

# ACCESSIBILITY IMPROVEMENTS MULTIPLE GROUP CAMP ASSETS CROWDER STATE PARK TRENTON, MISSOURI

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OWNER:

STATE OF MISSOURI  
MIKE KEHOE,  
GOVERNOR

DEPARTMENT OF  
NATURAL RESOURCES  
MISSOURI STATE PARKS

PROJECT  
MANAGEMENT:

OFFICE OF ADMINISTRATION  
DIVISION OF FACILITIES  
MANAGEMENT,  
DESIGN AND CONSTRUCTION



DESIGNER:

BBN ARCHITECTS, INC.  
411 NICHOLS RD., STE 246  
KANSAS CITY, MO 64112

SMITH & BOUCHER ENGINEERS  
25618 W 103RD ST  
OLATHE, KS 66061

LEIGH & O'KANE  
209 SE DOUGLAS ST  
LEE'S SUMMIT, MO 64063



PROJECT NUMBER: X2534-01

SITE NUMBER: 5107

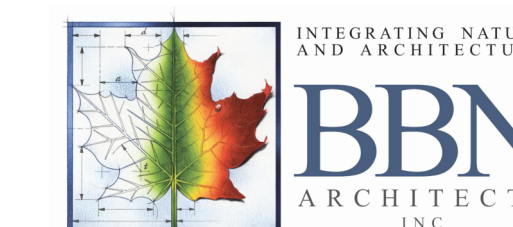
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7815107005  
7815107007  
7815107008  
7815107009  
7815107010  
7815107011  
7815107012  
7815107013  
7815107022  
7815107023  
7815107048



SHEET NUMBER:

**G-1**

1 OF 39 SHEETS  
FEBRUARY 04, 2026



OFFICE OF ADMINISTRATION  
DIVISION OF FACILITIES  
MANAGEMENT,  
DESIGN AND CONSTRUCTION  
DEPARTMENT OF  
NATURAL RESOURCES  
MISSOURI STATE PARKS

ACCESSIBILITY IMPROVEMENTS  
MULTIPLE GROUP CAMP ASSETS

CROWDER STATE PARK  
76 NORTHWEST HWY 128  
TRENTON, MISSOURI

PROJECT # X2534-01  
SITE # 5107  
ASSET # 7815107001 7815107013  
7815107005 7815107022  
7815107007 7815107023  
7815107008 7815107048  
7815107009  
7815107010  
7815107011  
7815107012

REVISION: \_\_\_\_\_  
DATE: \_\_\_\_\_  
REVISION: \_\_\_\_\_  
DATE: \_\_\_\_\_  
REVISION: \_\_\_\_\_  
DATE: \_\_\_\_\_

ISSUE DATE: 02/04/2026

CAD DWG FILE: G-2  
DRAWN BY: LF  
CHECKED BY: AM  
DESIGNED BY: LF/AM

SHEET TITLE:  
**GENERAL  
INFORMATION**

SHEET NUMBER:

**G-2**

2 OF 39 SHEETS  
02/04/2026

**BUILDING CODE INFORMATION**

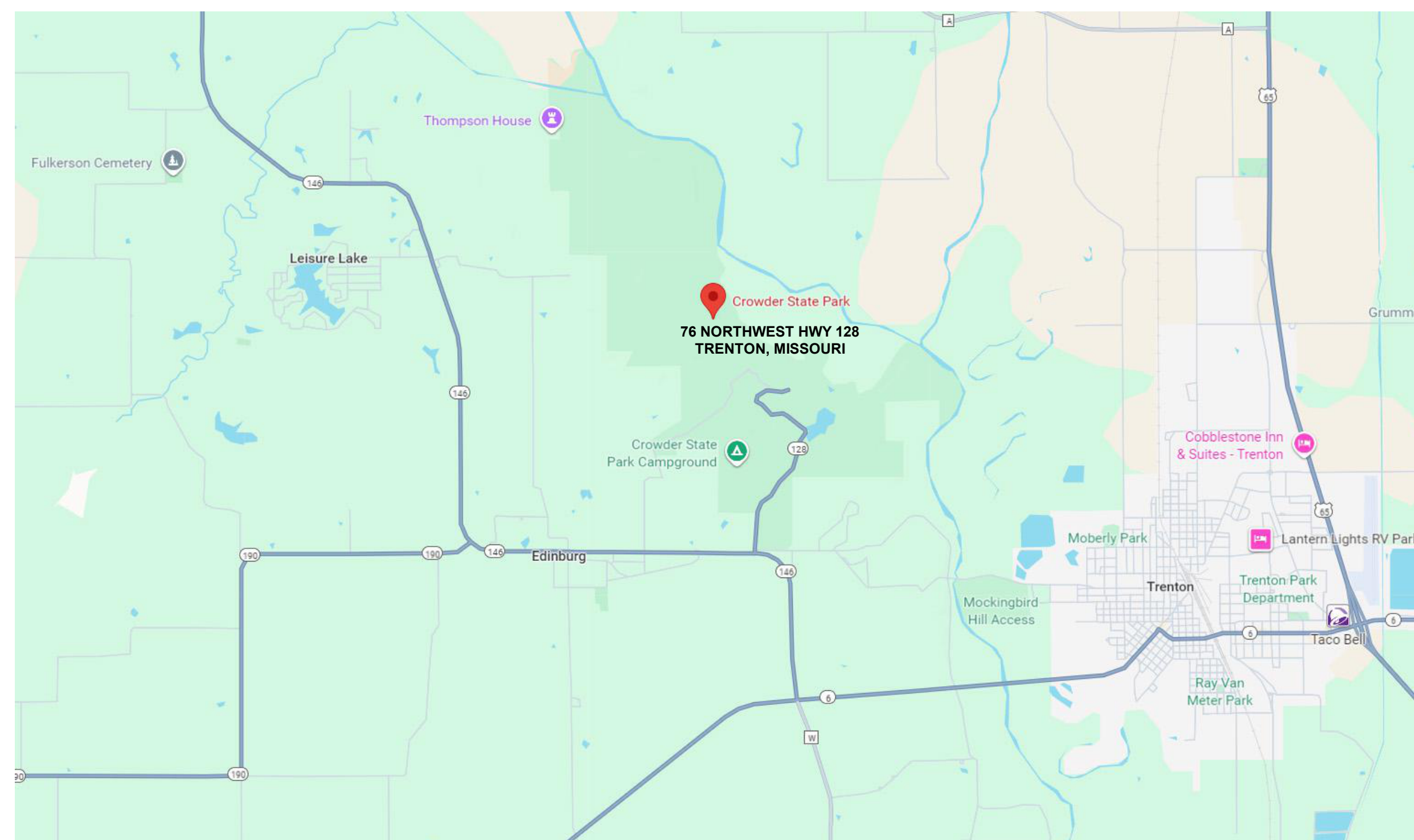
USE GROUP CLASSIFICATION: ASSEMBLY / UTILITY  
CONSTRUCTION TYPE: V-B  
SEISMIC DESIGN CATEGORY B: LOW HAZARD

**GENERAL NOTES:**

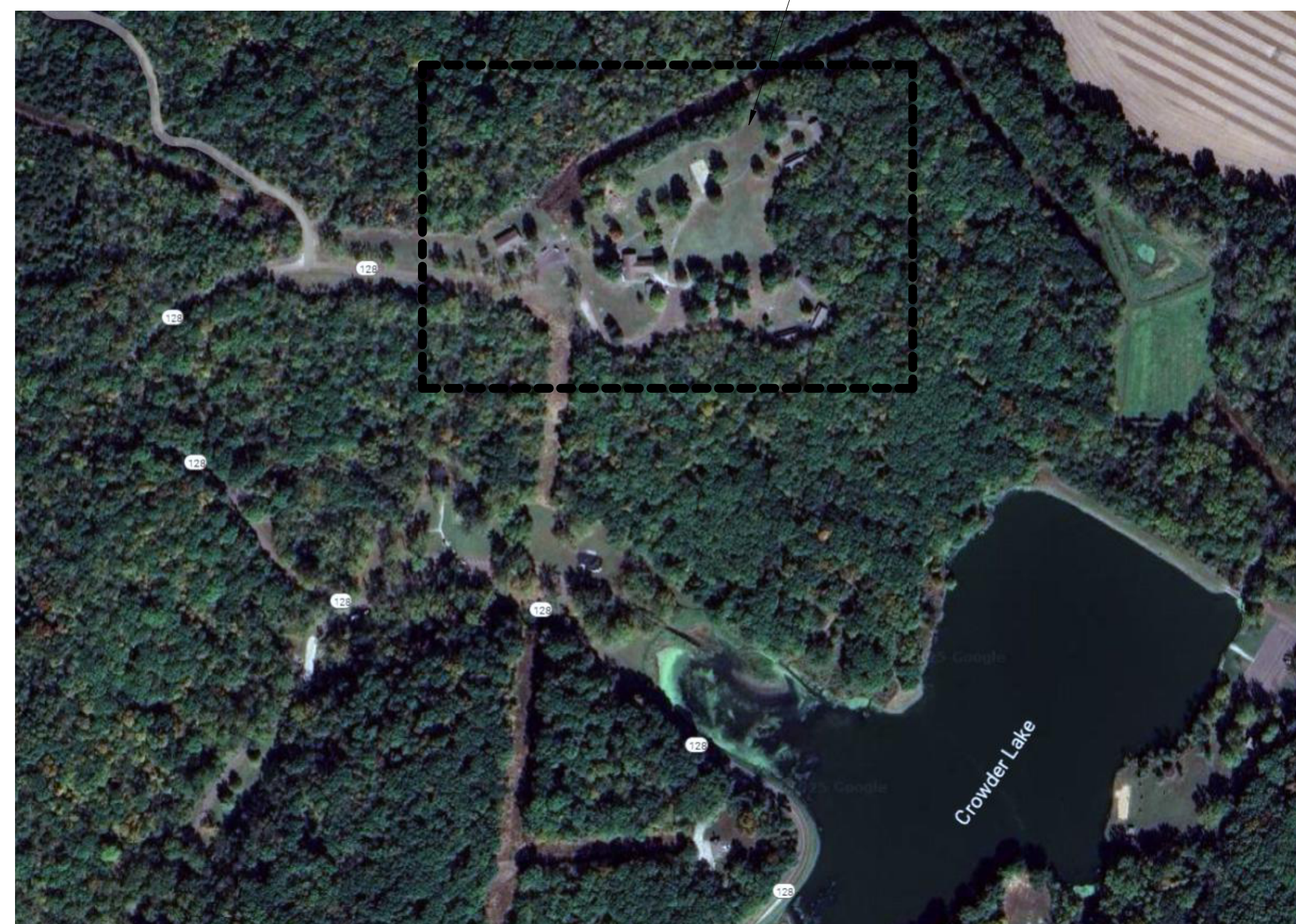
- GENERAL NOTES APPLY TO ALL DRAWINGS & DETAILS.
- ALL WORK SHALL CONFORM WITH APPLICABLE BUILDING CODES, REGULATIONS, AND ORDINANCES. CONTRACTOR SHALL OBTAIN ALL REQUIRED PERMITS.
- DESIGN DOCUMENTS HAVE BEEN PREPARED DESCRIBING GENERAL REQUIREMENTS FOR WORK AT THE EXISTING SITE. IDENTIFICATION OF EXISTING CONDITIONS, SHOWN ON THE PLANS, IS BASED ON A GENERAL REVIEW OF EXISTING CONDITIONS. THE CONTRACTOR SHALL VERIFY EXISTING CONDITIONS PRIOR TO PROCEEDING WITH CONSTRUCTION AND NOTIFY THE ARCHITECT OF ANY DISCREPANCIES.
- CONTRACTOR SHALL VERIFY ALL LAYOUT DIMENSIONS AND NOTIFY THE ARCHITECT OF ANY DISCREPANCIES PRIOR TO PROCEEDING WITH CONSTRUCTION.
- CONTRACTOR SHALL COORDINATE THE WORK WITH THE INSTALLATION OF ALL EQUIPMENT/TRADES SHOWN ON THE PLANS.
- CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR MEANS, METHODS, AND SEQUENCES OF CONSTRUCTION AND THE SAFETY OF ALL CONSTRUCTION PERSONNEL AND AUTHORIZED VISITORS TO THE PROJECT SITE.
- WHERE DISCREPANCIES EXIST IN THE DOCUMENTS THE MOST STRINGENT SHALL APPLY.
- PATCH, FINISH AND REPAINT ANY WALLS, FLOOR AND CEILINGS DAMAGED OR REMOVED DURING CONSTRUCTION.
- REMOVE AND DISPOSE OF ALL EXISTING FIXTURES, CASEWORK, PARTITIONS, CEILINGS, INSULATION, AND ALL OTHER FINISHES REQUIRED PRIOR TO RENOVATION WORK.
- PRIOR TO DEMOLITION OR ANY CONSTRUCTION ACTIVITIES, PROVIDE OWNER WITH SCHEDULE OF CONSTRUCTION AND LEAD TIMES FOR ALL EQUIPMENT AND PRODUCTS.
- CONDUCT WALKTHROUGH WITH OWNER TO COORDINATE ALL ITEMS TO BE SALVAGED BY OWNER, AS WELL AS ITEMS TO BE SALVAGED DURING DEMOLITION AND TURNED OVER TO OWNER PRIOR TO REMOVAL OF ANY ITEMS.
- IT IS ANTICIPATED THAT THE OWNER WILL OCCUPY THE BUILDINGS AND SITE THROUGHOUT CONSTRUCTION. COOPERATE WITH OWNER TO MINIMIZE CONFLICTS, AND TO FACILITATE OWNER'S OPERATIONS. CONDUCT AND COORDINATE SELECTIVE DEMOLITION AND ALL CONSTRUCTION SO OWNER'S OPERATIONS WILL NOT BE DISRUPTED, AND COORDINATE PHASING REQUIREMENTS WITH THE OWNER.
- THE CONTRACTOR MUST CALL THE APPROPRIATE UTILITY COMPANIES TO REQUEST EXACT FIELD OF UTILITIES. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO LOCATE ALL EXISTING UTILITIES, WHICH CONFLICT WITH NEW IMPROVEMENTS SHOWN ON THE PLANS. CONTRACTOR IS RESPONSIBLE FOR ALL DAMAGED UTILITIES
- INSPECTIONS ARE TO BE COORDINATED AND PAID FOR BY THE CONTRACTOR.

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C-2	SITE UTILITY PROFILES
C-3	SITE DETAILS
EC-1	EROSION CONTROL
D-1	DEMOLITION PLAN
L-1	SITE PLAN
L-2	LAYOUT AND GRADING PLAN
L-3	ACCESSIBLE ROUTES
L-4	BUILDING ENTRY ENLARGEMENTS
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A-2	CABIN FLOOR PLAN (1)
A-3	CABIN FLOOR PLAN (2)
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PROJECT LOCATION



# ABBREVIATIONS:

THE FOLLOWING LIST OF ABBREVIATIONS MAY BE USED IN THE CONTRACT DOCUMENT DRAWINGS.

&	AND	MAX.	LIGHTWEIGHT CONCRETE
∠	ANGLE	MECH.	MECHANICAL
@	AT	MFG.	MANUFACTURING
∅	DIAMETER	MFR.	MANUFACTURER
#	NUMBER OR POUND	MIN.	MINIMUM
		MIR.	MIRROR/MIRRORED
ACUST.	ACOUSTICAL	MISC.	MISCELLANEOUS
ADJ.	ADJUSTABLE	MTD.	MOUNTED
A.F.F.	ABOVE FINISHED FLOOR	MTL.	METAL
ALUM.	ALUMINUM	N/A	NOT APPLICABLE
APPROX.	APPROXIMATE	N.I.C.	NOT IN CONTRACT
ARCH.	ARCHITECTURAL	NO.	NUMBER
		NOM.	NOMINAL
BD.	BOARD	N.P.S.	NOMINAL PIPE STANDARD
BLDG.	BUILDING	N.T.S.	NOT TO SCALE
BLKG.	BLOCKING	O.C.	ON CENTER
B.O.	BOTTOM OF	O.D.	OUTSIDE DIAMETER/DIMENSION
BRG.	BEARING	O.H.	OPOSITE HAND
B.S.	BOTH SIDES	OPNG.	OPENING
		OVHD.	OVERHEAD
⊕	CENTERLINE	OZ.	OUNCE
CH.	CHANNEL	P.J.	PRECAST JOINT
C.J.	CONTROL JOINT	PL.	PLATE
CLG.	CEILING	PLBG.	PLUMBING
C.M.U.	CONCRETE MASONRY UNIT	PLYWD.	PLYWOOD
COL.	COLUMN	POL.	POLISHED
CONC.	CONCRETE	PR.	PAIR
CONN.	CONNECTION	PT.	POINT
CONSTR.	CONSTRUCTION	PTD.	PAINTED
CONT.	CONTINUOUS		
CONTR.	CONTRACTOR	QTY.	QUANTITY
CTR.	CENTER	R	RISER OR RADIUS
		R.C.P.	REFLECTED CEILIN PLAN
DBL.	DOUBLE	RE.	REFERENCE
DIA.	DIAMETER	REINF.	CONNECTION
DIM.	DIMENSION	REQ'D.	REQUIRED
DN.	DOWN	REV.	REVISION OR REVERSED
DR.	DOOR	RM.	ROOM
DWG.	DRAWING	R.O.	ROUGH OPENING
		S.C.	SCHEDULE
EA.	EACH	S.S.	SCHEDULE SECTION
EF.	EACH FACE	S.F.	SQUARE FOOT
EL.	ELEVATION	SHT.	SHEET
ELEC.	ELECTRICAL	SIM.	SIMILAR
ELEV.	ELEVATOR	SPEC.	SPECIFICATION(S)
EQ.	EQUAL	SP. HD.	SPRINKLER HEAD
EQUIP.	EQUIPMENT	SQ.	SQUARE
ES.	EACH SIDE	S.S.	STAINLESS STEEL
EXP.	EXPANSION	STD.	STANDARD
EXIST.	EXISTING	STL.	STEEL
EXT.	EXTERIOR	STO.	STORAGE
E.W.	EACH WAY	STRUCT.	STRUCTURAL
		SQ. YD.	SQUARE YARD
F.B.O.	FURNISHED BY OWNER	SYS.	SYSTEM
F.E.	FIRE EXTINGUISHER WITH CABINET	T	TREAD
FIN.	FINISH	TEL.	TELEPHONE
FL.	FLOOR	TEMP.	TEMPORARY
F.O.F.	FACE OF FINISH	T.O.	TEMPORARY
F.O.S.	FACE OF STUD	T.O.D.	TOP OF
FR.	FRAME	T.O.S.	TOP OF SLAB/STEEL
FT.	FOOT OR FEET	T.O.W.	TOP OF WALL
FURR.	FURRING	TV.	TELEVISION
		TYP.	TYPICAL
GA.	GUAGE	U.N.O.	UNLESS OTHERWISE NOTED
GALV.	GALVANIZED	VERT.	VERTICAL
GL.	GLASS	W/	WITH
G.S.	GROUT SOLID	W/I	WITHIN
GYP. BD.	GYPNUM BOARD	W/O	WITHOUT
		WD.	WOOD
HDW.	HARDWARE	WDW.	WINDOW
HDWD.	HARDWOOD	WT.	WEIGHT
H.M.	HOLLOW METAL		
HORIZ.	HORIZONTAL		
HT.	HEIGHT		
LD.	INSIDE DIAMETER/DIMENSION		
IN.	INCH		
INFO.	INFORMATION		
INSUL.	INSULATION		
INT.	INTERIOR		
L	LONG/LENGTH		
LT. (LTG.)	LIGHT/LIGHTING		
L.W.C.	MAXIMUM		

# MATERIAL IDENTIFICATION KEY:

	CONCRETE
	CONCRETE MASONRY UNITS
	PRECAST CONCRETE
	EARTH
	STEEL
	DISCONTINUOUS LUMBER
	CONTINUOUS LUMBER
	RIGID INSULATION
	BLANKET INSULATION
	GYPNUM BOARD
	PLYWOOD
	FINISHED WOOD
	GRANULAR FILL
	METAL STUD FRAMING
	WOOD STUD FRAMING

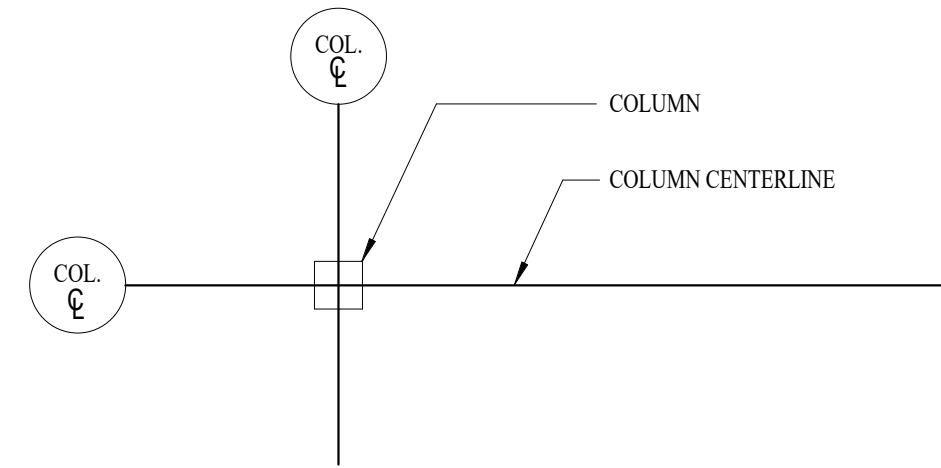
# DIMENSIONING CRITERIA:

ALL DRAWINGS ARE INTENDED TO BE COMPLIANT. NOTIFY THE ARCHITECT OF ANY DIMENSIONING DISCREPANCY PRIOR TO PROCEEDING.

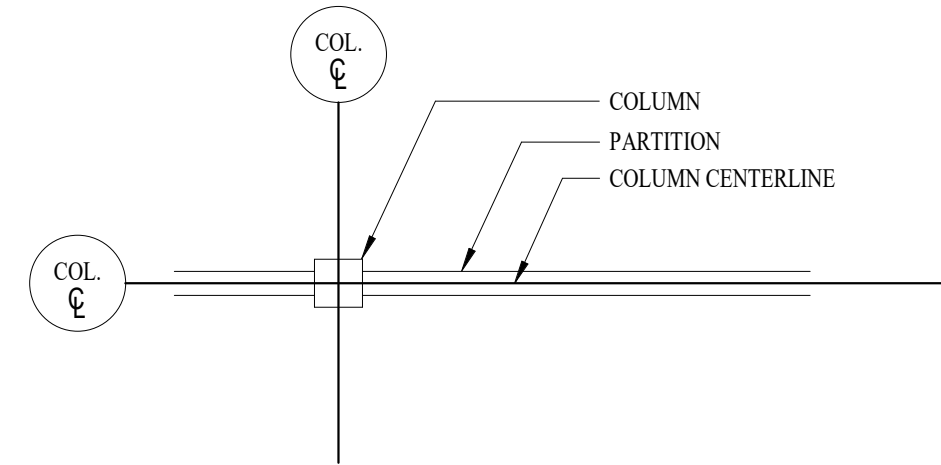
DIMENSIONS ARE AS IDENTIFIED ON THE DOCUMENTS AND AS ESTABLISHED BY CRITERIA. THIS INVOLVES ESTABLISHING TYPICAL RULES GOVERNING PARTITION LOCATIONS AND THEN DIMENSIONING ONLY THE EXCEPTION TO THESE RULES. TYPICAL DIMENSIONING CRITERIA ARE OUTLINED BELOW.

COLUMN IDENTIFICATION DETAILS WILL GOVERN ALL DIMENSIONS AND FEW DIMENSIONS WILL BE SHOWN ON THE SMALL SCALE PLANS.

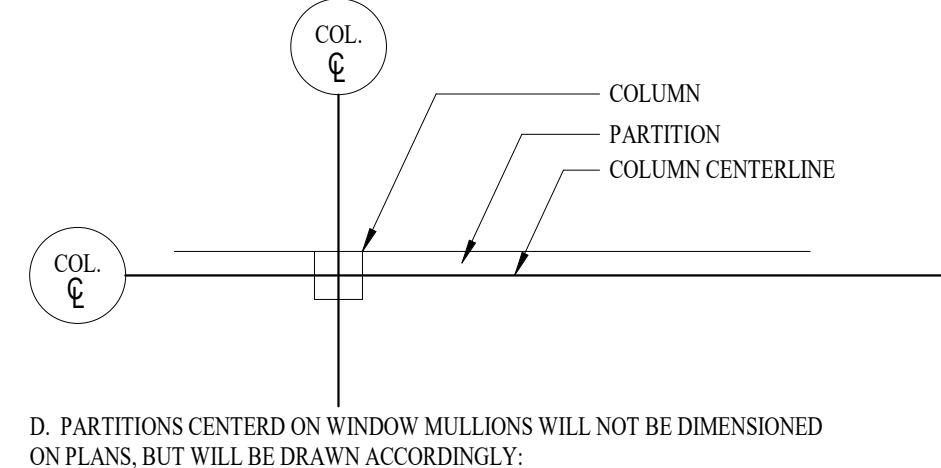
## A. COLUMN GRIDS ARE DRAWN ACCORDINGLY:



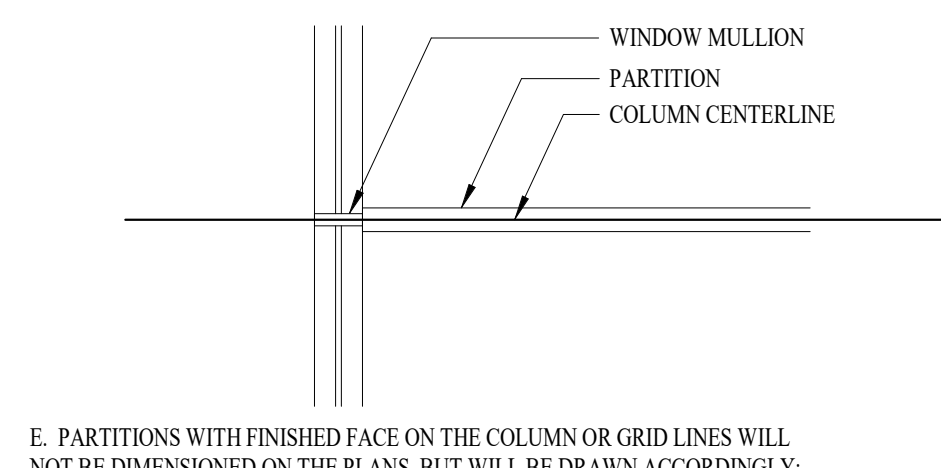
## B. PARTITIONS CENTERED ON COLUMN OR GRID LINES WILL NOT BE DIMENSIONED ON THE PLANS, BUT DRAWN ACCORDINGLY:



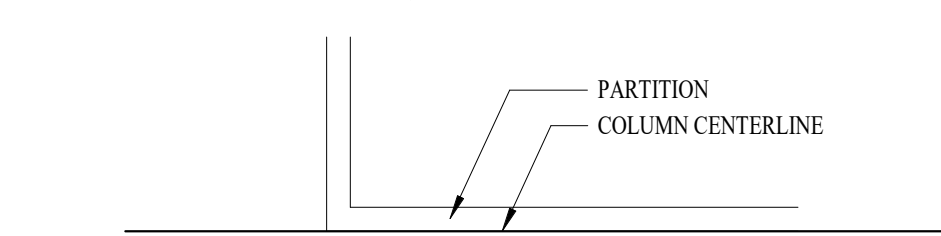
## C. PARTITIONS WITH THE FINISHED FACE FLUSH WITH THE COLUMN OR GRID LINE WILL NOT BE DIMENSIONED ON THE PLANS, BUT WILL BE DRAWN ACCORDINGLY:



## D. PARTITIONS CENTER ON WINDOW MULLIONS WILL NOT BE DIMENSIONED ON PLANS, BUT WILL BE DRAWN ACCORDINGLY:

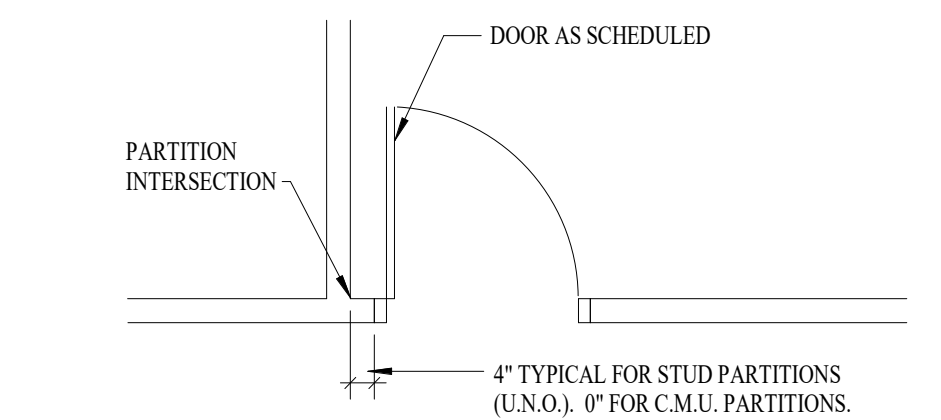


## E. PARTITIONS WITH FINISHED FACE ON THE COLUMN OR GRID LINES WILL NOT BE DIMENSIONED ON THE PLANS, BUT WILL BE DRAWN ACCORDINGLY:

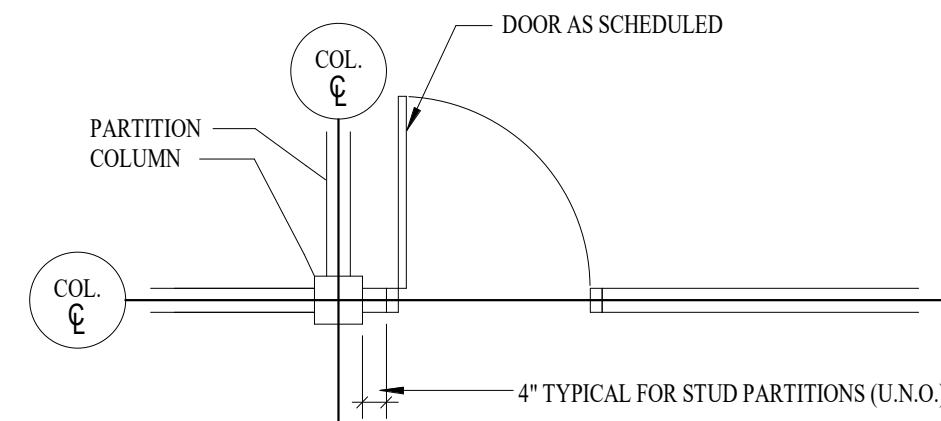


## F. FOR OPENINGS IN PARTITIONS OR WALLS:

1. WHEN ONE OCCURS AT A COLUMN OR GRID LINE, NO DIMENSIONS WILL BE SHOWN ON THE PLANS. THE OPENING WIDTH WILL BE ESTABLISHED BY EITHER CRITERIA OR SCHEDULES.
2. WHEN NEITHER JAMB OCCURS AT A PARTITION INTERSECTION, AT A COLUMN OR GRID LINE, ONE JAMB WILL BE LOCATED DIMENSIONALLY BY THE DETAIL.
3. WHEN ONE JAMB IS LOCATED BY AN INTERSECTING PARTITION, THE FOLLOWING DIAGRAM APPLIES:



4. WHEN ONE JAMB IS LOCATED BY A COLUMN, THE FOLLOWING DIAGRAM APPLIES:

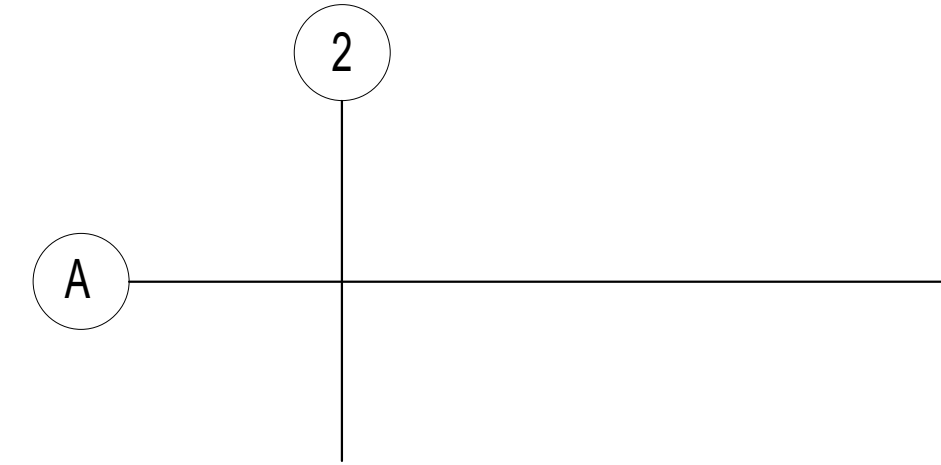


G. STUD PARTITIONS ARE DIMENSIONED FROM THE FACE OF ONE UNIT TO THE FACE OF ANOTHER UNIT. AT EXTERIOR WALLS DIMENSIONS ARE FROM FACE OF SHEATHING TO FACE OF ANOTHER UNIT.

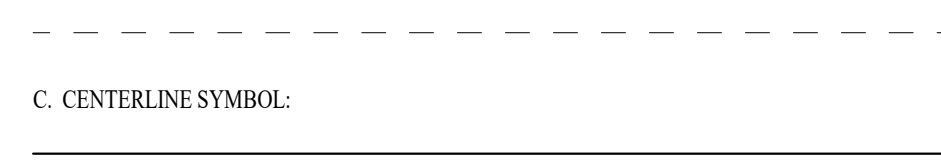
H. MASONRY PARTITIONS ARE DIMENSIONED FROM THE NOMINAL FACE OF C.M.U., BRICK OR STONE TO THE FACE OF ANOTHER UNIT.

# GRAPHIC SYMBOLS/STANDARDS:

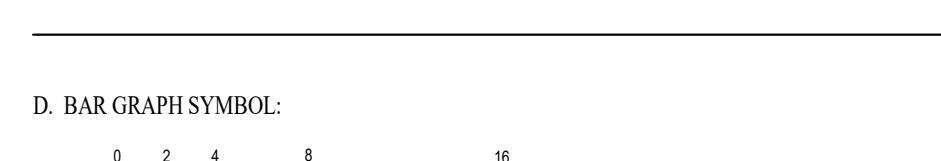
## A. COLUMN AND/OR GRID LINES:



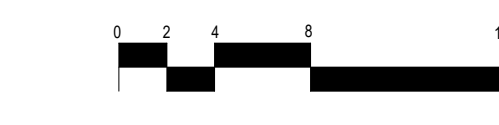
## B. FLOOR PLAN MATCHLINE SYMBOL:



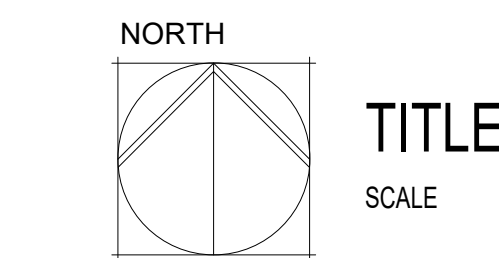
## C. CENTERLINE SYMBOL:



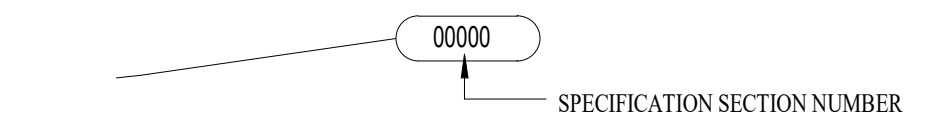
## D. BAR GRAPH SYMBOL:



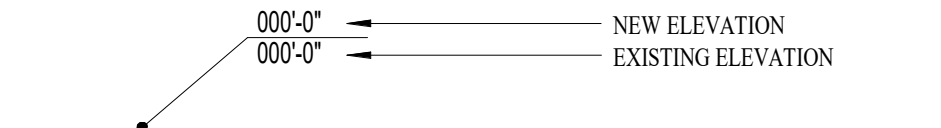
## E. NORTH ARROW:



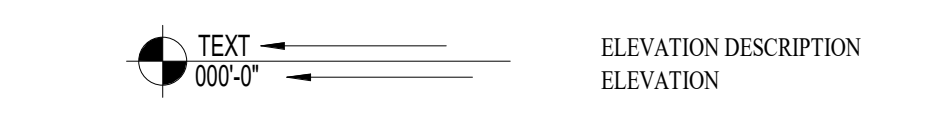
## F. SPECIFICATION SECTION REFERENCE SYMBOL:



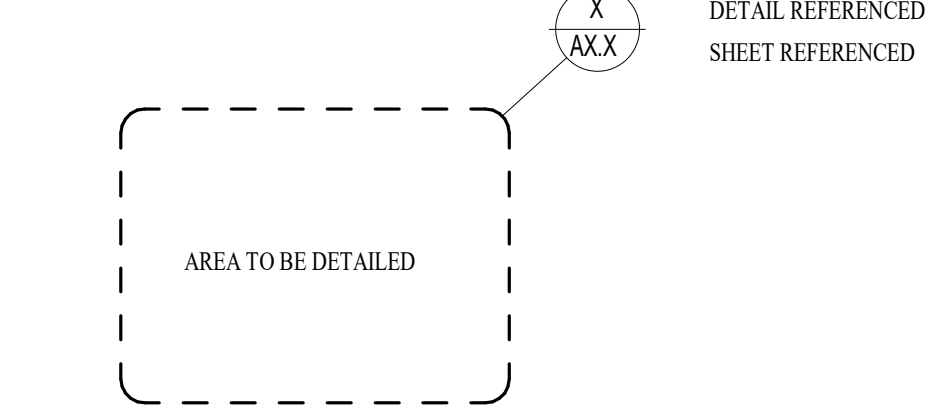
## G. SPOT ELEVATION SYMBOL:



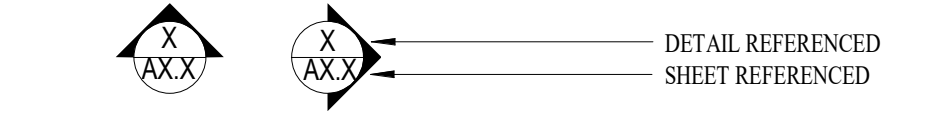
## H. ELEVATION REFERENCE SYMBOL:



## I. DETAIL REFERENCE SYMBOL:



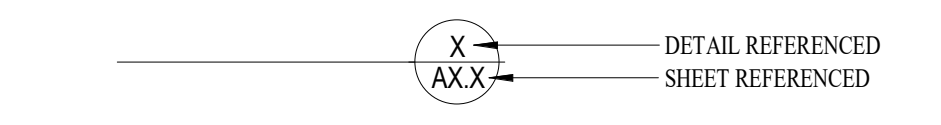
## J. INTERIOR ELEVATION REFERENCE SYMBOL:



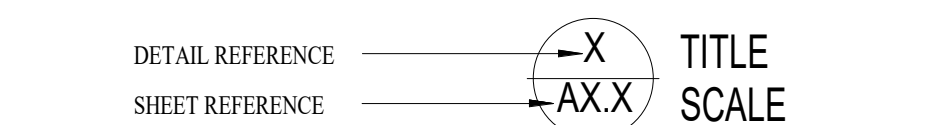
## K. BUILDING SECTION REFERENCE SYMBOL:



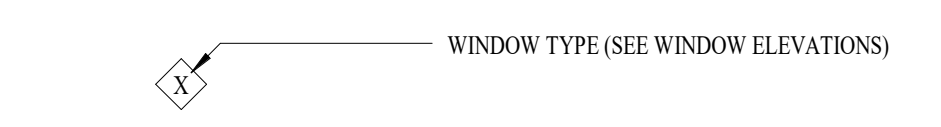
## L. DETAIL REFERENCE SYMBOL:



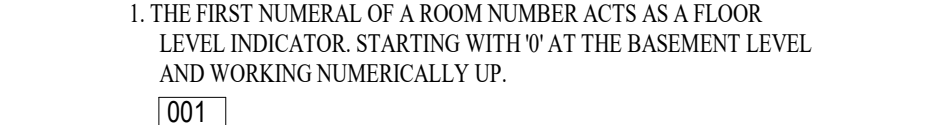
## M. DETAIL REFERENCE SYMBOL:



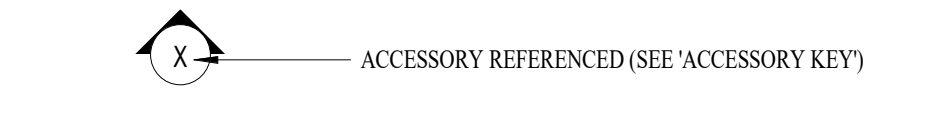
## N. DOOR REFERENCE SYMBOL:



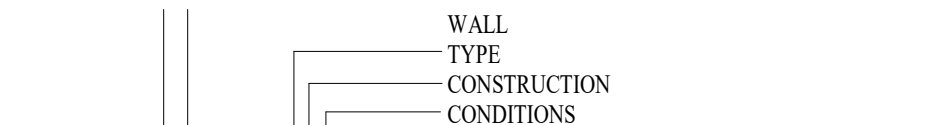
## O. ROOM NUMBER/NAME SYMBOL:



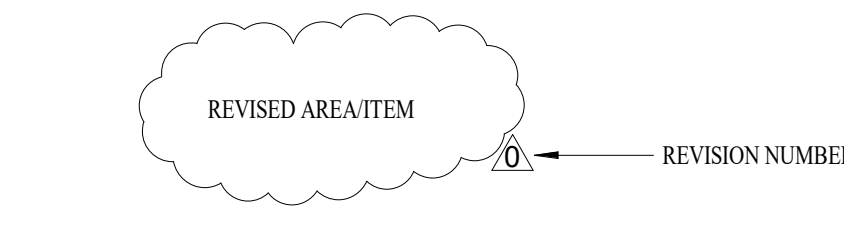
## P. ACCESSORY REFERENCE SYMBOL:



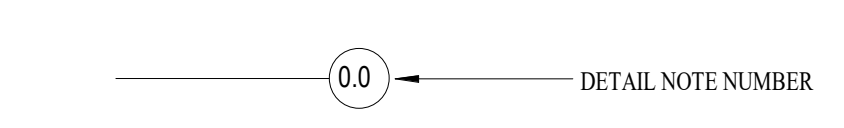
## Q. WALL PARTITION TYPE SYMBOL: (SEE WALL PARTITION TYPES)



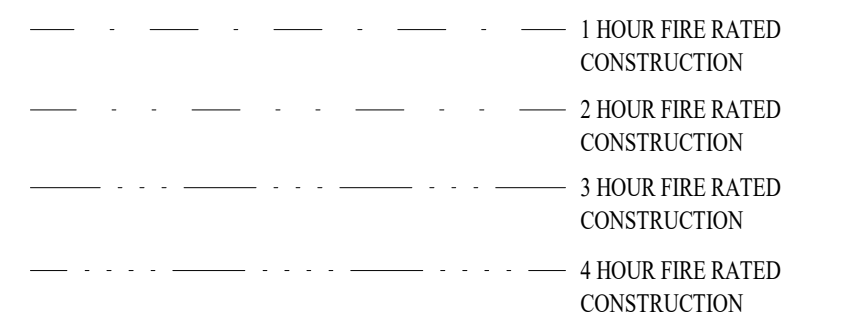
## R. REVISIONS SYMBOLS:



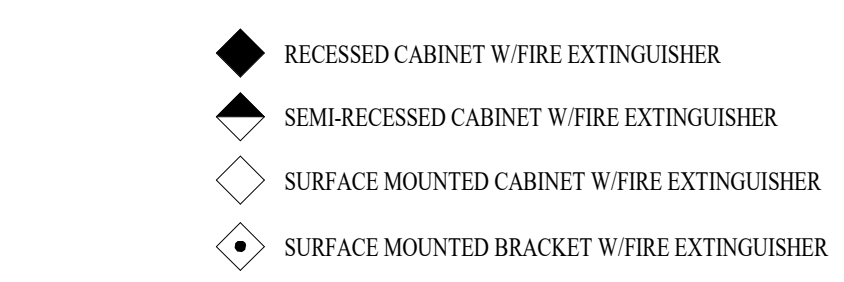
## S. DETAIL NOTE SYMBOL:



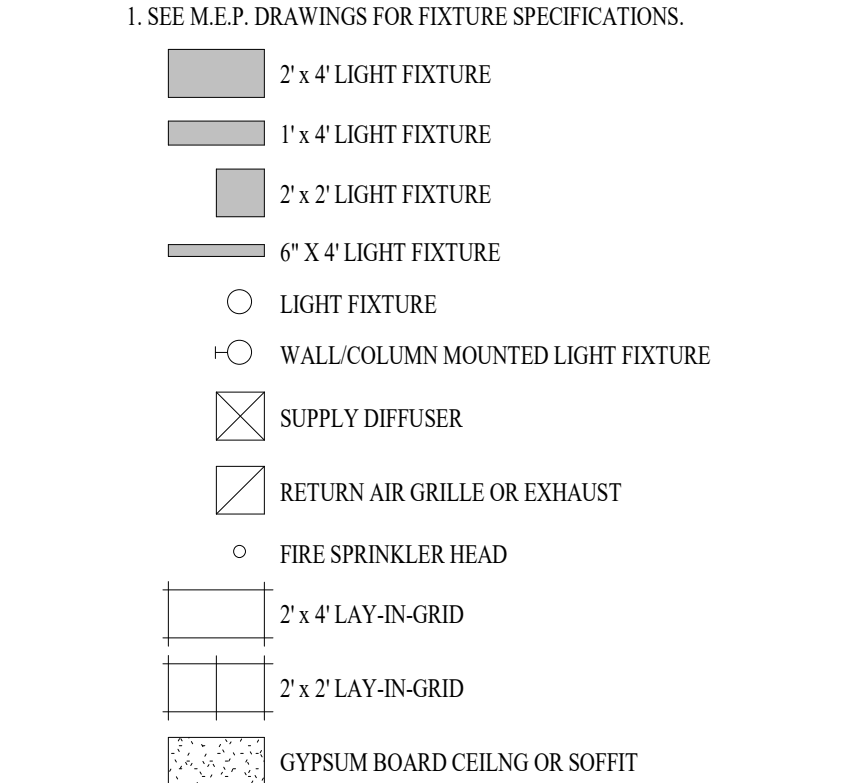
## T. RATED WALL CONSTRUCTION SYMBOLS:



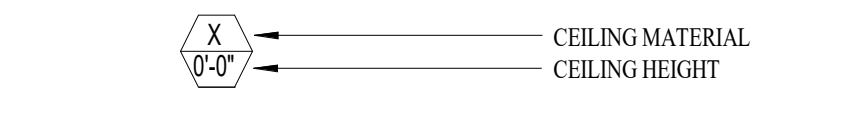
## U. FIRE EXTINGUISHER IDENTIFICATION SYMBOLS:



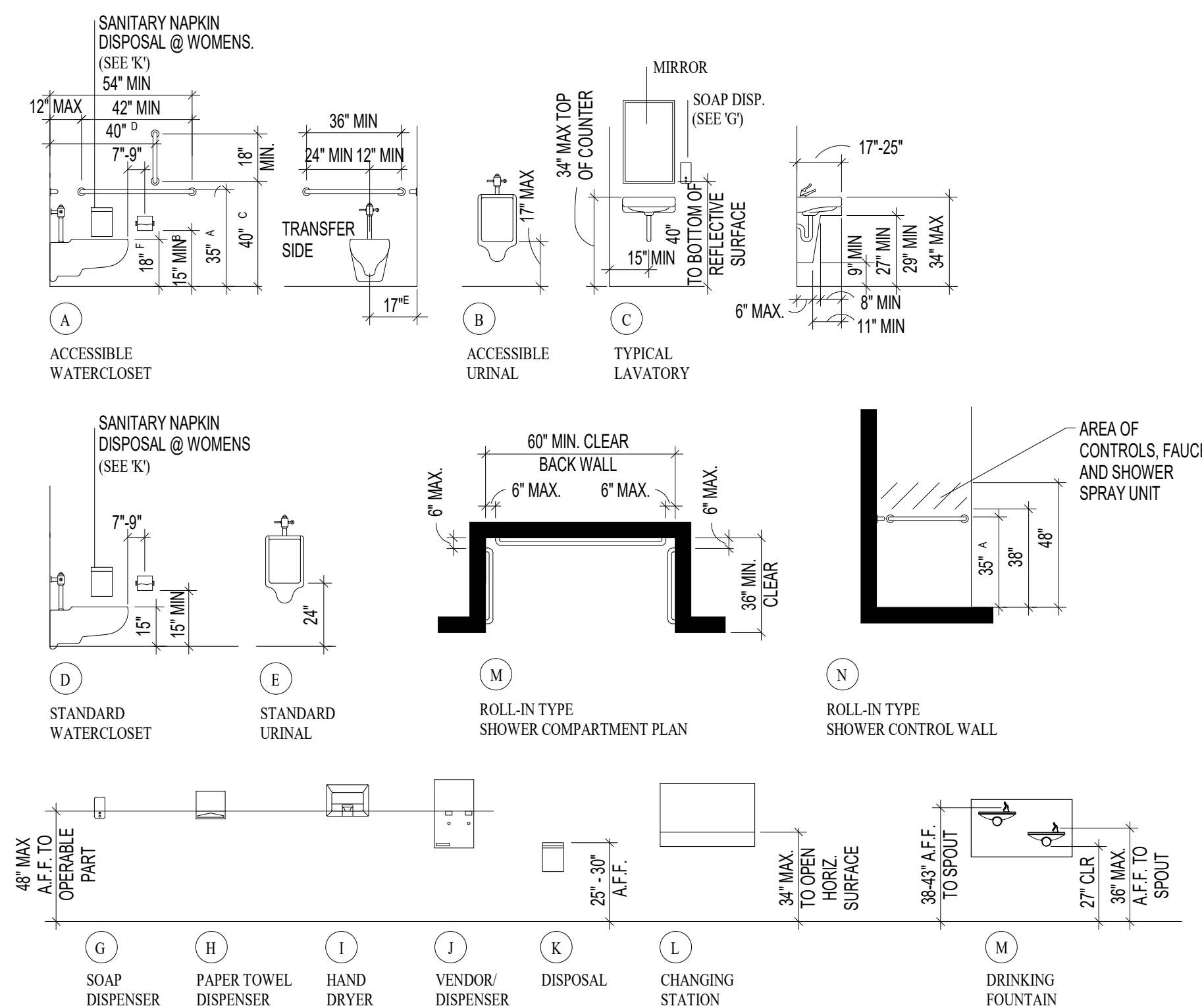
## V. CEILING IDENTIFICATION SYMBOLS:



## W. CEILING REFERENCE SYMBOLS:



# TOILET ACCESSORIES KEY:



## GENERAL NOTES:

1. NONE TO ALL OF THE LISTED CRITERIA, SYMBOLS, ETC. MAY OR MAY NOT BE USED IN THIS SET OF CONSTRUCTION DOCUMENTS.
2. THE CONTRACTOR IS RESPONSIBLE FOR PRODUCING WEATHER-TIGHT CONSTRUCTION, DETAILS AND OMISSIONS TO THE DRAWINGS NOT WITHSTANDING.
3. ALL FINISH COLORS, TEXTURES, AND PATTERNS TO BE SELECTED BY THE OWNER AND APPROVED PRIOR TO INSTALLATION.
4. ANY PIPE OR CONDUIT PENETRATION THRU EXTERIOR CONSTRUCTION SHALL BE SEALED AT BOTH SIDES FOR A WATER-TIGHT CONDITION OR FOR FIRE STOP ASSEMBLIES THROUGH RATED WALLS.
5. ALL FLOORS WITH DRAINS SHALL HAVE A MINIMUM OF 1/8" PER FOOT SLOPE TO DRAIN, U.N.O.
6. CONTRACTOR SHALL INVESTIGATE, VERIFY, AND BE RESPONSIBLE FOR ALL EXISTING CONDITIONS AND NEW DIMENSIONS OF THE PROJECT AND CONFIRM SUCH TO BE APPROPRIATE AND COMPATIBLE WITH THE NEW CONSTRUCTION. THE CONTRACTOR SHALL NOTIFY THE ARCHITECT OF ANY DISCREPANCY OR CLARIFICATION OR ABOUT ANY CONDITION REQUIRING MODIFICATION OR CHANGE BEFORE PROCEEDING WITH THE WORK.
7. ALL WORK SHALL CONFORM WITH APPLICABLE BUILDING CODES, REGULATIONS, AND ORDINANCES. CONTRACTOR SHALL OBTAIN ALL REQUIRED PERMITS.
8. THE CONTRACTOR SHALL VERIFY ALL LAYOUT DIMENSIONS AND NOTIFY THE ARCHITECT OF ANY DISCREPANCIES PRIOR TO PROCEEDING WITH CONSTRUCTION.
9. CONTRACTOR SHALL COORDINATE THE WORK ASSOCIATED WITH THE INSTALLATION OF ALL EQUIPMENT/TRADES SHOWN ON THE PLANS.
10. CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR MEANS, METHODS AND SEQUENCES OF CONSTRUCTION AND THE SAFETY OF ALL CONSTRUCTION PERSONNEL AND AUTHORIZED VISITORS TO THE PROJECT SITE.
11. PATCH, FINISH AND REPAIR ANY WALLS, FLOORS OR CEILINGS DAMAGED OR REMOVED DURING CONSTRUCTION.
12. REMOVE AND DISPOSE OF ALL EXISTING FIXTURES, CASEWORK, PARTITIONS, CEILINGS, INSULATION, AND ALL OTHER FINISHES REQUIRED PRIOR TO RENOVATION WORK.
13. CONTRACTOR IS REQUIRED TO CARRY BUILDER'S RISK INSURANCE. SEE SPECIFICATIONS FOR ADDITIONAL INFORMATION.

## ADA COMPLIANCE NOTES:

- DRINKING FOUNTAIN HEIGHT: THE SPOUT OUTLET OF ONE DRINKING FOUNTAIN TO BE MOUNTED 36" ABOVE FINISHED FLOOR. THE OTHER DRINKING FOUNTAIN TO BE MOUNTED 38" MIN, 43" MAX. ABOVE FINISHED FLOOR
- HANDRAIL HEIGHT: TOP OF GRIPPING SURFACES OF HANDRAILS SHALL BE 34" MIN, 38" MAX VERTICALLY ABOVE WALKING SURFACES, STAIR NOSINGS, AND RAMP SURFACES.
- FLUSH VALVE SHALL BE LOCATED ON OPEN/TRANSFER SIDE OF THE ROOM.
- INSULATE ALL EXPOSED WATER SUPPLY AND DRAIN PIPES UNDER LAVATORIES AND SINKS.
- VERIFY NO SHARP OR ABRASIVE SURFACES UNDER LAVATORIES OR SINKS.
- ALL DIMENSIONS SHOWN ARE THE MINIMUM REQUIRED CLEAR DIMENSIONS AFTER ALL WORK IS COMPLETED AND INSTALLED, INCLUDING WALL AND FLOOR TILE AND OTHER FINISHES.

## FOOTNOTES:

- A. DIMENSION SHOWN IS A MID-POINT OF THE ALLOWABLE ADA STANDARDS DIMENSION RANGE OF 39" - 38" TO TOP OF THE GRIPPING SURFACE. GRAB BAR MUST HAVE 1 1/2" CLEARANCE BENEATH GRAB BAR AND 12" CLEARANCE ABOVE GRAB BAR FROM PROJECTING OBJECTS- ANOTHER GRAB BAR IS AN EXCEPTION TO THIS RULE.
- B. DIMENSION SHOWN IS MINIMUM OF ALLOWABLE ADA STANDARDS DIMENSION RANGE OF 15" - 48" TO OUTLET OF THE DISPENSER. DISPENSER MUST BE AT LEAST 1 1/2" BELOW BOTTOM OF GRAB BAR AND/OR 12" ABOVE TOP OF GRAB BAR.
- C. DIMENSION SHOWN IS A MID-POINT OF THE ALLOWABLE ANSI DIMENSION RANGE OF 39" - 41" TO BOTTOM OF BAR.
- D. DIMENSION SHOWN IS A MID-POINT OF THE ALLOWABLE ANSI DIMENSION RANGE OF 39" - 41" TO CENTER OF GRAB BAR.
- E. DIMENSION SHOWN IS A MID-POINT OF THE ALLOWABLE ADA STANDARD DIMENSION RANGE OF 16" - 18" TO CENTER OF TOILET.
- F. DIMENSION SHOWN IS A MID-POINT OF THE ALLOWABLE ADA STANDARD DIMENSION RANGE OF 17" - 19" TO TOP OF SEAT HEIGHT.



PROJECT #	X2534-01
SITE #	5107
ASSET #	7815107001 7815107013
	7815107005 7815107022
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	7815107008 7815107048
	7815107009
	7815107010
	7815107011
	7815107012

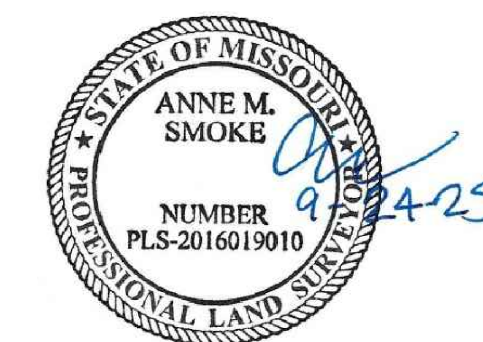
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DATE: \_\_\_\_\_  
REVISION: \_\_\_\_\_  
DATE: \_\_\_\_\_  
ISSUE DATE: 02/04/2026

CAD DWG FILE: G-3  
DRAWN BY: LF  
CHECKED BY: AM  
DESIGNED BY: LF/AM

# SHEET TITLE: GENERAL INFORMATION

SHEET NUMBER:

G-3



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ACCESSIBILITY IMPROVEMENTS  
MULTIPLE GROUP CAMP ASSETS

CROWDER STATE PARK  
76 NORTHWEST HWY 128  
TRENTON, MISSOURI

PROJECT # X2534-01  
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REVISION: \_\_\_\_\_  
DATE: \_\_\_\_\_  
REVISION: \_\_\_\_\_  
DATE: \_\_\_\_\_  
ISSUE DATE: 02/04/2026

CAD DWG FILE: XS-1  
DRAWN BY: AS  
CHECKED BY: AS  
DESIGNED BY: AS

SHEET TITLE:  
**EXISTING  
SURVEY**

SHEET NUMBER:

**XS-1**

4 OF 36 SHEETS  
02/04/2026

SITE BENCHMARKS & CONTROL				
CONTROL POINT #	NORTHING	EASTING	ELEVATION	DESCRIPTION
1	1,555,121.75'	1,314,310.47'	894.47'	SET MAG NAIL IN ASPHALT; 8.5' SE'LY OF EAST END OF SOUTH PARKING STRIPE; 40.7' SW'LY OF CENTER OF POWER POLE.
2	1,554,973.05'	1,314,407.26'	894.84'	SET MAG NAIL IN ASPHALT DRIVEWAY; 0.7' W'LY OF EDGE OF PAVEMENT; 60.5' NW'LY OF CENTER OF 18" EVERGREEN TREE.
3	1,554,916.00'	1,314,556.99'	893.25'	SET MAG NAIL IN ASPHALT DRIVEWAY; 0.8' N'LY OF EDGE OF PAVEMENT; 66.7' NE'LY OF SOUTH END OF EAST WHITE STRIPE OF CROSS WALK.
4	1,555,177.35'	1,314,531.20'	897.40'	SET MAG NAIL IN ASPHALT WALK; 0.7' S'LY OF EDGE OF PAVEMENT; 28.7' SW'LY OF MOST WESTERLY CORNER CONCRETE PAD FOR WATER FOUNTAIN.
5	1,554,971.17'	1,314,847.80'	882.88'	SET MAG NAIL IN ASPHALT WALK; 1.5' E'LY OF EDGE OF PAVEMENT; 8.9' W'LY OF SW CORNER CONCRETE PAD FOR WATER FOUNTAIN.
6	1,555,364.06'	1,314,835.67'	881.95'	SET MAG NAIL IN ASPHALT WALK; 0.8' S'LY OF EDGE OF PAVEMENT; 18.5' NE'LY OF CENTER OF LIGHT POLE.
8	1,555,074.65'	1,314,593.44'	896.15'	SET MAG NAIL IN ASPHALT WALK; 1.1' W'LY OF EDGE OF PAVEMENT; 15.1' NW'LY OF CENTER OF LIGHT POLE.

**BASIS OF BEARINGS:**  
MISSOURI COORDINATE SYSTEM OF 1983 CENTRAL ZONE  
**HORIZONTAL DATUM:**  
B 18 (PID LE0326)  
MISSOURI STATE PLANE (CENTRAL ZONE)  
NORTHING: 471,248,482 METERS  
EASTING: 404,560,682 METERS  
CAF=0.9999827

SCALED AROUND CONTROL POINT 3  
1 METER = 3.28083333 U.S. SURVEY FEET  
ALL DISTANCES SHOWN ARE GROUND DISTANCES

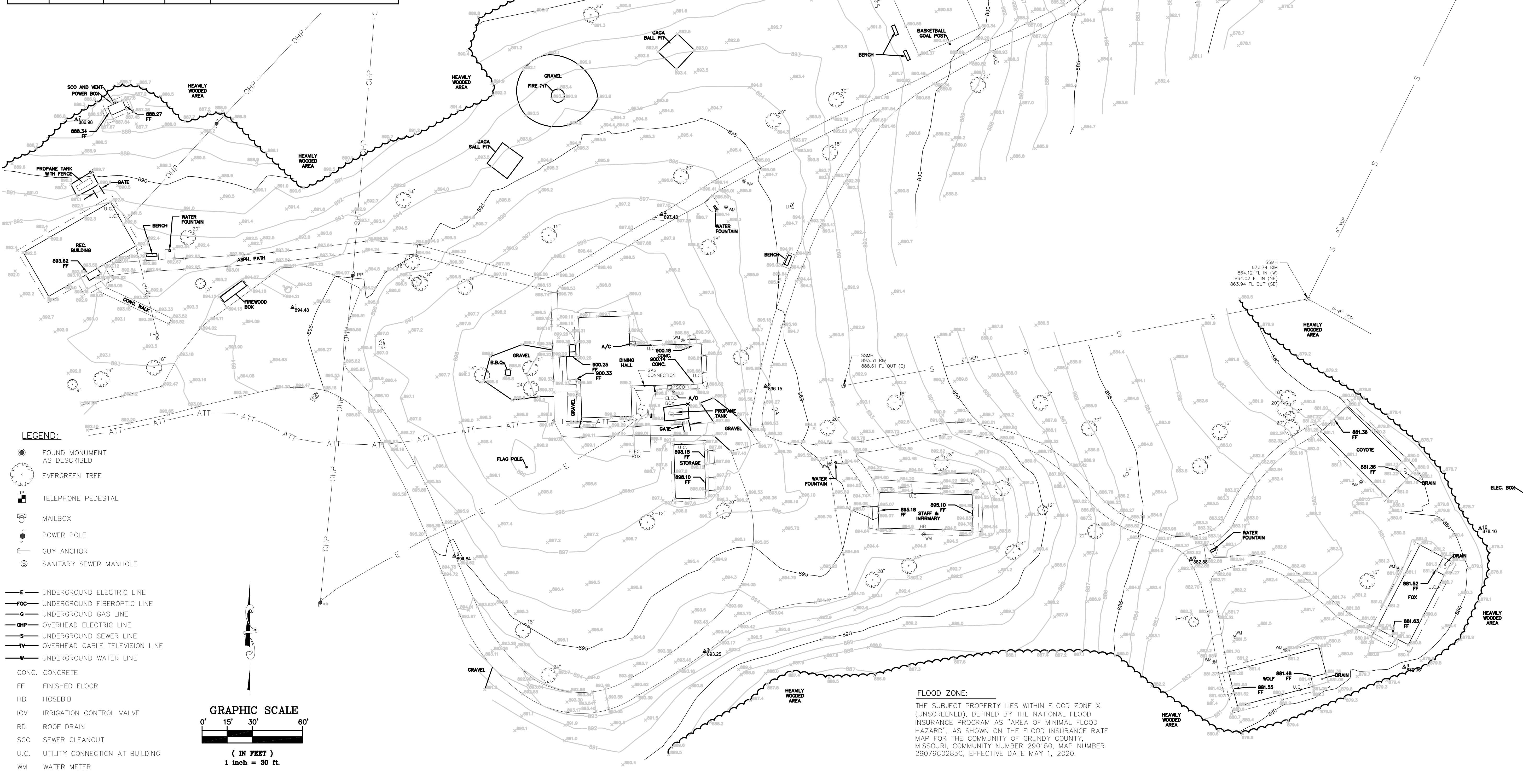
**VERTICAL DATUM:**  
B 18 (PID LE0326)  
BRASS DISK STAMPED "B 18 1933" SET IN CONCRETE AT THE GRUNDY COUNTY COURTHOUSE; 37 FEET SE OF THE CENTER OF MAIN STREET; 8 FEET NW OF MAIL BOX.  
NAVD89 ELEVATION=841.08 FEET

**UTILITY STATEMENT:**

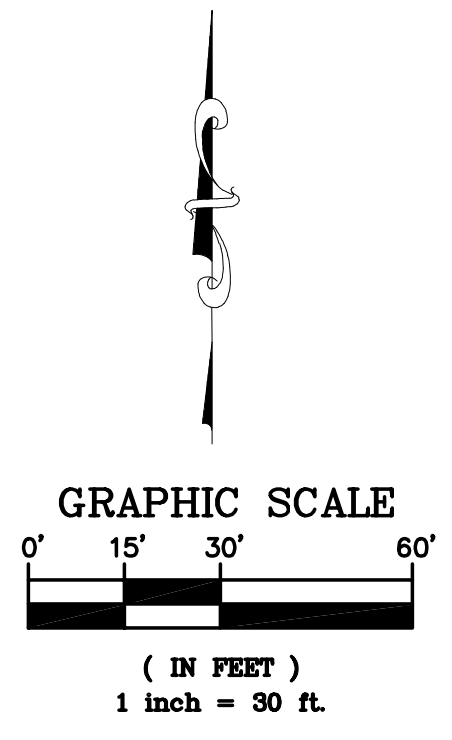
THE UNDERGROUND UTILITIES SHOWN HEREON ARE FROM FIELD SURVEY INFORMATION OF ONE-CALL LOCATED UTILITIES, FIELD SURVEY INFORMATION OF ABOVE GROUND OBSERVABLE EVIDENCE, AND/OR THE SCALING AND PLOTTING OF EXISTING UTILITY MAPS AND DRAWINGS AVAILABLE TO THE SURVEYOR AT THE TIME OF SURVEY. THE SURVEYOR MAKES NO GUARANTEE THAT THE UNDERGROUND UTILITIES SHOWN COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN SERVICE OR ABANDONED. FURTHERMORE, THE SURVEYOR DOES NOT WARRANT THAT THE UNDERGROUND UTILITIES SHOWN ARE IN THE EXACT LOCATION INDICATED ALTHOUGH SHE DOES CERTIFY THAT THEY ARE LOCATED AS ACCURATELY AS POSSIBLE FROM INFORMATION AVAILABLE. THE SURVEYOR HAS NOT PHYSICALLY LOCATED THE UNDERGROUND UTILITIES BY EXCAVATION UNLESS OTHERWISE NOTED ON THIS SURVEY. MISSOURI ONE CALL TICKET #252521061.

**NOTES:**

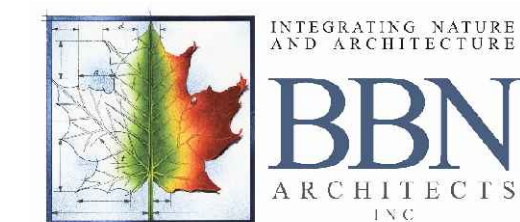
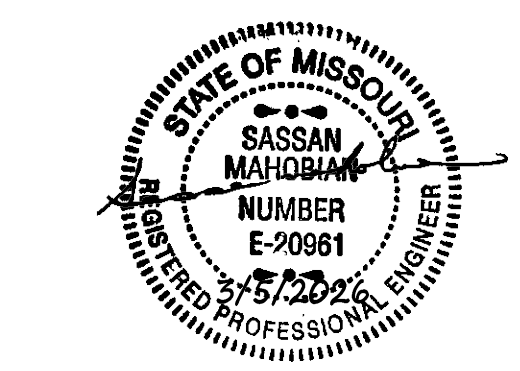
1. THIS MAP IS THE RESULT OF A FIELD SURVEY PERFORMED IN SEPTEMBER 2025, AT A SCALE OF 1 IN = 20 FEET, WITH A CONTOUR INTERVAL OF 1 FOOT.
2. NO TITLE REPORT WAS PROVIDED FOR THIS SURVEY.



- LEGEND:**
- FOUND MONUMENT AS DESCRIBED
  - EVERGREEN TREE
  - TELEPHONE PEDESTAL
  - MAILBOX
  - POWER POLE
  - GUY ANCHOR
  - SANITARY SEWER MANHOLE
  - E— UNDERGROUND ELECTRIC LINE
  - FOC— UNDERGROUND FIBEROPTIC LINE
  - G— UNDERGROUND GAS LINE
  - OHP— OVERHEAD ELECTRIC LINE
  - S— UNDERGROUND SEWER LINE
  - TV— OVERHEAD CABLE TELEVISION LINE
  - W— UNDERGROUND WATER LINE
  - CONC. CONCRETE
  - FF FINISHED FLOOR
  - HB HOSEBIB
  - ICV IRRIGATION CONTROL VALVE
  - RD ROOF DRAIN
  - SCO SEWER CLEANOUT
  - U.C. UTILITY CONNECTION AT BUILDING
  - WM WATER METER



**FLOOD ZONE:**  
THE SUBJECT PROPERTY LIES WITHIN FLOOD ZONE X (UNSCREENED), DEFINED BY THE NATIONAL FLOOD INSURANCE PROGRAM AS "AREA OF MINIMAL FLOOD HAZARD", AS SHOWN ON THE FLOOD INSURANCE RATE MAP FOR THE COMMUNITY OF GRUNDY COUNTY, MISSOURI, COMMUNITY NUMBER 290150, MAP NUMBER 29079C0285C, EFFECTIVE DATE MAY 1, 2020.



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CROWDER STATE PARK  
76 NORTHWEST HWY 128  
TRENTON, MISSOURI

PROJECT # X2534-01  
SITE # 5107  
ASSET # 7815107001  
7815107023  
7815107048

REVISION: \_\_\_\_\_  
DATE: \_\_\_\_\_  
REVISION: \_\_\_\_\_  
DATE: \_\_\_\_\_  
REVISION: \_\_\_\_\_  
DATE: \_\_\_\_\_  
ISSUE DATE: 02/04/2026

CAD DWG FILE: C-1  
DRAWN BY: TB  
CHECKED BY: TB  
DESIGNED BY: TB

SHEET TITLE:  
SITE  
UTILITY  
PLAN

SHEET NUMBER:

C-1

5 OF 39 SHEETS  
02/04/2026

**PROJECT GENERAL NOTES:**

- EXISTING UNDERGROUND UTILITIES HAVE BEEN PLOTTED FROM EXISTING RECORDS AND THEIR LOCATIONS ARE APPROXIMATE ONLY. OTHER UTILITIES OR OBSTRUCTIONS MAY ALSO BE ENCOUNTERED. IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO DETERMINE THE EXACT LOCATION OF ALL EXISTING UNDERGROUND UTILITIES AND TO AVOID DAMAGE TO SAME DURING CONSTRUCTION. IF IT CAN BE DETERMINED BY THE OWNER'S REPRESENTATIVE THAT ANY EXISTING UTILITY HAS BEEN, OR CAN BE ABANDONED, CONTRACTOR SHALL REMOVE SAME, AT THEIR EXPENSE, TO FACILITATE CONSTRUCTION. ENDS OF REMAINING CONDUITS OR PIPES SHALL BE PLUGGED OR CAPPED.
- FIELD VERIFY UTILITY LOCATIONS, ELEVATIONS, AND SLOPES PRIOR TO CONSTRUCTING NEW UTILITIES.
- SUPPORT AND PROTECT UTILITIES CROSSING EXCAVATIONS. RESTORE DAMAGED UTILITIES TO ORIGINAL CONDITIONS PRIOR TO BACKFILLING EXCAVATIONS. OBTAIN INSPECTION AND APPROVAL OF OWNER'S REPRESENTATIVE PRIOR TO BACKFILLING EXCAVATIONS.
- DO NOT STORE EQUIPMENT OR MATERIAL IN AREA OF TREES. PROTECT TREES FROM DAMAGE UNLESS NOTED OTHERWISE. COORDINATE WITH OWNER'S REPRESENTATIVE.
- INSTALL CONSTRUCTION FENCING AROUND THE DRIP LINES OF ALL TREES NOTED TO REMAIN IN WORK AREAS.
- COORDINATE CONSTRUCTION FENCE LOCATION WITH OWNER'S REPRESENTATIVE PRIOR TO PROCEEDING.
- REMOVE ALL PAVING, SIDEWALKS, CURBS, GUTTERS, DRAINAGE STRUCTURES, SIGNS, LIGHTS, ETC. AS REQUIRED TO COMPLETE CONSTRUCTION. SAWCUT PAVEMENT AT NEAREST JOINT.
- REPLACE ALL PAVING, SIDEWALKS, CURBS, GUTTERS, DRAINAGE STRUCTURES, SIGNS, LIGHTS, ETC. REMOVED OR DAMAGED DURING CONSTRUCTION.
- CONTRACTOR SHALL NOT BLOCK ACCESS TO ANY MANHOLE OR VALVE BOX.
- EROSION, SEDIMENTATION AND WATER POLLUTION CONTROL MEASURES SHALL BE PROVIDED AT ALL LOCATIONS WHERE DRAINAGE IS LEAVING THE SITE. COMPLY WITH EPA AND MISSOURI DNR RULES AND REGULATIONS & BEST MANAGEMENT PROCEDURES FOR STORM WATER POLLUTION PREVENTION.
- CONTRACTOR SHALL PROTECT EXCAVATIONS FROM WATER INFILTRATION AND MAINTAIN EXCAVATIONS IN A DEWATERED CONDITION AT ALL TIMES.
- THE STORM WATER POLLUTION PREVENTION MEASURES INDICATED ARE THE MINIMUM MEASURES TO BE USED, PROVIDE ADDITIONAL SITE SPECIFIC MEASURES AS NECESSARY TO PREVENT STORM WATER POLLUTION & TO COMPLY WITH THE REQUIREMENTS OF THE AUTHORITY HAVING JURISDICTION.

**UTILITY NOTES**

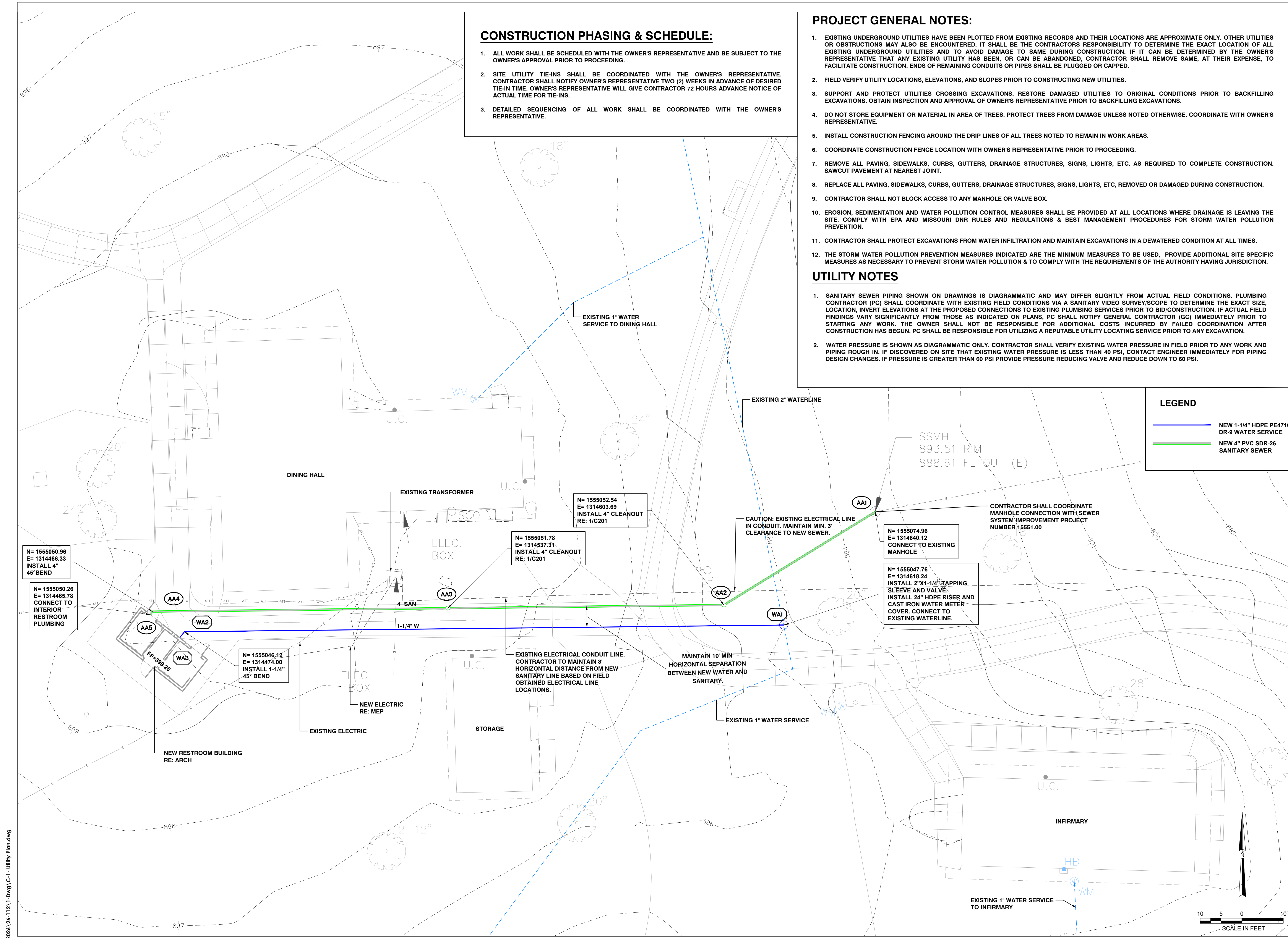
- SANITARY SEWER PIPING SHOWN ON DRAWINGS IS DIAGRAMMATIC AND MAY DIFFER SLIGHTLY FROM ACTUAL FIELD CONDITIONS. PLUMBING CONTRACTOR (PC) SHALL COORDINATE WITH EXISTING FIELD CONDITIONS VIA A SANITARY VIDEO SURVEY/SCOPE TO DETERMINE THE EXACT SIZE, LOCATION, INVERT ELEVATIONS AT THE PROPOSED CONNECTIONS TO EXISTING PLUMBING SERVICES PRIOR TO BID/CONSTRUCTION. IF ACTUAL FIELD FINDINGS VARY SIGNIFICANTLY FROM THOSE AS INDICATED ON PLANS, PC SHALL NOTIFY GENERAL CONTRACTOR (GC) IMMEDIATELY PRIOR TO STARTING ANY WORK. THE OWNER SHALL NOT BE RESPONSIBLE FOR ADDITIONAL COSTS INCURRED BY FAILED COORDINATION AFTER CONSTRUCTION HAS BEGUN. PC SHALL BE RESPONSIBLE FOR UTILIZING A REPUTABLE UTILITY LOCATING SERVICE PRIOR TO ANY EXCAVATION.
- WATER PRESSURE IS SHOWN AS DIAGRAMMATIC ONLY. CONTRACTOR SHALL VERIFY EXISTING WATER PRESSURE IN FIELD PRIOR TO ANY WORK AND PIPING ROUGH IN. IF DISCOVERED ON SITE THAT EXISTING WATER PRESSURE IS LESS THAN 40 PSI, CONTACT ENGINEER IMMEDIATELY FOR PIPING DESIGN CHANGES. IF PRESSURE IS GREATER THAN 60 PSI PROVIDE PRESSURE REDUCING VALVE AND REDUCE DOWN TO 60 PSI.

**CONSTRUCTION PHASING & SCHEDULE:**

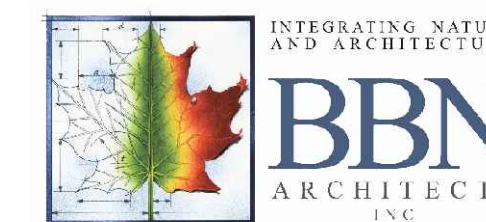
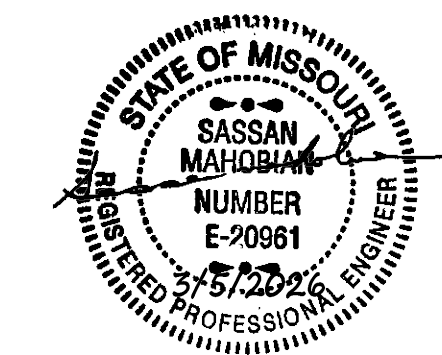
- ALL WORK SHALL BE SCHEDULED WITH THE OWNER'S REPRESENTATIVE AND BE SUBJECT TO THE OWNER'S APPROVAL PRIOR TO PROCEEDING.
- SITE UTILITY TIE-INS SHALL BE COORDINATED WITH THE OWNER'S REPRESENTATIVE. CONTRACTOR SHALL NOTIFY OWNER'S REPRESENTATIVE TWO (2) WEEKS IN ADVANCE OF DESIRED TIE-IN TIME. OWNER'S REPRESENTATIVE WILL GIVE CONTRACTOR 72 HOURS ADVANCE NOTICE OF ACTUAL TIME FOR TIE-INS.
- DETAILED SEQUENCING OF ALL WORK SHALL BE COORDINATED WITH THE OWNER'S REPRESENTATIVE.

**LEGEND**

- NEW 1-1/4" HDPE PE4710 DR-9 WATER SERVICE
- NEW 4" PVC SDR-26 SANITARY SEWER



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PROJECT #	X2534-01	
SITE #	5107	
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	7815107005	7815107022
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	7815107009	
	7815107010	
	7815107011	
	7815107012	

REVISION: \_\_\_\_\_  
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ISSUE DATE: 02/04/2026

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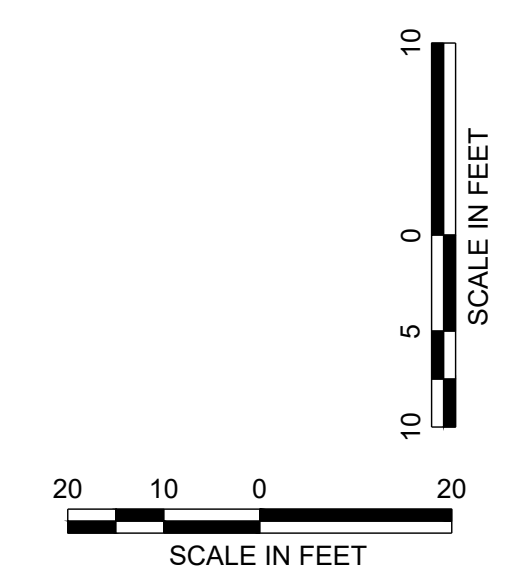
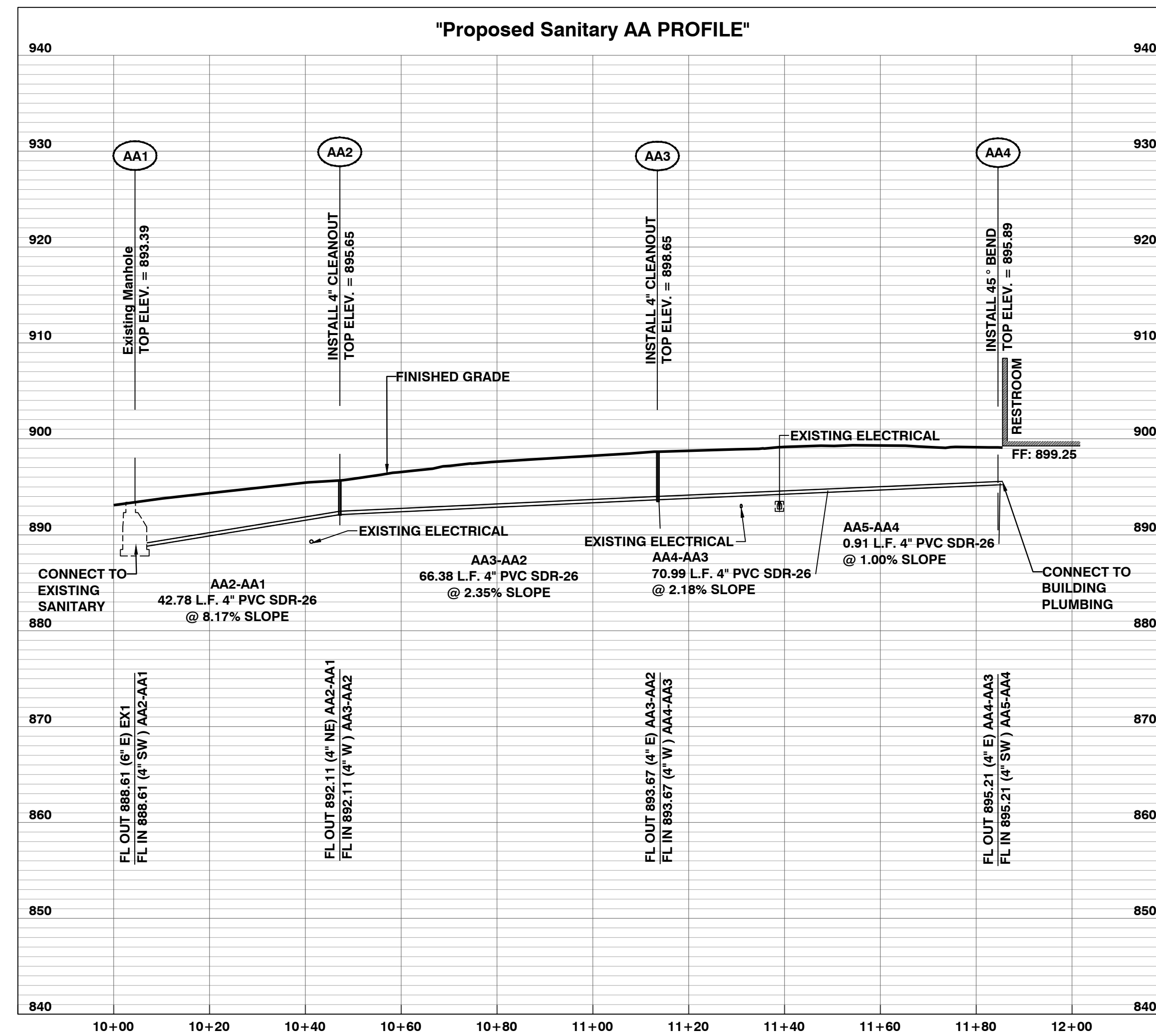
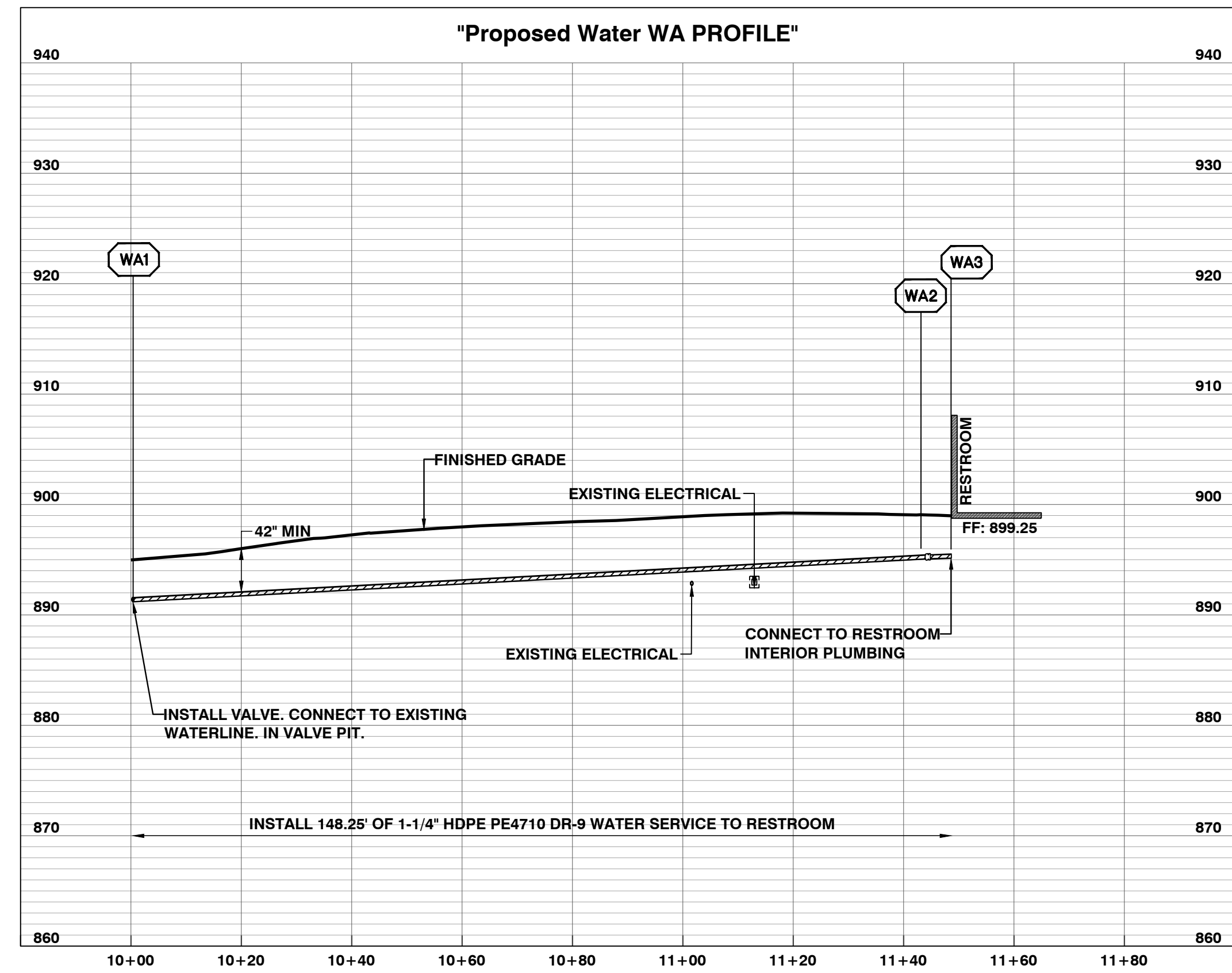
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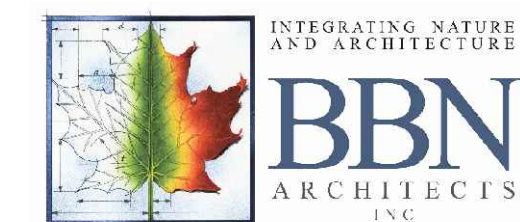
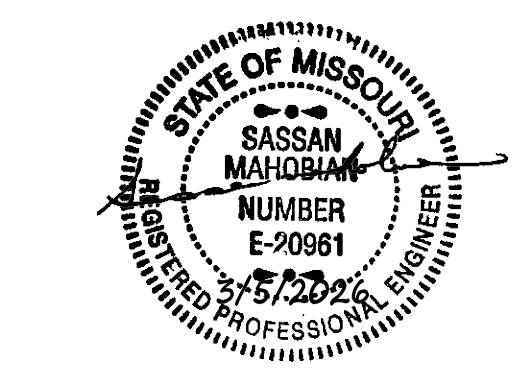
SITE  
UTILITY  
PROFILES

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02/04/2026





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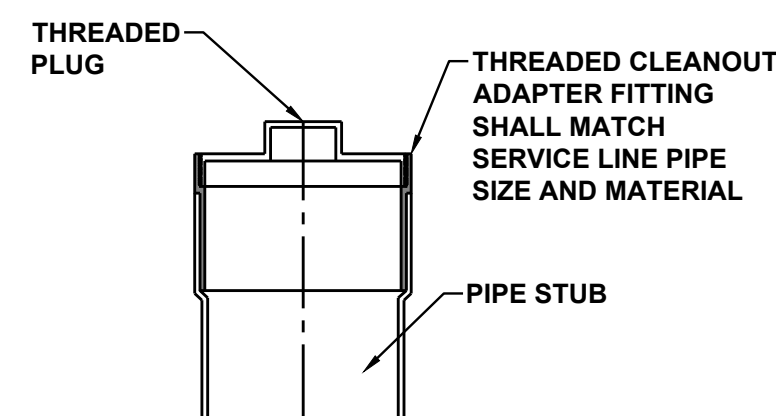
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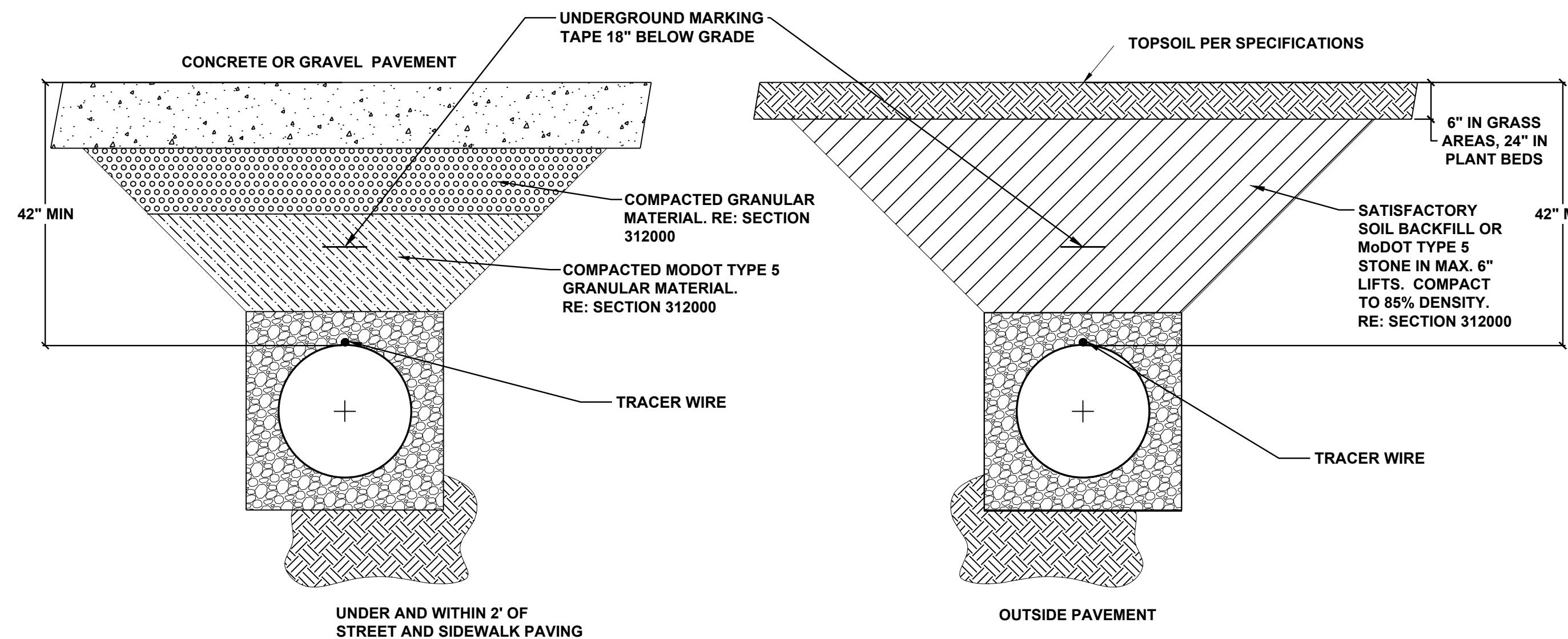
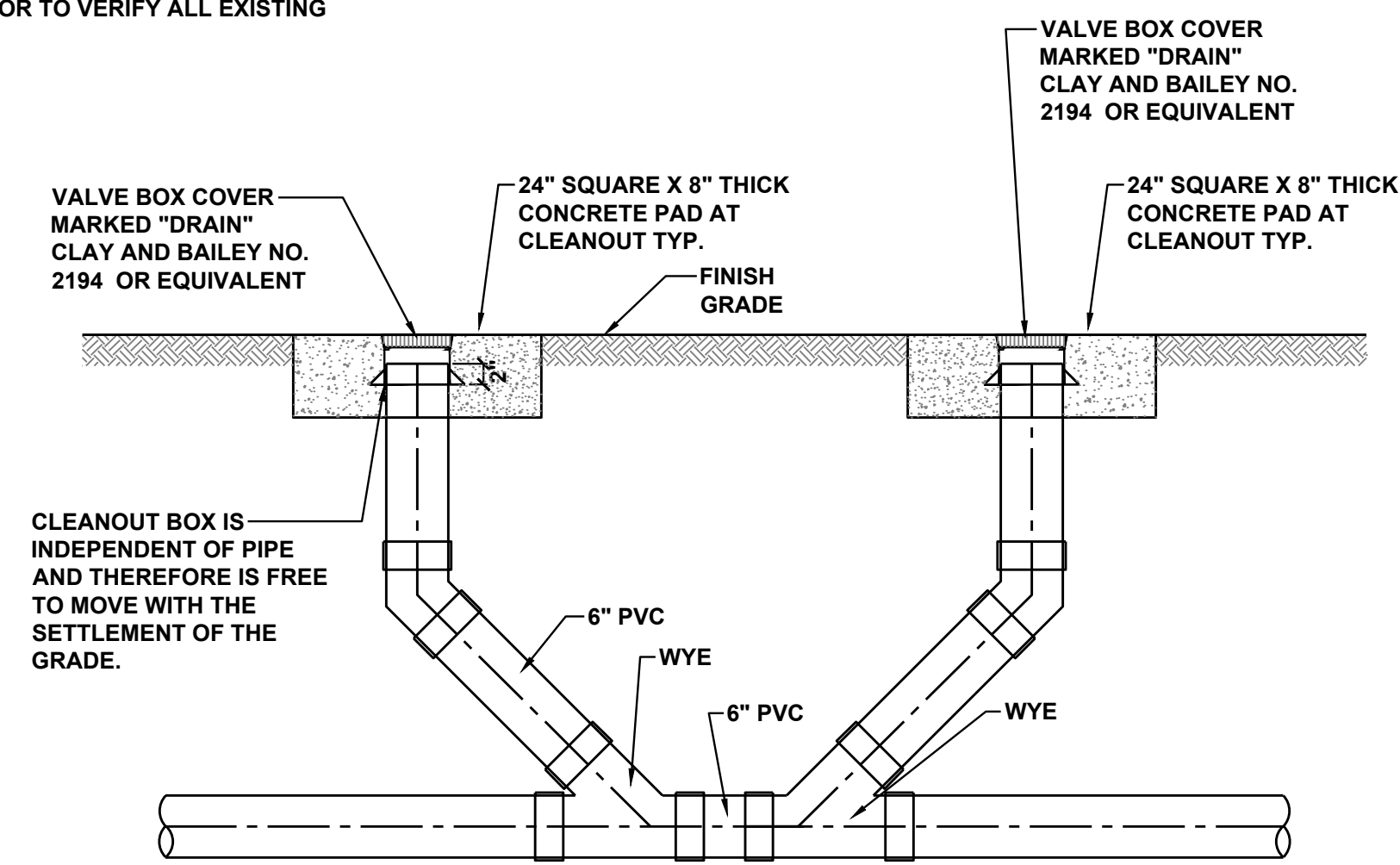
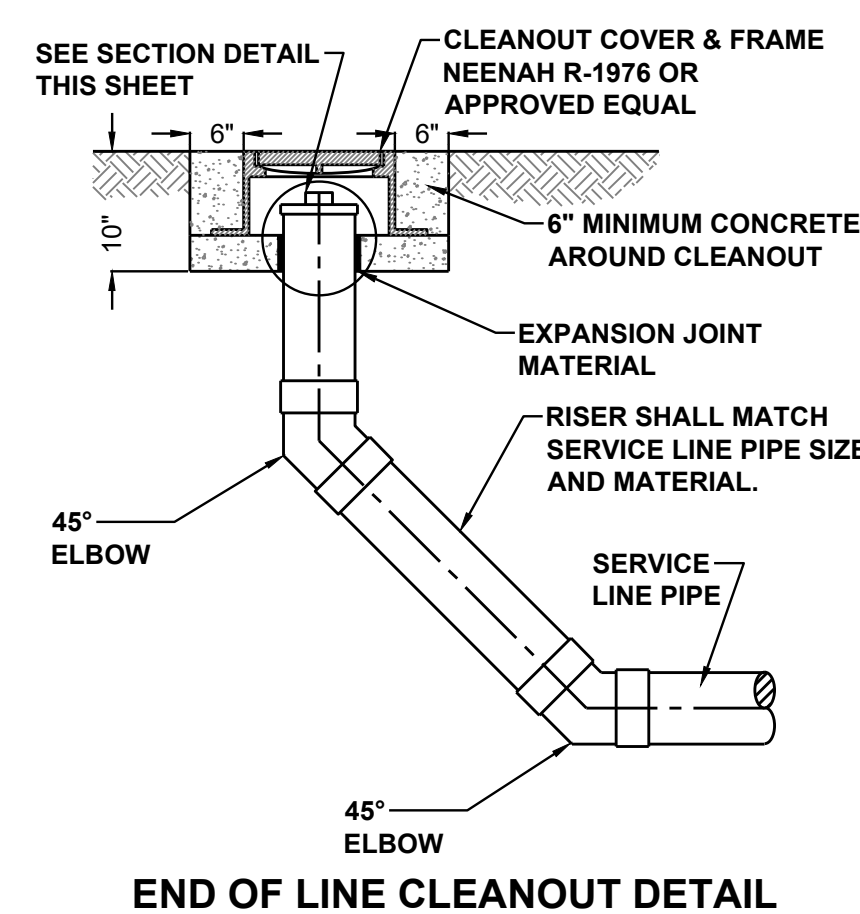
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7 OF 39 SHEETS  
02/04/2026



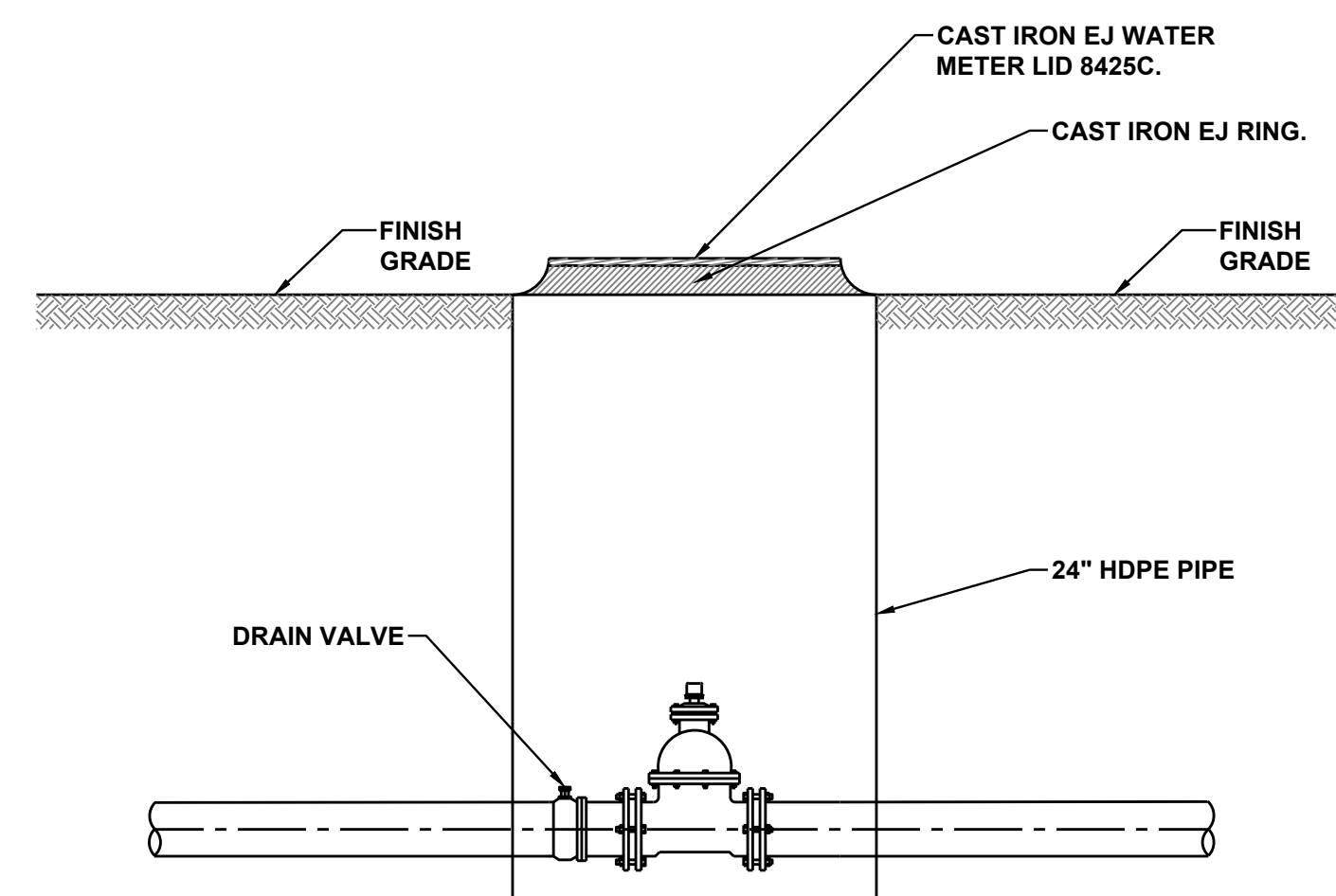
NOTES:

1. ALL PIPES SHALL BE PVC SDR-26 (RE: SECTION 334100) UNLESS NOTED OTHERWISE ON THE PLANS.
2. STANDARD FITTINGS SHALL BE USED, AT ALL BENDS AND TEES.
3. CLEANOUTS SHALL BE ADJUSTED TO TOP OF FINISH PAVEMENT/GRADE ELEVATION.
4. CONTRACTOR TO VERIFY ALL EXISTING PIPE SIZES.



1 CLEANOUT DETAIL  
Not to Scale

2 TRENCHING DETAIL  
Not to Scale



3 VALVE PIT DETAIL  
Not to Scale



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02/04/2026





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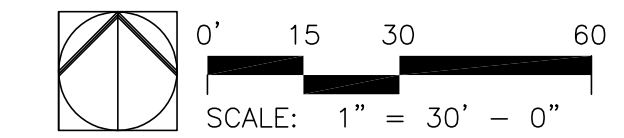
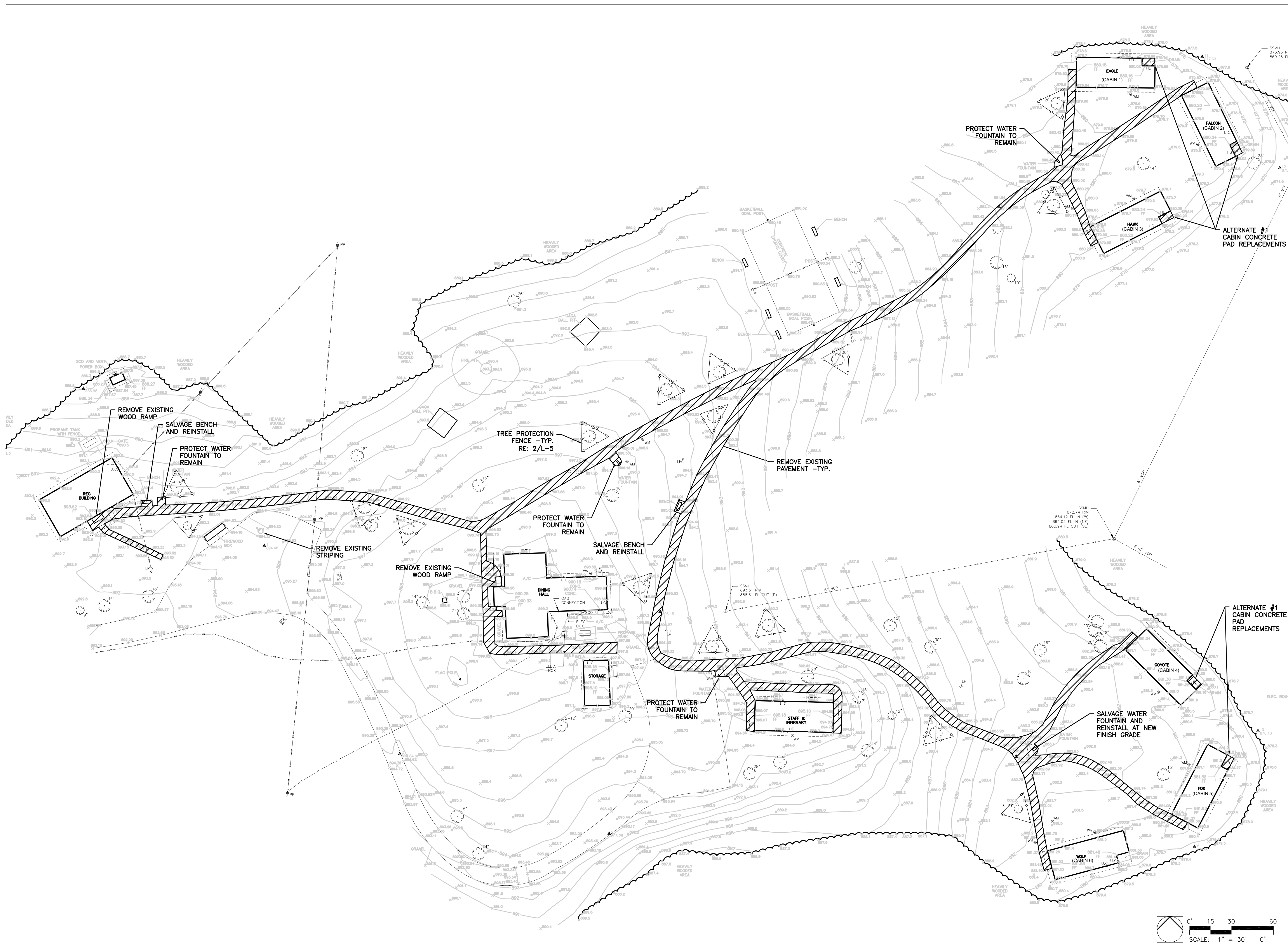
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SHEET TITLE:  
**DEMOLITION  
PLAN**

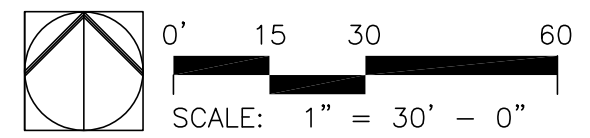
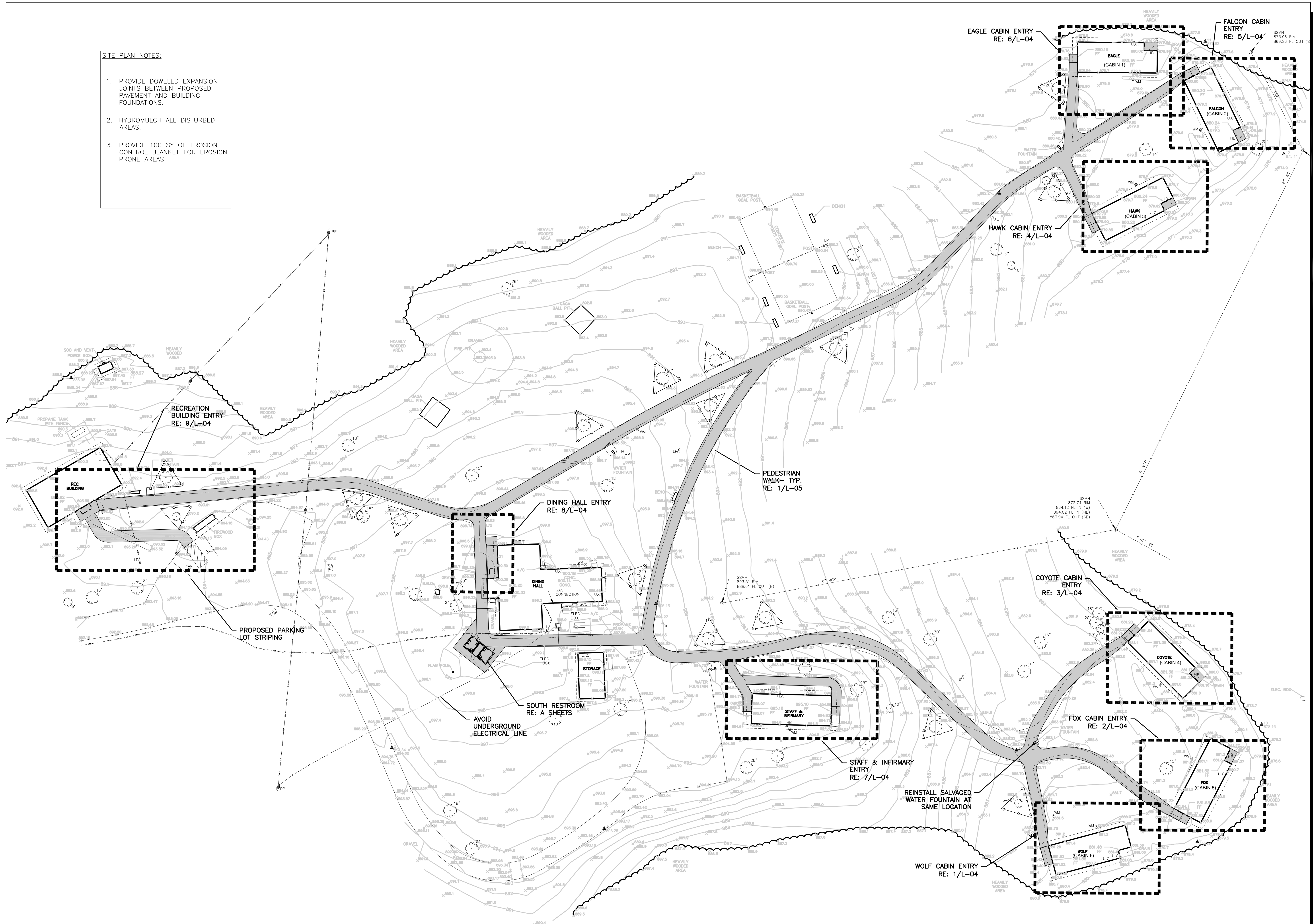
SHEET NUMBER:

**D-1**

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- SITE PLAN NOTES:**
1. PROVIDE DOWELED EXPANSION JOINTS BETWEEN PROPOSED PAVEMENT AND BUILDING FOUNDATIONS.
  2. HYDROMULCH ALL DISTURBED AREAS.
  3. PROVIDE 100 SY OF EROSION CONTROL BLANKET FOR EROSION PRONE AREAS.



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CROWDER STATE PARK  
76 NORTHWEST HWY 128  
TRENTON, MISSOURI

PROJECT #	X2534-01	
SITE #	5107	
ASSET #	7815107001	7815107013
	7815107005	7815107022
	7815107007	7815107023
	7815107008	7815107048
	7815107009	
	7815107010	
	7815107011	
	7815107012	

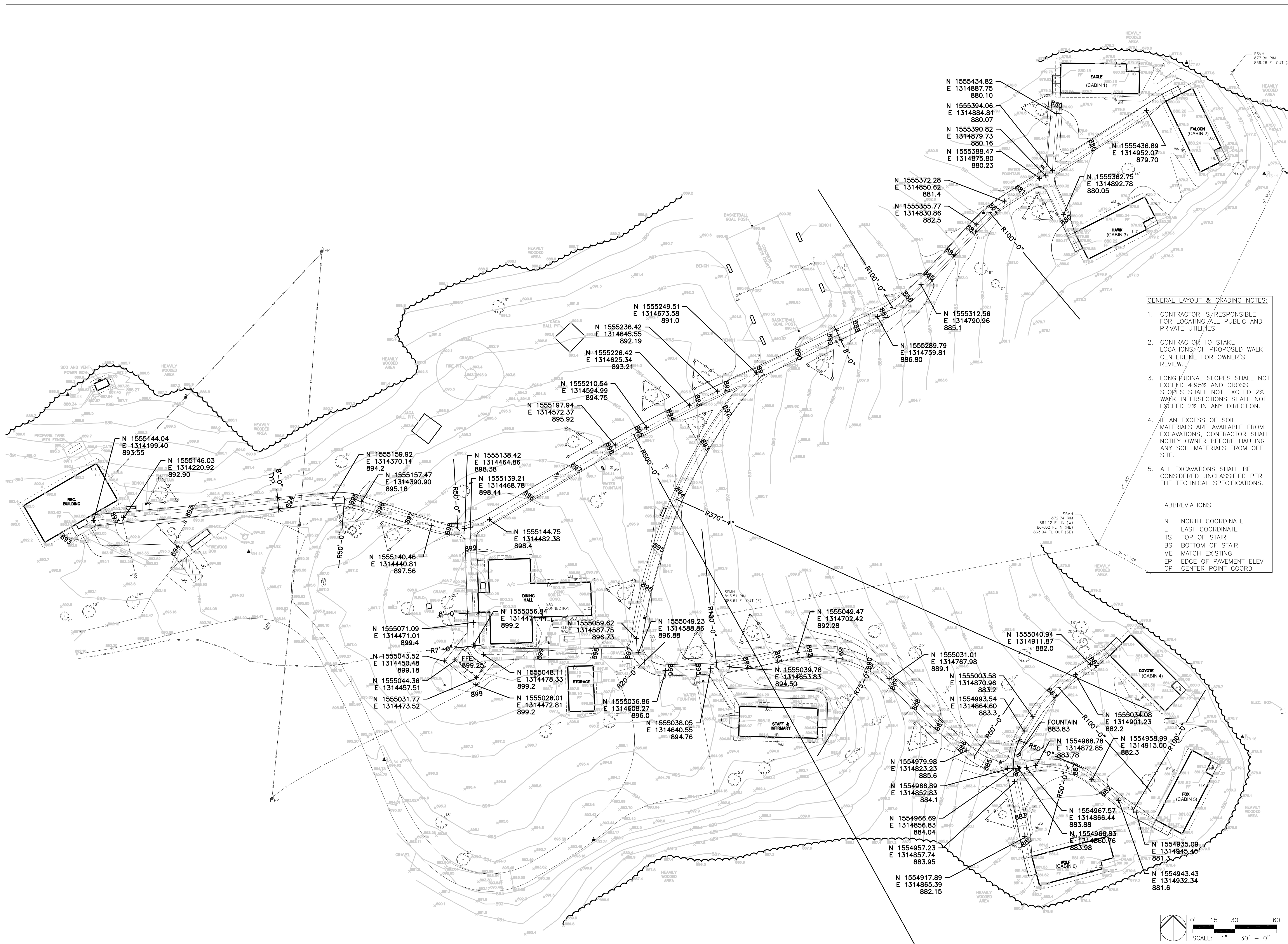
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DATE:	_____
REVISION:	_____
DATE:	_____
REVISION:	_____
DATE:	_____

ISSUE DATE: 02/04/2026

CAD DWG FILE: CROWDER BASE  
DRAWN BY: SAB  
CHECKED BY: SAB  
DESIGNED BY: SAB

SHEET TITLE:  
**SITE PLAN**

SHEET NUMBER:  
**L-1**



**GENERAL LAYOUT & GRADING NOTES:**

1. CONTRACTOR IS RESPONSIBLE FOR LOCATING ALL PUBLIC AND PRIVATE UTILITIES.
2. CONTRACTOR TO STAKE LOCATIONS OF PROPOSED WALK CENTERLINE FOR OWNER'S REVIEW.
3. LONGITUDINAL SLOPES SHALL NOT EXCEED 4.95% AND CROSS SLOPES SHALL NOT EXCEED 2%. WALK INTERSECTIONS SHALL NOT EXCEED 2% IN ANY DIRECTION.
4. IF AN EXCESS OF SOIL MATERIALS ARE AVAILABLE FROM EXCAVATIONS, CONTRACTOR SHALL NOTIFY OWNER BEFORE HAULING ANY SOIL MATERIALS FROM OFF SITE.
5. ALL EXCAVATIONS SHALL BE CONSIDERED UNCLASSIFIED PER THE TECHNICAL SPECIFICATIONS.

**ABBREVIATIONS**

- N NORTH COORDINATE
- E EAST COORDINATE
- TS TOP OF STAIR
- BS BOTTOM OF STAIR
- ME MATCH EXISTING
- EP EDGE OF PAVEMENT ELEV
- CP CENTER POINT COORD

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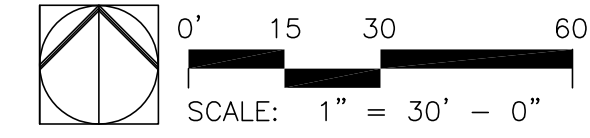
ISSUE DATE: 02/04/2026

CAD DWG FILE: CROWDER BASE  
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SHEET TITLE:  
**LAYOUT &  
GRADING PLAN**

SHEET NUMBER:

**L-2**





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7815107009  
7815107010  
7815107011  
7815107012

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DATE: \_\_\_\_\_  
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DATE: \_\_\_\_\_  
REVISION: \_\_\_\_\_  
DATE: \_\_\_\_\_

ISSUE DATE: 02/04/2026

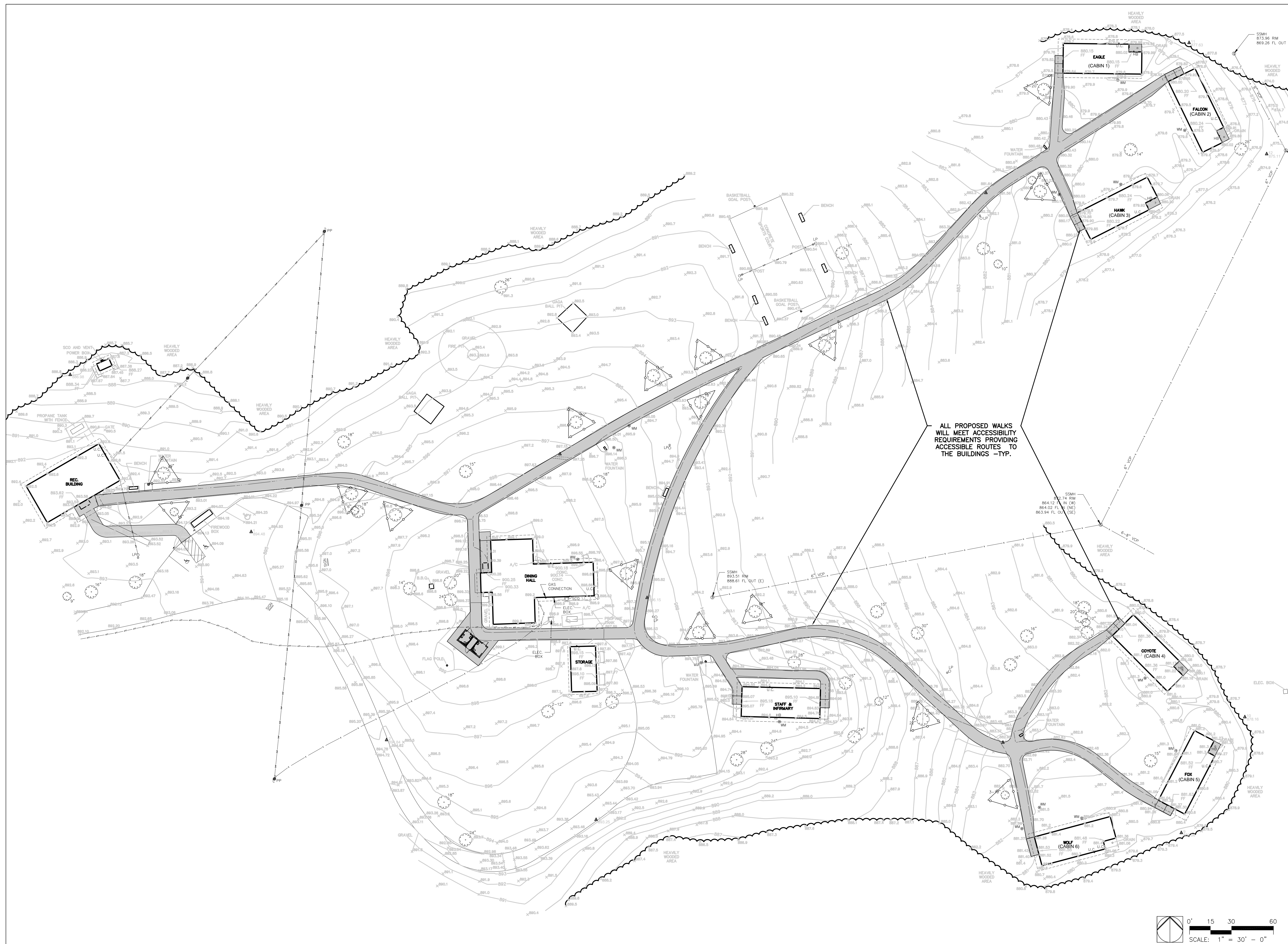
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CHECKED BY: SAB  
DESIGNED BY: SAB

SHEET TITLE:  
ACCESSIBLE  
ROUTES

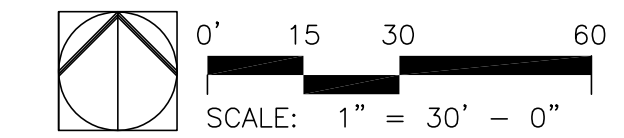
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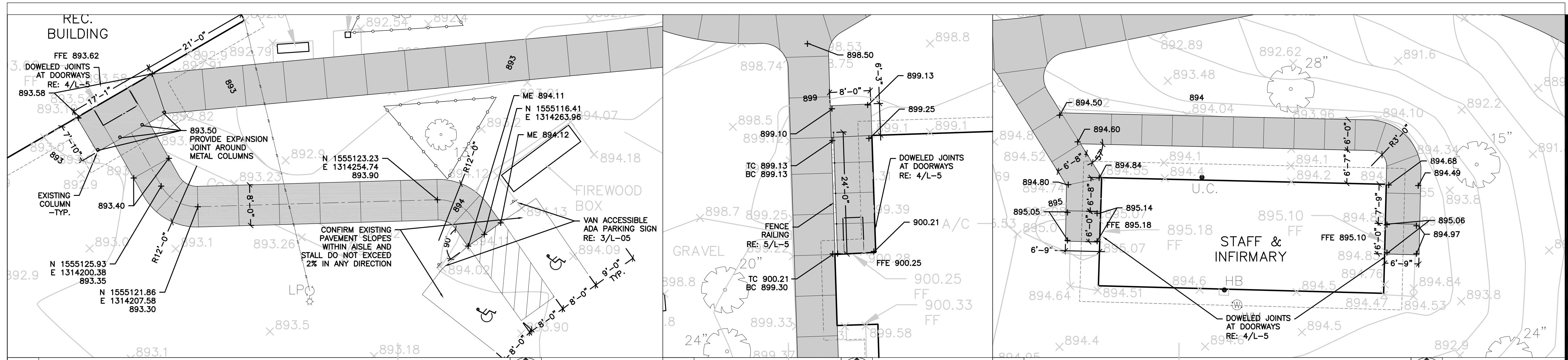
L-3

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ALL PROPOSED WALKS  
WILL MEET ACCESSIBILITY  
REQUIREMENTS PROVIDING  
ACCESSIBLE ROUTES TO  
THE BUILDINGS -TYP.

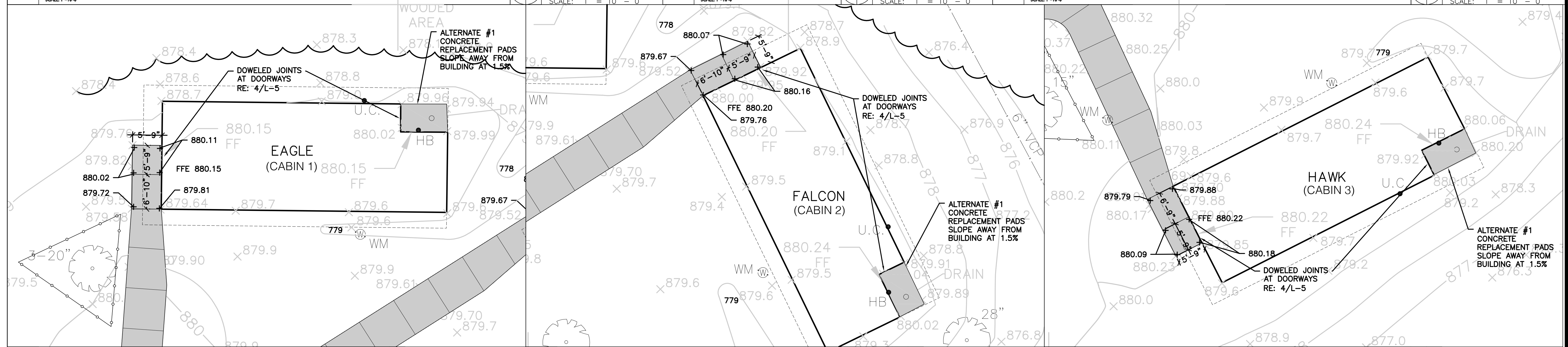




**9 RECREATION BUILDING**  
SCALE: 1"=10'-0"

**8 DINING HALL**  
SCALE: 1"=10'-0"

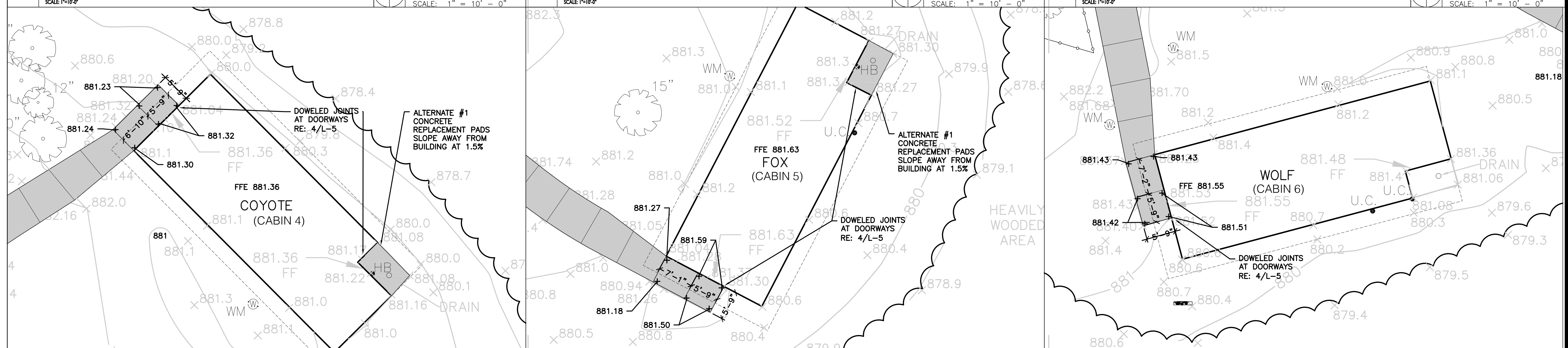
**7 STAFF & INFIRMARY**  
SCALE: 1"=10'-0"



**6 EAGLE CABIN ENTRY**  
SCALE: 1"=10'-0"

**5 FALCON CABIN ENTRY**  
SCALE: 1"=10'-0"

**4 HAWK CABIN ENTRY**  
SCALE: 1"=10'-0"



**3 COYOTE CABIN ENTRY**  
SCALE: 1"=10'-0"

**2 FOX CABIN ENTRY**  
SCALE: 1"=10'-0"

**1 WOLF CABIN ENTRY**  
SCALE: 1"=10'-0"

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	7815107011	
	7815107012	

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REVISION:	DATE:
REVISION:	DATE:
REVISION:	DATE:
REVISION:	DATE:
ISSUE DATE:	02/04/2026

CAD DWG FILE: CROWDER BASE  
DRAWN BY: SAB  
CHECKED BY: SAB  
DESIGNED BY: SAB

SHEET TITLE:  
**BUILDING  
ENTRY  
ENLARGEMENTS**

SHEET NUMBER:

**L-4**



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CAD DWG FILE: CROWDER BASE  
DRAWN BY: SAB  
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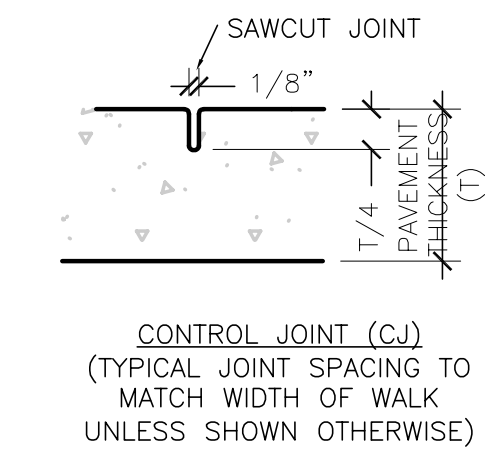
SHEET TITLE:

SITE  
DETAILS

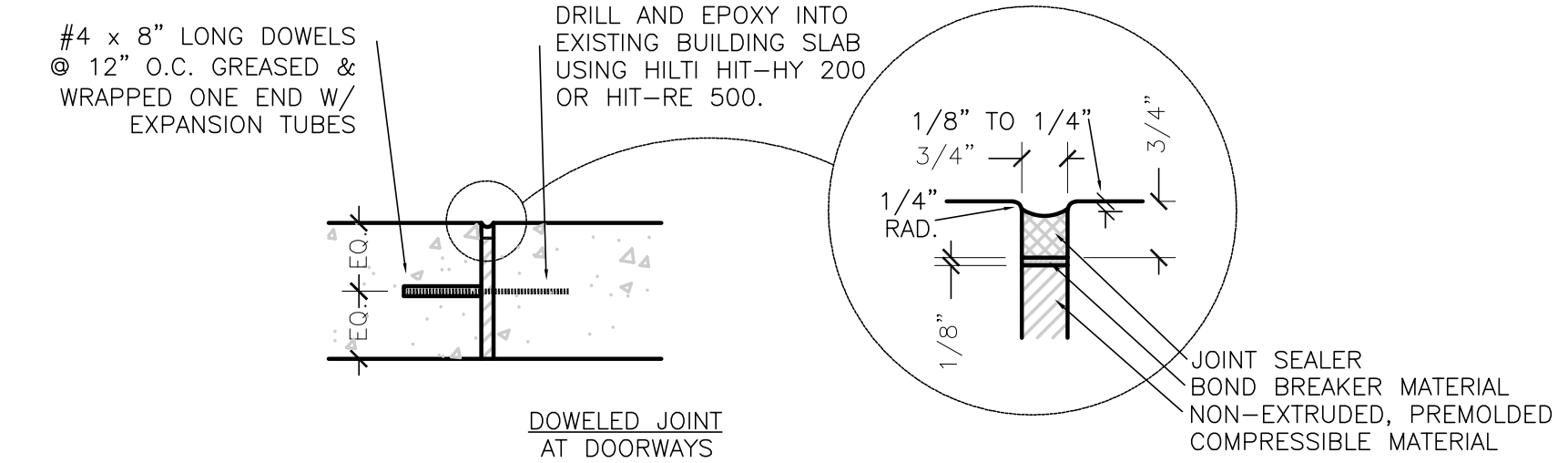
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L-5

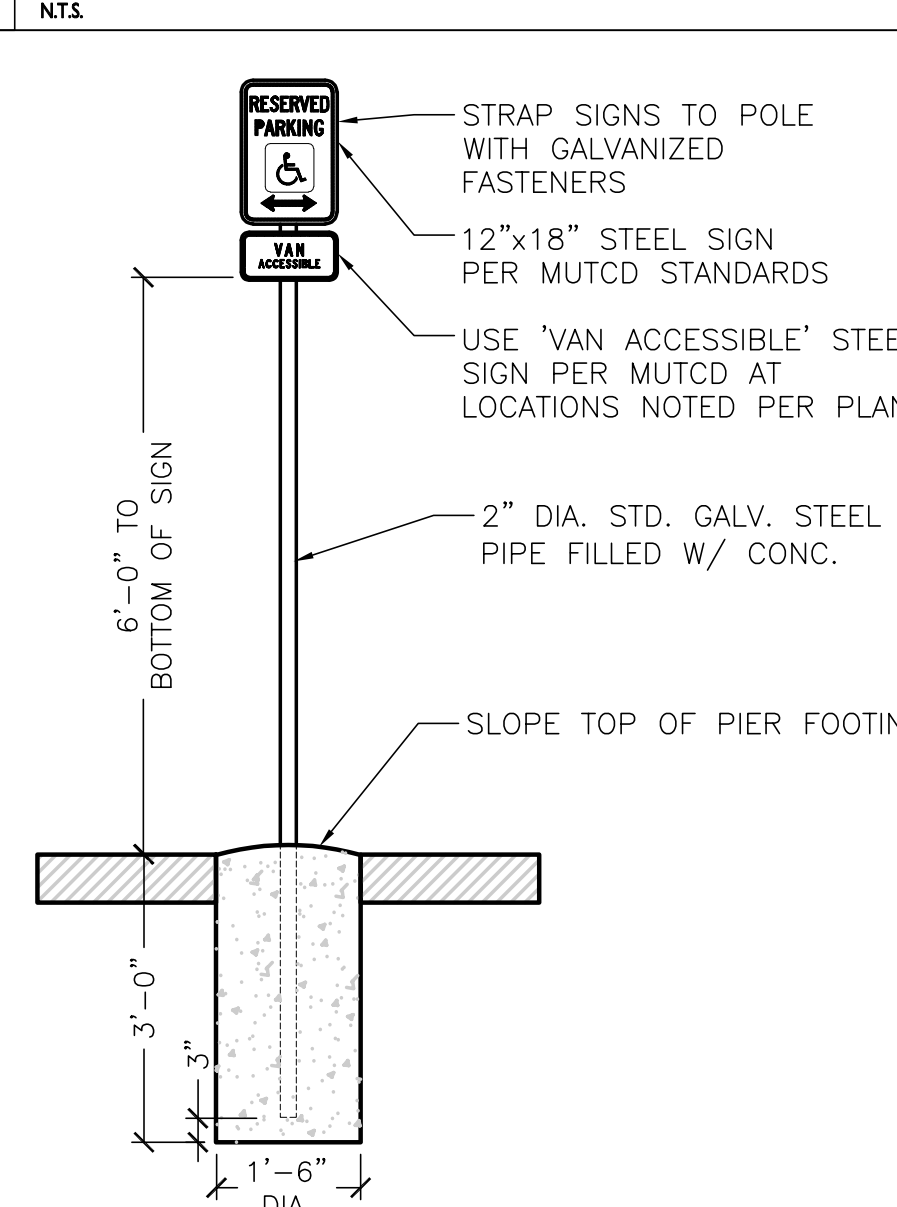
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CONTROL JOINT (CJ)  
(TYPICAL JOINT SPACING TO  
MATCH WIDTH OF WALK  
UNLESS SHOWN OTHERWISE)

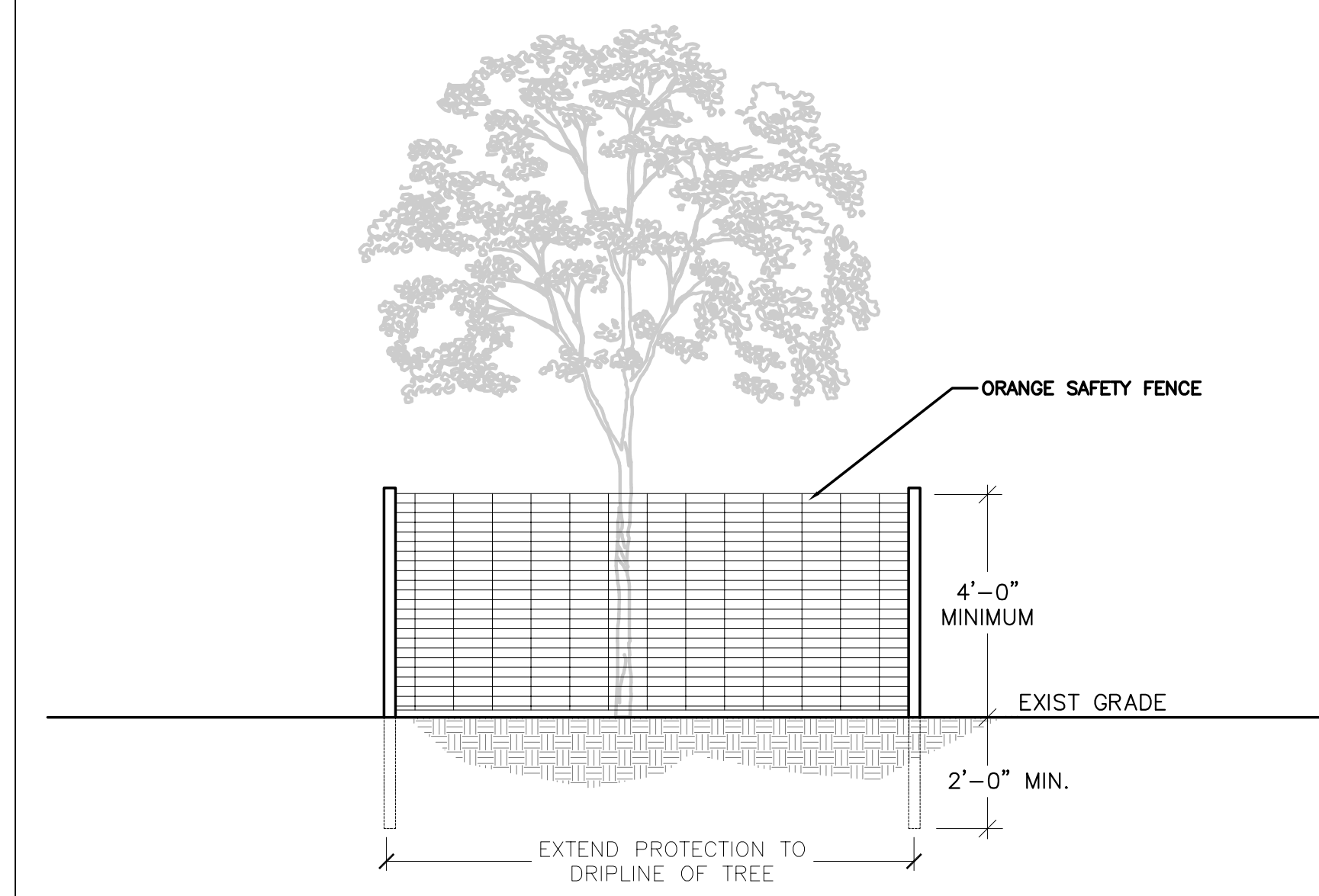


4 PEDESTRIAN PAVEMENT & JOINTS



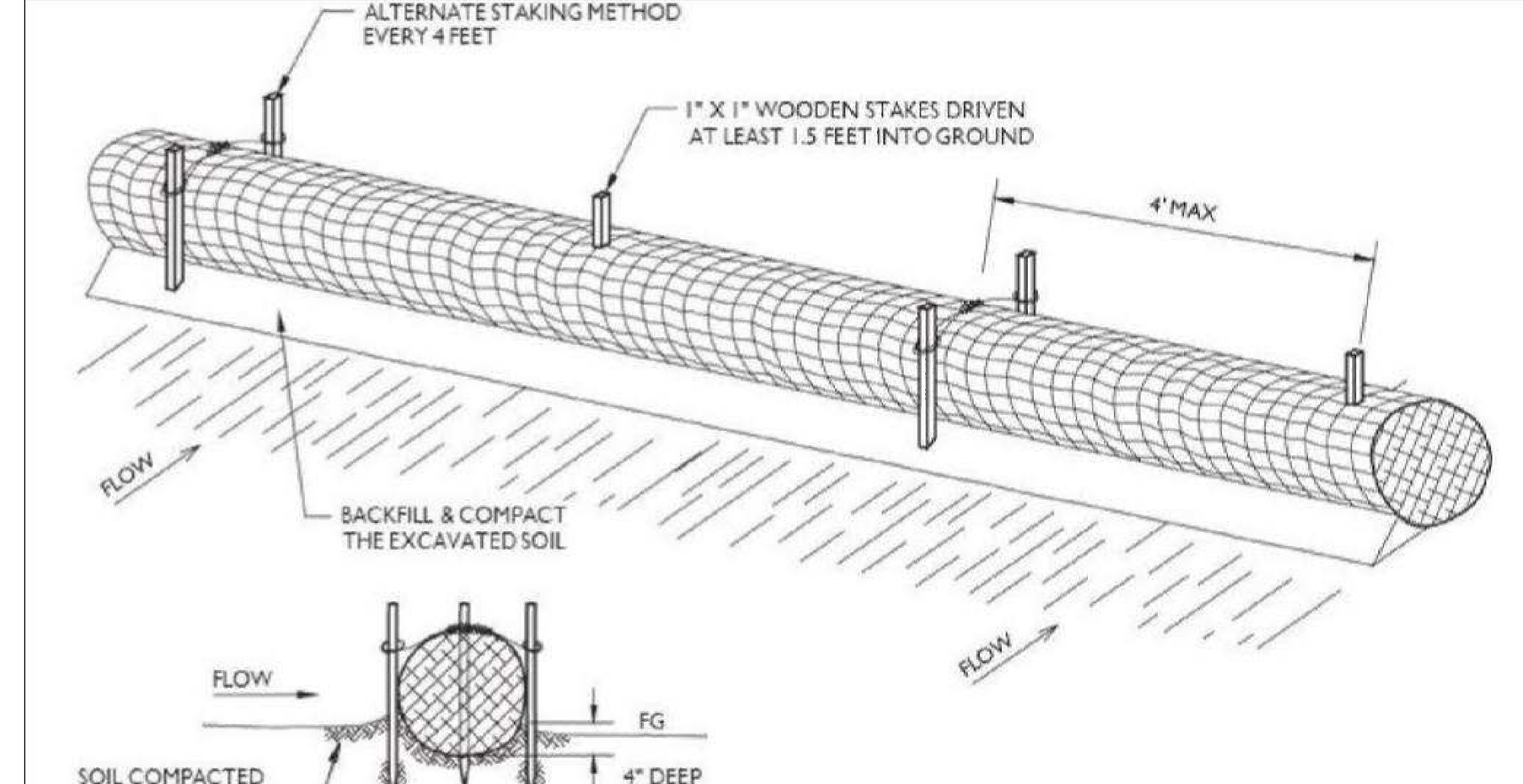
3 ACCESSIBLE STALL SIGN

SCALE 1/2"=1'-0"



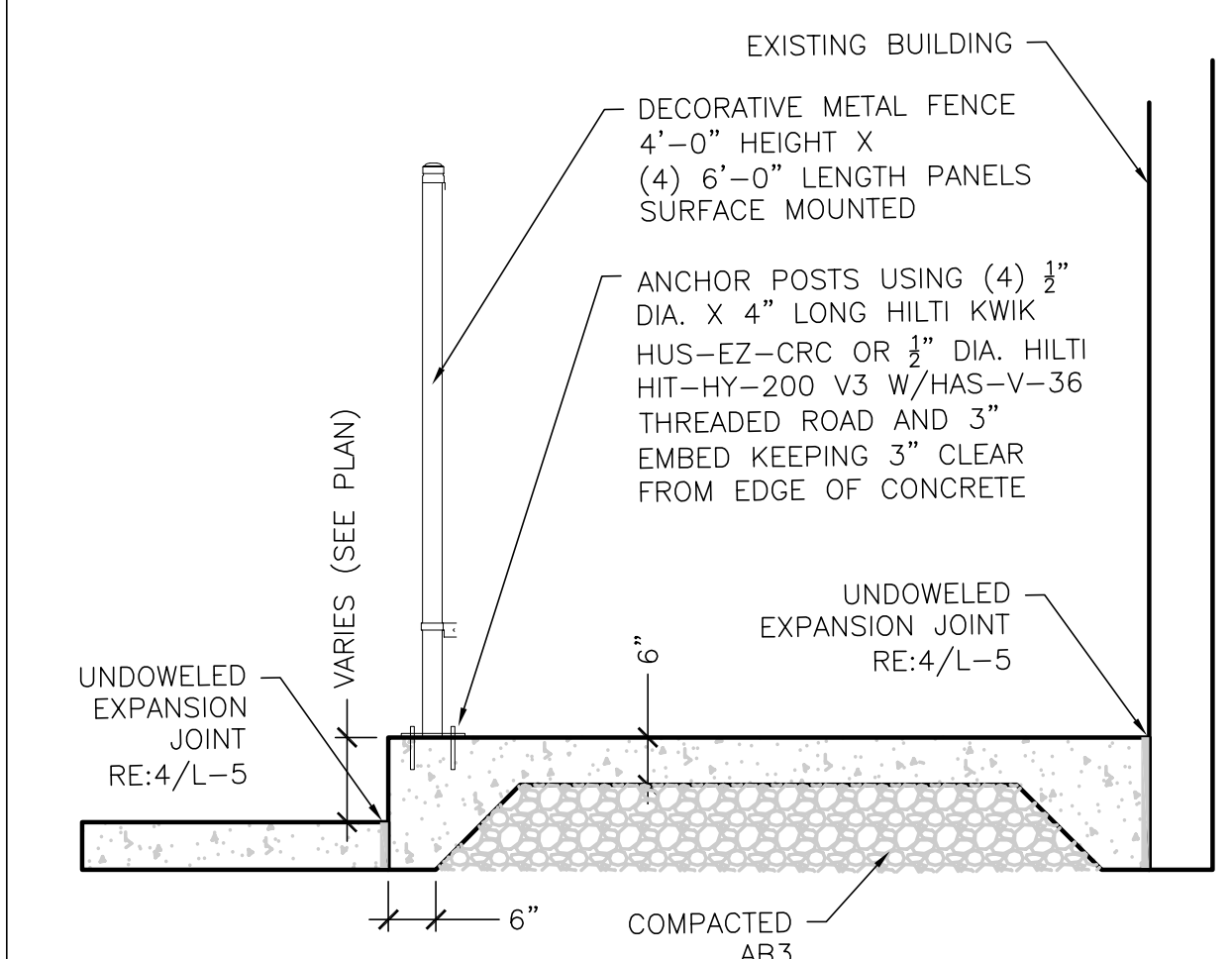
2 TREE PROTECTION

NTS



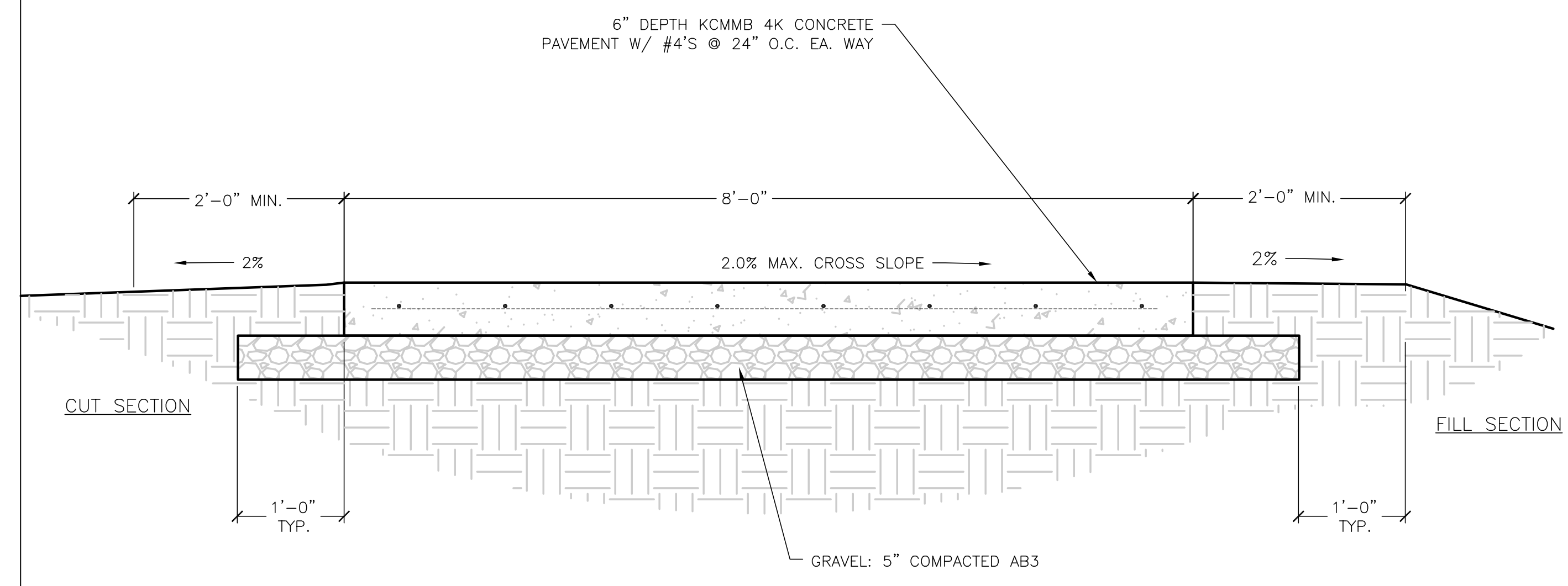
6 TYPICAL WATTLE SEDIMENT BARRIER

NOT TO SCALE



5 DINING HALL ENTRY SECTION

SCALE 1/2"=1'-0"



1 PEDESTRIAN WALK

SCALE 1"=1'-0"



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CROWDER STATE PARK  
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TRENTON, MISSOURI

PROJECT # X2534-01  
SITE # 5107  
ASSET # 7815107005

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DATE: \_\_\_\_\_  
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DATE: \_\_\_\_\_  
REVISION: \_\_\_\_\_  
DATE: \_\_\_\_\_  
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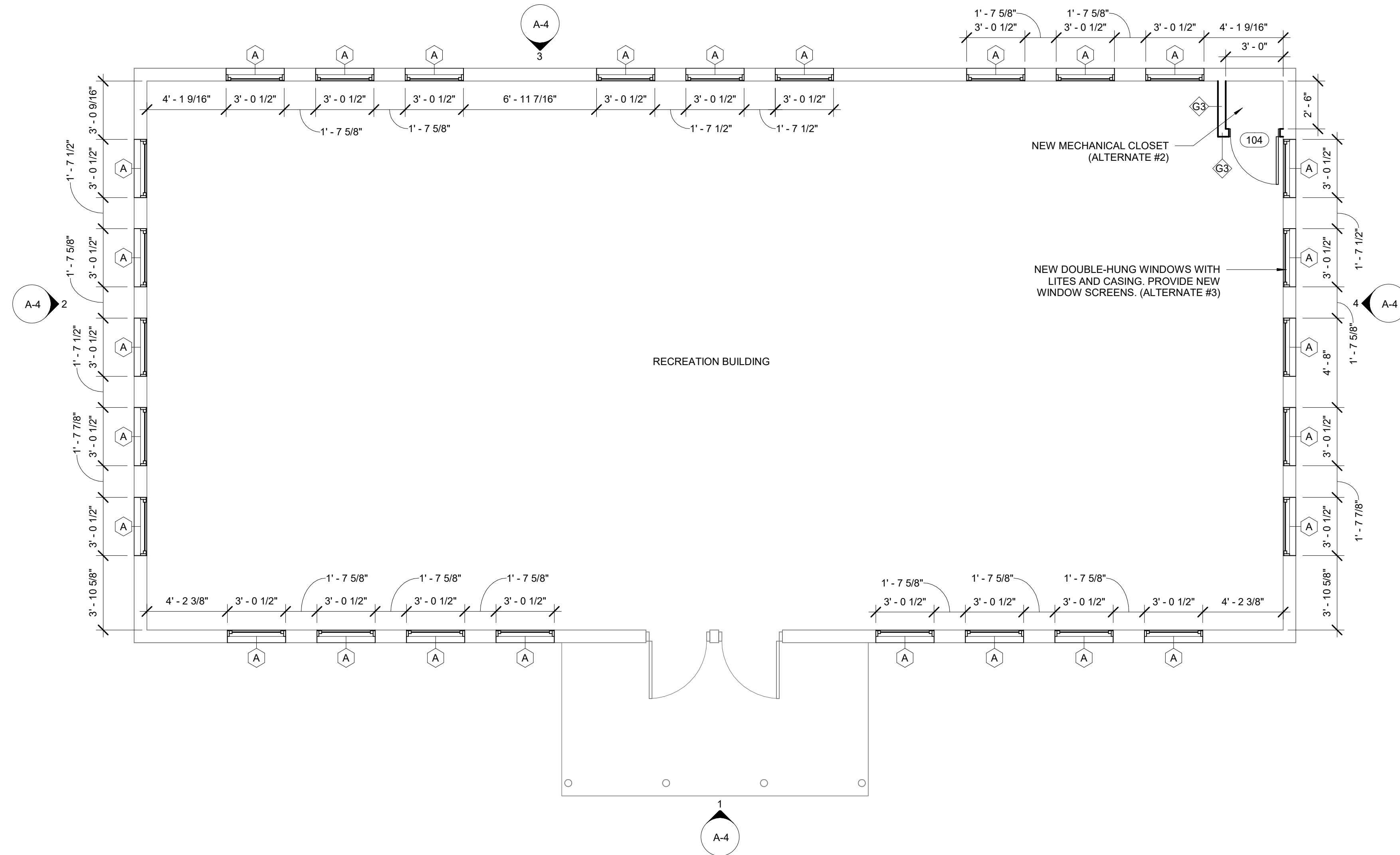
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DRAWN BY: LF \_\_\_\_\_  
CHECKED BY: AM \_\_\_\_\_  
DESIGNED BY: LF/AM \_\_\_\_\_

SHEET TITLE:  
**RECREATION  
BUILDING FLOOR  
PLAN**

SHEET NUMBER:

**A-1 (ALT-2,3)**

15 OF 39 SHEETS  
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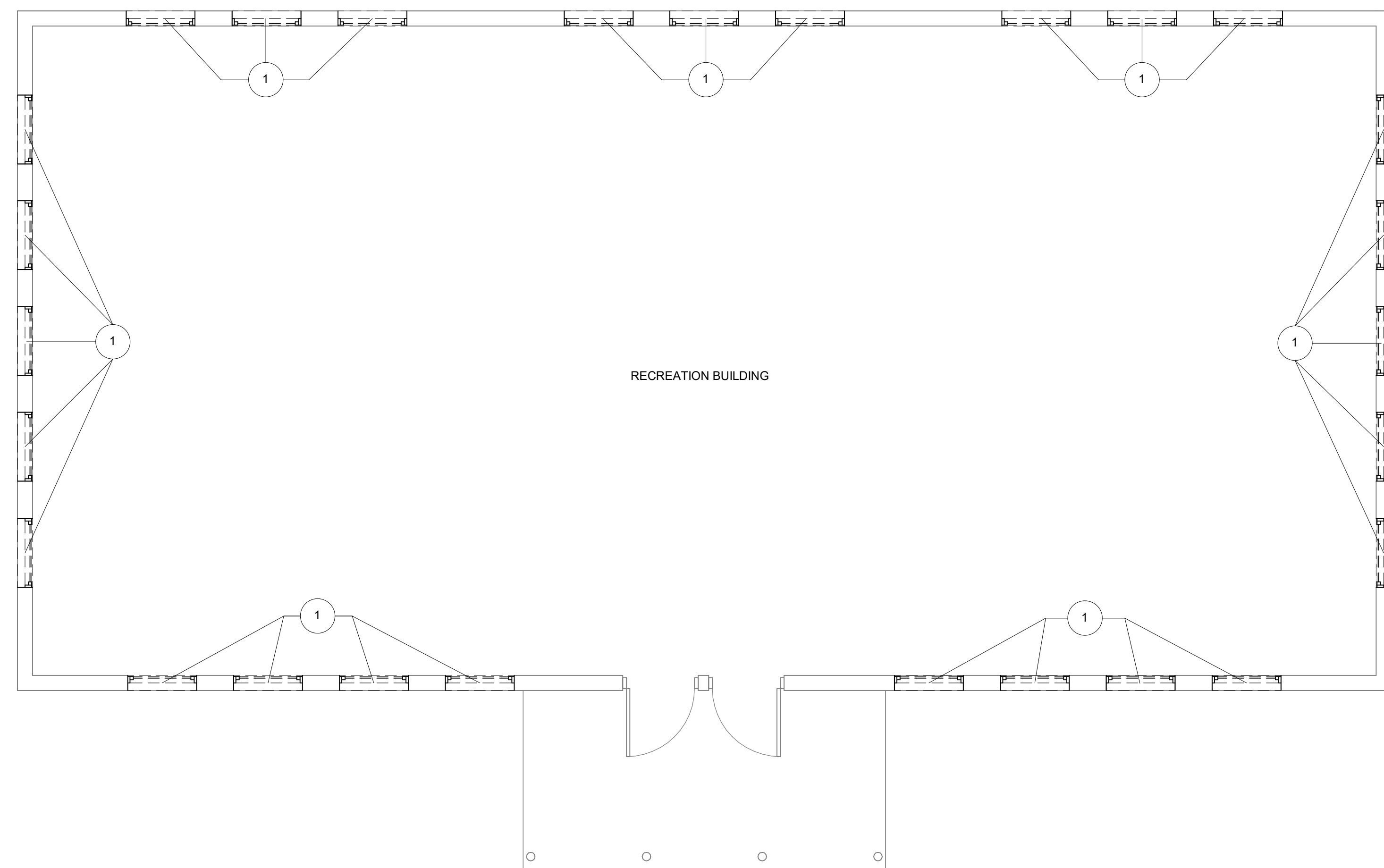
**NOTES:**

NEW WINDOWS TO BE PLACED IN EXISTING OPENINGS; FIELD VERIFY SIZE AND LOCATION OF ALL WINDOW OPENINGS.

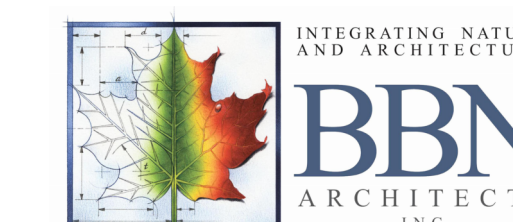
② RECREATION BUILDING FLOOR PLAN  
1/4" = 1'-0"

**DEMOLITION PLAN NOTES:**

- ① REMOVE EXISTING WINDOWS (ALTERNATE #3)



① RECREATION BUILDING DEMOLITION FLOOR PLAN (ALTERNATE #3)  
1/4" = 1'-0"



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PROJECT # X2534-01  
SITE # 5107  
ASSET # 7815107007  
7815107008  
7815107010

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DATE: \_\_\_\_\_  
REVISION: \_\_\_\_\_  
DATE: \_\_\_\_\_  
ISSUE DATE: 02/04/2026

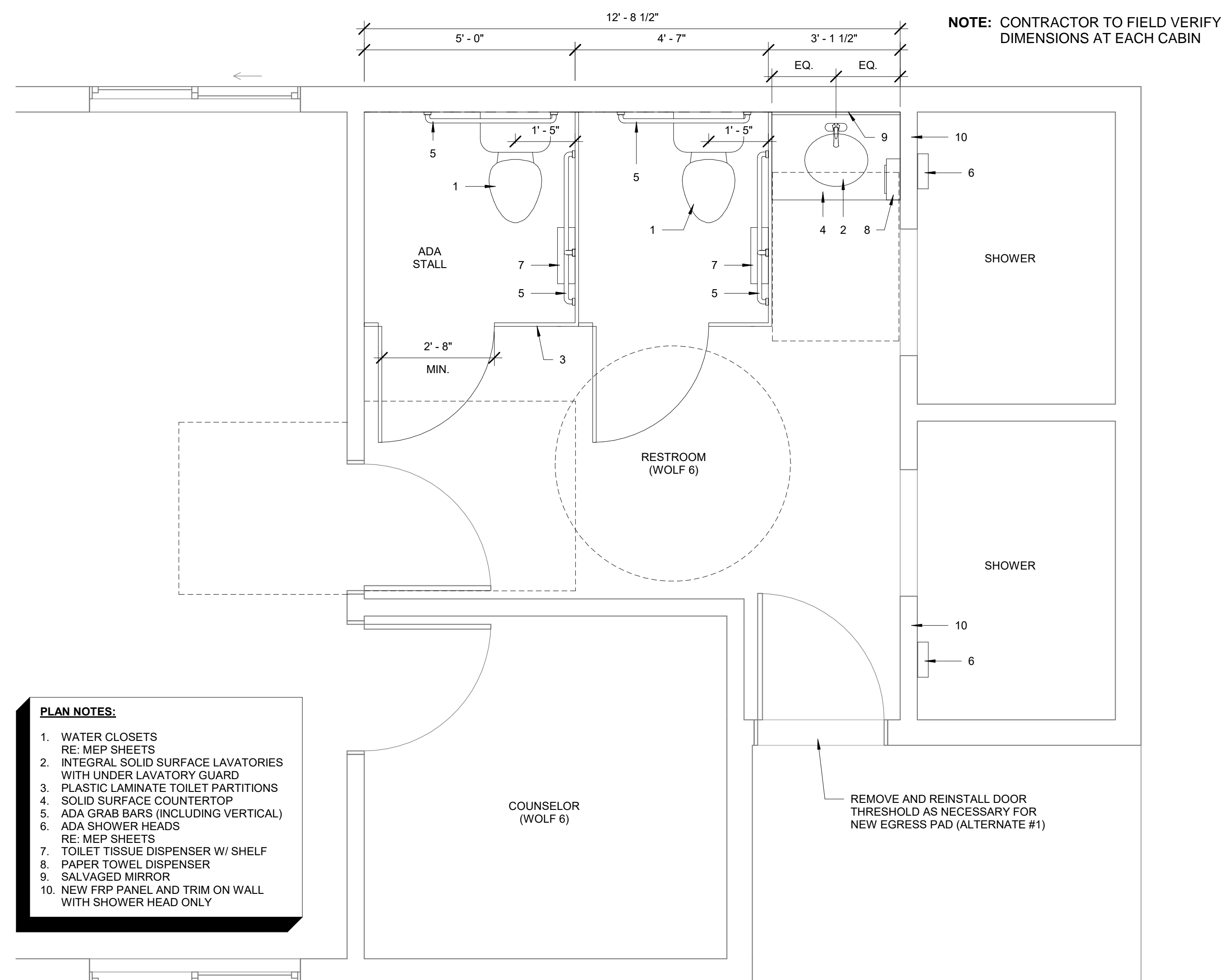
CAD DWG FILE: A-2  
DRAWN BY: LF  
CHECKED BY: AM  
DESIGNED BY: LF/AM

SHEET TITLE:  
**CABIN FLOOR  
PLAN (1)**

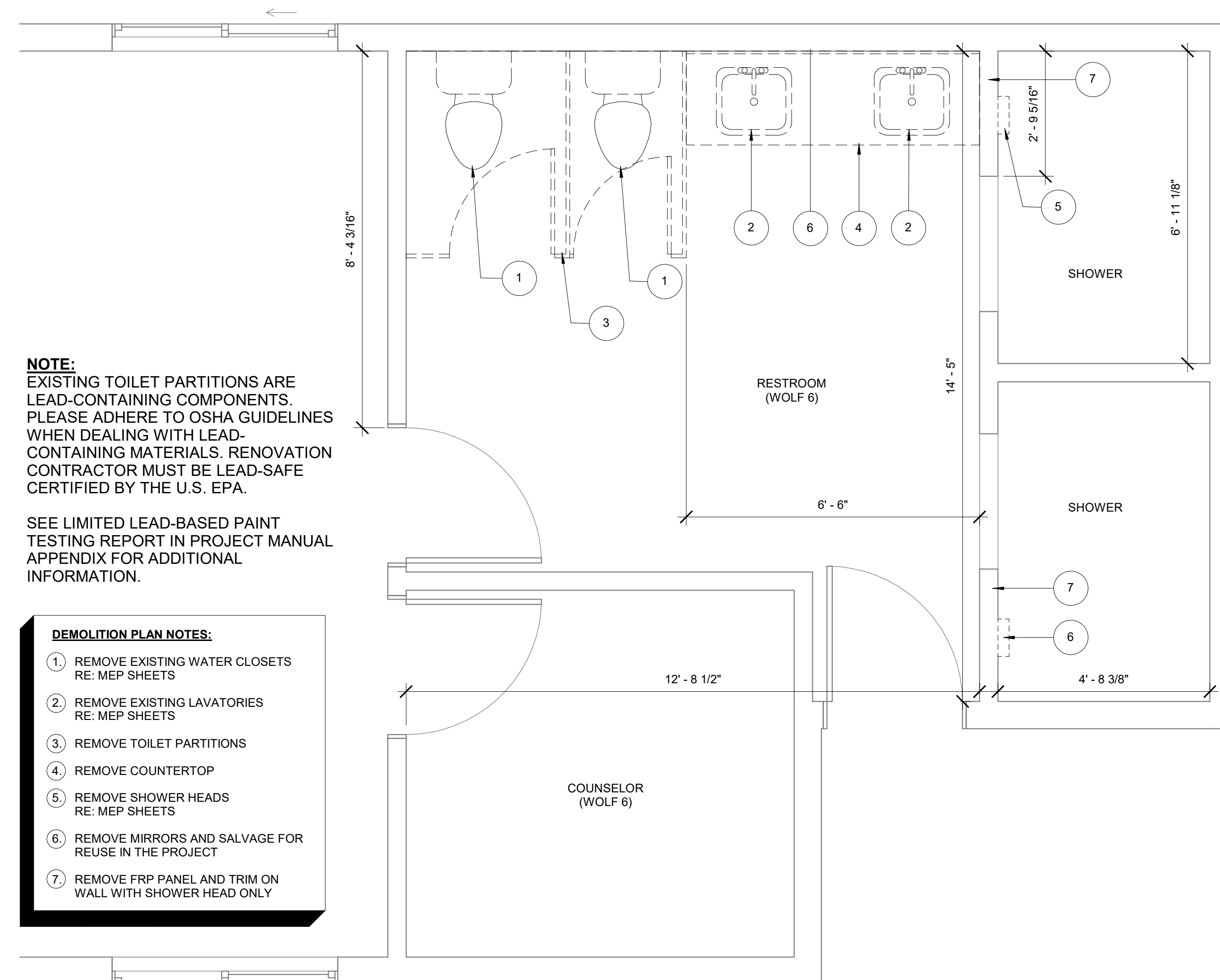
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**A-2**

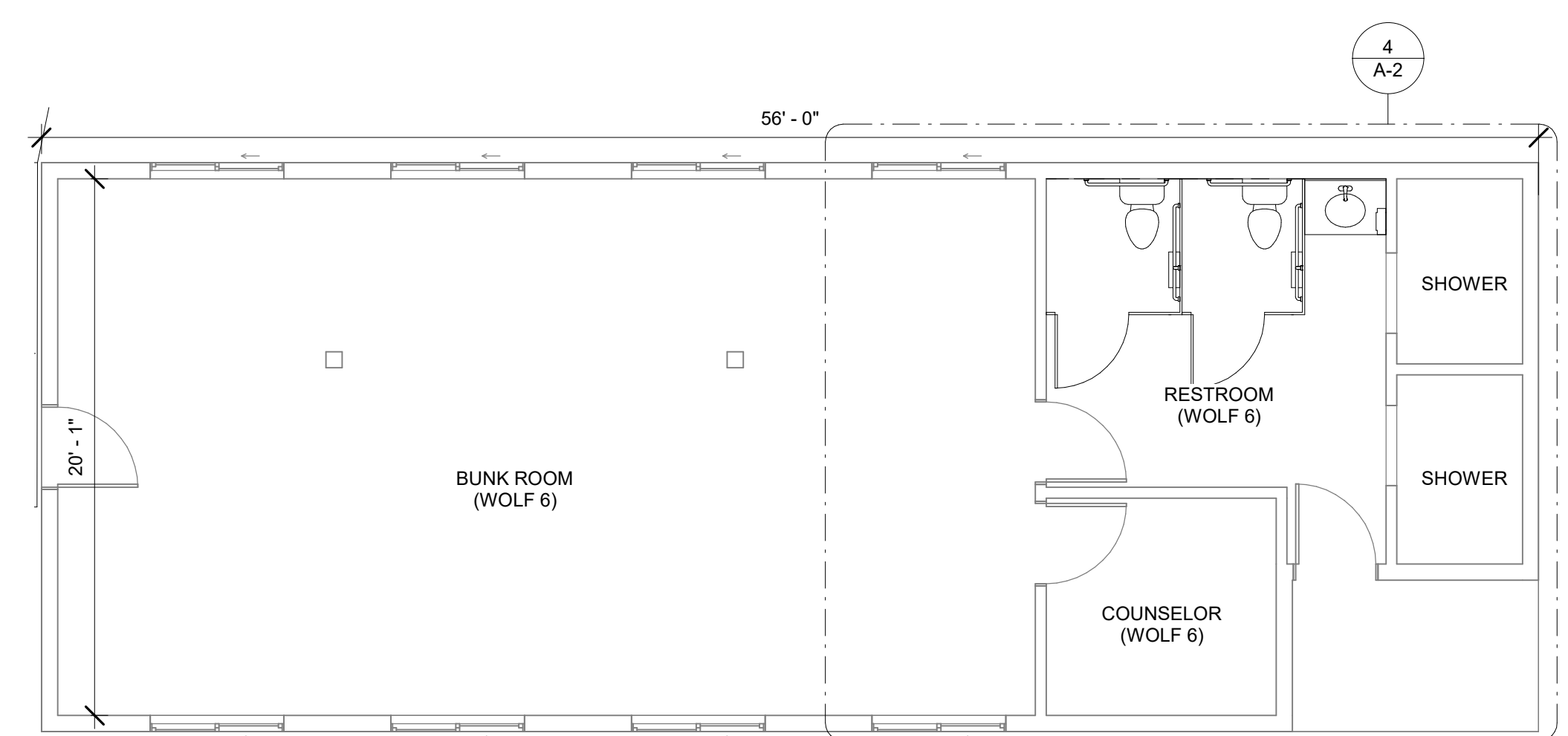
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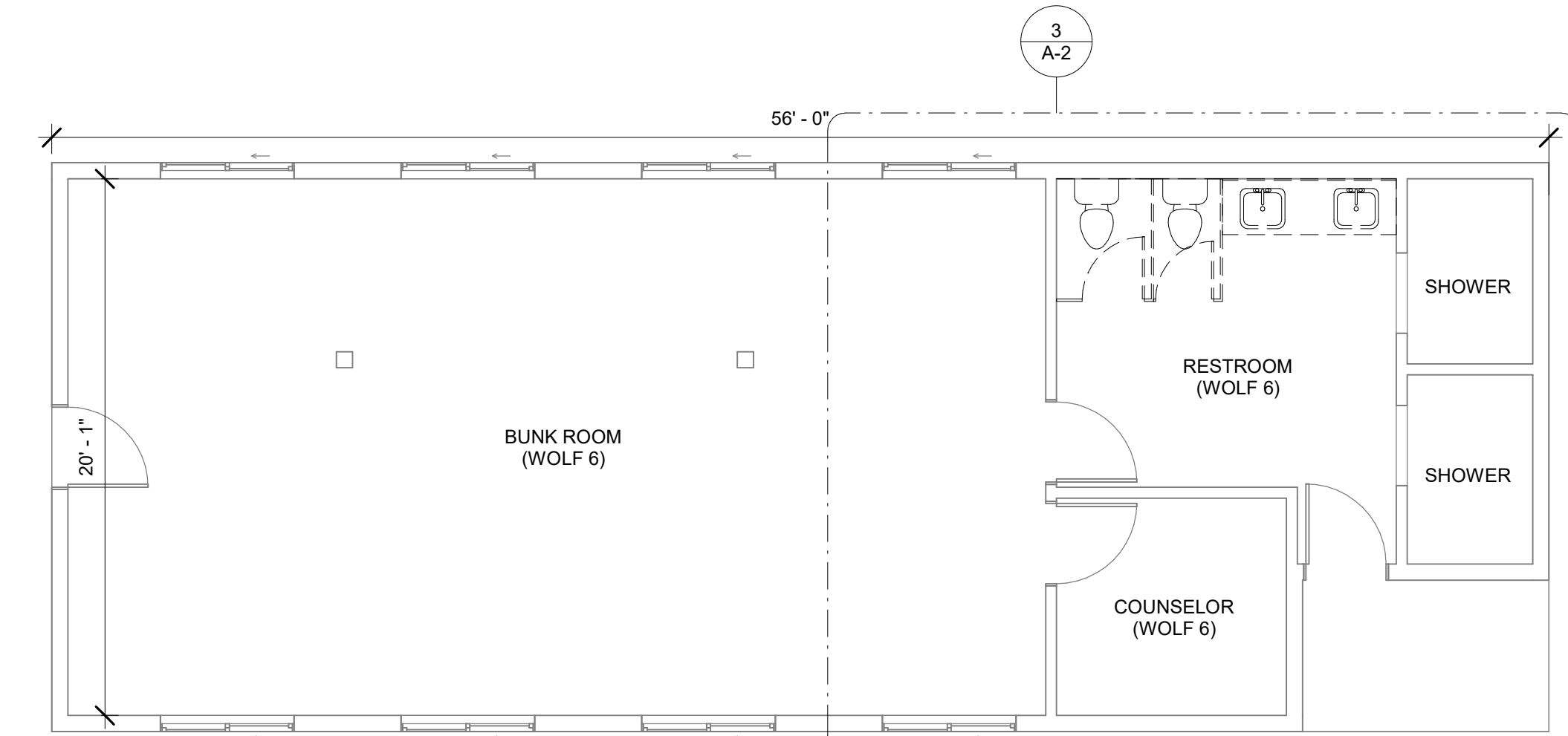
② ENLARGED CABIN FLOOR PLAN 1 - WOLF 6 (TYPICAL 3 CABINS: HAWK 3, FOX 5, WOLF 6)  
1/2" = 1'-0"



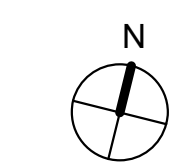
③ ENLARGED DEMO FLOOR PLAN CABIN 1 (TYPICAL 3 CABINS: HAWK 3, FOX 5, WOLF 6)  
1/2" = 1'-0"



② CABIN FLOOR PLAN 1 - WOLF 6 (TYPICAL 3 CABINS: HAWK 3, FOX 5, WOLF 6)  
3/16" = 1'-0"



③ DEMO FLOOR PLAN CABIN 1 (TYPICAL 3 CABINS: HAWK 3, FOX 5, WOLF 6)  
3/16" = 1'-0"





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REVISION: \_\_\_\_\_  
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DATE: \_\_\_\_\_  
ISSUE DATE: 02/04/2026

CAD DWG FILE: A-3  
DRAWN BY: LF  
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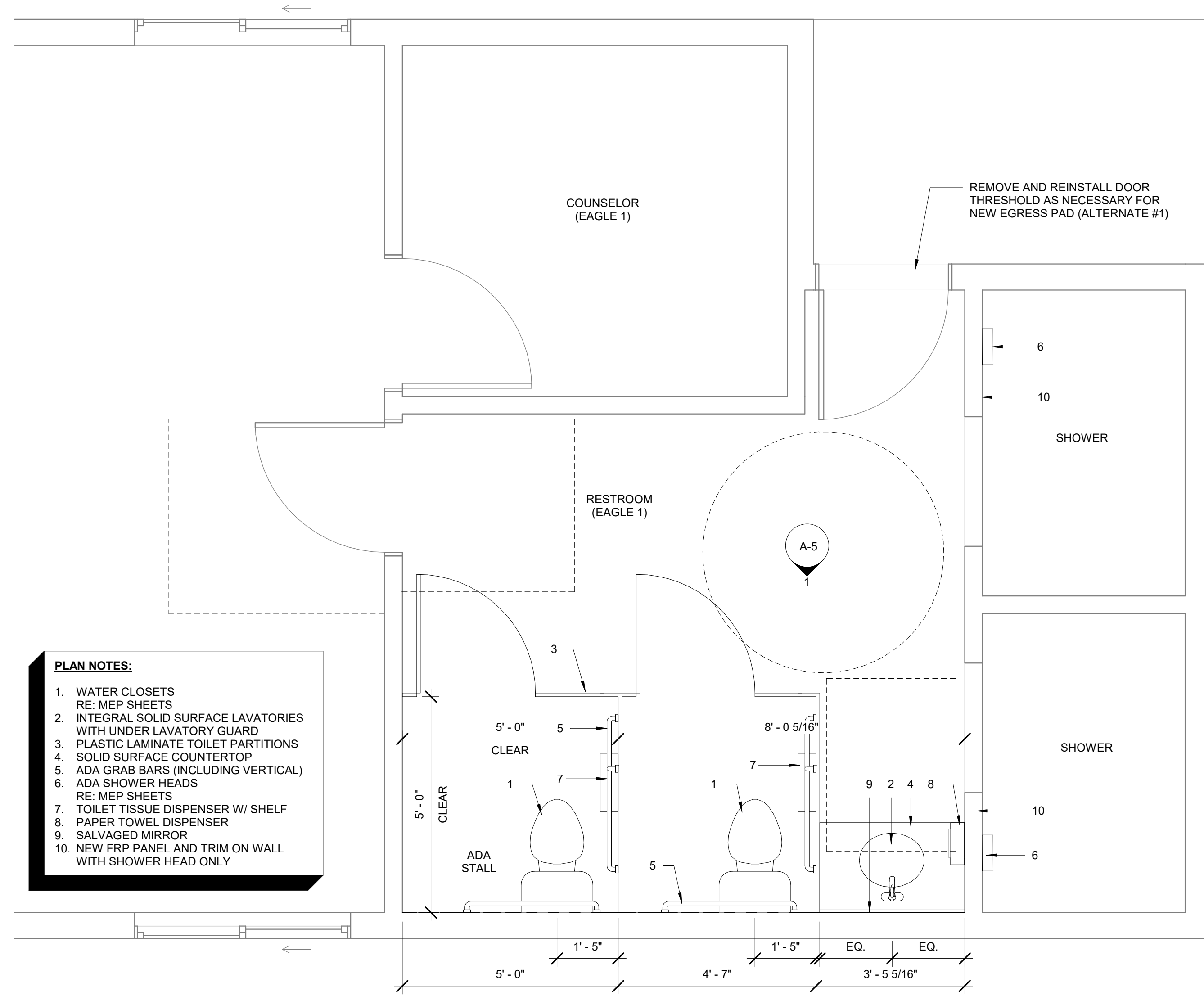
SHEET TITLE:  
**CABIN FLOOR  
PLAN (2)**

SHEET NUMBER:

**A-3**

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NOTE: CONTRACTOR TO FIELD VERIFY  
DIMENSIONS AT EACH CABIN



- PLAN NOTES:**
1. WATER CLOSETS  
RE: MEP SHEETS
  2. INTEGRAL SOLID SURFACE LAVATORIES  
WITH UNDER LAVATORY GUARD
  3. PLASTIC LAMINATE TOILET PARTITIONS
  4. SOLID SURFACE COUNTERTOP
  5. ADA GRAB BARS (INCLUDING VERTICAL)
  6. ADA SHOWER HEADS  
RE: MEP SHEETS
  7. TOILET TISSUE DISPENSER W/ SHELF  
RE: MEP SHEETS
  8. PAPER TOWEL DISPENSER
  9. SALVAGED MIRROR
  10. NEW FRP PANEL AND TRIM ON WALL  
WITH SHOWER HEAD ONLY

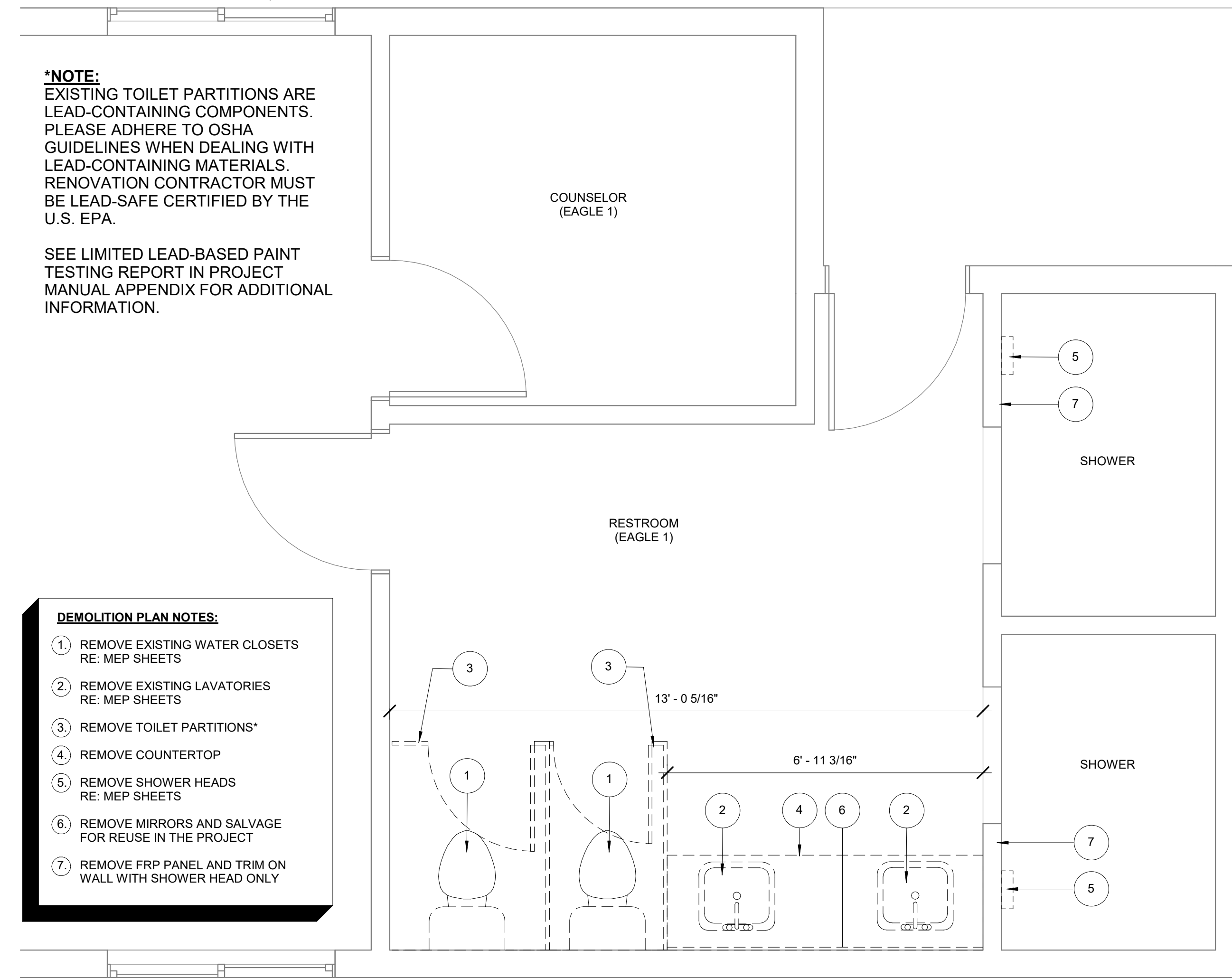
4 ENLARGED CABIN FLOOR PLAN 2 (TYPICAL 3 CABINS: EAGLE 1, FALCON 2, COYOTE 4)  
1/2" = 1'-0"

\*NOTE:  
EXISTING TOILET PARTITIONS ARE  
LEAD-CONTAINING COMPONENTS.  
PLEASE ADHERE TO OSHA  
GUIDELINES WHEN DEALING WITH  
LEAD-CONTAINING MATERIALS.  
RENOVATION CONTRACTOR MUST  
BE LEAD-SAFE CERTIFIED BY THE  
U.S. EPA.

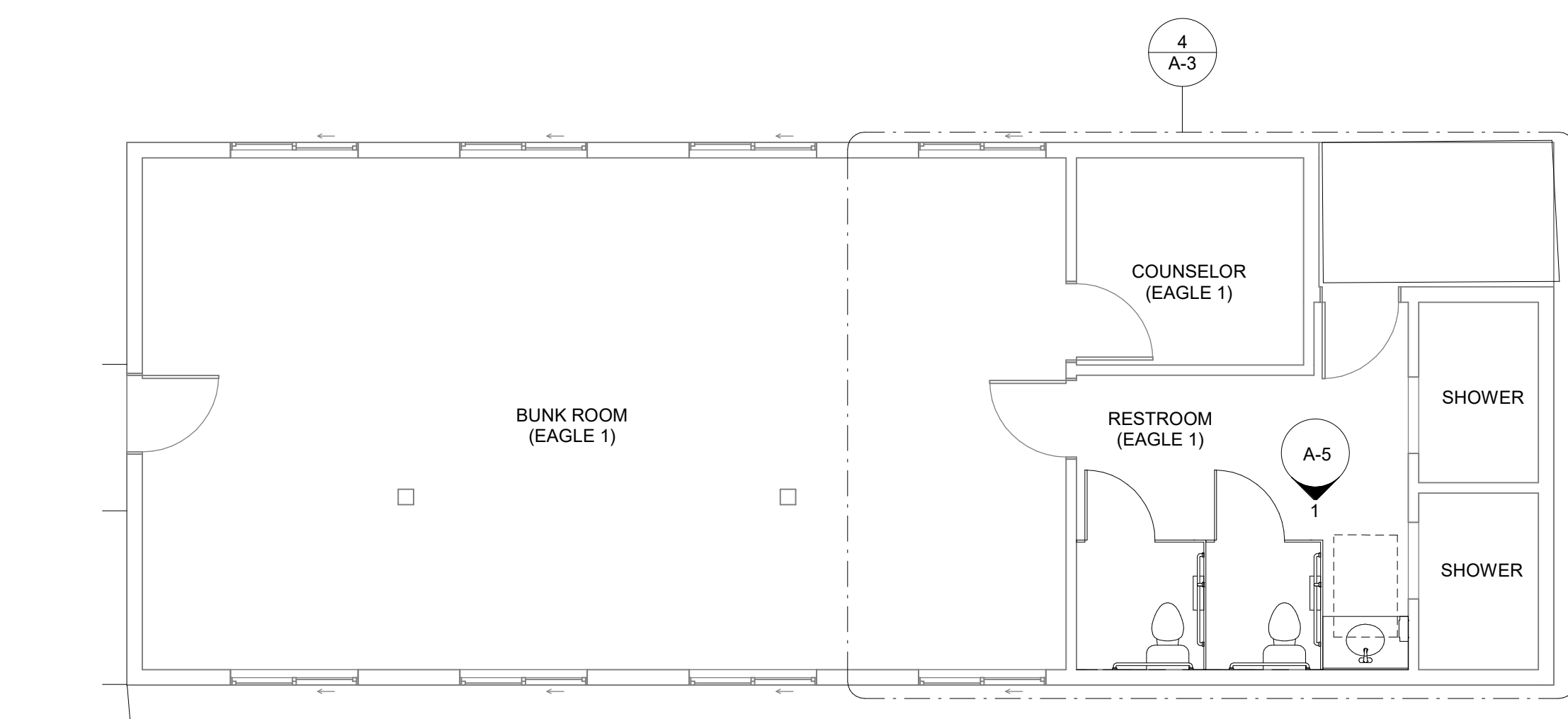
SEE LIMITED LEAD-BASED PAINT  
TESTING REPORT IN PROJECT  
MANUAL APPENDIX FOR ADDITIONAL  
INFORMATION.

**DEMOLITION PLAN NOTES:**

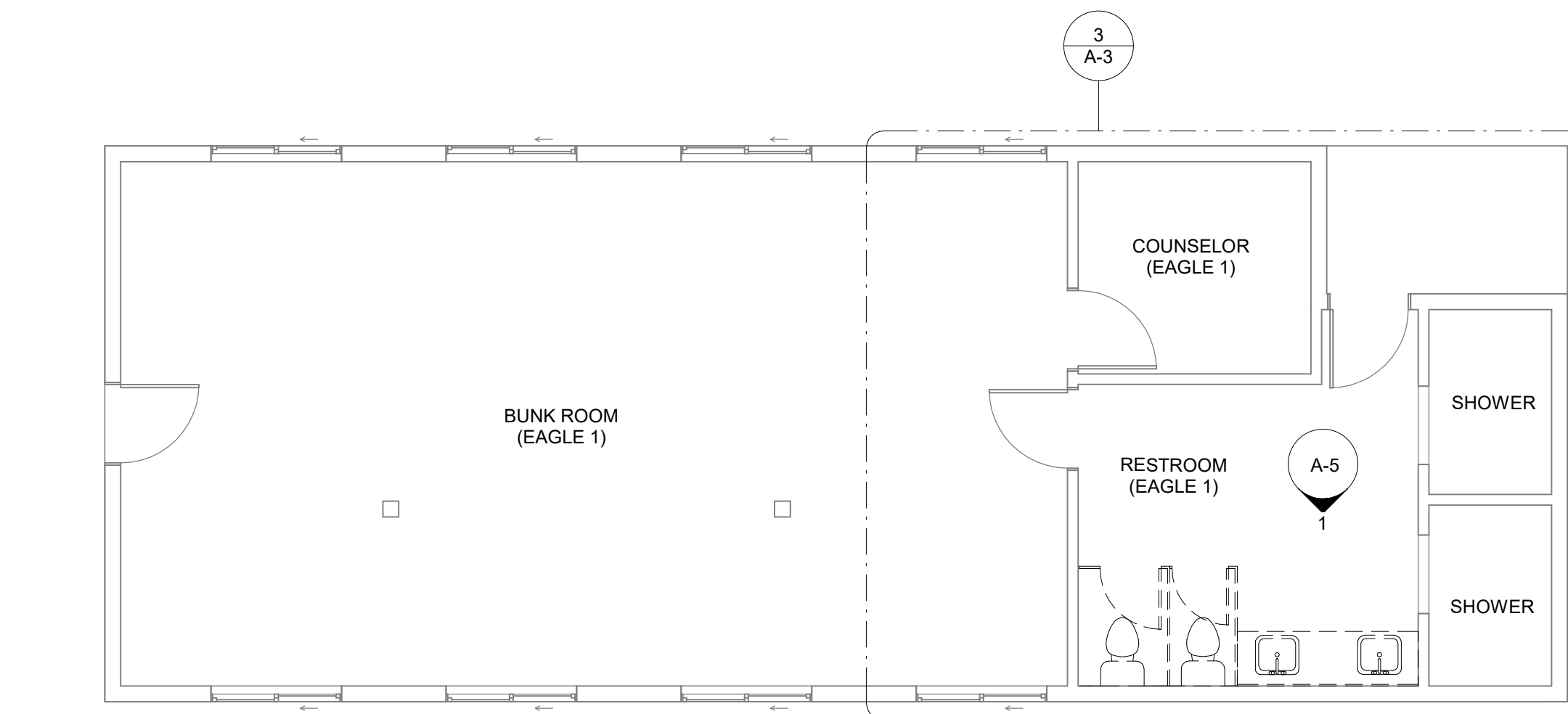
1. REMOVE EXISTING WATER CLOSETS  
RE: MEP SHEETS
2. REMOVE EXISTING LAVATORIES  
RE: MEP SHEETS
3. REMOVE TOILET PARTITIONS\*
4. REMOVE COUNTERTOP
5. REMOVE SHOWER HEADS  
RE: MEP SHEETS
6. REMOVE MIRRORS AND SALVAGE  
FOR REUSE IN THE PROJECT
7. REMOVE FRP PANEL AND TRIM ON  
WALL WITH SHOWER HEAD ONLY



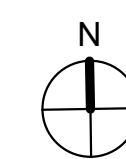
3 ENLARGED DEMO FLOOR PLAN - CABIN 2 (TYPICAL 3 CABINS: EAGLE 1, FALCON 2, COYOTE 4)  
1/2" = 1'-0"



1 CABIN FLOOR PLAN 2 (TYPICAL 3 CABINS: EAGLE 1, FALCON 2, COYOTE 4)  
3/16" = 1'-0"



2 DEMO FLOOR PLAN CABIN 2 (TYPICAL 3 CABINS: EAGLE 1, FALCON 2, COYOTE 4)  
3/16" = 1'-0"





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SITE # 5107  
ASSET # 7815107005

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DATE: \_\_\_\_\_  
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DATE: \_\_\_\_\_  
ISSUE DATE: 02/04/2026

CAD DWG FILE: A-4  
DRAWN BY: LF  
CHECKED BY: AM  
DESIGNED BY: LF/AM

SHEET TITLE:  
**RECREATION  
BUILDING EXTERIOR  
ELEVATIONS**

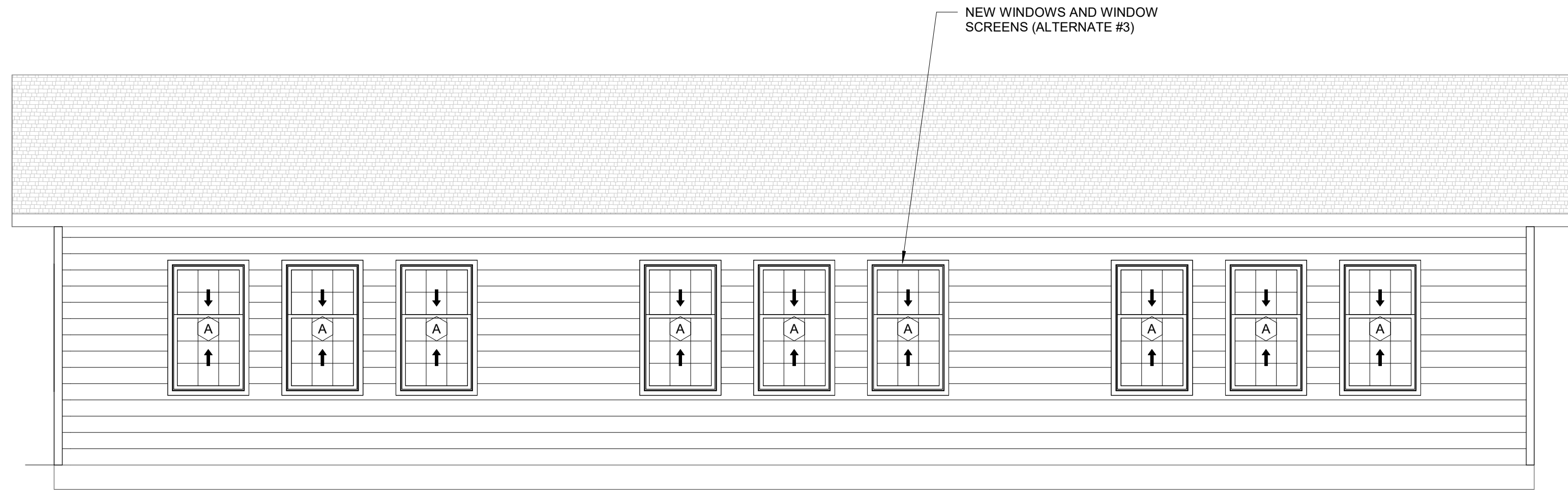
SHEET NUMBER:

**A-4 (ALT-3)**

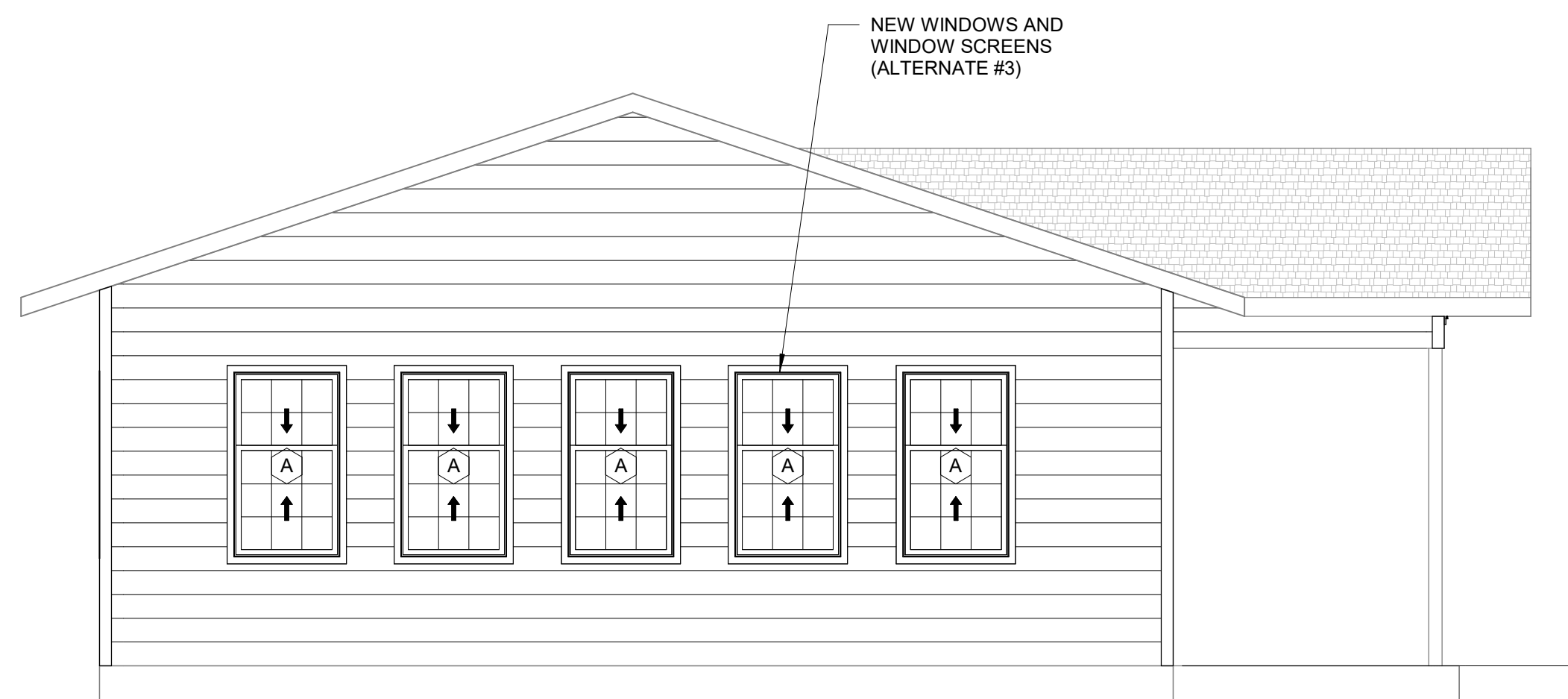
18 OF 39 SHEETS  
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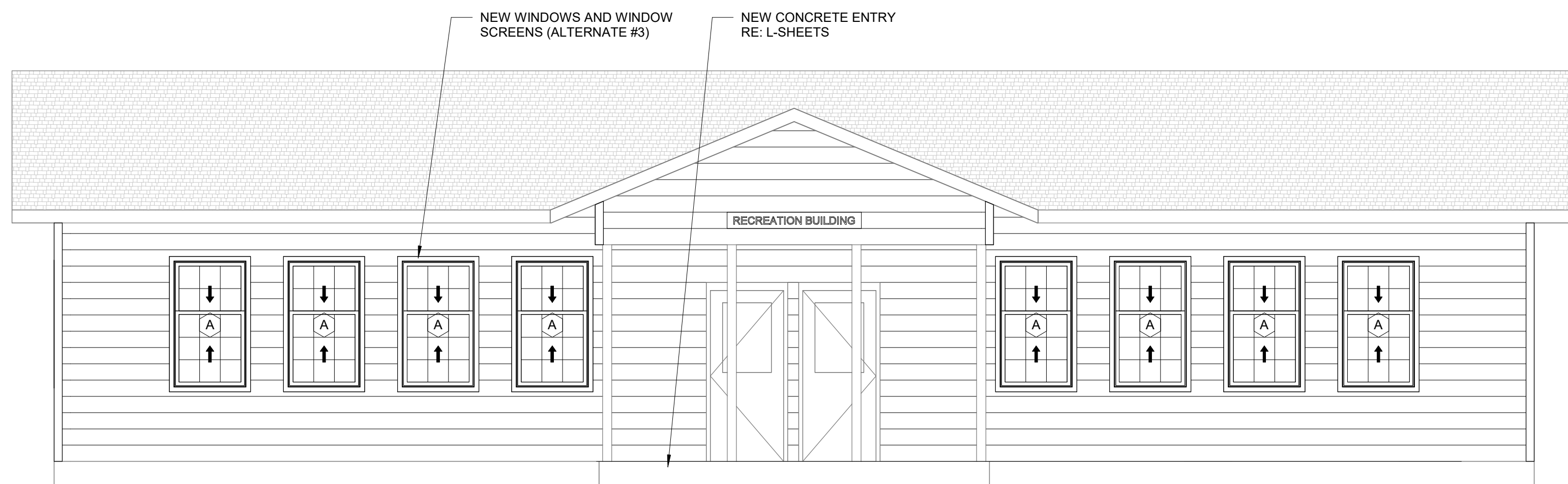
④ RECREATION BUILDING EAST ELEVATION  
1/4" = 1'-0"



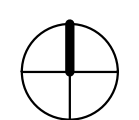
③ RECREATION BUILDING NORTH ELEVATION  
1/4" = 1'-0"



② RECREATION BUILDING WEST ELEVATION  
1/4" = 1'-0"



① RECREATION BUILDING SOUTH ELEVATION  
1/4" = 1'-0"





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DATE: \_\_\_\_\_

ISSUE DATE: 02/04/2026

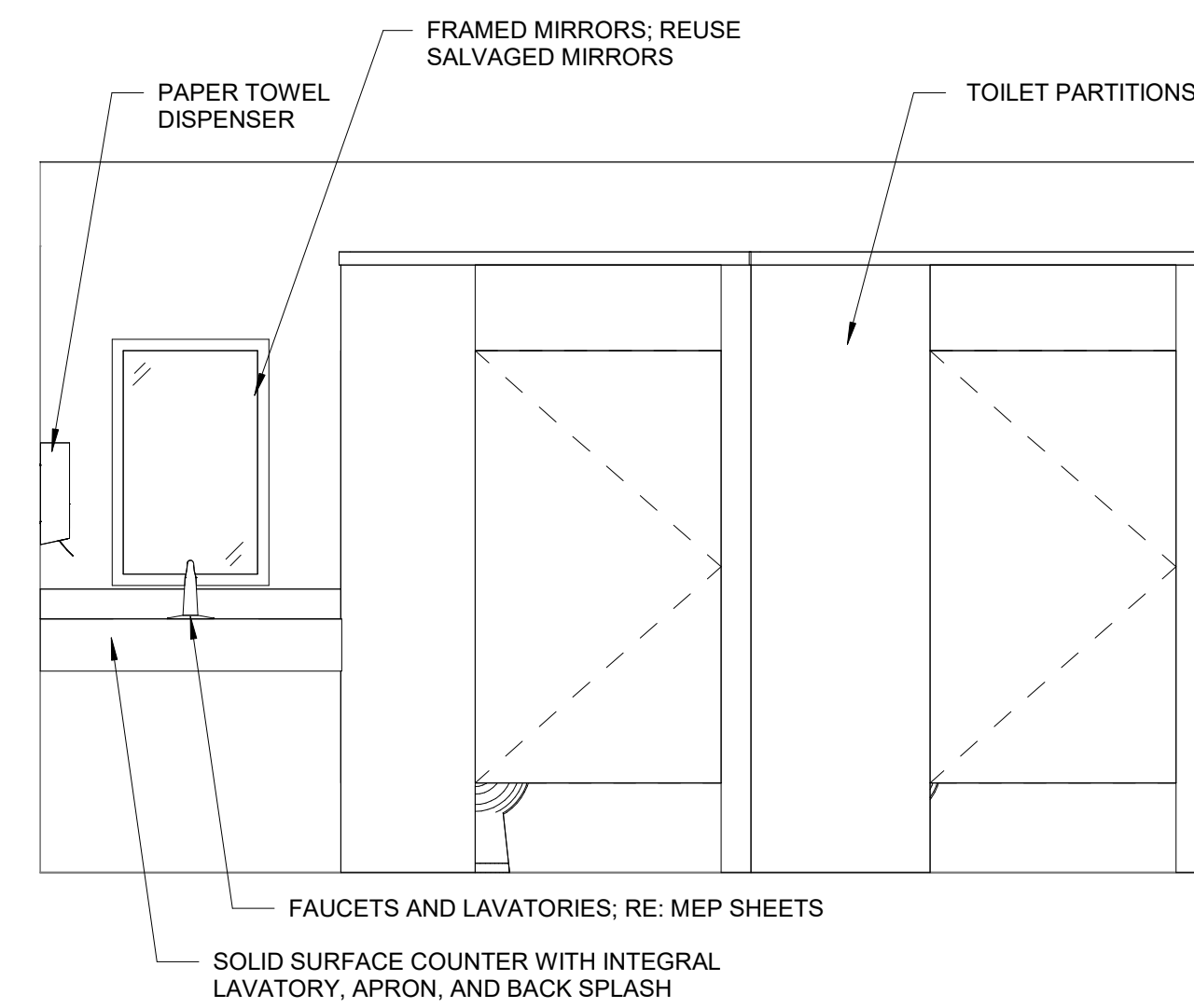
CAD DWG FILE: A-5  
DRAWN BY: LF  
CHECKED BY: AM  
DESIGNED BY: LF/AM

SHEET TITLE:  
**INTERIOR  
ELEVATIONS**

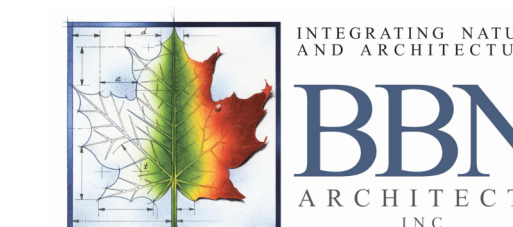
SHEET NUMBER:

**A-5**

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① CABIN RESTROOM ELEVATION (EAGLE 1 - TYP. 6 RESTROOMS)  
1/2" = 1'-0"



**RESTROOM BUILDING CODE INFORMATION:**  
USE GROUP CLASSIFICATION: U UTILITY  
CONSTRUCTION TYPE: V-B  
OCCUPANT COUNT: 0 OCCUPANTS  
SEISMIC DESIGN CATEGORY B: LOW HAZARD

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MULTIPLE GROUP CAMP ASSETS

CROWDER STATE PARK  
76 NORTHWEST HWY 128  
TRENTON, MISSOURI

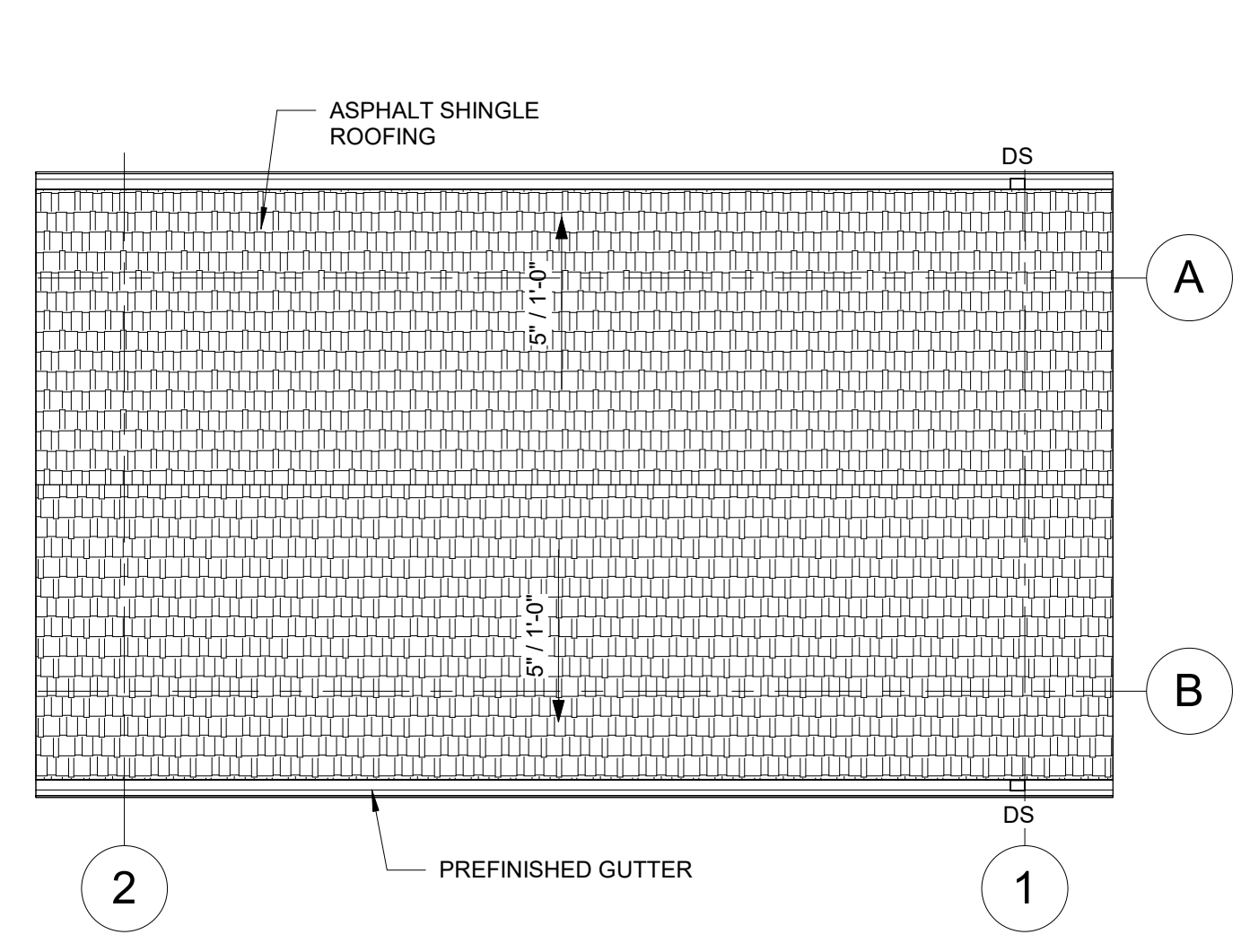
PROJECT # X2534-01  
SITE # 5107  
ASSET # 7815107048

REVISION:  
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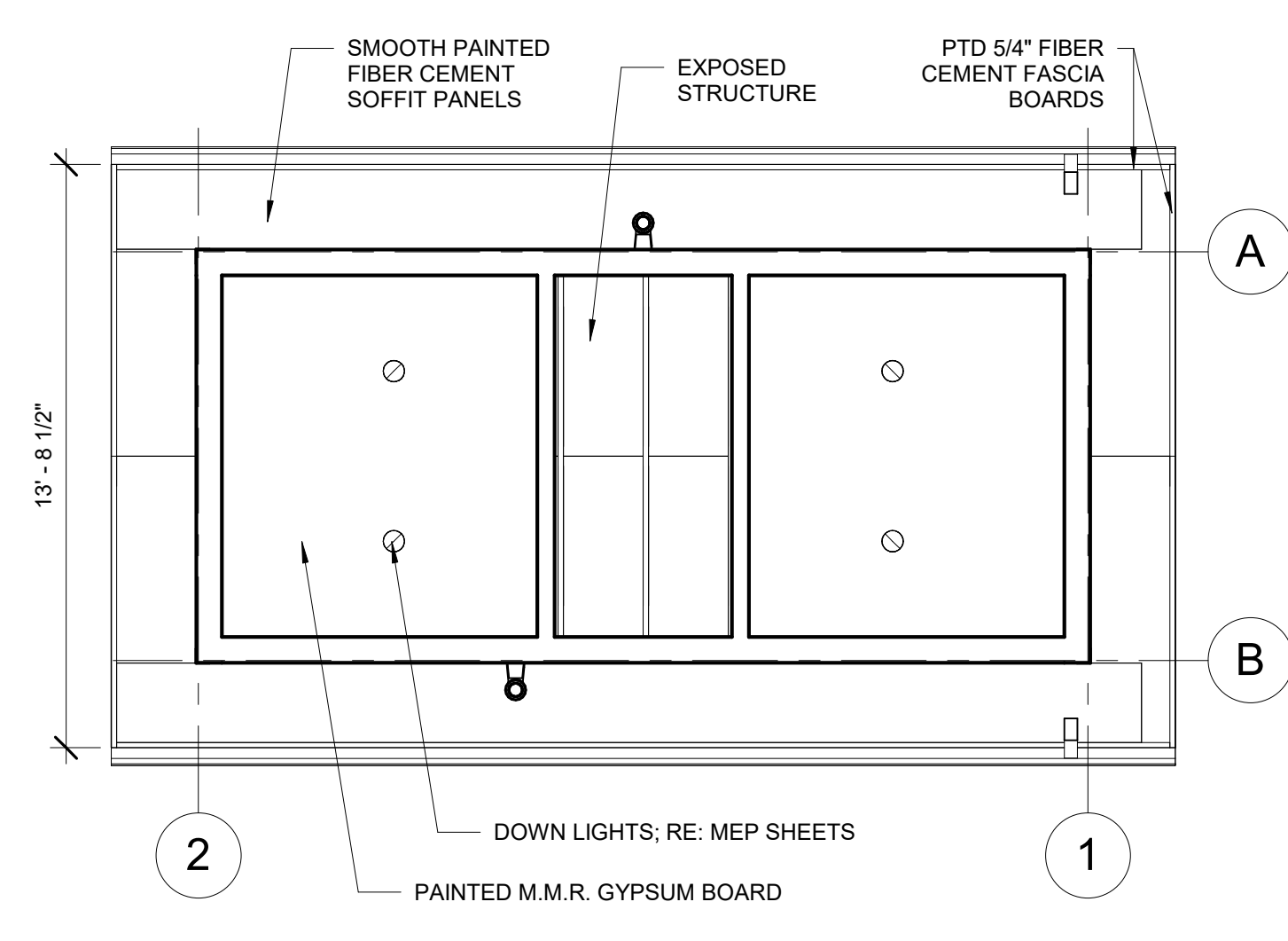
CAD DWG FILE: A-6  
DRAWN BY: LF  
CHECKED BY: AM  
DESIGNED BY: LF/AM

SHEET TITLE:  
**RESTROOM  
BUILDING  
DRAWINGS**

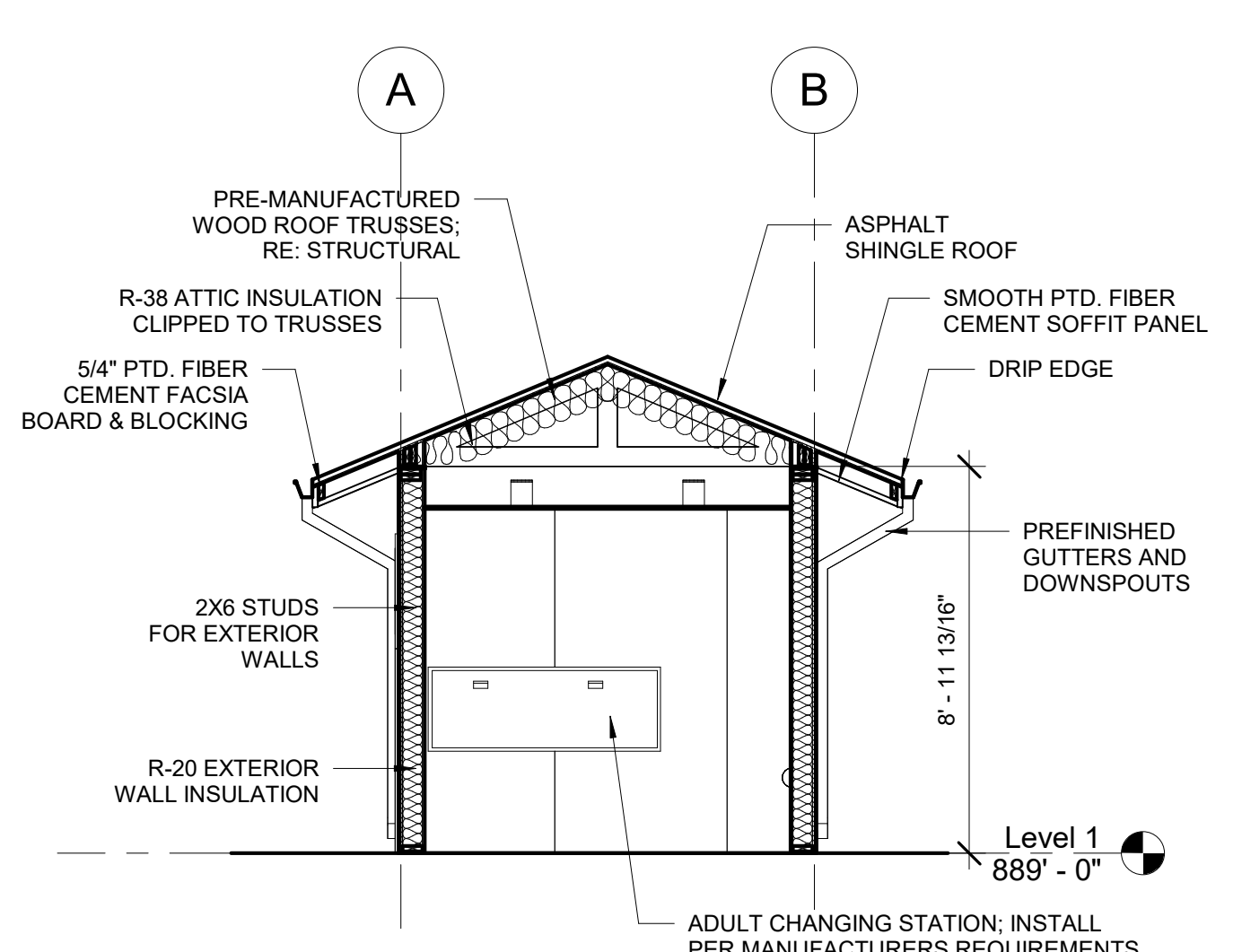
SHEET NUMBER:  
**A-6**  
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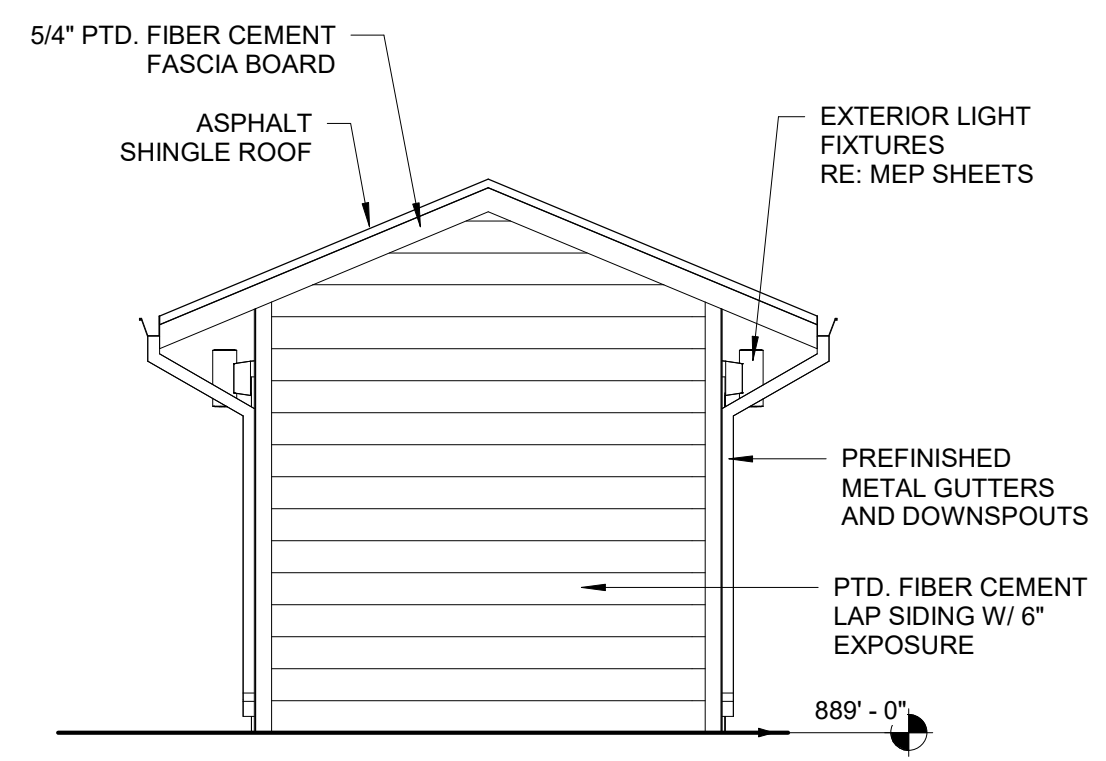
12 RESTROOM ROOF PLAN  
1/4" = 1'-0"



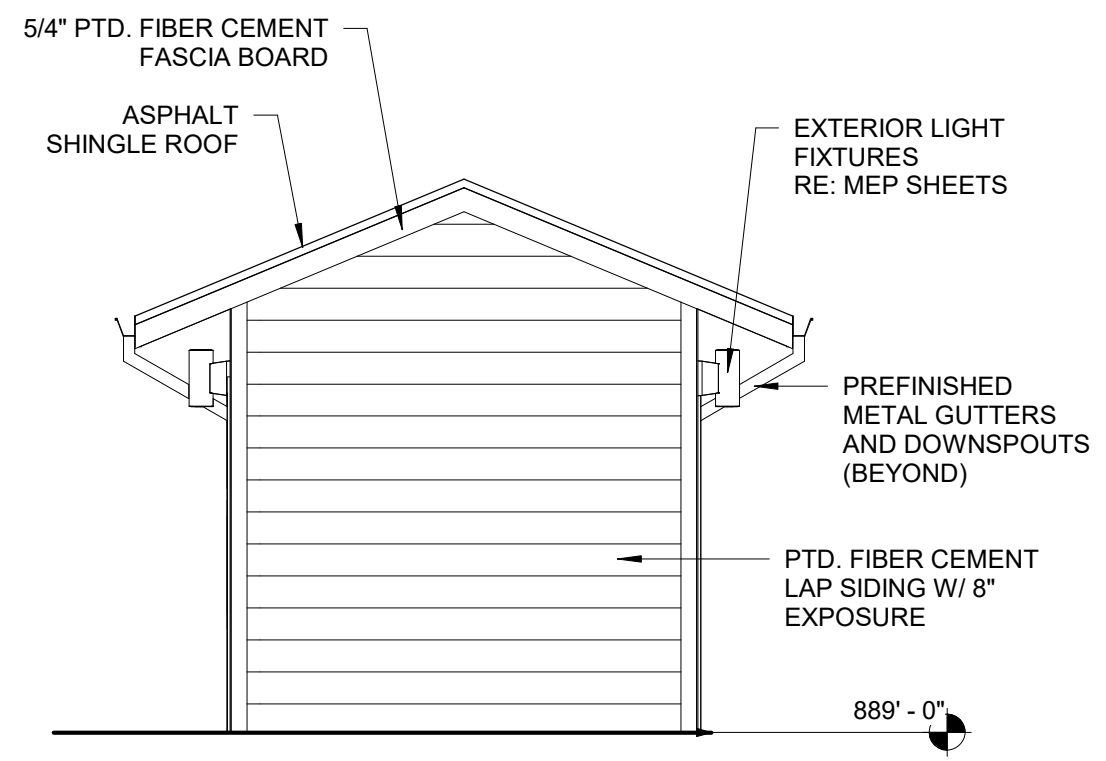
11 RESTROOM REFLECTED CEILING PLAN  
1/4" = 1'-0"



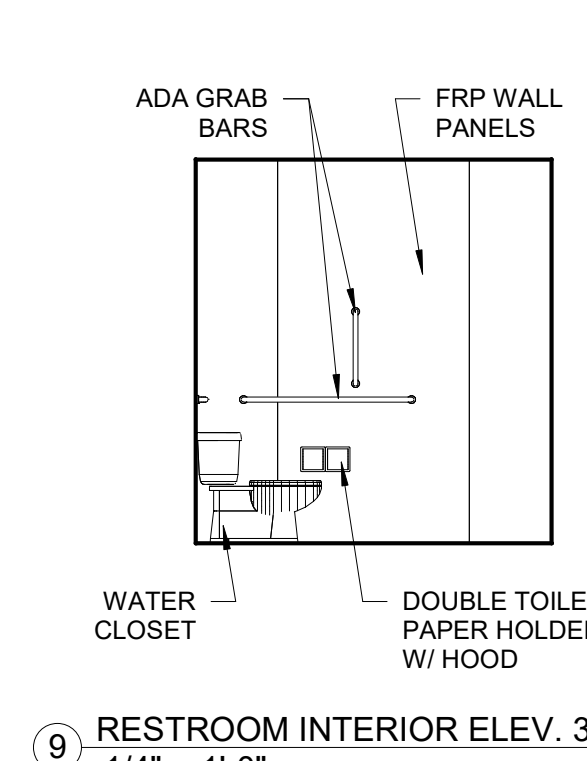
10 SECTION  
1/4" = 1'-0"



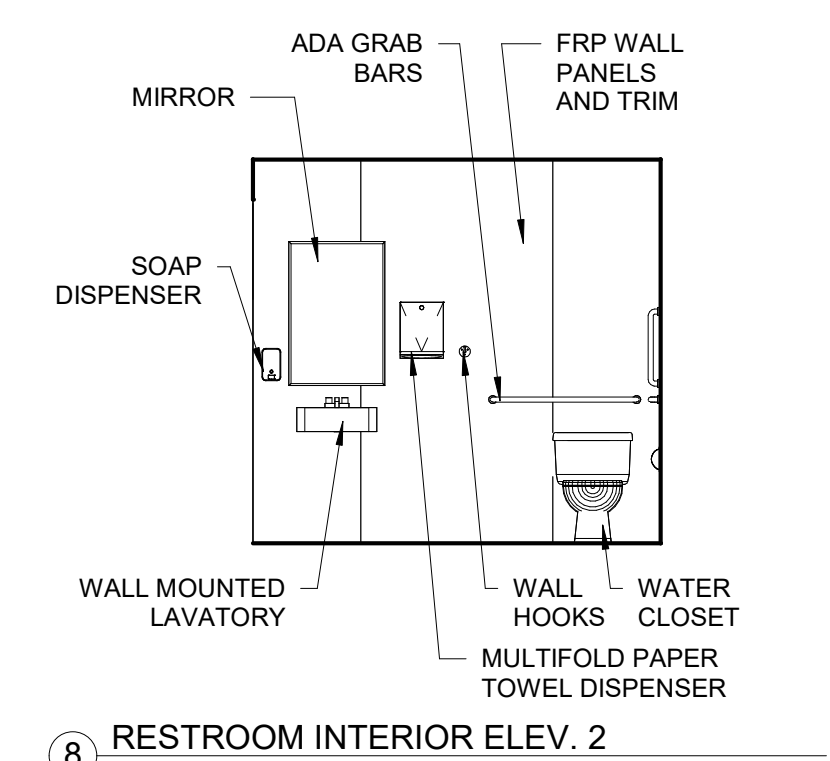
3 EAST RESTROOM ELEVATION  
1/4" = 1'-0"



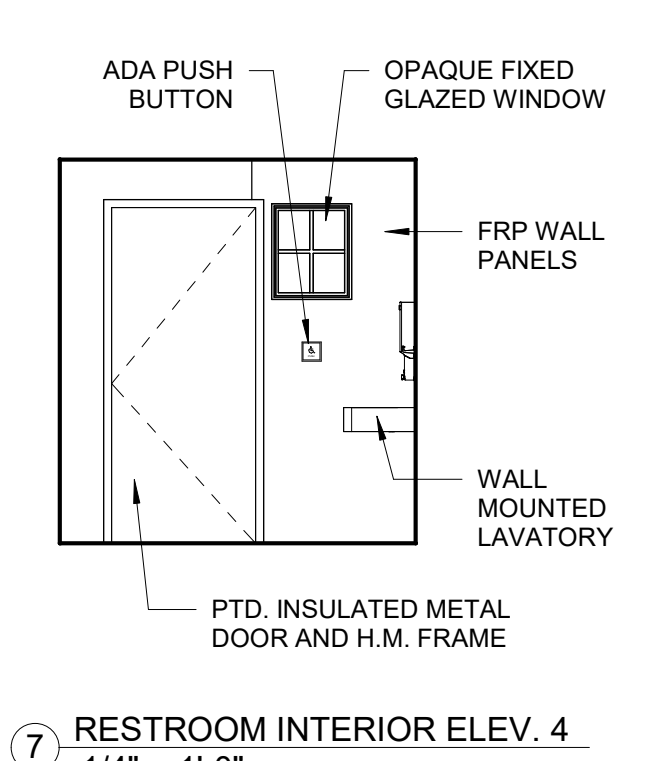
5 WEST RESTROOM ELEVATION  
1/4" = 1'-0"



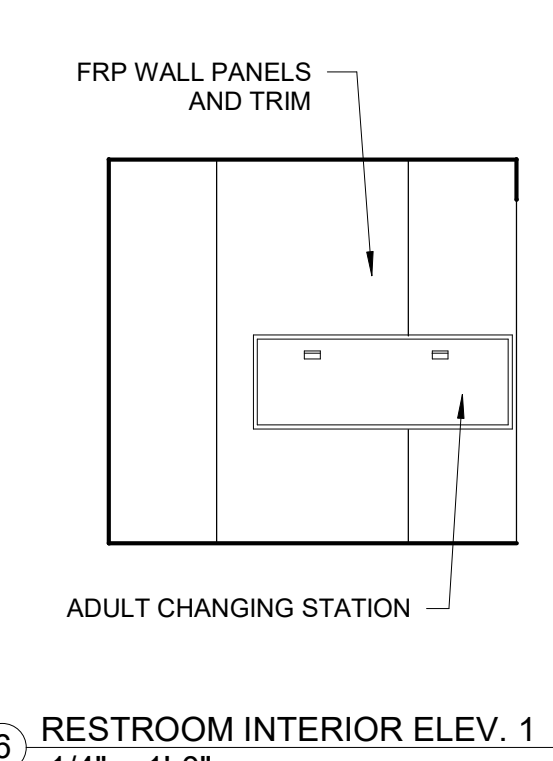
9 RESTROOM INTERIOR ELEV. 3  
1/4" = 1'-0"



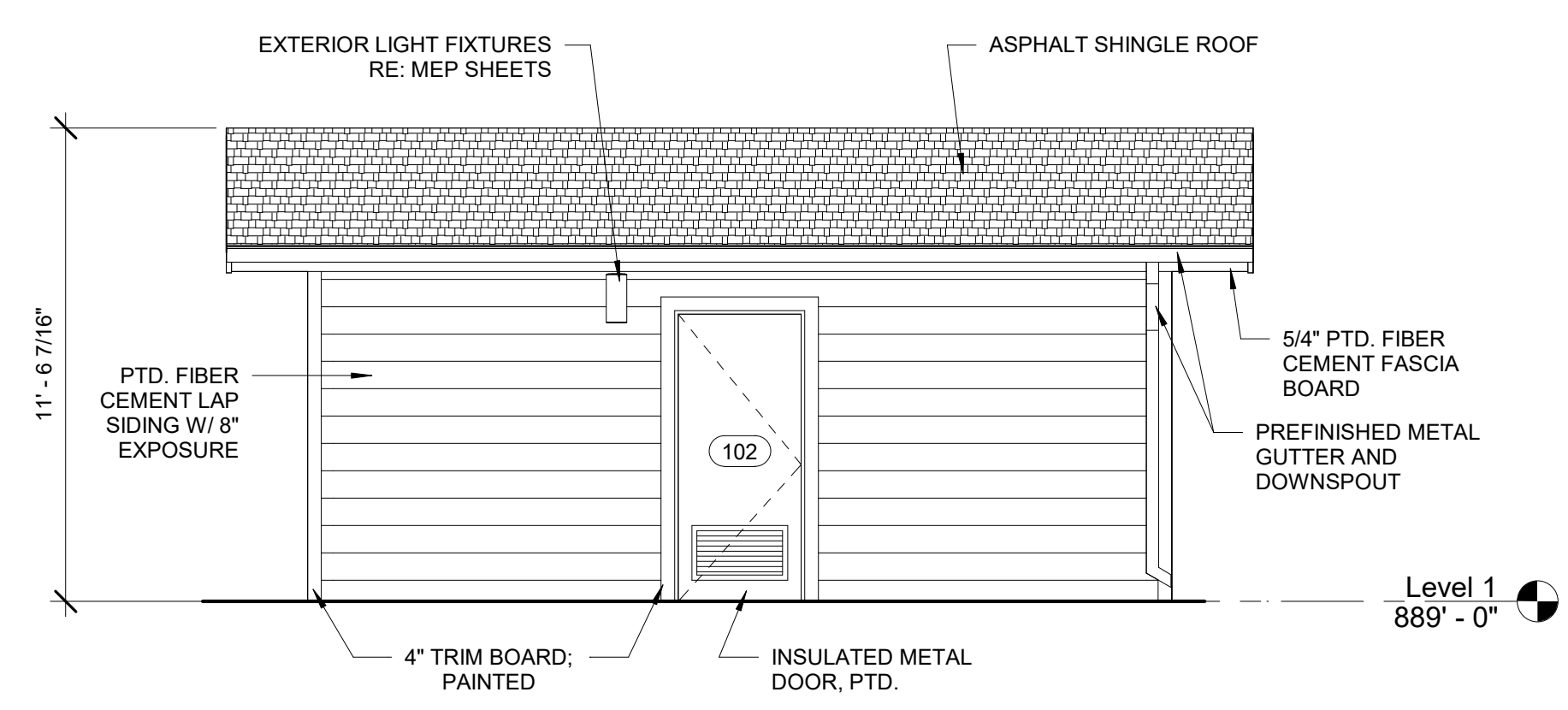
8 RESTROOM INTERIOR ELEV. 2  
1/4" = 1'-0"



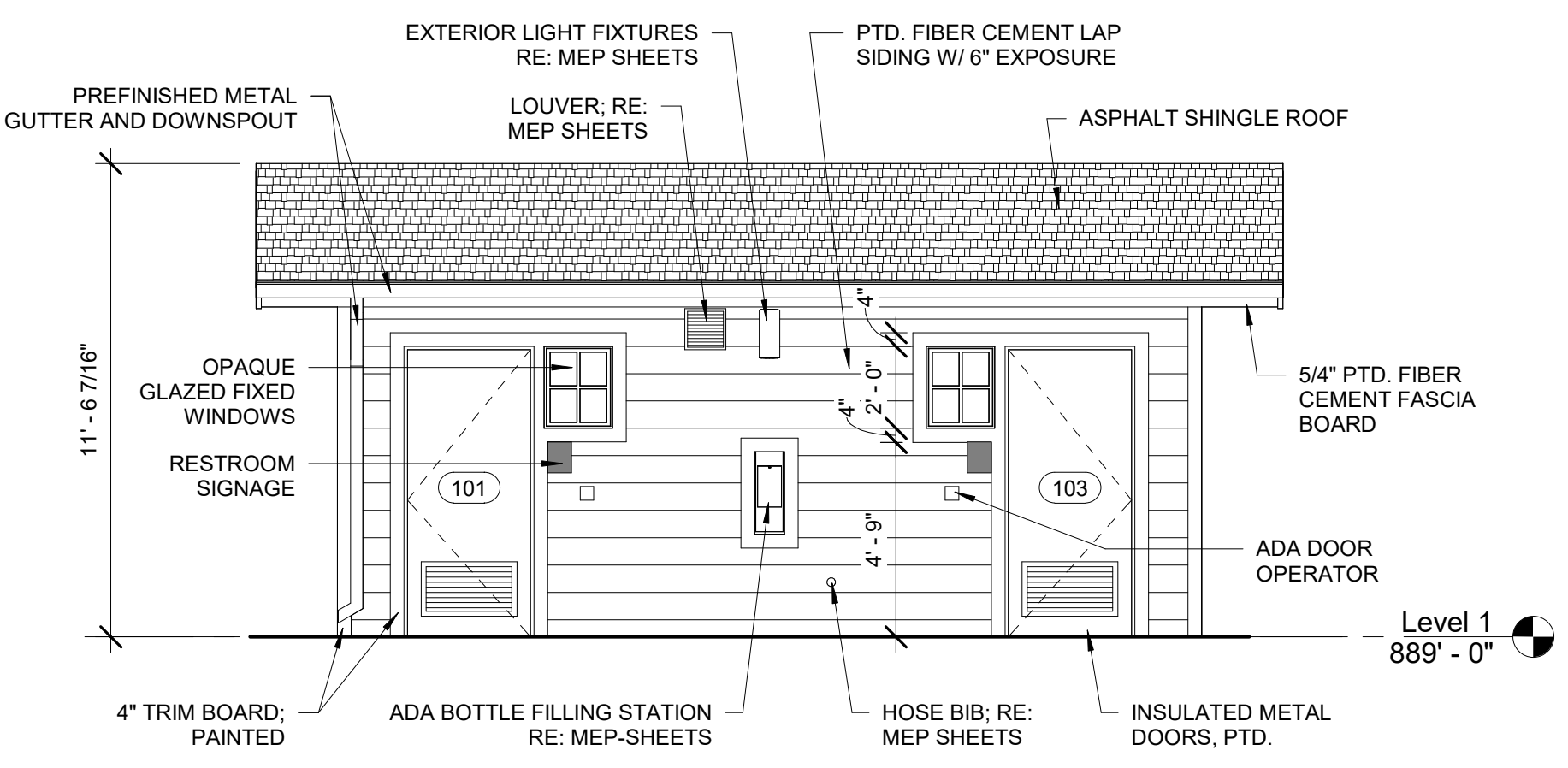
7 RESTROOM INTERIOR ELEV. 4  
1/4" = 1'-0"



6 RESTROOM INTERIOR ELEV. 1  
1/4" = 1'-0"



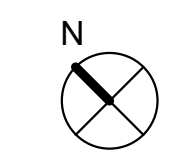
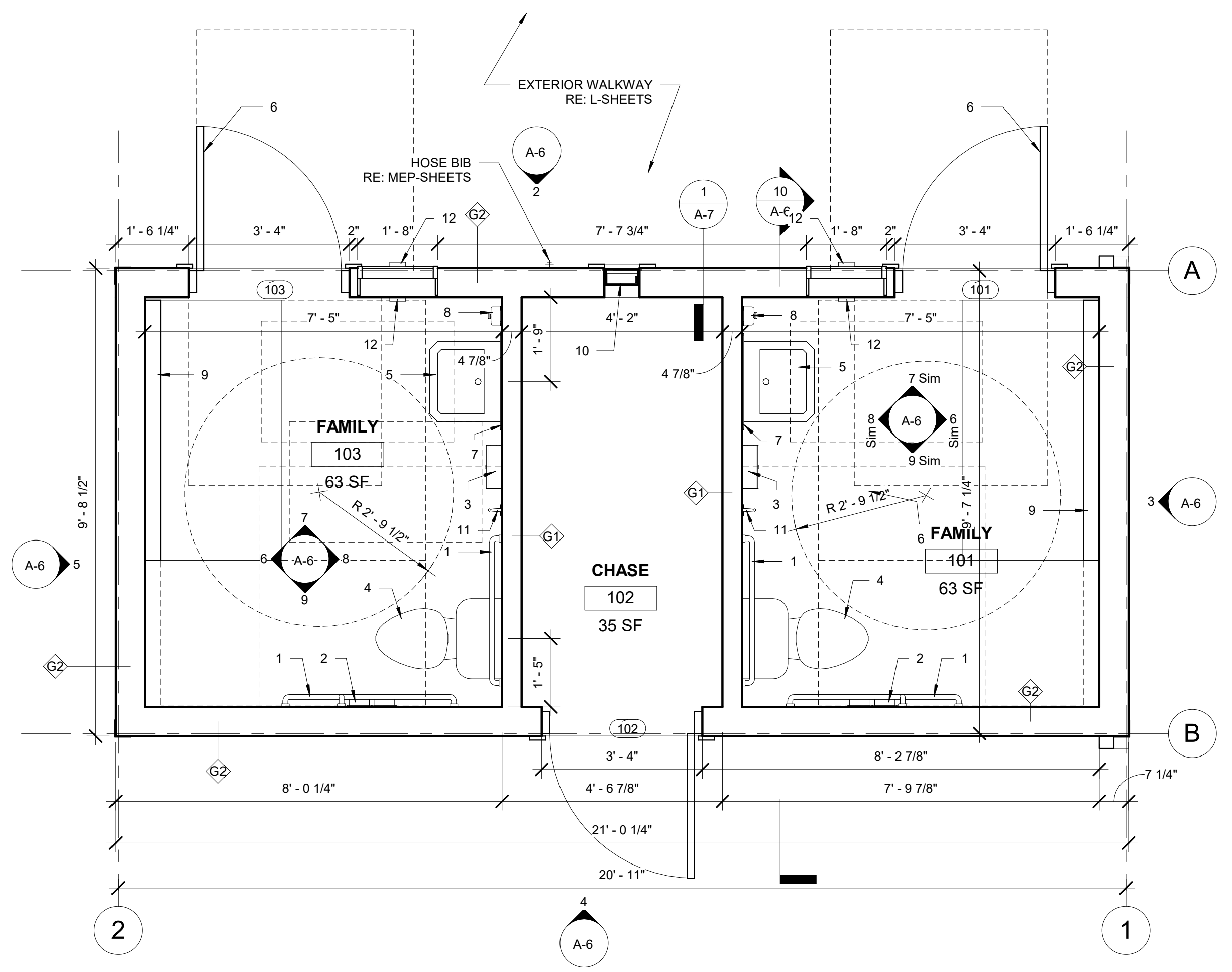
4 SOUTH RESTROOM ELEVATION  
1/4" = 1'-0"



2 NORTH RESTROOM ELEVATION  
1/4" = 1'-0"

- PLAN NOTES:**
1. ADA GRAB BARS
  2. TOILET TISSUE PAPER HOLDER W/ HOODS
  3. MULTIFOLD PAPER TOWEL DISPENSER
  4. WATER CLOSETS  
RE: MEP SHEETS
  5. WALL MOUNTED LAVATORY  
RE: MEP SHEETS
  6. INSULATED METAL DOOR, PTD.
  7. MIRROR
  8. LIQUID SOAP DISPENSER
  9. ADULT CHANGING STATION (CONFIRM LOCATION WITH OWNER PRIOR TO INSTALLATION OF BLOCKING AND CHANGING STATION). INSTALL PER MANUFACTURERS REQUIREMENTS.
  10. ADA BOTTLE FILLING STATION
  11. WALL HOOKS; CONFIRM LOCATION W/ OWNER PRIOR TO INSTALLATION
  12. RECESSED ADA DOOR OPERATOR SWITCH

1 RESTROOM BUILDING  
1/2" = 1'-0"





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CROWDER STATE PARK  
76 NORTHWEST HWY 128  
TRENTON, MISSOURI

PROJECT # X2534-01  
SITE # 5107  
ASSET # 7815107048

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ISSUE DATE: 02/04/2026

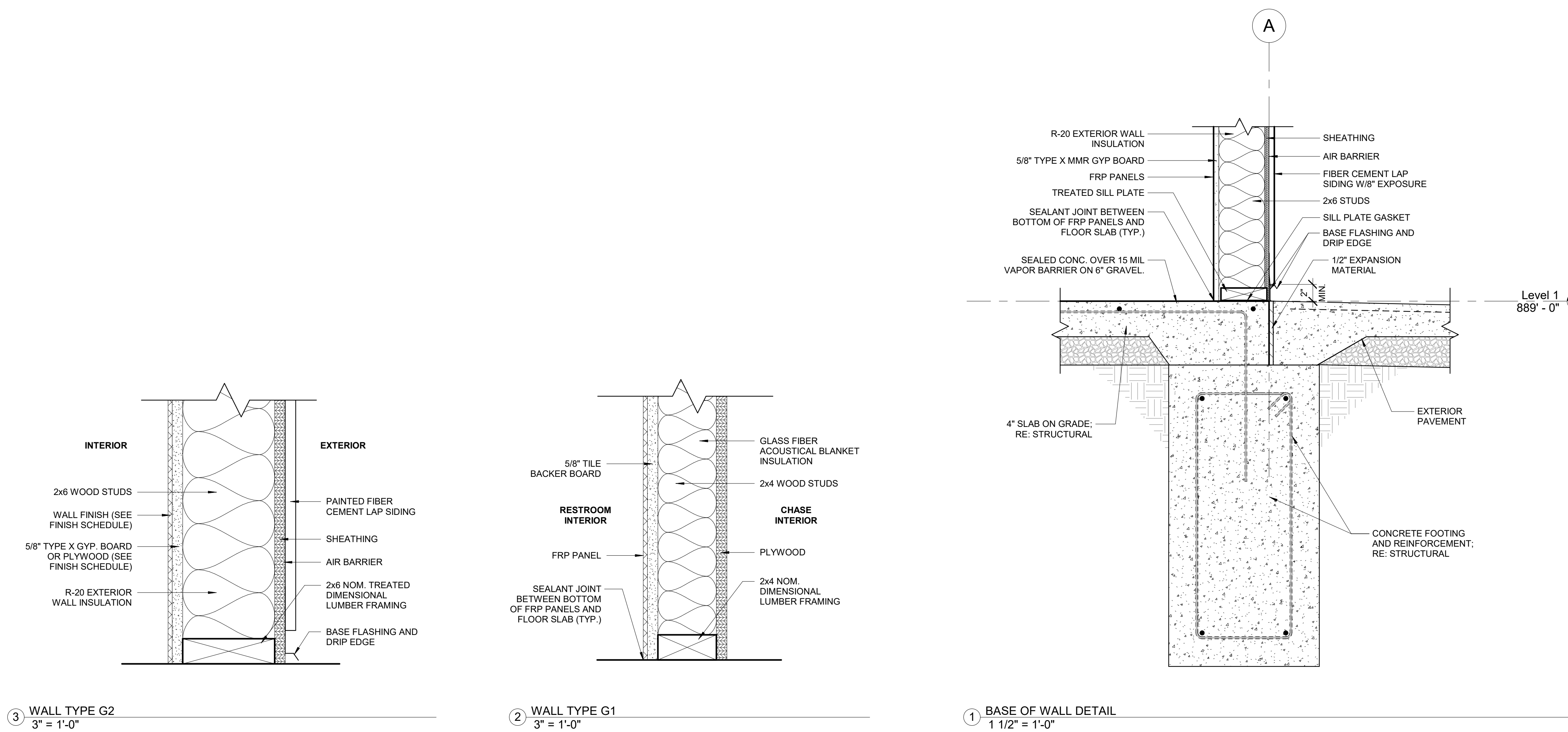
CAD DWG FILE: A-7  
DRAWN BY: LF  
CHECKED BY: AM  
DESIGNED BY: LF/AM

SHEET TITLE:  
**RESTROOM  
BUILDING DETAILS**

SHEET NUMBER:

**A-7**

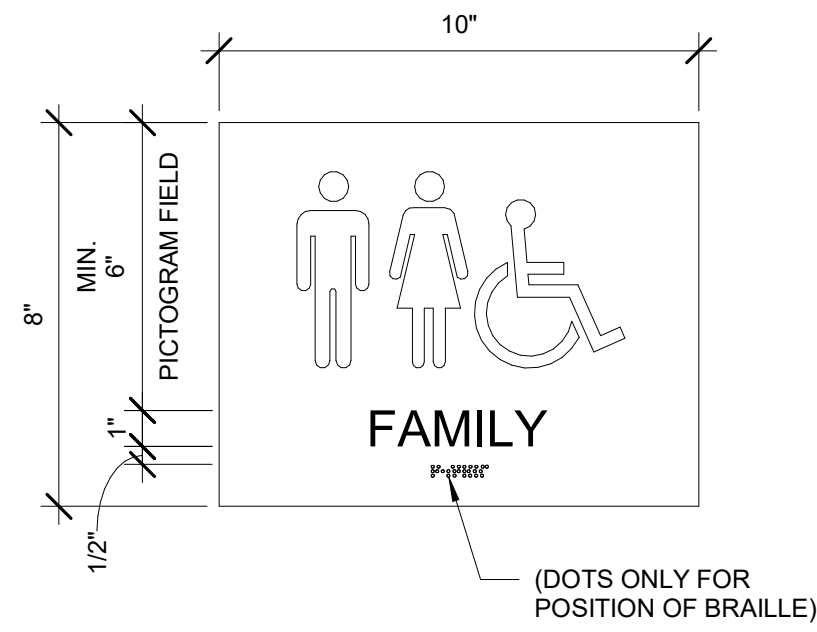
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3 WALL TYPE G2  
3" = 1'-0"

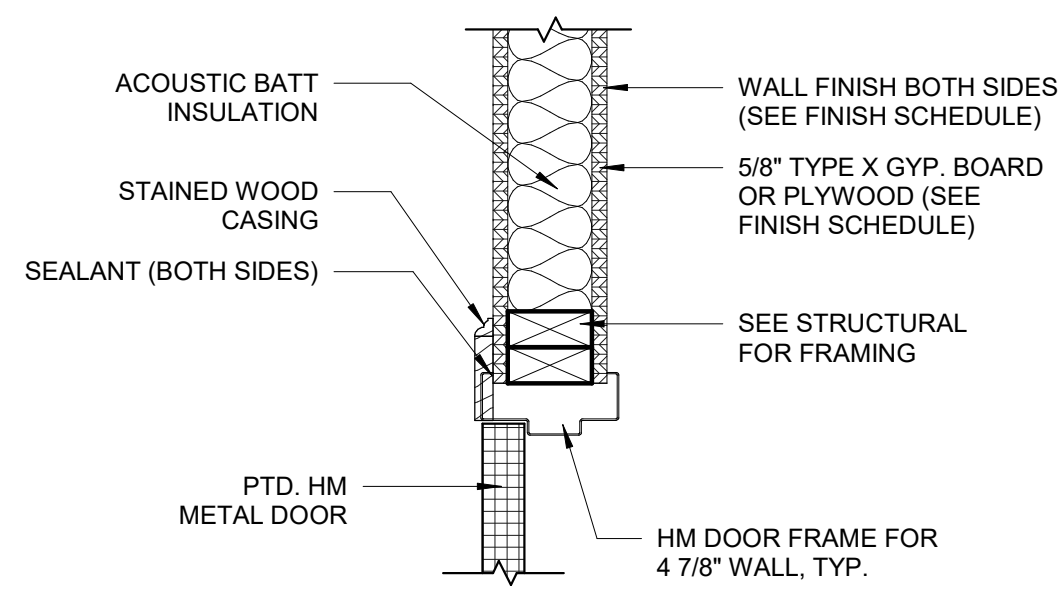
2 WALL TYPE G1  
3" = 1'-0"

1 BASE OF WALL DETAIL  
1 1/2" = 1'-0"



SIGN TYPE 1: QTY = 2

7 SIGNAGE DETAIL  
3" = 1'-0"



6 TYP. INT. DOOR HEAD/JAMB (ALT. #2)  
1 1/2" = 1'-0"

ROOM SCHEDULE						
NUMBER	NAME	WALL FINISH	BASE FINISH	FLOOR FINISH	CEILING FINISH	COMMENTS
101	FAMILY	FRP PANELS	FRP	SEALED CONCRETE	M.M.R. GYP./P-1	
102	CHASE	PLYWOOD	-	SEALED CONCRETE	EXPOSED	
103	FAMILY	FRP PANELS	FRP	SEALED CONCRETE	M.M.R. GYP./P-1	
104	CLOSET	FINISHED PLYWOOD	WOOD	EXISTING	M.M.R. GYP./P-1	2, 3, 4
COYOTE 4	RESTROOM	EXISTING	-	ACID ETCHED	EXISTING	1, 5
EAGLE 1	RESTROOM	EXISTING	-	ACID ETCHED	EXISTING	1, 5
FALCON 2	RESTROOM	EXISTING	-	ACID ETCHED	EXISTING	1, 5
FOX 5	RESTROOM	EXISTING	-	ACID ETCHED	EXISTING	1, 5
HAWK 3	RESTROOM	EXISTING	-	ACID ETCHED	EXISTING	1, 5
WOLF 6	RESTROOM	EXISTING	-	ACID ETCHED	EXISTING	1, 5

**ROOM SCHEDULE LEGEND:**

M.M.R. GYP. MOLD & MILDEW RESISTANT GYPSUM BOARD  
P-1 PAINT COLOR 1  
FRP FRP WALL PANELS  
PLY PLYWOOD

**GENERAL FINISH NOTES:**

A. RECREATION BUILDING INTERIOR WOOD WINDOW CASING TO BE STAINED TO MATCH EXISTING WOOD (ALTERNATE #3)  
B. ARCHITECT WILL SELECT UP TO 8 UNIQUE PAINT COLORS, INCLUDING 4 DARK TINTED COLORS, FOR INTERIOR AND EXTERIOR ITEMS SCHEDULED TO BE PAINTED. SCHEDULE WILL BE ISSUED PRIOR TO COMMENCEMENT OF THAT SCOPE OF WORK.

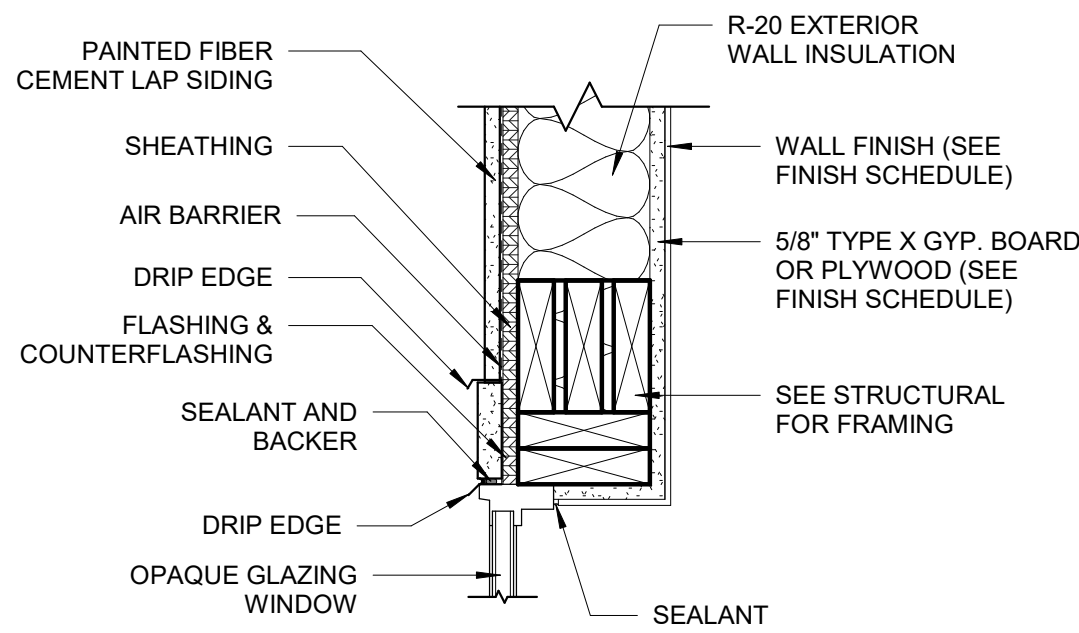
**ROOM SCHEDULE COMMENTS:**

- PATCH EXISTING CONCRETE FLOOR AS NECESSARY DUE TO REARRANGEMENT OF PLUMBING/FIXTURES. NEW ACID ETCH CONCRETE FINISH IN THE CABIN RESTROOMS WILL STOP AT THE THRESHOLDS AND WILL NOT BE EXTENDED INTO THE SHOWERS.
- OUTSIDE OF NEW CLOSET WALLS TO RECEIVE NEW WOOD BASE STAINED TO MATCH EXISTING.
- CLOSET WALL HEIGHT TO EXTEND UP TO DECKING.
- GRADE A PLYWOOD TO BE USED ON EXTERIOR OF CLOSET WALLS (WALL TYPE G3).
- ACID ETCH COLOR TO BE L.M. SCOFIELD COMPANY, C12 MESA BEIGE OR EQUAL.

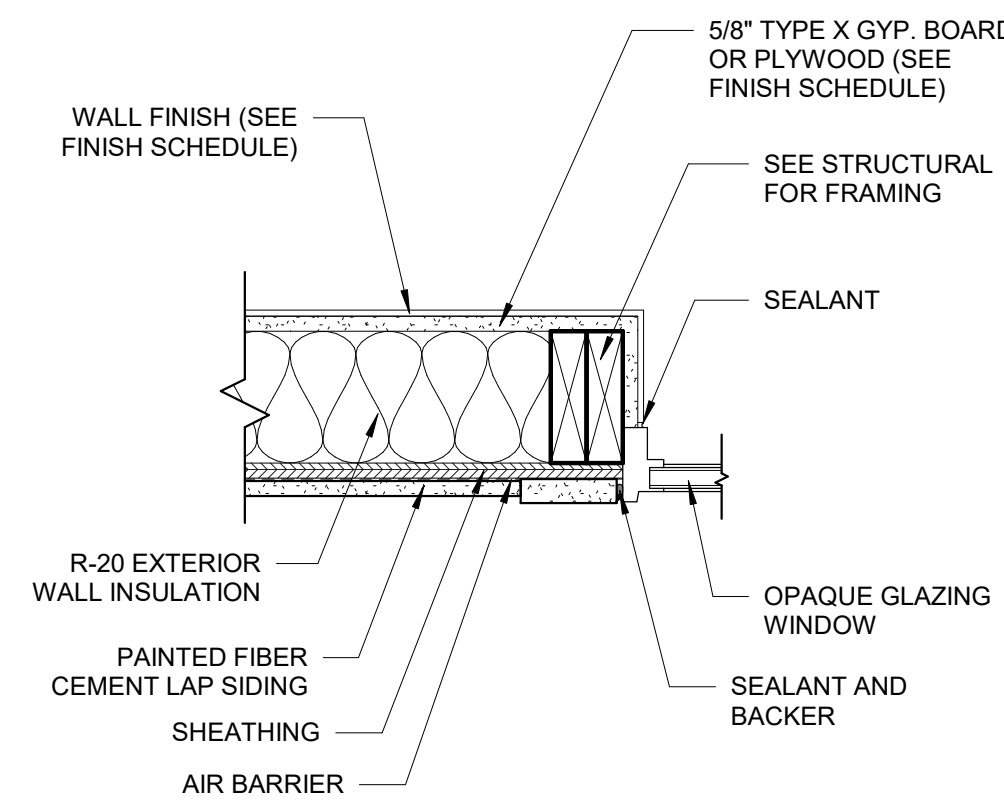
DOOR SCHEDULE						
MARK	WIDTH	HEIGHT	FRAME TYPE	DOOR TYPE	COMMENTS	PHASE CREATED
101	3' - 0"	7' - 0"	H.M.	1		New Construction
102	3' - 0"	7' - 0"	H.M.	1		New Construction
103	3' - 0"	7' - 0"	H.M.	1		New Construction
104	2' - 6"	6' - 8"	H.M.	2	1	New Construction

**DOOR SCHEDULE COMMENTS:**

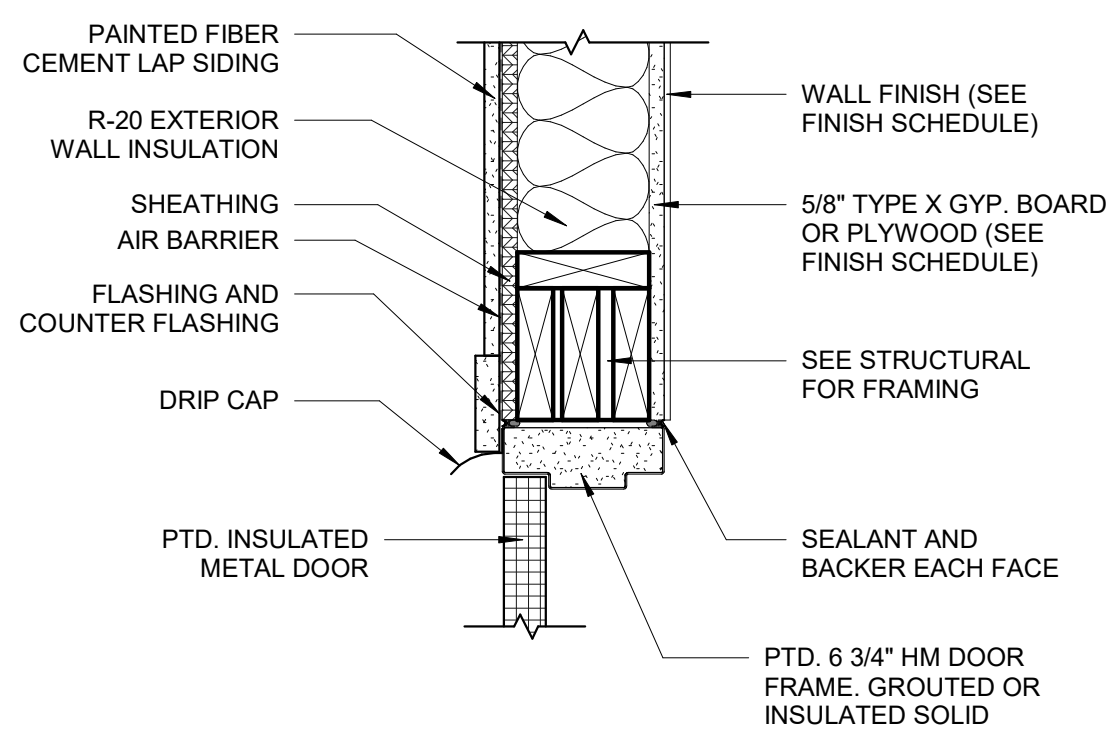
- PROVIDE WOOD CASING ON EXTERIOR SIDE OF CLOSET DOOR; STAIN TO MATCH EXISTING WOOD STAIN IN RECREATION BUILDING. SEE DETAIL 61A-8 (ALT. #2)



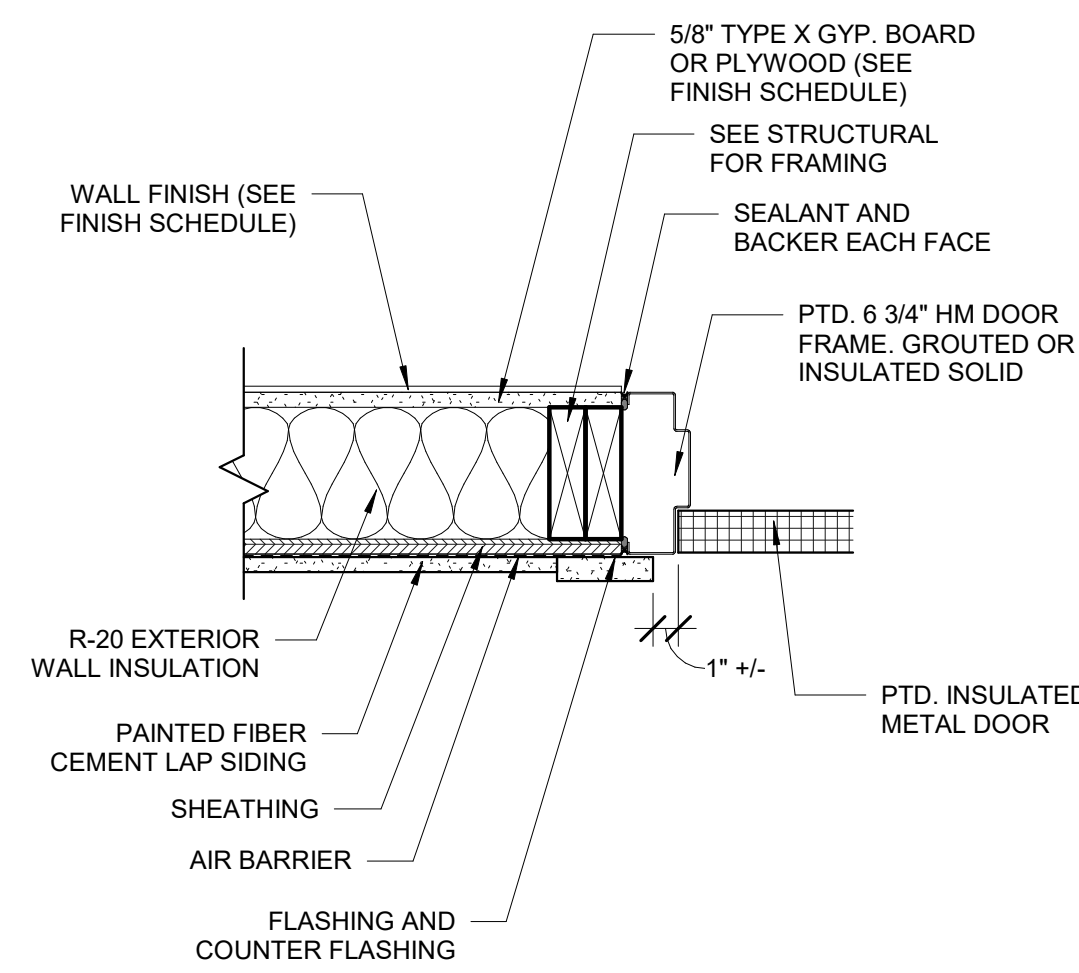
5 RR BLDG. WINDOW HEAD  
1 1/2" = 1'-0"



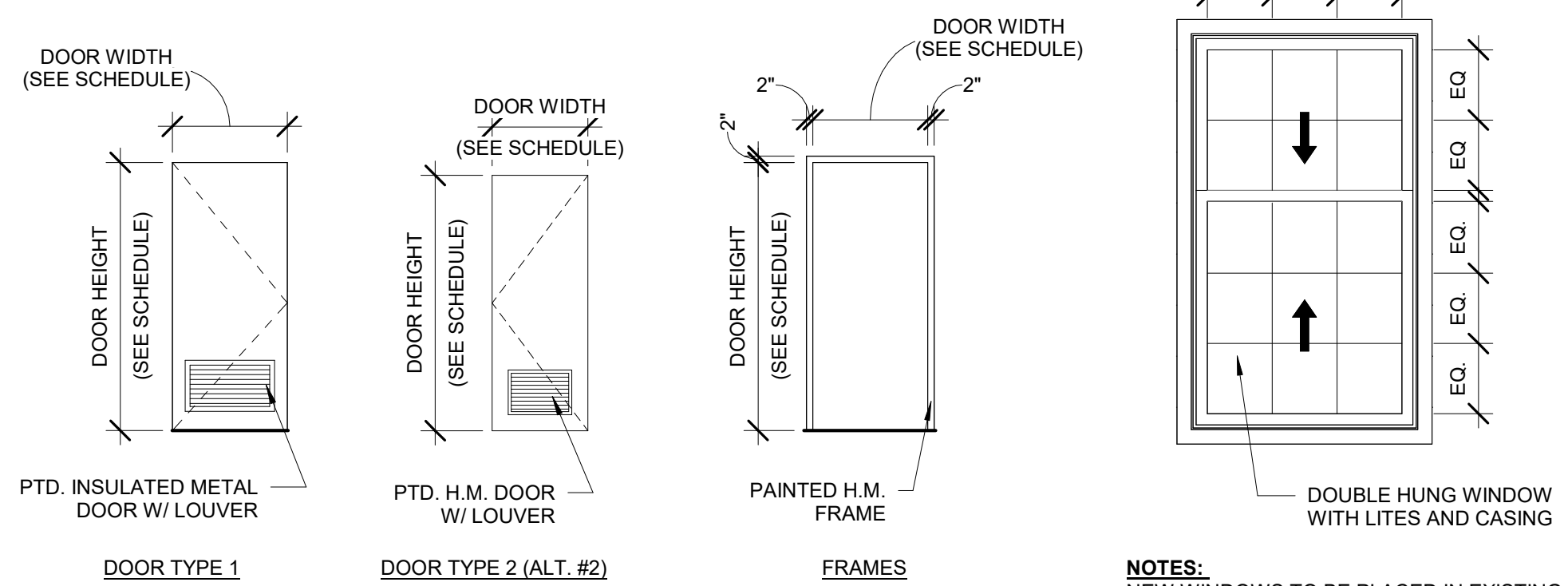
4 RR BLDG. WINDOW JAMB  
1 1/2" = 1'-0"



3 TYP. EXT. DOOR HEAD  
1 1/2" = 1'-0"



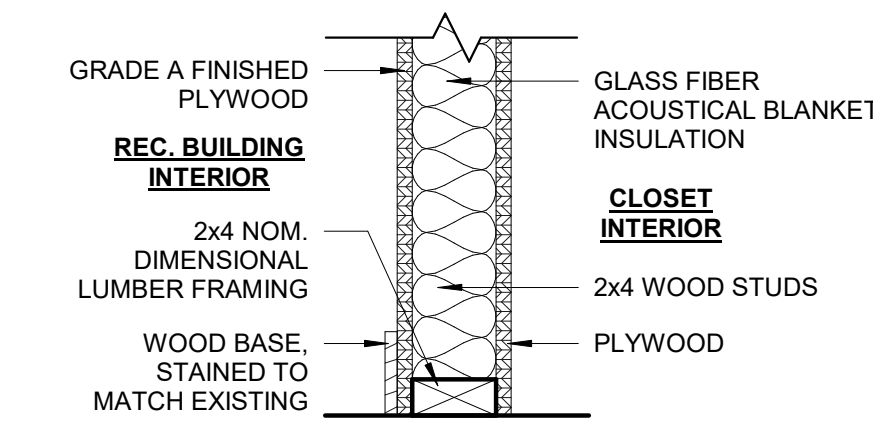
2 TYP. EXT. DOOR JAMB  
1 1/2" = 1'-0"



NOTES:  
SEE SPECIFICATION FOR HARDWARE SETS

NOTES:  
NEW WINDOWS TO BE PLACED IN EXISTING OPENINGS; FIELD VERIFY SIZE AND LOCATION OF ALL WINDOW OPENINGS. PROVIDE NEW WINDOW SCREENS. PROVIDE NEW INTERIOR WOOD CASING, STAINED TO MATCH EXISTING.

1 WINDOW TYPE A (ALT. #3)  
1/2" = 1'-0"



NOTE: WALL HEIGHT TO EXTEND TO DECKING

8 WALL TYPE G3 (ALT. #2)  
1 1/2" = 1'-0"

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CROWDER STATE PARK  
76 NORTHWEST HWY 128  
TRENTON, MISSOURI

PROJECT # X2534-01  
SITE # 5107  
ASSET # 7815107005  
7815107007  
7815107008  
7815107009  
7815107010  
7815107011  
7815107012  
7815107048

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ISSUE DATE: 02/04/2026

CAD DWG FILE: A-8  
DRAWN BY: LF  
CHECKED BY: AM  
DESIGNED BY: LF/AM

SHEET TITLE:  
SCHEDULES &  
DETAILS

SHEET NUMBER:

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02/04/2026

1. ALL WORK SHALL CONFORM TO 2024 INTERNATIONAL BUILDING CODE AS ADOPTED AND AMENDED BY THE STATE OF MISSOURI.
2. DESIGN LOADS
  - A. OVERALL BUILDING CLASSIFICATIONS
    1. RISK CATEGORY II
    2. SEISMIC IMPORTANCE FACTOR,  $I_e$  1.0
  - B. SLAB ON GRADE FLOOR LOADS
    1. LIVE LOAD 100 PSF
    2. CONCENTRATED LOAD 3000 LB ACTING ON AN AREA 4.5 IN. BY 4.5 IN.
  - C. ROOF DEAD AND LIVE LOADS
    1. DEAD LOAD TOP CHORD 10 PSF
    2. DEAD LOAD BOT. CHORD 5 PSF
    3. LIVE LOAD TOP CHORD 20 PSF
    4. LIVE LOAD BOT. CHORD 0 PSF (U.N.O)
  - D. ROOF SNOW LOADS
    1. GROUND SNOW LOAD,  $P_g$  38 PSF
    2. FLAT ROOF SNOW LOAD,  $P_f$  31.92 PSF
    3. SNOW EXPOSURE FACTOR,  $C_e$  1.0
    4. THERMAL FACTOR,  $C_t$  1.2
    5. SLOPE FACTOR,  $C_s$  1.0
    6. DRIFTING PER CODE
  - E. WIND LOADS
    1. BASIC WIND SPEED (3 SECOND GUST) 110 MPH
    2. EXPOSURE CATEGORY C
    3. INTERNAL PRESSURE COEFFICIENT,  $GCF_i$  +/- 0.18
    4. COMPONENTS AND CLADDING PER ASCE 7-22. SEE SHEET 5-02.
  - F. SEISMIC LOADS
    1.  $S_s$  0.130 g
    2.  $S_1$  0.075 g
    3. SITE CLASS D (SOIL PROPERTIES UNKNOWN)
    4.  $S_{MS}$  0.127 g
    5.  $S_{M1}$  0.107 g
    6. SEISMIC DESIGN CATEGORY B
    7. SEISMIC FORCE RESISTING SYSTEM LIGHT-FRAMED WOOD WALLS SHEATHED WITH WOOD STRUCTURAL PANELS
    8. DESIGN BASE SHEAR  $C_bW$
    9. DESIGN RESPONSE COEFFICIENT,  $C_d$  0.0215
    10. RESPONSE MODIFICATION COEFFICIENT,  $R$  6.5
    11. ANALYSIS PROCEDURE USED EQUIVALENT LATERAL FORCE (ELF) PROCEDURE
  - G. ROOF RAIN LOADS
    1. 60-MIN DURATION/100 YEAR RAIN INTENSITY,  $i$  3.72 IN/HR
    2. 15-MIN DURATION/100 YEAR RAIN INTENSITY,  $i$  7.88 IN/HR
3. CONTRACTOR SHALL FIELD VERIFY ALL EXISTING DIMENSIONS PRIOR TO FABRICATION.
4. IF DISCREPANCIES EXIST BETWEEN CONTRACT DRAWINGS, AND/OR SHOP DRAWINGS NOTIFY THE ENGINEER OF RECORD.
5. THE CONTRACTOR SHALL REVIEW DRAWINGS FROM ALL OTHER DISCIPLINES FOR PERTINENT MISC. ITEMS OR INFORMATION RELATED TO THE STRUCTURAL WORK AND COORDINATE AS REQUIRED.
6. THE BUILDING IS NOT STRUCTURALLY STABLE UNTIL ALL CONNECTIONS, FRAMING, SHEAR WALLS, PERMANENT BRACING, AND EXTERIOR LOAD-BEARING WALLS ARE COMPLETE AND HAVE ACHIEVED THEIR RESPECTIVE DESIGN STRENGTHS. CONTRACTOR IS SOLELY RESPONSIBLE FOR MAINTAINING STRUCTURAL STABILITY DURING ERECTION AND CONSTRUCTION. TEMPORARY BRACING SYSTEMS ARE NOT TO BE REMOVED UNTIL STRUCTURAL WORK IS COMPLETE.
7. PROVIDE ADEQUATE SHORING DURING CONSTRUCTION TO RESIST FORCES SUCH AS WIND AND UNBALANCED LOADS DUE TO CONSTRUCTION. DO NOT BACKFILL UNTIL CONCRETE HAS CURED 14 DAYS.
8. FOUNDATIONS
  - A. FOUNDATIONS ARE DESIGNED TO BEAR ON 1500 PSF FOR STRIP FOOTINGS ON SOIL AND 1500 PSF FOR SPREAD FOOTINGS ON SOIL.
  - B. A GEOTECHNICAL ENGINEERING INVESTIGATION WAS NOT PERFORMED FOR THIS PROJECT.
  - C. CONTRACTOR SHALL REMOVE EXISTING FOOTINGS AND FOUNDATIONS THAT ARE LOCATED WITHIN THE FOOTPRINT OF THE NEW BUILDING.
  - D. CONTRACTOR SHALL NOTIFY ENGINEER OF ANY UNUSUAL SOIL CONDITIONS THAT ARE IN VARIANCE WITH THE GEOTECHNICAL REPORT OR WHEN DIFFERENT BEARING MATERIAL IS EVIDENT AND THERE IS A QUESTION OF BEARING CAPACITY.
9. CONCRETE
  - A. CAST-IN-PLACE CONCRETE CONSTRUCTION SHALL CONFORM TO LATEST APPLICABLE AMERICAN CONCRETE INSTITUTE DOCUMENTS, ACI-301, 305, 306, 315, 318, AND 347 UNLESS NOTED OTHERWISE IN THESE CONTRACT DOCUMENTS.
  - B. ALL CONCRETE, UNLESS NOTED OTHERWISE, SHALL DEVELOP A 28 DAY COMPRESSIVE STRENGTH AND HAVE MAXIMUM DRY SHRINKAGE PER ASTM C157 AS FOLLOWS:
    1. FOOTINGS, GRADE BEAMS, WALLS, BEAMS, COLUMNS: 4000 PSI (DS MAX 0.05%)
    2. SLAB ON GRADE: 4000 PSI (DS MAX 0.05%)
    3. REFER TO THE SPECIFICATION FOR AIR-ENTRAINED CONCRETE.
  - C. SLABS-ON-GRADE SHALL DEVELOP A 90 DAY COMPRESSIVE STRENGTH.
  - D. IT IS THE INTENT OF THESE CONCRETE SPECIFICATIONS THAT THE CONTRACTOR SUPPLY CONCRETE MIXES WITH A MINIMUM AMOUNT OF WATER IN ORDER TO LIMIT PLASTIC SHRINKAGE CRACKING IN FRESHLY PLACED CONCRETE. IT IS EXPECTED THAT PRODUCING WORKABILITY FOR CONCRETE MIXES WILL REQUIRE THE ADDITION OF WATER-REDUCING CHEMICAL ADMIXTURES.
  - E. CONCRETE MIX DESIGNS SHALL INCLUDE ALL APPLICABLE ADMIXTURES.
  - F. CONCRETE SLUMP SHALL BE A MAXIMUM OF 4" +/- 1" (ASTM C-145) AS DELIVERED IN THE FIELD. CONTRACTOR MAY USE CHEMICAL ADMIXTURES TO ATTAIN A MAXIMUM SLUMP OF 8" FOR WORKABILITY IF ADMIXTURE IS TO BE ADDED IN THE FIELD IT SHALL BE ADDED THROUGH THE USE OF AN EXTERNAL MEASURING DEVICE (I.E. 5 GALLON BUCKET).
  - G. CONCRETE EXPOSED TO WEATHER, PARKED VEHICLES, AND/OR DEICING CHEMICAL SHALL CONTAIN 6% (+/- 1%) ENTRAINED AIR BY VOLUME.
  - H. CHAMFER ALL EXPOSED CORNERS OF CONCRETE WALLS, 3/4" UNLESS NOTED OTHERWISE.
  - I. ALL CONTROL JOINTS IN CONCRETE SLABS-ON-GRADE SHALL BE CUT TO 1/3 OF DEPTH WHEN USING WET-CUTTING PROCESS AND 1/4 OF DEPTH WHEN USING EARLY-ENTRY DRY-CUT PROCESS. CUT JOINTS AS SOON AS APPLICABLE PER PROCESS USED AFTER CONCRETE HAS BEEN PLACED WITHOUT DISLIDGING AGGREGATE, OR USE A KEYED COLD JOINT.
  - J. CUT SLABS-ON-GRADE INTO AREAS OF APPROXIMATELY 225 SQUARE FEET MAINTAINING AS CLOSE TO SQUARE AREAS AS POSSIBLE. LENGTH TO WIDTH RATIOS OF JOINTED PANELS SHALL NOT EXCEED 1.5:1. COORDINATE LOCATIONS OF CONTROL JOINTS WITH ARCHITECT.
  - K. CONTROL JOINTS IN WALLS SHALL BE PLACED AT 20'-0" O.C. MAXIMUM UNLESS NOTED OTHERWISE. LOCATE JOINTS BESIDE PIERS INTEGRAL WITH WALLS, NEAR CORNERS, AND IN CONCEALED LOCATIONS WHERE POSSIBLE. CONSTRUCTION JOINTS MAY BE PLACED IN LIEU OF CONTROL JOINTS AT CONTRACTOR'S DISCRETION. COORDINATE LOCATION OF CONTROL JOINTS WITH ARCHITECT.
  - L. PRIOR TO PLACING CONCRETE IN ANY LOCATION, IT IS THE RESPONSIBILITY OF THE GENERAL CONTRACTOR TO HAVE THOROUGHLY CHECKED AND COORDINATED ALL DIMENSIONS, ELEVATIONS, OPENINGS, RECESS, AND BLOCKOUTS AS SHOWN ON ANY CONTRACT DRAWINGS. IN THE EVENT ERRORS, CONFLICTS, OR OMISSIONS EXIST, IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO CONTACT THE ARCHITECT OR ENGINEER FOR NECESSARY CORRECTIVE ACTION
  - M. EMBEDDED ITEMS ARE TO BE FURNISHED AND INSTALLED BY THE CONTRACTOR PRIOR TO PLACING CONCRETE.
  - N. ANCHOR RODS AND ANCHOR BOLTS SHALL BE HELD IN PLACE WITH A RIGID TEMPLATE.
  - O. HORIZONTAL JOINTS BEYOND THOSE SHOWN IN THE CONTRACT DOCUMENTS SHALL NOT BE CONSTRUCTED WITHOUT THE APPROVAL OF THE ARCHITECT AND ENGINEER.

10. REINFORCING STEEL
  - A. ALL REINFORCING SHALL BE ASTM A615 GRADE 60, EXCEPT WELDED REINFORCING WHICH SHALL BE ASTM A706 GRADE 60.
  - B. ALL WELDED WIRE FABRIC SHALL BE ASTM A82 COLD DRAWN WIRE.
  - C. ALL ACCESSORIES FOR SUPPORTING REINFORCING SHALL BE GALVANIZED OR HAVE PLASTIC-COATED FEET.
  - D. PROVIDE CORNER BARS AT THE EXTERIOR FACE OF ALL WALL AND FOOTING CORNERS EQUAL TO HORIZONTAL BARS.
  - E. REINFORCING SHALL BE DETAILED, FABRICATED, PLACED, AND SUPPORTED IN ACCORDANCE WITH ACI 315, LATEST APPLICABLE EDITION.
  - F. STANDARD COVERAGE OF REINFORCING SHALL BE AS FOLLOWS UNLESS NOTED OTHERWISE.
    1. PERMANENTLY EXPOSED TO WEATHER
      - A. CAST AGAINST EARTH 3"
      - B. IN CONTACT WITH WATER 3"
      - C. FORMED 2"
    2. NOT EXPOSED TO EARTH OR WEATHER
      - A. SLABS AND WALLS 3/4"
      - B. BEAMS AND COLUMNS 1 1/2"
  - G. SPLICE LENGTH
    1. 3000 PSI CONCRETE
      - A. NON-COATED 55 db (BAR DIAMETER)
      - B. EPOXY COATED 83 db
    2. 4000 PSI CONCRETE
      - A. NON-COATED 48 db
      - B. EPOXY COATED 72 db
    3. 5000 PSI CONCRETE
      - A. NON-COATED 43 db
      - B. EPOXY COATED 64 db
  - H. REINFORCEMENT PARTIALLY EMBEDDED IN CONCRETE SHALL NOT BE FIELD BENT, EXCEPT AS SHOWN AND NOTED ON THE CONTRACT DRAWINGS OR PERMITTED BY THE ENGINEER OF RECORD.
  - I. ALL REINFORCEMENT AND EMBEDDED ITEMS INCLUDING PLATES AND ANCHOR RODS SHALL BE ACCURATELY PLACED, ADEQUATELY SUPPORTED, AND SECURED AGAINST DISPLACEMENT BEFORE CONCRETE IS PLACED. NEITHER REINFORCEMENT NOR EMBEDDED ITEMS SHALL BE PLACED INTO FRESHLY PLACED CONCRETE UNLESS APPROVED BY THE ENGINEER OF RECORD.
11. ROUGH CARPENTRY
  - A. HEADERS, JOISTS, AND RAFTERS SHALL MEET OR EXCEED THE FOLLOWING MINIMUM REQUIREMENTS.
    1.  $F_b$  875 PSI
    2.  $F_v$  135 PSI
    3.  $F_c$  (PARA) 1150 PSI
    4.  $F_c$  (PERP.) 425 PSI
    5.  $F_t$  450 PSI
    6.  $E$  1400 KSI
    7.  $E_{MIN}$  0.510 KSI
  - B. INTERIOR WALLS AND EXTERIOR WALLS SHALL MEET OR EXCEED THE FOLLOWING MINIMUM REQUIREMENTS.
    1.  $F_b$  875 PSI
    2.  $F_v$  135 PSI
    3.  $F_c$  (PARA) 1150 PSI
    4.  $F_c$  (PERP.) 425 PSI
    5.  $F_t$  450 PSI
    6.  $E$  1400 KSI
    7.  $E_{MIN}$  0.510 KSI
  - C. TIMBER FRAMING MEMBERS SHALL MEET OR EXCEED THE FOLLOWING MINIMUM REQUIREMENTS.
    1.  $F_b$  875 PSI
    2.  $F_v$  135 PSI
    3.  $F_c$  (PARA) 1150 PSI
    4.  $F_c$  (PERP.) 425 PSI
    5.  $F_t$  450 PSI
    6.  $E$  1400 KSI
    7.  $E_{MIN}$  0.510 KSI
  - D. ALL LVL MEMBERS SHALL BE BOISE CASCADE VERSA-LAM 2.1E 3100 OR APPROVED EQUAL.
  - E. ALL WOOD FRAMING MEMBERS INDICATED ARE NOMINAL SIZES. PROVIDE ACTUAL DRESSED SIZES, KILN-DRIED, WITH MAXIMUM IN-PLACE MOISTURE CONTENT OF 19%.
  - F. ALL BOLTS ARE A36 OR A307, GRADE 1, AND ALL NAILS ARE COMMON WIRE NAILS UNLESS NOTED OTHERWISE.
  - G. LAY ALL STRUCTURAL PANELS WITH FACE GRAIN PERPENDICULAR TO SUPPORTING MEMBERS AND OFFSET END JOINTS 4'-0". PANELS TO BE APA RATED AND STAMPED FOR THE LOADING SHOWN IN SECTION 2 "DESIGN" AND SHOULD MATCH THE SUPPORT SPACING SHOWN ON THE PLANS.
  - H. ROOF DECKING SHALL BE 5/8" THICK APA RATED EXTERIOR GRADE SHEATHING FASTENED WITH 10d NAILS AT 6" O.C. ON EDGES AND 12" O.C. IN FIELD UNLESS NOTED OTHERWISE.
  - I. FASTENER QUALITY, QUANTITY, SIZE, AND SPACING SHALL COMPLY WITH IBC FASTENING SCHEDULE (TABLE 2304.10) UNLESS NOTED OTHERWISE.
  - J. ALL WOOD IN CONTACT WITH CONCRETE OR EXPOSED TO WEATHER SHALL BE PRESERVATIVE TREATED.
12. PREFABRICATED WOOD TRUSSES
  - A. TRUSS SPACING TO BE AS SHOWN ON DRAWINGS.
  - B. LOADS SHOWN IN SECTION 2 "DESIGN LOADS" ARE A MINIMUM. TRUSS DESIGNER IS RESPONSIBLE FOR ESTABLISHING FINAL LOADS USED FOR DESIGN, INCLUDING LIVE, DEAD, SNOW (WITH DRIFTS), WIND, AND SEISMIC LOADS. TRUSS FABRICATOR IS TO SUPPLY SEALED TRUSS SHOP DRAWINGS AND SEALED PLAN PLACEMENT DRAWINGS PREPARED UNDER THE SUPERVISION OF THE SAME LICENSED PROFESSIONAL ENGINEER IN THE STATE OF THE PROJECT.
  - C. TRUSS MANUFACTURER IS RESPONSIBLE FOR DESIGNING, DETAILING, AND PROVIDING ALL TRUSS-TO-TRUSS, TRUSS-TO-WALL, AND TRUSS-TO-BEAM CONNECTIONS, UNLESS NOTED OTHERWISE.
  - D. ROOF SHOP DRAWINGS SHALL INCLUDE DETAILED ERECTION DRAWINGS, AS WELL AS DESIGN INFORMATION FOR EACH TRUSS. PROVIDE ALL INFORMATION AS REQUIRED IN THE INTERNATIONAL BUILDING CODE SECTION 2303.4 "TRUSSES", INCLUDING CONNECTION DESIGN.
  - E. TRUSS MEMBERS AND COMPONENTS SHALL NOT BE CUT, NOTCHED, DRILLED, SPLICED, OR OTHERWISE ALTERED IN ANY WAY WITHOUT WRITTEN CONCURRENCE AND APPROVAL OF THE LICENSED PROFESSIONAL ENGINEER RESPONSIBLE FOR THE TRUSS DESIGN AND THE ENGINEER OF RECORD.
  - F. REFERENCE SECTION "SUBMITTALS" FOR MORE INFORMATION.
13. POST CONSTRUCTION ANCHORS
  - A. POST INSTALLED ANCHORS ARE NOT TO BE SUBSTITUTED FOR ANCHORS SHOWN ON THE DRAWINGS. IF CAST IN PLACE ANCHOR IS DETERMINED TO BE OUT OF TOLERANCE OR OMITTED, CONTRACTOR MUST GENERATE A REQUEST FOR INFORMATION IN REGARDS TO THE SOLUTION.
  - B. EMBEDMENT DEPTH SHALL BE DEFINED AS THE DISTANCE FROM THE SURFACE OF THE LOAD-BEARING BASE MATERIAL TO THE DEEPEST PART OF THE ANCHOR AFTER THE ANCHOR HAS BEEN DRIVEN INTO THE HOLE.
  - C. OBSERVATION AND VERIFICATION OF EMBEDMENT HOLE CLEANING, DEPTH, AND ANCHOR INSTALLATION IS REQUIRED FOR ALL EPOXY ANCHORS.
  - D. EQUIVALENT ANCHORS MAY BE SUBMITTED FOR THE ENGINEER'S APPROVAL. SUBMITTALS ARE THE CONTRACTOR'S RESPONSIBILITY AND MUST INCLUDE EVALUATION REPORTS FROM THE INTERNATIONAL CONFERENCE OF BUILDING OFFICIALS, CURRENT WITH THE REQUIREMENTS OF THE PROJECT.
14. STRUCTURAL ENGINEER SITE OBSERVATIONS
  - A. THE CONTRACT STRUCTURAL DRAWINGS REPRESENT THE FINISHED STRUCTURE AND, EXCEPT WHERE SPECIFICALLY SHOWN, DO NOT INDICATE THE METHOD OR MEANS OF CONSTRUCTION. THE CONTRACTOR SHALL SUPERVISE AND DIRECT THE WORK AND SHALL BE SOLELY RESPONSIBLE FOR ALL CONSTRUCTION MEANS, METHODS, PROCEDURES, TECHNIQUES, AND SEQUENCES.
  - B. THE ENGINEER SHALL NOT HAVE CONTROL NOR CHARGE OF, AND SHALL NOT BE RESPONSIBLE FOR, CONSTRUCTION MEANS, METHODS, PROCEDURES, TECHNIQUES, OR SEQUENCES, FOR SAFETY PRECAUTIONS AND PROGRAMS IN CONNECTION WITH THE WORK, FOR THE ACTS OR OMISSION OF THE CONTRACTOR, SUBCONTRACTOR, OR AN OTHER PERSONS PERFORMING ANY OF THE WORK, OR THE FAILURE OF ANY OF THEM TO CARRY OUT THE WORK IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.
  - C. PERIODIC SITE OBSERVATION BY FIELD REPRESENTATIVES OF LEIGH & O'KANE L.L.C. IS SOLELY FOR THE PURPOSE OF DETERMINING IF THE WORK OF THE CONTRACTOR IS PROCEEDING IN ACCORDANCE WITH THE STRUCTURAL CONTRACT DOCUMENTS. THIS LIMITED SITE OBSERVATION SHOULD NOT BE CONSTRUED AS EXHAUSTIVE OR CONTINUOUS TO CHECK THE QUALITY OR QUANTITY OF WORK, BUT RATHER PERIODIC IN AN EFFORT TO GUARD THE OWNER AGAINST DEFECTS AND DEFICIENCIES IN THE WORK OF THE CONTRACTOR.

15. SUBMITTALS
  - A. ALL SHOP DRAWINGS AND SUBMITTALS MUST BE REVIEWED AND APPROVED BY THE CONTRACTOR PRIOR TO SUBMITTAL. ENGINEER'S REVIEW OF SHOP DRAWINGS IS LIMITED TO CHECKING FOR GENERAL CONFORMANCE WITH DESIGN DRAWINGS AND STRENGTH OF COMPONENTS AND MATERIALS. CONTRACTOR IS RESPONSIBLE FOR ANY CHANGES FROM THE DESIGN DRAWINGS, QUANTITIES, DIMENSIONAL ERRORS, OR OMISSIONS IN THE SHOP DRAWINGS.
  - B. ALL SHOP DRAWINGS MUST BE ORIGINAL DOCUMENTS AND SHALL NOT BE REPRODUCTIONS OF THESE CONTRACT DOCUMENTS.
  - C. SUBMIT SHOP DRAWINGS DETAILING FABRICATION OF EACH MEMBER AND ITS CONNECTIONS. DETAIL DRAWINGS ARE TO BE PREPARED UNDER THE SUPERVISION OF A LICENSED PROFESSIONAL ENGINEER IN THE STATE OF THE PROJECT FOR THE FOLLOWING ITEMS.
    1. PREFABRICATED WOOD TRUSSES
  - D. CONTRACTOR SHALL SUBMIT STRUCTURAL SHOP DRAWINGS FOR THE FOLLOWING ITEMS.
    1. CONCRETE MIX DESIGN AND MATERIALS
    2. CONCRETE REINFORCING STEEL
    3. PREFABRICATED WOOD TRUSSES
  - E. PROVIDE A FINAL, "FOR CONSTRUCTION" SET OF ALL SHOP DRAWINGS TO THE ENGINEER OF RECORD PRIOR TO FABRICATION OR CONSTRUCTION OF THOSE ITEMS.
16. SPECIAL INSPECTIONS
  - A. THE FOLLOWING MINIMUM ITEMS REQUIRE SPECIAL INSPECTION IN ACCORDANCE WITH THE BUILDING CODE.
    1. CONCRETE PLACING
    2. CONCRETE REINFORCING
    3. BOLTS EMBEDDED IN CONCRETE / POST-INSTALLED ANCHORS
    4. ANCHOR RODS
    5. ROOF DIAPHRAGM ATTACHMENT
    6. SOIL VERIFICATION
  - B. THE CONTRACTOR SHALL REQUEST SPECIAL INSPECTION OF THE ITEMS LISTED ABOVE PRIOR TO THOSE ITEMS BECOMING INACCESSIBLE AND UNOBSERVABLE DUE TO PROGRESSION OF THE WORK.
  - C. SPECIAL INSPECTIONS ARE TO BE COORDINATED AND PAID FOR BY THE CONTRACTOR.

STATE OF MISSOURI  
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PROJECT #	X2534-01	
SITE #	5107	
ASSET #	7815107001	7815107013
	7815107005	7815107022
	7815107007	7815107023
	7815107008	7815107048
	7815107009	
	7815107010	
	7815107011	
	7815107012	

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ISSUE DATE: 02/04/2026

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DESIGNED BY: WNH

SHEET TITLE:

GENERAL NOTES

SHEET NUMBER:

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**SCHEDULE OF MINIMUM SPECIAL INSPECTIONS**

	INSPECTION FREQUENCY	
	CONTINUOUS	PERIODIC
REQUIRED VERIFICATION AND INSPECTION OF CONCRETE CONSTRUCTION		
1. INSPECTION OF REINFORCING STEEL, INCLUDING PRESTRESSING TENDONS, AND PLACEMENT. VERIFY GRADE, SIZE, QUANTITY, AND SPACING OF REINFORCING BARS FOR COMPLIANCE WITH CONTRACT DOCUMENTS AS WELL AS APPROVED SHOP DRAWINGS. REPORT ANY NOTED CONFLICT BEFORE CONCRETE IS POURED SO THAT CORRECTIONS MAY BE MADE. (INSPECTION MAY BE PERIODIC BUT ALL REBAR TO BE INSPECTED).	X	-
2. INSPECTION OF REINFORCING STEEL WELDING IN ACCORDANCE WITH TABLE 1705.3 (REQUIRED VERIFICATION AND INSPECTION OF STEEL CONSTRUCTION, INSPECTION OF WELDING, REINFORCING STEEL).	X	-
3. INSPECTION OF BOLTS TO BE INSTALLED IN CONCRETE PRIOR TO AND DURING PLACEMENT OF CONCRETE WHERE ALLOWABLE LOADS HAVE BEEN INCREASED OR WHERE STRENGTH DESIGN IS USED.	X	-
4. INSPECTION OF ANCHORS INSTALLED IN HARDENED CONCRETE.	X	-
5. VERIFYING USE OF REQUIRED DESIGN MIX.	X	-
6. AT THE TIME FRESH CONCRETE IS SAMPLED TO FABRICATE SPECIMENS FOR STRENGTH TESTS, PERFORM SLUMP AND AIR CONTENT TESTS, AND DETERMINE THE TEMPERATURE OF THE CONCRETE.	X	-
7. INSPECTION OF CONCRETE AND SHOTCRETE PLACEMENT FOR PROPER APPLICATION TECHNIQUES.	X	-
8. INSPECTION FOR MAINTENANCE OF SPECIFIED CURING TEMPERATURE AND TECHNIQUES.	-	X
9. INSPECTION OF PRESTRESSED CONCRETE:		
A. APPLICATION OF PRESTRESSING FORCES.	-	X
B. GROUTING OF BONDED PRESTRESSING TENDONS IN THE SEISMIC-FORCE-RESISTING SYSTEM.	-	X
10. ERECTION OF PRECAST CONCRETE MEMBERS.	-	X
11. VERIFICATION OF IN-SITU CONCRETE STRENGTH, PRIOR TO STRESSING OF TENDONS IN POSTTENSIONED CONCRETE AND PRIOR TO REMOVAL OF SHORES AND FORMS FROM BEAMS AND STRUCTURAL SLABS.	-	X
12. INSPECT FORMWORK FOR SHAPE, LOCATION AND DIMENSIONS OF CONCRETE MEMBER BEING FORMED.	-	X
REQUIRED VERIFICATION AND INSPECTION OF SOILS (IN COOPERATION WITH OWNERS' GEOTECHNICAL TESTING AGENCY)		
1. VERIFY MATERIALS BELOW SHALLOW FOUNDATIONS ARE ADEQUATE TO ACHIEVE THE DESIGN BEARING CAPACITY.	-	X
2. VERIFY EXCAVATIONS ARE EXTENDED TO PROPER DEPTH AND HAVE REACHED PROPER MATERIAL.	-	X
3. PERFORM CLASSIFICATION AND TESTING OF CONTROLLED FILL MATERIALS.	-	X
4. VERIFY USE OF PROPER MATERIALS, DENSITIES AND LIFT THICKNESSES DURING PLACEMENT AND COMPACTION OF COMPACTED FILL.	X	-
5. PRIOR TO PLACEMENT OF COMPACTED FILL, OBSERVE SUBGRADE AND VERIFY THAT SITE HAS BEEN PREPARED PROPERLY.	-	X

NOTE: ALL INSPECTIONS ARE TO BE COORDINATED AND PAID FOR BY THE CONTRACTOR.

**HATCH PATTERN KEY**

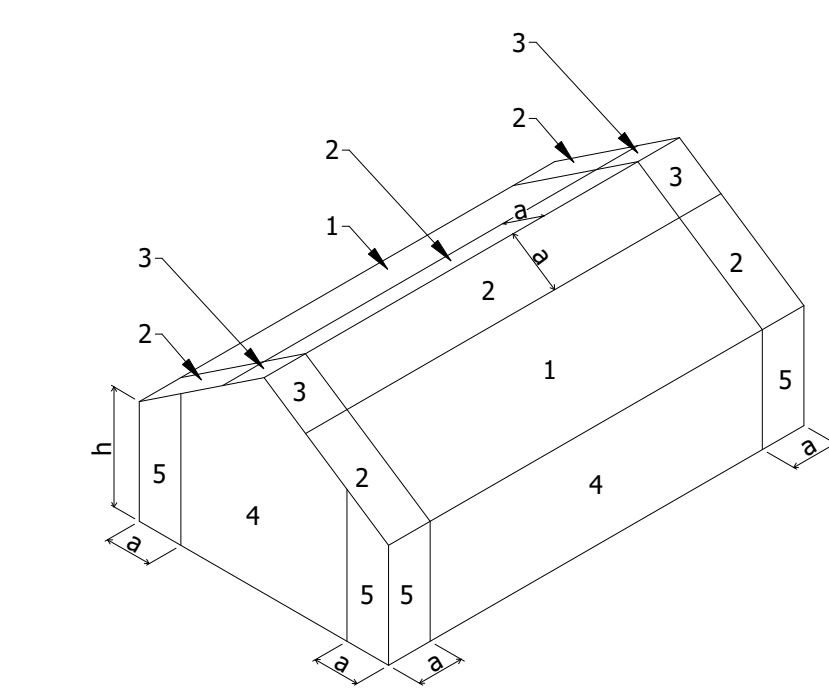
	= CONCRETE IN SECTION
	= EARTH IN SECTION
	= EPOXY IN SECTION
	= EXISTING IN PLAN AND SECTION
	= GRANULAR FILL IN SECTION
	= GRATING IN PLAN AND SECTION
	= GROUT IN SECTION
	= INSULATION IN SECTION
	= PLYWOOD IN SECTION
	= SNOW DRIFT LOADING IN PLAN
	= STEEL IN SECTION
	= TOPPING IN SECTION
	= WOOD END GRAIN IN SECTION
	= WOOD FACE GRAIN IN SECTION

**WALL TYPE KEY**

	= LOAD BEARING WALL
	= NON-LOAD BEARING WALL
	= SHEAR WALL

**STANDARD ABBREVIATIONS**

ALT.	ALTERNATE
A.B.	ANCHOR BOLT
ARCH.	ARCHITECT
@	AT
BM.	BEAM
BOT.	BOTTOM
B.O.	BOTTOM OF
BLDG.	BUILDING
CL.	CENTER LINE
CLR.	CLEAR
COL.	COLUMN
CONC.	CONCRETE
CONN.	CONNECTION
CONT.	CONTINUOUS
C.J.	CONTROL JOINT
DET.	DETAIL
DIA.	DIAMETER
DIM.	DIMENSION
DWG(S)	DRAWING(S)
EA.	EACH
ELEV.	ELEVATION
EL.	ELEVATION
EQ.	EQUAL
EQUIP.	EQUIPMENT
EXIST.	EXISTING
EXT.	EXTERIOR
F.S.	FAR SIDE
FIN.	FINISH
FLR.	FLOOR
FTG.	FOOTING
FOUND.	FOUNDATION
GALV.	GALVANIZED
GYP.	GYPSUM
H.S.	HEADED STUD
HI	HIGH
HORIZ.	HORIZONTAL
INSUL.	INSULATION
INT.	INTERIOR
LOC.	LOCATION
LLH	LONG LEG HORIZONTAL
LLO	LONG LEG OUT
LLV	LONG LEG VERTICAL
LONG.	LONGITUDINAL
LO	LOW
MSRY.	MASONRY
MAX.	MAXIMUM
MECH.	MECHANICAL
MIN.	MINIMUM
MIR.	MIRRORED
N.S.	NEAR SIDE
N.A.	NOT APPLICABLE
N.T.S.	NOT TO SCALE
O.C.	ON CENTER
OPNG.	OPENING
PL.	PLATE
R.	RADIUS
RE.	REFERENCE
REINF.	REINFORCING
REQ'D	REQUIRED
SCHED.	SCHEDULE
SEC.	SECTION
SHT.	SHEET
SIM.	SIMILAR
SQ.	SQUARE
S.S.	STAINLESS STEEL
STL.	STEEL
T&B	TOP & BOTTOM
T.O.	TOP OF
TRANS.	TRANSVERSE
TYP.	TYPICAL
U.N.O.	UNLESS NOTED OTHERWISE
VERT.	VERTICAL
W/	WITH
W/O	WITHOUT



GABLE ROOF 7° ≤ θ ≤ 45°

EFFECTIVE WIND AREA (SQ. FT.)	LOCATION PER ASCE 7-22				
	1	2	3	4	5
≤ 10	17.5, -37.6	17.5, -60.0	17.5, -71.2	26.4, -28.6	26.4, -35.4
20	16.0, -34.0	16.0, -51.2	16.0, -60.4	25.2, -27.5	25.2, -33.0
50	16.0, -29.2	16.0, -39.6	16.0, -46.1	23.6, -25.9	23.6, -29.8
≥100	16.0, -25.6	16.0, -30.9	16.0, -35.4	22.5, -24.7	22.5, -27.5

- NOTES:
- a = 10% OF LEAST HORIZONTAL DIMENSION OR 0.4h, WHICHEVER IS SMALLER, BUT NOT LESS THAN EITHER 4% OF THE LEAST HORIZONTAL DIMENSION OR 3 FT.
  - WIND LOADS ARE ULTIMATE (LRFD) LOADS. FOR ALLOWABLE STRESS DESIGN MULTIPLY LOADS PROVIDED BY 0.6.
  - LOADING PROVIDED IS FOR WORST CASE ROOF HEIGHT. DELEGATED DESIGNERS MAY RECALCULATE LOADS FOR SPECIFIC COMPONENT HEIGHTS USING PARAMETERS SPECIFIED.
  - PRESSURES SHOWN ARE APPLIED NORMAL TO THE SURFACE.
  - PLUS AND MINUS SIGNS SIGNIFY PRESSURES ACTING TOWARD AND AWAY FROM THE SURFACES, RESPECTIVELY.
  - EACH COMPONENT MUST BE DESIGNED FOR MAXIMUM POSITIVE AND NEGATIVE FORCES.
  - FOR COMPONENTS HAVING EFFECTIVE AREAS IN BETWEEN THE TABULATED VALUES, DESIGN LOADS MAY BE INTERPOLATED. OTHERWISE DESIGN LOAD MUST BE TAKEN FROM THE NEXT LOWEST EFFECTIVE AREA.
  - INTERNAL PRESSURE FOR ENCLOSED BUILDING IS INCLUDED IN ABOVE VALUES.
  - THE NET C&C PRESSURE (INCLUDING INTERNAL PRESSURE) FOR ANY COMPONENT SHALL NOT BE TAKEN LESS THAN 16 PSF ACTING IN EITHER DIRECTION NORMAL TO THE SURFACE.
  - PARAPET PRESSURES ARE NOT SHOWN ABOVE. DELEGATED DESIGN ENGINEERS SHALL CALCULATE PARAPET PRESSURES IN ACCORDANCE WITH ASCE 7-22 USING CRITERIA ABOVE TO DETERMINE DESIGN LOADS FOR USE IN THEIR DESIGN AND SUBMIT CALCULATIONS.



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CROWDER STATE PARK  
76 NORTHWEST HWY 128  
TRENTON, MISSOURI

PROJECT # X2534-01  
SITE # 5107  
ASSET # 7815107048

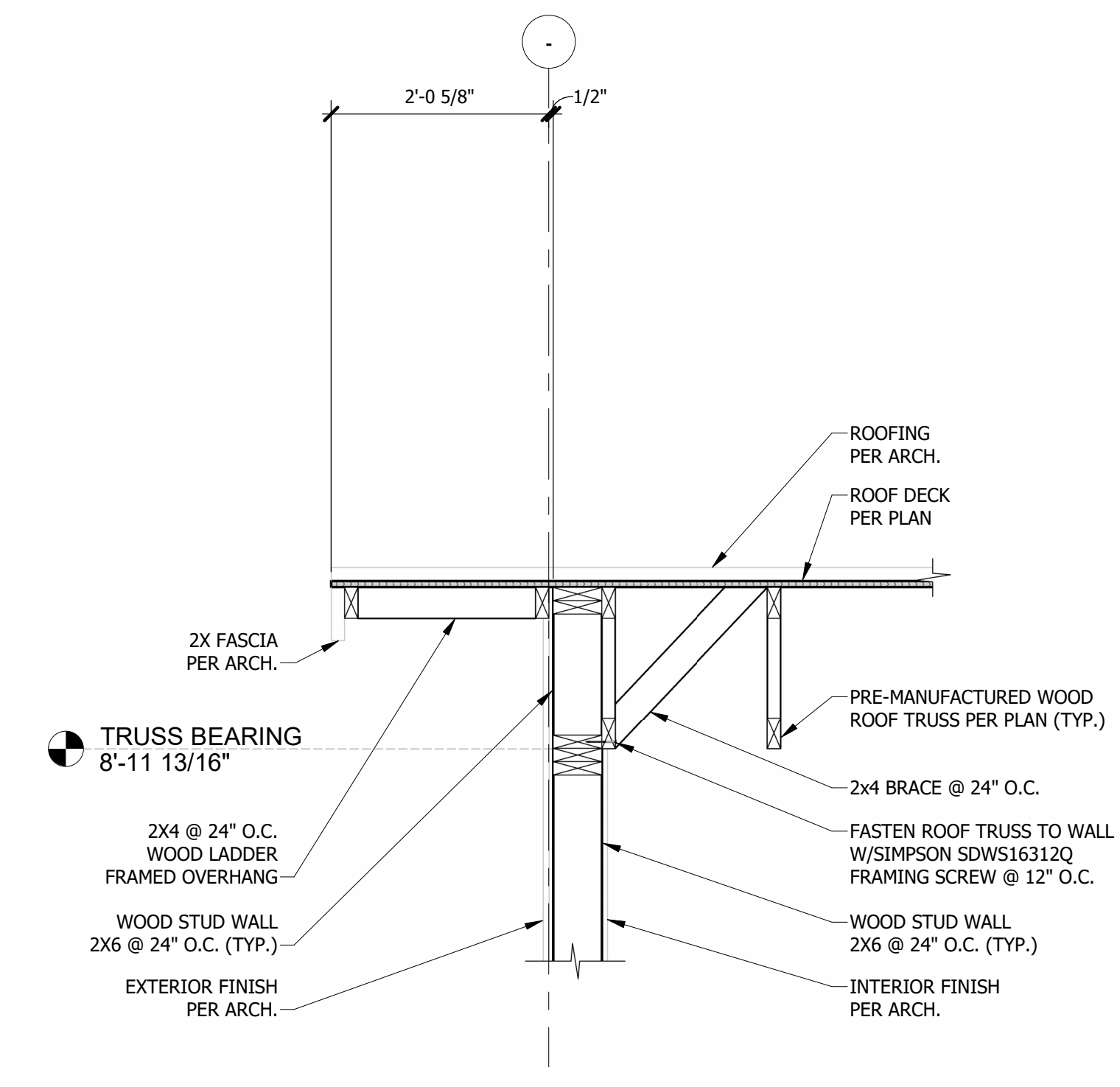
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CHECKED BY: ACO/ARB  
DESIGNED BY: WNH

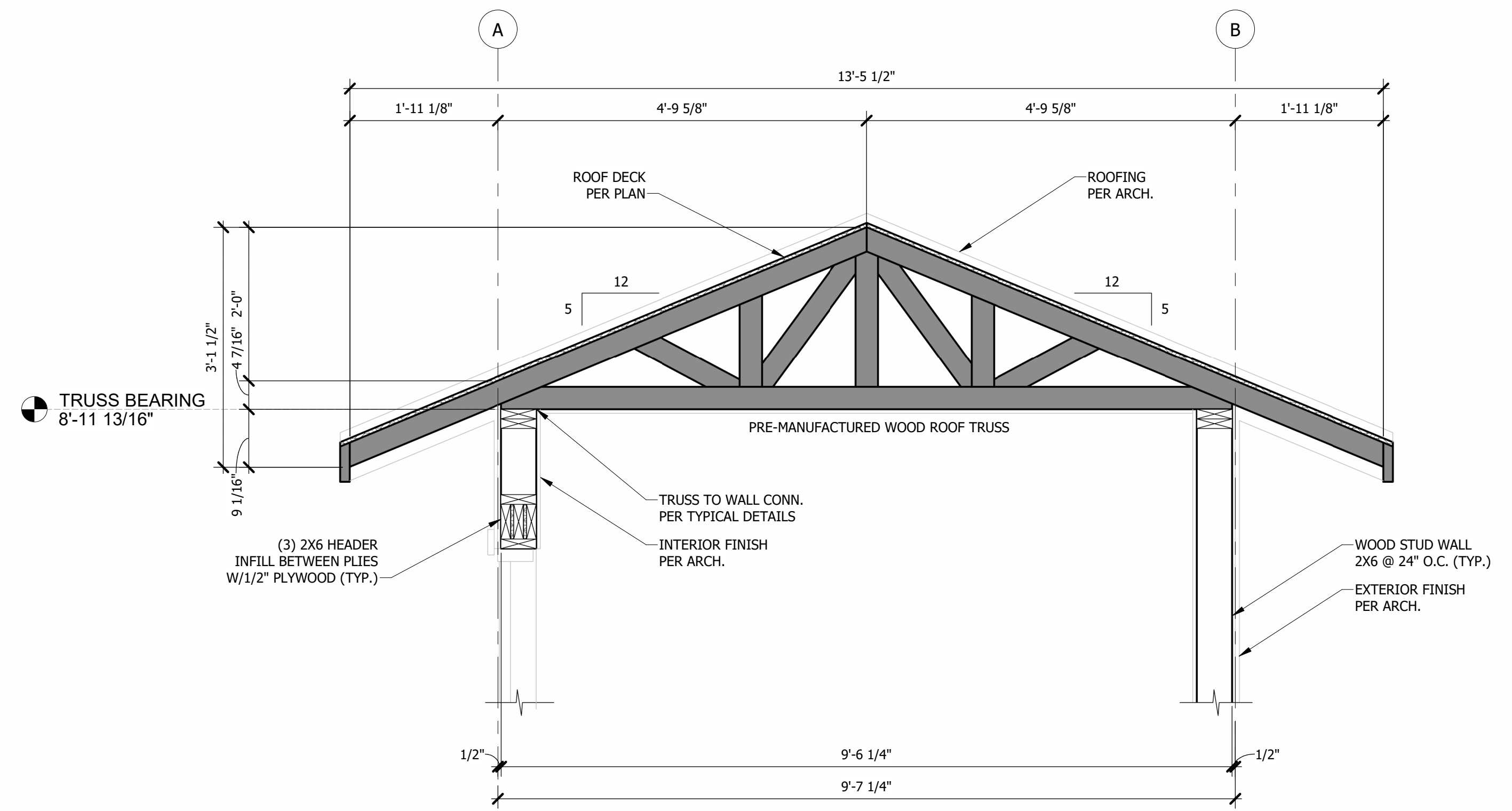
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**GENERAL INFORMATION**

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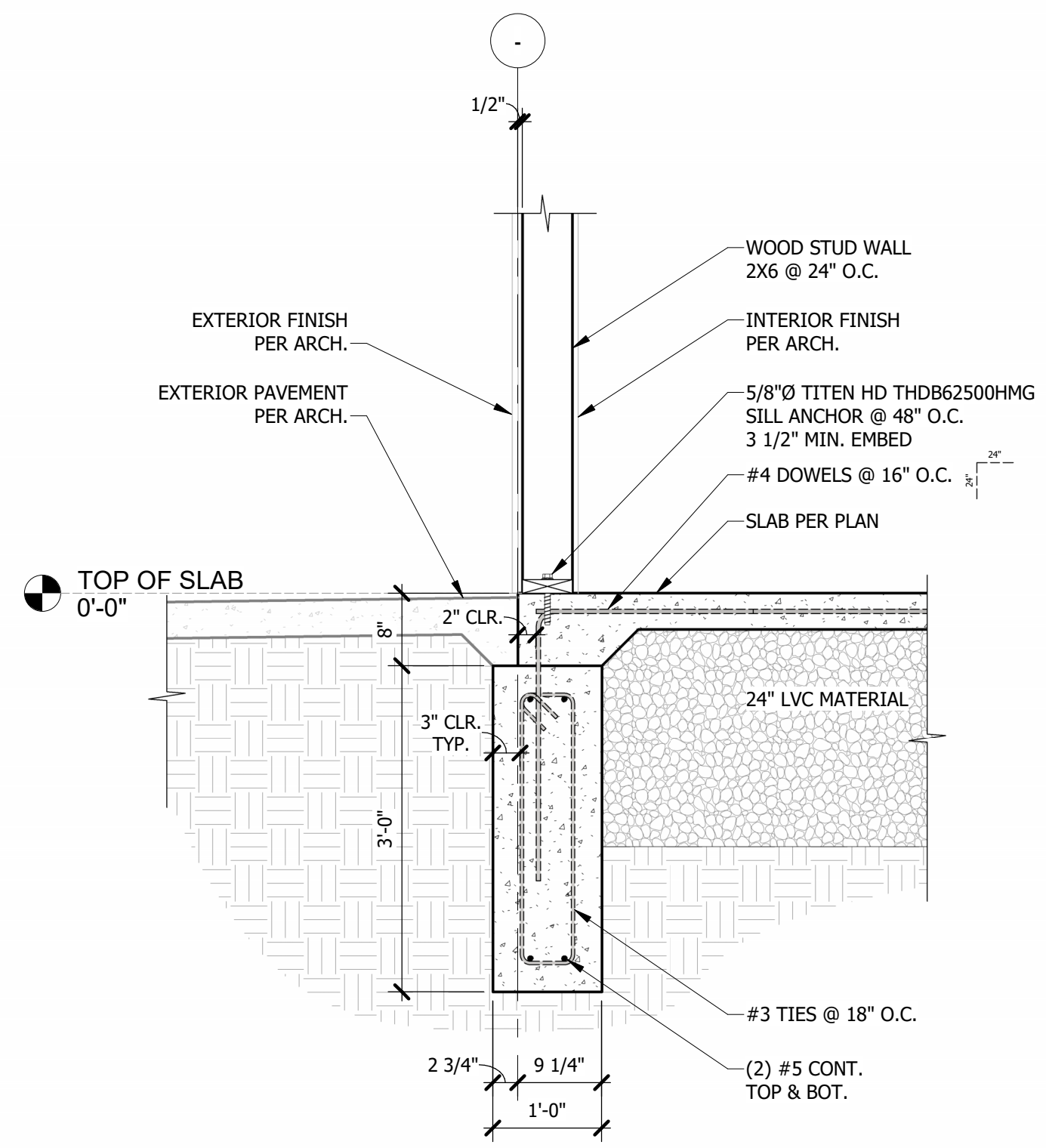
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**6 TYPICAL GABLE END OVERHANG SECTION**  
3/4" = 1'-0"



**5 TYPICAL ROOF SECTION**  
3/4" = 1'-0"



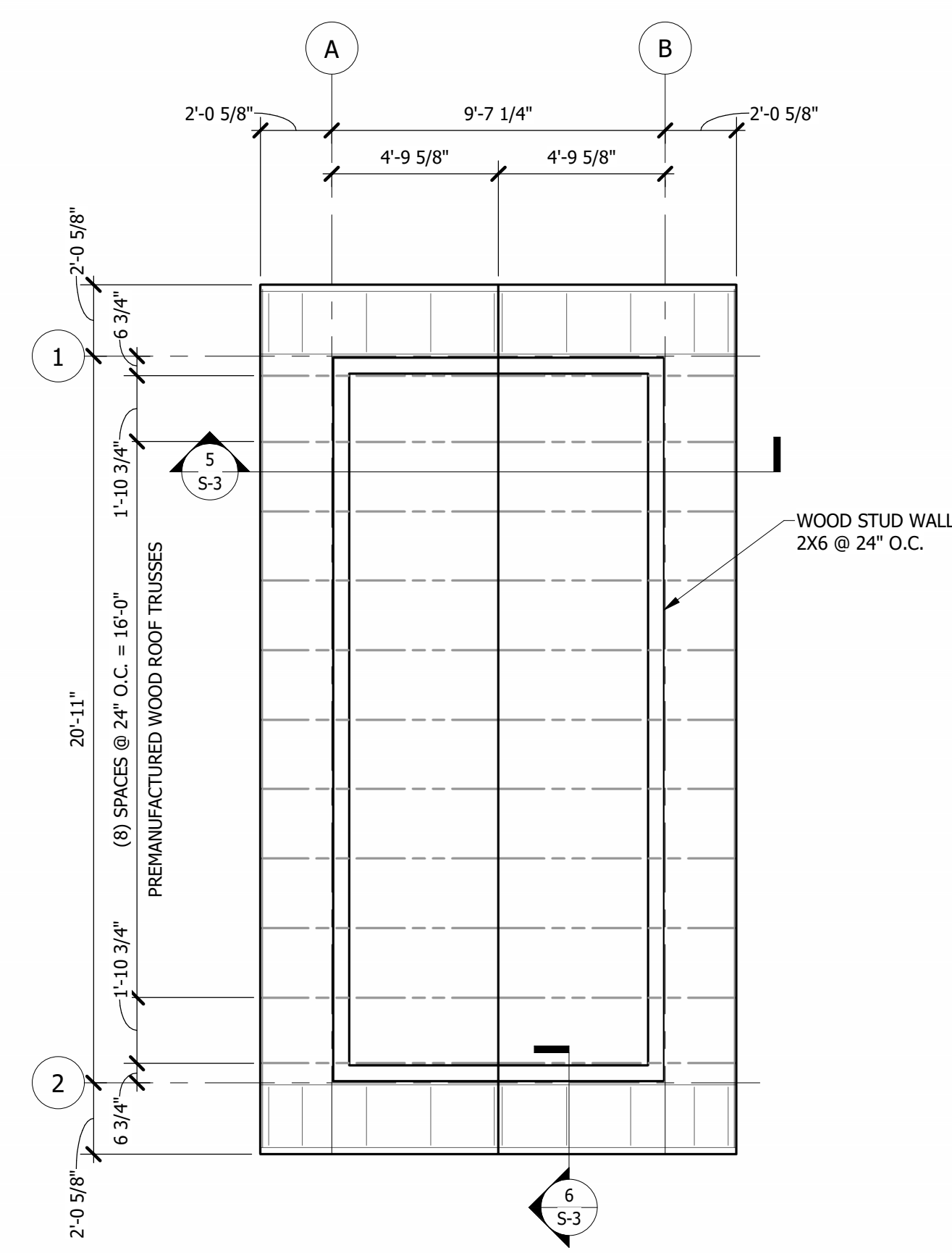
**4 TYPICAL TRENCH FOOTING SECTION**  
3/4" = 1'-0"

**ROOF FRAMING PLAN NOTES**

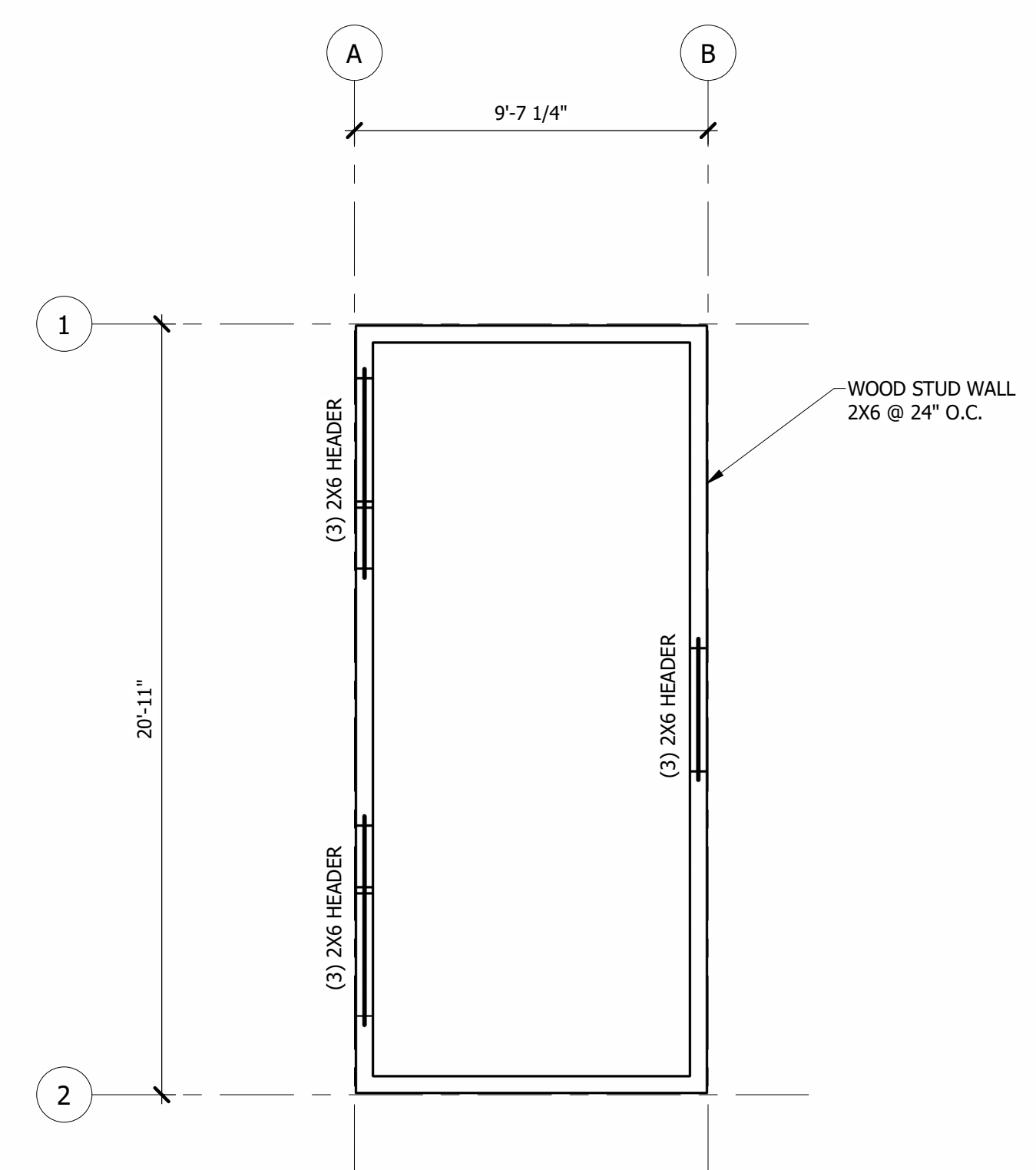
1. ROOF DECK TO BE 5/8" PLYWOOD DECK. REFER TO SECTION FOR ELEVATIONS AND SLOPING INFORMATION.
2. ALL LOAD-BEARING WALLS TO BE 2X6 @ 16" O.C. UNLESS NOTED OTHERWISE. ALL LOAD-BEARING WALLS TO HAVE DOUBLE TOP PLATE AND SINGLE BOTTOM PLATE.
3. ALL EXTERIOR WALLS TO BE SHEATHED WITH 15/32" APA RATED STRUCTURAL I OSB, UNLESS NOTED OTHERWISE.
4. COORDINATE LOCATION OF ALL NON-LOAD-BEARING STUD WALLS WITH ARCHITECTURAL DRAWINGS.
5. PROVIDE (2) JACK STUDS UNDER ALL HEADERS AND BEAMS UNLESS NOTED OTHERWISE.
6. ALL JACK STUDS TO BE CARRIED DOWN TO THE FOUNDATION LEVEL.
7. REFER TO SHEET S-04 FOR TYPICAL DETAILS.
8. REFER TO SHEET S-04 FOR SHEAR WALL INFORMATION.
9. COORDINATE ALL ROOF AND WALL PENETRATIONS WITH ALL OTHER DISCIPLINES.
10. REFER TO ARCHITECTURAL DRAWINGS FOR ALL DIMENSIONS NOT SHOWN ON THESE DRAWINGS.

**FOUNDATION PLAN NOTES**

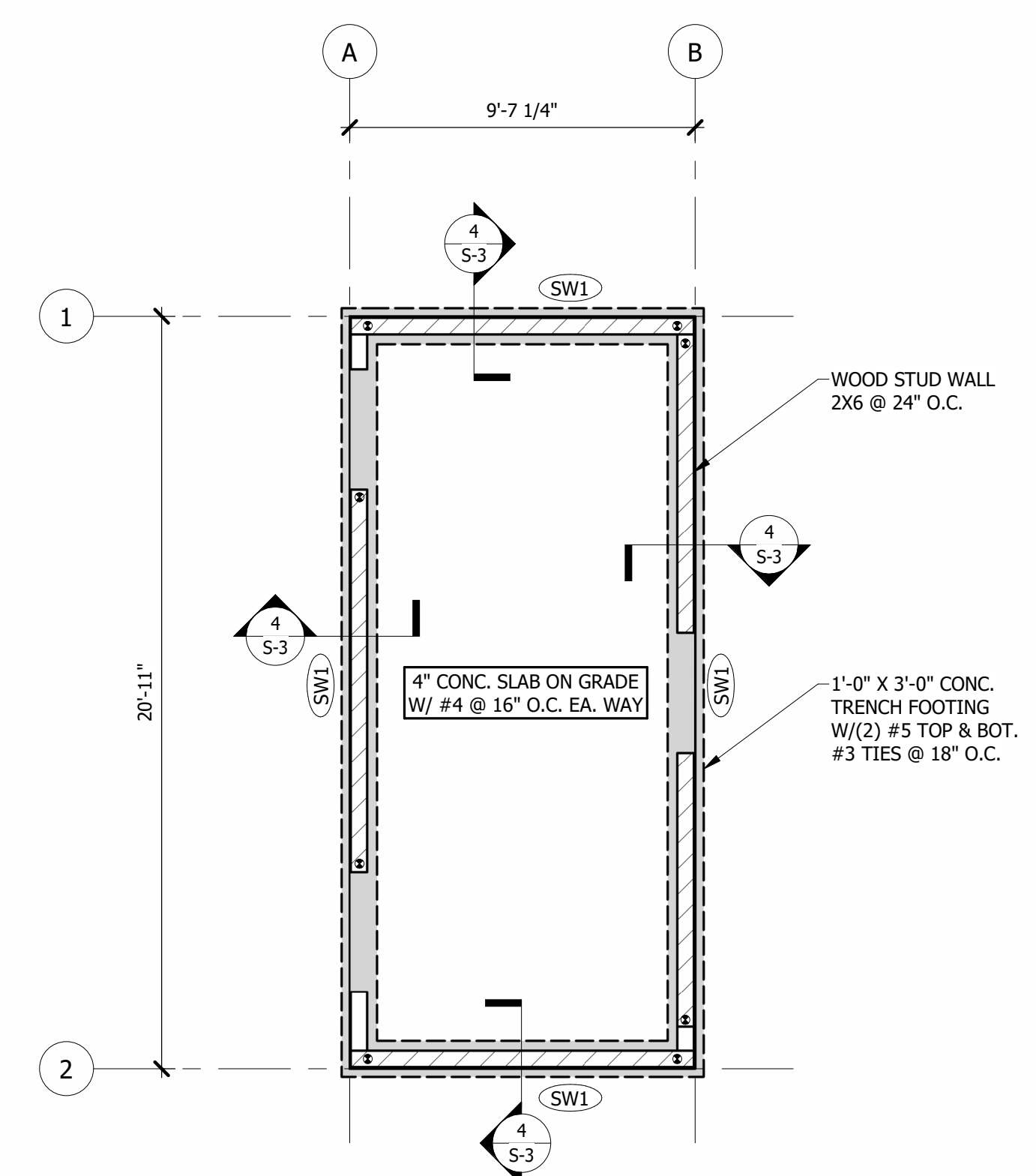
1. TOP OF CONCRETE SLAB ELEVATION = 0'-0".
2. 4" SLAB ON GRADE TO BE REINFORCED WITH #4 @ 16" O.C. EA. WAY OVER 4" GRANULAR FILL AND 15 MIL VAPOR BARRIER, UNLESS NOTED OTHERWISE.
3. VERIFY ALL LOCATIONS OF THICKENED SLAB AREAS PRIOR TO POURING CONCRETE.
4. ALL LOAD-BEARING WALLS TO BE 2X6 @ 16" O.C. UNLESS NOTED OTHERWISE. ALL LOAD-BEARING WALLS TO HAVE DOUBLE TOP PLATE AND SINGLE BOTTOM PLATE.
5. ALL EXTERIOR WALLS TO BE SHEATHED WITH 15/32" APA RATED STRUCTURAL I OSB, UNLESS NOTED OTHERWISE.
6. COORDINATE LOCATION OF ALL NON-LOAD-BEARING STUD WALLS WITH ARCHITECTURAL DRAWINGS.
7. ALL SILL ANCHORS TO BE 5" LONG X 5/8" Ø SIMPSON TITEN HD @ 48" O.C. MAX.
8. DURING INSTALLATION OF POST CONSTRUCTION ANCHORS, CARE MUST BE TAKEN TO AVOID ALL REINFORCING.
9. REFER TO SHEET S-04 FOR TYPICAL DETAILS.
10. REFER TO SHEET S-04 FOR SHEAR WALL INFORMATION.
11. COORDINATE ALL FLOOR AND WALL PENETRATIONS WITH ALL OTHER DISCIPLINES.
12. REFER TO ARCHITECTURAL DRAWINGS FOR ALL DIMENSIONS NOT SHOWN ON THESE DRAWINGS.
13. \* = SHEAR WALL HOLDDOWN



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



**2 TOP OF WALL PLAN**  
1/4" = 1'-0"



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

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CAD DWG FILE: S-3  
DRAWN BY: WNH  
CHECKED BY: ACO/ARB  
DESIGNED BY: WNH

SHEET TITLE:  
**PLANS AND  
DETAILS**

SHEET NUMBER:  
**S-3**  
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ISSUE DATE: 02/04/2026

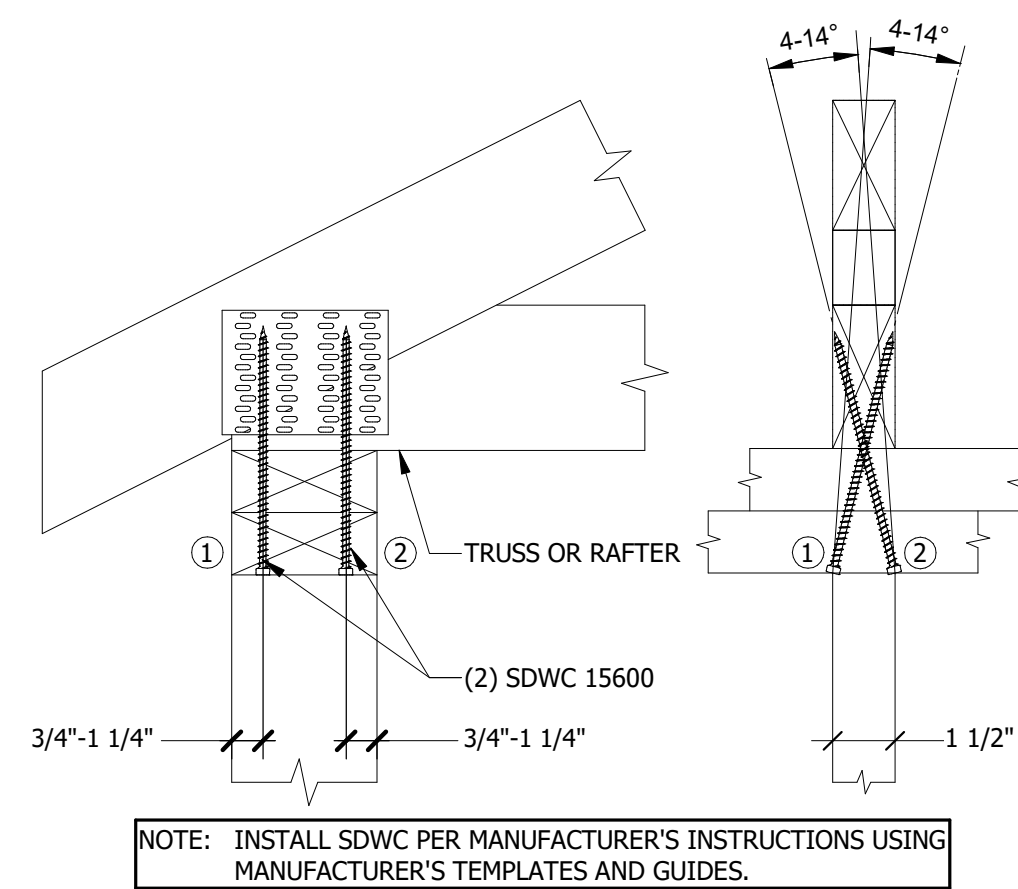
CAD DWG FILE: S-4  
DRAWN BY: WNH  
CHECKED BY: ACO/ARB  
DESIGNED BY: WNH

SHEET TITLE:  
**TYPICAL  
DETAILS**

SHEET NUMBER:

**S-4**

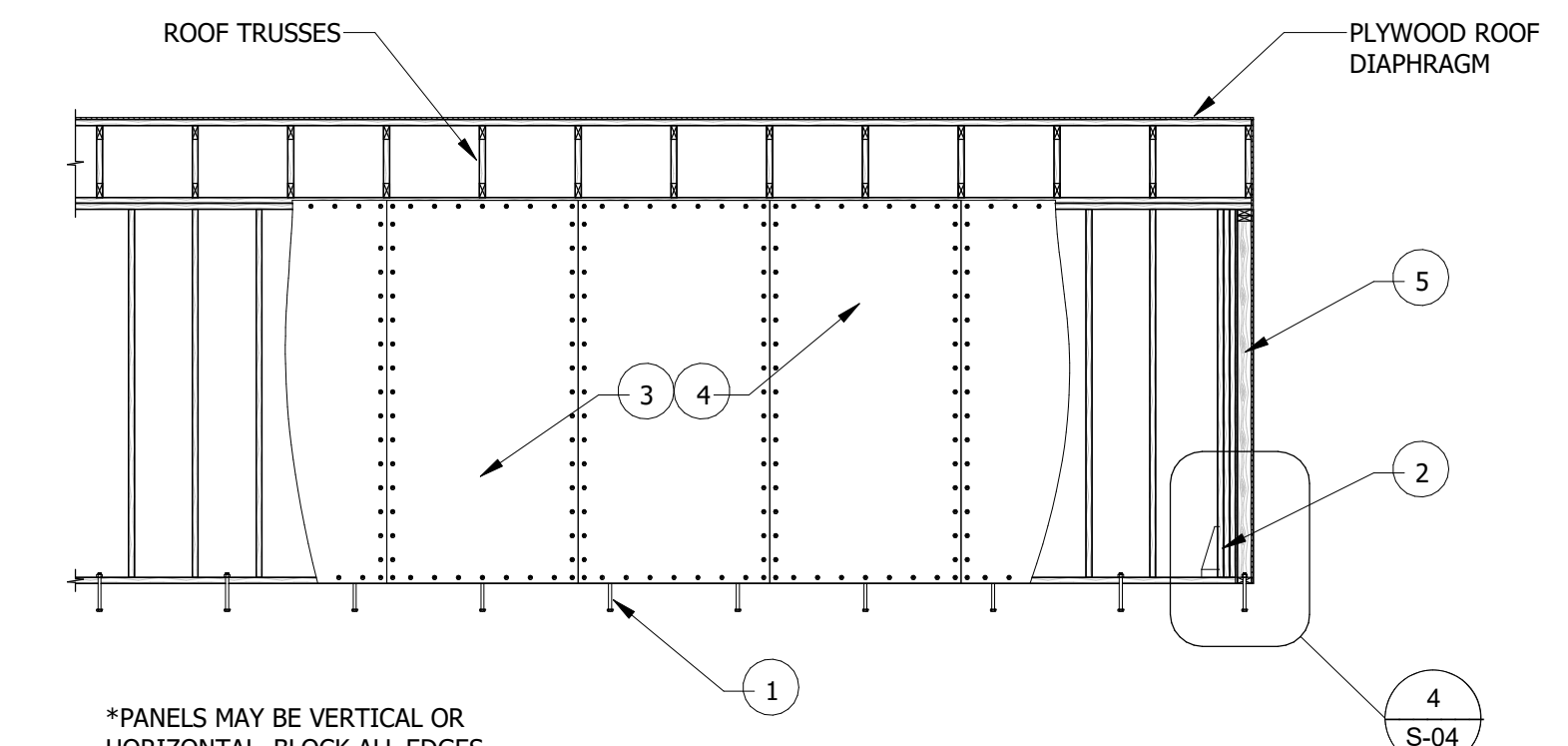
26 OF 39 SHEETS  
02/04/2026



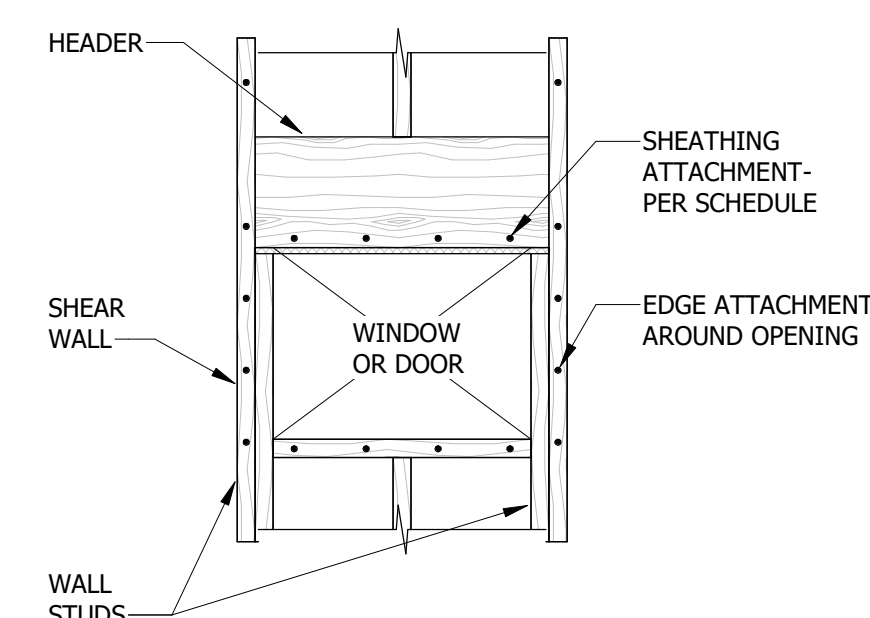
**8** SIMPSON SDWC INSTALLATION DETAIL  
3/4" = 1'-0"

SHEAR WALL TYPE		SHEAR WALL SW1			
LOCATION	ITEM	ITEM	SIZE	SPACING	REMARKS
1ST STORY	5	CHORDS	(2) 2X6	EA. CHORD	SPF #2 GRADE
	4	SHEATHING ATTACHMENT	8d 8d	12" O.C. 6" O.C.	ALL INTERMEDIATE SUPPORTS ALL PANEL EDGES
	3	SHEATHING TYPE	15/32"	BLOCKED	APA RATED STRUCT. I OSB SHEATHING
	2	SIMPSON HOLDOWN	HDU2-SDS2.5	EA. CHORD	FASTEN TO CHORD WITH (6) 1/4 X 2 1/2 SDS ANCHOR ROD PER HOLDOWN DETAIL
	1	BASE CONNECTION	5/8" Ø	48" O.C. MAX.	5" LONG SIMPSON TITEN-HD

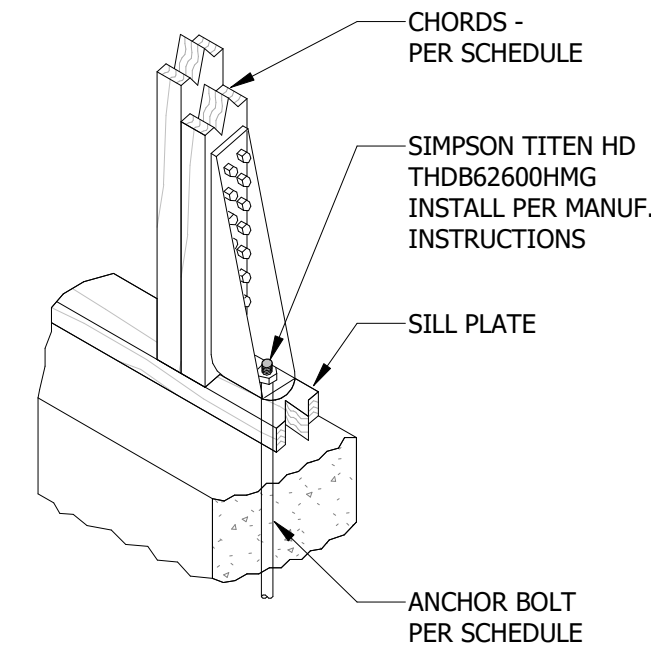
**7** SHEAR WALL SCHEDULE  
3/4" = 1'-0"



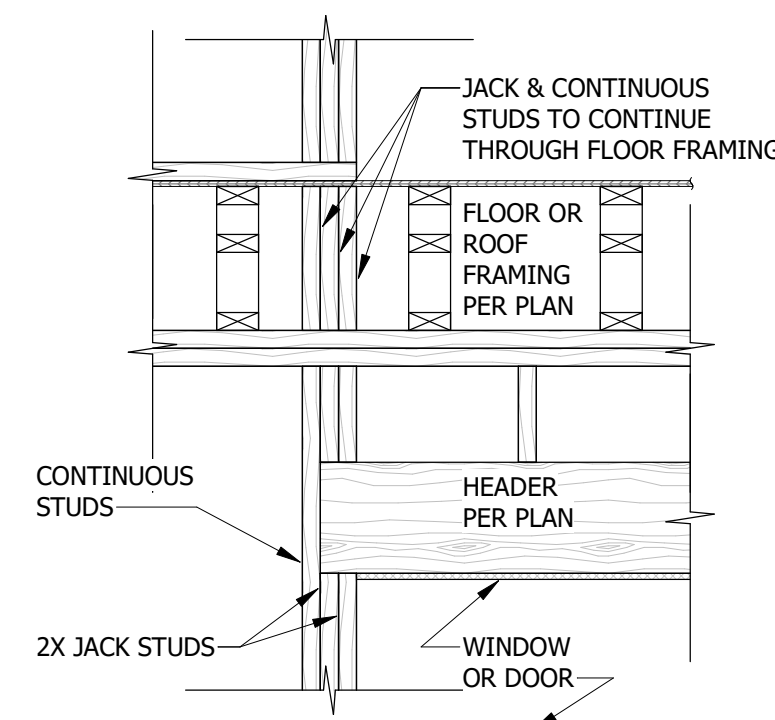
**6** TYPICAL SHEAR WALL DETAIL  
1/4" = 1'-0"



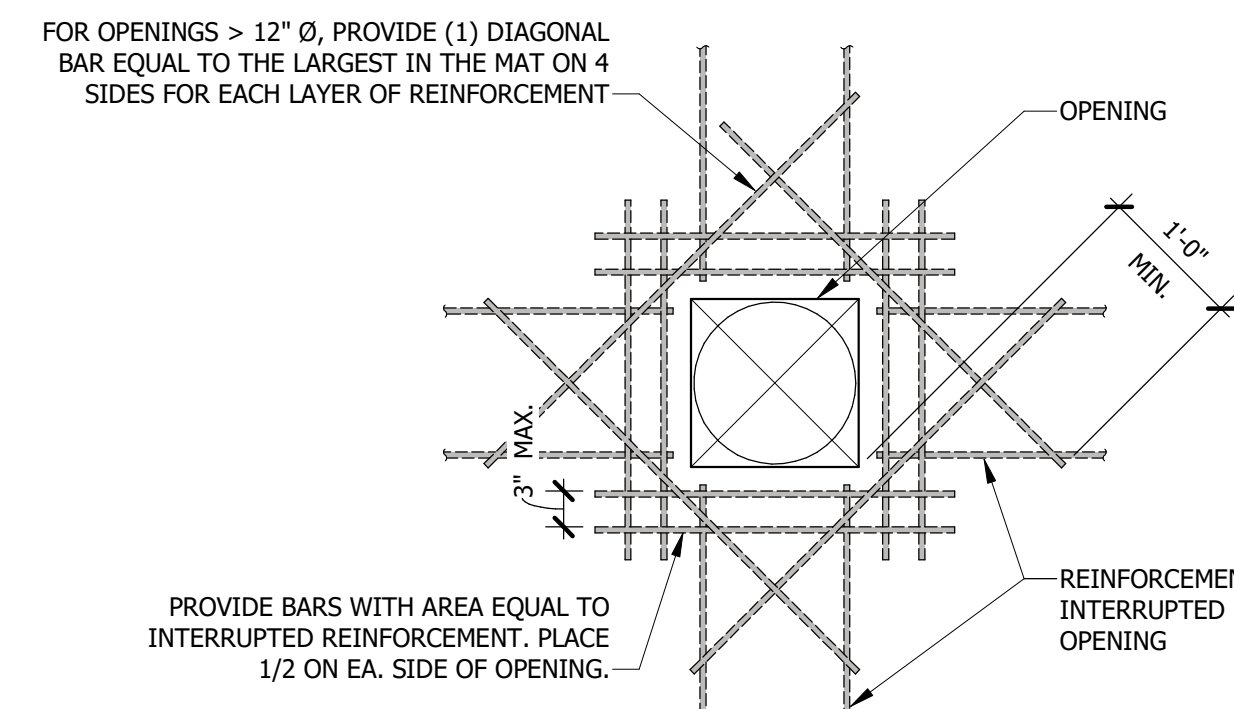
**5** SHEAR WALL OPENING DETAIL  
3/4" = 1'-0"



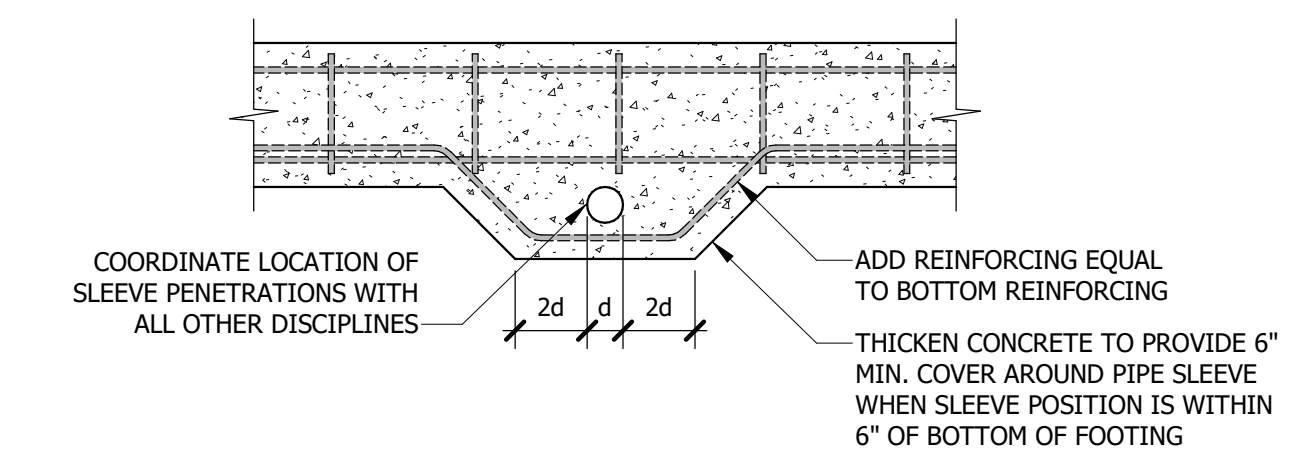
**4** SHEAR WALL HOLDOWN DETAIL  
1 1/2" = 1'-0"



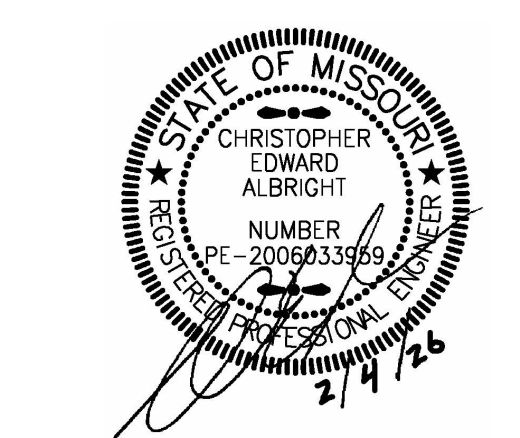
**3** JACK STUD DETAIL  
3/4" = 1'-0"



**2** WALL & FLOOR PENETRATION DETAIL  
3/4" = 1'-0"



**1** FOUNDATION SLEEVE DETAIL  
3/4" = 1'-0"



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project number 2524400

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MANAGEMENT,  
DESIGN AND CONSTRUCTION  
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MISSOURI STATE PARKS

ACCESSIBILITY IMPROVEMENTS  
MULTIPLE GROUP CAMP ASSETS

CROWDER STATE PARK  
76 NORTHWEST HWY 128  
TRENTON, MISSOURI

PROJECT #	X2534-01	
SITE #	5107	
ASSET #	7815107001	7815107013
	7815107005	7815107022
	7815107007	7815107023
	7815107008	7815107048
	7815107009	7815107010
	7815107011	7815107011
	7815107012	7815107012

REVISION: \_\_\_\_\_  
DATE: \_\_\_\_\_  
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DATE: \_\_\_\_\_  
REVISION: \_\_\_\_\_  
DATE: \_\_\_\_\_  
ISSUE DATE: 02/04/2026

CAD DWG FILE: ME-1  
DRAWN BY: PP  
CHECKED BY: MP  
DESIGNED BY: CK

SHEET TITLE:  
**MECHANICAL  
AND ELECTRICAL  
SYMBOLS AND  
ABBREVIATIONS**

SHEET NUMBER:  
**ME-1**  
27 OF 39 SHEETS  
02/04/2026

### GENERAL

- 1 MECHANICAL NOTE REFERENCE
- 2 ELECTRICAL NOTE REFERENCE
- 3 DEMOLITION NOTE REFERENCE
- 4 REVISION NOTE REFERENCE
- CONNECT TO EXISTING WORK
- 1 M1 DETAIL REFERENCE - NO./SHEET NO.
- A M1 SECTION CUT - SECTION/SHEET NO.
- BRACKET DENOTES A WALL MOUNTED DEVICE, TYP

### WIRING DEVICES

- DUPLEX RECEPTACLE
- FOURPLEX RECEPTACLE
- SIMPLEX/SPECIAL RECEPTACLE (NEMA CONFIG. NOTED)
- LINE THRU DEVICE INDICATES ABOVE COUNTER
- 3RD LINE THROUGH MIDDLE INDICATES OCCUPANCY CONTROLLED
- RECEPTACLE TYPES - (IG) ISOLATED GROUND, (GFI) GROUNDFAULT, (U) UPS, (USB) W/ INTEGRAL USB, (D) DEDICATED, (S) SPLIT WIRED
- DUPLEX RECEPTACLE SUPPLIED BY GENERATOR (SINGLE, FOURPLEX AND SPECIAL ARE SIMILAR)
- CEILING MOUNTED RECEPTACLE
- RECESSED FLOOR BOX W/DUPLEX RECEPTACLE
- MULTI-SERVICE WALL BOX
- MULTI-SERVICE FLOOR BOX
- DIVIDED POWER POLE
- MULTI-OUTLET ASSEMBLY

### CONDUIT AND WIRE

- CONDUIT RUN CONCEALED IN WALL OR ABOVE CEILING. 3#12 AWG CONDUCTORS, UNLESS NOTED OTHERWISE.
- TICK MARKS (UN-SWITCHED LINE, NEUTRAL, GROUND)
- ARROW INDICATES HOME RUN TO PANEL.
- CONDUIT RUN UNDERGROUND OR CONCEALED IN SLAB (D)
- LOW VOLTAGE WIRING/CONDUIT RUN

### LIGHTING

- BATTERY OPERATED EMERGENCY LIGHT (WALL MOUNTED)
- BATTERY OPERATED EMERGENCY LIGHT (CEILING MOUNTED)
- SURFACE/RECESSED LIGHT FIXTURE
- DENOTES A WALL MOUNTED FIXTURE
- 2X4 LIGHT FIXTURE
- 2X2 LIGHT FIXTURE
- 1X4 LIGHT FIXTURE
- STRIP / LINEAR LIGHT FIXTURE
- SHADING DENOTES EMERGENCY FIXTURE
- POLE MOUNTED LIGHT FIXTURE - SINGLE HEAD
- POLE MOUNTED LIGHT FIXTURE - DUAL HEAD
- POLE MOUNTED LIGHT FIXTURE - PEDESTRIAN SCALE
- EXIT LIGHT - DOUBLE FACE - ARROWS AS SHOWN
- EXIT LIGHT - SINGLE FACE - ARROWS AS SHOWN
- LINE VOLTAGE SWITCHES-SINGLE POLE, 3-WAY, 4-WAY, KEY, PILOT LIGHT, DIMMER
- VACANCY SWITCH
- VACANCY DIMMER SWITCH
- LOW VOLTAGE SWITCH
- LOW VOLTAGE DIMMER SWITCH
- LOW VOLTAGE SCENE SWITCH
- LOW VOLTAGE TOUCHSCREEN
- DIGITAL TIMER SWITCH
- OCCUPANCY SENSOR (LETTER DENOTES TYPE)
- PHOTOCELL
- LIGHTING CONTROL NOTE

### POWER DEVICE AND CONTROLS

- DISCONNECT SWITCH. 30A/3P NON-FUSED EXCEPT AS NOTED OTHERWISE.
- MAGNETIC MOTOR STARTER
- COMBINATION MOTOR STARTER AND DISCONNECT SWITCH
- MOTOR
- PANELBOARD (SEE ONE-LINE)
- CONTACTOR
- AUTOMATIC TRANSFER SWITCH
- JUNCTION BOX
- JUNCTION BOX - FURNITURE FEED WHIP CONNECTION
- PUSHBUTTON
- EMERGENCY POWER OFF PUSHBUTTON
- TRANSFORMER
- CONTROL RELAY

### TELECOMMUNICATIONS

- TELEPHONE OUTLET
- DATA OUTLET
- TELEPHONE/DATA OUTLET
- TELEVISION OUTLET
- ABOVE CEILING DATA OUTLET FOR WIRELESS ACCESS POINT
- LINE THRU DEVICE INDICATES ABOVE COUNTER
- CIRCLE INDICATES FLOOR MOUNTED OUTLET
- SQUARE INDICATES CEILING MOUNTED OUTLET

### FIRE ALARM

- FIRE ALARM ANNUNCIATION PANEL
- FIRE ALARM CONTROL PANEL
- MANUAL PULL STATION
- SMOKE DETECTOR
- SMOKE DETECTOR - DUCT MOUNTED
- SMOKE DETECTOR - WITH SOUNDER BASE
- COMBINATION SMOKE/CARBON MONOXIDE DETECTOR
- CARBON MONOXIDE DETECTOR
- COMBO SMOKE/CARBON MONOXIDE/SOUNDER BASE
- THERMODOETECTOR(HEAT) DETECTOR
- THERMODOETECTOR(HEAT) DETECTOR - DUCT MOUNTED
- DOOR HOLDER
- CHIME
- BELL
- FIRE ALARM HORN
- FIRE ALARM SPEAKER
- FIRE ALARM STROBE
- COMBINATION FIRE ALARM HORN AND STROBE
- COMBINATION FIRE ALARM SPEAKER AND STROBE
- REMOTE ALARM LAMP
- POST INDICATOR SWITCH
- FLOW SWITCH
- TAMPER SWITCH
- ADDRESSABLE INTERFACE

### HVAC

- CHILLED WATER SUPPLY
- CHILLED WATER RETURN
- DUAL TEMP SUPPLY
- DUAL TEMP RETURN
- CONDENSER SUPPLY
- CONDENSER RETURN
- HEATING HOT WATER SUPPLY
- HEATING HOT WATER RETURN
- STEAM SUPPLY
- STEAM CONDENSATE RETURN
- HVAC DRAIN (CONDENSATE)
- REFRIGERANT
- THERMOSTAT
- TEMPERATURE SENSOR
- HUMIDITY SENSOR
- CARBON DIOXIDE SENSOR
- THERMOSTAT / CO2 SENSOR COMBO
- THERMOSTAT / CO2 / HUMIDITY SENSOR COMBO
- CHLORINE SENSOR
- SPACE PRESSURE MONITOR
- CARBON MONOXIDE SENSOR
- NITROGEN DIOXIDE SENSOR
- CARBON MONOXIDE / NITROGEN DIOXIDE SENSOR
- WALL SWITCH
- HUMIDIFIER

### PLUMBING

- DOMESTIC COLD WATER
- DOMESTIC HOT WATER
- DOMESTIC HOT WATER 140°
- DOMESTIC TEMPER WATER
- SOFT DOMESTIC COLD WATER
- SOFT DOMESTIC HOT WATER
- SOFT HOT WATER RECIRC
- DOMESTIC HOT WATER RECIRC
- DOMESTIC HOT WATER RECIRC 140°
- DOMESTIC DEIONIZED WATER
- REVERSE OSMOSIS WATER
- COMPRESSED AIR
- SANITARY WASTE
- SANITARY WASTE UNDERGROUND
- VENT
- PUMP DISCHARGE
- GREASE WASTE
- GREASE WASTE UNDERGROUND
- STORM DRAIN
- STORM DRAIN UNDERGROUND
- STORM OVERFLOW DRAIN
- STORM OVERFLOW DRAIN UNDERGROUND
- HOSE BIBB, WALL / ROOF / YARD HYDRANT
- CLEAN OUT, WALL CLEAN OUT
- FLOOR CLEAN OUT
- FLOOR / AREA DRAIN
- FLOOR SINK / TROUGH
- ROOF DRAIN / OVERFLOW ROOF DRAIN
- TRENCH DRAIN
- REDUCED PRESSURE BACKFLOW PREVENTER
- PLUMBING RISER CALL-OUT NUMBER

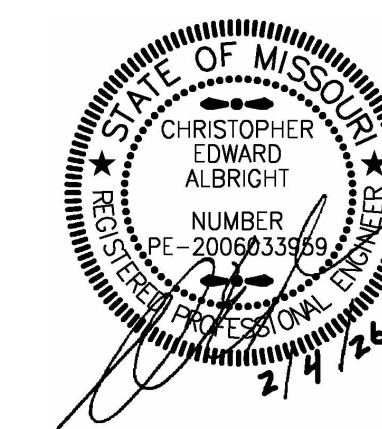
### PIPING

- ELBOW DOWN
- ELBOW UP
- TEE UP
- TEE DOWN
- CAP
- UNION
- PIPE FLEX
- STRAINER
- PRESSURE GAUGE WITH GAUGE COCK
- TEMPERATURE GAUGE
- THERMOMETER.
- SITE GLASS
- FILTER-DRIER
- BASKET STRAINER
- SHUTOFF VALVE
- SHUTOFF VALVE IN RISER
- BALANCING VALVE
- RELIEF VALVE
- TEST PLUG
- TRIPLE DUTY VALVE
- CHECK VALVE
- AUTOMATIC CONTROL VALVE (2-WAY)
- AUTOMATIC CONTROL VALVE (3-WAY)
- SOLENOID VALVE
- PRESSURE REDUCING VALVE / PRESSURE REGULATOR

A AMPS	CO CLEANOUT, CARBON MONOXIDE	GCO GRADE CLEANOUT	MD MOTORIZED DAMPER	SF SQUARE FEET
A/C AIR CONDITIONING	CO2 CARBON DIOXIDE	GFI/GFCI GROUND FAULT CIRCUIT INTERRUPTER	MOCP MAXIMUM OVERCURRENT CIRCUIT PROTECTION	SP STATIC PRESSURE
AD ACCESS DOOR	CU COPPER, CONDENSING UNIT	GND GROUND	MFR MANUFACTURER	SWBD SWITCHBOARD
AFC ABOVE FINISH CEILING	CW DOMESTIC COLD WATER	GPM GALLONS PER MINUTE	MLO MAIN LUGS ONLY	TOD TOP OF DUCT
AFG ABOVE FINISH GRADE	DDC DIRECT DIGITAL CONTROL	HOA HAND OFF AUTOMATIC	MU MAKE UP	TOP TOP OF PIPE
AFF ABOVE FINISHED FLOOR	DN DOWN	HW DOMESTIC HOT WATER	N/A NOT APPLICABLE	TSTAT THERMOSTAT
BD BACKDRAFT DAMPER	DX DIRECT EXPANSION	IE INVERT ELEVATION	N/C NORMALLY CLOSED	UNO UNLESS NOTED OTHERWISE
BFF BELOW FINISHED FLOOR	EA EXHAUST AIR	IG ISOLATED GROUND	N/O NORMALLY OPEN	UPS UNINTERRUPTIBLE POWER SUPPLY
BFG BELOW FINISHED GRADE	EAT ENTERING AIR TEMPERATURE	KV KILOVOLT	NF NON-FUSED DEVICE	VAV VARIABLE AIR VOLUME
BFP BACKFLOW PREVENTER	EC ELECTRICAL CONTRACTOR	KVA KILOVOLT AMPS	NIC NOT IN CONTRACT	VD MANUAL VOLUME DAMPER
BKR BREAKER	EPO EMERGENCY POWER OFF	KW KILOWATT	NL NIGHT LIGHT	VTR VENT THROUGH ROOF
BOD BOTTOM OF DUCT	ETR EXISTING TO REMAIN	KWH KILOWATT HOUR	OA OUTSIDE AIR	W WATT(S)
BOP BOTTOM OF PIPE	EWB ENTERING WET BULB	LAT LEAVING AIR TEMPERATURE	PH PHASE	W/ WITH
BOS BOTTOM OF STRUCTURE	EXH EXHAUST	LDB LEAVING DRY BULB	PRV PRESSURE REDUCING VALVE	W/O WITHOUT
BTU BRITISH THERMAL UNIT	F/S COMBINATION FIRE AND SMOKE DAMPER	LRA LOCKED ROTOR AMPS	QTY QUANTITY	WB WET BULB
C CONDUIT	FACP FIRE ALARM CONTROL PANEL	LV LOW VOLTAGE	RA RETURN AIR	WCO WALL CLEANOUT
CA COMPRESSED AIR	FAACP FIRE ALARM ANNUNCIATOR CONTROL PANEL	LWB LEAVING WET BULB	REV REVISION	WP WEATHERPROOF
CATV CABLE TELEVISION SYSTEM	FCO FLOOR CLEANOUT	LWT LEAVING WATER TEMPERATURE	RH RELATIVE HUMIDITY	XFMR TRANSFORMER
CB CIRCUIT BREAKER	F/D FIRE DAMPER	MBH 1000 BTU PER HOUR	RLA RELIEF AIR, RUNNING LOAD AMPS	XP EXPLOSION PROOF
CCTV CLOSED CIRCUIT TELEVISION	FLA FULL LOAD AMPS	MC MECHANICAL CONTRACTOR	RPM REVOLUTIONS PER MINUTE	
CFM CUBIC FEET PER MINUTE	FL FLOW LINE	MCA MINIMUM CIRCUIT AMPACITY	SA SUPPLY AIR	
CKT CIRCUIT	G GROUND	MCC MOTOR CONTROL CENTER	SD SMOKE DAMPER	

## MECHANICAL AND ELECTRICAL SYMBOLS AND ABBREVIATIONS

\*SOME SYMBOLS AND ABBREVIATIONS ON THIS LEGEND MAY NOT BE USED. REFER TO FLOOR PLANS FOR ALL SYMBOLS AND ABBREVIATIONS.\*



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MULTIPLE GROUP CAMP ASSETS

CROWDER STATE PARK  
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PROJECT #	X2534-01	
SITE #	5107	
ASSET #	7815107001	7815107013
	7815107005	7815107022
	7815107007	7815107023
	7815107008	7815107048
	7815107009	
	7815107010	
	7815107011	
	7815107012	

REVISION: \_\_\_\_\_  
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REVISION: \_\_\_\_\_  
DATE: \_\_\_\_\_

ISSUE DATE: 02/04/2026

CAD DWG FILE: ME-2  
DRAWN BY: PP  
CHECKED BY: MP  
DESIGNED BY: CK

SHEET TITLE:

**MECHANICAL  
AND ELECTRICAL  
SITE PLAN**

SHEET NUMBER:

**ME-2**

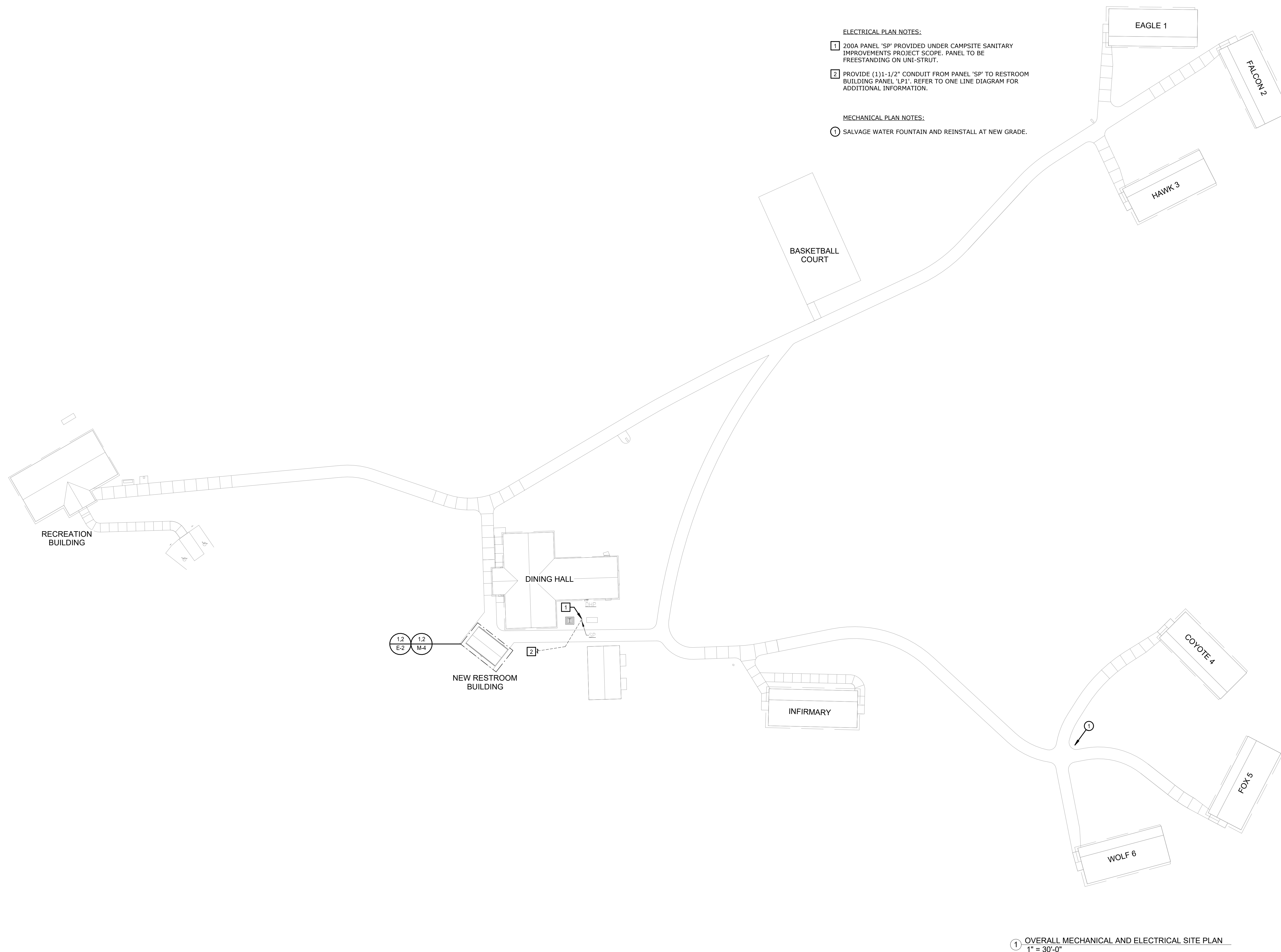
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02/04/2026

ELECTRICAL PLAN NOTES:

- 1 200A PANEL 'SP' PROVIDED UNDER CAMPSITE SANITARY IMPROVEMENTS PROJECT SCOPE. PANEL TO BE FREESTANDING ON UNI-STRUT.
- 2 PROVIDE (1)1-1/2" CONDUIT FROM PANEL 'SP' TO RESTROOM BUILDING PANEL 'LP1'. REFER TO ONE LINE DIAGRAM FOR ADDITIONAL INFORMATION.

MECHANICAL PLAN NOTES:

- 1 SALVAGE WATER FOUNTAIN AND REINSTALL AT NEW GRADE.



1 OVERALL MECHANICAL AND ELECTRICAL SITE PLAN  
1" = 30'-0"



**PLUMBING FIXTURE SCHEDULE**

MARK	USE	MFGR / MODEL	DESCRIPTION	FITTINGS		NOTE	PIPING CONNECTIONS			
				MANUFACTURER/MODEL OR EQUAL	DESCRIPTION		CW	HW	SAN	VENT
WC-1	WATERCLOSET	PROFLO PF1403T / PF5112HE	ADA COMPLIANT WATER CLOSET: WHITE VITREOUS CHINA, ELONGATED BOWL, FLOOR MOUNT, TANK TYPE, 1.28 GPF.	CENTOCO 1600	SEAT: SOLID PLASTIC, OPEN FRONT.	4	1/2"	---	4"	2"
L-1	CABIN LAVATORY	RE: ARCH	PROVIDE INTEGRAL BOWLS	OLYMPIA L-60212B	ADA COMPLIANT LAVATORY FAUCET: POP UP DRAIN, 4-1/2 REACH, LEVER HANDLE 1.2 GPM MAX	1,2,3,4	1/2"	1/2"	2"	1-1/2"
L-2	RESTROOM LAVATORY	AMERICAN STANDARD MURRO 0955.121EC 0062.000	ADA COMPLIANT WALL HUNG LAVATORY WITH CENTER HOLE AND SOAD DISPENSER HOLE: WHITE VITREOUS CHINA, WITH BACKSPASH, ACRYLIC SHROUD AND BACK OVERFLOW. EXTENDED SHROUD TO COVER PIPING AND POWER SUPPLY.	OLYMPIA L-60212B  LEONARD LF-170	ADA COMPLIANT LAVATORY FAUCET: POP UP DRAIN, 4-1/2 REACH, LEVER HANDLE 1.2 GPM MAX  ASSE 1070 COMPLIANT POINT OF USE MIXING VALVE.	1,2,3,4	1/2"	1/2"	2"	1-1/2"
SH-1	CABIN SHOWER	RE: ARCH	REFER TO ARCHITECTURAL DRAWINGS	BRADLY WS-1X-HN	INDIVIDUAL PIVOTING BARRIER - FREE WALL SHOWER, 6" SHOWERHEAD HEIGHT, THERMOSTATIC MIXING VALVE, LOCKABLE BALL JOINT, 24" SLIDE BAR, 1.5 GPM	4	1/2"	1/2"	2"	1-1/2"
BF-1	RESTROOM BUILDING	MURDOCK M-0BR4	ADA COMPLIANT, 115V PLUG IN TRANSFORMER, 1.0 GPM, SATIN STAINLESS FINISH - PROVIDE WITH FREEZE PROTECTION.	MURDOCK FRA1	ABOVE GROUND FREEZE RESISTANT VALVE SYSTEM - SINGLE BUBBLER FOUNTAIN	4	1/2"	---	2"	1-1/2"
JSF-1	RESTROOM BUILDING	---	NO MOP BASIN PER OWNER DIRECTION	STERN WILLIAMS T-15 VB	SERVICE SINK FAUCET WITH VACUUM BREAKER, ADJUSTABLE TOP BRACE, 3/4" HOSE THREAD SPOUT, AND POLISHED CHROME FINISH.	4	3/4"	3/4"	---	---
HB-1	RESTROOM BUILDING	WADE 8600	FREEZEPROOF WALL HYDRANT WITH ANTI-SIPHON	---	---	---	3/4"	---	---	---

- NOTES:  
 1: PROVIDE CHROME PLATED BRASS TAILPIECE AND GRID DRAIN.  
 2: PROVIDE LOOSE KEY STOPS AND FLEXIBLE RISERS.  
 3: INSULATE EXPOSED TAILPIECE, P-TRAP, AND WATER RISERS. REFER TO SPECIFICATIONS FOR INSULATION METHODS.  
 4: PRODUCTS LISTED ARE BASIS OF DESIGN, FOLLOW ALL MANUFACTURERS RECOMMENDED INSTALLATION SPECIFICATIONS.

**DUCTWORK SCHEDULE**

SERVICE	DUCT SHAPE	SMACNA REQUIREMENTS			LINER REQUIREMENTS	INSULATION REQUIREMENTS	OTHER REQUIREMENTS
		CLASSIFICATION	SEAL CLASS	LEAKAGE CLASS			
LOW PRESSURE SUPPLY DUCTWORK CONNECTED TO SINGLE ZONE AIR HANDLING UNITS, SINGLE ZONE PACKAGED ROOFTOP UNITS, DOAS UNITS	RECTANGULAR	2" WG POSITIVE	B	12	1", 3LB DENSITY LINER	---	
	ROUND (CONCEALED)	4" WG POSITIVE SPIRAL SEAM	B	3	---	1-1/2", 1.5 LB. FIBERGLASS BLANKET, VAPOR-BARRIER FACED, WITH HEAVY DUTY FOIL-SCRIM-KRAFT FACING	
	ROUND (EXPOSED)	4" WG POSITIVE SPIRAL SEAM	B	3	---	---	
GENERAL EXHAUST AIR DUCTWORK	RECTANGULAR	2" WG NEGATIVE	B	12	---	---	
	ROUND	2" WG NEGATIVE	A	3	---	---	

**PIPING MATERIAL SCHEDULE - PLUMBING**

APPLICATION	SIZE	LOCATION	PIPE MATERIAL
DOMESTIC WATER	ALL SIZES	BELOW GROUND	SOFT COPPER TUBE, SEAMLESS, TYPE K
DOMESTIC WATER	2" AND SMALLER	ABOVE GROUND	HARD COPPER TUBE, ASTM B88, TYPE L; CAST OR WROUGHT COPPER SOLDER-JOINT FITTINGS; AND BRAZED JOINTS. PEX-A PIPE WITH ASTM F1960 FITTINGS (FOR USE INSIDE DWELLING UNITS ONLY; NOT INTENDED FOR BUILDING MAINS). PEX-B PIPE AND FITTINGS NOT ALLOWED.
SOIL/WASTE/VENT	ALL SIZES	BELOW GROUND	SOILD WALL SCHEDULE 40 PVC PIPE; PVC SOCKET FITTINGS, AND SOLVENT-CEMENTED JOINTS.
SOIL/WASTE/VENT	ALL SIZES	ABOVE GROUND	SOILD WALL SCHEDULE 40 PVC PIPE; PVC SOCKET FITTINGS, AND SOLVENT-CEMENTED JOINTS.
GAS	ALL SIZES	ABOVE GROUND	SCHEDULE 40 BLACK STEEL PIPE AND SCREWED OR WELDED FITTINGS. WELDED FITTINGS MUST BE USE WHERE PIPING IS INSTALLED IN CONCEALED LOCATIONS. PROVIDE CORROSION PROTECTION FOR ALL PORTIONS OF GAS PIPING THAT ARE IN CONTACT WITH EARTH, ATMOSPHERE AND/OR MATERIALS THAT COULD CAUSE CORROSION. PROVIDE IN ACCORDANCE WITH NFPA 54 AND ALL LOCAL REQUIREMENTS.

**DRAIN SCHEDULE**

MARK	MANUFACTURER/ MODEL	DESCRIPTION
FD-1	WADE W-1100-STD-6	CAST IRON DRAIN WITH ADJUSTABLE TOP AND 6" NICKEL BRASS STRAINER WITH VANDAL RESISTANT SCREWS. PROVIDE WITH PROSET TRAP GUARD BY PROVENT SYSTEMS INC.

- NOTES:  
 1: REFER TO PLANS FOR OUTLET SIZES  
 2: PRODUCT LISTED ARE BASIS OF DESIGN, FOLLOW ALL MANUFACTURERS RECOMMENDED INSTALLATION SPECIFICATIONS.

**GRILLE, REGISTER & DIFFUSER SCHEDULE**

PLAN MARK	MANUFACTURER	MODEL NUMBER	SERVICE	MOUNT TYPE	VOLUME DAMPER	MATERIAL	COLOR	REMARKS
SD-1	TITUS	300RS	SUPPLY	SURFACE/DUCT	NOTE 2	STEEL	NOTE 1	4
EG-1	TITUS	355 FL	EXHAUST	LAY-IN/SURFACE	NOTE 5	ALUMINUM	NOTE 1	4

- NOTES:  
 1: FURNISH WITH WHITE FINISH FOR CEILING MOUNTED APPLICATIONS AND PAINTABLE FINISH FOR WALL MOUNTED APPLICATIONS.  
 2: PRODUCT LISTED ARE BASIS OF DESIGN, FOLLOW ALL MANUFACTURERS RECOMMENDED INSTALLATION SPECIFICATIONS

**DOMESTIC WATER PUMP SCHEDULE**

DESIGNATION	RCP-1
MANUFACTURER	BELL & GOSSETT
LOCATION	JANITOR CLOSET
MODEL NO.	NBF-36
PUMP TYPE	INLINE
GPM	5
PUMP HEAD (FT.)	35
MOTOR HORSEPOWER	1/6
MOTOR RPM	1725
VOLTAGE/PHASE	120/1
PANEL & CIRCUIT	LP1-13
WIRE & CONDUIT	(2)#12,#12G, 1/2"C.
OVERCURRENT DEVICE	15A/1P CB
DISCONNECT	120V/20A MOTOR RATED TOGGLE SWITCH
STARTER	---
COMBINATION STARTER	---
CONTROL	AQUASTAT
REFERENCE DRAWING/DETAIL	M-4
REMARKS	---

- NOTES:  
 1: PRODUCT LISTED ARE BASIS OF DESIGN, FOLLOW ALL MANUFACTURERS RECOMMENDED INSTALLATION SPECIFICATIONS.

**DOMESTIC WATER HEATER - ELECTRIC**

DESIGNATION	EWH-1
MANUFACTURER	AO SMITH
MODEL	DEL-10S-3.5
CAPACITY (GALLONS)	10
RECOVERY @ 100°F RISE (GPH)	14
OUTLET TEMP. (°F)	140
NO. OF ELEMENTS	1
TOTAL INPUT (KW)	3
VOLTS/PHASE	240V/1P
PANEL & CIRCUIT	LP1-2,4
WIRE & CONDUIT	(2)#12,#12G, 1/2"C.
OVERCURRENT DEVICE	20A/2P CB
DISCONNECT	2-POLE TOGGLE
REFERENCE DRAWING/DETAIL	M104
REMARKS	1

- NOTES:  
 1: PROVIDE WITH RAISED STAND.  
 2: PRODUCTS LISTED ARE BASIS OF DESIGN, FOLLOW ALL MANUFACTURERS RECOMMENDED INSTALLATION SPECIFICATIONS.

**PIPE INSULATION SCHEDULE - PLUMBING**

SERVICE	PIPE SIZE	INSULATION
DOMESTIC COLD WATER	1/2" - 2"	1/2" FIBERGLASS, ASJ
DOMESTIC HOT WATER	1/2" - 1-1/2"	1-1/2" FIBERGLASS, ASJ
RECIRCULATING HOT WATER		
EXPOSED FIXTURE WASTETRAPS AND DOMESTIC HOT WATER AT HANDICAPPED ACCESSIBLE SINKS AND LAVATORIES	ALL	TRUBRO LAV AGUARD MOLDED PROTECTIVE PIPE COVER OVER 1/2" FIBERGLASS INSULATION

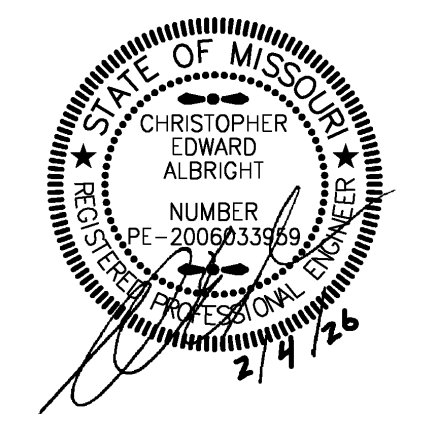
**AIR HANDLING UNIT SCHEDULE**

DESIGNATION	AHU-1
UNIT DATA	MANUFACTURER: TRANE MODEL NUMBER: 5TXC + S8X1C NOMINAL TONS: 5 UNIT WEIGHT (LBS.): 140 AREA SERVED: REC BUILDING
SUPPLY FAN	SUPPLY AIRFLOW (CFM): 2,000 EXTERNAL STATIC PRESSURE (IN.W.C.): 0.50 TOTAL STATIC PRESSURE (IN.W.C.): - BRAKE HORSEPOWER: - MOTOR HORSEPOWER: - FAN TYPE: - DRIVE TYPE: DIRECT ECM: YES
DY COOLING COIL	ENT. AIR (DB/WB): 76.5 / 63.8 LVG. AIR (DB/WB): 56.7 / 54.8 TOTAL COOLING CAPACITY (MBH): 49.9 SENSIBLE COOLING CAPACITY (MBH): 42.6 MIN ROWS / MAX FINS: - REFRIGERANT: R-454B
GAS HEAT EX	ENT. AIR (DB/WB): 70 LVG. AIR (DB/WB): 95 GAS HEAT INPUT (MBH): 80 GAS HEAT OUTPUT (MBH): 64 STAGES: 1
FILTERS	TYPE: 2" PLEATED QTY: 1 MERV RATING: 8
AHU ELECT./CONT.	VOLTAGE/PHASE: 120 / 1 MCA: 14.1 MOCP: 15 PANEL & CIRCUIT: 51041-10,12 WIRE & CONDUIT: (3)#12,#12G, 1/2"C. OVERCURRENT DEVICE: 15A/1P CB DISCONNECT: TOGGLE SWITCH

**OUTDOOR CONDENSING UNIT**

DESIGNATION	CU-1
UNIT DATA	MANUFACTURER: TRANE MODEL NO.: 5TTR3060 UNIT WEIGHT (LBS.): 220 LOCATION: RECREATION BUILDING
CLG. CAPACITY	AMBIENT AIR TEMP (DEG F.): 105 F TOTAL COOLING CAPACITY (MBH): 75.5 SENSIBLE COOLING CAPACITY (MBH): 69.8 AHRI SEER: 13.4
ELEC DATA	VOLTAGE/PHASE: 240 / 1 MCA: 30 MOCP: 50 PANEL AND CIRCUIT: 51041-9,11 WIRE AND CONDUIT: (3)#8,#10G, 3/4"C. OVERCURRENT DEVICE: 50A/2P CB DISCONNECT: 60A/NF NEMA 3R
CONTROL	NOTE 3
REFERENCE DRAWING/DETAIL	M-1
REMARKS	1, 2, 4, 5

- NOTES:  
 1: CONTRACTOR TO PROVIDE NEW CONCRETE PAD AND ELEVATED STAND TO SET CONDENSING UNIT ABOVE GRADE LEVEL.  
 2: PROVIDE CONDENSING UNIT WITH HAIL GUARDS  
 3: PROVIDE DIGITAL PROGRAMMABLE THERMOSTAT  
 4: PRODUCT LISTED ARE BASIS OF DESIGN, FOLLOW ALL MANUFACTURERS RECOMMENDED INSTALLATION SPECIFICATIONS



**smith & boucher**  
 engineers  
 25618 west 103rd st. olathe, ks 66061  
 phone 913.345.2127 fax 913.345.0617  
 project number 2524400

OFFICE OF ADMINISTRATION  
 DIVISION OF FACILITIES  
 MANAGEMENT,  
 DESIGN AND CONSTRUCTION

DEPARTMENT OF  
 NATURAL RESOURCES  
 MISSOURI STATE PARKS

ACCESSIBILITY IMPROVEMENTS  
 MULTIPLE GROUP CAMP ASSETS

CROWDER STATE PARK  
 76 NORTHWEST HWY 128  
 TRENTON, MISSOURI

PROJECT # X2534-01  
 SITE # 5107  
 ASSET # 7815107001 7815107013  
 7815107005 7815107022  
 7815107007 7815107023  
 7815107008 7815107048  
 7815107009  
 7815107010  
 7815107011  
 7815107012

REVISION: \_\_\_\_\_  
 DATE: \_\_\_\_\_  
 REVISION: \_\_\_\_\_  
 DATE: \_\_\_\_\_  
 REVISION: \_\_\_\_\_  
 DATE: \_\_\_\_\_  
 ISSUE DATE: 02/04/2026

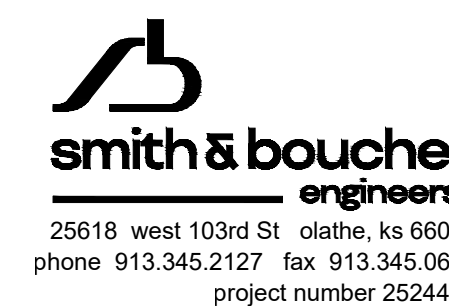
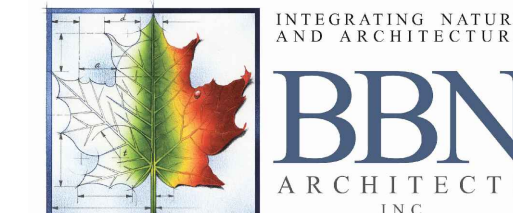
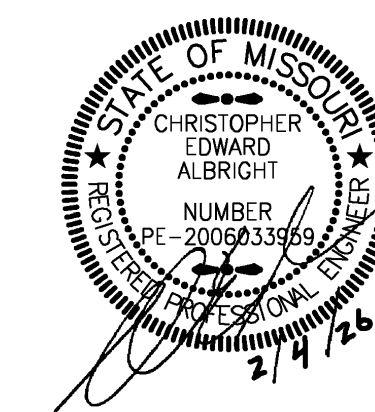
CAD DWG FILE: ME-3  
 DRAWN BY: PP  
 CHECKED BY: MP  
 DESIGNED BY: CK

SHEET TITLE:  
**MECHANICAL  
 AND ELECTRICAL  
 SCHEDULES**

SHEET NUMBER:

**ME-3**

29 OF 39 SHEETS  
 02/04/2026



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REVISION: \_\_\_\_\_  
DATE: \_\_\_\_\_  
REVISION: \_\_\_\_\_  
DATE: \_\_\_\_\_

ISSUE DATE: 02/04/2026

CAD DWG FILE: ME-4  
DRAWN BY: PP  
CHECKED BY: MP  
DESIGNED BY: CK

SHEET TITLE:  
**MECHANICAL  
AND ELECTRICAL  
SCHEDULES**

SHEET NUMBER:

**ME-4**

30 OF 39 SHEETS  
02/04/2026

**LOUVER SCHEDULE**

PLAN MARK	MANUFACTURER	MODEL NUMBER	SERVICE	SIZE (W x H)	MATERIAL	MINIMUM FREE AREA (SF)	CFM	MAX PRESSURE DROP (W.G.)
L-1	RUSKIN	ELF375DX	RESTROOM EX-HAUST	12"x12"	ALUMINUM	0.23	150	0.1

NOTES:

- 1: PRODUCT LISTED ARE BASIS OF DESIGN, FOLLOW ALL MANUFACTURERS RECOMMENDED INSTALLATION SPECIFICATIONS
- 2: LOUVER TO BE PAINTED DARK BROWN

**UNIT HEATER SCHEDULE - ELEC.**

DESIGNATION	EUH-1	EUH-2	EUH-3
HEATER TYPE	WALL	WALL	SUSPENDE
LOCATION	RESTROOM	RESTROOM	WATER SERVICE
MOUNTING	WALL	WALL	SUSPENDE
MANUFACTURER	RAYWALL	RAYWALL	RAYWALL
MODEL	AFH2120SD	AFH2120SD	5100
WEIGHT (LBS)	55	55	30
UNIT DATA	CFM	230	230
	FAN DRIVE	DIRECT	DIRECT
	HEATER KW	2	2
	AMPS	8.3	8.3
ELEC./CTRL. DATA	VOLTAGE/PHASE	240/1	240/1
	PANEL & CIRCUIT	LP1-5,7	LP1-9,11
	WIRE & CONDUIT	(2)#12,#12G, 1/2"C.	(2)#12,#12G, 1/2"C.
	OVERCURRENT DEVICE	15A/2P CB	15A/2P CB
REFERENCE DRAWING/DETAIL		M104	M104
	REMARKS		1

NOTES:

- 1: FURNISH WITH WALL MOUNTING BRACKET AND INTEGRAL THERMOSTAT.
- 2: PRODUCTS LISTED ARE BASIS OF DESIGN, FOLLOW ALL MANUFACTURERS RECOMMENDED INSTALLATION SPECIFICATIONS.

**FAN SCHEDULE**

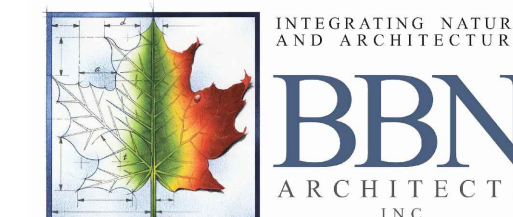
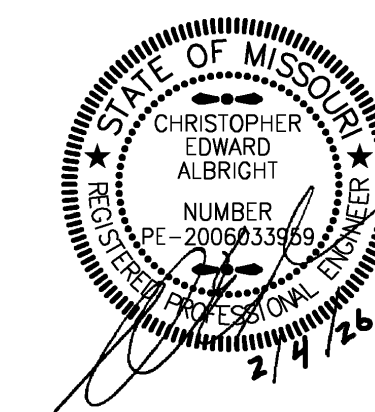
DESIGNATION	EF-1	
SERVICE	BATHROOM EXHAUST	
MANUFACTURER	GREENHECK	
FAN TYPE	INLINE	
MODEL	SQ-98-VG	
WEIGHT (LBS)	50	
UNIT DATA	CFM	150
	STATIC PRESSURE	0.25
	FAN RPM	868
	BRAKE HORSEPOWER	0.2
ELEC./CTRL. DATA	MOTOR HORSEPOWER	0.2
	DRIVE	DIRECT
	SONES	5.3
	VOLTAGE/PHASE	240/1
REFERENCE DRAWING/DETAIL	PANEL & CIRCUIT	LP1-1,3
	WIRE & CONDUIT	(2)#12,#12G, 1/2"C.
	OVERCURRENT DEVICE	15A/2P CB
DISCONNECT	TOGGLE SWITCH	
COMBINATION STARTER	-	
CONTROL	NOTE 1	
DAMPER TYPE	BACKDRAFT	
DAMPER VOLTAGE	-	
REFERENCE DRAWING/DETAIL	M104	
REMARKS	2	

NOTES:

- 1: CONTROL FAN THROUGH LIGHTING OCCUPANCY SENSOR
- 2: PROVIDE WITH FAN SPEED CONTROLLER
- 3: PRODUCTS LISTED ARE BASIS OF DESIGN, FOLLOW ALL MANUFACTURERS RECOMMENDED INSTALLATION SPECIFICATIONS.

PROJECT NAME: 2524400 Crowder State Park Improvements  
AUTOCAD FILE LOCATION: C:\Users\charles\OneDrive\Documents\2524400\_ME-4 - MECHANICAL AND ELECTRICAL SCHEDULES.DWG  
LAST CORRECTION BY: Kmcovey  
LAST CORRECTION DATE: Thursday, March 19, 2026 1:24:27 PM  
PLOTTED BY: Booty Charles  
PLOTTED DATE: Thursday, April 9, 2026 3:08:58 PM

PROJECT NAME: 2524400 Crowder State Park Improvements  
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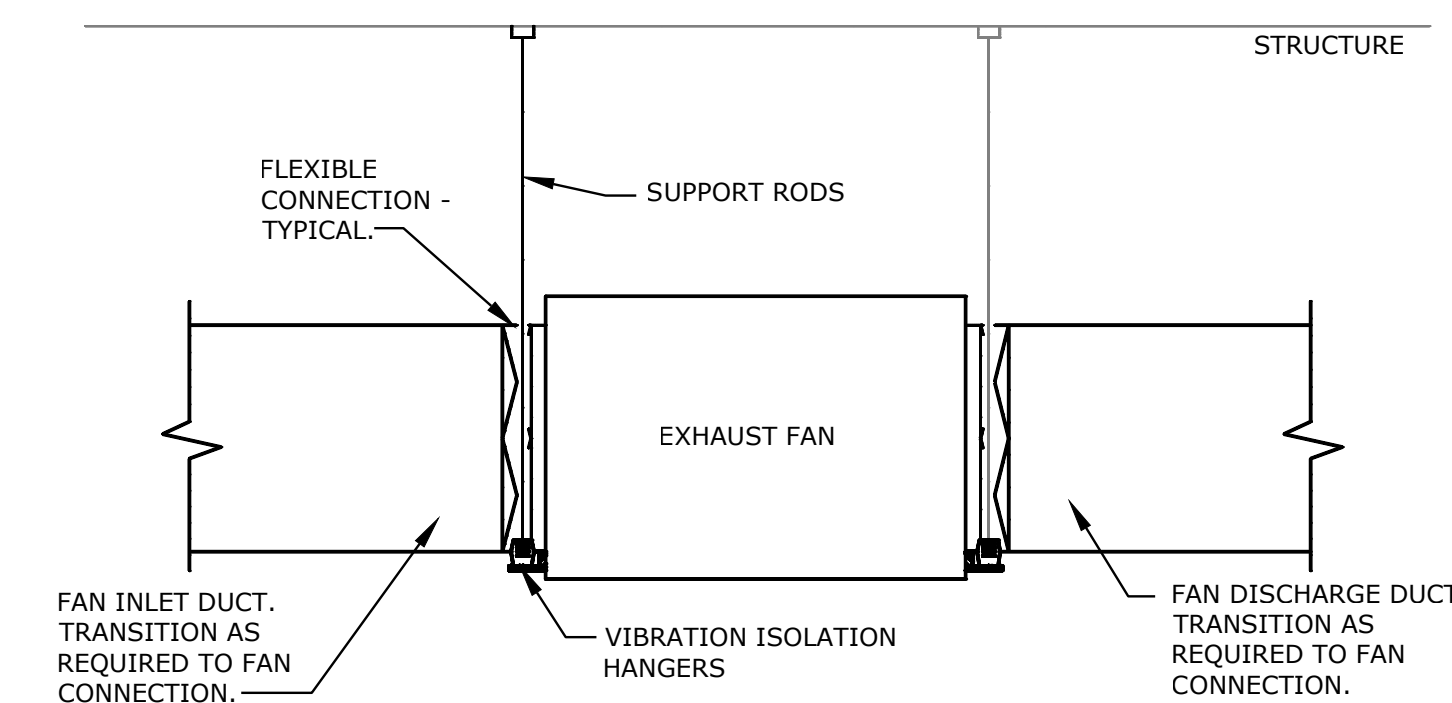
CAD DWG FILE: ME-5  
DRAWN BY: PP  
CHECKED BY: MP  
DESIGNED BY: CK

SHEET TITLE:  
**MECHANICAL  
AND ELECTRICAL  
DETAILS**

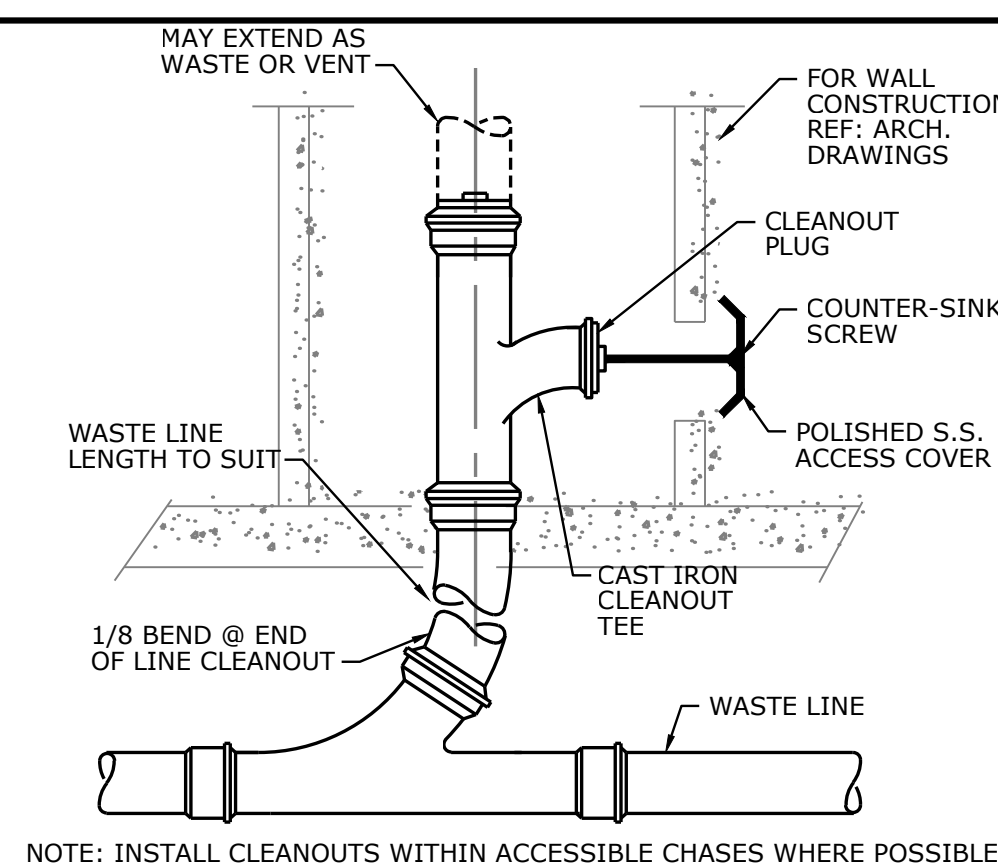
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**ME-5**

31 OF 39 SHEETS  
02/04/2026

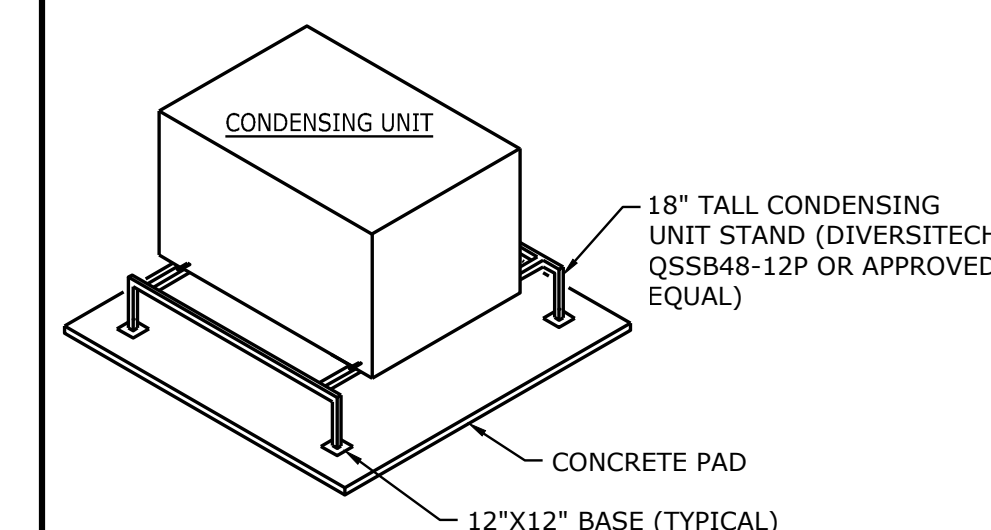


**IN-LINE EXHAUST FAN DETAIL**  
NOT TO SCALE



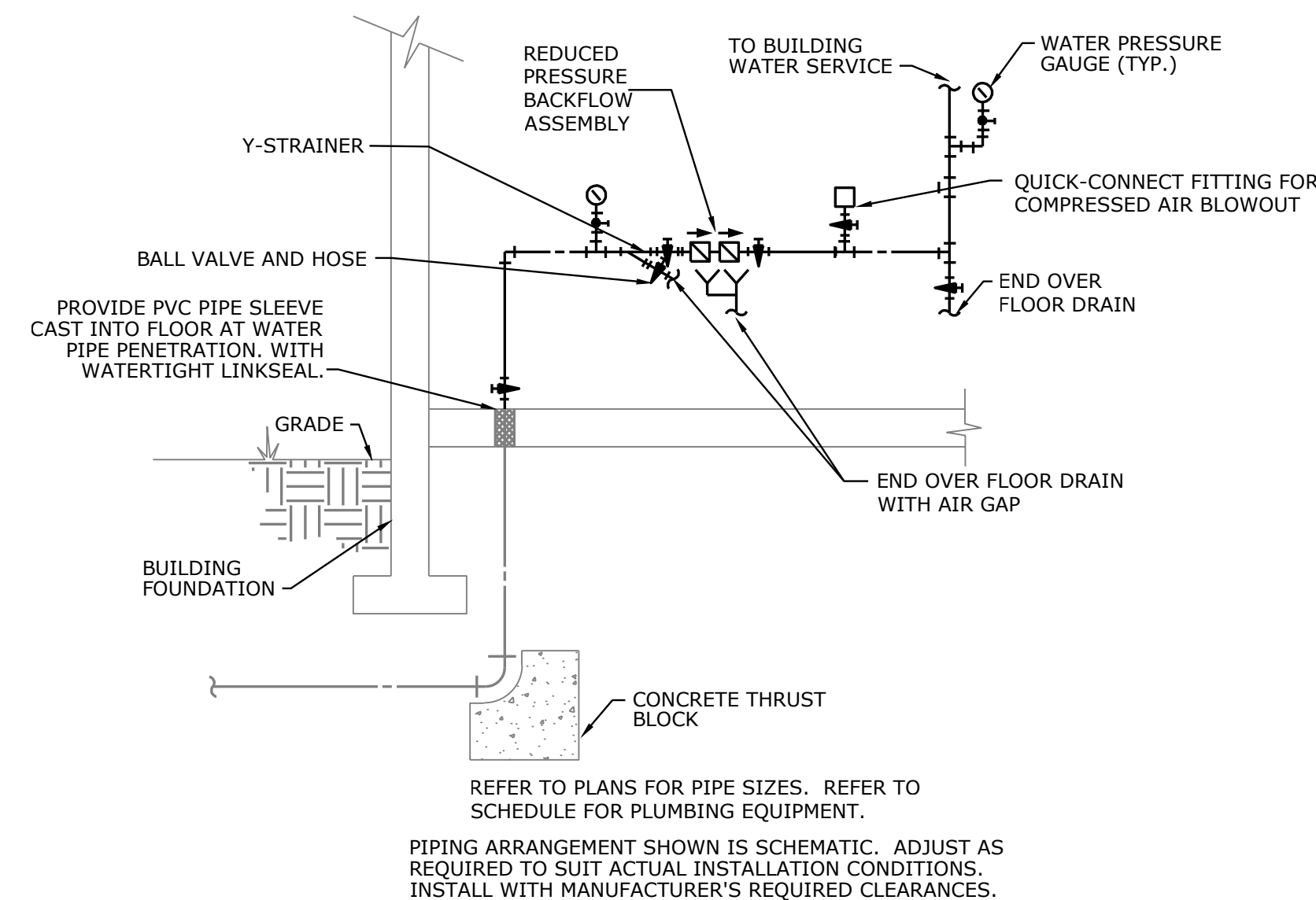
NOTE: INSTALL CLEANOUTS WITHIN ACCESSIBLE CHASES WHERE POSSIBLE

**WALL CLEANOUT**  
NOT TO SCALE



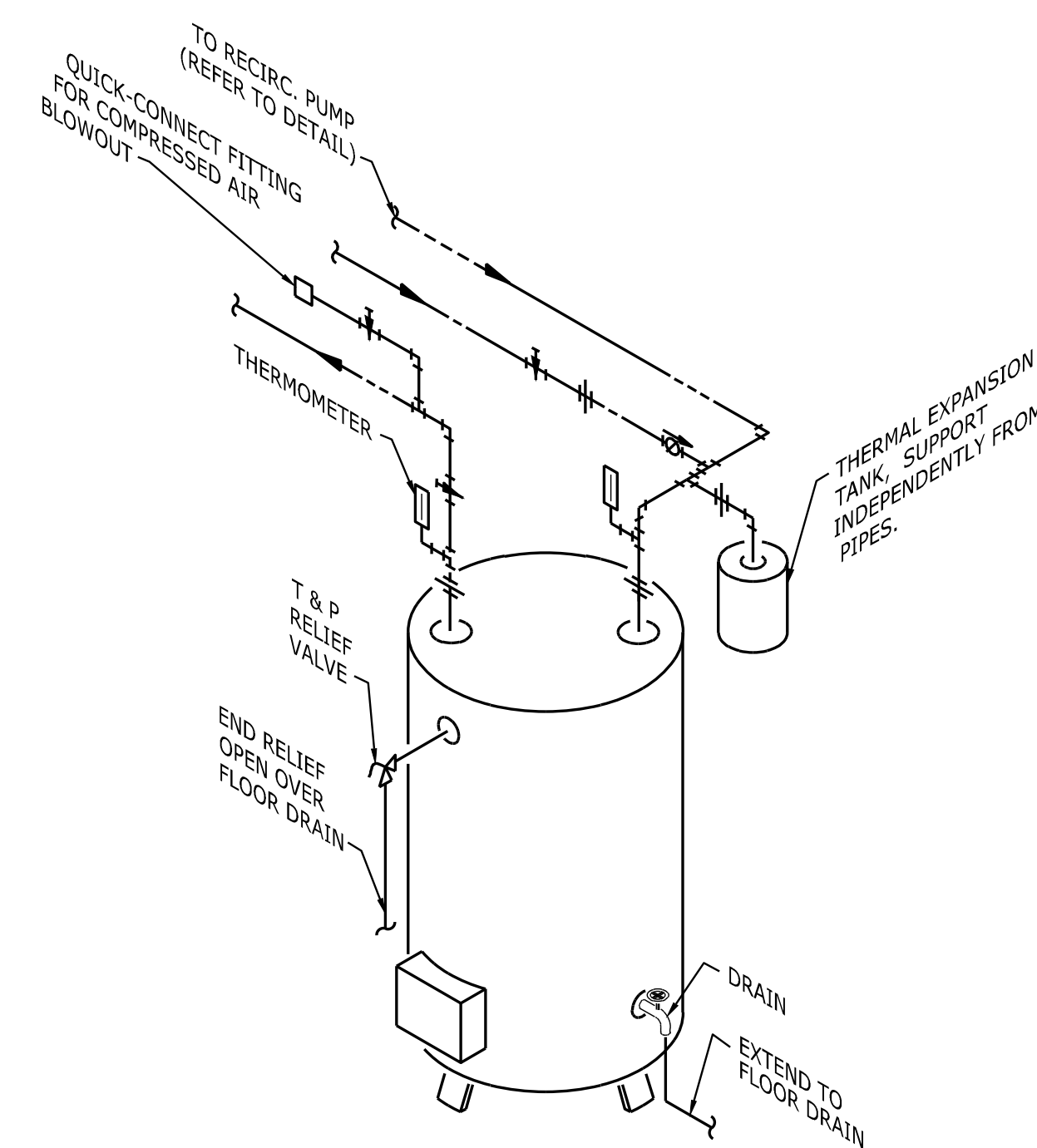
NOTE:  
CONDENSING UNIT STAND  
TO BE INSTALLED ON  
NEOPRENE PADS.

**CONDENSING UNIT**  
NOT TO SCALE

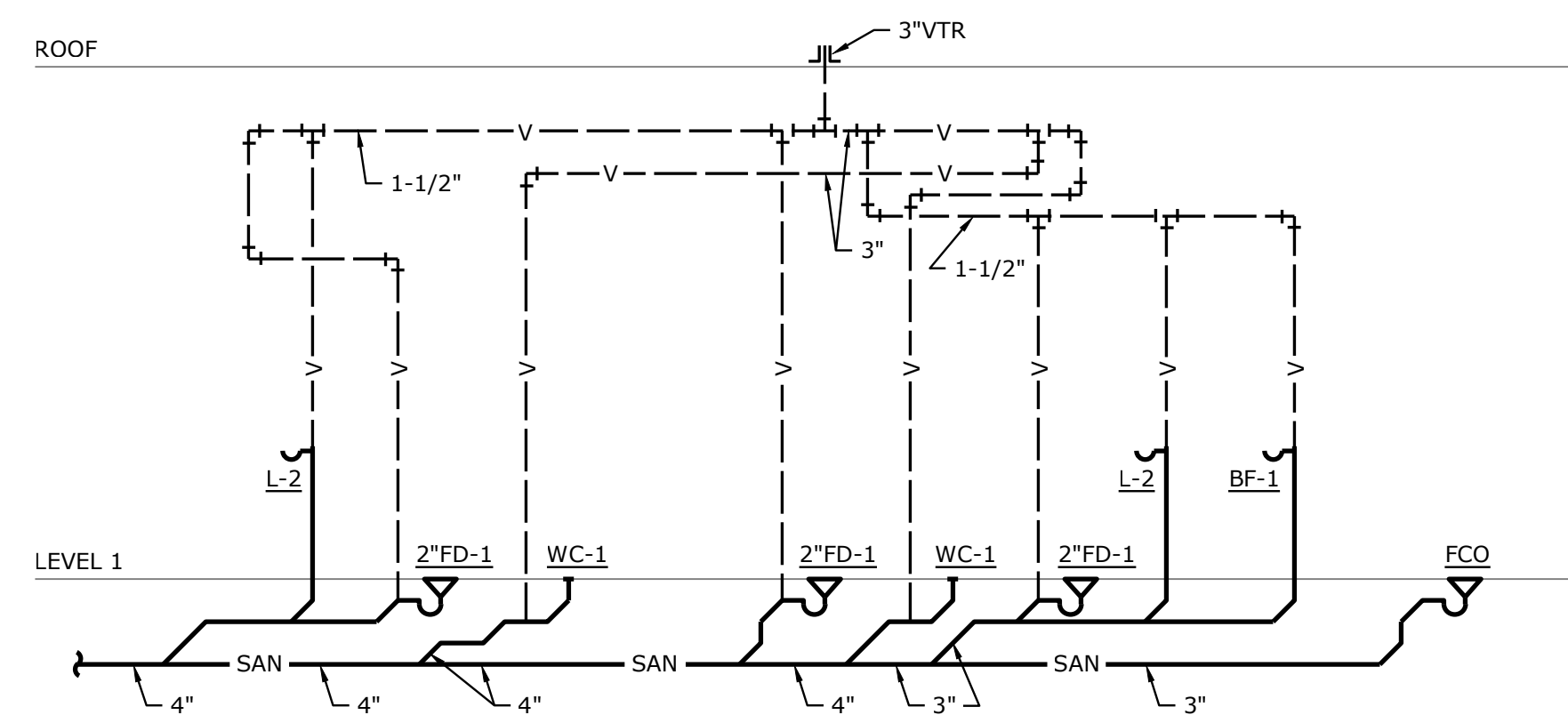


**DOMESTIC WATER SERVICE DETAIL**  
NOT TO SCALE

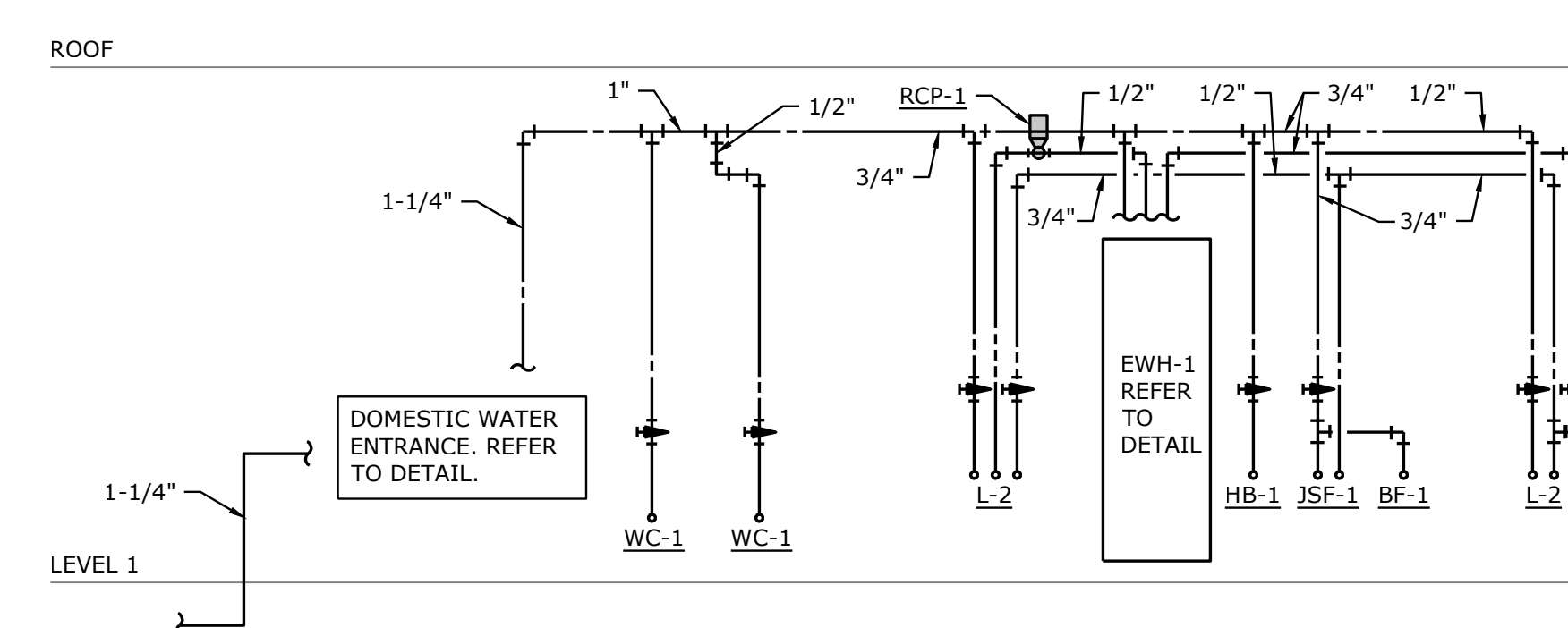
REFER TO PLANS FOR PIPE SIZES. REFER TO SCHEDULE FOR PLUMBING EQUIPMENT.  
PIPING ARRANGEMENT SHOWN IS SCHEMATIC. ADJUST AS REQUIRED TO SUIT ACTUAL INSTALLATION CONDITIONS. INSTALL WITH MANUFACTURER'S REQUIRED CLEARANCES.



**ELECTRIC WATER HEATER DETAIL  
WITH RECIRC**  
NOT TO SCALE



**SANITARY RISER DIAGRAM**  
NOT TO SCALE



**DOMESTIC WATER RISER DIAGRAM**  
NOT TO SCALE

PROJECT NAME: 2524400 Crowder State Park Improvements  
AUTOCAD FILE LOCATION: \NAME:  
LAST CORRECTION BY: DATE: TIME:  
PLOTTED BY: DATE: TIME:  
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BooLyc  
Friday, April 10, 2026 11:26:32 AM  
BooLyc Charles

**GENERAL NOTES:**

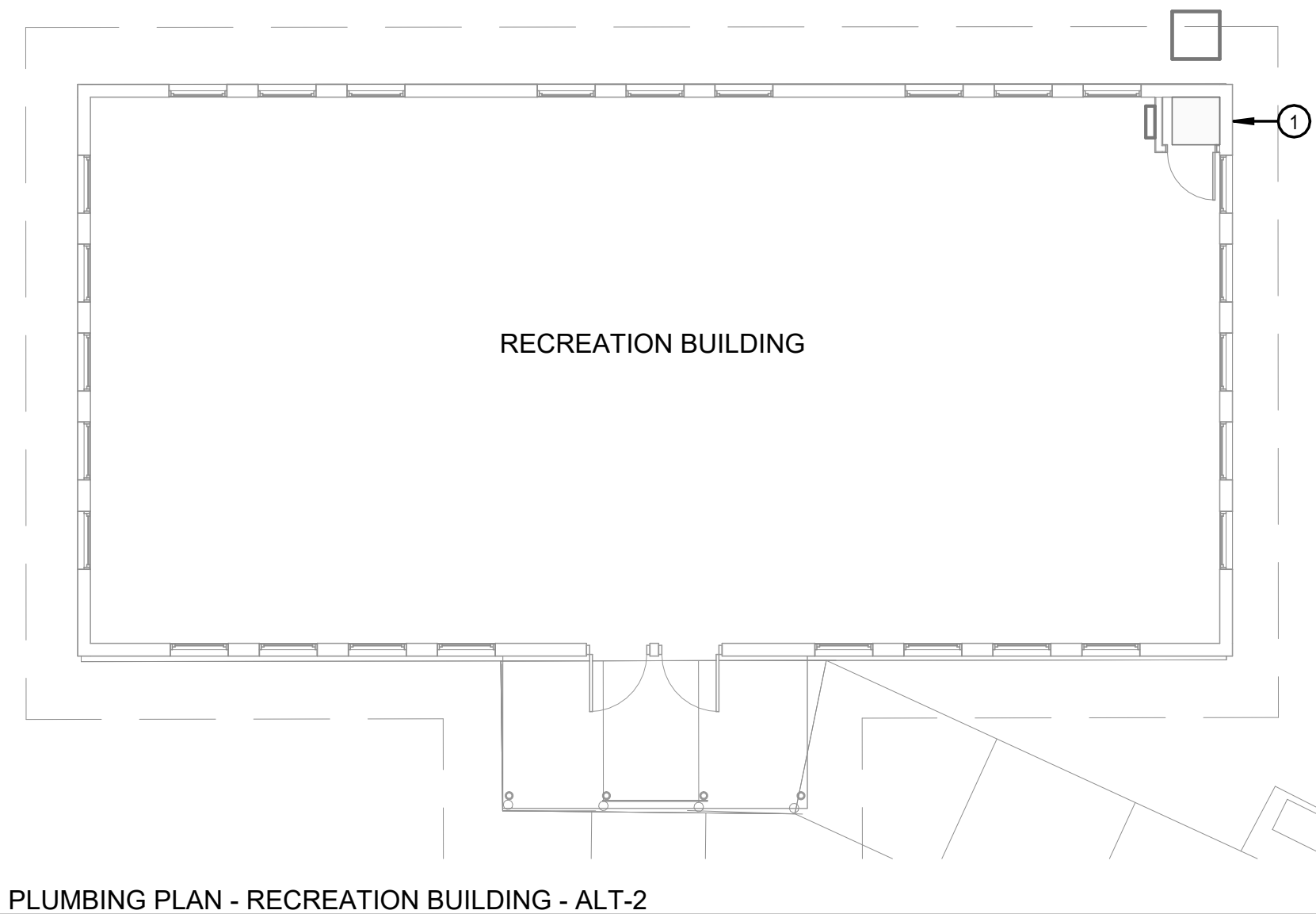
- UNLESS OTHERWISE NOTED, SERVICES AND EQUIPMENT SHOWN WITH BOLD DASHED LINES ARE TO BE DEMOLISHED. SERVICES AND EQUIPMENT SHOWN WITH SOLID HALF TONE LINE WEIGHT ARE TO REMAIN IN PLACE.  
EXISTING \_\_\_\_\_  
DEMO - - - - -
- THE EXISTING CONDITIONS INDICATED ON THE DRAWINGS ARE TAKEN FROM THE BEST INFORMATION AVAILABLE AND FROM VISUAL SITE INSPECTION AND ARE NOT TO BE CONSIDERED "AS BUILT" CONDITIONS. THE INFORMATION SHOWN IS TO ESTABLISH THE EXTENT OF THE SCOPE OF WORK. VERIFY ALL ACTUAL EXISTING CONDITIONS AT THE PROJECT SITE AND PERFORM WORK AS REQUIRED TO MEET THE EXISTING CONDITIONS AND THE EXTENT OF THE WORK INDICATED.
- PATCH ROOFS, WALLS, AND CEILINGS WHERE ANY SERVICES ARE REMOVED UNLESS NOTED OTHERWISE.
- DISCONNECT AND REMOVE ALL DUCTWORK, PIPING, WIRING, AND CONDUIT THAT BECOMES UNNECESSARY AS A RESULT OF THE REMOVAL OF EQUIPMENT INDICATED TO BE REMOVED.
- WHERE MECHANICAL AND ELECTRICAL FIXTURES OR EQUIPMENT ARE REMOVED, CAP ALL UNUSED CONDUIT, WIRING, AND PIPING BEHIND THE FLOOR LINE OR WALL LINE TO FACILITATE THE RESTORATION OF FINISH.
- INFORMATION SHOWN ON THE DRAWINGS IS INTENDED TO CONVEY SCOPE AND IS ARRANGED FOR DRAWING CLARITY. IT IS NOT TO BE TAKEN AS AN AS-BUILT CONDITION. THE SYSTEM INSTALLATION SHALL BE COORDINATED WITH STRUCTURE, CEILINGS, WALLS, AND ALL OTHER TRADES TO PROVIDE FOR A COMPLETE AND WORKING SYSTEM.
- CAREFULLY COORDINATE PIPE ROUTING WITH NEW AND EXISTING STRUCTURE AS WELL AS ALL OTHER TRADES TO MAINTAIN EQUIPMENT CLEARANCES AND DESIRED CEILING HEIGHTS.
- COORDINATE ALL PIPING PENETRATIONS WITH STRUCTURAL PRIOR TO CORE DRILLING.
- PROVIDE FIRESTOPPING AT PENETRATIONS OF ALL RATED WALLS. REFER TO CODE PLANS FOR LOCATIONS OF RATED WALLS.
- ALL SERVICES SHOWN WITH HALF TONE LINE WEIGHT ARE EXISTING.
- SANITARY SEWER PIPING SHOWN ON DRAWINGS IS DIAGRAMMATIC AND MAY DIFFER SLIGHTLY FROM ACTUAL FIELD CONDITIONS. PLUMBING CONTRACTOR (PC) SHALL COORDINATE WITH EXISTING FIELD CONDITIONS VIA A SANITARY VIDEO SURVEY/SCOPE TO DETERMINE THE EXACT SIZE, LOCATION, INVERT ELEVATIONS AT THE PROPOSED CONNECTIONS TO EXISTING PLUMBING SERVICES PRIOR TO BID/CONSTRUCTION. IF ACTUAL FIELD FINDINGS VARY SIGNIFICANTLY FROM THOSE INDICATED ON PLANS, PC SHALL NOTIFY GENERAL CONTRACTOR (GC) IMMEDIATELY PRIOR TO STARTING ANY WORK. THE OWNER SHALL NOT BE RESPONSIBLE FOR ADDITIONAL COSTS INCURRED BY FAILED COORDINATION AFTER CONSTRUCTION HAS BEGUN. PC SHALL BE RESPONSIBLE FOR UTILIZING A REPUTABLE UTILITY LOCATING SERVICE PRIOR TO ANY EXCAVATION.
- WATER PRESSURE IS SHOWN DIAGRAMMATIC ONLY. CONTRACTOR SHALL VERIFY EXISTING WATER PRESSURE IN FIELD PRIOR TO ANY WORK AND PIPING ROUGH IN. IF DISCOVERED ON SITE THAT EXISTING WATER PRESSURE IS LESS THAN 40 PSI, CONTACT ENGINEER IMMEDIATELY FOR PIPING DESIGN CHANGED. IF PRESSURE IS GREATER THAN 60 PSI PROVIDE 60 PSI PRESSURE REDUCING VALVE.

**PLAN PLUMBING DEMOLITION NOTES:**

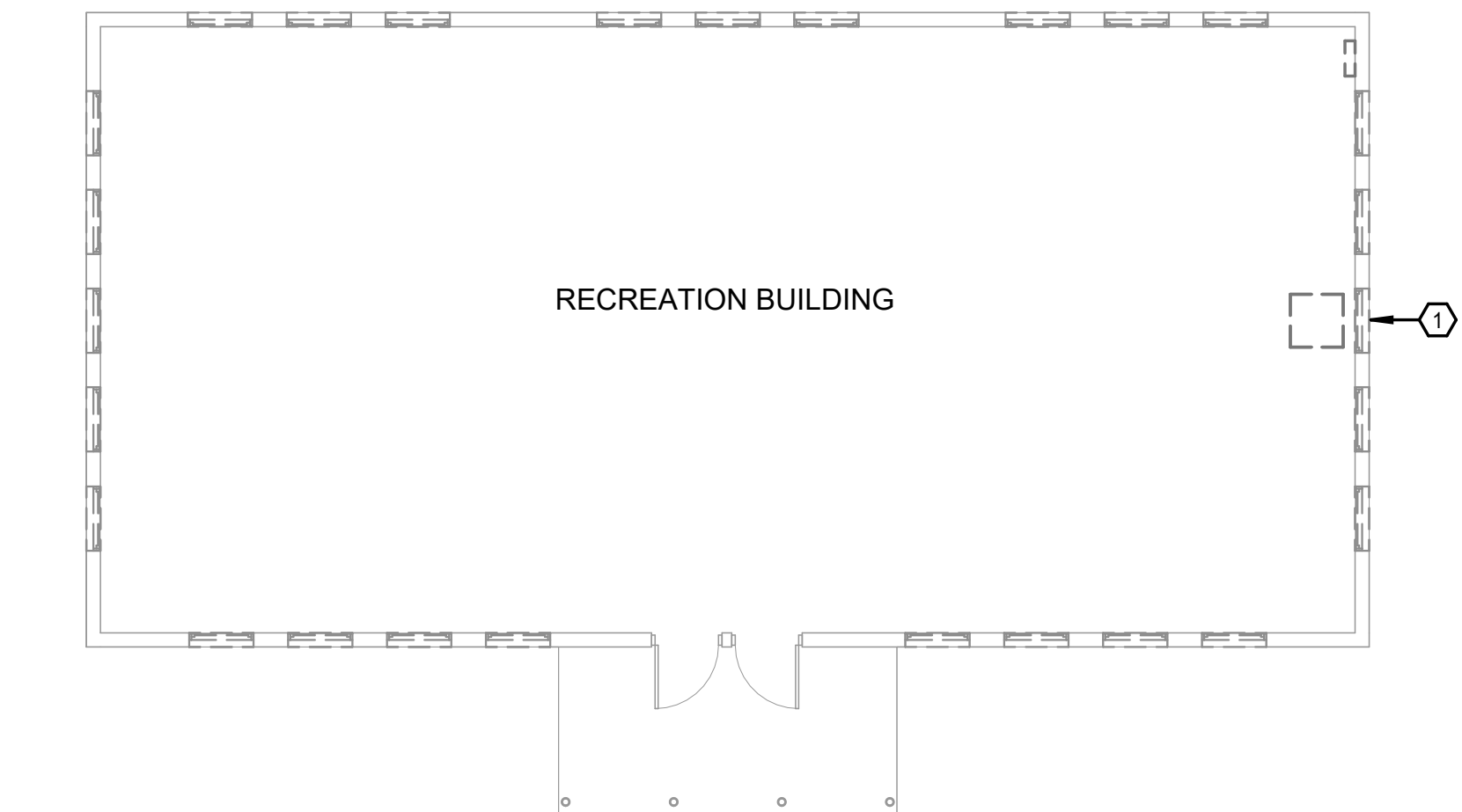
- DISCONNECT AND REMOVE EXISTING GAS LINE. GAS LINE TO BE REUSED FOR NEW AHU-1.

**PLAN PLUMBING NOTES:**

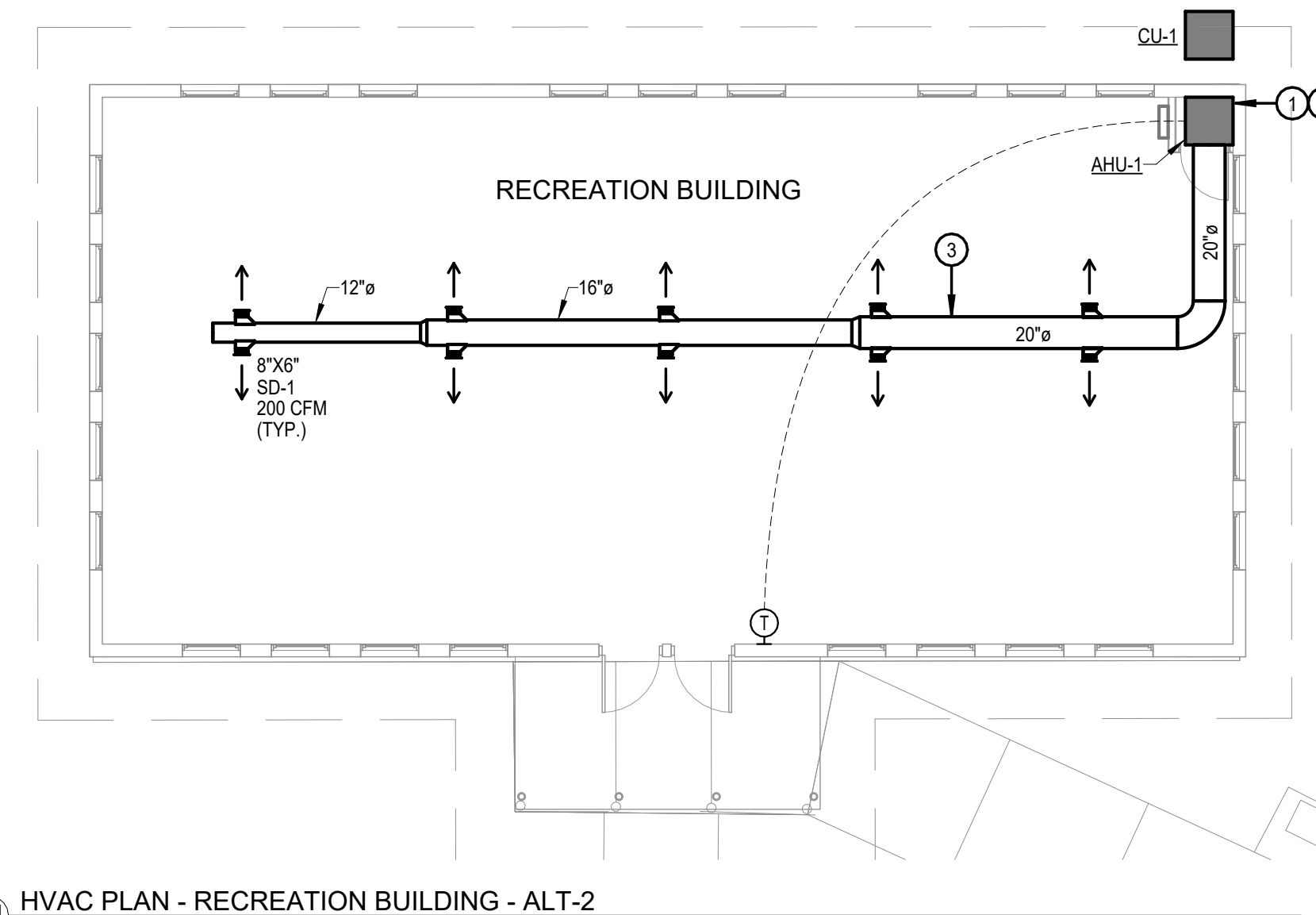
- CONNECT EXISTING GAS LINE TO NEW AHU-1.



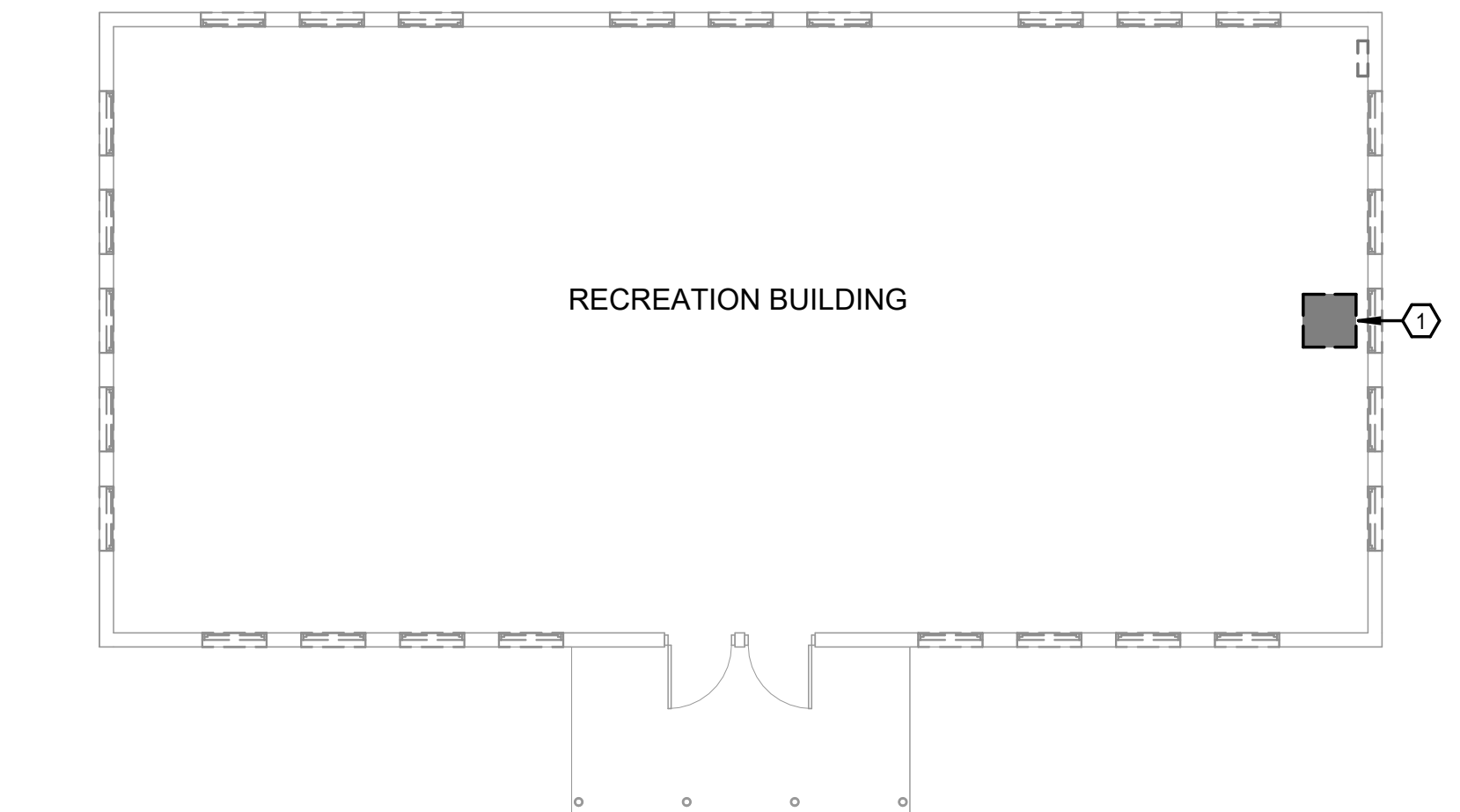
**B4 PLUMBING PLAN - RECREATION BUILDING - ALT-2**  
1/8" = 1'-0"



**D4 DEMO PLUMBING PLAN - RECREATION BUILDING - ALT-2**  
1/8" = 1'-0"



**B1 HVAC PLAN - RECREATION BUILDING - ALT-2**  
1/8" = 1'-0"



**D1 DEMO HVAC PLAN - RECREATION BUILDING - ALT-2**  
1/8" = 1'-0"

**GENERAL HVAC NOTES:**

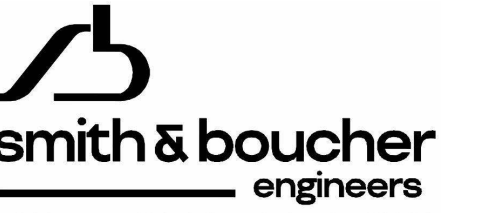
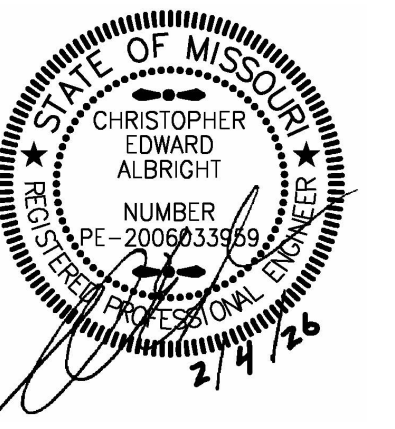
- UNLESS OTHERWISE NOTED, SERVICES AND EQUIPMENT SHOWN WITH BOLD DASHED LINES ARE TO BE DEMOLISHED. SERVICES AND EQUIPMENT SHOWN WITH SOLID HALF TONE LINE WEIGHT ARE TO REMAIN IN PLACE.  
EXISTING \_\_\_\_\_  
DEMO - - - - -
- THE EXISTING CONDITIONS INDICATED ON THE DRAWINGS ARE TAKEN FROM THE BEST INFORMATION AVAILABLE AND FROM VISUAL SITE INSPECTION AND ARE NOT TO BE CONSIDERED "AS BUILT" CONDITIONS. THE INFORMATION SHOWN IS TO ESTABLISH THE EXTENT OF THE SCOPE OF WORK. VERIFY ALL ACTUAL EXISTING CONDITIONS AT THE PROJECT SITE AND PERFORM WORK AS REQUIRED TO MEET THE EXISTING CONDITIONS AND THE EXTENT OF THE WORK INDICATED.
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- WHERE MECHANICAL AND ELECTRICAL FIXTURES OR EQUIPMENT ARE REMOVED, CAP ALL UNUSED CONDUIT, WIRING, AND PIPING BEHIND THE FLOOR LINE OR WALL LINE TO FACILITATE THE RESTORATION OF FINISH.
- INFORMATION SHOWN ON THE DRAWINGS IS INTENDED TO CONVEY SCOPE AND IS ARRANGED FOR DRAWING CLARITY. IT IS NOT TO BE TAKEN AS AN AS-BUILT CONDITION. THE SYSTEM INSTALLATION SHALL BE COORDINATED WITH STRUCTURE, CEILINGS, WALLS, AND ALL OTHER TRADES TO PROVIDE FOR A COMPLETE AND WORKING SYSTEM.
- COORDINATE ALL DUCT PENETRATIONS WITH STRUCTURAL PRIOR TO CUTTING FLOORS OR BEARING WALLS.
- PROVIDE FIRESTOPPING AT PENETRATIONS OF ALL RATED WALLS. REFER TO CODE PLANS FOR LOCATIONS OF RATED WALLS.
- WALL MOUNTED DEVICES SUCH AS THERMOSTATS, TEMPERATURE SENSORS, HUMIDITY SENSORS, AND PRESSURE SENSORS ARE SHOWN ON PLANS FOR CLARITY AND GENERAL REFERENCE OF LOCATIONS. LOCATIONS SHOWN ARE NOT TO BE CONSIDERED THE EXACT MOUNTING LOCATION. COORDINATE THE INSTALLATION OF ALL WALL MOUNTED DEVICES WITH THE ARCHITECTURAL ELEVATIONS AND OTHER TRADES WALL MOUNTED DEVICES. GROUP THE INSTALLATION OF ALL THE DEVICES TO THE EXTENT POSSIBLE AND LOCATED DEVICES SUCH THAT THEY DO NOT CONFLICT WITH MILL WORK, TELEVISIONS, FURNITURE, TEACHING BOARDS, AND OTHER SIMILAR OBSTRUCTIONS.
- ALL DUCTWORK AND PIPING IS SHOWN DIAGRAMMATICALLY AND DOES NOT INCLUDE ALL OFFSETS, DROPS, AND RISES. CAREFULLY COORDINATE DUCT AND PIPE ROUTING WITH STRUCTURE AS WELL AS ALL OTHER TRADES TO MAINTAIN EQUIPMENT CLEARANCES, EQUIPMENT ACCESSIBILITY, DESIRED CEILING HEIGHTS, AND AESTHETICS. THE CONTRACTOR SHALL INCLUDE ANY NEEDED OFFSETS AND CHANGES OF DIRECTION IN THE BID PRICING.
- PROVIDE A TRIM FLANGE AT WALL PENETRATIONS OF EXPOSED DUCTWORK, FINISH BY ARCHITECT.

**PLAN HVAC DEMOLITION NOTES:**

- DISCONNECT AND REMOVE EXISTING UNIT HEATER.

**PLAN GENERAL HVAC NOTES:**

- CONNECT EXISTING GAS LINE TO AHU-1.
- REUSE AND CONNECT NEW AHU-1 TO EXISTING FLUE.
- ROUTE THROUGH TRUSS SPACE.



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project number 2524400

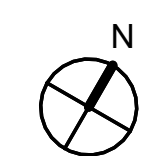
REVISION:	_____
DATE:	_____
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DATE:	_____
ISSUE DATE:	02/04/2026

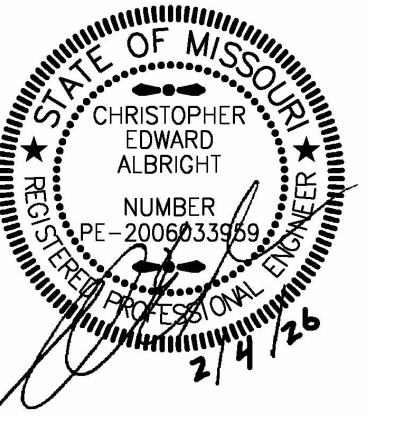
CAD DWG FILE: M-1 (ALT-2)  
DRAWN BY: PP  
CHECKED BY: MP  
DESIGNED BY: CK

**SHEET TITLE:**

**RECREATION  
BUILDING HVAC  
AND PLUMBING  
PLAN**

SHEET NUMBER:





**smith & boucher**  
engineers  
25618 west 103rd St olathe, ks 66061  
phone 913.345.2127 fax 913.345.0617  
project number 2524400

OFFICE OF ADMINISTRATION  
DIVISION OF FACILITIES  
MANAGEMENT,  
DESIGN AND CONSTRUCTION  
DEPARTMENT OF  
NATURAL RESOURCES  
MISSOURI STATE PARKS

ACCESSIBILITY IMPROVEMENTS  
MULTIPLE GROUP CAMP ASSETS

CROWDER STATE PARK  
76 NORTHWEST HWY 128  
TRENTON, MISSOURI

PROJECT # X2534-01  
SITE # 5107  
ASSET # 7815107007  
7815107008  
7815107010

REVISION: \_\_\_\_\_  
DATE: \_\_\_\_\_  
REVISION: \_\_\_\_\_  
DATE: \_\_\_\_\_  
REVISION: \_\_\_\_\_  
DATE: \_\_\_\_\_  
ISSUE DATE: 02/04/2026

CAD DWG FILE: M-2  
DRAWN BY: PP  
CHECKED BY: MP  
DESIGNED BY: CK

SHEET TITLE:

**CABIN HVAC AND  
PLUMBING PLAN  
(1)**

SHEET NUMBER:

**M-2**

33 OF 39 SHEETS  
02/04/2026

DEMOLITION GENERAL NOTES:

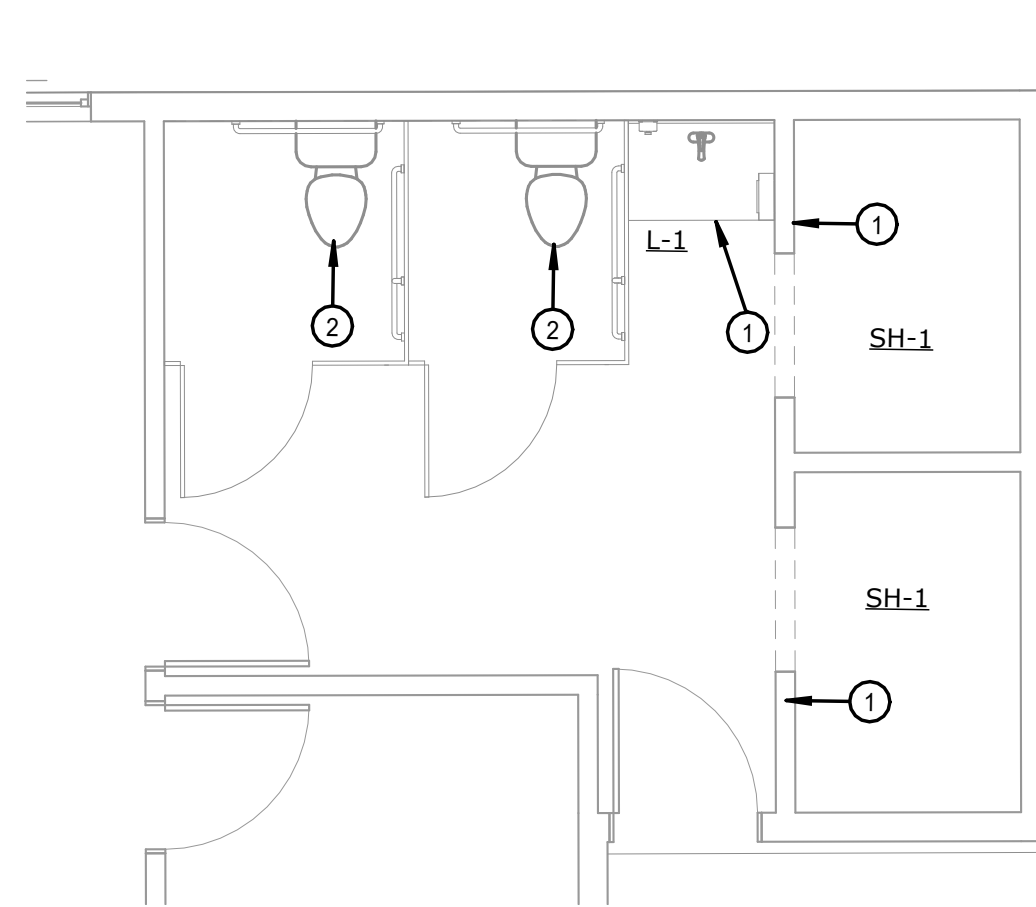
1. REFER TO SHEET M-1 FOR GENERAL NOTES.

DEMOLITION PLAN NOTES:

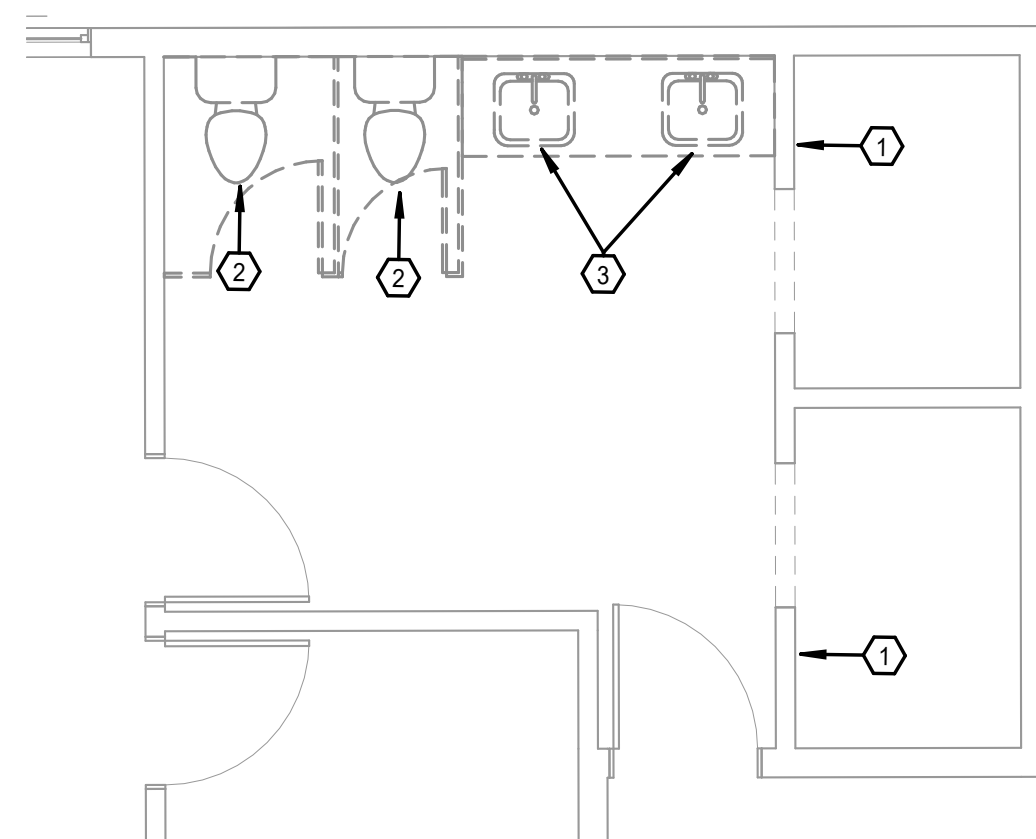
- 1 DISCONNECT AND REMOVE PLUMBING FIXTURE. EXISTING PIPING TO REMAIN FOR DIRECT CONNECTION TO REPLACEMENT FIXTURE.
- 2 DISCONNECT EXISTING WATER CLOSET. WATER CLOSET TO BE USED IN NEW WORK. PIPING TO BE ADJUSTED FOR NEW LOCATION. DISCONNECT AND REMOVE SHUT-OFF VALVE.
- 3 DISCONNECT AND REMOVE LAVATORY AND ASSOCIATED SHUT-OFF VALVE. EXISTING PIPING TO REMAIN FOR DIRECT CONNECTION TO REPLACEMENT FIXTURE.

PLAN NOTES:

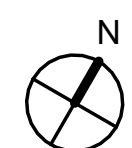
- 1 CONNECT NEW PLUMBING FIXTURES TO EXISTING DOMESTIC HOT, DOMESTIC COLD, WASTE AND VENT PIPES. AS APPLICABLE TO FIXTURE. PROVIDE NEW QUARTER TURN FIXTURE STOPS AS PART OF NEW SCOPE. ADJUST PIPING AS NEEDED.
- 2 EXISTING WATER CLOSET TO BE REUSED FOR NEW WORK. **CUT** THE EXISTING FLOOR SLAB AS REQUIRED TO MODIFY THE EXISTING SANITARY PIPING TO ACCOMMODATE THE NEW LOCATION OF THE WATER CLOSET. PROVIDE WITH NEW SHUT-OFF VALVE.

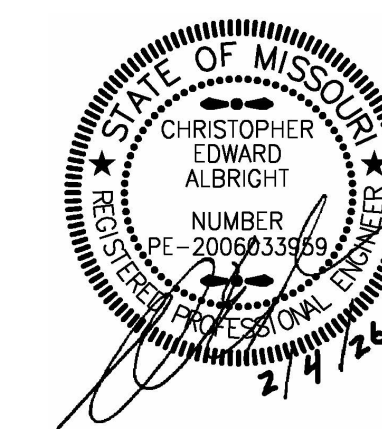


A4 ENLARGED PLUMBING PLAN - CABIN RESTROOM PLAN 1 (TYP. 3 CABINS: HAWK 3, FOX 5, WOLF 6)  
1/4" = 1'-0"



C4 ENLARGED DEMO PLUMBING PLAN - CABIN RESTROOM PLAN 1 (TYP. 3 CABINS: HAWK 3, FOX 5, WOLF 6)  
1/4" = 1'-0"





**smith & boucher**  
engineers  
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project number 2524400

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MULTIPLE GROUP CAMP ASSETS

CROWDER STATE PARK  
76 NORTHWEST HWY 128  
TRENTON, MISSOURI

PROJECT # X2534-01  
SITE # 5107  
ASSET # 7815107009  
7815107011  
7815107012

REVISION: \_\_\_\_\_  
DATE: \_\_\_\_\_  
REVISION: \_\_\_\_\_  
DATE: \_\_\_\_\_  
REVISION: \_\_\_\_\_  
DATE: \_\_\_\_\_  
ISSUE DATE: 02/04/2026

CAD DWG FILE: M-3  
DRAWN BY: PP  
CHECKED BY: MP  
DESIGNED BY: CK

SHEET TITLE:  
**CABIN HVAC AND  
PLUMBING PLAN  
(2)**

SHEET NUMBER:  
**M-3**  
34 OF 39 SHEETS  
02/04/2026

GENERAL NOTES:

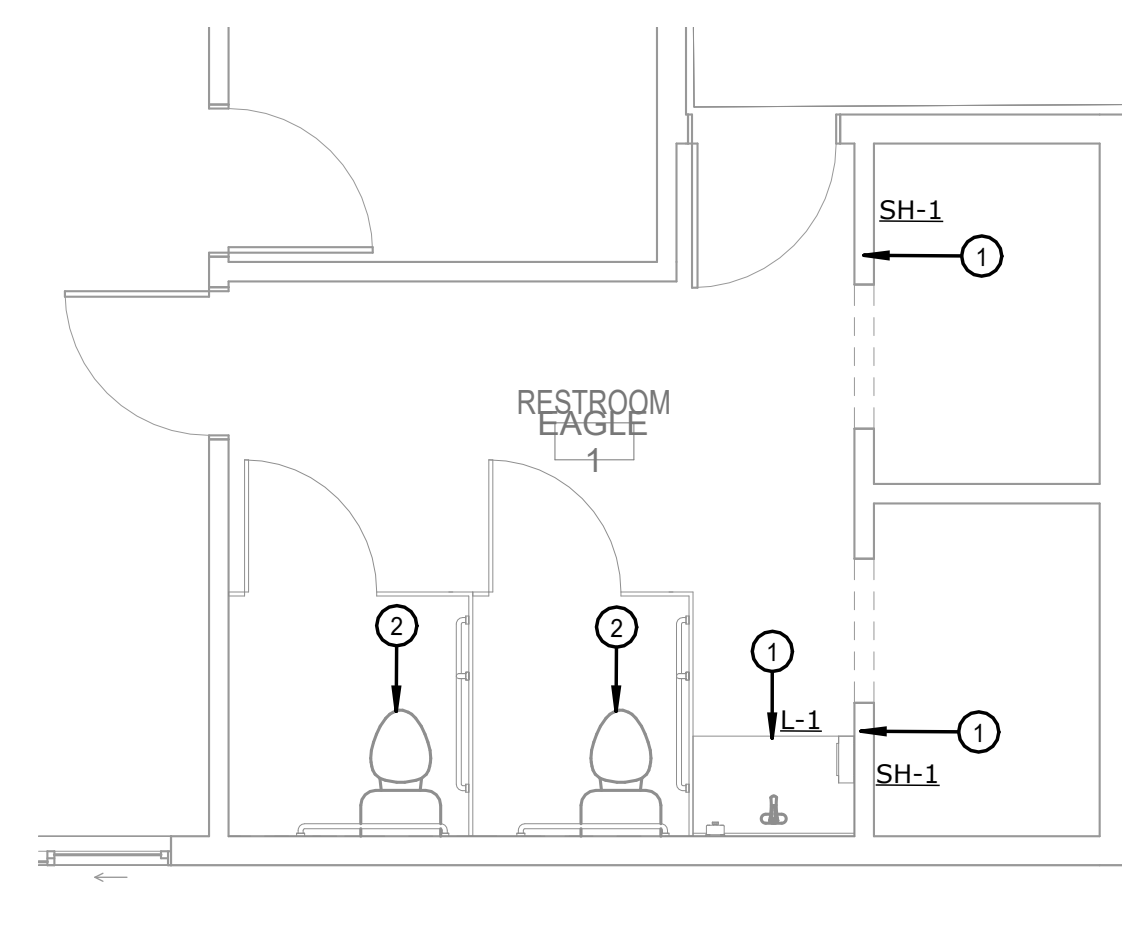
1. REFER TO SHEET M-1 FOR GENERAL NOTES.

DEMOLITION PLAN NOTES:

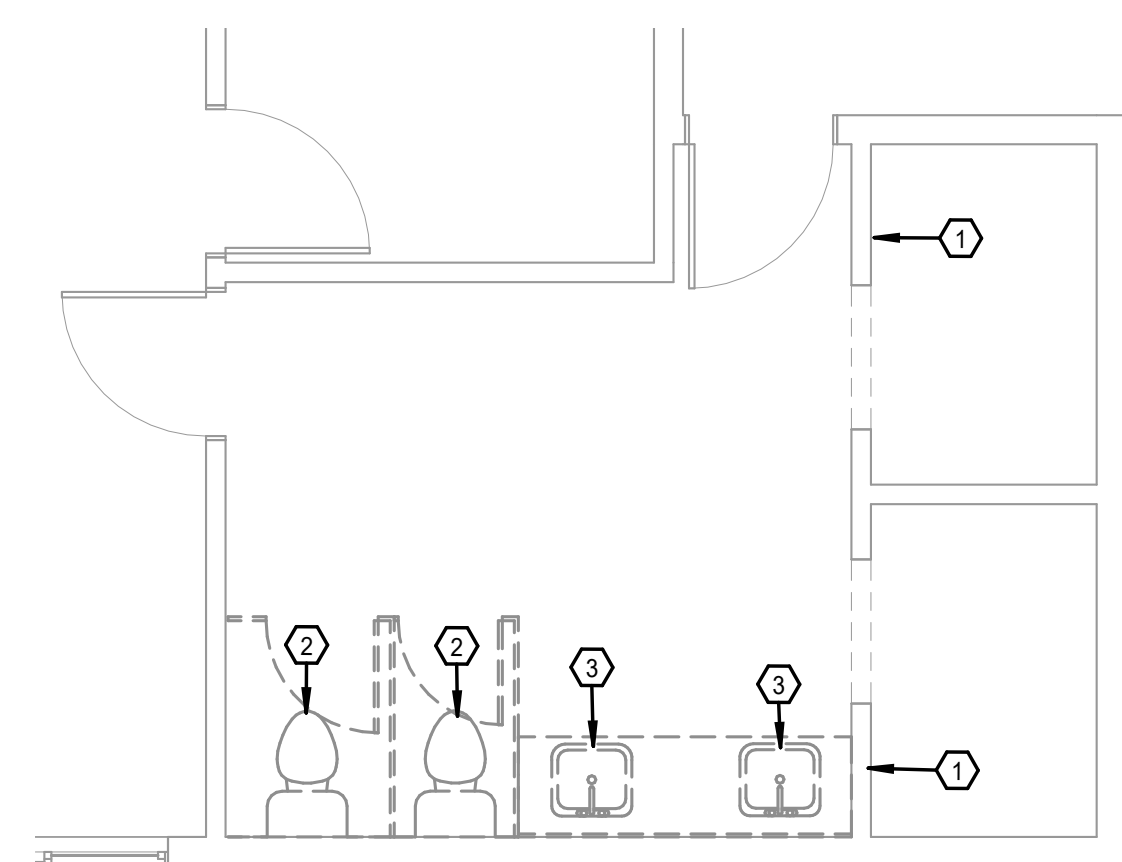
1. DISCONNECT AND REMOVE PLUMBING FIXTURE. EXISTING PIPING TO REMAIN FOR DIRECT CONNECTION TO REPLACEMENT FIXTURE.
2. DISCONNECT EXISTING WATER CLOSET. WATER CLOSET TO BE USED IN NEW WORK. PIPING TO BE ADJUSTED FOR NEW LOCATION. DISCONNECT AND REMOVE SHUT-OFF VALVE.
3. DISCONNECT AND REMOVE LAVATORY AND ASSOCIATED SHUT-OFF VALVE. EXISTING PIPING TO REMAIN FOR DIRECT CONNECTION TO REPLACEMENT FIXTURE.

PLAN NOTES:

1. CONNECT NEW PLUMBING FIXTURES TO EXISTING DOMESTIC HOT, DOMESTIC COLD, WASTE AND VENT PIPES, AS APPLICABLE TO FIXTURE. PROVIDE NEW QUARTER TURN FIXTURE STOPS AS PART OF NEW SCOPE. ADJUST PIPING AS NEEDED.
2. EXISTING WATER CLOSET TO BE REUSED FOR NEW WORK. CUT THE EXISTING FLOOR SLAB AS REQUIRED TO MODIFY THE EXISTING SANITARY PIPING TO ACCOMMODATE THE NEW LOCATION OF THE WATER CLOSET. PROVIDE WITH NEW SHUT-OFF VALVE.

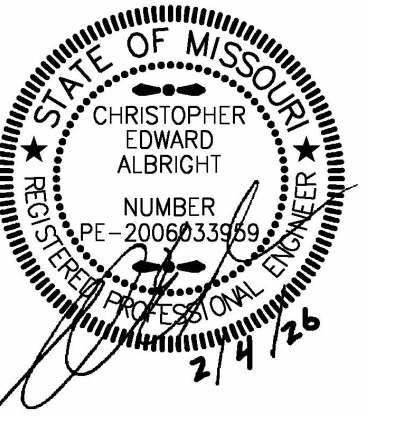


A4 ENLARGED PLUMBING PLAN - CABIN RESTROOM PLAN 2 (TYP. 3 CABINS: EAGLE 1, FALCON 2, COYOTE 4)  
1/4" = 1'-0"



C4 ENLARGED DEMO PLUMBING PLAN - CABIN RESTROOM PLAN 2 (TYP. 3 CABINS: EAGLE 1, FALCON 2, COYOTE 4)  
1/4" = 1'-0"





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MISSOURI STATE PARKS

ACCESSIBILITY IMPROVEMENTS  
MULTIPLE GROUP CAMP ASSETS

CROWDER STATE PARK  
76 NORTHWEST HWY 128  
TRENTON, MISSOURI

PROJECT # X2534-01  
SITE # 5107  
ASSET # 7815107048

REVISION: \_\_\_\_\_  
DATE: \_\_\_\_\_  
REVISION: \_\_\_\_\_  
DATE: \_\_\_\_\_  
REVISION: \_\_\_\_\_  
DATE: \_\_\_\_\_  
ISSUE DATE: 02/04/2026

CAD DWG FILE: M-4  
DRAWN BY: PP  
CHECKED BY: MP  
DESIGNED BY: CK

SHEET TITLE:

**RESTROOM HVAC  
AND PLUMBING  
PLAN**

SHEET NUMBER:

**M-4**

35 OF 39 SHEETS  
02/04/2026

GENERAL NOTES:

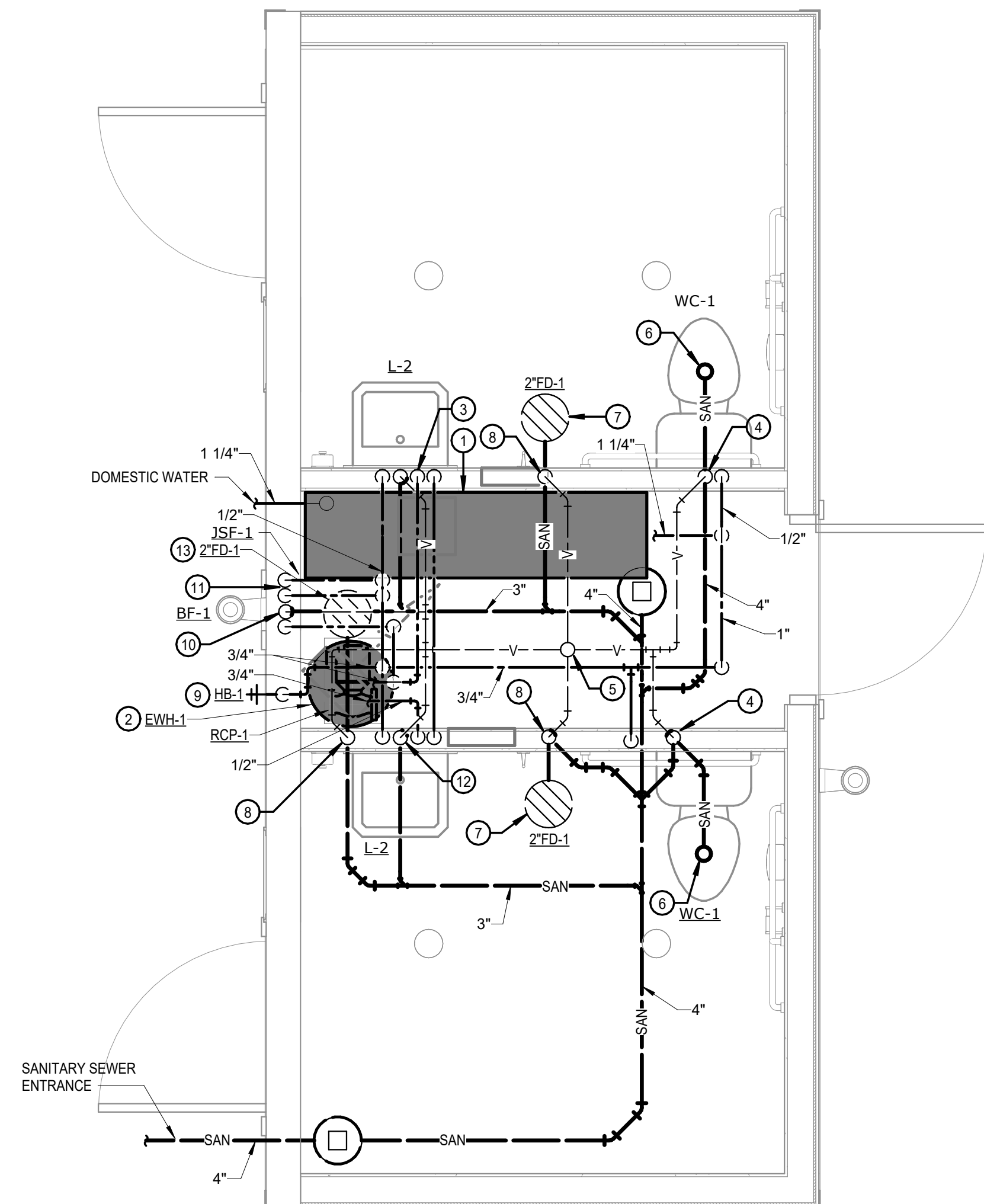
- REFER TO M1 FOR GENERAL NOTES.

PLUMBING PLAN NOTES:

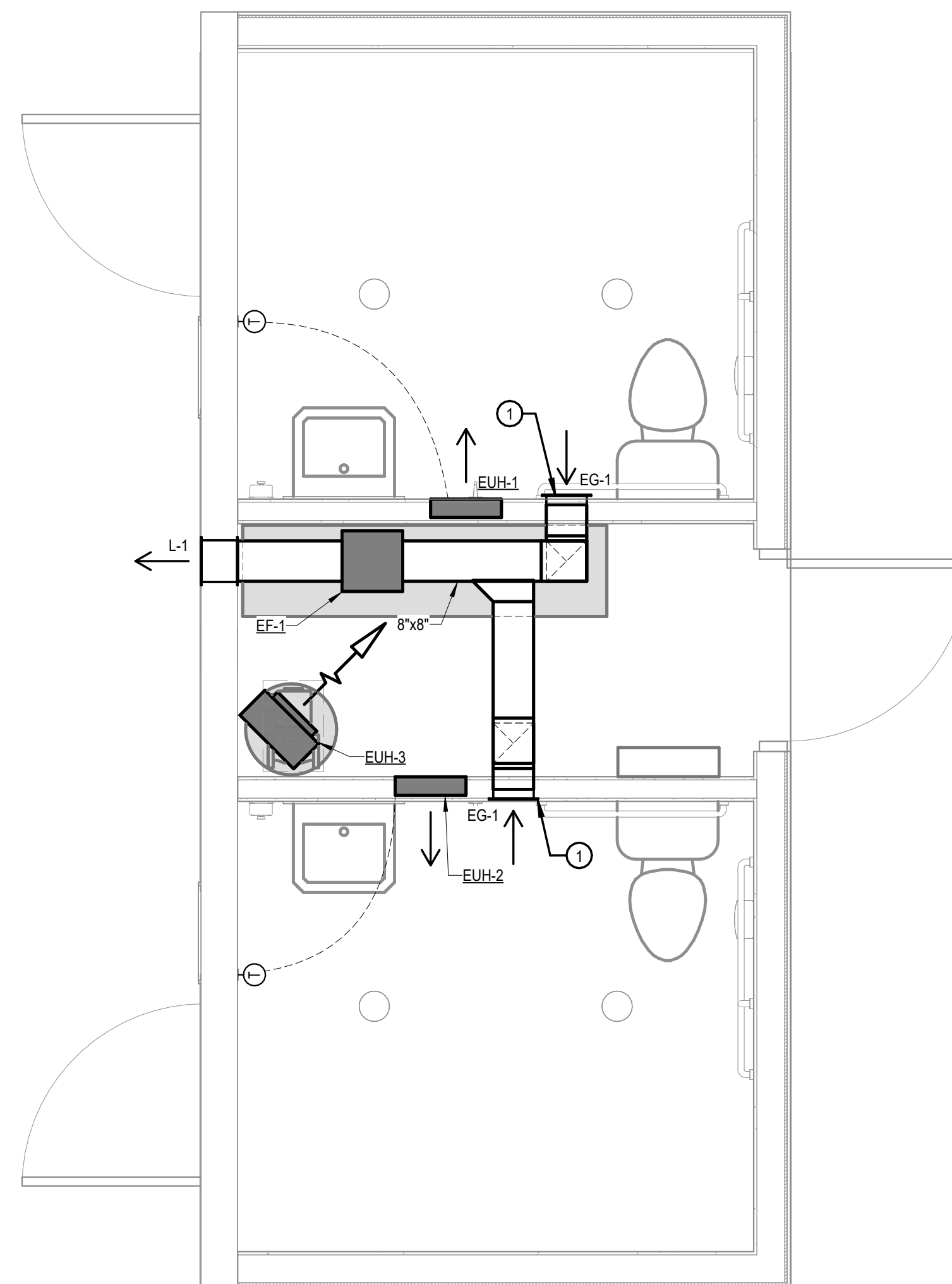
- 1-1/4" DOMESTIC WATER ENTRANCE. REFER TO DETAIL.
- 3/4" CW, 3/4" HW DOWN TO WATER HEATER. REFER TO DETAIL.
- 1/2" CW, 1/2" HW LOOP, 1-1/2" VENT DOWN TO LAV. 2" SAN UP TO LAV.
- 1/2" CW, 2" VENT DOWN TO WATER CLOSET.
- 3" VENT UP THRU ROOF.
- 4" SAN UP TO WATER CLOSET.
- 2" SAN UP TO FLOOR DRAIN.
- 1-1/2" VENT UP THRU FLOOR IN WALL.
- 3/4" CW DOWN TO HOSE BIB.
- 1/2" CW, 1-1/2" VENT DOWN TO BOTTLE FILLER. 2" SAN UP TO BOTTLE FILLER.
- 3/4" CW, 3/4" HW DOWN TO WALL MOUNTED FAUCET.
- 1/2" CW, 1/2" HW, 3/4" HWRC, 1-1/2" VENT DOWN TO LAV. 2" SAN UP TO LAV.
- 3" SAN UP TO FLOOR DRAIN.

HVAC PLAN NOTES:

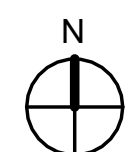
- EXHAUST GRILLE TO BE MOUNTED LOW.

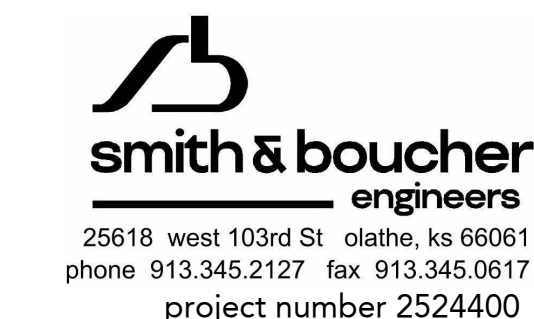
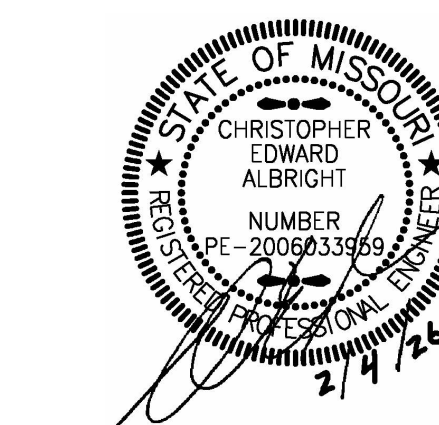


1 PLUMBING PLAN - RESTROOM BUILDING  
1/2" = 1'-0"



2 HVAC PLAN - RESTROOM BUILDING  
1/2" = 1'-0"





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ACCESSIBILITY IMPROVEMENTS  
MULTIPLE GROUP CAMP ASSETS

CROWDER STATE PARK  
76 NORTHWEST HWY 128  
TRENTON, MISSOURI

PROJECT # X2534-01  
SITE # 5107  
ASSET # 7815107005

REVISION: \_\_\_\_\_  
DATE: \_\_\_\_\_  
REVISION: \_\_\_\_\_  
DATE: \_\_\_\_\_  
REVISION: \_\_\_\_\_  
DATE: \_\_\_\_\_  
ISSUE DATE: 02/04/2026

CAD DWG FILE: E-1 (ALT-2)  
DRAWN BY: PP  
CHECKED BY: MP  
DESIGNED BY: PV

SHEET TITLE:  
**RECREATION  
BUILDING  
ELECTRICAL  
PLAN**

SHEET NUMBER:

**E-1 (ALT-2)**  
36 OF 39 SHEETS  
02/04/2026

ELECTRICAL GENERAL NOTES:

- REFER TO COMBINATION M/E SCHEDULES AND DETAILS FOR MECHANICAL AND PLUMBING EQUIPMENT CIRCUITING INFORMATION.
- CIRCUIT ALL EXIT SIGNS WITH AN UNSWITCHED HOT CONDUCTOR, FROM THE ASSOCIATED EXIT SIGN BRANCH CIRCUIT FOR EACH CORRESPONDING FLOOR / BUILDING AREA. REFER TO PANEL SCHEDULES FOR BREAKER DESIGNATIONS FOR EACH FLOOR / BUILDING AREA.

- 120V BRANCH CIRCUITING SHALL BE AS FOLLOWS, UNLESS NOTED OTHERWISE.

0'-100' = #12 AWG  
101'-150' = #10AWG  
151'-250' = #8 AWG  
250'-400' = #6 AWG

GROUND CONDUCTOR AND RACEWAYS SHALL BE INCREASED AS REQUIRED.

- ALL CONDUIT TO BE CONCEALED WHEREVER PHYSICALLY POSSIBLE. WHERE EXPOSED CONDUIT IS MANDATORY, IT SHALL BE INSTALLED PARALLEL AND PERPENDICULAR TO STRUCTURAL MEMBERS, WALLS, SOFFITS, ETC. ALL GROUPS OF EXPOSED CONDUIT SHALL BE INSTALLED AS CLOSE TOGETHER AS POSSIBLE. EXPOSED CONDUIT SHALL BE INSTALLED IN A CLEAN AND WORKMANLIKE MANNER. EXPOSED CONDUIT IS DEFINED AS ANY CONDUIT NOT CONCEALED WITHIN WALLS OR ABOVE EITHER A LAY-IN OR HARD LID CEILING. ALL SURFACE CONDUIT AND/OR PAINTABLE SURFACE RACEWAY TO BE PAINTED TO MATCH THE WALL SURFACE IT IS MOUNTED TO.

- REFER TO COMBINATION M/E SCHEDULES AND DETAILS FOR SPECIAL MOUNTING HEIGHTS NOTED ON PLANS ARE MEASURED TO THE CENTER OF THE JUNCTION BOX. REFER TO TYPICAL MOUNTING HEIGHT DETAIL FOR TYPICAL MOUNTING HEIGHTS.

- REFER TO ARCHITECTURAL FLOOR PLANS AND REFLECTED CEILING PLANS FOR EXACT MOUNTING LOCATIONS OF ALL WALL MOUNTED ELECTRICAL DEVICES.

- ALL EMERGENCY JUNCTION BOXES AND RACEWAY MUST BE MARKED WITH PERMANENT RED "EMERGENCY" STICKERS TO READILY IDENTIFY THEM AS A COMPONENT OF THE EMERGENCY SYSTEM (NEC 700.10). INSTALL ON EACH JUNCTION BOX COVER AND ON RACEWAY AT INTERVALS NOT EXCEEDING 25'-0". RACEWAYS WITHIN WALLS, BELOW SLABS, AND ABOVE NON-ACCESSIBLE CEILING AREAS DO NOT NEED TO BE MARKED.

ELECTRICAL PLAN NOTES:

- REINSTALL SALVAGED PANEL '51041'. EXTEND FEEDERS AS NECESSARY TO PROVIDE A COMPLETE AND WORKING SYSTEM.

DEMOLITION GENERAL NOTES:

- UNLESS OTHERWISE NOTED, SERVICES AND EQUIPMENT SHOWN WITH BOLD DASHED LINES ARE TO BE DEMOLISHED. SERVICES AND EQUIPMENT SHOWN WITH SOLID HALF TONE LINE WEIGHT ARE TO REMAIN IN PLACE.

EXISTING -----  
DEMO - - - - -

- PATCH AND REPAIR ALL OPENINGS CREATED THAT PENETRATE FIRE RATED WALLS, FLOORS AND CEILING USING UL APPROVED METHODS AND MATERIALS CONSISTENT WITH THAT OF THE RATING OF THE SURFACE PENETRATED.

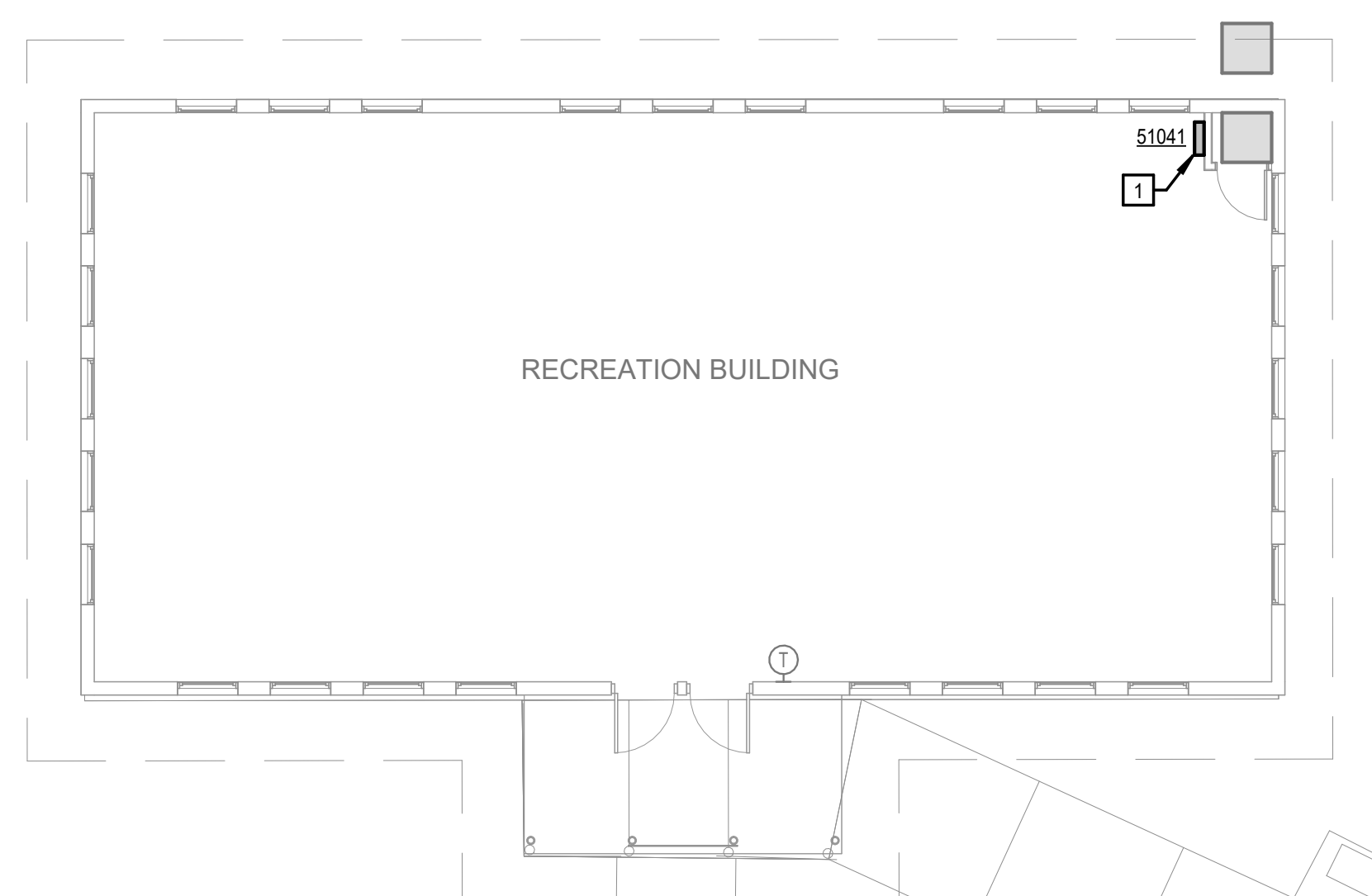
- THE EXISTING CONDITIONS INDICATED ON THE DRAWINGS ARE TAKEN FROM THE BEST INFORMATION AVAILABLE AND ARE NOT TO BE CONSTRUED AS "AS BUILT" CONDITIONS. THE INFORMATION IS SHOWN TO HELP ESTABLISH THE EXTENT OF THE NEW WORK. VERIFY ALL ACTUAL EXISTING CONDITIONS AT THE PROJECT SITE AND PERFORM THE WORK AS REQUIRED TO MEET THE CONDITIONS AND THE EXTENT OF THE WORK INDICATED.

- VERIFY AND RESTORE CONTINUITY OF ALL EXISTING CIRCUITRY INDICATED TO REMAIN IN USE. WHERE REMOVAL OF EXISTING WIRING INTERRUPTS ELECTRICAL CONTINUITY OF CIRCUITS WHICH ARE TO REMAIN, FURNISH AND INSTALL ALL REQUIRED CIRCUITRY, CONDUIT, JUNCTION BOXES, ETC TO INSURE CONTINUED ELECTRICAL CONTINUITY.

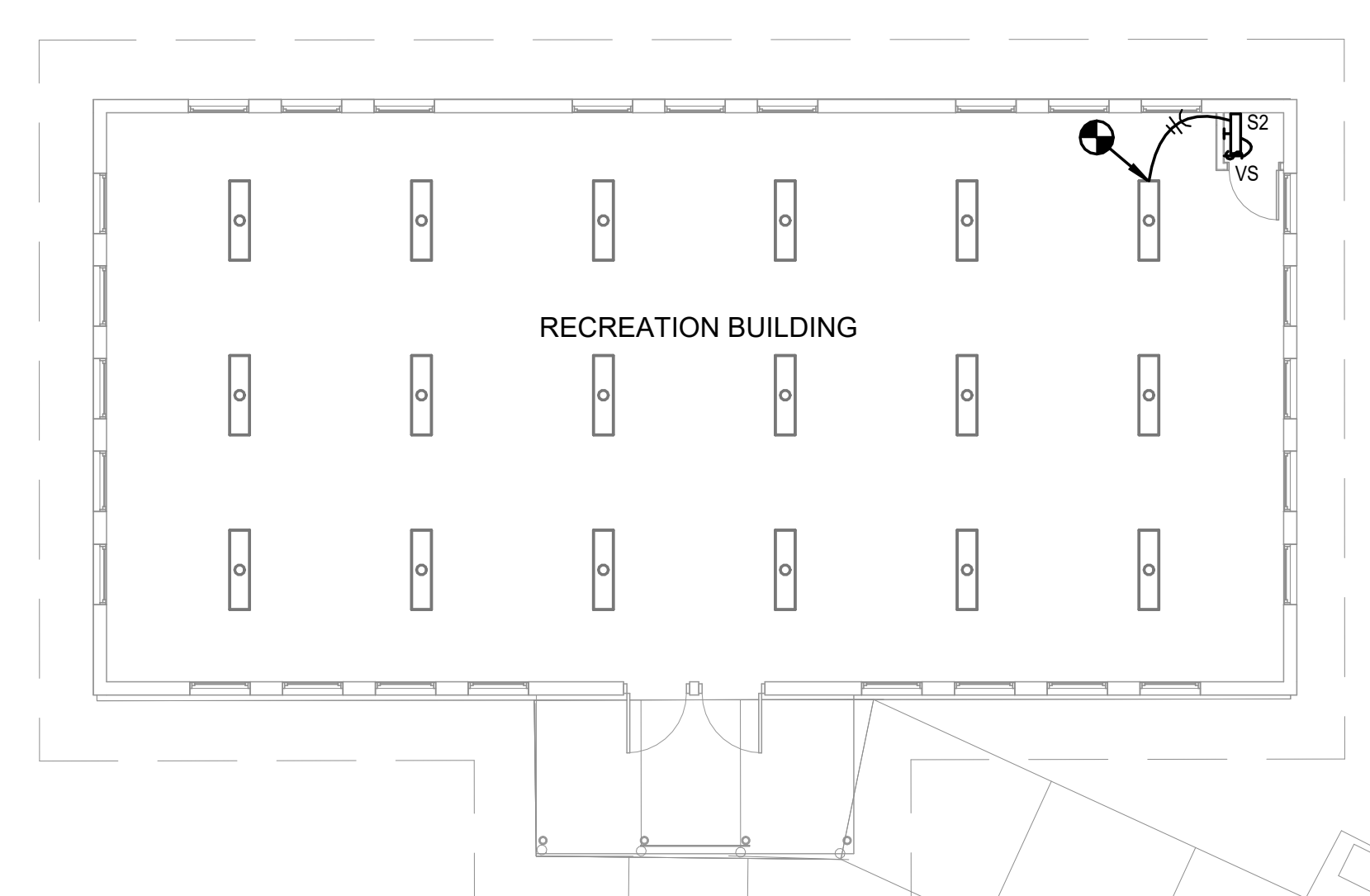
- DISCONNECT AND REMOVE ALL WIRING CONDUIT THAT BECOMES UNNECESSARY AS A RESULT OF THE REMOVAL OF THE EQUIPMENT OR DEVICES INDICATED TO BE REMOVED. PROVIDE FOR THE CONTINUITY OF ALL REMAINING SYSTEMS.

DEMOLITION PLAN NOTES:

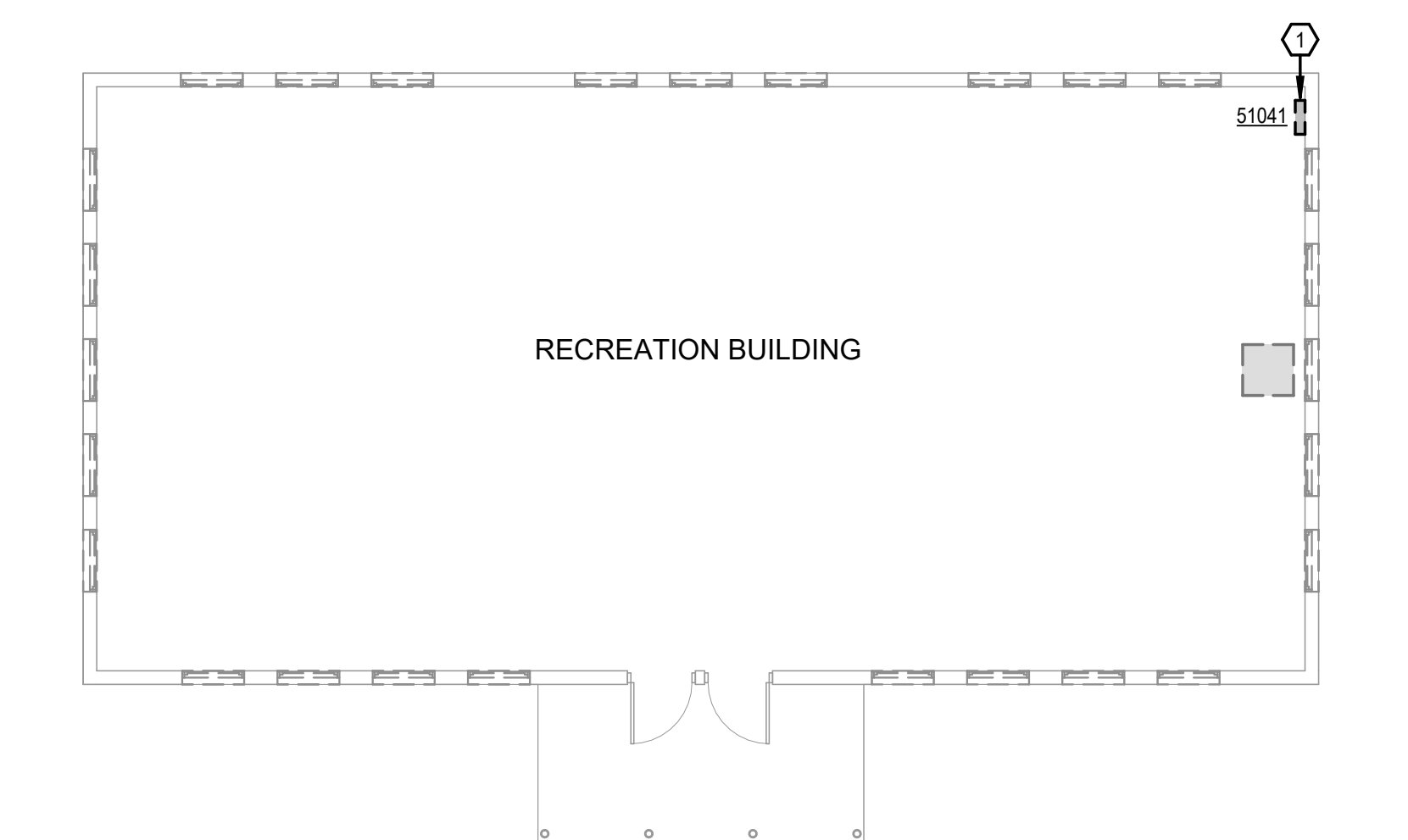
- DISCONNECT AND SALVAGE PANEL FOR RELOCATION IN NEW WORK.



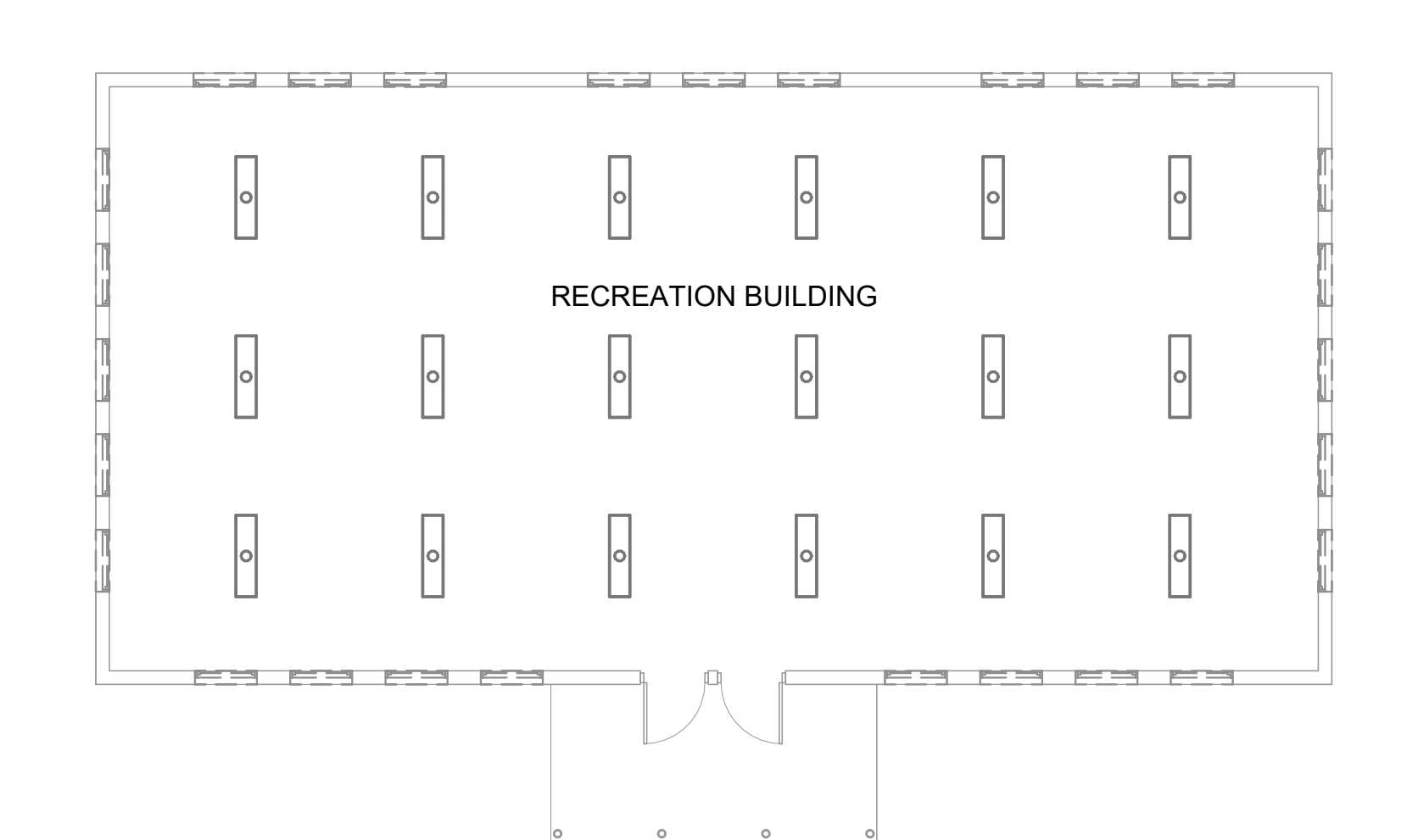
6 POWER PLAN - RECREATION BUILDING (ALTERNATE #2)  
1/8" = 1'-0"



4 LIGHTING PLAN - RECREATION BUILDING (ALTERNATE #2)  
1/8" = 1'-0"

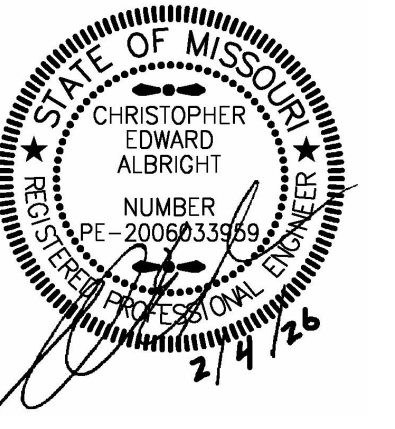


5 DEMO POWER PLAN - RECREATION BUILDING (ALTERNATE #2)  
1/8" = 1'-0"



1 DEMO LIGHTING PLAN - RECREATION BUILDING (ALTERNATE #2)  
1/8" = 1'-0"





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MULTIPLE GROUP CAMP ASSETS

CROWDER STATE PARK  
76 NORTHWEST HWY 128  
TRENTON, MISSOURI

PROJECT # X2534-01  
SITE # 5107  
ASSET # 7815107048

REVISION: \_\_\_\_\_  
DATE: \_\_\_\_\_  
REVISION: \_\_\_\_\_  
DATE: \_\_\_\_\_  
REVISION: \_\_\_\_\_  
DATE: \_\_\_\_\_  
ISSUE DATE: 02/04/2026

CAD DWG FILE: E-2  
DRAWN BY: PP  
CHECKED BY: MP  
DESIGNED BY: PV

SHEET TITLE:

**RESTROOM  
ELECTRICAL  
PLANS**

SHEET NUMBER:

**E-2**

37 OF 39 SHEETS  
02/04/2026

DEMOLITION GENERAL NOTES:

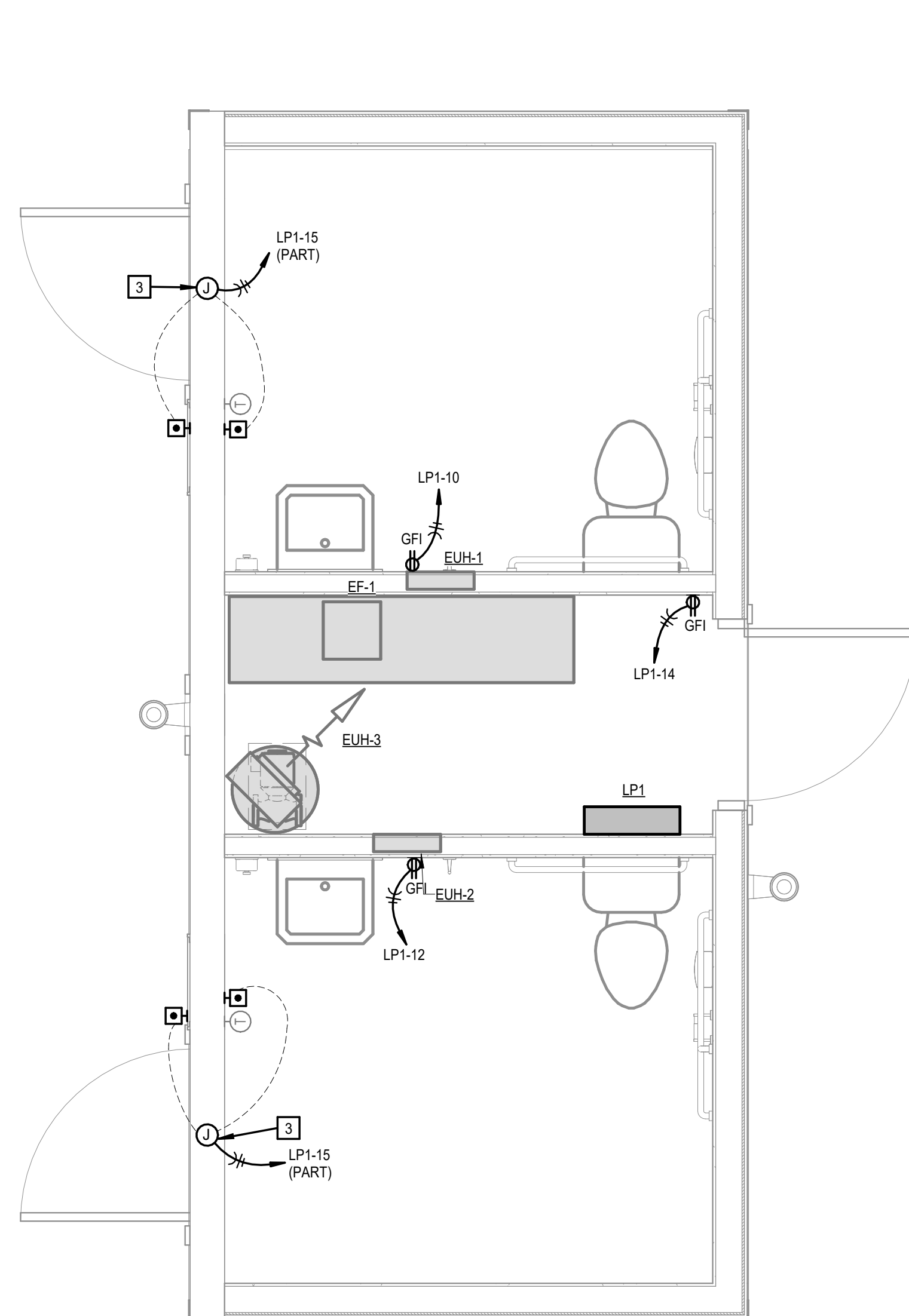
1. REFER TO SHEET E-1 FOR GENERAL NOTES APPLICABLE TO ENTIRE PROJECT.

GENERAL NOTES:

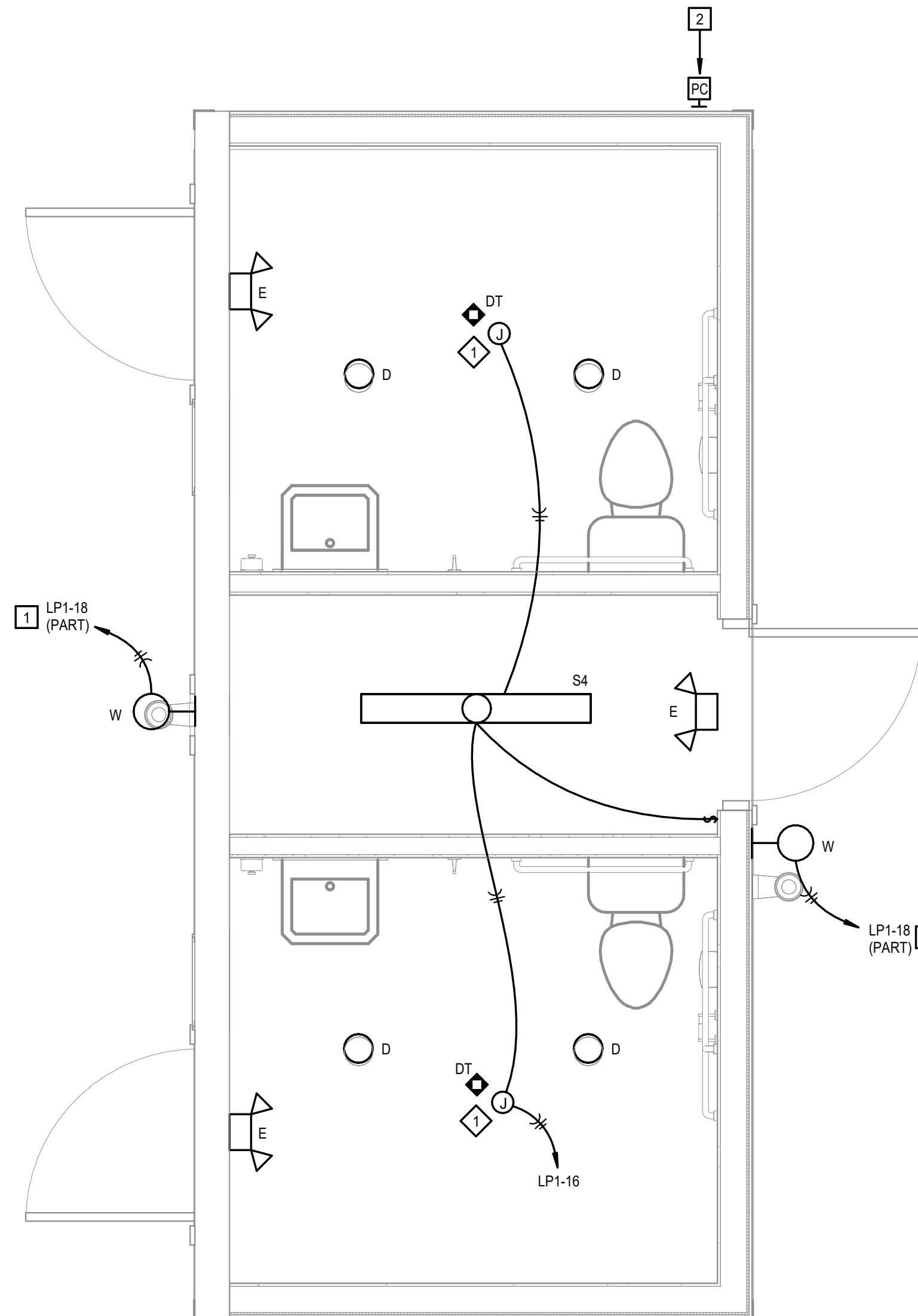
1. REFER TO SHEET E-1 FOR GENERAL NOTES APPLICABLE TO ENTIRE PROJECT.

ELECTRICAL PLAN NOTES:

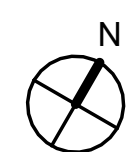
- 1 ROUTE CIRCUIT THROUGH ROOF MOUNTED PHOTOCELL.
- 2 PROVIDE WEATHERPROOF PHOTOCELL MOUNTED ON ROOF FACING NORTH.
- 3 PROVIDE POWER FOR ADA DOOR OPERATOR. MAKE ALL CONNECTIONS TO PUSH BUTTON AS REQUIRED. COORDINATE EXACT LOCATION WITH ARCHITECTURAL AND EXACT REQUIREMENTS WITH EQUIPMENT PROVIDED.

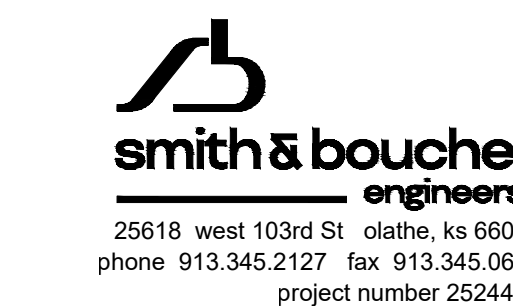
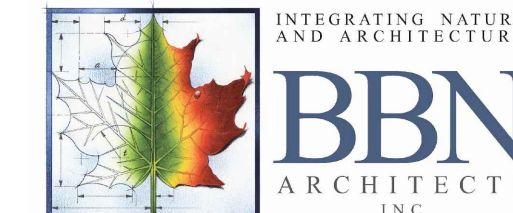
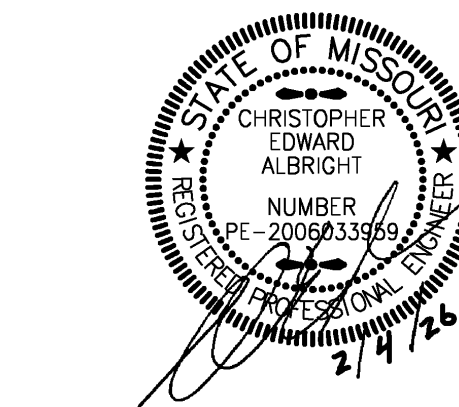


1 POWER PLAN - RESTROOM BUILDING  
1/2" = 1'-0"



2 LIGHTING PLAN - RESTROOM BUILDING  
1/2" = 1'-0"





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CROWDER STATE PARK  
76 NORTHWEST HWY 128  
TRENTON, MISSOURI

PROJECT # X2534-01  
SITE # 5107  
ASSET # 7815107005  
7815107048

REVISION: \_\_\_\_\_  
DATE: \_\_\_\_\_  
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DATE: \_\_\_\_\_  
REVISION: \_\_\_\_\_  
DATE: \_\_\_\_\_  
ISSUE DATE: 02/04/2026

CAD DWG FILE: E-3  
DRAWN BY: PP  
CHECKED BY: MP  
DESIGNED BY: PV

SHEET TITLE:  
**ELECTRICAL  
ONE LINE  
DIAGRAM**

SHEET NUMBER:

**E-3**

38 OF 39 SHEETS  
02/04/2026

FEEDER SCHEDULE - COPPER CONDUCTORS										
THREE PHASE FEEDERS ONLY										
CIRCUIT RATING	CONDUIT SIZE (INCHES), MULTIPLE CONDUITS = MULTIPLE CONDUCTOR SETS							CONDUCTOR SIZE		
	G	N	NG	NGI	NG-T	NGI-T	NGG-T	PHASE/NEUTRAL	GND/IG	XFMR GND/IG
15	0.5	0.5	0.5	0.5	-	-	-	#12	#12	-
20	0.5	0.5	0.5	0.5	-	-	-	#12	#12	-
30	0.75	0.75	0.75	0.75	0.75	-	-	#10	#10	#8
40	0.75	0.75	0.75	1	-	-	-	#8	#10	-
50	0.75	1	1	1.25	1	1.25	1.25	#6	#10	#8
60	1	1.25	1.25	1.5	-	-	-	#4	#10	-
70	1	1.25	1.25	1.5	-	-	-	#4	#8	-
80	1	1.25	1.25	2	-	-	-	#3	#8	-
90	1.25	1.25	1.25	2	-	-	-	#2	#8	-
100	1.25	1.5	1.5	2	1.5	2	2	#1	#8	#6
110	1.25	1.5	1.5	2	-	-	-	#1	#6	-
125	1.25	1.5	1.5	2	-	-	-	#1	#6	-
150	1.5	1.5	1.5	2	1.5	2	2	#1/0	#6	#6
175	1.5	2	2	2.5	-	-	-	#2/0	#6	-
200	2	2	2	2.5	2	2.5	2.5	#3/0	#6	-
225	2	2.5	2.5	3	2.5	-	-	#4/0	#4	#2
250	2	2.5	2.5	3	2.5	3	3	#250	#4	#2
300	2.5	3	3	3.5	-	-	-	#350	#4	-
350	3	3.5	3.5	4	3.5	4	4	#500	#3	#1/0
400	3	3.5	3.5	4	-	-	-	#500	#3	-
450	(2) 2	(2) 2.5	(2) 2.5	(2) 3	-	-	-	#4/0	#2	-
500	(2) 2	(2) 2.5	(2) 2.5	(2) 3	(2) 2.5	(2) 3	(2) 3	#250	#2	#1/0
600	(2) 2.5	(2) 3	(2) 3	(2) 3.5	-	-	-	#350	#1	-
700	(2) 3	(2) 3.5	(2) 3.5	(2) 4	(2) 3.5	(2) 4	(2) 4	#500	#1/0	#2/0
800	(2) 3	(2) 3.5	(2) 3.5	(2) 4	-	-	-	#500	#1/0	-
1000	(3) 3	(3) 3	(3) 3	(3) 4	(3) 3	(3) 4	(3) 4	#400	#2/0	#3/0
1200	(4) 2.5	(4) 3	(4) 3	(4) 3.5	-	-	-	#350	#3/0	-
1600	(5) 3	(5) 3	(5) 3	(5) 4	(5) 3	(5) 4	(5) 4	#400	#4/0	#3/0
2000	(6) 3	(6) 3	(6) 3	(6) 4	-	-	-	#400	#250	-
2500	(7) 3	(7) 3.5	(7) 3.5	(7) 4	-	-	-	#500	#350	-
3000	(8) 3	(8) 3.5	(8) 3.5	(8) 4	-	-	-	#500	#400	-
4000	(11) 3	(11) 3.5	(11) 3.5	(11) 4	-	-	-	#500	#500	-

SUBSCRIPT KEY	
SUBSCRIPT	CONDUCTORS PER CONDUIT (ALL CONTAIN 3-PHASE CONDUCTORS)
G	1 GROUNDING CONDUCTOR
N	1 NEUTRAL CONDUCTOR
NG	1 NEUTRAL CONDUCTOR, 1 GROUNDING CONDUCTOR
NGI	1 NEUTRAL CONDUCTOR, 1 GROUNDING CONDUCTOR, 1 ISOLATED GROUNDING CONDUCTOR
NG-T	1 NEUTRAL CONDUCTOR, 1 TRANSFORMER GROUNDING CONDUCTOR
NGI-T	1 NEUTRAL CONDUCTOR, 1 TRANSFORMER GROUNDING CONDUCTOR, 1 ISOLATED TRANSFORMER GROUNDING CONDUCTOR
NGG-T	2 NEUTRAL CONDUCTOR, 1 TRANSFORMER GROUNDING CONDUCTOR

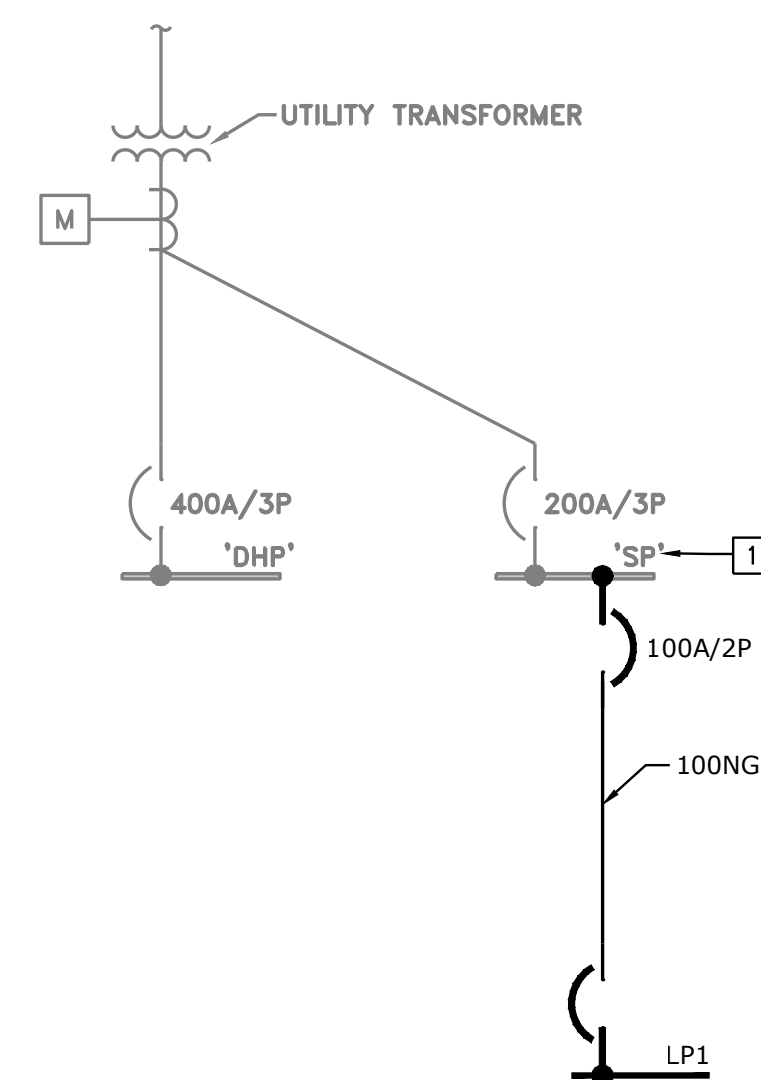
**EXAMPLE:**

KVA	FEEDER SIZES - PRIMARY AND SECONDARY				GROUNDING ELECTRODE CONDUCTOR (COPPER)	GROUNDING ELECTRODE CONDUCTOR (AA-8000)
	PRIMARY FEEDER 277/480V - 3PH/3W	SECONDARY FEEDER - 120/208V - 3PH/4W				
		STANDARD	ISOLATED GND	K-RATED		
15	30G	50NG-T	50NGI-T	50NNG-T	(1)#8, 1/2"C.	N/A
30	50G	100NG-T	100NGI-T	100NNG-T	(1)#6, 1/2"C.	N/A
45	70G	150NG-T	150NGI-T	150NNG-T	(1)#6, 1/2"C.	N/A
75	125G	250NG-T	250NGI-T	250NNG-T	(1)#2, 1/2"C.	N/A
112 1/2	175G	350NG-T	350NGI-T	350NNG-T	(1)#1/0, 3/4"C.	N/A
150	225G	500NG-T	500NGI-T	500NNG-T	(1)#1/0, 3/4"C.	N/A
225	350G	700NG-T	700NGI-T	700NNG-T	(1)#2/0, 3/4"C.	N/A
300	450G	1000NG-T	1000NGI-T	1000NNG-T	(1)#3/0, 3/4"C.	N/A
500	800G	1600NG-T	1600NGI-T	1600NNG-T	(1)#3/0, 3/4"C.	N/A

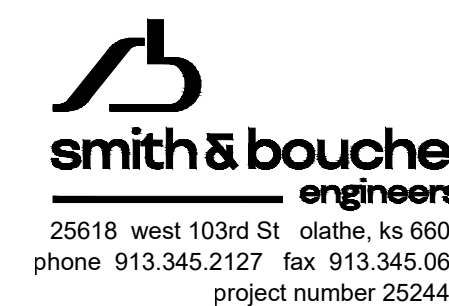
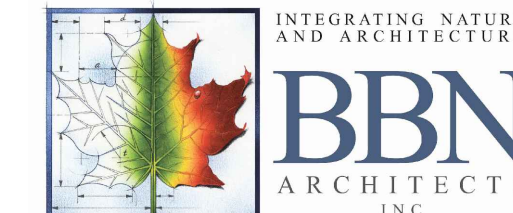
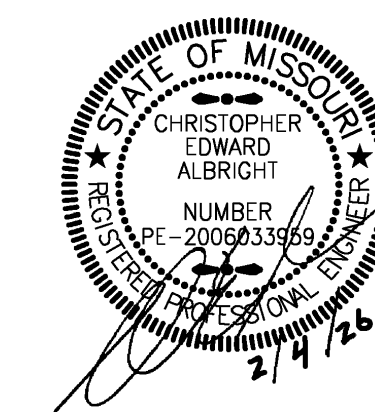
**EXAMPLE:**



ELECTRICAL PLAN NOTES:  
1 200A PANEL PROVIDED UNDER SANITARY IMPROVEMENTS PROJECT SCOPE. PROVIDE (1)100A/2P CIRCUIT BREAKER IN PANEL 'SP' FOR SERVICE TO PANEL 'LP1'.

**ELECTRICAL ONE-LINE DIAGRAM**  
NOT TO SCALE

PROJECT NAME: 2524400 Crowder State Park Improvements  
 AUTOCAD FILE LOCATION: \NAME:  
 LAST CORRECTION BY: DATE: TIME:  
 PLOTTED BY: DATE: TIME:  
 2524400 Crowder State Park Improvements  
 C:\Users\charles\OneDrive\Documents\2524400\2524400\_E-3 - ELECTRICAL ONE LINE DIAGRAM.dwg  
 Tuesday, March 3, 2026 8:17:55 AM  
 Kdfz  
 Thursday, April 9, 2026 3:09:10 PM  
 Booty Charles



OFFICE OF ADMINISTRATION  
DIVISION OF FACILITIES  
MANAGEMENT,  
DESIGN AND CONSTRUCTION

DEPARTMENT OF  
NATURAL RESOURCES  
MISSOURI STATE PARKS

ACCESSIBILITY IMPROVEMENTS  
MULTIPLE GROUP CAMP ASSETS

CROWDER STATE PARK  
76 NORTHWEST HWY 128  
TRENTON, MISSOURI

PROJECT # X2534-01  
SITE # 5107  
ASSET # 7815107001 7815107013  
7815107005 7815107022  
7815107007 7815107023  
7815107008 7815107048  
7815107009  
7815107010  
7815107011  
7815107012

REVISION: \_\_\_\_\_  
DATE: \_\_\_\_\_  
REVISION: \_\_\_\_\_  
DATE: \_\_\_\_\_  
REVISION: \_\_\_\_\_  
DATE: \_\_\_\_\_

ISSUE DATE: 02/04/2026

CAD DWG FILE: E-4  
DRAWN BY: PP  
CHECKED BY: MP  
DESIGNED BY: PV

SHEET TITLE:  
**ELECTRICAL  
SCHEDULES  
AND DETAILS**

SHEET NUMBER:

**E-4**

39 OF 39 SHEETS  
02/04/2026

LIGHT FIXTURE SCHEDULE							
TYPE	DESCRIPTION	MOUNTING	SOURCE	VOLTS	MANUFACTURER	V-A	
D	4" RECESSED LED DOWNLIGHT, COMMERCIAL GRADE, WIDE OPTICS (75 DEGREE), PROVIDE WITH INTEGRAL 10% 0-10V DIMMING DRIVER, SEMI-SPECULAR REFLECTOR, MUD-IN FLANGELESS TRIM.	RECESSED	1,000 LUMENS 3500K 80CRI	120	HALO SERIES HC4 LIGHTOLIER P4R PRESCOLITE SERIES LT-4RD GOTHAM SERIES EV04		11
E	EMERGENCY LIGHT WITH IMPACT RESISTANT THERMOPLASTIC HOUSING AND TWO FULLY ADJUSTABLE LED LIGHTING HEADS. BATTERY CAPABLE OF 90 MINUTES OF EMERGENCY OPERATION. WHITE FINISH.	WALL MOUNT 8'-0" AFF	LED	120	WILLIAMS SERIES EMER-LED CHLORIDE SERIES VLL COMPASS SERIES CU2 OR PRE BID APPROVED EQUAL		2
S#	LED INDUSTRIAL STRIP FIXTURE, INTEGRAL DRIVER, FROSTED ACRYLIC LENS. # INDICATES FIXTURES LENGTH. S2: 2'-0" LENGTH S4: 4'-0" LENGTH	PENDANT	1,000 LUMENS/FT 3500K 80 CRI	120	WILLIAMS SERIES 75 DAYBRITE SERIES FLUXSTREAM COLUMBIA SERIES MPS LITHONIA SERIES ZL1N		7/FT
W	LED EXTERIOR WALL PACK, VANDAL RESISTANT, UL LISTED FOR WET LOCATIONS.	SURFACE	1,500 LUMENS 4000K 80+ CRI	120	LITHONIA WEDGE WILLIAMS SERIES WPTZ ILP SERIES SWS OR PRE BID APPROVED EQUAL		20

OCCUPANCY CONTROL DEVICE SCHEDULE					
SYMBOL	DESCRIPTION	DETECTION TYPE	SETTINGS (TYPICAL)	MANUFACTURER/MODEL	NOTES
\$VS	WALL MOUNTED SWITCH/VACANCY SENSOR LINE VOLTAGE - SINGLE RELAY	PASSIVE INFRARED	ON: MANUAL OFF: 20 MINUTE DELAY	WATTSTOPPER CS-50	1,2
DT	CEILING MOUNTED LIGHTING SYSTEM OCCUPANCY SENSOR	DUAL TECHNOLOGY	-	PER SUBMITTAL	1,3,4
PC WP	CEILING MOUNTED LIGHTING SYSTEM EXTERIOR PHOTOCELL	OPEN LOOP	-	PER SUBMITTAL	1

NOTE 1: THE MANUFACTURERS AND MODELS LISTED ARE BASIS OF DESIGN, ALL PRODUCT SUBSTITUTIONS SUBMITTED MUST BE APPROVED AS EQUAL. RE: PLANS FOR QUANTITIES.  
NOTE 2: ALL WALL MOUNTED LIGHTING CONTROLS MUST HAVE MATCHING FINISHES TO THOSE LISTED IN SPECIFICATION SECTION 262726 - WIRING DEVICES.  
NOTE 3: SENSOR LOCATIONS SHOWN ON FLOOR PLANS ARE GENERIC, CONTRACTOR TO MODIFY LOCATIONS AS REQUIRED BASED ON COVERED CAPABILITIES OF SUBMITTED PRODUCTS.  
NOTE 4: MODIFY LOCATIONS OF CEILING MOUNTED OCCUPANCY SENSORS AS REQUIRED SO THAT NO OCCUPANCY SENSOR IS WITHIN 4'-0" OF AN HVAC SUPPLY DIFFUSER.

LIGHTING CONTROL REQUIREMENTS & DESCRIPTIONS - PER SPACE TYPE	
TYPE	LIGHTING CONTROL REQUIREMENTS FOR SPACE
1	CONTROL METHOD: OCCUPANCY ON - OCCUPANCY OFF. POWER PACKS/CONTROLLERS: -LOCAL DEVICES IN ACCESSIBLE LOCATIONS AS REQUIRED TO ACHIEVE CONTROL METHOD INDICATED. OCCUPANCY SENSOR(S): -TYPE AND MINIMUM QUANTITY NOTED ON PLANS, MODELS/SETTINGS AS NEEDED TO PROVIDE SMALL MOTION COVERAGE IN ENTIRE ROOM. -SET TIME DELAYS FOR SHUT-OFF AT 20 MINUTES.

GENERAL NOTES:  
NOTE 1: WHERE NOTED ABOVE, SCHEDULED BUILDING HOURS OF OPERATION ARE AS FOLLOWS: 6:30 AM TO 6:30 PM.  
NOTE 2: CONTRACTOR MUST INCLUDE SHOP DRAWINGS WITH LIGHTING CONTROLS SUBMITTAL SHOWING WIRING SCHEMATICS/DIAGRAMS OVERLAYED ON FLOOR PLANS FOR EACH ROOM.  
NOTE 3: ALL WALL MOUNTED LIGHTING CONTROLS MUST HAVE MATCHING FINISHES TO THOSE LISTED IN SPECIFICATION SECTION 262726 - WIRING DEVICES.  
NOTE 4: PROVIDE A DIGITAL LIGHTING CONTROL SYSTEM FROM A MANUFACTURER LISTED IN SPECIFICATION SECTION 260923 - LIGHTING CONTROL DEVICES. WIRELESS SYSTEMS ARE NOT PERMITTED.  
NOTE 5: CONTRACTOR TO MODIFY OCCUPANCY SENSOR LOCATIONS, AND/OR INCREASE QUANTITIES, AS REQUIRED BASED ON COVERED CAPABILITIES OF SUBMITTED PRODUCTS.  
NOTE 6: CONTRACTOR MUST COORDINATE WITH LIGHT FIXTURE SCHEDULE, AND MOST IMPORTANTLY THE LIGHT FIXTURE SUBMITTAL, TO VERIFY DIMMING TYPE NEEDED FOR EACH RELAY/CONTROLLER.  
NOTE 7: PROGRAM DAYLIGHT HARVESTING SETPOINTS AT NIGHT WITH ALL LIGHT FIXTURES AT FULL LIGHT OUTPUT. PHOTOCELL TO DIM LIGHTING BASED ON THIS SETPOINT IN A CLOSED LOOP SYSTEM.  
NOTE 8: CONTRACTOR TO MODIFY PHOTOCELL LOCATIONS AS REQUIRED BASED ON SUBMITTED PRODUCTS.  
NOTE 9: ANY CATEGORY CABLING USED FOR LIGHTING CONTROLS MUST BE OF A SPECIAL COLOR AND NOT BE THE SAME COLOR AS ANY OTHER LOW VOLTAGE SYSTEM IN THE BUILDING. SUCH AS DATA TELEPHONE, SECURITY, ETC. COORDINATE COLOR NEEDED DURING SHOP DRAWING SUBMITTAL PROCESS, DO NOT ASSUME THE STANDARD COLOR FROM THE MANUFACTURER CAN BE USED.

PANEL 51041							
MAIN BUS AMPS: 100 A		AIC: 42,000 A		EQUIPMENT GROUND BUS			
MAIN BREAKER: 100 A		SECTIONS: 1 - 16 SPACE		SERVICE ENTRANCE			
VOLTAGE: 240/120 V		MOUNTING: SURFACE					
PHASES/WIRES: 1 PH / 3 W		ENCLOSURE TYPE: NEMA 1					
CIRCUIT DESCRIPTION	POLES	AMPS	CKT NO	CKT NO	AMPS	POLES	CIRCUIT DESCRIPTION
EXISTING LOAD	1	15	1	2	15	1	EXISTING LOAD
EXISTING LOAD	1	15	3	4	15	1	EXISTING LOAD
EXISTING LOAD	1	15	5	6	15	1	EXISTING LOAD
EXISTING LOAD	1	15	7	8	15	1	EXISTING LOAD
<b>CU-1</b>	<b>2</b>	<b>50</b>	9	10	<b>15</b>	<b>2</b>	<b>AHU-1</b>
			11	12			
	1		13	14		1	
	1		15	16		1	

SCHEDULE NOTES:  
1. PANEL IS EXISTING. CONNECT NEW LOAD TO EXISTING BREAKERS UNLESS NOTED OTHERWISE. NEW LOAD SHOWN IN BOLD.  
2. PROVIDE NEW BREAKERS WHERE SHOWN IN BOLD.

PANEL LP1							
MAIN BUS AMPS: 100 A		AIC: 42,000 A		EQUIPMENT GROUND BUS			
MAIN BREAKER: 100 A		SECTIONS: 1-24 SPACE		SERVICE ENTRANCE			
VOLTAGE: 240/120 V		MOUNTING: SURFACE					
PHASES/WIRES: 1 PH / 3 W		ENCLOSURE TYPE: NEMA 1					
CIRCUIT DESCRIPTION	POLES	AMPS	CKT NO	CKT NO	AMPS	POLES	CIRCUIT DESCRIPTION
EF-1	2	15	1	2	20	2	EWB-1
			3	4			
EUH-1	2	15	5	6	20	2	EUH-3
			7	8			
EUH-2	2	15	9	10	20	1	REC - RESTROOM 1
			11	12	20	1	REC - RESTROOM 2
RCP-1	1	15	13	14	20	1	REC - UTILITY ROOM
ADA DOOR OPERATORS	1	20	15	16	20	1	LTG - RESTROOM BUILDING
SPARE	1	20	17	18	20	1	LTG - EXTERIOR
SPARE	1	20	19	20	20	1	SPARE
SPARE	1	20	21	22	20	1	SPARE
SPARE	1	20	23	24	20	1	SPARE

PROJECT NAME: 2524400 Crowder State Park Improvements  
AUTOCAD FILE LOCATION: C:\Users\charles\_b\OneDrive\Documents\2524400\_01 - ELECTRICAL SCHEDULES AND DETAILS.dwg  
LAST CORRECTION BY: Bootlyc  
PLOTTED BY: Bootlyc  
DATE: Friday, March 13, 2026 1:03:23 PM  
TIME: Thursday, April 9, 2026 3:09:19 PM

PROJECT NAME: 2524400 Crowder State Park Improvements  
AUTOCAD FILE LOCATION: C:\Users\charles\_b\OneDrive\Documents\2524400\_01 - ELECTRICAL SCHEDULES AND DETAILS.dwg  
LAST CORRECTION BY: Bootlyc  
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DATE: Friday, March 13, 2026 1:03:23 PM  
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