

File #

8-C-23-VA



BOARD OF ZONING APPEALS APPLICATION

*******OFFICE USE ONLY*******

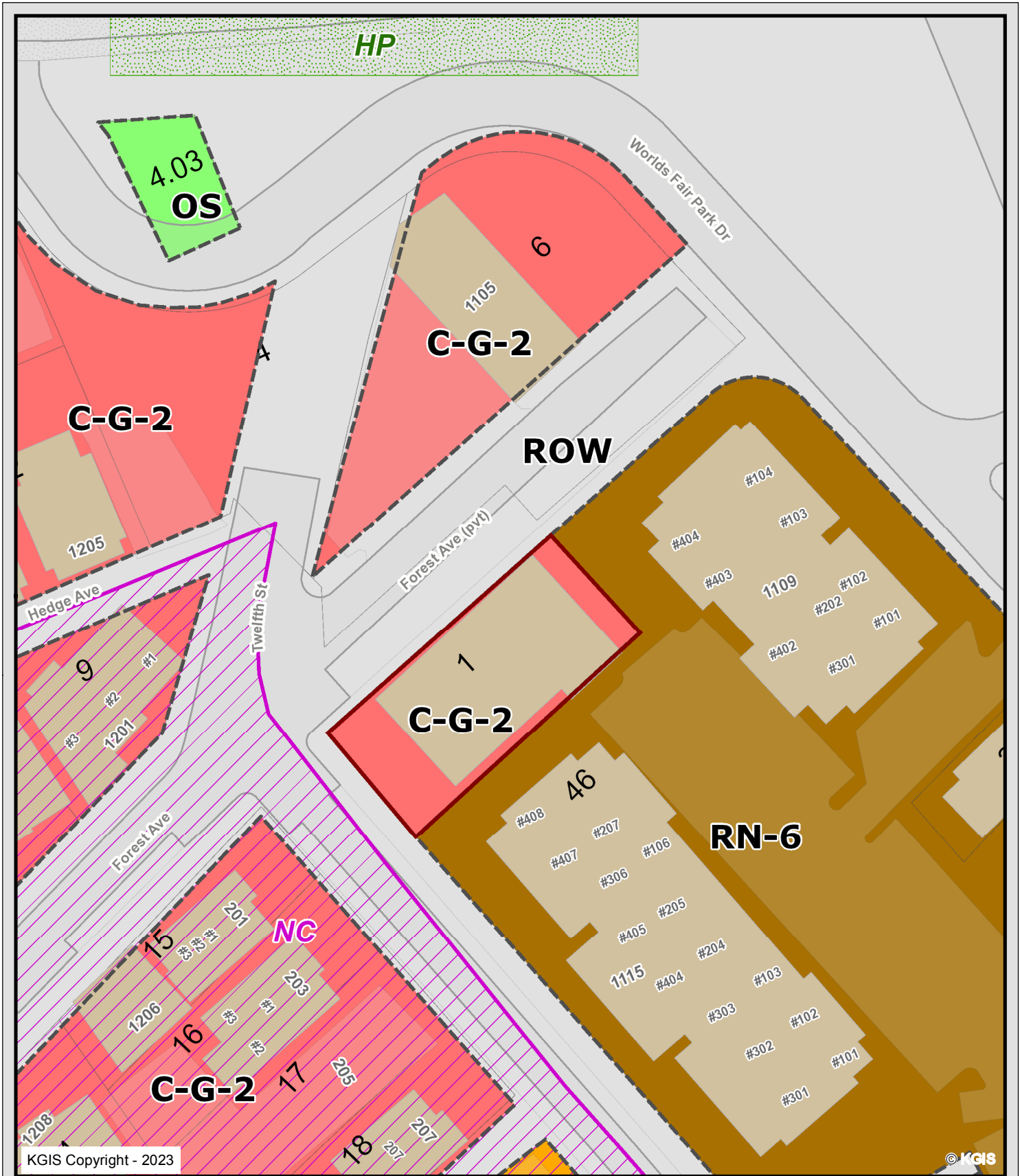
Is a plat required? Yes No

VARIANCE REQUEST(S) WITH ORDINANCE CITATION(S):

(This area is currently blank for the variance request.)

PROJECT INFORMATION

Date Filed	Fee Amount
Council District 1	BZA Meeting Date
PLANS REVIEWER	DATE



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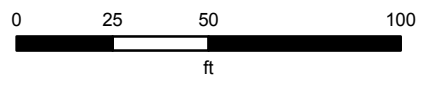
1108 FOREST AVE

8-C-23-VA
AWS AL HADEETHI

Knoxville - Knox County - KUB Geographic Information System

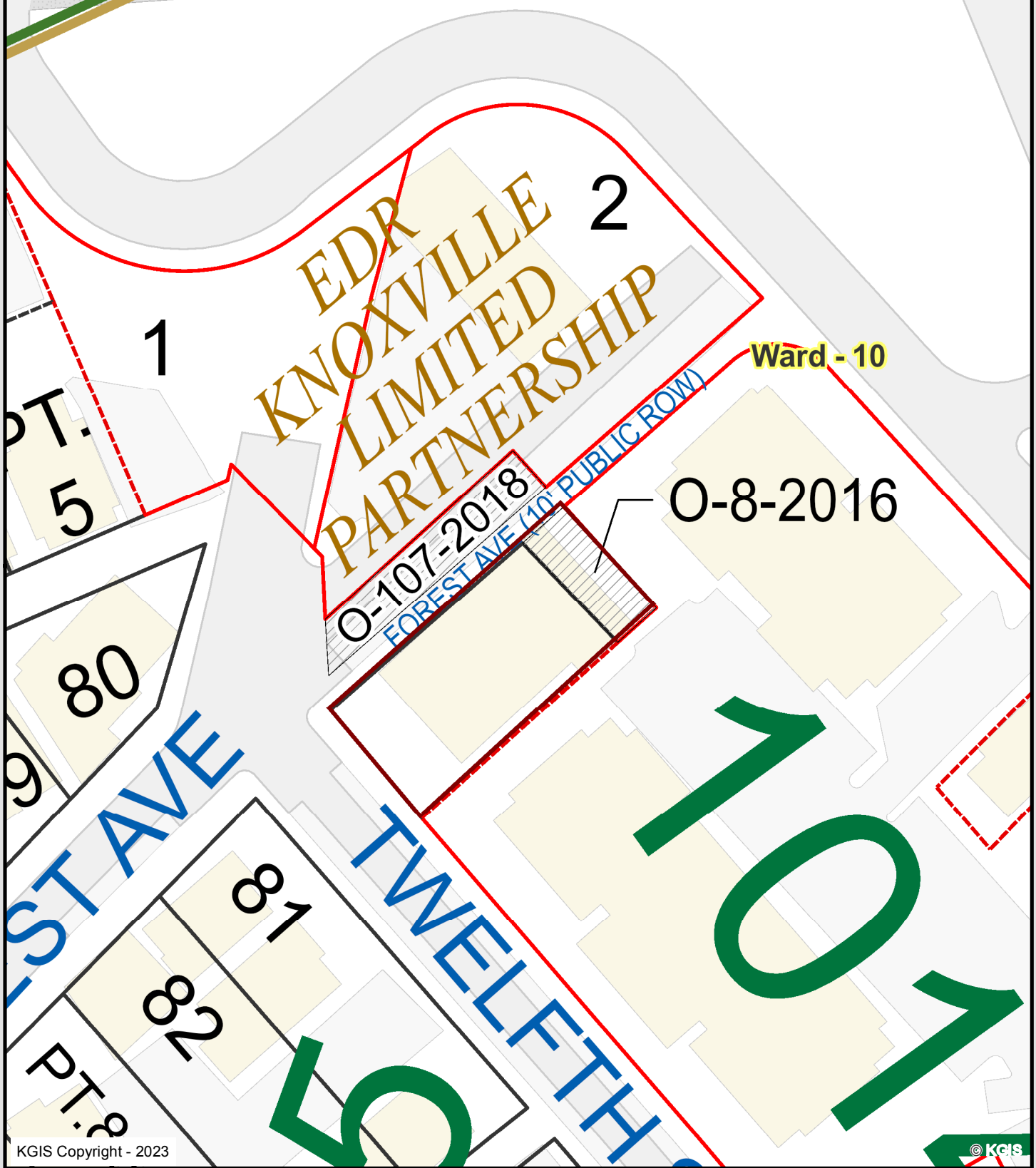


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Ward - 9



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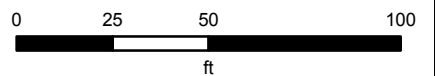
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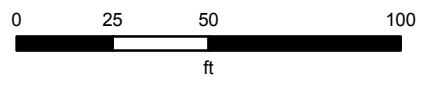
1108 FOREST AVE

8-C-23-VA
AWS AL HADEETHI

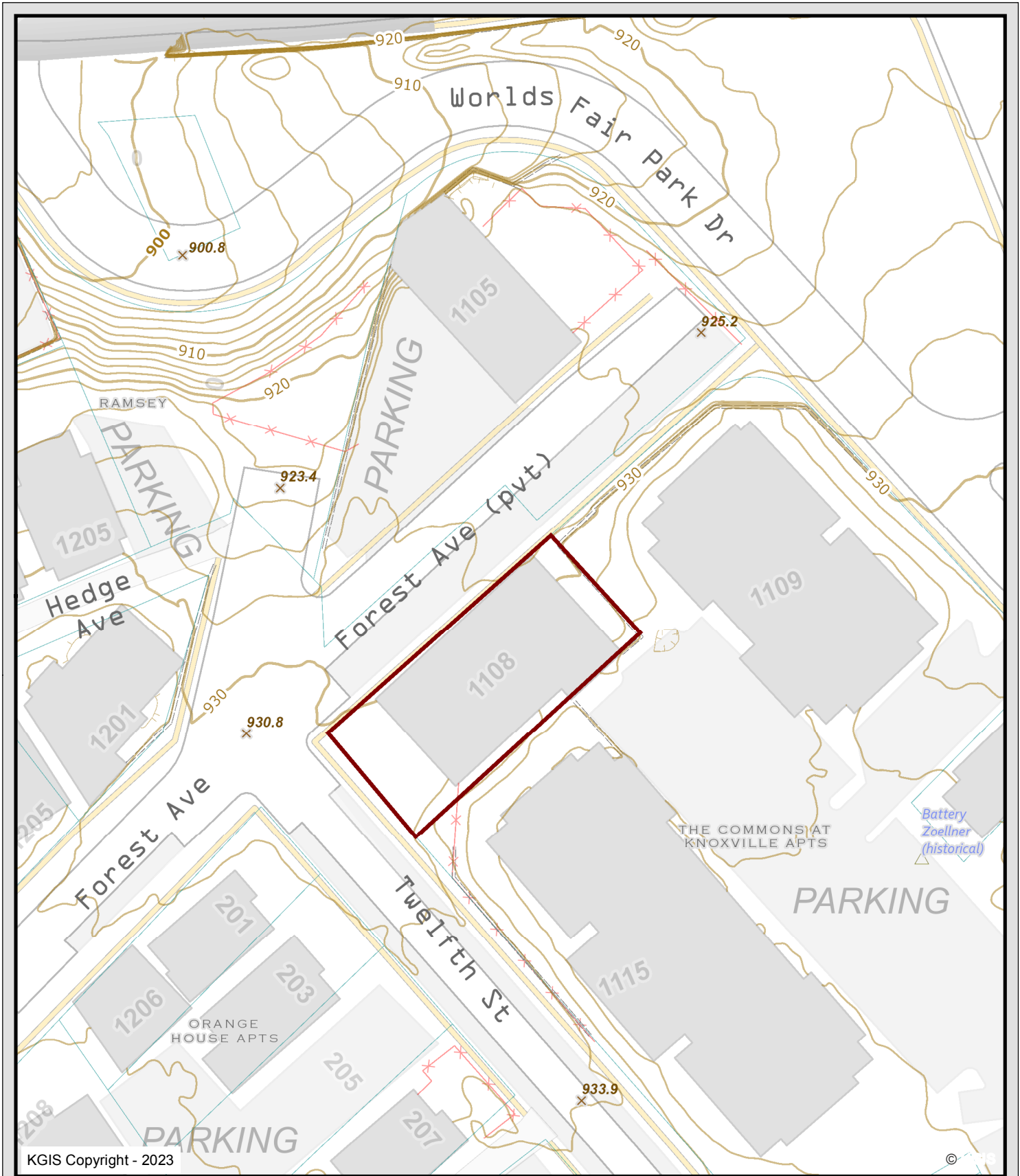
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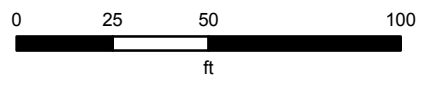
1108 FOREST AVE

8-C-23-VA
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CASE SUMMARY

APPLICATION TYPE: ROW CLOSURE



File Number: 11-A-14-SC
Application Filed: 9/22/2014
Applicant: TREVOR HILL

Related File Number:
Date of Revision:

PROPERTY INFORMATION

General Location:

Other Parcel Info.:

Tax ID Number: 94 L L 001

Jurisdiction: City

Size of Tract:

Accessibility:

GENERAL LAND USE INFORMATION

Existing Land Use:

Surrounding Land Use:

Proposed Use:

Density:

Sector Plan: Central City

Sector Plan Designation:

Growth Policy Plan: Urban Growth Area (Inside City Limits)

Neighborhood Context:

ADDRESS/RIGHT-OF-WAY INFORMATION (where applicable)

Street: Forest Ave

Location: Between eastern edge of Twelfth St. right-of-way and southwestern edge of World's Fair Park Dr. right-of-way

Proposed Street Name:

Department-Utility Report: The City Engineering Department is recommending only a partial closure.

Reason: The City Engineering office suggested the closure.

ZONING INFORMATION (where applicable)

Current Zoning: C-3 (General Commercial)

Former Zoning:

Requested Zoning:

Previous Requests:

Extension of Zone:

History of Zoning:

PLAN INFORMATION (where applicable)

Current Plan Category:

Requested Plan Category:

SUBDIVISION INFORMATION (where applicable)

Subdivision Name:

No. of Lots Proposed:

No. of Lots Approved: 0

Variances Requested:

S/D Name Change:

OTHER INFORMATION (where applicable)

Other Bus./Ord. Amend.: The City Engineering office suggested the closure.

PLANNING COMMISSION ACTION AND DISPOSITION

Planner In Charge: Michael Brusseau

Staff Recomm. (Abbr.): RECOMMEND that City Council APPROVE the closure of the requested portion of Forest Ave., subject to any required easements, and subject to one condition.

Staff Recomm. (Full): 1. Meeting the conditions specified in the attached letter from the Knoxville Department of Engineering, dated June 1, 2018. This condition specified that the southernmost 10 feet of the right-of-way be excluded from the closure, to remain as public right-of-way for pedestrian connectivity.

With the recommended conditions, staff has received no objections from reviewing departments or utilities to this closure, and is therefore recommending approval.

Comments: The City of Knoxville Engineering has no objections to the proposed closure, but is recommending that a 10 ft. wide portion along the southern boundary remains open as public right-of-way for pedestrian connectivity and maintenance thereof. In 2014, when this proposal was originally considered, there was opposition from several City agencies, and staff recommended denial. After the untabling at the May 10, 2018 MPC meeting, a new public notification was done, a new sign was posted and new letters were sent out to reviewing agencies. Staff has received no objections to the closure, but has received a conditional approval letter from City Engineering.

Action: Approved Meeting Date: 6/14/2018

Details of Action: 1. Meeting the conditions specified in the attached letter from the Knoxville Department of Engineering, dated June 1, 2018. This condition specified that the southernmost 10 feet of the right-of-way be excluded from the closure, to remain as public right-of-way for pedestrian connectivity.

Summary of Action: APPROVE the closure of the requested portion of Forest Ave., subject to one condition.

Date of Approval: 6/14/2018 Date of Denial: Postponements: 11/13/14, 5/10/2018

Date of Withdrawal: Withdrawn prior to publication?: Action Appealed?:

LEGISLATIVE ACTION AND DISPOSITION

Legislative Body: Knoxville City Council

Date of Legislative Action: 7/17/2018 Date of Legislative Action, Second Reading: 7/31/2018

Ordinance Number: Other Ordinance Number References:

Disposition of Case: Approved Disposition of Case, Second Reading: Approved

If "Other": If "Other":

Amendments: Amendments:

Date of Legislative Appeal: Effective Date of Ordinance:

CONSTRUCTION DOCUMENTS FOR:

AYERS HALL

1108 FOREST AVE.

KNOXVILLE, TN 37916

MARCH 20, 2023



1 CS LOCATION PLAN
SCALE: 1/100" = 1'-0"

SYMBOLS AND CONVENTIONS:

INDICATION ARROWS FOR OBJECTS, MATERIALS AND/OR OTHERS

NORTH ARROW (TRUE) **(PROJECT) NORTH ARROW**

KEY NOTE INDICATOR FOR PROJECT CONSTRUCTION AND DEMOLITION

COLUMN REFERENCE GRIDS 1/4 OF COLUMNS, NUMBERS REFERENCE EAST-WEST DIRECTION, LETTERS REF. NORTH-SOUTH

ROOM AND SPACE NUMBER TAG

DOOR/ OPENING NUMBER TAG

INDICATES DRAWING OR DETAIL NUMBER

INDICATES SHEET NUMBER WHERE ITEM REFERENCED (ABOVE) IS LOCATED

ELEVATION DRAWING TAG (INTERIOR/ EXTERIOR)

BUILDING AND WALL SECTION DRAWING TAG (INTERIOR/ EXTERIOR)

INTERIOR WALL SECTION DRAWING TAG

HORIZ. AND VERTICAL PLAN SECTION (DETAIL DRAWING) TAG

CENTER-LINE OF WALL OR OBJECT

FINISH FLOOR LINE (AS SHOWN IN ELEVATION OR SECTION)

BREAK LINE SYMBOLS

DIMENSIONS

VERTICAL CIRCULATION DIRECTION INDICATORS (FOR STAIRS AND RAMP)

DRAWING REVISION INDICATORS

REVISION CLOUD (INDICATES AREA/ LOCATION OF REVISED WORK)

REVISION ISSUE TAG AND NUMBER

DRAWING INDEX:

CS PROJECT COVER SHEET, PROJECT DESCRIPTION, LOCATION MAP, SITE PLAN, BUILDING DATA, DRAWING INDEX, CONSULTANT LISTING AND CONTACT INFORMATION, SYMBOLS AND CONVENTIONS, MATERIAL DESIGNATIONS, ABBREVIATIONS AND GENERAL NOTES

ARCHITECTURAL DRAWINGS:

A1.0 FLOOR PLAN (PROPOSED) w/ LIFE SAFETY

A2.0 ROOF PLAN

A3.0 REFLECTED CEILING PLAN

A4.0 EXTERIOR ELEVATIONS

A4.1 EXTERIOR AND INTERIOR ELEVATIONS

A5.0 MILLWORK SECTIONS, SCHEDULES, AND MISC. DETAILS

ELECTRICAL

E1.0 FLOOR PLAN - LIGHTING

E1.1 FLOOR PLAN - POWER AND COMMUNICATIONS

E2.0 LEGEND, SCHEDULES, DETAILS

FIRE PROTECTION

FP000 SPRINKLER PLAN - HEAD LOCATIONS

FP001 SPRINKLER PLAN - CALCULATIONS AND DETAILS

MECHANICAL

M000 MECHANICAL PLAN - H.V.A.C.

M001 SCHEDULES AND DETAILS

PLUMBING

P000 PLUMBING PLAN- SCHEDULES AND DETAILS

P001 PLUMBING PLAN- WASTE AND VENT

P002 PLUMBING PLAN - SERVICES

INSULATION GENERAL NOTES

1. ALL INSULATION PERFORMANCE AFTER INSTALLATION SHALL CONFORM TO ASHRAE 90.1, CLIMATE ZONE 4.
 2. ACOUSTIC INSULATION SHALL BE INSTALLED IN ALL INTERIOR WALLS.
 3. THERMAL INSULATION SHALL BE INSTALLED IN ALL FLOOR, CEILING AND ROOF ASSEMBLIES. (WHERE APPLICABLE).
 4. PREFORMED ROOF INSULATION BOARDS SHALL BE INSTALLED UNDER ALL ROOFING (IF APPLICABLE).
- NOTE: ALL EXPOSED INTERIOR SPRAY FOAM INSULATION SHALL BE COVERED WITH AN APPROVED INTUMESCENT PAINT

APPLICABLE LOCAL CODES :

2018 INTERNATIONAL EXISTING BUILDING CODE
2018 INTERNATIONAL BUILDING CODE
2018 INTERNATIONAL FIRE CODE w/ LOCAL AMDMNTS.
2018 INTERNATIONAL ENERGY CONSERVATION CODE
2018 INTERNATIONAL PLUMBING CODE
2018 INTERNATIONAL MECHANICAL CODE
2018 INTERNATIONAL FUEL GAS CODE
2009 ICC ANSI A117.1 ACCESSIBILITY CODE
2017 NATIONAL ELECTRIC CODE w/ LOCAL AMDMNTS.

PROJECT NARRATIVE:
INTERIOR/ EXTERIOR TENANT FINISH-OUT OF EXISTING STRUCTURE THAT WILL REQUIRE A NEW CONCRETE INTERIOR SLAB FLOOR. FINISHED INTERIOR SPACE WILL PROVIDE AN OFFICE SPACE, BAR/ BEVERAGE COUNTER (WITHOUT FOOD PREPARATION), OPEN AREA FOR EVENTS AND MEN'S AND WOMEN'S ACCESSIBLE BATHROOMS.

BUILDING INFORMATION :

-OCCUPANCY: A-2
-CONSTRUCTION TYPE: III-B
-IECC CLIMATE ZONE: ZONE 4
-FULLY SPRINKLERED PER NFPA 13

RATING REQUIREMENTS:	REQ'D	PROPOSED
EXTERIOR BEARING WALLS	2 HR INT./ 0 HR EXT.	2 HR INT./ 0 HR EXT.
INTERIOR BEARING WALLS	0	0
PRIMARY STRUCTURAL FRAMES	0	0
FLOOR CONST. & ASSOC. SECONDARY	0	0
ROOF CONST. & ASSOC. SECONDARY	0	0

ALLOWABLE BUILDING HEIGHT IN FEET, PER TABLE 504.3
-ALLOWABLE: 75FT
-EXISTING: ±23'-0"

ALLOWABLE NUMBER OF STORIES, PER TABLE 504.4
-ALLOWABLE: 3 STORIES
-EXISTING: 1 STORIES

ALLOWABLE AREA FACTOR IN S.F., PER TABLE 506.2
-ALLOWABLE: 38,500 SF
-EXISTING: 3,450 SF

TOTAL OCCUPANT LOAD:
GROUND FL.: 397 (TOTAL) - REFER TO SHEET A1.0 FOR GROSS COMPONENTS AND BALANCE OF INFORMATION

CONTACT INFORMATION:

PROJECT OWNER(S) :
TREVOR HILL
TENANT OWNER/ MANAGER
MAILING ADDRESS:
1105 FOREST AVE,
KNOXVILLE, TN 37916
(865)-244-5177
email: trevor@thehillknox.com

ARCHITECT: GOSS DESIGN/ DEVELOPMENT
BUZZ GOSS
110 SUMMIT HILL DRIVE
KNOXVILLE, TN 37902
PH: (865) 247-9108 -BUZZ GOSS
OFFICE: (865)-230-1860
john@marblealley.com
buzz@marblealley.com
email:

CONTRACTOR: J S WEAVER CONSTRUCTION CO.
CONTACT: JEFF WEAVER

MECHANICAL/ PLUMBING & FIRE PROTECTION: KELSO-REGEN ASSOCIATES, INC.
201 SHERLAKE LANE (SUITE 101)
KNOXVILLE, TN 37922
GARY BERGERON
CONTACT: (865)-588-5348
FAX: (865)-247-0293
email: gary@kelso-regen.com

ELECTRICAL: VREELAND ENGINEERS, INC.
3107 SUTHERLAND AVE.
P.O. BOX 10648
KNOXVILLE, TN 37939
ALAN SUMMERS
CONTACT: (865)-588-5348
email: asummers@vreelandengineers.com

REVIEWER NOTE

- PARTS OF THIS WORK FALL UNDER SEPARATE BUILDING PERMITS. THE FOLLOWING PERMITS ARE APPLICABLE TO WORK SHOWN IN THE DRAWINGS:
1. BUILDING PERMIT #BU21-1279 - REPAIR COMMERCIAL BLDG - TEAR OFF EXISTING ROOF AND REPLACE W/NEW
 2. ELECTRICAL PERMIT #EL221094

MATERIAL DESIGNATIONS:

(SHOWN IN SECTION)

VARIES REFER TO MATERIAL CALL-OUT AND/ OR NOTE ON DRAWING

CONCRETE

FINISH CONCRETE SURFACE (NOT IN SECTION)

RIGID INSULATION

BATT INSULATION

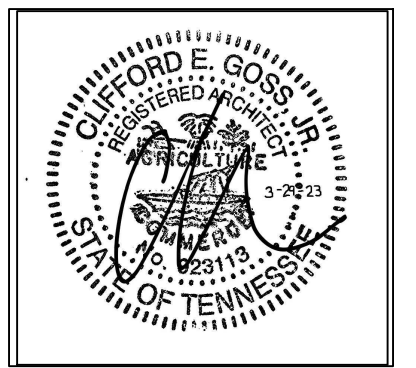
WOOD (ROUGH) 2X STUD FRAMING

GENERAL NOTES

1. THESE NOTES, INTENDED FOR THE GENERAL CONTRACTOR WHETHER SPECIFICALLY MENTIONED OR OTHERWISE, ARE APPLICABLE TO ALL ARCHITECTURAL DRAWINGS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING THIS INFORMATION WITH HIS/ HER EMPLOYEES, SUBCONTRACTORS, ETC., AS NECESSARY, TO INSURE THAT THE INTENT OF THESE DRAWINGS IS MET.
2. CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND SITE CONDITIONS BEFORE STARTING WORK. OBTAIN CLARIFICATION FROM THE ARCHITECT IF DIMENSIONAL OMISSIONS OR INCONSISTENCIES ARE FOUND OR, IF THE DIMENSIONS ARE INCONSISTENT WITH THE ACTUAL FIELD CONDITIONS.
3. CONTRACTOR SHALL COORDINATE WITH OWNER; DELIVER, STORAGE AND INSTALLATION OF EQUIPMENT, MATERIALS OR FINISHES SUPPLIED BY THE OWNER.
4. CONTRACTOR SHALL NOTIFY THE ARCHITECT IMMEDIATELY IF CONFLICTS ARE FOUND BETWEEN THE ARCHITECT'S DOCUMENTS AND THOSE OF OTHER CONSULTANTS.
5. CONFLICTS BETWEEN THE ARCHITECT'S DOCUMENTS, CONSULTING ENGINEERING DOCUMENTS AND ACTUAL FIELD CONDITIONS SHALL BE RESOLVED IN THE FIELD BY ALL PARTIES CONCERNED.
6. ALL PAINT, STAIN AND OTHER FINISHES SHALL BE SELECTED BY THE OWNER FROM SAMPLES PROVIDED BY THE CONTRACTOR.
7. FOR RATED AND SMOKE PARTITIONS THE SURFACE AREA OF RECESSED BOXES SHALL NOT EXCEED 16 SQUARE INCHES, NOR SHALL THE AGGREGATE AREA OF ALL RECESSED BOXES EXCEED 100 SQUARE INCHES/ 100 SQUARE FEET OF WALL AREA. RECESSED BOXES OPENING TO OPPOSITE FACES OF THE WALL, REGARDLESS OF VERTICAL SEPARATION, SHALL BE SEPARATED BY 24 INCH MINIMUM HORIZONTAL.
8. VERIFY DIMENSIONS AND CLEARANCES IN FIELD PRIOR TO THE FABRICATION OF ALL MILLWORK, NEW STAIRS, STEEL AND OTHER MISCELLANEOUS FABRICATIONS.
9. CAULK WITH A SEALANT COMPATIBLE WITH LOCATION AND MATERIAL CONDITIONS PERIMETER OF DOOR AND WINDOW FRAMES, CASE GOODS, MILLWORK, PLUMBING FIXTURES, ACCESSORIES, ETC. ORDERLY MANNER AND SHALL BE SECURELY FASTENED IN ACCORDANCE WITH INDUSTRY STANDARDS.
10. FIELD VERIFY ALL FLOOR TO FLOOR HEIGHTS AND FINISH FLOOR ELEVATIONS PRIOR TO ORDERING AND INSTALLING ALL DIMENSIONALLY DEPENDENT EQUIPMENT AND FIXTURES.
11. UNLESS THE DRAWINGS INDICATE OTHERWISE, ALL WALLS, CHASES, STAIRS, NEW DOOR AND WINDOW OPENINGS IN EXISTING WALLS, ETC., SHALL ALIGN FROM FLOOR TO FLOOR. NOTIFY THE ARCHITECT IMMEDIATELY IF FIELD CONDITIONS PREVENT ALIGNMENT.
12. CONTRACTOR SHALL BE RESPONSIBLE FOR INSTALLATION OF THE NECESSARY BRACING AND SUPPORTS TO PREVENT DAMAGE OR FAILURE TO STRUCTURAL ELEMENTS DURING DEMOLITION AND CONSTRUCTION.
13. DO NOT ALLOW CUTS TO BE MADE IN STRUCTURAL ELEMENTS WHICH SHALL REDUCE THE LOAD BEARING CAPACITY OR LOAD/ DEFLECTION RATIO.
14. THE INTENT OF THESE DRAWINGS IS THAT ALL MATERIAL AND WORKMANSHIP SHALL CONFORM TO THE APPLICABLE CODES THAT ARE INCLUDED ON THE COVER SHEET AND ACI, AISI, AWS LATEST EDITIONS.
15. CONTRACTOR SHALL VERIFY ALL WALL LOCATIONS, THICKNESSES, AND DIMENSIONS WITH THE ARCHITECTURAL DRAWINGS.
16. CONTRACTOR TO REFER TO GENERAL FLOOR PLAN NOTES (LOCATED ON SHEET A1.0) FOR ALL INFORMATION RELEVANT TO THE DIMENSIONING OF THE DEMOLITION AND PROPOSED ARCHITECTURAL PLANS INTENDED FOR NEW CONSTRUCTION AS SHOWN AND DESCRIBED WITHIN THE CONTENTS OF THIS CONSTRUCTION DOCUMENT SET.
17. PRESSURE TREATED WOOD SHALL BE USED IN CONCEALED LOCATIONS IN CONTACT WITH MASONRY AND/OR CONCRETE.
18. CONTRACTOR TO PROVIDE A PROTECTIVE COATING BETWEEN ALL MATERIALS THAT REACT TO EACH OTHER. (I.E.) ALUMINUM AGAINST CONCRETE OR MASONRY.

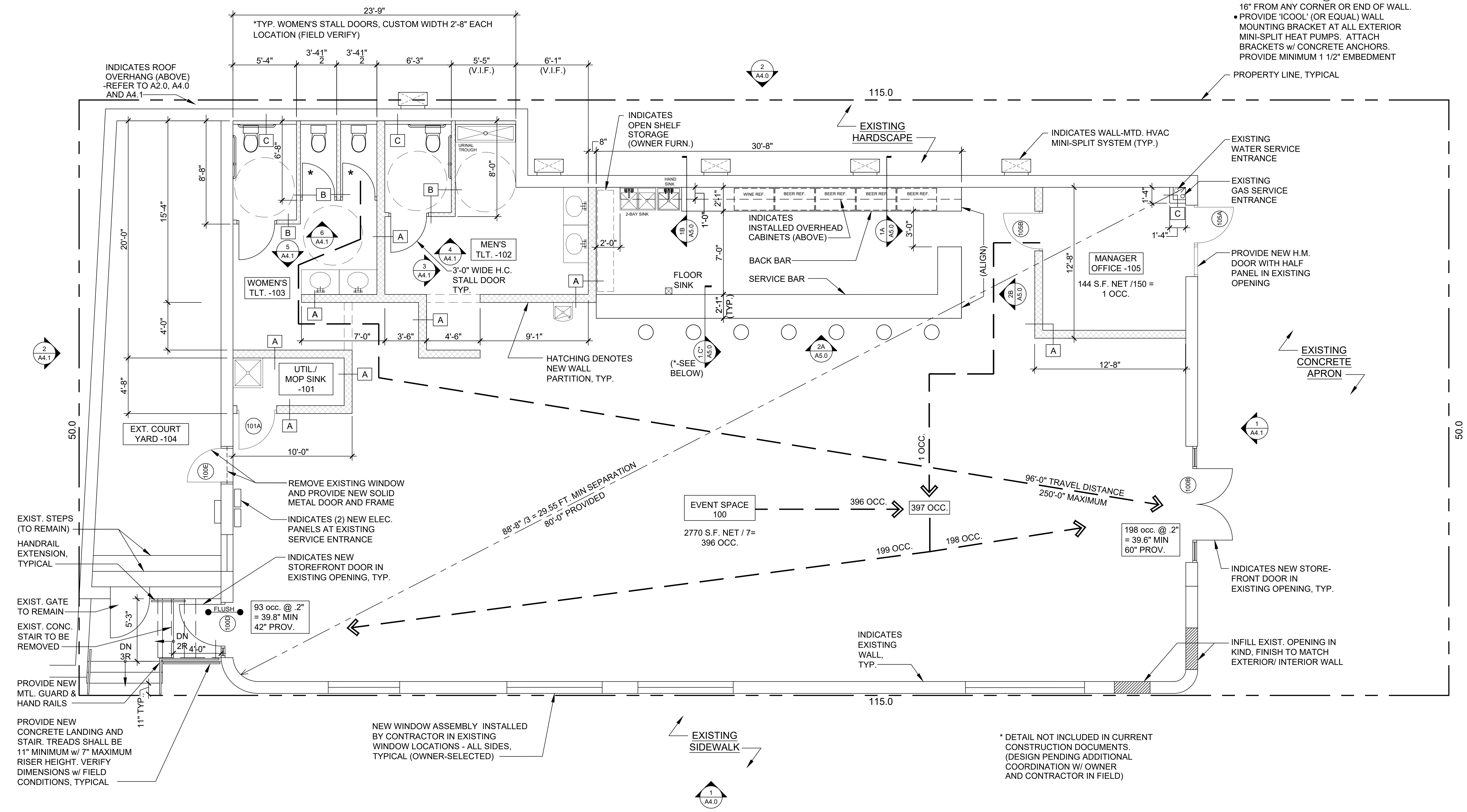
ABBREVIATIONS:

ABOVE FINISH FLOOR	A.F.F.	DISHWASHER	D.W.	HORIZONTAL	HORIZ.	OPPOSITE HAND/ SIDE	(O.H.)
ADJUSTABLE	AC. TILE	DOWN	DN.	HOSE BIBB	H.B.	OUTSIDE DIAMETER	O.D.
AIR CONDITIONING	A/C	DRAWING	DWG.	HOT WATER	H.W.	PAINTED	PTD.
ALUMINUM	ALUM.	EACH	EA.	INSULATION	INSUL.	PANEL	PNL.
ANGLE	<	EACH WAY	E.W.	INSIDE DIAMETER	I.D.	PLASTIC LAMINATE	P. LAM.
ARCHITECT	ARCH.	ELECTRICAL	ELEC.	INVERT	INV.	PLATE	PL.
ARCHITECTURAL	ARCH.	ELEVATION	ELEV.	JOINT	JT.	PLYWOOD	PLYWD.
BOARD	BD.	EQUIPMENT	EQ.	KITCHEN	KIT.	PRESSURE TREATED	PT.
BRITISH THERMAL UNIT	B.T.U.	EXISTING	EXIST.	LAVATORY	LAV.	POUNDS PER SQUARE INCH	P.S.I.
BUILDING	BLDG.	EXPANSION	EXP.	LENGTH	L.	RADIUS	R
CABINET	CAB.	EXPANSION JOINT	E.J.	LINEAR FEET	L.F.	REFRIGERATOR	REF.
CEILING	CLS.	EXTERIOR	EXT.	MANHOLE	M.H.	REINFORCING	REINF.
CENTER LINE	CL.	FACE OF STUD	F.O.S.	MANUFACTURER	MANUF.	ROOM	RM.
CERAMIC TILE	C.T.	FINISHED	FIN.	MASONRY	MAS.	ROUGH OPENING	R.O.
CHANNEL	CH.	FINISHED FLOOR	FLR.	MATERIAL	MATL.	SOLID CORE	S.C.
CLEAR	CLR.	FLOOR	F.LR.	MOUNTING	MTG.	SQUARE FEET	S.F.
COLUMN	COL.	FLOOR DRAIN	F.D.	MULLION	MULL.	STANDARD	STD.
CONCRETE	CONC.	FOOTING	FTG.	METAL	MET.	STEEL	STL.
CONCRETE MASONRY UNIT	C.M.U.	FOOTING	FTG.	MICROWAVE	MIC.	TO BE SELECTED	T.B.S.
CONTINUOUS	CONT.	FOUNDATION	FOUND.	MINIMUM	MIN.	TONGUE & GROOVE	T & G
CORRUGATED	CORR.	FLOOR	F.LR.	MISCELLANEOUS	MISC.	TYPICAL	TYP.
COUNTERSUNK	CTSK.	GALVANIZED	GALV.	MOUNTING	MTG.	VERTICAL	VERT.
DEAD LOAD	D.L.	GYP/SUM BOARD	GYP. BD.	MULLION	MULL.	VINYL COMPOSITION TILE	V.C.T.
DETAIL	DTL.	HARDWARE	HW.	NOMINAL	NOM.	WATER HEATER	W.H.
DIAMETER	DIA.	HEADER	HTR.	NORTH	N.	WELDED WIRE FABRIC	W.W.F.
DIMENSION	DIM.	HEIGHT	HDR.	NOT APPLICABLE	N/A	WINDOW	WDW.
		HIGH	HT.	NOT IN CONTRACT	N.I.C.	WIDE	WD.
		HOLLOW CORE	H.C.	NOT TO SCALE	N.T.S.	WITH	W/
		HOLLOW METAL	H.M.	ON CENTER	O.C.	WITHOUT	W/O
				OPENING	OPG.	WOOD	WD.
						SMOKE DETECTOR	S.D.



CS

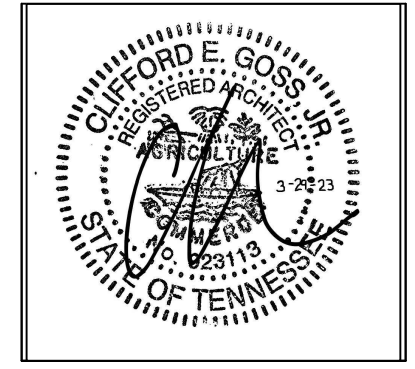
- GENERAL NOTES:**
- ALL NEW CMU WALL SHALL HAVE 9GA HORIZ. JOINT REINFORCEMENT EVERY OTHER COURSE & #4 BARS @ 48" o.c. AND WITHIN 16" FROM ANY CORNER OR END OF WALL.
 - PROVIDE 'ICOOOL' (OR EQUAL) WALL MOUNTING BRACKET AT ALL EXTERIOR MINI-SPLIT HEAT PUMPS. ATTACH BRACKETS w/ CONCRETE ANCHORS. PROVIDE MINIMUM 1 1/2" EMBEDMENT



1
A1.0 PROPOSED FLOOR PLAN
SCALE: 1/4" = 1'-0"

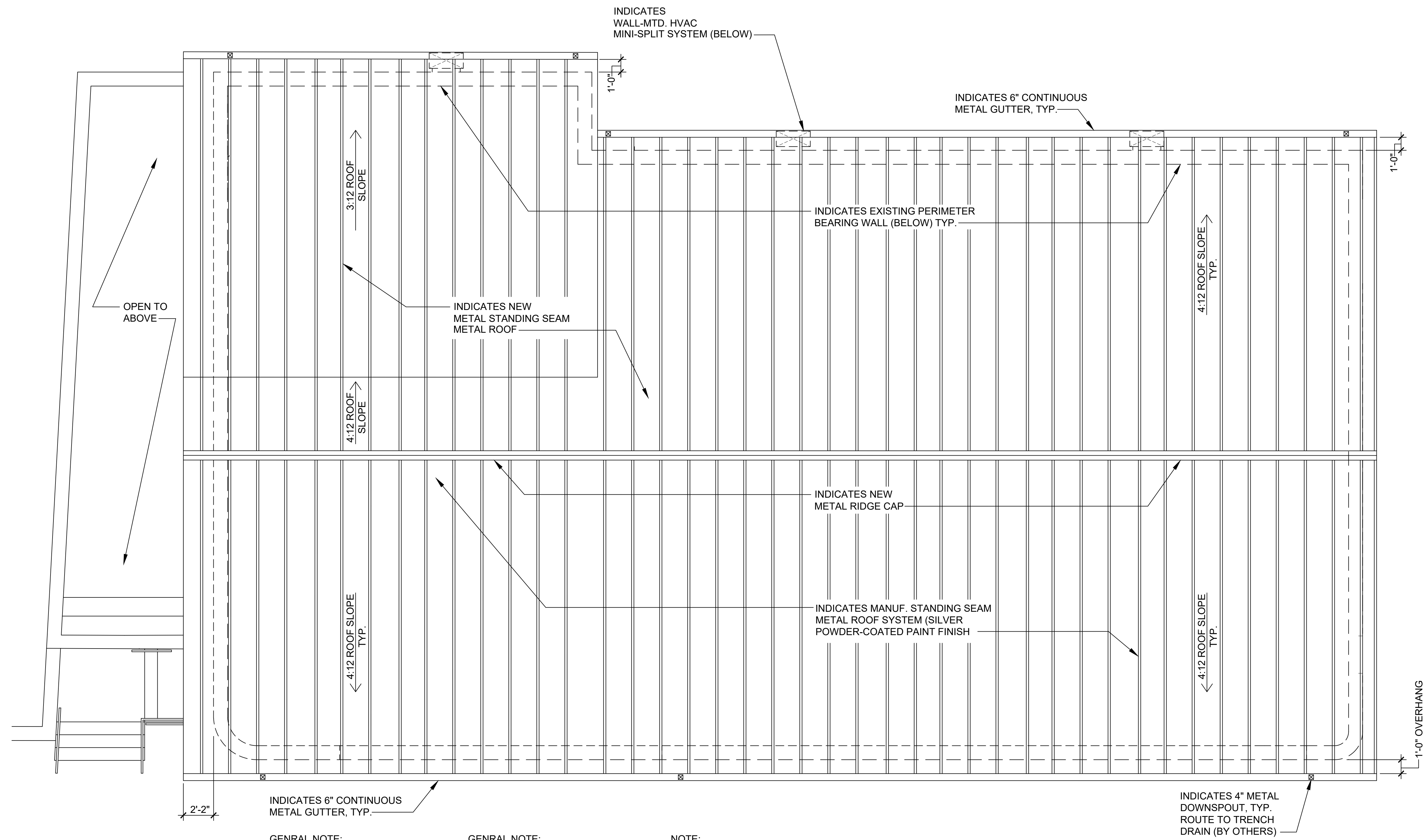


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CONSTRUCTION DOCUMENTS FOR:
AYERS HALL
1108 FOREST AVE.
KNOXVILLE, TN 37916

Job No: AYERS22
Date: 3.20.2023
Title: FLOOR PLAN (PROPOSED)
Revisions:



GENERAL NOTE:
 FOR FINISH AND COLOR OF ALL
 NEW GUTTERS, DOWNSPOUTS,
 CAPPING, SIDING MATERIALS
 BELOW GABLES AT BUILDING
 EXTERIOR, AND ALL OTHER MISC.
 ROOFING INSTALLATION
 COMPONENTS, REFER TO 1/A4.0
 AND 2/A4.1.

GENERAL NOTE:
 FOR ALL NOTES AND DIMENSIONS
 AT NEW DOWNSPOUT LOCATIONS,
 REFER TO 1-2/A4.0 AND 1-2/A4.1.

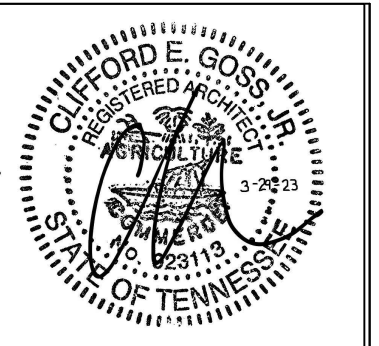
NOTE:
 NEW DOWNSPOUT LOCATION/
 POSITION MAY VARY FROM WHAT
 IS CURRENTLY SHOWN AT
 CURVED END WALL LOCATIONS.

COLOR DESIGNATION OF NEW
 ROOFING AND ASSOCIATIVE
 INSTALLATION MATERIALS AS
 IDENTIFIED AS 'SILVER/
 METALLIC' IS ONLY GENERIC
 AS NOTED OR SPECIFIED
 ON DRAWINGS. IT IS THE FINAL
 DISCRETION OF THE OWNER TO
 DETERMINE THE EXACT
 SPECIFICATION OF COLOR
 AND FINISH BASED ON CHOSEN
 MANUF. PRODUCT OPTIONS AND
 AVAILABILITY FOR PRODUCT
 INSTALLATION, AS DESCRIBED
 ON SHEET(S) A2.0, A4.0 AND A4.1.

1
A2.0 PROPOSED ROOF PLAN
 SCALE: 1/4" = 1'-0"



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CONSTRUCTION DOCUMENTS FOR:
AYERS HALL
 1108 FOREST AVE.
 KNOXVILLE, TN 37916

Job No: AYERS22
 Date: 3.20.2023
 Title: ROOF PLAN

Revisions:

SHEET
A2.0

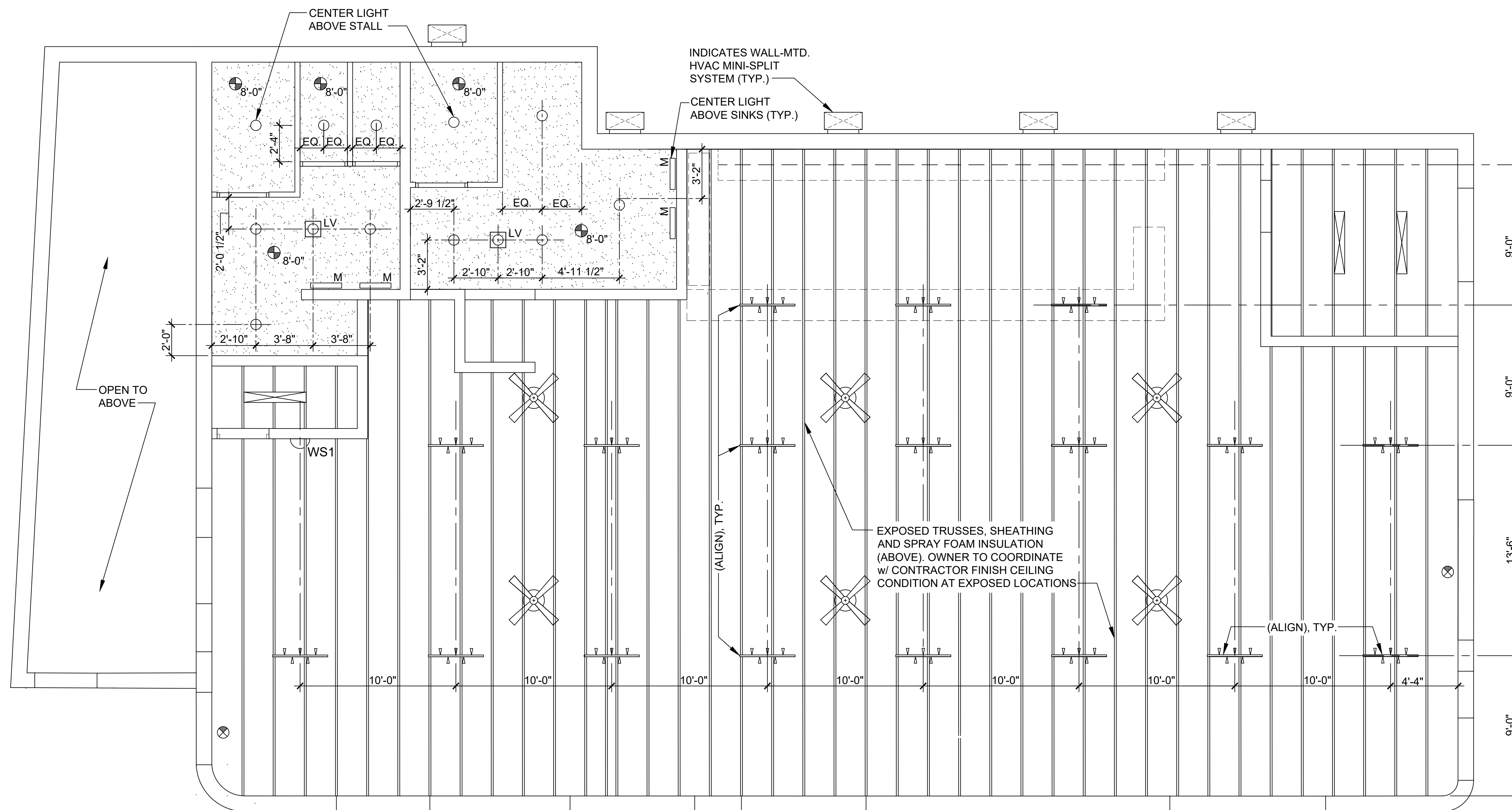
LEGEND :

- FLUSH-MOUNTED LED (CAN) DOWN-LIGHTING/ LIGHT FIXTURE ASSEMBLY
- C WALL-MOUNTED UTILITY LED STRIP LIGHTING INSTALLED ABOVE ALL DOORS (IN ALL CLOSET LOCATIONS) AT 7'-6" A.F.F. TYPICAL. INSTALL W/ CLEAR PROTECTIVE HOUSING.
- ⊕ DECORATIVE (SURFACE-MOUNTED) LIGHT FIXTURE
- ⊗ SURFACE-MOUNTED FAN/ LIGHT FIXTURE (SELECTION BY OWNER)
- M WALL-MOUNTED LIGHT FIXTURE ABOVE BATHROOM SINKS @ 7'-6" A.F.F.

- WS1 DECORATIVE WALL-MOUNTED LED WALL SCONCE
- WS2 DECORATIVE WALL-MOUNTED LED WALL SCONCE -EXTERIOR LIGHT SOURCE
- ⊗ SHATTER-PROOF SURFACE-MOUNTED LED STRIP LIGHT FIXTURE WITH CLEAR/ ACRYLIC PROTECTIVE COVER
- LED TRACK/ DIRECTIONAL SPOT-LIGHTING
- ⊕ LV SURFACE-MOUNTED LED LIGHT AND VENT BATHROOM FIXTURE
- ⊕ SINGLE-THROW LIGHT SWITCH
- D⊕ DIMMER CONTROL LIGHT SWITCH
- GENERAL LIGHT/ SWITCH WIRING
- ←-| FOR ALL EXISTING INSTALLED SUPPLY/ RETURN AIR REGISTER LOCATIONS -REF. TO MECHANICAL DRAWINGS FOR LOCATIONS TO REMAIN AND LOCATIONS TO BE MODIFIED
- ⊗ AIR SUPPLY REGISTER (2'-0" X 2'-0")
- ⊗ AIR RETURN REGISTER (2'-0" X 2'-0")
- ⊕ INDICATES GYPSUM BOARD FINISH CEILING (HEIGHT OFF FINISH FLOOR-REFER TO CEILING HEIGHT INDICATOR (ALL LOCATIONS) TYPICAL.
- S EXIST. SMOKE DETECTOR (TIE TO FIRE ALARM SYSTEM)
- ⊗ EXIT SIGN
- ⊕ 10'-0" CEILING HEIGHT INDICATOR

ADDITIONAL NOTES:
 PROVIDE 12"-24" STRIP 'LIGHT BAR' STYLE BAR COUNTER LIGHTING INSTALLED UNDER-NEATH ALL OVERHEAD CABINET LOCATIONS, TYPICAL. -NOT SHOWN-

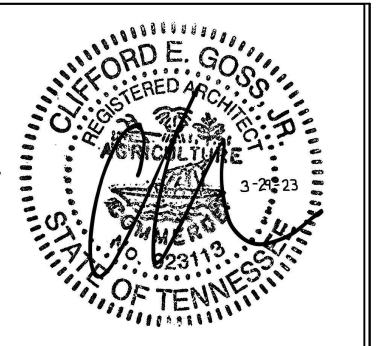
NOTE: NOT ALL FIXTURES, EQUIPMENT AND MISC. FURNISHINGS INCLUDED/ (SHOWN) IN ABOVE LEGEND ARE INTENDED FOR USE IN THE SCOPE OF THIS SPECIFIC CEILING PLAN.
 -ALL LIGHTS/ FIXTURES TO BE CENTERED IN CEILING OF EACH RESPECTIVE SPACE UNLESS OTHERWISE NOTED OR DIMENSIONED.



- NOTES:**
- ALL EXPOSED SPRAY FOAM SHALL HAVE AN INTUMESCENT FIREPROOFING COATING, COLOR SELECTION BY OWNER
 - PROVIDE BLOCKING AT BOTTOM CHORD OF TRUSS AS REQUIRED FOR ATTACHMENT OF LIGHT FIXTURES AND CEILING FANS

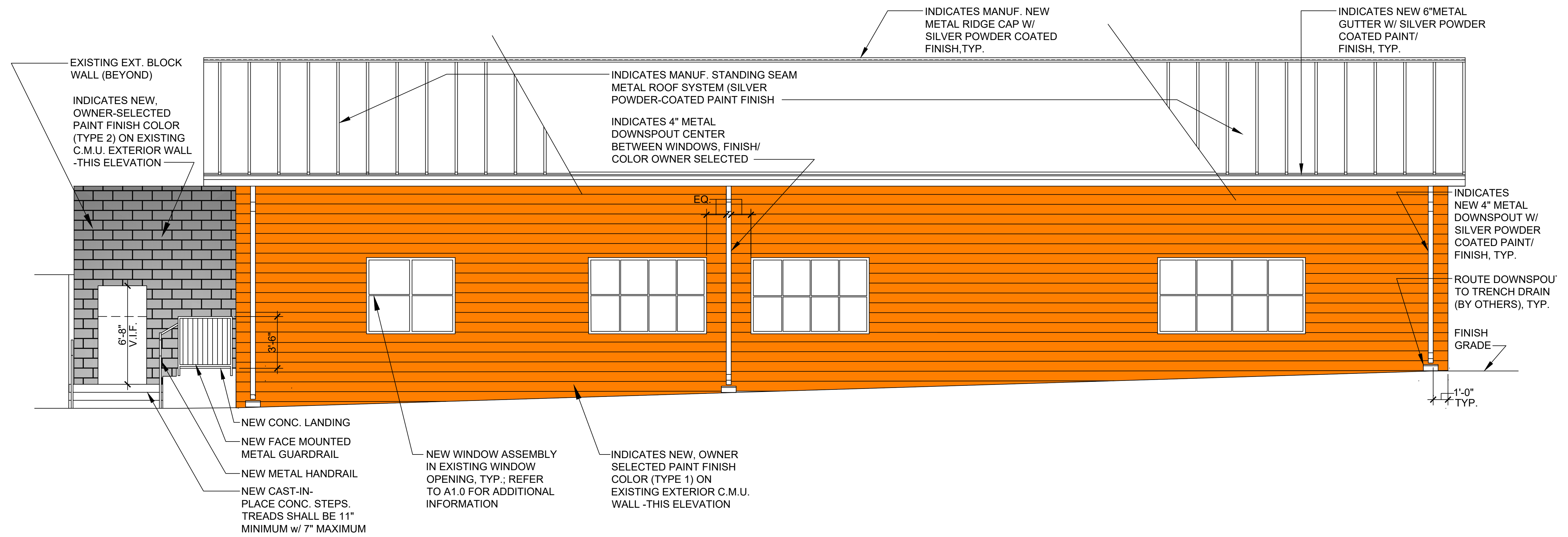


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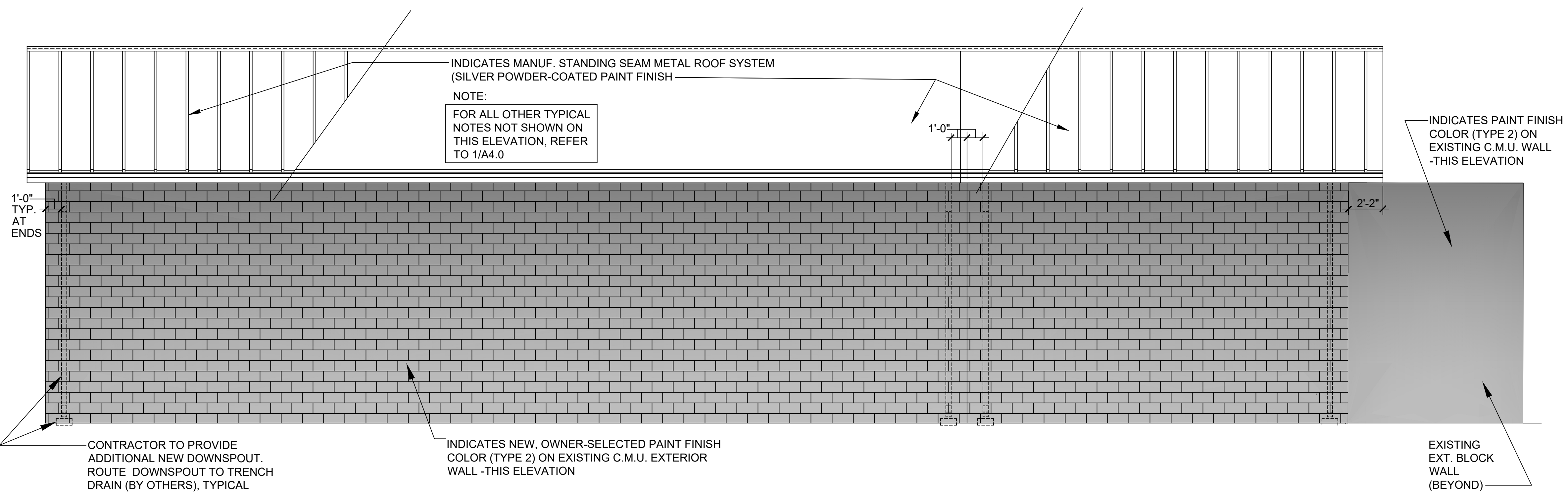


CONSTRUCTION DOCUMENTS FOR:
AYERS HALL
 1108 FOREST AVE.
 KNOXVILLE, TN 37916

Job No: AYERS22
 Date: 3.20.2023
 Title: REFLECTED CEILING PLAN
 Revisions:



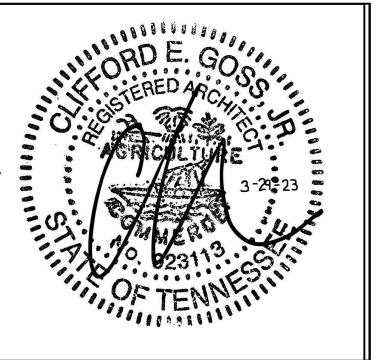
1 NORTH EXTERIOR ELEVATION
SCALE: 1/4" = 1'-0"



2 SOUTH EXTERIOR ELEVATION
SCALE: 1/4" = 1'-0"



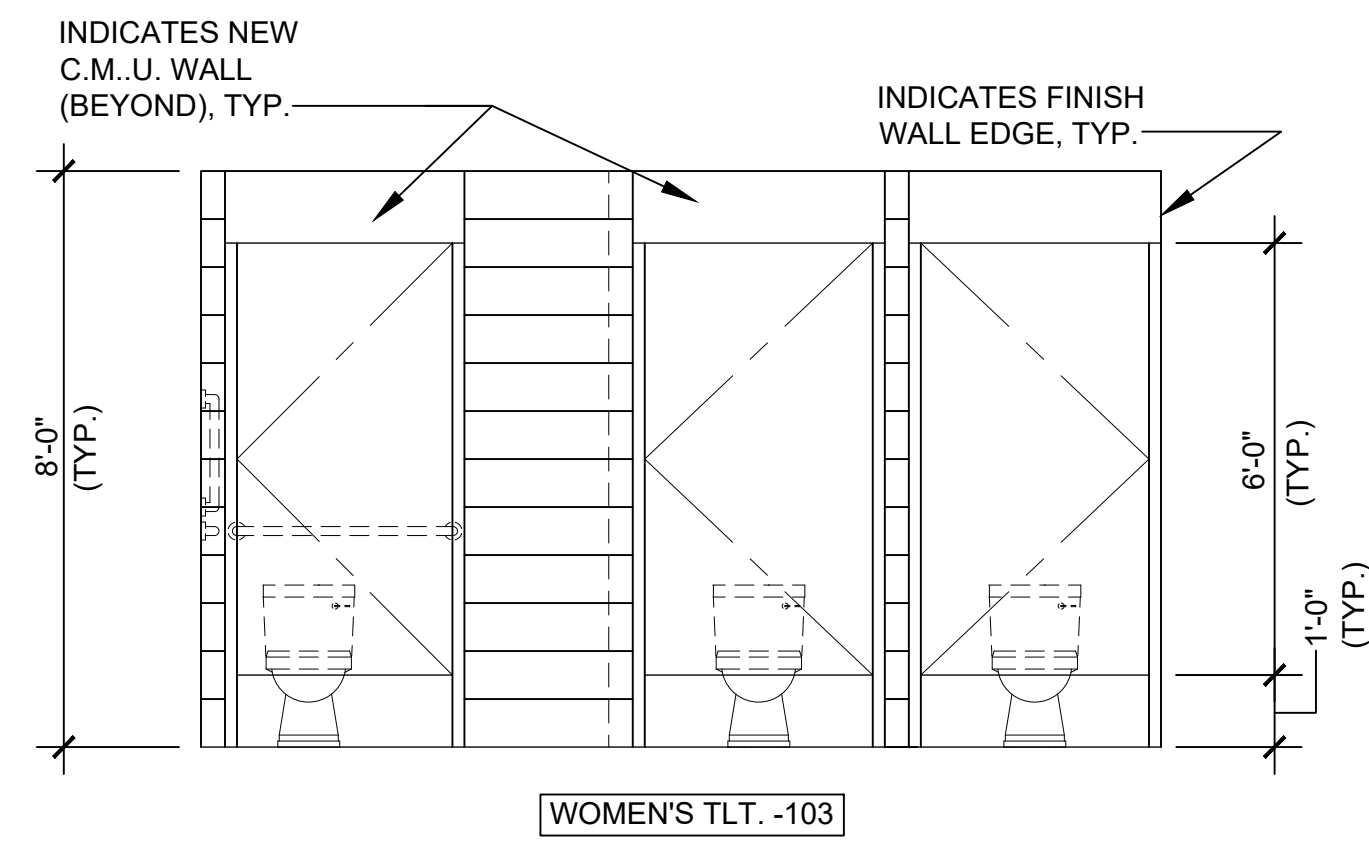
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CONSTRUCTION DOCUMENTS FOR:
AYERS HALL
1108 FOREST AVE.
KNOXVILLE, TN 37916

Job No: AYERS22
Date: 3.20.2023
Title: EXTERIOR ELEVATIONS
Revisions:

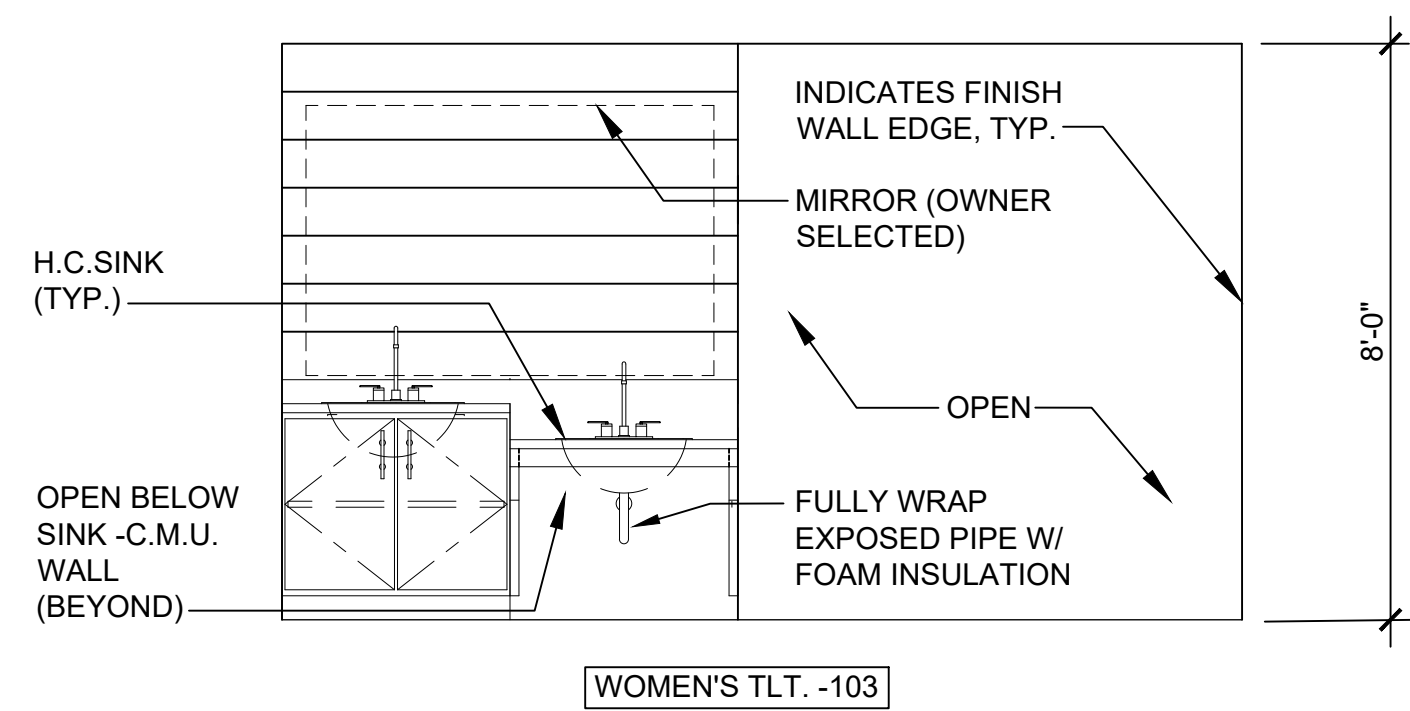
SHEET
A4.0



WOMEN'S TLT. -103

6 INTERIOR TLT. ROOM ELEVATION

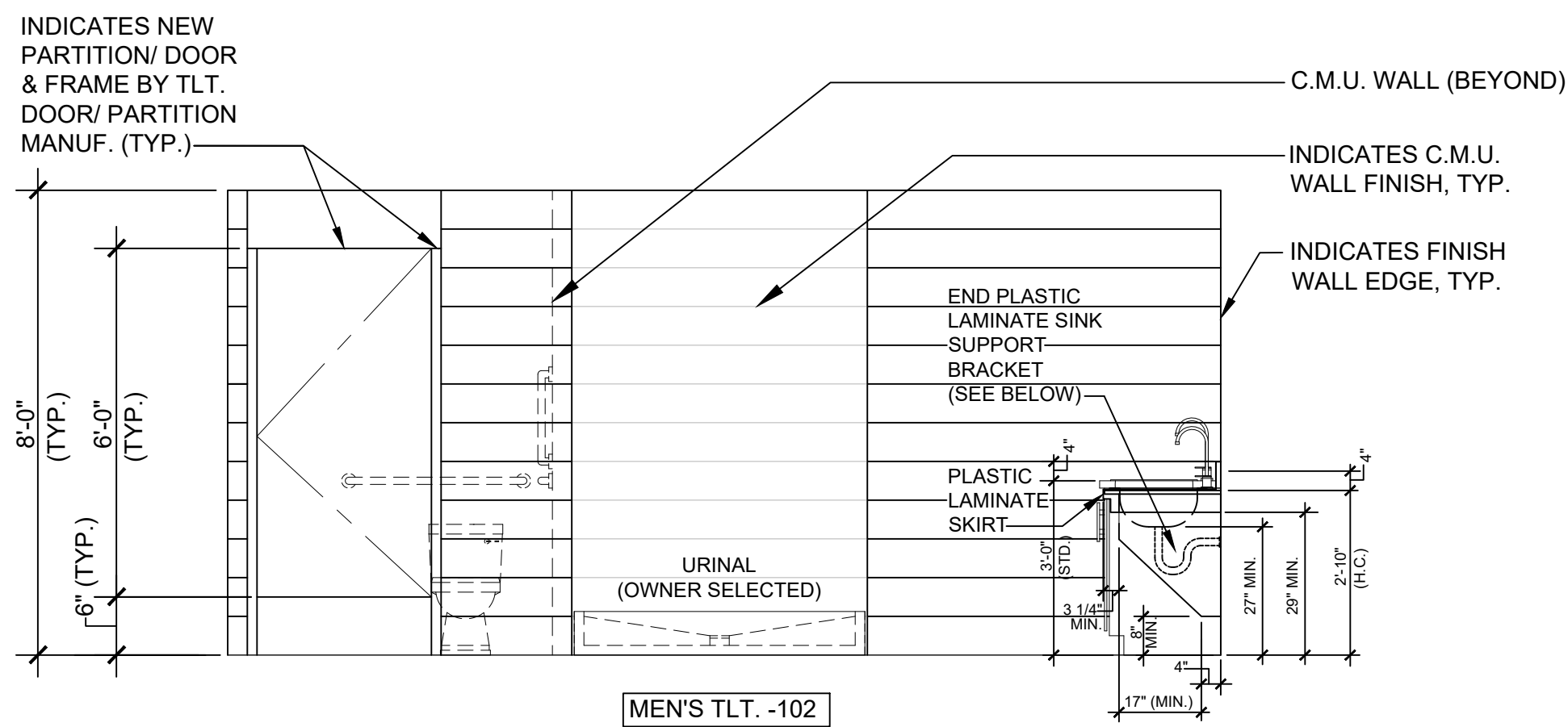
A4.1 SCALE: 3/8" = 1'-0"



WOMEN'S TLT. -103

5 INTERIOR TLT. ROOM ELEVATION

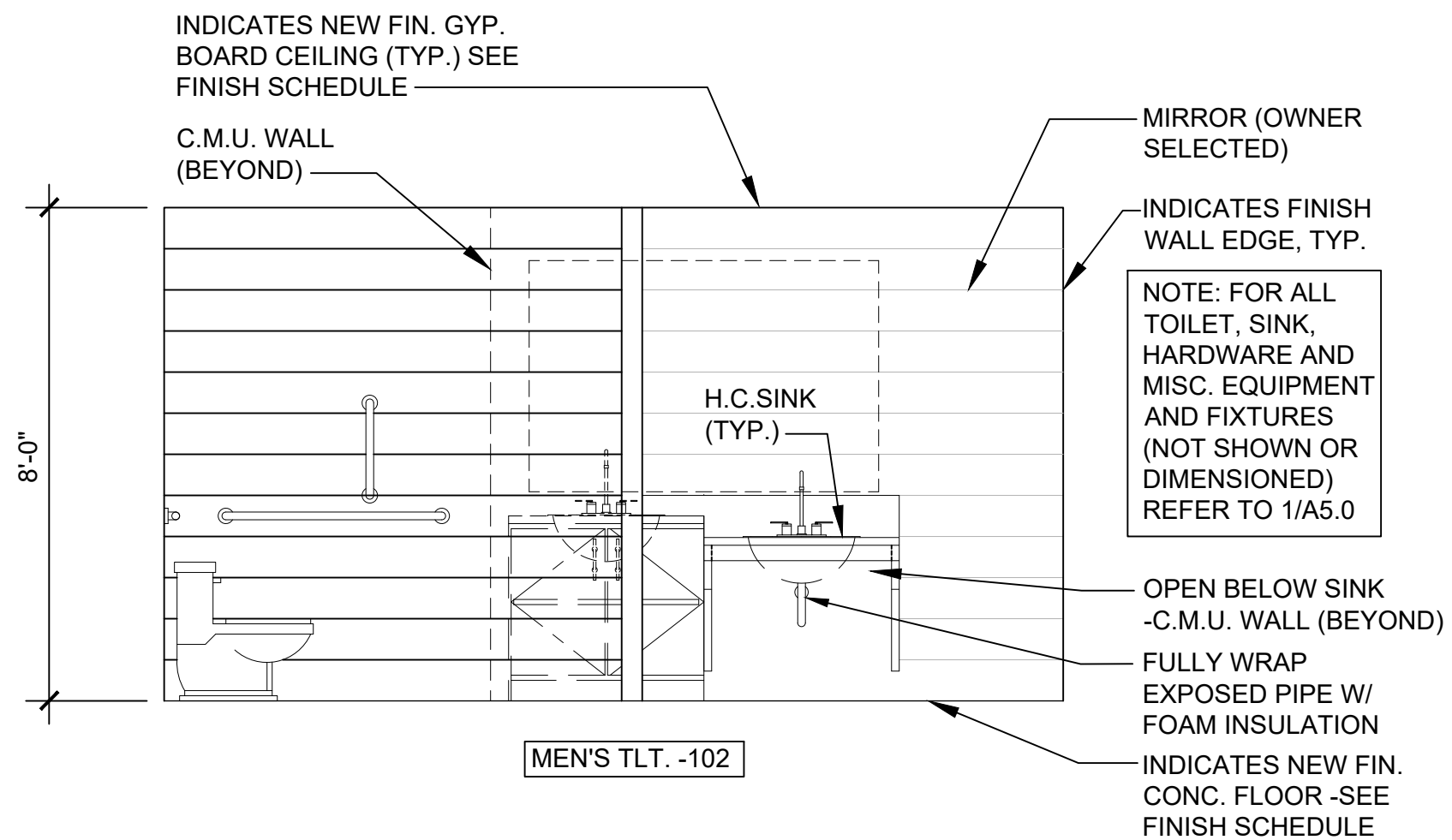
A4.1 SCALE: 3/8" = 1'-0"



MEN'S TLT. -102

4 INTERIOR TLT. ROOM ELEVATION

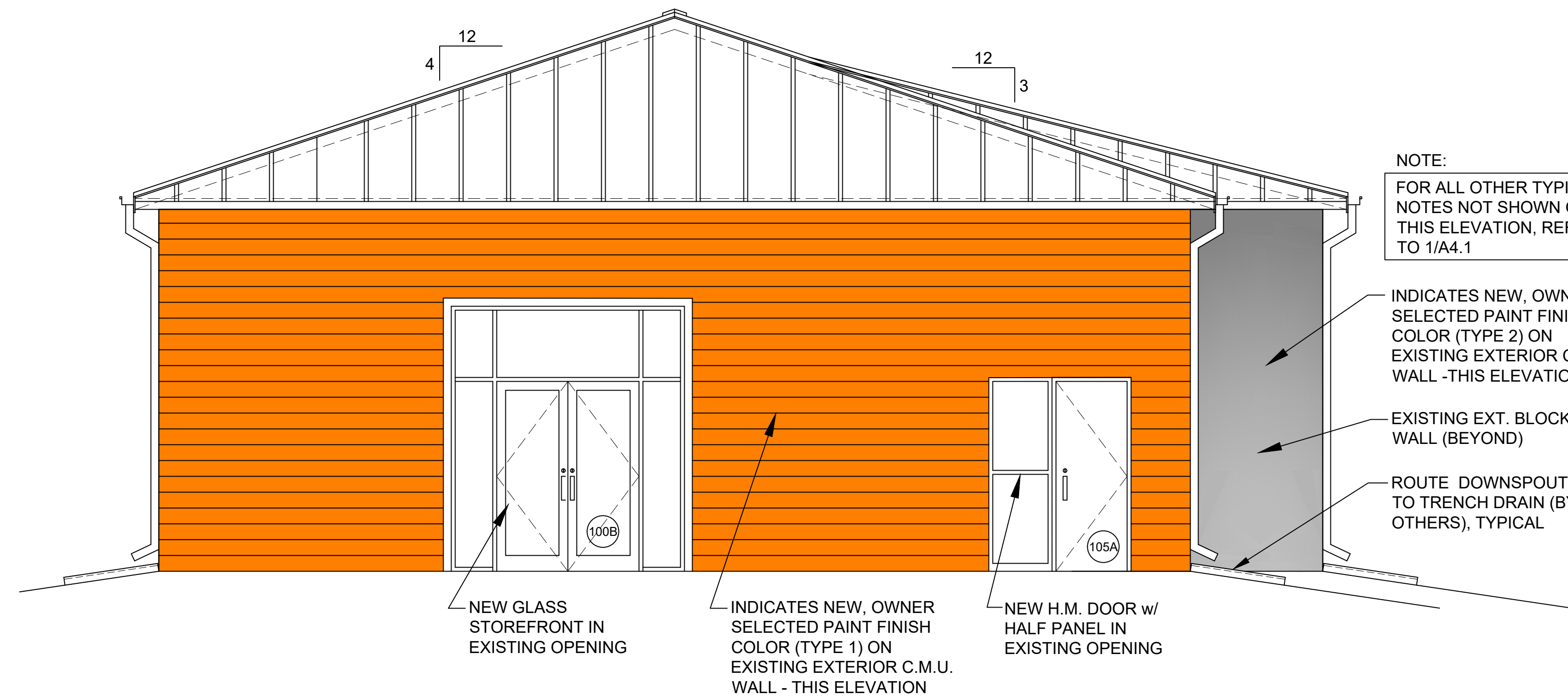
A4.1 SCALE: 3/8" = 1'-0"



MEN'S TLT. -102

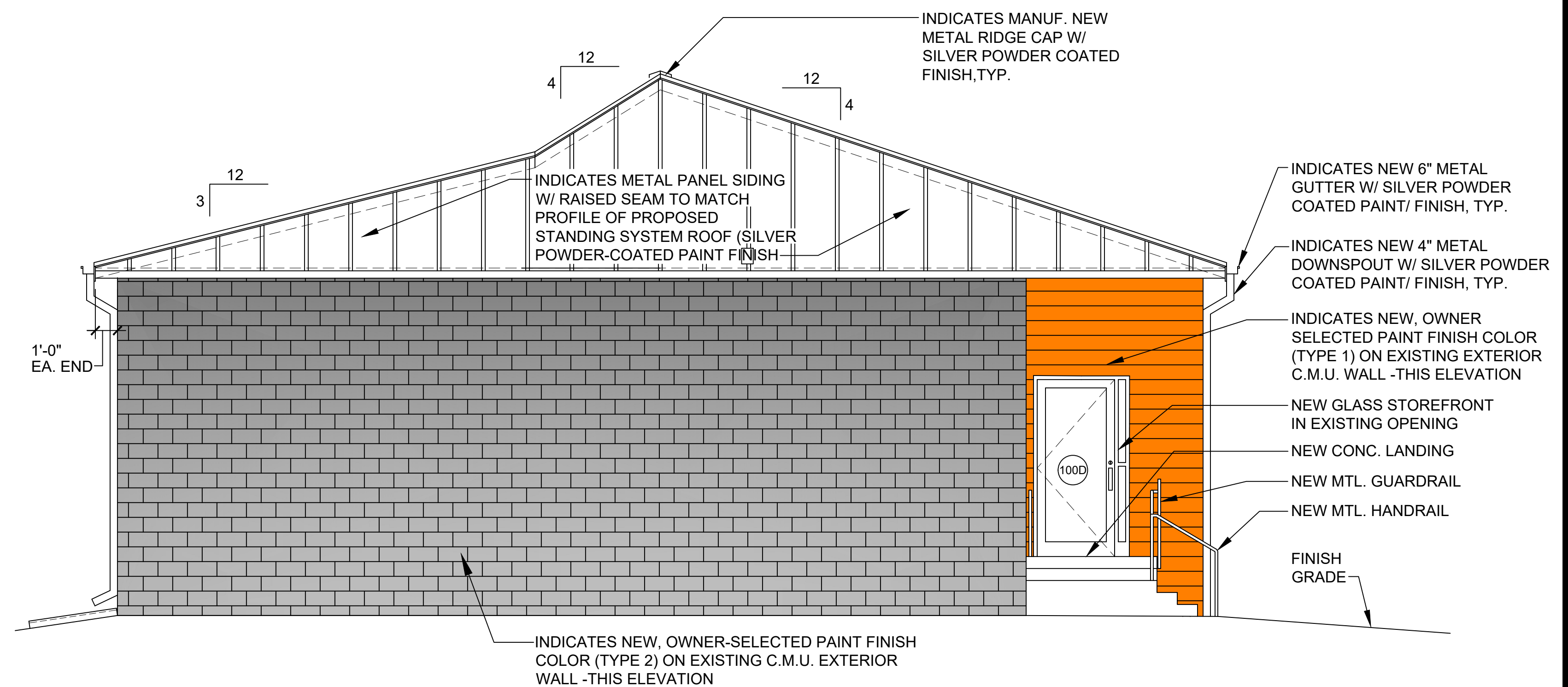
3 INTERIOR TLT. ROOM ELEVATION

A4.1 SCALE: 3/8" = 1'-0"



1 WEST EXTERIOR ELEVATION

A4.1 SCALE: 1/4" = 1'-0"

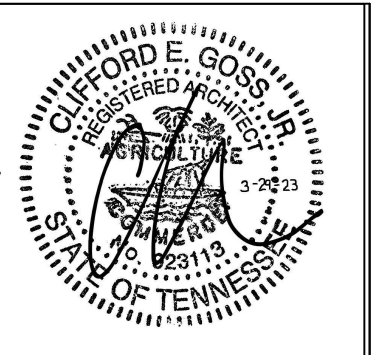


2 EAST EXTERIOR ELEVATION

A4.1 SCALE: 1/4" = 1'-0"



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CONSTRUCTION DOCUMENTS FOR:
AYERS HALL
 1108 FOREST AVE.
 KNOXVILLE, TN 37916

Job No: AYERS22
 Date: 3.20.2023
 Title: EXTERIOR ELEVATIONS
 Revisions:

SHEET
A4.1

DOOR / OPENING SCHEDULE

DOOR NUMBER	ROOM NAME	OPENING SIZE		DOOR TYPE	DOOR MATL.	FRAME TYPE	FIRE RATING	HDW. SET	NOTES
		WIDTH	HEIGHT						
100A	(NOT USED)								
100B	EVENT SPACE	E (V.I.F.) SEE NOTE	E (V.I.F.) SEE NOTE	NEW S.F.	NEW S.F.	-	-	N/A	1,2 - STOREFRONT & GLASS SIDELITE, DBL DOOR SIZE SHALL BE 6'-0"x7'-0"
100C	(NOT USED)								
100D	EVENT SPACE	E (V.I.F.) SEE NOTE	E (V.I.F.) SEE NOTE	NEW S.F.	NEW S.F.	-	-	NA	1,2 - STOREFRONT & GLASS SIDELITE, MIN. DOOR SIZE SHALL BE 3'-6"x7'-0"
100E	EVENT SPACE	E (V.I.F.)	E (V.I.F.)	1	METAL	B	-	-	
101A	UTIL./ MOP SINK	3'-0"	7'-0"	2	S.C.W.	A	-	-	
105A	OFFICE	E (V.I.F.)	E (V.I.F.)	1	METAL	B	-	-	2,4,5,8,9
105B	OFFICE	3'-0"	7'-0"	2	S.C.W.	A	-	-	

NOTES: (IF APPLICABLE TO ABOVE DOOR SCHEDULE)

- DOOR INSTALLED WITH PUSH (PANIC) HARDWARE (INTERIOR ROOM SIDE).
- SIZE DOOR HEIGHT, WIDTH IN FIELD.
- PUSH HARDWARE ON INTERIOR, SELF-CLOSE, AND SELF-LOCKED ON PULL SIDE.
- LOCKABLE DOOR HARDWARE WITH KEY/ ENTRY ACCESS LOCKSET FROM DOOR EXTERIOR.
- ALL DOOR THICKNESSES 1-3/4" UNLESS OTHERWISE NOTED.
- NOT USED.

- NEW GARAGE DOOR (BY OTHERS).
- DOOR TO BE INSTALLED WITH SELF-CLOSE HARWARE.
- EXISTING EXTERIOR DOOR TO BE REPLACED BY OWNER AT SAME LOCATION.
- EXISTING EXTERIOR DOOR (TO REMAIN) WITH NEW DOOR HARDWARE INSTALLATION -SEE DOOR SCHEDULE NOTES COLUMN.
- LOCKABLE GARAGE DOOR HARDWARE TO BE INSTALLED FROM INTERIOR SIDE OF DOOR/ FRAME.

NOTE:

TOILET STALL DOORS BY TOILET DOOR/ PARTITION MANUFACTURER. FOR TYPICAL DOOR WIDTHS, SEE ROOM(S) 102/103 ON SHEET A1.0, & INTERIOR BATHROOM ELEVATIONS, SHEET A4.1.

INTERIOR FINISH SCHEDULE

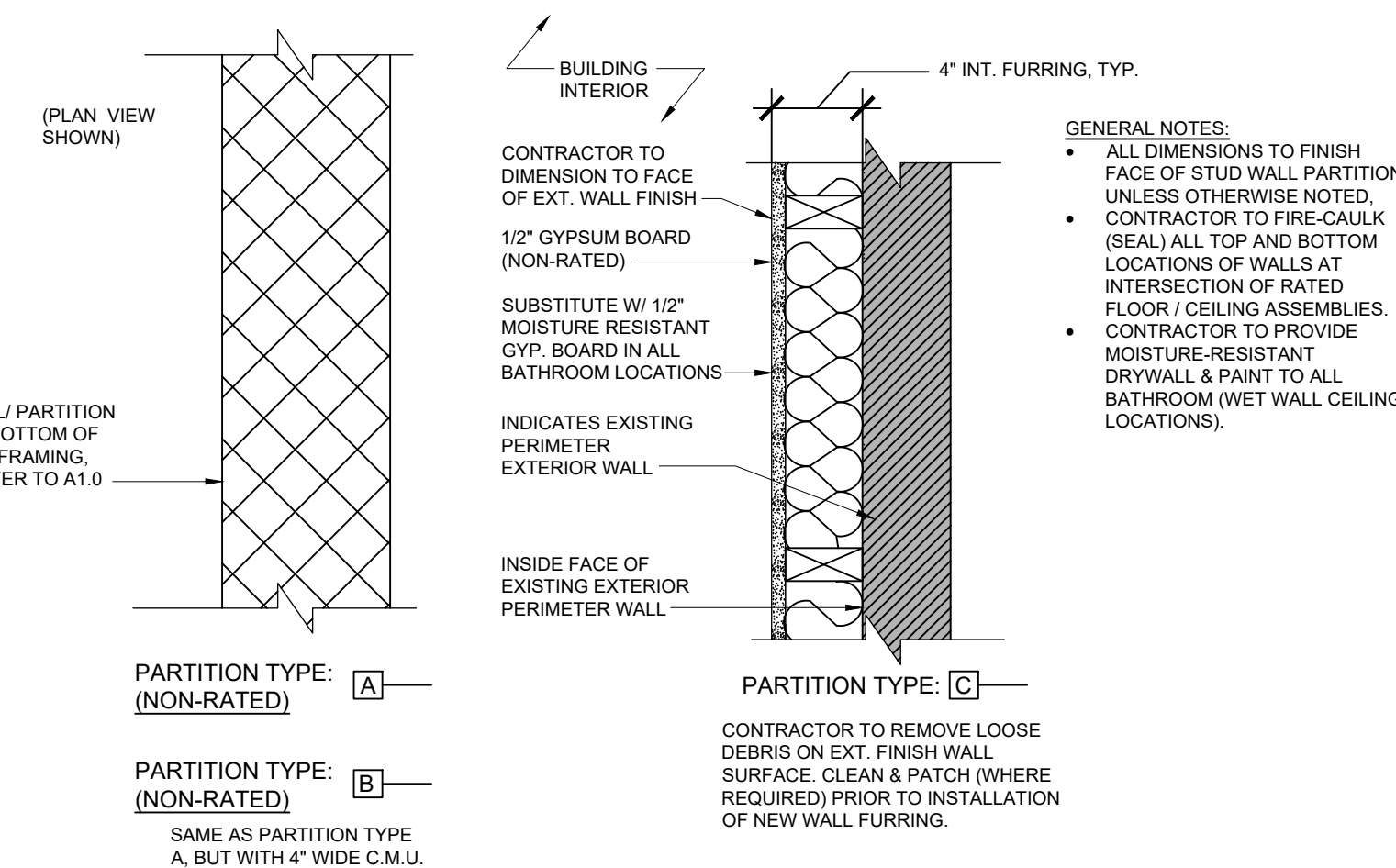
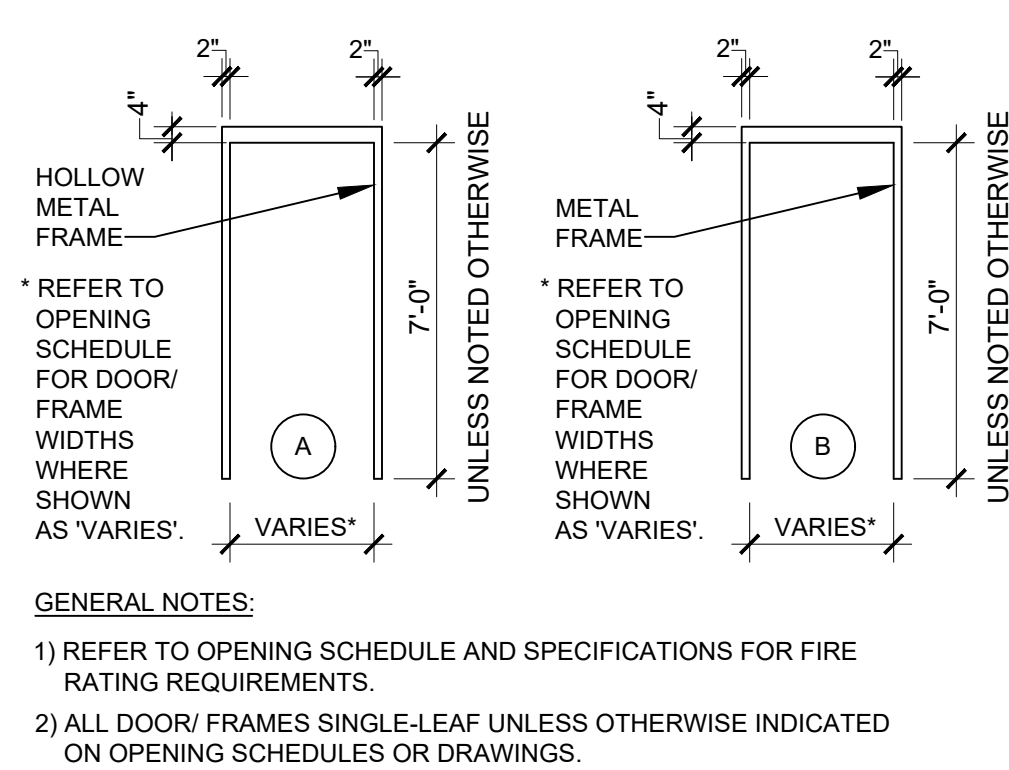
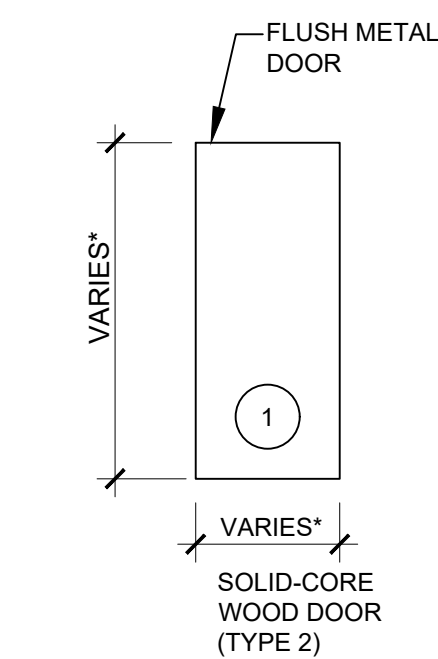
ROOM NUMBER	ROOM NAME	FLOOR	BASE	WALLS		CEILING			NOTES
				MATERIAL	FINISH	MATERIAL	FINISH	HEIGHT	
100	POOL TABLES/ OPEN	NEW CONC. SLAB	N/A	EXIST.	SEE NOTES	REF.	REF.	-	CW,4,5
101	UTIL./ MOP SINK	NEW CONC. SLAB	N/A	C.M.U./8" BLOCK	NONE	REF.	REF.	-	CW, 4,5
102	MEN'S TLT.	NEW CONC. SLAB	N/A	C.M.U./8" BLOCK	PAINTED	GYP. BD/ REF.	PAINTED	8'-0"	W.R.,CW,5
103	WOMEN'S TLT.	NEW CONC. SLAB	N/A	C.M.U./8" BLOCK	PAINTED	GYP. BD/ REF.	PAINTED	8'-0"	W.R.,CW,5
104	EXT. COURTYARD	EXIST. (TO REMAIN)	N/A	EXIST.	N/A	N/A	N/A	N/A	U, CW
105	OFFICE	NEW CONC. SLAB	N/A	EXIST./NEW CMU	SEE NOTES	REF.	REF.	-	CW,4,5

ABBREVIATIONS: -(IF APPLICABLE TO ABOVE SCHEDULES)

- C.M.U. -8" CONCRETE MASONRY BLOCK
- CW -CLEAN EXISTING WALLS AND RE-PAINT AS PER OWNER'S DIRECTIVE.
- E -(EXISTING) VERIFY IN FIELD
- EXIST. -EXISTING WALL AND/OR FLOOR SURFACE (TO REMAIN) WHERE REQUIRED
- GYP. BD. -GYPSUM BOARD (PAINTED)
- H.M. -HOLLOW METAL DOOR
- N/A -NOT APPLICABLE
- (O) -WORK BY OTHERS
- REF -REFER TO REFLECTED CEILING PLAN
- U -UNFINISHED
- V.I.F. -VERIFY IN FIELD
- W.R. -WATER/ MOISTURE RESISTANT GYP. BD. & PAINT FINISH

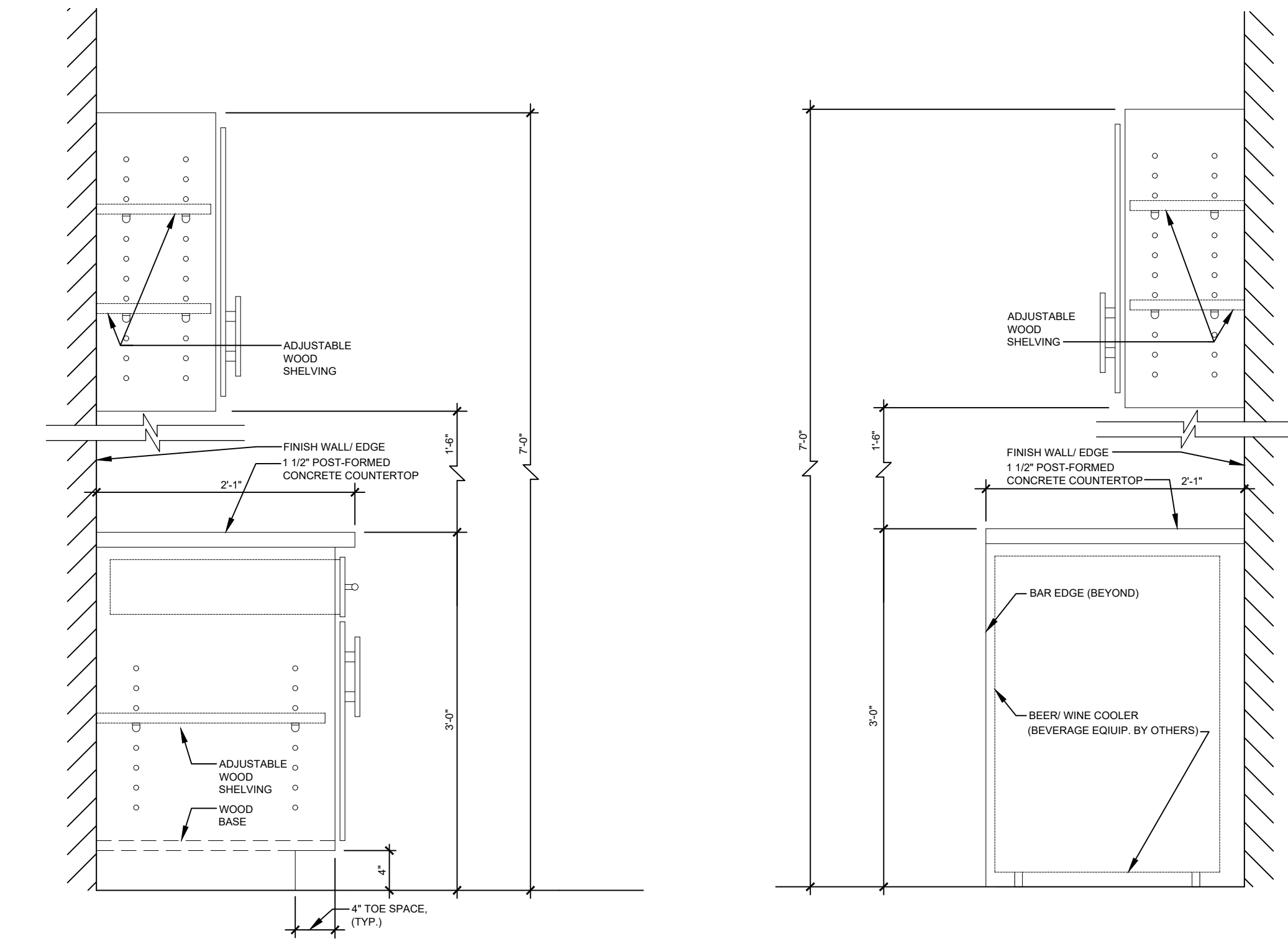
NOTES: (IF APPLICABLE TO SCHEDULE ABOVE)

- CEILING HEIGHTS, MATERIALS AND FINISHES VARY. REFER TO REFLECTED CEILING PLANS FOR ADDITIONAL INFORMATION AT THIS LOCATION.
- (NOT USED)
- NO NEW WORK AT THIS LOCATION. AREA TO REMAIN UNFINISHED.
- OPEN CEILING/ FINISH CEILING HEIGHT EXTENDS TO BOTT. CHORD OF NEW WOOD ROOF TRUSS INSTALLATION, TYPICAL ALL LOCATIONS.
- OWNER/ CONTRACTOR TO DETERMINE IF ANY ADDITIONAL FINISHES OR TREATMENTS ARE TO BE APPLIED TO AREA(S) OF NEW POURED CONCRETE SLAB -ALL LOCATIONS, TYP.



2A/B MILLWORK SECTIONS (REAR BAR)

A5.0 SCALE: 1" = 1'-0"

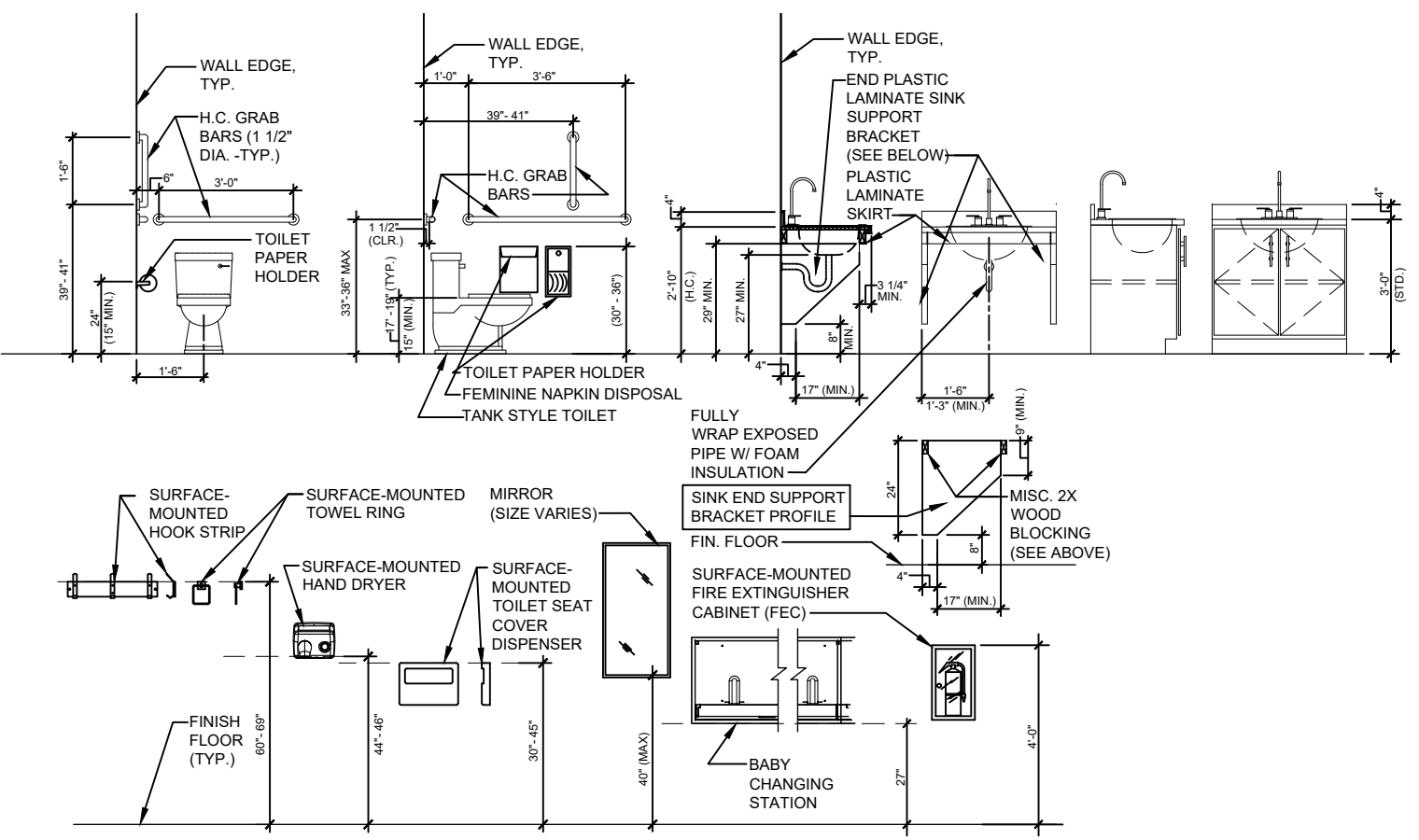


1A MILLWORK SECTIONS (REAR BAR)

A5.0 SCALE: 1" = 1'-0"

1B MILLWORK SECTIONS (REAR BAR)

A5.0 SCALE: 1" = 1'-0"



DOOR AND FRAME TYPES:

0 INTERIOR PARTITION TYPES

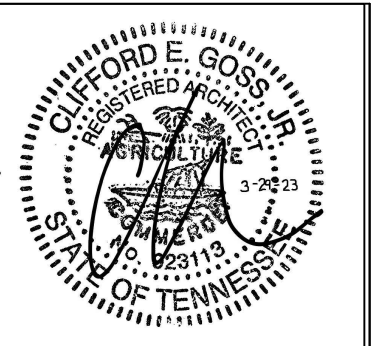
A5.0 1"=1'-0"

1 STANDARD INSTALLATION HEIGHTS

A5.0 NO SCALE



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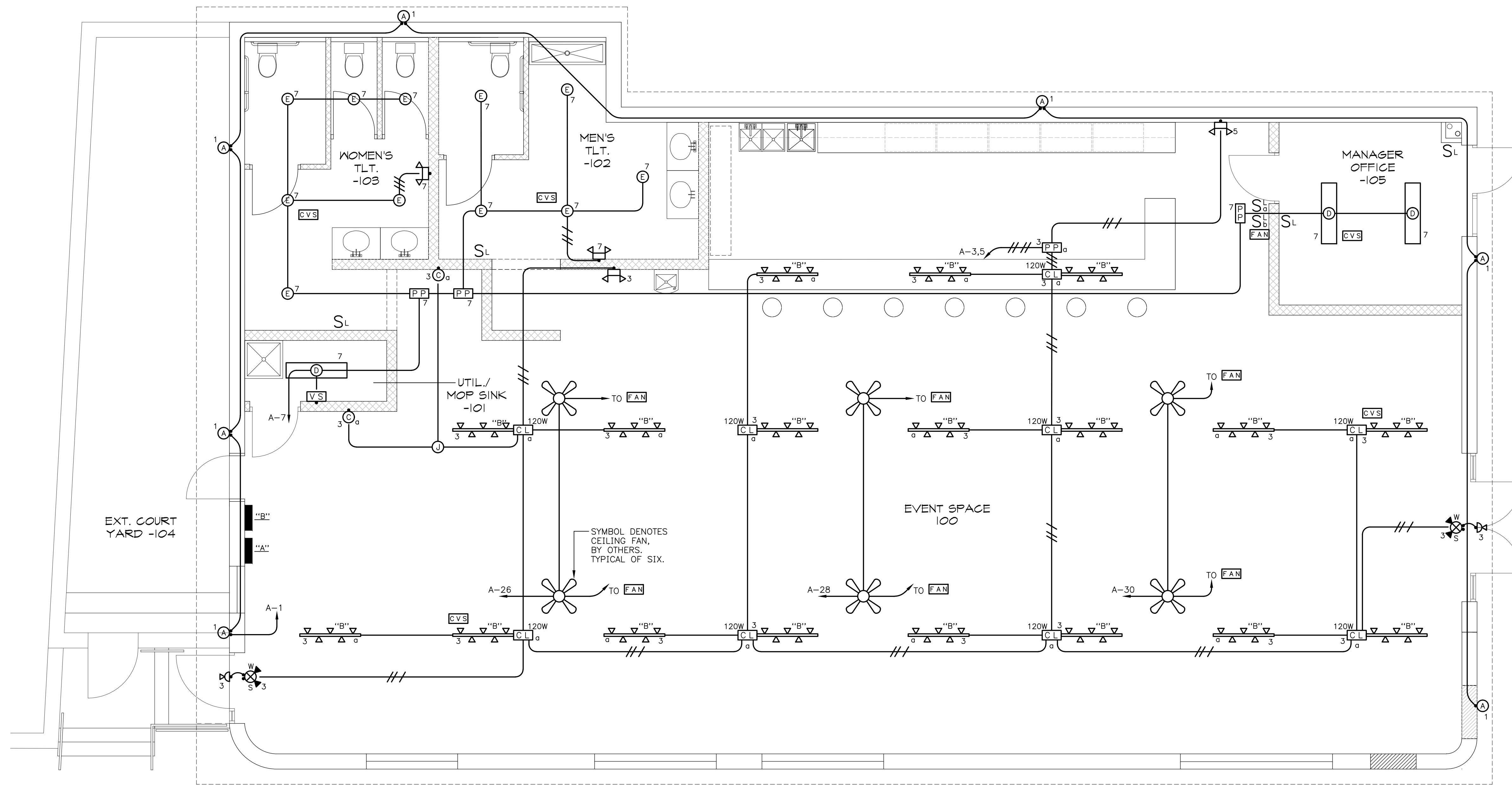


CONSTRUCTION DOCUMENTS FOR:
AYERS HALL
1108 FOREST AVE.
KNOXVILLE, TN 37916

Job No: AYERS22
Date: 3.20.2023
Title: MILLWORK SECTIONS

Revisions:

SHEET
A5.0



- LIGHTING NOTES:**
- REFER TO ARCHITECTURAL REFLECTED CEILING PLAN FOR EXACT LOCATIONS OF ALL LIGHTING FIXTURES.
 - EXIT SIGNS, BUILT-IN BATTERY PACKS AND EXTERIOR EMERGENCY LIGHTS SHALL BE CONNECTED TO LOCAL UNSWITCHED LIGHTING CIRCUITS AS INDICATED ON DRAWINGS.

FLOOR PLAN - LIGHTING

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



VOLTAGE DROP CALCULATION NOTES:

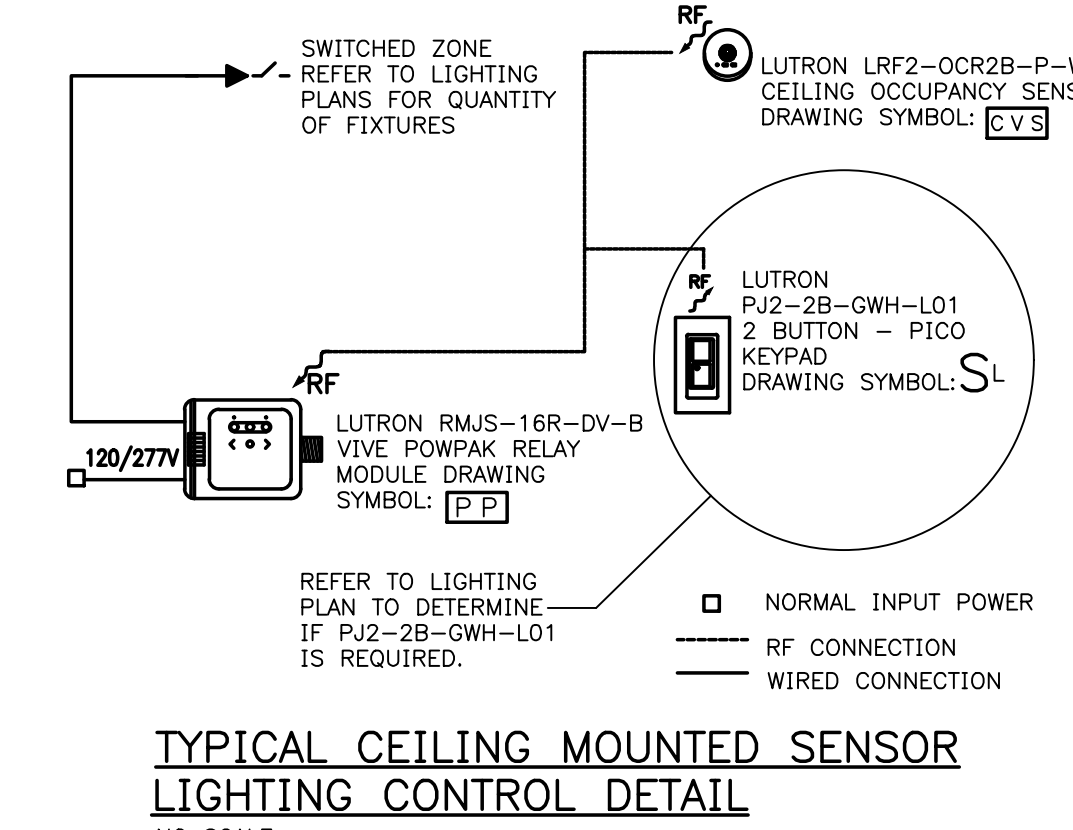
- REFER TO CONDUCTOR SIZE TABLE FOR WIRE SIZING REQUIREMENTS FOR 20 AMPERE BRANCH CIRCUITS.
- FOR ALL OTHER FEEDER AND BRANCH CIRCUIT WIRING SHOWN ON DRAWINGS, WIRE SIZING HAS BEEN SPECIFIED TO MEET VOLTAGE DROP REQUIREMENTS AS SET FORTH IN NFPA 70 (NEC) AND IECC C405.9.

CONDUCTOR SIZE TABLE

FOR 20 AMP BRANCH CIRCUITS, THE FOLLOWING ARE THE MAXIMUM ONE-WAY DISTANCES ALLOWED:

CONDUCTOR SIZE	120V	208V/1Ø	208V/3Ø	277V	480V/3Ø
NO. 12	80'	140'	225'	180'	550'
NO. 10	125'	215'	425'	225'	-
NO. 8	195'	340'	665'	435'	-

TABLE IS BASED ON 3% VOLTAGE DROP ON 12.0 F.L.A., 0.85 POWER FACTOR. USE LARGER SIZES IF SPECIFICALLY NOTED ON PLANS.

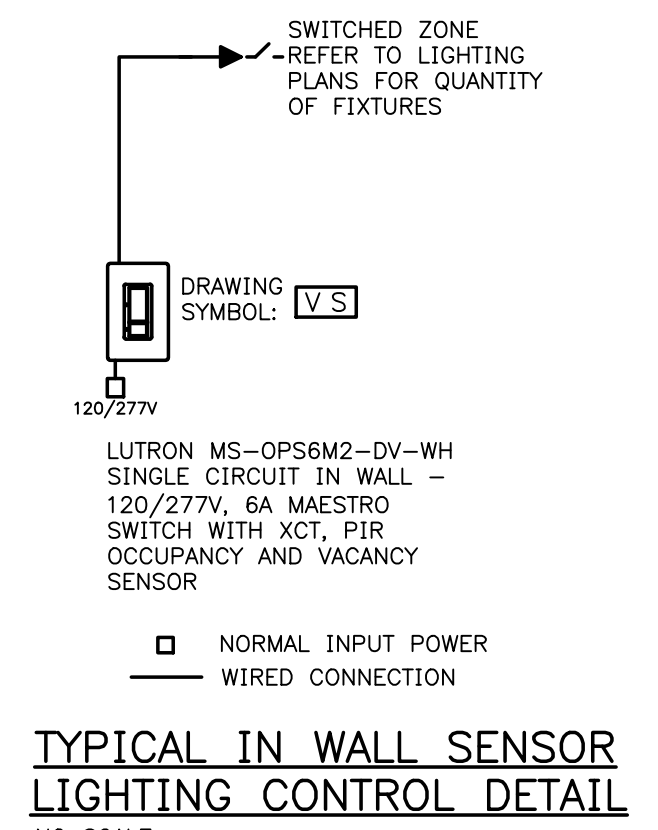


NOTE:

1. DETAIL ABOVE DEPICTS "WIRELESS" ARRANGEMENT FOR SENSORS AND SWITCHES. ALTERNATE SYSTEMS UTILIZING LOW VOLTAGE WIRING FROM POWER PACKS TO CEILING SENSORS AND SWITCHES SHALL BE ACCEPTABLE FOR USE PROVIDED THAT FUNCTIONALITY OF SPACE MATCHES WORK INDICATED ON THIS DETAIL AND SHOWN ON DRAWINGS.

LIGHTING CONTROL NARRATIVE:

FIXTURES ARE TURNED ON MANUALLY BY WALL SWITCH AND TURNED OFF AUTOMATICALLY WHEN ROOM BECOMES VACANT.



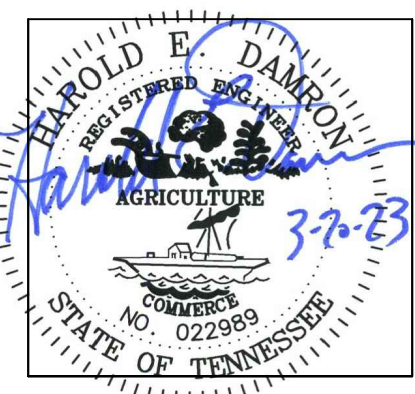
LIGHTING CONTROL NARRATIVE:

FIXTURES ARE TURNED ON MANUALLY BY WALL SWITCH AND TURNED OFF AUTOMATICALLY WHEN ROOM BECOMES VACANT.

E1.0 - Ayers Hall - Floor Plan - Lighting.dwg
A.L.S. 03/24/23 10:25 AM HD23029(HD)



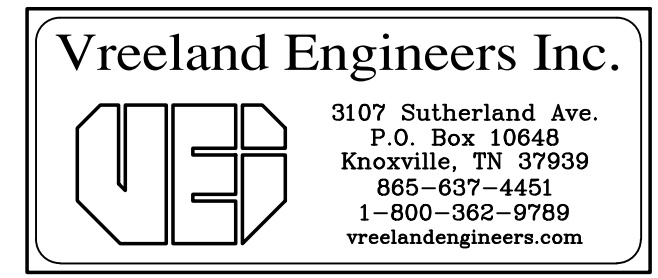
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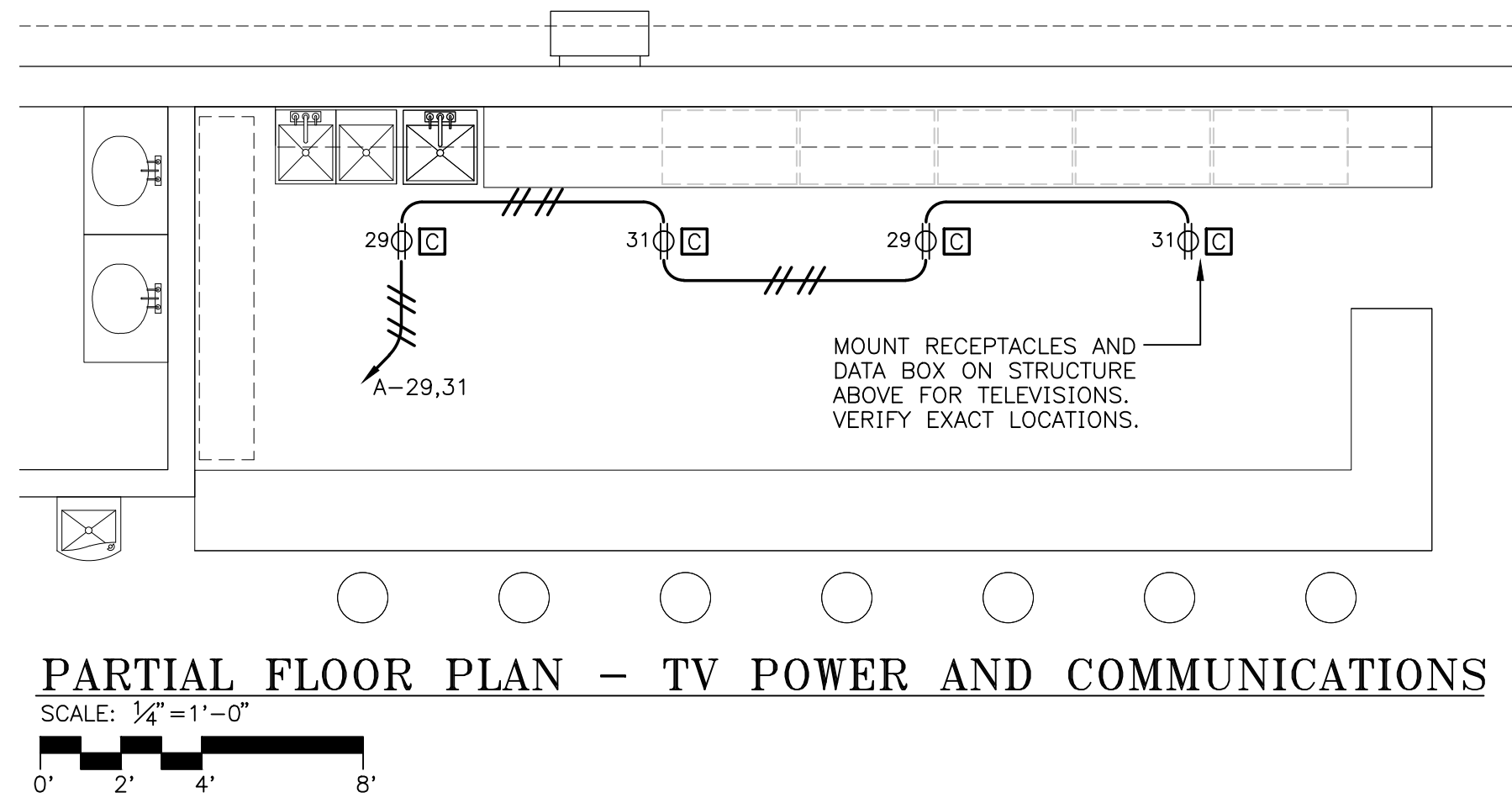
Job No: AYERS22
Date: 03.20.2023
Title: **FLOOR PLAN - LIGHTING**

Revisions:

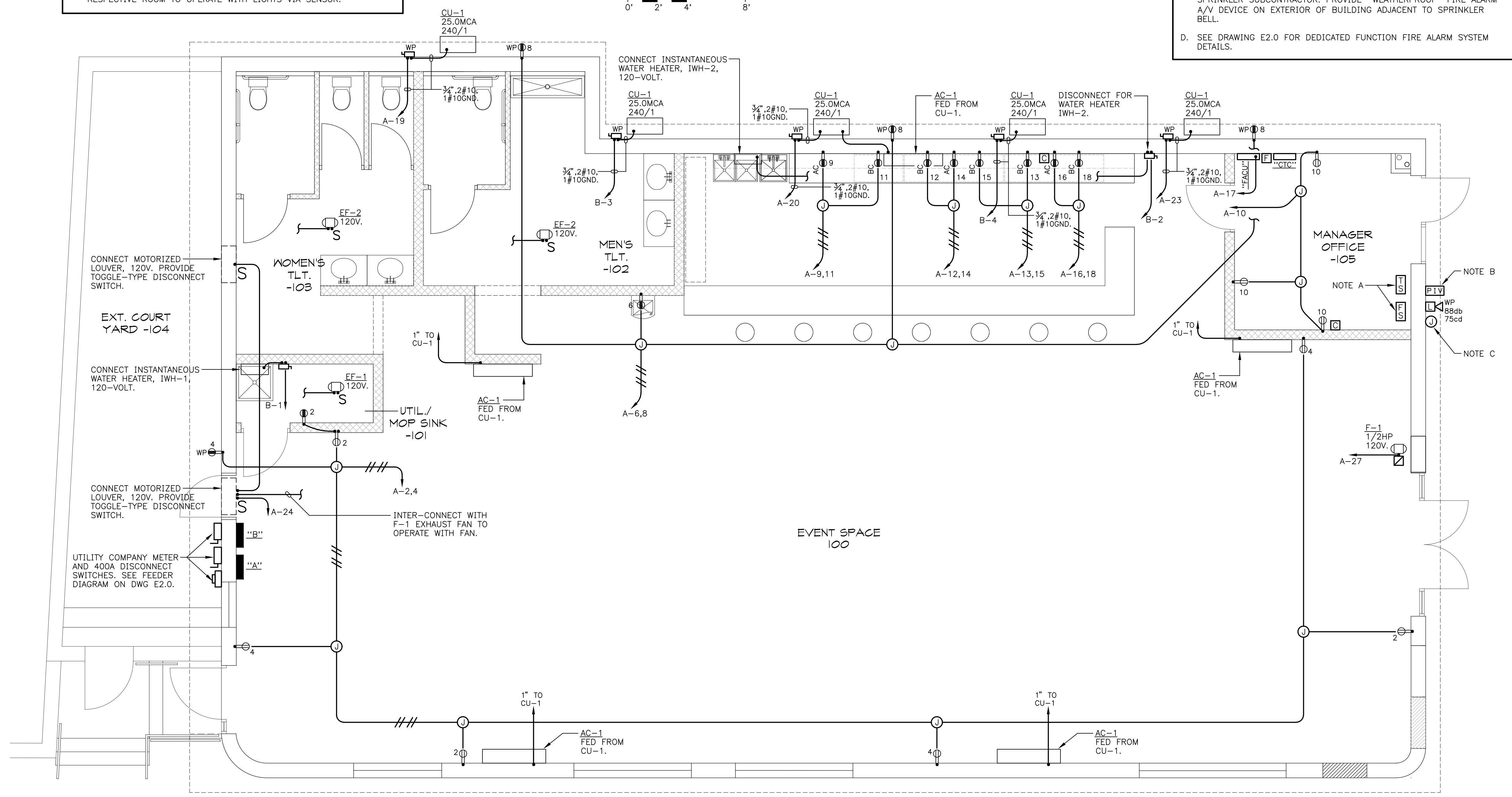


SHEET
E1.0

- POWER NOTES:**
1. PRIOR TO BEGINNING CONDUIT INSTALLATION FOR HVAC/PLUMBING EQUIPMENT ELECTRICAL CONTRACTOR SHALL CONFIRM WITH MECHANICAL/PLUMBING CONTRACTOR THE VOLTAGES FOR ALL HVAC/PLUMBING EQUIPMENT REQUIRING ELECTRICAL SERVICE. ELECTRICAL CONTRACTOR SHALL CALL ANY DISCREPANCIES BETWEEN ELECTRICAL DRAWINGS AND VOLTAGE INFORMATION PROVIDED BY MECHANICAL/PLUMBING CONTRACTOR TO THE ATTENTION OF ENGINEER PRIOR TO PROCEEDING WITH WORK.
 2. CONFIRM EXACT ROUGH-IN LOCATIONS FOR ALL HVAC/PLUMBING EQUIPMENT WITH MECHANICAL/PLUMBING CONTRACTOR PRIOR TO INSTALLATION OF CONDUIT.
 3. "AC" BY DEVICE INDICATES DEVICE TO BE MOUNTED ABOVE COUNTER SUCH THAT BOTTOM OF BOX IS 2" ABOVE COUNTER OR COUNTER BACKSPLASH, AS APPLICABLE. REFER TO ARCHITECTURAL INTERIOR ELEVATIONS FOR COUNTER DETAILS.
 4. "BC" BY DEVICE INDICATES DEVICE TO BE MOUNTED BELOW COUNTER AT STANDARD HEIGHT (+18" AFF). COORDINATE EXACT ROUGH-IN LOCATION WITH G.C. SUCH THAT OUTLET BOX IS LOCATED IN "KNEE SPACE", CLEAR OF ALL DRAWERS, CABINETS, COUNTER SUPPORTS, ETC.
 5. EF-1 AND EF-2 TO BE CONNECTED TO LIGHTING CIRCUIT IN EACH RESPECTIVE ROOM TO OPERATE WITH LIGHTS VIA SENSOR.



- FIRE ALARM SYSTEM NOTES:**
- A. CONNECT ALL SPRINKLER FLOW/TAMPER SWITCHES TO BUILDING FIRE ALARM SYSTEM. QUANTITIES SHOWN ARE DIAGRAMMATIC ONLY. CONFIRM EXACT QUANTITIES WITH SPRINKLER SYSTEM SUBCONTRACTOR.
 - B. EXTEND 3/4" WITH FIRE ALARM WIRING TO POST INDICATOR VALVE(PIV). CONNECT TAMPER SWITCH AT PIV TO BUILDING FIRE ALARM SYSTEM. REFER TO FIRE PROTECTION/SITE UTILITY DRAWINGS FOR EXACT LOCATION OF PIV.
 - C. CONNECT SPRINKLER ALARM BELL ON EXTERIOR OF BUILDING. COORDINATE ROUGH-IN AND CONNECTION REQUIREMENTS WITH SPRINKLER SUBCONTRACTOR. PROVIDE "WEATHERPROOF" FIRE ALARM A/V DEVICE ON EXTERIOR OF BUILDING ADJACENT TO SPRINKLER BELL.
 - D. SEE DRAWING E2.0 FOR DEDICATED FUNCTION FIRE ALARM SYSTEM DETAILS.



FLOOR PLAN - POWER AND COMMUNICATIONS
SCALE: 1/4" = 1'-0"

- VOLTAGE DROP CALCULATION NOTES:**
1. REFER TO CONDUCTOR SIZE TABLE FOR WIRE SIZING REQUIREMENTS FOR 20 AMPERE BRANCH CIRCUITS.
 2. FOR ALL OTHER FEEDER AND BRANCH CIRCUIT WIRING SHOWN ON DRAWINGS, WIRE SIZING HAS BEEN SPECIFIED TO MEET VOLTAGE DROP REQUIREMENTS AS SET FORTH IN NFPA 70 (NEC) AND IECC C405.9.

CONDUCTOR SIZE TABLE

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NO. 10	125'	215'	425'	225'	-
NO. 8	195'	340'	665'	435'	-

TABLE IS BASED ON 3% VOLTAGE DROP ON 12.0 F.L.A., 0.85 POWER FACTOR. USE LARGER SIZES IF SPECIFICALLY NOTED ON PLANS.

Vreeland Engineers Inc.

3107 Sutherland Ave.
P.O. Box 10648
Knoxville, TN 37939
865-837-4451
1-800-362-9789
vreelandengineers.com

gdd
goss design / development
110 w summit hill drive
knoxville, tennessee
385 230 1860

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HAROLD E. DAMBRO
REGISTERED PROFESSIONAL ENGINEER
AGRICULTURE
NO. 022969
STATE OF TENNESSEE
3-2-23

CONSTRUCTION DOCUMENTS FOR:
AYERS HALL
1108 FOREST AVE.
KNOXVILLE, TN 37916

Job No: AYERS22
Date: 03.20.2023
Title: **FLOOR PLAN - POWER AND COMMUNICATIONS**
Revisions:

ELECTRICAL SPECIFICATIONS

- SCOPE: FURNISH PLANT, LABOR, MATERIAL, SERVICES, AND EQUIPMENT NECESSARY FOR AND REASONABLY INCIDENTAL TO THE INSTALLATION OF ELECTRICAL FACILITIES AS SHOWN ON THE DRAWINGS AND CALLED FOR HEREINAFTER.
- CODES AND PERMITS: SECURE NECESSARY PERMITS, PAY NECESSARY FEES, CONFORM TO ALL APPLICABLE LOCAL, STATE, AND NATIONAL CODES.
- POWER SERVICE: POWER SERVICE SHALL BE TAKEN OVERHEAD AT 120/240-VOLTS, 1-PHASE, 3-WIRE, WYE FROM KNOXVILLE UTILITIES BOARD COMPANY TRANSFORMER. REFER TO DRAWINGS FOR ADDITIONAL INFORMATION. CONFORM TO ALL REQUIREMENTS OF KUB FOR NEW OVERHEAD POWER SERVICE. VERIFY ALL SERVICE ARRANGEMENTS.
- WIRING METHODS: ALL WIRING SHALL BE INSTALLED IN CONDUIT. EXPOSED CONDUIT ON THE EXTERIOR OF THE BUILDING SHALL BE GALVANIZED RIGID STEEL. EXTERIOR UNDERGROUND CONDUITS FOR SERVICE ENTRANCE SHALL BE PERMITTED TO BE SCHEDULE 40 PVC CONDUITS IN OR BELOW CONCRETE FLOOR SLAB WITHIN BUILDING SHALL BE PERMITTED TO BE SCHEDULE 40 PVC WITH GALVANIZED RIGID STEEL ELBOWS UTILIZED WHERE CONDUIT TURNS UP THROUGH CONCRETE FLOOR SLAB. ALL CONDUCTORS SHALL BE COPPER WITH "THHN/THWN" INSULATION. MINIMUM CONDUCTOR SIZE SHALL BE #12 AWG WITH LARGER SIZES WHERE INDICATED ON DRAWINGS.
- PANELBOARDS: FURNISH AND INSTALL NEW PANELBOARDS AS INDICATED ON DRAWINGS. PANELBOARD SHALL BE SIMILAR AND EQUAL TO SQUARE D COMPANY "NO" SERIES WITH COPPER BUS AND BUILT-IN TYPE CIRCUIT BREAKERS. PROVIDE NEMA 3R ENCLOSURE FOR HOUSE PANELBOARD LOCATED OUTSIDE. SIMILAR AND EQUAL EQUIPMENT BY SIEMENS, CUTLER-HAMMER, AND GENERAL ELECTRIC WILL BE APPROVED FOR USE.
- LIGHTING FIXTURES: FURNISH AND INSTALL LIGHTING FIXTURES AS INDICATED ON DRAWINGS COMPLETE WITH LAMPS. CONFIRM EXACT LOCATIONS OF ALL LIGHTING FIXTURES WITH ARCHITECT PRIOR TO INSTALLATION OF CONDUIT ROUGH-IN. PROVIDE SUBMITTALS OF LIGHTING FIXTURES PROPOSED FOR USE TO ARCHITECT FOR APPROVAL PRIOR TO FABRICATION OF FIXTURES.
- METER SERVICE AREA: FURNISH AND INSTALL NEW METER AS DETAILED ON PLANS. ALL EQUIPMENT SHALL BE NEMA 3R RATED.
- WIRING DEVICES: FURNISH AND INSTALL WALL SWITCHES, DUPLEX PLUG RECEPTACLES, GFCI DEVICES, ETC., AS INDICATED ON DRAWINGS. ALL WIRING DEVICES SHALL BE SPECIFICATION GRADE, BACK AND SIDE WIRED, WITH MINIMUM RATING OF 20-AMPERES FOR THE VOLTAGE SERVICE APPLIED. DEVICE COLOR SHALL BE AS DIRECTED BY ARCHITECT. COVERPLATES SHALL BE NYLON, FINISH AS DIRECTED BY ARCHITECT.
- GROUNDING: PROVIDE SERVICE GROUNDING AS DESCRIBED HEREINAFTER. SERVICE GROUNDING SHALL CONSIST OF TWO DRIVEN 5/8" X 10' LONG COPPERWELD GROUND RODS. GROUND RODS SHALL BE LOCATED SUCH THAT THEY ARE 15' APART FROM EACH OTHER. BOND GROUND RODS TOGETHER WITH #4 AWG BARE COPPER GROUNDING CONDUCTOR. BONDING CONNECTIONS TO GROUND RODS SHALL BE BY CADWELD PROCESS. FROM GROUND RODS, EXTEND #4 AWG BARE COPPER CONDUCTOR AND BOND TO GROUND BUS AND SYSTEM NEUTRAL AT MAIN SWITCH FOR BUILDING. EXTEND A #4 AWG BARE COPPER GROUNDING CONDUCTOR AND BOND TO MAIN METALLIC COLD WATER PIPE AT POINT WHERE IT ENTERS BUILDING. PROVIDE GROUNDING OF STRUCTURAL STEEL FOOTING IN BUILDING IN ACCORDANCE WITH NATIONAL ELECTRICAL CODE. GROUND ALL INTERIOR PIPING SYSTEMS. PROVIDE A CODE-SIZED GROUNDING CONDUCTOR IN ALL NEW FEEDER AND BRANCH CIRCUIT CONDUIT RUNS. GROUNDING CONDUCTOR IS GENERALLY NOT INDICATED ON DRAWINGS BUT SHALL BE REQUIRED. GROUND EQUIPMENT AND LIGHTING FIXTURES IN ACCORDANCE WITH NATIONAL ELECTRICAL CODE.
- GUARANTY: GUARANTEE ALL WORK TO BE FREE FROM DEFECTS IN MATERIAL AND WORKMANSHIP FOR A PERIOD OF ONE YEAR AFTER DATE OF FINAL ACCEPTANCE OF JOB.

LIGHTING FIXTURE SCHEDULE

DESIGNATION	ILLUMINATION				MOUNTING			DESCRIPTION: SHIELDING, TYPE, MATERIAL, S, FINISH, MOUNTING	MANUFACTURER'S PRODUCT ITEM	* EQUAL PRODUCT PERMITTED	REMARKS
	WATTS	DELIVERED LUMENS	COLOR TEMPERATURE (K)	MINIMUM CRI	CEILING		WALL				
					PENDANT STEM LENGTH	SURFACE					
A	45	4500	4000	80	-	•		WALL PACK, FLAT LENS, FULL CUT-OFF, BUILT-IN PHOTO-CELL	ELITE LIGHTING	OWP-FC-201-LED-4500L-MVOLT-40K-BZ-PHC	
B	10	619	3500	80	-	•		TRACK LIGHTING, 4FT. LENGTH, SINGLE CIRCUIT, 5-HEAD,	ELITE LIGHTING	TRACK: ET4 HEAD: ET-LED-328-600L-DIMTR120-30K90-WFL-ABK	CIRCUIT LIMITER: ET158-14-ABK
C	14	800	3500	80	-	•		WALL SCENCE	ELITE LIGHTING	ECH-WS-LED-1013	
D	29	3935	3500	80	-	•		4FT, LENSED STRIP	ELITE LIGHTING	4-ORW-LED-4000L-DIM10-MVOLT-35K	
E	24	1200	3500	80	-	•		6" DIAMETER DOWNLIGHT	ELITE LIGHTING	H6-LED-1200L-DIM10-MVOLT-MD-35K-W-WH	

* UNLESS NOTED, EQUAL PRODUCT TO THAT SPECIFIED WILL BE ACCEPTED. THE DESIGN PROFESSIONAL SHALL HAVE SOLE JUDGEMENT CONCERNING EQUIVALENCY OF SUBSTITUTION.

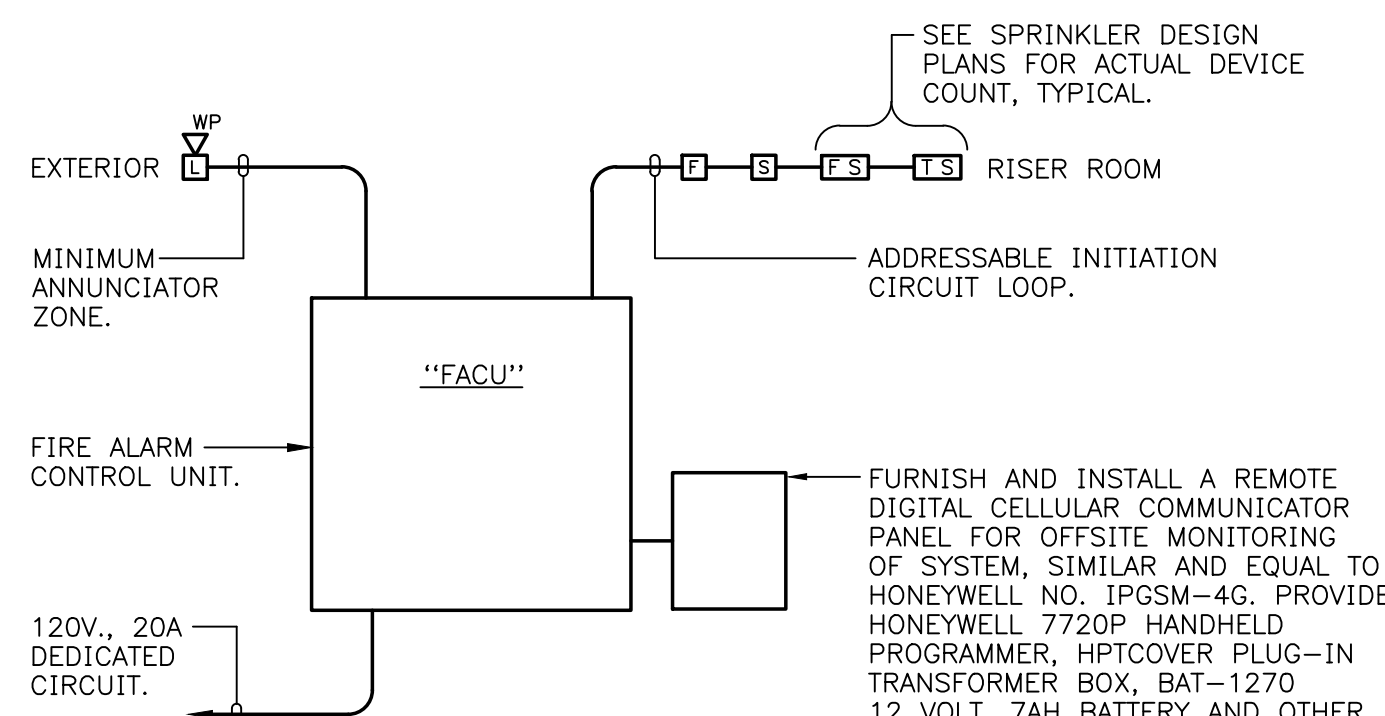
INTERIOR LIGHTING POWER:
PER IECC TABLE C405.3.2(1), DINING: BAR LOUNGE/LEISURE AREA IS ALLOWED .90 W/SQ. FT. TOTAL ALLOWED WATTS FOR 3,708 SQ. FT IS 3337.2W. TOTAL PROPOSED INTERIOR LIGHTING POWER IS WATTS. SEE DRAWING E1.0 FOR LIGHTING CONTROL NARRATIVE.

LEGEND

- SYMBOL DESCRIPTION**
- LED LIGHTING FIXTURE; "B" REFERS TO DESIGNATION IN THE LIGHTING FIXTURE SCHEDULE; "d" REFERS TO SWITCH CONTROL; AND "2" REFERS TO CIRCUIT NUMBER.
 - LED LIGHTING FIXTURE; "A" REFERS TO DESIGNATION IN THE LIGHTING FIXTURE SCHEDULE; "b" REFERS TO SWITCH CONTROL AND "3" REFERS TO CIRCUIT NUMBER. ASTERISK (*) INDICATES LUMINAIRE TO BE EQUIPPED WITH BATTERY PACK FOR EGRESS LIGHTING.
 - LED LIGHTING FIXTURE WITH BUILT-IN EMERGENCY BATTERY PACK TO PROVIDE LIGHTING UPON LOSS OF NORMAL POWER. PROVIDE SEPARATE UNSWITCHED ENERGIZED CONDUCTOR TO BATTERY PACK IN ORDER TO ALLOW NORMAL SWITCHING OF LIGHTING FIXTURES WITHOUT DISCHARGING BATTERY PACK.
 - EXIT SIGN WITH BUILT-IN TWIN HEAD EMERGENCY LIGHT. "W" INDICATES SINGLE FACE. "D" INDICATES DOUBLE FACE. "P" INDICATES PENDANT MOUNTED. PROVIDE DIRECTIONAL ARROW ON EXIT SIGNS AS INDICATED ON PLANS. "WG" BY DEVICE INDICATES WIRE GUARD TO BE PROVIDED. UNIT EQUIPPED WITH BATTERY BACK-UP.
 - WALL-MOUNTED TWIN-HEAD EMERGENCY LIGHTING FIXTURE, CONNECT TO UNSWITCHED LIGHTING CIRCUIT. MOUNT 7'-6" AFF EXCEPT NOT LESS THAN 6" BELOW CEILING. "WG" BY DEVICE INDICATES WIRE GUARD TO BE PROVIDED.
 - WALL SWITCH; SINGLE POLE UNLESS NOTED 3- OR 4-WAY; "P" INDICATES EQUIPPED WITH PILOT LIGHT TO INDICATE WHEN SWITCH IS ON; W.P. INDICATES WEATHERPROOF. "K" INDICATES KEY OPERATED SWITCH; +48"/- ABOVE FLOOR EXCEPT IN MASONRY WALLS WHERE HEIGHT SHALL BE ADJUSTED TO HAVE BOX EDGE OCCUR AT A MASONRY JOINT. PROVIDE NEUTRAL CONDUCTOR IN ADDITION TO LINE AND SWITCHED CONDUCTORS.
 - DUPLEX PLUG RECEPTACLE, 120-VOLTS, 20-AMPERES, SHADED CENTER INDICATES EQUIPPED WITH BUILT-IN GROUND FAULT CIRCUIT INTERRUPTER, MOUNT 3" ABOVE BACKSPASH AT WORK COUNTERS/LAVATORIES AND +18" AFF ELSEWHERE UNLESS NOTED TO A DIFFERENT HEIGHT. PROVIDE WEATHER RESISTANT DEVICE AND WEATHERPROOF "EXTRA DUTY WHILE IN USE" COVER WHERE LOCATED OUTDOORS. TAMPER RESISTANT, UNLESS NOT REQUIRED BY CODE.
 - DUPLEX PLUG RECEPTACLE, 120-VOLTS; 20-AMPERES; MOUNT 3" ABOVE BACKSPASH AT WORK COUNTERS AND LAVATORIES AND +18" AFF ELSEWHERE UNLESS NOTED TO A DIFFERENT HEIGHT. TAMPER RESISTANT, UNLESS NOT REQUIRED BY CODE.
 - PANELBOARD, RECESSED OR SURFACE MOUNTED AS INDICATED ON DRAWINGS, TOP 6'-FEET ABOVE FINISHED FLOOR ADJUSTED TO OCCUR AT A MASONRY JOINT, SEE PANELBOARD SCHEDULE FOR EQUIPMENT CONTAINED.
 - CONDUIT AND CONDUCTORS EXTENDED TO PANELBOARD A, CIRCUITS 1, 3, AND 5. CROSS LINES INDICATE #12 AWG PHASE AND NEUTRAL CONDUCTORS WHERE MORE THAN TWO. SINGLE CIRCUIT BRANCH CIRCUIT WIRING RUNS SHOWN WITHOUT CROSS LINES SHALL BE PROVIDED WITH 2#12, 1#12G. EACH 20 AMPERE BRANCH CIRCUIT SHALL BE PROVIDED WITH SEPARATE NEUTRAL CONDUCTOR. SHARING OF NEUTRAL CONDUCTORS SHALL NOT BE PERMITTED. PROVIDE EQUIPMENT GROUNDING CONDUCTOR IN EACH CONDUIT RUN.
 - CONDUIT IN THE FLOOR CONSTRUCTION OR UNDERGROUND SHOWN TURNING UP.
 - CONDUIT IN THE WALL OR CEILING CONSTRUCTION SHOWN TURNING DOWN.
 - FLEXIBLE WIRING, INSTALL AS REQUIRED.
 - JUNCTION BOX, SIZE AND USE AS REQUIRED; COVERPLATE SHALL OVERLAP THE BOX EDGE BY 1/2" WHERE RECESSED IN WALL WITH CONCEALED WIRING.
 - FUSED DISCONNECT SWITCH, HEAVY DUTY "HP" RATED, PROVIDE NEMA 3R ENCLOSURE OUTDOORS.
 - ELECTRIC MOTOR REQUIRING CONNECTION, SIZE, USE, AND LOCATION AS INDICATED ON PLANS, VERIFY LOCATION AND CONNECTIONS REQUIRED WITH MECHANICAL TRADE PRIOR TO ROUGH-IN; USE FLEXIBLE CONDUIT WITHIN 18" OF EQUIPMENT.
 - MANUAL MOTOR STARTER TO CONTROL MOTOR INDICATED, SAME MOUNTING HEIGHT AS WALL SWITCH WHERE STARTER IS WALL MOUNTED. "2P" BY STARTER INDICATES TWO POLE STARTER TO BE PROVIDED FOR 208-VOLT, SINGLE-PHASE EQUIPMENT.
 - POWER PACK ROOM CONTROLLER FOR CEILING MOUNTED OCCUPANCY SENSOR SYSTEM, SEE DETAILS AT LEFT.
 - VACANCY SENSOR FOR LIGHTING CONTROL, WALL MOUNTED AS INDICATED ON PLANS. MOUNT WALL-MOUNTED SENSOR AT SAME HEIGHT AS WALL SWITCH, (+48" ABOVE FINISHED FLOOR). PROVIDE NEUTRAL CONDUCTOR IN ADDITION TO LINE AND SWITCHED CONDUCTORS. SEE DETAILS AT LEFT.
 - WALL MOUNTED LINE VOLTAGE OCCUPANCY/VACANCY SENSOR WITH 0-10 VOLT DIMMER, PROGRAM TO OPERATE IN "VACANCY" MODE, +48" AFF., SET UP FOR 1% DIMMING TO MATCH LIGHTING FIXTURE DRIVER, SEE DETAILS AT LEFT.
 - VACANCY SENSOR FOR LIGHTING CONTROL, CEILING MOUNTED AS INDICATED ON PLANS. MOUNT CEILING MOUNTED SENSOR AT SAME HEIGHT AS WALL SWITCH (+48" ABOVE FINISHED FLOOR). "D" BY SENSOR ON PLANS INDICATES DUAL RELAY TYPE SENSOR ALLOWING INDEPENDENT CONTROL OF TWO SEPARATE LIGHTING LOADS. PROVIDE NEUTRAL CONDUCTOR IN ADDITION TO LINE AND SWITCHED CONDUCTORS. SEE DETAILS AT LEFT.
 - WALL MOUNTED FAN CONTROL SWITCH. SAME MOUNTING HEIGHT AS WALL SWITCH.
 - COMMUNICATIONS TERMINAL CABINET, RECESSED OR SURFACE MOUNTED AS INDICATED ON PLANS, TOP 6'-0" AFF.
 - DATA/VOICE OUTLET, PROVIDE 4 1 1/16" SQUARE BOX WITH SINGLE-GANG DEVICE RING AND BLANK COVERPLATE. EXTEND EMPTY 1" CONDUIT FROM OUTLET BOX TO POINT ABOVE ACCESSIBLE LAY-IN CEILING AND TERMINATE WITH BUSHING. LOCATE OUTLET BOX 3" ABOVE BACKSPASH AT WORK COUNTERS AND +18" AFF ELSEWHERE UNLESS NOTED TO A DIFFERENT HEIGHT ON DRAWINGS. "W" BY DEVICE INDICATES DEVICE TO BE DEDICATED FOR WIRELESS ACCESS POINT USE.
 - CEILING MOUNTED FIRE ALARM AUTOMATIC SMOKE DETECTOR, LOCATE MINIMUM 3'-0" AWAY FROM HVAC SUPPLY AND RETURN DIFFUSERS.
 - SPRINKLER SYSTEM TAMPER SWITCH, CONNECT TO SEPARATE ZONE IN DEDICATED FUNCTION FIRE ALARM SYSTEM.
 - SPRINKLER SYSTEM FLOW SWITCH, CONNECT TO SEPARATE ZONE IN DEDICATED FUNCTION FIRE ALARM SYSTEM.
 - WALL MOUNTED FIRE ALARM CENTRAL CONTROL UNIT, TOP 6'-0" AFF.
 - WALL MOUNTED FIRE ALARM COMBINATION HORN/STROBE UNIT, CANDELA AND DBA RATING AS NOTED ON DRAWINGS. PROVIDE BACKBOX SUCH THAT BOTTOM OF STROBE LENS IS 81" ABOVE FINISHED FLOOR. COORDINATE BACKBOX TYPE AND EXACT MOUNTING HEIGHT WITH FIRE ALARM EQUIPMENT SUPPLIER.
 - FIRE ALARM MANUAL PULL STATION, TOP OF BOX 48" AFF.

Ckt. No.	SERVES	LOAD (kVA)		BREAKER	TRIP POLE	LOAD (kVA)		SERVES	Ckt. No.
		#A	#B			#A	#B		
1	EXTERIOR LIGHTING	0.6	2.0	1	1	2.0	0.8	RECEPTACLES POOL AREA	2
3	INTERIOR LIGHTING POOL AREA	1.0	2.0	1	1	2.0	0.8	RECEPTACLES POOL AREA	4
5	INTERIOR LIGHTING BAR AREA	0.5	1.0	1	1	2.0	1.0	WATER FOUNTAIN REC.	6
7	INT. LIGHT. REST ROOMS / OFFICE	0.8	2.0	1	1	2.0	0.6	EXTERIOR RECEPTACLES	8
9	BACK BAR RECEPTACLE	0.2	2.0	1	1	2.0	0.8	OFFICE RECEPTACLES	10
11	BACK BAR REFRIGERATOR	1.0	2.0	1	1	2.0	1.0	BACK BAR REFRIGERATOR	12
13	BACK BAR REFRIGERATOR	1.0	2.0	1	1	2.0	0.2	BACK BAR RECEPTACLE	14
15	BACK BAR REFRIGERATOR	1.0	2.0	1	1	2.0	0.2	BACK BAR RECEPTACLE	16
17	FIRE ALARM CONTROL UNIT	0.4	2.0	1	1	2.0	1.0	BACK BAR RECEPTACLE	18
19	CU-1 / AC-1	2.0	3.0	2	2	3.0	2.0	CU-1 / AC-1	20
21		2.0					2.0		22
23	CU-1 / AC-1	2.0	3.0	2	2	3.0	0.4	MOTORIZED LOUVERS	24
25		2.0					0.6	CEILING FANS	26
27	F-1	1.2	2.0	1	1	2.0	0.6	CEILING FANS	28
29	TELEVISION RECEPTACLES	0.4	2.0	1	1	2.0	0.6	CEILING FANS	30
31	TELEVISION RECEPTACLES	0.4	2.0	1	1	2.0		SPARE	32
33	SPARE		2.0	1	1	2.0		SPARE	34
35	SPARE		2.0	1	1	2.0		SPARE	36
37	SPACE ONLY							SPACE ONLY	38
39	SPACE ONLY							SPACE ONLY	40
SUB TOTAL CONNECTED		7.1	9.4			7.0	5.6	SUB TOTAL CONNECTED	
SUB TOTAL CONNECTED #A: 14.1		SUB TOTAL CONNECTED #B: 15.0		TOTAL CONNECTED: 29.1					

Ckt. No.	SERVES	LOAD (kVA)		BREAKER	TRIP POLE	LOAD (kVA)		SERVES	Ckt. No.
		#A	#B			#A	#B		
1	11WH-1	0.4	2.0	1	1	2.0	0.4	11WH-2	2
3	CU-1 / AC-1	2.0	2.0	3.0	2	2	2.0	CU-1 / AC-1	4
5							2.0		6
7	SPARE							SPARE	8
9	SPARE							SPARE	10
11	SPARE							SPARE	12
13	SPARE							SPARE	14
15	SPARE							SPARE	16
17	SPARE							SPARE	18
19	SPARE							SPARE	20
21	SPARE							SPARE	22
23	SPARE							SPARE	24
25	SPARE							SPARE	26
27	SPARE							SPARE	28
29	SPACE ONLY							SPACE ONLY	30
31	SPACE ONLY							SPACE ONLY	32
33	SPACE ONLY							SPACE ONLY	34
35	SPACE ONLY							SPACE ONLY	36
37	SPACE ONLY							SPACE ONLY	38
39	SPACE ONLY							SPACE ONLY	40
SUB TOTAL CONNECTED		2.4	2.0			2.4	2.0	SUB TOTAL CONNECTED	
SUB TOTAL CONNECTED #A: 4.8		SUB TOTAL CONNECTED #B: 4.0		TOTAL CONNECTED: 8.8					



DEDICATED FUNCTION FIRE ALARM RISER DIAGRAM

N.T.S.

DEDICATED FUNCTION FIRE ALARM EQUIPMENT NOTES:

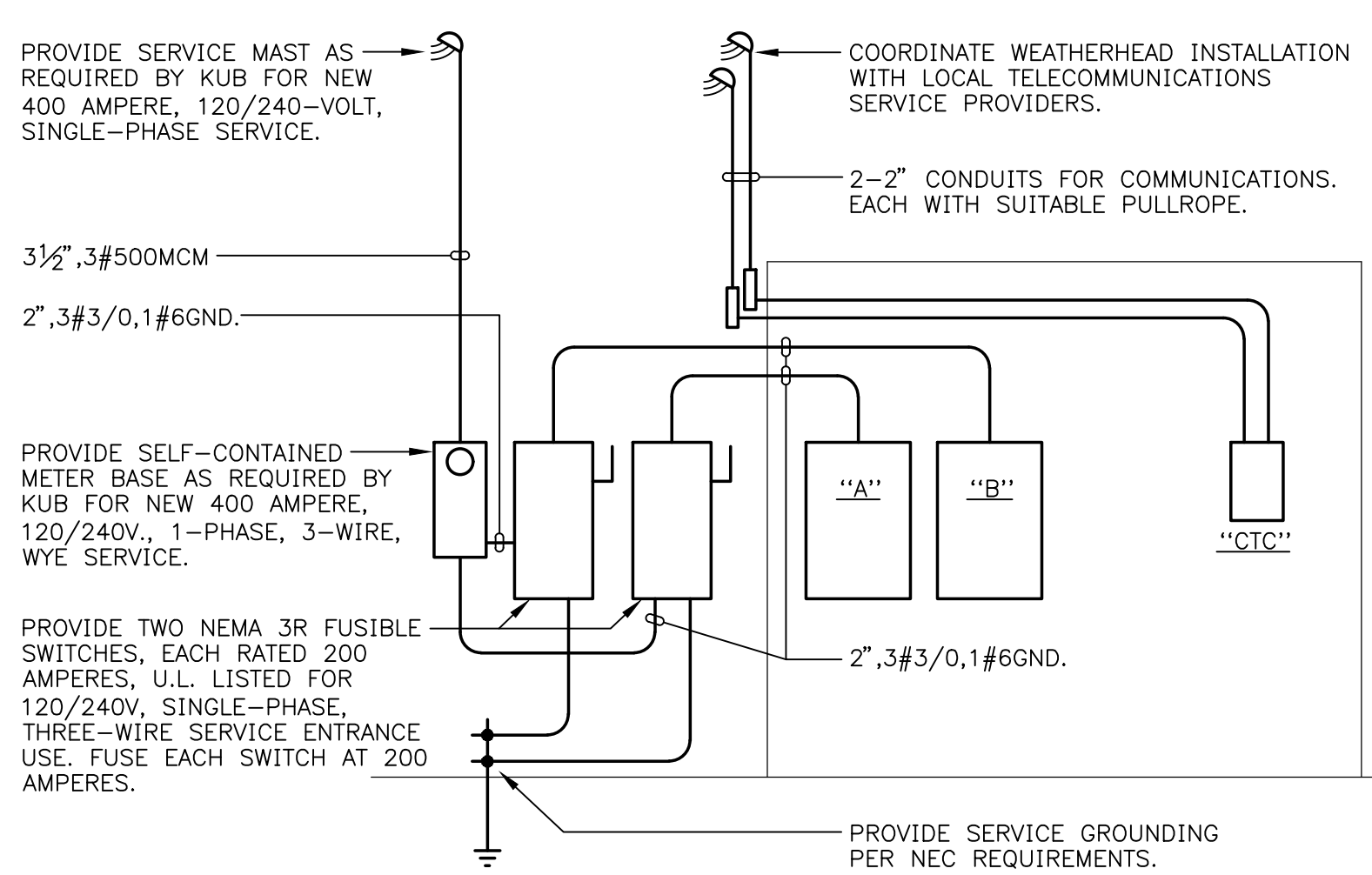
FURNISH AND INSTALL COMPLETE 10-ZONE FIRE ALARM CONTROL PANEL WITH BUILT-IN COMMUNICATOR TO MONITOR SPRINKLER SYSTEM. FURNISH AND INSTALL THE FOLLOWING CONTROL DEVICES AND EQUIPMENT:

- NEW CONTROL PANEL SHALL BE ANALOG, CLASS B WITH BATTERY SUPPLY, INCLUDING CHARGER. USE FIRELITE MODEL MS10UD.
- INSTALL EXTERIOR HORN/STROBE CONNECTED TO FIRE ALARM, MODEL P2RHK-20, WEATHERPROOF, 120-VOLT HORN STROBE, WHICH SHALL ALARM UPON ACTIVATION OF FLOW SWITCH.
- PROVIDE MONITOR MODULES, WHERE REQUIRED, AT SPRINKLER SYSTEM.

DEDICATED FUNCTION FIRE ALARM NOTES:

- PRIOR TO THE START OF ANY FIRE ALARM SYSTEM WORK, FIRE ALARM INSTALLER SHALL OBTAIN NECESSARY SEPARATE PERMIT FOR THIS PORTION OF THE WORK. FIRE ALARM INSTALLER SHALL PROVIDE TO THE CITY OF JOHNSON CITY FIRE ALARM SYSTEM SUBMITTALS THAT ARE PREPARED BY A LICENSED PROFESSIONAL THAT IS CERTIFIED TO INSTALL COMMERCIAL FIRE ALARM SYSTEMS.
- THE FIRE ALARM CONTRACTOR MUST BE CERTIFIED IN ACCORDANCE WITH THE TENNESSEE ALARM CONTRACTORS LICENSING ACT OF 1991, TGA TITLE 62, CHAPTER 32. CALL 615-741-9771 FOR ADDITIONAL INFORMATION.
- CONTRACTOR SHALL SUBMIT BATTERY CALCULATIONS FOR NEW FIRE ALARM SYSTEM IN ACCORDANCE WITH REQUIREMENTS OF NFPA 72. BATTERY CALCULATIONS SHALL BE INCLUDED AS PART OF SUBMITTALS FOR FIRE ALARM SYSTEM.
- ALL REQUIRED DOCUMENTATION REGARDING THE DESIGN OF FIRE DETECTION, ALARM, AND COMMUNICATIONS SYSTEMS AND THE PROCEDURES FOR MAINTENANCE, INSPECTION, AND TESTING OF FIRE DETECTION, ALARM, AND COMMUNICATIONS SYSTEMS SHALL BE MAINTAINED AT AN APPROVED, SECURED LOCATION FOR THE LIFE OF THE SYSTEM (NFPA 101 9.6.1.9 and IFC 901.6.2.1).
- THE FIRE ALARM CONTROL UNIT CIRCUIT DISCONNECTING MEANS SHALL HAVE A RED MARKING AND BE ACCESSIBLE ONLY TO AUTHORIZED PERSONNEL, AND SHALL BE IDENTIFIED AS "FIRE ALARM CIRCUIT." THE LOCATION OF THE CIRCUIT DISCONNECTING MEANS SHALL BE PERMANENTLY IDENTIFIED AT THE FIRE ALARM CONTROL UNIT.
- DIGITAL ALARM COMMUNICATION SYSTEMS WHERE APPLICABLE SHALL BE INSTALLED AS PER THE FOLLOWING:
 - DIGITAL ALARM COMMUNICATOR TRANSMITTER (DACT) SHALL BE CONNECTED TO THE UL 5789 LISTED EXTERNAL REMOTE SINGLE OR DUAL PATH COMMERCIAL FIRE COMMUNICATOR IN ACCORDANCE WITH NFPA 70 AND NFPA 72 REQUIREMENTS. COMMUNICATOR SHALL BE PROGRAMMED TO OPERATE OVER COMMON CELLULAR NETWORKS INCLUDING 2G, 3G, AND 4G.

- SYSTEM SHALL BE CONFIGURED TO PROVIDE SELECTABLE REPORTING PATHS PER NFPA 72, CHAPTER 26. SYSTEM SUPERVISION INTERVALS SHALL BE PROVIDED TO MEET NFPA 72 CHAPTER 26 REQUIREMENTS FOR SYSTEM SUPERVISION.
- SYSTEM SHALL CONTAIN A DIALER CAPTURE MODULE WHICH AUTOMATICALLY DETECTS A FIRE ALARM SYSTEM EVENT AND PROVIDES A DIAL TONE TO ALLOW FACU MESSAGE TRANSMISSION TO THE CENTRAL STATION VIA THE GLOBAL SYSTEM FOR MOBILE (GSM) DIGITAL CELLULAR NETWORK IN ACCORDANCE WITH THE REQUIREMENTS OF NFPA.

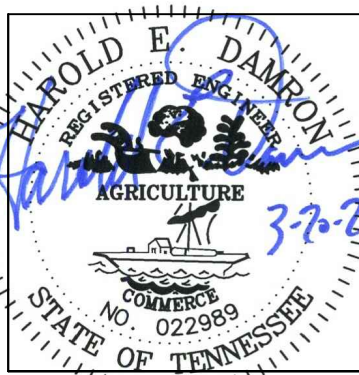


FEEDER DIAGRAM

NO SCALE



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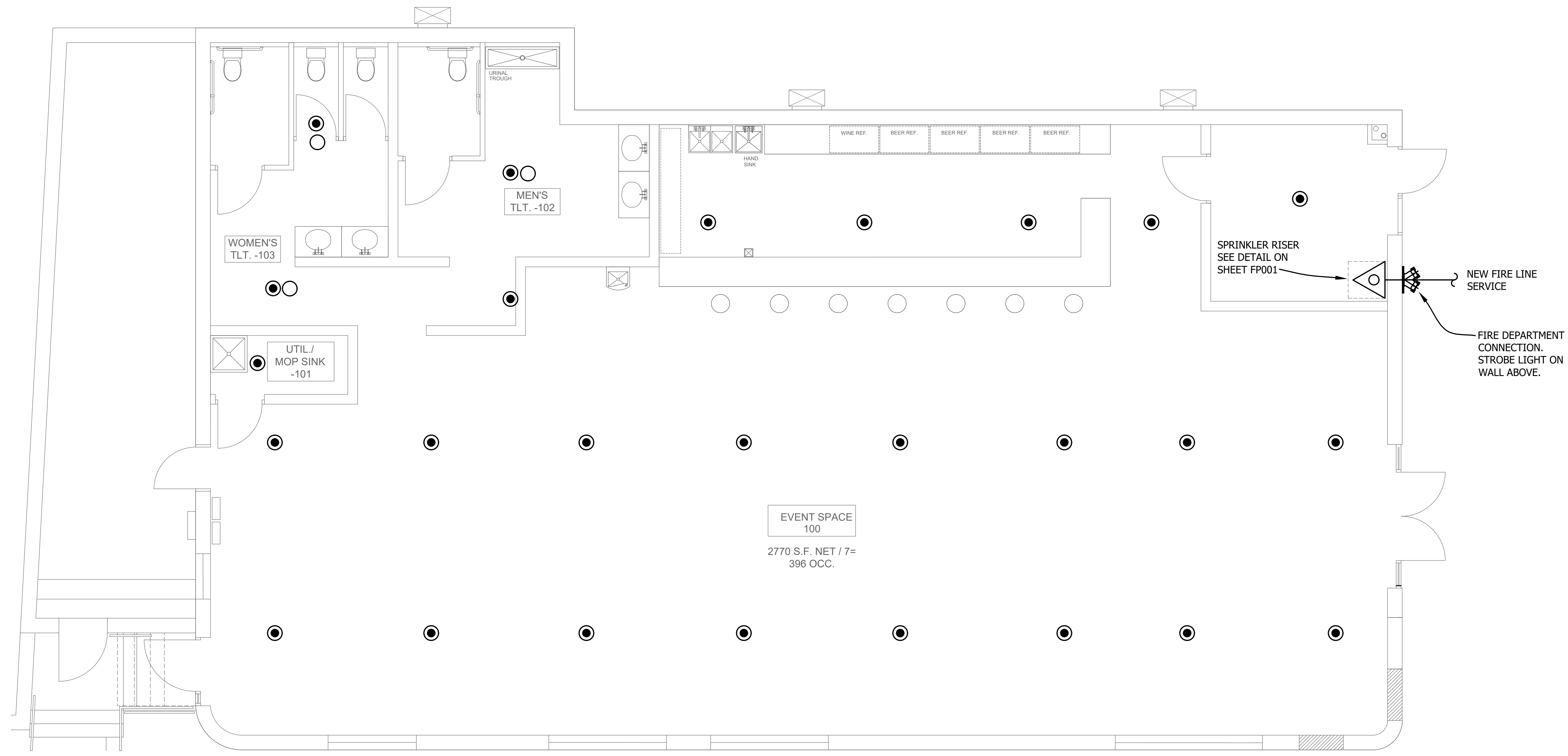


CONSTRUCTION DOCUMENTS FOR:
AYERS HALL
1108 FOREST AVE.
KNOXVILLE, TN 37916

Job No: AYERS22
Date: 03.20.2023
Title: LEGEND, SCHEDULES, DETAILS
Revisions:

Vreeland Engineers Inc.
3107 Sutherland Ave.
P.O. Box 10648
Knoxville, TN 37939
865-807-4451
1-800-362-9789
vreelandengineers.com

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SPRINKLER PLAN - HEAD LOCATIONS
SCALE: 1/4" = 1'-0"

SPRINKLER LEGEND							
SYM	DESCRIPTION	SPRAY	TYPE	TEMP/F	ORIFICE	VICTAULIC MODEL #	FINISH
○	PENDENT	15x15'	QUICK RESPONSE	155	1/2"	V2708	SEMI-RECESSED WHITE
●	UPRIGHT	15x15'	STANDARD	212	1/2"	V2709	BRASS

THE DESIGN PROFESSIONAL WAIVES ANY AND ALL RESPONSIBILITY AND LIABILITY FOR PROBLEMS WHICH ARISE FROM FAILURE TO FOLLOW THESE PLANS, SPECIFICATIONS AND THE DESIGN INTENT OR THE CONVEYANCE OF PROBLEMS WHICH ARISE FROM OTHERS FAILURE TO OBTAIN AND/OR FOLLOW THE DESIGN PROFESSIONAL'S GUIDANCE WITH RESPECT TO ANY ERRORS, OMISSIONS, INCONSISTENCIES, AMBIGUITIES OR CONFLICTS WHICH ARE ALLEGED. THE DRAWINGS ARE GENERALLY DIAGRAMMATIC IN NATURE. THIS DRAWING AND ITS CONTENTS AND DESIGN ARE THE PROPERTY OF KELSO-REGEN ASSOC. INC. CONSULTING ENGINEERS, KNOXVILLE, TN. NO COPY IS HEREBY GIVEN THAT UNLESS AN ORIGINAL STATE SEAL AND ORIGINAL SIGNATURE AND DATE ARE AFFIXED TO THIS DRAWING, THIS DRAWING SHALL BE DEEMED NOT FOR CONSTRUCTION. INFORMATION ONLY. SHALL BE AN ORIGINAL STATE SEAL AND ORIGINAL SIGNATURE AND DATE ARE AFFIXED WILL THIS DRAWING BE FOR CONSTRUCTION.

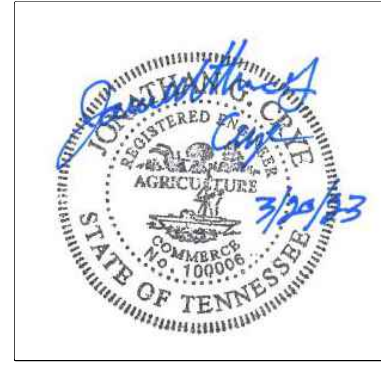
KRA NO: 23K002 Mechanical and Plumbing
CSA No:
DRAWN BY: SWW APPROVED BY: GTB

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ASSOCIATES, INC.
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SPRINKLER PLAN - HEAD LOCATIONS



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CONSTRUCTION DOCUMENTS FOR:
AYERS HALL
1108 FOREST AVE.
KNOXVILLE, TN 37916

Job No: AYERS22
Date: 3.20.2023
Title:
Revisions:

SHEET
FP000

Preliminary Sprinkler Calculation Sheet

Flow test Data	0
Static Pressure:	96 psi
Residual Pressure:	86 psi
Flow (GPM) :	1082 gpm
Date taken:	1/6/2023
Time:	N/A
Test taken by:	KUB
Elevation of Hydrant:	NA
Location	
GPM Demand of BLDG.	
Most remote area or highest demand (Room Name)	RESTROOM
Design Density (NFPA 13 or supplied by Insurance Co.)	0.15
Design Area (Square footage)	500 sq. ft.
Overage Factor (1.15 typ.)	1.15
Remote area GPM demand(Density x Area x Overage)	86.25 gpm
Standpipe GPM demand (If required)(500 gpm for the first, 250 after)	750 gpm
Hose GPM demand Inside (0, 100 Light, 250 ordinary, 500 extra hazard)	0 gpm
Hose GPM demand Outside (0, 100 Light, 250 ordinary, 500 extra hazard)	0 gpm
Total GPM Outside (Remote Area + Standpipe + Hose)	86.25 gpm
Total GPM Inside (Remote Area + Standpipe + Hose)	836.25 gpm
Available Pressure	
Pressure charted from water flow N1.85 Graph	104
Density	0.15
Max Sprinkler Head coverage (As per NFPA 13 table 8.6.2.2.1)	130 sq. ft.
Square footage spacing x Density = GPM sprinkler head (Q)	19.5 gpm
K-Factor of Sprinkler head (K)	5.8 (K)
Equation: Pressure required at head=(Q / K) ²	11.30350773 psi
Elevation difference from test hydrant to base of riser x .433	5 ft
Elevation difference from base of riser to remote area x .433	12 ft
Backflow Preventer pressure drop	12 psi
Safety Factor (5 psi min.) (SF)	10 psi
Fixed Pressure drop =	40.66450773 psi

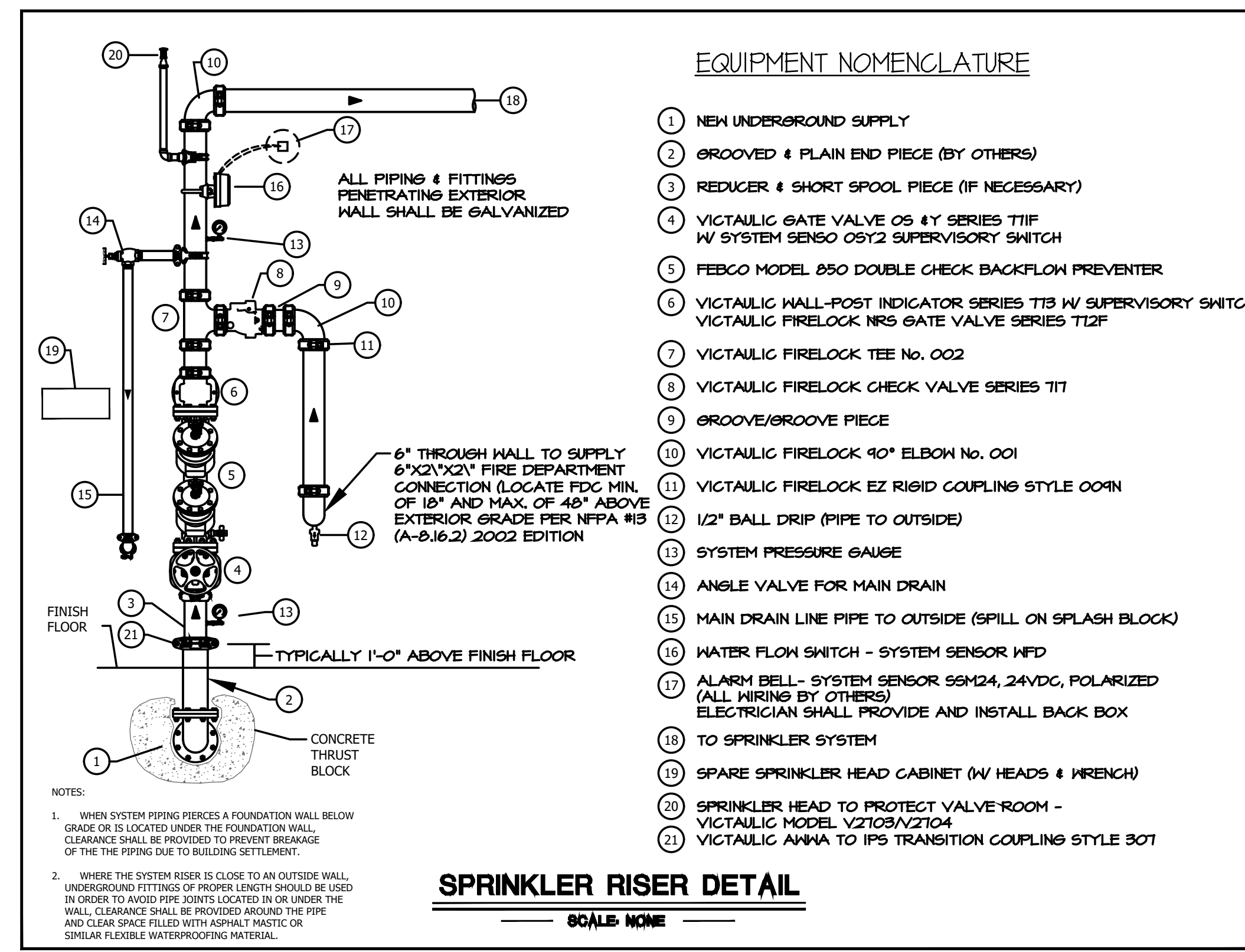
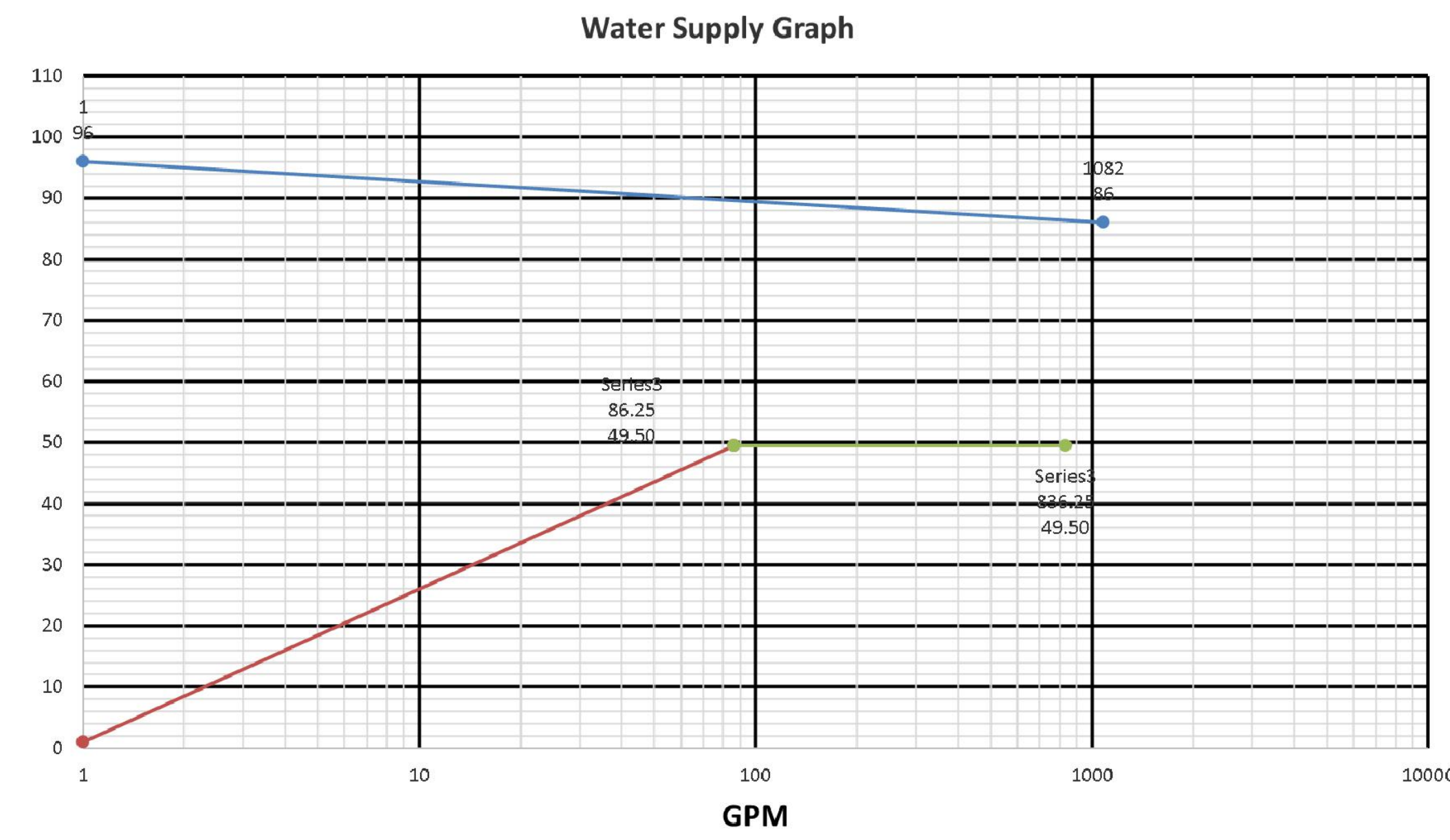
Estimated Friction Drop Thru Fire Line	
Length of run from test hydrant to riser (HR)	250 Lin. Ft.
Pipe C Factor (Ductile Iron C-100)	100
Nominal Pipe Inside Diameter (8", 6", 4")	6
	17230.29753
	30874262.29
Friction loss in pipe (psif/ft) (Based on Hazen William Equation)(HW1)	0.00055808 psi/ft
HR x 1.30 x HW1 =	0.181375887 Estimated psi

Length of run from riser to last sprinkler head (estimated.) (RS)	250 Lin. Ft.
Base of Riser to farthest sprinkler	150
Pipe C Factor (Black Steel C-120)	120
Nominal Pipe Inside Diameter (6", 4")	6
	1152020.684
	43259539.75
Friction loss in pipe (psif/ft) (Based on Hazen William Equation)(HW2)	0.026630442 psi/ft
RS x 1.30 x HW2 =	8.654893799 Estimated psi

Estimated Required Flow Data for Building	
Required GPM	836.25 gpm
Required psi	49.50 psi

- ### GENERAL SPRINKLER NOTES:
- THE SPRINKLER HEADS SHOWN ARE GENERAL IN NUMBER AND LOCATION. THE EXACT NUMBERS AND LOCATIONS SHALL BE DETERMINED BY THE SUCCESSFUL SPRINKLER INSTALLER AND SHALL BE SHOWN ON HIS SHOP DRAWINGS. THE SPRINKLER SYSTEM SHALL BE IN ACCORDANCE WITH SECTION 15300 OF THE SPECIFICATIONS AND NFPA 13 & 24.
 - PROVIDE A HYDRAULICALLY DESIGNED FULL COVERAGE SPRINKLER SYSTEM.
 - THE SPRINKLER CONTRACTOR SHALL COORDINATE LOCATIONS OF SPRINKLER HEADS AND ASSOCIATED PIPING WITH ALL OTHER TRADES.
 - PROVIDE DRY PENDANT TYPE HEADS IN COOLER, FREEZER, AND/OR OTHER AREAS THAT ARE SUBJECT TO FREEZING FOR FREEZE PROTECTION.
 - ALL SPRINKLER HEADS LOCATED IN 2' x 2' TILES SHALL BE CENTERED.
 - ALL SPRINKLER SYSTEM GAUGES AND VALVES MUST BE ACCESSIBLE FOR INSPECTION AND MAINTENANCE.
 - ALL FLOW TEST DATA REQUIRED SHALL BE TAKEN WITHIN THE LAST 6 MONTHS. CONTRACTOR IS RESPONSIBLE FOR UPDATING FLOW TEST DATA.
 - CONTRACTOR TO FIELD LOCATE EXISTING FLOW TEST HYDRANT AND DETERMINE THE EXACT DISTANCE FROM BUILDING.
 - NOT USE
 - DESIGN DENSITY SHALL BE: ORDINARY HAZARD, (GROUP 1) 0.10 GPM/SQ. FT. DENSITY FOR THE MOST REMOTE 1,500 SQ. FT.
 - ALL WORK MUST BE PERFORMED BY A STATE OF TENNESSEE LICENSED SPRINKLER CONTRACTOR.
 - THE ARCHITECT SHALL REVIEW ALL FIRE PROTECTION SHOP DRAWINGS TO VERIFY PROPER SPRINKLER HEAD LOCATIONS.
 - COORDINATE AND VERIFY LAYOUT WITH THE ARCHITECTURAL DRAWINGS. CONTRACTOR IS RESPONSIBLE FOR THE COORDINATION OF ALL CONTRACT DOCUMENTS AND SHALL NOTIFY THE ARCHITECT OF ANY CONFLICTS OR DISCREPANCIES

FIRE HYDRANT FLOW TEST DATA	
STATIC PRESSURE	96 PSI
RESIDUAL PRESSURE	86 PSI
FLOW	1082 GPM
PARTY RESPONSIBLE FOR TEST	KUB
DATE OF TEST	1/6/2023
TIME OF TEST	N/A
HYDRANT #	7468
ELEVATION OF HYDRANT	N/A
LOCATION OF HYDRANT	1201 FOREST AVE



FIRE PROTECTION SPECIFICATION
 1.0 IPS Grooved Piping System: Victaulic grooved mechanical pipe couplings, fittings, valves and other grooved components may be used as an option to welding, threading or flanged methods. All grooved components shall be of one manufacturer (Victaulic Company of America), and shall be UL listed and/or FM Global approved. Grooved end product manufacturer to be ISO-9001 certified. Grooved couplings shall meet the requirements of NFPA-13.

A. Pipe/Grooved (Standard/Lightwall):
 Carbon Steel, A-53B/A-106B - Roll or cut grooved-ends as appropriate to pipe material, wall thickness, pressure, size and method of joining. Pipe ends to be grooved in accordance with Victaulic current listed standards conforming to ANSI/AWWA C-606.

B. Victaulic Mechanical Couplings for Joining Carbon Steel Pipe
 1. Victaulic Mechanical Couplings: Manufactured in two segments of cast ductile iron, conforming to ASTM A-536, Grade 65-45-12. Gaskets shall be pressure-responsive synthetic rubber, grade to suit the intended service, conforming to ASTM D-2000. Mechanical Coupling bolts shall be zinc plated (ASTM B-633) heat treated carbon steel track head conforming to physical properties of ASTM A-449, minimum tensile strength 110,000 psi (758450 kPa) as provided standard Victaulic.

a. Rigid Type:
 1) "Installation Ready" rigid joints shall be Victaulic FireLock EZ Style 009, in sizes 1-1/4" through 4", which shall be designed for direct "stab" installation onto grooved pipe without prior disassembly of the coupling. Housings shall be cast with offsetting, angle-pattern bolt pads.
 2) Standard rigid joints shall be Victaulic Style 005 (FireLock 005) or 07 (Zero-Flex). Housings shall be cast with offsetting, angle-pattern bolt pads to provide system rigidity and support and hanging in accordance with NFPA 13.

b. Flexible Type: Use in seismic areas where required by NFPA 13. Victaulic Style 75 or 77.

2. Mechanical Coupling Gaskets: Pressure-responsive, synthetic rubber listed for use with the housings.
 Fire Protection Service Temperature Range Gasket Recommendation
 Dry Systems Ambient FlushSeal , Grade EPDM,
 Type A
 Freezer Applications -40°F to 0°F FlushSeal , Grade L, Silicone
 Water/Wet Systems Ambient Grade EPDM, Type A

3. Flange Adapters: For use with grooved end pipe and fittings, for mating to ANSI Class 125 / 150 flanges. Victaulic Style 741 or 744. For mating to ANSI Class 300 flanges use Victaulic Style 743.

C. Victaulic Grooved End Fittings: Fittings shall be cast of ductile iron conforming to ASTM A-536, Grade 65-45-12 (FireLock), forged steel conforming to ASTM A-234, Grade WP8 0.375" wall (9.53 mm wall), or fabricated from Std. Wt. Carbon Steel pipe conforming to ASTM A-53, Type F, E or S, Grade B. Fittings provided with an alkyl enamel finish or hot dip galvanized to ASTM A-153. Zinc electroplated fittings and couplings conform to ASTM B633.

D. Victaulic Hole-Cut Branch Outlets:
 1. Bolted Branch Outlet: Branch reductions on 2" through 8" header piping. Bolted branch outlets shall be manufactured from ductile iron conforming to ASTM A-536, Grade 65-45-12, with synthetic heat treated carbon steel zinc plated bolts and nuts conforming to physical properties of ASTM A-183. Victaulic Style 920 / 920N.
 2. Strapless Outlet: 1/2" or 3/4" NPT outlet on 4" (DN100) and larger header sizes rated for 300 PSI (2065 kPa). Victaulic Style 923.
 3. Strapless Thermometer Outlet: To accommodate industrial glass bulb thermometers with standard 1-1/4"-18 NEF 2B extra fine thread and 6" (152mm) nominal bulb length on 4" (DN100) and larger header sizes rated for 300 PSI (2065 kPa). Victaulic Vic-O-Well Style 924.

E. Victaulic Grooved End Valves
 1. Butterfly Valves: UL/FM Global approved, 300 psi (2065 kPa), grooved ends, polyphenylene sulfide (PPS) coated ductile iron body (ASTM A-536, Grade 65-45-12). Ductile iron disc, synthetic rubber encapsulated suited for the intended service, with integrally cast stem. Complete with weatherproof actuator and pre-wired supervisory switches. Victaulic Series 705W.
 Note: Refer to latest published Victaulic literature, Butterfly Valve Material Selection section, for liner/seat and disc material recommendations for chemical service.
 2. Check Valves: UL/FM Global approved.
 a. 2-1/2" through 3" Sizes Spring Assisted: PPS coated ductile iron body, ASTM A-536, Grade 65-45-12, aluminum bronze non-slam tilting disc, stainless steel spring and shaft, rubber seat suitable for intended service, 300 psi (2065 kPa). Victaulic Series 717.
 b. 4" through 14" Sizes Spring Assisted: Black enamel coated ductile iron body, ASTM A-536, Grade 65-45-12, elastomer encapsulated ductile iron disc suitable for intended service, stainless steel spring and shaft, welded-in nickel seat, 300 psi (2065 kPa). Victaulic Series 717. Designed to accept a riser check kit. Victaulic Series 717R.
 3. Alarm Check Valve: Black enamel coated ductile iron body conforming to ASTM A-536, grade 65-45-12, aluminum bronze clapper, stainless steel spring and shaft, EPDM seal, and Nitrile seat O-rings. Valve internal parts shall be replaceable without removing the valve from the installed position. Victaulic Series 751.
 4. Dry System Check Valve: Black enamel coated ductile iron body conforming to ASTM A-536, grade 65-45-12, aluminum bronze clapper, stainless steel spring and shaft, EPDM seal, and Nitrile seat O-rings. Valve internal parts shall be replaceable without removing the valve from the installed position. Valve shall be externally resettable. Valve air to water pressure ratio shall be approximately 1 to 8. Victaulic Series 768.
 5. Actuated System Valve with Deluge or Preaction Trim: Black enamel coated ductile iron body conforming to ASTM A-536, grade 65-45-12, aluminum bronze clapper, latch and piston, stainless steel spring and shaft, EPDM seal, and Nitrile seat O-rings. Valve internal parts shall be replaceable without removing the valve from the installed position. Valve shall be externally resettable. Victaulic Series 769.
 F. Victaulic Sprinkler Heads: Die-cast brass frame, teflon encapsulated Belleville spring seal and frangible glass bulb. Body cast with hex shaped wrench boss. Quick or standard response type.
 1. Guards and Escutcheons: Guards and escutcheons shall be listed, supplied, and approved G. Victaulic Fire Protection Specialties:
 1. Fire Pump Test Meters: Grooved end calibrated venturi meter manufactured of carbon steel (ASTM A-53) zinc electroplated body, brass needle valve conforming to ASTM B-124, with attached GPM meter. Minimum straight pipe installation of five diameters upstream and two diameters downstream. Victaulic Style 735.
 2. Alarm Test Module: Grooved or threaded ends, bronze body and bonnet, bronze and copper alloy internals with stainless steel spring, dual polycarbonate sight glasses, and malleable iron handwheel. Victaulic Series 720 TestMaster II.
 H. Victaulic FireLock Fire-Pac:
 Provide a pre-assembled (Deluge)(Preaction)(Dry) fire protection valve mounted completely within a 12 gauge steel cabinet. Cabinet shall be coated with red ASA-61 electrostatically applied polyester powder coating. Unit shall be UL Listed and FM-Global Approved with all materials and wiring conforming to NFPA requirements. Unit shall be provided with all necessary valves, switches, gauges, and air supply system for proper operation and shall be pre-wired to a control panel. All external electrical connections shall be accessible through an enclosure on the outside of the cabinet. Waterlet, system supply, and drain connections shall be grooved for ease of installation. Victaulic FireLock Fire-Pac.
 I. Assembly
 1. Pipe ends shall be clean and free from indentations, projections and roll marks in the area from pipe end to groove.
 2. The gasket style and elastomeric material (grade) shall be verified as suitable for the intended service as specified.
 3. See the latest copy of Victaulic's Field Assembly and Installation Instruction Pocket Handbook (I-100).
 4. All grooved components (couplings, fittings, valves, gaskets, and specialties) shall be of one manufacturer (Victaulic Company of America).
 5. Grooved coupling manufacturer's factory trained field representative shall provide on-site training for contractor's field personnel in the proper use of grooving tools, application of grooved, and installation of grooved piping products.

THE DESIGN PROFESSIONAL WAIVES ANY AND ALL RESPONSIBILITY AND LIABILITY FOR PROBLEMS WHICH ARISE FROM FAILURE TO FOLLOW THESE PLANS, SPECIFICATIONS AND THE DESIGN INTENT THIS CONTRACTOR OR OTHERS WHOSE FAILURE TO OBTAIN AND/OR FOLLOW THE DESIGN PROFESSIONAL'S GUIDANCE WITH RESPECT TO ANY ERRORS, OMISSIONS, INCONSISTENCIES, AMBIGUITIES OR CONFLICTS WHICH ARE ALLEGED. THE DRAWINGS ARE GENERALLY DIAGRAMMATIC IN NATURE. THIS DRAWING AND ITS CONTENTS AND DESIGN ARE THE PROPERTY OF KELSO-REGEN ASSOCIATES, INC. CONSULTING ENGINEERS, KNOXVILLE, TN. NO PART IS HEREBY GIVEN THAT UNLESS THE ORIGINAL STATE, DATE AND ORIGINAL SIGNATURE AND DATE ARE AFFIXED TO THIS DRAWING. THIS DRAWING SHALL BE DEEMED NOT FOR CONSTRUCTION. INFORMATION ONLY. UNLESS AN ORIGINAL STATE SEAL AND ORIGINAL SIGNATURE AND DATE ARE AFFIXED TO THIS DRAWING. THIS DRAWING IS FOR CONSTRUCTION.

KRA No. 230002 Mechanical and Plumbing
 CS# No.
 DRAWN BY: SWW APPROVED BY: GTB

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**SPRINKLER PLAN -
 CALCULATIONS and
 DETAILS**

goss design / development
 110 W. Summit Hill Drive
 Knoxville, Tennessee
 865.230.1880

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**CONSTRUCTION DOCUMENTS FOR:
 AYERS HALL
 1108 FOREST AVE.
 KNOXVILLE, TN 37916**

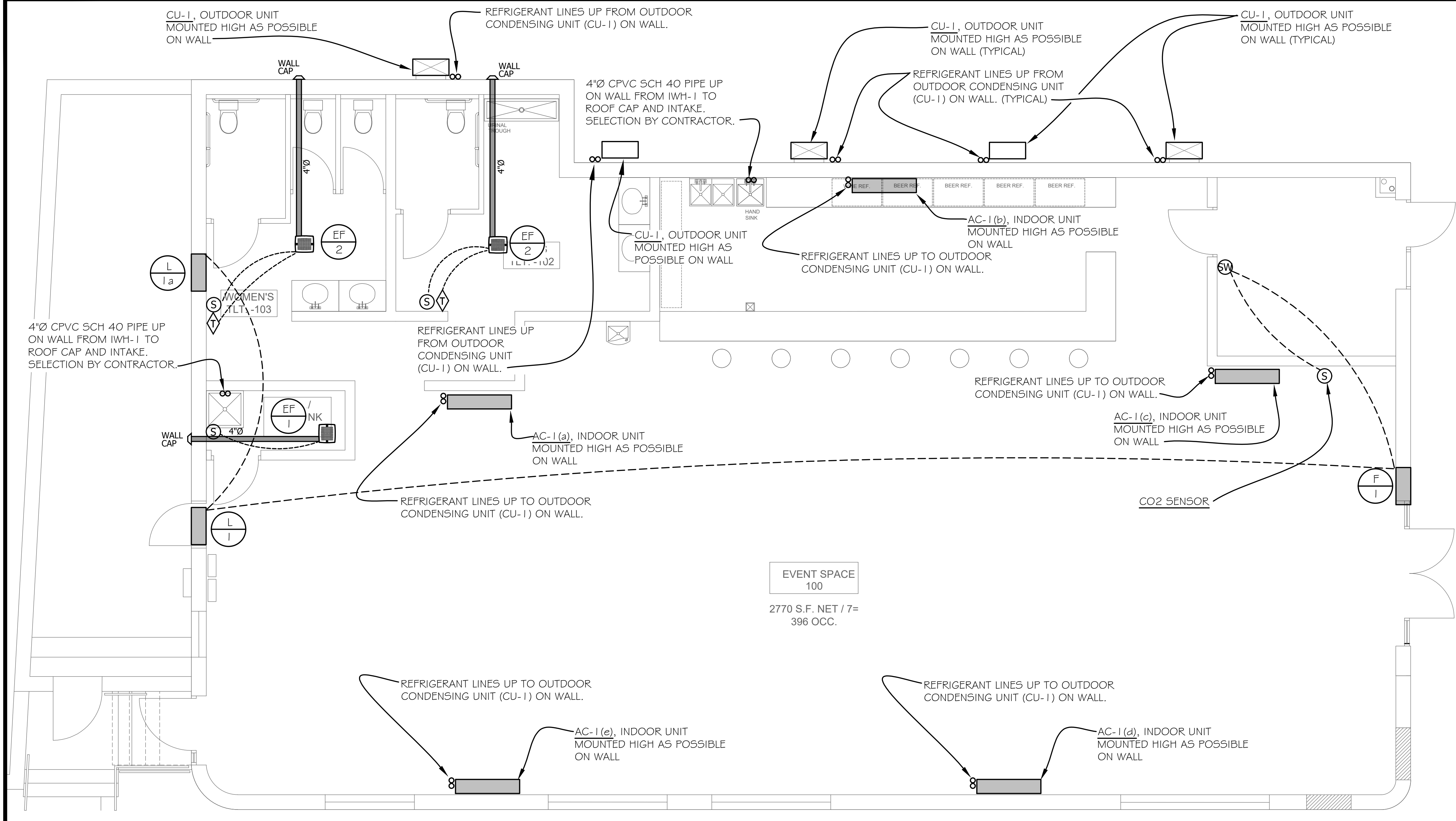
Job No: AYERS22
 Date: 3.20.2023
 Title:

Revisions:

SHEET
FP001

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MECHANICAL PLAN - H.V.A.C.
SCALE: 1/4" = 1'-0"

EVENT SPACE
100
2770 S.F. NET / 7=
396 OCC.

FAN SCHEDULE		
DESIGNATION	CALL-OUT	
	EF-1	EF-2
TYPE	EXHAUST	EXHAUST HEATER
LOCATION	CEILING	CEILING
CFM	50	110
SP IN W.G.	0.25	0.1
FAN RPM	N/A	N/A
WATTS	20	1500
SONES	0.5	2
ELECTRICAL	120/1/60	120/1/60
CONTROL	NOTE #2	NOTE #3
WEIGHT	10 LBS	10 LBS
MODEL	AE50	BHF-110
MANUFACTURE	BROAN	BROAN
NOTES	2,3	1,3,4

1. PROVIDE WITH ROOF CURB, GRAVITY DAMPER, DISCONNECT SWITCH AND BIRD SCREEN FOR ROOF EXHAUST FANS.
2. PROVIDE MS100W OCCUPANCY SWITCH.
3. PROVIDE DT100W DELAY OFF TIMER.
4. PROVIDE WALL MOUNTED T'STAT FOR HEATER.

UNIT SUMMARY			
Rooftop unit	cfm	outside air	tons
AC-1(a)	3,880	0	3
AC-1(b)	3,880	0	3
AC-1(c)	3,880	0	3
AC-1(d)	3,880	0	3
AC-1(e)	3,880	0	3
Total CFM <u>19,400</u>		Total outside <u> </u>	Total tons <u>15</u>
Building square footage <u>3,500</u>		Tons per sq ft. <u>233.33</u>	CFM per sq. ft. <u>5.54</u>

NOTE:
PROVIDE LOCKING COVER FOR T'STAT. (TYPICAL)

NOTE:
PIPE CONDENSATE DOWN ON FACE OF WALL AND SPILL THRU WALL TO GRADE. (TYPICAL ALL, PIPE AS REQUIRED.)

THE DESIGN PROFESSIONAL WAIVES ANY AND ALL RESPONSIBILITY AND LIABILITY FOR PROBLEMS WHICH ARISE FROM FAILURE TO FOLLOW THESE PLANS, SPECIFICATIONS AND THE DESIGN INTENT. THIS CONVEYOR OR PROBLEMS WHICH ARISE FROM OTHERS FAILURE TO OBTAIN AND/OR FOLLOW THE DESIGN PROFESSIONAL'S GUIDANCE WITH RESPECT TO ANY ERRORS, OMISSIONS, INCONSISTENCIES, AMBIGUITIES OR CONFLICTS WHICH ARE ALLEGED. THE DRAWINGS ARE GENERALLY DIAGNOSTIC IN NATURE. THIS DRAWING AND ITS CONTENTS AND DESIGN ARE THE PROPERTY OF KELSOREGENT ASSOCIATES, INC. CONSULTING ENGINEERS, KNOXVILLE, TN. NO PART IS HEREBY GIVEN THAT UNLESS AN ORIGINAL STATE SEAL, SIGNATURE AND DATE ARE AFFIXED TO THIS DRAWING. THIS DRAWING SHALL BE DEEMED NOT FOR CONSTRUCTION. INFORMATION ONLY. SHALL BE AN ORIGINAL STATE SEAL, AND ORIGINAL SIGNATURE. DATE AND DATE ARE AFFIXED TO THIS DRAWING BE FOR CONSTRUCTION.

KRA NO: 230002 Mechanical and Plumbing
CDA No:
DRAWN BY: SWW APPROVED BY: GTB

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CONSTRUCTION DOCUMENTS FOR:
AYERS HALL
1108 FOREST AVE.
KNOXVILLE, TN 37916

Job No: AYERS22
Date: 3.20.2023
Title:

Revisions:

SHEET
M000

MECHANICAL PLAN -
H.V.A.C.

AC-1 and CU-1

TPKA0A0361KA70A & TRUZA0361KA70BA
36,000 BTU/H WALL-MOUNTED INDOOR UNIT
36,000 BTU/H HEAT PUMP UNIVERSAL OUTDOOR



Job Name: _____ Date: _____
System Reference: _____



Indoor Unit: TPKA0A0361KA70A
Outdoor Unit: TRUZA0361KA70BA

- INDOOR UNIT FEATURES**
- Sleek, compact design
 - Simple installation
 - Vane setting for air flow direction control
 - Auto fan speed mode
 - Ideal for spaces such as server rooms, daycare centers, classrooms, churches, small offices, and more
 - Multiple control options available:
 - o kumo cloud® smart device app for remote access
 - o Third-party interface options
 - o Wired or wireless controllers
- OUTDOOR UNIT FEATURES**
- Variable speed INVERTER-driven compressor
 - Power receiver pre-charged with refrigerant volume for piping length up to 100'
 - Low ambient cooling down to 0°F providing 100% capacity
 - 24-hour continuous operation (cooling mode)
 - High pressure protection
 - Fast start
 - Superior energy and operational efficiency
 - Seacoast protection on heat exchanger and base panel (rated for 2,000 hours in accordance with ASTM B117 testing)

SPECIFICATIONS: TPKA0A0361KA70A & TRUZA0361KA70BA

Maximum Capacity	BTU/H	36,000
Rated Capacity	BTU/H	36,000
Minimum Capacity	BTU/H	16,000
Maximum Power Input	W	3,330
Rated Power Input	W	3,330
Moisture Removal	Pints/h	9.7
Sensible Heat Factor	%	0.70
Power Factor (200V / 230V)	%	96.5 / 98.5
Maximum Capacity	BTU/H	40,200
Rated Capacity	BTU/H	38,000
Minimum Capacity	BTU/H	18,200
Maximum Power Input	W	3,700
Rated Power Input	W	2,460
Power Factor (200V / 230V)	%	81.0 / 81.0
Maximum Capacity	BTU/H	25,800
Rated Capacity	BTU/H	22,400
Maximum Power Input	W	2,670
Rated Power Input	W	2,610
SEER		18.8
EER		10.8
HSPF (H)		9.2
COEF-447F		4.52
COF at 17°F at Maximum Capacity		2.85
ENERGY STAR Certified		No
Voltage, Phase, Frequency		208/230, 1, 60
Guaranteed Voltage Range	V AC	198 - 253
Voltage, Indoor - Outdoor, S1-S2	V AC	208/230
Voltage, Indoor - Outdoor, S2-S3	V DC	24
Short Circuit Current Rating (SCCR)	KA	5
Recommended Fuse/Breaker Size (Outdoor)	A	30
Recommended Wire Size (Indoor - Outdoor)	AWG	14
Power Supply		Indoor unit is powered by the outdoor unit
MCA	A	1.0
Fan Motor Full Load Amperage	A	5.57
Fan Motor Type	DC Motor	
Airflow Rate at Cooling, Dry	CFM	705-810-820
Airflow Rate at Cooling, Wet	CFM	625-730-830
Airflow Rate at Heating, Dry	CFM	705-810-820
Sound Pressure Level (Cooling)	(dB(A))	43-46-49
Sound Pressure Level (Heating)	(dB(A))	43-46-49
Drain Pipe Size	in. (mm)	5/8 (16)
Coating on Heat Exchanger		White Munsell 10Y 9.2/3.2
External Finish Color		White Munsell 10Y 9.2/3.2
Unit Dimensions	W x D x H in. (mm)	48-1/16 x 11-5/8 x 14-3/8 (1,170 x 295 x 368)
Package Dimensions	W x D x H in. (mm)	51 x 14.6 x 15.1 (1,295 x 368 x 475)
Unit Weight	Lbs. (kg)	46 (21)
Package Weight	Lbs. (kg)	53 (24)
Cooling Intake Air Temp (Maximum / Minimum)	°F	90 DB, 72 WB / 68 DB, 61 WB
Heating Intake Air Temp (Maximum / Minimum)	°F	77 DB / 59 DB

NOTES:
A-R/R Rated Conditions: Cooling (Indoor / Outdoor) °F 80 DB, 67 WB / 95 DB, 75 WB
Heating at 47°F (Indoor / Outdoor) °F 70 DB, 50 WB / 45 DB, 45 WB
Heating at 17°F (Indoor / Outdoor) °F 70 DB, 80 WB / 17 DB, 15 WB
(Rated data is determined at a fixed compressor speed)

Indoor/Outdoor Unit Operating Temperature Range (Cooling Air Temp (Maximum / Minimum)):
• Applications should be restricted to comfort cooling only; equipment cooling applications are not recommended for air ambient temperature conditions.
• Wind baffles required to operate below 23°F (5°F in cooling mode).
• Heat pump system with wind baffles 0°F - 10°F.
• Refer to wind baffle documentation for further information.

Outdoor Unit Operating Temperature Range (Cooling Thermal Lock-out / Re-start Temperatures; Heating Thermal Lock-out / Re-start Temperatures):
• System cuts out in heating mode to avoid thermostat error and automatically restarts at these temperatures.

SPECIFICATIONS: TPKA0A0361KA70A & TRUZA0361KA70BA

MCA	A	25.0
MOCF	A	31
Fan Motor Full Load Amperage	A	8.5 + 0.5
Fan Motor Output	W	74
Airflow Rate (Cooling / Heating)	CFM	3880 / 3880
Refrigerant Control		LEV
Default Method		Reverse Cycle
Coating on Heat Exchanger	(S/A)	Blue Fin Coating (S8 Model only)
Sound Pressure Level, Cooling	(dB(A))	52
Sound Pressure Level, Heating	(dB(A))	53
Compressor Type		INVERTER-driven twin rotary
Compressor Model		UMV505R6AC
Compressor Rated Load Amps	A	8
Compressor Locked Rotor Amps	A	13.5
Compressor Oil (Type / Charge)	oz	FV505 / 4.5
External Finish Color		Ivory Munsell 3Y 7.8/1.1
Base Panel Heater		No
Unit Dimensions	W x D x H in. (mm)	41-5/16 x 13 (1-3/16) x 52-1/16 (1050 x 330 (x30) x 1330)
Package Dimensions	W x D x H in. (mm)	42-15/16 x 17-1/16 (1084 x 425 x 1420)
Unit Weight	Lbs. (kg)	214 (97)
Package Weight	Lbs. (kg)	245 (111)
Cooling Air Temp (Maximum / Minimum)	°F	115 DB / 53 DB
Heating Air Temp (Maximum / Minimum)	°F	70 DB, 59 WB / 4 DB, 4 WB
Heating Thermal Lock-out / Re-start Temperatures**	°F	-1 - 4
Maximum Charge Quantity	Lbs. oz	0.8 / 0.0
Initial Charge Quantity	Fl. (oz)	0.0 (30.0)
Additional Refrigerant Charge For Additional Piping Length	oz (Fl. oz)	0.7 (5)
Gas Pipe Size O.D. (Flare)	in. (mm)	5/8 (15.88)
Liquid Pipe Size O.D. (Flare)	in. (mm)	3/8 (9.52)
Maximum Piping Length	Fl. (m)	160 (50)
Maximum Height Difference	Fl. (m)	100 (30)
Maximum Number of Bends		15

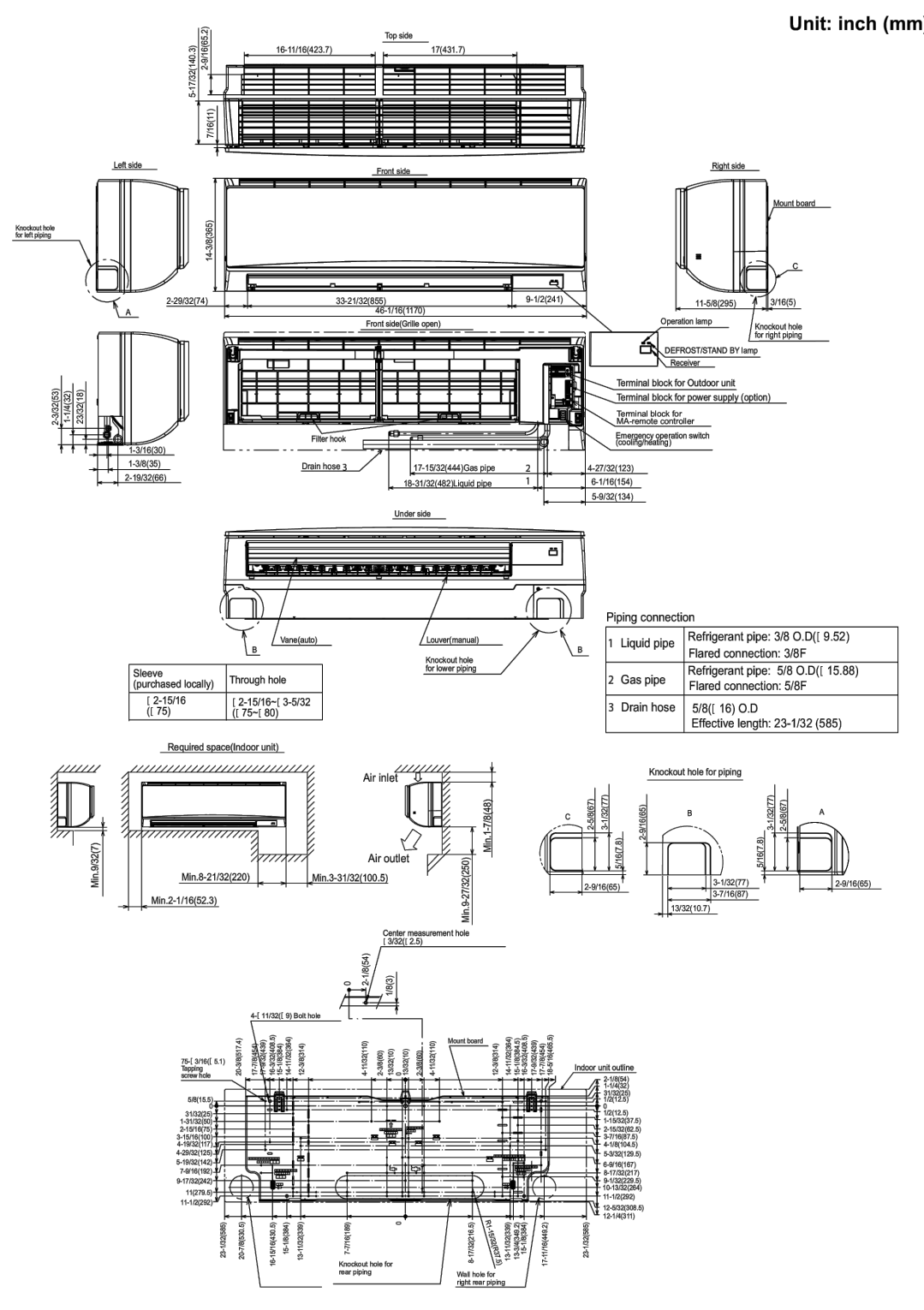
NOTES:
A-R/R Rated Conditions: Cooling (Indoor / Outdoor) °F 80 DB, 67 WB / 95 DB, 75 WB
Heating at 47°F (Indoor / Outdoor) °F 70 DB, 50 WB / 45 DB, 45 WB
Heating at 17°F (Indoor / Outdoor) °F 70 DB, 80 WB / 17 DB, 15 WB
(Rated data is determined at a fixed compressor speed)

Indoor/Outdoor Unit Operating Temperature Range (Cooling Air Temp (Maximum / Minimum)):
• Applications should be restricted to comfort cooling only; equipment cooling applications are not recommended for air ambient temperature conditions.
• Wind baffles required to operate below 23°F (5°F in cooling mode).
• Heat pump system with wind baffles 0°F - 10°F.
• Refer to wind baffle documentation for further information.

Outdoor Unit Operating Temperature Range (Cooling Thermal Lock-out / Re-start Temperatures; Heating Thermal Lock-out / Re-start Temperatures):
• System cuts out in heating mode to avoid thermostat error and automatically restarts at these temperatures.

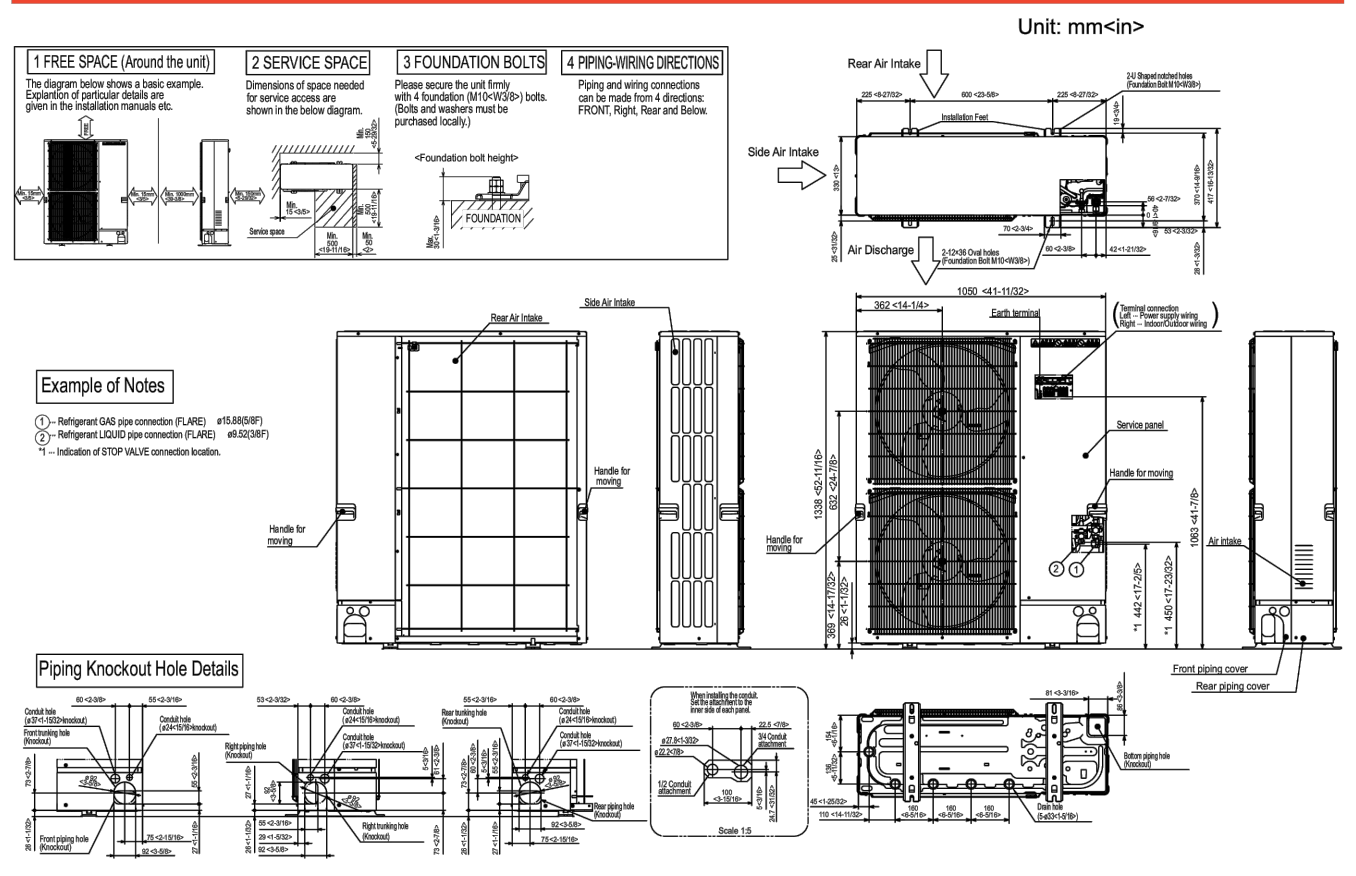
AC-1 DETAIL

INDOOR UNIT DIMENSIONS: TPKA0A0361KA70A



CU-1 DETAIL

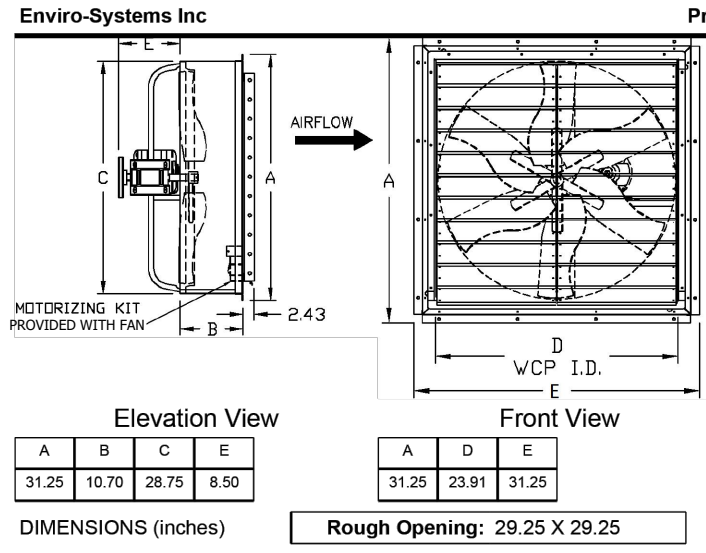
OUTDOOR UNIT DIMENSIONS: TRUZA0361KA70BA



F-1 DETAIL

Acme Engineering and Manufacturing Corporation
P.O. Box 978, Muskogee, OK 74402

Location: Knoxville
Customer: Enviro-Systems Inc
Architect:
Engineer:
Contractor:
Submitted by: Jack Payne

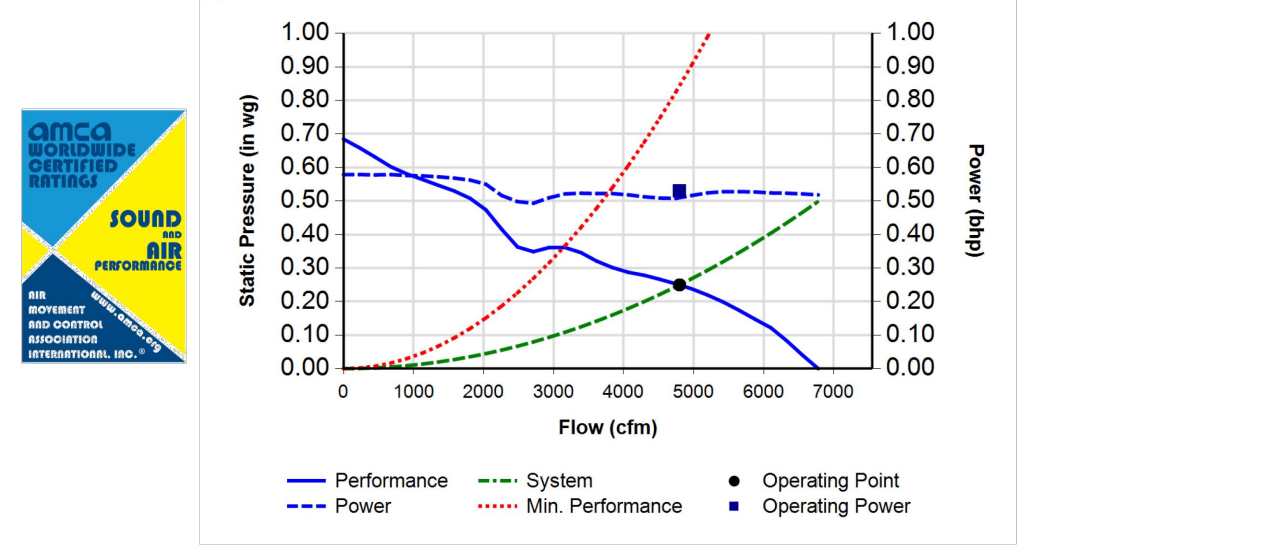


DC24WCP 1/2 HP 115/ Single Phase 60 Hz TEAO 1 Speed w/TLO Standard Efficiency Motor RPM: 1750

PERFORMANCE (Altitude = 981 ft, Temp = 68 Degrees F, Density = 0.072 lb/ft3) Includes Belt Drive Loss

Qty	Model Size	Volume (cfm)	SP (in wg)	Power (HP)	Speed (rpm)	TS (ftpm)	OV (ftpm)	Weight (lbs)	HP	Volts	Phase	Hz	End	RPM	SpV
1	DC24WCP	4800	0.250	0.531	796	5020	1466	111.03	115	115	1	60	TEAO	1750	15F

Sound Pressure	Sound Power Octave Values	Static	Total																			
Sones	LWA	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
18.0	78.5	67.4	79.6	77.7	79.0	73.1	71.0	66.7	60.7	58.6	59.30											

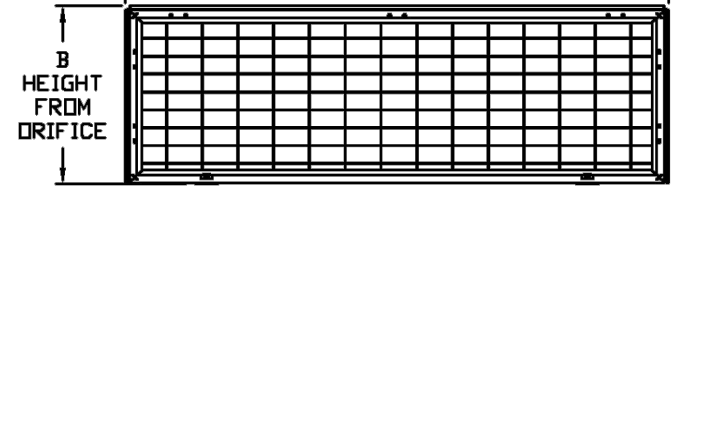
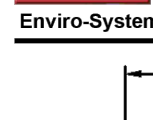


Manufacturer reserves the right to change specifications without notice. These are typical drawings for dimensional purposes only and are correct within limits for normal installation requirements. They do not necessarily show actual construction.



Acme Engineering and Manufacturing Corporation
P.O. Box 978, Muskogee, OK 74402

Location: Knoxville
Customer: Enviro-Systems Inc
Architect:
Engineer:
Contractor:
Submitted by: Jack Payne



BADC OSHA Approved DC Motor-Side Guard

Standard Construction Features
Constructed of heavy gauge welded galvanized wire 1/2" by 1" Motor Side Guard
Open on all sides for maximum airflow
Shipped knocked down for field assembly
2 Year Fan/Motor Warranty

PERFORMANCE (Altitude = 0 ft, Temp = 0 Degrees F, Density = 0.000 lb/ft3)

Qty	Model Size	Weight (lbs)
1	BA24DC	17.00

NOTE: PROVIDE BURGLAR BARS

L-1 & L-1a DETAIL

TAG	MODEL	QTY	WIDTH	HEIGHT	ACTUATOR / OPERATOR
	AFL-D-4	2	30.000	30.000	Belimo NFBUP (qty. 1)

- Shape: Standard
- Measurements: 30.00" x 30.00"
- Square Feet: 6.25
- Undersizing: Standard 1/4"
- Frame/Blade: Extruded Aluminum (.081" Frame & Blades)
- Linkage: Jamb
- NO Bird Screen
- Insect screen: Standard - 18-16 .011 Mesh Aluminum (2J)
- Actuator: Electric Spring Return Belimo NFBUP (qty. 1) Electric Power Open - Spring Closed
- Mounting: In air stream
- Flange: Flange Frame (1.5")
- Flange Direction: Front Flange
- Blade Seals: EPDM Blade Seals
- Jamb Seals: Compression Jamb Seals (Stainless Steel)

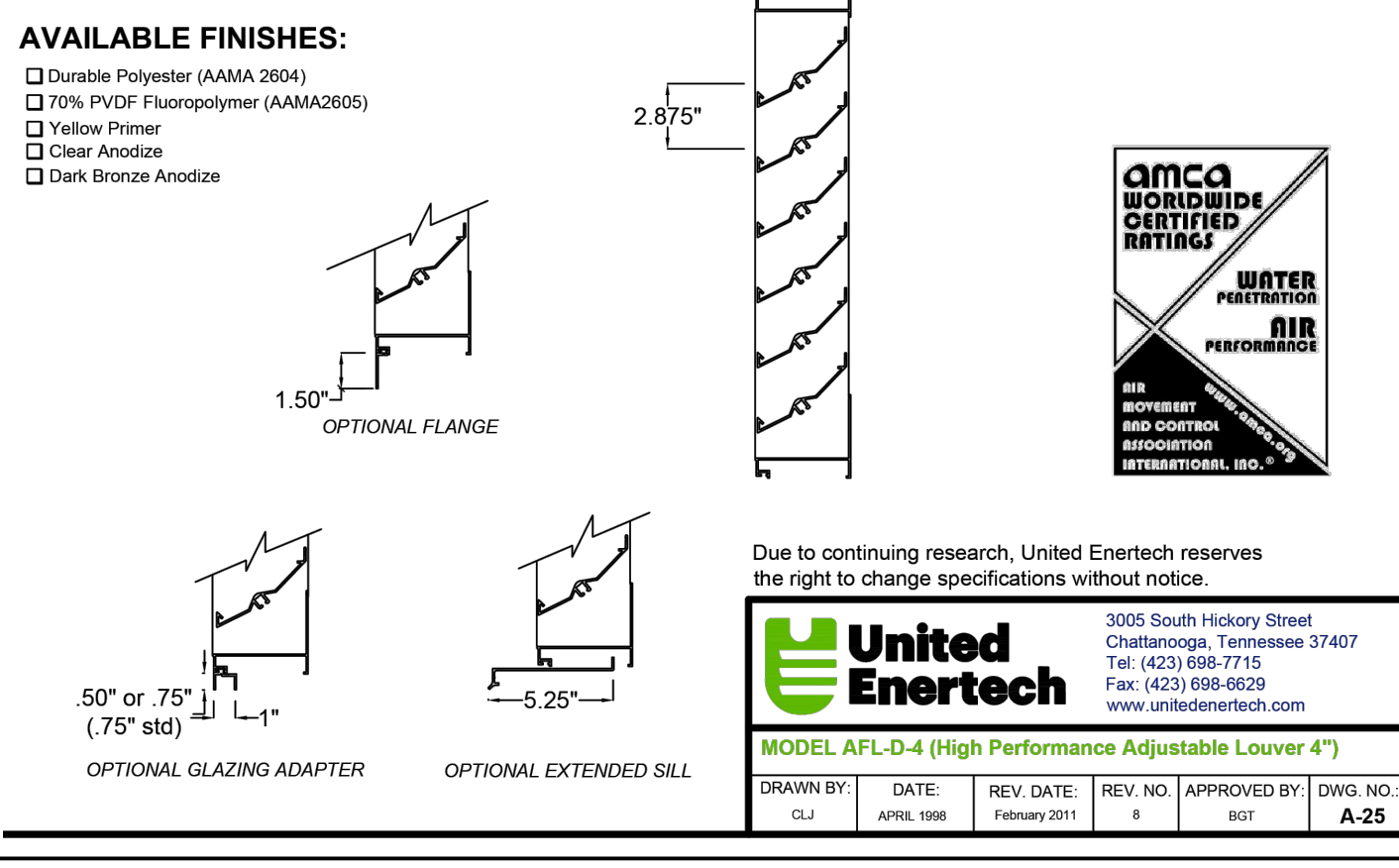
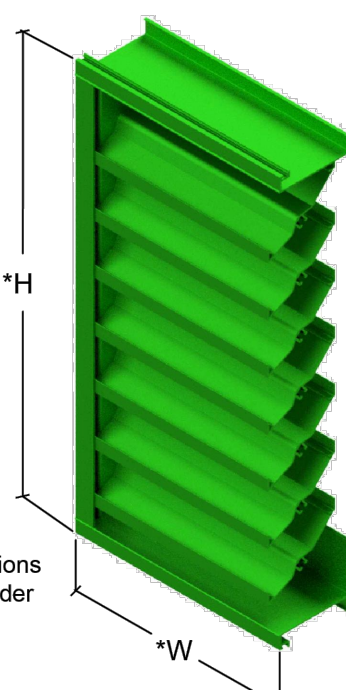
SUBMITTAL DATA

MODEL AFL-D-4 HIGH PERFORMANCE ADJUSTABLE LOUVER 4"

STANDARD CONSTRUCTION:
FRAME: .081" Extruded Aluminum 4.25" deep.
BLADES: .081" Extruded Aluminum Positioned on a 30° angle on approximately 2.88" centers.
LINKAGE: Jamb Linkage
BIRDSCREEN: 18" X .050 Flattened Aluminum in Removable Frame. Screen is mounted on inside (rear) as looking from exterior of building.
OPERATOR: Louvers without actuators will be supplied with Locking Quadrants
FINISH: Mill Aluminum (Std.)
MINIMUM SIZE: 12" w x 12" h
MAXIMUM SIZE: 60" w x 96" h single section. Multiple louvers can be bolted together up to 120" w x 84" h or 84" w x 120" h. Factory assembled multi-section max: 108" w x 84" h. Larger sizes are field assembled.

OPTIONS:
 Flanged Frame (1.5" std.)
 Custom Flange (1", 2", or 3")
 Glazing Adapter (50° or 75°)
 Extended Sill
 Insect Screen (Other Screens Available, See Screen Page)
 Filter Racks (no screen)
 Security Bars
 Blade Seals (EPDM)
 Jamb Seals (Stainless Steel)
 Hinged Sub-Frame
 Actuator: See Actuator Selection Chart
 125" Construction

AVAILABLE FINISHES:
 Durable Polyester (AAMA 2604)
 70% PVDF Fluoropolymer (AAMA 2605)
 Yellow Primer
 Clear Anodize
 Dark Bronze Anodize



Due to continuing research, United Enertech reserves the right to change specifications without notice.

3005 South Hickory Street
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DRAWN BY:	DATE:	REV. DATE:	REV. NO.:	APPROVED BY:	DWG. NO.:
CLJ	APRIL 1999	February 2011	8	SCJ	A-25

NOTE: PROVIDE BURGLAR BARS

MECHANICAL PLAN - SCHEDULES and DETAILS

goss design / development
110 w summit hill drive
knoxville, tennessee
865.230.1860

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CONSTRUCTION DOCUMENTS FOR:
AYERS HALL
1108 FOREST AVE.
KNOXVILLE, TN 37916

Job No: AYERS22
Date: 3.20.2023
Title:

Revisions:

SHEET
M001

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Engineering Analysis
Energy Management

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KRA NO: 23002-Mechanical and Plumbing
CSA No:
DRAWN BY: SWW APPROVED BY: GTB

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PLUMBING SPECIFICATION

- I. GENERAL**
- Scope: Furnish all labor, materials and equipment necessary for the installation of all plumbing work required on the drawings and as specified herein.
 - Work required: In general, the work consists of, but is not limited to, the following:
 - Domestic Water Systems connecting to existing utility
 - Sanitary Sewer System Connecting to existing utility
 - Hot Water Piping System
 - Plumbing Fixtures
 - Connection to Kitchen Equipment
 - Permits, Ordinances and Inspections:
 - Obtain and pay for all permits and inspection fees required. Deliver to architect, certificates of inspection issued by the authorities.
 - All work shall be done in accordance with all applicable city, county, state or national ordinances and codes. Effort has been made to meet or exceed requirements. The contractor make any minor adjustments to meet these requirements at no additional cost to the owner.
 - Instructions and Instruction Booklets: The contractor shall instruct the owner's representative in the proper operation of all equipment. Furnish literature provided by the manufacturer. Printed instructions and maintenance data shall be bound with cover in duplicate and delivered to the architect.
- II. PRODUCTS**
- All materials shall be new, first class and comply with the latest ASTM Specifications and Standards relating to such materials.
 - Water Piping:
 - Furnish and install dielectric or isolation fittings at all points where copper pipe connects to wrought iron or steel pipe.
 - Exposed Pipe in Toilet Rooms: Chrome Plated Brass, American Brass Company or equivalent. Furnish and install chrome plated wall plates.
 - Piping under floor slab shall be Type "K" soft temper copper tubing ASTM B-88. No joints shall be permitted under floor slab.
 - Piping above floor slab shall be Type "L" hard drawn copper tubing ASTM B-88. Use Wrought copper sweat fittings.
 - At the contractor's option PEX piping may be used as follows: PEX piping shall be extruded cross-linked polyethylene with multi-layer construction or equal. The pipe shall meet minimum requirements as defined by ASTM F876 and F877 standards for hot and cold water distribution. Pipe shall be pressure rated in accordance with ASTM D2837 standards and shall carry a pressure rating of 100 PSI at 180 °F. Insert type fittings shall meet ASTM F1807 standard for metal fittings, or ASTM F2159 standard for plastic fittings. All fittings shall be compatible with pipe manufacturer. Copper piping shall be installed within 18" of water heating devices and then transition to PEX.
 - Sanitary Waste and Vent Piping: Piping shall be Schedule 40 PVC - DWV pipe and fittings.
 - Gas Piping:
 - Pipe size 2" and smaller: Black steel pipe Schedule 40; malleable-iron threaded fittings (exposed piping only). Use welded piping and fittings in concealed locations.
 - Pipe size 2-1/2" and larger: Black steel pipe Schedule 40; Wrought steel butt-welding fittings.
 - Pipe Hangers: Adjustable wrought clevis type hanger and rods; Grinnell Company or equivalent.
 - Cleanouts:
 - Floor cleanouts for soil and waste lines shall have bodies of standard pipe sizes as manufactured by Zurn or equivalent.
 - Wall cleanouts for soil and waste lines shall have bodies of standard pipe sizes as manufactured by Zurn or equivalent.
 - Valves:
 - Butterfly valves 2-1/2" and larger
 - Ball valves 2" and smaller
 - Unions shall have brass to metal ground joint seal
 - Escutcheon Plates: Provide chrome plated escutcheon plates where exposed pipe passes through walls, floors or ceiling in finished areas.
 - Pipe Insulation:
 - All hot water pipe above grade shall be insulated with 1" fiberglass, low pressure insulation with white universal jacket. Apply in accordance with manufacturer's instructions.
 - All cold water pipe above grade shall be insulated with 1/2" fiberglass as above.
 - Wall Hydrants: "Frostproof" type with vacuum breaker on all hose bibbs.
 - Fixtures:
 - Furnish and install all plumbing fixtures indicated on drawings. Fixtures shall be American Standard, Kohler or Eljer.
 - Traps: For lavatories and sinks: Brass, chrome plated

GENERAL PLUMBING NOTES:

- THE DRAWINGS ARE GENERALLY DIAGRAMMATIC AND INDICATE THE APPROXIMATE ROUTING OF PIPING AND LOCATION OF FIXTURES. THE CONTRACTOR SHALL COORDINATE HIS WORK WITH OTHER TRADES AND MAKE MINOR OFFSETS AND ADJUSTMENTS AS REQUIRED AT NO ADDITIONAL COST TO THE OWNER.
- COORDINATE FIXTURES LOCATIONS WITH ARCHITECTURAL DRAWINGS.
- CONTRACTOR SHALL MAKE ARRANGEMENTS FOR CONNECTIONS TO ALL UTILITY LINES AND PAY FEES AND COSTS FOR CONNECTIONS TO THOSE SERVICES.
- ALL PIPING SHALL BE RUN IN CONCEALED LOCATIONS EXCEPT WHERE NOTED.
- PLUMBING FIXTURES SHALL BE FIRST QUALITY VITREOUS CHINA, STAINLESS STEEL OR PLASTIC AS NOTED ON FIXTURE SCHEDULE. ALL FIXTURES SHALL BE RIGIDLY CONNECTED TO THE BUILDING AND SHALL BE CLEANED AND FUNCTIONAL.
- REFER TO ARCHITECTURAL DRAWINGS FOR FINISHED GRADES.
- DOMESTIC WATER LINES 1/2" THROUGH 2-1/2" SHALL BE TYPE "L" COPPER WITH SOLDER JOINTS, SOLDER SHALL NOT CONTAIN LEAD. WATER SERVICE LINE OUTSIDE THE BUILDING MAY BE COPPER.
- CONTRACTOR SHALL PROVIDE PRESSURE REDUCING VALVE AND REDUCED PRESSURE BACKFLOW PREVENTION VALVE INSIDE BUILDING WHERE SERVICE ENTERS.
- EXPOSED PIPING BELOW FIXTURES SHALL BE CHROME PLATED. PIPING AT FIXTURES IN HANDICAPPED ACCESSIBLE AREAS SHALL BE INSULATED TO PROTECT AGAINST BURNS. DRAIN WASTE AND VENT PIPING SHALL BE SCHEDULE 40 PVC OR AS NOTED ON THE DRAWINGS.
- ALL BURIED PIPING SHALL BE BEDDED AND COVERED IN SAND, GRAVEL, OR CRUSHED STONE.
- POTABLE WATER LINES SHALL BE INSULATED WITH 1" FLEXIBLE ELASTOMERIC PLASTIC OR FIBERGLASS PIPE INSULATION.
- NOT USED
- AFTER COMPLETION OF PIPING TEST POTABLE WATER PIPING TO A PRESSURE OF 125 LBS. PER SQ. INCH AND HOLD FOR 24 HOURS.
- TEST DRAIN WASTE AND VENT PIPING BY FILLING TO LEVEL OF HIGHEST VENT.
- AFTER INSTALLATION OF POTABLE WATER PIPING, STERILIZE LINES IN ACCORDANCE WITH CODES AND HEALTH DEPARTMENT REGULATIONS AND FLUSH AND FILL WITH CLEAN WATER.
- PITCH POTABLE WATER LINES TOWARD DRAINS, INSTALL DRAIN WASTE AND VENT PIPING WITH MINIMUM SLOPES OF 1/4" PER FOOT FOR LINES UP TO 2-1/2" AND 1/8" PER FOOT FOR LINES 3" AND LARGER.
- REFER TO ARCHITECTURAL DRAWINGS FOR LOCATIONS AND RATINGS OF FIRE WALLS AND FLOOR CEILING ASSEMBLIES.
- INSTALL FIRE STOP MATERIAL IN ACCORD WITH U.L. LISTING AT ALL PENETRATIONS.
- Pipe WATER HEATER RELIEF VALVE TO EXTERIOR OR TO FLOOR DRAIN.
- INSTALL MAXITROL SERIES GF OR EQUAL FLUE GAS STRAINER PER NFPA 86 UPSTREAM OF SAFETY SHUT-OFF VALVES. (PH# 248-356-1400)
- INSTALL WATER HEATERS IN ACCORD WITH MANUFACTURERS INSTRUCTION AND TENNESSEE BOILER CODE REQUIREMENTS.

PLUMBING FIXTURE SCHEDULE

ITEM	DESCRIPTION	Specification	CW	HW	W	V
BFP-1	BACKFLOW	ZURN, 975XL2CUSAG REDUCED PRESSURE BACKFLOW ASSEMBLY WITH TEST COCKS FACING UP, STRAINER AND AIR GAP	1-1/4"			
CO-1	CLEANOUT	ZURN, ZN1400-B21 DURA-COAT CAST IRON ADJUSTABLE CLEANOUT, NICKEL BRONZE TOP, PROTECTIVE STRAINER COVER TO PROTECT DURING CONCRETE POUR, POST POUR HEIGHT ADJUSTMENT AND LEVELING SHIMS TO CORRECT TILT		SEE DRAWINGS		
CO-2	CLEANOUT	ZURN, ZN1400-HD DURA-COAT CAST IRON ADJUSTABLE CLEANOUT WITH EXTRA HEAVY DUTY NICKEL BRONZE TOP				
DF-1	WATER COOLER	ELKAY, EZS88 SINGLE STATION WALL MOUNTED STAINLESS STEEL NON-PRESSURIZED WATER COOLER WITH FLEX GUARD BUBBLER AND 115V/60HZ	1/2"	1-1/4"	1-1/4"	
	SUPPLY	ZURN, Z8804-XL-8860-CR-Q-PC 1/2" X 3/8" COMP X COMP LAVATORY SUPPLY KIT WITH ESCUTCHEON, 1/4 TURN CHROME PLATED STOP AND BRAIDED STAINLESS STEEL SUPPLY LINE				
	P-TRAP	ZURN, Z8700-PC 1-1/4" CAST BRASS 17GA P-TRAP WITH CLEANOUT				
	CARRIER	PROVIDE WITH APPROPRIATE APPROVED ZURN CARRIER				
FD-1	FLOOR DRAIN	ZURN, ZN415-SB21 FLOOR OR SHOWER DRAIN, DURA-COATED CAST IRON BODY, 5" ROUND POLISHED NICKEL BRONZE STRAINER, PROTECTIVE STRAINER COVER TO PROTECT DURING CONCRETE POUR, POST POUR HEIGHT ADJUSTMENT AND LEVELING SHIMS TO CORRECT TILT		SEE DRAWINGS		
	TRAP SEAL	ZURN, Z1072 ZSHIELD BARRIER TRAP SEAL DEVICE				
FS-1	FLOOR SINK	ENDURA, 394713 WHITE PVC FLANGELESS FLOOR SINK, 12x12x6, WITH FULL GRATE #394709A WITH VANDLE PROOF SCREWS		SEE DRAWINGS		
L-1	LAVATORY	ZURN, Z5114 OVAL 20"x17" 4"CC VITREOUS CHINA DROP IN LAVATORY	1/2"	1/2"	1-1/4"	1-1/4"
	FAUCET	ZURN, Z7440-XL SIERRA SINGLE HANDLE 4CC LAVATORY FAUCET WITH 2.6GPM AERATOR AND CERAMIC DISC CARTRIDGE				
	DRAIN	ZURN, Z8743-PC 1-1/4" CHROME PLATED CAST BRASS 17GA GRID DRAIN				
	SUPPLIES	ZURN, Z8804-XL-8860-20-1RLKQ-PC 1/2" X 3/8" COMP X COMP LAVATORY SUPPLY KIT WITH ESCUTCHEONS, LOOSE KEY, 1/4 TURN CHROME PLATED STOPS AND TWENTY INCH BRAIDED STAINLESS STEEL SUPPLY LINES				
	P-TRAP	ZURN, Z8700-PC 1-1/4" CAST BRASS 17GA P-TRAP WITH CLEANOUT				
	THERMOSTATIC MIXING VALVE	SYMMONS, 8-210-CK MAXLINE 3/8" THERMOSTATIC ASSE 1017/1070 MIXING VALVE				
	TRAP WRAP	ZURN, Z8946-1-NT COMBINATION TRAP WRAP KIT WITH ONE TRAP AND TWO SUPPLY PROTECTION WRAPS				
PRV-1	PRESSURE REDUCING VALVE	ZURN WILKINS, 500XL3 HIGH FLOW LOW-LEAD PRESSURE REDUCING VALVE WITH THREADED BRONZE BODY AND BRONZE BELL HOUSING	1-1/4"			
	STRAINER	ZURN SXL LEAD FREE BRONZE WYE STRAINER WITH 300 SERIES STAINLESS STEEL MESH SCREENS				
S-1	SINK	ELKAY, CHS17162LRS WALL MOUNTED HANDWASHING SINK, 304 STAINLESS STEEL, 16-3/4" X 15-1/2" X 3, 7" HIGH BACKSPLASH WITH 45-DEGREE ANGLE SLOPED TOP, LEFT AND RIGHT SIDE SPLASHES, BRUSHED FINISH AND 2" DRAIN OPENING	1/2"	1/2"	1-1/4"	1-1/4"
	FAUCET	ZURN, Z812A1-XL-TWM WALL MOUNTED TWO HOLE 4"CC FAUCET WITH 3-1/2" GOOSENECK SPOUT AND LEVER HANDLES				
	DRAIN	ZURN, Z8737 CHROME PLATED WROUGHT BRASS 1-1/2" FLAT GRID SINK STRAINER DRAIN				
	P-TRAP	ZURN, Z8702-PC CAST BRASS 1-1/2" X 10-1/2"				
S-2	SINK	ELKAY, 14-2C16X20-0X DEPENDABLE DOUBLE BOWL SCULLERY SINK, 16 GAUGE 300 SERIES STAINLESS STEEL, 14" DEEP BOWLS WITH 3/4" COVED CORNERS, STAINLESS STEEL LEGS WITH BULLET FEET AND DRILLED FOR 8" CC BACK MOUNTED FAUCET, OVERALL LENGTH 39", OVERALL DEPTH 25-3/4"	1/2"	1/2"	2"	1-1/2"
	FAUCET	ZURN, Z8421-XL WALL MOUNTED TWO HOLE FAUCET WITH 12" SPOUT AND LEVER HANDLES				
	DRAIN	ELKAY, LK24RT 3-1/2" DRAIN FITTING WITH ROTARY LEVER OPERATION AND 1-1/2" OOD TAILPIECE				
	P-TRAP	ZURN, Z8702-15-PC CAST BRASS P-TRAP 1-1/2" X 15"				
	CONTINUOUS WASTE	ELKAY, LK52 CAST BRASS CENTER OUTLET DRAIN FOR DOUBLE BOWL SINKS, 1-1/2"				
WC-1	WATER CLOSET	ZURN, Z5552-(LH/RH)-K HPT 1.6GPF FLOOR MOUNTED TANK TYPE HIGH PERFORMANCE 1000G MAP RATING 3" FLUSH ACTION STANDARD HEIGHT WATER CLOSET WITH TANK LEVER TO BE DETERMINED BY OPEN AREA EITHER RIGHT OR LEFT AND 2-1/8" FULLY GLAZED TRAPWAY	1/2"	4"	2"	
	SEAT	ZURN, Z59555-EL-STS ELONGATED WHITE OPEN FRONT TOILET SEAT LESS COVER WITH SELF-SUSTAINING STAINLESS STEEL CHECK HINGE				
	SUPPLY	ZURN, Z8804-XL-8860-CR-Q-PC 1/2" NOM X 3/8" OOD SUPPLY KIT COMPLETE WITH QUARTER TURN STOP, BRAIDED STAINLESS STEEL SUPPLY AND ESCUTCHEON				
WC-2	WATER CLOSET	ZURN, Z5551-(LH/RH)-K HPT 1.6GPF FLOOR MOUNTED TANK TYPE HIGH PERFORMANCE 1000G MAP RATING 3" FLUSH ACTION ADA HEIGHT WATER CLOSET WITH TANK LEVER TO BE DETERMINED BY OPEN AREA EITHER RIGHT OR LEFT AND 2-1/8" FULLY GLAZED TRAPWAY	1/2"	4"	2"	
	SEAT	ZURN, Z59555-EL-STS ELONGATED WHITE OPEN FRONT TOILET SEAT LESS COVER WITH SELF-SUSTAINING STAINLESS STEEL CHECK HINGE				
	SUPPLY	ZURN, Z8804-XL-8860-CR-Q-PC 1/2" NOM X 3/8" OOD SUPPLY KIT COMPLETE WITH QUARTER TURN STOP, BRAIDED STAINLESS STEEL SUPPLY AND ESCUTCHEON				
MS-1	SINK	ZURN, Z1996-24-BV-24-HH-MH-WG 24" X 24" MOLDED COMPOSITE FLOOR SERVICE SINK WITH STAINLESS STEEL STRAINER, WALL GUARDS, AND VINYL BUMPER GUARD	3/4"	3/4"	2"	1-1/2"
	FAUCET	ZURN, Z841M1-RC SERVICE SINK FAUCET WITH 6" VACUUM BREAKER SPOUT, LEVER HANDLES, PAIL HOOK AND WALL BRACE				
UR-1	URINAL	URINAL SUPPLIED BY OWNER, INSTALLED BY PLUMBING CONTRACTOR	1-1/4"			2"
TD-1	TRENCH DRAIN	ZURN, Z806-HDS POLYMER TRENCH DRAIN WITH HEEL PROOF STAINLESS STEEL GRATE, TRENCH DRAIN PRE-SLOPED FROM FACTORY, PROVIDED WITH END CAP AND BOTTOM OUTLET. LENGTH OF TRENCH-16"				

NATURAL GAS LOAD CALCULATION SCHEDULE

FIXTURES	FIXTURE COUNT	BTU/H LOAD
IWH-1	1	199,000
IWH-2	1	130,000
TOTAL CONNECTED LOAD		329,000
NATURAL GAS SYSTEM REQUIRED (7" WC) SYSTEM SIZED ON 150'-0" PER TABLE 402.4(2) OF THE 2018 IFC		

WATER HEATER SCHEDULE

SYMBOL	IWH-1	IWH-2
BTU	15MBH TO 199MBH	
VOLTAGE	120/1/60	
FLOW RATE	11 GMP	7 GMP
MANUFACTURE	RINNAI	
MODEL NUMBER	RU1991	RU1301
STORAGE CAPACITY	0	
WEIGHT (DRY)	64 LBS	62 LBS
NOTES:		

SERVICES PLUMBING PIPE SIZER

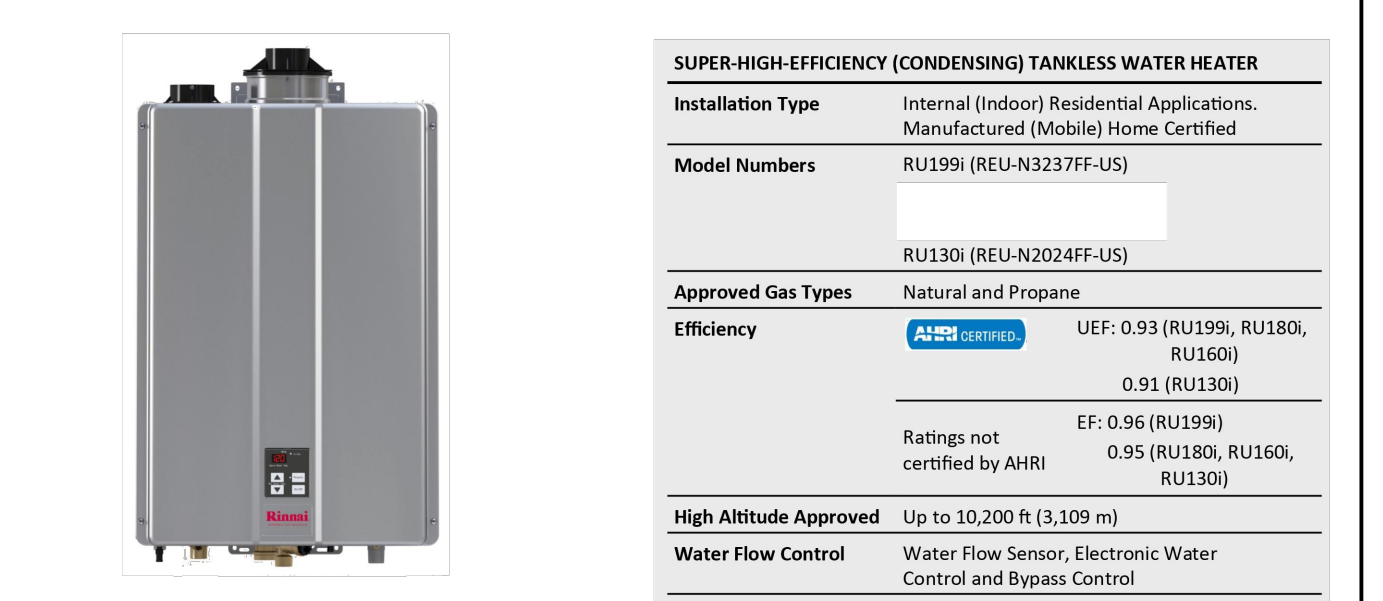
Project #: 22k143
8/25/2022
Designed By: SWW

Fixture	Occupancy	Type of Supply Control	Load Values, In Water Supply Fixture Units (WSFU)				Count	WSFU - Cold	WSFU - Hot	WSFU - Return	WSFU - Combined
			Cold	Hot	Return	Combined					
Bathroom Group	Private	Flush Tank	2.7	1.5	1.5	3.6	0	0	0	0	
Bathroom Group	Private	Flushometer Valve	6	3	3	8	0	0	0	0	
Bathstub	Private	Faucet	1	1	1	1.4	0	0	0	0	
Bathstub	Public	Faucet	3	3	3	4	0	0	0	0	
Bidet	Private	Faucet	1.5	1.5	1.5	2	0	0	0	0	
Combination Fixture	Private	Faucet	2.25	2.25	2.25	3	0	0	0	0	
Dishwashing Machine	Private	Automatic	1.4	1.4	1.4	1.4	0	0	0	0	
Drinking Fountain	Offices, etc.	3/8" Valve	0.25	0	0.25	1	0.25	0	0	0.25	
Kitchen Sink	Private	Faucet	1	1	1	1.4	0	0	0	0	
Kitchen Sink	Hotel, Restaurant	Faucet	3	3	3	4	3	3	3	4	
Laundry Trays	Private	Faucet	1	1	1	1.4	0	0	0	0	
Lavatory	Private	Faucet	0.5	0.5	0.5	0.7	0	0	0	0.7	
Lavatory	Public	Faucet	1.5	1.5	1.5	2	5	7.5	7.5	10	
Service Sink	Offices, etc.	Faucet	2.25	2.25	2.25	3	1	2.25	2.25	3	
Shower Head	Public	Mixing Valve	3	3	3	4	1	0	0	0	
Shower Head	Private	Mixing Valve	3	3	3	4	0	0	0	0	
Urinal	Public	1" Flushometer Valve	10	0	0	10	0	0	0	0	
Urinal	Public	3/4" Flushometer Valve	5	0	0	5	1	5	0	5	
Urinal	Public	Flush Tank	3	0	0	3	0	0	0	0	
Washing Machine (8 lb)	Private	Automatic	1	1	1	1.4	0	0	0	0	
Washing Machine (8 lb)	Public	Automatic	3	2.25	2.25	3	0	0	0	0	
Washing Machine (15 lb)	Public	Automatic	3	3	3	4	0	0	0	0	
Water Closet	Private	Flushometer Valve	6	0	0	6	0	0	0	0	
Water Closet	Private	Flush Tank	2.2	0	0	2.2	0	0	0	0	
Water Closet	Public	Flushometer Valve	10	0	0	10	0	0	0	0	
Water Closet	Public	Flush Tank	5	0	0	5	4	20	0	20	
Water Closet	Public or Private	Flushometer Valve	2	0	0	2	0	0	0	0	
Total WSFU - Cold:							38	12.75	12.75	42.25	

Water Line Sizes	Range	Lower Value	Upper Value	Cold Water Line Size	Hot Water Line Size	Hot Water Return Line Size
1/2"	0 - 3.0 wsfu	0	3			
3/4"	3.1 - 9.0 wsfu	0	9			
1"	9.1 - 22.0 wsfu	9.1	22			
1-1/4"	22.1 - 43.0 wsfu	22.1	43	CURRENT	CURRENT	
1-1/2"	43.1 - 80.0 wsfu	43.1	80			
2"	80.1 - 180.0 wsfu	80.1	180			
2-1/2"	180.1 - 350.0 wsfu	180.1	350			
3"	350.1 - 590.0 wsfu	350.1	590			
4"	590.1 - 1,300.0 wsfu	590.1	1300			
5"	1,300.1 - 2,800.0 wsfu	1,300.1	2800			
6"	2,800.1 - 4,300.0 wsfu	2,800.1	4300			
More Than 6"	4,300.1 and up	4,300.1	10000			

FOR ANY BRANCH SERVING MORE THAN ONE FIXTURE, THE LINE SIZE WILL BE 3/4" OR GREATER.
ALL HWR LINES WILL BE SIZED AT 3/4" OR GREATER.

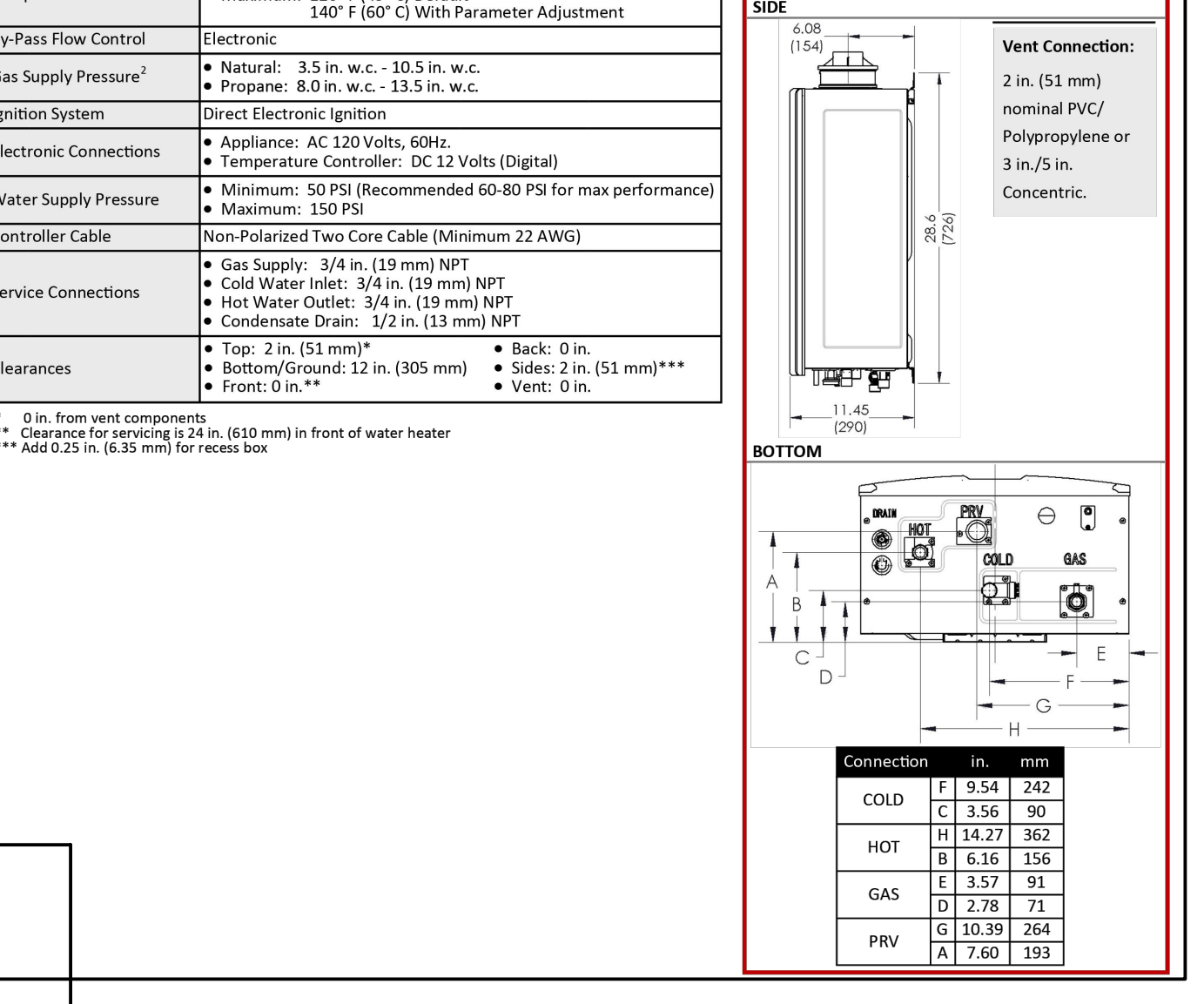
Rinnai IWH-1 RU1991 IWH-2 RU1301 RESIDENTIAL



- FLEXIBLE VENTING OPTIONS**
- Concentric or Schedule 40 PVC/CPVC
 - Direct Vent (Concentric and Twin Pipe)
 - Non-Direct Vent (Room Air)
 - Common Vent (Direct Vent and Room Air)
 - Maximum Equivalent Vent Lengths:
- Twin Pipe
Vent Sizes 2 in. (51 mm) 3 in. (76 mm)
Vent Lengths 65 ft (20 m) 150 ft (46 m)
- Concentric
Vent Sizes 2 in. X 4 in. 3 in. X 5 in.
Vent Lengths 65 ft (20 m) 150 ft (46 m)
- EASE OF INSTALLATION AND SERVICEABILITY**
- Compact Design to Save Space
 - Wi-Fi Technology for Remote Monitoring and Management
 - Sliding Mounting Bracket for Easy Installation
 - Simple Gas Conversion

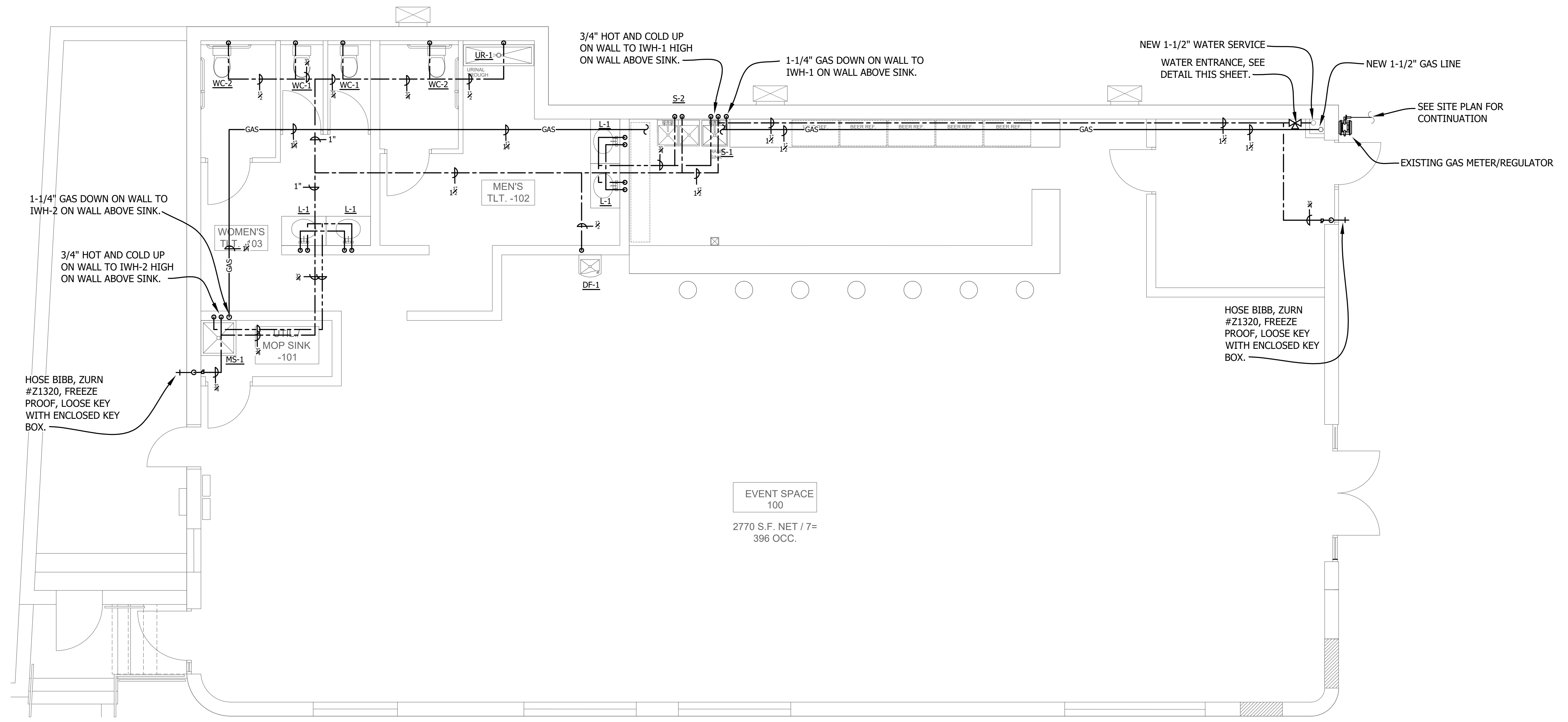
SENSEI™ TECHNICAL SPECIFICATIONS

SPECIFICATION	RU1991	RU1301
Dimensions - w, h, d	18.5 in. x 26.4 in. x 11.4 in. (470 mm x 670 mm x 290 mm)	
Minimum Gas Consumption BTU/h	15,000	
Maximum Gas Consumption BTU/h	199,000	130,000
Flow Rate (Min - Max)	0.26 - 9.8 GPM (1.0 - 37 L/min)	0.26 - 6.6 GPM (1.0 - 24 L/min)
Max Flow Rate with Parameter Adjustment	11 GPM (42 L/min)	7 GPM (26 L/min)
Weight	64 lb (29 kg)	62 lb (28 kg)
Sound Level	48 dB	47 dB
Electrical		
Normal	84 W	38 W
Standby		1.3 W
Freeze Protection		148 W
Max Current		4 Amps
Fuse		10 Amps
Temperature		
• Minimum	38° F (3° C) Default	
• Maximum	120° F (49° C) Default	
	140° F (60° C) With Parameter Adjustment	
By-Pass Flow Control	Electronic	
Gas Supply Pressure ²	• Natural: 3.5 in. w.c. - 10.5 in. w.c. • Propane: 8.0 in. w.c. - 13.5 in. w.c.	
Ignition System	Direct Electronic Ignition	
Electronic Connections	• Appliance: AC 120 Volts, 60Hz. • Temperature Controller: DC 12 Volts (Digital)	
Water Supply Pressure	• Minimum: 50 PSI (Recommended 60-80 PSI for max performance) • Maximum: 150 PSI	
Controller Cable	Non-Polarized Two Core Cable (Minimum 22 AWG)	
Service Connections	• Gas Supply: 3/4 in. (19 mm) NPT • Cold Water Inlet: 3/4 in. (19 mm) NPT • Hot Water Outlet: 3/4 in. (19 mm) NPT • Condensate Drain: 1/2 in. (13 mm) NPT	
Clearances	• Top: 2 in. (51 mm) ³ • Bottom/Ground: 12 in. (305 mm) ³ • Front: 0 in. ⁴	• Back: 0 in. • Sides: 2 in. (51 mm) ³ • Vent: 0 in.

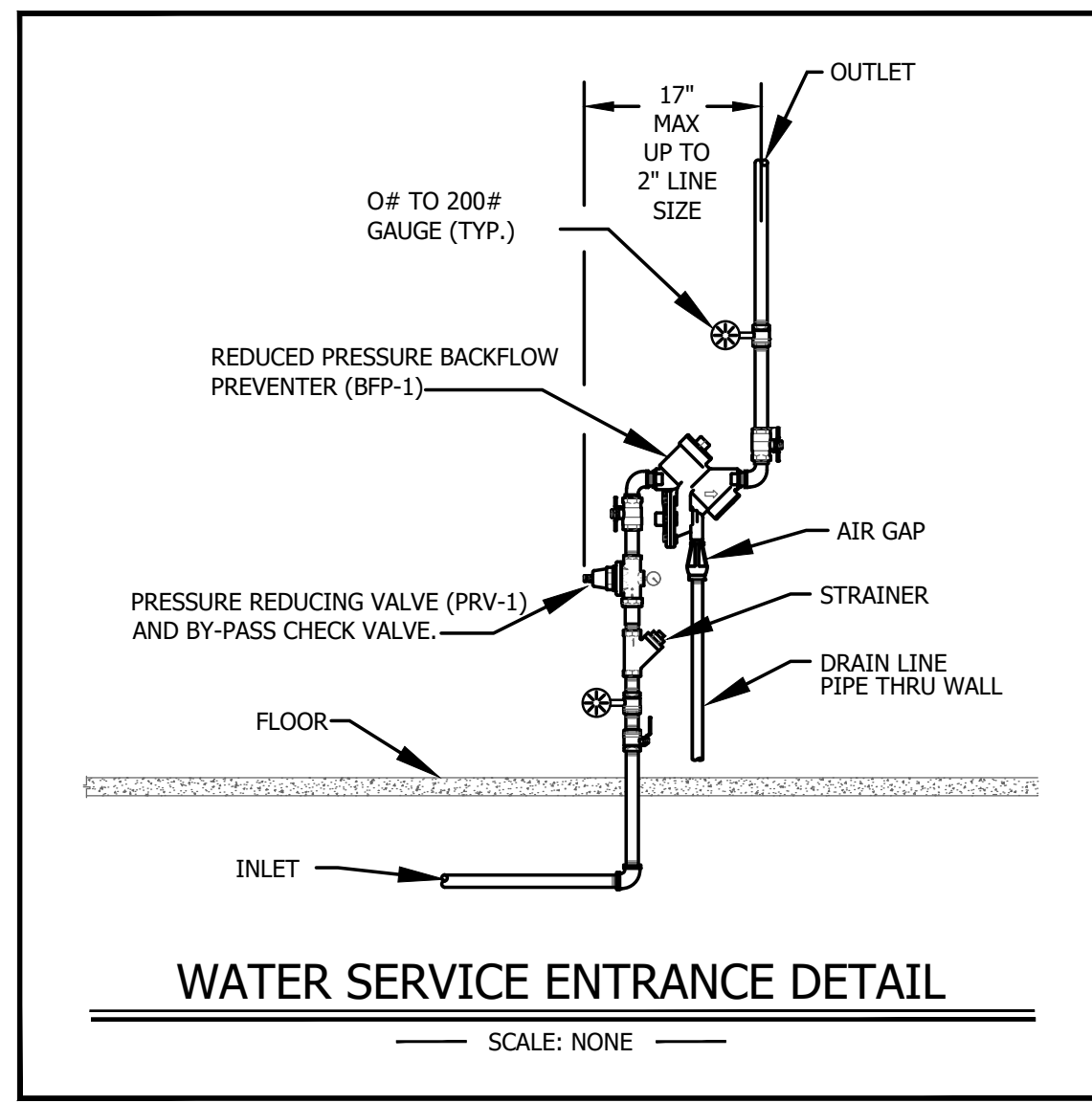


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W:\23K002-Ayers Pool Hall\23K002-ACTIVE DRAWINGS\23K002-Mechanical and Plumbing.dwg, P002, 3/23/2023 2:17:17 PM



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



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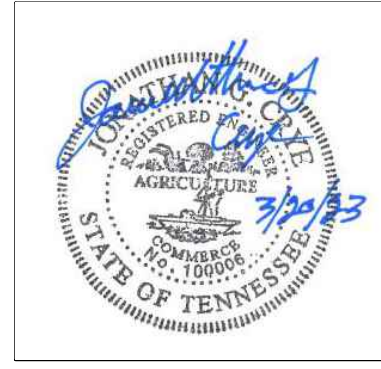
KRA NO. 230020 Mechanical and Plumbing
CSA No.
DRAWN BY: SWW APPROVED BY: GTB

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Engineering Analysis
Energy Management
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Knoxville, TN. 37922
www.kelso-regen.com
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PLUMBING PLAN - SERVICES



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CONSTRUCTION DOCUMENTS FOR:
AYERS HALL
1108 FOREST AVE.
KNOXVILLE, TN 37916

Job No: AYERS22
Date: 3.20.2023
Title:

Revisions:

SHEET
P002



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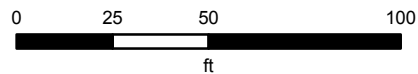
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Letter Portrait

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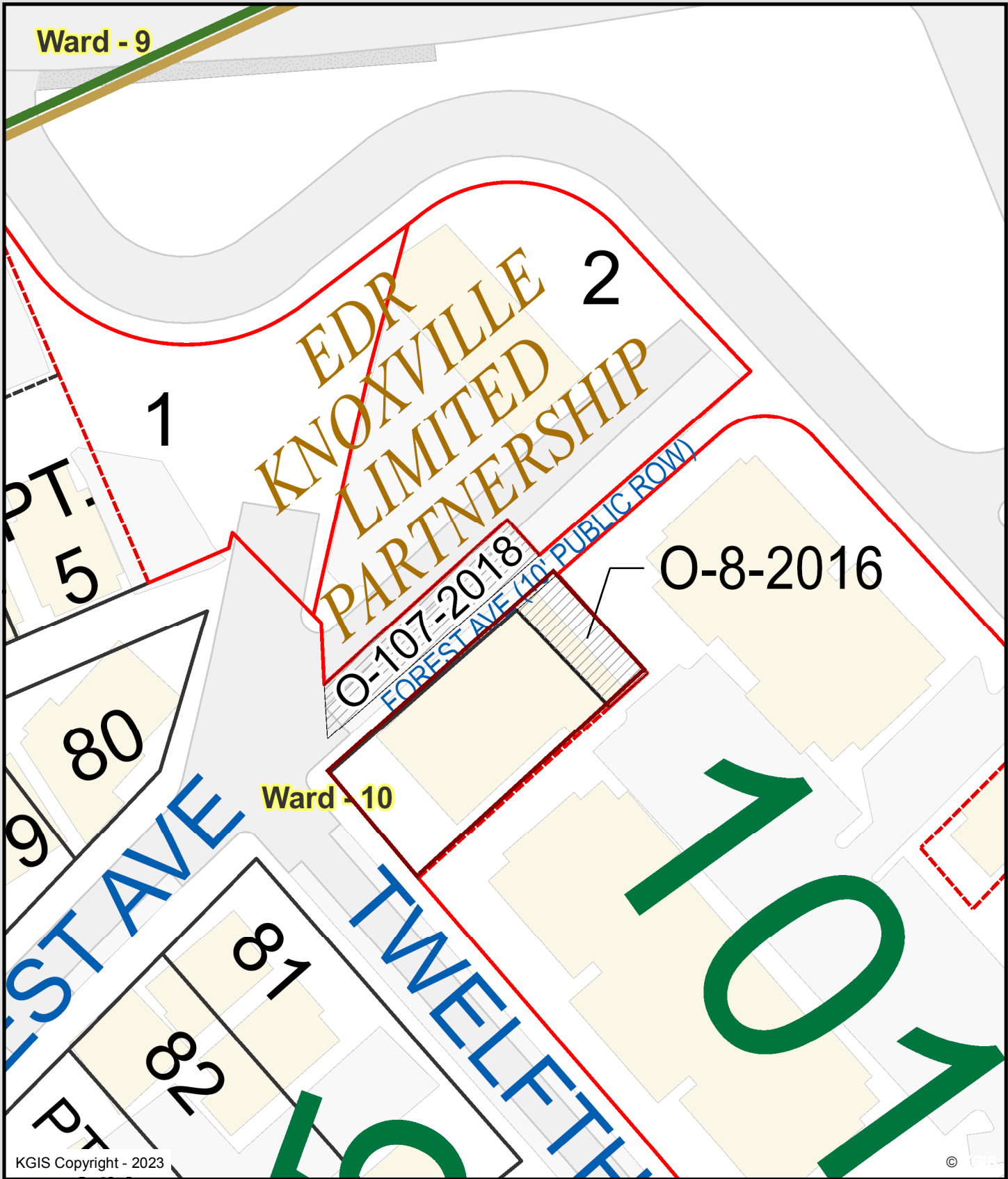


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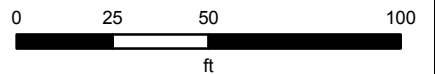
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GET MONTHLY SSI
PAYMENTS TO MEET
BASIC NEEDS
\$24.99/HR - 1st shift

STOP

VARIANCE
8-C-23-VA
Knoxville BZA
PUBLIC HEARING
215-4244



From: [Steve Borden](#)
To: [Jennifer Scobee](#)
Subject: RE: Board of Zoning Appeals Meeting 8-15-23 - Application Review
Date: Friday, August 4, 2023 2:52:43 PM
Attachments: [image002.png](#)

Jennifer,

Please see the summary of responses to the August 15th BZA. If you have questions or would like any additional information please let me know.

7-A-23-VA 5121 Camelia Rd (this was postponed from the July meeting) – Operations has No Comment regarding off street parking on local road
8-A-23-VA 4145 Holston Dr - Operations has No Comment regarding setbacks on properties not adjacent to ROW
8-B-23-VA 185 Wrinkle Ave - Operations has No Comment
8-C-23-VA 1108 Forest Ave Operations has No Comment regarding off street parking on local road
8-D-23-VA 1800 & 1900 Vermont Ave - Operations has No Comment regarding setbacks on properties not adjacent to ROW
8-E-23-VA 500 Clinch Ave - Operations has No Comment regarding vertical clearance on properties not adjacent to ROW
8-F-23-VA 7300 Westridge Dr - Operations has No Comment regarding setbacks on properties not adjacent to ROW
8-G-23-VA 0 Sanders Ln - Operations has No Comment
8-I-23-VA 2230 Laurel Ave - Operations has No Comment regarding setbacks on properties not adjacent to ROW

Thank you,



Steven M. Borden, P.E. | Director/Assistant Chief Engineer
TDOT – Region 1
7345 Region Lane
Knoxville, TN 37914
(865) 594-2400
Steve.Borden@tn.gov
tn.gov/tdot



August 8, 2023

Mr. Bryan Berry, Deputy Director
Board of Zoning Appeals
Room 475, City-County Building
P. O. Box 1631
Knoxville, Tennessee 37901

Dear Mr. Berry:

Re: Variance Requests 7-A-23-VA, 8-A-23-VA, 8-B-23-VA, 8-C-23-VA, 8-D-23-VA, 8-E-23-VA, 8-F-23-VA, 8-G-23-VA, and 8-I-23-VA

We have reviewed our records and, as far as we have been able to determine, KUB has no existing utility facilities located within the variance areas and we have no objection to the requested variances. However, KUB does not release and hereby retains all easements and rights for existing facilities, whether or not identified in our research.

Sincerely,

A handwritten signature in black ink, appearing to read "C. Wiberley".

Christian Wiberley, P.E.
Engineering

CGW