENT

- A. Place, support and secure reinforcement against displacement. Do not deviate from required position.
- B. Do not displace or damage vapor barrier.
- Comply with applicable code for concrete cover over reinforcement. END OF SECTION

SECTION 033000 CAST-IN-PLACE CONCRETE

PART 1 GENERAL

1.01 SECTION INCLUDES

Concrete formwork.

- B. Floors and slabs on grade.
- C. Concrete reinforcement.
- D. Joint devices associated with concrete work.
- E. Concrete curing.

1.02 REFERENCE STANDARDS

- A. ACI CODE-318 Building Code Requirements for Structural Concrete and Commentary; 2019 (Reapproved 2022).
- B. ACI PRC-302.1 Guide to Concrete Floor and Slab Construction; 2015. C. ACI PRC-304 - Guide for Measuring, Mixing, Transporting, and Placing Concrete; 2000
- D. ACI PRC-305 Guide to Hot Weather Concreting; 2020.
- E. ACI PRC-306 Guide to Cold Weather Concreting; 2016.
- F. ACI PRC-308 Guide to External Curing of Concrete; 2016.
- G. ACI SPEC-301 Specifications for Concrete Construction; 2020.
- H. ASTM C33/C33M Standard Specification for Concrete Aggregates; 2023. ASTM C39/C39M - Standard Test Method for Compressive Strength of Cylindrical
- Concrete Specimens; 2023.
- J. ASTM C94/C94M Standard Specification for Ready-Mixed Concrete; 2024.
- K. ASTM C143/C143M Standard Test Method for Slump of Hydraulic-Cement Concrete;
- L. ASTM C150/C150M Standard Specification for Portland Cement: 2022. M. ASTM C171 - Standard Specification for Sheet Materials for Curing Concrete; 2020.
- N. ASTM C173/C173M Standard Test Method for Air Content of Freshly Mixed Concrete
- by the Volumetric Method; 2023. ASTM C260/C260M - Standard Specification for Air-Entraining Admixtures for Concrete;
- 2010a (Reapproved 2016).
- ASTM C309 Standard Specification for Liquid Membrane-Forming Compounds for Curing Concrete; 2019.
- Q. ASTM C330/C330M Standard Specification for Lightweight Aggregates for Structural
- ASTM C494/C494M Standard Specification for Chemical Admixtures for Concrete; 2019, with Editorial Revision (2022).
- S. ASTM C618 Standard Specification for Coal Ash and Raw or Calcined Natural
- Pozzolan for Use in Concrete; 2023, with Editorial Revision.
- ASTM C1116/C1116M Standard Specification for Fiber-Reinforced Concrete; 2023.
- U. ASTM C1202 Standard Test Method for Electrical Indication of Concrete's Ability to Resist Chloride Ion Penetration; 2019.
- ASTM C1315 Standard Specification for Liquid Membrane-Forming Compounds
- Having Special Properties for Curing and Sealing Concrete; 2019.
- W. ASTM C1602/C1602M Standard Specification for Mixing Water Used in the Production of Hydraulic Cement Concrete; 2022.
- ASTM D1752 Standard Specification for Preformed Sponge Rubber, Cork, and Recycled PVC Expansion Joint Fillers for Concrete Paving and Structural Construction; 2018 (Reapproved 2023). ASTM E1643 - Standard Practice for Selection, Design, Installation, and Inspection of
- Water Vapor Retarders Used in Contact with Earth or Granular Fill Under Concrete Z. ASTM E1745 - Standard Specification for Plastic Water Vapor Retarders Used in
- Contact with Soil or Granular Fill under Concrete Slabs; 2017 (Reapproved 2023).

1.03 QUALITY ASSURANCE

A. Perform work of this section in accordance with ACI SPEC-301 and ACI CODE-318

PART 2 PRODUCTS 2.01 FORMWORK

A. Form Materials: Contractor's choice of standard products with sufficient strength to

withstand hydrostatic head without distortion in excess of permitted tolerances.

- 1. Form Coating: Release agent that will not adversely affect concrete or interfere with application of coatings.
- 2. Form Ties: Cone snap type that will leave no metal within 1-1/2 inches (38 mm) of
- concrete surface. 2.02 REINFORCEMENT MATERIALS
- 2.03 CONCRETE MATERIALS

- A. Cement: ASTM C150/C150M, Type I Normal Portland type.
- B. Fine and Coarse Aggregates: ASTM C33/C33M. C. Water: ASTM C1602/C1602M; clean, potable, and not detrimental to concrete.

2.04 ACCESSORY MATERIALS

- A. Underslab Vapor Retarder: Sheet Material: ASTM E1745, Class A; stated by manufacturer as suitable for installation in contact with soil or granular fill under concrete slabs. Single-ply
 - polyethylene is prohibited. Accessory Products: Vapor retarder manufacturer's recommended tape, adhesive, mastic, prefabricated boots, etc., for sealing seams and penetrations.

2.05 BONDING AND JOINTING PRODUCTS

A. Slab Isolation Joint Filler: 1/2 inch (13 mm) thick, height equal to slab thickness, with removable top section that will form 1/2 inch (13 mm) deep sealant pocket after removal.

2.06 CURING MATERIALS

- A. Curing and Sealing Compound, Moisture Emission-Reducing, Penetrating: Clear, water-based, non-film-forming curing agent; capable of providing adequate bond for flooring adhesives, initially and over the long term; with sufficient moisture vapor impermeability to prevent deterioration of flooring adhesives due to moisture emission,
- moisture vapor emission, and alkalinity. Use this product to cure and seal all slabs to receive adhesively applied flooring or
- 2. Compressive Strength of Treated Concrete: Equal to or greater than strength after 28-day water cure when tested according to ASTM C39/C39M.
- 3. Chloride Ion Resistance of Treated Concrete: Equal to or greater than strength after 28-day water cure when tested according to ASTM C1202.

Comply with ASTM C309 and ASTM C1315 Type I Class A. 2.07 CONCRETE MIX DESIGN

- A. Concrete Strength: Establish required average strength for each type of concrete on
 - the basis of field experience or trial mixtures, as specified in ACI SPEC-301.
 - . For trial mixtures method, employ independent testing agency acceptable to Architect for preparing and reporting proposed mix designs. Normal Weight Concrete:
 - Compressive Strength, when tested in accordance with ASTM C39/C39M at 28
 - days: 3,000 pounds per square inch (20.7 MPa). Water-Cement Ratio: Maximum 40 percent by weight.
 - Total Air Content: 4 percent, determined in accordance with ASTM C173/C173M.

do not add water that exceeds the maximum water-cement ratio or exceeds the

- Maximum Slump: 3 inches (75 mm).
- Maximum Aggregate Size: 5/8 inch (16 mm).

2.08 MIXING Adding Water: If concrete arrives on-site with slump less than suitable for placement,

maximum permissible slump. PART 3 EXECUTION

3.01 EXAMINATION A. Verify lines, levels, and dimensions before proceeding with work of this section.

3.02 PREPARATION

- A. Formwork: Comply with requirements of ACI SPEC-301. Design and fabricate forms to support all applied loads until concrete is cured and for easy removal without damage to
- Verify that forms are clean and free of rust before applying release agent.
- Coordinate placement of embedded items with erection of concrete formwork and placement of form accessories.
- D. In locations where new concrete is doweled to existing work, drill holes in existing concrete, insert steel dowels and pack solid with non-shrink grout.
- E. Interior Slabs on Grade: Install vapor retarder under interior slabs on grade. Comply with ASTM E1643. Lap joints minimum 6 inches (150 mm). Seal joints, seams and penetrations watertight with manufacturer's recommended products and follow
- manufacturer's written instructions. Repair damaged vapor retarder before covering. 1. Vapor Retarder Over Granular Fill: Install compactible granular fill before placing

vapor retarder as indicated on drawings. Do not use sand. 3.03 INSTALLING REINFORCEMENT AND OTHER EMBEDDED ITEMS

minimum concrete coverage required for protection.

- A. Comply with requirements of ACI SPEC-301. Clean reinforcement of loose rust and mill
- Install welded wire reinforcement in maximum possible lengths, and offset end laps in
- both directions. Splice laps with tie wire. C. Verify that anchors, seats, plates, reinforcement and other items to be cast into concrete are accurately placed, positioned securely, and will not interfere with concrete

placement. 3.04 PLACING CONCRETE

- A. Place concrete in accordance with ACI PRC-304.
- B. Place concrete for floor slabs in accordance with ACI PRC-302.1
- C. Maintain records of concrete placement. Record date, location, quantity, air temperature, and test samples taken
- Ensure reinforcement, inserts, waterstops, embedded parts, and formed construction joint devices will not be disturbed during concrete placement.
- E. Place concrete continuously without construction (cold) joints wherever possible; where construction joints are necessary, before next placement prepare joint surface by removing laitance and exposing the sand and sound surface mortar, by sandblasting or high-pressure water jetting.
- F. Finish floors level and flat, unless otherwise indicated, within the tolerances specified

3.05 SLAB JOINTING

- A. Locate joints as indicated on drawings.
- B. Anchor joint fillers and devices to prevent movement during concrete placement.
- C. Isolation Joints: Use preformed joint filler with removable top section for joint sealant, total height equal to thickness of slab, set flush with top of slab.
- D. Saw Cut Contraction Joints: Saw cut joints before concrete begins to cool, within 4 to 12 hours after placing; use 3/16 inch (5 mm) thick blade and cut at least 1 inch (25 mm) deep but not less than one quarter (1/4) the depth of the slab.

3.06 FLOOR FLATNESS AND LEVELNESS TOLERANCES

A. Maximum Variation of Surface Flatness:

- Exposed Concrete Floors: 1/4 inch (6 mm) in 10 feet (3 m). Under Seamless Resilient Flooring: 1/4 inch (6 mm) in 10 feet (3 m). Under Carpeting: 1/4 inch (6 mm) in 10 feet (3 m).
- B. Correct the slab surface if tolerances are less than specified.
- C. Correct defects by grinding or by removal and replacement of the defective work. Areas requiring corrective work will be identified. Re-measure corrected areas by the same

process. 3.07 CONCRETE FINISHING

- Repair surface defects, including tie holes, immediately after removing formwork.
- B. Concrete Slabs: Finish to requirements of ACI PRC-302.1 and as follows: Surfaces to Receive Thin Floor Coverings: "Steel trowel" as described in ACI PRC-302.1; thin floor coverings include carpeting, resilient flooring, seamless
- flooring, resinous matrix terrazzo, thin set quarry tile, and thin set ceramic tile. 2. Other Surfaces to Be Left Exposed: Trowel as described in ACI PRC-302.1, minimizing burnish marks and other appearance defects.

3.08 CURING AND PROTECTION

- A. Comply with requirements of ACI PRC-308. Immediately after placement, protect concrete from premature drying, excessively hot or cold temperatures, and mechanical
- B. Maintain concrete with minimal moisture loss at relatively constant temperature for period necessary for hydration of cement and hardening of concrete.
- C. Surfaces Not in Contact with Forms:
 - Slabs and Floors To Receive Adhesive-Applied Flooring: Curing compounds and other surface coatings are usually considered unacceptable by flooring and adhesive manufacturers. If such materials must be used, either obtain the approval of the flooring and adhesive manufacturers prior to use or remove the surface coating after curing to flooring manufacturer's satisfaction.

- Initial Curing: Start as soon as free water has disappeared and before surface is dry. Keep continuously moist for not less than three days by water ponding, water-
- saturated sand, water-fog spray, or saturated burlap.
- Final Curing: Begin after initial curing but before surface is dry. a. Moisture-Retaining Sheet: Lap strips not less than 3 inches (75 mm) and seal
- with waterproof tape or adhesive; secure at edges. b. Curing Compound: Apply in two coats at right angles, using application rate
- recommended by manufacturer.

3.09 FIELD QUALITY CONTROL

- An independent testing agency will perform field quality control tests, as specified in Section 014000 - Quality Requirements.
- B. Provide free access to concrete operations at project site and cooperate with appointed
- C. Submit proposed mix design of each class of concrete to inspection and testing firm for
- review prior to commencement of concrete operations. D. Tests of concrete and concrete materials may be performed at any time to ensure
- compliance with specified requirements. E. Compressive Strength Tests: ASTM C39/C39M, for each test, mold and cure three concrete test cylinders. Obtain test samples for every 100 cubic yards (76 cu m) or less
- of each class of concrete placed. Perform one slump test for each set of test cylinders taken, following procedures of ASTM C143/C143M.

3.10 DEFECTIVE CONCRETE

identified.

- A. Test Results: The testing agency shall report test results in writing to Architect and Contractor within 24 hours of test.
- Defective Concrete: Concrete not complying with required lines, details, dimensions, tolerances or specified requirements.

C. Repair or replacement of defective concrete will be determined by the Architect. The cost of additional testing shall be borne by Contractor when defective concrete is

- 3.11 PROTECTION A. Do not permit traffic over unprotected concrete floor surface until fully cured.
- 3.12 SCHEDULE CONCRETE TYPES AND FINISHES A. See structural drawings for more information

END OF SECTION DIVISION 04 - MASONRY

SECTION 042000 UNIT MASONRY

- 1.01 SECTION INCLUDES Concrete block.
- B. Mortar and grout.
- Reinforcement and anchorage. D. Flashings.

PART 1 GENERAL

E. Lintels. F. Accessories.

Reinforcement: 2022.

- 1.02 REFERENCE STANDARDS A. ASTM A153/A153M - Standard Specification for Zinc Coating (Hot-Dip) on Iron and
- Steel Hardware; 2023. B. ASTM A615/A615M - Standard Specification for Deformed and Plain Carbon-Steel Bars
- for Concrete Reinforcement; 2022. C. ASTM A641/A641M - Standard Specification for Zinc-Coated (Galvanized) Carbon Steel
- Wire; 2019. D. ASTM A951/A951M - Standard Specification for Steel Wire for Masonry Joint

ASTM C91/C91M - Standard Specification for Masonry Cement; 2023.

- E. ASTM A1064/A1064M Standard Specification for Carbon-Steel Wire and Welded Wire Reinforcement, Plain and Deformed, for Concrete; 2022.
- G. ASTM C129 Standard Specification for Nonloadbearing Concrete Masonry Units;
- H. ASTM C144 Standard Specification for Aggregate for Masonry Mortar; 2018. ASTM C150/C150M - Standard Specification for Portland Cement; 2022.
- J. ASTM C207 Standard Specification for Hydrated Lime for Masonry Purposes; 2018. K. ASTM C270 - Standard Specification for Mortar for Unit Masonry; 2019a, with Editorial
- L. ASTM C404 Standard Specification for Aggregates for Masonry Grout; 2018. M. ASTM C1072 - Standard Test Methods for Measurement of Masonry Flexural Bond
- Strength; 2022. N. ASTM C1314 - Standard Test Method for Compressive Strength of Masonry Prisms;
- O. ASTM C1714/C1714M Standard Specification for Preblended Dry Mortar Mix for Unit
- P. ASTM E514/E514M Standard Test Method for Water Penetration and Leakage Through Masonry; 2020.
- Q. BIA Technical Notes No. 7 Water Penetration Resistance Design and Detailing;

R. BIA Technical Notes No. 13 - Ceramic Glazed Brick Exterior Walls; 2017. S. TMS 402/602 - Building Code Requirements and Specification for Masonry Structures;

2022, with Errata.

- 1.03 QUALITY ASSURANCE
 - Comply with provisions of TMS 402/602, except where exceeded by requirements of Contract Documents.
 - Manufacturer Qualifications: Company specializing in manufacturing the type of products specified in this section with minimum three years of documented experience.

C. Installer Qualifications: Company specializing in performing work of the type specified and with at least three years of documented experience. PART 2 PRODUCTS

Nonloadbearing Units: ASTM C129.

time of manufacture.

- 2.01 CONCRETE MASONRY UNITS A. Concrete Block: Comply with referenced standards and as follows:
 - 1. Size: Standard units with nominal face dimensions of 16 by 8 inches (400 by 200 mm) and nominal depths as indicated on drawings for specific locations. Special Shapes: Provide nonstandard blocks configured for corners and sills.
 - Both hollow and solid block. b. Architectural split-faced block - color to be selected by Architect from
 - manufacturer's standard colors. 4. Units with Integral Water Repellent: Concrete block units as specified in this section with polymeric liquid admixture added to concrete masonry units at the

a. Performance of Units with Integral Water Repellent:

end of test.

- 1) Water Permeance: When tested per ASTM E514/E514M and for a minimum of 72 hours. (a) No water visible on back of wall above flashing at the end of 24
- (b) No flow of water from flashing equal to or greater than 0.032 gallons per hour (0.05 L per hour) at the end of 24 hours. (c) No more than 25 percent of wall area above flashing visibly damp at
- Flexural Bond Strength: ASTM C1072; minimum 10 percent increase. Compressive Strength: ASTM C1314; maximum 5 percent decrease. b. Use only in combination with mortar that also has integral water repellent

c. Use water repellent admixtures for masonry units and mortar by a single

- 2.02 MORTAR MATERIALS A. Masonry Cement: ASTM C91/C91M, Type N.
 - B. Portland Cement: ASTM C150/C150M, Type I; color as required to produce approved color sample.

- C. Hydrated Lime: ASTM C207, Type S.
- D. Mortar Aggregate: ASTM C144
- E. Grout Aggregate: ASTM C404.
- F. Water: Clean and potable.
- G. Packaged Dry Material for Mortar for Unit Masonry: Premixed masonry cement and mason's sand; complying with ASTM C1714/C1714M and capable of producing mortar
- of the specified strength in accordance with ASTM C270 with the addition of water only.
- Type: Type N. Color: Standard gray. (below grade

Water-repellent mortar for use with water-repellent masonry units.

- 2.03 REINFORCEMENT AND ANCHORAGE A. Reinforcing Steel: ASTM A615/A615M, Grade 40 (40,000 psi) (280 MPa), deformed
- billet bars; galvanized.
- B. Single Wythe Joint Reinforcement: ASTM A951/A951M. Type: Truss or ladder.
- Material: ASTM A1064/A1064M steel wire, mill galvanized to ASTM A641/A641M Size: 0.1483 inch (3.8 mm) side rods with 0.1483 inch (3.8 mm) cross rods; width
- as required to provide not less than 5/8 inch (16 mm) of mortar coverage on each exposure.
- C. Multiple Wythe Joint Reinforcement: ASTM A951/A951M. Type: Truss. Material: ASTM A1064/A1064M steel wire, mill galvanized to ASTM A641/A641M
- Class 3. Size: 0.1483 inch (3.8 mm) side rods with 0.1483 inch (3.8 mm) cross rods; width as required to provide not less than 5/8 inch (16 mm) of mortar coverage on each
- Masonry Veneer Anchors: 2-piece anchors that permit differential movement between masonry veneer and structural backup, hot dip galvanized to ASTM A 153/A 153M.

penetrate sheathing and insulation to provide positive anchorage.

1. Anchor plates: Not less than 0.075 inch (1.91 mm) thick, designed for fastening to structural backup through sheathing by two fasteners; provide design with legs that

Wire ties: Manufacturer's standard shape, 0.1875 inch (4.75 mm) thick. Vertical adjustment: Not less than 3-1/2 inches (89 mm).

- 2.04 FLASHINGS
- A. Membrane Asphaltic Flashing Materials: B. Lap Sealants and Tapes: As recommended by flashing manufacturer; compatible with

membrane and adhesives.

- 2.05 ACCESSORIES A. Preformed Control Joints: Rubber material. Provide with corner and tee accessories,
- B. Joint Filler: Closed cell polyvinyl chloride; oversized 50 percent to joint width; self expanding; in maximum lengths available. C. Cavity Mortar Control: Semi-rigid polyethylene or polyester mesh panels, sized to
- thickness of wall cavity, and designed to prevent mortar droppings from clogging weeps and cavity vents and allow proper cavity drainage. D. Cleaning Solution: Non-acidic, not harmful to masonry work or adjacent materials.

A. Mortar for Unit Masonry: ASTM C270, using the Proportion Specification.

Masonry below grade and in contact with earth: Type S.

2.07 MORTAR MIXING

A. Prefabricated Steel Lintels:

2.06 LINTELS

Exterior, loadbearing masonry: Type N. Exterior, non-loadbearing masonry: Type N.

PART 3 EXECUTION

3.01 EXAMINATION Verify that field conditions are acceptable and are ready to receive masonry.

B. Verify that related items provided under other sections are properly sized and located.

C. Verify that built-in items are in proper location, and ready for roughing into masonry 3.02 PREPARATION

Direct and coordinate placement of metal anchors supplied for installation under other

B. Provide temporary bracing during installation of masonry work. Maintain in place until

- building structure provides permanent bracing. 3.03 COLD AND HOT WEATHER REQUIREMENTS A. Comply with requirements of TMS 402/602 or applicable building code, whichever is
- 3.04 COURSING A. Establish lines, levels, and coursing indicated. Protect from displacement.

more stringent.

C. Concrete Masonry Units:

- B. Maintain masonry courses to uniform dimension. Form vertical and horizontal joints of
- Bond: Running. Coursing: One unit and one mortar joint to equal 8 inches (200 mm).
- 3. Mortar Joints: Concave. 3.05 PLACING AND BONDING
- A. Lay solid masonry units in full bed of mortar, with full head joints, uniformly jointed with

D. Remove excess mortar and mortar smears as work progresses.

- Buttering corners of joints or excessive furrowing of mortar joints is not permitted.
- E. Remove excess mortar with water repellent admixture promptly. Do not use acids, sandblasting or high pressure cleaning methods.

B. Lay hollow masonry units with face shell bedding on head and bed joints.

F. Interlock intersections and external corners, except for units laid in stack bond. G. Do not shift or tap masonry units after mortar has achieved initial set. Where adjustment must be made, remove mortar and replace.

H. Perform job site cutting of masonry units with proper tools to provide straight, clean,

3.06 WEEPS/CAVITY VENTS A. Install weeps in veneer and cavity walls at 32 inches (800 mm) on center horizontally on top of through-wall flashing above shelf angles and lintels and at bottom of walls.

3.07 CAVITY MORTAR CONTROL A. Do not permit mortar to drop or accumulate into cavity air space or to plug weep/cavity

3.08 REINFORCEMENT AND ANCHORAGE - MASONRY VENEER

unchipped edges. Prevent broken masonry unit corners or edges.

masonry veneer at maximum 16 inches (400 mm) on center vertically and 24 inches (600 mm) on center horizontally. Place additional anchors at perimeter of openings and ends of panels, so maximum spacing of anchors is 8 inches (200 mm) on center. 3.09 MASONRY FLASHINGS

A. Whether or not specifically indicated, install masonry flashing to divert water to exterior

with hemmed edge. Install joint sealer below drip edge to prevent moisture migration

A. Stud Back-Up: Secure veneer anchors to stud framed back-up and embed into

C. Install flashing in accordance with manufacturer's instructions and BIA Technical Notes D. Extend metal flashings through exterior face of masonry and terminate in an angled drip

B. Terminate flashing up 8 inches (203 mm) minimum on vertical surface of backing:

at all locations where downward flow of water will be interrupted.

3.10 LINTELS

A. Install loose steel lintels over openings. B. Maintain minimum 4 inch (____ mm) bearing on each side of opening.

under flashing.

- 3.11 CONTROL AND EXPANSION JOINTS
- A. Do not continue horizontal joint reinforcement through control or expansion joints.

B. Install preformed control joint device in continuous lengths. Seal butt and corner joints in accordance with manufacturer's instructions.

3.12 TOLERANCES

- A. Maximum Variation From Unit to Adjacent Unit: 1/16 inch (1.6 mm).
- B. Maximum Variation from Plane of Wall: 1/4 inch in 10 ft (6 mm/3 m) and 1/2 inch in 20 ft (13 mm/6 m) or more.
- C. Maximum Variation from Plumb: 1/4 inch (6 mm) per story non-cumulative; 1/2 inch (13
- mm) in two stories or more. D. Maximum Variation from Level Coursing: 1/8 inch in 3 ft (3 mm/m) and 1/4 inch in 10 ft
- (6 mm/3 m); 1/2 inch in 30 ft (13 mm/9 m).
- E. Maximum Variation of Mortar Joint Thickness: Head joint, minus 1/4 inch, plus 3/8 inch (minus 6.4 mm, plus 9.5 mm).

A. Without damaging completed work, provide protective boards at exposed external

ROUGH CARPENTRY

- F. Maximum Variation from Cross Sectional Thickness of Walls: 1/4 inch (6 mm).
- 3.13 CLEANING
- A. Remove excess mortar and mortar droppings.

B. Replace defective mortar. Match adjacent work. C. Clean soiled surfaces with cleaning solution.

Use non-metallic tools in cleaning operations. 3.14 PROTECTION

END OF SECTION

DIVISION 06 - WOOD, PLASTICS, AND COMPOSITES **SECTION 061000**

corners that are subject to damage by construction activities.

- PART 1 GENERAL 1.01 SECTION INCLUDES
- A. Structural dimension lumber framing.

C. Preservative treated wood materials.

1.04 DELIVERY, STORAGE, AND HANDLING

PART 2 PRODUCTS

B. Sheathing.

- D. Miscellaneous framing and sheathing. 1.02 RELATED REQUIREMENTS
- A. Section 076200 Sheet Metal Flashing and Trim: Sill flashings. 1.03 REFERENCE STANDARDS A. ASTM A153/A153M - Standard Specification for Zinc Coating (Hot-Dip) on Iron and
- Steel Hardware; 2023. B. AWC (WFCM) - Wood Frame Construction Manual for One- and Two-Family Dwellings;

2024, with Errata. C. AWPA U1 - Use Category System: User Specification for Treated Wood; 2024.

D. PS 2 - Performance Standard for Wood Structural Panels; 2018. E. PS 20 - American Softwood Lumber Standard; 2021.

A. General: Cover wood products to protect against moisture. Support stacked products to

2.01 GENERAL REQUIREMENTS A. Dimension Lumber: Comply with PS 20 and requirements of specified grading

prevent deformation and to allow air circulation.

If no species is specified, provide species graded by the agency specified; if no grading agency is specified, provide lumber graded by grading agency meeting the

Species: Douglas Fir-Larch, unless otherwise indicated.

stamped with grade mark unless otherwise indicated.

E. Miscellaneous Framing, Blocking, Nailers, Grounds, and Furring:

Review, American Lumber Standard Committee at www.alsc.org, and who provides grading service for the species and grade specified; provide lumber

specified requirements.

2.02 DIMENSION LUMBER FOR CONCEALED APPLICATIONS A. Sizes: Nominal sizes as indicated on drawings, S4S.

Grading Agency: Grading agency whose rules are approved by the Board of

B. Moisture Content: S-dry or MC19. C. Stud Framing (2 by 2 through 2 by 6 (50 by 50 mm through 50 by 150 mm)):

D. Joist, Rafter, and Small Beam Framing (2 by 6 through 4 by 16 (50 by 150 mm through 100 by 400 mm)):

Grade: No. 2.

1. Lumber: S4S, No. 2 or Standard Grade. Boards: Standard or No. 3.

Span Rating: 60.

Grade: Structural 1 Sheathing.

Bond Classification: Exposure 1

Grade: Structural I Sheathing.

Performance Category: 5/8 PERF CAT.

- 2.03 CONSTRUCTION PANELS A. Roof Sheathing: PS 2 type, rated Structural I Sheathing. Bond Classification: Exterior.
- Performance Category: 3/4 PERF CAT. B. Roof Sheathing: Oriented strand board wood structural panel; PS 2.
 - Span Rating: 40/20. Edges: Square.
 - C. Wall Sheathing: PS 2 type. Bond Classification: Exterior.

Span Rating: 24. Performance Category: 5/16 PERF CAT. Edge Profile: Square edge.

plastic foam from continuous rolls.

accordance with AWPA standards.

C. Sill Flashing: See Section 076200.

and specific applications.

PART 3 EXECUTION

3.01 PREPARATION

2.04 ACCESSORIES A. Fasteners and Anchors: Metal and Finish: Hot-dipped galvanized steel complying with ASTM

absorption from exposure to weather for up to 500 days.

6. Exposure Time: Sheathing will not delaminate or require sanding due to moisture

2.05 FACTORY WOOD TREATMENT A. Treated Lumber and Plywood: Comply with requirements of AWPA U1 - Use Category System for wood treatments determined by use categories, expected service conditions,

Preservative-Treated Wood: Provide lumber and plywood marked or stamped by

an ALSC-accredited testing agency, certifying level and type of treatment in

B. Sill Gasket on Top of Foundation Wall: 1/4 inch (6 mm) thick, plate width, closed cell

A153/A153M for high humidity and preservative-treated wood locations, unfinished

Where wood framing bears on cementitious foundations, install full width sill flashing continuous over top of foundation, lap ends of flashing minimum of 4 inches (100 mm)

B. Install sill gasket under sill plate of framed walls bearing on founcations; puncture

C. Coordinate installation of rough carpentry members specified in other sections. 3.02 INSTALLATION - GENERAL

gasket cleanly to fit tightly around protruding anchor bolts.

Select material sizes to minimize waste.

- B. Reuse scrap to the greatest extent possible; clearly separate scrap for use on site as accessory components, including: shims, bracing, and blocking.
- C. Where treated wood is used on interior, provide temporary ventilation during and immediately after installation sufficient to remove indoor air contaminants. 3.03 FRAMING INSTALLATION

CERT. NO.

ARCHITECTURE, INC.

5100 UNICON DR. SUITE 103

WAKE FOREST, NC 27587

eddie@gontramarchitecture.com

www.gontramarchitecture.com

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12/05/2024 ISSUED: 12/05/2024 FOR CONSTRUCTION Rev. Date DRAWN BY: PJA EJG

AS101

PLOT DATE: Description

APPROVED PROJECT NO.: RECORD:

> CONTENTS ARCHITECTURAL **SPECIFICATIONS**

24002

B. Make provisions for temporary construction loads, and provide temporary bracing sufficient to maintain structure in true alignment and safe condition until completion of

erection and installation of permanent bracing. C. Install structural members full length without splices unless otherwise specifically

D. Comply with member sizes, spacing, and configurations indicated, and fastener size and spacing indicated, but not less than required by applicable codes, AWC (WFCM) Wood Frame Construction Manual, and ___

E. Install horizontal spanning members with crown edge up and not less than 1-1/2 inches

F. Construct double joist headers at floor and ceiling openings and under wall stud partitions that are parallel to floor joists; use metal joist hangers unless otherwise

G. Frame wall openings with two or more studs at each jamb; support headers on cripple

3.04 BLOCKING, NAILERS, AND SUPPORTS

(38 mm) of bearing at each end.

 A. Provide framing and blocking members as indicated or as required to support finishes, fixtures, specialty items, and trim.

In framed assemblies that have concealed spaces, provide solid wood fireblocking as required by applicable local code, to close concealed draft openings between floors and between top story and roof/attic space; other material acceptable to authorities having jurisdiction may be used in lieu of solid wood blocking.

C. Provide the following specific nonstructural framing and blocking:

Cabinets and shelf supports.

Wall brackets.

Handrails.

Grab bars. Towel and bath accessories.

Wall-mounted door stops.

Chalkboards and marker boards. Wall paneling and trim.

Joints of rigid wall coverings that occur between studs.

3.05 INSTALLATION OF CONSTRUCTION PANELS

 Roof Sheathing: Secure panels with long dimension perpendicular to framing members, with ends staggered and over firm bearing.

At long edges provide solid edge blocking where joints occur between roof framing

Nail panels to framing; staples are not permitted.

B. Wall Sheathing: Secure with long dimension perpendicular to wall studs, with ends over firm bearing and staggered, using nails, screws, or staples.

3.06 TOLERANCES

A. Framing Members: 1/4 inch (6 mm) from true position, maximum.

B. Variation from Plane, Other than Floors: 1/4 inch in 10 feet (2 mm/m) maximum, and 1/4 inch in 30 feet (7 mm in 10 m) maximum.

> **END OF SECTION** DIVISION 07 - THERMAL AND MOISTURE PROTECTION **SECTION 072100**

> > THERMAL INSULATION

PART 1 GENERAL

1.01 SECTION INCLUDES A. Batt insulation and vapor retarder in exterior wall, ceiling, and roof construction.

B. Batt insulation for filling perimeter window and door shim spaces and crevices in

exterior wall and roof.

1.02 REFERENCE STANDARDS A. ASTM C665 - Standard Specification for Mineral-Fiber Blanket Thermal Insulation for

Light Frame Construction and Manufactured Housing; 2023. B. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building

C. ASTM E136 - Standard Test Method for Assessing Combustibility of Materials Using a

Vertical Tube Furnace at 750 Degrees C; 2024. 1.03 FIELD CONDITIONS

A. Do not install insulation adhesives when temperature or weather conditions are detrimental to successful installation.

PART 2 PRODUCTS

2.01 APPLICATIONS

A. Insulation in Wood Framed Walls: Batt insulation with separate vapor retarder.

Insulation in Wood Framed Ceiling Structure: Batt insulation with separate vapor

2.02 MINERAL FIBER BLANKET INSULATION MATERIALS

Flexible Glass Fiber Blanket Thermal Insulation: Preformed insulation, complying with

ASTM C665; friction fit. Flame Spread Index: 75 or less, when tested in accordance with ASTM E84.

Smoke Developed Index: 450 or less, when tested in accordance with ASTM E84. Combustibility: Non-combustible, when tested in accordance with ASTM E136, except for facing, if any.

Products:

 a. CertainTeed Corporation; _____: www.certainteed.com/#sle. b. Johns Manville; _____: www.jm.com/#sle.

c. Owens Corning Corporation; EcoTouch PINK FIBERGLAS Insulation:

www.ocbuildingspec.com/#sle.

2.03 ACCESSORIES A. Tape: Reinforced polyethylene film with acrylic pressure sensitive adhesive.

Width: Are required for application.

Application: Sealing of interior circular penetrations, such as pipes or cables.

B. Sill Plate Sealer: Closed-cell foam tape with rubberized adhesive membrane; bridges gap between foundation structure and sill plate or skirt board.

Width: 3-1/2 inches (89 mm).

Ultraviolet (UV) and Weathering Resistance: Approved in writing by manufacturer for up to 30 days of weather exposure.

PART 3 EXECUTION

3.01 EXAMINATION Verify that substrate, adjacent materials, and insulation materials are dry and that substrates are ready to receive insulation.

Verify substrate surfaces are flat, free of honeycomb, fins, irregularities, or materials or substances that may impede adhesive bond.

3.02 BATT INSTALLATION

Install insulation and vapor retarder in accordance with manufacturer's instructions.

C. Trim insulation neatly to fit spaces. Insulate miscellaneous gaps and voids.

B. Install in exterior wall and roof spaces without gaps or voids. Do not compress

D. Fit insulation tightly in cavities and tightly to exterior side of mechanical and electrical

services within the plane of the insulation

E. Install with factory-applied vapor retarder membrane facing warm side of building

spaces. Lap ends and side flanges of membrane over framing members.

F. Staple or nail facing flanges in place at maximum 6 inches (152 mm) on center.

G. Tape seal butt ends, lapped flanges, and tears or cuts in membrane. H. At wood framing, place vapor retarder on warm side of insulation by stapling at 6 inches

(152 mm) on center. Lap and seal sheet retarder joints over face of member. Tape seal tears or cuts in vapor retarder.

Extend vapor retarder tightly to full perimeter of adjacent window and door frames and other items interrupting the plane of the membrane; tape seal in place.

3.03 PROTECTION

A. Do not permit installed insulation to be damaged prior to its concealment. **END OF SECTION**

SECTION 072700 AIR BARRIERS

PART 1 GENERAL 1.01 SECTION INCLUDES

A. Air barriers.

1.02 DEFINITIONS

A. Air Barrier: Airtight barrier made of material that is virtually air impermeable but water vapor permeable, both to amount as specified, with sealed seams and sealed joints to adjacent surfaces.

1.03 REFERENCE STANDARDS

A. ASTM D1970/D1970M - Standard Specification for Self-Adhering Polymer Modified Bituminous Sheet Materials Used as Steep Roofing Underlayment for Ice Dam Protection; 2021.

B. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building

Materials; 2023c.

C. ASTM E96/E96M - Standard Test Methods for Gravimetric Determination of Water Vapor Transmission Rate of Materials; 2022a, with Editorial Revision (2023). D. ASTM E2178 - Standard Test Method for Determining Air Leakage Rate and

Calculation of Air Permeance of Building Materials; 2021a. 1.04 FIELD CONDITIONS

 Maintain temperature and humidity recommended by materials manufacturers before, during, and after installation.

2.01 AIR BARRIER MATERIALS (AIR IMPERMEABLE AND WATER VAPOR PERMEABLE)

A. Air Barrier Sheet, Mechanically Fastened: Air Permeance: 0.004 cfm/sq ft (0.02 L/(s sq m)), maximum, when tested in

accordance with ASTM E2178. 2. Water Vapor Permeance: 10 perms (574 ng/(Pa s sq m)), minimum, when tested in accordance with ASTM E96/E96M using Procedure A - Desiccant Method, at 73.4 degrees F (23 degrees C).

3. Ultraviolet (UV) and Weathering Resistance: Approved by manufacturer for up to 90 days of weather exposure.

Surface Burning Characteristics: Flame spread index of 25 or less, and smoke developed index of 50 or less, Class A, when tested in accordance with ASTM

5. Seam and Perimeter Tape: Polyethylene self-adhering type, mesh reinforced,

2-1/2 inches (64 mm) wide, compatible with sheet material; unless otherwise

2.02 ACCESSORIES

A. Sealants, Tapes, and Accessories for Sealing Air Barrier and Adjacent Substrates: As indicated or in compliance with air barrier manufacturer's installation instructions.

B. Flexible Flashing: Self-adhesive sheet flashing complying with ASTM D1970/D1970M, except slip resistance requirement waived if not installed on roof. Width: 4 inches (102 mm).

2. Ultraviolet (UV) and Weathering Resistance: Approved by manufacturer for up to 30 days of weather exposure.

C. Sill Plate Sealer: Closed-cell foam tape with rubberized adhesive membrane; bridges gap between foundation structure and sill plate or skirt board. Width: 3-1/2 inches (89 mm).

2. Ultraviolet (UV) and Weathering Resistance: Approved by manufacturer for up to 30 days of weather exposure.

PART 3 EXECUTION

3.01 EXAMINATION

Verify that surfaces and conditions are ready for work of this section.

 Where existing conditions are responsibility of another installer, notify Architect of unsatisfactory conditions.

C. Do not proceed with this work until unsatisfactory conditions have been corrected. 3.02 PREPARATION

A. Remove projections, protruding fasteners, and loose or foreign matter that might interfere with proper installation. B. Clean and prime substrate surfaces to receive adhesives and sealants in accordance

A. Install materials in accordance with manufacturer's installation instructions. B. Air Barriers: Install continuous airtight barrier over surfaces indicated, with sealed seams and with sealed joints to adjacent surfaces.

C. Apply sealants and adhesives within recommended temperature range in accordance with manufacturer's installation instructions.

D. Mechanically Fastened Sheets - On Exterior:

with manufacturer's installation instructions.

Install sheets shingle fashion to shed water, with seams generally horizontal. Overlap seams as recommended by manufacturer, 6 inches (152 mm), minimum.

Overlap at outside and inside corners as recommended by manufacturer, 12 inches (305 mm), minimum.

4. For applications indicated to be airtight, seal seams, laps, penetrations, tears, and cuts with self-adhesive tape; use only large-headed, gasketed fasteners as recommended by manufacturer.

Install air barrier underneath jamb flashings. 6. At framed openings with frames having nailing flanges, extend sheet into opening

and over flanges; at head of opening, seal sheet over flange and flashing. E. Openings and Penetrations in Exterior Air Barriers: Install flashing over sills, covering entire sill frame member, extending at least 5 inches (125 mm) onto air barrier and at least 6 inches (150 mm) up jambs;

mechanically fasten stretched edges. 2. At openings with frames having nailing flanges, seal head and jamb flanges using a continuous bead of sealant compressed by flange and cover flanges with sealing

tape at least 4 inches (100 mm) wide; do not seal sill flange. 3. At openings with nonflanged frames, seal air barrier to each side of framing at opening using flashing at least 9 inches (230 mm) wide, and covering entire depth

4. At head of openings, install flashing under air barrier extending at least 2 inches

(50 mm) beyond face of jambs; seal air barrier to flashing. 5. At interior face of openings, seal gap between window/door frame and rough

framing, using joint sealant over backer rod. Service and Other Penetrations: Form flashing around penetrating item and seal to air barrier surface.

3.04 PROTECTION Do not leave materials exposed to weather longer than recommended by manufacturer.

END OF SECTION SECTION 073113

PART 1 GENERAL

1.01 SECTION INCLUDES

 A. Asphalt shingle roofing. B. Flexible sheet membranes for eave protection, underlayment, and valley protection.

ASPHALT SHINGLES

C. Flashing.

1.02 REFERENCE STANDARDS A. ASTM D226/D226M - Standard Specification for Asphalt-Saturated Organic Felt Used in Roofing and Waterproofing; 2017 (Reapproved 2023).

B. ASTM D1970/D1970M - Standard Specification for Self-Adhering Polymer Modified Bituminous Sheet Materials Used as Steep Roofing Underlayment for Ice Dam C. ASTM D3161/D3161M - Standard Test Method for Wind Resistance of Steep Slope

Roofing Products (Fan-Induced Method); 2020. D. ASTM D3462/D3462M - Standard Specification for Asphalt Shingles Made from Glass Felt and Surfaced with Mineral Granules; 2023.

E. ASTM D4586/D4586M - Standard Specification for Asphalt Roof Cement, Asbestos-

Free; 2007 (Reapproved 2018). F. ASTM E96/E96M - Standard Test Methods for Gravimetric Determination of Water Vapor Transmission Rate of Materials; 2022a, with Editorial Revision (2023).

G. ASTM E108 - Standard Test Methods for Fire Tests of Roof Coverings; 2020a.

H. ASTM F1667/F1667M - Standard Specification for Driven Fasteners: Nails, Spikes, and

ICC-ES AC188 - Acceptance Criteria for Roof Underlayments; 2023.

J. NRCA (RM) - The NRCA Roofing Manual; 2024

PART 2 PRODUCTS 2.01 MANUFACTURERS

A. Asphalt Shingles

Atlas Roofing Corporation; ____: www.atlasroofing.com/#sle.

Certainteed Roofing; Landmark Premium Shingles: www.certainteed.com/#sle. GAF; Timberline HDZ RS Shingles: www.gaf.com/#sle.

Owens Corning Corp; ____: www.owenscorning.com/#sle. 2.02 ASPHALT SHINGLES

A. Asphalt Shingles: Asphalt-coated glass felt, mineral granule surfaced, complying with ASTM D3462/D3462M.

Fire Resistance: Class A, complying with ASTM E108. Wind Resistance: Class A, when tested in accordance with ASTM

Self-sealing type. Style: Square.

2.03 SHEET MATERIALS

A. Underlayment: Self-adhering rubber-modified asphalt sheet complying with ASTM D1970/D1970M; 22 mil (0.55 mm) total thickness; with strippable release film and

woven polypropylene sheet top surface. Minimum Requirements: Comply with ICC-ES AC188.

Self Sealability: Passing nail sealability test specified in ASTM D1970/D1970M. Low Temperature Flexibility: Passing test specified in ASTM D1970/D1970M. 4. Water Vapor Permeance: 0.067 perm (0.38 ng/(Pa s sq m)), when tested in

Performance: Meet or exceed requirements for ASTM D226/D226M, Type II

asphalt-saturated organic felt. 6. Functional Temperature Range: From minus 70 degrees F (minus 56.7 degrees C) to 212 degrees F (100 degrees C).

accordance with ASTM E96/E96M, Procedure A (desiccant method).

A. Metal Flashings: Provide sheet metal eave edge, gable edge, ridge, ridge vents, open

valley flashing, chimney flashing, dormer flashing, and other flashing as indicated. Form flashings to profiles indicated on drawings. 2. Form sections square and accurate to profile, in maximum possible lengths, free

from distortion or defects detrimental to appearance or performance.

Hem exposed edges of flashings minimum 1/4 inch (6 mm) on underside. B. Alumínum Flashing: Prefinished aluminum, 26 gauge, 0.017 inch (0.43 mm) minimum

thickness; stucco embossed, PVC coating, color as selected. Flexible Flashing: Self-adhering polymer-modified asphalt sheet complying with ASTM D1970/D1970M; 40-mil, 0.040-inch (1 mm) total thickness; with strippable treated release paper and polyethylene sheet top surface.

 A. Roofing Nails: Standard round wire shingle type, galvanized steel, stainless steel, aluminum roofing nails, or copper roofing nails, minimum 3/8-inch (9.5 mm) head diameter, 12-gauge, 0.109-inch (2.77 mm) nail shank diameter, 1-1/2 inches (38 mm) long and complying with ASTM F1667/F1667M.

B. Asphalt Roof Cement: ASTM D4586/D4586M, asbestos-free. C. Plastic Ridge Vents: Extruded plastic with vent openings that do not permit direct water

or weather entry; flanged to receive shingles. PART 3 EXECUTION

2.05 ACCESSORIES

3.01 EXAMINATION A. Verify existing conditions prior to starting this work.

Verify deck surfaces are dry, free of ridges, warps, or voids.

Weather lap joints minimum 2 inches (50 mm).

B. Verify that roof deck is of sufficient thickness to accept fasteners.

Verify roof openings are correctly framed.

3.02 PREPARATION Seal roof deck joints wider than 1/16 inch (1.5 mm) as recommended by shingle

C. Verify that roof penetrations and plumbing stacks are in place and flashed to deck

B. Broom clean deck surfaces before installing underlayment or eave protection.

C. Protect surrounding areas and adjacent surfaces from damage during execution of this D. Install eave edge flashings tight with fascia boards, weather lap joints 2 inches (50 mm) and seal with roof cement, and secure flange with nails spaced ____ inches (____ mm)

on center.

3.03 INSTALLATION A. Underlayment 1. Roof Slopes Up to 4:12: Install two layers of underlayment over area not protected

by eave protection, with ends and edges weather lapped minimum 4 inches (100 mm); stagger end laps of each consecutive layer and nail in place. Roof Slopes Greater Than 4:12: Install underlayment perpendicular to slope of roof, with ends and edges weather lapped minimum 4 inches (100 mm); stagger

end laps of each consecutive layer, nail in place, and weather lap minimum 4 inches (100 mm) over eave protection. Weather lap and seal watertight with plastic cement any items projecting through

B. Valley Protection: Install flexible flashing in accordance with manufacturer's instructions and NRCA (RM) applicable requirements.

C. Metal Flashing: 1. Weather lap joints minimum 2 inches (50 mm) and seal weather tight with plastic

2. Secure in place with nails at ____ inches (____ mm) on center, and conceal 3. Items Projecting Through or Mounted on Roofing: Flash and seal weather tight with plastic cement

 Install shingles in accordance with manufacturer's instructions and NRCA (RM) applicable requirements.

manufacturer and local building code, whichever is greater. b. Fasten strip shingles using four nails per strip, or as required by manufacturer and local building code, whichever is greater.

Fasten individual shingles using two nails per shingle, or as required by

Place shingles in straight coursing pattern with 5-inch (125 mm) weather exposure to produce double thickness over full roof area, and provide double course of

Project first course of shingles 3/4 inch (19 mm) beyond fascia boards.

Extend shingles 1/2 inch (13 mm) beyond face of gable edge fascia boards. Complete installation to provide weathertight service. 3.04 PROTECTION

A. Do not permit traffic over finished roof surface; protect roofing until completion of B. Touch-up, repair, or replace damaged asphalt shingles or accessories before Date of

HOLLOW METAL DOORS AND FRAMES

END OF SECTION DIVISION 08 - OPENINGS SECTION 081113

PART 1 GENERAL 1.01 SECTION INCLUDES

Substantial Completion.

1.02 ABBREVIATIONS AND ACRONYMS

 A. Non-fire-rated hollow metal doors and frames. B. Hollow metal frames for wood doors.

 C. Fire-rated hollow metal doors and frames. Thermally insulated hollow metal doors with frames.

A. ANSI: American National Standards Institute.

B. ASCE: American Society of Civil Engineers.

C. HMMA: Hollow Metal Manufacturers Association.

D. NAAMM: National Association of Architectural Metal Manufacturers.

E. NFPA: National Fire Protection Association.

F. SCIF; Sensitive Compartmented Information Facility.

G. SDI: Steel Door Institute.

H. UL: Underwriters Laboratories.

1.03 REFERENCE STANDARDS A. ADA Standards - 2010 ADA Standards for Accessible Design; 2010.

B. ANSI/SDI A250.4 - Test Procedure and Acceptance Criteria for Physical Endurance for Steel Doors, Frames and Frame Anchors; 2022.

C. ANSI/SDI A250.6 - Recommended Practice for Hardware Reinforcing on Standard Steel Doors and Frames; 2020.

D. ANSI/SDI A250.8 - Specifications for Standard Steel Doors and Frames (SDI-100);

E. ANSI/SDI A250.10 - Test Procedure and Acceptance Criteria for Prime Painted Steel Surfaces for Steel Doors and Frames; 2020. F. ASTM A653/A653M - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized)

or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process; 2023.

G. ASTM A1008/A1008M - Standard Specification for Steel, Sheet, Cold-Rolled, Carbon. Structural, High-Strength Low-Alloy, High-Strength Low-Alloy with Improved Formability, Required Hardness, Solution Hardened, and Bake Hardenable; 2021a.

H. ASTM A1011/A1011M - Standard Specification for Steel, Sheet and Strip, Hot-Rolled, Carbon, Structural, High-Strength Low-Alloy, High-Strength Low-Alloy with Improved Formability, and Ultra-High Strength; 2023. ASTM C143/C143M - Standard Test Method for Slump of Hydraulic-Cement Concrete;

K. BHMA A156.115 - Hardware Preparation in Steel Doors and Frames; 2016. L. ICC A117.1 - Accessible and Usable Buildings and Facilities; 2017.

M. NAAMM HMMA 830 - Hardware Selection for Hollow Metal Doors and Frames; 2002.

J. ASTM C476 - Standard Specification for Grout for Masonry; 2023.

N. NAAMM HMMA 831 - Hardware Locations for Hollow Metal Doors and Frames; 2011. O. NAAMM HMMA 840 - Guide Specifications For Receipt, Storage and Installation of Hollow Metal Doors and Frames; 2017.

P. NAAMM HMMA 861 - Guide Specifications for Commercial Hollow Metal Doors and

Frames; 2014. Q. NFPA 80 - Standard for Fire Doors and Other Opening Protectives; 2022.

 A. See Section 013000 - Administrative Requirements for submittal procedures. B. Product Data: Materials and details of design and construction, hardware locations, reinforcement type and locations, anchorage and fastening methods, and finishes.

R. SDI 117 - Manufacturing Tolerances for Standard Steel Doors and Frames; 2023.

and any indicated finish requirements. 1.05 QUALITY ASSURANCE A. Manufacturer Qualifications: Company specializing in manufacturing products specified

in this section, with not less than three years documented experience.

Shop Drawings: Details of each opening, showing elevations, glazing, frame profiles,

B. Installer Qualifications: Company specializing in performing work of the type specified and with at least three years of documented experience.

C. Maintain at project site copies of reference standards relating to installation of products specified.

1.04 SUBMITTALS

PART 2 PRODUCTS

1.06 DELIVERY, STORAGE, AND HANDLING A. Comply with NAAMM HMMA 840 or ANSI/SDI A250.8 (SDI-100) in accordance with specified requirements.

B. Protect with resilient packaging; avoid humidity build-up under coverings; prevent

2.01 MANUFACTURERS A. Hollow Metal Doors and Frames: Ceco Door, an Assa Abloy Group company; _____: www.assaabloydss.com/#sle.

A1011/A1011M, commercial steel (CS) Type B, for each,

Accessibility: Comply with ICC A117.1 and ADA Standards.

corrosion and adverse effects on factory applied painted finish.

Steelcraft, an Allegion brand; ____: www.allegion.com/#sle. 5. Substitutions: See Section 016000 - Product Requirements.

2.02 PERFORMANCE REQUIREMENTS A. Requirements for Hollow Metal Doors and Frames: Steel Sheet: Comply with one or more of the following requirements; galvannealed steel complying with ASTM A653/A653M, cold-rolled steel complying with ASTM A1008/A1008M, or hot-rolled pickled and oiled (HRPO) steel complying with ASTM

Curries, an Assa Abloy Group company; _____: www.assaabloydss.com/#sle.

Republic Doors, an Allegion brand; ____: www.republicdoor.com/#sle.

Door Edge Profile: Manufacturers standard for application indicated. Typical Door Face Sheets: Flush. Hardware Preparations, Selections and Locations: Comply with NAAMM HMMA

830 and NAAMM HMMA 831 or BHMA A156.115 and ANSI/SDI A250.8 (SDI-100) in accordance with specified requirements. B. Hollow Metal Panels: Same construction, performance, and finish as doors. C. Combined Requirements: If a particular door and frame unit is indicated to comply with more than one type of requirement, comply with the specified requirements for each type; for instance, an exterior door that is also indicated as being sound-rated must

comply with the requirements specified for exterior doors and for sound-rated doors; where two requirements conflict, comply with the most stringent.

2.03 HOLLOW METAL DOORS

Level 2 - Heavy-duty.

A. Door Finish: Factory primed and field finished. B. Exterior Doors: Thermally insulated.

Based on SDI Standards: ANSI/SDI A250.8 (SDI-100).

b. Physical Performance Level B, 500,000 cycles; in accordance with ANSI/SDI A250.4. c. Model 1 - Full Flush.

d. Door Face Metal Thickness: 18 gauge, 0.042 inch (1.0 mm), minimum.

e. Zinc Coating: A60/ZF180 galvannealed coating; ASTM A653/A653M. Door Core Material: Manufacturers standard core material/construction and in compliance with requirements.

Door Thickness: 1-3/4 inches (44.5 mm), nominal. 2.04 HOLLOW METAL FRAMES

A. Comply with standards and/or custom guidelines as indicated for corresponding door in accordance with applicable door frame requirements.

Frame Metal Thickness: 18 gauge, 0.042 inch (1.0 mm), minimum.

C. Exterior and Interior Door Frames: Full profile/continuously welded type. Galvanizing: Components hot-dipped zinc-iron alloy-coated (galvannealed) in accordance with ASTM A653/A653M, with A40/ZF120 coating.

B. Frame Finish: Factory primed and field finished.

E. Door Frames, Fire-Rated: Knock-down type.

Fire Rating: Same as door, labeled.

Frame Finish: Factory primed and field finished. Weatherstripping: Separate, see Section 087100. D. Interior Door Frames, Non-Fire Rated: Knock-down type. Frame Metal Thickness: 18 gauge, 0.042 inch (1.0 mm), minimum.

Frame Finish: Factory primed and field finished.

2.05 FINISHES A. Primer: Rust-inhibiting, complying with ANSI/SDI A250.10, door manufacturer's standard.

2.06 ACCESSORIES

A. Astragals and Edges for Double Doors: Pairs of door astragals, and door edge sealing and protection devices.

UL listed products in compliance with requirements of authorities having

Provide surface mounted astragal to cover or fill space for full door height between pair of doors or door and adjacent jamb.

3. Astragal Type: Split, two parts, and with automatic locking, cutouts for other door hardware, and sealing gasket.

Edge Type: Beveled edge

B. Grout for Frames: Mortar grout complying with ASTM C476 with maximum slump of 4 inches (102 mm) as measured in accordance with ASTM C143/C143M for hand troweling in place; plaster grout and thinner pumpable grout are prohibited.

C. Silencers: Resilient rubber, fitted into drilled hole; provide three on strike side of single door, three on center mullion of pairs, and two on head of pairs without center mullions.

D. Temporary Frame Spreaders: Provide for factory- or shop-assembled frames. PART 3 EXECUTION

3.01 EXAMINATION

Verify existing conditions before starting work.

 Verify that opening sizes and tolerances are acceptable. C. Verify that finished walls are in plane to ensure proper door alignment.

3.02 PREPARATION Coat inside of frames to be installed in masonry or to be grouted, with bituminous coating, prior to installation.

3.03 INSTALLATION A. Install doors and frames in accordance with manufacturer's instructions and related

requirements of specified door and frame standards or custom guidelines indicated. B. Install fire rated units in accordance with NFPA 80.

C. Coordinate frame anchor placement with wall construction.

D. Grout frames in masonry construction, using hand trowel methods; brace frames so that pressure of grout before setting will not deform frames.

E. Install door hardware as specified in Section 087100. 1. Comply with recommended practice for hardware placement of doors and frames

in accordance with ANSI/SDI A250.6 or NAAMM HMMA 861.

3.04 TOLERANCES Clearances Between Door and Frame: Comply with related requirements of specified frame standards or custom guidelines indicated in accordance with SDI 117 or NAAMM

F. Coordinate installation of electrical connections to electrical hardware items.

B. Maximum Diagonal Distortion: 1/16 inch (1.6 mm) measured with straight edge, corner to corner.

 Adjust for smooth and balanced door movement. 3.06 SCHEDULE A. Refer to Door and Frame Schedule on the drawings.

PART 1 GENERAL

1.01 SECTION INCLUDES

Errata (2016).

1.03 QUALITY ASSURANCE

3.05 ADJUSTING

 Flush wood doors; flush and flush glazed configuration; fire-rated, non-rated, acoustical, special function, and _____. 1.02 REFERENCE STANDARDS

A. AWI/AWMAC/WI (AWS) - Architectural Woodwork Standards, 2nd Edition; 2014, with

END OF SECTION

SECTION 081416

FLUSH WOOD DOORS

B. AWMAC/WI (NAAWS) - North American Architectural Woodwork Standards; 2021, with Errata.

1.04 DELIVERY, STORAGE, AND HANDLING

A. Installer Qualifications: Company specializing in performing work of the type specified in this section, with not less than three years of documented experience.

 A. Package, deliver and store doors in accordance with specified quality standard. B. Accept doors on site in manufacturer's packaging, and inspect for damage. C. Protect doors with resilient packaging sealed with heat shrunk plastic; do not store in

damp or wet areas or areas where sunlight might bleach veneer; seal top and bottom

edges with tinted sealer if stored more than one week, and break seal on site to permit

A. See Section 017800 - Closeout Submittals for additional warranty requirements.

1.05 WARRANTY

the installation. Complete forms in Owner's name and register with manufacturer. 1. Include coverage for delamination of veneer, warping beyond specified installation

construction

2.04 DOOR CONSTRUCTION

2.03 DOOR FACINGS

and faces as indicated.

2.05 FINISHES - WOOD VENEER DOORS

Transparent:

PART 2 PRODUCTS 2.01 DOORS AND PANELS

tolerances, defective materials, and telegraphing core construction.

B. Manufacturer Warranty: Provide manufacturer's warranty on interior doors for the life of

1. Quality Standard: Custom Grade, Heavy Duty performance, in accordance with AWI/AWMAC/WI (AWS) or AWMAC/WI (NAAWS), unless noted otherwise. Wood Veneer Faced Doors: 5-ply or 7-ply unless otherwise indicated. B. Interior Doors: 1-3/4 inches (44 mm) thick unless otherwise indicated; flush

A. Doors: See drawings for locations and additional requirements.

Wood veneer facing for field transparent finish as indicated on drawings. 2.02 DOOR AND PANEL CORES A. Non-Rated Solid Core and 20 Minute Rated Doors: Type particleboard core (PC), plies

A. Veneer Facing for Transparent Finish: White birch, veneer grade in accordance with quality standard indicated, plain sliced (flat cut), with book match between leaves of veneer, running match of spliced veneer leaves assembled on door or panel face.

Provide solid core doors at each location.

 Fabricate doors in accordance with door quality standard specified. B. Cores Constructed with stiles and rails: C. Factory machine doors for hardware other than surface-mounted hardware, in

D. Factory fit doors for frame opening dimensions identified on shop drawings, with edge

Vertical Edges: Any option allowed by quality standard for grade.

clearances in accordance with specified quality standard. Exception: Doors to be field finished.

E. Provide edge clearances in accordance with the quality standard specified.

accordance with hardware requirements and dimensions.

Finish work in accordance with AWI/AWMAC/WI (AWS) or AWMAC/WI (NAAWS), Section 5 - Finishing for grade specified and as follows:

 Stain: As selected by Architect. c. Sheen: Satin.

B. Seal door top edge with color sealer to match door facing.

System - 12, Polyurethane, Water-based.

3.01 EXAMINATION Verify existing conditions before starting work.

PART 3 EXECUTION

 Verify that opening sizes and tolerances are acceptable. C. Do not install doors in frame openings that are not plumb or are out-of-tolerance for size

or alignment. 3.02 INSTALLATION

Install doors in accordance with manufacturer's instructions and specified quality standard.

PHONE:

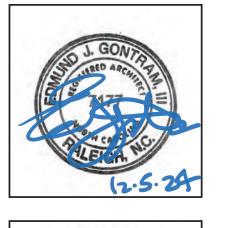
ARCHITECTURE, INC. 5100 UNICON DR. SUITE 103

WAKE FOREST, NC 27587

919.876.5331

eddie@gontramarchitecture.com www.gontramarchitecture.com

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PLOT DATE: 12/05/2024 ISSUED: 12/05/2024 FOR CONSTRUCTION DRAWN BY: APPROVED: PJA EJG PROJECT NO.: RECORD:

ARCHITECTURAL **SPECIFICATIONS**

24002

CONTENTS

C. Use machine tools to cut or drill for hardware.

3.03 TOLERANCES

D. Coordinate installation of doors with installation of frames and hardware

Comply with specified quality standard for fit and clearance tolerances.

B. Comply with specified quality standard for telegraphing, warp, and squareness.

3.04 ADJUSTING A. Adjust doors for smooth and balanced door movement.

B. Adjust closers for full closure.

END OF SECTION SECTION 084313

ALUMINUM-FRAMED STOREFRONTS

PART 1 GENERAL

1.01 SECTION INCLUDES A. Aluminum-framed storefront, with vision glass.

1.02 RELATED REQUIREMENTS

A. Section 088000 - Glazing: Glass and glazing accessories.

Pressure Differences Across the Specimen: 2019.

1.03 REFERENCE STANDARDS

A. AAMA CW-10 - Care and Handling of Architectural Aluminum from Shop to Site; 2015.

B. AAMA 501.2 - Quality Assurance and Diagnostic Water Leakage Field Check of Installed Storefronts, Curtain Walls, and Sloped Glazing Systems; 2015.

- C. AAMA 609 & 610 Cleaning and Maintenance Guide for Architecturally Finished Aluminum (Combined Document); 2015.
- D. AAMA 611 Voluntary Specification for Anodized Architectural Aluminum; 2020.
- ASTM B221 Standard Specification for Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Profiles, and Tubes; 2021.
- F. ASTM B221M Standard Specification for Aluminum and Aluminum-Alloy Extruded
- Bars, Rods, Wire, Profiles, and Tubes (Metric); 2021. ASTM E283/E283M - Standard Test Method for Determining Rate of Air Leakage Through Exterior Windows, Skylights, Curtain Walls, and Doors Under Specified
- ASTM E330/E330M Standard Test Method for Structural Performance of Exterior Windows, Doors, Skylights and Curtain Walls by Uniform Static Air Pressure Difference; 2014 (Reapproved 2021).

1.04 SUBMITTALS

- A. See Section 013000 Administrative Requirements for submittal procedures.
- B. Product Data: Provide component dimensions, describe components within assembly, anchorage and fasteners, glass and infill, and internal drainage details.
- C. Shop Drawings: Indicate system dimensions, framed opening requirements and tolerances, affected related work, expansion and contraction joint location and details, and field welding required.

1.05 QUALITY ASSURANCE

- Manufacturer Qualifications: Company specializing in performing work of type specified and with at least three years of documented experience.
- B. Installer Qualifications: Company specializing in performing work of type specified and with at least three years of documented experience.

1.06 DELIVERY, STORAGE, AND HANDLING

- A. Handle products of this section in accordance with AAMA CW-10.
- B. Protect finished aluminum surfaces with wrapping. Do not use adhesive papers or sprayed coatings that bond to aluminum when exposed to sunlight or weather. 1.07 FIELD CONDITIONS
- A. Do not install sealants when ambient temperature is less than 40 degrees F (5 degrees C). Maintain this minimum temperature during and 48 hours after installation.

1.08 WARRANTY

- See Section 017800 Closeout Submittals for additional warranty requirements. B. Correct defective Work within a five year period after Date of Substantial Completion.
- C. Provide five year manufacturer warranty against failure of glass seal on insulating glass units, including interpane dusting or misting. Include provision for replacement of failed
- D. Provide five year manufacturer warranty against excessive degradation of exterior finish. Include provision for replacement of units with excessive fading, chalking, or

PART 2 PRODUCTS

2.01 MANUFACTURERS

- A. Aluminum-Framed Storefronts:
- Coral Architectural Products, a division of Coral Industries, Inc; _______
- www.coralap.com/#sle. Kawneer North America; _____: www.kawneer.com/#sle.
- Oldcastle BuildingEnvelope; _____; www.oldcastlebe.com/#sle. Tubelite, Inc; ____: www.tubeliteinc.com/#sle.
- Trulite Glass & Aluminum Solutions, LLC; _____: www.trulite.com/#sle.
- YKK AP America, Inc; _____: www.ykkap.com/commercial/#sle.
- Substitutions: See Section 016000 Product Requirements.

2.02 ALUMINUM-FRAMED STOREFRONT

- A. Aluminum-Framed Storefront: Factory fabricated, factory finished aluminum framing members with infill, and related flashings, anchorage and attachment devices.
- Unitized, shop assembly.
 - Glazing Position: Centered (front to back). Vertical Mullion Dimensions: 2 inches wide by 4-1/2 inches deep (50 mm wide by

 - Finish: Class I natural anodized.
 - Factory finish all surfaces that will be exposed in completed assemblies.
 - Finish Color: As indicated on drawings.
 - 6. Fabrication: Joints and corners flush, hairline, and weatherproof, accurately fitted and secured; prepared to receive anchors and hardware; fasteners and attachments concealed from view; reinforced as required for imposed loads.
 - Construction: Eliminate noises caused by wind and thermal movement, prevent vibration harmonics, and prevent "stack effect" in internal spaces. 8. System Internal Drainage: Drain to the exterior by means of a weep drainage
 - network any water entering joints, condensation occurring in glazing channel, and migrating moisture occurring within system. Expansion/Contraction: Provide for expansion and contraction within system
 - components caused by cycling temperature range of 170 degrees F (95 degrees c) over a 12 hour period without causing detrimental effect to system components, anchorages, and other building elements.
 - 10. Movement: Allow for movement between storefront and adjacent construction, without damage to components or deterioration of seals.
 - 11. Perimeter Clearance: Minimize space between framing members and adjacent construction while allowing expected movement.

Performance Requirements

- Wind Loads: Design and size components to withstand the specified load requirements without damage or permanent set, when tested in accordance with ASTM E330/E330M, using loads 1.5 times the design wind loads and 10 second duration of maximum load.
 - a. Member Deflection: Limit member deflection to flexure limit of glass in any direction, with full recovery of glazing materials.
- 2. Air Leakage: 0.06 cfm/sq ft (0.3 L/sec sq m) maximum leakage of storefront wall area when tested in accordance with ASTM E283/E283M at 1.57 psf (75 Pa) pressure difference.

2.03 COMPONENTS

- A. Aluminum Framing Members: Tubular aluminum sections, thermally broken with interior section insulated from exterior, drainage holes and internal weep drainage system. Framing members for interior applications need not be thermally broken.
- Glazing Stops: Flush. B. Glazing: See Drawings.
- 2.04 MATERIALS
- A. Extruded Aluminum: ASTM B221 (ASTM B221M).
- B. Fasteners: Stainless steel.

- C. Exposed Flashings: Aluminum sheet, 20 gauge, 0.032 inch (0.81 mm) minimum thickness; finish to match framing members.
- D. Concealed Flashings: Stainless steel, 26 gauge, 0.0187 inch (0.48 mm) minimum
- E. Sill Flashing Sealant: Elastomeric, silicone or polyurethane, compatible with flashing
- F. Sealant for Setting Thresholds: Non-curing butyl type.
- G. Glazing Gaskets: Type to suit application to achieve weather, moisture, and air infiltration requirements.

2.05 FINISHES

A. Class I Natural Anodized Finish: AAMA 611 AA-M12C22A41 Clear anodic coating not less than 0.7 mils (0.018 mm) thick.

PART 3 EXECUTION 3.01 EXAMINATION

- A. Verify dimensions, tolerances, and method of attachment with other work.
- B. Verify that storefront wall openings and adjoining water-resistive and/or air barrier seal materials are ready to receive work of this section.

3.02 INSTALLATION

- Install wall system in accordance with manufacturer's instructions.
- B. Attach to structure to permit sufficient adjustment to accommodate construction tolerances and other irregularities.
- C. Provide alignment attachments and shims to permanently fasten system to building structure.
- D. Align assembly plumb and level, free of warp or twist. Maintain assembly dimensional
- tolerances, aligning with adjacent work. E. Provide thermal isolation where components penetrate or disrupt building insulation. F. Install sill flashings. Turn up ends and edges; seal to adjacent work to form water tight
- G. Where fasteners penetrate sill flashings, make watertight by seating and sealing
- fastener heads to sill flashing. Pack fibrous insulation in shim spaces at perimeter of assembly to maintain continuity of
- I. Touch-up minor damage to factory applied finish; replace components that cannot be

3.03 TOLERANCES

- A. Maximum Variation from Plumb: 0.06 inch per 3 feet (1.5 mm per m) non-cumulative or 0.06 inch per 10 feet (1.5 mm per 3 m), whichever is less.
- B. Maximum Misalignment of Two Adjoining Members Abutting in Plane: 1/32 inch (0.8

3.04 CLEANING

3.05 PROTECTION

- Remove protective material from pre-finished aluminum surfaces.
- B. Upon completion of installation, thoroughly clean aluminum surfaces in accordance with AAMA 609 & 610.
- A. Protect installed products from damage until Date of Substantial Completion.

END OF SECTION **SECTION 087100** DOOR HARDWARE

PART 1 GENERAL

C. Thresholds.

1.02 REFERENCE STANDARDS

- 1.01 SECTION INCLUDES A. Hardware for wood and hollow metal doors.
- B. Electrically operated and controlled hardware.
- D. Weatherstripping and gasketing.
- A. ADA Standards 2010 ADA Standards for Accessible Design; 2010.
- B. BHMA A156.1 Standard for Butts and Hinges; 2021.
- C. BHMA A156.2 Bored and Preassembled Locks and Latches; 2022. D. BHMA A156.3 - Exit Devices; 2020.
- E. BHMA A156.4 Door Controls Closers; 2019.
- F. BHMA A156.5 Cylinders and Input Devices for Locks; 2020.
- G. BHMA A156.6 Standard for Architectural Door Trim; 2021.
- H. BHMA A156.16 Auxiliary Hardware; 2023. BHMA A156.18 - Materials and Finishes; 2020.
- J. BHMA A156.21 Thresholds; 2019.
- K. BHMA A156.22 Standard for Gasketing; 2021.
- L. BHMA A156.25 Electrified Locking Devices; 2023.
- M. BHMA A156.115 Hardware Preparation in Steel Doors and Frames; 2016. N. DHI (LOCS) - Recommended Locations for Architectural Hardware for Standard Steel
- ICC A117.1 Accessible and Usable Buildings and Facilities; 2017. P. NFPA 70 - National Electrical Code; Most Recent Edition Adopted by Authority Having
- Jurisdiction, Including All Applicable Amendments and Supplements. Q. NFPA 80 - Standard for Fire Doors and Other Opening Protectives; 2022.

R. UL (DIR) - Online Certifications Directory; Current Edition. 1.03 ADMINISTRATIVE REQUIREMENTS

Doors and Frames; 2004.

- A. Coordinate the manufacture, fabrication, and installation of products that door hardware
- B. Sequence installation to ensure utility connections are achieved in an orderly and expeditious manner.
- C. Keying Requirements Meeting:
 - Schedule meeting at project site prior to Contractor occupancy.
 - Attendance Required: a. Contractor.
 - b. Owner.
 - c. Installer's Architectural Hardware Consultant (AHC).
- Agenda:
- Establish keying requirements.
- b. Verify locksets and locking hardware are functionally correct for project
- Verify that keying and programming complies with project requirements.
- d. Establish keying submittal schedule and update requirements.
- 4. Incorporate "Keying Requirements Meeting" decisions into keying submittal upon review of door hardware keying system including, but not limited to, the following:
 - a. Access control requirements.
 - Key control system requirements.
- Schematic diagram of preliminary key system.
- Flow of traffic and extent of security required. Record minutes and distribute copies within two days after meeting to participants,
- with two copies to Architect, Owner, participants, and those affected by decisions Deliver established keying requirements to manufacturers.

1.04 SUBMITTALS

- See Section 013000 Administrative Requirements for submittal procedures.
- B. Product Data: Manufacturer's catalog literature for each type of hardware, marked to clearly show products to be furnished for this project, and includes construction details, material descriptions, finishes, and dimensions and profiles of individual components.
- C. Shop Drawings Door Hardware Schedule: Submit detailed listing that includes each item of hardware to be installed on each door. Use door numbering scheme as included in Contract Documents.
- Prepared by or under supervision of Architectural Hardware Consultant (AHC). List groups and suffixes in proper sequence.
- Provide complete description for each door listed.
- Provide manufacturer name, product names, and catalog numbers; include
- functions, types, styles, sizes and finishes of each item.

- Include account of abbreviations and symbols used in schedule.
- D. Shop Drawings Electrified Door Hardware: Submit diagrams for power, signal, and control wiring for electrified door hardware that include details of interface with building safety and security systems. Provide elevations and diagrams for each electrified door opening as follows:
- 1. Prepared by or under supervision of Architectural Hardware Consultant (AHC) and Electrified Hardware Consultant (EHC).
- Elevations: Submit front and back elevations of each door opening showing electrified devices with connections installed and an operations narrative
- describing how opening operates from either side at any given time. 3. Diagrams: Submit point-to-point wiring diagram that shows each device in door
- opening system with related colored wire connections to each device.
- Manufacturer's Installation Instructions: Indicate special procedures and perimeter
- conditions requiring special attention.
- F. Keying Schedule:
- Submit three (3) copies of Keying Schedule in compliance with requirements established during Keying Requirements Meeting unless otherwise indicated.
- 1.05 QUALITY ASSURANCE
- A. Manufacturer Qualifications: Company specializing in manufacturing products specified
- in this section with minimum three years of documented experience. Installer Qualifications: Company specializing in performing work of the type specified for commercial door hardware with at least three years of documented experience.

1.06 DELIVERY, STORAGE, AND HANDLING

PART 2 PRODUCTS

- A. Package hardware items individually; label and identify each package with door opening code to match door hardware schedule.
- 1.07 WARRANTY A. See Section 017800 - Closeout Submittals for additional warranty requirements.
- B. Manufacturer's Warranty: Provide warranty against defects in material and workmanship for period indicated. Complete forms in Owner's name and register with
 - manufacturer.
 - Closers: Five years, minimum. Exit Devices: Three years, minimum.

Locksets and Cylinders: Three years, minimum. Other Hardware: Two years, minimum.

- 2.01 DESIGN AND PERFORMANCE CRITERIA A. Provide specified door hardware as required to make doors fully functional, compliant
 - with applicable codes, and secure to extent indicated. B. Provide individual items of single type, of same model, and by same manufacturer.
 - C. Provide door hardware products that comply with the following requirements: Applicable provisions of federal, state, and local codes.
 - Products Requiring Electrical Connection: Listed and classified by UL (DIR) as suitable for the purpose specified. D. Electrically Operated and/or Controlled Hardware: Provide necessary power supplies, power transfer hinges, relays, and interfaces as required for proper operation; provide
- wiring between hardware and control components and to building power connection in compliance with NFPA 70. See Section 281000 for additional access control system requirements.
- E. Lock Function: Provide lock and latch function numbers and descriptions of manufacturer's series. See Door Hardware Schedule.

Accessibility: ADA Standards and ICC A117.1.

- 1. Provide fasteners of proper type, size, quantity, and finish that comply with
- commercially recognized standards for proposed applications. Aluminum fasteners are not permitted Provide phillips flat-head screws with heads finished to match door surface
- hardware unless otherwise indicated. Provide machine screws for attachment to reinforced hollow metal and aluminum
- Self-drilling (Tek) type screws are not permitted. Provide stainless steel machine screws and lead expansion shields for concrete
- and masonry substrates. Provide wall grip inserts for hollow wall construction. 5. Provide spacers or sex bolts with sleeves for through bolting of hollow metal doors
- and frames. 6. Fire-Rated Applications: Comply with NFPA 80. a. Provide wood or machine screws for hinges mortised to doors or frames,
- strike plates to frames, and closers to doors and frames. b. Provide steel through bolts for attachment of surface mounted closers, hinges, or exit devices to door panels unless proper door blocking is provided.

Concealed Fasteners: Do not use through or sex bolt type fasteners on door

panel sides indicated as concealed fastener locations, unless otherwise indicated.

2.02 HINGES A. Manufacturers:

- McKinney; an Assa Abloy Group company; _____: www.assaabloydss.com/#sle. Bommer Industries, Inc; _____: www.bommer.com/#sle.
- Hager Companies; ____: www.hagerco.com/#sle. Stanley, dormakaba Group; ____: www.stanleyhardwarefordoors.com/#sle. Substitutions: See Section 016000 - Product Requirements.
- B. Hinges: Comply with BHMA A156.1, Grade 1
- Provide hinges on every swinging door. Provide five-knuckle full mortise butt hinges unless otherwise indicated.
- Provide non-removable pins on exterior outswinging doors. Provide power transfer hinges where electrified hardware is mounted in door leaf.

Provide ball-bearing hinges at each door with closer.

6. Provide following quantity of butt hinges for each door: Doors up to 60 inches (1.5 m) High: Two hinges.

d. Doors over 120 inches (3 m) High: One additional hinge per each additional

- b. Doors From 60 inches (1.5 m) High up to 90 inches (2.3 m) High: Three Doors 90 inches (2.3 m) High up to 120 inches (3 m) High: Four hinges.
- 2.03 CYLINDRICAL LOCKS
- A. Manufacturers: Best, dormakaba Group; _____: www.bestaccess.com/#sle.
- Schlage, an Allegion brand; ____: www.allegion.com/us/#sle. Substitutions: See Section 016000 Product Requirements. B. Cylindrical Locks (Bored): Comply with BHMA A156.2, Grade 1, 4000 Series.
 - Backset: 2-3/4 inch (70 mm) unless otherwise indicated. Strikes: Provide manufacturer's standard strike for each latchset or lockset with strike box and curved lip extending to protect frame in compliance with indicated

Bored Hole: 2-1/8 inch (54 mm) diameter.

30 inches (762 mm) in height.

- a. Finish: To match lock or latch. 2.04 CLOSERS
 - A. Manufacturers; Surface Mounted:
 - 1. Corbin Russwin, Norton, Rixson, Sargent, or Yale; an Assa Abloy Group company; : www.assaabloydss.com/#sle.
 - LCN, an Allegion brand; _____: www.allegion.com/us/#sle. Substitutions: See Section 016000 - Product Requirements. B. Closers: Comply with BHMA A156.4, Grade 1.
 - Type: Surface mounted to door. Provide door closer on each exterior door. Provide door closer on each fire-rated and smoke-rated door.
 - Where an overlapping astragal is included on pairs of swinging doors, provide coordinator to ensure door leaves close in proper order.
- 6. At outswinging exterior doors, mount closer on interior side of door. 2.05 PROTECTION PLATES

A. Manufacturers:

Rockwood; an Assa Abloy Group company; _____: www.assaabloydss.com/#sle. Hager Companies; ____: www.hagerco.com/#sle.

Spring hinges are not an acceptable self-closing device, unless otherwise

Ives, an Allegion brand; _____: www.allegion.com/us/#sle. Trimco; ____: www.trimcohardware.com/#sle.

5. At corridor entry doors, mount closer on room side of door.

Rockwood; an Assa Abloy Group company; _____: www.assaabloydss.com/#sle.

Rockwood; an Assa Abloy Group company; _____: www.assaabloydss.com/#sle.

- Substitutions: See Section 016000 Product Requirements. B. Floor Stops: Comply with BHMA A156.16, Grade 1 and Resilient Material Retention
- Test as described in this standard. Provide floor stops when wall surface is not available; be cautious not to create a
- tripping hazard.

Hager Companies; _____: www.hagerco.com/#sle.

Trimco; ____: www.trimcohardware.com/#sle.

- Type: Manual hold-open, with pencil floor stop. Material: Aluminum housing with rubber insert.
- 2.08 WALL STOPS A. Manufacturers:

Substitutions: See Section 016000 - Product Requirements.

McKinney or Rockwood; an Assa Abloy Group company; _____

Substitutions: See Section 016000 - Product Requirements.

Type: Lever, or kick down stop, with rubber bumper at bottom end.

Hager Companies; ____: www.hagerco.com/#sle.

B. Protection Plates: Comply with BHMA A156.6.

www.assaabloydss.com/#sle.

B. Door Holders: Comply with BHMA A156.16, Grade 1.

D. Fasteners: Countersunk screw fasteners.

Material: Aluminum.

2.06 DOOR HOLDERS

2.07 FLOOR STOPS

A. Manufacturers:

A. Manufacturers:

C. Edges: Beveled, on four sides unless otherwise indicated.

- Trimco; ____: www.trimcohardware.com/#sle.
- Substitutions: See Section 016000 Product Requirements. B. Wall Stops: Comply with BHMA A156.16, Grade 1 and Resilient Material Retention
- Provide wall stops to prevent damage to wall surface upon opening door. Type: Bumper, concave, wall stop.

Test as described in this standard.

2.10 WEATHERSTRIPPING AND GASKETING

Material: Aluminum housing with rubber insert.

- 2.09 THRESHOLDS A. Manufacturers:
 - Pemko; an Assa Abloy Group company; _____: www.assaabloydss.com/#sle. Hager Companies; ____: www.hagerco.com/#sle.
 - Substitutions: See Section 016000 Product Requirements.
- B. Thresholds: Comply with BHMA A156.21.
- Provide threshold at each exterior door, unless otherwise indicated. Type: Flat surface. Material: Aluminum.
- Threshold Surface: Fluted horizontal grooves across full width. Field cut threshold to profile of frame and width of door sill for tight fit.

Provide non-corroding fasteners at exterior locations.

Hager Companies; ____: www.hagerco.com/#sle.

Single Door: Provide three on strike jamb of frame.

- A. Manufacturers: Pemko; an Assa Abloy Group company; _____: www.assaabloydss.com/#sle.
- Substitutions: See Section 016000 Product Requirements. B. Weatherstripping and Gasketing: Comply with BHMA A156.22.
- Door Sweep Type: Encased in retainer. Material: Aluminum, with brush weatherstripping.
- of door pairs, unless otherwise indicated. Provide door bottom sweep on each exterior door, unless otherwise indicated. 2.11 SILENCERS

Head and Jamb Type: Adjustable.

 Silencers: Provide at equal locations on door frame to mute sound of door's impact upon closing.

Provide weatherstripping on each exterior door at head, jambs, and meeting stiles

Material: Rubber, gray color. 2.12 POWER SUPPLY A. Manufacturers:

Pair of Doors: Provide two on head of frame, one for each door at latch side.

Detex Corporation; Series 800 Power Supply _____: www.detex.com/#sle. Securitron; an Assa Abloy Group company; _____: www.assaabloydss.com/#sle.

B. Power Supply: Hard wired, with multiple zones providing eight (8) breakers for each

Operating Temperature: 32 to 110 degrees F (0 to 43 degrees C).

- output panel with individual control switches and LED's; UL (DIR) Class 2 listed. Power: 24 VAC, 10 Amp; with 120 VAC power supply.
- Provide with emergency release terminals that release devices upon activation of fire alarm system.
- 2.13 FINISHES A. Finishes: Provide door hardware of same finish, unless otherwise indicated. Primary Finish: 625: bright chromium plated over nickel, with brass or bronze base material (former US equivalent US26); BHMA A156.18.

Secondary Finish: 626; satin chromium plated over nickel, with brass or bronze

- base material (former US equivalent US26D); BHMA A156.18. Use secondary finish in kitchens, bathrooms, and other spaces containing
- chrome or stainless steel finished appliances, fittings, and equipment; provide primary finish on one side of door and secondary finish on other side if necessary.
- a. Where base material metal is specified to be different, provide finish that is an equivalent appearance in accordance with BHMA A156.18. b. Hinges for Fire-Rated Doors: Steel base material with painted finish, in
- Door Closer Covers and Arms: Color as selected by Architect from manufacturer's standard colors unless otherwise indicated. d. Aluminum Surface Trim and Gasket Housings: Anodized to match door panel finish, not other hardware, unless otherwise indicated.

e. Hardware for Aluminum Entrance Doors: Finished to match door panel finish,

except at hand contact surfaces provide stainless steel with satin finish. unless otherwise indicated.

Exceptions:

PART 3 EXECUTION

3.01 EXAMINATION A. Verify that doors and frames are ready to receive this work; labeled, fire-rated doors and

frames are properly installed, and dimensions are as indicated on shop drawings.

A. Install hardware in accordance with manufacturer's instructions and applicable codes.

hardware item. As indicated in following list; unless noted otherwise in Door Hardware

characteristics. 3.02 INSTALLATION

B. Verify that electric power is available to power operated devices and of correct

B. Install hardware on fire-rated doors and frames in accordance with applicable codes

Use templates provided by hardware item manufacturer.

compliance with NFPA 80.

D. Do not install surface mounted items until application of finishes to substrate are fully completed. E. Door Hardware Mounting Heights: Distance from finished floor to center line of

1. For Steel Doors and Frames: Install in compliance with DHI (LOCS)

For Steel Door Frames: See Section 081213. Mounting heights in compliance with ADA Standards: a. Locksets: 40-5/16 inch (1024 mm).

b. Push Plates/Pull Bars: 42 inch (1067 mm).

Exit Devices: 40-5/16 inch (1024 mm).

Schedule or on drawings.

recommendations.

F. Set exterior door thresholds with full-width bead of elastomeric sealant at each point of contact with floor providing a continuous weather seal; anchor thresholds with stainless steel countersunk screws.

- 3.03 ADJUSTING
 - A. Adjust work under provisions of Section 017000 Execution and Closeout
 - B. Adjust hardware for smooth operation.
 - C. Adjust gasketing for complete, continuous seal; replace if unable to make complete

3.05 PROTECTION

PART 1 GENERAL

- A. Clean finished hardware in accordance with manufacturer's written instructions after
- final adjustments have been made.

B. Clean adjacent surfaces soiled by hardware installation. C. Replace items that cannot be cleaned to manufacturer's level of finish quality at no

additional cost.

B. Do not permit adjacent work to damage hardware or finish.

A. Protect finished Work under provisions of Section 017000 - Execution and Closeout

END OF SECTION SECTION 088000

GLAZING

- 1.01 SECTION INCLUDES
- Insulating glass units. B. Glazing compounds.
- 1.02 REFERENCE STANDARDS
- A. 16 CFR 1201 Safety Standard for Architectural Glazing Materials; Current Edition. B. ASCE 7 - Minimum Design Loads and Associated Criteria for Buildings and Other
- Structures: Most Recent Edition Cited by Referring Code or Reference Standard. C. ASTM C864 - Standard Specification for Dense Elastomeric Compression Seal
- Gaskets, Setting Blocks, and Spacers; 2005 (Reapproved 2019). D. ASTM C1036 - Standard Specification for Flat Glass; 2021.
- E. ASTM C1048 Standard Specification for Heat-Strengthened and Fully Tempered Flat Glass; 2018.
- F. ASTM E1300 Standard Practice for Determining Load Resistance of Glass in Buildings; 2016.
- G. NFRC 100 Procedure for Determining Fenestration Product U-factors; 2023. H. NFRC 200 - Procedure for Determining Fenestration Product Solar Heat Gain Coefficient and Visible Transmittance at Normal Incidence: 2023.

NFRC 300 - Test Method for Determining the Solar Optical Properties of Glazing Materials and Systems; 2023. 1.03 SUBMITTALS

characteristics, size limitations, special handling and installation requirements. B. Product Data on Glazing Compounds and Accessories: Provide chemical, functional, and environmental characteristics, limitations, special application requirements, and

A. Product Data on Insulating Glass Unit, Glazing Unit, Plastic Sheet Glazing Unit, Plastic

Film, and _____ Glazing Types: Provide structural, physical and environmental

A. Manufacturer Qualifications: Company specializing in manufacturing the products specified in this section with minimum three years of documented experience.

normal to plane of glass.

1.04 QUALITY ASSURANCE

C).

PART 2 PRODUCTS

identify available colors.

1.05 FIELD CONDITIONS A. Do not install glazing when ambient temperature is less than 40 degrees F (4 degrees

Installer Qualifications: Company specializing in performing work of the type specified

- 2.01 PERFORMANCE REQUIREMENTS EXTERIOR GLAZING ASSEMBLIES A. Provide type and thickness of exterior glazing assemblies to support assembly dead loads, and to withstand live loads caused by positive and negative wind pressure acting
 - Comply with ASTM E1300 for design load resistance of glass type, thickness, dimensions, and maximum lateral deflection of supported glass.

Glass thicknesses listed are minimum.

and with at least three years documented experience.

Provide glass edge support system sufficiently stiff to limit the lateral deflection of supported glass edges to less than 1/175 of their lengths under specified design

continuity of building enclosure water-resistive barrier, vapor retarder, and/or air barrier.

1. In conjunction with weather barrier related materials described in other sections, as C. Thermal and Optical Performance: Provide exterior glazing products with performance properties as indicated. Performance properties are in accordance with manufacturer's

published data as determined with the following procedures and/or test methods:

Center of Glass U-Value: Comply with NFRC 100 using Lawrence Berkeley

using Lawrence Berkeley National Laboratory (LBNL) WINDOW 6.3 computer

1. Annealed Type: ASTM C1036, Type I - Transparent Flat, Class 1 - Clear, Quality -

B. Weather-Resistive Barrier Seals: Provide completed assemblies that maintain

National Laboratory (LBNL) WINDOW 6.3 computer program. 2. Center of Glass Solar Heat Gain Coefficient (SHGC): Comply with NFRC 200

Solar Optical Properties: Comply with NFRC 300 test method.

Design Pressure: Calculated in accordance with ASCE 7.

2.02 GLASS MATERIALS A. Float Glass: Provide float glass based glazing unless otherwise indicated.

a. Tint: Gray.

Metal edge spacer

ASTM C864 Option II; color black.

3.01 VERIFICATION OF CONDITIONS

2.03 INSULATING GLASS UNITS

Kind HS - Heat-Strengthened Type: Complies with ASTM C1048. Kind FT - Fully Tempered Type: Complies with ASTM C1048.

A. Insulating Glass Units: Vision glass, double glazed.

- Applications: Exterior glazing unless otherwise indicated. Space between lites filled with air. 3. Outboard Lite: Annealed float glass, 1/4 inch (6.4 mm) thick, minimum.
- 5. Inboard Lite: Annealed float glass, 1/4 inch (6.4 mm) thick, minimum. a. Tint: Clear. Total Thickness: 1 inch (25.4 mm).

10. Solar Heat Gain Coefficient (SHGC): See drawings, nominal.

b. Coating: Low-E (passive type), on #2 surface.

7. Thermal Transmittance (U-Value), Summer - Center of Glass: See drawings, 8. Visible Light Transmittance (VLT): See drawings percent, nominal. Shading Coefficient: See drawings, nominal.

11. Glazing Method: Dry glazing method, gasket glazing.

A. Setting Blocks: Silicone, with 80 to 90 Shore A durometer hardness; ASTM C864 Option II. Length of 0.1 inch for each square foot (25 mm for each square meter) of glazing or minimum 4 inch (100 mm) by width of glazing rabbet space minus 1/16 inch (1.5 mm) by height to suit glazing method and pane weight and area.

B. Glazing Splines: Resilient silicone extruded shape to suit glazing channel retaining slot;

may impede moisture movement, weeps are clear, and support framing is ready to

A. Verify that openings for glazing are correctly sized and within tolerances, including those for size, squareness, and offsets at corners. B. Verify that surfaces of glazing channels or recesses are clean, free of obstructions that

receive glazing system. 3.02 INSTALLATION, GENERAL

2.04 ACCESSORIES

PART 3 EXECUTION

glazing material manufacturers, unless more stringent requirements are indicated,

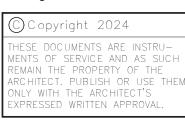
A. Install glazing in compliance with written instructions of glass, gaskets, and other

ARCHITECTURE INC.

5100 UNICON DR. SUITE 103 WAKE FOREST, NC 27587 PHONE: 919.876.5331

eddie@gontramarchitecture.com

www.gontramarchitecture.com





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SOUNTY WAST SOLID BA RD URN ACKBI ROCI BL/

PLOT DATE: 12/05/2024 ISSUED: 12/05/2024 FOR CONSTRUCTION Rev. Date Description DRAWN BY: APPROVED: PJA EJG PROJECT NO.: RECORD: 24002

ARCHITECTURAL

SPECIFICATIONS

CONTENTS

AS103

- B. Do not exceed edge pressures around perimeter of glass lites as stipulated by glass
- manufacturer. Set glass lites in proper orientation so that coatings face exterior or interior as indicated D. Prevent glass from contact with any contaminating substances that may be the result of

construction operations such as, and not limited to the following; weld splatter, fire-

safing, plastering, mortar droppings, and paint. 3.03 INSTALLATION - DRY GLAZING METHOD (GASKET GLAZING)

- A. Application Exterior and/or Interior Glazed: Set glazing infills from either the exterior or the interior of the building.
- B. Place setting blocks at 1/4 points with edge block no more than 6 inch (152 mm) from
- C. Rest glazing on setting blocks and push against fixed stop with sufficient pressure on gasket to attain full contact.
- D. Install removable stops without displacing glazing gasket; exert pressure for full continuous contact.

3.04 PROTECTION

- A. After installation, mark pane with an 'X' by using removable plastic tape or paste; do not mark heat absorbing or reflective glass units.
- Remove and replace glass that is damaged during construction period prior to Date of Substantial Completion.

SECTION 092116

END OF SECTION DIVISION 09 - FINISHES

GYPSUM BOARD ASSEMBLIES PART 1 GENERAL

1.01 SECTION INCLUDES

A. Performance criteria for gypsum board assemblies.

- B. Acoustic insulation.
- D. Joint treatment and accessories.

1.02 REFERENCE STANDARDS

C. Gypsum wallboard.

- A. ASTM C475/C475M Standard Specification for Joint Compound and Joint Tape for Finishing Gypsum Board; 2017 (Reapproved 2022).
- B. ASTM C665 Standard Specification for Mineral-Fiber Blanket Thermal Insulation for Light Frame Construction and Manufactured Housing; 2023.
- C. ASTM C840 Standard Specification for Application and Finishing of Gypsum Board;
- D. ASTM C1396/C1396M Standard Specification for Gypsum Board; 2017.
- ASTM E90 Standard Test Method for Laboratory Measurement of Airborne Sound
- Transmission Loss of Building Partitions and Elements; 2009 (Reapproved 2016). F. ASTM E413 - Classification for Rating Sound Insulation; 2022.
- G. GA-216 Application and Finishing of Gypsum Panel Products; 2021.

1.03 SUBMITTALS

See Section 013000 - Administrative Requirements for submittal procedures.

B. Product Data:

1.04 DELIVERY, STORAGE, AND HANDLING

Store gypsum products and accessories indoors and keep above freezing. Elevate boards above floor, on nonwicking supports, in accordance with manufacturer's recommendations

PART 2 PRODUCTS

2.01 GYPSUM BOARD ASSEMBLIES

- A. Provide completed assemblies complying with ASTM C840 and GA-216.
- B. Interior Partitions: Provide completed assemblies with the following characteristics: Acoustic Attenuation: STC of 45-49 calculated in accordance with ASTM E413, based on tests conducted in accordance with ASTM E90.

2.02 BOARD MATERIALS

- A. Manufacturers Gypsum-Based Board:
- CertainTeed Corporation; ____: www.certainteed.com/#sle. Georgia-Pacific Gypsum; ____: www.gpgypsum.com/#sle.
- 3. Gold Bond Building Products, LLC provided by National Gypsum Company; ____: www.goldbondbuilding.com/#sle.
- USG Corporation; ____: www.usg.com/#sle.
- B. 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. Thickness:
- a. Vertical Surfaces: 5/8 inch (16 mm). b. Ceilings: 1/2 inch (13 mm).
- Ceiling Board: Special sag resistant gypsum ceiling board as defined in ASTM
- C1396/C1396M; sizes to minimize joints in place; ends square cut.
 - Application: Ceilings, unless otherwise indicated. Thickness: 1/2 inch (13 mm).
- Edges: Tapered.
- 2.03 GYPSUM BOARD ACCESSORIES

- A. Acoustic Insulation: ASTM C665; preformed mineral-fiber, friction fit type, unfaced; thickness as required for STC.
- B. 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.
- Joint Compound: Drying type, vinyl-based, ready-mixed.
- C. Staples For Attachment of Base Ply of Two-Ply Assembly to Wood Members: Flattened
- galvanized wire type as specified in ASTM C840.

PART 3 EXECUTION 3.01 EXAMINATION

- A. Verify that project conditions are appropriate for work of this section to commence. 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.
- B. Acoustic Sealant: Install in accordance with manufacturer's instructions.

- 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.

3.04 INSTALLATION OF TRIM AND ACCESSORIES

- A. Control Joints: Place control joints consistent with lines of building spaces and as
 - 1. Not more than 30 feet (10 meters) apart on walls and ceilings over 50 feet (16
- B. Corner Beads: Install at external corners, using longest practical lengths.

3.05 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 1: Fire-resistance-rated wall areas above finished ceilings, whether or not
- accessible in the completed construction. C. Tape, fill, and sand exposed joints, edges, and corners to produce smooth surface
- ready to receive finishes. Feather coats of joint compound so that camber is maximum 1/32 inch (0.8 mm).

3.06 TOLERANCES

Maximum Variation of Finished Gypsum Board Surface from True Flatness: 1/8 inch in 10 feet (3 mm in 3 m) in any direction.

3.07 PROTECTION

A. Protect installed gypsum board assemblies from subsequent construction operations.

END OF SECTION **SECTION 096500**

RESILIENT FLOORING

PART 1 GENERAL

- 1.01 SECTION INCLUDES
- A. Resilient tile flooring. B. Resilient base.
- C. Installation accessories.

1.02 REFERENCE STANDARDS

- A. ASTM F710 Standard Practice for Preparing Concrete Floors to Receive Resilient Flooring; 2022.
- B. ASTM F1066 Standard Specification for Vinyl Composition Floor Tile; 2004

C. ASTM F1861 - Standard Specification for Resilient Wall Base; 2021

- (Reapproved 2018).
- D. ASTM F1869 Standard Test Method for Measuring Moisture Vapor Emission Rate of Concrete Subfloor Using Anhydrous Calcium Chloride; 2023.

E. ASTM F2170 - Standard Test Method for Determining Relative Humidity in Concrete

Floor Slabs Using in situ Probes; 2019a. 1.03 SUBMITTALS

- See Section 013000 Administrative Requirements for submittal procedures.
- B. Product Data: Provide data on specified products, describing physical and performance characteristics; including sizes, patterns and colors available; and installation
- C. Selection Samples: Submit manufacturer's complete set of color samples for Architect's initial selection.

1.04 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Company specializing in manufacturing specified flooring with minimum three years documented experience.
- B. Installer Qualifications: Company specializing in installing specified flooring with minimum three years documented experience.

1.05 DELIVERY, STORAGE, AND HANDLING

- A. Upon receipt, immediately remove any shrink-wrap and check materials for damage and the correct style, color, quantity and run numbers.
- B. Store all materials off of the floor in an acclimatized, weather-tight space.
- C. Maintain temperature in storage area between 55 degrees F (13 degrees C) and 90 degrees F (72 degrees C).

D. Do not double stack pallets. 1.06 FIELD CONDITIONS

temperature of 70 degrees F (21 degrees C) to achieve temperature stability. Thereafter, maintain conditions above 55 degrees F (13 degrees C).

PART 2 PRODUCTS

2.01 TILE FLOORING A. Vinyl Composition Tile: Homogeneous, with color extending throughout thickness.

A. Store materials for not less than 48 hours prior to installation in area of installation at a

- Manufacturers: a. Armstrong Flooring; Standard Execelon Imperial Texture:
- www.armstrongflooring.com/#sle. Minimum Requirements: Comply with ASTM F1066, of Class corresponding to
- type specified. Size: 12 by 12 inch (305 by 305 mm). Thickness: 0.125 inch (3.2 mm).
- 5. Color: To be selected by Architect from manufacturer's full range.
- 2.02 RESILIENT BASE
- A. Resilient Base: ASTM F1861, Type TS, rubber, vulcanized thermoset; style as
- scheduled.
- Manufacturers: a. Flexco Corporation; Base Sculptures: www.flexcofloors.com/#sle
- b. Johnsonite, a Tarkett Company; _____: www.johnsonite.com/#sle.
- c. Mannington Commercial; _____: www.manningtoncommercial.com#sle. d. Roppe Corporation; Contours Profiled Wall Base System:
- www.roppe.com/#sle.
- Height: 4 inches (100 mm). Thickness: 0.125 inch (3.2 mm).
- Finish: Satin.
- Length: Roll. 6. Color: To be selected by Architect from manufacturer's full range.
- Accessories: Premolded external corners. 2.03 ACCESSORIES

- A. Subfloor Filler: White premix latex; type recommended by adhesive material
- Primers, Adhesives, and Seam Sealer: Waterproof; types recommended by flooring
- C. Moldings, Transition and Edge Strips: Same material as flooring.

PART 3 EXECUTION 3.01 EXAMINATION

- A. Verify that surfaces are flat to tolerances acceptable to flooring manufacturer, free of cracks that might telegraph through flooring, clean, dry, and free of curing compounds, surface hardeners, and other chemicals that might interfere with bonding of flooring to
- B. Verify that wall surfaces are smooth and flat within the tolerances specified for that type
- of work, are dust-free, and are ready to receive resilient base. C. Cementitious Subfloor Surfaces: Verify that substrates are ready for resilient flooring
- Test as Follows:
- a. Alkalinity (pH): ASTM F710.
- b. Internal Relative Humidity: ASTM F2170.

installation by testing for moisture and alkalinity (pH).

- c. Moisture Vapor Emission: ASTM F1869. 2. Obtain instructions if test results are not within limits recommended by resilient flooring manufacturer and adhesive materials manufacturer.
- D. Verify that required floor-mounted utilities are in correct location.

3.02 PREPARATION

- A. Prepare floor substrates as recommended by flooring and adhesive manufacturers.
- B. Remove subfloor ridges and bumps. Fill minor low spots, cracks, joints, holes, and other defects with subfloor filler to achieve smooth, flat, hard surface.
- Prohibit traffic until filler is fully cured.
- D. Clean substrate. E. Apply primer as required to prevent "bleed-through" or interference with adhesion by substances that cannot be removed. Apply primer to _____ surfaces.

3.03 INSTALLATION - GENERAL

- A. Starting installation constitutes acceptance of subfloor conditions.
- B. Install in accordance with manufacturer's written instructions. C. Adhesive-Applied Installation:
- Spread only enough adhesive to permit installation of materials before initial set. Fit joints and butt seams tightly.

Set flooring in place, press with heavy roller to attain full adhesion. 3.04 INSTALLATION - TILE FLOORING

- A. Mix tile from container to ensure shade variations are consistent when tile is placed, unless otherwise indicated in manufacturer's installation instructions. B. Lay flooring with joints and seams parallel to building lines to produce symmetrical
- C. Install square tile to ashlar pattern. Allow minimum 1/2 full size tile width at room or area perimeter.

3.05 INSTALLATION - RESILIENT BASE

- Fit joints tightly and make vertical. Maintain minimum dimension of 18 inches (45 mm)
- B. Miter internal corners. At external corners, use premolded units. At exposed ends, use
- Install base on solid backing. Bond tightly to wall and floor surfaces.

Scribe and fit to door frames and other interruptions

3.06 CLEANING

A. Remove excess adhesive from floor, base, and wall surfaces without damage.

SECTION 099123

INTERIOR PAINTING

B. Clean in accordance with manufacturer's written instructions. 3.07 PROTECTION

A. Prohibit traffic on resilient flooring for 48 hours after installation.

END OF SECTION

PART 1 GENERAL

- 1.01 SECTION INCLUDES
- A. Surface preparation.
- B. Field application of paints. C. Scope: Finish interior surfaces exposed to view, unless fully factory-finished and unless
- otherwise indicated.
- D. Do Not Paint or Finish the Following Items: Items factory-finished unless otherwise indicated; materials and products having
- factory-applied primers are not considered factory finished. Items indicated to receive other finishes.
- Items indicated to remain unfinished. 4. Fire rating labels, equipment serial number and capacity labels, bar code labels,
- and operating parts of equipment. Floors, unless specifically indicated.
- Glass. Concealed pipes, ducts, and conduits.

1.02 REFERENCE STANDARDS

- A. ASTM D4442 Standard Test Methods for Direct Moisture Content Measurement of Wood and Wood-Based Materials; 2020.
- B. MPI (APSM) Master Painters Institute Architectural Painting Specification Manual;
- C. SSPC-SP 1 Solvent Cleaning; 2015, with Editorial Revision (2016).

D. SSPC-SP 6 - Commercial Blast Cleaning; 2007. 1.03 FIELD CONDITIONS

- A. Do not apply materials when surface and ambient temperatures are outside the
- temperature ranges required by the paint product manufacturer. B. Follow manufacturer's recommended procedures for producing best results, including
- testing of substrates, moisture in substrates, and humidity and temperature limitations. Minimum Application Temperatures for Paints: 50 degrees F (10 degrees C) for interiors unless required otherwise by manufacturer's instructions.

Provide lighting level of 80 fc (860 lux) measured mid-height at substrate surface. PART 2 PRODUCTS

no exceptions.

- 2.01 MANUFACTURERS A. Provide paints and finishes used in any individual system from the same manufacturer;
 - PPG Paints: www.ppgpaints.com/#sle.

Sherwin-Williams Company: www.sherwin-williams.com/#sle. C. Primer Sealers: Same manufacturer as top coats.

- 2.02 PAINTS AND FINISHES GENERAL A. Paints and Finishes: Ready-mixed, unless intended to be a field-catalyzed paint. 1. Provide paints and finishes of a soft paste consistency, capable of being readily
 - and uniformly dispersed to a homogeneous coating, with good flow and brushing properties, and capable of drying or curing free of streaks or sags.
 - Supply each paint material in quantity required to complete entire project's work from a single production run. 3. Do not reduce, thin, or dilute paint or finishes or add materials unless such
- procedure is specifically described in manufacturer's product instructions. B. Sheens: Provide the sheens specified: where sheen is not specified, sheen will be

selected later by Architect from the manufacturer's full line. 2.03 PAINT SYSTEMS - INTERIOR

- A. Paint I-OP Interior Surfaces to be Painted, Unless Otherwise Indicated: Including
- avosum board, uncoated steel, shop primed steel, and galvanized steel. Two top coats and one coat primer.
- Top Coat Sheen: Eggshell: MPI gloss level 3; use this sheen at all locations.
- Paint I-OP-MD-DT Medium Duty Door/Trim: For surfaces subject to frequent contact by occupants, including metals and wood: Two top coats and one coat primer.
- Top Coat(s): High Performance Architectural Interior Latex; MPI #138, 139, 140, or 141.
- Top Coat Sheen: a. Semi-Gloss: MPI gloss level 5; use this sheen at all locations.

Primer: As recommended by top coat manufacturer for specific substrate. PART 3 EXECUTION

- 3.01 EXAMINATION Verify that surfaces are ready to receive work as instructed by the product
 - manufacturer. B. Examine surfaces scheduled to be finished prior to commencement of work. Report any condition that may potentially affect proper application.
 - C. Test shop-applied primer for compatibility with subsequent cover materials. D. Measure moisture content of surfaces using an electronic moisture meter. Do not apply
 - finishes unless moisture content of surfaces is below the following maximums: Gypsum Wallboard: 12 percent.
- 2. Interior Wood: 15 percent, measured in accordance with ASTM D4442. 3.02 PREPARATION
 - B. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.
 - C. Remove or mask surface appurtenances, including electrical plates, hardware, light fixture trim, escutcheons, and fittings, prior to preparing surfaces or finishing.

Clean surfaces thoroughly and correct defects prior to application.

- D. Seal surfaces that might cause bleed through or staining of topcoat.
- E. Gypsum Board: Fill minor defects with filler compound. Spot prime defects after repair. F. Galvanized Surfaces:
- G. Ferrous Metal: Solvent clean according to SSPC-SP 1.
- Shop-Primed Surfaces: Sand and scrape to remove loose primer and rust. Feather edges to make touch-up patches inconspicuous. Clean surfaces with solvent. Prime bare steel surfaces. Re-prime entire shop-primed item. Remove rust, loose mill scale, and other foreign substances using methods

recommended in writing by paint manufacturer and blast cleaning according to

SSPC-SP 6 Commercial Blast Cleaning. Protect from corrosion until coated.

Wood Surfaces to Receive Opaque Finish: Wipe off dust and grit prior to priming. Seal

knots, pitch streaks, and sappy sections with sealer. Fill nail holes and cracks after

primer has dried; sand between coats. Back prime concealed surfaces before

- 3.03 APPLICATION A. Apply products in accordance with manufacturer's written instructions and recommendations in "MPI Architectural Painting Specification Manual".
- B. Do not apply finishes to surfaces that are not dry. Allow applied coats to dry before next coat is applied.
- Apply each coat to uniform appearance in thicknesses specified by manufacturer.

- D. Sand wood and metal surfaces lightly between coats to achieve required finish.
- E. Vacuum clean surfaces of loose particles. Use tack cloth to remove dust and particles
- just prior to applying next coat. F. Reinstall electrical cover plates, hardware, light fixture trim, escutcheons, and fittings removed prior to finishing.

END OF SECTION

DIVISION 10 - SPECIALTIES

SECTION 102800 TOILET, BATH, AND LAUNDRY ACCESSORIES

PART 1 GENERAL

- 1.01 SECTION INCLUDES
- Commercial toilet accessories.
- 1.02 REFERENCE STANDARDS A. ASTM B456 - Standard Specification for Electrodeposited Coatings of Copper Plus
- Nickel Plus Chromium and Nickel Plus Chromium; 2017 (Reapproved 2022).
- B. ASTM C1036 Standard Specification for Flat Glass; 2021.
- C. ASTM C1503 Standard Specification for Silvered Flat Glass Mirror; 2018.

See Section 013000 - Administrative Requirements, for submittal procedures

B. Product Data: Submit data on accessories describing size, finish, details of function, and attachment methods.

PART 2 PRODUCTS

- 2.01 MANUFACTURERS
- A. Commercial Toilet, Shower, and Bath Accessories: AJW Architectural Products; _____: www.ajw.com/#sle.

American Specialties, Inc; _____: www.americanspecialties.com/#sle. Bradley Corporation; _____: www.bradleycorp.com/#sle.

- 2.02 MATERIALS A. Accessories - General: Shop assembled, free of dents and scratches and packaged complete with anchors and fittings, steel anchor plates, adapters, and anchor
 - components for installation. B. Mirror Glass: Annealed float glass, ASTM C1036 Type I, Class 1, Quality Q2, with

silvering, protective and physical characteristics complying with ASTM C1503.

- A. Stainless Steel: Satin finish, unless otherwise noted. B. Chrome/Nickel Plating: ASTM B456, SC 2, polished finish, unless otherwise noted.
- Toilet Paper Dispenser: Double roll, surface mounted bracket type, stainless steel, spindleless type for tension spring delivery designed to prevent theft of tissue roll.

B. Paper Towel Dispenser: Folded paper type, stainless steel, surface-mounted, with

Dimensions: 1-1/4 inch (32 mm) outside diameter, minimum 0.05 inch (1.3

mm) wall thickness, exposed flange mounting, 1-1/2 inch (38 mm) clearance

 Capacity: 300 C-fold minimum. C. Mirrors: Stainless steel framed, 1/4 inch (6 mm) thick annealed float glass; ASTM

d. Length and Configuration: As indicated on drawings.

 Standard Duty Grab Bars: a. Push/Pull Point Load: 250 pound-force (1112 N), minimum.

viewing slots on sides as refill indicator and tumbler lock.

between wall and inside of grab bar. c. Finish: Satin.

D. Grab Bars: Stainless steel, smooth surface.

Verify existing conditions before starting work.

2.04 COMMERCIAL TOILET ACCESSORIES

- PART 3 EXECUTION 3.01 EXAMINATION
- B. Verify exact location of accessories for installation. 3.02 PREPARATION

Deliver inserts and rough-in frames to site for timely installation.

 B. Provide templates and rough-in measurements as required. 3.03 INSTALLATION

A. Install accessories in accordance with manufacturers' instructions in locations indicated

Mounting Heights: As required by accessibility regulations, unless otherwise indicated.

END OF SECTION

DIVISION 12 - FURNISHINGS

SECTION 123600

Install plumb and level, securely and rigidly anchored to substrate.

A. Protect installed accessories from damage due to subsequent construction operations.

3.04 PROTECTION

- COUNTERTOPS PART 1 GENERAL
- 1.01 SECTION INCLUDES Countertops for architectural cabinet work.
- B. Wall-hung counters and vanity tops. 1.02 REFERENCE STANDARDS A. AWI (QCP) - Quality Certification Program; Current Edition.

B. AWI/AWMAC/WI (AWS) - Architectural Woodwork Standards, 2nd Edition; 2014, with

- C. AWMAC/WI (NAAWS) North American Architectural Woodwork Standards; 2021, with
- D. NEMA LD 3 High-Pressure Decorative Laminates; 2005.

Specimen warranty.

- 1.03 SUBMITTALS A. See Section 013000 - Administrative Requirements for submittal procedures.
- B. Product Data: Manufacturer's data sheets on each product to be used, including: Preparation instructions and recommendations. Storage and handling requirements and recommendations.

manufacturer's full range of available colors and patterns.

C. Shop Drawings: Complete details of materials and installation D. Selection Samples: For each finish product specified, color chips representing

1.04 FIELD CONDITIONS A. Maintain environmental conditions (temperature, humidity, and ventilation) within limits recommended by manufacturer for optimum results. Do not install products under

A. Quality Standard: Custom Grade, in accordance with AWI/AWMAC/WI (AWS) or

1. Laminate Sheet: NEMA LD 3, Grade HGS, 0.048 inch (1.2 mm) nominal

PART 2 PRODUCTS 2.01 COUNTERTOPS

2.02 FABRICATION

thickness.

AWMAC/WI (NAAWS), unless noted otherwise. B. Plastic Laminate Countertops: High-pressure decorative laminate (HPDL) sheet bonded to substrate.

environmental conditions outside manufacturer's absolute limits.

 a. Manufacturers: 1) Wilsonart; _____: www.wilsonart.com/#sle.

b. Wear Resistance: In addition to specified grade, comply with NEMA LD 3

e. Surface Color and Pattern: As selected by Architect from the manufacturer's

- High Wear Grade requirements for wear resistance. Laminate Core Color: Same as decorative surface. d. Finish: Matte or suede, gloss rating of 5 to 20.
- Exposed Edge Treatment: Square, substrate built up to minimum 1-1/4 inch (32 mm) thick; covered with matching laminate.

Back and End Splashes: Same material, same construction.

B. Provide back/end splash wherever counter edge abuts vertical surface unless otherwise

A. Fabricate tops and splashes in the largest sections practicable, with top surface of joints

Fabricate to overhang fronts and ends of cabinets 1 inch (25 mm) except where

3. Prepare all cutouts accurately to size; replace tops having improperly dimensioned

Join lengths of tops using best method recommended by manufacturer.

- waterproof glue.
- 1. Secure to countertop with concealed fasteners and with contact surfaces set in
- Height: 4 inches (102 mm), unless otherwise indicated.

Wall-Mounted Counters: Provide skirts, brackets, and braces as indicated on drawings, finished to match. PART 3 EXECUTION

top butts against cabinet or wall.

or unnecessary cutouts or fixture holes.

3.01 EXAMINATION

- A. Do not begin installation until substrates have been properly prepared. B. If substrate preparation is the responsibility of another installer, notify Architect of
- unsatisfactory preparation before proceeding. C. Verify that wall surfaces have been finished and mechanical and electrical services and
- outlets are installed in proper locations. 3.02 INSTALLATION
- A. Attach plastic laminate countertops using screws with minimum penetration into substrate board of 5/8 inch (16 mm).

A. Variation From Horizontal: 1/8 inch in 10 feet (3 mm in 3 m), maximum.

B. Seal joint between back/end splashes and vertical surfaces. 3.03 TOLERANCES

C. Field Joints: 1/8 inch (3 mm) wide, maximum.

B. Offset From Wall, Countertops: 1/8 inch (3 mm) maximum; 1/16 inch (1.5 mm)

- 3.04 CLEANING Clean countertops surfaces thoroughly.
- 3.05 PROTECTION A. Protect installed products until completion of project. B. Touch-up, repair or replace damaged products before Date of Substantial Completion.

END OF SECTION

ARCHITECTURE, INC. 5100 UNICON DR. SUITE 103

eddie@gontramarchitecture.com

PHONE:

WAKE FOREST, NC 27587

919.876.5331

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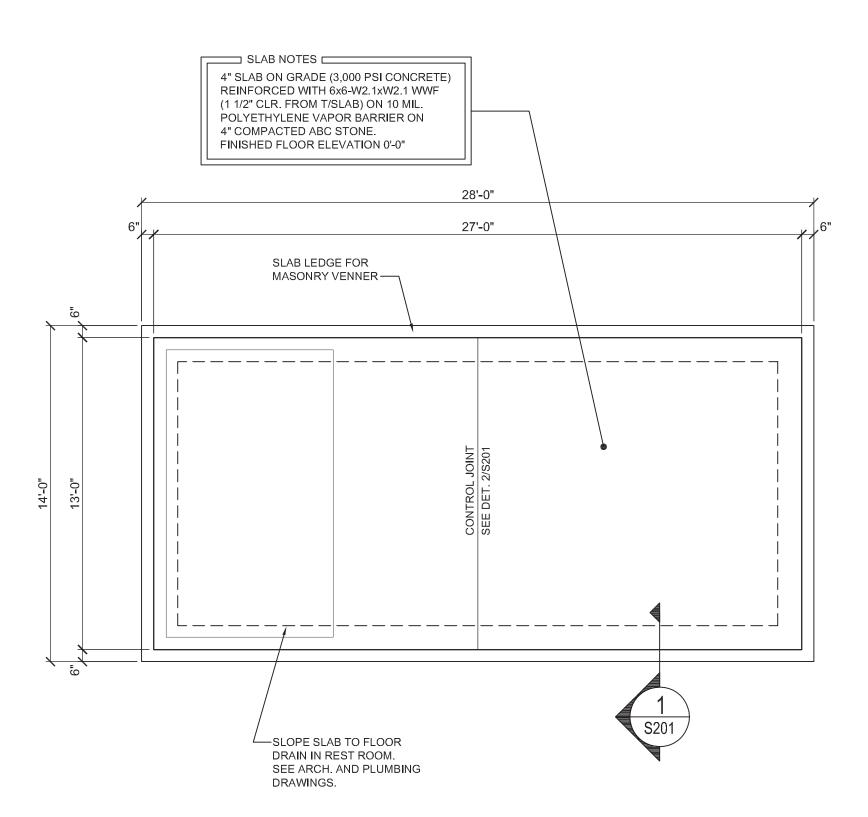
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PLOT DATE: 12/05/2024 ISSUED: 12/05/2024 FOR CONSTRUCTION Rev. Date DRAWN BY: APPROVED: PJA EJG PROJECT NO.: RECORD: 24002

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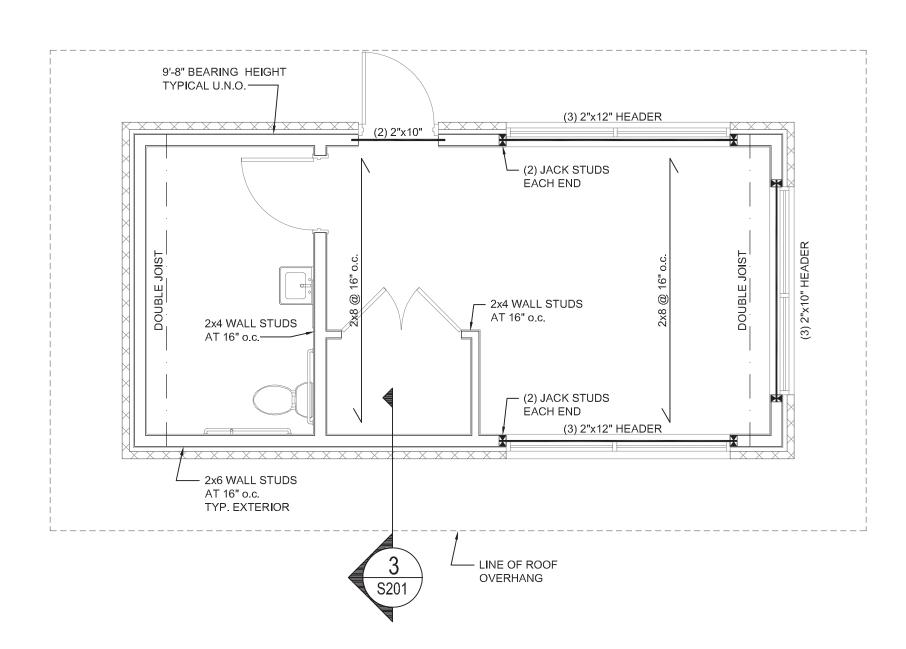
SPECIFICATIONS

CONTENTS

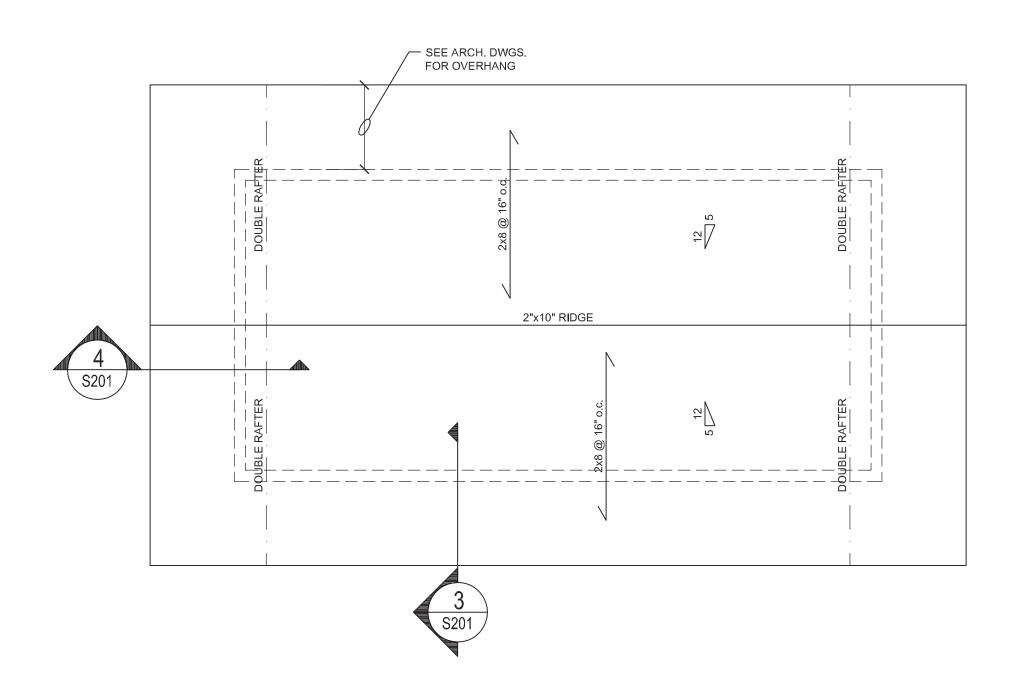




FOUNDATION PLAN 1/4" = 1'-0"



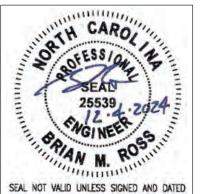








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COUNTY NEWTON, NC 28658 SE TEF. NEW SCALE HOUCKBURN SOLID WAST CATAWBA 4017 ROCKY FORD RD

PLOT DATE: 12/4/2024 ISSUED: 12/4/2024 FOR CONSTRUCTION

DRAWN BY: APPROVED: SS/EG

PROJECT NO.: RECORD: C240902 CONTENTS: FOUNDATION AND

FRAMING PLANS

STRUCTURAL NOTES

I. GENERAL

DESIGN CODES

NORTH CAROLINA BUILDING CODE, 2018 EDITION (AMENDED 2015 INTERNATIONAL BUILDING CODE)

ACI BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE

AISC MANUAL OF STEEL CONSTRUCTION - ALLOWABLE STRESS DESIGN

ASCE 7-10 MINIMUM DESIGN LOADS FOR BUILDINGS AND OTHER STRUCTURES

DESIGN LOADS

LIVE LOADS: FLOOR: 100 PSF ROOF 20 PSF

ULTIMATE DESIGN WIND SPEED: 115 MPH

GROUND SNOW LOAD 15 PSF

SEISMIC DESIGN CATEGORY C

SITE CLASS D Ss = 0.222S1 = 0.096

3. ALL ELEVATIONS ARE REFERENCED FROM FINISHED FLOOR ELEVATION OF 0'-0". SEE ARCHITECTURAL DRAWINGS FOR ADDITIONAL INFORMATION.

4. DETAILED SHOP DRAWINGS SHALL BE PROVIDED FOR REVIEW AND APPROVAL PRIOR TO CONSTRUCTION.

5. ENGINEER'S SEAL APPLIES TO STRUCTURAL COMPONENTS ONLY AND DOES NOT CERTIFY ARCHITECTURAL LAYOUT OR DIMENSIONAL ACCURACY.

6. ROSS LINDEN ENGINEERS PC ASSUMES NO LIABILITY FOR CHANGES OR MODIFICATIONS MADE TO THESE DRAWINGS BY OTHERS, OR FOR CONSTRUCTION METHODS, OR FOR ANY DEVIATION FROM THESE DRAWINGS.

II. CONCRETE

1. UNLESS OTHERWISE NOTED, ALL CONCRETE SHALL HAVE THE FOLLOWING STRENGTH AND SLUMP REQUIREMENTS: 3,000 PSI 28-DAY COMPRESSIVE STRENGTH, MAX. 5" SLUMP.

2. ALL CONCRETE SHALL BE MOIST CURED PER ACI 301 OR CURED WITH AN APPROVED CURING COMPOUND. CONTRACTOR SHALL VERIFY THAT THE CURING COMPOUND IS COMPATIBLE WITH FLOOR COVERING ADHESIVES, COATINGS, OR TOPPINGS TO BE USED. CONCRETE SHALL BE CURED FOR A MINIMUM OF 7 DAYS.

3. UNLESS OTHERWISE NOTED, ALL REINFORCING STEEL SHALL BE NEW BILLET STEEL, CONFORMING TO ASTM A-615, GRADE 60, DEFORMED.

4. UNLESS OTHERWISE NOTED, ALL DETAILING, FABRICATION, AND PLACING OF REINFORCING STEEL SHALL CONFORM TO THE MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCED CONCRETE STRUCTURES. (ACI 315)

5. ALL BAR SPLICES SHALL BE CLASS "B" TENSION SPLICES PER ACI 318-14, UNLESS OTHERWISE SHOWN.

6. ANCHOR BOLTS TO BE ASTM A36 OR A307.

7. CONTRACTOR SHALL REFER TO DRAWINGS OF OTHER TRADES AND VENDOR DRAWINGS FOR EMBEDDED ITEMS AND RECESSES NOT SHOWN ON THE STRUCTURAL DRAWINGS.

8. ALL SPREAD FOOTINGS BEARING ON NATIVE SOIL OR STRUCTURAL FILL ARE DESIGNED FOR AN ALLOWABLE BEARING PRESSURE OF 2,000 PSF. A GEOTECHNICAL REPRESENTATIVE SHALL INSPECT ALL FOOTING EXCAVATIONS TO CONFIRM ALLOWABLE BEARING PRESSURES.

9. PROVIDE TWO (2) #5 x 4'-0" LONG DIAGONAL BARS IN TOP FACE OF ALL SLABS (1" CLEAR) AT ALL RE-ENTRANT CORNERS. SEE PLAN FOR LOCATIONS.

10. CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING, PROTECTING, AND RELOCATING AS REQUIRED ALL SERVICE AND UTILITY LINES IN VICINITY OF THE WORK SITE.

11. CONTRACTOR SHALL VERIFY ALL SIZES AND LOCATIONS OF ALL MECHANICAL AND ELECTRICAL OPENINGS AND EQUIPMENT PADS WITH THE MECHANICAL AND ELECTRICAL DETAILS AND SHOP DRAWINGS BY OTHERS. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO PROVIDE ALL OPENINGS AND SLEEVES FOR PROPER DISTRIBUTION FOR ALL UTILITIES THROUGHOUT THE BUILDING.

12. ALL DOWELS WHICH ARE TO BE DRILLED AND GROUTED INTO EXISTING CONCRETE SHALL BE DONE WITH AN EPOXY GROUT. DRILL HOLE WITH DIAMETER 1/8" LARGER THAN DOWEL OR AS RECOMMENDED BY GROUT

SUPPLIER. USE HIT-RE 500 V3 BY HILTI OR APPROVED EQUAL.

III. WOOD

1. FRAMING LUMBER SHALL BE #2 SOUTHERN YELLOW PINE (SYP) WITH THE FOLLOWING MINIMUM DESIGN PROPERTIES:

Fb = 800 PSI Fv = 175 PSI E = 1.6E6 PSI

2. FRAMING LUMBER EXPOSED TO WEATHER OR IN CONTACT WITH THE GROUND, CONCRETE OR MASONRY SHALL BE #2 SOUTHERN YELLOW PINE (SYP) TREATED IN ACCORDANCE WITH AWPA C22 WITH THE FOLLOWING DESIGN PROPERTIES: Fb = 800 PSI Fv = 175 PSI E = 1.6E6 PSI

3. ENGINEERED WOOD BEAMS SHALL BE LAMINATED VENEER LUMBER (LVL) OR PARALLEL STRAND LUMBER (PSL) WITH THE FOLLOWING MINIMUM DESIGN

PROPERTIES: Fb = 2600 PSI Fv = 285 PSI E = 1.9E6 PSI

4. ENGINEERED WOOD BEAMS SHALL BE INSTALLED WITH ALL CONNECTIONS PER MANUFACTURER'S INSTRUCTIONS.

5. SOLID BLOCKING SHALL BE PROVIDED AT ALL POINT LOADS TO TRANSFER LOADS THROUGH FLOOR LEVELS. COLUMNS SHALL BE CONTINUOUS TO THE FOUNDATION OR TO OTHER STRUCTURAL ELEMENTS.

6. WOOD SILL PLATES SHALL BE ANCHORED TO THE FOUNDATION WITH 1/2" DIAMETER ANCHOR BOLTS SPACED A MAXIMUM OF 2'-8" o.c. AT EXTERIOR BEARING WALLS AND WITHIN 12" FROM THE ENDS OF EACH PLATE SECTION. SEE

DETAIL 5/S201 FOR TYPICAL ANCHOR BOLT DETAIL. a. ALTERNATE ANCHOR: 1/2" DIAMETER HILTI HIT-RE 500 V3 EPOXY ADHESIVE ANCHORS WITH MINIMUM 4 1/2" EMBEDMENT INTO THE

7. ALL EXTERIOR WALLS SHALL BE SHEATHED WITH MINIMUM 7/16" WOOD STRUCTURAL SHEATHING (PLYWOOD -or- OSB) WITH BLOCKING AT ALL JOINTS. FASTEN ALL PANELS WITH 8d NAILS AT 4" o.c. AT ALL EDGES AND AT 12" o.c. AT INTERMEDIATE FRAMING. AT DOUBLE TOP PLATE, FASTEN PANELS WITH A DOUBLE ROW OF 8d NAILS STAGGERED AT 4" o.c. ALL FASTENERS SHALL HAVE 1 3/8" PENETRATION INTO THE FRAMING MEMBERS.

8. PROVIDE MINIMUM 1/2" GYPSUM BOARD WITH INTERMEDIATE SUPPORT AT ALL JOINTS. FASTEN ALL PANELS WITH 1 1/4" SCREWS AT 7" o.c. AT TOP AND BOTTOM PLATES AND ALL STUDS. GYPSUM SHALL BE APPLIED PERPENDICULAR TO

9. SEE TYPICAL WALL SECTION FOR ADDITIONAL INFORMATION.

IV. WOOD TRUSSES

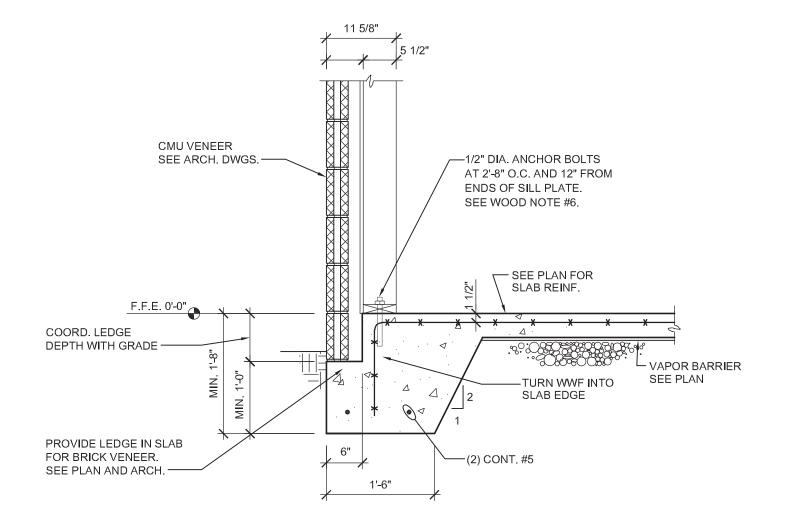
1. ENGINEERED ROOF TRUSS SYSTEMS SHALL BE PROVIDED FOR REVIEW AND COORDINATED WITH THE ENGINEER OF RECORD. INSTALLATION SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS. ROOF TRUSS DRAWINGS SHALL BE SIGNED AND SEALED BY THE MANUFACTURER AND REVIEWED BY THE ENGINEER OF RECORD PRIOR TO CONSTRUCTION.

2. ALL TRUSSES SHALL BE DESIGNED AND INSTALLED IN ACCORDANCE WITH BCSI 1-03 "GUIDE TO GOOD PRACTICE FOR HANDLING, INSTALLING & BRACING OF METAL PLATE CONNECTED WOOD TRUSSES."

3. THE TOP CHORD OF ALL ROOF TRUSSES SHALL BE SHEATHED WITH MINIMUM 7/16" WOOD STRUCTURAL SHEATHING (PLYWOOD -or- OSB). PROVIDE PLYWOOD EDGE CLIPS BETWEEN PANELS.

4. PROVIDE PERMANENT BOTTOM CHORD TRUSS BRACING AND WEB MEMBER PLANE BRACING IN ACCORDANCE WITH BCSI-B2 "TRUSS INSTALLATION AND TEMPORARY BRACING" AND BCSI-B3 "WEB MEMBER PERMANENT BRACING/WEB REINFORCEMENT."

ADDITEVIATIONS	
CONC	CONCRETE
CONT	CONTINUOUS
DBL	DOUBLE
DJ	DOUBLE JOIST
DSP	DOUBLE STUD POCKET
EA	EACH
FL PT	FLAT PLATE
FTG	FOOTING
HGR	HANGER
LVL	LAMINATED VENEER LUMBER
NTS	NOT TO SCALE
OC	ON CENTER
PT	PRESSURE TREATED
RS	RAFTER SUPPORT
SC	STUD COLUMN
SP	STUD POCKET
TJ	TRIPLE JOIST
TYP	TYPICAL
UNO	UNLESS NOTED OTHERWISE
XJ	EXTRA JOIST





2x8 RAFTERS-

- H2.5A HURRICANE TIE AT

EACH JOIST AND RAFTER

TO DOUBLE TOP PLATE

STUD SIZE AND SPACING

-1/2" DIA. ANCHOR BOLTS

ENDS OF SILL PLATE.

SEE WOOD NOTE #6.

-TREATED SILL PLATE

1x^ x x x x x x

SEE DETAIL 1/S201 FOR FOUNDATION INFO.

AT 2'-8" O.C. AND 12" FROM

2x8 CEILING JOISTS-

9'-8" A.F.F.

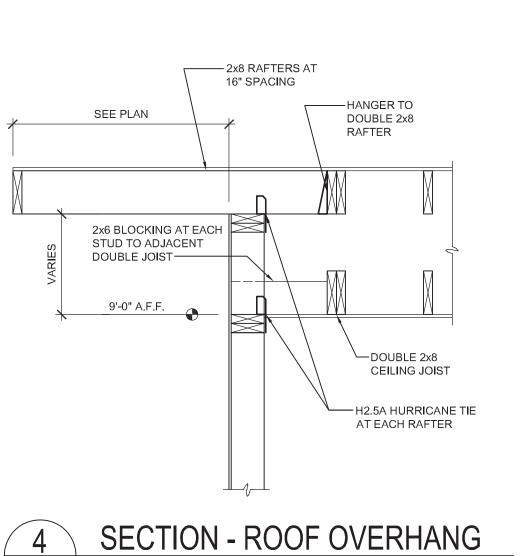
MIN. 7/16" WOOD STRUCTURAL

SEE NOTES SHEET S201 FOR

FASTENING REQUIREMENTS -

SHEATHING (PLYWOOD -or- OSB)

F.F.E. 0'-0"



SAWED JOINT-

____ SEE PLAN FOR REINF.

INDUCED CRACK

DETAIL - TYP. SLAB CONTROL JOINT

NOTES: 1. SAW JOINTS AS SOON AS CONCRETE WILL

NOT RAVEL UNDER SAW BLADE.

CONTROL.

2. ADD 20" LONG SMOOTH DOWELS WITH INSERTS

3. CONTRACTOR'S OPTION TO CUT ALTERNATING

WIRES AT JOINTS FOR ADDITIONAL CRACK

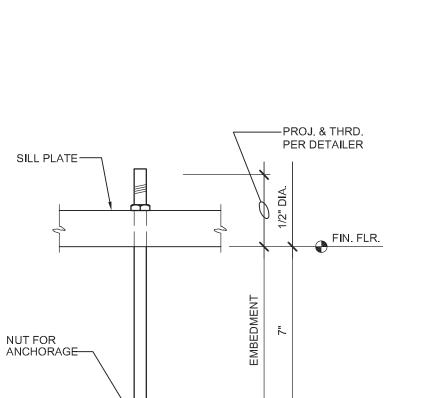
AT ALL CONSTRUCTION JOINTS (IF USED).



LINTEL SCHEDULE					
WALL TYPE	CLEAR OPENING WIDTH	LINTEL DESCRIPTION	NOTES		
CMU VENEER	UP TO 4'-0"	L 3 1/2 x 3 1/2 x 1/4	TYPICAL U.N.O.		
CMU VENEER	4'-0" TO 9'-4"	L 6 x 4 x 3/8 (LLV)	TYPICAL U.N.O.		

TYPICAL WALL SECTION

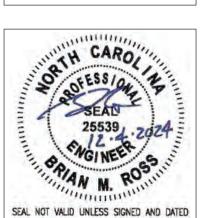
1. LINTEL SCHEDULE SHALL APPLY UNLESS NOTED OTHERWISE 2. PROVIDE MIN. 8" BEARING AT ALL LINTEL ANGLES U.N.O.







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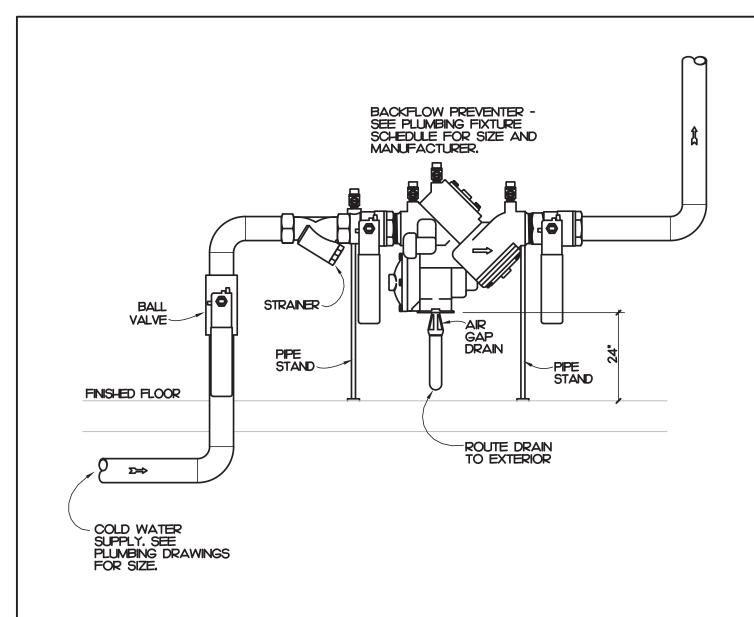
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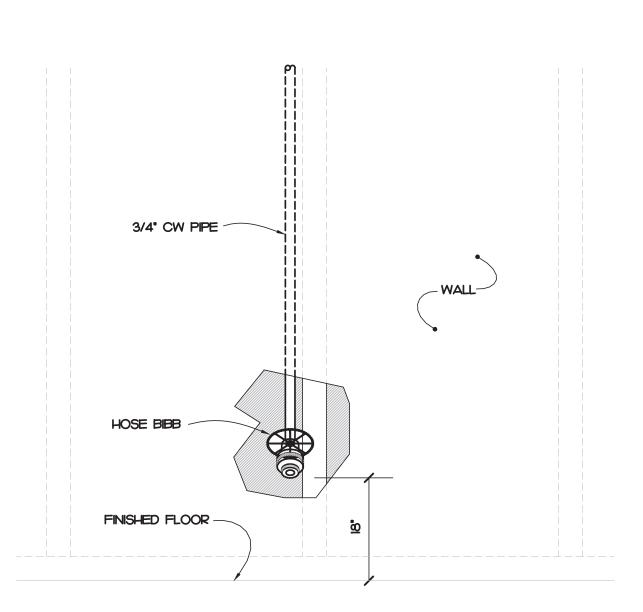
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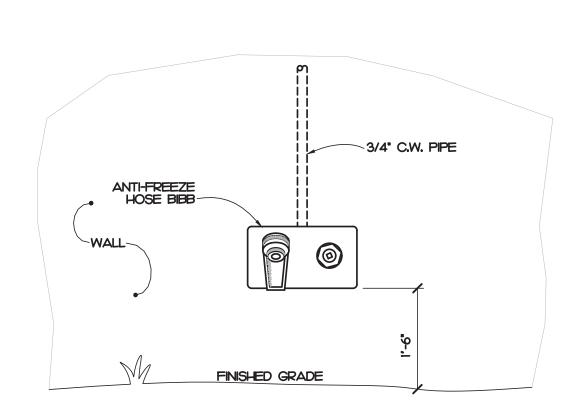
DETAILS



BACKFLOW PREVENTER DETAIL SCALE: NOT TO SCALE



INTERIOR HOSE BIBB DETAIL SCALE: NOT TO SCALE



3 EXTERIOR HOSE BIBB DETAIL SCALE: NOT TO SCALE

		PLU	INIDING	FIXTURE	. 30ne	DULE				
SYMBOL / IMAGE	DESCRIPTION			3 - E0	QUALS		1	PIP	ING CONNECTION	
		MANUFACTURER	MODEL NUMBER	MANUFACTURER	MODEL NUMBER	MANUFACTURER	MODEL NUMBER	COLD WATER	HOT WATER	SANITAR SEWER
BP-I	BACKFLOW PREVENTOR	WATTS	LF909QT-S	WILKINS	975XL2-S	FEBCO	LF860	r	-	-
	LEAD FREE, REDUC	CED PRESSURE ZONE	WITH BALL VALVES	AND STRAINER, MOUN	T 24" ABOVE FINIS	HED FLOOR,				
CO-I	WALL CLEANOUT	ZURN	CO-2413-PVC	MIFAB		JR SMITH		-	-	SEE PLU DRAWING
	ACCESS COVER	ZURN	CO-2530-SS	MIFAB		JR SMITH				
B	PVC CLEANOUT E ACCESS COVER.	BODY AND PLUG TO E	BE GAS AND WATER	TIGHT. PLUG TO HAVE	E A BRASS THREA	DED INSERT TO RECEIV	/E SECURING SCR	REW FOR STAINL	ESS STEEL RO	UND
CO-2	EXTERIOR CLEANOUT	ZURN	Z-1449-BP	WATTS	CO-380-34B	JR SMITH	4283	-	-	SEE PLU DRAWIN
	CLEANOUT FERRU	LE WITH CAST IRON E	BODY, WITH GAS AN	D WATERTIGHT BRONZ	E PLUG, MOUNT IN	CONCRETE.				
FD-I	FLOOR DRAIN	ZURN	ZN4/5S	WATTS	FD-100-M	MIFAB	FIIOOO-I	V2"	-	3"
	FLOOR DRAIN TO TRAP PRIMER CON		OTTOM OUTLET, CA	ST IRON BODY WITH A	DJUSTABLE COLLA	AR, POLISHED 6" x 6" NK	CKEL BRONZE SQI	UARE HEELPROO	OF STRAINER, A	AND 1/2"
Н	HOSE BIBB	WOODFORD	24	MIFAB	MHY-9000-NPB	ZURN	195XL	3/4"	-	-
	FOR EACH HOSE		KAINING WITH ANTE	DIFHON VACUUM BREA	KER, 3/4" INLET AN	ID OUTLET, EXTERIOR F	-INISH TO BE CHR	OME, PROVIDE V	WITH LOOSE TE	E KEY
H-2	ANTIFREEZE HOSE BIBB ANTIFREEZE HOSE	BIBB, WOODFORD	65 AUTOMATIC DRAINING	WATTS WITH ANTI-SIPHON VA	HY-420	MIFAB 3/4" INLET AND OUTLET	MHY-15	3/4"	-	-
	ANTIFREEZE HOSE BIBB ANTIFREEZE HOSE TEE KEY FOR EA	BIBB, WOODFORD E BIBB SHALL HAVE A CH HOSE BIBB, MOUNT	65 AUTOMATIC DRAINING T 12° ABOVE FINISHE	WATTS WITH ANTI-SIPHON VAD GRADE.	HY-420 ACUUM BREAKER. :	MIFAB 3/4" INLET AND OUTLET	MHY-15 T. EXTERIOR FINISH	3/4"	-	-
H-2 L-1	ANTIFREEZE HOSE BIBB ANTIFREEZE HOSE TEE KEY FOR EA	BIBB, WOODFORD E BIBB SHALL HAVE A CH HOSE BIBB, MOUNT	65 AUTOMATIC DRAINING T 12" ABOVE FINISHE K-286H0	WATTS WITH ANTI-SIPHON VAD GRADE. AMERICAN STANDARD	HY-420 ACUUM BREAKER, S 0355,012	MIFAB 3/4" INLET AND OUTLET ZURN	MHY-15 T. EXTERIOR FINISH Z5834	3/4"	-	-
	ANTIFREEZE HOSE BIBB ANTIFREEZE HOSE TEE KEY FOR EA	BIBB, WOODFORD E BIBB SHALL HAVE A CH HOSE BIBB, MOUNT KOHLER DELTA	65 AUTOMATIC DRAININK T 12" ABOVE FINISHE K-286HO 523LF-HGMHDF	WATTS WITH ANTI-SIPHON VAD GRADE. AMERICAN STANDARD CHICAGO FAUCETS	HY-420 ACUUM BREAKER. : 0355,012 2200-4	MIFAB 3/4" INLET AND OUTLET ZURN MOEN	MHY-I5 T. EXTERIOR FINISH Z5834 8470	3/4"	-	- TH LOOS
	ANTIFREEZE HOSE BIBB ANTIFREEZE HOSE TEE KEY FOR EA	BIBB, WOODFORD BIBB SHALL HAVE A CH HOSE BIBB, MOUNT KOHLER DELTA McGUIRE	65 AUTOMATIC DRAININK T 12" ABOVE FINISHE K-286H0 523LF-HGMHDF 8902	WATTS WITH ANTI-SIPHON VAD GRADE. AMERICAN STANDARD CHICAGO FAUCETS DEARBORN BRASS	HY-420 ACUUM BREAKER. 3 0355,012 2200-4 702-1	MIFAB 3/4" INLET AND OUTLET ZURN MOEN KOHLER	MHY-15 T. EXTERIOR FINISH Z5834 8470 K-8999	3/4" H TO BE CHROM	- IE. PROVIDE WI	-
	ANTIFREEZE HOSE BIBB ANTIFREEZE HOSE TEE KEY FOR EA LAVATORY FAUCET TRAP SUPPLY WALL HUNG LAVA MOUNTED FAUCE INCLUDE CHROME P-TRAP SHALL BE	WOODFORD E BIBB SHALL HAVE A CH HOSE BIBB, MOUNT KOHLER DELTA McGUIRE MCGUIRE TORY SHALL BE MAD T SHALL BE CHROME PLATED BRASS STOFE CHROME PLATED CA	65 AUTOMATIC DRAINING T 12" ABOVE FINISHE K-286H0 523LF-HGMHDF 8902 158LK DE OF CAST IRON W FINISH, SINGLE LEVE PS WITH THREADED AST BRASS BODY W	WATTS WATTS WITH ANTI-SIPHON VAD GRADE. AMERICAN STANDARD CHICAGO FAUCETS DEARBORN BRASS BRASS CRAFT WITH A WHITE FINISH, H. R, 4" CENTERS, WITH 3 CONNECTIONS, FULL T	HY-420 ACUUM BREAKER. (2) 0355.012 2200-4 702-1 RI912AC AVE 4" CENTERS, 76,78" COPPER SUPPURN BRASS STEM, BRASS ELBOW AN	MIFAB 3/4" INLET AND OUTLET ZURN MOEN KOHLER AN OVERFLOW, SEE AF LY TUBE INLETS, AND F REDUCER, AND FLANG ID CAST BRASS SLIP N	MHY-I5 T. EXTERIOR FINISH Z5834 8470 K-8999 K-7605-P-CP RCHITECTURAL DR PROVIDED WITH A SE. INLET SHALL B	3/4" H TO BE CHROM 1/2" RAWINGS FOR MIN AERATOR, RIG BE 3/8" IPS, OUTL	- IE, PROVIDE WI I/2* OUNTING HEIGH SID SUPPLY KIT LET SHALL BE	TH LOOS T. DECK SHALL 3/8° IPS.
	ANTIFREEZE HOSE BIBB ANTIFREEZE HOSE TEE KEY FOR EA LAVATORY FAUCET TRAP SUPPLY WALL HUNG LAVA MOUNTED FAUCE INCLUDE CHROME P-TRAP SHALL BE	WOODFORD E BIBB SHALL HAVE A CH HOSE BIBB, MOUNT KOHLER DELTA McGUIRE MCGUIRE TORY SHALL BE MAD T SHALL BE CHROME PLATED BRASS STOFE CHROME PLATED CA	65 AUTOMATIC DRAINING T 12" ABOVE FINISHE K-286H0 523LF-HGMHDF 8902 158LK DE OF CAST IRON W FINISH, SINGLE LEVE PS WITH THREADED AST BRASS BODY W	WATTS WITH ANTI-SIPHON VAD GRADE. AMERICAN STANDARD CHICAGO FAUCETS DEARBORN BRASS BRASS CRAFT ITH A WHITE FINISH, H. ER, 4" CENTERS, WITH 3 CONNECTIONS, FULL T	HY-420 ACUUM BREAKER. (2) 0355.012 2200-4 702-1 RI912AC AVE 4" CENTERS, 76,78" COPPER SUPPURN BRASS STEM, BRASS ELBOW AN	MIFAB 3/4" INLET AND OUTLET ZURN MOEN KOHLER AN OVERFLOW, SEE AF LY TUBE INLETS, AND F REDUCER, AND FLANG ID CAST BRASS SLIP N	MHY-I5 T. EXTERIOR FINISH Z5834 8470 K-8999 K-7605-P-CP RCHITECTURAL DR PROVIDED WITH A SE. INLET SHALL B	3/4" H TO BE CHROM 1/2" RAWINGS FOR MIN AERATOR, RIG BE 3/8" IPS, OUTL	- IE, PROVIDE WI I/2* OUNTING HEIGH SID SUPPLY KIT LET SHALL BE	TH LOOS T. DECK SHALL 3/8° IPS.
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REFER TO MANUFACTURERS WEB SITE FOR CUT SHEETS AND DATA ON THE FIXTURES AND APPURTENANCES USED IN THIS SCHEDULE,

ADA COMPLIANT ELECTRICAL POWER

PLUMBING GENERAL NOTES

- I. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE LATEST EDITION OF THE STATE CODE, ALL LOCAL AND OTHER APPLICABLE CODES.
- 2. ANY PERMITS AND INSPECTION FEES SHALL BE SECURED AND PAID FOR BY THE PLUMBING CONTRACTOR.
- 3. ALL WORK SHALL BE PERFORMED BY EXPERIENCED AND SKILLED CRAFTSMAN, THE PLUMBING CONTRACTOR SHALL COORDINATE ALL OF HIS WORK WITH ALL OTHER CONTRACTORS.
- 4. THE PLUMBING PLANS AND SPECIFICATIONS SHALL BE THOROUGHLY REVIEWED PRIOR TO PURCHASING MATERIALS AND INSTALLATION, ALL DISCREPANCIES OR INTERFERENCE'S SHALL BE BROUGHT TO THE
- 5. THESE PLANS ARE DIAGRAMMATIC AND MAY NOT SHOW MINOR DETAILS AND LOCATIONS, FOR DIMENSIONS, REFER TO THE ARCHITECTURAL PLANS.
- 6. THE PLUMBING CONTRACTOR SHALL PROVIDE ALL OPENINGS REQUIRED FOR THE PLUMBING WORK, THE

PATCHING SHALL BE BY THE PLUMBING CONTRACTOR AND FINISHING BY GENERAL CONTRACTOR.

- 7. ALL PIPE, FITTINGS, FIXTURES, AND SOLDER TO BE LEAD FREE.
- 8. WATER PIPING BELOW GRADE SHALL BE TYPE "K" COPPER (NO JOINTS BELOW GRADE) AND ABOVE GRADE TYPE "L" COPPER, SUPPORTED AS REQUIRED AND SHALL BE HYDROSTATICALLY TESTED FOR ONE HOUR AT 150 PSI, TEST TO COMPLY WITH ALL EPA STANDARDS, THE ENTIRE WATER DISTRIBUTION SYSTEM SHALL BE DISINFECTED PRIOR TO PLACING IN SERVICE.
- 9. WATER PIPING LOCATED ABOVE CEILINGS AND IN EXTERIOR WALLS SHALL BE ROUTED ON HEATED SIDE OF CEILING INSULATION (UNDERSIDE) AND WALL INSULATION (INSIDE).
- 10. ALL COLD AND HOT WATER PIPING SHALL BE INSULATED. INSULATE WASTE PIPING AS DESIGNATED ON PLUMBING DRAWINGS, INSULATION SHALL BE I'FIBERGLASS, EXPOSED PIPING TO BE WRAPPED WITH ALUMINUM
- II. WATER SHUT OFF VALVES ABOVE FINISHED CEILING ARE TO BE FREE FROM OBSTRUCTIONS SUCH AS DUCTWORK, LIGHTS, WIRING AND OTHER PIPING SO AS TO PROVIDE EASY ACCESS. MOUNT NO MORE THAN
- 12. PLUMBING CONTRACTOR SHALL PROVIDE A DIELECTRIC UNION WHEN CONNECTING DISSIMILAR MATERIAL.
- 13. WATER HEATERS SHALL HAVE AND EFFICIENCY MEETING REQUIREMENTS OF THE NORTH CAROLINA BUILDING
- 14. THE PLUMBING CONTRACTOR SHALL BE RESPONSIBLE FOR ALL ELECTRICAL AND CONTROL CONNECTIONS TO THE EQUIPMENT FURNISHED UNDER HIS CONTRACT.
- 15. SANITARY SEWER AND VENT PIPING SHALL BE SCHEDULE 40 PVC, CELLULAR CORE (FOAM CORE) IS NOT ALLOWED. SANITARY SEWER AND VENT PIPING SHALL BE GAS AND AIR TIGHT.
- 16. THE PLUMBING CONTRACTOR SHALL COORDINATE ALL WORK WITH OTHER TRADES PRIOR TO INSTALLATION
- 17. THE PLUMBING CONTRACTOR SHALL REVIEW ALL UTILITY SITE PLANS FOR WORK BY OTHERS, IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO COORDINATE HIS WORK WITH WORK BY OTHERS AND AVOID
- 18. LOCATIONS OF UTILITIES (WASTE AND WATER PIPING, ETC...) PROVIDED BY OTHERS, THAT ARE TO BE CONNECTED TO ARE ASSUMED. IT SHALL BE THE RESPONSIBILITY OF THE PLUMBING CONTRACTOR TO VERIFY THESE LOCATIONS AND MAKE FINAL CONNECTIONS AS REQUIRED.
- 19. VERIFY THE LOCATION OF ALL EQUIPMENT SUPPLIED BY OTHERS.
- 20. ALL VENT PIPING THROUGH THE ROOF SHALL BE A MINIMUM OF 15'-O" FROM ALL MAKE-UP AIR INLETS OR A MINIMUM OF 2'-0" ABOVE THE TOP OF ALL MAKE-UP AIR INLETS, VENTS THROUGH ROOF ARE TO BE ON
- 21. SEE ARCHITECTURAL DRAWINGS FOR PLUMBING MINIMUM FACILITY CALCULATIONS.
- 22. THE PLUMBING CONTRACTOR SHALL VERIFY BUILDING FLOOR ELEVATION IS ABOVE MANHOLE RIM ELEVATION OR PROVIDE A BACKWATER VALVE AS REQUIRED.
- 23. THE PLUMBING CONTRACTOR SHALL BE RESPONSIBLE FOR MINOR DEMOLITION AT NO COST TO THE OWNER.
- 24. THE PLUMBING CONTRACTOR SHALL PROVIDE THE ENGINEER WITH A SET OF AS-BUILT DRAWINGS UPON COMPLETION OF PROJECT.

PILIMBING SYMBOL I EGEND

PLUMBING 3	I MIDUL LEGEND
SYMBOL	DESCRIPTION
	COLD WATER PIPING
	WATER PIPING DIRECTION OF FLOW
····	COLD WATER PIPING BELOW FINISHED FLOOR
	HOT WATER PIPING
	BALL VALVE
G	WATER PIPING TURNED DOWN
o	WATER PIPING TURNED UP
	PIPING SIDE CONNECTION
	SANITARY SEWER / WASTE PIPING
	SANITARY SEWER / WASTE PIPING DIRECTION OF FLO
	VENT PIPING
	VENT PIPE UP
-	NON FREEZE WALL HYDRANT
	HOSE BIBB
0	PLUMBING FIXTURE PROVIDED AND INSTALLED BY PLUMBING CONTRACTOR
<u> </u>	FLOOR CLEANOUT
1	WALL CLEANOUT
O	FLOOR DRAIN
E.C.	ELECTRICAL EQUIPMENT BY ELECTRICAL CONTRACTOR ROUTE PIPING TO AVOID.

PLUMBING LOAD SUMMARY

	_		
SANITARY SEWER DEMAND FU	WATER DEMAND FU	WATER DEMAND GPM	
4.0	9.0	14.0	



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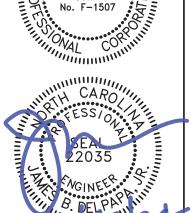
5100 UNICON DRIVE, SUITE 103 WAKE FOREST, NC 27587 919.876.5331 eddie@gontramarchitecture.com www.gontramarchitecture.com

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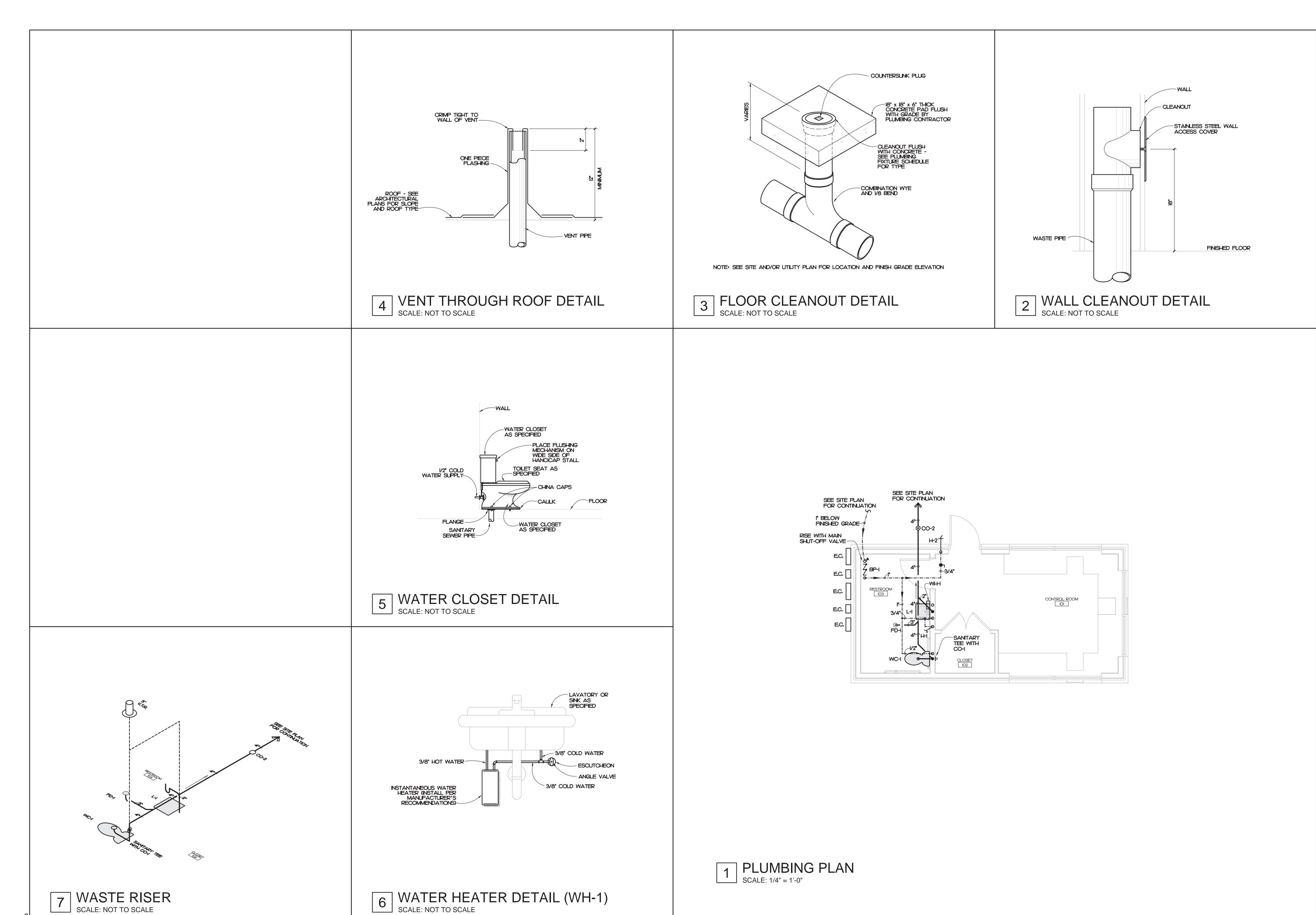
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	PLOT DATE:
	10/17/2024
	ISSUED:
	10/17/2024
	FOR CONSTRUCTION
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PROJECT NO.: RECORD:

PLUMBING NOTES, LEGENDS, DETAILS & FIXTURE SCHEDULE

P001



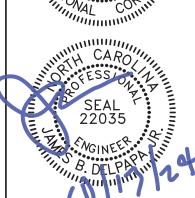
GONTRAM ARCHITECTURE, INC.

5100 UNICON DRIVE, SUITE 103 WAKE FOREST, NC 27587 PHONE: eddie@gontramarchitecture.com www.gontramarchitecture.com

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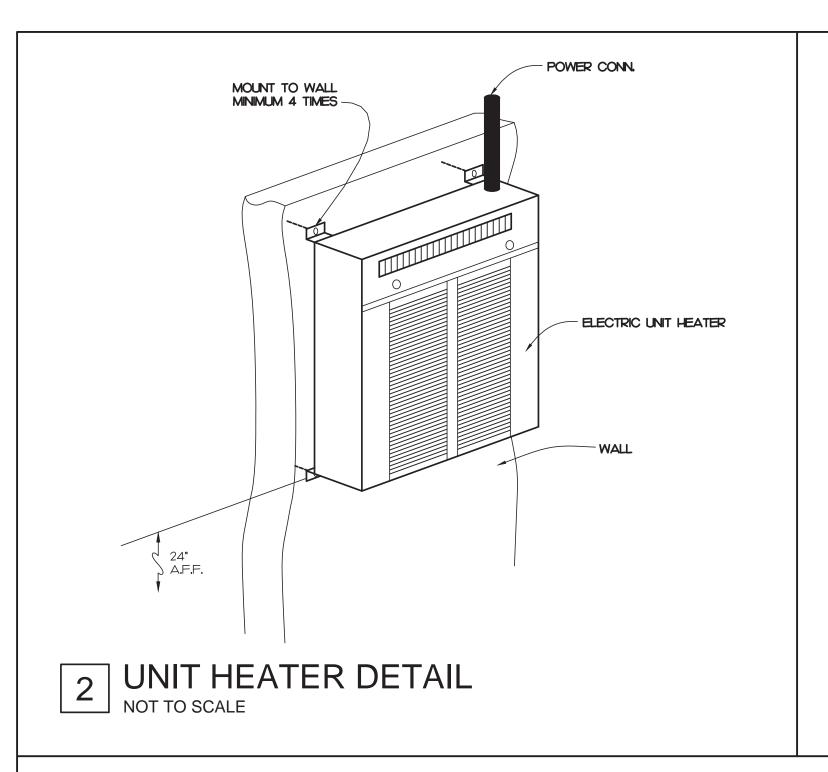
, O N O HOUSE WASTE NEW SCALE
ACKBURN SOLID CATAWBA 4017 ROCKY FORD RD

PLOT DATE: 10/17/2024 FOR CONSTRUCTION

DRAWN BY: APPROVED: JBD PROJECT NO.: RECORD: 24002

PLUMBING PLAN AND DETAILS

P101

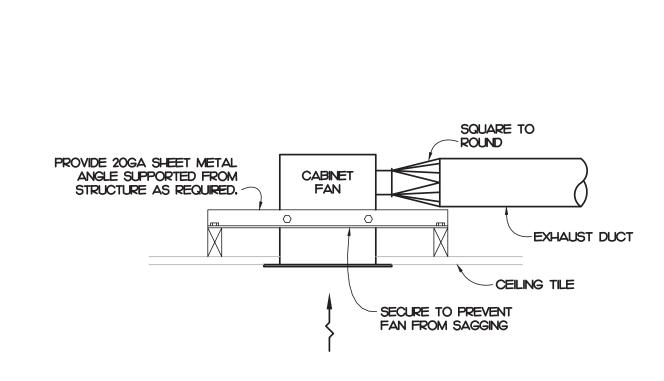


INSIDE UNIT

MITSUBISHI 475 0.29

HP-I

1. PROVIDE FUSIBLE DISCONNECT ON OUTDOOR UNIT.
2. PROVIDE MOTOR RATED SWITCH FOR INDOOR UNIT.
3. ROUTE CONDENSATE DISCHARGE TO EXTERIOR, FAN COIL PROVIDED WITH INTERNAL CONDENSATE LIFT.
4. PROVIDE WITH WIRED THERMOSTAT.
5. PROVIDE WITH LOW AMBIENT CONTROLS DOWN TO 0°F.



10.0 HSPF2

MECHANICAL KEY NOTES

<2> CEILING RECESSED FAN COIL, G.C. TO PROVIDE ACCESS PANEL IN GYPBOARD CEILING FOR SERVICING.

SCHEDULED EQUIPMENT IS BASED ON R-410A REFRIGERANT. IF EQUIPMENT USING AN A2L REFRIGERANT IS USED AS AN

EQUIVALENT, THE CONTRACTOR SHALL BE RESPONSIBLE FOR INSTALLATION, COSTS, AND LABOR FOR ALL REFRIGERANT

MONITORING AND SAFETY EQUIPMENT REQUIRED PER MANUFACTURE'S INSTALLATION INSTRUCTIONS. PRIOR TO PURCHASING OF A2L REFRIGERANT EQUIPMENT, SUBMITTALS

SHALL BE PROVIDED TO, AND REVIEWED BY THE ENGINEER

CABINET FAN DETAIL

21.0 SEER2

(I) ROUTE EXHAUST DUCT TO EXTERIOR, TERMINATE WITH WALL CAP.

HEAVY DUTY FUSIBLE DISCONNECT-OUTDOOR UNIT INSTALLED IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS. IF DISTANCE FROM WALL TO UNIT EXCEEDS 36", SUPPORT PROVIDE COIL LINE SETS AND CONDUIT UP GUARDS. OFF OF CONCRETE PAD WITH UNISTRUT. PROVIDE 6" PVC SLEEVE INTO STRUCTURE, SEAL ANY VOID WITH **EXPANDING FOAM** INSULATION. INSULATE REFRIGERANT LINE WITH 6" CONCRETE PAD BY MECHANICAL 15" CLOSED CELL RUBBER CONTRACTOR, SECURE UNIT TO

INSULATION AND COVER WITH

(Btuh) (A) (kW) POWER

3,400 | 8.3 | 1.0 | 120/1

ALUMINUM JACKET.

OUTDOOR UNIT DETAIL

PAD IN (2) OPPOSITE CORNERS.

GENERAL NOTES

- ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE LATEST EDITION OF THE STATE CODE, ALL LOCAL AND OTHER APPLICABLE CODES
- ANY PERMITS AND INSPECTION FEES SHALL BE SECURED AND PAID FOR BY THE MECHANICAL CONTRACTOR (M.C.).
- ALL WORK SHALL BE PERFORMED BY EXPERIENCED AND SKILLED CRAFTSMAN, THE M.C. SHALL COORDINATE ALL OF THEIR WORK WITH ALL OTHER CONTRACTORS,
- THE MECHANICAL PLANS AND SPECIFICATIONS SHALL BE THOROUGHLY REVIEWED PRIOR TO PURCHASING MATERIALS AND INSTALLATION, ALL DISCREPANCIES OR INTERFERENCES SHALL BE BROUGHT TO THE ENGINEERS' ATTENTION.
- THESE PLANS ARE DIAGRAMMATIC AND MAY NOT SHOW MINOR DETAILS AND LOCATIONS. FOR DIMENSIONS, REFER TO THE ARCHITECTURAL PLANS.
- THE M.C. SHALL BE RESPONSIBLE FOR ALL ELECTRICAL STARTERS, INTERLOCKS, CONTROL WIRING, THE ELECTRICAL CONTRACTOR SHALL PROVIDE POWER WIRING, CONDUIT FROM THE DISCONNECT TO M.C. EQUIPMENT. THE M.C. SHALL BE RESPONSIBLE FOR ALL FINAL CONNECTION TO THEIR EQUIPMENT.
- ALL THERMOSTATS, WIRING AND CONDUIT ARE TO BE FURNISHED BY THE M.C. MOUNT THERMOSTATS 4'-0" ABOVE THE FLOOR, UNLESS OTHERWISE NOTED.
- THE M.C. SHALL INSURE THAT ALL MECHANICAL EQUIPMENT INSTALLED UNDER THEIR CONTRACT SHALL OPERATE FREE OF OBJECTIONABLE NOISE AND VIBRATION.
- THE M.C. SHALL KEEP THE PREMISES CLEAR OF DEBRIS FROM THEIR WORK DURING CONSTRUCTION AND LEAVE THE AREA AND BUILDING CLEAN AT THE COMPLETION OF THEIR WORK, THEY SHALL ALSO LEAVE CLEAN ALL EXPOSED EQUIPMENT IN THEIR CONTRACT.
- 10. MECHANICAL CONTRACTOR SHALL WORK WITH TEST AND BALANCE CONTRACTOR TO REMEDY ANY DIFFERENCES TO INCLUDE FAN DRIVE CHANGES, INSTALLATION OF DAMPERS OR OTHER MINOR DUCT MODIFICATIONS TO PROVIDE AIRFLOW TO WITHIN +/- 10% OF THE DESIGN VALUES LISTED ON THESE PLANS.
- THE AIR HANDLING UNIT SHALL OPERATE AT ALL TIMES DURING OCCUPIED HOURS.
- THE MECHANICAL CONTRACTOR SHALL PROVIDE THE ENGINEER WITH A SET OF AS-BUILT DRAWINGS UPON COMPLETION OF JOB,
- THE MECHANICAL CONTRACTOR SHALL PROVIDE THE ENGINEER WITH A BALANCE REPORT BY A CERTIFIED TEST AND BALANCE COMPANY.
- 14. PROVIDE PERMIT LABEL ENGRAVED PLASTIC LAMINATE MECHANICALLY FASTENED TO OUTDOOR UNITS.
- 15. LABEL ALL TEMPERATURE SENSORS AND THERMOSTATS WITH EQUIPMENT IDENTIFIER.

LOCATION

RESTROOM

PROVIDE WITH POWER DISCONNECT. PROVIDE WITH INTEGRAL THERMOSTAT.

3. PROVIDE WITH SURFACE MOUNTING KIT.

SYMBOL LEGEND

SYMBOL	DESCRIPTION
(T)	EXHAUST FAN THERMOSTAT - MOUNTED 48" ABOVE FINISHED FLOOR

OUTSIDE AIR SUMMARY

OUTSIDE AIR IS PROVIDED VIA NATURAL VENTILATION THROUGH NEW DOOR (21 SQFT) WHICH EXCEEDS THE REQUIRED 12 SQFT (4% OF FLOOR AREA) PER NCMC SECTION 402.2.

E.C. RESTROOM 103 E.C. E.C. CLOSET 102

SPLIT SYSTEM HEAT PUMP SCHEDULE

OUTSIDE UNIT

17.7 / 19.7 MBH | 240/1 | 14 | 15 |

	E	KHAUS	T FAN	S	CHE	EDUL	E.		
MARK	BASIS OF DESIGN	SERVICE	TYPE	CFM	RPM	HP/AMPS	S.P.	POWER	NOTES
EF-I	COOK GC-128	RESTROOM	CABINET FAN	70	667	26 Watts	O.I°	120/1	1-4

ELECTRIC UNIT HEATER SCHEDULE

100

NOTES:

MARK BASIS C DESIGN

NOTES:

I. PROVIDE WITH DISCONNECT SWITCH. 2. PROVIDE WITH BACKDRAFT DAMPER. 3. CONTROL VIA LIGHT SWITCH BY E.C. 4. PROVIDE WITH FAN SPEED CONTROLLER.

MECHANICAL SYSTEMS, SERVICE SYSTEMS AND EQUIPMENT METHOD OF COMPLIANCE PRESCRIPTIVE X ENERGY COST BUDGET THERMAL ZONE 4A EXTERIOR DESIGN CONDITIONS winter dry bulb: 16°F summer dry bulb:93°F relative humidity: 46% INTERIOR DESIGN CONDITIONS winter dry bulb: 70°F summer dry bulb:74°F relative humidity:50% BUILDING HEATING LOAD: BLOCK LOAD = 9.4 MBH BUILDING COOLING LOAD: BLOCK LOAD = 11.6 MBH (1.0 TON) MECHANICAL SPACING CONDITIONING SYSTEM Unitary: description of unit: heating efficiency: cooling efficiency: heat output of unit: SEE SCHEDULES ON THIS SHEET cooling output of unit: Boiler: NA total boiler capacity. If oversized state reason. Chiller: NA total chiller capacity. If oversized state reason. LIST EQUIPMENT EFFICIENCIES: SEE SCHEDULES ON THIS SHEET EQUIPMENT SCHEDULES WITH MOTORS (MECHANICAL SYSTEMS) minimum efficiency: > SEE SCHEDULES ON THIS SHEET # of poles: DESIGNER 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 North Carolina State Energy Code, NAME: Patrick J. McCabe, PE TITLE: Professional Engineer

ATAW ORD NEW

GONTRAM

ARCHITECTURE, INC.

5100 UNICON DRIVE, SUITE 103

WAKE FOREST, NC 27587

eddie@gontramarchitecture.com

www.gontramarchitecture.com

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3221 BLUE RIDGE ROAD, SUITE 113 RALEIGH, NC 27612 (919) 571-1111

IMEG CONSULTANTS CORP. No. F-1507

PHONE:

PLOT DATE: 10/17/2024 ISSUED: 10/17/2024 FOR CONSTRUCTION

> DRAWN BY: APPROVED: NGB PJM PROJECT NO.: RECORD: 24002 CONTENTS:

MECHANICAL PLAN, NOTES, LEGEND, SCHEDULES, DETAILS

1 MECHANICAL PLAN

SYMBOL LEGEND <u>SYMBOL</u> <u>REMARKS</u> **DESCRIPTION** SEE FIXTURE SCHED. 2 X 4 LAY-IN FIXTURE - LETTER DESIGNATES TYPE WALL SCONCE LIGHT FIXTURE - LETTER DESIGNATES TYPE SEE FIXTURE SCHED. EXTERIOR WALL LIGHT FIXTURE - LETTER DESIGNATES TYPE SEE FIXTURE SCHED. EMERGENCY WITH EXIT LIGHT - CONNECT UNSWITCHED SEE FIXTURE SCHED. PHOTOCELL, 105-305VAC, 50/60HZ, 1800VA BALLAST LOAD TORK: ZSS124 1000W TUNGSTEN LOAD, 8A LED LOAD (UP TO 2220W 0277V) HUBBELL 1221-** WITH MOUNT 42" A.F.F. UNLESS NOTED OTHERWISE. NPJI COVER PLATE WALL MOUNTED OCCUPANCY SENSOR SWITCH, DUAL TECHNOLOGIES. SENSORWORX SWX-121-** MOUNT 42" A.F.F. UNLESS NOTED OTHERWISE. 800W/120VAC OR 1200W/277VAC NPJ26 COVER PLATE CEILING MOUNTED OCCUPANCY SENSOR, DUAL TECHNOLOGIES. SENSORWORX SWX-221-2 800W/I20VAC OR I200W/277VAC, <u>28 FT. RADIUS</u> 20A SINGLE POLE TOGGLE SWITCH WITH NEMA 3R COVER PLATE BELL 5128-0 WITH MOUNT 42" A.F.F. UNLESS NOTED OTHERWISE. THERMOPLASTIC. 5320-0 BOX SPECIFICATION GRADE DUPLEX TAMPER RESISTANT RECEPTACLE. HUBBELL HBL5362-**-TR WITH MOUNT 16" A.F.F. UNLESS OTHERWISE NOTED. NPJ8 COVER PLATE HUBBELL GFTRST20-** WITH SPECIFICATION GRADE TAMPER RESISTANT GFCI RECEPTACLE MOUNT 16" A.F.F. UNLESS NOTED OTHERWISE. NPJ26 COVER PLATE HUBBELL GFTWRST20-** WITH SPECIFICATION GRADE TAMPER RESISTANT, WEATHER RESISTANT AND GFCI DUPLEX RECEPTACLE WITH IN-USE WEATHER PROOF COVER. WP26M COVER PLATE MOUNT 16" A.F.F. UNLESS OTHERWISE NOTED. SPECIFICATION GRADE DUPLEX TAMPER RESISTANT RECEPTACLE HUBBELL HBL5362-**-TR WITH MOUNT 4" ABOVE COUNTER/BACKSPLASH. NPJ8 COVER PLATE SPECIFICATION GRADE QUAD TAMPER RESISTANT RECEPTACLE MOUNT 16" A.F.F. UNLESS OTHERWISE NOTED. HUBBELL (2) HBL5362-**-TR WITH NPJ82 COVER PLATE 13. AS BUILT DRAWINGS SHALL BE GIVEN TO THE OWNER AT THE COMPLETION OF THE PROJECT. SEE MECH. PLAN. CEILING PANEL CABINET FAN. FURNISHED AND INSTALLED BY M.C., WIRED BY E.C. JUNCTION BOX SIZED PER N.E.C. SQUARE D HEAVY DUTY DISCONNECT SWITCH SEE PLANS FOR SIZE AND TYPE SEE MECHANICAL PLAN DISCONNECT PROVIDED BY M.C., FINAL CONNECTIONS BY E.C. NEW CONCEALED WIRING PER N.E.C. UNSWITCHED LIGHTING CONDUCTOR PER N.E.C. HOME RUN TO PANEL BOARD PER N.E.C.

SQUARE D NQ/I-LINE

SEE POWER RISER

SINGLE GANG BOX HUBBELL NPJ13 COVER

NUMBERS OF ARROW INDICATE CIRCUITS

UTILITY METER BASE

ABOVE FINISHED CEILING

120/240V 10, 3W PANEL BOARD - SEE PANEL SCHEDULES

ABOVE FINISHED FLOOR - NOTE ALL MOUNTING DIMENSIONS

GIVEN ARE TO THE BOTTOM OF THE OUTLET BOX

OUTLET, COVER PLATE AND WIRING BY OTHERS.

COMMUNICATION OUTLET - MOUNT 16" A.F.F. UNLESS OTHERWISE NOTED STUB 3/4" CONDUIT TO ACCESSIBLE CEILING OR ATTIC SPACE.

PROVIDE GROUND BAR AND CONNECT 1-#6 AWG GROUND IN 1/2" C. TO PANEL

COMMUNICATION BACKBOARD: 24" x 24" x 3/4" THICK FIREPROOFED PLYBOARD MOUNTED TO WALL

GENERAL NOTES

- THE CONTRACTOR SHALL REFER TO THE ARCHITECTURAL PLANS FOR FLOOR PLAN DIMENSIONS. DO NOT SCALE THESE DRAWINGS.
- 2. THE ELECTRICAL CONTRACTOR SHALL COORDINATE ANY AND ALL WORK WITH OTHER TRADES INVOLVED IN THE PROJECT, PRIOR TO THE INSTALLATION OF HIS EQUIPMENT SO AS TO AVOID
- CONFLICTS DURING CONSTRUCTION AND TO ALLOW FOR OPTIMUM MAINTENANCE AND WORKING SPACE, 3. USE OF THE CONDUIT SYSTEM FOR EQUIPMENT GROUNDING SHALL NOT BE ACCEPTABLE. A SEPARATE GREEN GROUND WIRE SHALL BE RUN WITH THE CIRCUIT CONDUCTORS IN EACH CONDUIT.
- 4. ALL BREAKER SIZES, SHOWN FOR MECHANICAL EQUIPMENT, SHALL BE VERIFIED BEFORE THE PURCHASE OR INSTALLATION OF SAID EQUIPMENT, WITH THE EQUIPMENT SUPPLIER AND THE MECHANICAL
- 5. ALL WORK AND MATERIAL SHALL BE PROVIDED IN ACCORDANCE WITH THE STATE, LOCAL AND NATIONAL CODES, ORDINANCES AND 2020 NATIONAL ELECTRICAL CODE (NFPA 70).
- 6. EACH CONTRACTOR SHALL PROVIDE HIS OWN SUPPORT OF ALL DEVICES AND EQUIPMENT PROVIDED BY HIM AND SHALL SUPPORT SUCH EQUIPMENT PER APPROVED GOVERNING CODES OR PER APPROVAL OF THE ENGINEER. UNACCEPTABLE WORKMANSHIP OR MATERIALS SHALL BE REPLACED AT THE REQUEST OF THE ENGINEER AT THE CONTRACTOR'S EXPENSE.
- 7. THE MOUNTING HEIGHTS AND LOCATIONS OF ALL WALL MOUNTED OUTLETS AND JUNCTION BOXES SHALL BE REVIEWED AND COORDINATED WITH THE ARCHITECT, PRIOR TO INSTALLATION FOR USE WITH THE ACTUAL EQUIPMENT, CASEWORK, AND MILLWORK TO BE FURNISHED.
- 8. THE ELECTRICAL CONTRACTOR SHALL PROVIDE ALL NECESSARY DISCONNECTS, SWITCHES, AND RECEPTACLES UNDER THE ELECTRICAL BID AND SHALL INCLUDE ALL NECESSARY CIRCUITS TO AND FINAL CONNECTIONS TO THE EQUIPMENT PROVIDED BY ALL SUPPLIERS. SEE DETAILS FOR CONNECTION TO EQUIPMENT PROVIDED BY MECHANICAL AND PLUMBING CONTRACTORS
- WHERE ELECTRICAL EQUIPMENT PENETRATES RATED WALLS AND CEILINGS, EXTERIOR WALLS, THEY SHALL BE PROPERLY SEALED PER APPROVED UL METHODS.

 • WHERE ELECTRICAL EQUIPMENT PENETRATES EXTERIOR WALLS, THEY SHALL BE PROPERLY SEALED
- WITH METHODS APPROVED BY THE ENGINEER, SUBMIT DETAIL OF PROPOSED SEALING METHODS. 10. ALL PERMITS AND INSPECTION FEES SHALL BE SECURED AND PAID BY THE ELECTRICAL CONTRACTOR.
- ALL WORK SHALL BE PERFORMED BY A LICENSED ELECTRICAL CONTRACTOR. 12. THE CONTRACTOR SHALL PROVIDE COMPLETE UPDATED TYPEWRITTEN PANEL SCHEDULES FOR ALL
- 14. THE CONTRACTOR SHALL VERIFY THE CEILING TYPES WITH THE GENERAL CONTRACTOR PRIOR TO THE PURCHASE OF ANY LIGHT FIXTURES SO THAT THE PROPER TRIM WILL BE PROVIDED FOR ALL FIXTURES. ANY DIFFERENCES WILL BE THE RESPONSIBILITY OF THIS CONTRACTOR.
- IS. ALL WIRE SIZES INDICATED ON THE PANEL SCHEDULES ARE BASED ON 75 DEGREE COPPER THIN/THWN WIRE. ALL WIRE TERMINALS AND EQUIPMENT SHALL BE LISTED AND APPROVED FOR 75°C. ONLY THWN-2 WIRE SHALL BE INSTALLED IN WET AND EXTERIOR LOCATION.
- 16. MINIMUM CONDUIT SIZE SHALL BE 1/2" AND MINIMUM WIRE SIZE SHALL BE #12 AWG.
- 17. ARMORED CABLE (TYPE AC) AND METAL-CLAD CABLE (TYPE MC) ARE ACCEPTABLE WIRING METHODS SUBJECTED TO THE FOLLOWING RESTRICTIONS: • SEE NEC 320 AND 330 FOR RESTRICTION.
- PENETRATIONS OF RATED WALLS SHALL BE IN ACCORDANCE WITH APPROVED UL PENETRATION METHODS.
- CABLE SHALL NOT BE USED FOR HOME RUN TO PANEL BOARD.
 CABLE SHALL ONLY BE INSTALLED IN CONCEALED SPACE AND FURRED AREAS. MAX. LENGTH OF EACH SECTION IN ACCESSIBLE CONCEALED CEILING SPACES SHALL NOT EXCEED IO FT.
 WHERE REQUIRED BY NEC 517.13, CABLE SHALL BE LISTED FOR THE USE.
- 18. THE MAXIMUM NUMBER OF HOMERUNS IN A CONDUIT SHALL NOT EXCEED THREE (3). FEEDING CIRCUITS
- WITH SHARED NEUTRAL SHALL BE SWITCHED TOGETHER.
- 19. ALL DISCONNECTS SHALL HAVE SEPARATE NEUTRAL AND GROUND BARS.
- 20. ALL PANELS SHALL BE ONE PHASE, THREE WIRE UNLESS OTHERWISE NOTED.
- 21. FOR ALL RECEPTACLES LOCATED ABOVE COUNTER TOP, MOUNTING HEIGHT SHALL COMPLY WITH ANSI AII7.I, SECTION 308. E.C. SHALL FIELD VERIFY CASEWORK DETAIL WITH ARCHITECT PRIOR TO ROUGH-IN.
- ELECTRICAL IDENTIFICATION
 FURNISH AND INSTALL ENGRAVED LAMINATED PHENOLIC NAMEPLATES FOR ALL SAFETY SWITCHES, PANEL BOARDS, TRANSFORMERS, SWITCHBOARDS, MOTOR CONTROL CENTERS AND OTHER ELECTRICAL EQUIPMENT SUPPLIED FOR THE PROJECT FOR IDENTIFICATION.
 FURNISH AND INSTALL SELF-ADJESIVE TAPE FOR ALL RECEPTACLE AND WALL SWITCH
- COVER PLATES INDICATING CIRCUIT NUMBERS.
- 23. THE ELECTRICAL CONTRACTOR SHALL FIELD COORDINATE THE INSTALLATION OF THE NEW UNDERGROUND ELECTRICAL SERVICE WITH THE LOCAL UTILITY. THE OWNER SHALL PAY ALL CHARGES FOR THE INSTALLATION OF THE NEW UNDERGROUND UTILITY SERVICE.
- 24. THE ELECTRICAL CONTRACTOR SHALL FIELD COORDINATE THE LOCATION OF HIS TELEPHONE CONDUIT STUB OUTS WITH THE LOCAL TELEPHONE COMPANY PRIOR TO HIS INSTALLING ANY CONDUITS.

2018 NORTH CAROLINA **ENERGY CODE**

ELECTRICAL SYSTEM AND EQUIPMENT METHOD OF COMPLIANCE: PRESCRIPTIVE LIGHTING SCHEDLILE:

	LI	GHING SCHEDULE	
LAMP TYPE REQUIRED:	FLUORESCENT T8/T5	LED	CFL
NUMBER OF LAMPS:	N/A	SEE	N/A
BALLAST TYPE USED:	N/A	FIXTURE	N/A
NUMBER OF BALLASTS:	N/A	SCHEDULE	N/A
TOTAL WATTAGE PER FIXTURE:	N/A		N/A
I LR I IXTORE			

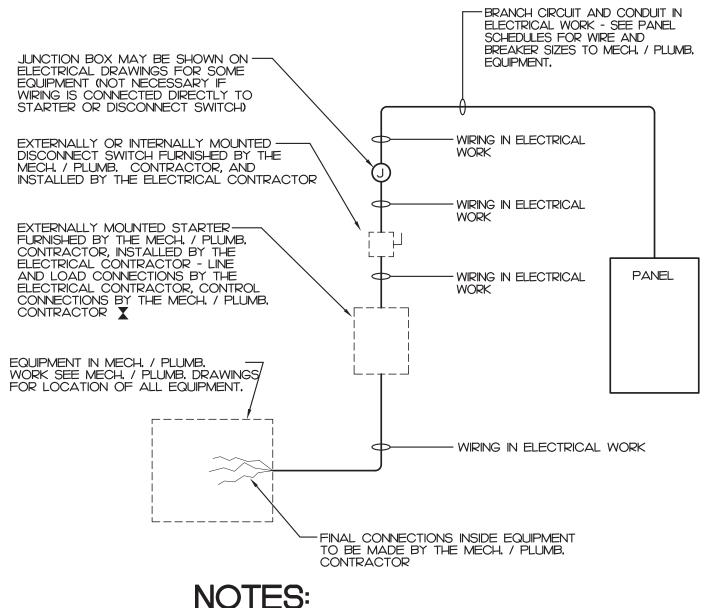
	SPECIFIED	ALLOWED BY CODE
INTERIOR WATTAGE		
OFFICE		314
TOTAL	155	282 **
EXTERIOR WATTAGE	ZONE 3	
ALLOWANCE	42	750

INCAN

- I. ** VALUE PER SECTION C405.4.2. MECHANICAL OR PLUMBING SYSTEM ARE DESIGNED TO MEET REQUIREMENTS PER SECTION C406.2. REQUIREMENTS PER SECTION C406.3 IS NOT REQUIRED.
- CONTROLLED BY PHOTOCELL THAT WILL NOT INTENDED TO BE ON FOR 24 HOUR OPERATION.

TO THE BEST OF MY KNOWLEDGE AND BELIEF, THE DESIGN OF THIS BUILDING COMPLIES WITH THE ELECTRICAL SYSTEM AND EQUIPMENT REQUIREMENTS OF THE NORTH CAROLINA STATE BUILDING CODE, 2018 - ENERGY.

MATTHEW C. BRILEY, P.E. NAME: TITLE: ENGINEER



I. X A COMBINATION STARTER MAY BE USED IN LIEU OF A A SEPARATE DISCONNECT SWITCH AND STARTER 2. E.C. SHALL FURNISH ALL REQUIRED FUSES.

WIRING TO MECHANICAL AND PLUMBING EQUIPMENT NOT TO SCALE

LIGHT FIXTURE SCHEDULE DESCRIPTION CATALOG ELECTRICAL DATA NOTES 2x4 LED FLAT PANEL FIXTURE 3000 LUMEN LED, 3500K SURFACE MOUNTED CPX-2X4-3000LM-80CRI-35K-SWL-0-10V ELECTRONIC DIMMING DRIVER MINIO-MVOLT 25 WATTS - 28 VA, 120-277V SURFACE MOUNT KIT: 2X4SMKSH WITH SURFACE MOUNT KIT 2x4 LED FLAT PANEL FIXTURE 5000 LUMEN LED, 3500K CPX-2X4-5000LM-80CRI-35K-SWL-O-IOV ELECTRONIC DIMMING DRIVER SURFACE MOUNTED 5000 LUMEN WITH SURFACE MOUNT KIT MINIO-MVOLT 35 WATTS - 39 VA, 120-277V SURFACE MOUNT KIT: 2X4SMKSH EXTERIOR WALL PACK 3000 LUMEN LED, 3000K ELECTRONIC DRIVER WDGE2LED-P3-30K-80CRI-*-MVOLT 18 WATTS, 20 VA, 120-277V EMERGENCY WITH EXIT LIGHT 4 WATTS - 4 VA, I20/277V I SIDE RED LETTER WITH BATTERY BACKUP LHQM-LED-R-SD EXTERIOR EMERGENCY LIGHT LITHONIA: AFF-OEL-*-FCT I WATTS - 12 VA, 120/277V LISTED FOR WET LOCATION WITH BATTERY BACKUP

NOTES:

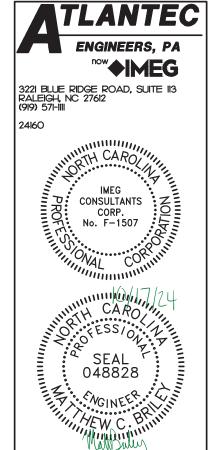
- I. SEE ARCHITECTURAL PLAN FOR MOUNTING LOCATION AND HEIGHT. FIELD COORDINATE MOUNTING HEIGHT WITH ARCHITECT IF NOT SHOWN ON ARCHITECTURAL PLAN.
- 2. E.C. SHALL SUBMIT CATALOG TO ARCHITECT FOR APPROVAL PRIOR PURCHASE ANY. FINISH COLOR/TRIM SUBJECT TO BE CHANGED



GONTRAM ARCHITECTURE, INC.

5100 UNICON DRIVE, SUITE 103 WAKE FOREST, NC 27587 PHONE: 919.876.5331 eddie@gontramarchitecture.com www.gontramarchitecture.com

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PLOT DATE 10/17/2024 ISSUED: 10/17/2024 FOR CONSTRUCTION APPROVED: DRAWN BY: SWM MCB PROJECT NO.: RECORD: 24002 CONTENTS:

ELECTRICAL

SYMBOL LEGEND. NOTES, DETAILS

SHEET: E001

LIGHTING KEY NOTES

 $\widehat{\mbox{\large ||}}$ EXTERIOR LIGHT TO BE USED AS A NORMALLY OFF EMERGENCY LIGHT. CONNECT BATTERY BACKUP AHEAD OF PHOTOCELL CONTROL

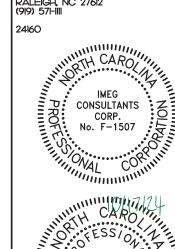


GONTRAM ARCHITECTURE, INC.

> 5100 UNICON DRIVE, SUITE 103 WAKE FOREST, NC 27587 PHONE: 919.876.5331 eddie@gontramarchitecture.com www.gontramarchitecture.com

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PLOT DATE: 10/17/2024 4017

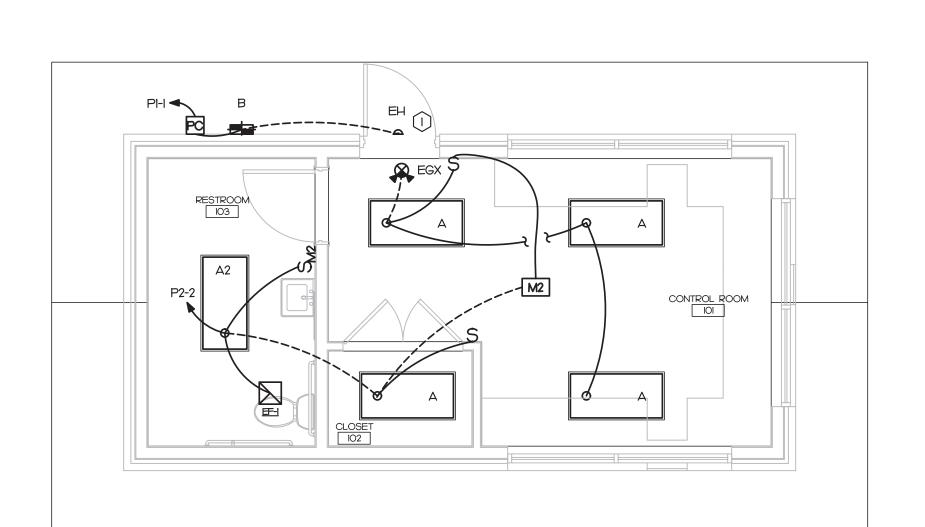
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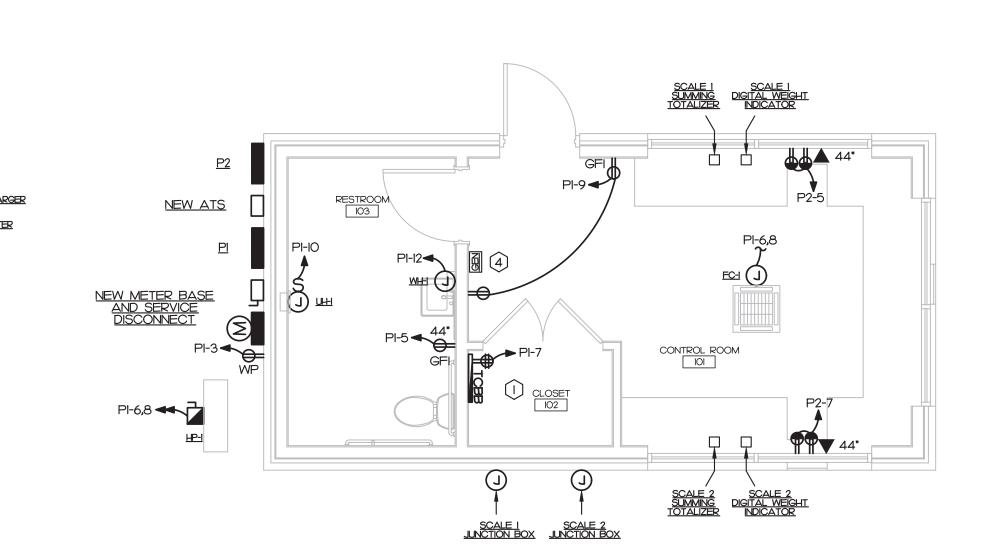
24002 ELECTRICAL PLANS

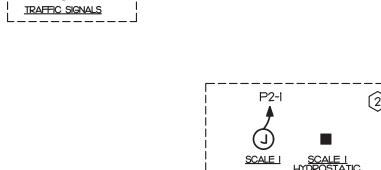
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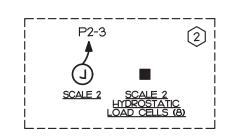
E101



1 LIGHTING PLAN SCALE: 1/4" = 1'-0"







NOTES I. COORDINATE EXACT LOCATION OF ALL SCALE EQUIPMENT WITH SCALE VENDOR,

POWER KEY NOTES

- COMMUNICATION BOARD.

 STUB 2-2" EMPTY CONDUITS TO PROPERTY LINE PER TELEPHONE COMPANY. PROVIDE WITH PULLWIRE,

 PROVIDE GROUND BAR AND I-#6G CU IN I/2" TO PANEL.

 MOUNT RECEPTACLE ON BOARD TO ACCOMODATE EQUIPMENT.
- (2) COORDINATE SCALE AND LOAD CELL LOCATION WITH SCALE VENDOR PRIOR TO ROUGH-IN
- 3 COORDINATE EXACT LOCATION OF TRAFFIC SIGNALS WITH OWNER PRIOR TO ROUGH-IN. SEE 3/EI01 FOR DETAILS
- $\stackrel{ ext{\scriptsize (4)}}{ ext{\scriptsize E.C.}}$ E.C. TO FIELD COORDINATE EXACT LOCATION OF GENERATOR ANNUNCIATOR PANEL WITH OWNER AND ARCHITECT PRIOR TO ROUGH-IN

KEY NOTES

- (i) E.C. TO PROVIDE I" CONDUIT
- 2 E.C. TO PROVIDE 4" CONDUIT
- (3) E.C. TO PROVIDE (8) I" CONDUITS. RUN (1) CONDUIT TO EACH HYDROSTATIC LOAD CELL FROM JUNCTION BOX

DIGITAL INDICATOR

SUMMING TOTALIZER

NEMA 3R SS J-BOX

HYDROSTATIC LOAD CELL (TYP. OF 8 PER SCALE)

NOTES COORDINATE EXACT LOCATION OF ALL SCALE EQUIPMENT WITH SCALE VENDOR, 2. RISER IS TYPICAL OF BOTH SCALES,

3 SCALE LOAD CELL RISER DIAGRAM NOT TO SCALE

KEY NOTES

- NEW 120/240V, 10, 3W UNDERGROUND SERVICE CONDUCTORS:

 (3) #3 IN I-1/4" CONDUIT

 E.C. TO PROVIDE A PRICE PER FOOT.

 IF LOCAL UTILITY PROVIDES UNDERGROUND SERVICE CONDUCTORS, E.C. TO PROVIDE OWNER WITH A CREDIT
- (2) NEW METER BASE ACCORDING TO LOCAL UTILITY
- 3 NEW SERVICE ENTRANCE CONDUCTORS:
 (3) #3 IN I-I/4" CONDUIT
- SERVICE DISCONNECT:

 IOOA, 240 VOLT, 2-POLE, NEMA 3R FUSIBLE DISCONNECT

 FUSE WITH IOOA FUSES, MIN. AIC RATING OF 42KA. FUSES SHALL BE CURRENT LIMITING FUSE THAT HAVE PEAK LET-THROUGH NOT HIGHER THAN 22KA ON LOAD SIDE WHERE AVAILABLE FAULT CURRENT IS 42KA OR LOWER

 SEE NOTE #1

 ABEL 'SEDVICE DISCONNECT'
- NEW GROUNDING ELECTRODE CONDUCTORS PER NEC 250:

 (I) #8G IN 1/2" CONDUIT TO BUILDING STEEL, C.W. MAIN IF AVAILABLE

 (I) #6G IN 1/2" CONDUIT TO 2 DRIVEN RODS

 (I) #4G IN 1/2" CONDUIT TO REINFORCED STEEL AT CONCRETE FOOTING IF AVAILABLE
- 6 NEW FEEDER: • (3) #3, (1) #8G IN 1-1/4" CONDUIT
- 7 NEW PANELBOARD, SEE PANEL SCHEDULE FOR DETAILS
- 8 NEW FEEDER:
 (3) #10, (1) #10G IN 3/4" CONDUIT
- 9 NEW AUTOMATIC TRANSFER SWITCH:

 30A, 2P, 240V, OPEN TRANSITION, MIN. AIC RATING OF 22KA

 WALL MOUNTED NEMA 3R ENCLOSURE

 FRONT ACCESS ONLY
- OPTIONAL STANDY LP GENERATOR:

 OKW, 120/240V, 10, 3W

 AND MAIN BREAKER

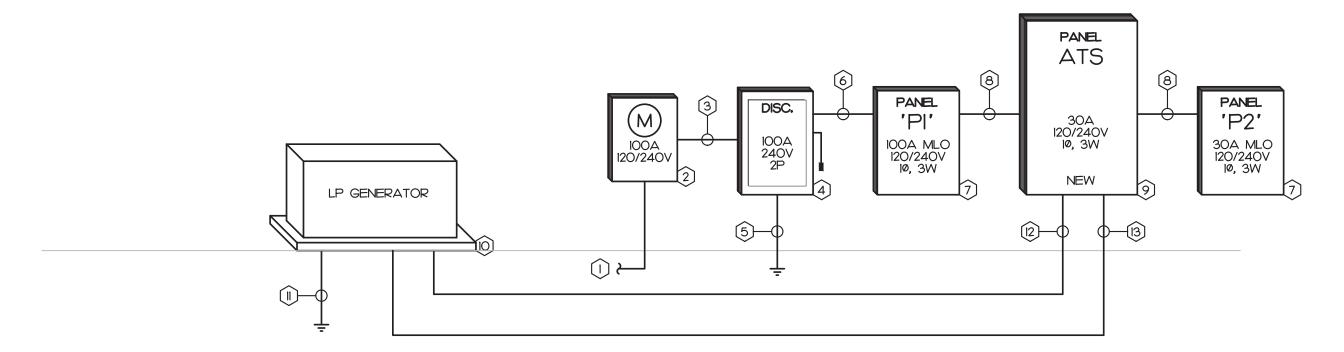
- 30A MAIN BREAKER
 ALUMINUM, LEVEL I SOUND ATTENUATED ENCLOSURE
 PROVIDE CONCRETE PAD AS REQUIRED
 PROVIDE EMERGENCY SHUTDOWN SWITCH AT THE EXTERIOR OF ENCLOSURE, LABEL 'GENERATOR EMERGENCY SHUTDOWN'
 PROVIDE WITH REMOTE ANNUNCIATOR LOCATED INSIDE BUILDING, SEE PLAN FOR REMOTE ANNUNCIATOR LOCATION
 DO NOT BOND NEUTRAL TO GROUND BAR
 PROVIDE WITH 120V BATTERY CHARGER AND JACKET HEATER
- NEW GROUNDING ELECTRODE CONDUCTORS PER NEC 250:

 (I) #8G IN 1/2" CONDUIT FROM GROUND BAR TO GENERATOR CHASSIS

 (I) #6G IN 1/2" CONDUIT TO 2 DRIVEN RODS

 (I) #4G IN 1/2" CONDUIT TO REINFORCED STEEL AT CONCRETE FOOTING IF AVAILABLE
- (12) GENERATOR CONTROL AND ANNUNCIATOR WIRING IN CONDUIT BETWEEN GENERATOR AND ATS
- NEW GENERATOR FEEDER:

 (3) #10, #10G IN 3/4" CONDUIT



POWER RISER NOT TO SCALE

PANEL	P1														120/240V, 1 PHASE, 3 WIR			
CKT	T DESCRIPTION			С	G	W	СВ	CKT	CKT	СВ	W	G	С	KVA	DESCRIPTION CK			
I EXTERIOR	I EXTERIOR LIGHTING			1/2	12	12	20	1	2	30	10	10	3/4	0.6	PANEL P2 2			
3 REC EXTERIOR			0.4	1/2	12	12	20	3	4	2P	10			0.9	VIA ATS 4			
5 REC 103			0.2	1/2	12	12	20	5	6	15	12	12	1/2	1.7	HP-1, FC-1 <u>6</u>			
7 REC TCBB			0.4	1/2	12	12	20	7	8	2P	12			1.7	8			
9 REC IOI			0.4	1/2	12	12	20	9	10	15	12	12	1/2	1.0	UH-1 1C			
II SPARE			0.0				20	11	12	30	10	10	3/4	2.4	NOTE 2 WH-I 12			
13 SPARE			0.0				20	13	14	20	12	12	1/2	1.5	BATTERY CHARGER 14			
15 SPARE			0.0				20	15	16	20	12	12	1/2	1.5	JACKET HEATER 16			
	7 SPACE ONLY							17	18					0.0	SPACE ONLY 18			
19 SPACE ON	9 SPACE ONLY							19	20					0.0	SPACE ONLY 20			
21 SPACE ON	I LY		0.0					21	22					0.0	SPACE ONLY 22			
23 SPACE ON	I LY		0.0					23	24					0.0	SPACE ONLY 24			
25 SPACE ON	I LY		0.0					25	26					0.0	SPACE ONLY 26			
27 SPACE ON	I LY		0.0					27	28					0.0	SPACE ONLY 28			
29 SPACE ON	I LY		0.0					29	30					0.0	SPACE ONLY 30			
31 SPACE ONLY			0.0					31	32					0.0	SPACE ONLY 32			
33 SPACE ONLY			0.0					33	34					0.0	SPACE ONLY 34			
35 SPACE ONLY			0.0					35	36					0.0	SPACE ONLY 36			
37 SPACE ONLY			0.0					37	38					0.0	SPACE ONLY 38			
39 SPACE ONLY			0.0					39	40					0.0	SPACE ONLY 40			
41 SPACE ON	ILY		0.0					41	42					0.0	SPACE ONLY 42			
DESCRIPTION										MOUNTING								
	KVA FACTOR KVA MAIN							MAIN LUGS ONLY NEMA 3R ENCLOSUR										
CONT. LOAD	0.10	125%	0.13	IO K MINIMUM AIC RATING GROUND BAR											BAR			
RECEPTACLE	1.26	100%/50%	1.26	_														
MTRS/COOLS	3.36	100%	3.36															
HEATS	1.00	100%	1.00															
WATER HEATER		100%	2.40	NOTE	_										CONNECTED LOADS			
EQUIPMENT	3.00	100%	3.00	-	UARE		_								PHASE A: 4.8 KV			
KITCHEN EQUIP.	0.00	65%	0.00	2. E.	PHASE B: 6.3 KV													
SPECIAL EQ.	0.00	100%	0.00	3.														
25% OF LARGES	0.65	4.											TOTAL: II.I KV					
TOTAL DEMAND	11.79	5.											DEMAND 49 AM					

PANEL	P2														12	20/240V, 1 PHASE, 3 \	WIKE
CKT DESCRIPTION			KVA	С	G	W	CB	CKT		CKT	СВ	W	G	С	KVA	DESCRIPTION	CKT
I SCALE I			O.I	1/2	12	12	20	1		2	20	12	12	1/2	0.2	INTERIOR LIGHTING	∋ 2
3 SCALE 2			O.I	1/2	12	12	20	3		4	20	12	12	1/2	0.4	TRAFFIC SIGNAL	5 4
5 REC 101			0.4	1/2	12	12	20	5		6					0.0	SPACE ONL	Y 6
7 REC IOI			0.4	1/2	12	12	20	7		8					0.0	SPACE ONL	Y 8
9 SPACE ONL	_Y		0.0					9		10					0,0	SPACE ONL	Y 10
II SPACE ONL	_Y		0.0					11		12					0,0	SPACE ONL	Y 12
13 SPACE ONL	_Y		0.0					13		14					0,0	SPACE ONL	Y 14
15 SPACE ONL	_Y		0.0					15		16					0.0	SPACE ONL	Y 16
17 SPACE ONL	_Y		0.0					17		18					0,0	SPACE ONL	Y 18
19 SPACE ONL	_Y		0.0					19		20					0.0	SPACE ONL	Y 20
21 SPACE ONL	_Y		0.0					21		22					0,0	SPACE ONL	Y 22
23 SPACE ONL	_Y		0.0					23		24					0.0	SPACE ONL	Y 24
25 SPACE ONL	_Y		0.0					25	_	26					0,0	SPACE ONL	
27 SPACE ONLY			0.0					27		28					0.0	SPACE ONL	Y 28
29 SPACE ONL	_Y		0.0					29		30					0.0	SPACE ONL	Y 30
	T	DEMAND	1	1													
ESCRIPTION	CONNECTED	DEMAND		30 A		NTING											
	KVA	FACTOR	KVA	1	MAIN LUGS ONLY NEMA 3R ENCLOSURE								OSURE				
ONT, LOAD	0.16	125%	0.19	IO K MINIMUM AIC RATING GROUND BAR													
ECEPTACLE	0.00	100%/50%	0.00	1													
ITRS/COOLS	0.72	100%	0.72	1													
EATS	0.00	100%	0.00														
IATER HEATER		100%	0.00	NOTE												CONNECTED LOADS	
QUIPMENT	0.60	100%	0.60	ji, SG	UARE	D: N	Q										6 KVA
ITCHEN EQUIP,	0,00	65%	0.00	2.												PHASE B: 0.	9 KVA
PECIAL EQ.	0.00	100%	0.00	3.													
25% OF LARGEST HVAC/MOTOR			0.00	4.												•	5 KVA
TOTAL DEMAND			1,51	5.												DEMAND	5 AMP

NOTES

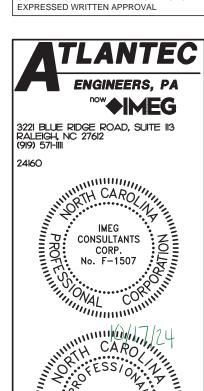
FAULT CURRENTS:
 E.C. SHALL OBTAIN AVAILABLE FAULT CURRENT FROM ENGINEER AND PROVIDE LABEL INDICATING FAULT CURRENTS ON SERVICE DISCONNECT AND PANEL BOARD PER ENGINEER INSTRUCTION.



GONTRAM ARCHITECTURE, INC.

5100 UNICON DRIVE, SUITE 103 WAKE FOREST, NC 27587 PHONE: 919.876.5331 eddie@gontramarchitecture.com www.gontramarchitecture.com

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WGINEER.

ACILIT for S WAST SOLID CKBURN

10/17/2024 10/17/2024 FOR CONSTRUCTION

> APPROVED: MCB PROJECT NO.: RECORD:

> CONTENTS: POWER RISER, PANEL SCHEDULE

> > E201