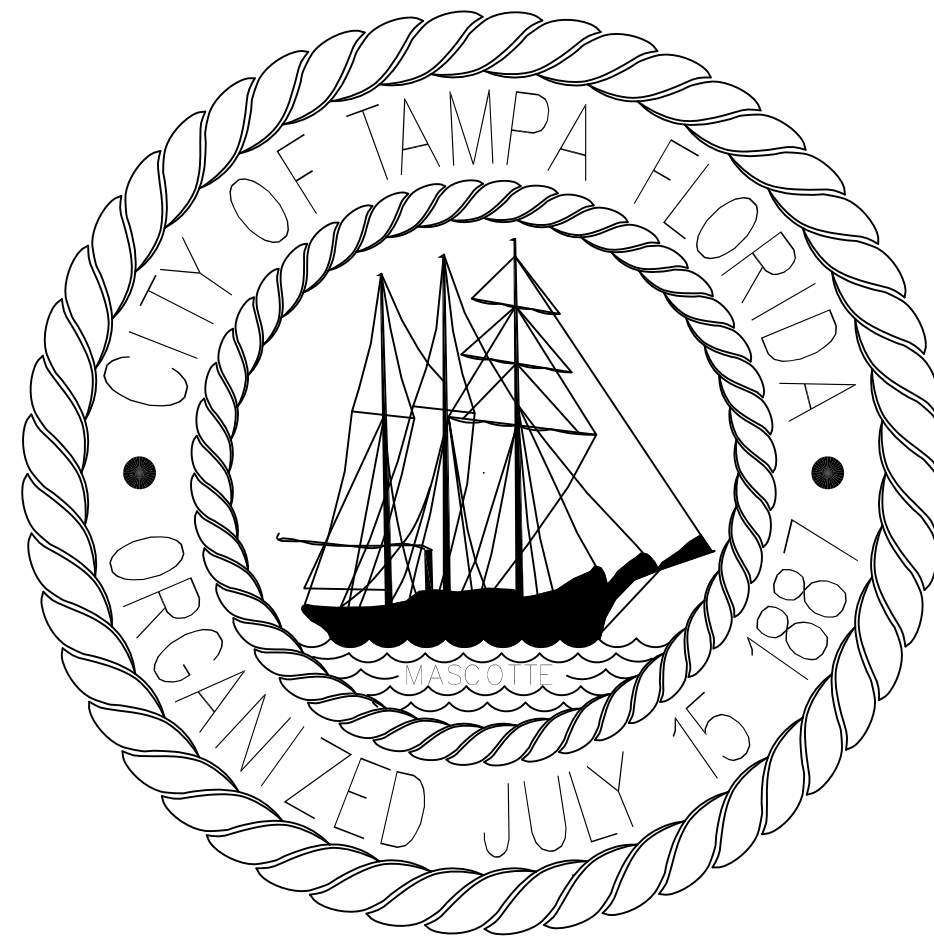


**The Enclosed Document Is Provided For Your Convenience.**

**Please Email ALL Questions:**  
**[MailTo:ContractAdministration@TampaGov.net](mailto:ContractAdministration@TampaGov.net)**

**Please Let Us Know If You Plan To Bid**

City of Tampa  
Contract Administration Department  
306 E. Jackson St. #280A4N  
Tampa, FL 33602  
(813)274-8456



# SOLID WASTE DEPARTMENT BUILDING 4 INTERIOR IMPROVEMENTS

## CONSULTANTS

GLOBAL SANCHEZ, INC.  
BUILDING SYSTEMS ENGINEERING  
3825 HENDERSON BLVD. SUITE 103  
TAMPA, FL 33629  
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THE STRUCTURES GROUP, INC.  
1714 N. ARMENIA AVENUE, SUITE 13  
TAMPA, FL 33607  
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## DPW FILE NUMBER

## DPW NUMBER

16-C-11

## ISSUE DATE

MARCH 2017

## ARCHITECT

THOMAS A. HESTER, A.I.A. PROJECT ARCHITECT  
AR0091743  
306 E. JACKSON ST. 4N  
TAMPA, FL 33602  
PHONE (813) 214-8442

## ABBREVIATIONS

AFF	above finished floor	INSUL	insulate (di), (ion)
ADJT	adjustable	JT	joint
A/C	air conditioning	LAV	lavatory
ALT	alternate	LTL	lintel
AB	anchor bolt	MH	manhole
BM	beam	MO	masonry opening
BIT	bituminous	MECH	mechanical
BLKG	blocking	MET	metal
BUR	built up roofing	MOD	modular
CIFC	cast-in-place concrete	NOM	nominal
CLG	ceiling	NIC	not in contract
CT	ceramic tile	NTS	not to scale
CLR	clearance	PLAS	plaster
COL	column	PT	pressure
CONC	concrete	PVC	polyvinyl chloride
CHT	ceramic mosaic tile	PTC	post-tension concrete
CMU	concrete masonry unit	PCF	pounds per cubic foot
CONT	continuous or continue	PFL	pounds per lineal foot
CJ	control joint	P&F	pounds per square foot
DP	dampproofing	P&I	pounds per square inch
DL	dead load	PCC	precast concrete
DET	detail	PL	property line
DIA	diameter	RAD	radius
DIM	dimension	RVT	reinforced vinyl tile
DR	door	REF	reference
DS	downspout	RA	return air
DWG	drawing	RD	roof drain
DF	drinking fountain	RFG	roofing
ELEC	electrical	RO	rough opening
EUC	electrical water cooler	SS	service sink
EL	elevation	SIM	similar
EQ	equal	SC	solid core
EXIST	existing	SPEC	specification(s)
EJ	expansion joint	SQ	square
EXT	exterior	SS	stainless steel
FTE	finished floor elevation	STL	steel
FF	finished floor line	STR	structural
FLG	flashing	TBR	to be removed
FLR	flooring	TEL	telephone
FD	floor drain	THK	thick(ness)
FTG	footing	T&G	tongue & groove
FOB	furnished by others	UNO	unless noted otherwise
GA	gage, gauge	VB	vapor barrier
GALV	galvanized	VERT	vertical
GC	general contractor	VAT	vinyl asbestos tile
GLZ	glass, glazing	VB	vinyl base
GB	grab bar	WC	water closet
GYPDWL	gypsum dry wall	WH	water heater
HH	handhole	WP	water proofing
HDW	hardware	WD	wood
HC	height		
LC	hollow core		
HB	hose bibb		

## SCOPE OF WORK

SCOPE OF WORK AS PER FLORIDA BUILDING CODE 5th EDITION (2014) EXISTING BUILDING SECTION 504 ALTERATION - LEVEL 2 504.1 SCOPE  
LEVEL 2 ALTERATIONS INCLUDE THE RECONFIGURATION OF SPACE, THE ADDITION OR ELIMINATION OF ANY DOOR OR WINDOW, THE RECONFIGURATION OR EXTENSION OF ANY SYSTEM, OR THE INSTALLATION OF ANY ADDITIONAL EQUIPMENT.

## SYMBOLS

15 item number

RESTROOM ACCESSORY

15 note number

DRAWING NOTE

100 mark, or type

DOOR NUMBER

KITCHEN

103 room number

ROOM TITLE

1 mark  
A-2 sheet number

DETAIL

1 mark  
A-2 FLOOR PLAN  
SCALE: 1/8"=1'-0"  
sheet number  
drawing type  
scale  
N  
north arrow

DESCRIPTIVE TITLE

A elevation mark

A-7 sheet number

ELEVATION

A elevation mark

A-15 sheet number

MULTI-ELEVATION

A view mark  
(on same sheet)

VIEW

1 section mark

A-5 sheet number

SECTION CUT

a mark, or type

WINDOW TYPE

105 number

ROOM NUMBER

## PROJECT NOTES

- ALL CONSTRUCTION SHALL COMPLY WITH APPLICABLE CODES AND STANDARDS, INCLUDING BUT NOT LIMITED TO ALL STATE LAWS, LOCAL ORDINANCES, UTILITY COMPANY STANDARDS, FLORIDA ACCESSIBILITY CODE FOR BUILDING CONSTRUCTION, THE STANDARD MECHANICAL CODE, THE STANDARD PLUMBING CODE, THE OCCUPATIONAL SAFETY AND HEALTH ACT, NFPA AND THE CURRENTLY ADOPTED FLORIDA BUILDING CODE.
- CONTRACTOR SHALL REMOVE ALL DEBRIS FROM THE PROJECT SITE AS REQUIRED TO MAINTAIN A SAFE AND ORDERLY WORK ENVIRONMENT.
- GENERAL CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND EXISTING CONDITIONS PRIOR TO AND DURING CONSTRUCTION.
- DEMOLITION WORK SHALL NOT BE LIMITED TO THESE DOCUMENTS TO COMPLETE PROJECT AS ILLUSTRATED, REMOVE ITEMS NECESSARY TO ALLOW FOR NEW CONSTRUCTION.
- EXISTING SURFACES TO REMAIN SHALL BE PROTECTED DURING CONSTRUCTION. THE CONTRACTOR SHALL CLEAN SURFACES AFTER CONSTRUCTION, REPAIR, PAINT AND OR REPLACE AREAS DAMAGED AS A RESULT OF PERFORMANCE OF THE WORK.
- ALL WORK SHALL BE COORDINATED WITH THE CITY OF TAMPA'S ARCHITECTURAL REPRESENTATIVE.
- THE CONTRACTOR SHALL SECURE ALL AREAS OF CONSTRUCTION AT THE END OF EACH WORKING DAY.
- ITEMS OR AREAS DAMAGED BY THE CONTRACTOR OR SUBCONTRACTORS SHALL BE REPAIRED OR REPLACED AT THE CONTRACTOR'S EXPENSE.

## CODE REFERENCES

ALL PROPOSED CONSTRUCTION SHALL COMPLY WITH CURRENTLY ADOPTED CODES, STANDARDS AND ACTS, WHICH INCLUDE, BUT ARE NOT LIMITED TO:

- FLORIDA FIRE PREVENTION CODE, 2014 ( 5th EDITION )
- FLORIDA EXISTING BUILDING CODE, 2014 ( 5th EDITION )
- FLORIDA STATUTE #633, WHICH INCLUDES:
- FLORIDA BUILDING CODE, 2014 ( 5th EDITION )
- STATE FIRE MARSHALL'S RULES AND REGULATIONS
- NATIONAL ELECTRICAL CODE, LATEST EDITION
- NFPA # 13, INSTALLATION OF SPRINKLER SYSTEMS, LATEST EDITION
- NFPA # 20, INSTALLATION OF SECONDARY PUMPS, LATEST EDITION
- NFPA # 24, PRIVATE FIRE SERVICE MAINS, LATEST EDITION
- NFPA # 30A, INSTALLATION OF AIR-CONDITIONING AND VENTILATION SYSTEMS, LATEST EDITION

### CLASSIFICATION:

• OCCUPANCY: GROUP B, BUSINESS

### CONSTRUCTION TYPE:

• TYPE IV, UNPROTECTED & UNSPRINKLERED

### EXIT REQUIREMENTS:

- MINIMUM CORRIDOR WIDTH - 44"
- MAXIMUM TRAVEL DISTANCE - 200 FT.
- COMMON PATH OF TRAVEL - 75 FT.
- DEAD END CORRIDOR - 20 FT.

### FIRE RATING/CONSTRUCTION OF:

- INTERIOR BEARING WALLS - NC
- ROOF & ROOF/CEILING - NC
- FLOOR - NC

### INTERIOR FINISHES:

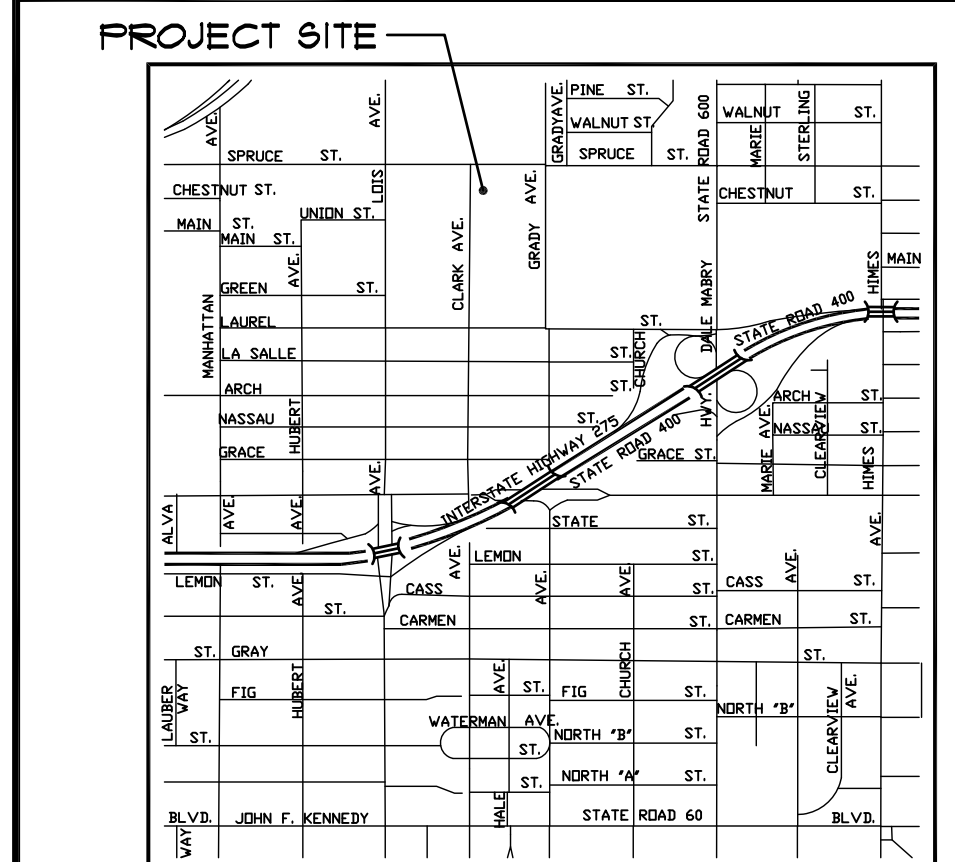
- ALL SPACES: CLASS "C" MATERIALS MINIMUM
- FLAME SPREAD: 76 - 200
- SMOKE DEVELOPED: 0 - 450

TO THE BEST OF OUR KNOWLEDGE, INFORMATION AND BELIEF, THESE DOCUMENTS COMPLY WITH CURRENTLY ADOPTED CODES.

## INDEX

G-1	COVER SHEET	P01	PLUMBING GENERAL
A11	ARCHITECTURAL SITE PLAN	P31	PLUMBING DEMOLITION AND RENOVATION PLANS
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A22	PROPOSED FLOOR PLANS	P71	PLUMBING DETAILS
A41	REFLECTED CEILING PLANS	P81	PLUMBING SANITARY-VENT AND WATER RISER DIAGRAMS
A61	PARTIAL ELEVATIONS / WALL SECTIONS		
A71	ENLARGED RESTROOM PLANS		
A81	SCHEDULES		
B100	NOTES / SPECIFICATIONS	E01	ELECTRICAL GENERAL NOTES AND LEGEND
B101	PROPOSED FLOOR PLAN	E11	ELECTRICAL PARTIAL SITE PLAN
B102	WALL SECTIONS AND ELEVATIONS	E41	ELECTRICAL DEMOLITION AND RENOVATION FLOOR PLANS
B103	STRUCTURAL	E42	ELECTRICAL DEMOLITION AND RENOVATION FLOOR PLANS
M01	MECHANICAL LEGENDS	E43	ELECTRICAL DEMOLITION AND RENOVATION FLOOR PLANS
M02	MECHANICAL NOTES AND SPECIFICATIONS	E71	ELECTRICAL PANEL SCHEDULE
M41	MECHANICAL NOTES AND PLANS	E81	ELECTRICAL SPECIFICATIONS
M42	MECHANICAL NOTES AND PLANS		
M43	MECHANICAL NOTES AND PLANS		
M81	MECHANICAL DETAILS		
M82	MECHANICAL DETAILS		
M11	MECHANICAL SCHEDULES		

## LOCATION MAP



4010 WEST SPRUCE STREET  
TAMPA, FLORIDA

## LEGAL DESCRIPTION

SEC 16, T29S, R18E  
ATLAS SHEET No. H-9

## SQUARE FOOTAGE

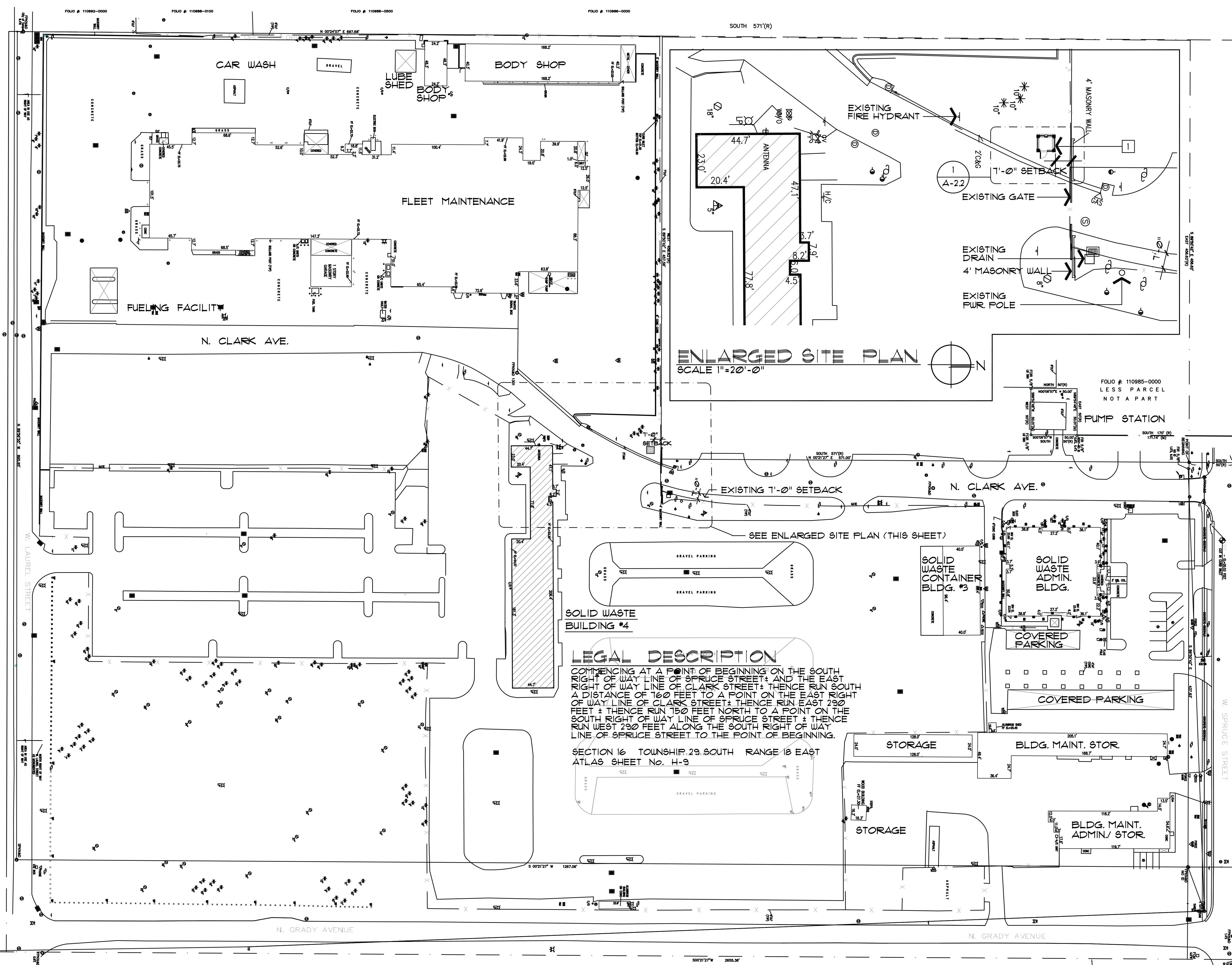
2090 SQ. FT. AREA OF WORK

## SHEET NUMBER

G-1

1 OF 3





**LEGAL DESCRIPTION**  
COMMENCING AT A POINT OF BEGINNING ON THE SOUTH RIGHT OF WAY LINE OF SPRUCE STREET; AND THE EAST RIGHT OF WAY LINE OF CLARK STREET; THENCE RUN SOUTH A DISTANCE OF 160 FEET TO A POINT ON THE EAST RIGHT OF WAY LINE OF CLARK STREET; THENCE RUN EAST 290 FEET; THENCE RUN 150 FEET NORTH TO A POINT ON THE SOUTH RIGHT OF WAY LINE OF SPRUCE STREET; THENCE RUN WEST 290 FEET ALONG THE SOUTH RIGHT OF WAY LINE OF SPRUCE STREET TO THE POINT OF BEGINNING.

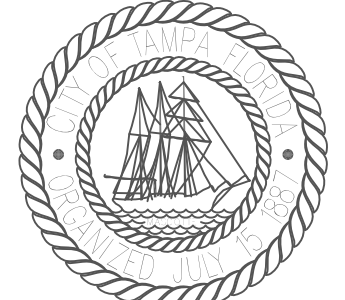
SECTION 16 TOWNSHIP 29 SOUTH RANGE 18 EAST  
ATLAS SHEET No. H-9

**SITE PLAN**  
SCALE 1"=50'-0"

### GENERAL NOTES

### KEY NOTES

1 GUARD HOUSE 8'-0" x 1'-4" SEE SHEET A-22 FOR FLOOR PLAN, ELEVATIONS AND SECTION



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**DRAWN BY**  
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**REVISIONS**

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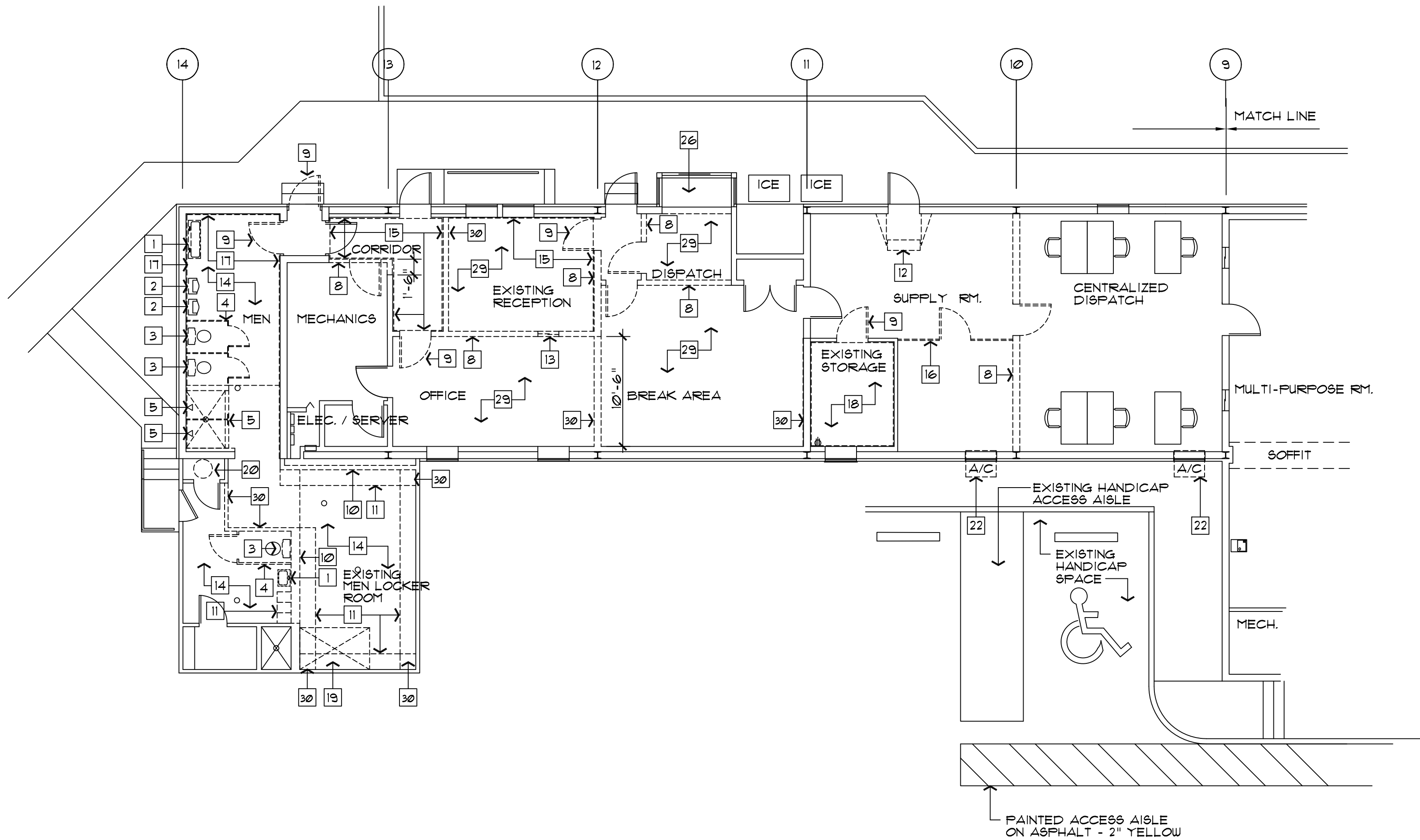
**PROFESSIONAL SEAL**  
THOMAS HESTER, AIA, NOMA

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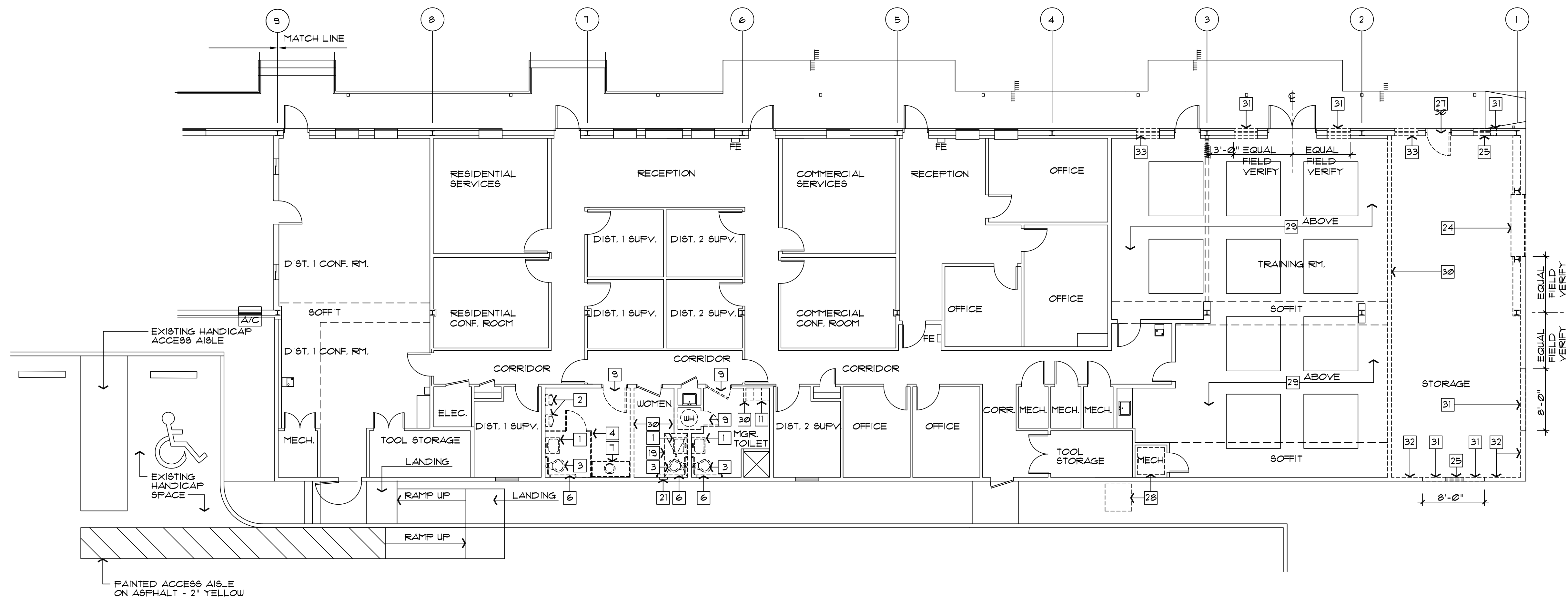
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**ARCHITECTURAL SITE PLAN**

**SHEET NUMBER**  
A-1.1  
X OF X



**DEMOLITION FLOOR PLAN**  
SCALE 1/8"=1'-0"

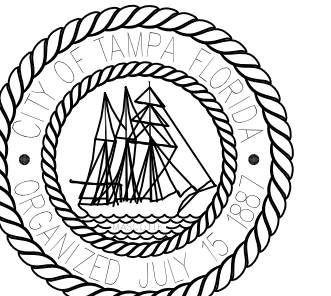


**DEMOLITION FLOOR PLAN**  
SCALE 1/8"=1'-0"

## GENERAL NOTES

## KEY NOTES

- 1 REMOVE EXISTING LAVATORIES / SINK
- 2 REMOVE EXISTING URINALS
- 3 REMOVE EXISTING TOILET
- 4 REMOVE EXISTING TOILET PARTITIONS
- 5 REMOVE EXISTING SHOWER PARTITIONS
- 6 REMOVE EXISTING HANDRAILS
- 7 REMOVE EXISTING COUNTER, SINK AND PLUMBING
- 8 REMOVE EXISTING DOOR AND WALL(S)
- 9 REMOVE EXISTING DOOR, FRAME AND HARDWARE
- 10 REMOVE EXISTING WALL SEGMENT AS REQUIRED TO INSTALL NEW PIPING
- 11 REMOVE EXISTING LOCKERS ALONG WITH CONTINUOUS CONCRETE BASE AT LOCKERS. COORDINATE W/ OWNER FOR TEMPORARY STORAGE AND RELOCATION DURING CONSTRUCTION
- 12 REMOVE TEMPORARY COUNTER FROM DOORWAY
- 13 REMOVE EXISTING WINDOW
- 14 REMOVE EXISTING FLOOR TILE
- 15 REMOVE EXISTING PANELING
- 16 REMOVE EXISTING WIRE CAGE AND DOOR
- 17 REMOVE EXISTING WALL TILE. PATCH AND PREPARE FOR PAINTING.
- 18 REMOVE EXISTING PLYWOOD CEILING ABOVE
- 19 REMOVE EXISTING CONCRETE AS REQUIRED FOR SHOWER DRAINAGE
- 20 REMOVE EXISTING EXISTING WATER HEATER
- 21 REMOVE EXISTING SANITARY NAPKIN DISPOSAL
- 22 REMOVE EXISTING WINDOW MOUNTED A/C UNIT
- 23 NOT USED
- 24 REMOVE EXISTING OVERHEAD DOOR AND HOUSING
- 25 REMOVE EXISTING LOUVER
- 26 EXISTING COUNTER AND OVERHEAD SOFFIT TO REMAIN. CONTROLS FOR ENTRANCE GATE TO BE REMOVED AND RELOCATED TO NEW GUARD BOOTH.
- 27 EXISTING DOOR AND FRAME TO BE REMOVED AND REINSTALLED TO BE OUTSWING
- 28 REMOVE EXISTING 5 TON AIR HANDLER AND CONDENSING UNIT
- 29 REMOVE EXISTING SUSPENDED ACOUSTICAL CEILING, LAMPS AND HVAC DEVICES FROM THIS AREA
- 30 REMOVE EXISTING WALL SEGMENT
- 31 REMOVE EXISTING PORTION OF METAL WALL PANEL TO INSTALL NEW EXTERIOR WINDOWS
- 32 REMOVE EXISTING GYPSUM BOARD AND INSULATION
- 33 REMOVE EXISTING SINGLE HUNG WINDOW



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**PROFESSIONAL SEAL**  
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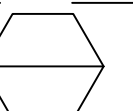
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**DEMOLITION FLOOR PLANS**

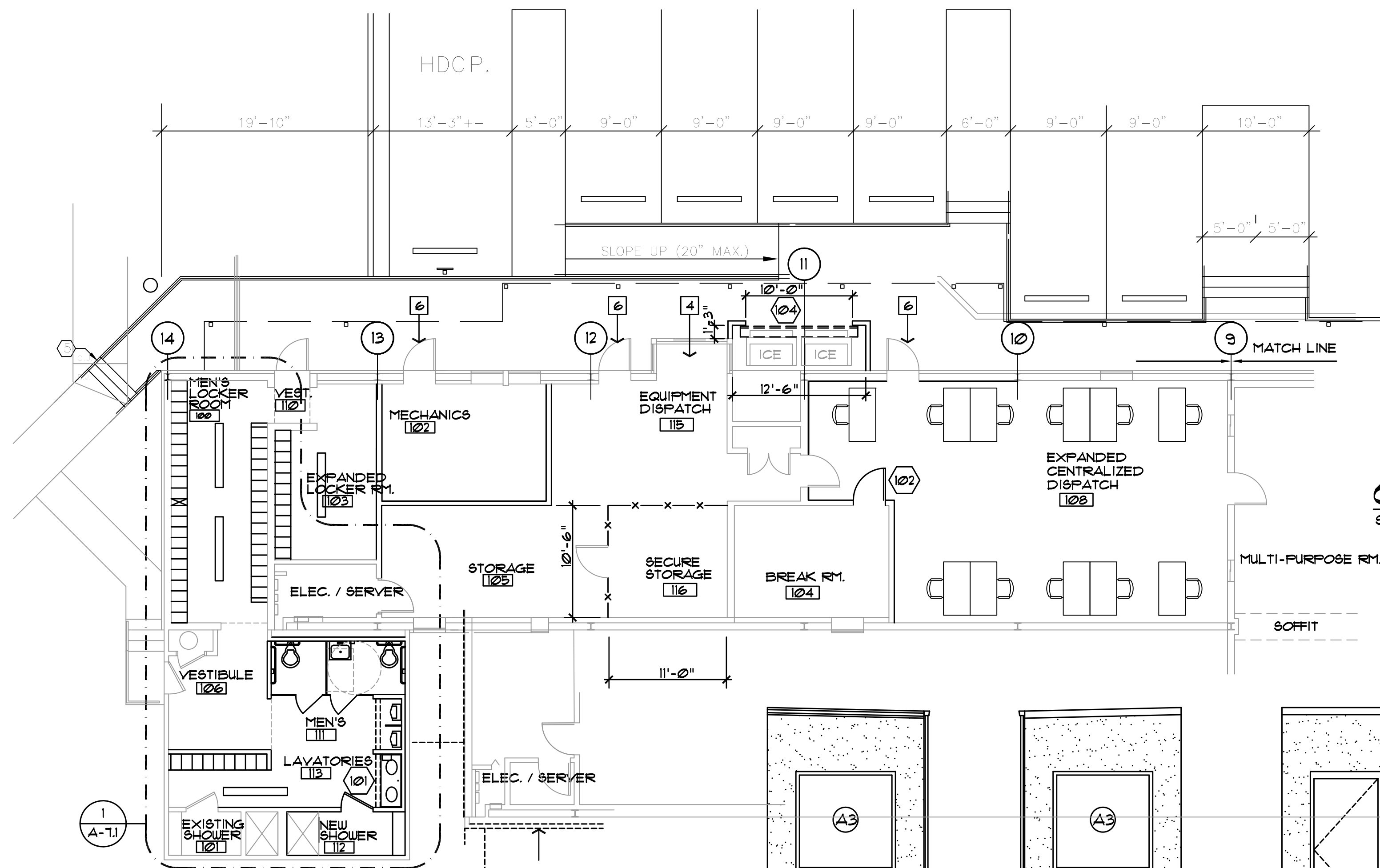
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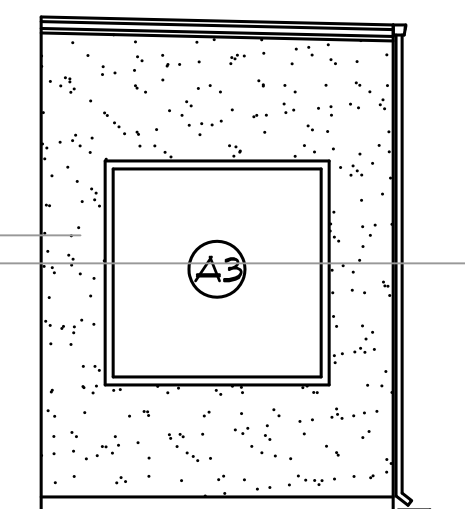




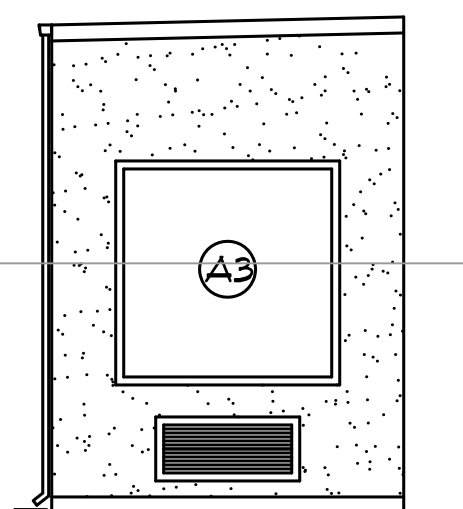
**PROPOSED FLOOR PLAN**  
SCALE 1/8" = 1'-0"

### GUARD HOUSE PLAN

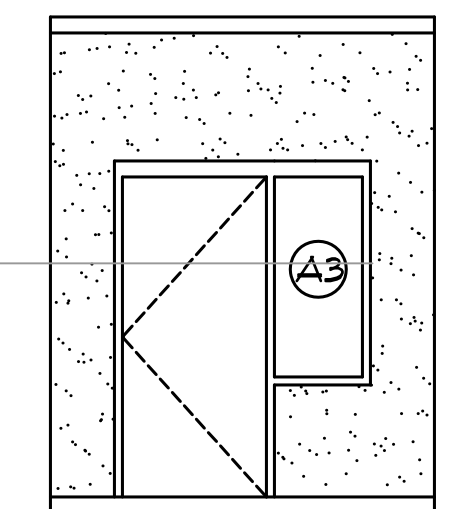
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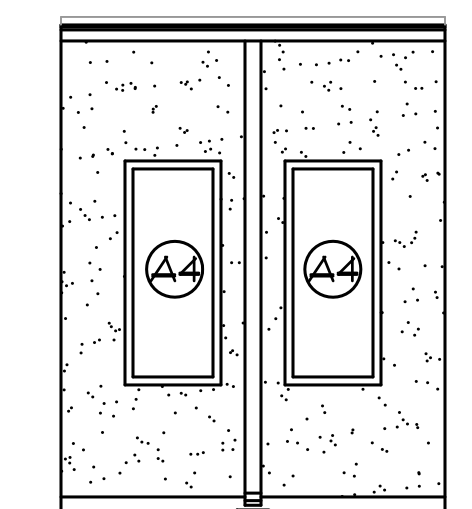
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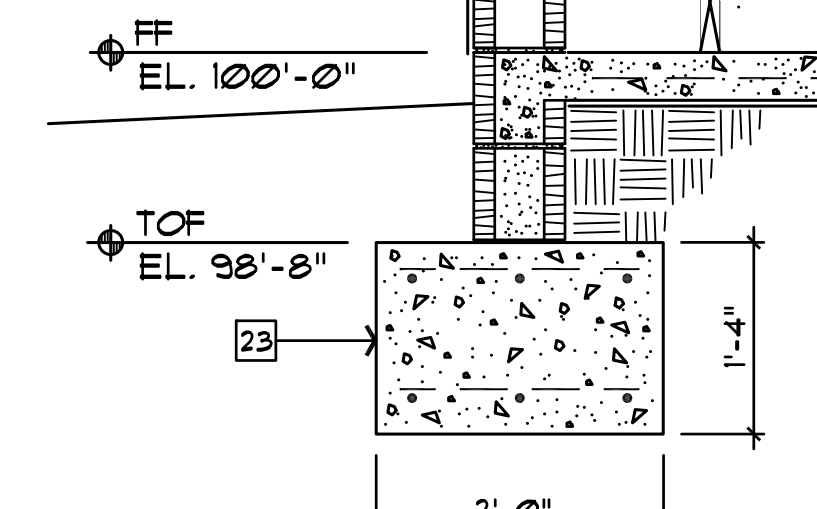
**SOUTH**  
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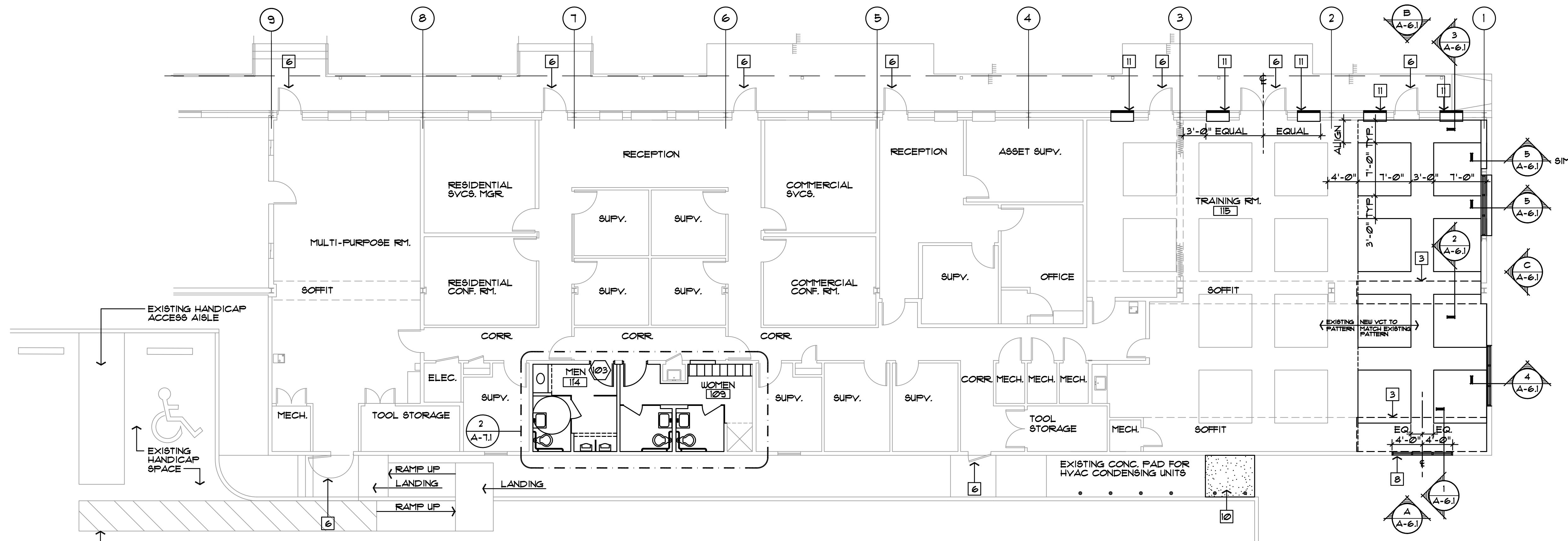
**EAST**  
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**WEST**  
SCALE 1/4" = 1'-0"



**SECTION**  
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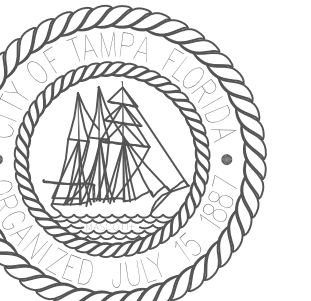


**PROPOSED FLOOR PLAN**  
SCALE 1/8" = 1'-0"

### GENERAL NOTES

### KEY NOTES

- NOT USED
- EXISTING CORNER WALL TO REMAIN
- NEW GYPSUM SOFFIT ABOVE TO MATCH EXISTING
- EXISTING COUNTER AND OVERHEAD GYPSUM SOFFIT TO REMAIN
- CONCRETE BLOCK WALL INFILL. PAINT TO MATCH INTERIOR CLAD EXTERIOR WITH MATCHING METAL SIDING.
- PAINT EXISTING EXTERIOR DOORS AND FRAMES. COORDINATE COLORS WITH OWNER.
- NEW CHAIN LINK FENCING AND DOOR.
- NEW 3/4" x 4 1/2" ALUMINUM STOREFRONT WITH 1/4" TINTED IMPACT GLASS
- INFILL EXISTING WALL WHERE EXISTING ACCESS WINDOW WAS LOCATED. FINISH W/ 1/2" GYP. BD. BOTH SIDES TO MATCH.
- EXTEND EXISTING HVAC CONDENSING UNIT PAD APPROXIMATELY 1'-0" (FIELD VERIFY) FOR MOUNTING OF NEW CONDENSING UNITS. MATCH CONC. THICKNESS AND TIE TOGETHER W/ 2 #5 RODS, 3'-0" APART EPOXIED 12" INTO EXISTING SLAB. SEE DETAILS ON SHEET M-4.2 AND M-9.2.
- NEW 3/4" x 4 1/2" ALUMINUM STOREFRONT WITH 1/4" TINTED IMPACT GLASS
- SBS MODIFIED ROOF MEMBRANE
- ROOF INSULATION BOARD R-40
- LIGHT WEIGHT CONC.
- METAL DECK
- 5/8" VERTICAL FIBER CEMENT SIDING OVER 3/8" METAL STUDS AT 24" O.C. MATCH EXTERIOR FINISH OF EQUIPMENT DISPATCH ROOM.
- 4" SPRAY CLOSED-CELL POLYURETHANE FOAM INSULATION IN 4" WALL CAVITY
- FIXED GLAZING IN ALUM. FRAME
- SOLID SURFACE COUNTERTOP
- 5/8" GYP. BD. ON 4" MTL. STUDS FULL HEIGHT OF WALL
- P.T. WOOD FRAMING WITH VINYL BASE
- 1/2" CEM. PLASTER FINISH
- CONC. FTG. W/ 3 #5 TOP AND BOT. W/ #5 CROSSWISE AT 16" O.C.
- 8" CMU
- PRECAST CONC. LINTEL
- CONC. FILLED CELL TYP.
- 9000 BTU FTAC UNIT. AMANA MODEL No. FTC093G TO BE USED AS A BASIS OF DESIGN. WWW.AMANA-FTAC.COM. WALL SLEEVE, THERMOSTAT, OUTDOOR GRILLE ALONG WITH ALL POWER AND CONTROL CONNECTIONS TO BE INCLUDED.



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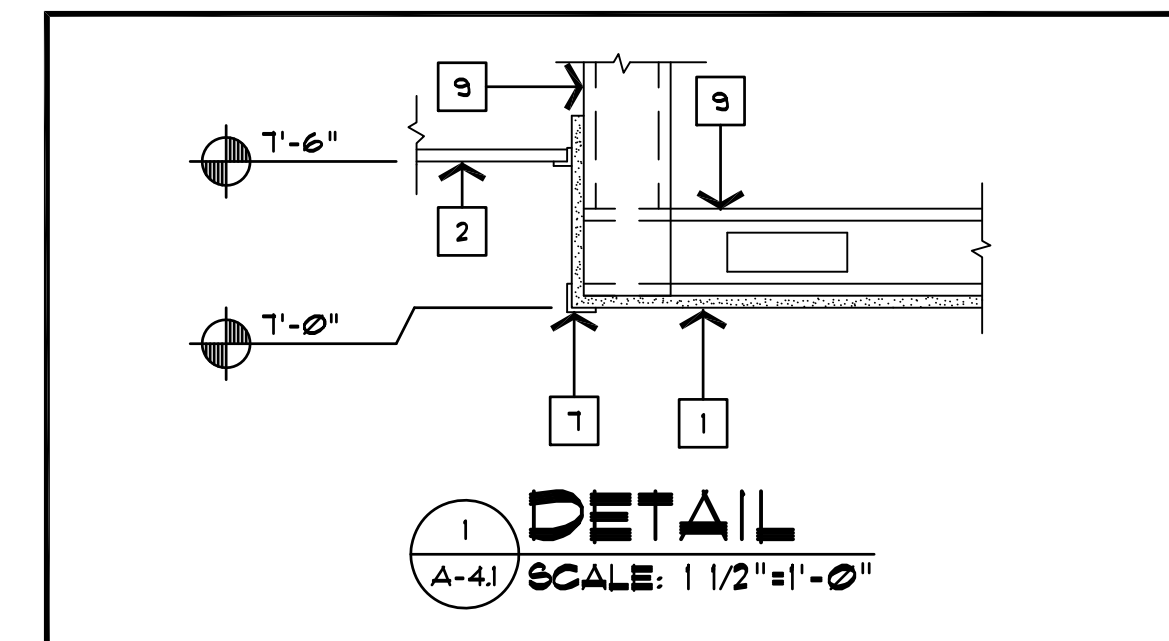
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PROPOSED FLOOR PLANS

SHEET NUMBER

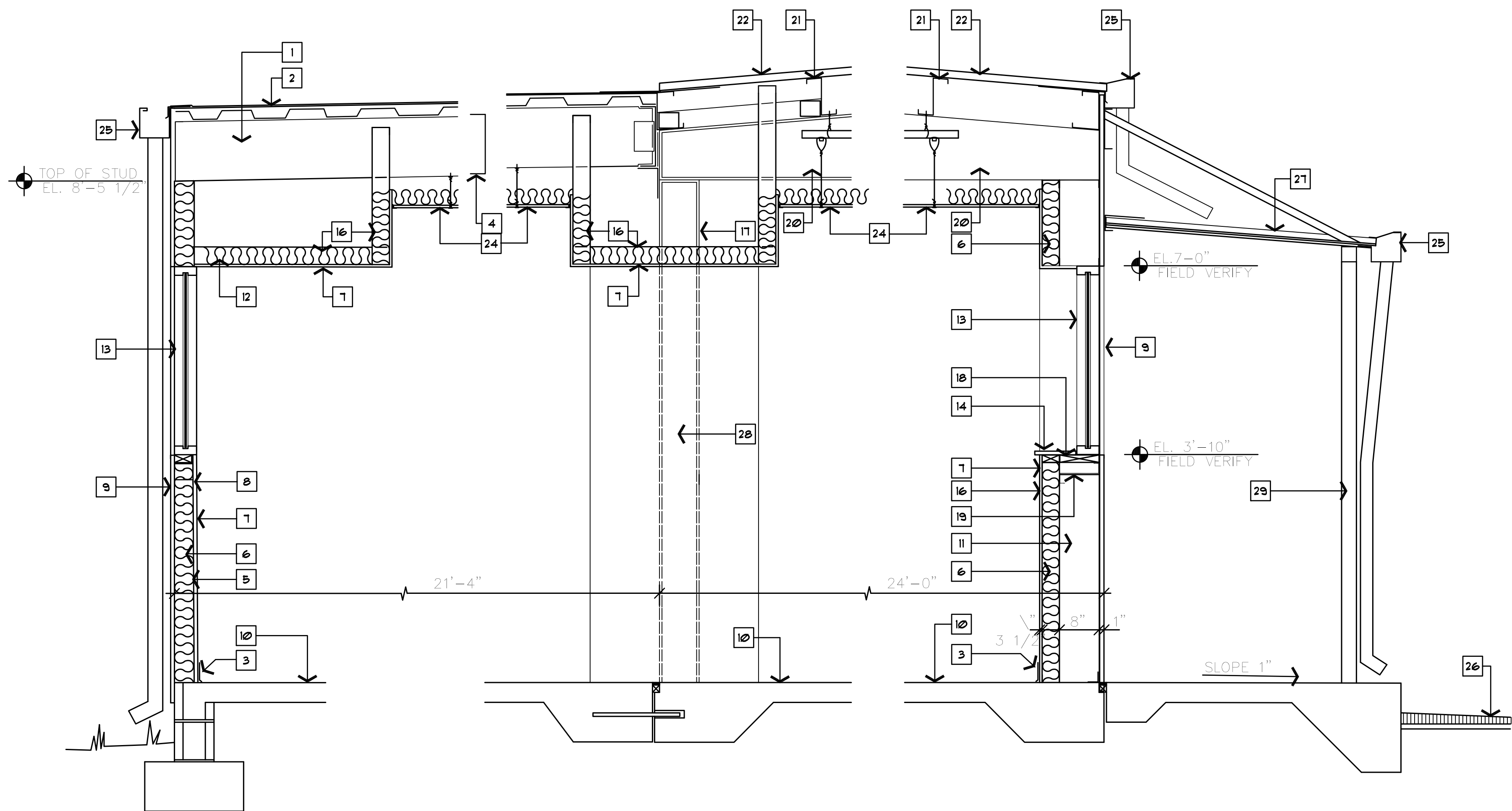
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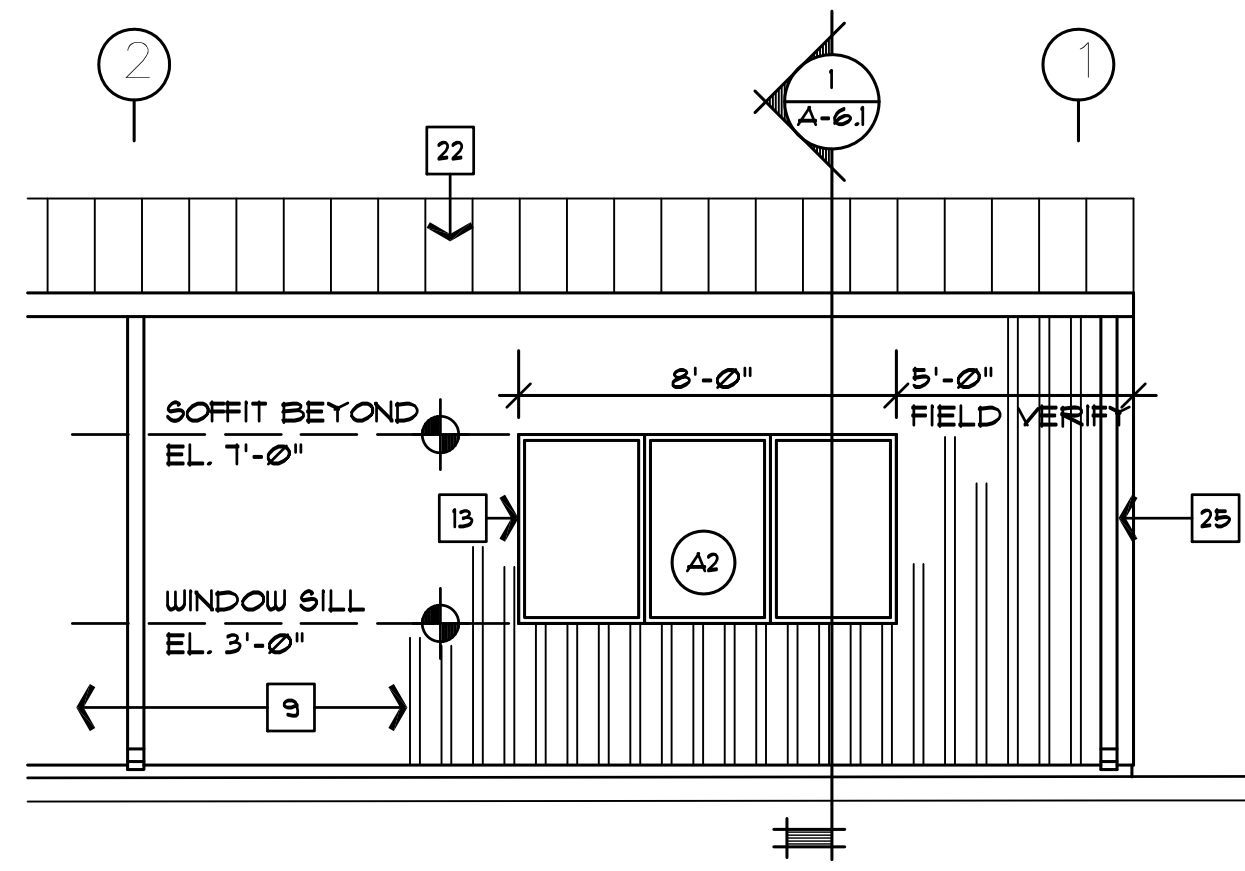




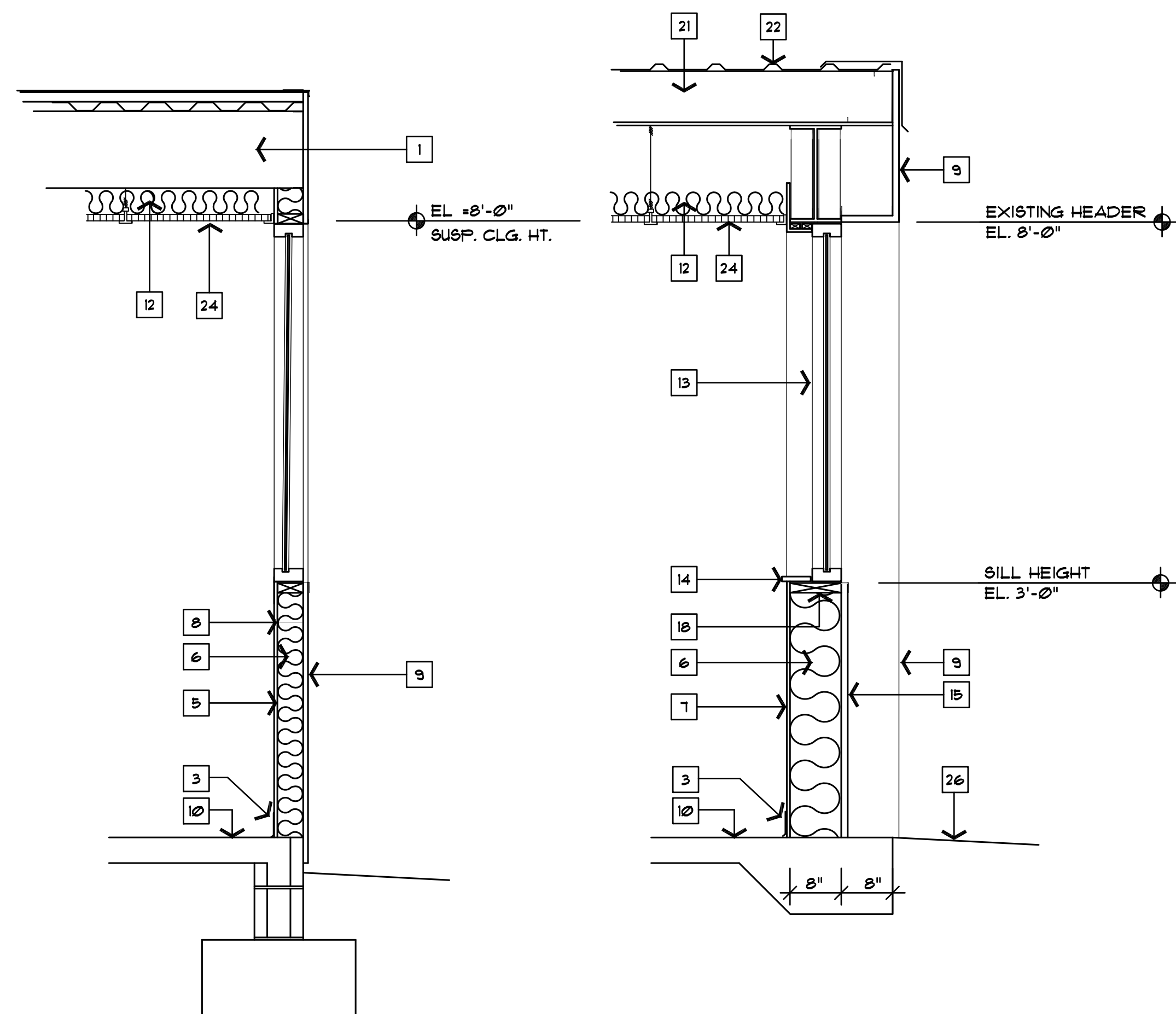
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SECTION 2  
SCALE 3/4"=1'-0"

SECTION 3  
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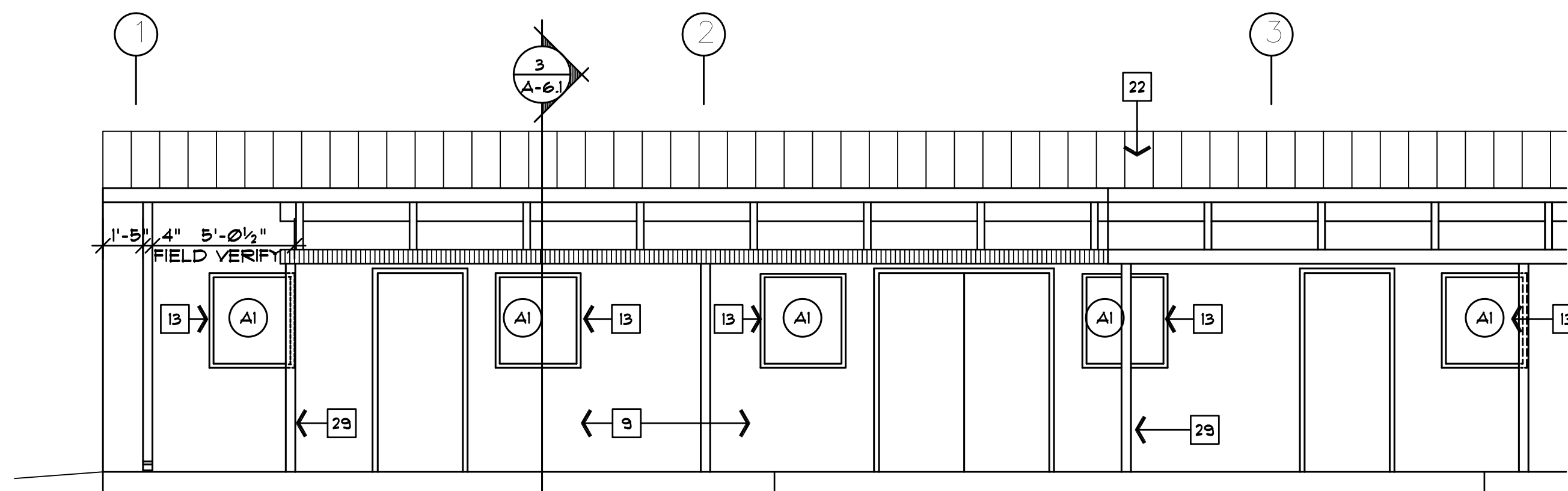


PARTIAL SOUTH ELEVATION  
SCALE 1/4"=1'-0"

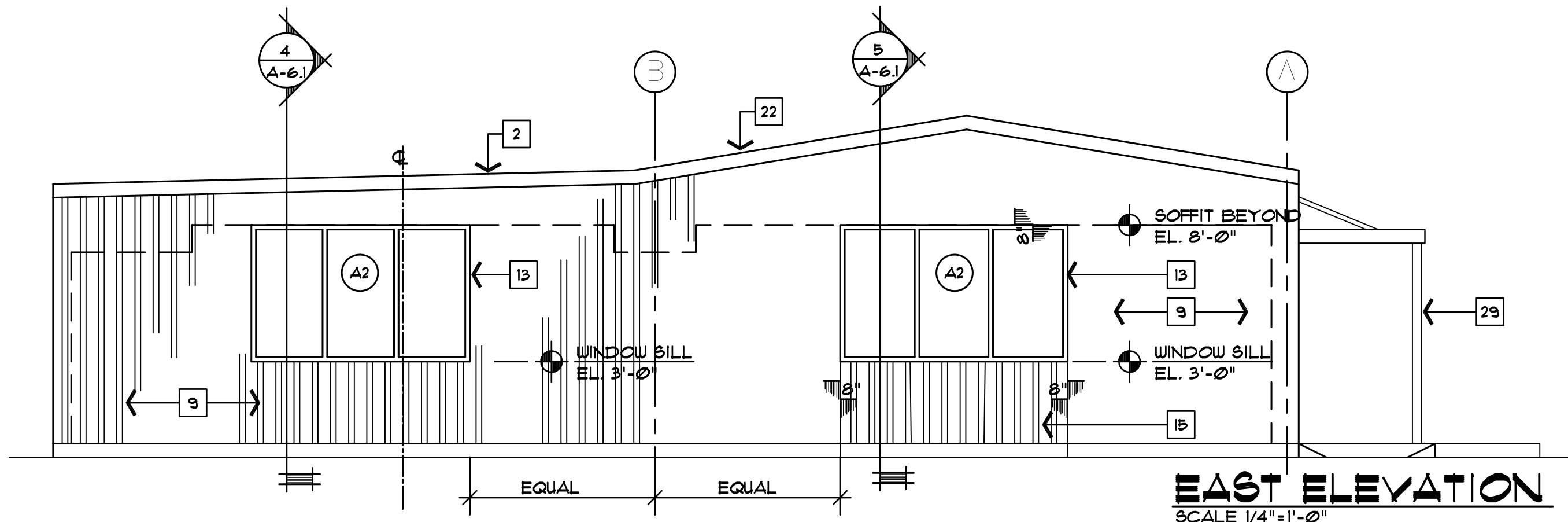


SECTION 4  
SCALE 3/4"=1'-0"

SECTION 5  
SCALE 3/4"=1'-0"



PARTIAL NORTH ELEVATION  
SCALE 1/4"=1'-0"

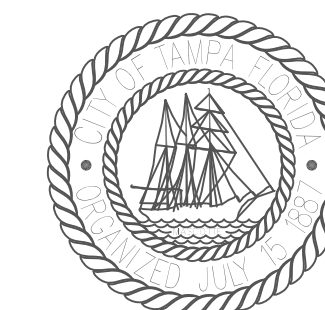


EAST ELEVATION  
SCALE 1/4"=1'-0"

## GENERAL NOTES

## KEY NOTES

- EXISTING ROOF STRUCTURE
- EXISTING BUILT UP ROOF
- NEW VINYL BASE
- EXISTING JOIST BRIDGING
- EXISTING METAL STUDS
- NEW R-13 + R-6.5 CONT. BATT INSULATION
- NEW 1/2" GYPSUM WALL BOARD
- EXISTING METAL STUD BRACING
- EXISTING METAL WALL PANELS TO REMAIN. (REPLACE EXISTING DAMAGED PANELS AS REQUIRED WITH EXISTING METAL WALL PANELS)
- EXISTING CONCRETE SLAB
- NEW 8" 20 GA. METAL STUDS @ 16" O.C.
- NEW R-38 BATT INSULATION
- NEW 1/2" x 4 1/2" ALUMINUM STOREFRONT W/ 1/4" TINTED IMPACT GLASS
- MARBLE SILL
- NEW METAL WALL PANELS TO MATCH EXISTING
- 3 1/2" (20 GAUGE) METAL STUDS AT 16" O.C. (FASTEN TO 1200 CJS 14 WITH (6) #12 SCREWS. ALL OTHER CONNECTIONS SHALL HAVE MIN. 2 #12 SCREWS.
- EXISTING 8" x 6" x 3/16" STEEL COLUMN.
- 2 x 8 BLOCKING
- EXISTING GIRT TO REMAIN.
- EXISTING RAKED STEEL BEAM TO REMAIN.
- EXISTING STEEL FURLING TO REMAIN.
- EXISTING METAL ROOF PANELS TO REMAIN.
- SHIMS AND SEALANT
- SUSPENDED ACOUSTICAL TILE CEILING SYSTEM.
- EXISTING GUTTER AND DOWNSPOUT TO REMAIN.
- EXISTING RAMP
- EXISTING METAL CANOPY.
- EXISTING 8" x 6" x 3/16" STEEL COLUMN
- EXISTING ALUM. TUBE COLUMN



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Drafting Technician

Jerry P. Sanders  
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Byron K. Thomas, LEED GA  
Drafting Technician

MEP CONSULTANT

STRUCTURAL CONSULTANT

CIVIL CONSULTANT

LANDSCAPE CONSULTANT

SOLID WASTE BUILDING 4  
INTERIOR REMODEL  
400 W. SPRUCE ST.  
TAMPA, FLORIDA

FILE NUMBER

X

PROJECT NUMBER

X

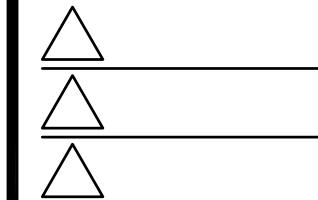
ISSUE DATE

MARCH 2017

DRAWN BY

KINSEY TILLMAN

REVISIONS



PROFESSIONAL SEAL

THOMAS HESTER, AIA, NOMA

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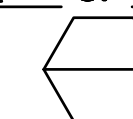
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WALL SECTIONS & ELEV.

SHEET NUMBER

A 6.1

X OF X





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**LANDSCAPE CONSULTANT**

**SOLID WASTE BUILDING 4  
INTERIOR REMODEL**  
4010 W. SPRUCE ST.  
TAMPA, FLORIDA

**FILE NUMBER**  
X

**PROJECT NUMBER**  
16-C-11

**ISSUE DATE**  
MARCH 2017

**DRAWN BY**  
KINSEY TILLMAN

**REVISIONS**  
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**PROFESSIONAL SEAL**  
THOMAS HESTER, AIA, NOMA

X

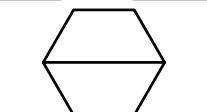
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**ENLARGED FLOOR PLANS**

**SHEET NUMBER**

A 7.1

X OF X



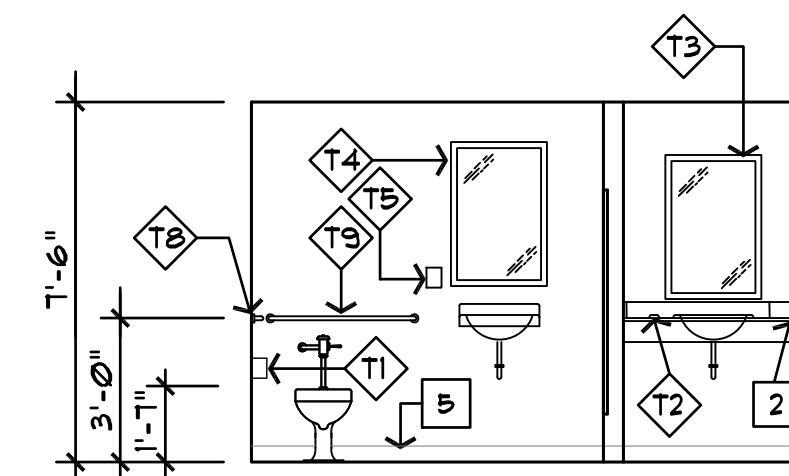
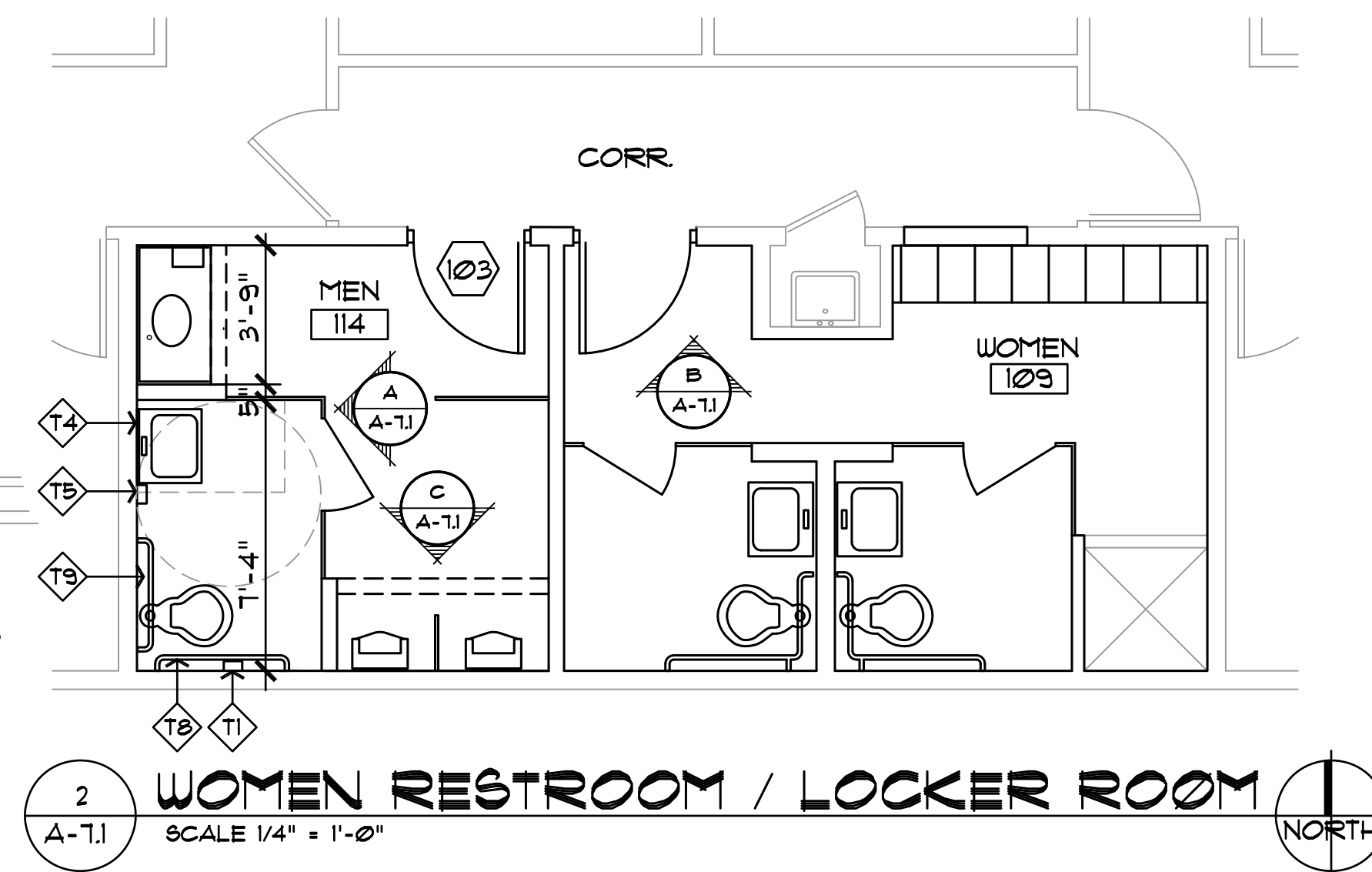
## TOILET ACCESSORIES

- T1 DOUBLE ROLL SURFACE MOUNTED TOILET TISSUE DISPENSER SIMILAR TO BRADLEY #5234.  
T2 SOAP DISPENSER SIMILAR TO BRADLEY #6324.  
T3 2' x 3' CHANNEL FRAMED MIRROR SIMILAR TO BRADLEY #181.  
T4 2' x 3' FIXED TILT FRAMED MIRROR SIMILAR TO BRADLEY #140.  
T5 SURFACE MOUNTED SOAP DISPENSER SIMILAR TO BRADLEY #6542.  
T6 4' x 3' CHANNEL FRAMED MIRROR SIMILAR TO BRADLEY #181.  
T7 SURFACE MOUNTED HAND DRYER SIMILAR TO BRADLEY #2801-28 COLOR AS SELECTED FROM MANUFACTURER'S COLOR STANDARD.  
T8 GRAB BARS - SIMILAR TO BRADLEY 800-001 SERIES WITH 42" BAR AT SIDE OF WATER CLOSET.  
T9 GRAB BAR SIMILAR TO BRADLEY 800-001 SERIES 36" IN LENGTH.  
T10 GRAB BAR SIMILAR TO BRADLEY 800-035 SERIES 26" IN LENGTH.

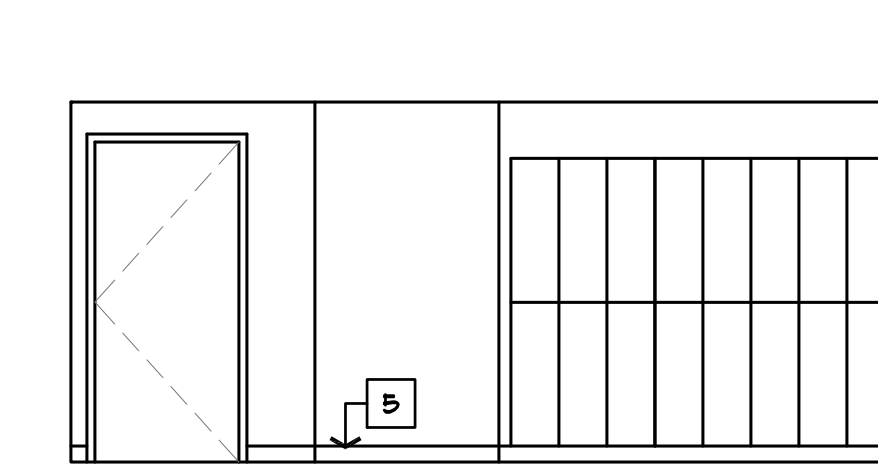
## GENERAL NOTES

## KEY NOTES

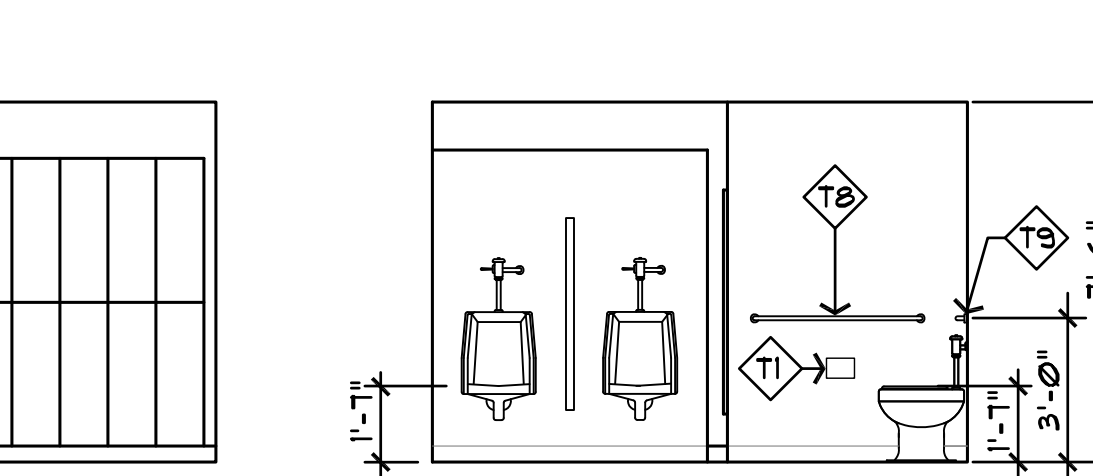
- 1 4" x 3/4" SOLID SURFACE BACKSPASH.  
2 3/4" SOLID SURFACE COUNTERTOP.  
3 4 x 4 CERAMIC WALL TILE, FLOOR TO CEILING  
4 TOILET PARTITIONS DASHED FOR CLARITY  
5 CERAMIC TILE BASE  
6 1-1/4" THICK x 9" WIDE x 12" LONG WOOD BENCH SIMILAR TO ULINE MODEL H-3010. [WWW.ULINE.COM](http://WWW.ULINE.COM)  
7 2' x 3' FIXED TILT FRAMED MIRROR SIMILAR TO BRADLEY #140.  
8 EXISTING BENCH SEAT TO REMAIN  
9 EXISTING TILE TO REMAIN  
10 1-1/4" THICK x 9" WIDE x 48" LONG WOOD BENCH SIMILAR TO ULINE MODEL H-3009. [WWW.ULINE.COM](http://WWW.ULINE.COM)  
11 12" WIDE x 18" DEEP x 12" HIGH DOUBLE TIER STEEL LOCKERS SIMILAR TO ULINE MODEL H-1224. [WWW.ULINE.COM](http://WWW.ULINE.COM)  
12 EXISTING CORNER WALL TO REMAIN



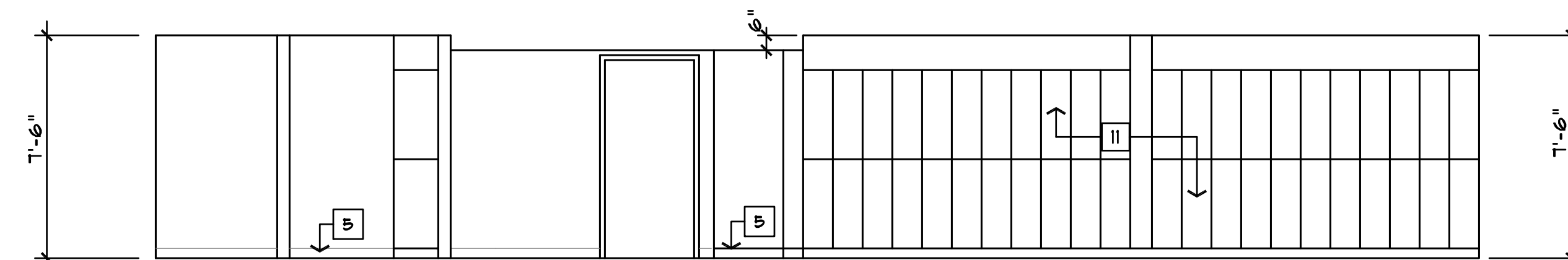
A WOMEN 114  
SCALE 1/4" = 1'-0"



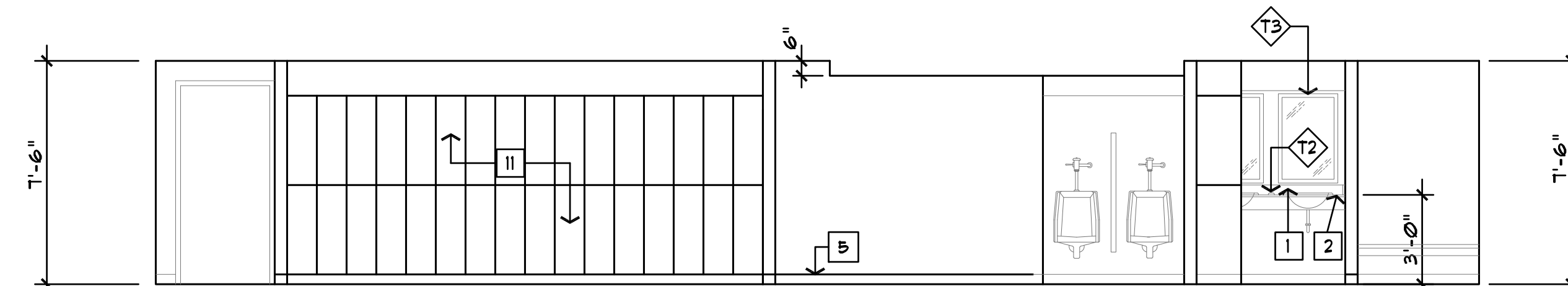
B WOMEN 114  
SCALE 1/4" = 1'-0"



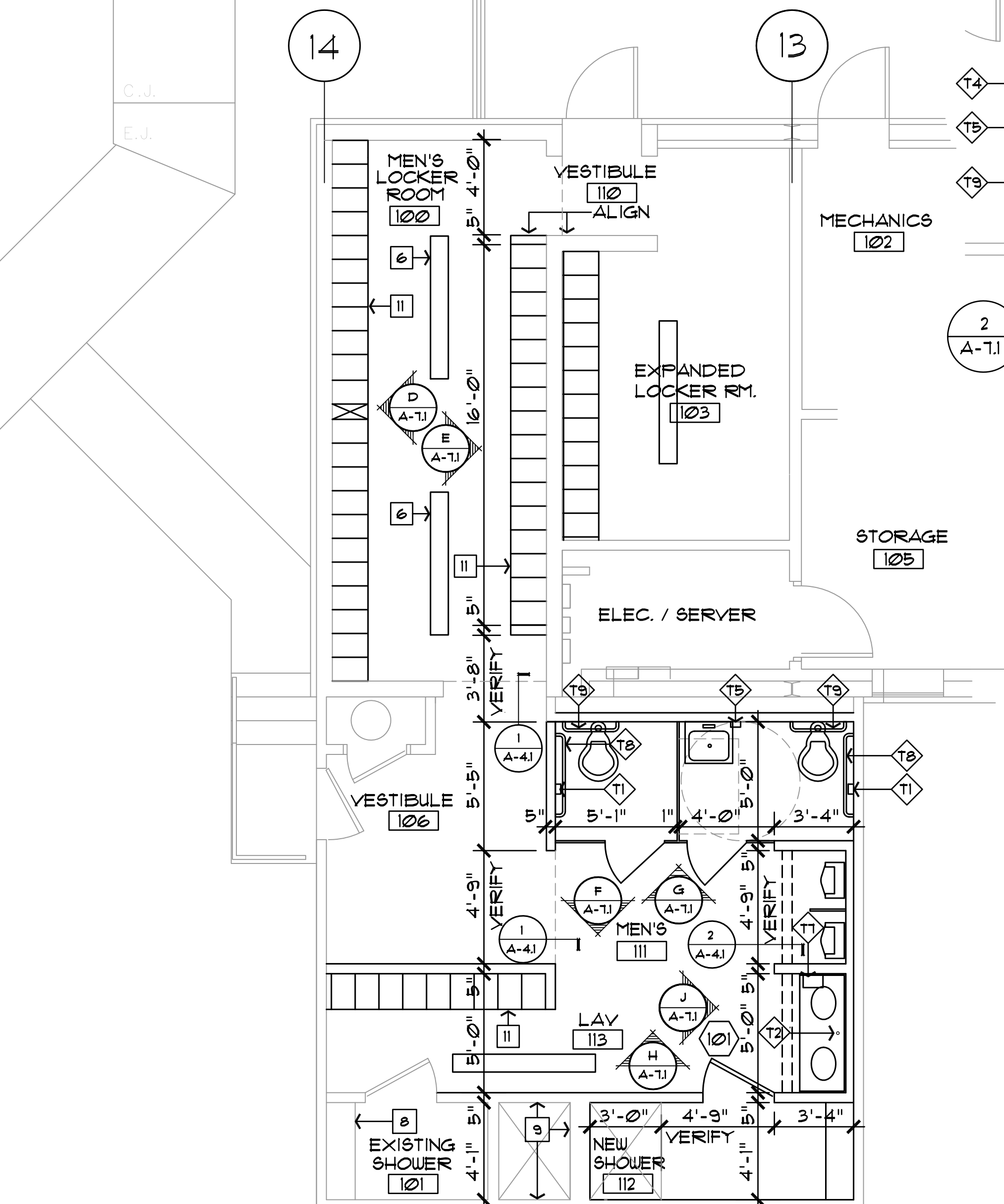
C WOMEN 114  
SCALE 1/4" = 1'-0"



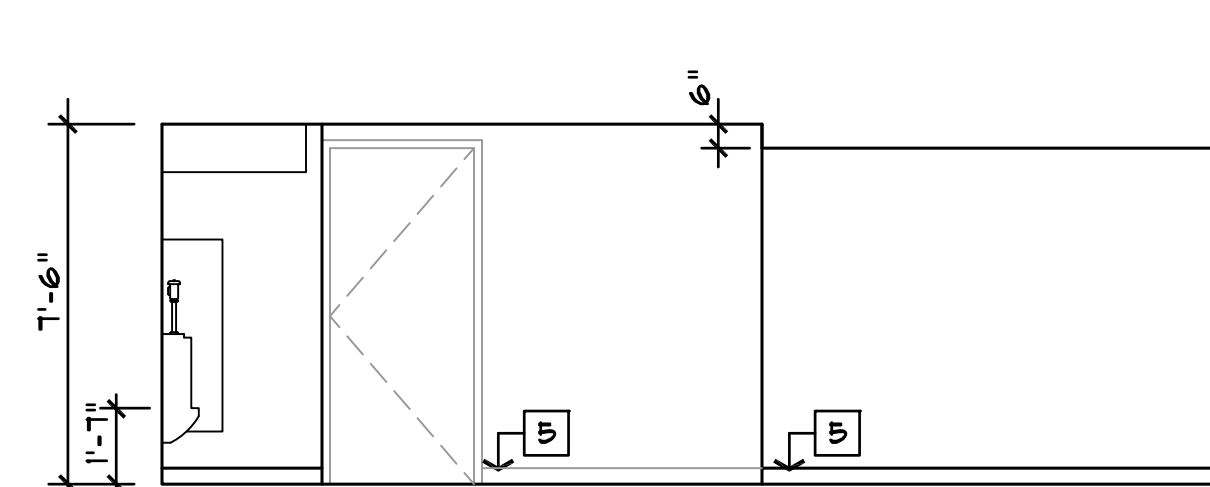
D MENS LOCKER ROOM 100 / VESTIBULE 106  
LAYATORIES 113 / EXISTING SHOWER 101  
SCALE 1/4" = 1'-0"



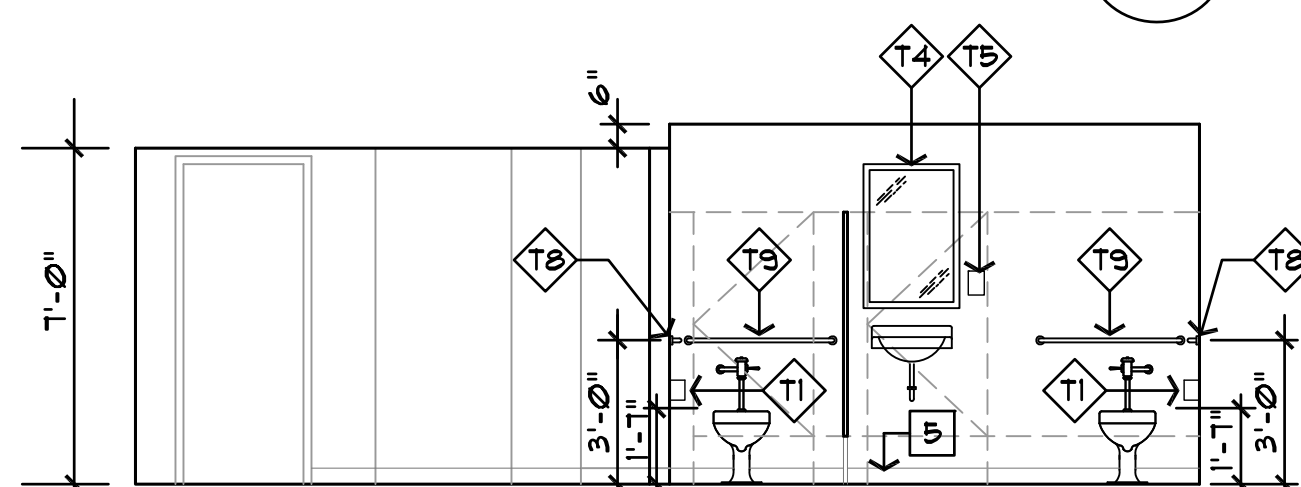
E MENS LOCKER ROOM 100 / VESTIBULE 106  
LAYATORIES 113 / EXISTING SHOWER 101  
SCALE 1/4" = 1'-0"



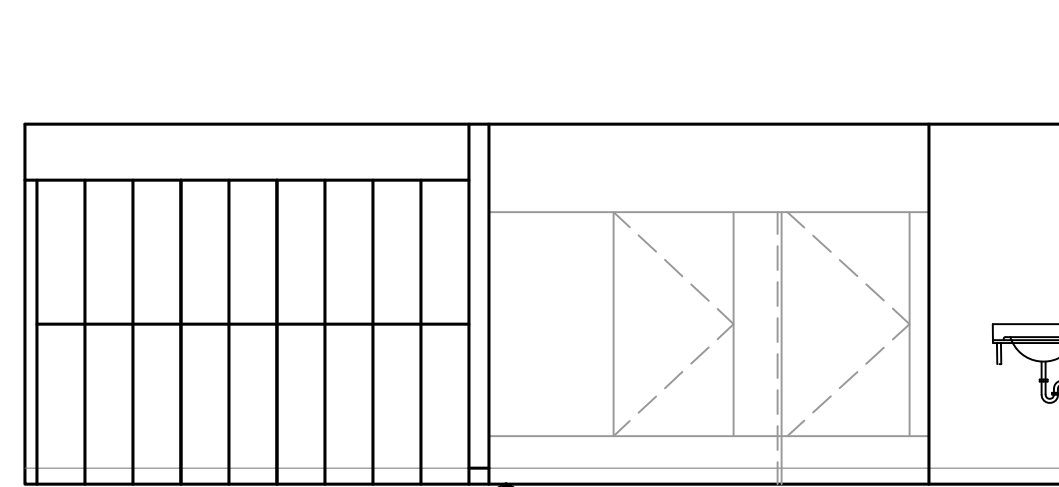
I MEN RESTROOM / LOCKER ROOM  
SCALE 1/4" = 1'-0"



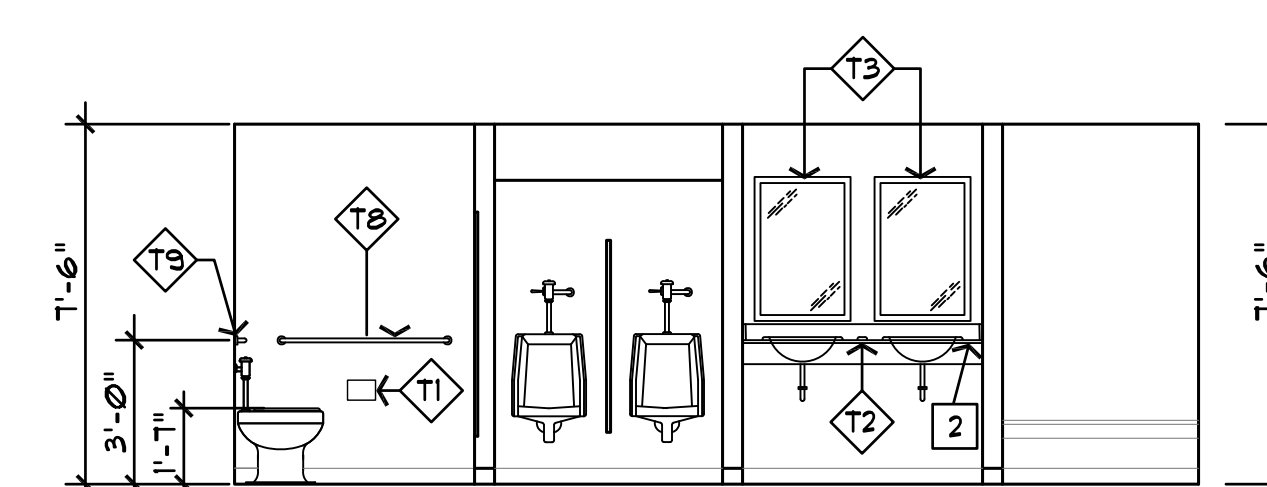
F MEN 111  
SCALE 1/4" = 1'-0"



G MEN 111  
SCALE 1/4" = 1'-0"

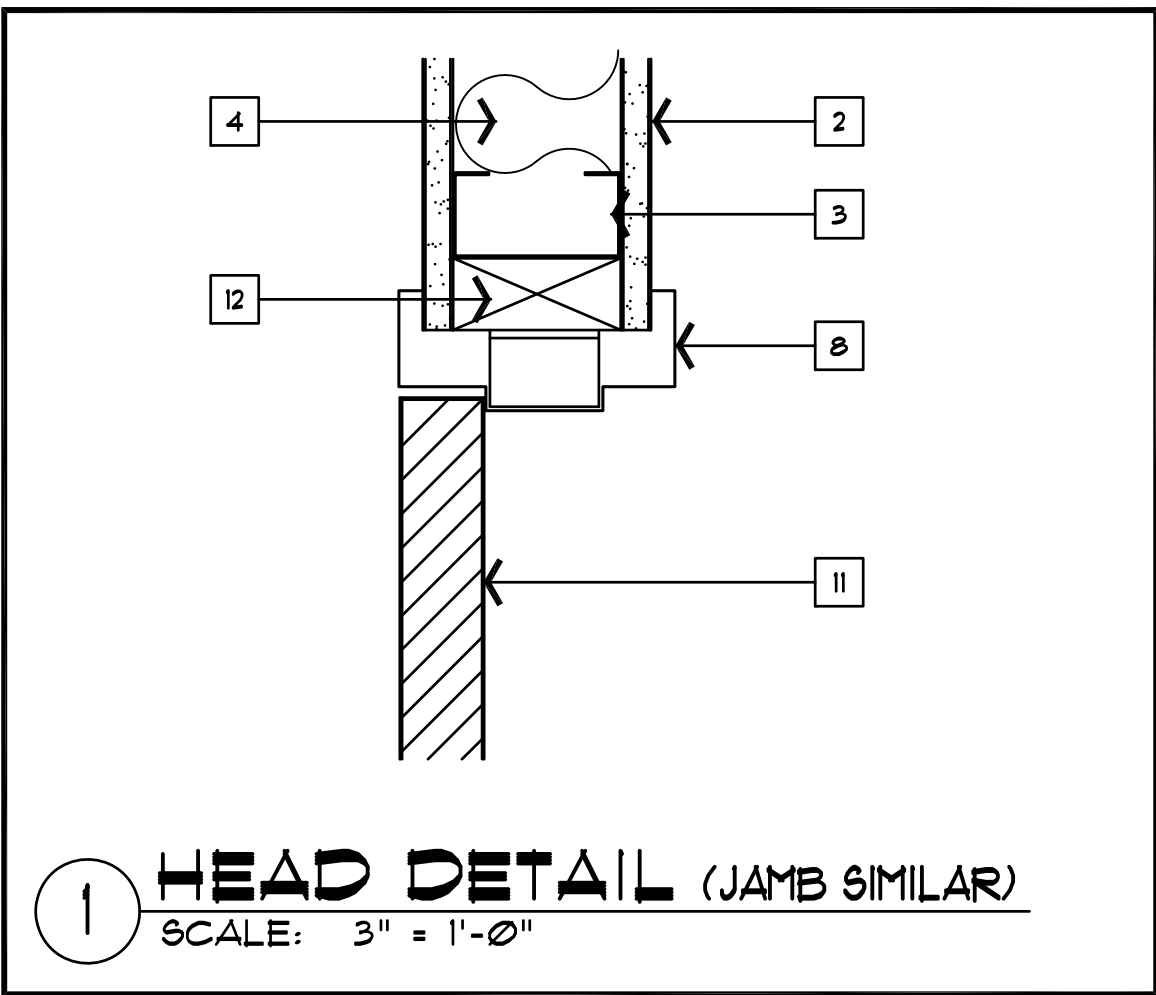


H MEN 111  
SCALE 1/4" = 1'-0"

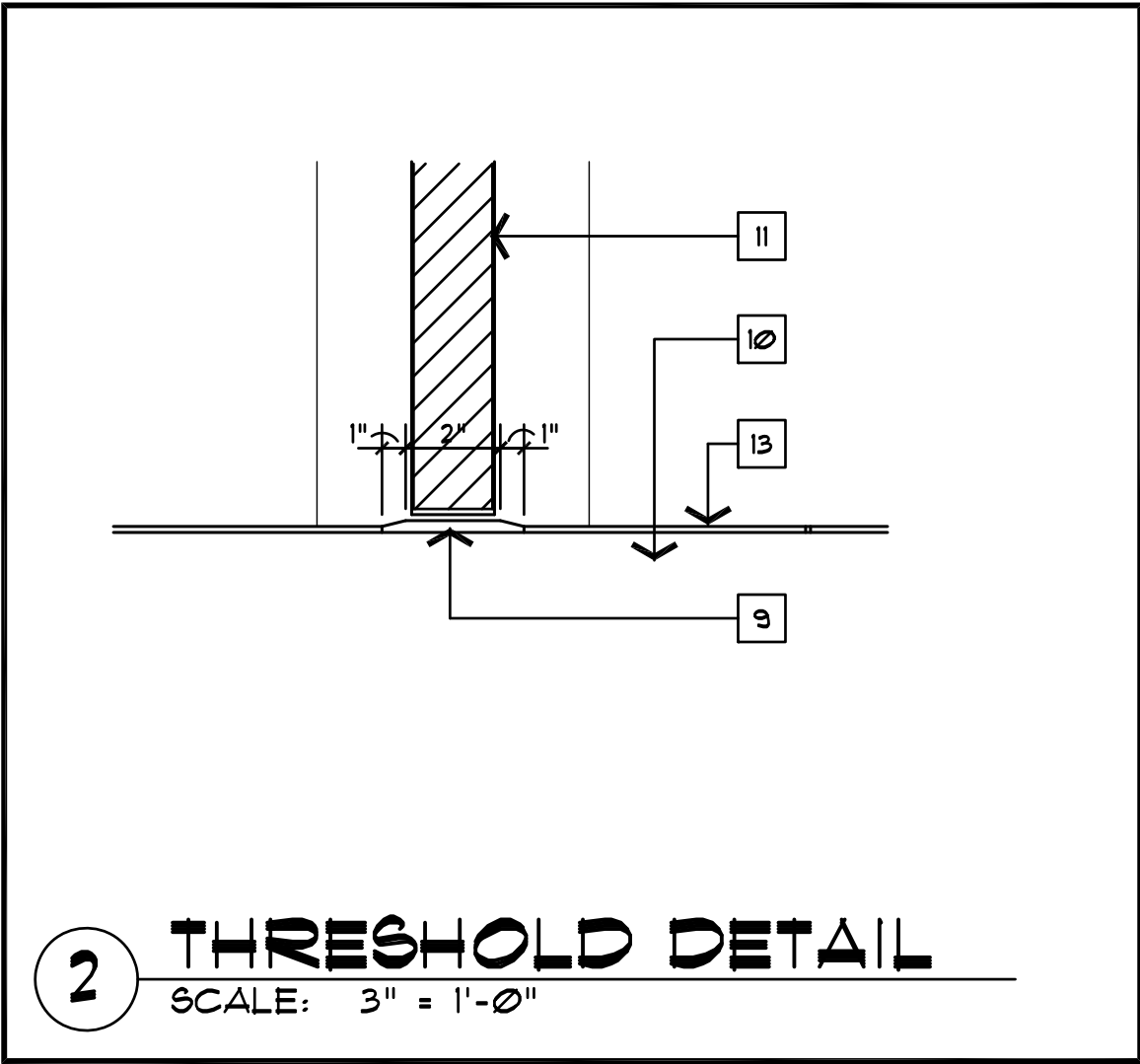


J MEN 111  
SCALE 1/4" = 1'-0"

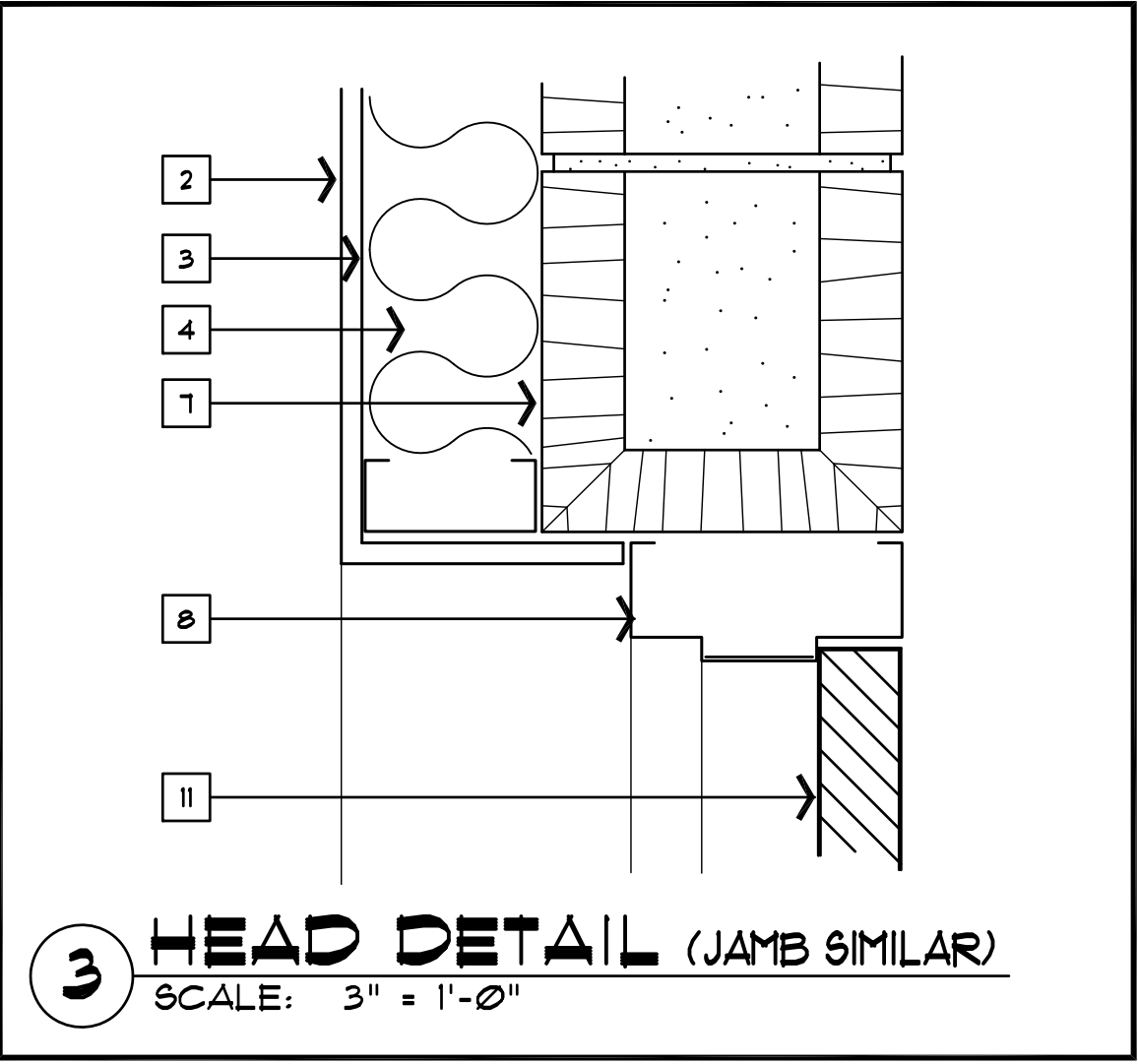




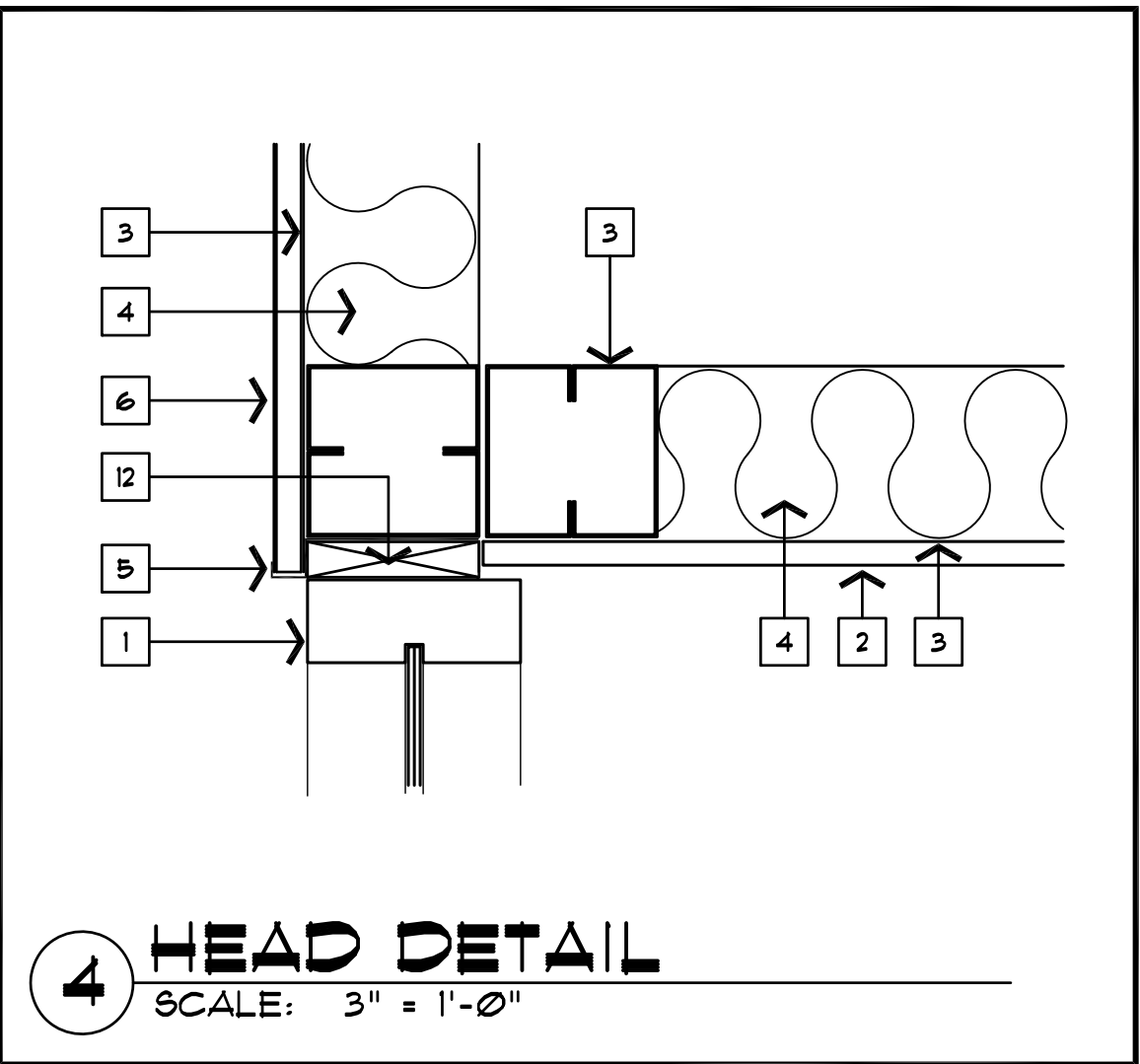
1 HEAD DETAIL (JAMB SIMILAR)  
SCALE: 3" = 1'-0"



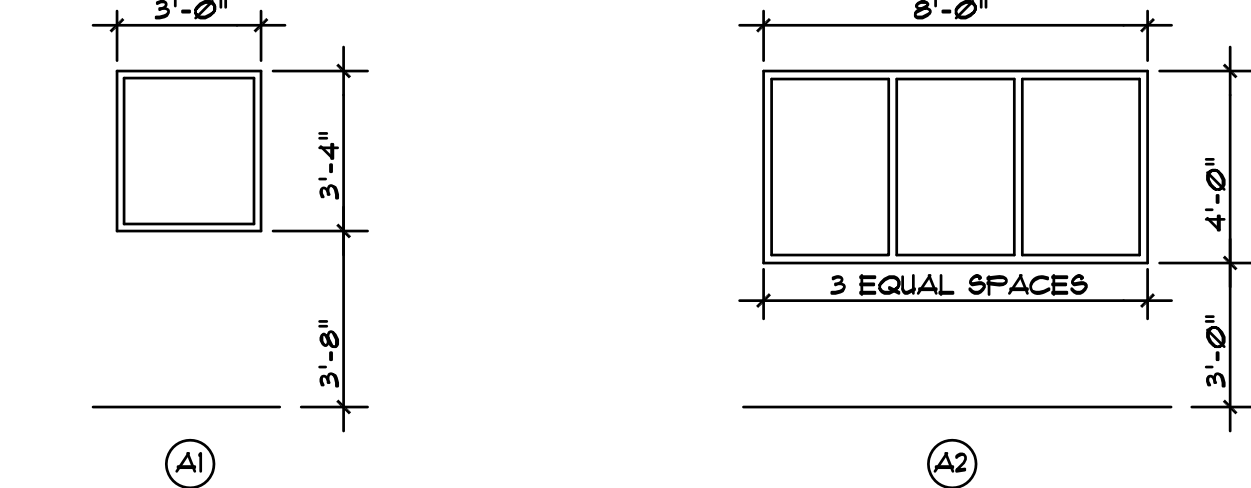
2 THRESHOLD DETAIL  
SCALE: 3" = 1'-0"



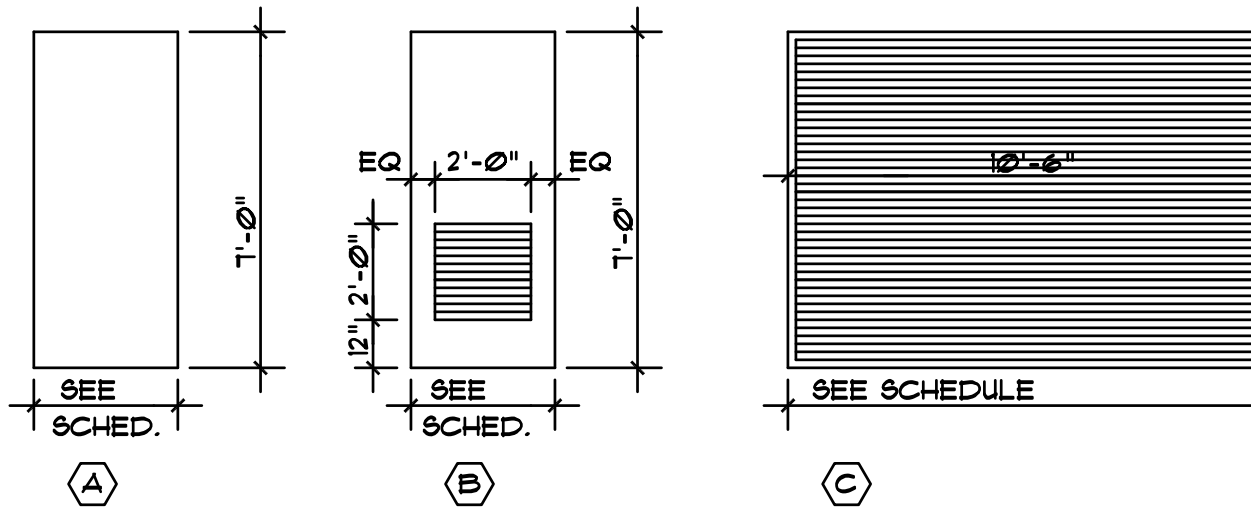
3 HEAD DETAIL (JAMB SIMILAR)  
SCALE: 3" = 1'-0"



4 HEAD DETAIL  
SCALE: 3" = 1'-0"



GLAZING FRAMES

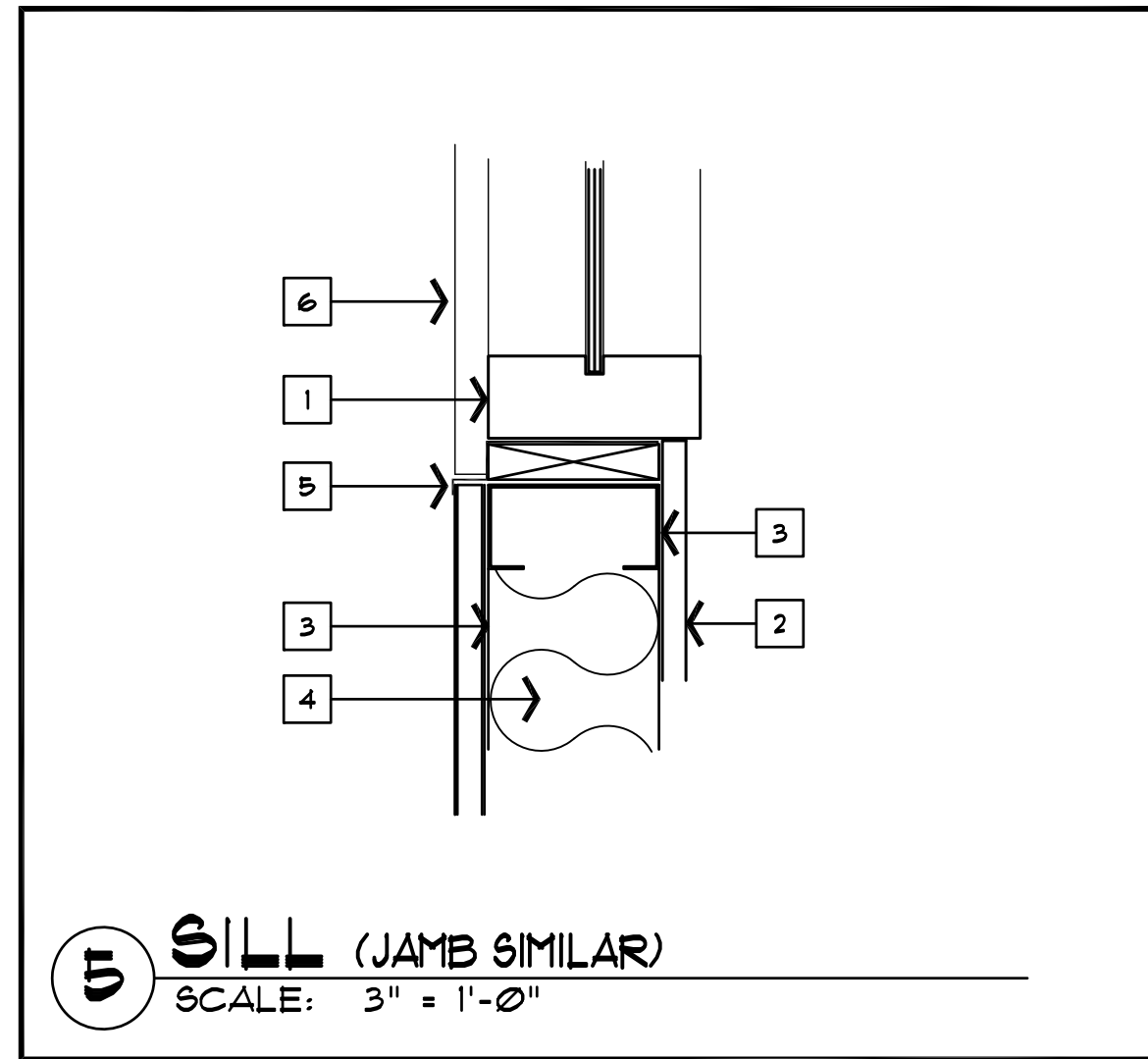


DOOR TYPES

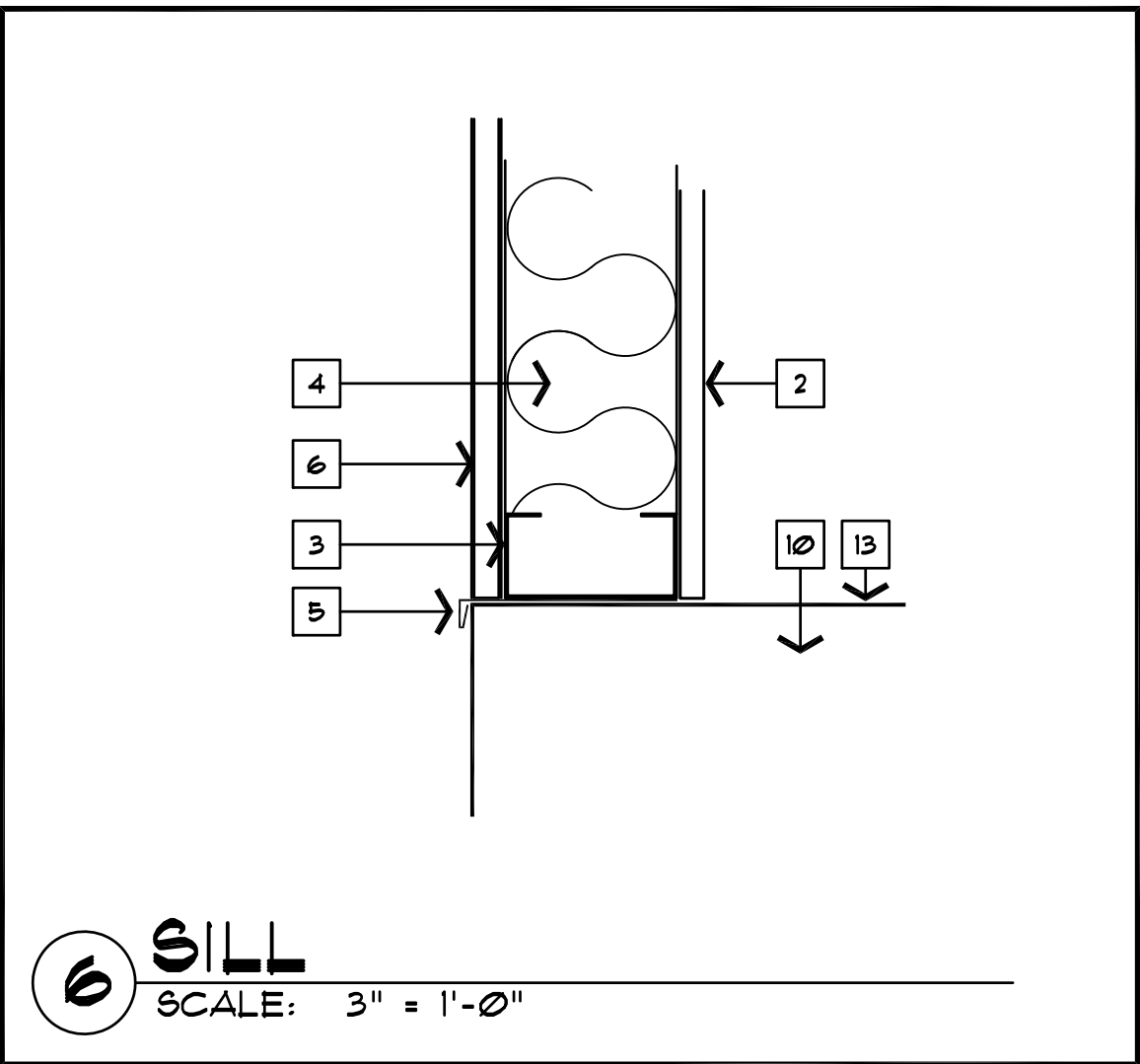
DOOR SCHEDULE											
NO.	EL.	DOOR				FRAME		DETAILS			REMARKS
		W	H	T	MATERIAL	TYP.	MAT'L	HEAD	JAMB	SILL	
101	B	3'-0"	7'-0"	1-3/4"	SOLID CORE WOOD	1	H. M.	1	1	2	PROVIDE DOOR GRILL
102	A	3'-0"	7'-0"	1-3/4"	SOLID CORE WOOD	1	H. M.	1	1	2	
103	B	3'-0"	7'-0"	1-3/4"	SOLID CORE WOOD	1	H. M.	1	1	2	PROVIDE DOOR GRILL
104	C				OVERHEAD	3					
105	A	3'-0"	7'-0"	1-3/4"	HOLLOW METAL	3	H. M.	1	1	2	

FINISH SCHEDULE										
NO.	ROOM NAME	FLOOR	BASE	WALLS				CLG.	CLG. HT.	REMARKS
				N	E	S	W			
100	MEN'S LOCKER ROOM	F3	B2	W4	W4	W4	W4	C3	7'-6"	REPAIR ALL EXISTING FINISHES AS NEEDED
101	EXISTING SHOWER	F4	B3	W4	W4	W4	W4	C3	7'-6"	REPAIR ALL EXISTING FINISHES AS NEEDED
102	MECHANICS	F1	B3	W3	W3	W3	W3	C1	7'-6"	
103	EXPANDED LOCKER ROOM	F4	B3	W4	W4	W4	W4	C3	MATCH EXISTING	REPAIR ALL EXISTING FINISHES AS NEEDED
104	BREAK ROOM	F1	B1	W1	W1	W1	W1	C1	MATCH EXISTING	
105	STORAGE	F3	B2	W3	W3	W3	W3	C1	MATCH EXISTING	
106	VESTIBULE	F3	B1	W3	W3	W3	W3	C2	7'-0"	
107	NOT USED									
108	EXPANDED CENTRALIZED DISPATCH	F2	B1	W1	W1	W1	W1	C1	MATCH EXISTING	ALL FINISHES TO MATCH EXISTING CENTRALIZED DISPATCH ROOM
109	WOMEN	F3	B2	W2	W2	W2	W2	C2	7'-0"	
110	VESTIBULE	F3	B2	W3	W3	W3	W3	C1	7'-6"	
111	MEN	F3	B2	W2	W2	W2	W3	C1	7'-6"	
112	NEW SHOWER	F3	B2	W2	W2	W2	W2	C2	7'-6"	
113	LAVATORIES	F3	B2	W2	W2	W2	W3	C1	7'-6"	
114	MEN	F3	B2	W2	W2	W2	W2	C1	7'-0"	REPAIR PORTIONS OF EXISTING FLOOR TILE
115	TRAINING ROOM	F1	B1	W1	W1	W1	-	C1/C2	7'-0" / 8'-0"	MATCH EXISTING FINISHES

FINISH LEGEND							
W1	PAINTED GYP. BD.	F1	VINYL COMPOSITION TILE (VCT)	C1	SUSPENDED ACOUSTICAL CEILING	B1	VINYL BASE
W2	4 x 4 CERAMIC TILE	F2	CARPET	C2	SUSPENDED GYPSUM CEILING	B2	CERAMIC TILE BASE
W3	EPOXY PAINT	F3	2 x 2 CERAMIC TILE	C3	EXISTING TO REMAIN	B3	EXISTING TO REMAIN
W4	EXISTING TO REMAIN	F4	EXISTING TO REMAIN				



5 SILL (JAMB SIMILAR)  
SCALE: 3" = 1'-0"



6 SILL  
SCALE: 3" = 1'-0"

## GENERAL NOTES

1 1 x 1 WALL AND FLOOR TILES

## KEY NOTES

- 1 NEW 1/4" x 4 1/2" ALUM. STOREFRONT WITH 1/4" TINTED IMPACT GLASS
- 2 NEW 1/2" GYPSUM WALL BOARD
- 3 3/8" (20 Ga.) METAL STUDS @ 16" O.C. (FASTEN TO 1200 CJS 14 WITH 6 #12 SCREWS) ALL OTHER CONNECTIONS SHALL HAVE MINIMUM OF 2 #12 SCREWS
- 4 NEW R-38 BATT INSULATION
- 5 THRU WALL METAL FLASHING
- 6 EXISTING METAL SIDING TO REMAIN
- 7 CMU
- 8 GROUT FILLED HOLLOW METAL DOOR FRAME WITH (3) METAL ANCHORS EACH SIDE
- 9 SEALANT FILLED METAL THRESHOLD (HANDICAP ACCESSIBLE) TYPICAL AT ALL EXTERIOR DOORS
- 10 EXISTING CONCRETE SLAB
- 11 DOOR SEE SCHEDULE
- 12 P.T. WOOD BLOCKING
- 13 FINISH FLOOR - SEE SCHEDULE



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REVISIONS

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△  
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PROFESSIONAL SEAL  
THOMAS HESTER, AIA, NOMA

X

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

SCHEDULES

SHEET NUMBER

A-8.1

X OF X



1.0 GENERAL

- 1.1 STRUCTURAL WORK SHALL BE IN ACCORDANCE WITH THE FLORIDA BUILDING CODE 2010 AS ADOPTED AND SUPPLEMENTED BY LOCAL REGULATIONS.
- 1.2 VERIFY ALL DIMENSIONS AND SITE CONDITIONS PRIOR TO STARTING CONSTRUCTION. NOTIFY THE ARCHITECT OF ANY DISCREPANCIES OR INCONSISTENCIES.
- 1.3 DO NOT SCALE DRAWINGS.
- 1.4 SEE ARCHITECTURAL, MECHANICAL AND ELECTRICAL DRAWINGS FOR MISCELLANEOUS STEEL ITEMS NOT SHOWN HEREON.
- 1.5 SEE ARCHITECTURAL, MECHANICAL AND ELECTRICAL DRAWINGS FOR ANCHORED, SUPPORTED AND EMBEDDED ITEMS WHICH AFFECT THE STRUCTURAL WORK. VERIFY DETAILS AND DIMENSIONS WITH EQUIPMENT PURCHASED.
- 1.6 COORDINATE SIZES AND LOCATIONS OF OPENINGS IN FLOORS AND ROOF WITH ARCHITECTURAL, MECHANICAL, AND ELECTRICAL REQUIREMENTS.
- 1.7 NO STRUCTURAL MEMBER SHALL BE CUT, NOTCHED OR OTHERWISE ALTERED UNLESS APPROVED IN WRITING BY THE ENGINEER.
- 1.8 TOP OF SLAB AT GROUND LEVEL REFERENCE EL. 100'-0". SEE SITE PLAN FOR ACTUAL ELEVATION.
- 1.9 NO CHANGES IN CONSTRUCTION FROM THAT SHOWN IN THE APPROVED SHOP DRAWINGS SHALL BE MADE WITHOUT THE SPECIFIC WRITTEN APPROVAL OF THE ENGINEER.
- 1.10 SUBMITTALS SHALL CONFORM TO REQUIREMENTS OF CONTRACT DOCUMENTS, AND SHALL BE CHECKED AND MARKED "APPROVED" BY CONTRACTOR PRIOR TO SUBMITTAL. NON-CONFORMING SUBMITTALS WILL BE RETURNED WITHOUT REVIEW.
- 1.11 SHOP DRAWINGS SHALL NOT BE REPRINTS OF CONTRACT DOCUMENTS.
- 1.12 THE STRUCTURE IS DESIGNED TO BE SELF-SUPPORTING AND STABLE AFTER THE BUILDING IS COMPLETE. IT IS THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE ERECTION PROCEDURES AND SEQUENCE TO INSURE SAFETY OF THE BUILDING AND ITS COMPONENTS DURING ERECTION. THIS INCLUDES THE ADDITION OF NECESSARY SHORING, SHEETING, TEMPORARY BRACING, GUYS OR TIEDOWNS.
- 1.13 DETAILS LABELED "TYPICAL DETAILS" ON THE DRAWINGS SHALL APPLY TO ALL SITUATIONS OCCURRING ON THE PROJECT THAT ARE THE SAME OR SIMILAR TO THOSE SPECIFICALLY DETAILED. THE APPLICABILITY OF THE DETAIL TO ITS LOCATION ON THE PLANS CAN BE DETERMINED BY THE TITLE OF DETAIL. SUCH DETAILS SHALL APPLY WHETHER OR NOT THEY ARE KEYS IN AT EACH LOCATION. QUESTIONS REGARDING APPLICABILITY OF TYPICAL DETAILS SHALL BE DETERMINED BY THE ENGINEER OF RECORD.
- 1.14 THE GENERAL CONTRACTOR SHALL COMPARE THE ARCHITECTURAL AND STRUCTURAL DRAWINGS AND REPORT ANY DISCREPANCIES BETWEEN EACH SET OF DRAWINGS AND WITHIN EACH SET OF DRAWINGS TO THE ARCHITECT AND ENGINEER OF RECORD PRIOR TO THE FABRICATION AND INSTALLATION OF ANY STRUCTURAL MEMBERS.
- 1.15DESIGN DATA
- |                              |   |
|------------------------------|---|
| 1.12.1 LIVE LOADS:           |   |
| ROOFS                        | 30 PSF  |
| FLOOR                        | 40 PSF  |
| CORRIDOR /BALCONY            | 100 PSF   |
| 1.12.2 DEAD LOADS            |   |
| MEP                          | 5 PSF   |
| ROOF/FLOOR FRAMING           | 25 PSF  |
| 1.16 WIND VELOCITY           | 145 MPH (I = 1.0), EXP. C, PER FBC 5th Ed 2014 U.O.N. |
| 1.17 ALLOWABLE SOIL PRESSURE | 2500 PSF (ASSUMED)                                    |

6.0 REINFORCED CMU MASONRY

- 6.1 SUBMITTALS
- 6.1.1 SHOP DRAWINGS: INDICATE BARS SIZES, SPACINGS, LOCATIONS, REINFORCEMENT QUANTITIES, BENDING AND CUTTING SCHEDULES, SUPPORTING AND SPACING DEVICES FOR REINFORCEMENT AND ACCESSORIES.
- 6.1.2 PRODUCT DATA: PROVIDE DATA FOR MASONRY UNITS FABRICATED WIRE REINFORCEMENT AND ADMIXTURES.
- 6.1.3 DESIGN DATA: INDICATE REQUIRED MORTAR STRENGTH, MASONRY UNIT ASSEMBLY STRENGTH IN ALL PLANES AND SUPPORTIVE TEST DATA.
- 6.1.4 MANUFACTURER'S CERTIFICATE: CERTIFY THAT PRODUCTS MEET OR EXCEED SPECIFIED REQUIREMENTS.
- 6.2 QUALITY ASSURANCE: PERFORM WORK IN ACCORDANCE WITH ACI 530 AND ACI 530.1.
- 6.3 QUALIFICATIONS
- 6.3.1 MANUFACTURER: COMPANY SPECIALIZING IN MANUFACTURING THE PRODUCTS SPECIFIED IN THIS SECTION WITH MINIMUM THREE YEARS DOCUMENTED EXPERIENCE.
- 6.4 REGULATORY REQUIREMENTS: CONFORM TO APPLICABLE UL ASSEMBLY REQUIREMENTS FOR FIRE RATED MASONRY CONSTRUCTION.
- 6.5 DELIVERY, STORAGE, AND HANDLING
- 6.5.1 DELIVER, STORE, AND PROTECT PRODUCTS ON SITE.
- 6.5.2 MAINTAIN MATERIALS CLEAN, DRY AND PROTECTED AGAINST DAMAGE AND DAMPNESS.
- 6.6 ENVIRONMENTAL REQUIREMENTS
- 6.6.1 COLD WEATHER REQUIREMENTS: IMIAC-RECOMMENDED PRACTICES AND GUIDE SPECIFICATIONS FOR COLD WEATHER MASONRY CONSTRUCTION.
- 6.6.2 MAINTAIN MATERIALS AND SURROUNDING AIR TEMPERATURE TO MAXIMUM 90 DEGREES F (32 DEGREES C) PRIOR TO, DURING, AND 48 HOURS AFTER COMPLETION OF MASONRY WORK.
- 6.7 COORDINATE THE MASONRY WORK WITH INSTALLATION OF WINDOW ANCHORS AND EMBEDDED ITEMS.
- 6.8 CONCRETE MASONRY UNITS
- 6.8.1 HOLLOW LOAD BEARING BLOCK UNITS (CMU): ASTM C90, TYPE II - NON-MOISTURE CONTROLLED; NORMAL WEIGHT, NET COMPRESSIVE STRENGTH OF MASONRY (F'M) = 1900 PSI.
- 6.8.2 SIZE AND SHAPE: NOMINAL MODULAR SIZE OF 8X8X16 INCHES. PROVIDE SPECIAL UNITS FOR 90 DEGREE CORNERS, BOND BEAMS AND LINTELS.
- 6.9 REINFORCEMENT AND ANCHORAGE
- 6.9.1 SINGLE WYTHE JOINT REINFORCEMENT: TRUSS TYPE; STEEL WIRE, HOT DIP GALVANIZED TO ASTM A641 CLASS 3 AFTER FABRICATION, COLD DRAWN STEEL WIRE CONFORMING TO ASTM A82, CROSS TIES. STANDARD DUR-O-WALL OR APPROVED EQUAL.
- 6.9.2 REINFORCING STEEL: ASTM A615, 60 KSI YIELD GRADE, DEFORMED BILLET BARS.
- 6.10 PREPARATION
- 6.10.1 DIRECT AND COORDINATE PLACEMENT OF METAL ANCHORS SUPPLIED TO OTHER SECTIONS.
- 6.10.2 PROVIDE TEMPORARY BRACING DURING INSTALLATION OF MASONRY WORK. MAINTAIN IN PLACE UNTIL BUILDING STRUCTURE PROVIDES PERMANENT BRACING.
- 6.11 COURSING
- 6.11.1 ESTABLISH LINES, LEVELS, AND COURSING INDICATED. PROTECT FROM DISPLACEMENT.
- 6.11.2 MAINTAIN MASONRY COURSES TO UNIFORM DIMENSION. FORM VERTICAL AND HORIZONTAL JOINTS OF UNIFORM THICKNESS.
- 6.11.3 CMU BOND: RUNNING.

10.0 RETRO-FIT ANCHORS

- 10.1 ALL POST-INSTALLED ANCHORS SHALL BE EPOXY ADHESIVE TYPE WITH A307 OR A36 THREADED ROD, U.O.N. BRAND AND TYPE OF EPOXY ADHESIVE SHALL BE SIMPSON SET 22 EPOXY, OR HILTI HIT HY 150 EPOXY. NO SUBSTITUTIONS WILL BE ALLOWED WITHOUT WRITTEN PERMISSION FROM THE ENGINEER OF RECORD. EVALUATION OF SUBSTITUTION REQUESTS WILL INVOLVE ADDITIONAL ENGINEERING TIME, AND POSSIBLE REDESIGN OF CONNECTIONS, WHICH WILL AFFECT OTHER TRADES.
- 10.2 INSTALLATION OF ANCHORS SHALL STRICTLY FOLLOW ALL MANUFACTURER'S WRITTEN SPECIFICATIONS AND RECOMMENDATIONS. ALL DRILLED HOLE PREPARATIONS REQUIRED TO ACHIEVE FULL DESIGN STRENGTH SHALL BE FOLLOWED.
- 10.3 NO LOAD SHALL BE APPLIED TO EPOXY ANCHORS PRIOR TO FULL CURE TIME SPECIFIED BY MANUFACTURER.
- 10.4 EMBEDMENT DEPTH OF ANCHORS SHALL BE A MINIMUM AS SPECIFIED ON DRAWINGS; OR IF NOT SHOWN ON DRAWING, EMBED DEPTH SHALL BE AS SPECIFIED BY EPOXY MANUFACTURER TO DEVELOP THE MAXIMUM PUBLISHED BOND STRENGTH.

- 6.11.4 CMU COURSING: ONE UNIT AND ONE MORTAR JOINT TO EQUAL 8 INCHES.
- 6.11.5 CMU MORTAR JOINTS: CONCAVE AT EXPOSED INTERIOR SURFACES. FLUSH AT ALL OTHER LOCATIONS.
- 6.12 PLACING AND BONDING
- 6.12.1 LAY SOLID MASONRY UNITS IN FULL BED OF MORTAR, WITH FULL HEAD JOINTS, UNIFORMLY JOINTED WITH OTHER WORK.
- 6.12.2 LAY HOLLOW MASONRY UNITS WITH FACE SHELL BEDDING ON HEAD AND BED JOINTS.
- 6.12.3 BUTTERING CORNERS OF JOINTS OR EXCESSIVE FURROWING OF MORTAR JOINTS ARE NOT PERMITTED. REMOVE EXCESS MORTAR AS WORK PROGRESSES.
- 6.12.4 INTERLOCK INTERSECTIONS AND EXTERNAL CORNERS.
- 6.12.5 DO NOT SHIFT OR TAP MASONRY UNITS AFTER MORTAR HAS ACHIEVED INITIAL SET. WHERE ADJUSTMENT MUST BE MADE, REMOVE MORTAR AND REPLACE.
- 6.12.7 PERFORM JOB SITE CUTTING OF MASONRY UNITS WITH PROPER TOOLS TO PROVIDE STRAIGHT, CLEAN, UNCHIPPED EDGES. PREVENT BROKEN MASONRY UNIT CORNERS OR EDGES.
- 6.12.8 ISOLATE MASONRY PARTITIONS FROM VERTICAL STRUCTURAL FRAMING MEMBERS WITH A CONTROL JOINT.
- 6.12.9 ISOLATE TOP JOINT OF MASONRY PARTITIONS FROM HORIZONTAL STRUCTURAL FRAMING MEMBERS AND SLABS OR DECKS WITH COMPRESSIBLE JOINT FILLER.
- 6.13 REINFORCEMENT AND ANCHORAGE
- 6.13.1 INSTALL HORIZONTAL JOINT REINFORCEMENT 16 INCHES ON CENTER ALONG VERTICAL PLANE OF WALL.
- 6.13.2 PLACE MASONRY JOINT REINFORCEMENT IN FIRST AND SECOND HORIZONTAL JOINTS ABOVE AND BELOW OPENINGS. EXTEND MINIMUM 16 INCHES EACH SIDE OF OPENING.
- 6.13.3 PLACE JOINT REINFORCEMENT CONTINUOUS IN FIRST JOINT BELOW TOP OF WALLS.
- 6.13.4 LAP JOINT REINFORCEMENT ENDS MINIMUM 6 INCHES.
- 6.13.5 SUPPORT AND SECURE REINFORCING BARS FROM DISPLACEMENT. MAINTAIN POSITION WITHIN 1/2 INCH OF DIMENSIONED POSITION.
- 6.13.6 EMBED ANCHORS EMBEDDED IN CONCRETE ATTACHED TO STRUCTURAL STEEL MEMBERS. EMBED ANCHORAGES IN EVERY SECOND BLOCK JOINT.
- 6.14 LINTELS
- 6.14.1 INSTALL PRECAST CONCRETE LINTELS OVER OPENINGS AND AS SHOWN ON DRAWINGS.
- 6.14.2 SUPPORT AND SECURE REINFORCING BARS FROM DISPLACEMENT. MAINTAIN POSITION WITHIN 1/2 INCH OF DIMENSIONED POSITION.
- 6.14.3 PLACE AND CONSOLIDATE GROUT FILL WITHOUT DISPLACING REINFORCING.
- 6.14.4 ALLOW MASONRY LINTELS TO ATTAIN SPECIFIED STRENGTH BEFORE REMOVING TEMPORARY SUPPORTS. MAINTAIN MINIMUM 8 INCH BEARING ON EACH SIDE OF OPENING.
- 6.15 GROUTED COMPONENTS
- 6.15.1 LAP SPICES MINIMUM 48 BAR DIAMETERS U.O.N..
- 6.15.2 SUPPORT AND SECURE REINFORCING BARS FROM DISPLACEMENT. MAINTAIN POSITION WITHIN 1/2 INCH OF DIMENSIONED POSITION.
- 6.15.3 PLACE AND CONSOLIDATE GROUT FILL WITHOUT DISPLACING REINFORCING.
- 6.15.4 AT BEARING LOCATIONS, FILL MASONRY CORES WITH GROUT FOR A MINIMUM 8 INCHES EITHER SIDE OF OPENING.
- 6.16 ENGINEERED MASONRY
- 6.16.1 LAY MASONRY UNITS WITH CORE CELLS VERTICALLY ALIGNED AND CAVITIES BETWEEN WYTHES CLEAR OF MORTAR AND UNOBSERVED.
- 6.16.2 PLACE MORTAR IN MASONRY UNIT BED JOINTS BACK 1/4 INCH FROM EDGE OF UNIT GROUT SPACES, BEVEL BACK AND UPWARD. PERMIT MORTAR TO CURE 7 DAYS BEFORE PLACING GROUT.
- 6.16.3 REINFORCE MASONRY UNIT CORES AND CAVITIES WITH REINFORCEMENT BARS AND GROUT AS INDICATED.
- 6.16.4 RETAIN VERTICAL REINFORCEMENT IN POSITION AT TOP AND BOTTOM OF CELLS AND AT INTERVALS NOT EXCEEDING 192 BAR DIAMETERS.
- 6.16.5 GROUT SPACES LESS THAN 2 INCHES IN WIDTH WITH FINE GROUT USING LOW LIFT GROUTING TECHNIQUES.
- 6.16.6 GROUT SPACES 2 INCHES OR GREATER IN WIDTH WITH COURSE GROUT USING HIGH OR LOW LIFT GROUTING TECHNIQUES.
- 6.16.7 WHEN GROUTING IS STOPPED FOR MORE THAN ONE HOUR, TERMINATE GROUT 1-1/2 INCH BELOW TOP OF UPPER MASONRY UNIT TO FORM A POSITIVE KEY FOR SUBSEQUENT GROUT PLACEMENT.
- 6.16.8 LOW LIFT GROUTING: PLACE FIRST LIFT OF GROUT TO A HEIGHT OF 16 INCHES AND ROD FOR GROUT CONSOLIDATION. PLACE SUBSEQUENT LIFTS IN 8 INCH INCREMENTS AND ROD FOR GROUT CONSOLIDATION.
- 6.16.9 HIGH LIFT GROUTING: PROVIDE CLEANOUT OPENING NO LESS THAN 4 INCHES HIGH AT THE BOTTOM OF EACH CELL TO BE GROUTED BY CUTTING ONE FACE SHELL OF MASONRY UNIT.
- 6.16.10 CLEAN OUT MASONRY CELLS AND CAVITIES WITH HIGH PRESSURE WATER SPRAY. PERMIT COMPLETE WATER DRAINAGE.
- 6.17 REQUEST INSPECTION FOR CELLS AND CAVITIES FROM OWNER'S REPRESENTATIVE. ALLOW 3 DAYS ADVANCE NOTICE OF INSPECTION PRIOR TO COMMENCEMENT OF WORK. DO NOT PROCEED WITH WORK UNTIL INSPECTION HAS BEEN COMPLETED AND WORK APPROVED.
- 6.18 AFTER CLEANING AND CELL INSPECTION, SEAL OPENINGS WITH MASONRY UNITS. PUMP GROUT INTO SPACES. MAINTAIN WATER CONTENT IN GROUT TO INTENDED SLUMP WITHOUT AGGREGATE SEGREGATION.
- 6.19 LIMIT GROUT LIFT TO 60 INCHES AND ROD FOR GROUT CONSOLIDATION. WAIT 30 TO 60 MINUTES BEFORE PLACING NEXT LIFT.
- 6.20 CONTROL JOINTS
- 6.20.1 DO NOT CONTINUE HORIZONTAL JOINT REINFORCEMENT THROUGH CONTROL JOINTS.
- 6.20.2 INSTALL PREFORMED CONTROL JOINT DEVICE IN CONTINUOUS LENGTHS. SEAL BUTT AND CORNER JOINTS IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.
- 6.21 BUILT-IN WORK
- 6.21.1 AS WORK PROGRESSES, INSTALL BUILT-IN METAL DOOR AND GLAZED FRAMES, FABRICATED METAL FRAMES, WINDOW FRAMES, WOOD NAILING STRIPS, ANCHOR BOLTS, PLATES, AND OTHER ITEMS TO BE BUILT-IN THE WORK AND FURNISHED BY OTHER SECTIONS.
- 6.21.2 INSTALL BUILT-IN ITEMS PLUMB AND LEVEL.
- 6.21.3 BED ANCHORS OF METAL DOOR AND GLAZED FRAMES IN ADJACENT MORTAR JOINTS. FILL FRAME VOIDS SOLID WITH GROUT. FILL ADJACENT MASONRY CORES WITH GROUT MINIMUM 8 INCHES FROM FRAMED OPENINGS.
- 6.21.4 DO NOT BUILD IN ORGANIC MATERIALS SUBJECT TO DETERIORATION.
- 6.22 TOLERANCES
- 6.22.1 MAXIMUM VARIATION FROM ALIGNMENT OF COLUMNS: 1/4 INCH.
- 6.22.2 MAXIMUM VARIATION FROM UNIT TO ADJACENT UNIT: 1/16 INCH.
- 6.22.3 MAXIMUM VARIATION FROM PLANE OF WALL: 1/4 INCH IN 10 FT AND 1/2 INCH IN 20 FT OR MORE.
- 6.22.4 MAXIMUM VARIATION FROM PLUMB: 1/4 INCH PER STORY NON-CUMULATIVE; 1/2 INCH IN TWO STORIES OR MORE.
- 6.22.5 MAXIMUM VARIATION FROM LEVEL COURSING: 1/8 INCH IN 3 FT AND 1/4 INCH IN 10 FT; 1/2 INCH IN 30 FT.11.5
- 6.22.6 MAXIMUM VARIATION OF JOINT THICKNESS: 1/8 INCH IN 3 FT.
- 6.23 CUTTING AND FITTING
- 6.23.1 CUT AND FIT FOR CHASES, PIPES, CONDUIT, SLEEVES, GROUNDS AND EMBEDS. COORDINATE WITH OTHER SECTIONS OF WORK TO PROVIDE CORRECT SIZE, SHAPE, AND LOCATION.
- 6.23.2 OBTAIN APPROVAL PRIOR TO CUTTING OR FITTING MASONRY WORK NOT INDICATED OR WHERE APPEARANCE OR STRENGTH OF MASONRY WORK MAY BE IMPAIRED.
- 6.24 CLEANING
- 6.24.1 REMOVE EXCESS MORTAR AND MORTAR SMEARS AS WORK PROGRESSES.
- 6.24.2 REPLACE DEFECTIVE MORTAR. MATCH ADJACENT WORK.
- 6.24.3 CLEAN SOILED SURFACES WITH CLEANING SOLUTION.
- 6.24.4 USE NON-METALLIC TOOLS IN CLEANING OPERATIONS.
- 6.25 PROTECTION OF FINISHED WORK
- 6.25.1 WITHOUT DAMAGING COMPLETED WORK, PROVIDE PROTECTIVE BOARDS AT EXPOSED EXTERNAL CORNERS
- 6.25.2 WHICH MAY BE DAMAGED BY CONSTRUCTION ACTIVITIES.

7.0 WOOD FRAMING

- 7.1 PERFORM WORK IN ACCORDANCE WITH THE FOLLOWING AGENCIES: LUMBER GRADING AGENCY; CERTIFIED BY ALSC AND PLYWOOD GRADING AGENCY; CERTIFIED BY APA.
- 7.2 LUMBER MATERIALS, DIMENSIONAL SAWN LUMBER
- 7.2.1 LUMBER GRADING RULES: NFPA AND SPIB.
- 7.2.2 BEAMS AND HEADERS: SOUTHERN PINE SPECIES OR DOUGLAS FIR SPECIES; NO. 1 GRADE OR BETTER; 15 PERCENT MAXIMUM MOISTURE CONTENT.
- 7.2.3 RAFTER FRAMING AND EXTERIOR STUDS: SOUTHERN PINE SPECIES OR DOUGLAS FIR SPECIES, NO. 1 GRADE OR BETTER; 19 PERCENT MAXIMUM MOISTURE CONTENT.
- 7.2.4 NON-STRUCTURAL LIGHT FRAMING: SOUTHERN PINE SPECIES OR DOUGLAS FIR SPECIES, NO. 2 GRADE OR BETTER; 19 PERCENT MAXIMUM MOISTURE CONTENT.
- 7.2.5 INTERIOR STUDDING: SOUTHERN PINE SPECIES OR DOUGLAS FIR SPECIES, NO. 2 GRADE OR BETTER; 19 PERCENT MAXIMUM MOISTURE CONTENT.
- 7.2.6 MISCELLANEOUS FRAMING: SOUTHERN PINE SPECIES OR DOUGLAS FIR SPECIES, NO. 2 GRADE; 19 PERCENT MAXIMUM MOISTURE CONTENT, PRESSURE PRESERVATIVE TREAT AS REQUIRED.
- 7.3 LUMBER MATERIALS, ENGINEERED LUMBER
- 7.3.1 BEAMS, HEADERS, AND COLUMNS: PARALLAM PSL MANUFACTURED BY TRUS JOIST, GRADE 2.0E MINIMUM; 12 PERCENT MAXIMUM MOISTURE CONTENT.
- 7.5 ACCESSORIES
- 7.5.1 FASTENERS: HOT DIPPED GALVANIZED STEEL FOR HIGH HUMIDITY AND TREATED WOOD LOCATIONS, UNFINISHED STEEL ELSEWHERE.
- 7.5.2 FRAMING CONNECTORS, STRAPS AND HANGERS. CONNECTOR MODEL NUMBERS SHOWN ARE SIMPSON STRONG-TIE CONNECTORS, AS MANUFACTURED BY SIMPSON STRONG-TIE CO., 1450 DOOLITTLE DR., P.O. BOX 1568, SAN LEANDRO, CA 94577. SUBSTITUTIONS ARE ACCEPTABLE WITH APPROVAL FROM THE ENGINEER. INSTALL SIZE AND NUMBER OF FASTENERS AS SHOWN IN LATEST SIMPSON CATALOG. ALL CONNECTORS SHALL BE HOT DIPPED GALVANIZED.
- 7.6 FACTORY WOOD TREATMENT: WOOD PRESERVATIVE PRESSURE TREATMENT: AWP A TREATMENT C1 USING WATER BORNE PRESERVATIVE WITH 0.25 PERCENT RETAINAGE.
- 7.7 FRAMING INSTALLATION
- 7.7.1 SET STRUCTURAL MEMBERS LEVEL AND PLUMB, IN CORRECT POSITION.
- 7.7.2 MAKE PROVISIONS FOR ERECTION LOADS, AND FOR SUFFICIENT TEMPORARY BRACING TO MAINTAIN STRUCTURE SAFE, PLUMB, AND IN TRUE ALIGNMENT UNTIL COMPLETION OF ERECTION AND INSTALLATION OF PERMANENT BRACING.
- 7.7.3 PLACE HORIZONTAL MEMBERS, CROWN SIDE UP.
- 7.7.4 CONSTRUCT LOAD BEARING FRAMING MEMBERS FULL LENGTH WITHOUT SPLICES.
- 7.7.5 DOUBLE MEMBERS AT OPENINGS OVER 24 INCHES WIDE. SPACE SHORT STUDS OVER AND UNDER OPENING TO STUD SPACING.
- 7.8 SHEATHING INSTALLATION
- 7.8.1 SECURE ROOF SHEATHING WITH LONGER EDGE PERPENDICULAR TO FRAMING MEMBERS AND WITH ENDS STAGGERED AND
- 7.8.2 SHEET ENDS OVER BEARING.
- 7.8.3 USE SHEATHING CLIPS BETWEEN SHEETS BETWEEN ROOF FRAMING MEMBERS.
- 7.9 TOLERANCES
- 7.9.1 FRAMING MEMBERS: 1/4 INCH FROM TRUE POSITION, MAXIMUM.

11.0 LIGHT GAGE METAL FRAMING

- 11.1 A CERTIFIED TESTING AGENCY SHALL BE ENGAGED TO PERFORM INDUSTRY STANDARD INSPECTIONS TO ENSURE CONFORMANCE WITH PLANS AND SPECIFICATIONS (IF PROVIDED). SUBMIT REPORTS TO ARCHITECT AND ENGINEER.
- 11.2 COLD ROLLED EXTERIOR WALLS ARE DESIGNED BY ENGINEER OF RECORD. NO SPECIALTY ENGINEERING WILL BE ACCEPTED.
- 11.3 CONNECT STEEL STUDS AND TRACKS TO A36 STEEL OR CONCRETE WITH (2) POWDER DRIVEN PINS AT EACH STUD. CONNECT STEEL STUDS & TRACKS TO EACH OTHER WITH (2) 8-18 SCREWS AT EACH STUD. TYPICAL UNLESS NOTED OTHERWISE. SEE ARCHITECTURAL DRAWINGS FOR EXACT LOCATION AND EXTENTS OF STEEL STUD WORK. NOTE: "POWDER DRIVEN PINS" REFER TO .177~ LOW VELOCITY POWDER DRIVEN FASTENERS WITH MINIMUM CAPACITIES AS FOLLOWS:
- |              |                                   |            |
|--------------|-----------------------------------|------------|
| IN CONCRETE: | 1 7/16" PENETRATION= 150# PULLOUT | 285# SHEAR |
| IN STEEL:    | 1/4" PENETRATION = 350# PULLOUT   | 700# SHEAR |
- 11.4 STEEL STUDS SHALL MEET FOLLOWING DESIGN CRITERIA: GALV G-60 ASTM A525, MINIMUM YIELD STRESS TO BE 50,000 PSI FOR 14 & 16 GA, AND 33,000 PSI FOR 18 & 20 GA. TRACKS AND ALL OTHER COMPONENTS TO BE 33,000 PSI.

STUD SIZE	MINIMUM I	MINIMUM S
3½"x16 GA	.8549	.4388
3½"x18 GA	.6941	.3652
3½"x20 GA	.5354	.2608
4"x16 GA	1.0752	.5027
4"x18 GA	.8722	.4177
4"x20 GA	.6722	.2589
6"x16 GA	2.8033	.8872

NOTE:  
ALL SIZES MAY NOT BE USED, SEE PLANS AND SECTIONS FOR SIZE(S) REQUIRED. (SIZES AND GAGES ON STRUCTURAL DWGS SHALL GOVERN OVER ARCH'L DWGS)

BRACING DURING CONSTRUCTION:  
PROVIDE 1 1/2" COLD ROLLED CHANNELS OR HORIZONTAL STRAP BRACING FOR WALLS IMMEDIATELY AFTER STUDS ARE ERECTED.

- 11.6 LATERAL BRACING FOR WALLS:
- ENSURE BOTH STUD FLANGES ARE ATTACHED TO TOP AND BOTTOM RUNNER FLANGES. HORIZONTAL BRACING MUST BE INSTALLED AT SPAcing NOT TO EXCEED 48" OC FOR AXIAL LOAD BEARING WALLS AND 60" OC FOR NON-LOAD BEARING WALLS CARRYING WIND LOAD ONLY. TYP FOR ALL OPTIONS BELOW.

11.6.3 HORIZONTAL BRACING – OPTION #2

HORIZONTAL BRACING CONSISTS OF CUT-TO-LENGTH RUNNER FOR SOLID BRIDGING AND STEEL STRAPS ON BOTH SIDES OF STUD. SOLID BRIDGING IS PLACED AT EA END OF WALL, ADJACENT TO WALL OPENINGS AND 8'-0" OC MAX. RUNNER HAS WEB FLANGE BENT AT EACH END AND IS SECURED TO EACH STUD FLANGE WITH ONE 5/8" TYPE S-12 LOW PROFILE SCREW. STRAP BRACING OF 1 1/2" WIDE BY 20ga STEEL IS FASTENED TO EACH STUD FLANGE WITH ONE 5/8" TYPE S-12 SCREW AND TO EACH RUNNER FLANGE WITH FOUR SCREWS.

11.6.4 HORIZONTAL BRACING – OPTION #3

1 1/2" COLD ROLLED CHANNELS MAY BE USED IN LIEU OF ABOVE DETAIL TO BRACE STUDS Laterally. CHANNELS ARE INSERTED THROUGH STUD WEB HOLES AND SECURED WITH SCREW-ATTACHED 1 1/2"x2"x16 ga CUP ANGLES CUT TO LENGTH 1/4" LESS THAN STUD WIDTH.

11.7 EXECUTION:

POSITION STUDS VERTICALLY IN RUNNERS AND SPACE NO GREATER THAN 16". SECURELY ANCHOR EACH STUD TO RUNNER WITH FOUR 5/8" TYPE S-12 LOW-PROFILE SCREWS, TWO AT TOP AND TWO AT BOTTOM, WITH ONE SCREW IN EACH FLANGE. TRACKS SHALL BE SECURELY ANCHORED TO THE SUPPORTING STRUCTURE AS SHOWN ON THE PLANS. AT TRACK BUTT JOINTS, ABUTTING PIECES OF TRACK SHALL BE SECURELY ANCHORED TO A COMMON STRUCTURAL ELEMENT, OR THEY SHALL BE BUTT-WELDED OR SPliced TOGETHER. JACK STUDS OR CRIPPLES SHALL BE INSTALLED BELOW WINDOW SILLS, ABOVE WINDOW AND DOOR HEADS, AT FREE STANDING STAIR RAILS, AND ELSEWHERE TO FURNISH SUPPORT, AND SHALL BE SECURELY ATTACHED TO SUPPORTING MEMBERS. PROVISIONS FOR STRUCTURE VERTICAL MOVEMENT SHALL BE PROVIDED WHERE INDICATED ON THE PLANS. SPLICES IN AXIALLY LOADED STUDS SHALL NOT BE PERMITTED.

11.8 EXTERIOR SHEATHING:

SEW ATTACH GYPSUM SHEATHING TO EXTERIOR OF EACH STUD WITH 1" TYPE(S) S-12 COATED SCREWS SPACED 3/8" FROM ENDS AND EDGES AND APPROXIMATELY 8" OC.

12.0 STRUCTURAL STEEL

- 12.1 A CERTIFIED TESTING AGENCY SHALL BE ENGAGED TO PERFORM INDUSTRY STANDARD INSPECTIONS TO ENSURE CONFORMANCE WITH PLANS AND SPECIFICATIONS (IF PROVIDED). SUBMIT REPORTS TO ARCHITECT AND ENGINEER.
- 12.2 FABRICATE AND ERECT STRUCTURAL STEEL IN CONFORMANCE WITH THE AISC "SPECIFICATIONS" FOR THE DESIGN, FABRICATION AND ERECTION OF STRUCTURAL STEEL BUILDINGS", 9th EDITION OF THE ALLOWABLE STRESS DESIGN.
- 12.3 MATERIAL SPECIFICATIONS:
- ALL STEEL SHALL BE PRODUCED DOMESTICALLY.
  - ROLLED SHAPES, PLATES AND BARS: ASTM A36 EXCEPT WIDE FLANGE SECTIONS SHALL BE ASTM A572.
  - PIPE: ASTM A53, TYPE E, GRADE B.
  - TUBES: ASTM A500 GRADE B.
  - ANCHOR BOLTS, RODS, NUTS AND WASHERS: ASTM A36
  - HEADED STUDS: ASTM A108 GRADE 1015 THROUGH 1020, COLD FINISHED CARBON STEEL, AWS D1.1, TYPE B.
  - BOLTED STRUCTURAL CONNECTIONS: UNLESS NOTED OTHERWISE ALL BOLTS SHALL BE 3/4~ ASTM A325, TYPE N BOLTS INDICATED LESS THAN 5/8~ SHALL BE ASTM A307.
  - WELDED CONNECTIONS: ELECTRODES – E70XX UNO (LOW HYDROGEN). FILLET WELDS SHALL BE 3/16" UNO.
- 12.4 HIGH-STRENGTH FIELD BOLTED CONNECTIONS SHALL BE INSTALLED, TIGHTENED, TESTED AND INSPECTED ACCORDING TO "SPECIFICATION FOR STRUCTURAL JOINTS USING ASTM A325 OR A490 BOLTS" BY RESEARCH COUNCIL ON STRUCTURAL CONNECTIONS (RCSC). CONNECTIONS SHALL NOT BE CLASSIFIED AS SLIP-CRITICAL (SC) UNLESS INDICATED ON PLANS AS SUCH. "SNUG-TIGHT" AS DEFINED IN THE SPECIFICATION IS SUFFICIENT FOR ALL BOLTED CONNECTIONS UNLESS THE BOLTS IN SUCH A CONNECTION ARE INDICATED AS SLIP CRITICAL (SC). SLIP CRITICAL BOLTS MUST BE FULLY TENSIONED PER SPECIFICATION.
- 12.5 BRACE AND MAINTAIN ALL STEEL IN ALIGNMENT UNTIL OTHER PARTS OF CONSTRUCTION NECESSARY FOR PERMANENT SUPPORT ARE COMPLETED. CONTRACTOR SHALL BE RESPONSIBLE FOR INSTALLING TEMPORARY SHORING AS REQUIRED FOR THE STABILITY OF THE STEEL FRAME UNTIL ALL STRUCTURAL ELEMENTS HAVE BEEN COMPLETED AND BUILDING IS ENCLOSED.
- 12.6 ALL WELDING SHALL CONFORM TO THE REQUIREMENTS OF "THE STANDARD CODE FOR WELDING IN BUILDING CONSTRUCTION" OF THE AMERICAN WELDING SOCIETY.
- 12.7 GROUT FOR COLUMN BASE PLATES AND PRESET BEARING PLATES SHALL BE NON-SHRINK, NON-METALLIC GROUT. (5000 PSI MIN)
- 12.8 SUBMIT SHOP DRAWINGS INDICATING ALL SHOP AND ERECTION DETAILS INCLUDING PROFILES, SIZES, SPACING AND LOCATIONS OF STRUCTURAL MEMBERS, CONNECTION ATTACHMENTS, FASTENERS, LOADS AND TOLERANCES.
- 12.9 ALL STEEL EXPOSED TO WEATHER SHALL BE HOT DIPPED GALVANIZED IN ACCORDANCE WITH ASTM A123. STRUCTURAL SHALL RECEIVE SHOP COAT OF PRIMER (COLOR AS DIRECTED BY ARCHITECT) EXCEPT AREAS THAT WILL RECEIVE SPRAY-ON FIRE PROTECTION SHOULD NOT BE PRIMED.

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Plans and specifications comply with the Florida Building Code, Section 1609 (5th Edition - 2014)

Plans and specifications have been design to withstand the design wind speed designated on Sheet S-1 (Structural Notes) unless noted otherwise on this sheet.

This drawing is valid for 12 months after the date it is signed and sealed or until a new edition of the Florida Building Code is adopted by the governing building department.

This drawing is signed and sealed for the structural portion of the drawing only. All other aspects of the drawing (Architectural, Mechanical/Electrical/Plumbing, dimensional, etc...), if shown, are for visual reference only and are not covered under this engineering seal.

It is the Contractor's responsibility to review all drawings before construction begins. The Engineer of Record is responsible for the structural integrity of this project only, as specified on these documents. Any discrepancy between field conditions, other design professionals' shop drawings, Contractor building methods, and these signed and sealed drawings must be brought to the attention of the Engineer of Record prior to the commencement of construction.

Contractor must verify all dimensions prior to the start of any construction. The Structures Group is not responsible for any dimensions.

Contractor is responsible for all temporary shoring, bracing, formwork and means/methods required during the construction process.

The Structures Group is responsible for proposed changes to the original structure shown on these pages only. The Structures Group is not responsible for the existing structural components.

REV.	DATE & COMMENTS	BY

STRUCTURAL NOTES

FBC 5th EDITION

Florida

JOB NUMBER :	20160395
DATE :	MARCH 2017
DRAWN BY :	MWB
SCALE :	

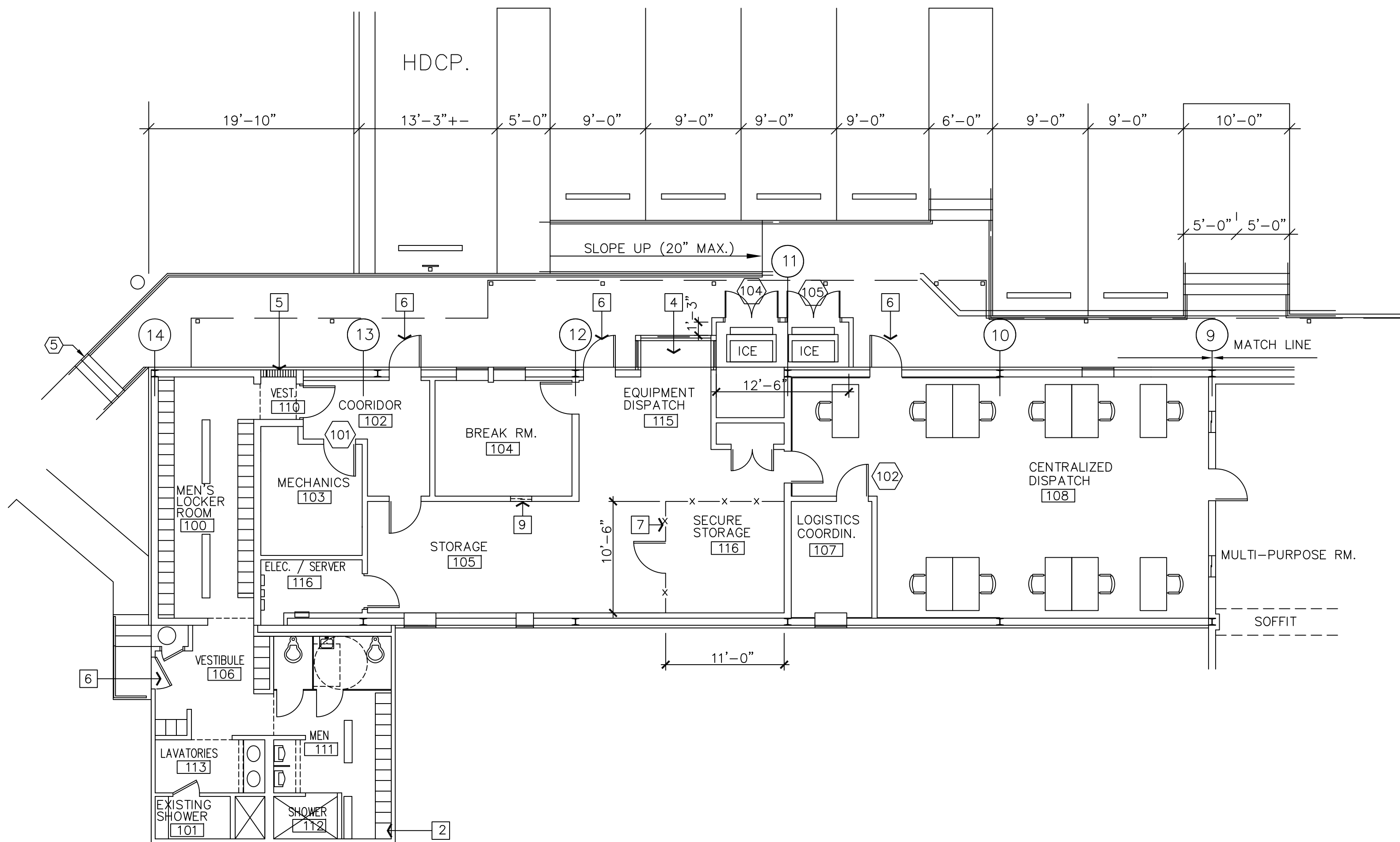
SHEET NUMBER

S1.00

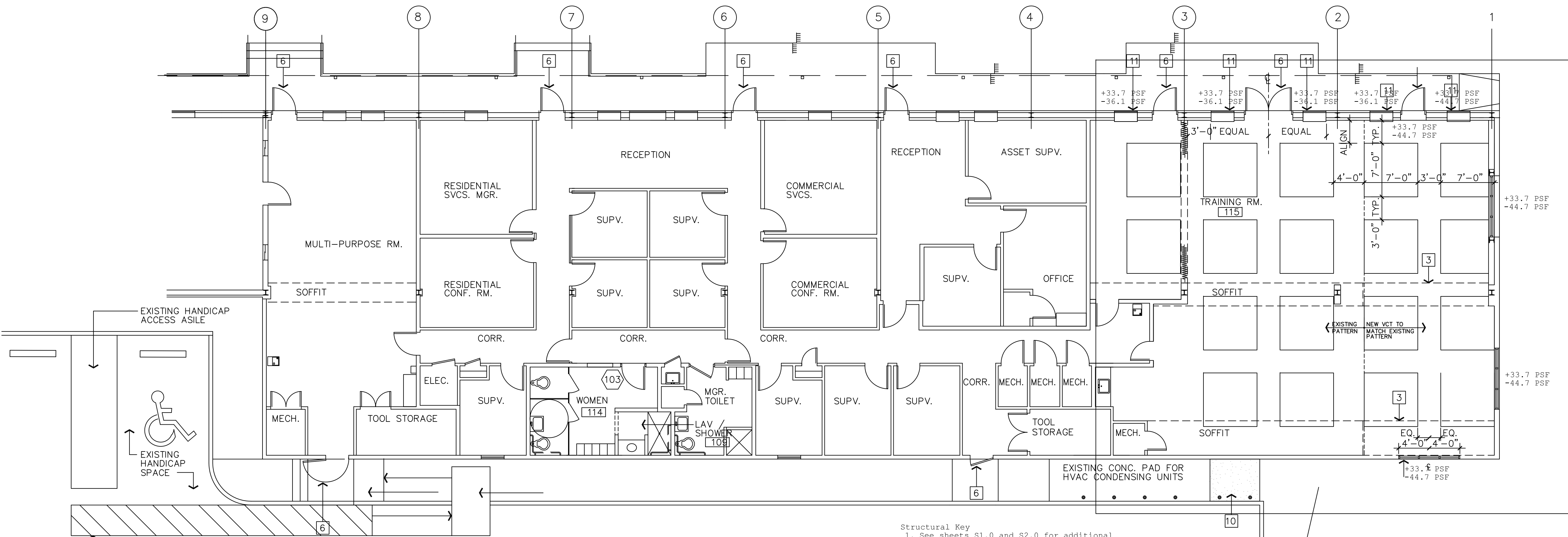
SIGN & SEAL

Dr. Nick M. Bradford, P.E. S.E. S.I.  
FL. Reg. #62686





PROPOSED FLOOR PLAN  
SCALE 1/8" = 1'-0"



PROPOSED FLOOR PLAN  
SCALE 1/8" = 1'-0"

To the best of the engineer's knowledge, the plans and specifications comply with the minimum requirements of The Florida Building Code - Residential, Section R301(5TH Edition - 2014). Plans and specifications comply with the Florida Building Code, Section 1609 (5th Edition - 2014). Plans and specifications have been design to withstand the design wind speed designated on Sheet S-1 (Structural Notes) unless noted otherwise on this sheet.

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THESE CONSTRUCTION DOCUMENTS HAVE BEEN ELECTRONICALLY SIGNED BY THE ENGINEER OF RECORD. THIS SIGNATURE CERTIFIES THAT THE STRUCTURAL COMPONENTS HAVE BEEN DESIGNED TO FULFILL THE REQUIREMENTS OF CHAPTER 16 OF THE FLORIDA BUILDING CODE.

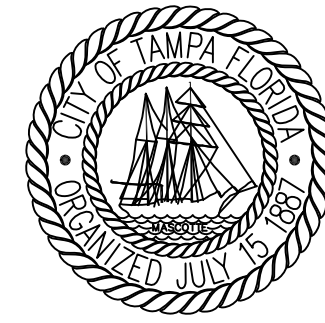
THIS SIGNATURE DOES NOT CERTIFY ANY NON-STRUCTURAL INFORMATION. SPECIFICALLY, NON-STRUCTURAL SHEETS, SUCH AS ELECTRICAL, MECHANICAL, PLUMBING, SITE, BUILDING SECTIONS, WATERPROOFING, PRODUCT APPROVAL, ETC... ARE NOT COVERED BY THIS ENGINEERING SIGNATURE. SHEETS THAT PROVIDE BOTH STRUCTURAL AND NON-STRUCTURAL INFORMATION ARE CERTIFIED SOLELY FOR THE STRUCTURAL INFORMATION PRESENTED ON THEM. SHEETS WITH STRUCTURAL INFORMATION ARE DENOTED BY THE PRESENCE OF THE ENGINEERS SIGN AND SEAL NOTE AND LOGO.

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## GENERAL NOTES

## KEY NOTES

Structural Notes (Structures Group Scope)  
1. Installation of new window and door openings in existing exterior walls of building.  
2. No renovations, alterations or changes to building footprint.  
3. All other structural and non-structural work on this project is to be engineered by others and is not covered under this engineering seal.



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**LANDSCAPE CONSULTANT**

**SOLID WASTE BUILDING 4  
INTERIOR REMODEL**  
4010 W. SPRUCE ST.  
TAMPA, FLORIDA

**FILE NUMBER**  
X

**PROJECT NUMBER**  
16-C-11

**ISSUE DATE**  
MARCH 2017

**DRAWN BY**  
KINSEY TILLMAN

**REVISIONS**  
△  
△  
△

**PROFESSIONAL SEAL**  
THOMAS HESTER, AIA, NOMA

X

**SCALE:** 1/8"=1'-0"

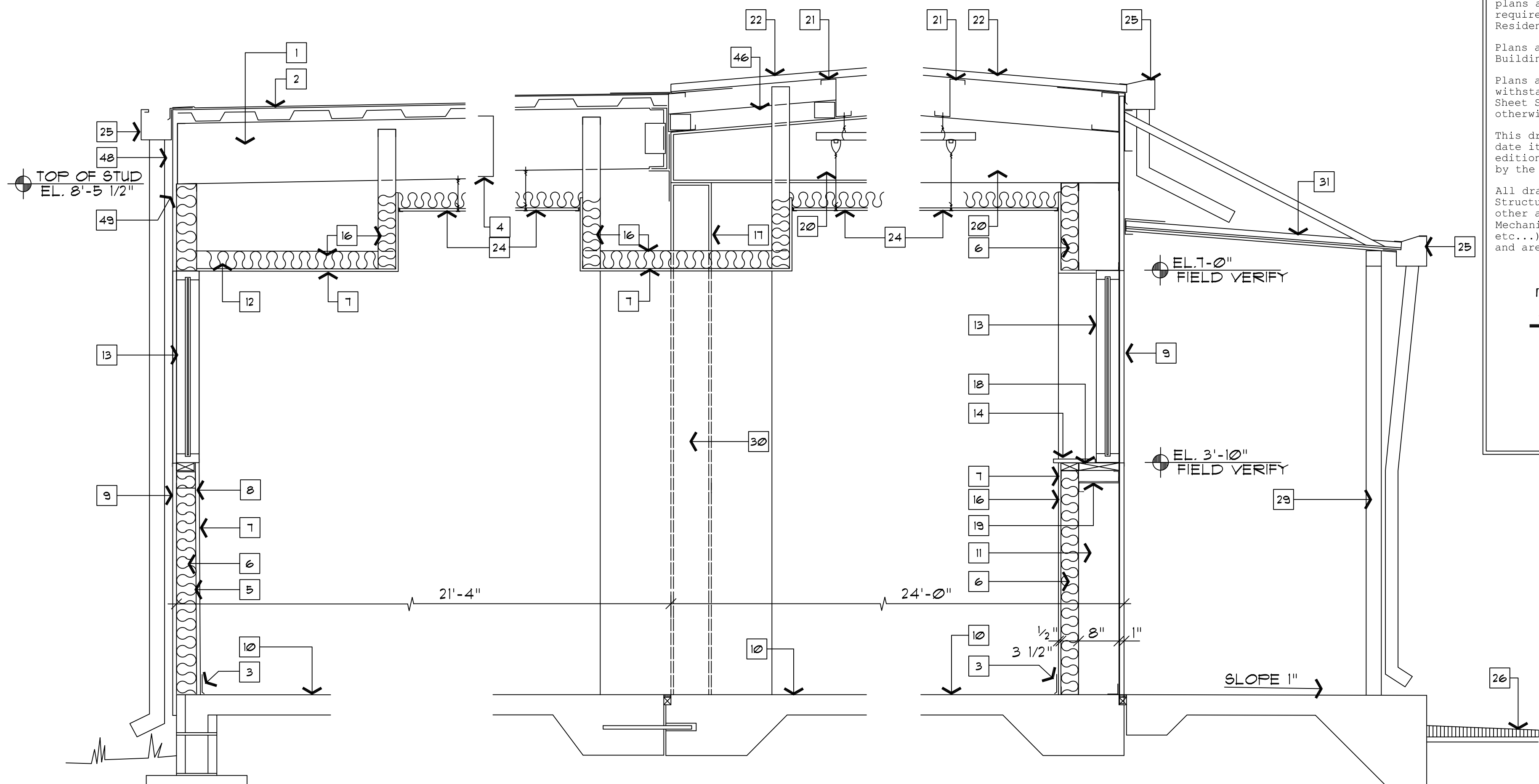
**PROPOSED FLOOR PLANS**

**SHEET NUMBER**

S1.10

X OF X

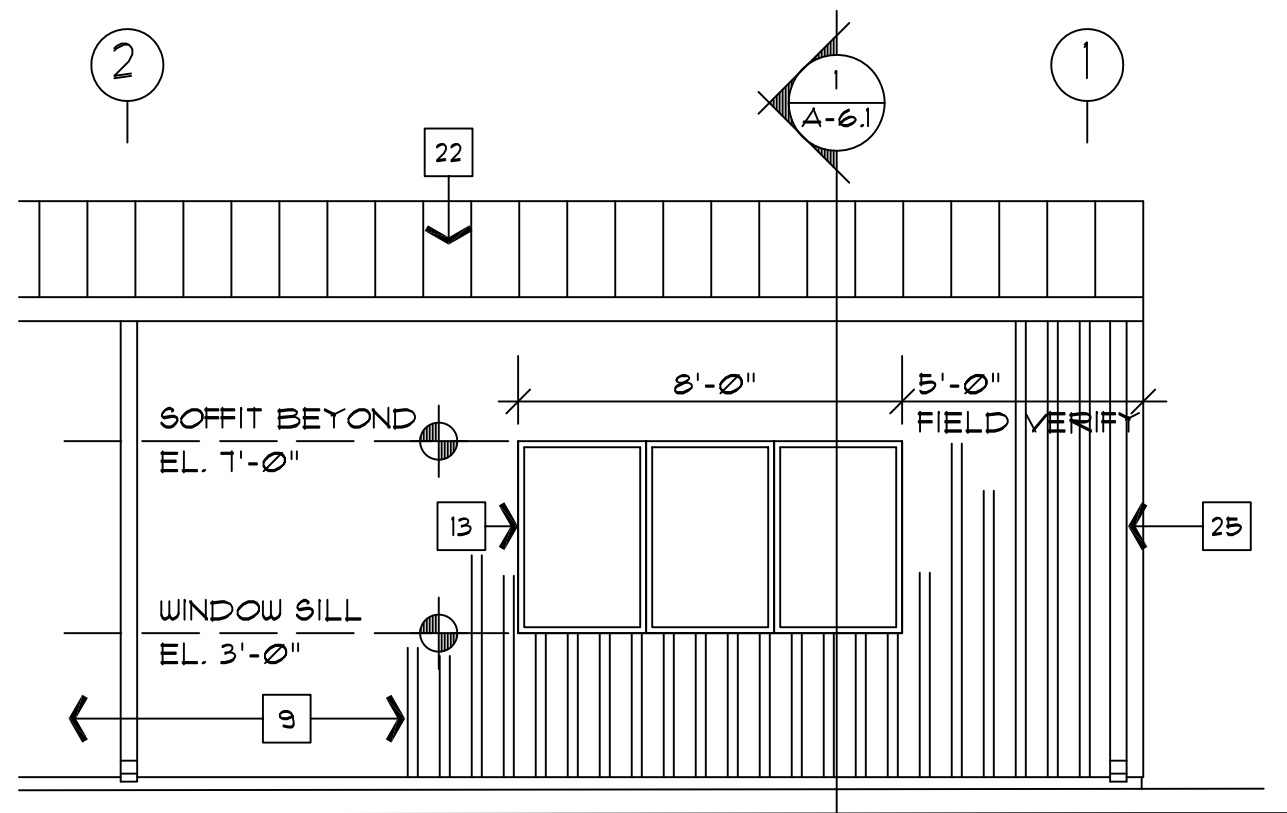
K:\CAP\Planning & Design\Deliverables\Interior Remodel\4 IMPROVEMENTS\SOLID WASTE BLDG. 4 IMPROVEMENTS\CONSTRUCTION DOCUMENTS\A-4.1 WALL SECTIONS & PARTIAL ELEVATIONS.dwg, 6/24/2016 9:45:16 AM, Adobe PDF



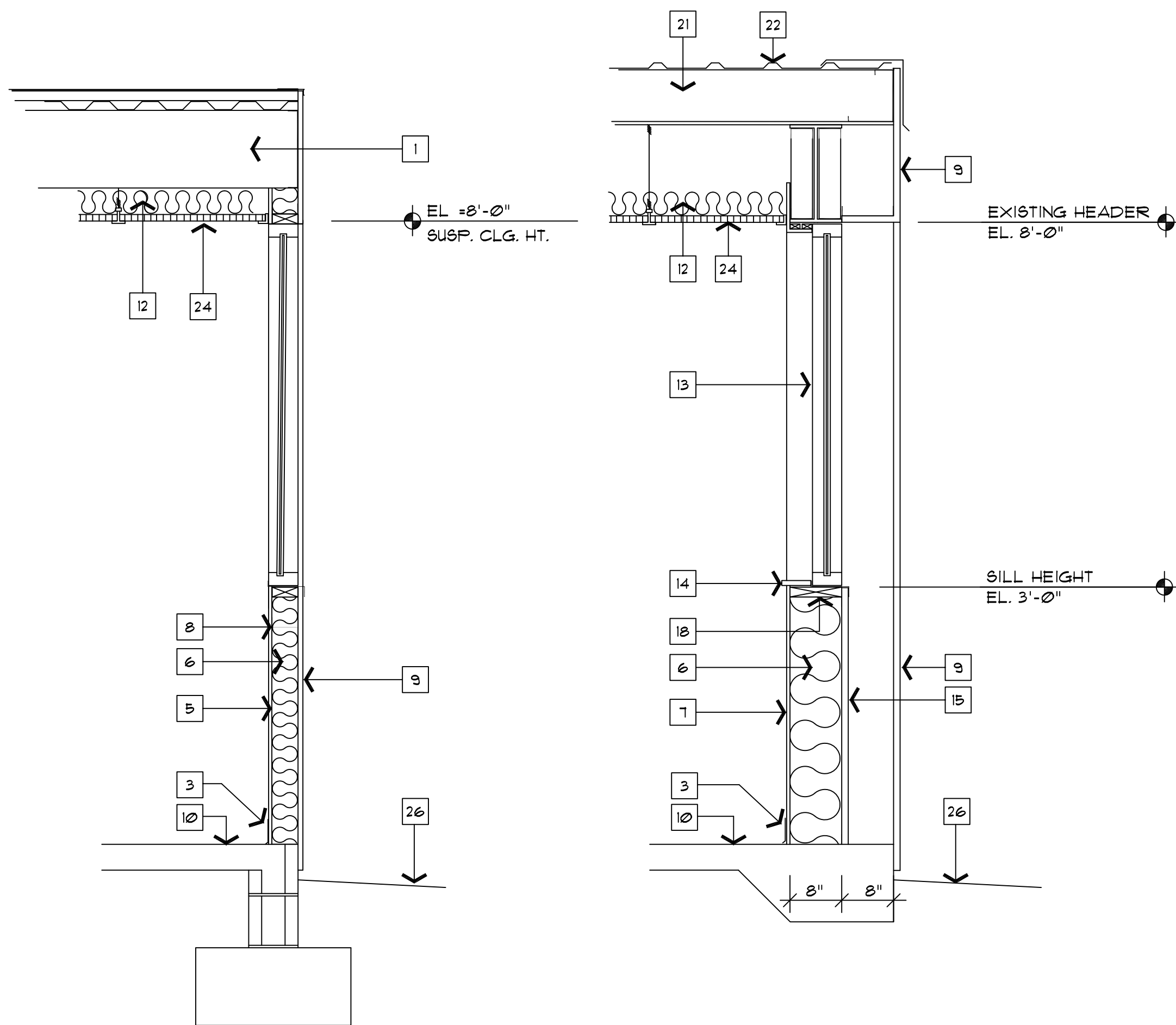
SECTION 1  
SCALE 3/4"=1'-0"

SECTION 2  
SCALE 3/4"=1'-0"

SECTION 3  
SCALE 3/4"=1'-0"

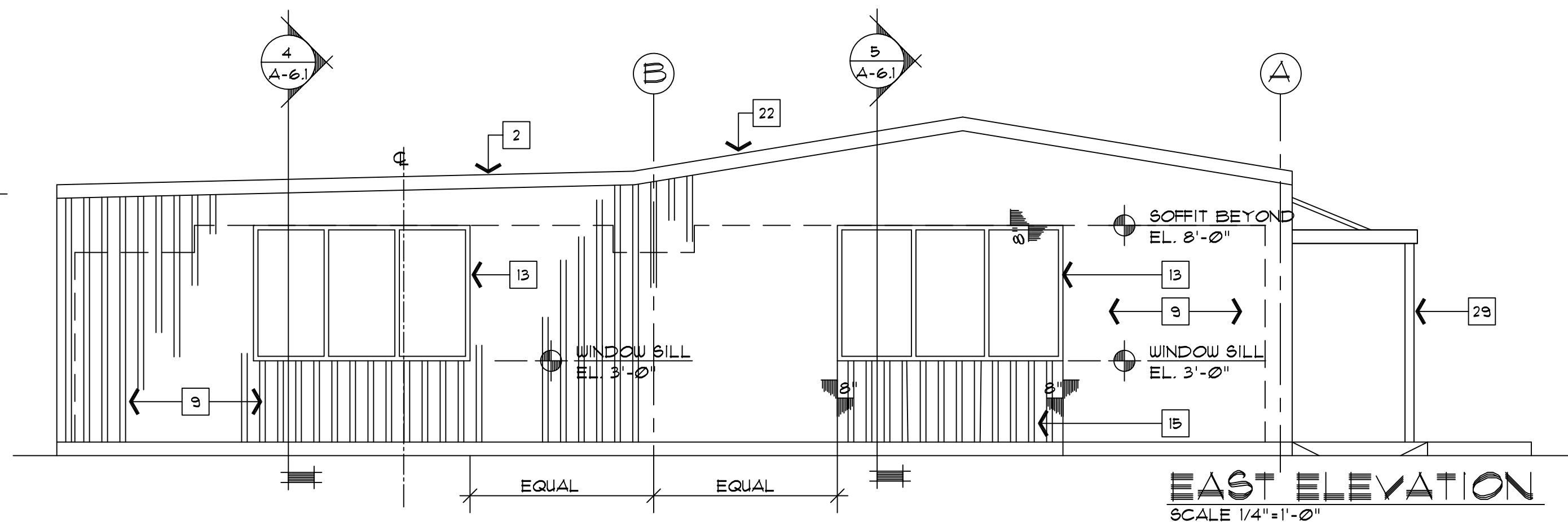


PARTIAL SOUTH ELEVATION  
SCALE 1/4"=1'-0"

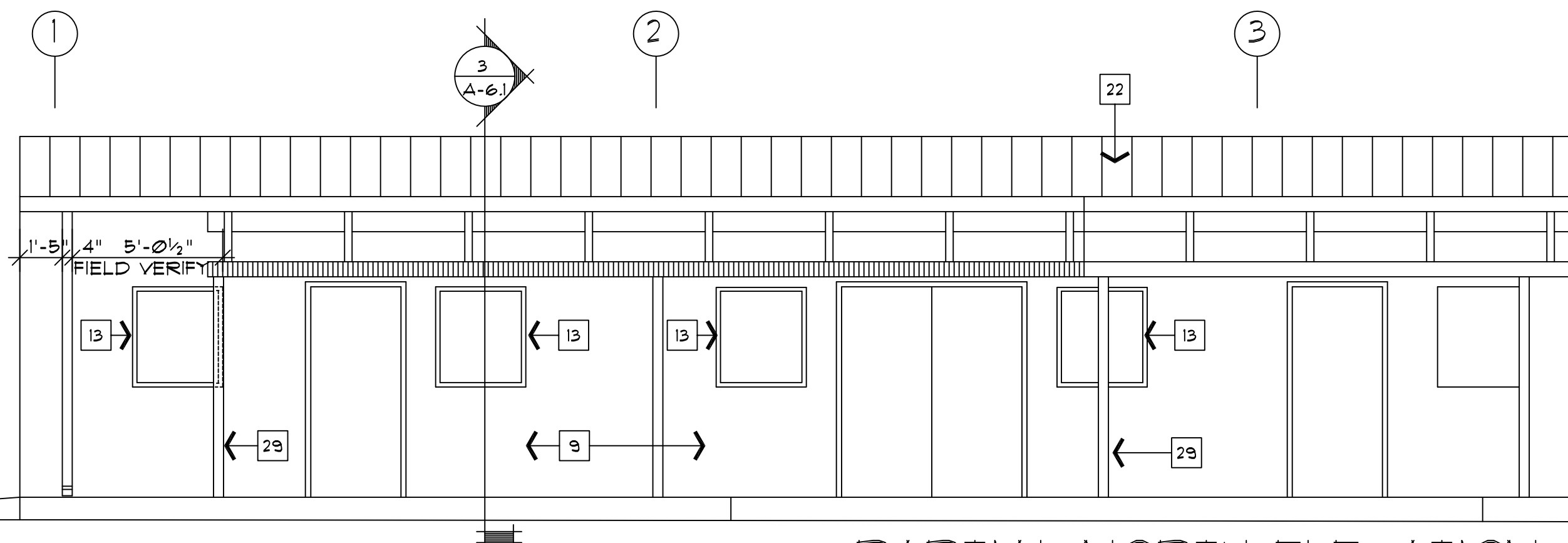


SECTION 4  
SCALE 3/4"=1'-0"

SECTION 5  
SCALE 3/4"=1'-0"



EAST ELEVATION  
SCALE 1/4"=1'-0"



PARTIAL NORTH ELEVATION  
SCALE 1/4"=1'-0"

To the best of the engineer's knowledge, the plans and specifications comply with the minimum requirements of The Florida Building Code - Residential, Section R301(5th Edition - 2014)

Plans and specifications comply with the Florida Building Code, Section 1609 (5th Edition - 2014)

Plans and specifications have been design to withstand the design wind speed designated on Sheet S-1 (Structural Notes) unless noted otherwise on this sheet.

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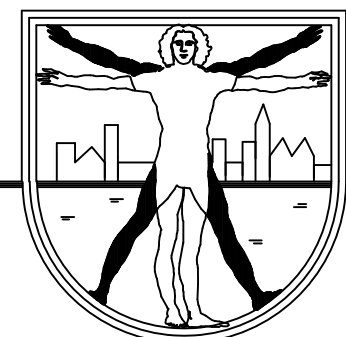
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## GENERAL NOTES

## KEY NOTES

- EXISTING ROOF STRUCTURE
- EXISTING BUILT UP ROOF
- NEW VINYL BASE
- EXISTING JOIST BRIDGING
- EXISTING METAL STUDS
- NEW R-13 + R-6.5 CONT. BATT INSULATION
- NEW 1/2" GYPSUM WALL BOARD
- EXISTING METAL STUD BRACING
- EXISTING METAL WALL PANELS TO REMAIN. (REPLACE EXISTING DAMAGED PANELS AS REQUIRED WITH EXISTING METAL WALL PANELS)
- EXISTING CONCRETE SLAB
- NEW 8" 20 GA. METAL STUDS @ 16" O.C.
- NEW R-38 BATT INSULATION
- NEW 1 3/4" x 4 1/2" ALUMINUM STOREFRONT W/ 1/4" TINTED IMPACT GLASS
- MARBLE SILL
- NEW METAL WALL PANELS TO MATCH EXISTING
- 3 1/2" (20 GAUGE) METAL STUDS AT 16" O.C. (FASTEN TO I200 CJS 14 WITH (6) #12 SCREWS. ALL OTHER CONNECTIONS SHALL HAVE MIN. 2 #12 SCREWS.
- EXISTING 8" x 6" x 3/16" STEEL COLUMN.
- 2 x 8 BLOCKING
- EXISTING GIRT TO REMAIN.
- EXISTING RAKED STEEL BEAM TO REMAIN.
- EXISTING STEEL FURLINS TO REMAIN.
- EXISTING METAL ROOF PANELS TO REMAIN.
- SHIMS AND SEALANT
- SUSPENDED ACOUSTICAL TILE CEILING SYSTEM.
- EXISTING GUTTER AND DOWNSPOUT TO REMAIN.
- NOT USED
- NOT USED
- NOT USED
- EXISTING ALUM. TUBE COLUMN
- EXISTING 8" x 6" x 3/16" STEEL COLUMN
- EXISTING METAL CANOPY.

THIS SHEET CONTAINS NO STRUCTURAL INFORMATION AND IS NOT COVERED BY THE ENGINEERING SEAL. SPECIFICALLY, ALL INFORMATION ON THIS SHEET IS FOR VISUAL REFERENCE ONLY.

NON-STRUCTURAL SHEET



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SCALE: 1/8"=1'-0"  
VARIES

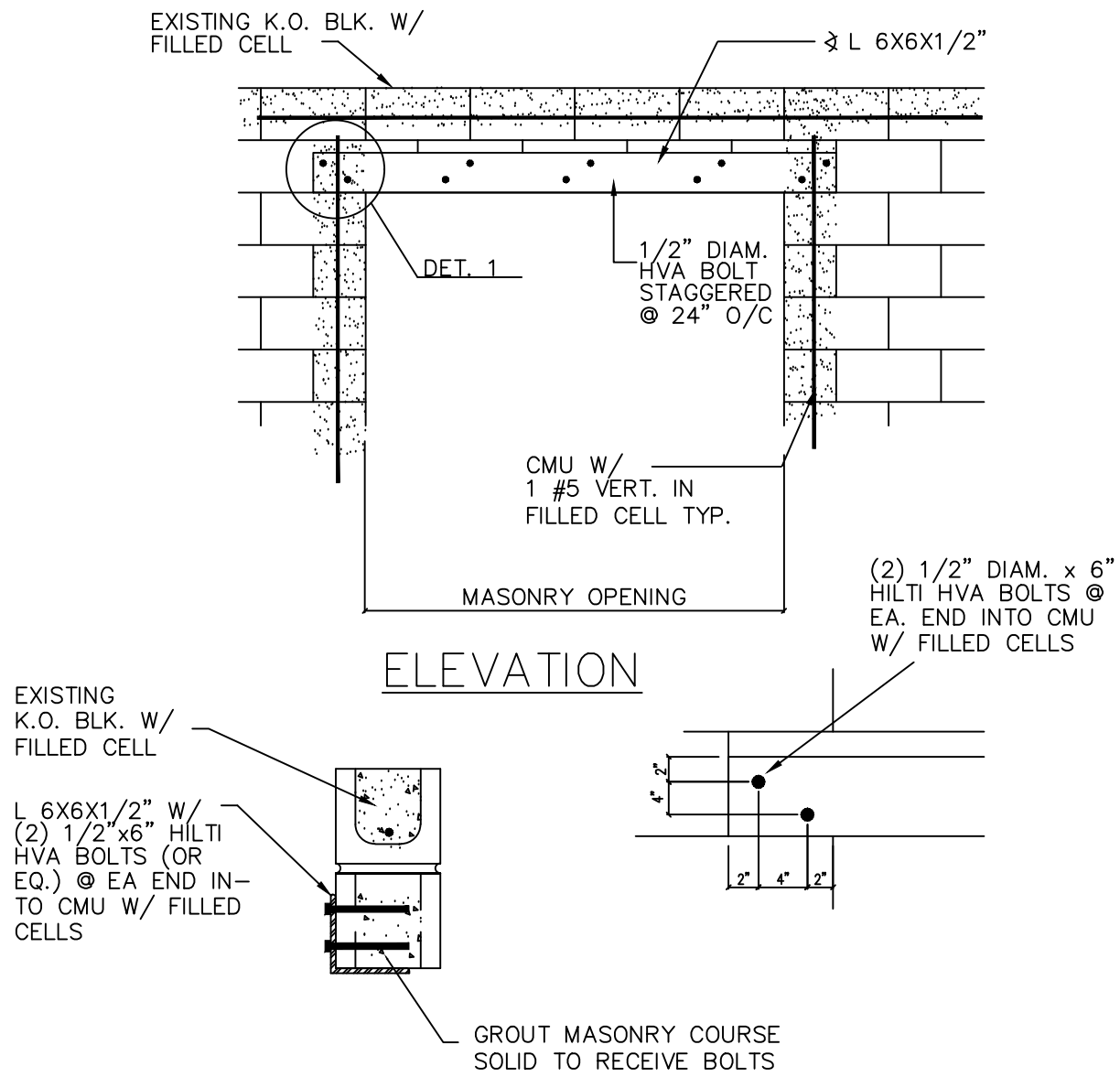
WALL SECTIONS & ELEV.

SHEET NUMBER

S1.20

X OF X



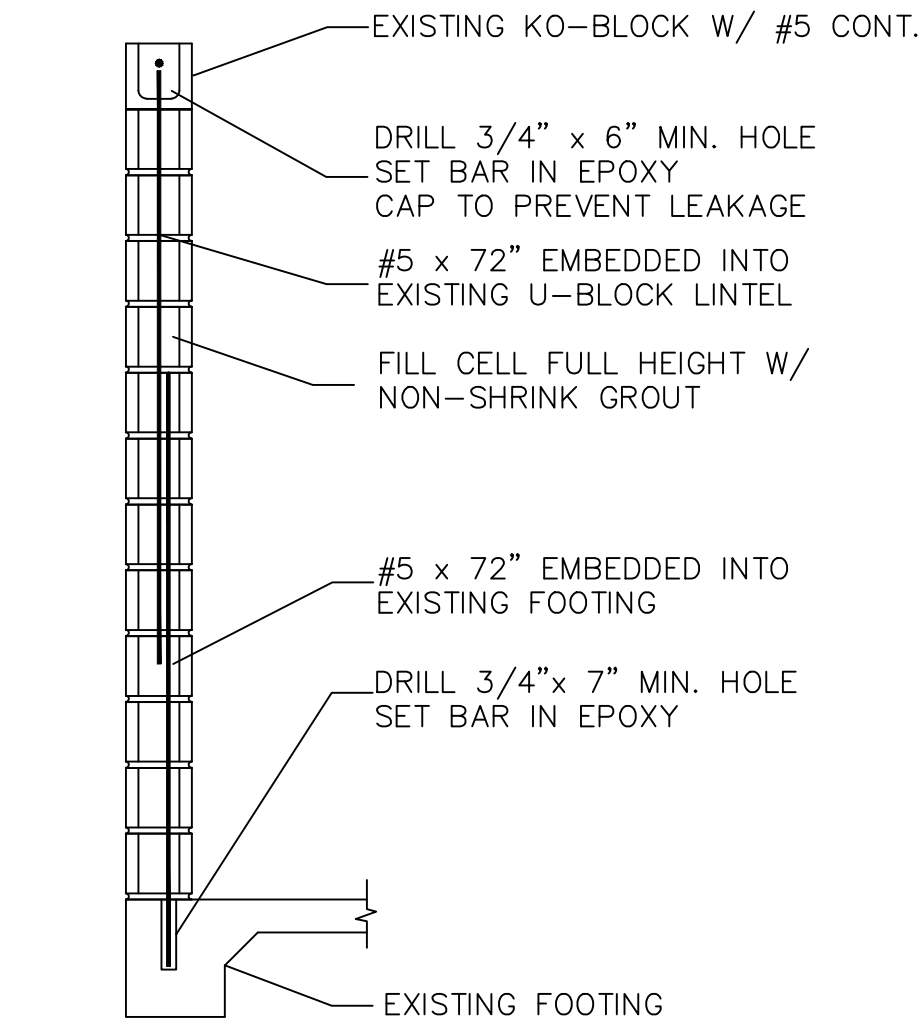


- NOTES:
1. THE STEEL ANGLE SHALL RECEIVE ONE SHOP PRIMER COAT, ONE FIELD PRIMER COAT, AND ONE FIELD PAINT COAT PRIOR TO INSTALLATION.
  2. THE BOTTOM FLANGE OF THE ANGLE SHALL BE CUT TO FIT THE WIDTH OF THE WINDOW AND SHALL NOT EXTEND BEYOND THE SIDES OF THE WINDOW.

### RETROFIT LINTEL

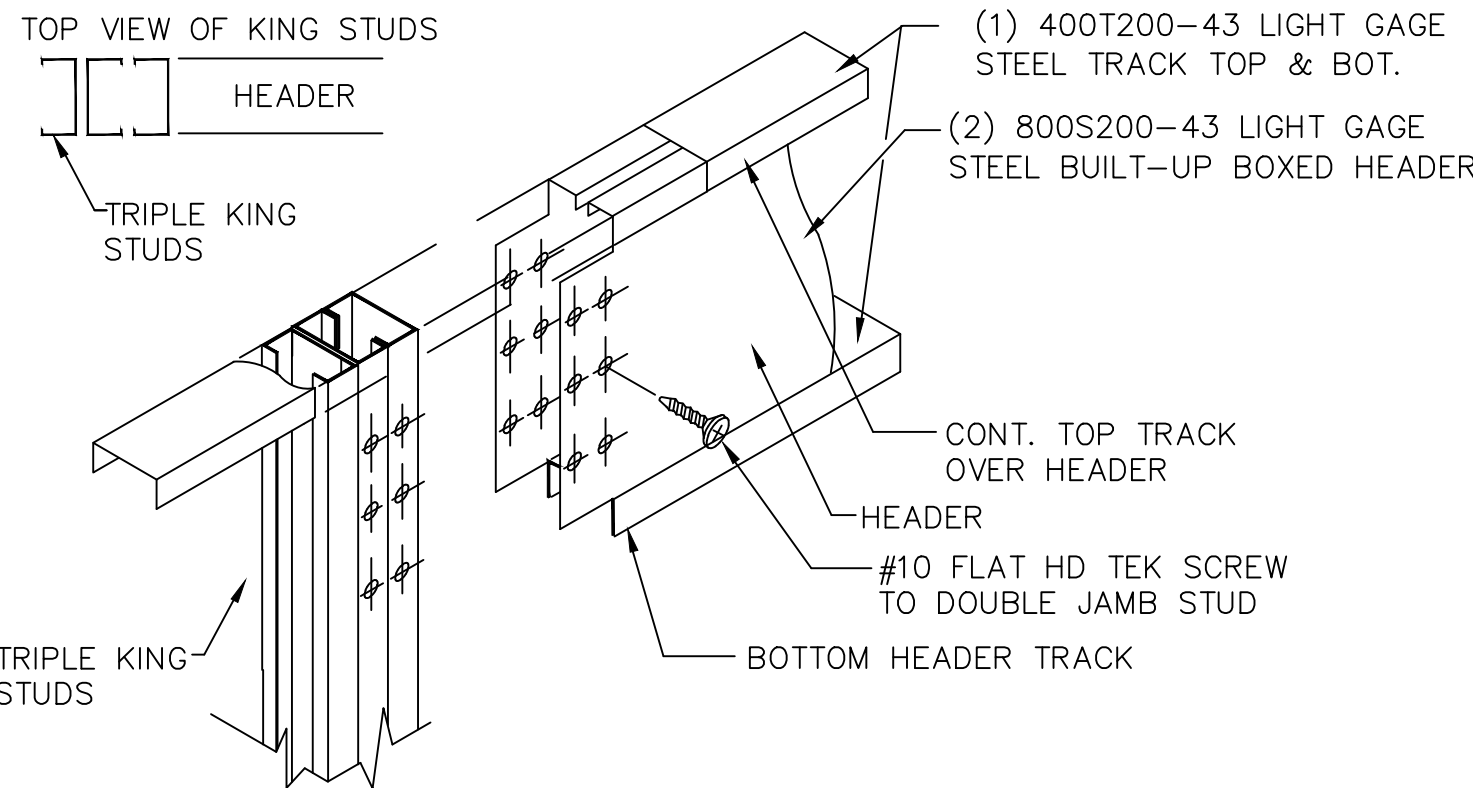
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2-#5x6' IN CONC. FILLED CELL



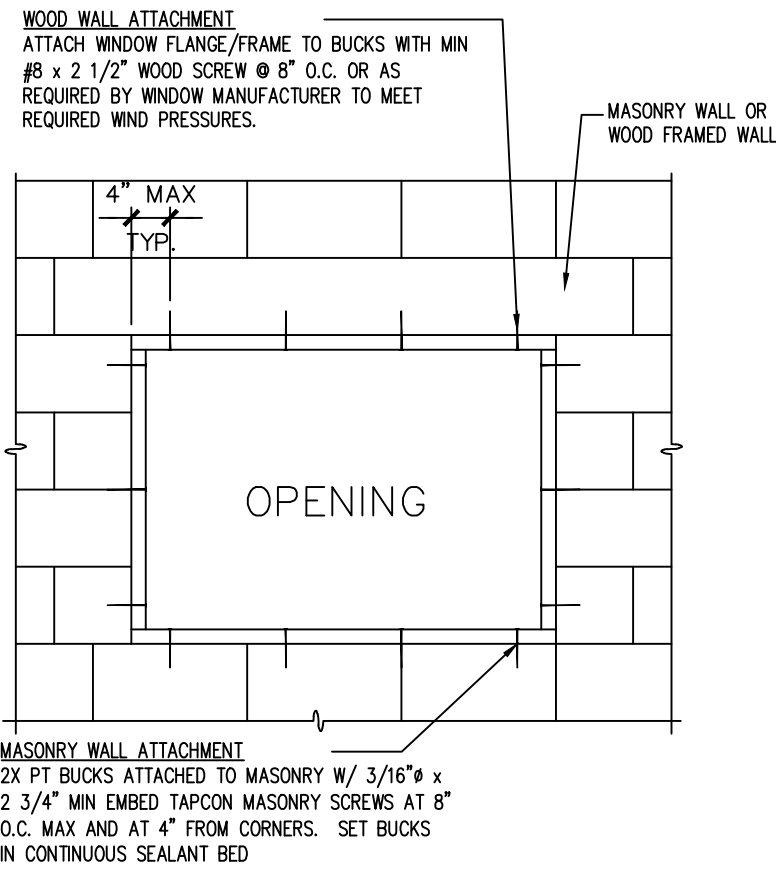
### RETROFIT FILLED CELL

SCALE: N.T.S.



SEE ARCHITECTURALS FOR ALL NON-STRUCTURAL INFO  
STEEL HEADER CONN.

SCALE: N.T.S.



### WINDOW / DOOR BUCK ATTACHMENTS

SCALE: N.T.S.

WRAP (1) SIMPSON LSTA24 @ TOP,BOT, MID POINT W/(1)#10 FLAT HD SCREW INTO EA STUD FLANGE

\* UPLIFT CONNECTIONS REQUIRED AT LOAD BEARING WALLS

SEE ARCHITECTURALS FOR ALL NON-STRUCTURAL INFO

### TYPICAL STEEL HEADER

SCALE: N.T.S.

## 145 ENCLOSED EXP C Allowable Stress Design

THIS PLAN HAS BEEN DESIGNED TO COMPLY WITH ALL PROVISIONS OF FBC-2014 INCLUSIVE OF ASCE 7-10 WIND PROVISIONS FOR A NOMINAL DESIGN 3-SECOND GUST OF 145 MPH ( $V_{ULT}$ ) OR 112 MPH ( $V_{ASD}$ ). AS DEFINED IN SECTION 1609, THIS STRUCTURE DOES MEET THE REQUIREMENTS FOR AN ENCLOSED BUILDING AND AS SUCH HAS BEEN DESIGNED WITH AN INTERNAL PRESSURE COEFFICIENT OF +0.18 AND -0.18, UNADJUSTED FOR ZONES 1, 2 AND 3. DESIGN HAS UTILIZED A WIND IMPORTANCE FACTOR OF 1.00 FOR RISK CATEGORY II IN AN EXPOSURE C AREA WITH A MEAN ROOF HEIGHT OF 30 FEET AND COMPLIES WITH WIND SPEED MAPS AS ADOPTED BY THE LOCAL JURISDICTION.

ALL STRUCTURAL MEMBERS IN THIS BUILDING HAVE BEEN DESIGNED USING ALLOWABLE STRESS DESIGN METHODS. AS SUCH  $V_{ASD}$  HAS BEEN USED TO DEVELOP WIND PRESSURES.

ALL BUILDINGS WITHIN WINDBORNE DEBRIS AREAS ( $V_{ULT} > 130$  MPH AND  $< 1$  MILE OF COASTLINE, ALL AREAS WHERE  $V_{ULT} > 140$  MPH) REQUIRE WIND DEBRIS IMPACT PROTECTION FOR ALL WINDOWS, DOORS AND BUILDING ENVELOP COMPONENTS.

#### DESIGN WIND PRESSURE (PSF)

Zone	Effective Wind Area	Ultimate Wind Speed		Zone	Effective Wind Area	Ultimate Wind Speed	
		145 MPH 3-sec. Gust				145 MPH 3-sec. Gust	
4	SQ FT	+	-	5	SQ FT	+	-
	<10	33.3	36.1		<10	33.3	44.7
	20	31.8	34.6		20	31.8	41.6
	50	29.8	32.6		50	29.8	37.7
	100	28.3	31.1		100	28.3	34.6
5	500	24.8	27.7	5	500	24.8	27.7
	16'-0" WIDE	7'-0" HEIGHT	31.9		16'-0" WIDE	7'-0" HEIGHT	34.0
GARAGE DOOR		9'-0" WIDE	7'-0" HEIGHT	31.9	36.1		
		16'-0" WIDE	7'-0" HEIGHT	30.5	34.0		
ROOF WIND ZONES		ZONE 1		30.5	33.3		
DESIGN PRESSURES FOR THE ROOF ZONES ARE TAKEN FROM THE MOST CONSERVATIVE CASE. (INCLUDING ROOF SLOPE, EFFECTIVE AREA AND OVERHANG CONDITIONS)		ZONE 2		30.5	55.9		
		ZONE 3		30.5	84.1		

#### PRESSURE ZONE NOTES:

1. WALL COMPONENTS: ANY COMPONENT/CLADDING (WINDOW, DOOR, ETC.) WHICH IS WITHIN 8'-0" OF A BUILDING CORNER, SHALL BE CONSIDERED ZONE 5 PER THE CHART ABOVE (UNLESS CLASSIFIED OTHERWISE ON THE FRAMING PLAN). ALL OTHER COMPONENTS SHALL BE CONSIDERED WIND ZONE 4 PER THE CHART ABOVE.
2. ROOF COMPONENTS: ANY ROOF COMPONENT/CLADDING WHICH IS WITHIN 8'-0" OF A BUILDING CORNER SHALL BE CONSIDERED ZONE 3 PER THE CHART ABOVE. ANY ROOF COMPONENT/CLADDING WHICH IS WITHIN 8'-0" OF THE ROOF EDGE SHALL BE CONSIDERED WIND ZONE 2. ALL OTHER AREAS OF THE ROOF SHALL BE CONSIDERED WIND ZONE 1 PER THE CHART ABOVE.
3. INTERPOLATION OF THE DESIGN PRESSURES LISTED ABOVE SHALL BE PERMITTED, BASED ON THE COMPONENT AREA. OTHERWISE, ROUND COMPONENT AREA DOWN TO THE SMALLER AREA LISTED ABOVE.

- DESIGN PRESSURES ABOVE REPRESENT THE NET PRESSURE (SUM OF EXTERNAL AND INTERNAL PRESSURES) APPLIED NORMAL TO ALL SURFACES. COMPONENT MANUFACTURER SHALL USE THE HIGHER OF THE TWO NUMBERS FOR APPLICABLE SQUARE FOOTAGE.

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REV.	DATE & COMMENTS	BY

**STRUCTURAL NOTES**  
FBC 5TH EDITION  
Florida

JOB NUMBER :	20160385
DATE :	MARCH 2017
DRAWN BY :	MWB
SCALE :	

SHEET NUMBER  
**S2.00**  
SIGN & SEAL

Dr. Nick M. Bradford, P.E. S.E. S.I.  
P.L. Reg. #52585

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DUCT SEALING AND TESTING REQUIREMENTS:

THE FOLLOWING CRITERIA IS APPLICABLE TO ALL SUPPLY RETURN, OUTSIDE AND EXHAUST AIR DUCTS SHOWN ON THESE CONTRACT DOCUMENTS THAT ARE NEW OR BEING REUSED. ANY DEVIATIONS SHALL BE NOTED HEREINAFTER OR ON THE CONTRACT DOCUMENTS.

DUCT SEALING

SHEET METAL DUCTS: ALL TRANSVERSE JOINTS AND LONGITUDINAL SEAMS REGARDLESS OF OPERATING PRESSURE SHALL BE SEALED TO MEET SMACNA SEAL CLASS B.  
FIBERGLASS DUCT JOINTS SHALL BE SEALED AS PER BOARD MANUFACTURER RECOMMENDATIONS.

DUCT TESTING

PRESSURE TESTING OF ALL DUCTS SHALL MEET THE REQUIREMENTS OF THE DUCT LEAKAGE CLASS 12 FOR RECTANGULAR METAL AND OVAL DUCTS AND DUCT LEAKAGE CLASS 6 FOR ROUND METAL DUCTS. USE THE "LEAKAGE FACTOR F" VALUES FOR A NOMINAL 3" W.G. DUCT PRESSURE.

EXCEPTIONS:

- 1 - VAV SYSTEMS SUPPLY AIR DUCTS: TEST SUPPLY AIR DUCTS FROM AHU'S TO POINT OF CONNECTION TO VAV BOX. (BOX NOT INCLUDED). DOWNSTREAM OF BOXES, DUCTS TO BE SEALED (CLASS B) BUT DO NOT NEED TO BE PRESSURE TESTED.
- 2 - DUCTS OPERATING ABOVE 3" S.P. ARE IDENTIFIED ON PLANS. USE SEAL CLASS "A" AND LEAKAGE CLASS "6" FOR RECTANGULAR DUCTS AND CLASS "3" FOR ROUND DUCTS.

WHEN CALCULATING LEAKAGE AS AN ALLOWABLE PERCENTAGE OF LEAKAGE, COMPLY WITH APPENDIX A, SMACNA LEAKAGE TEST MANUAL 1985.

MECHANICAL SYMBOLS LEGEND	
SYMBOL	DESCRIPTION
	EXISTING DUCTWORK AND / OR EQUIPMENT TO REMAIN.
	EXISTING DUCTWORK, PIPING, AND/OR EQUIPMENT TO BE REMOVED.
	NEW DUCTWORK AND/OR EQUIPMENT.
	DUCTWORK AND / OR PIPING CROSSING. CONTRACTOR TO DETERMINE ELEVATIONS IN FIELD.
	FLEXIBLE DUCT - (SEE SMACNA CHAPTER 3: SECTIONS 3.5, 3.6, 3.7 AND 3.8).
	DUCTWORK TRANSITION - (SEE SMACNA FIG. 2-7).
	90° ELBOW WITH TURNING VANES. (TURNING VANES MAY NOT ALWAYS APPEAR ON THE DRAWINGS)
	BRANCH TAKE-OFF (45°) WITH BRANCH VOLUME DAMPER.
	ENDCAP.
	90° TEE.
	FIRE DAMPER.
	AIR VOLUME CONTROL DAMPER - MANUAL.
	AIR VOLUME CONTROL DAMPER - MOTORIZED.
	WALL MOUNTED SUPPLY AIR DEVICE WITHIN THE BUILDING OR EXHAUST LOUVER AT BUILDING OUTSIDE WALL.
	WALL MOUNTED RETURN OR EXHAUST AIR DEVICE WITHIN THE BUILDING OR OUTSIDE AIR INTAKE AT BUILDING OUTSIDE WALL.
	EDH - ELECTRIC DUCT HEATER
	SUPPLY AIR DEVICE. CLEAR SIDES INDICATE AIR FLOW PATTERN.
	RETURN AIR DEVICE.
	EXHAUST AIR DEVICE.
	CEILING EXHAUST FAN. SEE FAN SCHEDULE.
	INLINE FAN. SEE FAN SCHEDULE.
	ROOF FAN, PROVIDE FULL SIZE DUCT DOWN TO GRILLE IN CEILING UNLESS OTHERWISE NOTED. SEE FAN SCHEDULE.
	EQUIPMENT IDENTIFICATION MARK. SEE ABBREVIATIONS ON EQUIPMENT SCHEDULES.
	CONNECTION BETWEEN NEW AND EXISTING WORK.
	WALL MOUNTED THERMOSTAT.
	WALL MOUNTED HUMIDISTAT.
	TEMPERATURE SENSOR. (COULD BE COMBINATION TEMPERATURE AND HUMIDITY).
	AIR FLOW DIRECTION - (SUPPLY).
	AIR FLOW DIRECTION - (RETURN/EXHAUST).
	3/4" UNDERCUT DOOR - ABOVE FINISHED FLOOR OR CARPET.
	EXISTING MECHANICAL PIPING.
	NEW MECHANICAL PIPING.
	A: SECTION NUMBER. B: DRAWING WHERE SECTION IS SHOWN. C: LINE INDICATING END OF SECTION VIEW.
NOTE: THESE ARE STANDARD SYMBOLS AND MAY NOT ALWAYS APPEAR ON THE DRAWINGS. HOWEVER, WHEN THE SYMBOL DOES APPEAR THE ITEM SHALL BE PROVIDED. REFERENCES TO SMACNA IS HVAC DUCT CONSTRUCTION STANDARDS 2006.	

MECHANICAL ABBREVIATIONS LEGEND	
ABBREV.	DESCRIPTION
+ OR POS.	POSITIVE PRESSURE
- OR NEG.	NEGATIVE PRESSURE
0	NEUTRAL PRESSURE
AHU	AIR HANDLING UNIT
CFM	CUBIC FEET PER MINUTE
CU	CONDENSING UNIT
D	DRAIN LINE
E-(# , E OR o)	E : EXHAUST AIR DEVICE.
R-(# , E OR o)	R : RETURN AIR DEVICE.
S-(# , E OR o)	S : SUPPLY AIR DEVICE.
	(#) : TYPE - SEE AIR DEVICE SCHEDULE.
	(E) : USED IN PLACE OF #, INDICATING EXISTING.
	(o) : USED FOR TEST AND BALANCE REPORT IDENTIFICATION IN AREAS WITH MORE THAN ONE AIR DEVICE.
MAX.	MAXIMUM
MIN.	MINIMUM
NIC	NOT IN CONTRACT
OA	OUTSIDE AIR
PSI	POUND PER SQUARE INCH
RTU	ROOF TOP UNIT
T	TRANSFER
TB	TEST AND BALANCE
UG	UNDERGROUND
NOTE: THESE ARE STANDARD ABBREVIATIONS AND MAY NOT ALWAYS APPEAR ON THE DRAWINGS, HOWEVER, WHEN THE ABBREVIATION DOES APPEAR THE ITEM SHALL BE PROVIDED.	

HVAC DESIGN PARAMETERS				
CITY STATE	SUMMER DESIGN OUTDOOR ASHRAE 0.4%	SUMMER DESIGN INDOOR (DESIGN NOTE 1)	WINTER DESIGN OUTDOOR ASHRAE 99%	WINTER DESIGN INDOOR (DESIGN NOTE 1)
TAMPA FLORIDA	92.5° F DB 77.5° F WB	75° +/-2° F DB 50% +/-10% (DESIGN NOTE 2)	40.6° F DB	70° F DB +/- 2° F
BUILDING "U" VALUE		GLASS "U" VALUE		FILTRATION CRITERIA AS PER ASHRAE 52.2
ROOF = EXISTING WALL = EXISTING		GLASS = EXISTING SC = EXISTING		ROOM EFFICIENCY (MERV) ALL NO. 8 PLEATED
DESIGN NOTES: 1 – AT INDICATED SUMMER OR WINTER OUTDOOR DESIGN CONDITION. FBC-ENERGY. 2 – RELATIVE HUMIDITY DURING COMPRESSOR(S) CYCLE "ON".				

MECHANICAL DRAWING LIST	
M0.1	- MECHANICAL LEGEND, GENERAL NOTES
M0.2	- MECHANICAL SPECIFICATIONS AND CONTROLS / SEQUENCE OF OPERATIONS
M4.1	- MECHANICAL DEMOLITION AND RENOVATION PLANS - LOCKER ROOMS AND CENTRALIZED DISPATCH
M4.2	- MECHANICAL DEMOLITION AND RENOVATION PLANS - TRAINING ROOM
M4.3	- MECHANICAL DEMOLITION AND RENOVATION PLAN
M9.1	- MECHANICAL DETAILS
M9.2	- MECHANICAL DETAILS
M11.1	- MECHANICAL SCHEDULES



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SOLID WASTE BUILDING 4  
INTERIOR REMODEL  
4010 W. SPRUCE ST.  
TAMPA, FLORIDA

FILE NUMBER

X

PROJECT NUMBER

4463.15.01

ISSUE DATE

MARCH, 2017

DRAWN BY

MH

REVISIONS



PROFESSIONAL SEAL  
MAKSIM A. SEGAL, P.E.  
FL. PE. 71454

03-03-17

SCALE: AS NOTED

MECHANICAL GENERAL

SHEET NUMBER

M0.1

X OF X

NOT FOR CONSTRUCTION

DESIGN REMARKS: \_\_\_\_\_ BID SET  
DATE: \_\_\_\_\_ 03-03-17



CONTROLS / SEQUENCE OF OPERATION (AHU-#):

- 1 – PROVIDE NEW PROGRAMMABLE THERMOSTATS TO CONTROL OPERATION OF EACH AIR HANDLING UNIT. THERMOSTATS TO BE LOCATED AS SHOWN ON MECHANICAL DRAWINGS. USE AVERAGE OF TEMPERATURE SENSORS IN RETURN AIR DUCTS TO CONTROL LOADING / UNLOADING OF COMPRESSOR(S) AND MAINTAIN LEAVING AIR TEMPERATURE.
- 2 – THERMOSTAT TO BE CAPABLE OF THE FOLLOWING FUNCTIONS: (ALL SET POINTS ARE ADJUSTABLE)
- A – HEATING / OFF / COOLING SELECTOR SWITCH.
- B – FAN – ON / AUTO.
- C – OCCUPIED / UNOCCUPIED TIME SCHEDULE – SEVEN (7) DAY PROGRAM.
- D – MANUAL OVERRIDE FOR OFF HOUR OPERATION. PROVIDE ADJUSTABLE MAXIMUM LIMIT.
- 3 – OUTSIDE AIR DAMPERS TO BE CONTROLLED THROUGH SEPARATE (INDEPENDENT) PROGRAMMABLE TIME CLOCKS. SEE COOLING / HEATING MODE OF OPERATIONS BELOW. TIME CLOCKS TO BE LOCATED IN A SECURE ROOM.
- 4 – COOLING MODE:
- A – OCCUPIED: (I.E., FROM 8 A.M. TO 5 P.M.)
- 1 – TEMPERATURE SENSOR SHOULD BE SET TO MAINTAIN A SPACE TEMPERATURE OF 75°F (ASHRAE 55).
- 2 – FAN TO RUN CONTINUOUSLY AND COMPRESSOR(S) LOAD / UNLOAD AS REQUIRED TO MAINTAIN SPACE TEMPERATURE.
- 3 – SYSTEM TO SHUT DOWN ONE HOUR (OR MORE) AFTER THE END OF NORMAL BUSINESS OCCUPANCY HOURS.
- 4 – OUTSIDE AIR DAMPER SHOULD BE PROGRAMMED TO OPEN AT THE BEGINNING OF THE ACTUAL BUILDING NORMAL BUSINESS OCCUPANCY HOURS AND CLOSE AT THE END (I.E. 8 A.M. TO 5 P.M.). OUTSIDE AIR DAMPER TO BE CONTROLLED THROUGH SEPARATE (INDEPENDENT) PROGRAMMABLE TIME CLOCK.
- 5 – HEATING MODE:
- A – OCCUPIED: (I.E., FROM 8 A.M. TO 5 P.M.)
- 1 – TEMPERATURE SENSOR SHOULD BE SET TO MAINTAIN A SPACE TEMPERATURE OF 70°F (ASHRAE 55).
- 2 – SYSTEM SHOULD START AT LEAST TWO HOURS OR LONGER PRIOR TO OCCUPANCY.
- 3 – FAN TO RUN CONTINUOUSLY AND THE ELECTRIC HEATER TO BE ENERGIZED IN STEPS TO MAINTAIN SPACE TEMPERATURE.
- 4 – SYSTEM TO SHUT DOWN TWO HOURS (OR MORE) AFTER THE END OF THE NORMAL BUSINESS OCCUPANCY HOURS.
- 5 – OUTSIDE AIR DAMPER SHOULD BE PROGRAMMED TO OPEN AT THE BEGINNING OF THE ACTUAL BUILDING NORMAL BUSINESS OCCUPANCY HOURS AND CLOSE AT THE END (I.E. 8 A.M. TO 5 P.M.). OUTSIDE AIR DAMPER TO BE CONTROLLED THROUGH SEPARATE (INDEPENDENT) PROGRAMMABLE TIME CLOCK.
- 6 – UNOCCUPIED MODE:
- 1 – DURING UNOCCUPIED MODE THE OUTSIDE AIR DAMPER REMAINS CLOSED AND THE A/C UNITS ARE OFF EXCEPT AS FOLLOWS:
- 2 – PRECOOL / PREHEAT MODE. UNITS MAY BE SET TO START ONE TO TWO HOURS BEFORE BUILDING OCCUPANCY. OUTSIDE AIR DAMPERS TO BE CLOSED.
- 3 – NIGHT SET BACK – DURING COLD WEATHER CONDITIONS (BELOW 46°F), UNITS TO BE SET TO CYCLE ON / OFF TO MAINTAIN SPACE TEMPERATURE. OUTSIDE AIR DAMPERS TO BE CLOSED.
- 7 – CONTRACTOR TO PROVIDE REQUIRED INTERLOCK AND CONTROL WIRING, CONTROL SENSORS, DAMPER OPERATORS, ETC. FOR A COMPLETE AND FUNCTIONAL SYSTEM(S). PROVIDE CONTROL DIAGRAMS AND SEQUENCE OF OPERATIONS.
- 8 – CONTRACTOR TO ASSIST TEST AND BALANCE AGENCY IN ADJUSTING / TESTING OPERATION OF CONTROLS.
- 9 – INSTRUCT OWNER IN OPERATIONS / PROGRAMMING OF SYSTEMS.

CONTROLS/SEQUENCE OF OPERATION (RTU-#):

- 1 – PROVIDE NEW PROGRAMMABLE THERMOSTATS EQUAL TO HONEYWELL RTH6580WF TO CONTROL OPERATION OF EACH ROOFTOP UNIT (RTU). THERMOSTATS TO BE LOCATED AS SHOWN ON MECHANICAL DRAWING M4.1. USE AVERAGE OF SPACE THERMOSTATS TO CONTROL LOADING/UNLOADING OF COMPRESSOR(S) AND MAINTAIN LEAVING AIR TEMPERATURE.
- 2 – THERMOSTAT TO BE CAPABLE OF THE FOLLOWING FUNCTIONS: (ALL SET POINTS ARE ADJUSTABLE)
- A – HEATING/OFF/COOLING SELECTOR SWITCH.
- B – FAN – ON/AUTO.
- C – OCCUPIED/UNOCCUPIED TIME SCHEDULE – SEVEN (7) DAY PROGRAM. (5) SCHEDULES / DAY.
- D – MANUAL OVERRIDE FOR OFF HOUR OPERATION. PROVIDE ADJUSTABLE MAXIMUM LIMIT.
- 4 – COOLING MODE:
- A – OCCUPIED: (I.E., ACTUAL SERVICE HOURS)
- 1 – TEMPERATURE SENSOR SHOULD BE SET TO MAINTAIN A SPACE TEMPERATURE OF 75°F (ASHRAE 55).
- 2 – FAN TO RUN CONTINUOUSLY AND COMPRESSOR(S) LOAD/UNLOAD AS REQUIRED TO MAINTAIN SPACE TEMPERATURE.
- 3 – SYSTEM TO ACTIVATE 1 HOUR (OR MORE) BEFORE OCCUPANCY AND SHUT DOWN ONE HOUR (OR MORE) AFTER THE END OF NORMAL OCCUPANCY HOURS.
- B – UNOCCUPIED:
- 1 – DURING UNOCCUPIED MODE THE RTU'S ARE OFF EXCEPT AS FOLLOWS:
- 2 – PRECOOL/PREHEAT MODE. UNITS MAY BE SET TO START ONE TO TWO HOURS BEFORE BUILDING OCCUPANCY. OUTSIDE AIR DAMPERS / UNITS TO BE CLOSED / OFF.
- 5 – HEATING MODE:
- A – OCCUPIED: (I.E., ACTUAL SERVICE HOURS)
- 1 – TEMPERATURE SENSOR SHOULD BE SET TO MAINTAIN A SPACE TEMPERATURE OF 70°F (ASHRAE 55).
- 2 – SYSTEM SHOULD START AT LEAST TWO HOURS OR LONGER PRIOR TO OCCUPANCY.
- 3 – FAN TO RUN CONTINUOUSLY AND THE ELECTRIC HEATER TO BE ENERGIZED IN STEPS TO MAINTAIN SPACE TEMPERATURE.
- 4 – SYSTEM TO SHUT DOWN TWO HOURS (OR MORE) AFTER THE END OF THE NORMAL BUSINESS OCCUPANCY HOURS.
- 5 – NIGHT SET BACK – DURING COLD WEATHER CONDITIONS (BELOW 46°F), UNITS TO BE SET TO CYCLE ON/OFF TO MAINTAIN SPACE TEMPERATURE.
- 6 – HOT GAS REHEAT DEHUMIDIFICATION MODE:
- IN ADDITION TO A THERMOSTAT/ROOM SENSOR, A HUMIDITY SENSOR IS REQUIRED AND MUST BE LOCATED IN THE OCCUPIED SPACE.
- A – DEHUMIDIFICATION DEMAND ONLY:
- 1 – THE UNIT CONTROLLER IS FACTORY SET AT 60% RELATIVE HUMIDITY SETPOINT AND CAN BE ADJUSTED AT THE UNIT CONTROLLER.
- 2 – REHEAT OPERATION WILL INITIATE ON A DEHUMIDIFICATION DEMAND AND DOES NOT REQUIRE A COOLING DEMAND.
- 3 – THE REHEAT COIL IS SIZED TO PROVIDE 68°F TO 75°F SUPPLY AIR DURING REHEAT OPERATION.
- 4 – SOLENOID VALVES DIVERT HOT GAS FROM COMPRESSOR 1 AND COMPRESSOR 2 TO THE REHEAT COIL.
- 5 – THE COOLED AND DEHUMIDIFIED AIR FROM THE EVAPORATOR IS THEN REHEATED AS IT PASSES THROUGH THE REHEAT COIL.
- 6 – THE DE-SUPERHEATED AND PARTIALLY CONDENSED REFRIGERANT CONTINUES TO THE OUTDOOR CONDENSER COIL WHERE CONDENSING IS COMPLETED. THE UNIT WILL CONTINUE TO OPERATE IN THIS MODE UNTIL THE DEHUMIDIFICATION DEMAND IS SATISFIED.
- 7 – A HEATING DEMAND WILL TERMINATE REHEAT OPERATION.
- B – DEHUMIDIFICATION AND COOLING DEMAND:
- 1 – IF BOTH A DEHUMIDIFICATION AND FULL LOAD COOLING DEMAND OCCUR, THE SYSTEM WILL OPERATE IN COOLING UNTIL THE COOLING DEMAND IS SATISFIED. THEN THE SYSTEM WILL ENERGIZE THE DEHUMIDIFICATION MODE.
- 7 – CONTRACTOR TO PROVIDE REQUIRED INTERLOCK AND CONTROL WIRING, CONTROL SENSORS, DAMPER OPERATORS, ETC. FOR A COMPLETE AND FUNCTIONAL SYSTEM(S). PROVIDE CONTROL DIAGRAMS AND SEQUENCE OF OPERATIONS. LABEL ALL TIMERS, THERMOSTATS PER THEIR ASSOCIATED UNITS TAG.
- 8 – CONTRACTOR TO ASSIST TEST AND BALANCE AGENCY IN ADJUSTING/TESTING OPERATION OF CONTROLS.
- 9 – INSTRUCT OWNER IN OPERATIONS/PROGRAMMING OF SYSTEMS.

MECHANICAL GENERAL CONSTRUCTION NOTES AND SPECIFICATIONS:

PART 1 - GENERAL REQUIREMENTS  
QUALITY ASSURANCE:

- 1 – PLANS INDICATE THE GENERAL LAYOUT AND LOCATION OF THE MECHANICAL SYSTEM COMPONENTS. UNLESS SPECIFIC DIMENSIONS ARE NOTED, THE ACTUAL LOCATION OF THESE COMPONENTS SHALL BE DETERMINED IN THE FIELD IN COORDINATION WITH THE WORK OF OTHER TRADES, THE USE OF MANUFACTURER'S SHOP DRAWINGS AND SIMILAR CERTIFIED DATA. THESE PLANS SHALL NOT BE SCALED.
- 2 – NO EXCLUSIONS FROM OR LIMITATIONS IN THE LANGUAGE USED IN THE CONTRACT DOCUMENTS SHALL BE INTERPRETED AS MEANING THAT THE EQUIPMENT, APPURTENANCES, AND/OR ACCESSORIES NECESSARY FOR A COMPLETE AND OPERATIONAL SYSTEM ARE NOT TO BE PROVIDED AS REQUIRED.
- 3 – THE SEPARATE DIVISIONAL DRAWINGS AND SPECIFICATIONS DO NOT RELIEVE THE CONTRACTOR FROM THE RESPONSIBILITY TO PROVIDE THE WORK, WHICH IS INDICATED ON ANY OF THE DRAWINGS OR DIVISION OF THE SPECIFICATIONS. REVIEW AND COORDINATE THE SCOPE OF THE WORK UNDER THIS SECTION WITH THE OTHER SECTIONS OF THE CONTRACT DOCUMENTS TO ASSURE A COMPLETE AND FUNCTIONAL SYSTEM.
- 4 – NO INSTALLATION WORK SHALL PROCEED UNTIL A COMPLETE COORDINATION HAS BEEN DONE WITH ALL TRADES, EXISTING AND NEW (INCLUDING BUT NOT LIMITED TO MECHANICAL, PLUMBING AND ELECTRICAL).
- 5 – SUBMIT SHOP DRAWINGS OF ALL EQUIPMENT AND MATERIALS FOR REVIEW. INSTALL AND TEST ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS AND RECOMMENDATIONS.
- A – SUBMITTALS SHALL BE MADE AS ALL HARD COPY (3 RING BINDER) OR ELECTRONIC (.PDF FILE). A MIXTURE OF HARD COPY AND ELECTRONIC SUBMITTALS IS NOT ACCEPTABLE.
- B – **FOR HARD COPY SUBMITTALS:**
- PROVIDE SHOP DRAWINGS ASSEMBLED TOGETHER IN 3-RING HARD COVER BINDERS. COORDINATE NUMBER OF SUBMITTAL PACKAGES REQUIRED WITH OWNER REPRESENTATIVE. PROVIDE AN INDEX FOR EASE OF PROCESSING AND RECORD KEEPING. INCLUDE TABS THAT CORRESPOND TO INDEX CATEGORIES / SECTIONS.
- C – **FOR ELECTRONIC SUBMITTALS:**
- PROVIDE DOCUMENTS IN .PDF FORMAT. DOCUMENTS BEING SUBMITTED SHALL BE COMBINED INTO ONE BINDER (ONE .PDF FILE). PROVIDE AN INDEX FOR EASE OF PROCESSING AND RECORD KEEPING. INCLUDE BOOKMARKS THAT CORRESPOND TO INDEX CATEGORIES / SECTIONS.
- D – A COVER LETTER SHALL BE ATTACHED TO THE SUBMITTAL LISTING ALL EQUIPMENT OR MATERIALS THAT DEViate FROM THE CONTRACT DOCUMENTS, INCLUDING A BRIEF SUMMARY OF THE DIFFERENCES. ANY UNLISTED DEVIATIONS FOUND DURING REVIEW WILL RESULT IN THE REJECTION OF THE ENTIRE SUBMITTAL.
- E – SUBMITTALS THAT FAIL TO MEET THE GUIDELINES AND REQUIREMENTS NOTED ABOVE MAY RESULT IN THE REJECTION OF THE COMPLETE SUBMITTAL.
- 6 – TEST AND BALANCE – HVAC SYSTEM(S):
- A – AIR DISTRIBUTION SYSTEM(S):
- 1 – AT EACH EVAPORATOR FAN MEASURE SUPPLY, RETURN AND OUTSIDE AIR FLOWS.
- 2 – VERIFY LOCATION AND CHECK OPERATION OF BALANCING DAMPERS. (ALSO FIRE DAMPERS AS APPLICABLE).
- 3 – MEASURE SUPPLY FAN MOTOR FLA, RPM AND BHP.
- 4 – LIST MANUFACTURER NAME AND MODEL NUMBER.
- 5 – AT EACH AIR FLOW RECORD SUPPLY, RETURN OR OUTSIDE AIR FLOW (CFM) AS APPLICABLE. RECORD NECK AND FACE SIZE.
- B – PACKAGED AIR CONDITIONING UNITS:
- AT EACH UNIT RECORD MANUFACTURER NAME AND MODEL, REFRIGERANT TYPE, HIGH / LOW REFRIGERANT PRESSURE / TEMPERATURE, REFRIGERANT CHARGE AND MOISTURE LEVEL, ELECTRICAL LOADS (FLA), DATE AND AMBIENT (OUTSIDE) AIR TEMPERATURE AND WEATHER CONDITIONS.
- C – SUBMIT REPORT TO OWNER / ENGINEER. LIST ALL NOTED DEFICIENCIES. ALL NOTED DEFICIENCIES ARE TO BE RESOLVED PRIOR TO ISSUE OF FINAL REPORT.
- 7 – THE DIMENSIONS AND CONDITIONS SHOWN ON THE CONTRACT DOCUMENTS ARE BASED ON AVAILABLE EXISTING INFORMATION. AFTER WALLS AND/OR CEILINGS ARE REMOVED, THE CONTRACTOR SHALL VERIFY EXISTING CONDITIONS AND DIMENSIONS TO ESTABLISH DUCT, PIPING AND EQUIPMENT CLEARANCES. NOTIFY THE ARCHITECT / ENGINEER OF ANY DEVIATIONS FROM THE CONTRACT DOCUMENTS.
- 8 – CONTRACTOR SHALL NOTIFY THE OWNER / ENGINEER OF ANY DAMAGE TO THE EXISTING INSTALLATION BEFORE PROCEEDING WITH HIS WORK. DAMAGE CAUSED BY THE CONTRACTOR SHALL BE REPAIRED AT NO COST TO THE CONTRACT AND TO THE OWNER'S SATISFACTION.
- 9 – DRAWINGS INDICATE THE APPROXIMATE LOCATION, SIZE AND AIR FLOWS OF THE EXISTING AIR DISTRIBUTION SYSTEM BASED ON INFORMATION SHOWN ON AS-BUILT RECORD DOCUMENTS. CONTRACTOR SHALL VERIFY THIS INFORMATION BEFORE PROCEEDING WITH WORK. ALL DEVIATIONS PLUS NEW WORK SHALL BE NOTED ON A NEW SET OF AS-BUILT RECORD DRAWINGS TO BE KEPT AT THE JOB SITE. THESE NEW AS-BUILTS RECORD DRAWINGS TO BE TURNED OVER TO THE ARCHITECT / ENGINEER UPON COMPLETION OF PROJECT.
- 10 – ALL NEW FLEXIBLE DUCTS SHALL HAVE TWO INCHES (2") EXTERNAL INSULATION APPLIED AT THE FACTORY. FLEXIBLE DUCTS LONGER THAN ALLOWED BY CODE OR THIS SPECIFICATION SHALL HAVE A SECTION OF EQUAL DIAMETER ROUND METAL DUCT, EXTERNALLY INSULATED, ADDED TO IT.

CODES AND STANDARDS:

- 11 – CONSTRUCTION WORK SHALL COMPLY WITH CURRENT FLORIDA BUILDING CODES.

PART 2 - PRODUCTS AND MATERIALS

- 1 – DUCTWORK (EXHAUST AIR, OUTSIDE AIR, RETURN AIR, SUPPLY AIR AND TRANSFER AIR):
- A – ALL DUCTWORK SHALL BE FABRICATED AND INSTALLED IN ACCORDANCE WITH THE LATEST EDITION OF "SMACNA" DUCT CONSTRUCTION STANDARDS AND COMPLY WITH THE LATEST "NFPA" 90A REQUIREMENTS.
- B – SUPPLY, RETURN, EXHAUST AND OUTSIDE AIR DUCTWORK SHALL BE GALVANIZED SHEET METAL. SEAL ALL DUCT JOINTS, TRAVERSE AND LONGITUDINAL, WITH HARDCAST.
- C – DUCT CONSTRUCTION CLASSIFICATION (SMACNA) SHALL REFLECT AHU EXTERNAL STATIC PRESSURE LISTED IN THE CONTRACT DOCUMENTS.
- 2 – INSULATION:
- A – ALL SUPPLY AND RETURN AIR GALVANIZED SHEET METAL DUCTS SHALL BE EXTERNALLY INSULATED WITH 2" THICK FIBERGLASS BLANKET INSULATION ALUMINUM FOIL FACED.
- B – EXHAUST AIR DUCTS AT AREAS WHERE CONDENSATION MAY FORM SHALL ALSO BE EXTERNALLY INSULATED.
- 3 – PROVIDE FLEXIBLE CONNECTIONS BETWEEN ALL AIR MOVING APPARATUS AND DUCTWORK. RECOMMENDED MINIMUM WIDTH IS 4".
- 4 – ALL DUCT ELBOWS SHALL INCLUDE AIR FLOW DIRECTIONAL VANES AS PER "SMACNA" DUCT CONSTRUCTION STANDARDS. SPLITTER VANES SHALL BE PROVIDED IN ALL ELBOWS AND DUCT OFFSETS WITH ANGLES BETWEEN 15 AND 90 DEGREES AS PER FIGURE S-5 OF THE "SMACNA" MANUAL. 90 DEGREE ELBOWS SHALL HAVE TURNING VANES.
- 5 – PROVIDE 45 DEGREE FITTINGS AT ALL CONNECTIONS OF ROUND SHEET METAL OR FLEXIBLE SUPPLY AIR DUCTS TO RIGID RECTANGULAR DUCT. REFER TO FURTHER DETAILS AND NOTES ON DRAWINGS.
- 6 – FLEXIBLE DUCTS:
- A – FLEXIBLE DUCTS SHALL BE PROVIDED WHERE INDICATED ON DRAWINGS. DUCT MUST COMPLY WITH THE LATEST NFPA BULLETIN 90A AND BE LISTED AS CLASS 1 AIR DUCT, STANDARD 181. LINER SHALL BE A TRILAMINATE OF ALUMINUM FOIL, FIBERGLASS AND ALUMINIZED POLYESTER, ALL MECHANICALLY LOCKED WITHOUT ADHESIVE.
- B – DUCTS SHALL BE FACTORY EXTERNALLY INSULATED WITH A FACTORY APPLIED GLASS FIBER INSULATION HAVING AN INSTALLED "R" VALUE OF 6, ALUMINUM BARRIER JACKET, A FLAME SPREAD RATING OF 25 AND SMOKE DENSITY FACTOR OF 50.
- C – THE MAXIMUM LENGTH OF FLEXIBLE DUCTS TO AIR DEVICES SHALL BE LIMITED TO SIX FEET (6') AND SHALL BE LIMITED TO TWO FEET (2') TO MIXING BOXES OR SIMILAR VOLUME CONTROL DEVICES.
- D – ALL FLEXIBLE DUCT TERMINATIONS TO BE SECURED WITH GALVANIZED METAL BOLTED DRAW BAND. SECURE WITH A MINIMUM OF THREE (3) SHEET METAL SCREWS AFTER BAND IS TIGHT. SEAL CUT ENDS OF INSULATION WITH APPROVED TAPE.
- E – FLEXIBLE DUCT SHALL BE THERMAFLEX, GENFLEX OR FLEXMASTER.
- F – DUCT SHALL BE INSTALLED AS PER SMACNA STANDARDS AND MANUFACTURER RECOMMENDATIONS. PROVIDE ADDITIONAL HANGER SUPPORTS TO PREVENT SAGGING AND SHARP BENDS.
- 7 – AIR DEVICES:
- A – AIR DEVICES SHALL BE EXTRUDED ALUMINUM WITH INTEGRAL BALANCING DAMPERS. REFER TO SCHEDULE ON DRAWINGS.
- B – ALL NEW AIR DEVICES SHALL BE SELECTED FOR AN N.C. LEVEL OF 25 OR LESS – VERIFY REQUIREMENTS OF SPECIAL AREAS.
- 8 – BALANCING DAMPERS:
- A – PROVIDE MANUAL DAMPERS FOR THE FIELD BALANCING OF AIR DISTRIBUTION SYSTEMS. DAMPER LOCATIONS SHALL BE AS DIRECTED BY TEST AND BALANCE AGENCY, SHOWN ON STANDARD TYPICAL DUCT CONNECTION DETAILS AND SHOWN ON PLANS AND SPECIFICATIONS.
- B – ALL VOLUME DAMPERS SHALL BE OPPOSED BLADE TYPE.
- C – PROVIDE A ONE FOOT (1') LONG COLORED CLOTH OR PLASTIC STRIP AT EACH MANUAL DAMPER FOR EASY IDENTIFICATION.
- 9 – WHERE INDICATED ON DRAWINGS AND/OR EQUIPMENT SCHEDULES EXTERNAL STATIC PRESSURE IS DEFINED AS NOT INCLUDING LOSSES DUE TO UNIT MOUNTED FILTER(S), RETURN AIR PLENUM OR MIXING BOXES. THOSE LOSSES SHALL BE PART OF THE EQUIPMENT INTERNAL LOSSES SAME AS THOSE CAUSED BY COILS, CABINETS, ETC.
- 10 – EQUIPMENT SERVICE ACCESS:
- A – PROVIDE A MINIMUM OF THREE FEET (3'-0") CLEAR SERVICE SPACE AROUND AIR HANDLING UNITS, ELECTRIC DUCT HEATERS, VAV BOXES (FAN POWERED BOXES) AND THE PULL SIDE OF FILTERS LOCATED ABOVE THE CEILING.
- B – SERVICE AREA SHALL BE CLEAR OF DUCTS, PIPES, CONDUITS, WALL STUDS, CEILING HANGERS AND ANY OTHER CONSTRUCTION APPURTENANCES. THIS INSTALLER SHALL REPORT ANY SUCH OBSTRUCTIONS TO THE CONTRACTOR FOR GENERAL CONSTRUCTION SO THEY CAN BE REMOVED.
- 11 – REFER TO ARCHITECTURAL DRAWINGS FOR LOCATION OF EXTERIOR WALL LOUVERS. LOUVERS TO BE PROVIDED BY THE CONTRACTOR FOR GENERAL CONSTRUCTION. WHEN INDICATED THIS INSTALLER IS TO PROVIDE SHEET METAL PLENUM, DAMPERS AND OTHER DEVICES SHOWN ON CONTRACT DOCUMENTS, THAT ARE ATTACHED TO THE LOUVER(S).
- 12 – ROOF MOUNTED PACKAGED UNITS SHALL BE SET ON CURBS AND/OR CURB ADAPTORS FURNISHED BY THE EQUIPMENT MANUFACTURER. ALL CURBS SHALL BE SECURED DIRECTLY TO ROOF STRUCTURE AS PER CODE.
- CURBS OR OTHER SUPPORT FRAMES THAT DO NOT FULLY ENCLOSE THE BOTTOM OF THE EQUIPMENT SHALL PROVIDE ADEQUATE HEIGHT CLEARANCE REQUIRED BY CODE FOR RE-ROOFING WORK.
- 13 – ALL WALL MOUNTED TEMPERATURE AND HUMIDITY SENSORS SHALL BE INSTALLED AT A CENTER LINE ELEVATION OF 4'-0" ABOVE FINISHED FLOOR UNLESS OTHERWISE NOTED ON DRAWINGS. THERMOSTAT LOCATION SHALL BE COORDINATED WITH THE OTHER TRADES FOR A NEAT APPEARANCE. FINAL LOCATION SHALL BE SUBJECT TO THE APPROVAL OF THE ARCHITECT OR HIS REPRESENTATIVE IN THE FIELD.
- 14 – PROVIDE CLEAR PLASTIC VENTILATED COVERS WITH KEY OPERATED LOCK OVER ADJUSTABLE THERMOSTATS.
- 23 – PROVIDE PIPE SLEEVES FOR REFRIGERANT AND CONDENSATE DRAIN LINES PENETRATING EXTERIOR AND INTERIOR WALLS. SEAL VOIDS AROUND PIPING WITH A WEATHER TIGHT PERMANENT NON-SHRINKING SEALANT.
- 24 – ROOFING WORK SHALL BE PERFORMED BY A LICENSED ROOFING CONTRACTOR. ON BONDED ROOFS, ALL ROOFING WORK REQUIRED FOR THE INSTALLATION OF THE NEW MECHANICAL EQUIPMENT SHALL BE CERTIFIED BY THE COMPANY HOLDING THE ROOF BOND. REMOVE DOWN TO THE STRUCTURE ALL EXISTING ROOF EQUIPMENT SUPPORTS THAT WILL NOT BE USED ON THE NEW INSTALLATION.
- 25 – PROVIDE P-TRAPS AT ALL CONDENSATE DRAIN LINE CONNECTIONS. SLOPE DRAIN LINES TOWARD THE POINT OF DISCHARGE (MINIMUM 1/8" / FOOT). INSULATE CONDENSATE DRAIN LINES INSIDE BUILDING WITH 1/2" THICK SEAMLESS CLOSED CELL RUBBER PIPE INSULATION. CONDENSATE DRAIN LINES TO BE PVC. LINES TO BE ONE DIAMETER LARGER THAN UNIT DRAIN CONNECTION BUT NOT LESS THAN 3/4". PROVIDE REMOVABLE CLEANOUTS AT ALL CHANGES OF DIRECTION.
- CONDENSATE DRAIN LINES ABOVE THE ROOF SHALL BE SCHEDULE 40 PVC. PIPE SUPPORTS SHALL BE SECURED TO ROOF STRUCTURE AND PIPES SHALL BE CLAMPED TO SUPPORTS. COORDINATE WITH ROOFING CONTRACTOR.



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REVISIONS

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**PROFESSIONAL SEAL**  
**MAKSM A. SEGAL, P.E.**  
FL. PE. 71454

03-03-17

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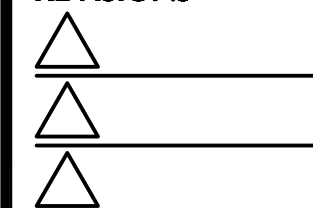
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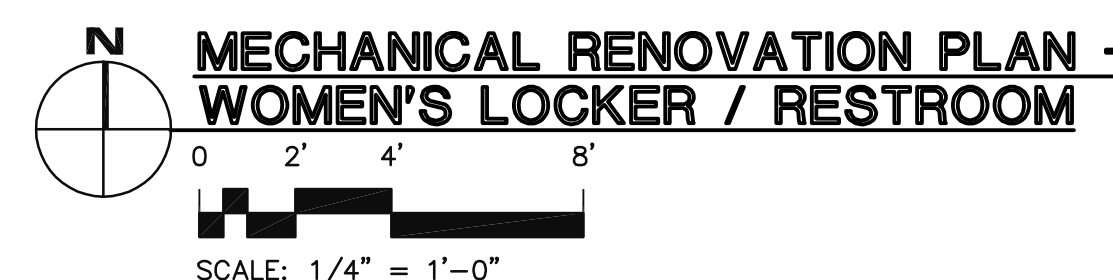
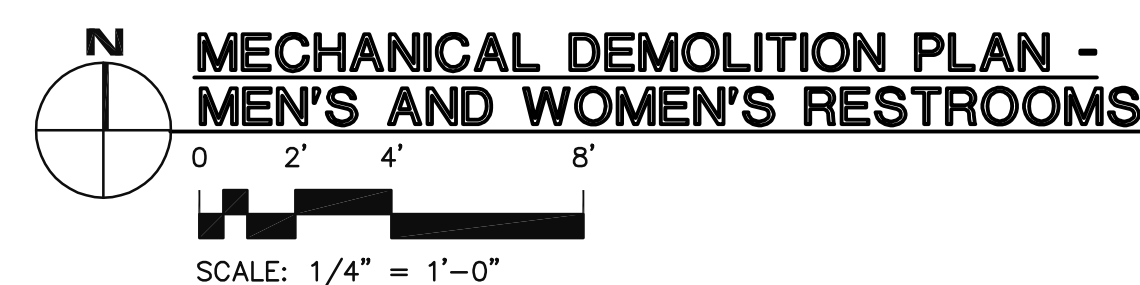
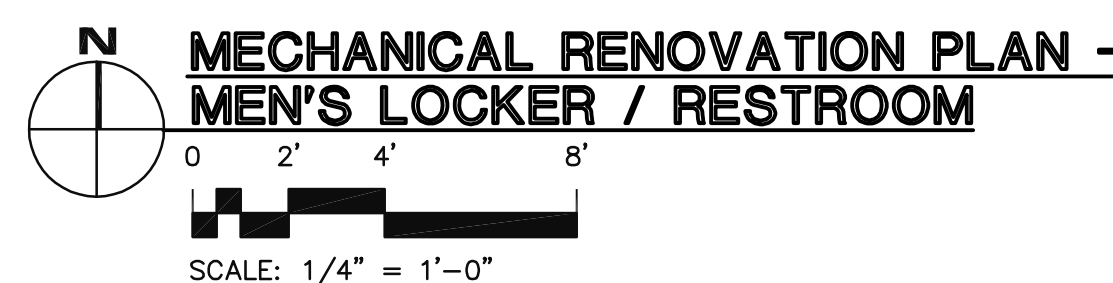
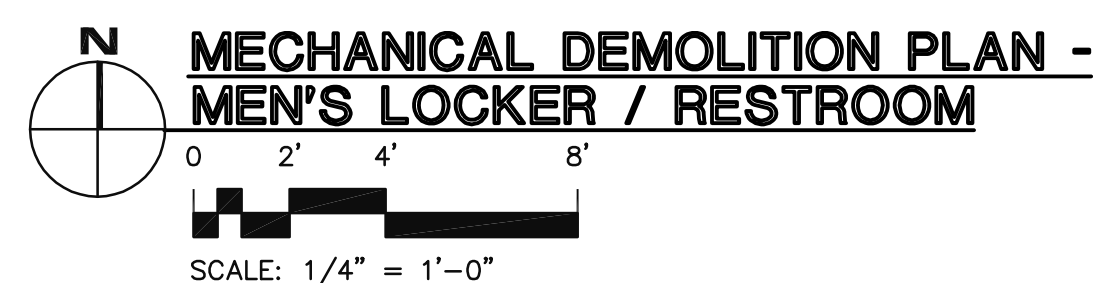
**SCALE: AS NOTED**

## MECHANICAL DEMOLITION AND RENOVATION PLANS – LOCKER ROOMS & CENTRALIZED DISPATCH

SHEET NUMBER

## M4.1

X OF X

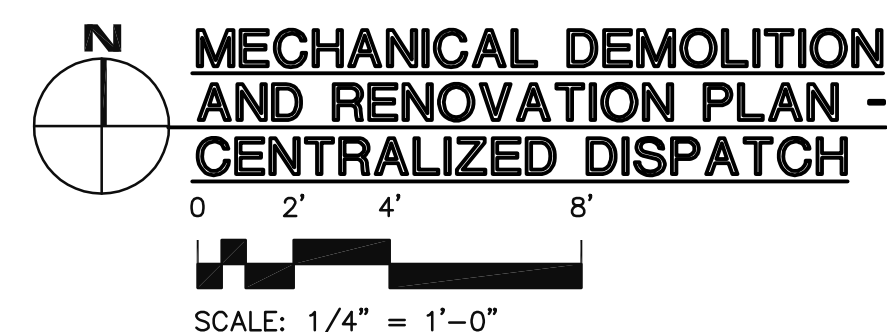
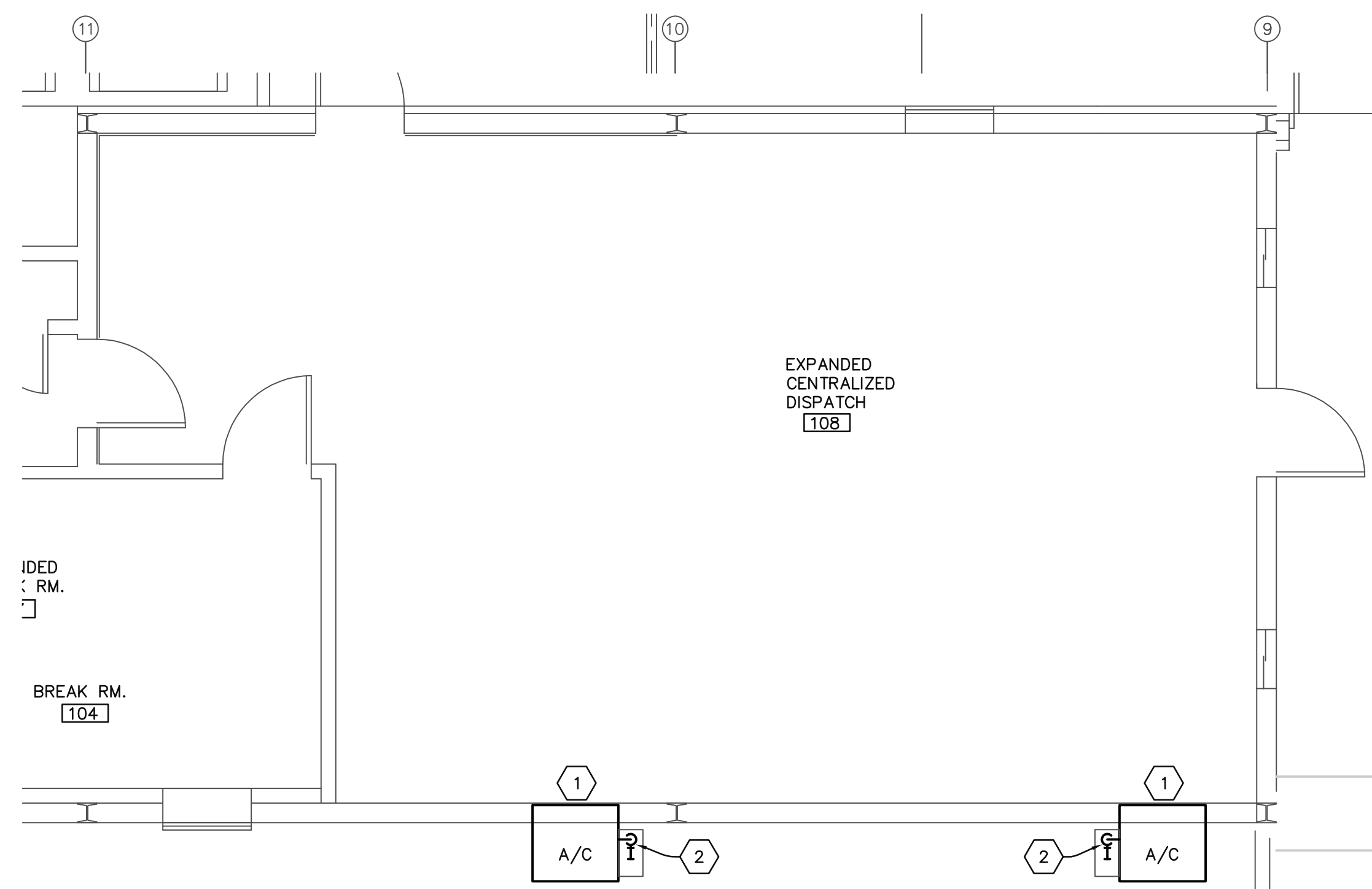


MECHANICAL NOTES:

- 1 - REMOVE EXISTING WINDOW A/C UNIT AND REPLACE WITH NEW PTAC HEAT PUMP UNIT EQUIVALENT TO ANA MODEL PTH12, 2.5KW AUX. ELECTRIC HEAT, 11.7 EER, 12000 BTUH COOLING CAPACITY, 65 CFM OUTSIDE AIR. MODIFY WALL OPENING AS REQUIRED TO ACCOMMODATE NEW UNIT. UNIT SHALL BE PROVIDED WITH WALL SLEEVE AND CONDENSATE DRAIN KIT TO DISCHARGE OUTSIDE.
- 2 - RUN CONDENSATE DOWN WALL AND DISCHARGE AT SPLASH BLOCK. SECURE PIPING TO WALL. REFER TO DETAILS #002 AND 003, SECTION 15200 AND #006 SECTION 15223 ON DRAWING M9.1 FOR ADDITIONAL INFORMATION.
- 3 - NEW EXHAUST FAN (EF). REFER TO FAN SCHEDULE ON DRAWING M11.1 FOR ADDITIONAL INFORMATION.
- 4 - NEW SECTION OF DUCT.
- 5 - REMOVE EXISTING EXHAUST FAN AND SECTION OF EXHAUST DUCT.
- 6 - PATCH HOLE IN WALL AND PAINT TO MATCH EXISTING. COORDINATE WITH ARCHITECT/OWNER.
- 7 - EXISTING EXHAUST FAN AND DUCT TO REMAIN AND BE REUSED. DO NOT DISTURB.
- 8 - EXISTING SECTION OF DUCTWORK TO BE REMOVED AND DISPOSED OF.
- 9 - EXISTING AIR DEVICE TO BE REMOVED AND DISPOSED OF.
- 10 - EXISTING AIR DEVICE TO REMAIN AND BE REUSED.
- 11 - EXISTING SECTION OF DUCTWORK TO REMAIN AND BE REUSED. INSPECT DUCTWORK AND REPLACE IF FOUND TO BE DAMAGED OR IN POOR CONDITION.
- 12 - NEW AIR DEVICE. REFER TO AIR DEVICE SCHEDULE ON DRAWING M11.1 FOR ADDITIONAL INFORMATION.
- 13 - NEW CONNECTION OF EXISTING DUCTWORK TO NEW DUCTWORK. FIELD COORDINATE EXACT LOCATION AND POINT OF CONNECTION TO EXISTING DUCT.
- 14 - PROVIDE NEW SECTION OF FLEXIBLE DUCTWORK.
- 15 - EXISTING ROOFTOP UNIT TO BE REMOVED AND DISPOSED OF. REMOVE ALL ASSOCIATED PIPING, ETC. AS REQUIRED.
- 16 - NEW ROOFTOP UNIT (RTU). REFER TO ROOFTOP UNIT SCHEDULE ON DRAWING M11.1 AND DETAIL SECTION 15400 ON DRAWING M9.2 FOR ADDITIONAL INFORMATION. RUN CONDENSATE DRAIN PIPING AND DISCHARGE INDIRECTLY INTO NEAREST ROOF DRAIN OR SCUPPER. COORDINATE ROOFING WORK WITH CONTRACTOR HOLDING BOND TO ROOF.
- 17 - REFER TO DETAIL #001, SECTION 15340 ON DRAWING M9.1.
- 18 - REUSE EXISTING OPENING LEFT FROM EXHAUST FAN AND DUCT REMOVED DURING DEMOLITION PHASE. MODIFY OPENING AS REQUIRED AND PROVIDE NEW WALL CAP. PATCH WALL AND PAINT TO MATCH EXISTING. COORDINATE WITH ARCHITECT/OWNER.
- 19 - CONNECT NEW DUCT TO EXISTING AIR DEVICE.

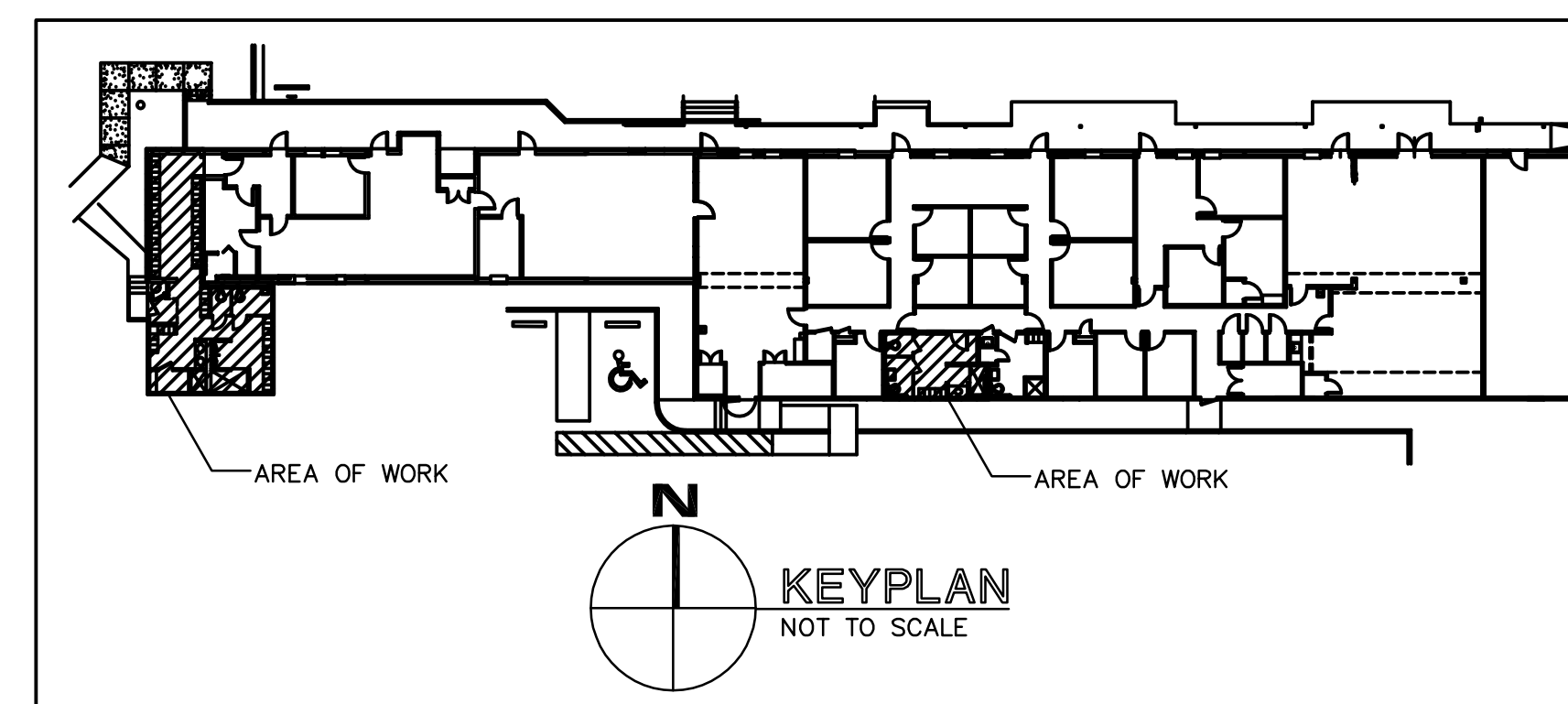
## DUCT FITTING NOTES:

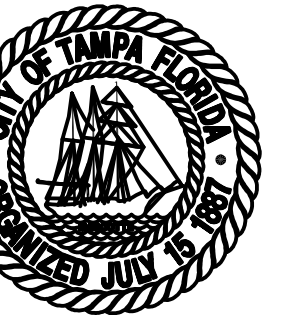
ALL DUCT BRANCH FITTINGS SHALL BE 45° ENTRY TAP TYPE, SIMILAR TO CROWN PRODUCTS CO. MODEL 3300-D545° SERIES. FABRICATE IN ACCORDANCE WITH SMACNA 1995, CHAPTER 2 (SPECIFICATION SECTION 15400). FITTINGS SHOWN ON DRAWINGS ARE DIAGRAMMATIC AND SHALL NOT BE INTERPRETED AS STRAIGHT TAP. REFER TO VARIOUS DETAILS, SECTION 15400 ON DRAWING M9.1 FOR SUPPLY, RETURN, TRANSFER AND EXHAUST AIR DUCTS.



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DATE:	03-03-17





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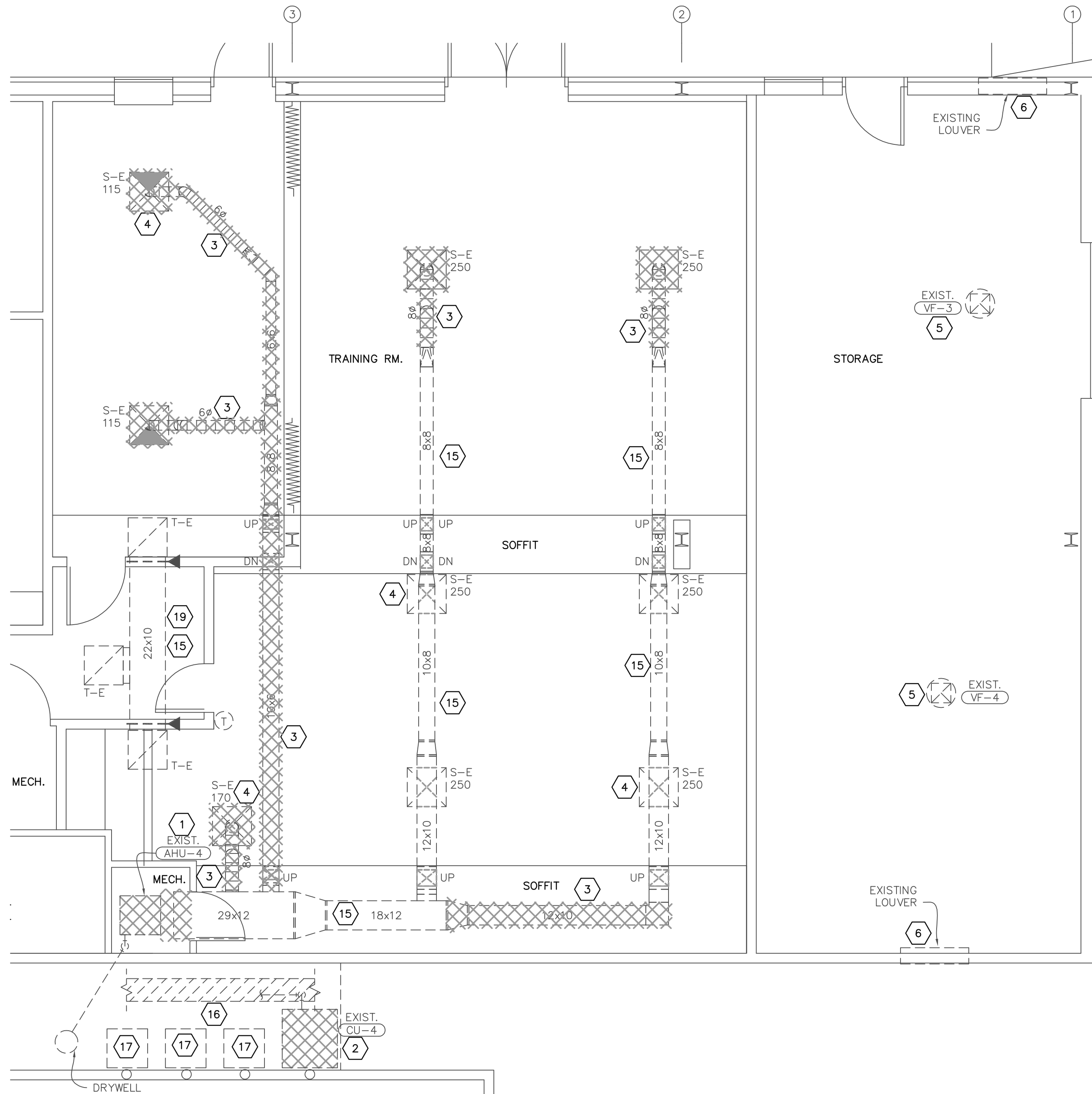
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MECHANICAL DEMOLITION  
AND RENOVATION PLANS -  
TRAINING ROOM

SHEET NUMBER

M4.2

X OF X



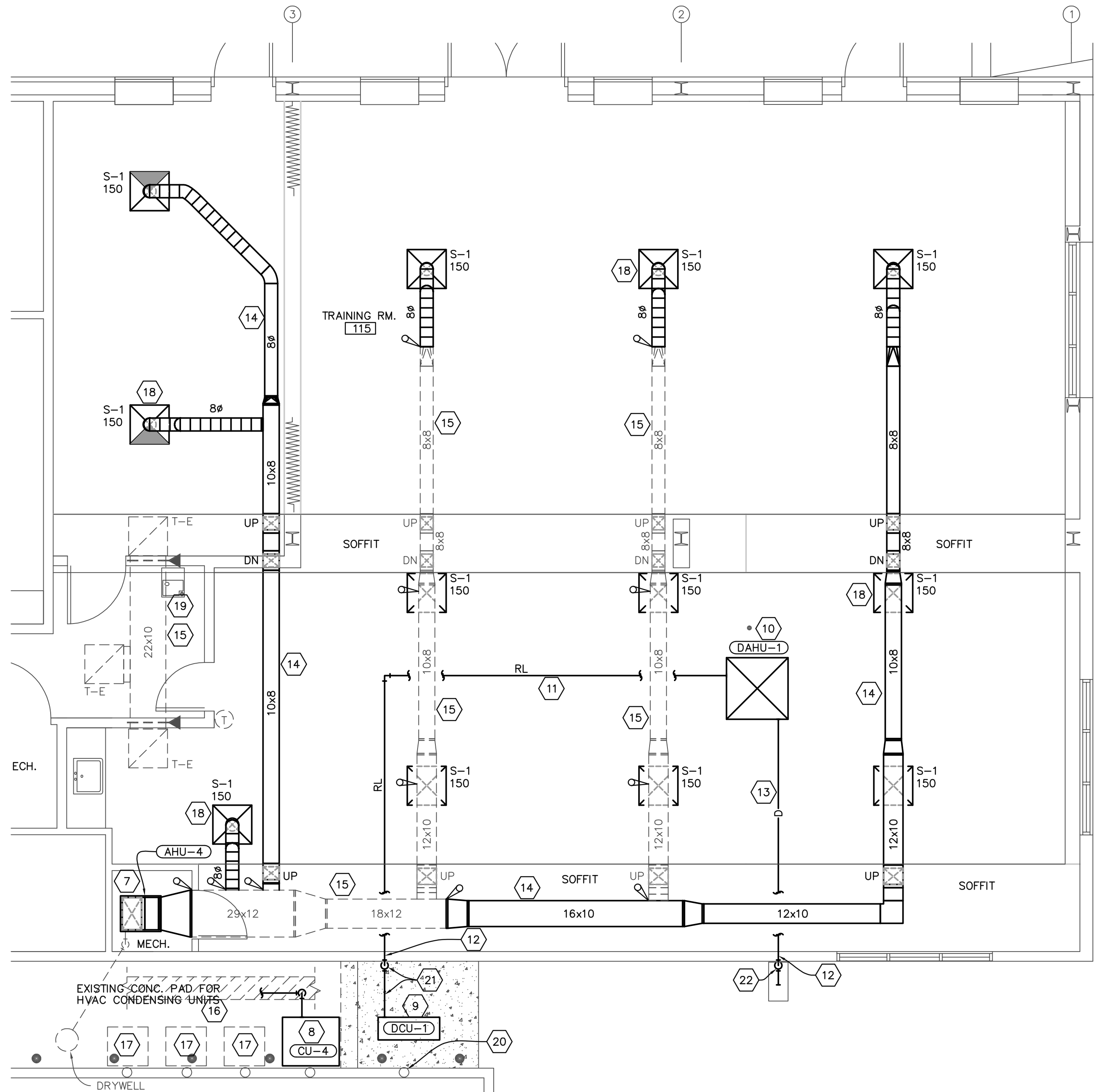
**MECHANICAL DEMOLITION PLAN -  
TRAINING ROOM**  
SCALE: 1/4" = 1'-0"

#### MECHANICAL NOTES:

- EXISTING AIR HANDLING UNIT (AHU) AND ASSOCIATED REFRIGERANT PIPING TO BE REMOVED AND DISPOSED OF. EXISTING CONDENSATE DRAIN PIPING TO REMAIN FOR CONNECTION TO NEW UNIT. PREPARE EXISTING SUPPLY, RETURN AND OUTSIDE AIR DUCTWORK FOR CONNECTION TO NEW UNIT.
- EXISTING CONDENSING UNIT (CU) AND ASSOCIATED REFRIGERANT PIPING, ETC. TO BE REMOVED AND DISPOSED OF.
- EXISTING SECTION OF SUPPLY DUCT TO BE REMOVED AND DISPOSED OF.
- EXISTING SUPPLY GRILLE TO BE REMOVED AND DISPOSED OF. TYPICAL ALL SUPPLY AIR GRILLES IN TRAINING ROOM UNLESS NOTED OTHERWISE.
- EXISTING EXHAUST FAN ON ROOF ABOVE AND ASSOCIATED DUCTWORK, WIRING, ETC. TO BE REMOVED AND DISPOSED OF. PATCH SEAL HOLE TO MATCH EXISTING. ALL ROOFING WORK SHALL BE DONE BY ROOFING CONTRACTOR HOLDING BOND TO ROOF.
- EXISTING LOUVER TO BE REMOVED AND DISPOSED OF. PATCH HOLE IN WALL TO MATCH EXISTING. COORDINATE WITH ARCHITECTURAL PLANS FOR ADDITIONAL INFORMATION ON PATCHING AND PAINTING.
- NEW AIR HANDLING UNIT. PROVIDE NEW SECTION OF SUPPLY, RETURN AND OUTSIDE AIR DUCTS AS REQUIRED TO CONNECT TO EXISTING. PROVIDE OFFSETS AND TRANSITIONS AS NEEDED. CONNECT CONDENSATE DRAIN TO EXISTING DRAIN PIPING. REPLACE PIPING IF FOUND TO BE IN POOR CONDITION. REFER TO SCHEDULE ON DRAWING M11.1 FOR ADDITIONAL INFORMATION.
- NEW CONDENSING UNIT ON EXISTING CONCRETE PAD. PROVIDE 1" THICK NEOPRENE PADS UNDER ALL UNIT SUPPORT POINTS. REFER TO SCHEDULE ON DRAWING M11.1 FOR ADDITIONAL INFORMATION.
- NEW CONDENSING UNIT FOR DUCTLESS SYSTEM. EXTEND EXISTING CONCRETE PAD TO ACCOMMODATE NEW UNIT. REFER TO DETAIL #001, SECTION 15305 ON DRAWING M9.2 AND SCHEDULE ON DRAWING M11.1 FOR ADDITIONAL INFORMATION.
- NEW DUCTLESS AIR HANDLING UNIT. UNIT SHALL BE CEILING CASSETTE TYPE. REFER TO SCHEDULE ON DRAWING M11.1 FOR ADDITIONAL INFORMATION.
- NEW REFRIGERANT PIPING TO RUN ABOVE CEILING TO EXTERIOR WALL. PENETRATE EXISTING WALL, DROP DOWN AND RUN TO CONDENSING UNIT AS SHOWN. SUPPORT PIPING FROM WALL AND PROVIDE COVER. REFER TO DETAILS #002 AND #003, SECTION 15200 ON DRAWING M9.1 FOR ADDITIONAL INFORMATION.
- PROVIDE PIPE SLEEVE AND SEAL WITH A UL LISTED CAULK.
- CONDENSATE DRAIN PIPING TO RUN ABOVE CEILING TO EXTERIOR WALL. PENETRATE WALL AND DROP DOWN TO DISCHARGE INDIRECTLY AT SPLASH BLOCK. PROVIDE PIPE SUPPORT AND COVER. REFER TO DETAILS #002 AND #003, SECTION 15200 AND #006, SECTION 15223 ON DRAWING M9.1 FOR ADDITIONAL INFORMATION.
- NEW SECTION OF SUPPLY DUCTWORK. CONNECT TO EXISTING AS SHOWN. FIELD VERIFY EXACT LOCATION OF EXISTING DUCT AND POINT OF CONNECTION.
- EXISTING SECTION OF DUCTWORK TO REMAIN AND BE REUSED.
- EXISTING SHEET METAL REFRIGERANT PIPING COVER TO REMAIN. DO NOT DISTURB.
- EXISTING CONDENSING UNIT TO REMAIN. DO NOT DISTURB.
- NEW SUPPLY AIR DEVICE. PROVIDE NEW SECTION OF FLEXIBLE DUCT. REFER TO SCHEDULE ON DRAWING M11.1 FOR ADDITIONAL INFORMATION. TYPICAL ALL SUPPLY AIR DEVICES UNLESS NOTED OTHERWISE.
- EXISTING TRANSFER AIR DUCT AND GRILLES TO REMAIN AND BE REUSED. CLEAN AIR DEVICES AND VERIFY PROPER OPERATION. REPLACE WITH MATCHING AIR DEVICE IF FOUND TO BE DAMAGED OR NOT OPERATING PROPERLY.
- PROVIDE NEW CONCRETE BOLLARD TO PROTECT NEW CONDENSING UNIT. NEW BOLLARD TO MATCH EXISTING.
- SECURE PIPES TO WALL AND CONCRETE SLAB AND PROVIDE COVER. REFER TO DETAIL #002 AND #003, SECTION 15200 ON DRAWING M9.1.
- RUN CONDENSATE DOWN WALL AND DISCHARGE AT SPLASH BLOCK. SECURE PIPING TO WALL. REFER TO DETAILS #002 AND #003, SECTION 15200 AND #006 SECTION 15223 ON DRAWING M9.1 FOR ADDITIONAL INFORMATION.

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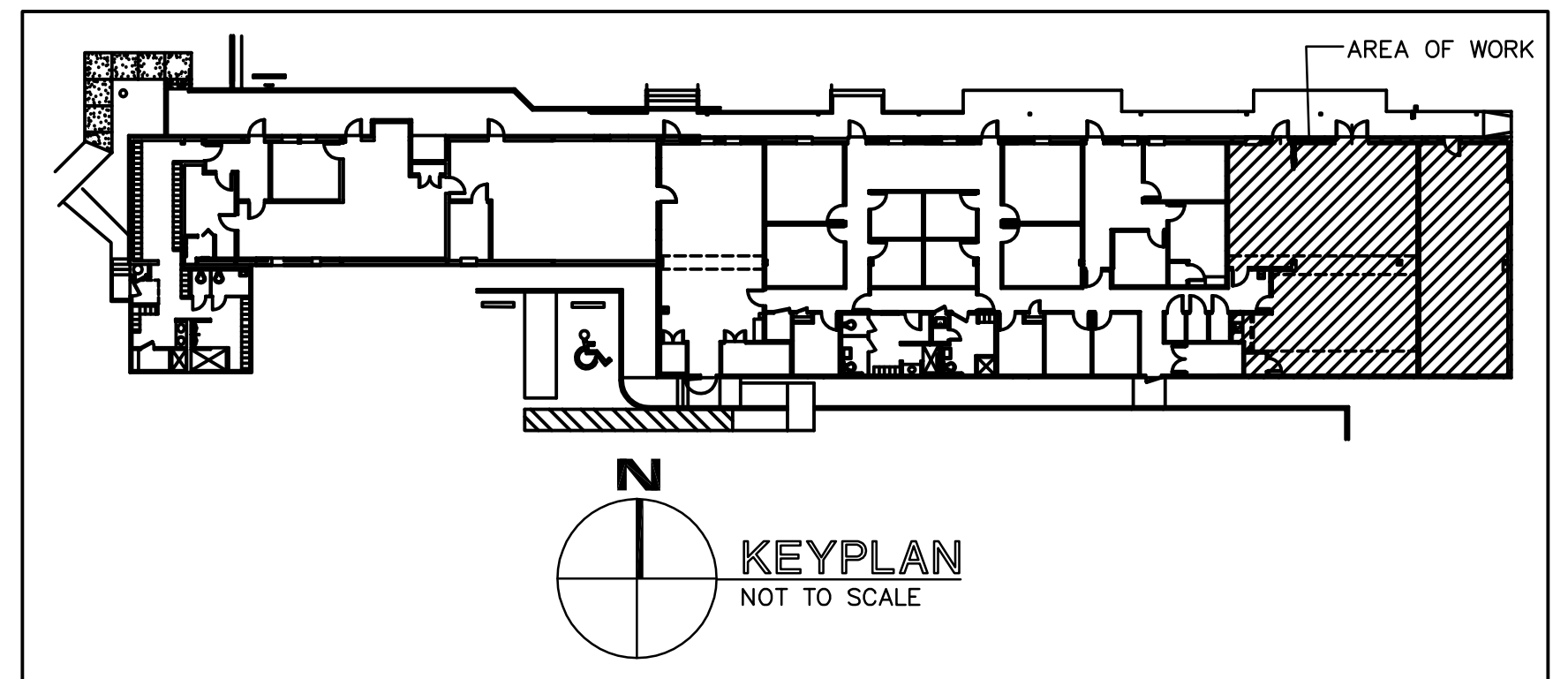
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**MECHANICAL RENOVATION PLAN -  
TRAINING ROOM**  
SCALE: 1/4" = 1'-0"

#### DUCT FITTING NOTES:

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#### PROFESSIONAL SEAL

MAKSIM A. SEGAL, P.E.  
FL. PE. 71454

03-03-17

SCALE: AS NOTED

MECHANICAL DEMOLITION  
AND RENOVATION PLANS

#### SHEET NUMBER

M4.3

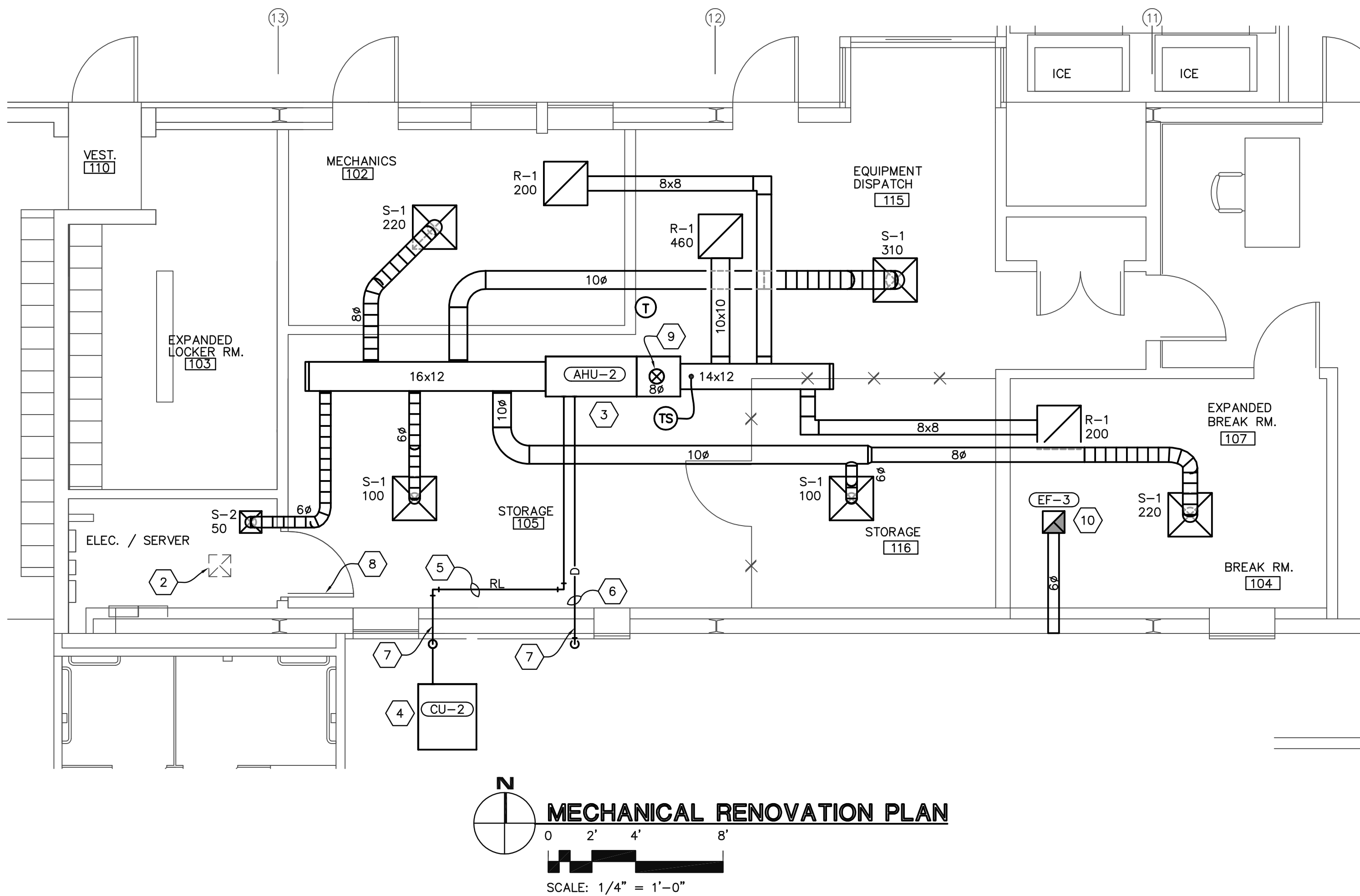
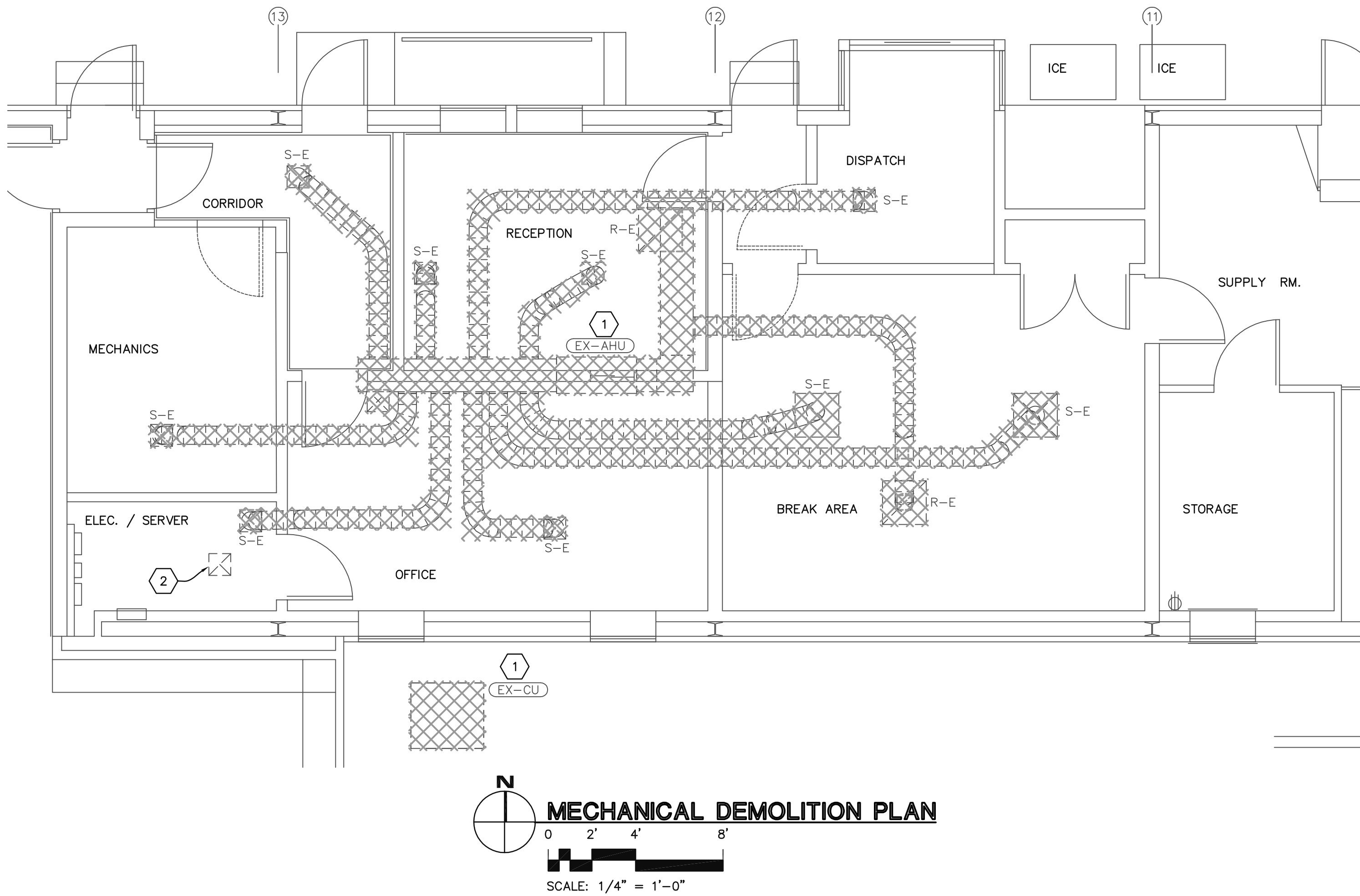
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#### MECHANICAL NOTES:

- 1 - EXISTING AIR HANDLING UNIT, CONDENSING UNIT, ASSOCIATED DUCTWORK, AIR DEVICES, PIPING AND APPURTENANCES TO BE REMOVED AND DISPOSED OF.
- 2 - EXISTING EXHAUST FAN, ASSOCIATED DUCTWORK AND APPURTENANCES TO REMAIN. VERIFY PROPER OPERATION OF EXHAUST FAN. NOTIFY OWNER REPRESENTATIVE OF ANY DEFICIENCIES FOUND.
- 3 - NEW AIR HANDLING UNIT (AHU). REFER TO SCHEDULE ON DRAWING M11.1 AND DETAIL #004, SECTION 15300 ON DRAWING M9.2 FOR ADDITIONAL INFORMATION.
- 4 - NEW CONDENSING UNIT ON EXISTING CONCRETE PAD. PROVIDE 1" THICK NEOPRENE PADS UNDER ALL UNIT SUPPORT POINTS. REFER TO SCHEDULE ON DRAWING M11.1 FOR ADDITIONAL INFORMATION.
- 5 - NEW REFRIGERANT PIPING TO RUN ABOVE CEILING TO EXTERIOR WALL. PENETRATE EXISTING WALL, DROP DOWN AND RUN TO CONDENSING UNIT AS SHOWN. SUPPORT PIPING FROM WALL AND PROVIDE COVER. REFER TO DETAILS #002 AND #003, SECTION 15200 ON DRAWING M9.1 AND DETAIL #001, SECTION 15221 ON DRAWING M9.2 FOR ADDITIONAL INFORMATION.
- 6 - CONDENSATE DRAIN PIPING TO RUN ABOVE CEILING TO EXTERIOR WALL. PENETRATE WALL AND DROP DOWN TO DISCHARGE INDIRECTLY AT SPLASH BLOCK. PROVIDE PIPE SUPPORT AND COVER. REFER TO DETAILS #002 AND #003, SECTION 15200 AND #006, SECTION 15223 ON DRAWING M9.1 FOR ADDITIONAL INFORMATION.
- 7 - PROVIDE PIPE SLEEVE AND SEAL WITH A UL LISTED CAULK.
- 8 - DOOR TO BE UNDERCUT OR HAVE DOOR GRILLE. COORDINATE WITH OWNER REPRESENTATIVE.
- 9 - OUTSIDE AIR DUCT FROM ROOF CAP TO AHU RETURN AIR PLENUM. COORDINATE ROOF CAP WITH AHU MANUFACTURER. COORDINATE ROOFING WORK WITH CONTRACTOR HOLDING BOND TO ROOF.
- 10 - NEW EXHAUST FAN FOR ODOR EVACUATION. SEE FAN SCHEDULE ON DRAWING M11.1 FOR ADDITIONAL INFORMATION. COORDINATE FINAL LOCATION WITH OWNER REPRESENTATIVE TO BE ABOVE / NEAR HEATING APPLIANCES.

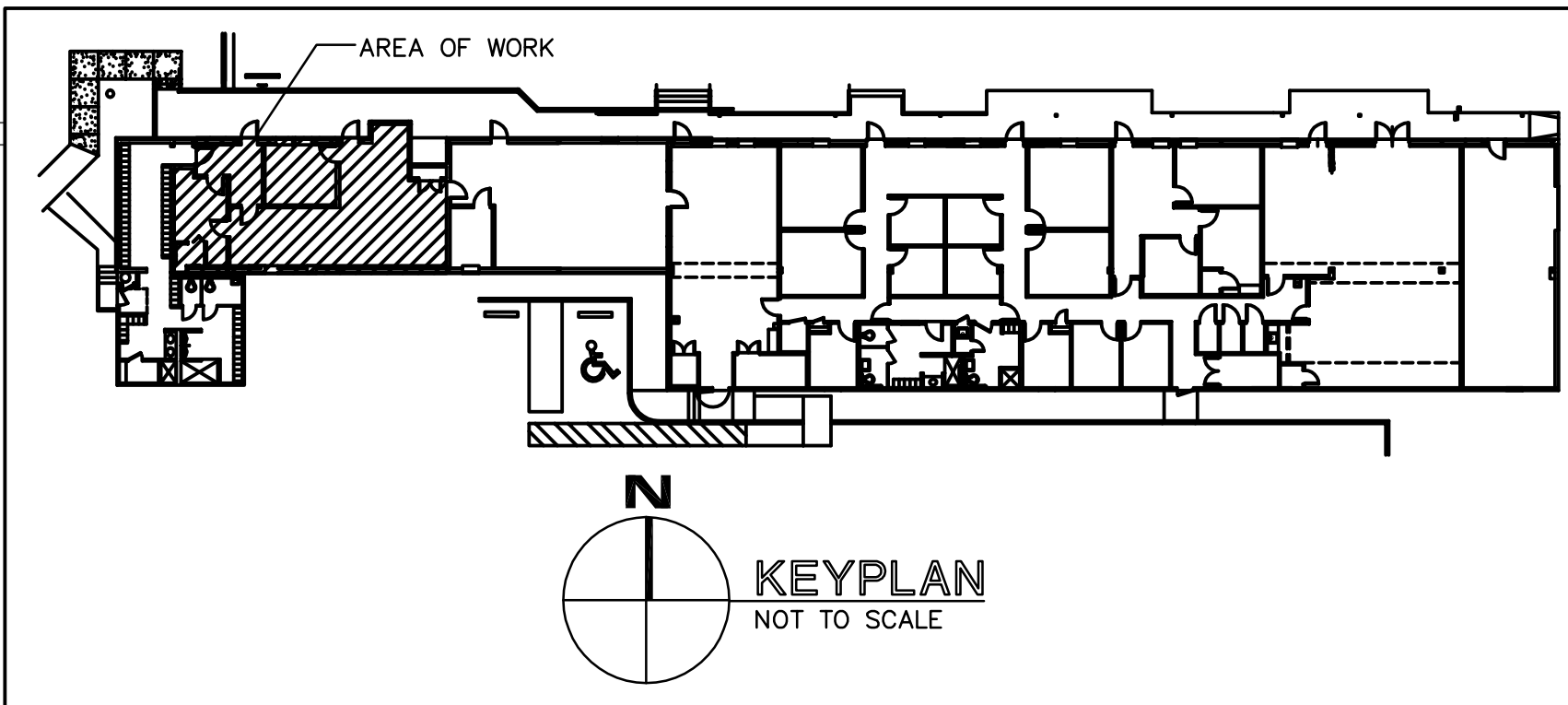
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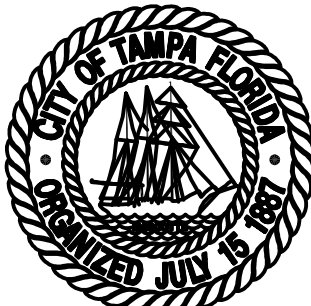
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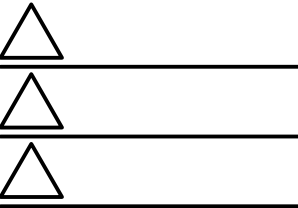
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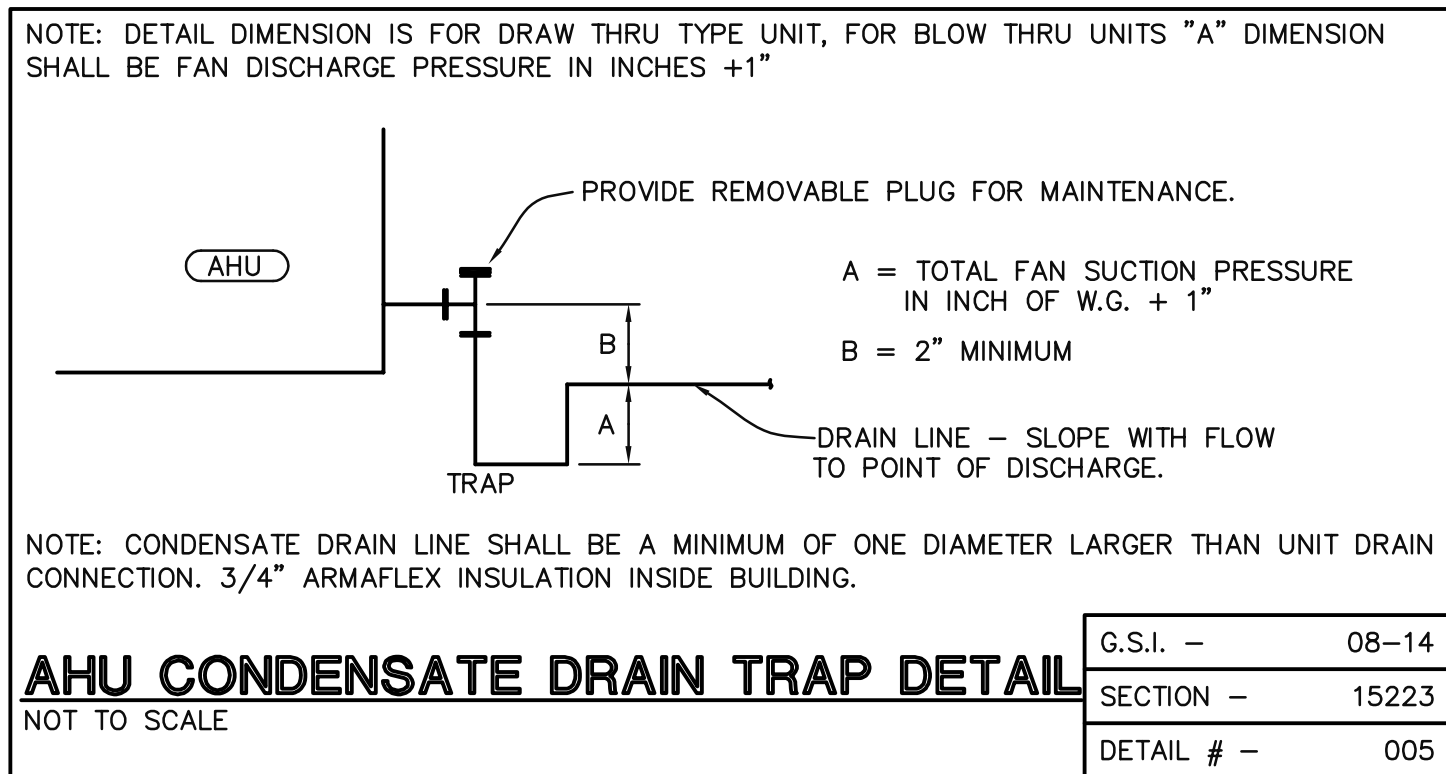
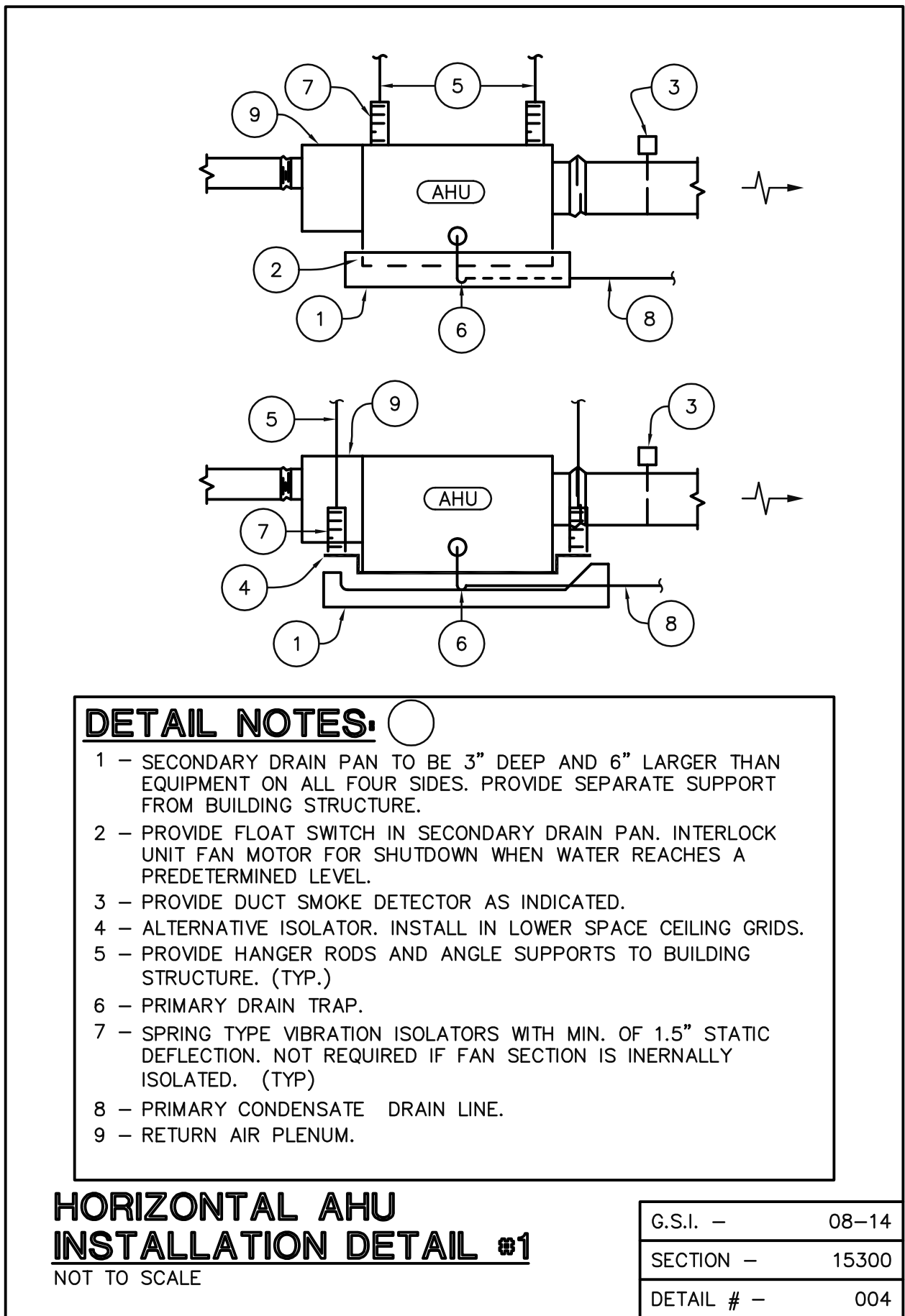
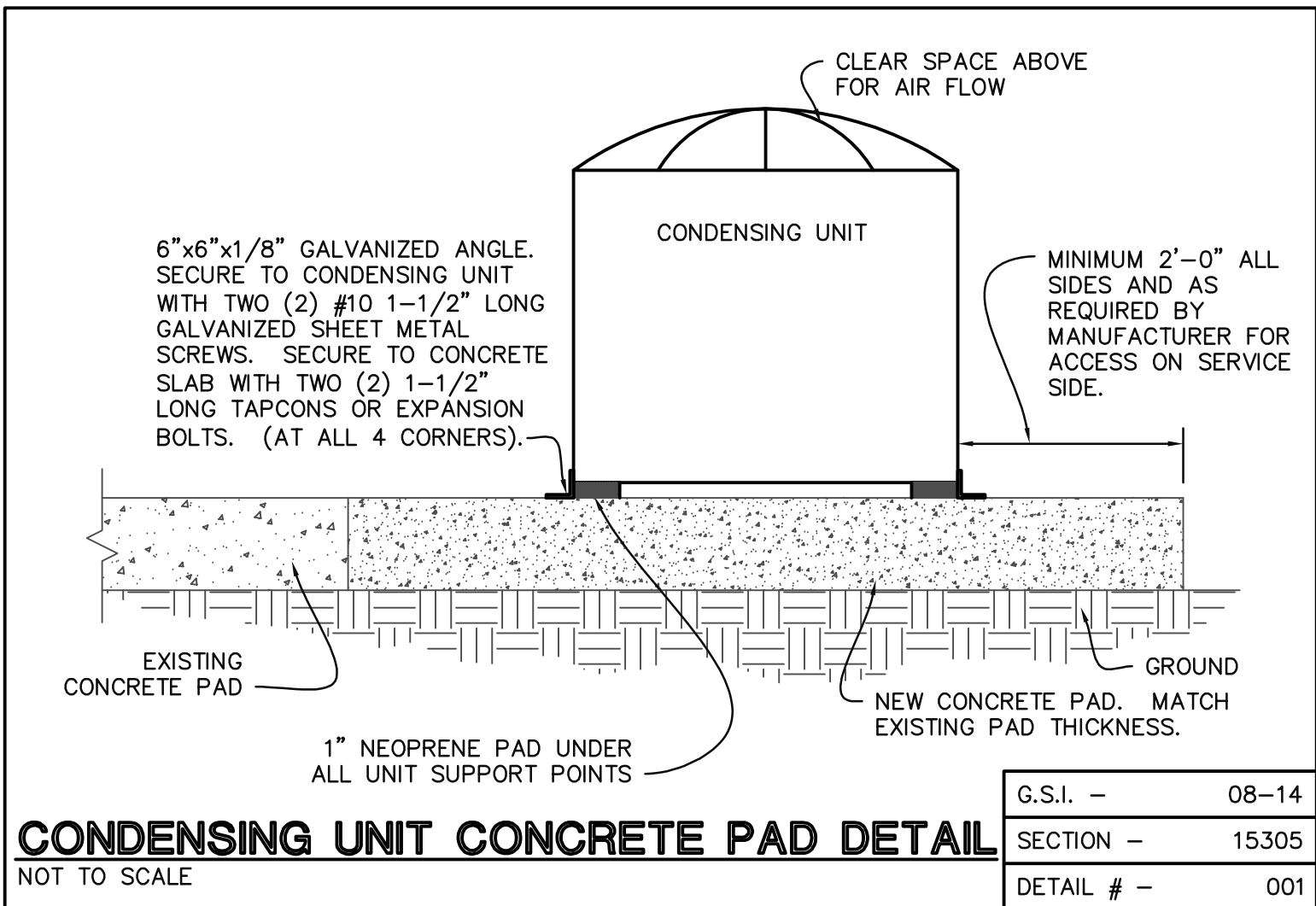
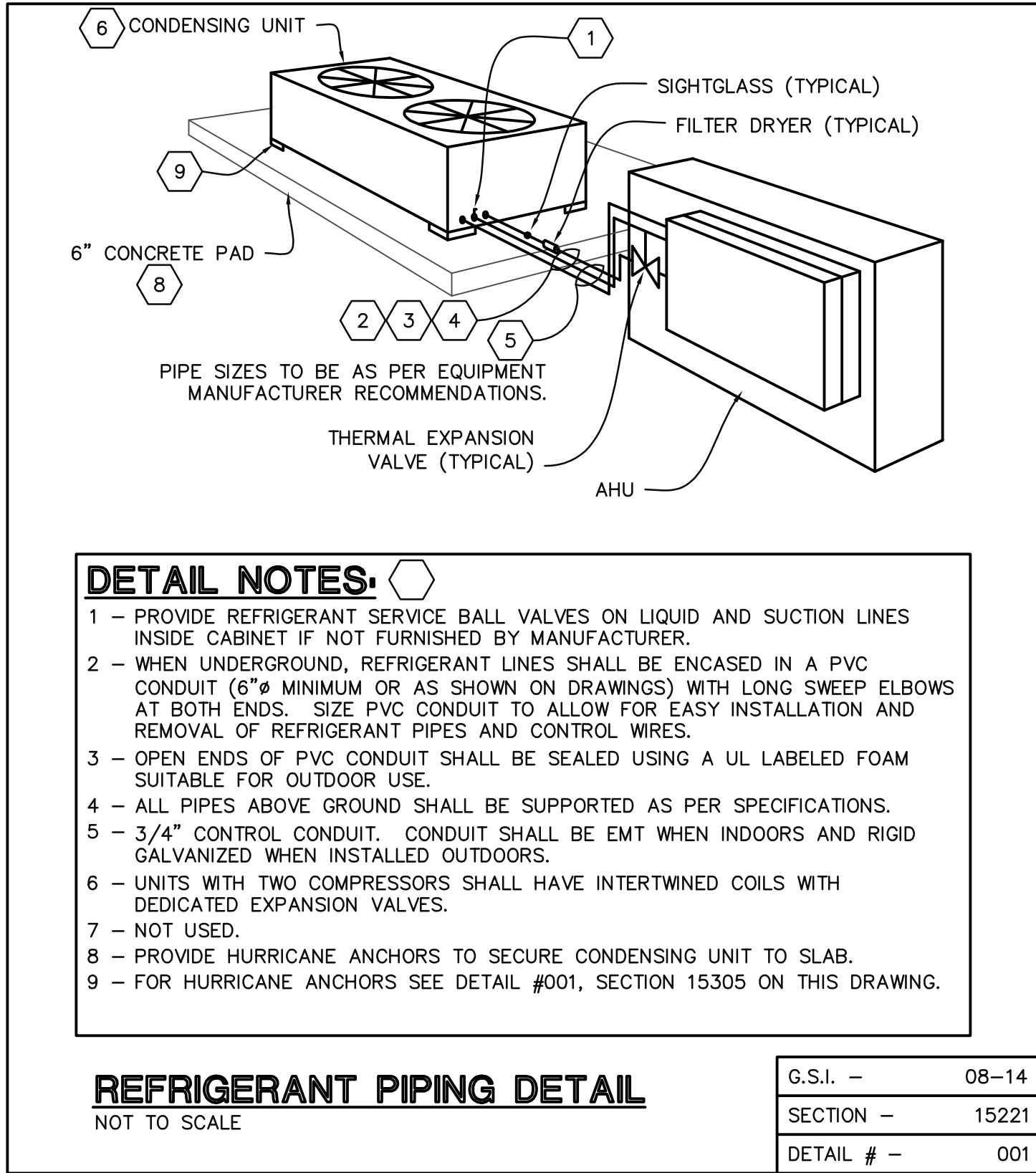
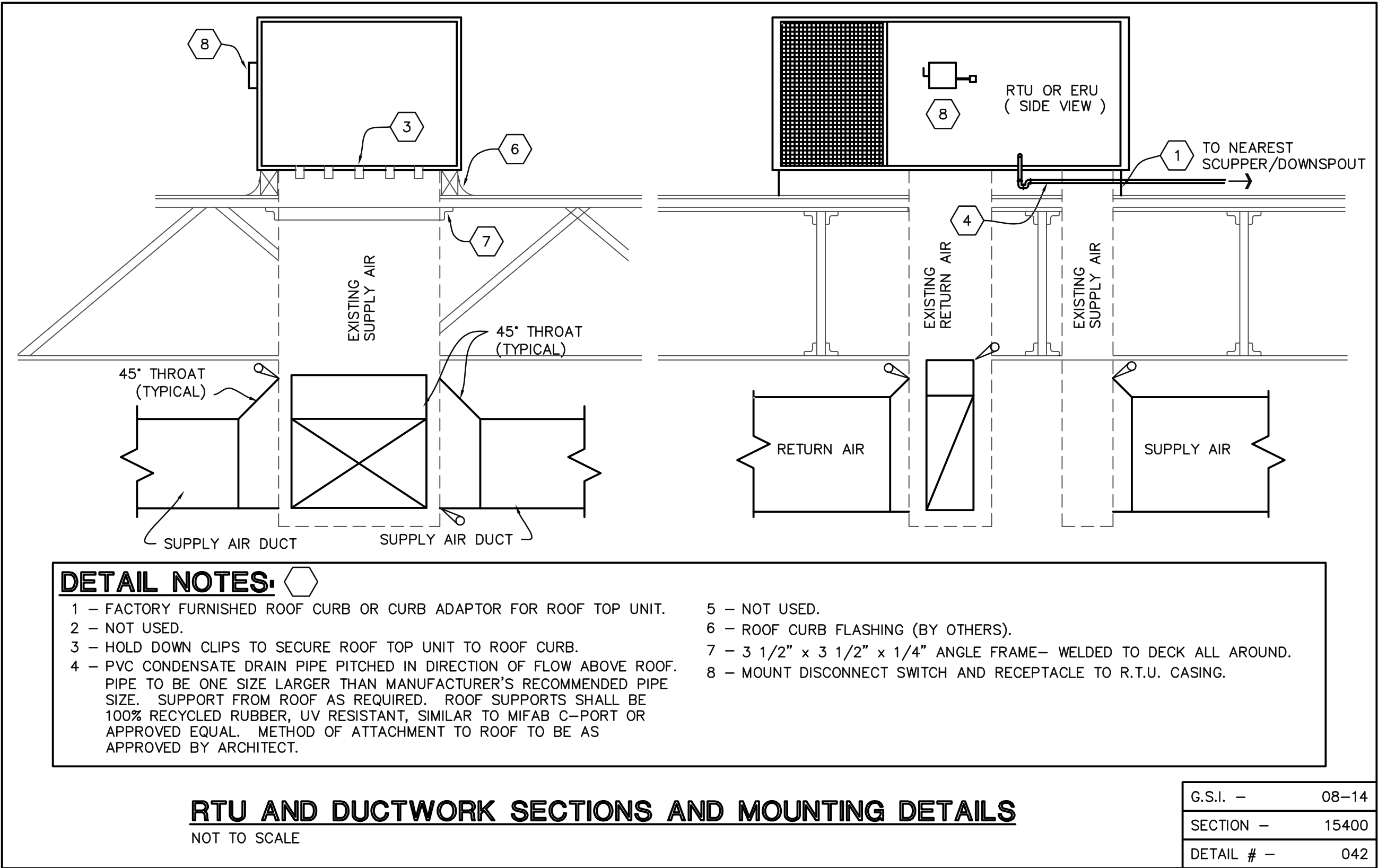
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MECHANICAL DETAILS

SHEET NUMBER

M9.2

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DESIGN REMARKS: BID SET  
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DUCTLESS DX SPLIT SYSTEM SCHEDULE	
MARK	DAHU-1/DCU-1
LOCATION	TRAINING ROOM
INDOOR UNIT INSTALLATION	CEILING
REFRIGERANT	R-410A
SEER	13.6
COOLING CAPACITY (BTUH)	24000
AIRFLOW CFM DRY (LO-M1-M2-HI)	420-490-570-640
ARIFLOW CFM WET (LO-M1-M2-HI)	390-460-530-600
INDOOR UNIT ELECTRICAL (V/PH/HZ)	240/1/60
INDOOR UNIT MCA/MOCP	1/-
OUTDOOR UNIT ELECTRICAL (V/PH/HZ)	240/1/60
OUTDOOR UNIT MCA/MOCP	18/30
MANUFACTURER	DAIHIN
MODEL (INDOOR/OUTDOOR)	PLA-A24BA4/PUY-A24NHA4
NOTES: 1 - DISCONNECT FOR INDOOR AND OUTDOOR UNIT BY ELECTRICAL. 2 - PROVIDE WALL MOUNTED WIRELESS PROGRAMMABLE THERMOSTAT. 3 - PROVIDE INTEGRAL CONDENSATE PUMP IF NECESSARY. 4 - PROVIDE INVERTER DRIVEN COMPRESSOR.	

AIR DEVICE SCHEDULE					
#	DESCRIPTION	NECK SIZE (")/CFM (SEE NOTE #1)	MODEL (1) (SEE NOTE #2)	CODE	NOTES
S-1	SQUARE, HIGH CAPACITY, LOUVERED CEILING DIFFUSER	6# FOR 0-170 CFM 8# FOR 171-270 CFM 10# FOR 271-380 CFM	TITUS TDCA-AA	M-1, F-2, A-1	3, 7
S-2	SQUARE, HIGH CAPACITY, LOUVERED CEILING DIFFUSER	6# FOR 0-170 CFM 8# FOR 171-270 CFM 10# FOR 271-380 CFM	TITUS TDCA-AA	M-1, F-2, A-1	3, 4
R-1 E-1	LOUVERED RETURN/EXHAUST GRILLE	22x22 FOR 0-1600 CFM	TITUS 350FL	M-1, F-2, A-1	5, 7
T-1	LOUVERED TRANSFER GRILLE	22x22 FOR 0-1600 CFM	TITUS 350FL	M-1, F-2, A-1	6, 7
CODE: MARK: S - SUPPLY R - RETURN E - EXHAUST T - TRANSFER  MATERIAL: M-1 - EXTRUDED ALUMINUM (ALUMINIZED STEEL NOT ACCEPTABLE) M-2 - HEAVY GAUGE STEEL  FINISH: F-1 - FACTORY PRIMED, FINISH FIELD PAINTING F-2 - ELECTROCOATED OFF-WHITE ACRYLIC ENAMEL  ACCESSORIES: A-1 - OPPOSED BLADE DAMPER A-2 - REMOTE OPERATED VOLUME CONTROL A-3 - BLANK OFF PLATE TO PROVIDE DIRECTIONAL AIR FLOW. SEE FLOOR PLANS FOR SHADED AREAS INDICATING LOCATION OF PLATES ON AIR DEVICES.  PROVIDE FRAMES AS REQUIRED BY CEILING CONSTRUCTION SHOWN ON ROOM FINISH SCHEDULE. SEE ARCHITECTURAL PLANS.  NOTES: 1 - ALL NEW AIR DEVICES SHALL BE SELECTED FOR A N.C. LEVEL OF 25 OR LESS. NECK SIZES AND CFM RANGES ARE FOR REFERENCE ONLY, N.C. LEVEL IS OVERRIDING CRITERIA. 2 - SPECIFIED MODEL OR APPROVED EQUIVALENT. 3 - SEE DETAIL #003, SECTION 15400 ON DRAWING M9.1. (TYPICAL FOR ALL CEILING MOUNTED SUPPLY AIR DEVICES UNLESS NOTED OTHERWISE ON MECHANICAL PLANS). 4 - 12x12 CEILING MODULE. 5 - SEE DETAIL #005, SECTION 15400 ON DRAWING M9.1. (TYPICAL FOR ALL CEILING MOUNTED RETURN AND EXHAUST AIR DEVICES UNLESS NOTED OTHERWISE ON MECHANICAL PLANS). 6 - SEE DETAIL #015, SECTION 15400 ON DRAWING M9.1. (TYPICAL FOR ALL TRANSFER AIR DEVICES UNLESS NOTED OTHERWISE ON MECHANICAL PLANS). 7 - 24x24 CEILING MODULE.					

FAN SCHEDULE				
UNIT NO.	-	EF-1	EF-2	EF-3
SERVICE	-	MEN 100	WOMEN 126	BREAK ROOM 104/107
LOCATION	-	SEE PLANS	SEE PLANS	SEE PLANS
AIR QUANTITY	CFM	300	150	100
EXT. STATIC PRESS.	IN. H <sub>2</sub> O	0.375	0.25	0.25
FAN TYPE	-	IN-LINE	CEILING	CEILING
DRIVE	-	DD	DD	DD
SONES	-	2.0	2.5	2.4
MOTOR	AMPS/WATTS	1.87/135	1.30/113	1.14/80
FAN	RPM	1000	1400	950
ELECTRICAL	V/ø/HZ	115/1/60	115/1/60	115/1/60
CONTROLS	NOTE #	6	2	7
MANUFACTURER	-	GREENHECK	GREENHECK	GREENHECK
MODEL	-	CSP-A410	SP-A190	SP-B110
NOTES	-	4, 5	1, 3, 4, 5	1, 3, 4, 5
NOTES: 1 - PROVIDE UNIT MOUNTED CEILING AIR INTAKE GRILLE AND BACKDRAFT DAMPER. FURNISH TIME DELAY SWITCH AND SOLID STATE SPEED CONTROLLER FOR INSTALLATION BY DIV. 16. 2 - INTERLOCK WITH LIGHTS - DIV. 16. 3 - PROVIDE WALL CAP (GREENHECK MODEL WC-6 OR APPROVED EQUIVALENT). 4 - PROVIDE SOLID STATE SPEED CONTROLLER. IF REMOTE MOUNTED, COORDINATE WITH ELECTRICAL CONTRACTOR. LOCATION SHALL BE ACCESSIBLE TO TEST AND BALANCE AGENCY. COORDINATE FIELD INSTALLATION WITH DIV. 16. 5 - PROVIDE BACKDRAFT DAMPER AND INSECT SCREEN. 6 - INTERLOCK WITH RTU-1. FAN TO RUN CONTINUOUSLY WHEN RTU-1 IS IN OPERATION. 7 - PROVIDE WALL SWITCH - LABEL "EXHAUST FAN". COORDINATE LOCATION WITH OWNER REPRESENTATIVE AND ARCHITECT.				

PACKAGED ROOFTOP UNITS WITH ELECTRIC HEAT		
MARK		RTU-1
COOLING CAPACITY - TOTAL	BTUH	61,600
SENSIBLE CAPACITY	BTUH	37,816
COIL ENTERING AIR TEMP	°F/°F	81.6/69.4
COIL LEAVING AIR TEMP	°F/°F	55.8/55.2
AIRFLOW (TOTAL/OA)	CFM	1400/500
EXT/TOT STATIC PRESSURE	IN. WTR.	0.6/0.74
EVAPORATOR FAN	HP/BHP	1/-
EVAPORATOR FAN	RPM	889
DEHUMIDIFICATION COIL	ROWS	1
REHEAT COIL LEAVING AIR TEMP.	°F	75.2
ELECTRIC HEAT	KW	15
FILTER TYPE/EFF	- / %	2" MERV-8
MINIMUM NUMBER OF COMPRESSORS	-	1
ELECTRICAL	V/PH/HZ	240/1/60
COMPRESSOR	FLA (EACH)	-
EVAPORATOR FAN	FLA	-
MINIMUM CIRCUIT AMPS	-	88
REC FUSE SIZE	-	90
UNIT EER	-	12.7
WEIGHT	LBS.	810
MANUFACTURER	-	LENNOX
MODEL NO.		LCH060H4E
NOTES: 1 - PROVIDE UNIT WITH MICROPROCESSOR CONTROL AND LED DISPLAY. 2 - UNIT SHALL BE HIGH EFFICIENCY TYPE WITH 2 STAGE COMPRESSOR, VARIABLE SPEED DIRECT DRIVE ECM BLOWER, AND HOT GAS REHEAT. 3 - UNIT SHALL OPERATE IN COOLING WITH 1ST STAGE COOLING AND 1ST STAGE COMPRESSOR AT 67% OF DESIGN AIRFLOW. ON 2ND STAGE COOLING AND 2ND STAGE COMPRESSOR AT 100% DESIGN AIRFLOW. 4 - PROVIDE MOTORIZED OUTSIDE AIR DAMPER / ECONOMIZER ASSEMBLY TO ADJUST POSITION AT 67% AND 100% AUTOMATICALLY WITH UNIT AND MAINTAIN CONSTANT OUTSIDE AIR CFM. COORDINATE WITH TEST AND BALANCE TO SET UP FOR BOTH STAGES AT STARTUP. 5 - PROVIDE PROGRAMMABLE THERMOSTAT AND HUMIDISTAT FOR HUMIDITY CONTROL 6 - PROVIDE TOOL-LESS HINGED ACCESS DOORS. 7 - PROVIDE ROOF CURB WITH VIBRATION ISOLATION AND ACOUSTICAL INSULATION. SECURE CURB TO ROOF AND UNIT TO CURB. ANCHORING SHALL MEET 2010 FBC WIND LOADS. COORDINATE WITH STRUCTURAL		

SPLIT SYSTEM A/C SCHEDULE			
AIR HANDLING UNIT DATA			
MARK	-	AHU-2	AHU-4
TOTAL CAPACITY	BTUH	26574	61350
SENSIBLE CAPACITY	BTUH	22614	43158
SUPPLY AIR	CFM	1000	1800
OUTSIDE AIR	CFM	110	350
E.A.T. DB/WB	°F	77.7/64.9	78.7/68.0
HEATING CAPACITY	BTUH	17072	42680
ELECTRIC HEATER	KW/STEPS	5/1	12.5/2
E.S.P.	IN. H <sub>2</sub> O	0.5	0.5
ELECTRICAL	VOLT/ø/HZ	240/1/60	240/1/60
FAN MOTOR	H.P.	0.5	1.0
FILTER TYPE/EFF.	- / %	MERV-8	MERV-8
MANUFACTURER	-	LENNOX	LENNOX
MODEL NO.	-	CBX32MV-024	CBX32MV-048
SEER/EER (MIN.)	-	15.5/12.5	15.5/11.7
CONDENSING UNIT DATA			
MARK	-	CU-2	CU-4
OUTDOOR TEMP.	°F	95	95
ELECTRICAL	VOLT/ø/HZ	240/1/60	240/1/60
R.L.A.	-	11.7	27.1
MANUFACTURER	-	LENNOX	LENNOX
MODEL NO.	-	XC16-024	XC16-060-230
WIRE SIZE AMPS	-	15.7	35.6
REC. FUSE	-	25	60
NOTES: 1 - PROVIDE SINGLE POINT POWER CONNECTION FOR ELECTRIC HEATER AND INDOOR FAN MOTOR. 2 - REFRIGERANT LINES TO BE SIZED PER MANUFACTURER'S SPECIFICATIONS. 3 - DISCONNECT FURNISHED AND INSTALLED BY DIVISION 26. 4 - PROVIDE DUAL STAGE CONDENSING UNIT, WITH VARIABLE SPEED FAN ON AIR HANDLER. 5 - PROVIDE PROGRAMMABLE THERMOSTAT WITH 2 STAGE COOLING, AND VARIABLE SPEED AIR HANDLER WITH HUMIDITY CONTROL. 6 - PROVIDE FOIL FACE INSULATION. 7 - PROVIDE STAINLESS STEEL OR POLYMER TYPE DRAIN PAN, POSITIVELY SLOPED IN TWO DIRECTIONS.			



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**LANDSCAPE CONSULTANT**

**SOLID WASTE BUILDING 4  
INTERIOR REMODEL**  
4010 W. SPRUCE ST.  
TAMPA, FLORIDA

**FILE NUMBER**  
X

**PROJECT NUMBER**  
4463.15.01

**ISSUE DATE**  
MARCH, 2017

**DRAWN BY**  
MH

**REVISIONS**  
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△  
△

**PROFESSIONAL SEAL**  
MAKSIM A. SEGAL, P.E.  
FL. PE. 71454

03-03-17

**SCALE:** AS NOTED

**MECHANICAL SCHEDULES**

**SHEET NUMBER**  
M11.1  
X OF X

NOT FOR CONSTRUCTION

DESIGN REMARKS: BID SET  
DATE: 03-03-17





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SCALE: AS NOTED

PLUMBING GENERAL

SHEET NUMBER

P0.1

X OF X

PLUMBING GENERAL CONSTRUCTION NOTES AND SPECIFICATIONS.

PART 1 - GENERAL REQUIREMENTS

QUALITY ASSURANCE:

- PLANS INDICATE THE GENERAL LAYOUT AND LOCATION OF THE PLUMBING SYSTEM COMPONENTS. UNLESS SPECIFIC DIMENSIONS ARE NOTED, THE ACTUAL LOCATION OF THESE COMPONENTS SHALL BE DETERMINED IN THE FIELD IN COORDINATION WITH THE WORK OF OTHER TRADES, THE USE OF MANUFACTURER'S SHOP DRAWINGS AND SIMILAR CERTIFIED DATA. THESE PLANS SHALL NOT BE SCALED.
- NO EXCLUSIONS FROM OR LIMITATIONS IN THE LANGUAGE USED IN THE CONTRACT DOCUMENTS SHALL BE INTERPRETED AS MEANING THAT THE EQUIPMENT, APPURTENANCES AND/OR ACCESSORIES NECESSARY FOR A COMPLETE AND OPERATIONAL SYSTEM ARE NOT TO BE PROVIDED AS REQUIRED.
- THE SEPARATE DIVISIONAL DRAWINGS AND SPECIFICATIONS DO NOT RELIEVE THE CONTRACTOR AND THIS INSTALLER FROM THE RESPONSIBILITY TO PROVIDE THE WORK, WHICH IS INDICATED ON ANY OF THE DRAWINGS OR DIVISION OF THE SPECIFICATIONS. THIS INSTALLER SHALL REVIEW AND COORDINATE THE SCOPE OF HIS WORK WITH OTHER INSTALLERS TO ASSURE HE IS PROVIDING A COMPLETE AND FUNCTIONAL SYSTEM.
- CONTRACTOR SHALL VERIFY AND COORDINATE LOCATION, TYPE, NUMBER, MOUNTING HEIGHTS AND INSTALLATION OF ALL PLUMBING FIXTURES (HANDICAPPED ACCESSIBLE AND NON-HANDICAPPED ACCESSIBLE) AS PER LATEST ARCHITECTURAL DRAWINGS ISSUED AT BID TIME INCLUDING ALL ADDENDUM'S AND INCLUDE IN HIS BID AN AMOUNT TO FURNISH AND INSTALL ANY PLUMBING FIXTURES WHICH ARE SHOWN IN ADDITION TO FIXTURES SHOWN ON THE PLUMBING DRAWINGS AND ANY INCIDENTAL APPARATUS, APPLIANCES, MATERIAL, LABOR AND SERVICES NECESSARY TO MAKE WORK COMPLETE IN ALL RESPECTS AND FULLY READY FOR OPERATION.
- COORDINATE WORK WITH OTHER TRADES TO AVOID INTERFERENCE AND DELAYS. ASSIST IN WORKING OUT SPACE REQUIREMENTS TO MAKE A SATISFACTORY INSTALLATION. NOTIFY THE ARCHITECT OF ANY MAJOR CONFLICTS THAT CAN NOT BE RESOLVED THROUGH NORMAL FIELD COORDINATION WITH OTHER TRADES.
- IF WORK IS INSTALLED BEFORE COORDINATING WITH OTHER TRADES SO AS TO CAUSE ANY INTERFERENCE WITH WORK OF OTHER TRADES THEN THE INSTALLER SHALL MAKE THE NECESSARY CHANGES IN THE WORK TO CORRECT THE CONDITION WITHOUT EXTRA CHARGE.
- SUBMIT SHOP DRAWINGS OF ALL EQUIPMENT AND MATERIALS FOR REVIEW. INSTALL AND TEST ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS AND RECOMMENDATIONS.
- OPERATE AND ADJUST ALL EQUIPMENT AND SYSTEMS TO MEET SPECIFIED PERFORMANCE REQUIREMENTS UPON COMPLETION OF THE INSTALLATION. SHOULD ANY PART OF THE SYSTEM FAIL TO MEET THESE REQUIREMENTS, ADJUST, REPAIR OR REPLACE ALL DEFECTIVE OR INOPERATIVE PARTS AND AGAIN CONDUCT THE COMPLETE PERFORMANCE TEST.
- TESTS SHALL COMPLY WITH THE FOLLOWING:
  - SANITARY-VENT PIPING - TEST THE SYSTEM WITH A TEN FOOT (10') HYDROSTATIC PRESSURE FOR A MINIMUM OF TWO (2) HOURS.
  - DOMESTIC WATER PIPING - TEST THE SYSTEM WITH A MINIMUM OF ONE HUNDRED (100) PSI HYDROSTATIC PRESSURE FOR TWO (2) HOURS.
- THE CONDITIONS SHOWN ON THE CONTRACT DOCUMENTS ARE BASED ON AVAILABLE EXISTING INFORMATION. THE CONTRACTOR SHALL VERIFY EXISTING CONDITIONS AND DIMENSIONS TO ESTABLISH PIPING AND EQUIPMENT CLEARANCES. NOTIFY THE ARCHITECT/ENGINEER OF ANY DEVIATIONS FROM THE CONTRACT DOCUMENTS.
- VISIT AND CAREFULLY EXAMINE THOSE PORTIONS OF THE SITE AND/OR PRESENT BUILDING AFFECTED BY THIS WORK SO AS TO BECOME FAMILIAR WITH EXISTING CONDITIONS AND DIFFICULTIES THAT WILL AFFECT THE EXECUTION OF THE WORK BEFORE SUBMITTING PROPOSALS. SUBMISSION OF A PROPOSAL WILL BE CONSTRUED AS EVIDENCE THAT SUCH EXAMINATION HAS BEEN MADE AND LATER CLAIMS FOR LABOR, EQUIPMENT OR MATERIALS REQUIRED BECAUSE OF DIFFICULTIES ENCOUNTERED WHICH COULD HAVE BEEN FORESEEN HAD SUCH AN EXAMINATION BEEN MADE WILL NOT BE RECOGNIZED.
- CONTRACTOR SHALL NOTIFY THE OWNER/ENGINEER OF ANY DAMAGE TO THE EXISTING INSTALLATION BEFORE PROCEEDING WITH HIS WORK. DAMAGE CAUSED BY THE CONTRACTOR SHALL BE REPAIRED AT NO COST TO THE CONTRACT AND TO THE OWNER'S SATISFACTION.
- DEMOLITION SHALL BE AS SHOWN ON CONTRACT DOCUMENTS.
- SCHEDULE ALL DEMOLITION AND RENOVATION WORK WITH THE OWNER IN WRITING WITH MINIMUM DOWN TIME OF ANY BUILDING SERVICE OR FUNCTION. NO EXTRA COST TO THE CONTRACT WILL BE ALLOWED FOR OVERTIME WORK UNLESS SPECIFICALLY AUTHORIZED IN ADVANCE BY A REPRESENTATIVE OF THE OWNER.
- PLAN INSTALLATION OF NEW WORK AND CONNECTIONS TO EXISTING WORK TO ENSURE MINIMUM INTERFERENCE WITH REGULAR OPERATION OF EXISTING FACILITIES.
- SUBMIT A SCHEDULE OF NECESSARY TEMPORARY SHUT DOWNS OF EXISTING SERVICES TO THE OWNER FOR APPROVAL. ALL SHUT DOWNS SHALL BE MADE AT SUCH TIMES AS WILL NOT INTERFERE WITH REGULAR OPERATING OF EXISTING FACILITIES AND ONLY AFTER RECEIVING WRITTEN APPROVAL FROM THE OWNER.
- IF THE NEW CONNECTIONS TO THE EXISTING UTILITIES REQUIRE A SHUTDOWN OR INTERRUPTION OF EXISTING SERVICES, ALL PREPARATORY WORK UP TO THE POINT OF THE CONNECTION INCLUDING TEMPORARY CONNECTION BETWEEN NEW AND EXISTING WORK IS TO BE PERFORMED FIRST TO MINIMIZE TIME AND ENSURE CONTINUOUS OPERATION.
- CONNECT NEW WORK TO EXISTING WORK IN NEAT AND APPROVED MANNER. RESTORE EXISTING WORK DISTURBED TO ORIGINAL CONDITION.

CODES AND STANDARDS:

- DESIGN AND INSTALLATION STANDARDS:
  - FLORIDA BUILDING CODE - PLUMBING - FIFTH EDITION (2014)
  - HYDRAULICS INSTITUTE STANDARDS.

PART 2 - PRODUCTS AND MATERIALS

- PLUMBING FIXTURES AND EQUIPMENT SHALL COMPLY WITH THE FOLLOWING:
  - FOR PLUMBING FIXTURES AND EQUIPMENT REFER TO SCHEDULES ON PLANS.
  - AFTER PLUMBING FIXTURES ARE SET, THE CRACK BETWEEN THE FIXTURE AND THE WALL SHALL BE CAULKED WITH TUB-TITE AS MANUFACTURED BY AMERICAN FLOURESITE COMPANY OR APPROVED EQUAL.
  - ALL ADA COMPLIANT FIXTURE MOUNTING HEIGHTS SHALL BE IN ACCORDANCE WITH CODE REQUIREMENTS. WATER CLOSET FLUSH VALVE HANDLE TO BE POSITIONED AWAY FROM BLOCK WALL ON OTHER SIDE OF WATER CLOSET TO CONFORM TO ADA STANDARDS.
  - EACH INDIVIDUAL FIXTURE AND PIECE OF EQUIPMENT SHALL HAVE A SHUT OFF VALVE IN EACH WATER SUPPLY WHICH SHALL PERMIT EACH FIXTURE AND PIECE OF EQUIPMENT TO BE SHUT OFF WITHOUT INTERFERING WITH THE WATER SUPPLY OF OTHER FIXTURES OR EQUIPMENT.
  - EXACT LOCATION OF PLUMBING FIXTURES, FLOOR DRAINS, ETC. SHALL BE DETERMINED FROM ARCHITECTURAL DRAWINGS. VERIFY SUCH LOCATIONS BEFORE PROCEEDING WITH ROUGH-IN.
  - CONTRACTOR TO VERIFY CLEARANCES NEEDED FOR FIXTURES BEING INSTALLED IN CASEWORK TO ENSURE A PROPER INSTALLATION.
- COLD AND HOT WATER PIPING SHALL COMPLY WITH THE FOLLOWING:
  - ALL HOT AND COLD WATER SUPPLY PIPING SHALL BE TYPE "L", HARD DRAWN, SEAMLESS COPPER TUBING WITH WROUGHT COPPER SOLDER FITTINGS. USE 95-5 SOLDER.
  - ALL UNDERGROUND COPPER WATER PIPING SHALL BE COATED WITH TWO (2) COATS OF BITUMASTIC OR WRAPPED IN 3 MIL PLASTIC SLEEVING USED IN THE INDUSTRY TO PROTECT PIPING FROM THE ELEMENTS.
  - ALL DOMESTIC WATER SHUT OFF VALVES SHALL BE FULL PORT BALL VALVE TYPE.
- SANITARY PIPING (SOIL, WASTE, VENT) SHALL COMPLY WITH THE FOLLOWING:
  - ALL PIPING SHALL HAVE A GRADE OF ONE-QUARTER INCH (1/4") PER FOOT WHENEVER POSSIBLE AND NOT LESS THAN ONE-EIGHTH INCH (1/8") PER FOOT IN ANY CASE.
  - ALL SANITARY, SOIL, WASTE, VENT AND DRAINAGE LINES UNDERGROUND INSIDE OF THE BUILDING SHALL BE SCHEDULE 40 DWV-PVC.
  - ALL ABOVE GROUND SOIL, WASTE AND VENT PIPING SHALL BE SCHEDULE 40 DWV-PVC.
- INSULATION SHALL COMPLY WITH THE FOLLOWING:
  - ALL DOMESTIC HOT WATER PIPING SHALL BE INSULATED WITH 1/2" THICK SECTIONAL GLASS FIBER.
  - INSULATE ALL PIPING BELOW ADA COMPLIANT LAVATORIES / SINKS WHERE DESIGNATED ON ARCHITECTURAL PLANS INCLUDING P-TRAPS WITH HANDI LAV-GUARD INSULATION KIT NO. 102 MADE BY TRUEBRO CO. (203) 875-2868 OR MCGUIRE PRO-WRAP. VELCRO AND TWIST TIE JOINTS NOT ACCEPTABLE.
- TRAP PRIMER CONNECTIONS SHALL COMPLY WITH THE FOLLOWING:
  - PROVIDE TRAP PRIMER CONNECTION TO FLOOR DRAINS IN TOILET ROOMS EQUAL TO J.R. SMITH NO. 2968.
  - ALL OTHER FLOOR DRAINS TO BE PROVIDED WITH TRAP PRIMERS EQUAL TO PRECISION PRODUCTS INC.
- INSTALL ESCUTCHEONS TO COVER OPENINGS AROUND ALL EXPOSED WALL AND CEILING PIPE PENETRATIONS AND PIPES INSIDE CABINETS.
- INSTALL CLEANOUTS FOR PIPING AS SHOWN ON PLANS AND AS REQUIRED BY LOCAL CODE.
- WHERE VALVES OCCUR ABOVE INACCESSIBLE CEILINGS OR CONCEALED BEHIND WALLS, THIS CONTRACTOR SHALL FURNISH AND INSTALL ACCESS PANELS OF PROPER SIZE TO ALLOW FULL ACCESS WITH BOTH HANDS.
- PROVIDE HOSE BIBB WITH VACUUM BREAKER LOOSE TEE KEY FEATURE IN ALL TOILETS WITH FLOOR DRAINS. (SEE FLOOR PLANS FOR LOCATIONS).
- PROVIDE WATER HAMMER ARRESTORS TO CONFORM WITH PDI INSTITUTE STANDARDS.

PLUMBING LEGEND

SYMBOL	DESCRIPTION	ABBREV.
-----EX-CW-----	EXISTING PIPING TO REMAIN	EX--(VARIES)
XXXXXXXXXXXX	EXISTING PIPING FOR DEMOLITION	EX--(VARIES)
-----CW-----	COLD WATER PIPING	CW
-----HW-----	HOT WATER PIPING	HW
-----HWR-----	HOT WATER RETURN PIPING	HWR
-----SAN-----	SANITARY SEWER PIPING	SAN
-----V-----	VENT PIPING	V
	EMERGENCY OVERFLOW DRAIN	EO
	FLOOR DRAIN	FD
	FLOW DIRECTION INDICATOR	--
	GATE VALVE	GV
	GATE VALVE IN CAST IRON BOX	--
	GATE VALVE ON VERTICAL RISER	--
	HOSE BIBB OR WALL HYDRANT	HB
	NEW CONNECTION OF PIPING	--
	PIPING DROP OR ELBOW DOWN	--
	PIPING RISER	--
	SANITARY 2-WAY CLEAN-OUT	CO
	SANITARY WALL CLEAN-OUT	WCO
	WATER HEATER WITH DRAIN PAN	EWB
	WATER PIPING CONNECTION POINT	--
	SANITARY RISER DIAGRAM FLOOR DRAIN	FD
	SANITARY RISER DIAGRAM FLOOR SINK	FS
	SANITARY RISER DIAGRAM SINK OR LAV	--
	SANITARY RISER DIAGRAM TOILET	--
	SANITARY RISER DIAGRAM 2-WAY CLEAN-OUT	--
	SANITARY RISER DIAGRAM AIR ADMITTANCE VALVE (STUDOR VENT)	--
	SANITARY RISER DIAGRAM WALL CLEAN-OUT	--
	SANITARY RISER DIAGRAM VENT THROUGH ROOF	VTR

NOTE: THESE ARE STANDARD SYMBOLS AND MAY NOT ALWAYS APPEAR ON THE DRAWINGS. HOWEVER, WHEN THE SYMBOL DOES APPEAR THE ITEM SHALL BE PROVIDED.

PLUMBING DEMOLITION NOTES:

A - FIXTURE REMOVAL:

- REMOVE ALL EXISTING PLUMBING FIXTURES THAT ARE DESIGNATED TO BE REMOVED UNDER THIS CONTRACT. COORDINATE WITH OWNER WHETHER TO DISPOSE OR FIXTURES OR TURN OVER TO OWNER FOR THEIR USE.

B - PIPING REMOVAL:

- REMOVE DESIGNATED SANITARY AND DOMESTIC WATER SYSTEM PIPING SHOWN ON THE DEMOLITION DRAWINGS SERVING FIXTURES TO BE REMOVED AND DISPOSE OF OFF-SITE. NO PIPING SHALL BE ABANDONED IN PLACE.
- PROVIDE AND INSTALL TEMPORARY PLUMBER'S TEST PLUGS INTO OPENED SANITARY SYSTEM PIPING AS WILL BE REQUIRED TO MINIMIZE THE RELEASE OF NOXIOUS GASES INTO PUBLIC AND WORKING SPACES.
- PRIOR TO THE REMOVAL OF ANY DOMESTIC WATER LINE, CONTRACTOR SHALL ENSURE THAT THE CONDITION OF EXISTING ISOLATION VALVE IS TOTALLY CAPABLE OF SHUTTING OFF THE WATER SUPPLY. IF VALVE IS DETERMINED TO BE DEFECTIVE, CONTRACTOR SHALL COORDINATE WITH OWNER/ENGINEER FOR THE LOCATION OF AN ALTERNATIVE ISOLATION VALVE AND OBTAIN DIRECTIVE FROM OWNER/ENGINEER FOR THE REPLACEMENT OF DEFECTIVE VALVE.

SITE UTILITIES FIELD COORDINATION

- PLANS INDICATE THE CONNECTION OF THE BUILDING (SANITARY, STORM AND WATER) LINES TO EXISTING UTILITIES EITHER ON SITE OR WITHIN BUILDING.
- PLUMBING INSTALLER TO VERIFY POINT OF CONNECTION TO SITE UTILITIES BEFORE COMMENCING INSTALLATION OF HIS LINES. IF, DUE TO FIELD CONDITIONS, ELEVATIONS OR POINT OF CONNECTION CANNOT BE MET, PLUMBING INSTALLER TO NOTIFY (CONTRACTOR FOR GENERAL CONSTRUCTION) (CONSTRUCTION MANAGER) AND ARCHITECT / ENGINEER BEFORE PROCEEDING WITH WORK. FAILURE TO PROVIDE SUCH NOTIFICATION ON A TIMELY MANNER WILL RESULT IN THE REJECTION OF ANY CLAIMS FROM THE INSTALLER AND THE CONTRACTOR.
- IF SITE UTILITIES ARE NOT IN PLACE WHEN PLUMBING INSTALLER COMPLETES HIS UNDERGROUND WORK, PLUMBING INSTALLER TO CLEARLY IDENTIFY END AND ELEVATION OF HIS LINES AND NOTIFY THE CONTRACTOR FOR GENERAL CONSTRUCTION OR CONSTRUCTION MANAGER. IN THAT CASE SITE UTILITIES INSTALLER SHALL COORDINATE FINAL CONNECTION.

PLUMBING DRAWING LIST

- P0.1 - PLUMBING LEGEND, GENERAL NOTES, FIXTURE SCHEDULE, SPECIFICATIONS  
P3.1 - PLUMBING DEMOLITION AND RENOVATION PLANS  
P3.2 - PLUMBING DEMOLITION AND RENOVATION PLANS  
P7.1 - PLUMBING DETAILS  
P8.1 - PLUMBING RISER DIAGRAMS

PLUMBING FIXTURE UNIT CALCULATIONS

FIXTURE (NOTE #12)	COLD WSFU (NOTE #1)	HOT WSFU (NOTE #2)	FIXTURE TOTAL WSFU (NOTE #3)	DFU (NOTE #4)	# OF FIXTURES (NOTE #12)	SUBTOTAL WSFU	SUBTOTAL DFU	NOTES (#)
LAVATORY (PUBLIC)	1.5	1.5	2	1	7	14	7	6
SHOWER HEAD	3	3	4	2	3	12	6	7, 11
URINAL (PUBLIC)	5	--	5	2	4	20	8	8, 10
WATER CLOSET (PUBLIC)	10	--	10	4	5	50	20	5, 9
TOTAL						96	41	

NOTES:

- COLD WATER LOAD VALUE IN WATER SUPPLY FIXTURE UNITS (WSFU) PER FIXTURE. BASED ON FLORIDA BUILDING CODE - PLUMBING - FIFTH EDITION (2014), TABLE E103.3(2).
- HOT WATER LOAD VALUE IN WATER SUPPLY FIXTURE UNITS (WSFU) PER FIXTURE. BASED ON FLORIDA BUILDING CODE - PLUMBING - FIFTH EDITION (2014), TABLE E103.3(2).
- TOTAL WATER LOAD VALUE IN WATER SUPPLY FIXTURE UNITS (WSFU) PER FIXTURE. BASED ON FLORIDA BUILDING CODE - PLUMBING - FIFTH EDITION (2014), TABLE E103.3(2).
- DRAINAGE FIXTURE UNITS (WSFU) PER FIXTURE. BASED ON FLORIDA BUILDING CODE - PLUMBING - FIFTH EDITION (2014), TABLE 709.1.
- FLUSH VALVE SUPPLY CONTROL.
- FAUCET SUPPLY CONTROL.
- MIXING VALVE SUPPLY CONTROL.
- 3/4" FLUSH VALVE SUPPLY CONTROL.
- 1.6 GPF.
- 1 GPF OR LESS.
- 5.7 GPM OR LESS FLOW RATE.
- ONLY NEW FIXTURES BEING PROVIDED UNDER THIS SCOPE OF WORK ARE INCLUDED IN CALCULATIONS. ADDITIONAL EXISTING FIXTURES MAY ALSO BE CONNECTED TO THE SYSTEM WHETHER INDICATED OR NOT ON PLANS.

NOT FOR CONSTRUCTION

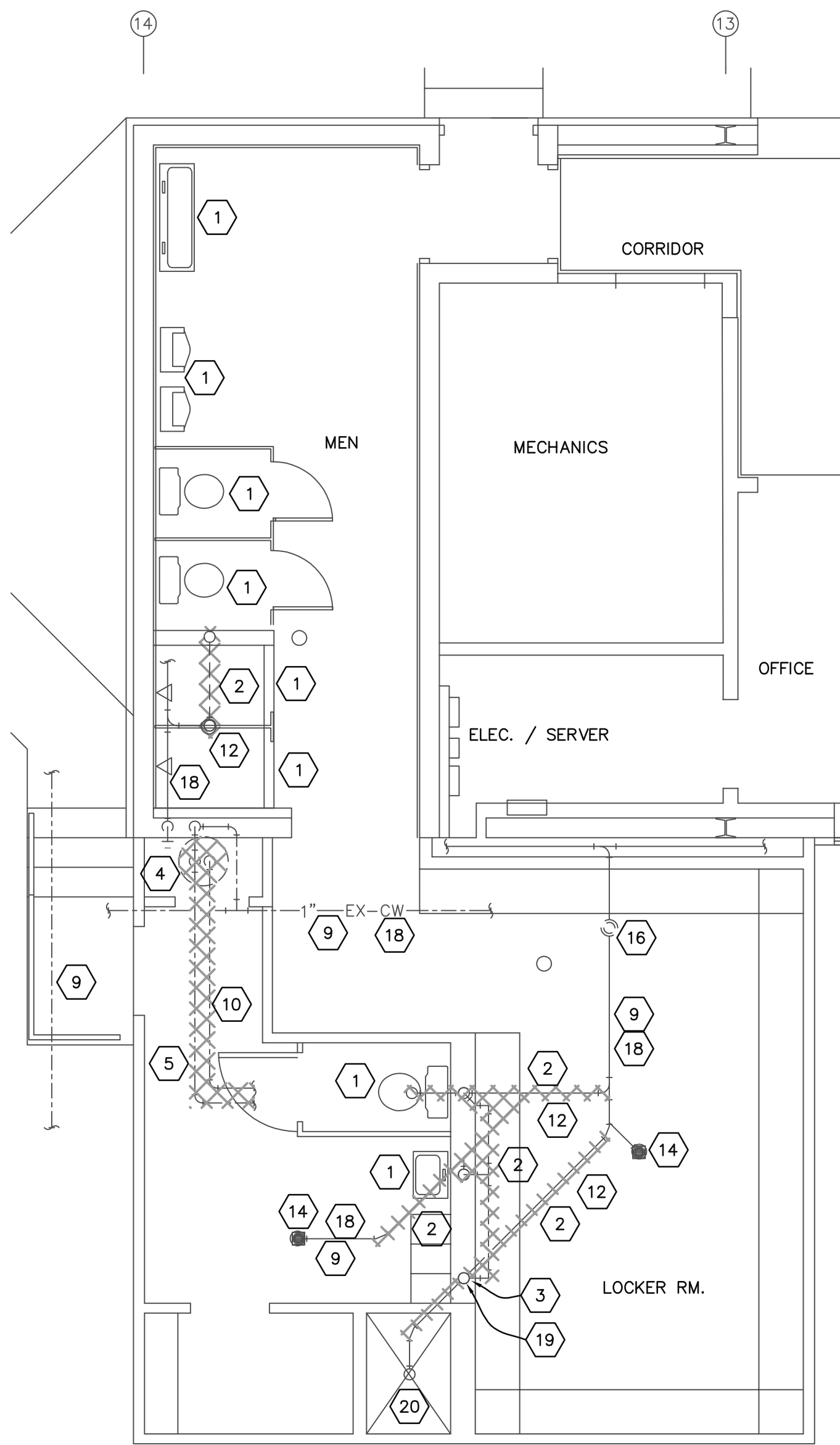
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PLUMBING FIXTURE SCHEDULE

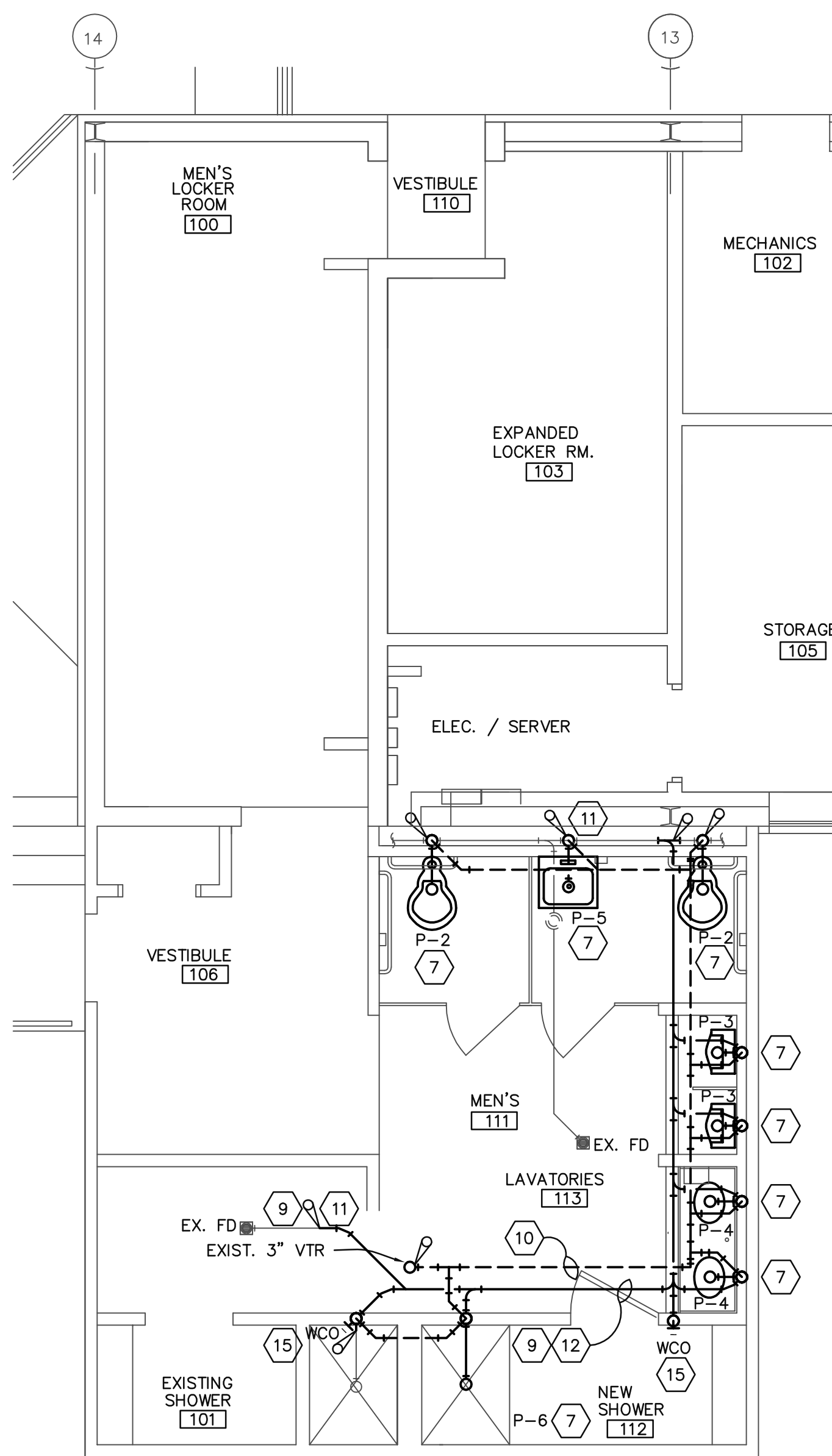
MARK	FIXTURE (NOTE #1)	CONNECTIONS (NOTE #2)				DESCRIPTION (NOTE #3)
		SAN	V	CW	HW	
P-1	WATER CLOSET (1.6 GPF) (FLOOR MOUNTED)	4"	2"	1"	--	AMERICAN STANDARD MADERA 1.6 GPF FLUSHOMETER TOILET MODEL 3451.160, WHITE VITREOUS CHINA, ELONGATED BOWL WITH EXTRA HEAVY DUTY OPEN FRONT SEAT LESS COVER WITH STAINLESS STEEL CHECK HINGES AND SLOAN ROYAL FLUSHOMETER MODEL 111.
P-2	WATER CLOSET (1.6 GPF) (FLOOR MOUNTED) (ADA COMPLIANT)	4"	2"	1"	--	AMERICAN STANDARD RIGHT WIDTH ELONGATED RIGHT HEIGHT FLUSH VALVE TOILET MODEL 3641.016, WHITE VITREOUS CHINA, FLOOR MOUNTED, ELONGATED BOWL WITH EXTRA HEAVY DUTY OPEN FRONT SEAT LESS COVER WITH STAINLESS STEEL CHECK HINGES AND SLOAN ROYAL FLUSHOMETER MODEL 111.
P-3	URNAL (1 GPF) (ADA COMPLIANT)	2"	2"	3/4"	--	AMERICAN STANDARD GLENBROOK URINAL MODEL 6205.010, WHITE VITREOUS CHINA, SLOAN ROYAL FLUSHOMETER MODEL 186-1.0. PROVIDE FLOOR CARRIER WITH PLATE TYPE SYSTEM (ZURN MODEL Z-1222). COORDINATE MOUNTING HEIGHT WITH ARCHITECT.
P-4	LAVATORY (0.5 GPM FLOW) (COUNTERTOP) (NOTE #4)	2"	2"	1/2"	1/2"	AMERICAN STANDARD ROSELYN MODEL 0498.400, WHITE VITREOUS CHINA, WITH CHICAGO FAUCET MODEL 802-VE2805-1000, GRID STRAINER, 1-1/4" C.P., 17 GA. P-TRAP WITH CLEANOUT, LOOSE TEE KEY STOPS AND SUPPLY RISERS.
P-5	LAVATORY (0.5 GPM FLOW) (WALL HUNG) (ADA COMPLIANT) (NOTE #4)	2"	2"	1/2"	1/2"	AMERICAN STANDARD LUCERNE MODEL 0355.012, WHITE VITREOUS CHINA, WITH CHICAGO FAUCET MODEL 895-317CP, GRID STRAINER, 1-1/4" C.P., 17 GA. P-TRAP WITH CLEANOUT, LOOSE TEE KEY STOPS AND SUPPLY RISERS. PROVIDE FLOOR MOUNTED CARRIER, CONCEALED ARM SYSTEM (ZURN MODEL Z-1231).
P-6	BATH - SHOWER ONLY (ADA COMPLIANT)	2"	2"	1/2"	1/2"	DELTA SHOWER ONLY MODEL T13220-H2O-T WITH ZURN FLOOR DRAIN MODEL Z-400H.
EWB-1	ELECTRIC WATER HEATER (NOTE #5)	--	--	3/4"	3/4"	AO SMITH DURA-POWER ELECTRIC WATER HEATER MODEL DEL-50, 50 GALLON TANK, 240V, TWO 4.5 KW ELEMENTS (TOTAL 9 KW).
FD-1	FLOOR DRAIN (NOTE 6)	--	--	--	--	ZURN FLOOR DRAIN "TYPE H" ROUND STRAINER WITH CLAMP DEVICE MODEL Z400H AND JOSAM BALL-FLOAT ADAPTER 67100A SERIES.
HB	HOSE BIBB	--	--	3/4"	--	WOODFORD EXPOSED BRASS HOSE BIBB MODEL 24, VACUUM BREAKER BACKFLOW PREVENTER AND LOOSE TEE KEY.

NOTES: (#)

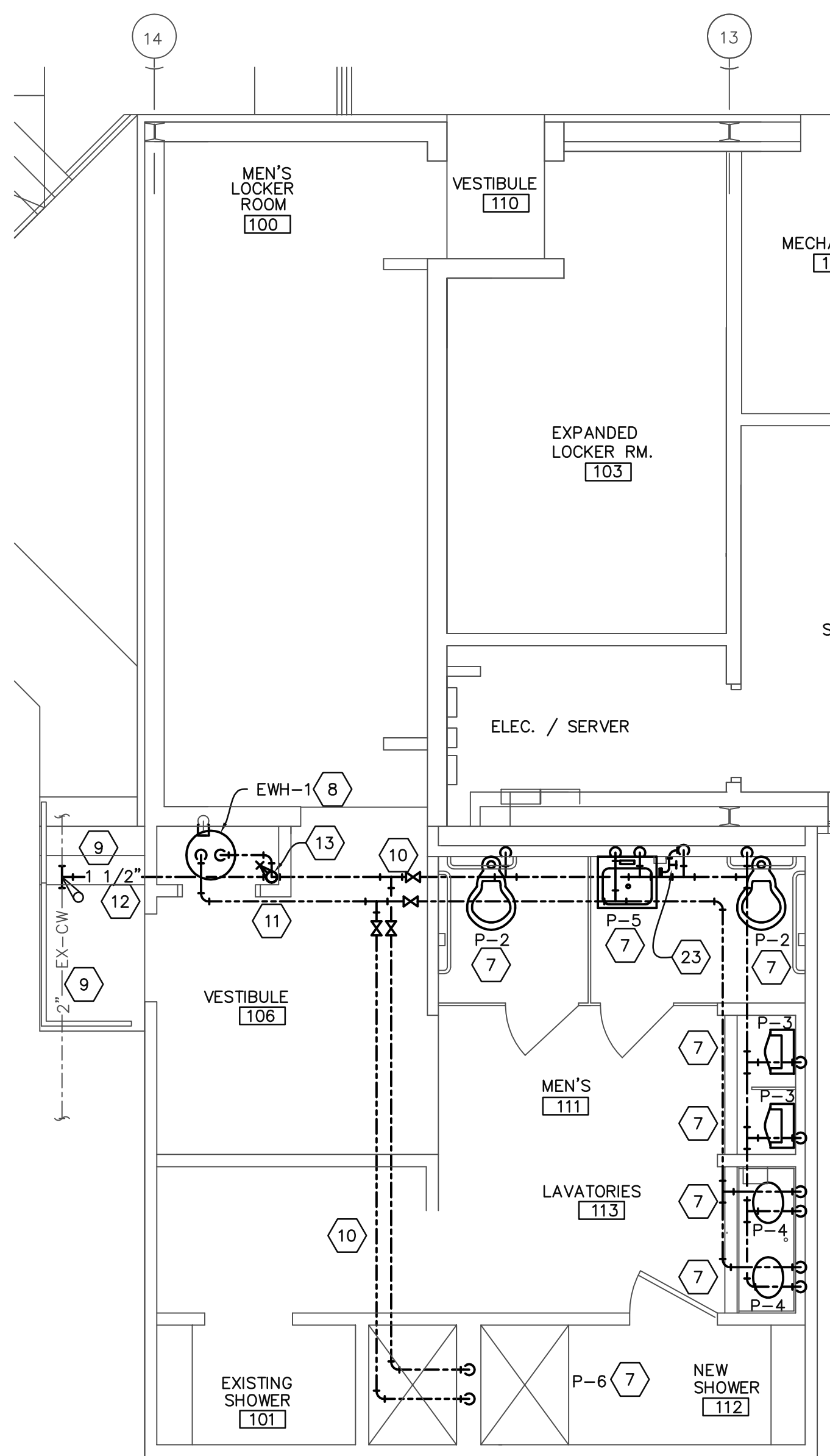
- INSTALL ALL FIXTURES IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. COORDINATE MOUNTING HEIGHTS WITH ARCHITECTURAL PLANS WHERE APPLICABLE.
- THESE FIXTURE CONNECTION SIZES ARE TYPICAL UNLESS NOTED OTHERWISE ON THE CONTRACT DOCUMENTS AND FIXTURE MANUFACTURER SHOP DRAWINGS. THEY MAY NOT ALWAYS APPEAR ON THE DRAWINGS.
- INDICATED FIXTURE OR APPROVED EQUIVALENT.
- PROVIDE 0.5 GPM SPOUT OUTLET (CHICAGO FAUCET MODEL E2605 OR APPROVED EQUIVALENT) ON ALL PUBLIC LAVATORIES WITH A MAXIMUM FLOW RATE OVER 0.5 GPM.
- COORDINATE ELECTRICAL CHARACTERISTICS WITH ELECTRICAL PLANS AND INSTALLER PRIOR TO PURCHASE.
- ALL FLOOR DRAINS SHALL BE PROVIDED WITH WATERLESS TRAP SEAL EQUAL TO SURESEAL.



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



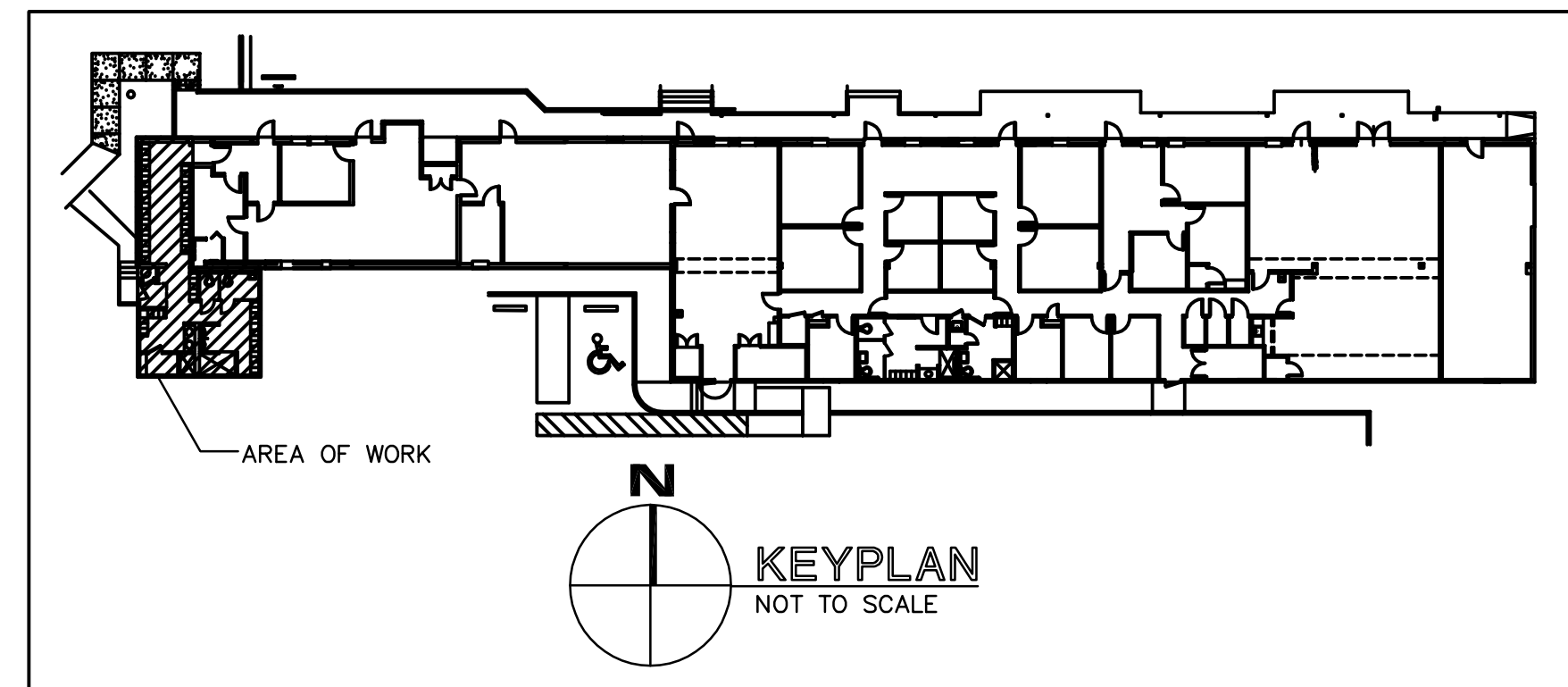
**PLUMBING RENOVATION PLAN -  
SANITARY/VENT PIPING**  
SCALE: 1/4" = 1'-0"



**PLUMBING RENOVATION PLAN -  
WATER PIPING**  
SCALE: 1/4" = 1'-0"

#### PLUMBING NOTES:

- 1 - EXISTING PLUMBING FIXTURE TO BE REMOVED. COORDINATE REMOVAL AND DISPOSAL WITH OWNER / ARCHITECT.
- 2 - EXISTING SECTION OF PIPING TO BE REMOVED.
- 3 - PROVIDE TEMPORARY CAP FOR CONNECTION DURING RENOVATION PHASE.
- 4 - EXISTING WATER HEATER TO BE REMOVED. CAP EXISTING COLD WATER PIPING BACK AT WALL/FLOOR.
- 5 - REMOVE ALL EXISTING HOT AND COLD WATER IN THIS AREA.
- 6 - NOT USED.
- 7 - NEW PLUMBING FIXTURE. REFER TO PLUMBING FIXTURE SCHEDULE ON DRAWING P.0.1 FOR ADDITIONAL INFORMATION.
- 8 - NEW ELECTRIC WATER HEATER (EWH). REFER TO PLUMBING FIXTURE SCHEDULE ON DRAWING P.0.1 AND DETAIL #001A, SECTION 15105 ON DRAWING P.7.1 FOR ADDITIONAL INFORMATION.
- 9 - PIPING BELOW FLOOR SLAB / GRADE.
- 10 - PIPING AT OR ABOVE CEILING.
- 11 - NEW SECTION OF PIPING. CONNECT TO EXISTING AS SHOWN. FIELD VERIFY EXACT LOCATION AND POINT OF CONNECTION TO EXISTING.
- 12 - CUT/TRENCH FLOOR AS REQUIRED TO REMOVE EXISTING AND/OR INSTALL NEW PIPING. PATCH FLOOR AS REQUIRED TO MATCH EXISTING. COORDINATE WITH ARCHITECT/OWNER.
- 13 - NEW MAIN SHUT-OFF GATE VALVE ON RISER. VALVE SHALL BE LOCATED IN AN ACCESSIBLE LOCATION.
- 14 - EXISTING FLOOR DRAIN TO REMAIN AND BE REUSED. INSPECT FLOOR DRAIN AND REPLACE IF FOUND TO BE IN POOR CONDITION OR NOT OPERATING PROPERLY.
- 15 - NEW WALL CLEANOUT (WCO). REFER TO DETAIL ON DRAWING P.7.1.
- 16 - NOT USED.
- 17 - NOT USED.
- 18 - EXISTING SECTION OF PIPING TO REMAIN AND BE REUSED.
- 19 - EXISTING VENT THRU ROOF (VTR) TO REMAIN.
- 20 - EXISTING PLUMBING FIXTURE TO REMAIN. DO NOT DISTURB.
- 21 - NOT USED.
- 22 - NOT USED.
- 23 - NEW HOSE BIBB. REFER TO PLUMBING FIXTURE SCHEDULE ON DRAWING P.0.1 FOR ADDITIONAL INFORMATION.



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**SOLID WASTE BUILDING 4  
INTERIOR REMODEL**  
4010 W. SPRUCE ST.  
TAMPA, FLORIDA

**FILE NUMBER**  
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**PROJECT NUMBER**  
4463.15.01

**ISSUE DATE**  
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**DRAWN BY**  
MH

**REVISIONS**  
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**PROFESSIONAL SEAL**  
MAKSIM A. SEGAL, P.E.  
FL. PE. 71454

03-03-17

**SCALE:** AS NOTED

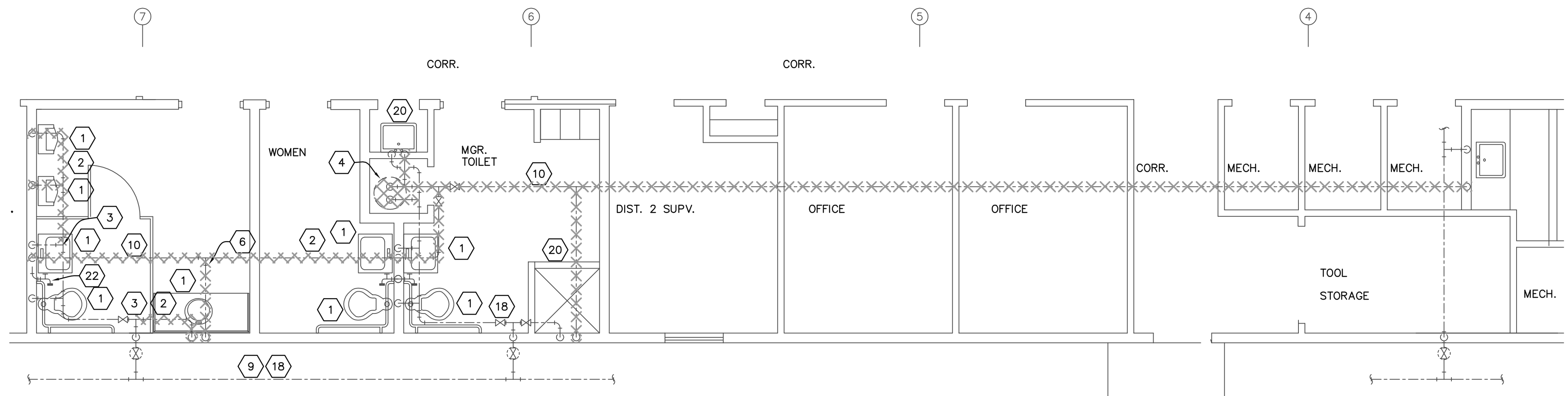
**PLUMBING DEMOLITION AND  
RENOVATION PLANS**

**SHEET NUMBER**

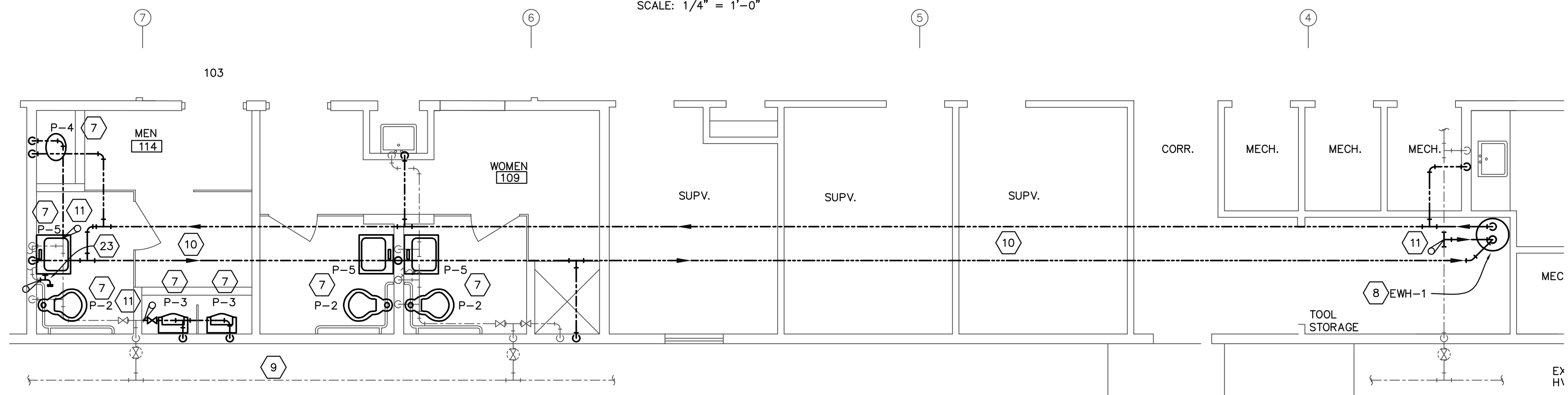
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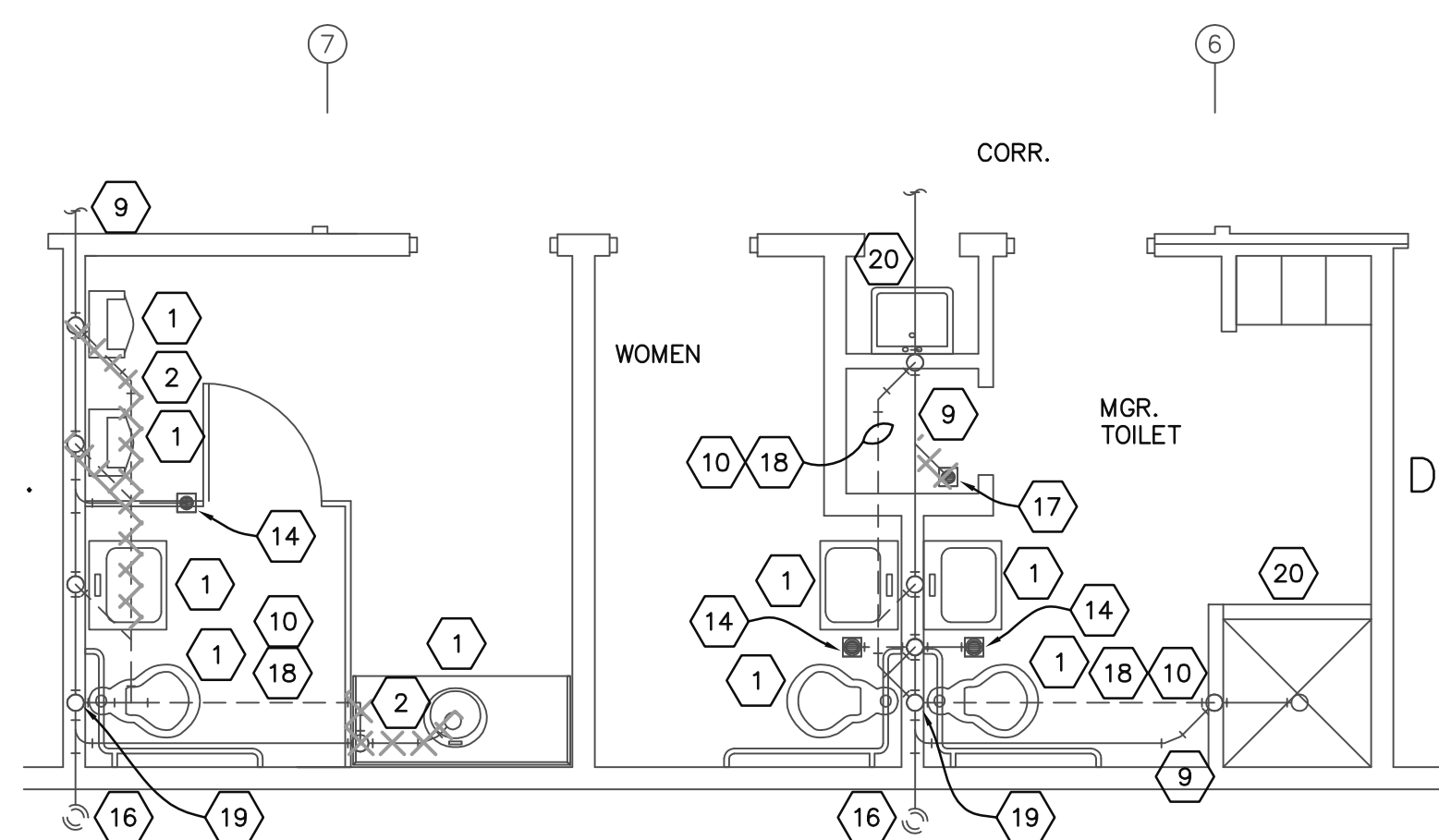




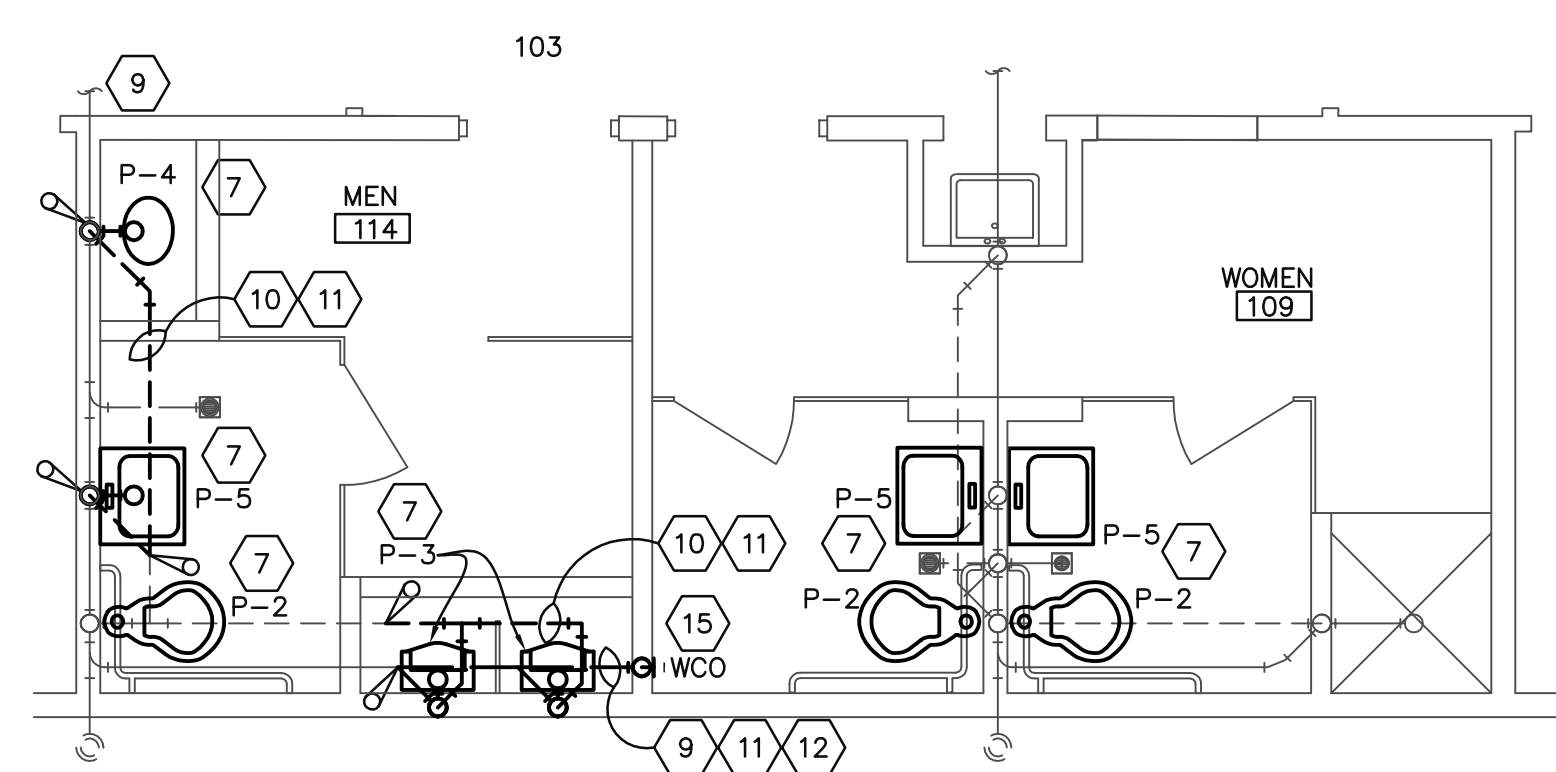
**PLUMBING DEMOLITION PLAN - WATER PIPING**  
SCALE: 1/4" = 1'-0"



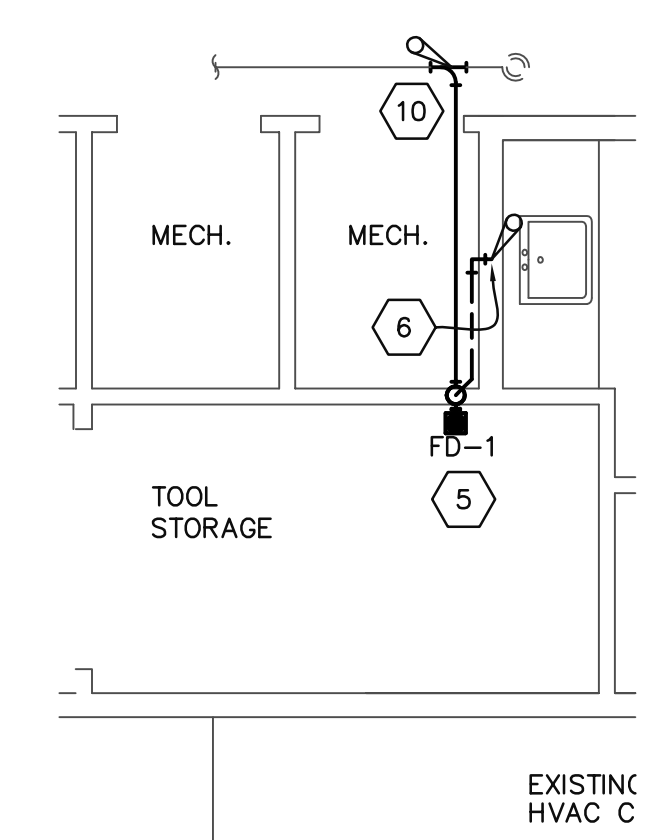
**PLUMBING RENOVATION PLAN - WATER PIPING**  
SCALE: 1/4" = 1'-0"



**PLUMBING DEMOLITION PLAN - SANITARY / VENT PIPING**  
SCALE: 1/4" = 1'-0"



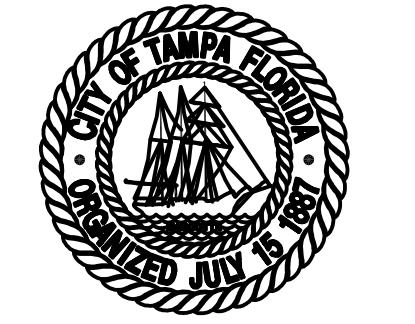
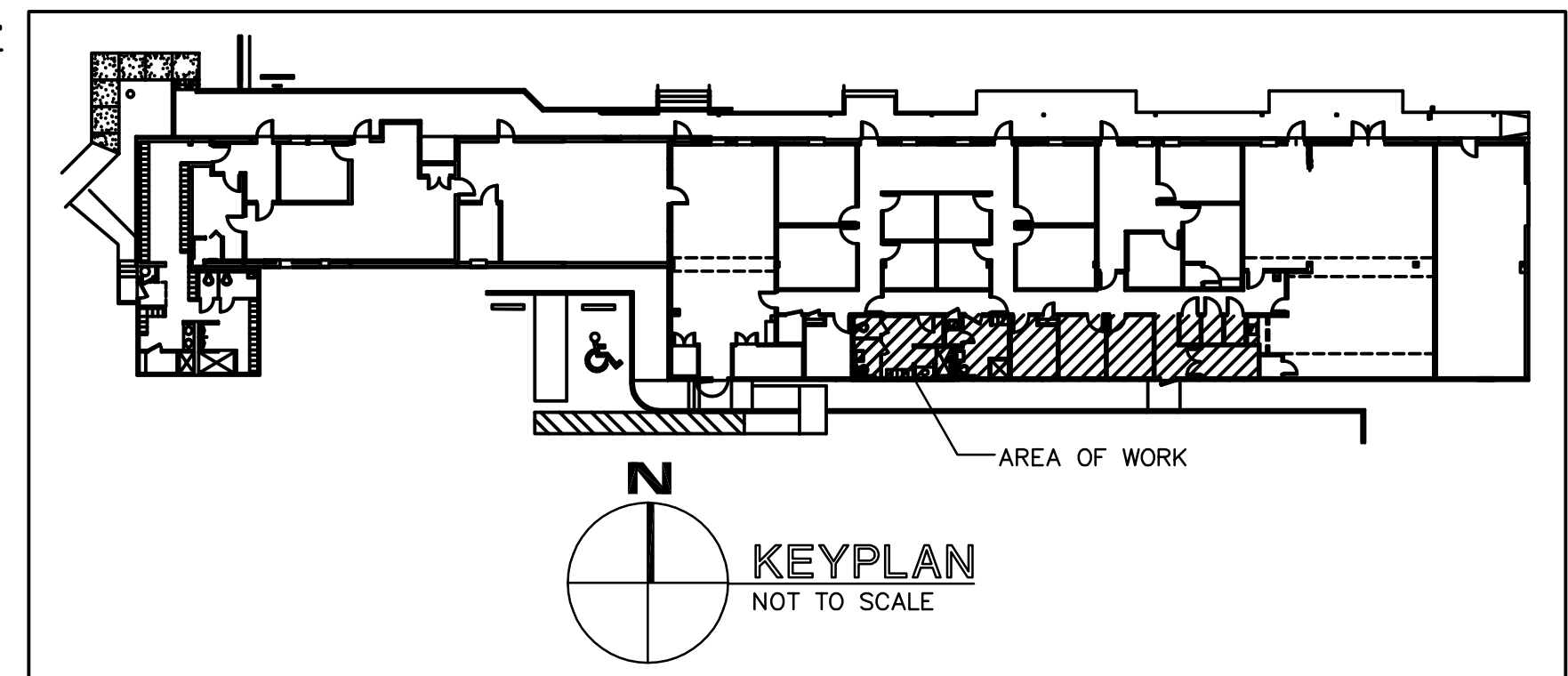
**PLUMBING RENOVATION PLAN - SANITARY / VENT PIPING**  
SCALE: 1/4" = 1'-0"



**PLUMBING RENOVATION PLAN - SANITARY-VENT PIPING**  
SCALE: 1/4" = 1'-0"

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  - 2 - EXISTING SECTION OF PIPING TO BE REMOVED.
  - 3 - PROVIDE TEMPORARY CAP FOR CONNECTION DURING RENOVATION PHASE.
  - 4 - EXISTING WATER HEATER TO BE REMOVED. CAP EXISTING COLD WATER PIPING BACK AT CW MAIN. REMOVE ALL EXISTING HOT WATER PIPING AND APPURTENANCES.
  - 5 - COORDINATE FLOOR DRAIN LOCATION IN FIELD WITH EWH INSTALLATION. SEE PLUMBING NOTE #8 ON THIS DRAWING.
  - 6 - CONNECT NEW VENT PIPING TO EXISTING VENT PIPING AT EXISTING SINK.
  - 7 - NEW PLUMBING FIXTURE. REFER TO PLUMBING FIXTURE SCHEDULE ON DRAWING P0.1 FOR ADDITIONAL INFORMATION.
  - 8 - NEW ELECTRIC WATER HEATER (EWH). REFER TO PLUMBING FIXTURE SCHEDULE ON DRAWING P0.1 AND DETAIL #001LB, SECTION 15105 ON DRAWING P7.1 FOR ADDITIONAL INFORMATION.
  - 9 - PIPING BELOW FLOOR SLAB / GRADE.
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  - 12 - CUT/TRENCH FLOOR AS REQUIRED TO REMOVE EXISTING AND/OR INSTALL NEW PIPING. PATCH FLOOR AS REQUIRED TO MATCH EXISTING. COORDINATE WITH ARCHITECT/OWNER.
  - 13 - NOT USED.
  - 14 - EXISTING FLOOR DRAIN TO REMAIN AND BE REUSED. INSPECT FLOOR DRAIN AND REPLACE IF FOUND TO BE IN POOR CONDITION OR NOT OPERATING PROPERLY.
  - 15 - NEW WALL CLEANOUT (WCO). REFER TO DETAIL ON DRAWING P7.1.
  - 16 - EXISTING CLEANOUT TO REMAIN AND BE REUSED.
  - 17 - EXISTING FLOOR DRAIN AND ASSOCIATED SANITARY PIPING TO BE REMOVED AND DISPOSED OF.
  - 18 - EXISTING SECTION OF PIPING TO REMAIN AND BE REUSED.
  - 19 - EXISTING VENT THRU ROOF (VTR) TO REMAIN.
  - 20 - EXISTING PLUMBING FIXTURE TO REMAIN. DO NOT DISTURB.
  - 21 - NOT USED.
  - 22 - EXISTING HOSE BIBB TO BE REMOVED. CAP PIPING BACK AT WALL.
  - 23 - NEW HOSE BIBB. REFER TO PLUMBING FIXTURE SCHEDULE ON DRAWING P0.1 FOR ADDITIONAL INFORMATION.



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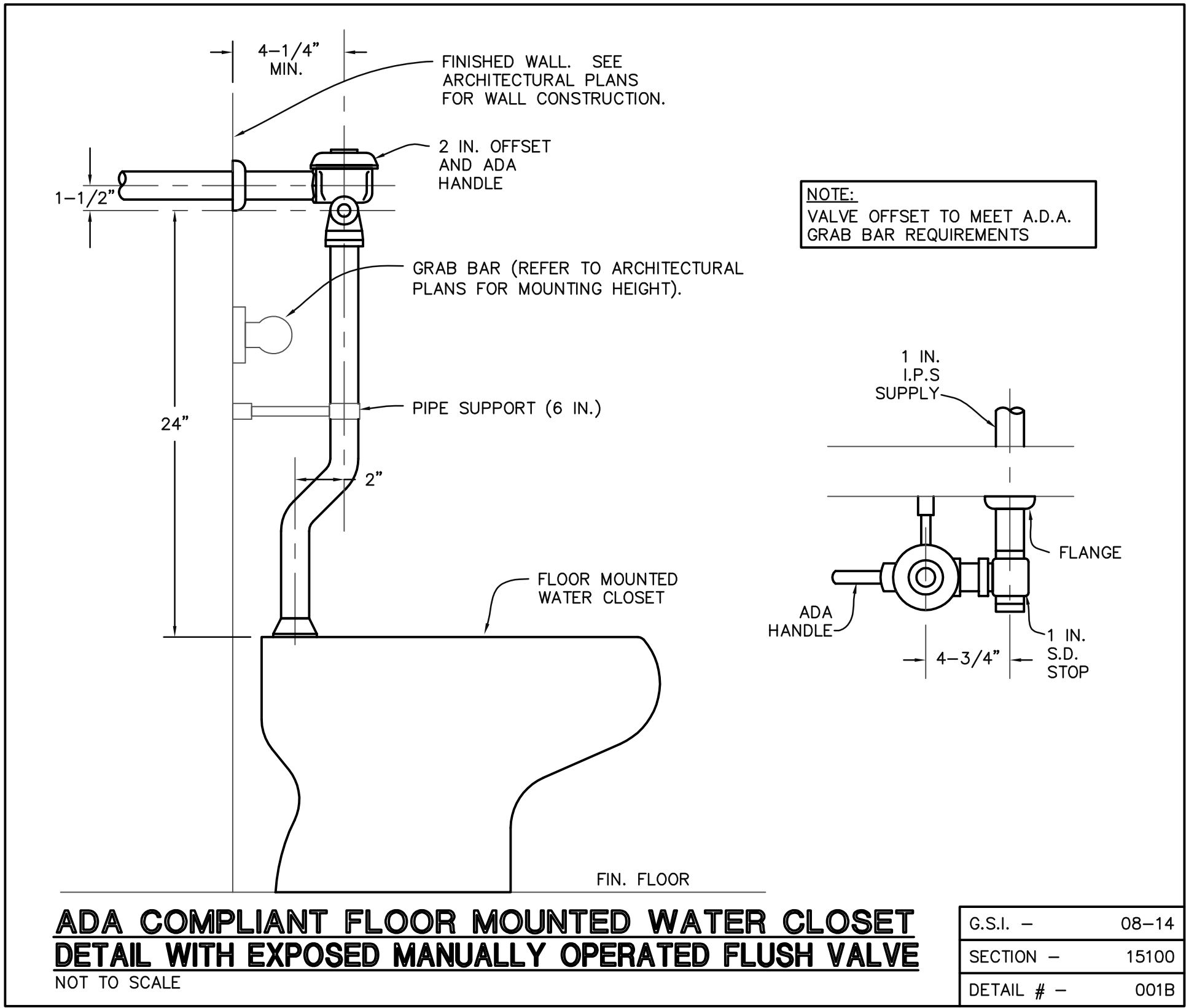
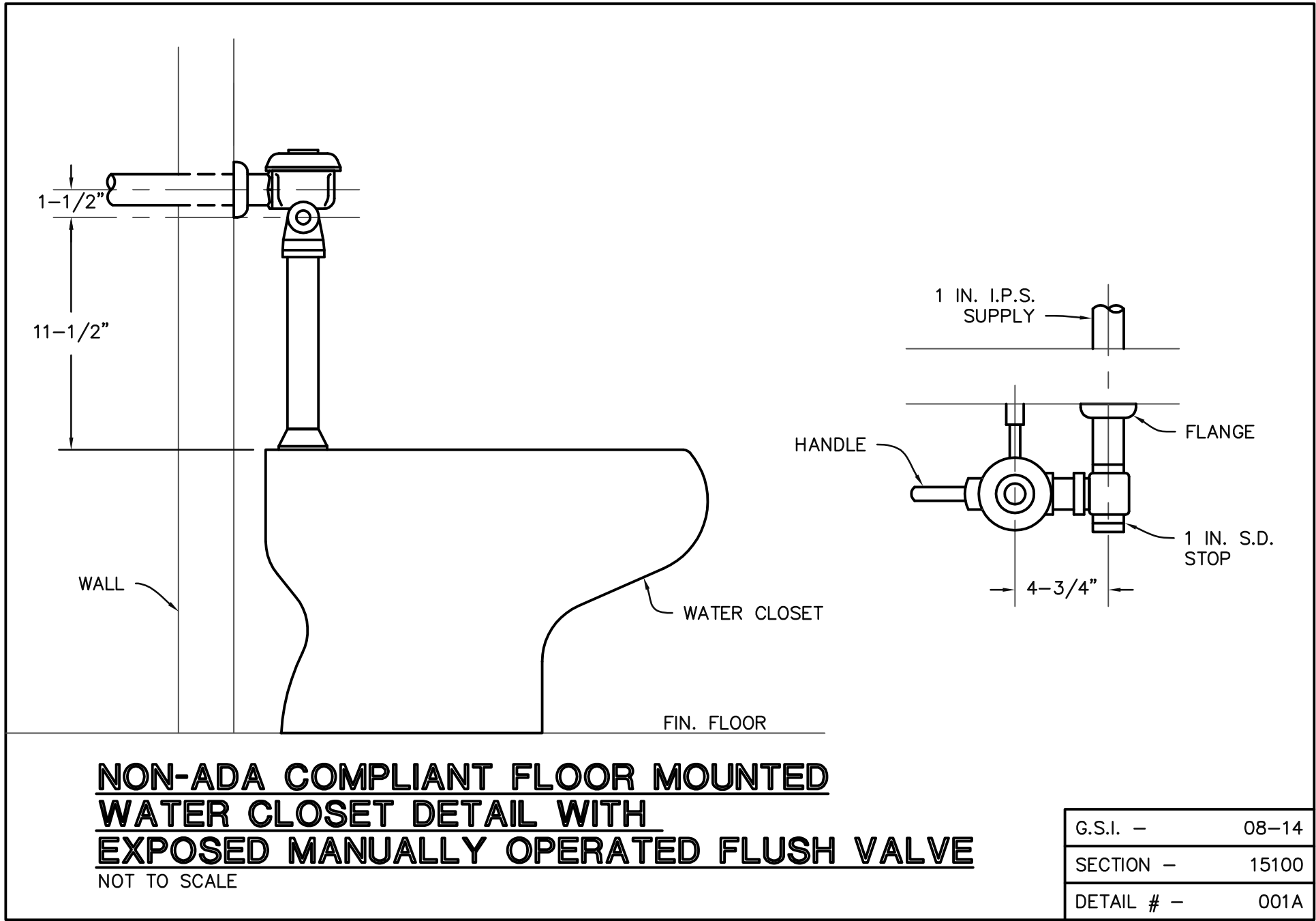
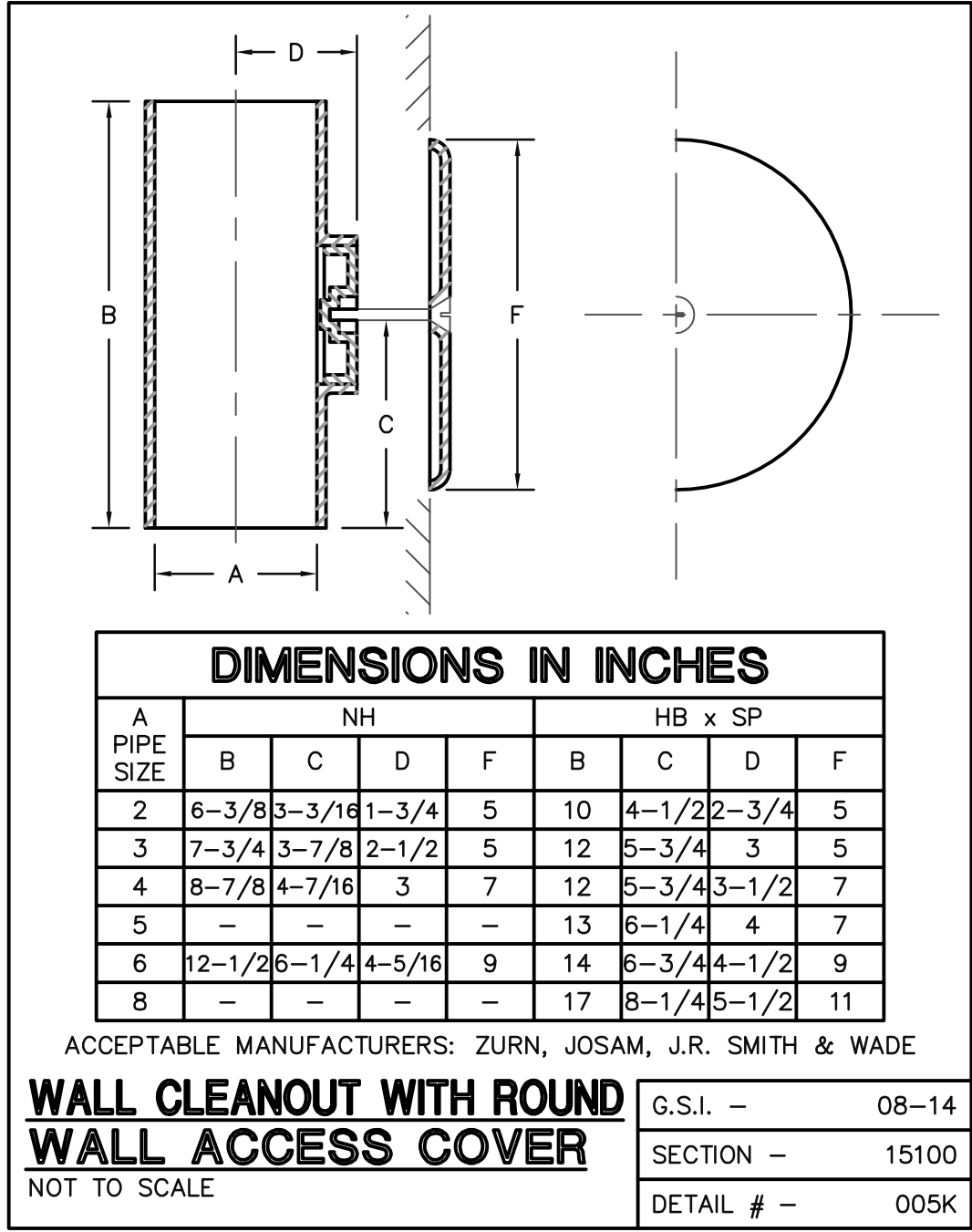
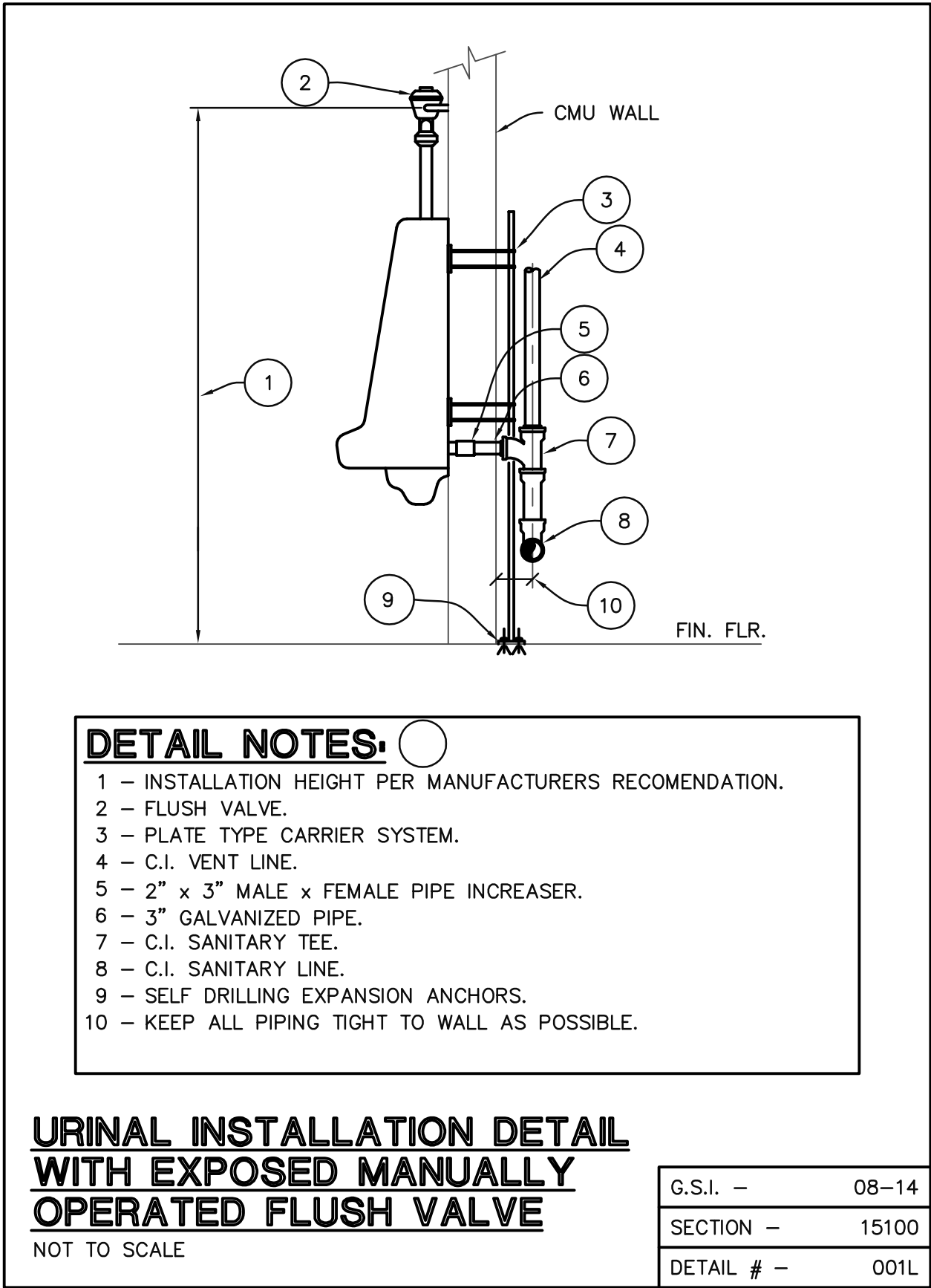
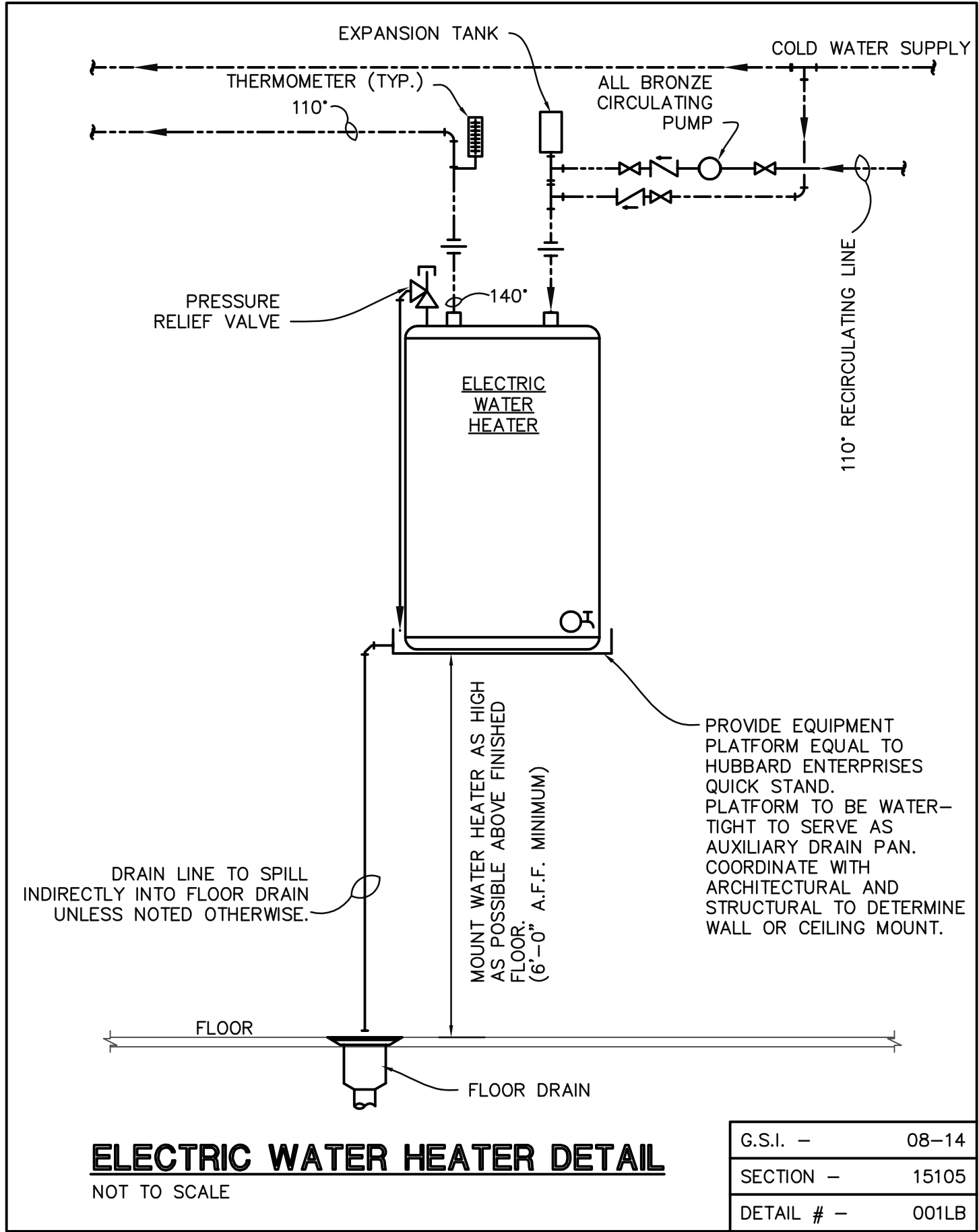
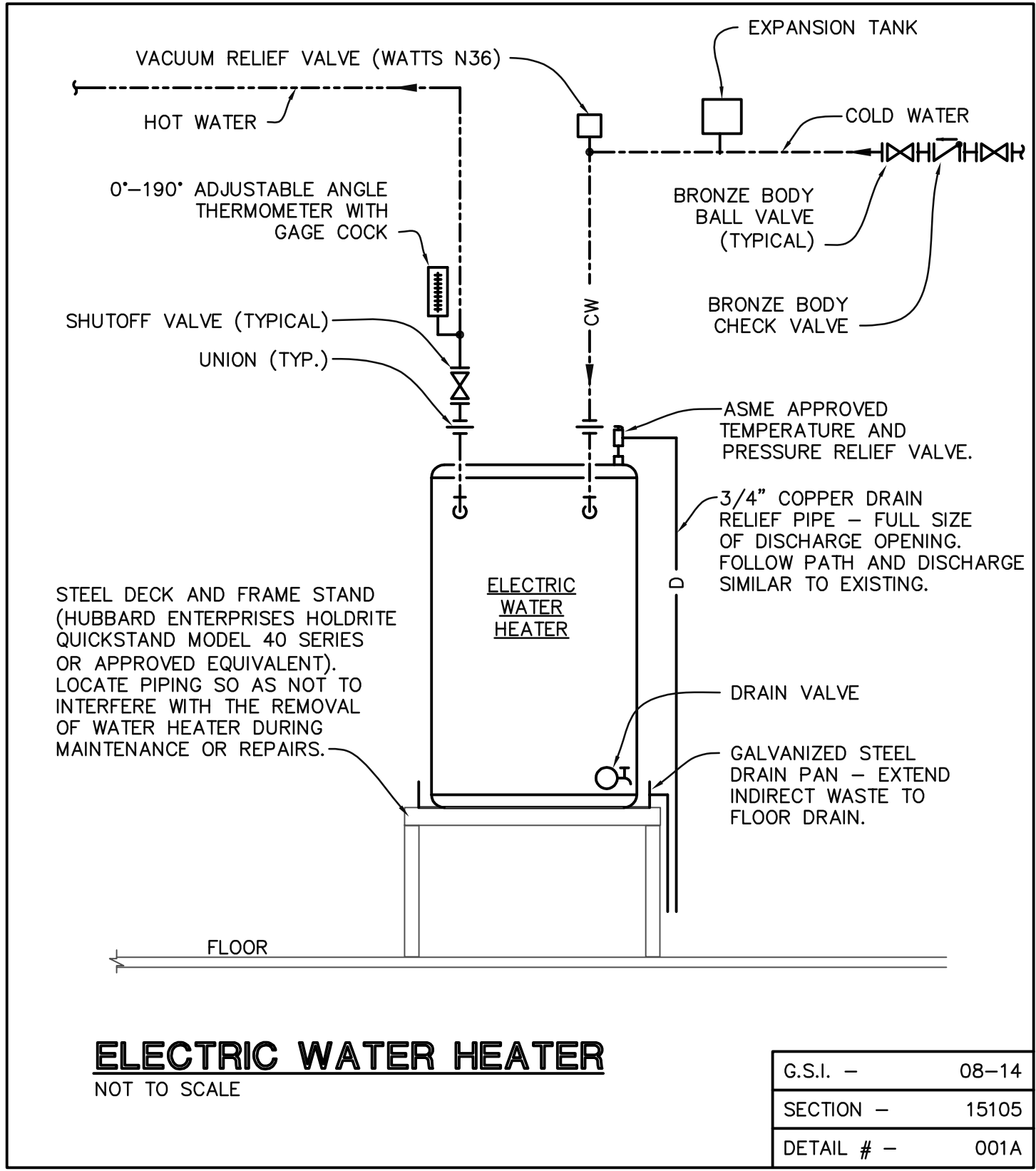
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**PLUMBING DEMOLITION AND RENOVATION PLANS**

**SHEET NUMBER**  
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**PLUMBING DETAILS**

**SHEET NUMBER**

**P7.1**

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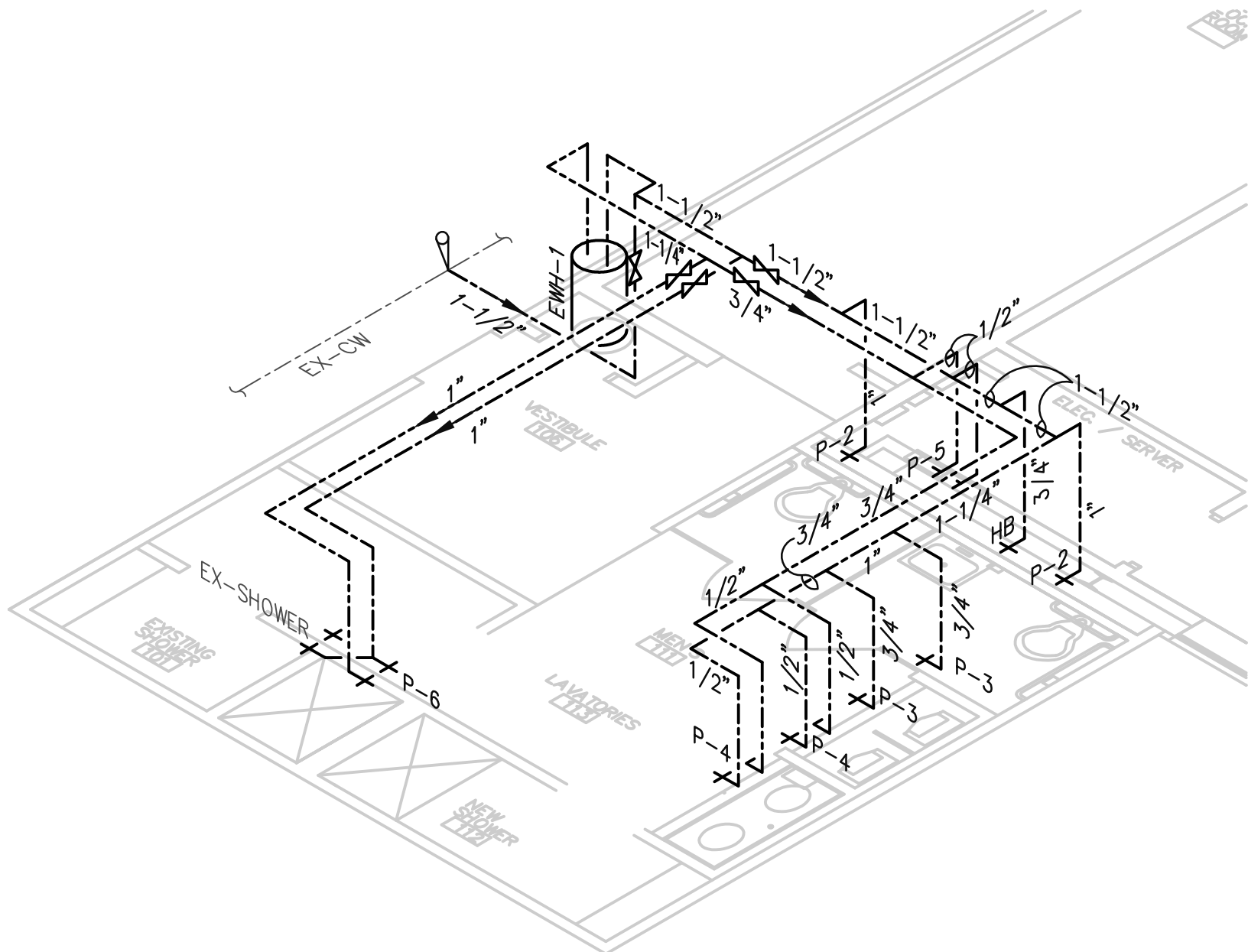
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PLUMBING RISER DIAGRAMS

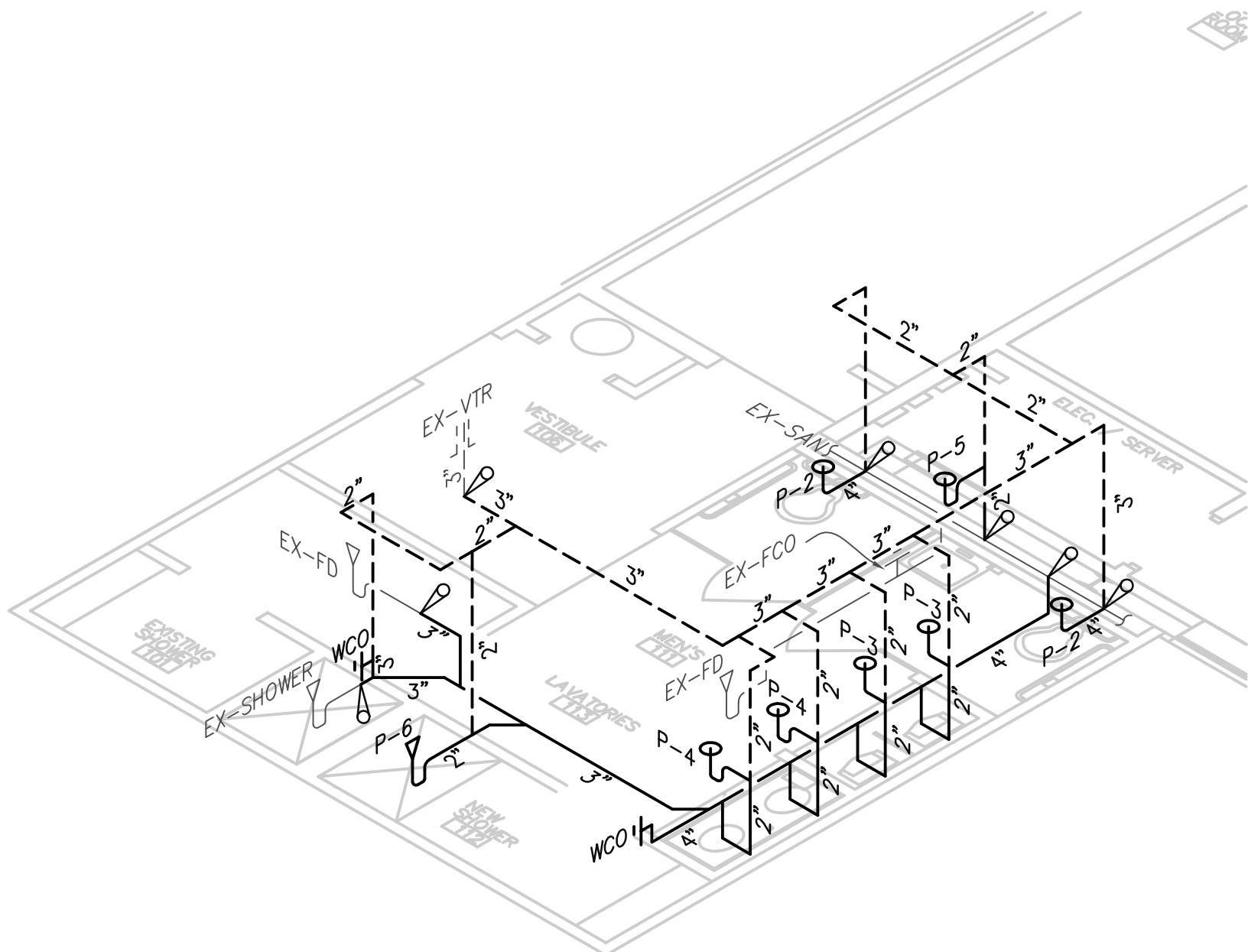
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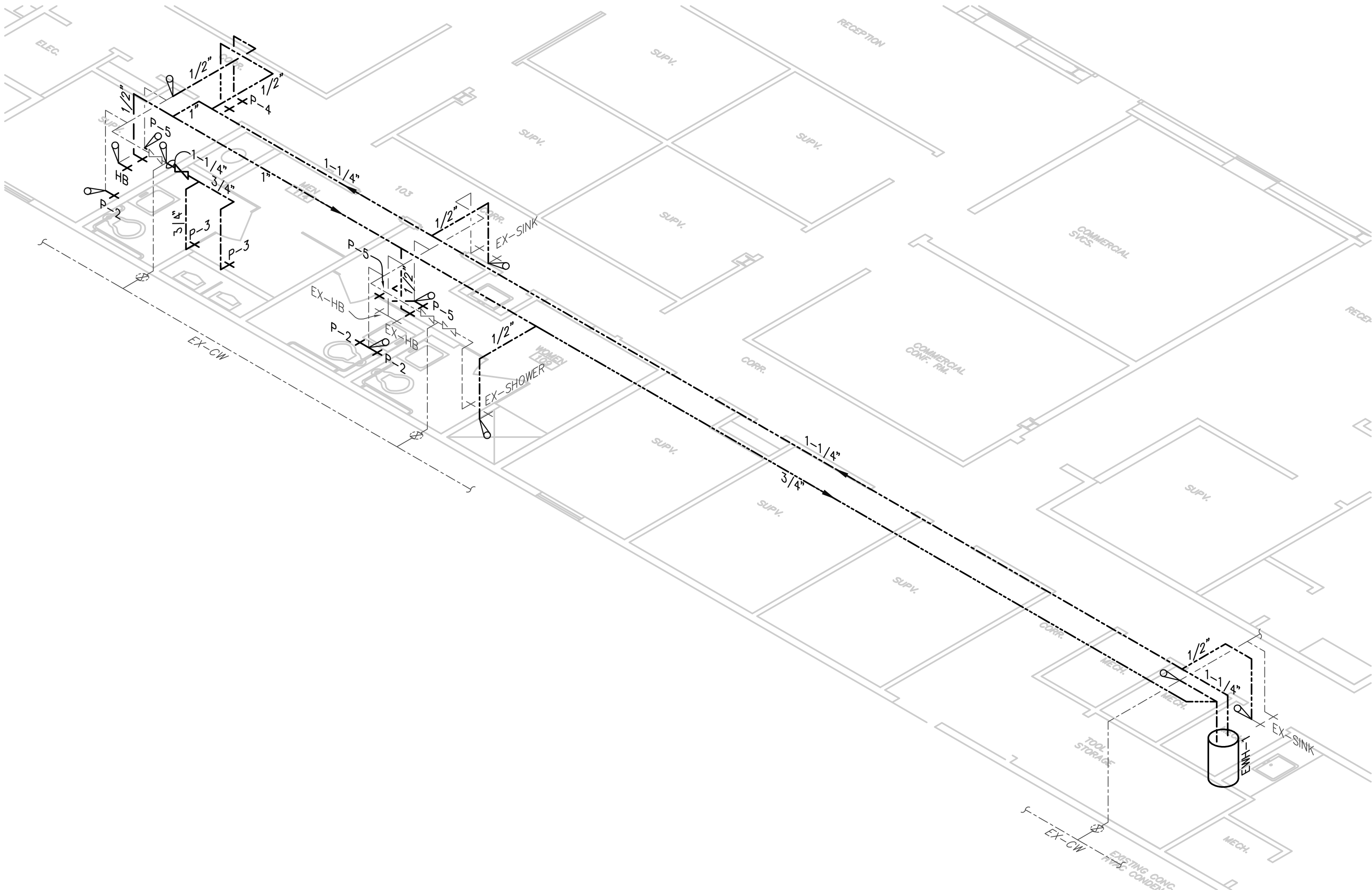
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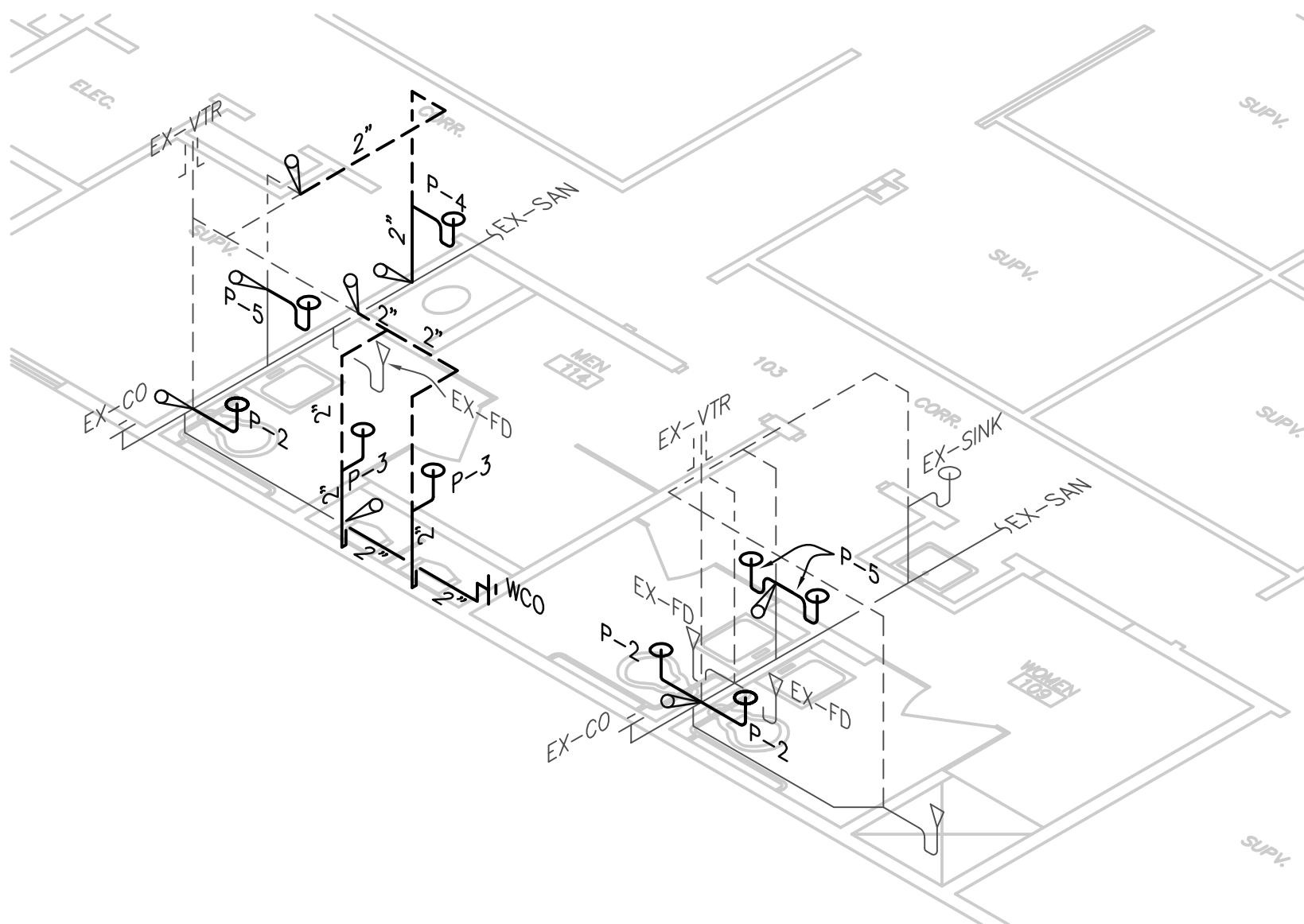
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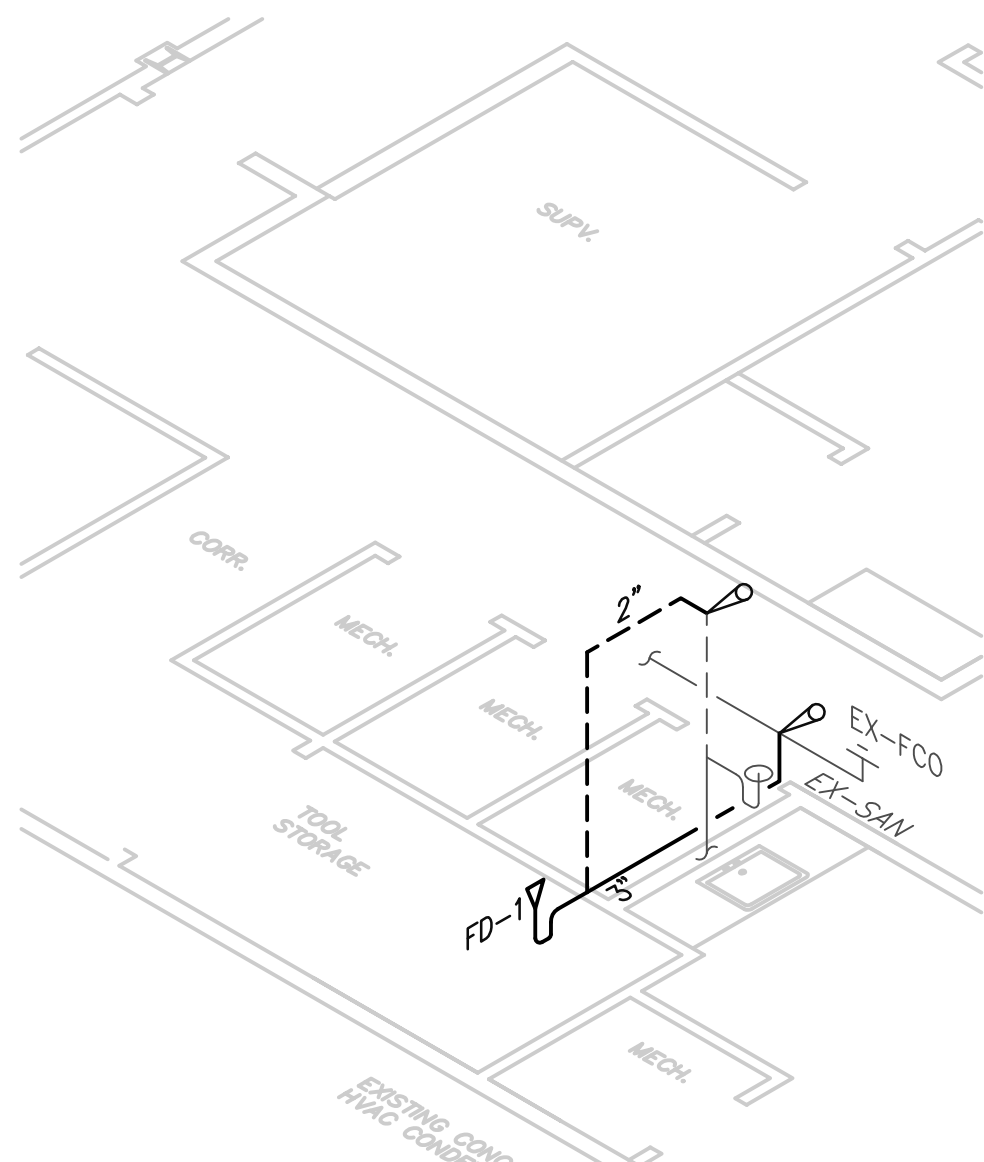
PLUMBING RISER DIAGRAM - SANITARY / VENT PIPING  
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PLUMBING RISER DIAGRAM - WATER PIPING  
NOT TO SCALE



PLUMBING RISER DIAGRAM - SANITARY / VENT PIPING  
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PLUMBING RISER DIAGRAM -  
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































































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LIGHT FIXTURE SCHEDULE						
TYPE	MANUFACTURER	CATALOG NUMBER	LAMPS	VOLTS	MOUNTING	COMMENTS
			QTY			
A	CRESCENT	24GP2AGFS1-UNV M2M	2	25W T8	MVOLT  GRID CEILING	2' X 4'; 2-LAMP LENSED TROFFER, SPECIFICATION PREMIUM GRADE, HIGH PERFORMANCE, STATIC, #12 PATTERN ACRYLIC, 0.125" THICK, DIFFUSER LENS.
	APPROVED EQUAL FROM TAMPA BAY LIGHTING					
	APPROVED EQUAL FROM SESCO LIGHTING					
	APPROVED EQUAL FROM WESTERN FLORIDA LIGHTING					
B	LITHONIA	LF6N 1/32TRT F601A2 MVOLT	1	32W/TRT	120V	6" ROUND COMPACT FLUORESCENT DOWNLIGHT, HORIZONTAL LAMP, CLEAR SEMI-SPECULAR OPEN REFLECTOR
	APPROVED EQUAL FROM TAMPA BAY LIGHTING					
	APPROVED EQUAL FROM SESCO LIGHTING					
	APPROVED EQUAL FROM WESTERN FLORIDA LIGHTING					
C	LITHONIA	LF6N 1/32TRT F60S4 MVOLT	1	32W/TRT	120V	6" ROUND COMPACT FLUORESCENT DOWNLIGHT WITH SHOWER LENS, HORIZONTAL LAMP.
	APPROVED EQUAL FROM TAMPA BAY LIGHTING					
	APPROVED EQUAL FROM SESCO LIGHTING					
	APPROVED EQUAL FROM WESTERN FLORIDA LIGHTING					
D	LITHONIA	Z225 MV	2	25W/T8	120V	STRIP LIGHT ABOVE EGG CRATE.
	APPROVED EQUAL FROM TAMPA BAY LIGHTING					
	APPROVED EQUAL FROM SESCO LIGHTING					
	APPROVED EQUAL FROM WESTERN FLORIDA LIGHTING					
EL	LITHONIA	EU2 LED M12	2	1.8W/LED	120/ 277V	DUAL-VOLTAGE INPUT 120V OR 277V AC, EMERGENCY UNIT PROVIDED WITH TEST SWITCH, STATUS INDICATOR AND RECHARGEABLE BATTERY, MAINTENANCE-FREE NICKEL-CADMIUM BATTERY PROVIDES 90 MINUTES OF EMERGENCY POWER.
	APPROVED EQUAL FROM TAMPA BAY LIGHTING					
	APPROVED EQUAL FROM SESCO LIGHTING					
	APPROVED EQUAL FROM WESTERN FLORIDA LIGHTING					
EX	LITHONIA	EXR LED EL M6	-	2W/LED	120/ 277V	EXIT SIGN WITH RED LETTERS, WHITE THERMOPLASTIC HOUSING, MAINTENANCE-FREE NI-CAD BATTERY PROVIDES 90 MINUTES OF EMERGENCY POWER.
	APPROVED EQUAL FROM TAMPA BAY LIGHTING					
	APPROVED EQUAL FROM SESCO LIGHTING					
	APPROVED EQUAL FROM WESTERN FLORIDA LIGHTING					
F	LITHONIA	Z232 MV	2	32W/T8	120V	48" STRIP LIGHT ABOVE EGG CRATE.
	APPROVED EQUAL FROM TAMPA BAY LIGHTING					
	APPROVED EQUAL FROM SESCO LIGHTING					
	APPROVED EQUAL FROM WESTERN FLORIDA LIGHTING					
F2	LITHONIA	Z225 MV	2	25W/T8	120V	36" STRIP LIGHT ABOVE EGG CRATE.
	APPROVED EQUAL FROM TAMPA BAY LIGHTING					
	APPROVED EQUAL FROM SESCO LIGHTING					
	APPROVED EQUAL FROM WESTERN FLORIDA LIGHTING					

- NOTES:
- SUBSTITUTIONS WILL NOT BE PERMITTED WITHOUT APPROVAL FROM THE ENGINEER, FOURTEEN DAYS PRIOR TO BID DATE.
  - VERIFY LIGHTING FIXTURE COLOR/FINISH WITH ARCHITECT PRIOR TO ORDERING.
  - ADJUST MOUNTING HEIGHTS/LOCATIONS TO SUIT FIELD CONDITIONS.
  - (2) LAMPS TO BE WIRED IN PARALLEL FOR EMERGENCY BALLAST.

DISCONNECT SCHEDULE							
D/C #	SIZE	POLES	PHASE	NEMA	FUSE	VOLT.	SERVES
D-1	100A	2	1	3R	NON-F	240	RTU-1
D-2	60A	2	1	3R	NON-F	240	CU-4
D-3	30A	2	1	3R	NON-F	240	DCU-1
D-4	60A	2	1	1	NON-F	240	AHU-2
D-5	30A	2	1	3R	NON-F	240	CU-2
D-6	60A	2	1	1	NON-F	240	EW-1
COMMENTS							
1. VERIFY FUSE SIZES FOR ACTUAL EQUIPMENT SUBMITTED.							
2. FUSES SHALL BE DUAL ELEMENT, TIME DELAY, 100,000 AIC MINIMUM.							
3. FINAL CONNECTIONS TO MECHANICAL EQUIPMENT FROM DISCONNECT SHALL BE FLEX, FLEX SHALL BE WATERTIGHT AT EXTERIOR OR WET LOCATIONS.							
4. ADDITIONAL POLE TO DISCONNECT NEUTRAL SHALL BE PROVIDED WHERE REQUIRED.							
5. ALL DISCONNECTS SHALL HAVE LOCKED OFF PROVISION.							

ELECTRICAL SYMBOL LEGEND			
SWITCHES			
	SENSOR SWITCH SPODM MANUAL/AUTOMATIC SWITCH. SWITCH HAS PUSHBUTTON OVERRIDE IF OCCUPANTS ARE PRESENT. RECESS MOUNT 48" AFF TO CENTER OF BACKBOX. "3" OR "4" INDICATES SWITCH IS USED FOR 3-WAY OR 4-WAY OPERATION. FOLLOW MANUFACTURER'S WIRING DIAGRAM FOR CONNECTION OF SWITCHES.		
	"2P" INDICATES A 2-POLE SWITCH		
	"3" INDICATES THREE-WAY SWITCH		
	"4" INDICATES FOUR-WAY SWITCH		
	"30A" INDICATES THE AMPERAGE OF THE SWITCH FOR NON-STANDARD SWITCHES		
	"D" INDICATES DIMMER SWITCH		
	"K" INDICATES KEY SWITCH. PROVIDE OWNER WITH (2) KEYS PER SWITCH. MATCH ANY EXISTING KEYPED SWITCHES IF RENOVATION. VERIFY KEY TYPE (MANUFACTURER) WITH OWNER		
	"M" INDICATES THE SWITCH SHALL BE MOTOR DUTY RATED		
	"MMS" INDICATES MANUAL MOTOR STARTER WITH SINGLE POLE, GUARD/LOCK-OFF, RED PILOT LIGHT AND THERMAL OVERLOAD IN NEMA-1 ENCLOSURE		
	"OS" INDICATES OCCUPANCY SENSOR SWITCH (SENSOR SWITCH WSK PDT)		
	"P" INDICATES SWITCH WITH PILOT LIGHT.		
	"R" INDICATES DEVICE SHALL BE A RED COLOR. DEVICE IS CONNECTED TO A CIRCUIT FED FROM A GENERATOR (IF APPLICABLE).		
	LOWER CASE LETTER (i.e. "a") INDICATES THE FIXTURE(S) CONTROLLED BY THE SWITCH.		
LIGHTING FIXTURES (REFER TO THE "LIGHTING FIXTURE SCHEDULE")			
	2' X 4' FLUORESCENT LIGHT FIXTURE (SEE LIGHT FIXTURE SCHEDULE) NOTE: THE FOLLOWING ABBREVIATIONS APPLY TO LIGHTING FIXTURES WHERE INDICATED: UPPER CASE LETTER/NUMBER (i.e. "A2") INDICATES FIXTURE TYPE LOWER CASE LETTER (i.e. "b") INDICATES CONNECTION TO INDICATED SWITCH. NOTE: THE FOLLOWING ABBREVIATIONS APPLY TO LIGHTING FIXTURES WHERE INDICATED: "EM" INDICATES LIGHT FIXTURE WITH EMERGENCY BATTERY PACK.		
	FLUORESCENT LIGHT FIXTURE (SEE LIGHT FIXTURE SCHEDULE)		
	DOWNLIGHT		
	WALL SCONCE		
	EXIT SIGN WITH BATTERY PACK MOUNTED 7'-6" AFF. OR AS INDICATED. FACES AND ARROWS AS INDICATED. CONNECT FIXTURE TO LIGHTING CIRCUIT SERVING THE AREA, AHEAD OF ANY SWITCHING OR CONTROLS.		
	EMERGENCY EGRESS LIGHTING UNIT WITH BATTERY PACK MOUNTED 7'-6" AFF. OR AS INDICATED. CONNECT FIXTURE TO LIGHTING CIRCUIT SERVING THE AREA, AHEAD OF ANY SWITCHING OR CONTROLS.		
	EXIT SIGN AND EMERGENCY EGRESS LIGHTING COMBO UNIT WITH BATTERY PACK MOUNTED 7'-6" AFF. CONNECT FIXTURE TO LIGHTING CIRCUIT SERVING THE AREA, AHEAD OF ANY SWITCHING OR CONTROLS.		
	PASSIVE INFRARED (PIR) OCCUPANCY SENSOR, 360°, 450 SQ. FT. COVERAGE, LEVITON #05504-1MW. CONNECT TO LOCAL POWER PACK.		
	MULTI-TECH (QTY PIR & ULTRASONIC) OCCUPANCY SENSOR, 360°, 1000 SQ. FT. COVERAGE, SENSOR SWITCH CM-PDT-10. CONNECT TO LOCAL POWER PACK.		
	EXT. EXTERIOR PASSIVE INFRARED (PIR) OCCUPANCY SENSOR SBG-10-0EX. CONNECT TO LOCAL POWER PACK. PROVIDE BOX FOR CEILING MOUNTING.		
	OCCUPANCY SENSOR POWER PACK, 20A @ 120/277VAC. PROVIDE QUANTITY AS NEEDED. SENSOR SWITCH PP-20-2P. CONNECT TO LOCAL OCCUPANCY SENSORS.		
	LED POWER SUPPLY (TECLED MODEL: VBS-120600204)		
COMMUNICATIONS			
	1-GANG DEEP BOX FOR TELEPHONE OUTLET, RECESS MOUNT 18" TO CENTER OF BACKBOX AFF. ABOVE COUNTER OR AS NOTED. INSTALL 3/4" CONDUIT WITH BUSHINGS AND PULL STRING STUBBED INTO ACCESSIBLE CEILING SPACE ABOVE BACKBOX. INSTALL BLANK COVERPLATE. NUMBER OF PHONE JACKS AS INDICATED OR INSTALL BLANK COVERPLATE. "W" INDICATES PHONE WILL BE WALL MOUNTED. MOUNT AT 48" AFF TO CENTER OF BACKBOX AND INSTALL WALL PHONE PLATE.		
	(2) GANG DEEP BOX FOR DECORA STYLE DUPLEX RECEPTACLE AND TELEVISION OUTLET. COORDINATE MOUNTING HEIGHT AND LOCATION. INSTALL 3/4" CONDUIT FOR LOW VOLTAGE WIRING WITH BUSHINGS AND PULL STRING STUBBED INTO ACCESSIBLE CEILING SPACE ABOVE BACKBOX. INSTALL DECORA COVERPLATE.		
	1-GANG DEEP BOX FOR TELEPHONE / DATA OUTLET, RECESS MOUNT 18" TO CENTER OF BACKBOX AFF. ABOVE COUNTER OR AS NOTED. INSTALL 3/4" CONDUIT WITH BUSHINGS AND PULL STRING STUBBED INTO ACCESSIBLE CEILING SPACE ABOVE BACKBOX. INSTALL BLANK COVERPLATE.		
	CABINET. SEE PLANS AND SPECIFICATIONS FOR USAGE AND REQUIREMENTS.		
MISCELLANEOUS			
	KEYED NOTE INDICATOR. REFER TO THE "KEYED NOTES" WHERE INDICATED.		
	EXHAUST FAN "R" SYMBOL INDICATES TO PROVIDE AND INSTALL 10 MINUTE TIME DELAY OFF RELAY. EXHAUST FAN SHALL OPERATE FOR 10 MINUTES AFTER LIGHTING SWITCH IS TURNED OFF. CONNECT HOT LEAD FROM AHEAD OF SWITCH TO RELAY FOR DELAYED OPERATION AND SWITCH LEG TO RELAY FOR NORMAL OPERATION.		
	"T" SYMBOL INDICATES TO PROVIDE AND INSTALL 277V-120V TRANSFORMER. WATTAGE OF TRANSFORMER VA SHALL BE A MINIMUM 20% GREATER THAN EXHAUST FAN POWER REQUIREMENTS. COORDINATE WITH MECHANICAL CONTRACTOR.		
	MOTORIZED DAMPER. PROVIDE POWER AND MAKE CONNECTIONS AS INDICATED. COORDINATE WITH MECHANICAL CONTRACTOR.		
	CEILING MOUNTED SPEAKER LOCATIONS ON ANY SYSTEM		
ABBREVIATIONS			
A	AMPERE	NF	NON-FUSED
AFF	HEIGHT ABOVE FINISHED FLOOR	P	POLE
AFG	HEIGHT ABOVE FINISHED GRADE	PH	PHASE
ETR	EXISTING TO REMAIN	REL	RELOCATED
EXT	EXTERIOR	REM	TO BE REMOVED
GFI	GROUND FAULT CIRCUIT INTERRUPTING	REP	REPLACE WITH NEW
	TYPE WIRING DEVICE OR CIRCUIT BREAKER	TBR	TO BE RELOCATED
KW	KILOWATT	U.N.O.	UNLESS NOTED OTHERWISE
LTG	LIGHTING	VA	VOLT AMPERE (POWER)
MTR	MOTOR	WP	WEATHERPROOF ENCLOSURE
N.I.C.	NOT IN CONTRACT	XFMR	TRANSFORMER
		+48"	DEVICE MOUNTED AT HEIGHT INDICATED
WIRING DEVICES			
NOTE: THE FOLLOWING ABBREVIATIONS APPLY TO WIRING DEVICES WHERE INDICATED: "WP" INDICATES WEATHERPROOF WHILE-IN-USE ENCLOSURE. ENCLOSURE SHALL HAVE LOCKABLE COVER. "ENC" INDICATES DEVICE MOUNTED BEHIND ELECTRIC WATER COOLER ENCLOSURE. COORDINATE DEVICE LOCATION WITH PLUMBING CONTRACTOR AND APPROVED SHOP DRAWINGS PRIOR TO ROUGH-IN. "H" INDICATES HORIZONTAL MOUNTING. "R" INDICATES DEVICE SHALL BE A RED COLOR. DEVICE IS CONNECTED TO A CIRCUIT FED FROM THE GENERATOR (IF APPLICABLE). "FD" INDICATES RECEPTACLE MOUNTED IN FLOOR DUCT. INSTALL ACCESSORIES FOR MOUNTING OF RECEPTACLE IN FLOOR DUCT SYSTEM. "IG" ISOLATED GROUND			
	20 AMP SIMPLEX RECEPTACLE, RECESS MOUNT 18" AFF TO CENTER OF BACKBOX OR AT HEIGHT INDICATED.		
	20 AMP DUPLEX RECEPTACLE, RECESS MOUNT 18" AFF TO CENTER OF BACKBOX.		
	20 AMP DUPLEX RECEPTACLE, RECESS MOUNT AT HEIGHT INDICATED OR ABOVE COUNTER, CASEWORK, ETC. COORDINATE MOUNTING HEIGHT WITH ARCHITECTURAL ELEVATIONS AND EXISTING CONDITIONS PRIOR TO ROUGH-IN.		
	20 AMP DUPLEX RECEPTACLE WITH ARC FAULT CIRCUIT INTERRUPTER (AFCI) PROTECTION, RECESS MOUNT AT HEIGHT INDICATED OR ABOVE COUNTER, CASEWORK, ETC. COORDINATE MOUNTING HEIGHT WITH ARCHITECTURAL ELEVATIONS AND EXISTING CONDITIONS PRIOR TO ROUGH-IN.		
	20 AMP DUPLEX RECEPTACLE WITH ARC FAULT CIRCUIT INTERRUPTER (AFCI) PROTECTION, RECESS MOUNT 18" AFF TO CENTER OF BACKBOX. 1 OF 2 RECEPTABLES IS SWITCHED. REMOVE JUMPER BETWEEN OUTLETS.		
	20 AMP DUPLEX RECEPTACLE WITH ARC FAULT CIRCUIT INTERRUPTER (AFCI) PROTECTION, RECESS MOUNT 18" AFF TO CENTER OF BACKBOX.		
	20 AMP DOUBLE DUPLEX (QUAD) RECEPTACLE WITH COMMON COVER PLATE, RECESS MOUNT 18" AFF TO CENTER OF BACKBOX.		
	20 AMP DOUBLE DUPLEX (QUAD) RECEPTACLE WITH COMMON COVER PLATE, RECESS MOUNT ABOVE COUNTER, CASEWORK, ETC OR AT HEIGHT INDICATED. COORDINATE MOUNTING HEIGHT WITH ARCHITECTURAL ELEVATIONS AND CONDITIONS PRIOR TO ROUGH-IN.		
	20 AMP DUPLEX RECEPTACLE, RECESS MOUNT 18" AFF TO CENTER OF BACKBOX. 1 OF 2 RECEPTABLES IS SWITCHED. REMOVE JUMPER BETWEEN OUTLETS.		
	20 AMP DUPLEX RECEPTACLE, RECESS FLUSH WITH FLOOR IN SINGLE GANG FLOOR BOX. COVER SHALL BE BRASS WITH HINGED LID FOR EACH OUTLET OF RECEPTACLE.		
	20 AMP DOUBLE DUPLEX (QUAD) RECEPTACLE, RECESS FLUSH WITH FLOOR IN DOUBLE GANG FLOOR BOX. COVER SHALL BE BRASS WITH HINGED LID FOR EACH OUTLET OF RECEPTABLES.		
	GFCI TYPE SIMPLEX RECEPTACLE MOUNTED AT HEIGHT OR AS INDICATED, VERIFY RATING AND NEMA CONFIGURATION FOR EQUIPMENT TO BE CONNECTED.		
	20 AMP GFCI TYPE DUPLEX RECEPTACLE, RECESS MOUNT 18" AFF TO CENTER OF BACKBOX.		
	20 AMP GFCI TYPE DUPLEX RECEPTACLE, RECESS MOUNT ABOVE SINK, COUNTER, CASEWORK, ETC, OR AT HEIGHT INDICATED. COORDINATE MOUNTING HEIGHT WITH ARCHITECTURAL ELEVATIONS AND CONDITIONS PRIOR TO ROUGH-IN.		
	20 AMP GFCI TYPE DOUBLE DUPLEX (QUAD) RECEPTACLE WITH COMMON COVER PLATE, RECESS MOUNT 18" AFF TO CENTER OF BACKBOX.		
	MULTI-POLE RECEPTACLE FOR APPLIANCE MOUNTED AS INDICATE. COORDINATE AMPERAGE RATING, POLES, NEMA CONFIGURATION, ETC. WITH EQUIPMENT TO BE CONNECTED.		
	MULTI-POLE SPECIALTY RECEPTACLE MOUNTED AS INDICATED. COORDINATE AMPERAGE RATING, POLES, NEMA CONFIGURATION, ETC. WITH EQUIPMENT TO BE CONNECTED.		
	20 AMP DUPLEX RECEPTACLE, RECESS MOUNT HORIZONTALLY AT HEIGHT INDICATED.		
	20 AMP DUPLEX RECEPTACLE MOUNTED 18" AFF. ABOVE COUNTER, OR AT HEIGHT INDICATED (INDICATES RECEPTACLE COORDINATED WITH DATA OUTLET FOR COMPUTER USE).		
	20 AMP DOUBLE DUPLEX (QUAD) RECEPTACLE MOUNTED 18" AFF. ABOVE COUNTER, OR AT HEIGHT INDICATED (INDICATES RECEPTACLE COORDINATED WITH DATA OUTLET FOR COMPUTER USE).		
	POWER POLE, 2-SECTION (POWER AND COMMUNICATIONS), 2" SQUARE METALLIC, BRUSHED ALUMINUM FINISH. DEVICES MOUNTED AT POLE AS SHOWN. POLE SHALL EXTEND FROM FLOOR TO CEILING, SECURE TO CEILING.		
	20 AMP DUPLEX RECEPTACLE, FLUSH MOUNT AT CEILING. SUPPORT BACKBOX FROM STRUCTURE, NOT GRID.		
	2-SECTION FLOOR BOX WITH DUPLEX RECEPTACLE AND DATA SECTION. FLOOR BOX SHALL BE FLUSH WITH FLOOR WITH CARPET/TILE PLATE AND TRAP DOOR FOR WIRING OUT OF BOX.		
	JUNCTION BOX.		
	DROP CORD, RECEPTACLE AND BOX SUSPENDED FROM JUNCTION BOX AT CEILING WITH S/O CORD. PROVIDE STRAIN RELIEF AT EACH END OF CORD. RECEPTACLE SHALL BE TYPE OF DEVICE SHOWN.		
	PLUGMOLD WITH RECEPTABLES 12" ON-CENTER. PLUGMOLD SHALL BE NON-METALLIC, 2-PIECE. MOUNT AS INDICATED. VERIFY COLOR OF FINISH.		
POWER DISTRIBUTION (REFER TO THE "ELECTRICAL RISER DIAGRAM")			
	PANELBOARD, RECESS MOUNT IN FINISHED SPACES, SURFACE MOUNT IN BACK OF HOUSE. REFER TO THE "PANELBOARD SCHEDULE".		
	FEEEDER OR BRANCH CIRCUIT RACEWAY CONCEALED IN WALL, CEILING.		
	FEEEDER OR BRANCH CIRCUIT RACEWAY CONCEALED UNDER FLOOR, IN SLAB OR BELOW GRADE.		
	DISCONNECT SWITCH. PROVIDE DISCONNECT SWITCH AS INDICATED ON THE SCHEDULES, REFER TO PLANS AND SCHEDULES FOR ADDITIONAL REQUIREMENTS. FUSES SHALL BE DUAL ELEMENT TIME DELAY. VERIFY NAMEPLATE. RATINGS OF FRAME SIZE AND FUSING OF THE ACTUAL EQUIPMENT TO BE INSTALLED.		
	DRY-TYPE VENTILATED TRANSFORMER. SEE SPECIFICATIONS, PLANS AND RISER FOR REQUIREMENTS. TRANSFORMERS SHALL BE NEMA 1 UNLESS AT THE EXTERIOR OR IN AREAS WHERE WATER MAY BE PRESENT. MOUNT ON 4" HOUSE KEEPING PAD BOLTED TO PAD. MAINTAIN REQUIRED CLEARANCE FROM WALLS OR OBSTRUCTIONS FOR VENTILATION.		
	GROUND TO METAL FRAME OF BUILDING, SLAB STEEL, OTHER MADE ELECTRODES, AND METAL UNDERGROUND WATER PIPE. PROVIDE A MINIMUM OF (3) 3/4" DIA. 16 FOOT LONG COPPER CLAD GROUND RODS LOCATED AT LEAST 6 FEET APART. ALL CONCEALED CONNECTIONS SHALL BE EXTERNICALLY WELDED. INTERIOR GROUND RODS SHALL STUB ABOVE FLOOR AT LOCATIONS NOT INTERFERING WITH FOOT TRAFFIC. LOCATE EXTERIOR GROUND ROD ASSEMBLY IN LANDSCAPE AREA OR PROVIDE WELL FOR ACCESS TO EACH GROUND ROD IF ASSEMBLY IS LOCATED IN HARD SURFACE AREAS, SUCH AS CONCRETE, ASPHALT, ETC. PROVIDE BOLTED PRESSURE CLAMP WITH AT LEAST TWO BOLTS ON RODS IN TEST WELLS. ALL GROUND ROD LOCATIONS SHALL BE ACCESSIBLE.		
	VARIABLE FREQUENCY DRIVE. REFER TO SPECIFICATIONS, AND FLOOR PLANS FOR ADDITIONAL ELECTRICAL REQUIREMENTS. VFD SUPPLIED BY MECHANICAL CONTRACTOR (U.N.O.) AND INSTALLED BY ELECTRICAL CONTRACTOR. ALL CONNECTIONS TO VFD, DISCONNECT AND EQUIPMENT SERVED SHALL BE BY THE ELECTRICAL CONTRACTOR.		
	CIRCUIT SHALL UTILIZE METAL CONDUIT TO MINIMIZE RFI NOISE.		
	PANEL HOMERUN/CIRCUIT		
	PANEL DESIGNATION/CIRCUIT NUMBER		
	NOTE: NOT ALL SYMBOLS SHOWN ON LEGEND ARE USED ON FLOOR PLANS.		








SPECIAL INFORMATIONAL NOTE:



THIS DRAWING PREPARED FOR TENANT IMPROVEMENTS TO AN EXISTING BUILDING OR BUILDING CONSTRUCTED BY OTHERS

IT IS UNDERSTOOD THAT ANY WARRANTY INFORMATION CONCERNING EQUIPMENT INSTALLED MUST BE FORWARDED TO THE OWNER AND THAT ANY AND ALL CONTRACTORS SHALL GUARANTEE THEIR WORK FOR A PERIOD OF ONE YEAR FROM THE DATE OF OWNERS ACCEPTANCE.

ENGINEER IS NOT RESPONSIBLE FOR MATERIALS, METHODS, INSTALLATION, AND CONSTRUCTION WHICH DEVIATE FROM CONSTRUCTION DOCUMENTS AND SPECIFICATIONS.

WIRING DEVICES	
NOTE: THE FOLLOWING ABBREVIATIONS APPLY TO WIRING DEVICES WHERE INDICATED. INDICATES WEATHERPROOF WHILE-IN-USE ENCLOSURE. ENCLOSURE SHALL HAVE LOCKABLE COVER. INDICATES DEVICE MOUNTED BEHIND ELECTRIC WATER COOLER ENCLOSURE. COORDINATE DEVICE LOCATION WITH PLUMBING CONTRACTOR AND APPROVED SHOP DRAWINGS PRIOR TO ROUGH-IN. INDICATES HORIZONTALLY MOUNTED WIRING DEVICE. INDICATES DEVICE SHALL BE A RED COLOR. DEVICE IS CONNECTED TO A CIRCUIT FED FROM THE GENERATOR (IF APPLICABLE). INDICATES RECEPTACLE MOUNTED IN FLOOR DUCT. INSTALL ACCESSORIES FOR MOUNTING OF RECEPTACLE IN FLOOR DUCT SYSTEM. ISOLATED GROUND	
	20 AMP SIMPLEX RECEPTACLE, RECESS MOUNT 18" AFF TO CENTER OF BACKBOX OR AT HEIGHT INDICATED.
	20 AMP DUPLEX RECEPTACLE, RECESS MOUNT 18" AFF TO CENTER OF BACKBOX.
	20 AMP DUPLEX RECEPTACLE, RECESS MOUNT AT HEIGHT INDICATED OR ABOVE COUNTER, CASEWORK, ETC. COORDINATE MOUNTING HEIGHT WITH ARCHITECTURAL ELEVATIONS AND EXISTING CONDITIONS PRIOR TO ROUGH-IN.
	20 AMP DUPLEX RECEPTACLE WITH ARC FAULT CIRCUIT INTERRUPTER (AFCI) PROTECTION, RECESS MOUNT AT HEIGHT INDICATED OR ABOVE COUNTER, CASEWORK, ETC. COORDINATE MOUNTING HEIGHT WITH ARCHITECTURAL ELEVATIONS AND EXISTING CONDITIONS PRIOR TO ROUGH-IN.
	20 AMP DUPLEX RECEPTACLE WITH ARC FAULT CIRCUIT INTERRUPTER (AFCI) PROTECTION, RECESS MOUNT 18" AFF TO CENTER OF BACKBOX.
	20 AMP DUPLEX RECEPTACLE WITH ARC FAULT CIRCUIT INTERRUPTER (AFCI) PROTECTION, RECESS MOUNT 18" AFF TO CENTER OF BACKBOX.
	20 AMP DOUBLE DUPLEX (QUAD) RECEPTACLE WITH COMMON COVER PLATE, RECESS MOUNT 18" AFF TO CENTER OF BACKBOX.
	20 AMP DOUBLE DUPLEX (QUAD) RECEPTACLE WITH COMMON COVER PLATE, RECESS MOUNT ABOVE COUNTER, CASEWORK, ETC. OR AT HEIGHT INDICATED. COORDINATE MOUNTING HEIGHT WITH ARCHITECTURAL ELEVATIONS AND EXISTING CONDITIONS PRIOR TO ROUGH-IN.
	20 AMP DUPLEX RECEPTACLE, RECESS MOUNT 18" AFF TO CENTER OF BACKBOX. 1 OF 2 RECEPTABLES IS SWITCHED, REMOVE JUMPER BETWEEN OUTLETS.
	20 AMP DUPLEX RECEPTACLE, RECESS FLUSH WITH FLOOR IN SINGLE GANG FLOOR BOX. COVER SHALL BE BRASS WITH HINGED LID FOR EACH OUTLET OF RECEPTACLE.
	20 AMP DOUBLE DUPLEX (QUAD) RECEPTACLE, RECESS FLUSH WITH FLOOR IN DOUBLE GANG FLOOR BOX. COVER SHALL BE BRASS WITH HINGED LID FOR EACH OUTLET OF RECEPTABLES.
	GFCI TYPE SIMPLEX RECEPTACLE MOUNTED AT HEIGHT OR AS INDICATED. VERIFY RATING AND NEMA CONFIGURATION FOR EQUIPMENT TO BE CONNECTED.
	20 AMP GFCI TYPE DUPLEX RECEPTACLE, RECESS MOUNT 18" AFF TO CENTER OF BACKBOX.
	20 AMP GFCI TYPE DUPLEX RECEPTACLE, RECESS MOUNT ABOVE SINK, COUNTER, CASEWORK, ETC. OR AT HEIGHT INDICATED. COORDINATE MOUNTING HEIGHT WITH ARCHITECTURAL ELEVATIONS AND CONDITIONS PRIOR TO ROUGH-IN.
	20 AMP GFCI TYPE DOUBLE DUPLEX (QUAD) RECEPTACLE WITH COMMON COVER PLATE, RECESS MOUNT 18" AFF TO CENTER OF BACKBOX.
	MULTI-POLE RECEPTACLE FOR APPLIANCE MOUNTED AS INDICATE. COORDINATE AMPERAGE RATINGS, POLES, NEMA CONFIGURATION, ETC. WITH EQUIPMENT TO BE CONNECTED.
	MULTI-POLE SPECIALTY RECEPTACLE MOUNTED AS INDICATED. COORDINATE AMPERAGE RATING, POLES, NEMA CONFIGURATION, ETC. WITH EQUIPMENT TO BE CONNECTED.
	20 AMP DUPLEX RECEPTACLE, RECESS MOUNT HORIZONTALLY AT HEIGHT INDICATED.
	20 AMP DUPLEX RECEPTACLE MOUNTED 18" AFF. ABOVE COUNTER, OR AT HEIGHT INDICATED (INDICATES RECEPTACLE COORDINATED WITH DATA OUTLET FOR COMPUTER USE).
	20 AMP DOUBLE DUPLEX (QUAD) RECEPTACLE MOUNTED 18" AFF. ABOVE COUNTER, OR AT HEIGHT INDICATED (INDICATES RECEPTACLE COORDINATED WITH DATA OUTLET FOR COMPUTER USE).
	POWER POLE, 2-SECTION (POWER AND COMMUNICATIONS), 2" SQUARE METALLIC, BRUSHED ALUMINUM FINISH, DEVICES MOUNTED AT POLE AS SHOWN. POLE SHALL EXTEND FROM FLOOR TO CEILING, SECURE TO CEILING.
	20 AMP DUPLEX RECEPTACLE, FLUSH MOUNT AT CEILING. SUPPORT BACKBOX FROM STRUCTURE, NOT GRID.
	2-SECTION FLOOR BOX WITH DUPLEX RECEPTACLE AND DATA SECTION. FLOOR BOX SHALL BE FLUSH WITH FLOOR WITH CARPET/TILE PLATE AND TRAP DOOR FOR WIRING OUT OF BOX.
	JUNCTION BOX.
	1-GANG CORD, RECEPTACLE AND BOX SUSPENDED FROM JUNCTION BOX AT CEILING WITH S/O CORD. PROVIDE STRAIN RELIEF AT EACH END OF CORD. RECEPTACLE SHALL BE TYPE OF DEVICE SHOWN.
	PLUGMOLD WITH RECEPTABLES 12" ON-CENTER. PLUGMOLD SHALL BE NON-METALLIC, 2-PIECE. MOUNT AS INDICATED. VERIFY COLOR OF FINISH.

POWER DISTRIBUTION (REFER TO THE "ELECTRICAL RISER DIAGRAM")	
	PANELBOARD, RECESS MOUNT IN FINISHED SPACES, SURFACE MOUNT IN BACK OF HOUSE. REFER TO THE "PANELBOARD SCHEDULE".
	FEEDER OR BRANCH CIRCUIT RACEWAY CONCEALED IN WALL, CEILING.
	FEEDER OR BRANCH CIRCUIT RACEWAY CONCEALED UNDER FLOOR, IN SLAB OR BELOW GRADE.
	DISCONNECT SWITCH. PROVIDE DISCONNECT SWITCH AS INDICATED ON THE SCHEDULES. REFER TO PLANS AND SCHEDULES FOR ADDITIONAL REQUIREMENTS. FUSES SHALL BE DUAL ELEMENT TIME DELAY. VERIFY NAMEPLATE. RATINGS OF FRAME SIZE AND FUSING OF THE ACTUAL EQUIPMENT TO BE INSTALLED.
	DRY-TYPE VENTILATED TRANSFORMER. SEE SPECIFICATIONS, PLANS, AND RISER FOR REQUIREMENTS. TRANSFORMERS SHALL BE NEMA 1 UNLESS AT THE EXTERIOR OR IN AREAS WHERE WATER MAY BE PRESENT. MOUNT ON 4" HOUSE KEEPING PAD BOLTED TO PAD. MAINTAIN REQUIRED CLEARANCE FROM WALLS OR OBSTRUCTIONS FOR VENTILATION.
	GROUND TO METAL FRAME OF BUILDING, SLAB STEEL, OTHER MADE ELECTRODES, AND METAL UNDERGROUND WATER PIPE. PROVIDE A MINIMUM OF (2) 3/4" DIA. 10 FOOT LONG COPPER CLAD GROUND RODS LOCATED AT LEAST 6 FEET APART. ALL CONCEALED CONNECTIONS SHALL BE EXOTHERMICALLY WELDED. INTERIOR GROUND RODS SHALL STUB ABOVE FLOOR AT LOCATIONS NOT INTERFERING WITH FOOT TRAFFIC. LOCATE EXTERIOR GROUND ROD ASSEMBLY IN LANDSCAPE AREA OR PROVIDE WELL FOR ACCESS TO EACH GROUND ROD IF ASSEMBLY IS LOCATED IN HARD SURFACE AREAS, SUCH AS CONCRETE, ASPHALT, ETC. PROVIDE BOLTED PRESSURE CLAMP WITH AT LEAST TWO BOLTS ON RODS IN TEST WELLS. ALL GROUND ROD LOCATIONS SHALL BE ACCESSIBLE.
	VARIABLE FREQUENCY DRIVE. REFER TO SPECIFICATIONS, AND FLOOR PLANS FOR ADDITIONAL ELECTRICAL REQUIREMENTS. VFD SUPPLIED BY MECHANICAL CONTRACTOR (U.N.O.) AND INSTALLED BY ELECTRICAL CONTRACTOR. ALL CONNECTIONS TO VFD, DISCONNECT AND EQUIPMENT SERVED SHALL BE BY THE ELECTRICAL CONTRACTOR. CIRCUIT SHALL UTILIZE METAL CONDUIT TO MINIMIZE RFI NOISE.

	PANEL HOMERUN/CIRCUIT
	PANEL DESIGNATION/CIRCUIT NUMBER

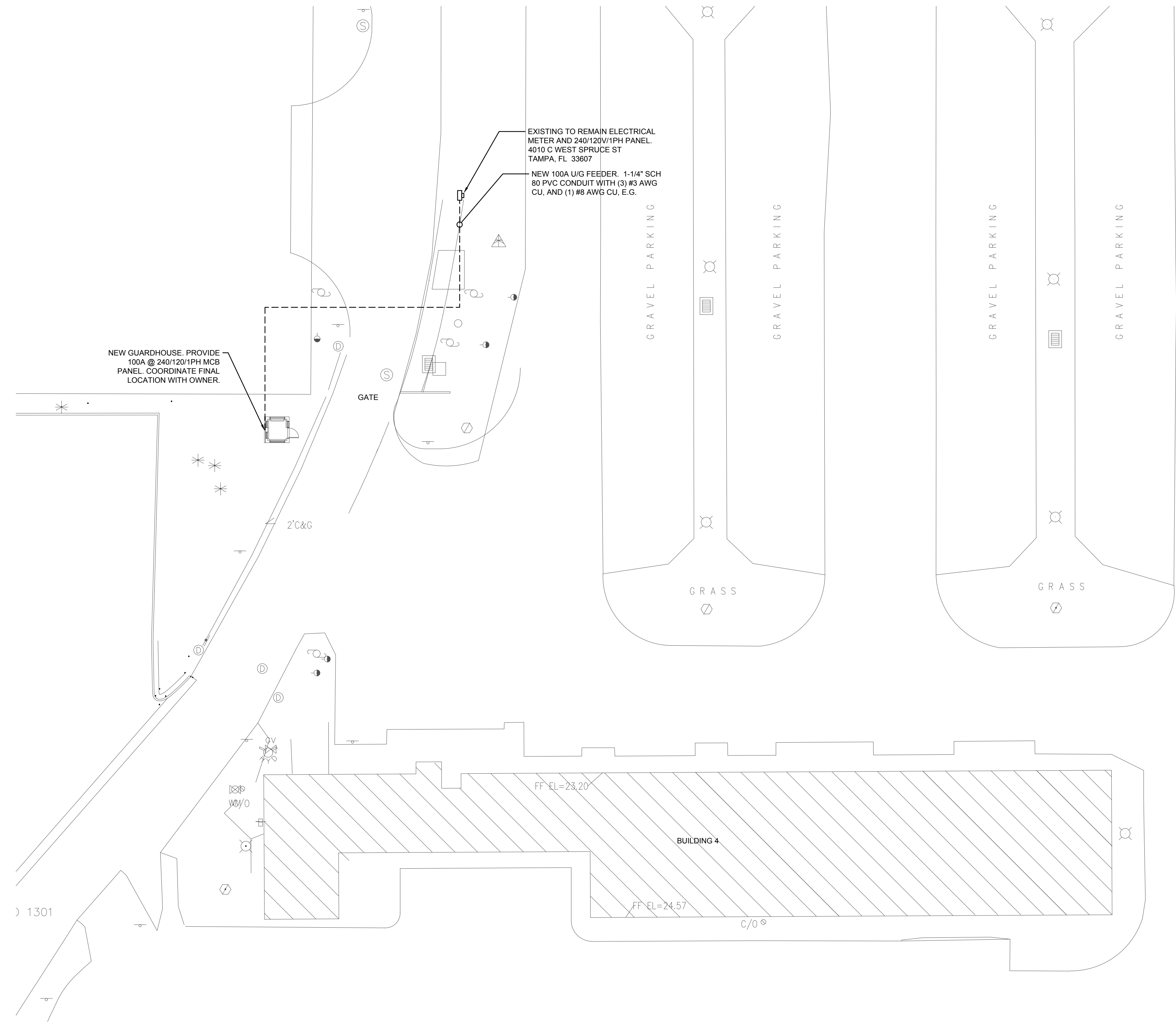
NOTE:  
NOT ALL SYMBOLS SHOWN ON LEGEND ARE USED ON FLOOR PLANS.

GENERAL NOTES

\*\*GENERAL NOTES APPLY TO ALL ELECTRICAL SHEETS\*\*

- DO NOT SCALE FROM THESE DRAWINGS.
- ALL WORK SHALL BE PERFORMED IN STRICT ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE (NEC).
- ELECTRICAL CONTRACTOR SHALL COORDINATE WORK WITH ALL OTHER TRADES TO ASSURE PROPER CLEARANCES FOR EQUIPMENT AND TO KEEP THE JOB PROGRESSING.
- DRAWINGS ARE BASED ON FIELD OBSERVATION AND EXISTING RECORD DOCUMENTS. REPORT ANY DISCREPANCIES TO THE ARCHITECT/ENGINEER BEFORE DISTURBING EXISTING INSTALLATION.
- EXISTING TO REMAIN ELECTRICAL CIRCUITRY DOWNSTREAM AND UPSTREAM OF DEMOLISHED DEVICES SHALL BE MAINTAINED. PROVIDE ALL ELECTRICAL COMPONENTS (BOXES, CONDUIT, WIRING, ETC.) AS REQUIRED.
- ELECTRICAL CONTRACTOR SHALL BE REQUIRED TO CUT, CAPTURE AND EXTEND OR RE-ROUTE EXISTING CONDUITS AND CONDUCTORS AS REQUIRED TO ACCOMMODATE NEW DUCTWORK TO BE INSTALLED. COORDINATE WITH MECHANICAL CONTRACTOR AS REQUIRED.
- REFER TO MECHANICAL DRAWINGS FOR EQUIPMENT NEEDING ELECTRICAL CONNECTIONS (MOTORS, FANS, PUMPS, ETC.). MAKE ALL CONNECTIONS AND PROVIDE APPROPRIATE WIRE, CONDUIT, AND OVERCURRENT PROTECTION FOR ALL EQUIPMENT. INSTALL ANY ELECTRICAL EQUIPMENT (STARTERS, RELAYS, VFDs, ETC.) FURNISHED BY MECHANICAL CONTRACTOR (DIV 15). COORDINATE EXACT REQUIREMENTS WITH MECHANICAL CONTRACTOR.
- USE 10 AWG CU. CONDUCTORS FOR 20 AMPERE, 120 VOLT BRANCH CIRCUITS LONGER THAN 75 FEET. USE 10 AWG CU. WHERE WIRE SIZE IS INCREASED IN SIZE FOR VOLTAGE DROP. E.G. SHALL BE INCREASED PROPORTIONATELY. PER NEC 250.122 (B).
- ALL CEILING MOUNTED ITEMS SHALL BE INSTALLED IN ACCORDANCE WITH THE ARCHITECTURAL REFLECTIVE CEILING PLANS. IF LOCATION FOR AN ITEM IS NOT SHOWN ON THE ARCHITECTURAL REFLECTIVE CEILING PLANS, VERIFY THE EXACT LOCATION OF THE ITEM WITH THE ARCHITECT PRIOR TO INSTALLATION. THESE REQUIREMENTS APPLY TO ALL CEILING TYPES IN ALL AREAS.
- WHERE DISCONNECTING MEANS IS NOT PROVIDED "WITHIN SIGHT" OF MECHANICAL EQUIPMENT, THE OVERCURRENT DEVICE SERVING SUCH EQUIPMENT SHALL HAVE APPROVED "LOCKED-OFF" PROVISION.
- CONDUIT RUNS SHOWN ARE DIAGRAMMATIC IN NATURE. ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR SIZING AND LOCATING FULL



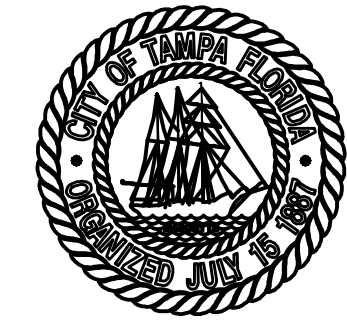


**ELECTRICAL PARTIAL SITE PLAN**

**NOT FOR CONSTRUCTION**

DESIGN REMARKS: BID SET

DATE: 03-03-17



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**LANDSCAPE CONSULTANT**

**SOLID WASTE BUILDING 4  
INTERIOR REMODEL**  
4010 W. SPRUCE ST.  
TAMPA, FLORIDA

**FILE NUMBER**  
X

**PROJECT NUMBER**  
4483.15.01

**ISSUE DATE**  
MARCH, 2017

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PF

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**PROFESSIONAL SEAL**  
**PHILIP J. FEKEMA, P.E.**  
FL. PE. 65083

03-03-17

**SCALE: AS NOTED**

**ELECTRICAL PARTIAL SITE  
PLAN**

**SHEET NUMBER**  
**E1.1**  
X OF X



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03-03-17

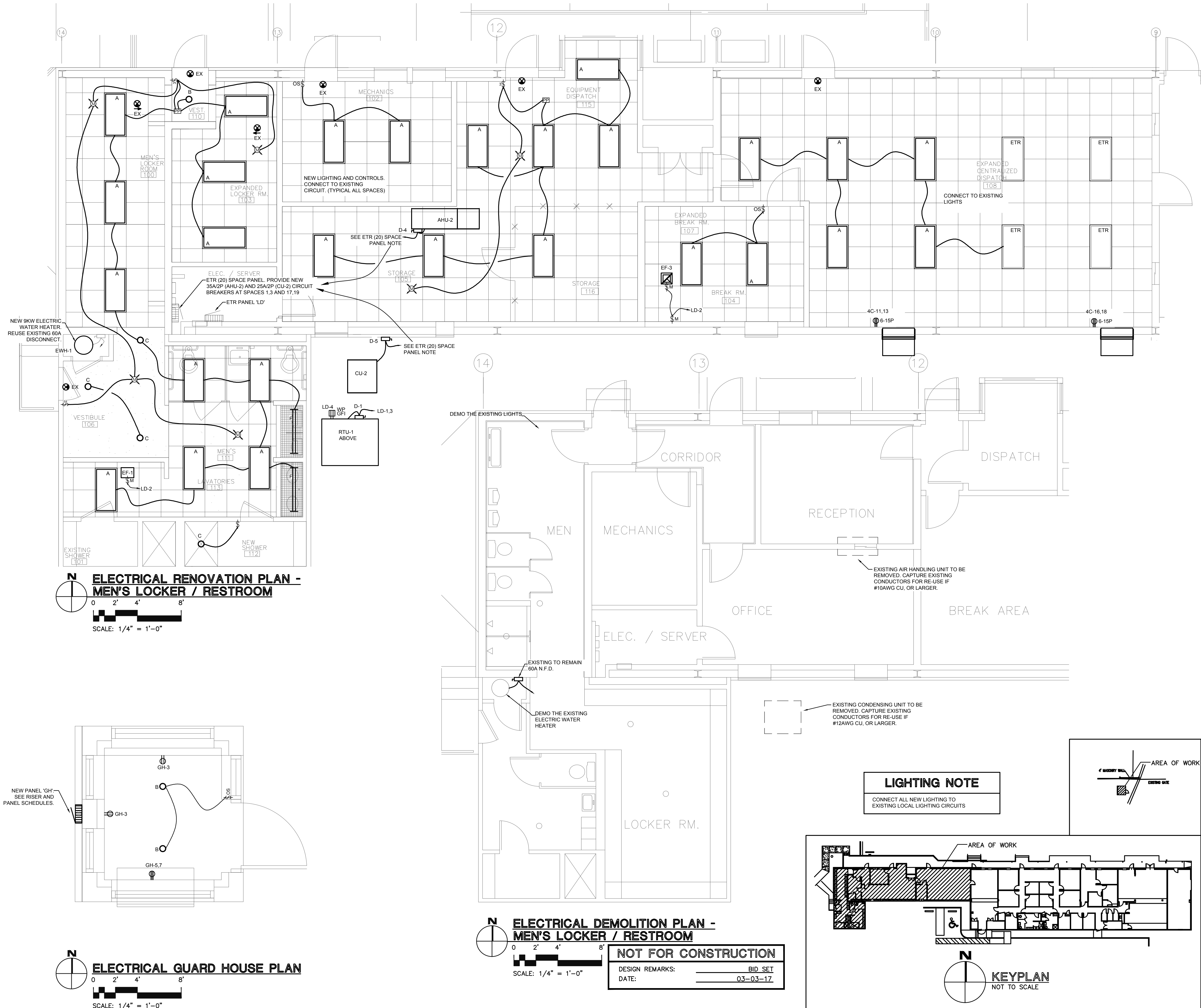
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**ELECTRICAL DEMOLITION  
AND RENOVATION FLOOR  
PLANS**

**SHEET NUMBER**

**E4.1**

X OF X







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CIVIL CONSULTANT

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 ( )

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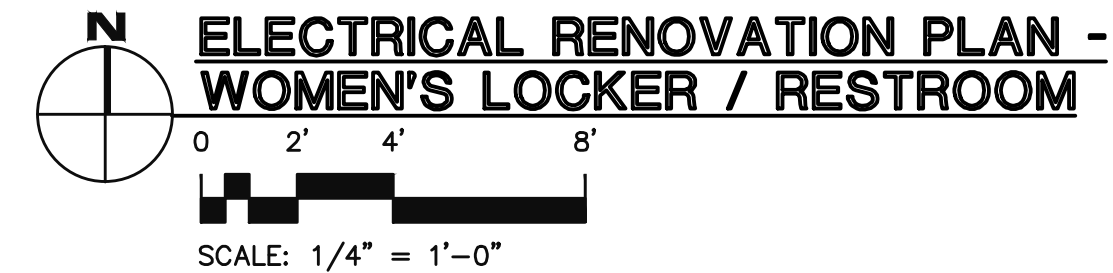
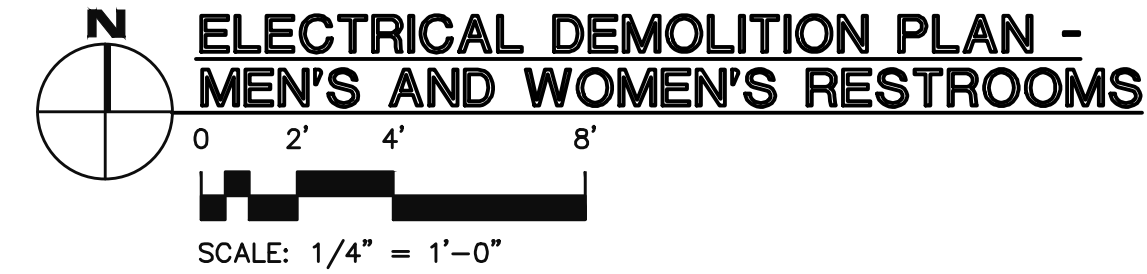
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## ELECTRICAL DEMOLITION AND RENOVATION FLOOR PLANS

SHEET NUMBER

**E4.2**

     **X**      **OF**      **X**     



## LIGHTING NOTE

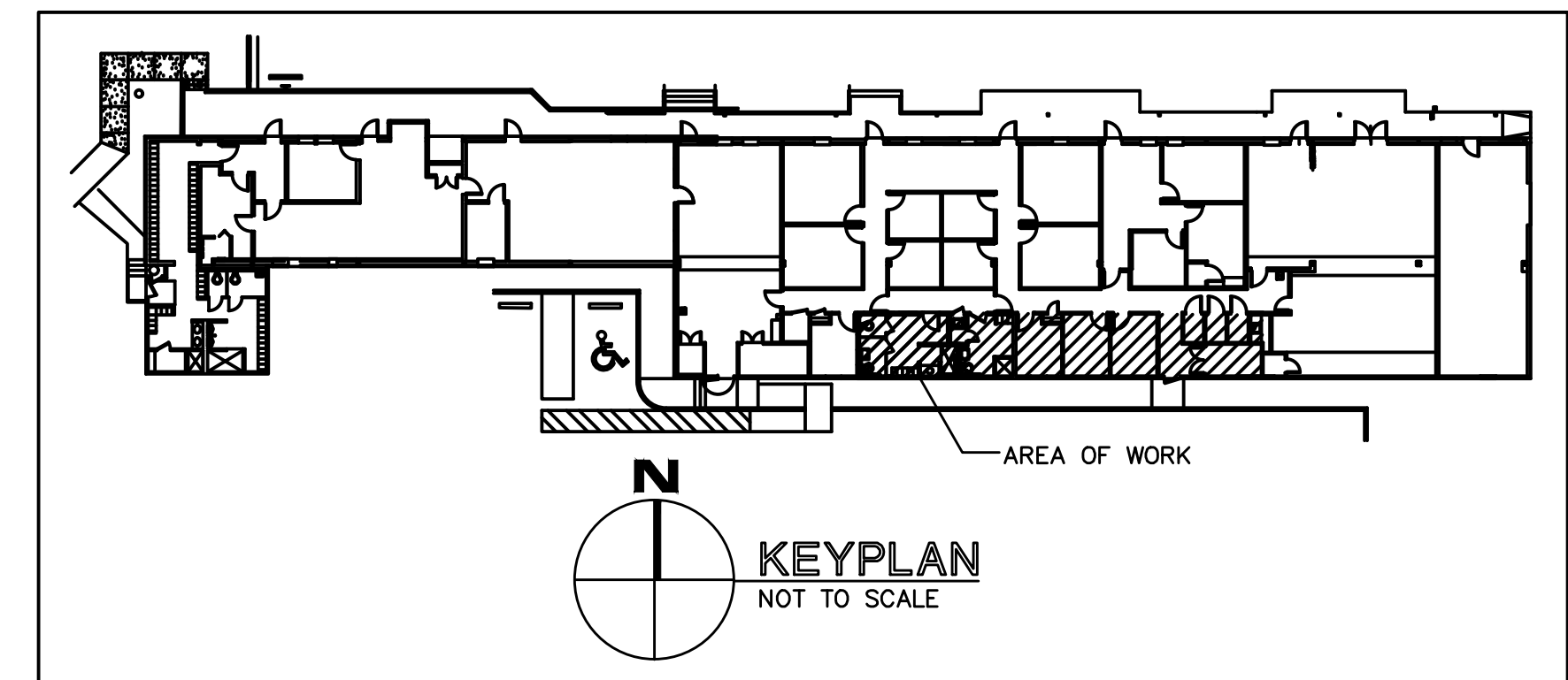
CONNECT ALL NEW LIGHTING TO  
EXISTING LOCAL LIGHTING CIRCUITS

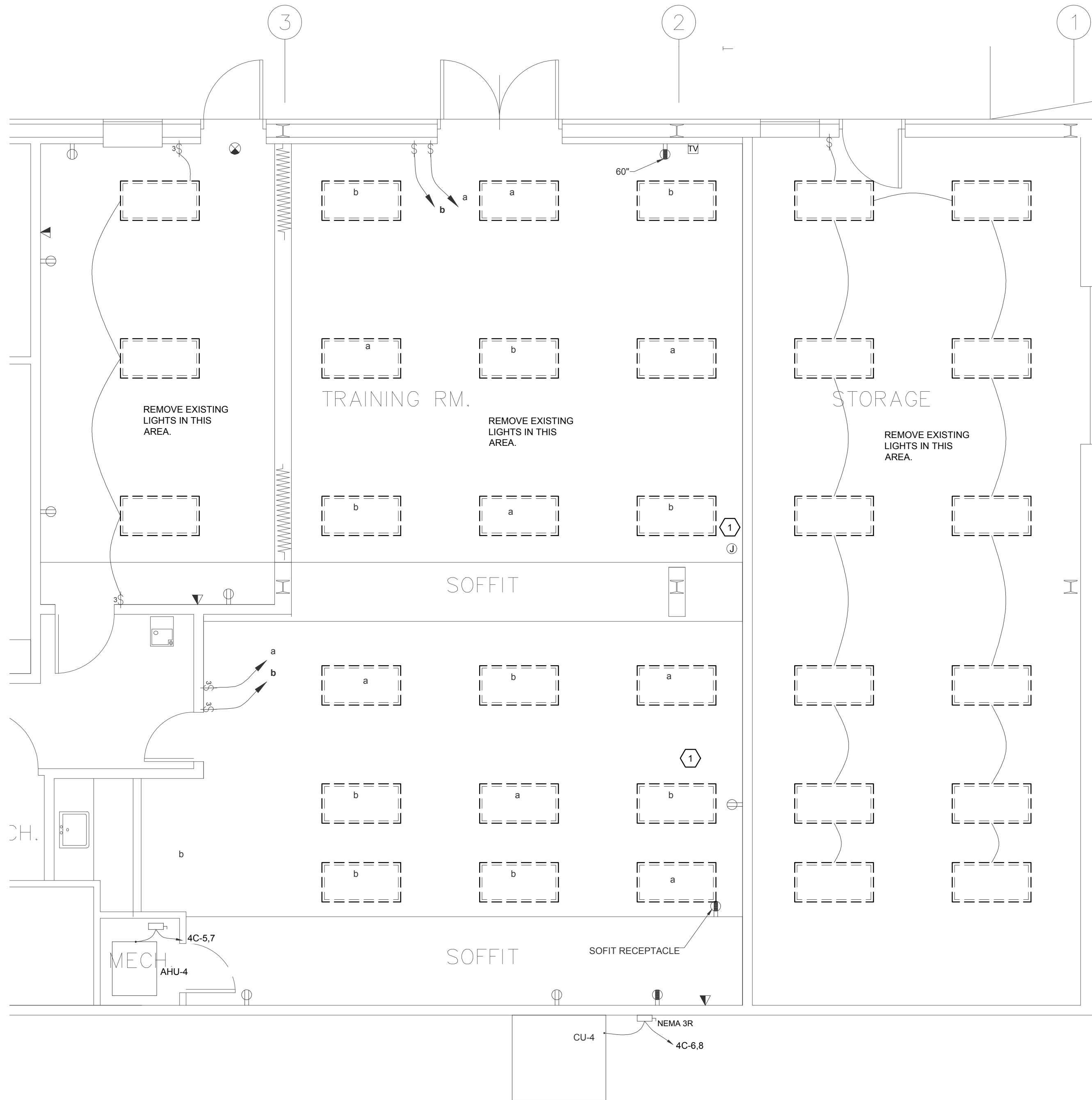
<b>INTERIOR LIGHTING POWER ALLOWANCE</b>							
SPACE	NO.	ROOM TYPE	S.F.	ALLOWANCE		SPECIFIED	
				W/S.F.	WATTS	WATTS	+/-
MEN	100	RESTROOM	656	1.0	656	800 W	144
CORRIDOR	102	CORRIDOR	82	0.7	57	192 W	135
BREAKROOM	103	LOUNGE	155	0.8	124	128 W	4
STORAGE	104	STORAGE	543	0.8	434	448 W	14
LOGISTICS	105	OFFICE - ENCLOSED	83	1.1	91	128 W	37
DISPATCH	106	OFFICE - ENCLOSED	801	1.1	881	320 W	-561
RESTROOM	107	RESTROOM	202	1.0	202	192 W	-10
TOTALS			2,522	W/S.F.	2,446	SPECIFIED	-238

L.P.D. ALLOWANCE BASED ON TABLE 405.5.2 (FBC-ENERGY 5TH EDITION)

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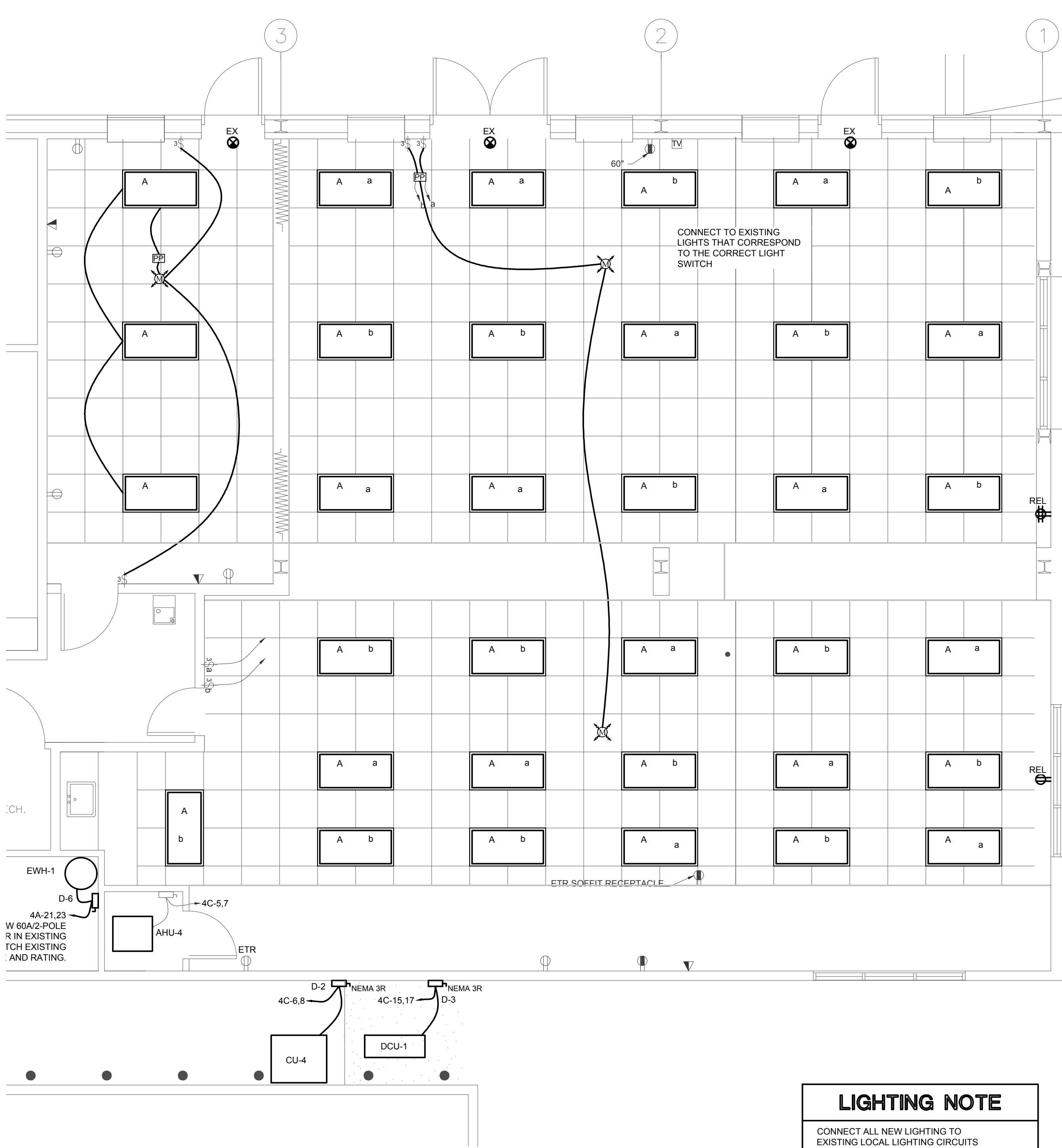
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DATE:	03-03-17





**ELECTRICAL DEMOLITION PLAN - TRAINING ROOM**  
SCALE: 1/4" = 1'-0"

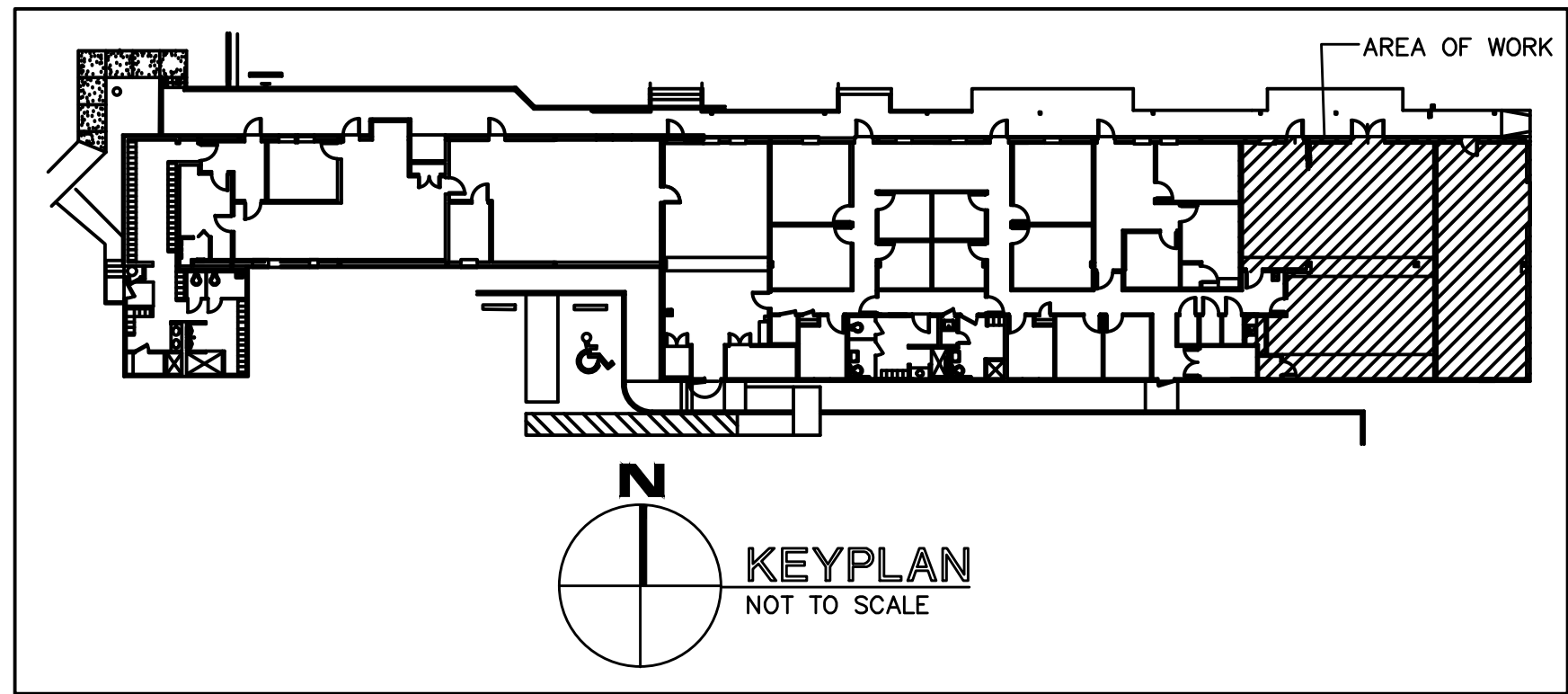
**POWER KEYED NOTES**  
1 RELOCATE POWER EQUIPMENT TO EAST WALL.



**LIGHTING NOTE**  
CONNECT ALL NEW LIGHTING TO EXISTING LOCAL LIGHTING CIRCUITS

**ELECTRICAL RENOVATION PLAN - TRAINING ROOM**  
SCALE: 1/4" = 1'-0"

**NOT FOR CONSTRUCTION**  
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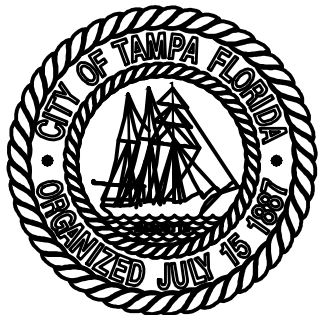
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FL PE 65083

03-03-17  
**SCALE: AS NOTED**

**ELECTRICAL DEMOLITION  
AND RENOVATION FLOOR  
PLANS**

**SHEET NUMBER**  
E4.3  
X OF X





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03-03-17

**SCALE: AS NOTED**

**ELECTRICAL PANEL  
SCHEDULES**

**SHEET NUMBER**

E7.1

X OF X

PANELBOARD DESIGNATION: 'LD' (ETR)									
VOLTAGE: 240/120V		10-3W	MAINS RATING: 200 AMPS				MAIN CB TRIP RATING: -		
<input checked="" type="checkbox"/> SURFACE	<input type="checkbox"/> MCB	COPPER BUS				INTERRUPTING RATING: ETR			
<input type="checkbox"/> FLUSH	<input checked="" type="checkbox"/> MLO					ENCLOSURE: NEMA 1			
SERVES		CB SIZE	LOAD VA	CKT#	CKT#	LOAD VA	CB SIZE	SERVES	
SPACE			0	1	2	0		SPACE	
SPACE			0	3	4	0		SPACE	
SPACE			0	5	6	0	20	OFFICE RECEPTACLES	
ICE		30	0	7	8	0	30	ICE	
			0	9	10	0			
EXISTING		20	0	11	12	0	45	RTU	
EXISTING		20	0	13	14	0			
			0	15	16	0			
EWH		50	0	17	18	0	70	HEATER	
			0	17	18	0			
CONNECTED:			0.0	KVA	A	B	EST. DEMAND:	0.0	KVA

PANELBOARD DESIGNATION: 'LD' (MODIFIED)									
VOLTAGE: 240/120V		10-3W	MAINS RATING: 200 AMPS				MAIN CB TRIP RATING: -		
<input checked="" type="checkbox"/> SURFACE	<input type="checkbox"/> MCB	COPPER BUS				INTERRUPTING RATING: ETR			
<input type="checkbox"/> FLUSH	<input checked="" type="checkbox"/> MLO					ENCLOSURE: NEMA 1			
SERVES		CB SIZE	LOAD VA	CKT#	CKT#	LOAD VA	CB SIZE	SERVES	
NEW RTU		90	8640	1	2	0	20	EF-1, EF-3	
			8640	3	4	180	20	RTU RECEPTACLE	
SPACE			0	5	6	0	20	OFFICE RECEPTACLES	
ICE		30	0	7	8	0	30	ICE	
			0	9	10	0			
EXISTING		20	0	11	12	0	45	OLD RTU	
EXISTING		20	0	13	14	0			
EWI		50	0	15	16	0	70	OLD RTU HEAT	
			0	17	18	0			
CONNECTED:			17.5	KVA	A	B	EST. DEMAND:	0.0	KVA

+ NEW CIRCUIT BREAKER, MATCH EXISTING TYPE

PANELBOARD DESIGNATION: '4C' (MODIFIED)									
VOLTAGE: 240/120V		10-3W	MAINS RATING: 200 AMPS				MAIN CB TRIP RATING: -		
<input checked="" type="checkbox"/> SURFACE	<input type="checkbox"/> MCB	COPPER BUS				INTERRUPTING RATING: ETR			
<input type="checkbox"/> FLUSH	<input checked="" type="checkbox"/> MLO					ENCLOSURE: NEMA 1			
SERVES		CB SIZE	LOAD VA	CKT#	CKT#	LOAD VA	CB SIZE	SERVES	
EXISTING AHU-1		50		1	2		50	EXISTING CU-1	
				3	4				
NEW AHU-4		80		5	6		60	NEW CU-4	
				7	8				
EXISTING VENTILATOR FANS		20		9	10		20	EXISTING	
				11	12		20	EXISTING	
PTAC-1		15	1692	13	14		20	EXISTING	
			2160	15	16	1692	15	PTAC-2	
DCU-4		30	2160	17	18	1692			
CONNECTED:			11.1	KVA	A	B	EST. DEMAND:	0.0	KVA

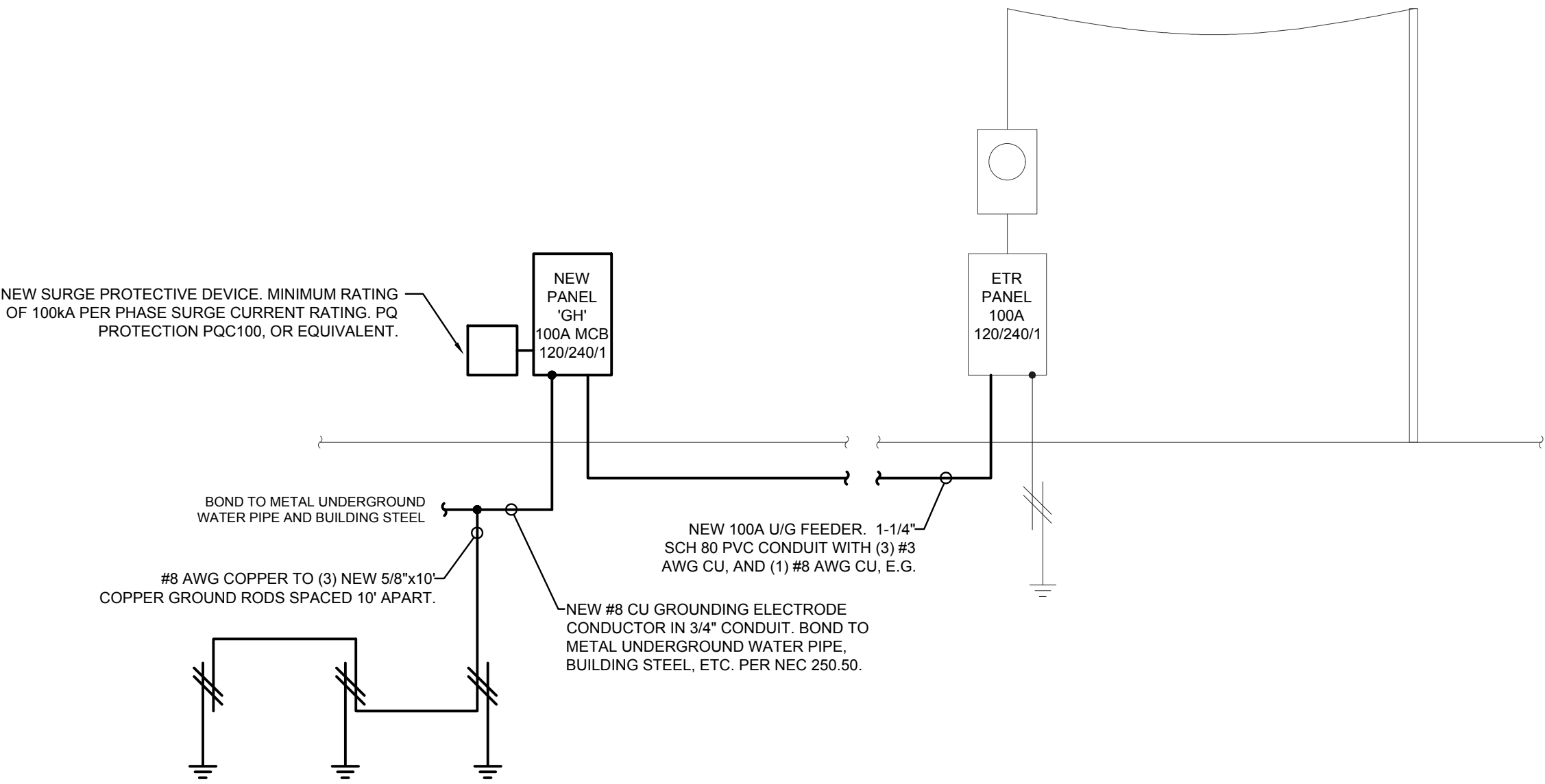
+ NEW CIRCUIT BREAKER, MATCH EXISTING TYPE. COORDINATE REQUIREMENTS WITH EQUIPMENT PROVIDER.

PANELBOARD: 'LD'		
ELECTRICAL SERVICE CALCULATION		
LOAD	CONNECTED	DEMAND
REMOVED RTU	-10,800	-10,800
REMOVED RTU HEAT	-15,600	-15,600
NEW RTU	17,280	21,600
EWI	9,000	9,000
ICE MACHINES (2)	11,520	11,520
EXISTING OFFICE RECEPTACLES	1,080	1,080
EXISTING LOAD	2,000	2,000
EF-1, EF-3	215	215
NEW RTU RECEPTACLE	180	180
TOTAL	14,875	19,195
80 AMP DEMAND		
100A SERVICE @ 240V, 1-PHASE EXISTING		

PANELBOARD: '4C'		
ELECTRICAL SERVICE CALCULATION		
LOAD	CONNECTED	DEMAND
EXISTING AHU-1 (HEAT MODE)	8,856	8,856
EXISTING CU-1 (LARGEST MOTOR)	6,552	1,638
NEW AHU-4 (HEAT MODE)	14,420	14,420
NEW CU-4	8,544	0
EXISTING VENTILATOR FANS	1,440	1,440
PTAC-1	3,384	3,384
PTAC-2	3,384	3,384
EXISTING LOADS	3,000	3,000
NEW DCU-4	4,320	4,320
TOTAL	53,900	40,442
169 AMP DEMAND		
200A SERVICE @ 240V, 1-PHASE EXISTING		

## ELECTRICAL PANEL SCHEDULES - BUILDING 4

SCALE: NOT TO SCALE



## ELECTRICAL RISER DIAGRAM - GUARD HOUSE

SCALE: NOT TO SCALE

EXISTING GATE PANEL		
ELECTRICAL SERVICE CALCULATION		
LOAD	CONNECTED	DEMAND
EXISTING LOAD (ESTIMATED)	6,000	7,500
NEW GUARD HOUSE PANEL		
LIGHTS	64	80
RECEPTACLES	540	540
HEATER	5,600	5,600
AIR CONDITIONING	796	796
TOTAL	13,000	14,516
60 AMP DEMAND		
100A SERVICE @ 240V, 1-PHASE EXISTING		

PANELBOARD DESIGNATION: 'GATE' (ETR)									
VOLTAGE: 240/120V		10-3W	MAINS RATING: 100 AMPS				MAIN CB TRIP RATING: 100A		
<input checked="" type="checkbox"/> SURFACE	<input type="checkbox"/> MCB	COPPER BUS				INTERRUPTING RATING: ETR			
<input type="checkbox"/> FLUSH	<input checked="" type="checkbox"/> MLO					ENCLOSURE: NEMA 3R			
SERVES		CB SIZE	LOAD VA	CKT#	CKT#	LOAD VA	CB SIZE	SERVES	
MAIN	100		0	1	2	0	20	EXISTING	
			0	3	4	0	20	EXISTING	
EXISTING	20		0	5	6	0	20	EXISTING	
			0	7	8	0	0	SPACE	
GUARD HOUSE	100		0	9	10	0	0	SPACE	
			0	11	12	0	0	SPACE	
SPACE	0		0	13	14	0	0	SPACE	
SPACE	0		0	15	16	0	0	SPACE	
SPACE	0		0	17	18	0	0	SPACE	
CONNECTED:			0.0	KVA	A	B	EST. DEMAND:	0.0	KVA

+ NEW CIRCUIT BREAKER, MATCH EXISTING TYPE

PANELBOARD: 'GH' (GUARD HOUSE)		
ELECTRICAL SERVICE CALCULATION		
LOAD	CONNECTED	DEMAND
NEW GUARD HOUSE PANEL		
LIGHTS	64	80
RECEPTACLES	540	540
AIR CONDITIONING	796	796
TOTAL	1,400	1,416
6 AMP DEMAND		
100A SERVICE @ 240V, 1-PHASE PROVIDED		

ESTIMATED VOLTAGE DROP: PANEL 'GH' SERVICE FEEDER CONDUCTORS	
CONDUCTOR SIZE	#3 AWG
RESISTANCE (Ω/1000')	0.250
NUMBER OF PARALLEL RUNS	1
CONDUCTOR LENGTH	150'
APPROXIMATE LOAD (MAXIMUM)	60 A
PHASE	1 PH
ESTIMATED VOLTAGE DROP	4.50 V
VOLTAGE	240 V
VOLTAGE DROP	1.88 %
VOLTAGE DROP BELOW 2% PER FBC ENERGY, 5TH ED. C405.7.3.1	

## ELECTRICAL PANEL SCHEDULES - GUARD HOUSE

SCALE: NOT TO SCALE

PANELBOARD DESIGNATION: 'GH' (GUARD HOUSE)									
VOLTAGE: 240/120V		10-3W	MAINS RATING: 100 AMPS				MAIN CB TRIP RATING: 100 AMPS		
<input checked="" type="checkbox"/> SURFACE	<input type="checkbox"/> MCB	COPPER BUS				INTERRUPTING RATING: ETR			
<input type="checkbox"/> FLUSH	<input checked="" type="checkbox"/> MLO					ENCLOSURE: NEMA 1			
SERVES		CB SIZE	LOAD VA	CKT#	CKT#	LOAD VA	CB SIZE	SERVES	
LIGHTS		20	64	1	2		20	SPARE	
RECEPTACLES		20	360	3	4		20	SPARE	
PTAC			398	5	6				
		15	398	7	8				
				9	10				
				11	12				
				13	14				
				15	16				
				17	18		30	SURGE	
				17	A	B			
CONNECTED:			1.2	KVA	A	B	EST. DEMAND:	0.0	KVA

## NOT FOR CONSTRUCTION

DESIGN REMARKS: BID SET  
DATE: 03-03-17

ELECTRICAL SPECIFICATIONS - DIVISION 16

PART 1 - GENERAL		D. ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE TO PROVIDE CORRECTIONS TO ALL SITUATIONS CREATED BY THE SUBSTITUTION OF MATERIALS OR PRODUCTS. THE ACCEPTANCE OF SUBSTITUTED MATERIALS OR PRODUCTS, EITHER PRIOR TO BID OR THEREAFTER, DOES NOT RELIEVE THE ELECTRICAL CONTRACTOR FROM THE RESPONSIBILITY TO PROVIDE CORRECTIONS, AT THEIR EXPENSE, FOR ALL DISCREPANCIES AND CONFLICTS CREATED BY THE SUBSTITUTION OF MATERIALS OR PRODUCTS.	SUBJECTED TO PHYSICAL DAMAGE FROM VEHICLES, MAINTENANCE EQUIPMENT, ETC. PROVIDE LARGE RADIUS SWEEP ELBOWS FOR ROSS CONDUIT.	RATED 20-AMPERES, 120-VOLTS, 60 HZ, WITH SOLID-STATE GROUND-FAULT SENSING AND SIGNALING, WITH 5 MILLIAMPERES GROUND-FAULT TRIP LEVEL, EQUIP WITH NEMA 5-20R CONFIGURATION.	SAME FROM PREMISES WHEN NO LONGER REQUIRED.	
0.01 GENERAL SCOPE						
A. THIS PROJECT WILL REQUIRE POWER DISTRIBUTION, LIGHTING, AND LIGHTING CONTROLS SYSTEMS AS SHOWN ON THE PLANS AND INCLUDED IN THE SPECIFICATIONS.		1.06 SHOP DRAWINGS	C. IMC CONDUIT WITH THREADED FITTINGS SHALL BE PROVIDED IN ABOVE GROUND, EXPOSED INTERIOR AND EXTERIOR LOCATIONS WHERE CONDUIT WILL NOT BE SUBJECTED TO PHYSICAL DAMAGE, BUT WILL BE EXPOSED TO RAIN WATER, HAZARDOUS CONDITIONS, ETC. THREADED FITTINGS FOR IMC IS NOT ACCEPTABLE.	F. LIGHT SWITCHES	3.03 EXCAVATING AND BACKFILLING	
B. THE SCOPE OF WORK SPECIFIED HEREIN CONSISTS OF PROVIDING (DEFINED AS FURNISH AND INSTALL) ALL LABOR, MATERIALS, EQUIPMENT AND SERVICES REQUIRED TO COMPLETE THE ELECTRICAL AND RELATED WORK INDICATED ON THE DRAWINGS, AS SPECIFIED HEREIN AND SUBJECT TO THE TERMS AND CONDITIONS OF THE CONTRACT. ELECTRICAL WORK INCLUDES, BUT IS NOT LIMITED TO, THE FOLLOWING:						
• PANELBOARDS		A. ELECTRICAL CONTRACTOR SHALL SUBMIT FOR REVIEW AND APPROVAL SHOP DRAWINGS OF ALL MATERIALS OR PRODUCTS REQUIRED TO COMPLETE THE PROJECT AND NO MATERIALS OR PRODUCTS SHALL BE DELIVERED TO THE JOB SITE OR INSTALLED UNTIL THE ELECTRICAL CONTRACTOR HAS ELECTRICAL ENGINEER APPROVED SHOP DRAWINGS. SHOP DRAWINGS FOR MATERIALS OR PRODUCTS SHALL BE SUBMITTED AS ONE COMPLETE PACKAGE. ELECTRICAL CONTRACTOR SHALL FURNISH THE NUMBER OF COPIES REQUIRED BY THE GENERAL AND SPECIAL CONDITIONS OF THE CONTRACT, BUT IN NO CASE LESS THAN SIX (6) IDENTICAL COPIES. SHOP DRAWINGS SHALL BE REVIEWED AND APPROVED BY THE ELECTRICAL AND GENERAL CONTRACTORS FOR COMPLIANCE WITH THE SPECIFIED MATERIALS AND PRODUCTS PRIOR TO SUBMISSION TO THE ARCHITECT/ELECTRICAL ENGINEER.	D. EMT CONDUIT WITH RATCH SET FITTINGS SHALL BE PROVIDED IN ABOVE GROUND INTERIOR LOCATIONS WHERE CONDUIT WILL NOT BE SUBJECTED TO PHYSICAL DAMAGE AND WILL REMAIN COMPLETELY DRY DURING ALL WEATHER CONDITIONS.	E. SINGLE AND TWO POLE: PROVIDE HARD USE SPECIFICATION GRADE RECESS MOUNTED SINGLE AND TWO-POLE QUIET TOGGLE SWITCHES: 20-AMPERE, 120/277 VOLTS AC. PROVIDE WITH MOUNTING YOGS INSULATED FROM MOUNTING PLATE. PLASTER, SIDE-WIRED SCREW TERMINALS, WITH BREAK-OUT TAB FEATURES, WHICH ALLOWS WIRING WITH SEPARATE OR COMMON FEED.	A. ELECTRICAL CONTRACTOR SHALL PROVIDE ALL TRENCH AND PIT EXCAVATION AND BACKFILLING REQUIRED FOR WORK UNDER THIS SECTION OF THE SPECIFICATIONS, BOTH INSIDE AND OUTSIDE OF THE BUILDING, INCLUDING REPAIRING OF FINISHED SURFACES, ALL REQUIRED SHORING, BRACING, PILING, AND ALL PROTECTION FOR SAFETY OF PERSONS AND PROPERTY. LOCAL OR STATE SAFETY CODES SHALL BE FOLLOWED.	
• CIRCUIT BREAKERS						
• DISCONNECT SWITCHES		B. SAMPLES, DRAWINGS, SPECIFICATIONS, CUT SHEETS, ETC. SUBMITTED FOR REVIEW SHALL BE PROPERLY LABELED AND SHALL INDICATE THE SPECIFIC ITEM FOR WHICH THE ELECTRICAL CONTRACTOR IS PROPOSING TO PROVIDE.	F. SCHEDULE 80 PVC CONDUIT SHALL BE USED FOR UNDERGROUND SERVICE ENTRANCE FEEDERS AND ALL CONDUIT BELOW ROADWAYS UNO OR ON THE RISER DIAGRAMS AND/OR FLOOR PLANS. PROVIDE LARGE RADIUS RIGID GALVANIZED STEEL ELBOWS FOR SCHEDULE 80 PVC CONDUIT. COAT RGS ELBOWS WITH BLACK MASTIC.	2.09 LIGHTING FIXTURES	B. IN ADDITION, THE ELECTRICAL CONTRACTOR SHALL CHECK THE ELEVATIONS OF THE UTILITIES ENTERING AND LEAVING THE BUILDING. IF SUCH ELEVATIONS REQUIRE EXCAVATIONS LOWER THAN THE FOOTING LEVELS, THE ARCHITECT/ELECTRICAL ENGINEER SHALL BE NOTIFIED OF SUCH CONDITIONS BEFORE EXCAVATIONS COMMENCE. ELECTRICAL CONTRACTOR SHALL MAKE EXCAVATIONS AT THE MINIMUM REQUIRED DEPTHS IN ORDER NOT TO UNDERCUT THE FOOTINGS. CONFORM TO THE REQUIREMENTS OF THE STATE OF FLORIDA "TRENCH SAFETY ACT," FILLING, BACKFILLING AND COMPACTION SHALL BE AS SPECIFIED IN OTHER AREAS OF THE CONTRACT DOCUMENTS AND SPECIFICATIONS.	
• GROUNDING						
• RACEWAY FOR POWER DISTRIBUTION		C. NO EXCEPTION RENDERED ON SHOP DRAWINGS SHALL NOT BE CONSIDERED AS A GUARANTEE OF MATERIAL OR PRODUCTS COMPLY WITH THE BUILDING CONDITIONS OR MEASUREMENTS, WHERE SHOP DRAWINGS ARE REVIEWED, SAID "NO EXCEPTION" DOES NOT IN ANY WAY RELEASE THE ELECTRICAL CONTRACTOR FROM THE RESPONSIBILITY OF PROVIDING LABOR, MATERIAL OR PRODUCTS REQUIRED TO PERFORM THE WORK AS REQUIRED BY THE DRAWINGS AND SPECIFICATIONS.	G. SCHEDULE 40 PVC CONDUIT SHALL BE USED FOR ALL UNDERGROUND FEEDERS AND WIRING EXCEPT FOR SERVICE ENTRANCE FEEDERS AND UNDER ROADWAYS. PROVIDE LARGE RADIUS RIGID GALVANIZED STEEL ELBOWS FOR SCHEDULE 40 PVC CONDUIT WHERE OVERALL CONDUIT RUN IS GREATER THAN 100 FEET. COAT RGS ELBOWS WITH BLACK MASTIC.	A. ELECTRICAL CONTRACTOR SHALL PROVIDE, WIRE AND LAMP ALL LIGHTING FIXTURES SHOWN ON SITE PLAN, FLOOR PLANS AND LIGHTING FIXTURE SCHEDULE. AT SUBSTANTIAL COMPLETION, ELECTRICAL CONTRACTOR SHALL CLEAN DUST, DEBRIS, FINGERPRINTS, ETC FROM ALL FIXTURE LENSES, LOUVERS, AND REFLECTORS AND SHALL REPLACE ALL LUMENS, BALLASTS, ETC THAT ARE NOT WORKING.	3.04 MATERIAL AND WORKMANSHIP	
• WIRING DEVICES						
• LIGHTING FIXTURES		D. SHOP DRAWINGS SUBMITTALS ARE REQUIRED ON ELECTRICAL DISTRIBUTION EQUIPMENT, PANELBOARDS, TRANSFORMERS, CONDUIT, CONDUCTORS (WIRE), CIRCUIT BREAKERS, DISCONNECT SWITCHES, WIRING DEVICES, FLOOR BOXES, LIGHT FIXTURES, TIME CLOCKS, CONTACTORS AND SURGE PROTECTION DEVICES (SPD)	H. PVC CONDUIT SHALL NOT BE USED MORE THAN SIX INCHES ABOVE FINISHED GRADE IN EITHER INTERIOR OR EXTERIOR LOCATIONS. PVC CONDUIT SHALL TRANSITION TO METAL CONDUIT NO MORE THAN SIX INCHES ABOVE GRADE.	B. ELECTRICAL CONTRACTOR SHALL REVIEW THE ARCHITECTURAL DRAWINGS (SECTIONS, ELEVATIONS, DETAILS, ETC.) FOR LIGHTING FIXTURES WHICH MAY BE SHOWN AND SHALL NOTIFY THE ARCHITECT/ENGINEER PRIOR TO BID IF FIXTURES APPEAR ON THE ARCHITECTURAL DRAWINGS THAT DO NOT APPEAR ON THE ELECTRICAL DRAWINGS.	A. ALL MATERIALS AND APPARATUS REQUIRED FOR ELECTRICAL WORK, EXCEPT AS SPECIFICALLY NOTED OTHERWISE, SHALL BE NEW, OF FIRST CLASS QUALITY, AND SHALL BE FURNISHED, DELIVERED, ERECTED, CONNECTED AND FINISHED IN EVERY DETAIL AND SHALL BE SO SELECTED AND ARRANGED AS TO FIT PROPERLY INTO THE BUILDING SPACES. WHERE NO SPECIFIC KIND OR QUALITY OF MATERIAL IS GIVEN, A FIRST CLASS STANDARD ARTICLE, AS APPROVED BY THE ELECTRICAL ENGINEER, SHALL BE PROVIDED.	
• RACEWAY FOR COMMUNICATIONS WIRING (VOICE, DATA, CABLE TELEVISION)						
• CONNECTION OF EQUIPMENT, CONTROL DEVICES AND ELECTRICAL EQUIPMENT FURNISHED BY OTHERS		E. PANELBOARDS SHALL NOT BE LESS THAN 20" WIDE AND SHALL BE FABRICATED FROM CODE GAUGE STEEL WITH A POST FABRICATION APPLIED GRAY ENAMEL FINISH.	I. ALL PVC CONNECTIONS SHALL BE WATERTIGHT.	C. ELECTRICAL CONTRACTOR SHALL PROVIDE AND INSTALL PATH OF EGRESS LIGHTING AND EXIT SIGNAGE AS SHOWN ON THE PLANS AND AS REQUIRED BY APPLICABLE LIFE SAFETY CODE(S).	B. ELECTRICAL CONTRACTOR SHALL PROCURE THE SERVICES OF AN EXPERIENCED SUBSERVING CONTRACTOR TO BE IN CHARGE OF THE INSTALLATION OF THE WORK, TOGETHER WITH ALL SKILLED WORK PERSONNEL, FITTERS, METAL WORKERS, WELDERS, HELPERS, AND LABOR REQUIRED TO UNLOAD, TRANSPORT, ERECT, CONNECT, ADJUST, START, OPERATE AND TEST EACH SYSTEM.	
• TESTING						
• FINAL ACCEPTANCE/WARRANTY		F. PROVIDE TYPED CIRCUIT IDENTIFICATION CARD INSIDE EACH PANEL. BIDE DESCRIPTION ON LOAD SERVED.	J. FLEXIBLE METAL CONDUIT SHALL BE USED TO CONNECT LIGHTING FIXTURES AND EQUIPMENT SUBJECT TO VIBRATION, INCLUDING DISCONNECT SWITCHES, WIRING DEVICES, FLOOR BOXES, LIGHT FIXTURES, TIME CLOCKS, CONTACTORS AND SURGE PROTECTION DEVICES (SPD)	2.10 LIGHTING CONTROLS	C. ALL EQUIPMENT AND MATERIALS SHALL BE INSTALLED IN ACCORDANCE WITH THE RECOMMENDATIONS OF THE MANUFACTURER. THIS INCLUDES THE PERFORMANCE OF ALL TESTS RECOMMENDED BY THE MANUFACTURER.	
• RECORD DRAWINGS						
C. ITEMS SPECIFIED HEREIN, SHOWN ON THE DRAWINGS, AND/OR REASONABLY INTERPRETED FROM THE DRAWINGS THAT ARE NECESSARY TO COMPLETE THE ELECTRICAL WORK SHALL BE PROVIDED BY THIS DIVISION, WHETHER ITEM IS SPECIFICALLY SHOWN OR NOT.		PART 2 - PRODUCTS		2.11 EQUIPMENT FURNISHED BY OTHERS	3.05 CUTTING AND PATCHING	
1.01 GENERAL DOCUMENTS		2.01 SERVICE ENTRANCE				
A. ELECTRICAL CONTRACTOR SHALL BECOME THOROUGHLY ACQUAINTED WITH THE PROJECT SITE (e.g. EXISTING CONDITIONS) AND THE ENTIRE CONSTRUCTION DOCUMENTS PACKAGE (e.g. ARCHITECTURAL, STRUCTURAL, CIVIL, MECHANICAL, PLUMBING, FIRE PROTECTION, ELECTRICAL DRAWINGS AND SPECIFICATIONS) BEFORE BID SUBMISSION. WORK OF THE ELECTRICAL CONTRACTOR MUST BE COORDINATED WITH THE WORK OF ALL TRADES.		2.02 PANELBOARDS		A. ELECTRICAL CONTRACTOR SHALL PROVIDE ELECTRICAL SERVICE TO EQUIPMENT PROVIDED BY OTHERS INCLUDING, BUT NOT LIMITED TO, CIRCUIT BREAKERS, CONDUIT, WIRE, DISCONNECT SWITCHES, ETC AS REQUIRED BY OTHERS.	B. NO STRUCTURAL MEMBERS SHALL BE CUT OR MODIFIED IN ANY WAY WITHOUT THE WRITTEN APPROVAL OF THE STRUCTURAL ENGINEER. ANY MODIFICATION SHALL BE DONE IN A MANNER APPROVED BY THE STRUCTURAL ENGINEER.	
B. THE INTENT OF THE DRAWINGS AND SPECIFICATIONS IS TO DESCRIBE THAT COMPLETE ELECTRICAL AND SPECIAL SYSTEMS ARE REQUIRED. HOWEVER, THE WORK SHALL BE COMPLETE EVEN THOUGH ITEMS MAY NOT BE SPECIFICALLY CALLED FOR OR SHOWN. INSTALLATIONS SHALL MEET ALL GOVERNING CODES, SHALL BE SUBJECT TO THE APPROVAL OF THE ARCHITECT/ENGINEER AND ALL AGENCIES HAVING JURISDICTION.		A. PROVIDE POWER DISTRIBUTION EQUIPMENT AS INDICATED ON THE ELECTRICAL RISER DIAGRAM AND PANEL SCHEDULES. PANELBOARDS SHALL BE OF DEAD FRONT CONSTRUCTION AND SHALL BE MANUFACTURED BY SCHEDULE 12", GENERAL ELECTRIC, CUTLER-HAMMER OR SIEMENS.				
C. WORK NOT COVERED IN THIS SECTION, RECESSES, CHASES, AND OTHER PROVISIONS TO BE MADE IN THE STRUCTURE AS REQUIRED TO ACCOMMODATE ELECTRICAL DEVICES, INCLUDING PANELS, SWITCHES, ETC. SHALL BE PROVIDED BY THE TRADES CONCERNED. THE ELECTRICAL CONTRACTOR SHALL, HOWEVER, NOTIFY ALL SUCH TRADES OF HIS EXISTING CONDITIONS, PRIOR TO TIME AND SHALL PAY THE COSTS OF ANY CUTTING OR PATCHING CAUSING BY FAILURE TO DO SO. ALL SUCH REMEDIAL WORK SHALL BE DONE ONLY BY MECHANICS OF THE TRADES INVOLVED.		B. PANELBOARDS SHALL NOT BE LESS THAN 20" WIDE AND SHALL BE FABRICATED FROM CODE GAUGE STEEL WITH A POST FABRICATION APPLIED GRAY ENAMEL FINISH.	L. DURING CONSTRUCTION CONDUIT SHALL BE PROTECTED AGAINST DAMAGE AND ENTRANCE OF WATER, DIRT OR FOREIGN MATERIAL WITH WATERTIGHT CAPS. FIRE RATED ASSEMBLIES SHALL BE PROVIDED WHERE CONDUIT PASSES THROUGH FIRE RATED CONSTRUCTION. REFER TO ARCHITECTURAL DRAWINGS FOR EXACT LOCATIONS OF FIRE RATED CONSTRUCTION. REFER TO THE FIRE STOP PENETRATION DETAILS ON THE ELECTRICAL DRAWINGS.	A. PROVIDE FULL-VOLTAGE, NON-REVERSING, ACROSS-THE-LINE, MAGNETIC MOTOR CONTROLLER(S). COORDINATE THE FEATURES OF EACH MOTOR CONTROLLER WITH THE RATINGS AND CHARACTERISTICS OF THE SUPPLY CIRCUIT, THE MOTOR, THE REQUIRED CONTROL SEQUENCE, THE DUTY CYCLE OF THE MOTOR, DRIVE, AND LOAD, AND THE PLD DEVICE, AND CONTROL CIRCUITS AFFECTING CONTROLLER FUNCTIONS. PROVIDE CONTROLLERS THAT ARE HORSEPOWER RATED TO SUIT THE MOTOR CONTROLLED.	B. CONDUIT THROUGH FLOORS AND WALLS SHALL UTILIZE A U.L. APPROVED FIRE RATED PENETRATION SYSTEM. WHERE SLEEVES ARE PLACED IN EXTERIOR WALLS BELOW GRADE, THE SPACE BETWEEN THE CONDUIT AND THE SLEEVES SHALL BE SEALED WATERTIGHT.	
1.02 PERMITS, TAXES, FEES.		C. PANELBOARD AND INTERNAL COMPONENTS SHALL BE CONSTRUCTED AND U.L. LISTED TO WITHSTAND THE SYMMETRICAL SHORT CIRCUIT AMPERES INDICATED ON THE ELECTRICAL RISER DIAGRAM OR PANEL SCHEDULES.				
A. ELECTRICAL CONTRACTOR SHALL OBTAIN ALL GOVERNMENTAL PERMITS, PAY ALL SALES TAXES AND OTHER ASSOCIATED FEES INCLUDING COSTS FOR UTILITY CONNECTIONS, REQUIRED TO PERFORM THE INTENDED ELECTRICAL WORK. ELECTRICAL CONTRACTOR SHALL OBTAIN ALL NECESSARY APPROVALS OF ALL GOVERNMENTAL AGENCIES HAVING JURISDICTION. ELECTRICAL CONTRACTOR SHALL WITH REGARDS TO FLUSH LOCK WITH CATCH AND SPRING LOADED DOOR PULL, ALL LOCKS SHALL BE KEYS LIKE TURN OVER ALL KEYS TO OWNER.		D. WIRE GUTTER SPACE SHALL COMPLY WITH U.L. AND NEC STANDARDS FOR PANELBOARDS.	2.07 CONDUCTORS	D. ENCLOSURES: FOR INDIVIDUALLY MOUNTED MOTOR CONTROLLERS, PROVIDE TYPE 1 ENCLOSURE WITH NEMA 3 STANDARD 250 "ENCLOSURES FOR ELECTRICAL EQUIPMENT" (1000 VOLTS MAXIMUM). PROVIDE ENCLOSURES SUITABLE FOR THE ENVIRONMENTAL CONDITIONS AT THE CONTROLLER LOCATION.	C. WHERE CONDUIT MOTION DUE TO EXPANSION AND CONTRACTION WILL OCCUR, PROVIDE TYPED CIRCUIT IDENTIFICATION CARD INSIDE EACH PANEL. BIDE DESCRIPTION ON LOAD SERVED.	
B. ELECTRICAL CONTRACTOR SHALL INCLUDE IN THE WORK, WITHOUT EXTRA COST TO THE OWNER, ALL LABOR, MATERIALS, SERVICES, APPARATUS, OR DRAWINGS NECESSARY TO COMPLY WITH ALL APPLICABLE LAWS, ORDINANCES, RULES AND REGULATIONS, WHETHER OR NOT SHOWN ON THE DRAWINGS AND SPECIFICATIONS.		E. PANELBOARDS SHALL BE SURFACE OR FLUSH MOUNTED AS SHOWN ON PANEL SCHEDULES AND/OR FLOOR PLANS. PANEL SHALL BE KEYS LIKE TURN OVER ALL KEYS TO OWNER.				
C. ALL MATERIALS FURNISHED AND BY OWNER INSTALLED SHALL COMPLY WITH THE FOLLOWING:		F. PROVIDE TYPED CIRCUIT IDENTIFICATION CARD INSIDE EACH PANEL. BIDE DESCRIPTION ON LOAD SERVED.	A. PROVIDE 75 DEGREE CELSIUS (167 DEGREE FAHRENHEIT) TYPE THW, THW, THWN, OR XHHW INSULATED COPPER CONDUCTORS RATED AT 600V FOR POWER DISTRIBUTION WIRING. CONDUIT WILL BE EQUIPPED WITH RECESSED WIRING DEVICES. FEEDER SCHEDULES ARE BASED ON TYPE THW WIRE UNLESS NOTED OTHERWISE.	E. PROVIDE CONTROL POWER TRANSFORMER INTEGRAL WITH CONTROLLER WHERE NO OTHER SUPPLY OF CONTROL POWER TO CONTROLLER IS INDICATED. PROVIDE CONTROL POWER TRANSFORMER WITH ADEQUATE CAPACITY TO OPERATE CONNECTED PIP, INDICATING AND CONTROL DEVICES.	D. FASTEN SLEEVES SECURELY IN FLOORS AND WALLS SO THEY WILL REMAIN SECURELY IN PLACE WHEN CONCRETE IS POURED OR WHEN OTHER CONSTRUCTION IS BUILT AROUND THEM. TAKE PRECAUTIONS TO PREVENT CONCRETE, PLASTER OR OTHER MATERIALS FROM ENTERING THE SPACE BETWEEN PIPE AND SLEEVE DURING CONSTRUCTION.	
• NATIONAL ELECTRIC CODE 2011 EDITION		G. PROVIDE LAMINATED, ENGRAVED PLASTIC NAMEPLATE WITH WHITE LETTERS STATING PANELBOARD NAME MOUNTED ON FRONT OF EACH PANEL. MOUNT NAMEPLATE WITH METAL FASTENERS. MINIMUM NAMEPLATE SIZE SHALL BE 3" WIDE BY 1-1/2" HIGH WITH 1/2" HIGH ENGRAVED LETTERS. PROVIDE BLACK NAMEPLATE COLOR FOR NORMAL, AND RED NAMEPLATE COLOR FOR EMERGENCY. PROVIDE PANELBOARDS OR COLOR AS REQUIRED TO MEET OWNER'S STANDARD NAMEPLATE COLORS.				
• FLORIDA BUILDING CODE 5TH EDITION (EFFECT 07/01/2015)		2.03 CIRCUIT BREAKERS:	C. ALL NEW CONDUIT USED FOR POWER DISTRIBUTION SHALL CONTAIN AN EQUIPMENT GROUNDING CONDUCTOR. RACEWAY SHALL NOT BE USED IN PLACE OF A GROUNDING CONDUCTOR.	F. COMBINATION CONTROLLER: SWITCH TYPE: FUSED, QUICK MAKE, QUICK-BREAK SWITCH, FACTORY ASSEMBLY WITH CONTROLLER AND ARRANGED TO DISCONNECT IT. PROVIDE REJECTION-TYPE CIRCUIT CLIPS AND AN INTERLOCK TO PREVENT THE CONTROLLER RECOMMENDATION INTERLOCK SWITCH WITH UNIT COVER OR DOOR.	A. ALL PENETRATIONS THROUGH FIRE RATED FLOORS, WALLS AND CEILINGS SHALL BE PROVIDED WITH A U.L. APPROVED FIRE STOP METHOD IN ACCORDANCE WITH THE FLORIDA FIRE PREVENTION CODE 5TH EDITION (EFFECTIVE 01/01/2015).	
• APPLICABLE STATE AND LOCAL CODES		A. CIRCUIT BREAKERS SHALL BE QUICK-MAKE, QUICK-BREAK, THERMAL MAGNETIC MOLDED CASE OF FRAME SIZE, NUMBER OF POLES AND TRIP RATING SHALL BE SHOWN ON THE ELECTRICAL RISER DIAGRAM AND/OR PANEL SCHEDULES. MULTI-POLE BREAKERS SHALL HAVE A SINGLE HANDLE TO TRIP ALL POLES AT ONCE. CIRCUIT BREAKERS SHALL BE FROM THE SAME MANUFACTURER AS THE POWER DISTRIBUTION EQUIPMENT. PROVIDE CIRCUIT BREAKERS WITH GROUND FAULT AND ARC FAULT PROTECTION WHERE REQUIRED.				
• NATIONAL BUREAU OF FIRE UNDERWRITERS		B. PROVIDE TYPED CIRCUIT IDENTIFICATION CARD INSIDE EACH PANEL. BIDE DESCRIPTION ON LOAD SERVED.	D. MC TYPE CABLE SHALL NOT BE USED FOR HOMERUNS TO PANELS.	G. AUXILIARY CONTROL DEVICES SHALL BE FACTORY INSTALLED IN CONTROLLER ENCLOSURE.	3.07 PENETRATIONS	
• REGULATIONS OF THE SERVING UTILITY COMPANIES		2.04 DISCONNECT SWITCHES				
1.03 MEASUREMENTS		A. DISCONNECT SWITCHES SHALL BE U.L. LISTED AND FROM SAME MANUFACTURER AS POWER DISTRIBUTION EQUIPMENT. SWITCH BLADES SHALL BE FULLY VISIBLE IN THE "OFF" POSITION WITH THE DOOR OPEN. ALL CURRENT CARRYING PARTS SHALL BE PLATED TO RESIST CORROSION.	A. THE EXTENT OF WIRING DEVICE WORK IS INDICATED ON THE DRAWINGS. WIRING DEVICES ARE DEFINED AS SINGLE DISCRETE UNITS OF ELECTRICAL DISTRIBUTION SYSTEMS THAT ARE INTENDED TO CARRY ELECTRICAL ENERGY. TYPES INCLUDE, BUT ARE NOT LIMITED TO, THE FOLLOWING:	H. AUTOMATIC SELECTOR SWITCHES: INSTALL IN COVERS OF CONTROLLERS OF MOTORS STARTED AND STOPPED BY AUTOMATIC CONTROL OR INTERLOCKS WITH OTHER EQUIPMENT MAKE CONTROL CONNECTIONS SO ONLY THE MANUAL AND AUTOMATIC POSITIONS FOR SAFETY OF CONTROL DEVICES SUCH "LOW" AND "HIGH" PRESSURE CUT-OUTS, TEMPERATURE CUTOUTS, AND MOTOR OVERLOAD PROTECTORS. MAKE CONTROL CONNECTIONS TO THE NAMEPLATE OF THE CONTROLLER SWITCH TO MORE THAN ONE AUTOMATIC CONTROL DEVICE IN ACCORDANCE WITH MANUFACTURER PROVIDED WIRING DIAGRAM.	A. TESTING: FINAL, TESTS SHALL BE MADE AFTER WORK HAS BEEN COMPLETED. PROVIDE COPY OF FINAL TEST TO GENERAL CONTRACTOR/ARCHITECT. ELECTRICAL ENGINEER WHEN REQUESTED, THE ELECTRICAL CONTRACTOR SHALL CONDUCT REQUIRED OPERATING TESTS) IN THE PRESENCE OF THE ARCHITECT/ELECTRICAL ENGINEER AND OTHER AUTHORIZED PERSONS.	
A. SHOULD THE ELECTRICAL CONTRACTOR DISCOVER ANY DISCREPANCY BETWEEN ACTUAL MEASUREMENTS AND THOSE INDICATED ON THE DRAWINGS, WHICH PREVENTS FOLLOWING GOOD PRACTICE OR THE INTENT OF THE DRAWINGS AND SPECIFICATIONS, HE SHALL NOTIFY THE ARCHITECT/ELECTRICAL ENGINEER THROUGH THE GENERAL CONTRACTOR, AND SHALL NOT PROCEED WITH HIS WORK UNTIL HE HAS RECEIVED INSTRUCTIONS FROM THE ARCHITECT. ALL MEASUREMENTS (PRIOR TO BID) FOR INFORMATION (RFI) SHALL INCLUDE A PROPOSED SOLUTION.		B. PROVIDE WHITE COLORED WIRING DEVICES AND MATCHING THERMOPLASTIC COVERPLATES UNLESS NOTED OTHERWISE. FINAL COLOR SELECTION SHALL BE COORDINATED WITH OWNER/ARCHITECT PRIOR TO BID.				
B. PRIOR TO ROUGH-IN OF EQUIPMENT THE GENERAL CONTRACTOR, ARCHITECT AND ELECTRICAL ENGINEER RESERVE THE RIGHT TO RELOCATE ANY PANELBOARD, DISCONNECT, STARTER, FLOOR BOX, FIXTURE, WIRING DEVICE, COMMUNICATIONS OUTLET, ETC THREE (3) FEET IN ANY DIRECTION WITHOUT ANY ADDITIONAL CHARGE, FEE, OR CHANGE ORDER.		C. QUALITY ASSURANCE	A. NEG COMPLIANCE: COMPLY WITH NEC AS APPLICABLE TO INSTALLATION AND WIRING OF ELECTRICAL WIRING DEVICES.	I. REFER TO THE COMMUNICATIONS RISER DIAGRAM AND ELECTRICAL SYMBOL, LEGEND FOR ADDITIONAL REQUIREMENTS.	B. TESTS SHALL DEMONSTRATE THAT THE SYSTEM FUNCTIONS PROPERLY THROUGHOUT, THAT IT IS FREE FROM GROUNDS AND SHORTS, AND THAT ALL REQUIREMENTS HEREIN HAVE BEEN COMPLIED WITH. ELECTRICAL CONTRACTOR SHALL PROVIDE ALL NECESSARY INSTRUMENTS AND PERSONNEL FOR TESTS AND THE OWNER WILL SUPPLY THE CURRENT. TESTS SHALL BE AS PRESCRIBED BY THE ELECTRICAL ENGINEERING, PLUMBING AND ENGINEER AND SHALL INCLUDE MEGGER TESTS IN ACCORDANCE WITH N.E.C. RECOMMENDATIONS.	
1.04 DRAWINGS		A. DISCONNECT SWITCHES SHALL BE U.L. LISTED AND FROM SAME MANUFACTURER AS POWER DISTRIBUTION EQUIPMENT. SWITCH BLADES SHALL BE FULLY VISIBLE IN THE "OFF" POSITION WITH THE DOOR OPEN. ALL CURRENT CARRYING PARTS SHALL BE PLATED TO RESIST CORROSION.				
A. DRAWINGS ARE DIAGRAMMATIC AND INDICATE THE GENERAL LOCATION OF THE ELECTRICAL AND SPECIAL SYSTEMS WORK INCLUDED IN THE CONTRACT. THE ENTIRE CONSTRUCTION DOCUMENTS PACKAGE (DRAWINGS AND SPECIFICATIONS) SHALL BE EXAMINED FOR EXACT LOCATION OF FIXTURES, DEVICES AND EQUIPMENT, WHERE ITEMS ARE NOT LOCATED BY THE DRAWINGS OR SPECIFICATIONS OF OTHER CONSULTANTS THEN THE ITEMS SHALL BE LOCATED PER THE ENGINEERING DRAWINGS, HOWEVER, THE DRAWINGS ARE NOT TO BE SCALED.		B. PROVIDE WHITE COLORED WIRING DEVICES AND MATCHING THERMOPLASTIC COVERPLATES UNLESS NOTED OTHERWISE. FINAL COLOR SELECTION SHALL BE COORDINATED WITH OWNER/ARCHITECT PRIOR TO BID.	A. NEG COMPLIANCE: COMPLY WITH NEC AS APPLICABLE TO INSTALLATION AND WIRING OF ELECTRICAL WIRING DEVICES.	C. PROVIDE EACH CONDUIT WITH PULL STRING STUBBED FROM BACKBOX INTO ACCESSIBLE CEILING SPACE (I.E. LAY-IN CEILING TILE) ABOVE EACH OUTLET.	3.09 FINAL ACCEPTANCE	
B. ELECTRICAL CONTRACTOR SHALL FOLLOW THE ELECTRICAL DRAWINGS IN LAYING OUT WORK AND SHALL COORDINATE WITH THE DRAWINGS OF OTHER TRADES TO VERIFY SPACES IN WHICH WORK WILL BE INSTALLED. MAINTAIN MAXIMUM HEADROOM AND SPACE AT ALL LOCATIONS WHERE HEADROOM OR SPACE CONDITIONS APPEAR INADEQUATE. THE ARCHITECT/ELECTRICAL ENGINEER SHALL BE NOTIFIED BEFORE PROCEEDING WITH INSTALLATION. ALL REQUESTS FOR INFORMATION (RFI) SHALL INCLUDE A PROPOSED SOLUTION.		C. QUALITY ASSURANCE				
C. IF DIRECTED BY THE ARCHITECT/ELECTRICAL ENGINEER, THE ELECTRICAL CONTRACTOR SHALL, WITHOUT EXTRA CHARGE, MAKE REASONABLE MODIFICATIONS IN THE LOCATIONS OF ELECTRICAL WORK AS NEEDED TO PREVENT CONFLICTS WITH WORK OF OTHER TRADES AND FOR PROPER INSTALLATION OF THE WORK.		D. RIGID GALVANIZED STEEL (RGS) CONDUIT WITH THREADED FITTINGS SHALL BE PROVIDED ABOVE GROUND AT EXPOSED INTERIOR AND EXTERIOR LOCATIONS WHERE CONDUIT MAY BE	A. NEG COMPLIANCE: COMPLY WITH APPLICABLE REQUIREMENTS OF THE FLORIDA STANDARD "RECOMMENDATIONS FOR THE ELECTRICAL POWER SYSTEMS IN COMMERCIAL BUILDINGS", PERTAINING TO ELECTRICAL WIRING SYSTEMS.	D. ROUTE CONDUIT THROUGH RATED WALLS AND FLOORS USING U.L. APPROVED FIRE RATED PENETRATION MATERIALS.	A. AFTER TESTING, A FINAL INSPECTION SHALL BE MADE BY THE GENERAL CONTRACTOR / ARCHITECT, ELECTRICAL ENGINEER AND OTHER AUTHORIZED PERSONS WITH THE ELECTRICAL CONTRACTOR. THE INSPECTION SHALL INCLUDE, BUT NOT BE LIMITED TO, CHECK ALL PANELS ARE COMPLETE WITH NAMEPLATES AND CIRCUIT DIRECTORIES, ALL LIGHTING FIXTURES ARE OPERATING, PROPERLY CLEANED AND LAMPED, AND THAT ALL WORK HAS BEEN PERFORMED IN PROFESSIONAL MANNER.	
1.05 SUBSTITUTION OF SPECIFIED EQUIPMENT		A. PROVIDE A SINGLE, COMPLETE GROUNDING NETWORK FOR THE ENTIRE ELECTRICAL AND SPECIAL SYSTEMS WHICH COMPLIES WITH NEC REQUIREMENTS.				
A. MATERIALS OR PRODUCTS SPECIFIED BY TRADE NAME, MANUFACTURER'S NAME OR CATALOG NUMBER SHALL BE PROVIDED AS SPECIFIED.		B. SERVICE NEUTRAL AND EQUIPMENT GROUND SHALL BE CONNECTED AT ONE POINT INSIDE THE MAIN DISTRIBUTION PANEL. ENCLOSURES SHALL BE PROVIDED WITH A POST FABRICATION APPLIED GRAY ENAMEL FINISH.	4. NEMA COMPLIANCE: COMPLY WITH APPLICABLE PORTIONS OF NEMA STANDARDS PUBLICATION NUMBER WD-1, "GENERAL PURPOSE WIRING DEVICES INCLUDING RECEPTACLES, SWITCHES, AND INTERRUPTERS FOR INCANDESCENT LAMPS", AND WD-5, "SPECIAL PURPOSE WIRING DEVICES".	E. GROUND-FAULT CIRCUIT INTERRUPTERS	3.10 WARRANTY	
B. SUBSTITUTIONS ARE NOT PERMITTED WITHOUT WRITTEN APPROVAL FROM THE ENGINEER (VIA U.L. APPROVED FIRE STOP WORKING DAYS PRIOR TO BID DATE. APPROVALS OF "EQUIVALENT" MATERIALS OR PRODUCTS WILL BE MADE AVAILABLE TO ALL KNOWN BIDDERS AND ISSUED AS AN ADDENDUM (PRIOR TO BID) TO THE CONTRACT DOCUMENTS IF SUBSTITUTED MATERIALS OR PRODUCTS ARE APPROVED BY ARCHITECT/ELECTRICAL ENGINEER.		C. PROVIDE BONDING CONNECTION WITH GROUND BUSHING TO CONDUIT FROM DISTRIBUTION PANEL TO THE BREAKERS AND PANELS SERVED.				
C. ANY CONTRACTOR PROPOSING AN "EQUIVALENT" MATERIAL OR PRODUCT MUST SUBMIT, WITH THE REQUEST, COMPLETE CABLE INFORMATION TO PERMIT EVALUATION OF THE PRODUCT. IN THE CASE OF LIGHTING FIXTURES, AN INDEPENDENT TESTING LABORATORY TEST REPORT (STATING FIXTURE EFFICIENCY AND PERFORMANCE, SHALL ACCOMPANY THE REQUEST.		D. CONNECTIONS TO GROUND RODS SHALL BE MADE WITH EXOTHERMIC WELDS. PROVIDE TEST WELL OVER EACH GROUND ROD.	D. RECEPTACLES	A. ELECTRICAL CONTRACTOR SHALL GIVE FULL COOPERATION TO OTHER TRADES AND SHALL FURNISH IN WRITING TO THE ARCHITECT/ELECTRICAL ENGINEER ANY INFORMATION NEEDED TO PERMIT THE WORK OF OTHER TRADES TO BE INSTALLED SATISFACTORILY AND WITH THE LEAST POSSIBLE INTERFERENCE OR DELAY.	A. ALL PARTS, MATERIALS, EQUIPMENT AND LABOR FURNISHED UNDER THIS SECTION OF THE SPECIFICATIONS SHALL BEAR A ONE YEAR WARRANTY FROM THE DATE OF INSTALLATION. THE WARRANTY SHALL BE VOID IF THE WORK IS NOT DONE IN ACCORDANCE WITH THE SPECIFICATIONS. ELECTRICAL CONTRACTOR SHALL PROVIDE ALL NECESSARY INSTRUMENTS AND PERSONNEL FOR TESTS AND THE OWNER WILL SUPPLY THE CURRENT. TESTS SHALL BE AS PRESCRIBED BY THE ELECTRICAL ENGINEERING, PLUMBING AND ENGINEER AND SHALL INCLUDE MEGGER TESTS IN ACCORDANCE WITH N.E.C. RECOMMENDATIONS.	
1.06 SHOP DRAWINGS		A. WIRING FOR POWER DISTRIBUTION SHALL BE INSTALLED IN RIGID METALLIC (GALVANIZED STEEL) CONDUIT (RMC), INTERMEDIATE METAL CONDUIT (IMC), ELECTRICAL METALLIC TUBING (EMT), FLEXIBLE METAL CONDUIT OR SCHEDULE 40/80 PVC CONDUIT. PROVIDE THE CONDUIT TYPE INDICATED IN THIS SPECIFICATION WHERE CONDUIT TYPE IS NOT NOTED ON THE DRAWINGS.				
A. DRAWINGS ARE DIAGRAMMATIC AND INDICATE THE GENERAL LOCATION OF THE ELECTRICAL AND SPECIAL SYSTEMS WORK INCLUDED IN THE CONTRACT. THE ENTIRE CONSTRUCTION DOCUMENTS PACKAGE (DRAWINGS AND SPECIFICATIONS) SHALL BE EXAMINED FOR EXACT LOCATION OF FIXTURES, DEVICES AND EQUIPMENT, WHERE ITEMS ARE NOT LOCATED BY THE DRAWINGS OR SPECIFICATIONS OF OTHER CONSULTANTS THEN THE ITEMS SHALL BE LOCATED PER THE ENGINEERING DRAWINGS, HOWEVER, THE DRAWINGS ARE NOT TO BE SCALED.		B. SERVICE NEUTRAL AND EQUIPMENT GROUND SHALL BE CONNECTED AT ONE POINT INSIDE THE MAIN DISTRIBUTION PANEL. ENCLOSURES SHALL BE PROVIDED WITH A POST FABRICATION APPLIED GRAY ENAMEL FINISH.	E. GROUND-FAULT CIRCUIT INTERRUPTERS	A. ELECTRICAL CONTRACTOR SHALL GIVE FULL COOPERATION TO OTHER TRADES AND SHALL FURNISH IN WRITING TO THE ARCHITECT/ELECTRICAL ENGINEER ANY INFORMATION NEEDED TO PERMIT THE WORK OF OTHER TRADES TO BE INSTALLED SATISFACTORILY AND WITH THE LEAST POSSIBLE INTERFERENCE OR DELAY.	A. ALL PARTS, MATERIALS, EQUIPMENT AND LABOR FURNISHED UNDER THIS SECTION OF THE SPECIFICATIONS SHALL BEAR A ONE YEAR WARRANTY FROM THE DATE OF INSTALLATION. THE WARRANTY SHALL BE VOID IF THE WORK IS NOT DONE IN ACCORDANCE WITH THE SPECIFICATIONS. ELECTRICAL CONTRACTOR SHALL PROVIDE ALL NECESSARY INSTRUMENTS AND PERSONNEL FOR TESTS AND THE OWNER WILL SUPPLY THE CURRENT. TESTS SHALL BE AS PRESCRIBED BY THE ELECTRICAL ENGINEERING, PLUMBING AND ENGINEER AND SHALL INCLUDE MEGGER TESTS IN ACCORDANCE WITH N.E.C. RECOMMENDATIONS.	
B. ELECTRICAL CONTRACTOR SHALL FOLLOW THE ELECTRICAL DRAWINGS IN LAYING OUT WORK AND SHALL COORDINATE WITH THE DRAWINGS OF OTHER TRADES TO VERIFY SPACES IN WHICH WORK WILL BE INSTALLED. MAINTAIN MAXIMUM HEADROOM AND SPACE AT ALL LOCATIONS WHERE HEADROOM OR SPACE CONDITIONS APPEAR INADEQUATE. THE ARCHITECT/ELECTRICAL ENGINEER SHALL BE NOTIFIED BEFORE PROCEEDING WITH INSTALLATION. ALL REQUESTS FOR INFORMATION (RFI) SHALL INCLUDE A PROPOSED SOLUTION.		C. PROVIDE BONDING CONNECTION WITH GROUND BUSHING TO CONDUIT FROM DISTRIBUTION PANEL TO THE BREAKERS AND PANELS SERVED.				
C. ANY CONTRACTOR PROPOSING AN "EQUIVALENT" MATERIAL OR PRODUCT MUST SUBMIT, WITH THE REQUEST, COMPLETE CABLE INFORMATION TO PERMIT EVALUATION OF THE PRODUCT. IN THE CASE OF LIGHTING FIXTURES, AN INDEPENDENT TESTING LABORATORY TEST REPORT (STATING FIXTURE EFFICIENCY AND PERFORMANCE, SHALL ACCOMPANY THE REQUEST.		D. CONNECTIONS TO GROUND RODS SHALL BE MADE WITH EXOTHERMIC WELDS. PROVIDE TEST WELL OVER EACH GROUND ROD.	A. NEG COMPLIANCE: COMPLY WITH APPLICABLE PORTIONS OF NEMA STANDARDS PUBLICATION NUMBER WD-1, "GENERAL PURPOSE WIRING DEVICES INCLUDING RECEPTACLES, SWITCHES, AND INTERRUPTERS FOR INCANDESCENT LAMPS", AND WD-5, "SPECIAL PURPOSE WIRING DEVICES".	B. WHERE ELECTRICAL WORK WILL BE INSTALLED IN CLOSE PROXIMITY TO, OR MAY INTERFERE WITH WORK OF OTHER TRADES THE CONTRACTORS SHALL ASSIST EACH OTHER IN WORKING OUT A WORKABLE SOLUTION. THE CONTRACTORS SHALL BE RESPONSIBLE FOR THE WORK OF OTHER TRADES. THE CONTRACTORS SHALL BE RESPONSIBLE FOR THE WORK OF OTHER TRADES. THE CONTRACTORS SHALL BE RESPONSIBLE FOR THE WORK OF OTHER TRADES. THE CONTRACTORS SHALL BE RESPONSIBLE FOR THE WORK OF OTHER TRADES. THE CONTRACTORS SHALL BE RESPONSIBLE FOR THE WORK OF OTHER TRADES. THE CONTRACTORS SHALL BE RESPONSIBLE FOR THE WORK OF OTHER TRADES. THE CONTRACTORS SHALL BE RESPONSIBLE FOR THE WORK OF OTHER TRADES. THE CONTRACTORS SHALL BE RESPONSIBLE FOR THE WORK OF OTHER TRADES. THE CONTRACTORS SHALL BE RESPONSIBLE FOR THE WORK OF OTHER TRADES. THE CONTRACTORS SHALL BE RESPONSIBLE FOR THE WORK OF OTHER TRADES. THE CONTRACTORS SHALL BE RESPONSIBLE FOR THE WORK OF OTHER TRADES. THE CONTRACTORS SHALL BE RESPONSIBLE FOR THE WORK OF OTHER TRADES. THE CONTRACTORS SHALL BE RESPONSIBLE FOR THE WORK OF OTHER TRADES. THE CONTRACTORS SHALL BE RESPONSIBLE FOR THE WORK OF OTHER TRADES. THE CONTRACTORS SHALL BE RESPONSIBLE FOR THE WORK OF OTHER TRADES. THE CONTRACTORS SHALL BE RESPONSIBLE FOR THE WORK OF OTHER TRADES. THE CONTRACTORS SHALL BE RESPONSIBLE FOR THE WORK OF OTHER TRADES		