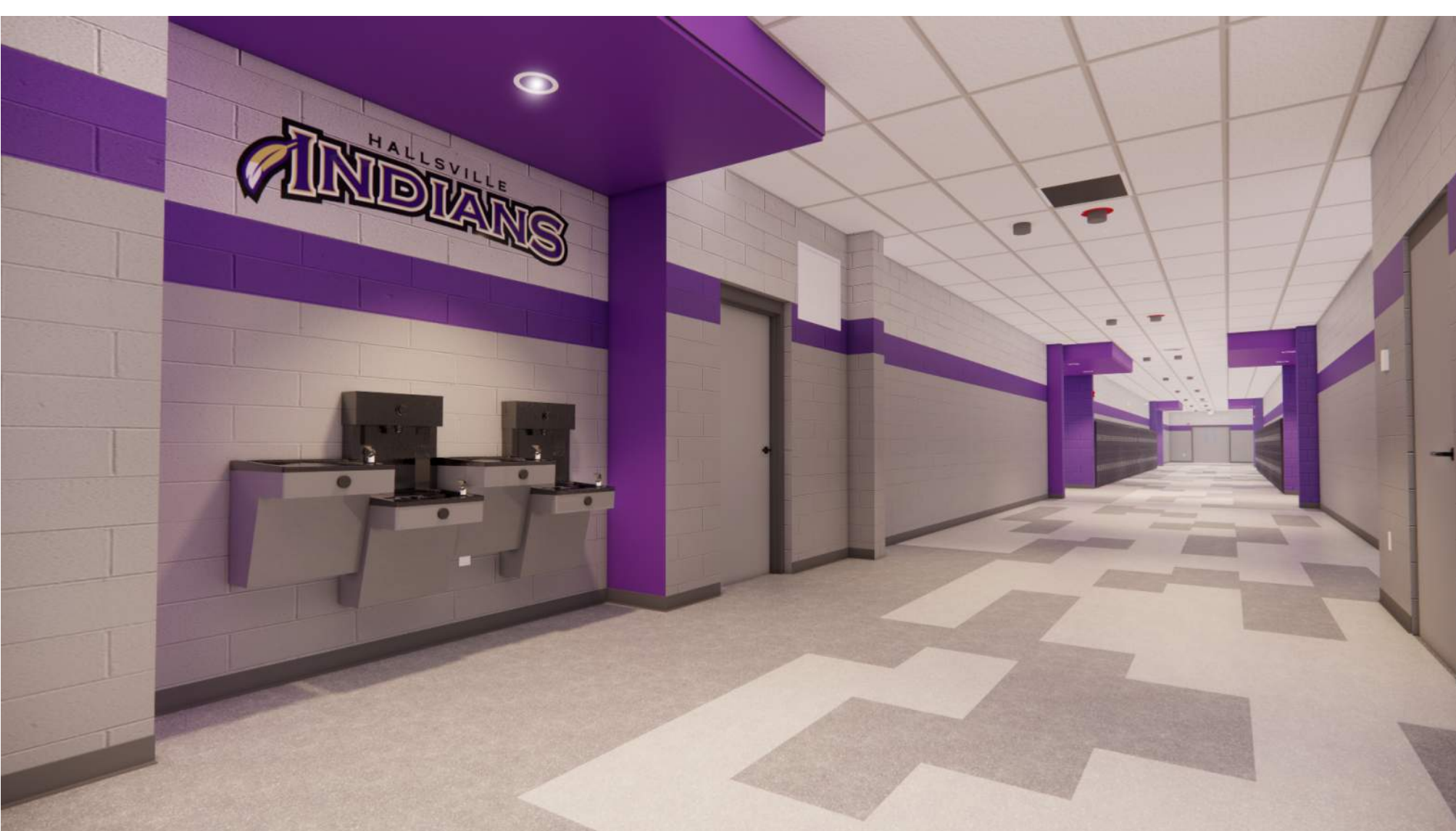
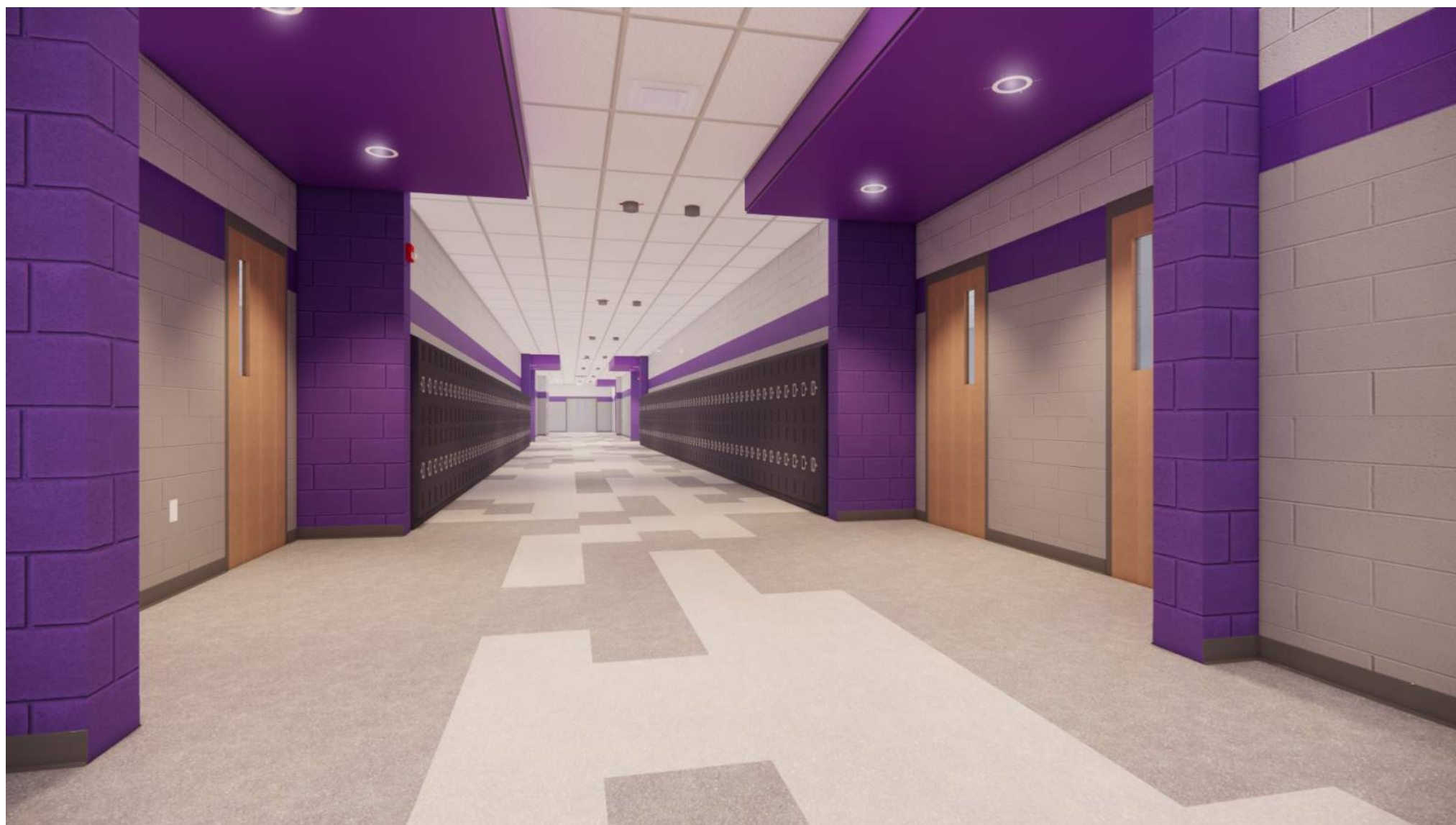


MIDDLE SCHOOL ADDITIONS

421 MO-124 E
HALLSVILLE MO, 65255

FOR:
HALLSVILLE SCHOOL DISTRICT

BY A/E FIRM:
KLINGNER & ASSOCIATES P.C.
907 East Ash Street
Columbia, Missouri 65201
Phone: (573) 355-5988



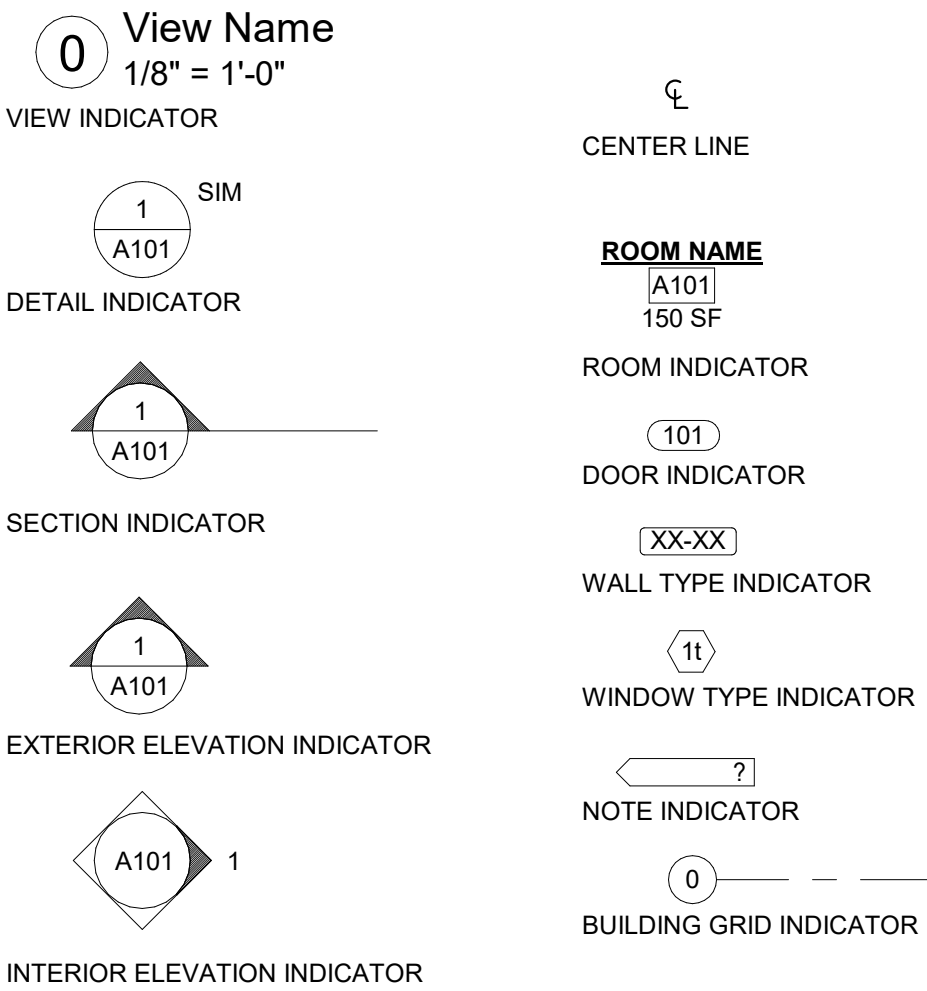
PROJECT LOCATION



GENERAL NOTES

- 1.) THE CONTRACTOR(S) SHALL CONFIRM CONDITIONS DESCRIBED HEREIN AND TELL THE ARCHITECT/ENGINEER OF ANY DISCREPANCIES AND INTERFERENCES ENCOUNTERED PRIOR TO BEGINNING CONSTRUCTION.
- 2.) THE CONTRACTOR(S) SHALL FIELD VERIFY EXISTING DIMENSIONS AND CONDITIONS AND NOTIFY THE ARCHITECT/ENGINEER OF ANY DISCREPANCIES AND INTERFERENCES ENCOUNTERED PRIOR TO BEGINNING CONSTRUCTION.
- 3.) THE CONTRACTOR(S) SHALL MEET ALL APPLICABLE CODES INCLUDING BUT NOT LIMITED TO:
- 2015 INTERNATIONAL BUILDING CODE
 - 2015 INTERNATIONAL EXISTING BUILDING CODE
 - 2015 INTERNATIONAL PLUMBING CODE
 - 2015 INTERNATIONAL MECHANICAL CODE
 - 2015 INTERNATIONAL PLUMBING CODE
 - 2015 INTERNATIONAL FUEL GAS CODE
 - 2015 INTERNATIONAL ENERGY CONSERVATION CODE
 - 2017 NATIONAL ELECTRIC CODE
 - ADA ACCESSIBILITY GUIDELINES WITH 2010 UPDATES
- 4.) THE CONTRACTOR(S) SHALL BE RESPONSIBLE FOR OSHA COMPLIANCE AND JOB SITE SAFETY.
- 5.) CONTRACTOR(S) SHALL FIELD VERIFY LOCATIONS OF ALL UTILITIES (PUBLIC AND PRIVATE) AT THE SITE BEFORE BEGINNING EXCAVATION OR CONSTRUCTION. ITEMS SHALL BE MARKED AND PROTECTED.
- 6.) KLINGNER & ASSOCIATES, P.C. PERFORMED AN ASBESTOS INSPECTION IN THE BUILDING AREAS PROPOSED FOR RENOVATION ON MARCH 29, 2019. NO ASBESTOS CONTAINING BUILDING MATERIALS WERE IDENTIFIED DURING THE INSPECTION. AN ELECTRONIC COPY OF THE ASBESTOS INSPECTION REPORT WILL BE PROVIDED UPON REQUEST. THE CONTRACTOR(S) SHALL REPORT ANY SUSPICIOUS (POTENTIALLY HAZARDOUS) MATERIALS AT THE SITE IMMEDIATELY TO THE OWNER FOR FURTHER ACTION. UNLESS NOTED SPECIFICALLY ON THE DRAWINGS OR PROJECT MANUAL, THE ARCHITECT/ENGINEER IS NOT AWARE OF ANY HAZARDOUS MATERIALS AND HAS NOT BEEN HIRED BY THE OWNER TO DEAL WITH SUCH.
- 7.) CONTRACTOR(S) SHALL TAKE PRECAUTIONS NECESSARY TO PROTECT ADJACENT PROPERTY FROM DAMAGE RESULTING FROM CONSTRUCTION ACTIVITIES.

NOTATION AND SYMBOL DISIGNATIONS



SHEET INDEX

SHEET NUMBER	SHEET NAME
G001	COVER SHEET
G101	CODE PLAN & REVIEW
C001	GENERAL NOTES AND LEGEND
CD101	EXISTING CONDITIONS & SITE DEMOLITION PLAN
C101	SITE DIMENSIONAL PLAN
C201	GRADING & EROSION CONTROL PLAN
C301	SITE UTILITY PLAN
C501	SITE DETAILS
C502	SITE DETAILS
AD101	ARCHITECTURAL DEMOLITION PLAN
A001	PARTITION TYPES & STANDARD MOUNTING HEIGHTS
A100	COMPOSITE FLOOR PLAN
A101	MAIN FLOOR PLAN
A201	INTERIOR FINISH PLAN & ELEVATIONS
A202	ENLARGED PLANS, ELEVATIONS & DETAILS
A203	SCIENCE CASEWORK PLANS, ELEVATIONS & DETAILS
A301	REFLECTED CEILING PLAN
A401	ROOF PLAN
A402	ROOF DETAILS
A501	EXTERIOR BUILDING ELEVATIONS
A601	BUILDING SECTIONS
A701	WALL SECTIONS
A702	WALL SECTIONS
A801	DETAILS
A901	OPENING SCHEDULES & DETAILS
S001	STRUCTURAL NOTES
S002	STRUCTURAL NOTES
S101	FOUNDATION PLAN
S102	SLAB PLAN
S103	FOUNDATION DETAILS
S104	FOUNDATION DETAILS
S105	FOUNDATION DETAILS
S106	FOUNDATION DETAILS
S201	ROOF FRAMING PLAN
S202	ROOF SLAB PLAN
S203	CONCRETE MASONRY, HEADER & LINTEL PLAN
S501	STRUCTURAL DETAILS
S502	STRUCTURAL DETAILS
S503	STRUCTURAL DETAILS
S504	SCHEDULES & STRUCTURAL DETAILS
S601	COLUMN SCHEDULE & DETAILS
MEP001	MEP SYMBOLS LIST
FP100	FIRE PROTECTION PLAN
P101	BELOW FLOOR PLUMBING PLAN
P102	ABOVE FLOOR PLUMBING PLAN
P103	PLUMBING ROOF PLAN
P501	PLUMBING DETAILS
P601	PLUMBING SCHEDULES
M101	MECHANICAL HYDRONIC PLAN
M102	MECHANICAL DUCTWORK PLAN
M103	MECHANICAL ROOF PLAN
M201	MECHANICAL ROOM ISOMETRIC
M401	AIR FLOW DIAGRAM
M501	MECHANICAL DETAILS
M601	MECHANICAL EQUIPMENT SCHEDULES
M701	CONTROLS SEQUENCE OF OPERATION
M702	CONTROLS SEQUENCE OF OPERATION
M703	CONTROLS SEQUENCE OF OPERATION
E100	POWER PLAN
E101	LIGHTING PLAN
E102	LOW VOLTAGE PLAN
E501	ELECTRICAL DETAILS
E601	ELECTRICAL SCHEDULES

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www.klingner.com
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Pella, IA, Davenport, IA, Hannibal, MO
907 East Ash St
573 355-5988

REVISION HISTORY			
Δ	DESCRIPTION	DATE	APPR

Klingner & Associates, P.C.
Missouri State Certificate of Authority
No. E-000865
ISSUED FOR 01/16/2023

BIDDING DOCUMENTS

HALLSVILLE MIDDLE SCHOOL ADDITION
HALLSVILLE SCHOOL DISTRICT
421 MO-124 E
HALLSVILLE MO, 65255

Non-Reduced Sheet Size 30" x 42"	
Full sized plans have been prepared using standard scales. Reduced sized plans may not conform to standard scales.	
DESIGNED	HMC
DRAWN	JRT
FIELD	FIELD BOOK
CHECKED	HMC
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SHEET TITLE

COVER SHEET

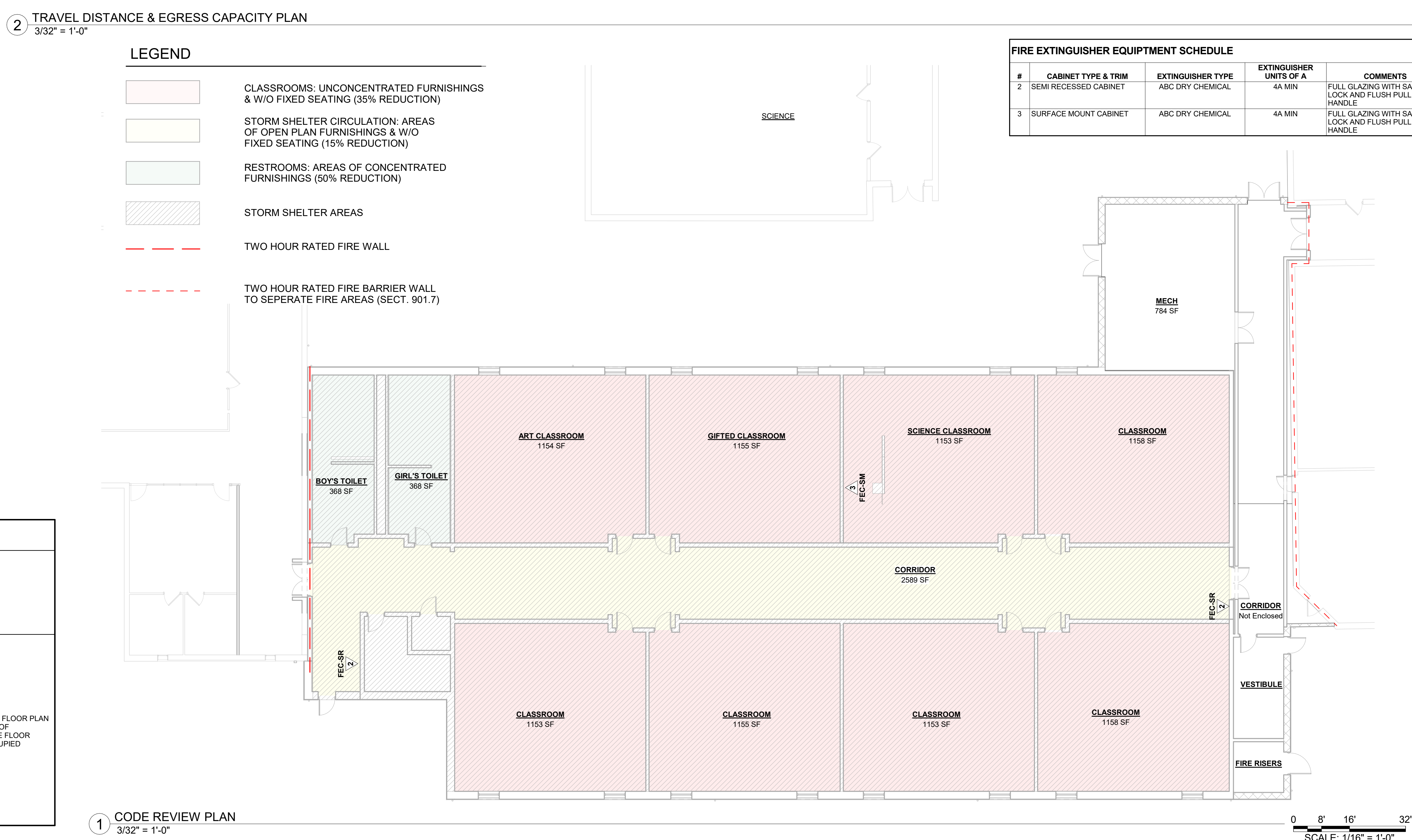
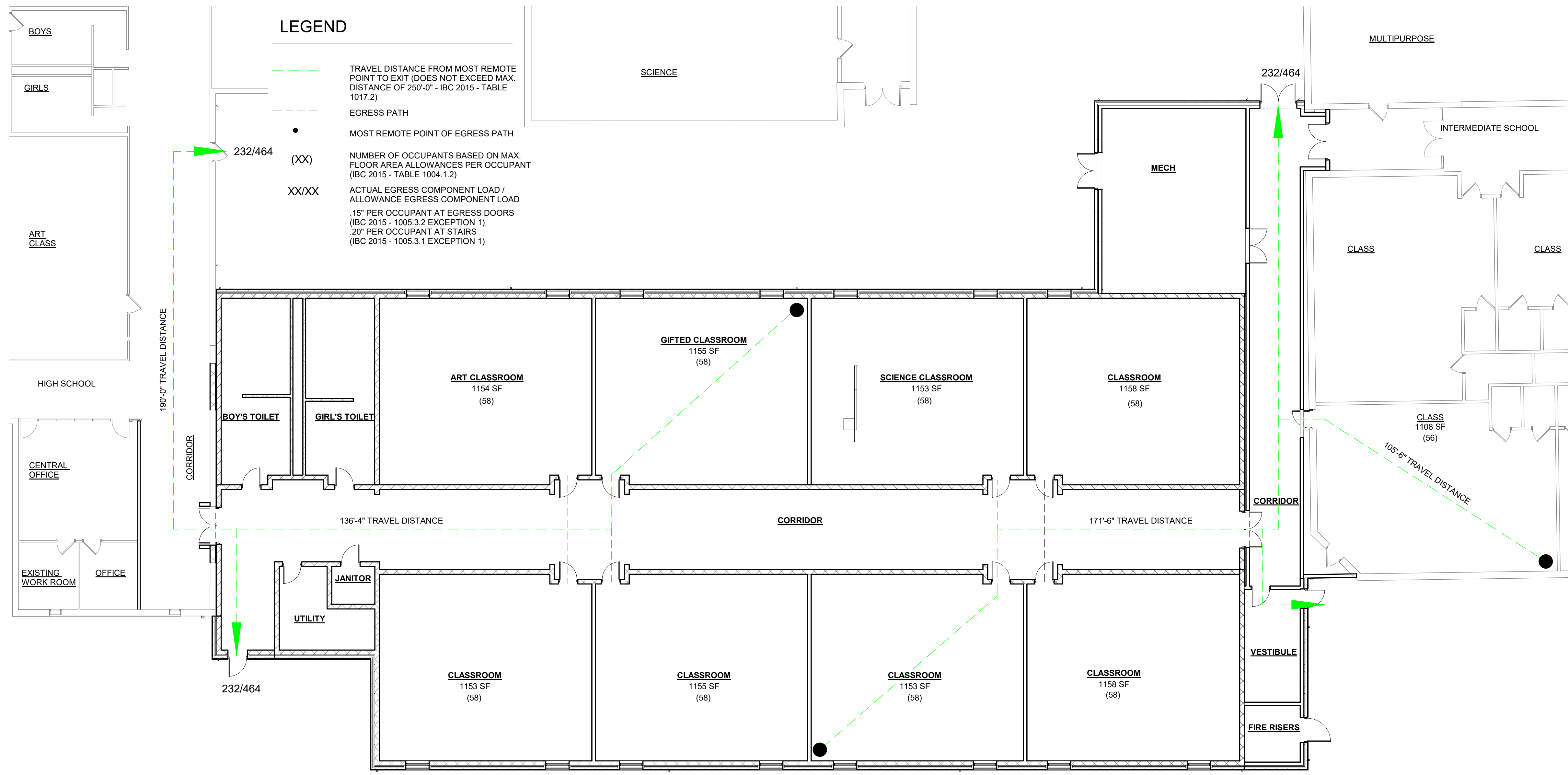
PROJECT NO.
21-0002
DRAWING ISSUED DATE:
01/16/2023
SHEET
G001

CODE REVIEW INFORMATION

JURISDICTION:	BOONE COUNTY, MO		
APPLICABLE CODES:	2015 INTERNATIONAL BUILDING CODE 2015 INTERNATIONAL FIRE CODE 2015 INTERNATIONAL PLUMBING CODE 2015 INTERNATIONAL MECHANICAL CODE 2017 NATIONAL ELECTRIC CODE 2015 INTERNATIONAL ENERGY CONSERVATION CODE		
BUILDING CODE INFORMATION (2015 I.B.C.):			
CODE SECTION / TABLE	CODE ALLOWABLE	PROPOSED ACTUAL	COMMENTS
CHAPTER 3 - USE & OCCUPANCY CLASSIFICATION SECT. 305 - EDUCATION	E	E	
CHAPTER 4 - SPECIAL DETAILED REQUIREMENTS BASED ON USE AND OCCUPANCY SECT. 423 - STORM SHELTERS: SEE "STORM SHELTER CODE REVIEW INFORMATION" THIS SHEET SECT. 423.4 - GROUP E OCCUPANCIES - ALL GROUP E OCCUPANCIES WITH AN AGGREGATE OCCUPANT LOAD OF 50 OR MORE SHALL HAVE A STORM SHELTER CONSTRUCTED IN ACCORDANCE WITH ICC 500			
CHAPTER 5 - GENERAL BUILDING HEIGHTS & AREAS TABLE 504.3 - ALLOWABLE BUILDING HEIGHT TABLE 504.4 - ALLOWABLE NUMBER OF STORIES TABLE 506.2 - ALLOWABLE AREA	75'-0" 3 STORIES 58,000 S.F.	LESS THAN 75'-0" 1 STORY 15,311 S.F.	S = SPRINKLERED
CHAPTER 6 - TYPES OF CONSTRUCTION SECT. 602.2 - TYPES 1 AND 2 TABLE 601 - FIRE-RESISTANCE RATING REQUIREMENTS FOR BUILDING ELEMENTS - PRIMARY STRUCTURAL FRAME - BEARING WALL EXTERIOR INTERIOR - NONBEARING WALLS & PARTITIONS EXTERIOR INTERIOR - ROOF CONSTRUCTION & ASSOCIATED SECONDARY MEMBERS	TYPE 2B 0 HR. 0 HR. 0 HR. 0 HR. 0 HR. 0 HR. 0 HR. 0 HR.	TYPE 2B 0 HR. 0 HR. 0 HR. 0 HR. 0 HR. 0 HR. 0 HR.	
CHAPTER 9 - FIRE PROTECTION SYSTEMS SECT. 903.2.3 - AUTOMATIC SPRINKLER SYSTEM SECT. 905 - STANDPIPE SYSTEMS	YES NO	YES NO	TOTAL BUILDING AREA EXCEEDS 12,000 S.F. (EXIST. BUILDING IS NOT SPRINKLERED)
CHAPTER 10 - MEANS OF EGRESS TABLE 1004.1.2 : CLASSROOMS SECT. 1005 - EGRESS SIZING; SECT. 1005.3.2 - OTHER EGRESS COMPONENTS, EXCEPTION 1 TABLE 1006.2.1 - SPACES WITH ONE EXIT - MAX. COMMON PATH OF EGRESS TRAVEL DISTANCE TABLE 1006.3.1 - MIN. NUMBER OF EXITS BASED ON OCCUPANT LOAD TABLE 1017.2 - EXIT ACCESS TRAVEL DISTANCE SECT. 1020.4.2 - DEAD ENDS	20 NET S.F. / OCCUPANT 15" PER OCCUPANT; 70" TOTAL EGRESS WIDTH REQUIRED 75'-0" MAX. 2 MIN. 250'-0" MAX. 50'-0" MAX.	464 OCCUPANTS DOOR OPENINGS MEET MIN. REQ'D WIDTH LESS THAN 75'-0" 2 EXITS PROVIDED LESS THAN 250'-0" LESS THAN 50'-0"	
CHAPTER 29 - PLUMBING SYSTEMS TABLE 2902.1 - MINIMUM NUMBER OF REQUIRED PLUMBING FIXTURES - WATER CLOSETS (1 per 50) - LAVATORIES (1 per 50) - DRINKING FOUNTAINS	 FOR EACH SEX: 5 W.C.'s (FOR MALES, URINALS CAN BE SUBSTITUTED FOR 67% OF W.C.'S) 5 LAVS EA. SEX 4 MIN	 5 W.C.'s PROVIDED FOR FEMALE AND 2 W.C.'s & 3 URINALS FOR MALES 5 LAVS PROVIDED FOR FOR EACH SEX 4 FOUNTAINS PROVIDED	

STORM SHELTER CODE REVIEW INFORMATION

CODE SECTION / TABLE	CODE ALLOWABLE	PROPOSED ACTUAL	COMMENTS
2018 INTERNATIONAL BUILDING CODE SPECIAL DETAILED REQUIREMENTS BASED ON USE & OCCUPANCY; SECTION 423 STORM SHELTERS SECTION 423.4 GROUP E OCCUPANCIES: GROUP E OCCUPANCIES WITH AN AGGREGATE OCCUPANT LOAD OF 50 OR MORE SHALL HAVE STORM SHELTER IN COMPLIANCE WITH ICC 500	SECT. 423.4.1 - EXCEPTION 1: WHERE A NEW BUILDING IS BEING ADDED ON AN EXISTING GROUP 'E' SITE... THE STORM SHELTER SHALL AT A MINIMUM ACCOMMODATE THE REQUIRED OCCUPANT CAPACITY FOR THE NEW BUILDING	CAPACITY SHALL HOLD A TOTAL OCCUPANCY OF NEW ADDITION AT A MINIMUM	
BUILDING CODE INFORMATION (ICC 500 - 2014): CHAPTER 5 - OCCUPANCY, MEANS OF EGRESS, ACCESS AND ACCESSIBILITY TABLE 501.1.1 - OCCUPANT DENSITY - COMMUNITY SHELTERS SECTION 501.1.2.1 - CALCULATION OF USABLE FLOOR AREA SECTION 501.1.3 - WHEELCHAIR SPACES SECTION 601 - FIRE-RESISTANT CONSTRUCTION	STANDING OR SEATED: 5 S.F. / OCC. WHEELCHAIR: 10 S.F. / OCC. A MINIMUM OF 466 OCCUPANTS THERE SHALL ONE WHEELCHAIR SPACE FOR EVERY 200 OCCUPANTS STORM SHELTER SHALL HAVE MIN. TWO HOUR SEPARATION FROM OTHER BUILDING AREAS	STANDING OR SEATED: 5 S.F. / OCC. WHEELCHAIR: 10 S.F. / OCC. ACTUAL OCCUPANT CAPACITY: 1,693 9 WHEELCHAIR SPACES ARE PROVIDED STORM AREA WILL HAVE TWO HOUR RATED SEPARATION	SEE CODE REVIEW FLOOR PLAN FOR BREAKDOWN OF INDIVIDUAL USABLE FLOOR AREAS TO BE OCCUPIED



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REVISION HISTORY			
DESCRIPTION	DATE	APPR	

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Klingner & Associates, P.C.
Missouri State Certificate of Authority

No. E-000866

ISSUED FOR **01/16/2023**

BIDDING DOCUMENTS



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Non-Reduced Sheet Size 30" x 42"	
Full sized plans have been prepared using standard scales. Reduced sized plans may not conform to standard scales.	
DESIGNED HMC	DRAWN JRT
FIELD	FIELD BOOK

CHECKED HMC	CHECK DATE
SHEET TITLE	
CODE PLAN &	

REVIEW
PROJECT NO. 21-5052
DRAWING ISSUED DATE: 01/16/2023

SHEET
G101

GENERAL NOTES

- ALL DIMENSIONS SHALL BE FIELD VERIFIED BY THE CONTRACTOR.
- ANY DISCREPANCIES BETWEEN SPECIFICATIONS, DRAWINGS, AND/OR SITE CONDITIONS SHALL BE REPORTED TO THE ENGINEER IMMEDIATELY.
- ALL AREAS DESIGNATED TO REMAIN UNDISTURBED SHALL BE PROTECTED BY THE CONTRACTOR THROUGHOUT CONSTRUCTION.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR STAKING THE LOCATION OF ALL PROPOSED IMPROVEMENTS, INCLUDING ROUGH AND FINISHED ELEVATIONS AND ALL OTHER PROPOSED IMPROVEMENTS INDICATED ON THE DRAWINGS.
- THE CONTRACTOR SHALL VERIFY THAT ALL APPLICABLE LOCAL, STATE, & FEDERAL CODES ARE FOLLOWED. ALL APPLICABLE LOCAL AND STATE NOTIFICATIONS AND PERMITS SHALL BE ACQUIRED PRIOR TO CONSTRUCTION, INCLUDING ALL NECESSARY UTILITY CONNECTION PERMITS FROM THE RESPECTIVE UTILITIES.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL TEMPORARY UTILITIES AND SERVICES REQUIRED DURING CONSTRUCTION.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING ALL REFERENCE POINTS, BENCHMARKS, MONUMENTS, STAKES, AND PROPERTY CORNERS DURING CONSTRUCTION. REPLACEMENT OF LOST REFERENCE POINTS SHALL BE AT THE CONTRACTORS EXPENSE.
- REMOVE ALL STRUCTURES, FOUNDATIONS, WALLS, PAVEMENTS, AND ALL OTHER ITEMS IN CONFLICT WITH PROPOSED IMPROVEMENTS IN ACCORDANCE WITH THE SPECIFICATIONS.
- REFERENCES TO "STANDARD SPECIFICATIONS" SHALL MEAN THE MISSOURI DEPARTMENT OF TRANSPORTATION, "MISSOURI STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION", LATEST EDITION.
- THE MEANS OF THE WORK AND THE SAFETY OF THE CONTRACTOR'S EMPLOYEES SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
- NO WORK SHALL BE PERFORMED BEYOND THE LIMITS OF CONSTRUCTION WITHOUT OWNER APPROVAL.
- SITE CLEAN-UP SHALL BE PERFORMED ON A DAILY BASIS. SIDEWALKS, PARKING LOTS, ROADWAYS, AND THE PROJECT SITE SHALL BE KEPT CLEAN AT ALL TIMES. CONTROL DUST IN AND AROUND ALL WORK AND STAGING AREAS.
- ALL OPEN EXCAVATIONS SHALL BE PROTECTED.
- MAINTAIN POSITIVE DRAINAGE ON THE SITE THROUGHOUT THE PROJECT DURATION.
- THE PROJECT SITE SHALL BE FENCED WITH A MINIMUM 6-FOOT HEIGHT TEMPORARY CHAIN LINK FENCE WITH TOP RAIL.
- IF A DISCREPANCY IN THE SPOT ELEVATIONS IS NOTED, THE CONTRACTOR SHALL NOTIFY THE ENGINEER PRIOR TO CONSTRUCTING. IF THERE IS A DISCREPANCY BETWEEN THE SPOT ELEVATIONS AND CONTOURS, THE CONTOURS SHALL GOVERN.

PAVEMENT NOTES

- PAVEMENT SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE MISSOURI DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS, LATEST EDITION.
- PROOF-ROLL SUBGRADE WITH A MINIMUM 25 TON G.V.W. TRUCK TO IDENTIFY AREAS OF SOFT OR UNSTABLE SUBGRADE. REMOVE AND REPLACE UNSTABLE AREAS WITH SUITABLE COMPACTED MATERIALS.
- 1/2 INCH PREFORMED EXPANSION JOINT MATERIAL SHALL BE PLACED BETWEEN NEW PAVEMENT CONSTRUCTION AND THE FACES OF BUILDINGS AND STOODS.
- PAVEMENT MARKING SHALL NOT BEGIN UNTIL PAVEMENT SURFACE HAS BEEN POWER BROOMED AND HAND SWEEP AS NECESSARY TO REMOVE LOOSE MATERIALS AND DIRT, AND NOT BEFORE ADEQUATE CURING TIME HAS BEEN OBTAINED ON THE PAVEMENT.
- ALL DIMENSIONS ARE TO EDGE OF PAVEMENT, EDGE OF BUILDING, OR PROPERTY LINES UNLESS OTHERWISE NOTED. ALL RADII ARE TO BACK OF CURB.

EROSION CONTROL NOTES

- EROSION CONTROL SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS, THE DETAILS IN THESE PLANS, AND THE MISSOURI DNR STANDARDS.
- THE EROSION CONTROL SHOWN ON THIS SET OF PLANS SHALL BE CONSIDERED THE MINIMUM ACCORDING TO PROJECT. THERE MAY BE ADDITIONAL EROSION CONTROL REQUIRED DUE TO THE VARIOUS CONSTRUCTION TECHNIQUES, WHICH MAY BE USED. THE CONTRACTOR IS RESPONSIBLE FOR CONTROLLING AND MAINTAINING ALL THE RUNOFF FROM THE SITE, IN A MANNER WHICH KEEPS ALL SILT ON SITE.
- A LAND DISTURBANCE CONSTRUCTION PERMIT IS NOT REQUIRED SINCE LESS THAN 1 ACRE OF LAND WILL BE DISTURBED BY GRADING OPERATIONS.
- ALL INLET PROTECTION AND TEMPORARY EROSION CONTROL MEASURES SHALL BE REMOVED UPON COMPLETION OF PAVING OPERATIONS AND FINAL STABILIZATION OF LANDSCAPED AND SEED AREAS.

GRADING NOTES

- TOPSOIL SHALL BE STRIPPED TO A DEPTH OF 6 INCHES WITHIN ALL PROPOSED BUILDING AND PAVEMENT AREAS AND STOCKPILED ON SITE FOR USE IN LANDSCAPE AREAS (COORDINATE WITH OWNER). IF ACCEPTABLE TOPSOIL IS NOT AVAILABLE ON SITE, THE CONTRACTOR SHALL PROVIDE IT TO A DEPTH OF 6 INCHES.
- TOPSOIL SHALL BE LOAMY IN NATURE, FREE FROM HARD CLODS, STIFF CLAY, SOD, STONES, ROOTS, STICKS, AND OTHER DEBRIS OVER 1 INCH IN SIZE. TOPSOIL SHALL BE FREE OF TOXIC MATERIALS AND SHALL HAVE A pH RANGE BETWEEN 5.5 AND 7.0.
- ALL EXCESS MATERIALS NOT USED FOR CONSTRUCTION OF THE PROJECT SHALL BE DISPOSED OFF SITE BY THE CONTRACTOR AT THE CONTRACTORS EXPENSE.
- PROPOSED CONTOURS ARE INTENDED TO PROVIDE A MIN. 1% SLOPE IN PAVEMENT AREAS AND 2% IN TURFED AREAS. CONTRACTORS SHALL BE RESPONSIBLE FOR PROVIDING A SMOOTH UNIFORM DRAINING SURFACE THAT DOES NOT CREATE PONDING WATER OR SHARP BREAKS. CONTOURS OR ELEVATIONS THAT WILL NOT PROVIDE SUCH SURFACE SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER/ARCHITECT IMMEDIATELY.
- FINAL ELEVATIONS INDICATED ARE THE FINISHED SURFACE ELEVATIONS, WHETHER GRASS, CONCRETE, PAVEMENT, OR MULCH. THE CONTRACTOR SHALL COORDINATE SUBGRADE ELEVATIONS TO ALLOW FOR PAVEMENT, CONCRETE OR MULCH DEPTHS.
- ALL DISTURBED AREAS NOT WITHIN PAVEMENT & LANDSCAPE AREAS SHALL BE SEEDED PER THE SPECIFICATIONS. THE AREAS INDICATED TO BE SEEDED ON THIS PLAN ARE ESTIMATED DISTURBED AREAS. DISTURBED AREAS OUTSIDE OF THOSE INDICATED SHALL BE SEEDED REGARDLESS OF THE LIMITS INDICATED.
- SLOPES 4:1 AND STEEPER SHALL RECEIVE A TEMPORARY EROSION CONTROL MAT PROVIDING PROTECTION FOR UP TO 12 MONTHS.

UTILITY NOTES

- THE LOCATION OF EXISTING UTILITIES IN CONSTRUCTION AREAS SHALL BE FIELD VERIFIED BY THE CONTRACTOR BY CONTACTING THE MISSOURI ONE CALL SYSTEM, INC. OR THE INDIVIDUAL UTILITIES NOT PARTICIPATING IN THIS SYSTEM. EXISTING UTILITIES TO REMAIN SHALL BE PROTECTED. ANY REPAIR OR RELOCATION REQUIRED, AS A RESULT OF DAMAGE BY CONSTRUCTION ACTIVITIES SHALL BE AT THE CONTRACTOR'S EXPENSE. THE CONTRACTOR SHALL PAY UTILITY PERMIT AND/OR INSPECTION FEES.
- UTILITY TRENCHES WITHIN PAVEMENT AREAS SHALL BE BACKFILLED WITH APPROVED COMPACTED GRANULAR BACKFILL.
- ALL ELECTRIC SHALL BE IN ACCORDANCE WITH THE NATIONAL ELECTRIC CODE, CURRENT VERSION.
- ADJUST ALL VALVES, MANHOLES, CASTINGS, GAS VENTS, ETC. TO MATCH THE NEW SURFACE. ADJUSTMENT SHALL BE COORDINATED WITH THE UTILITY COMPANIES AND THE COST FOR ALL ADJUSTMENTS SHALL BE INCIDENTAL TO THE CONSTRUCTION AT NO ADDITIONAL COST TO THE OWNER. REPAIR ANY DAMAGE TO SAID STRUCTURES AND APPURTENANCES THAT OCCUR DURING CONSTRUCTION.
- THE DRAWINGS INDICATE THE BEST KNOWLEDGE OF THE OWNER AND ENGINEER/ARCHITECT ON THE GENERAL LOCATION AND NATURE OF THE EXISTING AND OR PROPOSED UNDERGROUND UTILITIES IN THE AREA OF CONSTRUCTION. EXPLORATORY EXCAVATIONS AT THE SITE TO DETERMINE INSITU LOCATIONS WERE NOT CONDUCTED. QUALITY LEVEL "C" IN ACCORDANCE WITH C1AISC 38-02. STANDARD GUIDELINE FOR THE COLLECTION AND DEPICTION OF EXISTING SUBSURFACE UTILITY DATA, WAS UTILIZED. REGARDLESS OF THE LEVEL OF INVESTIGATION, THE UTILITIES SHOWN SHOULD NOT BE CONSIDERED A WARRANTY OR GUARANTEE OF ACTUAL PRESENCE OR LOCATION AND THE CONTRACTOR REMAINS RESPONSIBLE FOR THE LOCATION, VERIFICATION, AND PROPER NOTIFICATION OF POTENTIAL UTILITIES.

QUALITY LEVELS:

QUALITY LEVEL A - PROVIDES THE HIGHEST LEVEL OF ACCURACY, BY LOCATING OR POT-HOLING UTILITIES IN ADDITION TO QUALITY LEVELS B, C, AND D TASKS. THE LOCATED UTILITY INFRASTRUCTURE IS SURVEYED AND MAPPED TO DEVELOP PLAN AND PROFILE INFORMATION.

QUALITY LEVEL B - INVOLVES DESIGNATING THE HORIZONTAL POSITION OF SUBSURFACE UTILITIES THROUGH SURFACE DETECTION METHODS AND RECORDING THE INFORMATION THROUGH A SURVEY METHOD. IN ADDITION TO QUALITY LEVEL C AND D TASKS.

QUALITY LEVEL C - INVOLVES SURVEYING VISIBLE SUBSURFACE UTILITY STRUCTURES SUCH AS MANHOLES, HAND-HOLES, UTILITY VALVES AND METERS, FIRE HYDRANTS, PEDESTALS AND UTILITY MARKERS, AND THEN CORRELATING THE INFORMATION WITH EXISTING UTILITY RECORDS TO CREATE COMPOSITE DRAWINGS. IN ADDITION TO QUALITY LEVEL D TASKS

QUALITY LEVEL D - INVOLVES COLLECTING DATA FROM EXISTING UTILITY RECORDS, THAT MAY INCLUDE AS-BUILT DRAWINGS, DISTRIBUTION AND SERVICE MAPS, EXISTING GEOGRAPHIC INFORMATION SYSTEM DATABASE, CONSTRUCTION PLANS, ETC. DATABASES, CONSTRUCTION PLANS, ETC.

CITY OF HALLSVILLE
202 HWY 124 EAST - HALLSVILLE, MO
SITE PLAN REVIEW INFORMATION

PROPERTY OWNERSHIP & ZONING REQUIREMENTS

OWNER NAME: HALLSVILLE R-V SCHOOL DISTRICT
PROJECT LOCATION: 421 MO-124 E, HALLSVILLE, MO.
TELEPHONE: (573) 696-5512
OWNER CONTACT: JOHN DOWNS, SUPERINTENDENT
OWNER ADDRESS: 421 MO-124 E, HALLSVILLE, MO.

PROPERTY ZONING CLASSIFICATION: A-1- GENERAL AGRICULTURAL DISTRICT- PUBLIC BUILDINGS AND FACILITIES ARE PERMITTED IN THIS DISTRICT.

MIN. LOT AREA: NA
FRONT YARD: NA
SIDE YARDS REQUIRED: NA
REAR YARD REQUIRED: NA

ABBREVIATIONS

FL FLOWLINE ELEVATION
TC TOP OF CURB ELEVATION
GL GUTTER LINE ELEVATION
TG TOP OF GRATE ELEVATION
STA STATION
FES FLARED END SECTION
SWI STORM WATER INLET
FFE FINISH FLOOR ELEVATION
HP HIGH POINT
LP LOW POINT
TW TOP OF WALL ELEVATION
BW BOTTOM OF WALL ELEVATION
DS DOWNSPOUT
EP EDGE OF PAVEMENT ELEVATION
N.I.C. NOT IN CONTRACT

NOTE

UTILITY INFORMATION IS FOR THE CONVENIENCE OF THE CONTRACTOR. BEFORE CONSTRUCTION BEGINS THE CONTRACTOR SHALL CONTACT MISSOURI ONE CALL SYSTEM, INC. AT 811 OR 1-800-344-7483 AND THE INDIVIDUAL UTILITIES NOT INCLUDED IN THIS SYSTEM FOR THE LOCATION OF ALL EXISTING UTILITIES.

UTILITY INFORMATION:

WATER:
CITY OF HALLSVILLE: 573-696-3885
PWS# 4: 573-696-3511

ELECTRIC:
AMEREN MO, 1300 W LIBERTY ST., MEXICO, MO 65265
BRADY CUNNINGHAM, DISTRIBUTION DESIGN CONSULTANT,
CENTRAL MISSOURI DIVISION
OFFICE: 573-473-5663
CELL: 573-220-6202

NATURAL GAS:
AMEREN MO,
DAVID HAGENHOFF: 573-876-3030
dhagenhoff@ameren.com

SEWER:
MISSOURI AMERICAN WATER: 1-866-430-0820

COMMUNICATIONS:
MARK MCFERREN, OSP ENGINEER
BLUEBIRD NETWORK, LLC
800 NW CHIPMAN RD.
STE 5790
LEES SUMMIT, MO 64063
CELL: 816-716-4514
mark.mcferren@bluebirdnetwork.com

LEGEND

EXISTING	PROPOSED	
		PROPERTY LINE
		LOT LINE
		RIGHT OF WAY LINE
		CENTERLINE
		EASEMENT
		BUILDING SETBACK
		CONSTRUCTION LIMITS
		FENCE LINE
		CHAIN LINK FENCE
		FENCE W/ SQUARE POSTS
		STREAM
		STRUCTURE
		PAVEMENT MARKINGS
		EDGE OF PAVEMENT
		CURB AND GUTTER
		RAILROAD TRACKS
		WATER LINE
		FIRE PROTECTION
		GAS LINE
		OVERHEAD ELECTRIC
		UNDERGROUND ELECTRIC
		OVERHEAD TELEPHONE
		UNDERGROUND TELEPHONE
		CABLE TELEVISION
		FIBER OPTIC
		COMMUNICATION LINE
		STORM SEWER
		SANITARY SEWER
		FORCE MAIN
		COMBINED SEWER
		IRRIGATION SYSTEM
		MAST ARM SIGNAL (3 SIGNALS)
		MAST ARM SIGNALS (2 SIGNALS)
		UTILITY TRAFFIC SIGN
		SIGN
		MANHOLE
		STORM WATER INLET
		CATCH BASIN
		CLEANOUT
		CULVERT
		BOX CULVERT
		WATER VALVE
		FIRE HYDRANT
		POST INDICATOR VALVE
		WATER METER
		GAS VALVE
		GAS METER
		TELEPHONE PEDESTAL
		CABLE TV PEDESTAL
		ELECTRIC METER
		UTILITY POLE
		LIGHT STANDARD
		LIGHT POLE
		GUY WIRE
		SUMMIT / HIGH POINT
		CONTOURS
		INDEX CONTOURS
		DIRECTION OF DRAINAGE
		SPOT ELEVATION
		DECIDUOUS SHRUB
		DECIDUOUS TREE
		CONIFEROUS SHRUB
		CONIFEROUS TREE

NOTE

UTILITY INFORMATION IS FOR THE CONVENIENCE OF THE CONTRACTOR. BEFORE CONSTRUCTION BEGINS THE CONTRACTOR SHALL CONTACT MISSOURI ONE CALL SYSTEM, INC. AT 811 OR 1-800-344-7483 AND THE INDIVIDUAL UTILITIES NOT INCLUDED IN THIS SYSTEM FOR THE LOCATION OF ALL EXISTING UTILITIES.



Know what's below.
Call before you dig.

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REV	DESCRIPTION	DATE	APPR
1			

Klingner & Associates, P.C.
Missouri State Certificate of Authority
No. E-000866

SUED FOR 01/16/2023

STATE OF MISSOURI
CURT STEPHEN
WAVERING
NUMBER
E-2011009046
PROFESSIONAL ENGINEER

Curt S. Wavering - Engineer
MO# 2011009046

Non-Reduced Sheet Size 30" x 42"

DESIGNED DCD	DRAWN DCD
ELD ECB/MCP	FIELD BOOK M96B/55
CHECKED CSW	CHECK DATE 01/05/2023

PROJECT NO.	21-5052
DRAWING ISSUED DATE:	01/16/2023
SHEET	

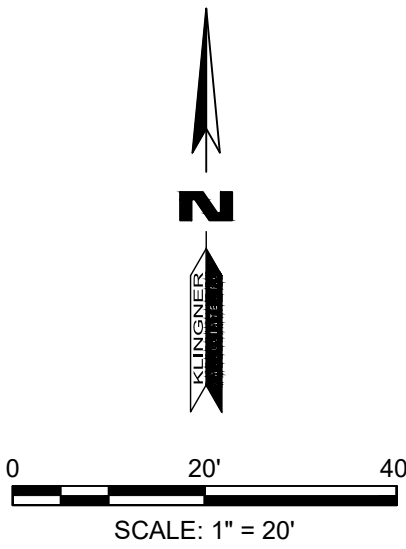
CD101

 REMOVALS BY CONTRACTOR

SAWCUT

1. REMOVE ALL EXISTING PAVEMENTS, CURBS, WALLS, LANDSCAPING, AND ALL OTHER EXISTING SITE FEATURES IN CONFLICT WITH PROPOSED IMPROVEMENTS.
2. COORDINATE UTILITY REMOVALS AND/OR RELOCATIONS WITH THE RESPECTIVE UTILITY COMPANIES AND/OR THE CITY OF HALLSVILLE.
3. DEMOLITION SHALL INCLUDE REMOVAL & PROPER DISPOSAL OF MATERIALS.
4. CONTRACTOR TO PAY ALL PERMIT & DISPOSAL FEES.

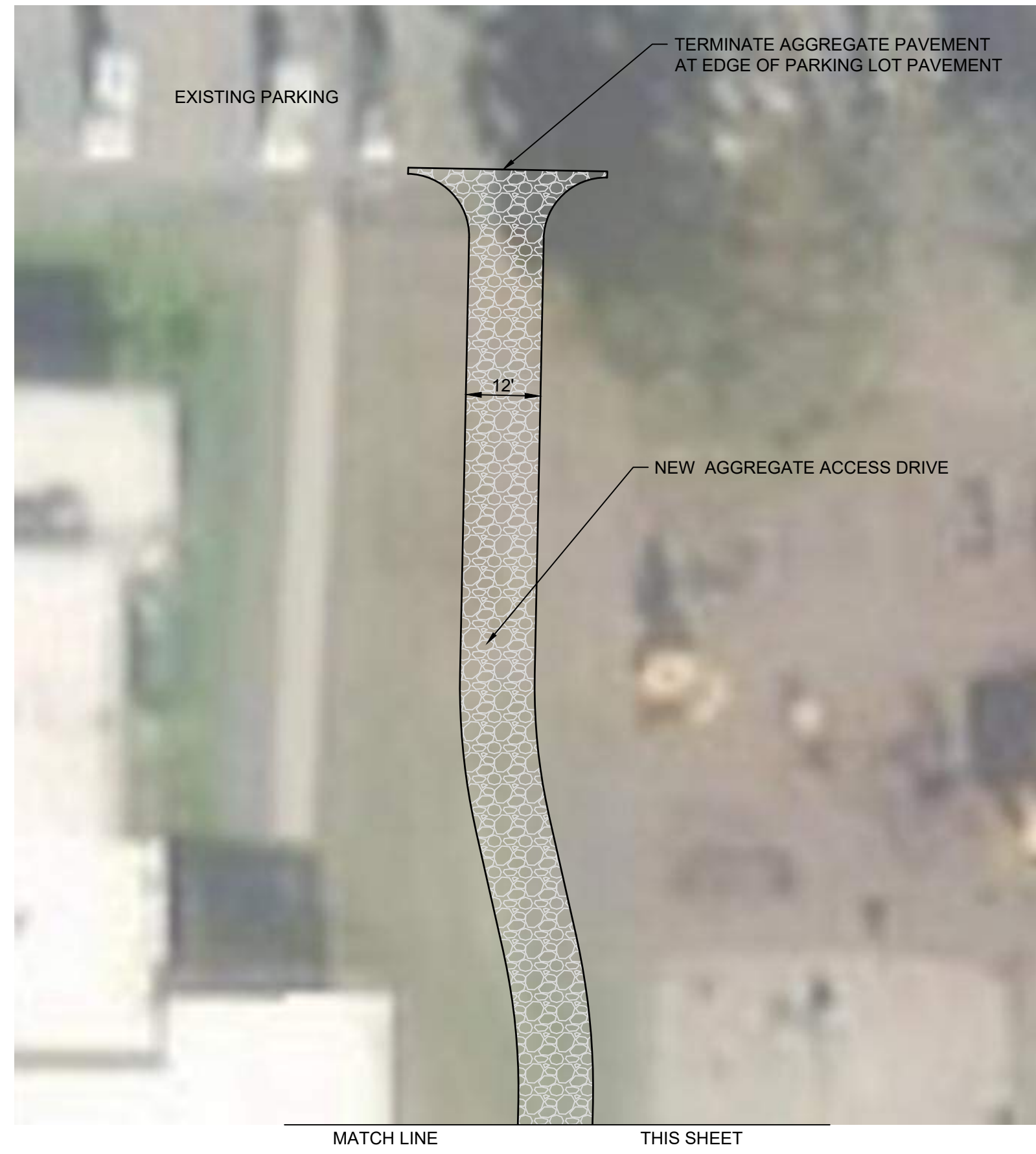
- 01 REMOVE PAVEMENT, SAWCUT AT REMOVAL LIMITS TO PROVIDE UNIFORM EDGE.
- 02 REMOVE SIDEWALK TO NEAREST JOINT.
- 03 REMOVE INLET, SALVAGE FRAME & GRATE TO OWNER.
- 04 REMOVE PRIMARY ELECTRIC.
- 05> REMOVE CHAIN LINK FENCE.
- 06 RELOCATE EXISTING FIBEROPTIC LINE AT LEAST 2 FEET BELOW BOTTOM OF FOOTING TO AVOID INTERFERENCE WITH FOUNDATION FOOTING. COORDINATE WITH BLUEBIRD NETWORK.
- 07 REMOVE TREE, STUMP AND ROOT BALL.
- 08> REMOVE STORM SEWER.
- 09 REMOVE PVC RISERS AND ASSOCIATED PIPING IN CONFLICT WITH PROPOSED IMPROVEMENTS. REROUTE ASSOCIATED PIPING IF ACTIVE, IF NOT ACTIVE, ABANDON IN PLACE (ALTERNATE BID #1).
- 10 APPROXIMATE LOCATION OF PRIVATE EXISTING FIBER OPTIC LINE SHOW. FIELD VERIFY THE ACTUAL LOCATION. REFEED INTERMEDIATE SCHOOL WING BY ROUTING FIBER OPTIC LINE THROUGH MECHANICAL ROOM OF MIDDLE SCHOOL ADDITION. PROVIDE TEMPORARY FIBER OPTIC CONNECTIVITY BETWEEN BUILDINGS AS REQUIRED TO FACILITATE CONSTRUCTION PROCESS.
- 11 REMOVE AND REPLACE WITH NEW UTILITY TRANSFORMER IN NEW LOCATION.
- 12 VIDEO INSPECT EXISTING LATERAL LINES TO DETERMINE IF ACTIVE (BASE BID). IF NOT ACTIVE, ABANDON AND CAP. IF ACTIVE, COORDINATE WITH OWNER & ENGINEER.
- 13 REMOVE ELECTRIC FEEDER TO NEW JUNCTION BOX LOCATION.



BENCHMARKS:

2. SOUTHEAST CORNER CONCRETE PAD FOR ELECTRIC TRANSFORMER
SOUTHEAST CORNER BASEBALL FIELD - ELEV 899.64 (FROM TOPOGRAPHIC
SURVEY BY ALLSTATE CONSULTANTS, P.C. JOB #04345.01)

5. CHISELED "+" SOUTH FLANGE BOLT FIRE HYDRANT IN ISLAND EAST OF
SCHOOL - ELEV 902.32



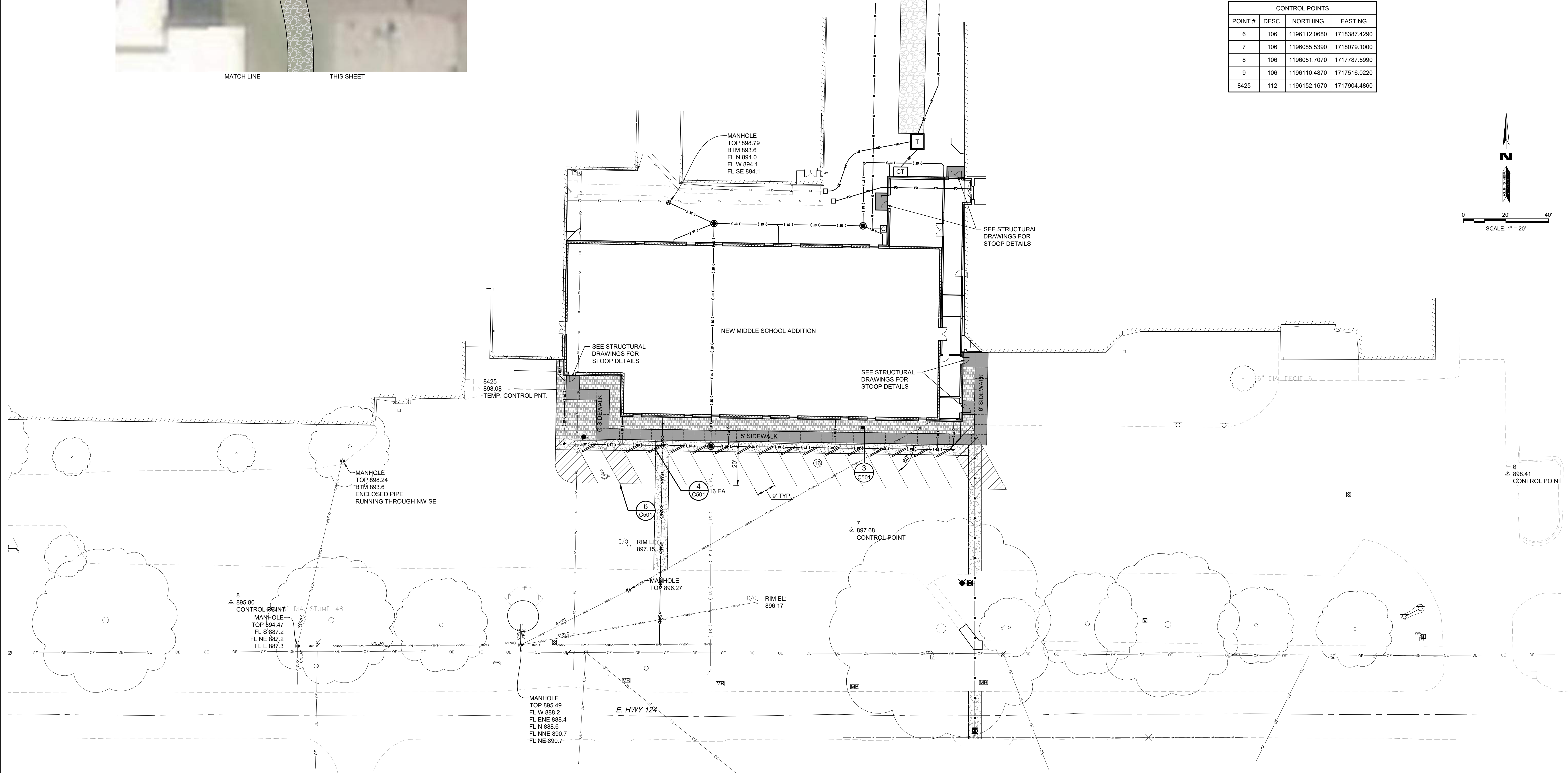
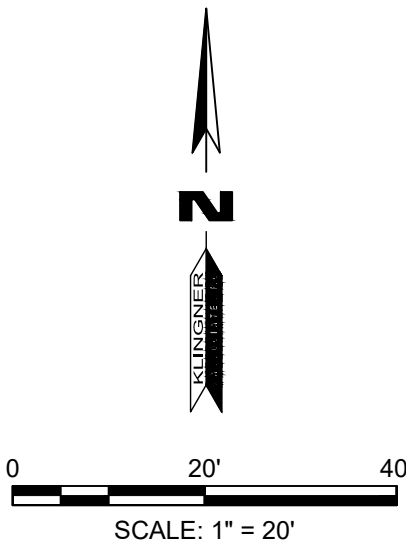
PAVEMENT JOINT LEGEND

- EJ - EXPANSION JOINT
- TJ OR DJ - TIED JOINT
- SJ - SAWED JOINT

PAVEMENT HATCH LEGEND

- 6.5" CONCRETE PAVEMENT (DETAIL 1/C501)
- AGGREGATE PAVEMENT (DETAIL 2/C501)
- PCC SIDEWALK (DETAIL 3/C501)
- ROCK MULCH (3/4" TRAP ROCK)

CONTROL POINTS				
POINT #	DESC.	NORTHING	EASTING	
6	106	1196112.0680	1718387.4290	
7	106	1196085.5390	1718079.1000	
8	106	1196051.7070	1717787.5990	
9	106	1196110.4870	1717516.0220	
8425	112	1196152.1670	1717904.4860	



BENCHMARKS:
2. SOUTHEAST CORNER CONCRETE PAD FOR ELECTRIC TRANSFORMER
SOUTHEAST CORNER BASEBALL FIELD - ELEV 899.84 (FROM TOPOGRAPHIC
SURVEY BY ALLSTATE CONSULTANTS, P.C. JOB #04345.01)
5. CHISELED "x" SOUTH FLANGE BOLT FIRE HYDRANT IN ISLAND EAST OF
SCHOOL - ELEV 902.32

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Curt S. Wavering - Engineer
MO# 2011009046

HALLSVILLE MIDDLE SCHOOL ADDITION HALLSVILLE SCHOOL DISTRICT 421 MO-124 E HALLSVILLE MO, 65255

Non-Reduced Sheet Size 30" x 42"
Full sheet plans have been prepared using standard scales.
Reduced sheet plans may not conform to standard scales.

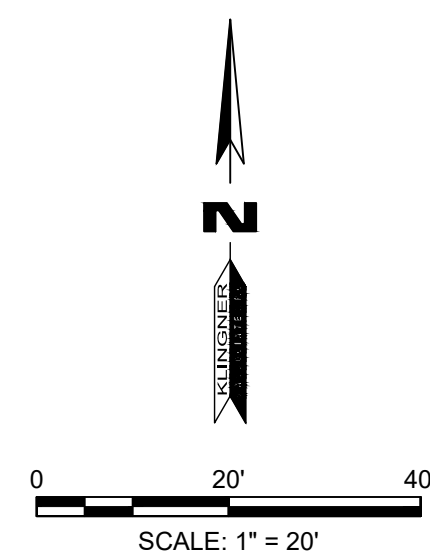
DESIGNED DCD	DRAWN DCD
FIELD ECS/MCP	FIELD BOOK MSB/05
CHECKED CSW	CHECK DATE 01/05/2023

SHEET TITLE

SITE DIMENSIONAL PLAN

PROJECT NO.
21-0022
DRAWING ISSUED DATE:
01/16/2023
SHEET

C101



BENCHMARKS:

2. SOUTHEAST CORNER CONCRETE PAD FOR ELECTRIC TRANSFORMER, SOUTHEAST CORNER BASEBALL FIELD - ELEV 899.64 (FROM TOPOGRAPHIC SURVEY BY ALLSTATE CONSULTANTS, P.C. JOB #04345.01)

5. CHISELED "+" SOUTH FLANGE BOLT FIRE HYDRANT IN ISLAND EAST OF SCHOOL - ELEV 902.32

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Curt S. Wavering - Engineer
MO# 2011009046

HALLSVILLE MIDDLE SCHOOL ADDITION
HALLSVILLE SCHOOL DISTRICT
421 MO-124 E
HALLSVILLE MO, 65255

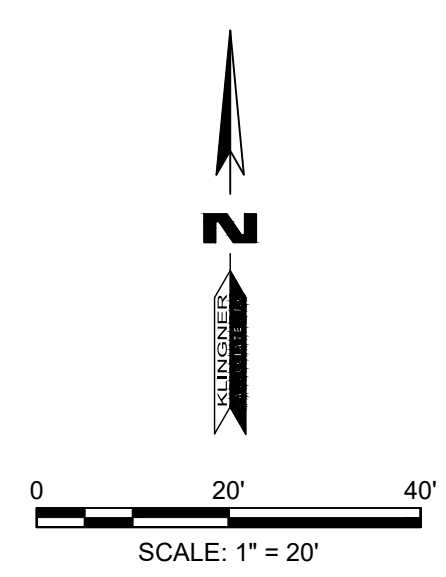
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DESIGNED DCD	DRAWN DCD
FIELD ECB/MCP	FIELD BOOK M96B/55
CHECKED CSW	CHECK DATE 01/05/2023
SHEET TITLE	

GRADING & EROSION CONTROL PLAN

PROJECT NO.	21-5052
DRAWING ISSUED DATE:	01/16/2023
SHEET	C201



STRUCT. NO.	TOP	FLOWLINES	DESCRIPTION	GRATE TYPE
1	898.60	N-892.40 W-894.00 S-892.30 E-895.00	4'Ø FLAT TOP MANHOLE (DETAIL 8/C502)	NEENAH R-2533 FRAME & TYPE A GRATE
2	898.40	893.90	6'Ø FLAT TOP MANHOLE (DETAIL 8/C502)	NEENAH R-2533 FRAME & TYPE A GRATE
3	899.00	894.60	4'Ø FLAT TOP MANHOLE (DETAIL 8/C502)	NEENAH R-2533 FRAME & TYPE A GRATE
4	EXISTING	894.10	EXISTING MANHOLE	EXISTING
5	899.10	896.10	CLEANOUT (DETAIL 7/C502)	TRAFFIC RATED
6	899.40	895.00	CLEANOUT (DETAIL 7/C502)	NON-TRAFFIC
7	898.05	895.00	CLEANOUT (DETAIL 7/C502)	NON-TRAFFIC

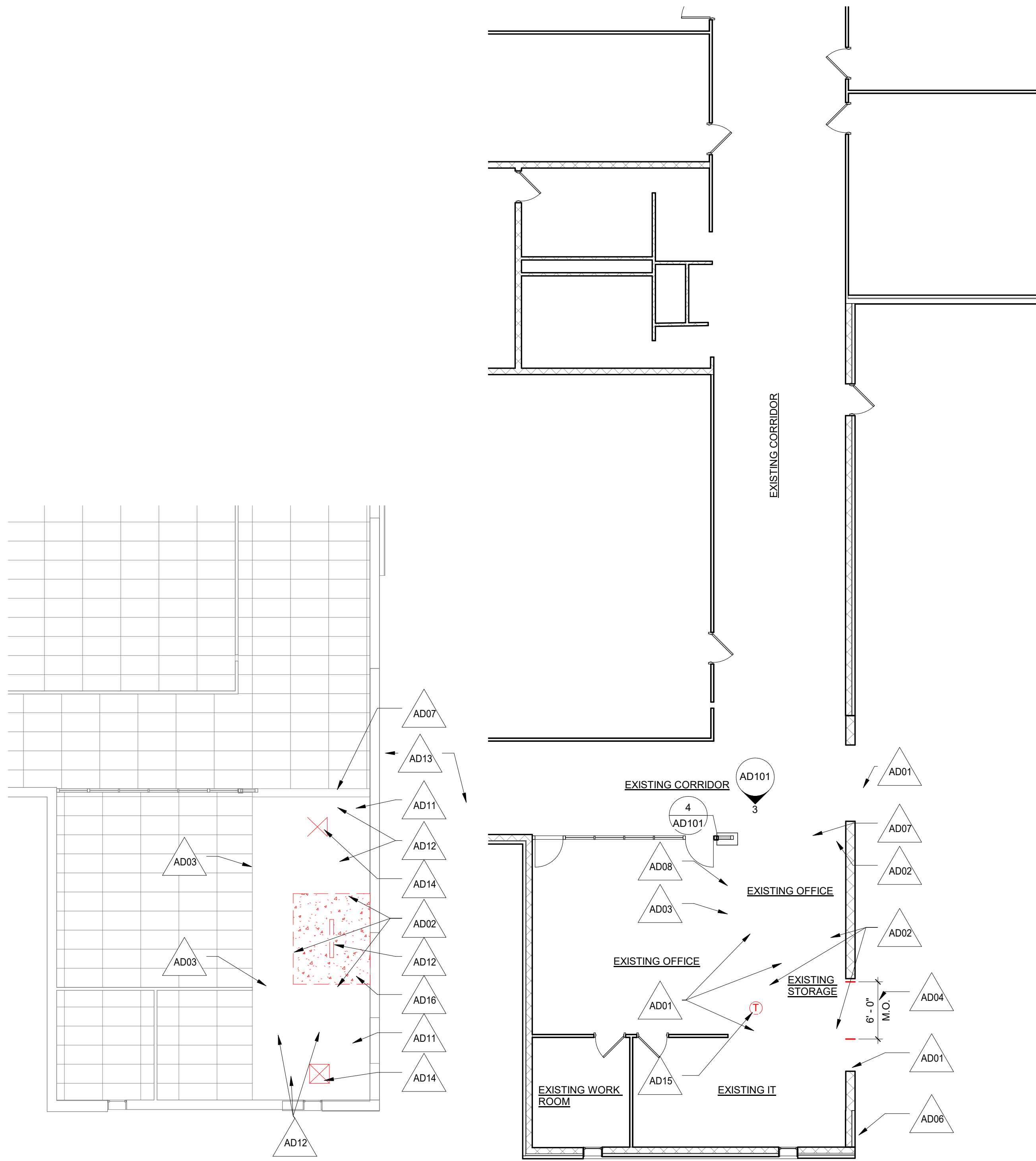


BENCHMARKS:

2. SOUTHEAST CORNER CONCRETE PAD FOR ELECTRIC TRANSFORMER
SOUTHEAST CORNER BASEBALL FIELD - ELEV 899.64 (FROM TOPOGRAPHIC
SURVEY BY ALLSTATE CONSULTANTS, P.C. JOB #04345.01)

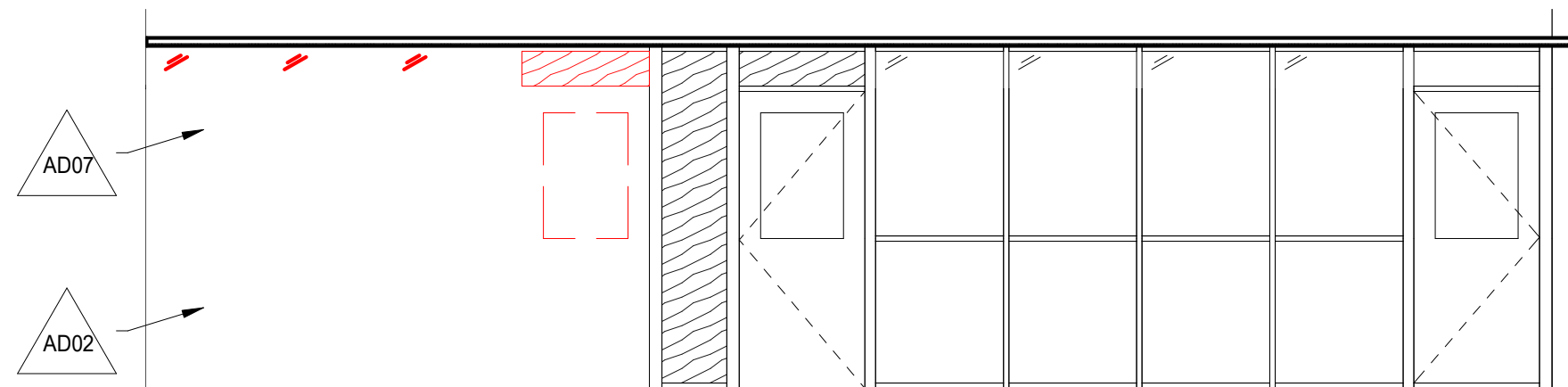
5. CHISELED "*" SOUTH FLANGE BOLT FIRE HYDRANT IN ISLAND EAST OF
SCHOOL - ELEV 902.32

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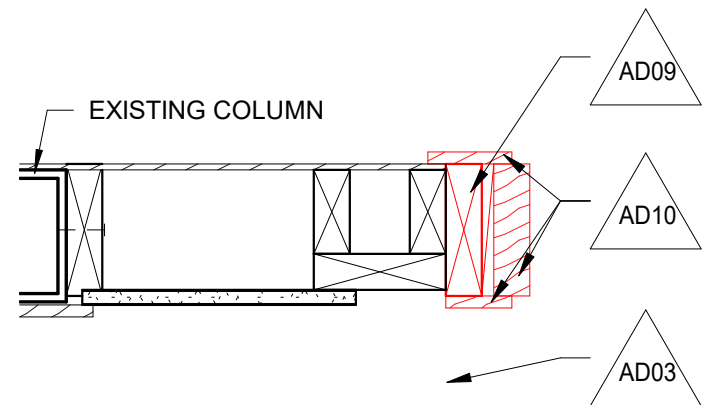


1 DEMO REFLECTED CEILING PLAN
1/8" = 1'-0"

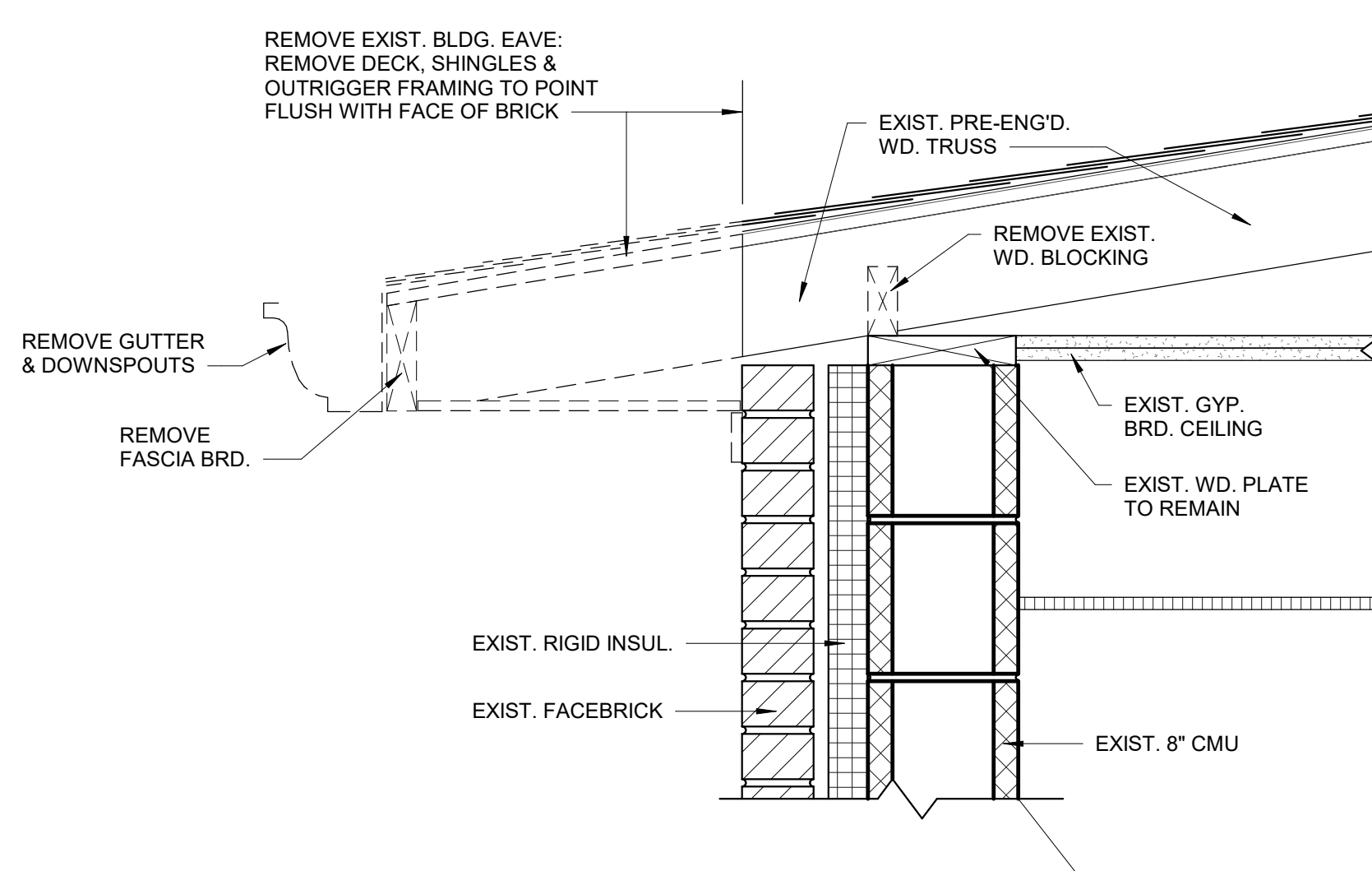
2 DEMO PLAN
1/8" = 1'-0"



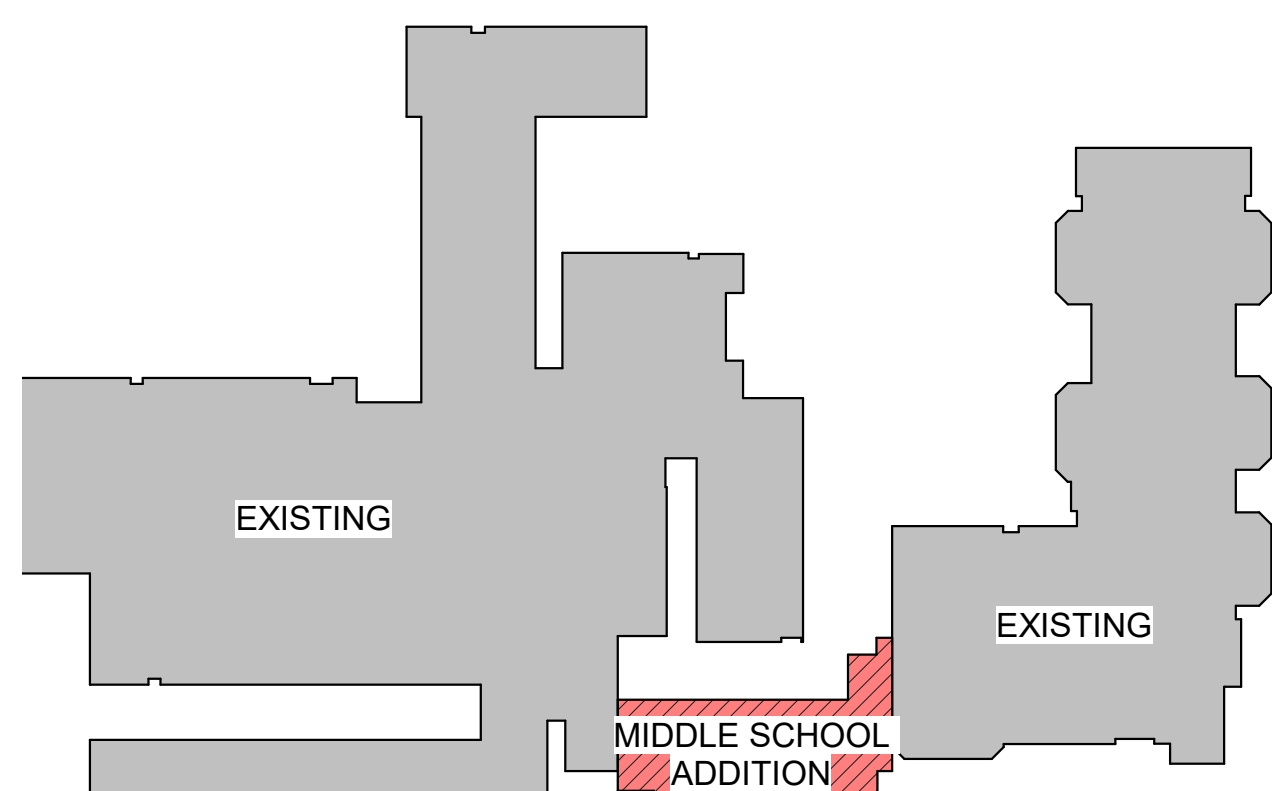
3 DEMO STOREFRONT INTERIOR ELEVATION
1/4" = 1'-0"



4 DEMO STOREFRONT JAMB DETAIL
1 1/2" = 1'-0"



5 DEMO - INTERMEDIATE BLDG EAVE DETAIL
1 1/2" = 1'-0"



KEY PLAN- MIDDLE SCHOOL ADDITION

0 4' 8' 16'
SCALE: 1/8" = 1'-0"

DEMOLITION NOTES: INDICATES DEMOLITION NOTES KEYNOTED ON FLOOR PLAN

- | | |
|---|---|
| 01 REMOVE EXISTING HOLLOW METAL DOOR AND FRAME. | 10 REMOVE EXISTING TRIM. |
| 02 REMOVE EXISTING INTERIOR MASONRY WALL. | 11 REMOVE EXISTING CEILING. |
| 03 REMOVE EXISTING INTERIOR METAL STUD WALL. | 12 REMOVE EXISTING LIGHT. |
| 04 REMOVE PORTION OF EXISTING EXTERIOR CMU WALL. | 13 REMOVE EXISTING GUTTER. |
| 05 REMOVE PORTION OF EXISTING VERTICALLY REINFORCED CMU WALL. | 14 REMOVE EXISTING SUPPLY GRILL AND DUCTWORK SHALL BE MODIFIED TO ALLOW SUPPLY TO BE RELOCATED TO OFFICE AREA. EXISTING SUPPLY GRILLE CAN BE RE-USED. |
| 06 REMOVE EXISTING DOWNSPOUT. | 15 RELOCATE THERMOSTAT TO A NEW WALL. |
| 07 REMOVE EXISTING INTERIOR STOREFRONT SYSTEM. | 16 DEMOLISH EXISTING CONCRETE LID BELOW JOIST LINE. |
| 08 REMOVE EXISTING INTERIOR WINDOW. | 16 DEMOLISH EXISTING EXTERIOR STOREFRONT SYSTEM AND HEADER. |
| 09 REMOVE EXISTING 2 X 6 FRAMING. | |

GENERAL DEMOLITION NOTES:

- 01 DASHED LINES INDICATE ITEMS TO BE REMOVED.
- 02 ALL MATERIALS NOTED TO BE REMOVED SHALL BE REMOVED IN THEIR ENTIRETY FROM SITE. ALL WASTE MATERIALS SHALL BE TRANSPORTED AND APPROPRIATELY DISPOSED-OF IN ACCORDANCE WITH APPLICABLE STATE AND FEDERAL LAWS.

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HALLSVILLE MIDDLE SCHOOL ADDITION
HALLSVILLE SCHOOL DISTRICT
421 MO-124 E
HALLSVILLE MO, 65255

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FIELD HMC	FIELD BOOK
CHECKED HMC	CHECK DATE
SHEET TITLE	

ARCHITECTURAL DEMOLITION PLAN

PROJECT NO. 21-5052
DRAWING ISSUED DATE: 01/16/2023
SHEET

AD101

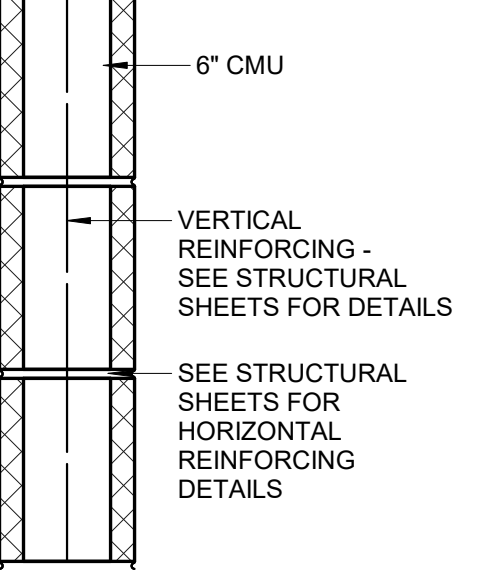
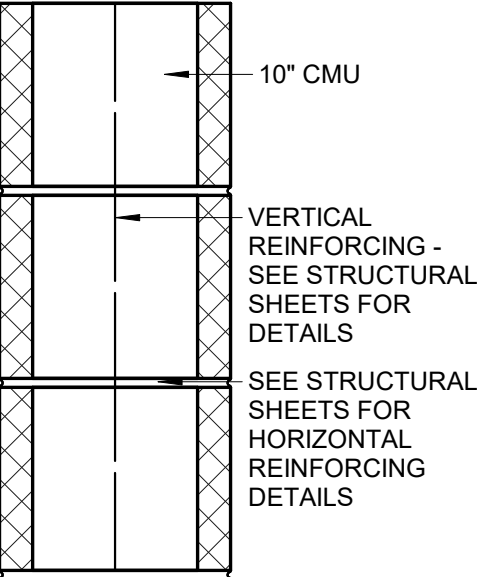
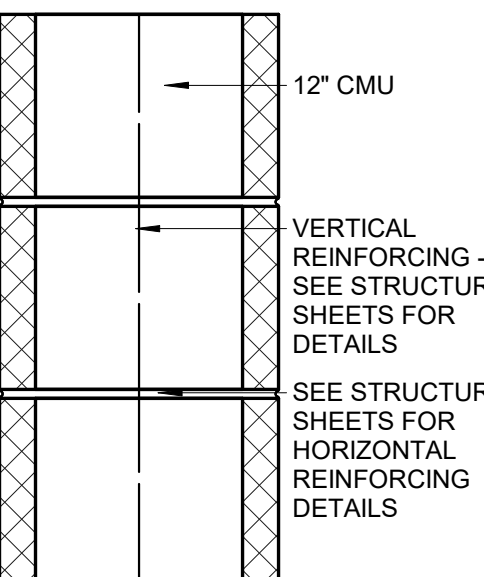
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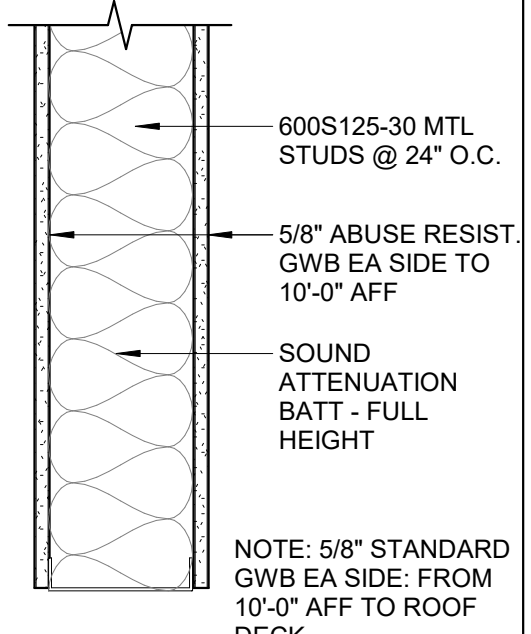
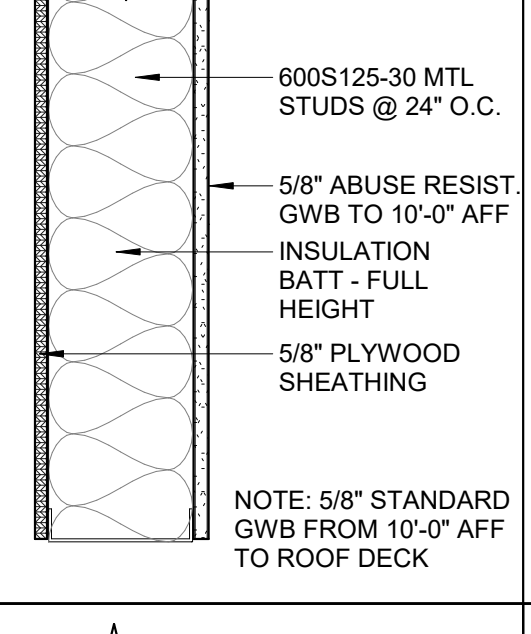
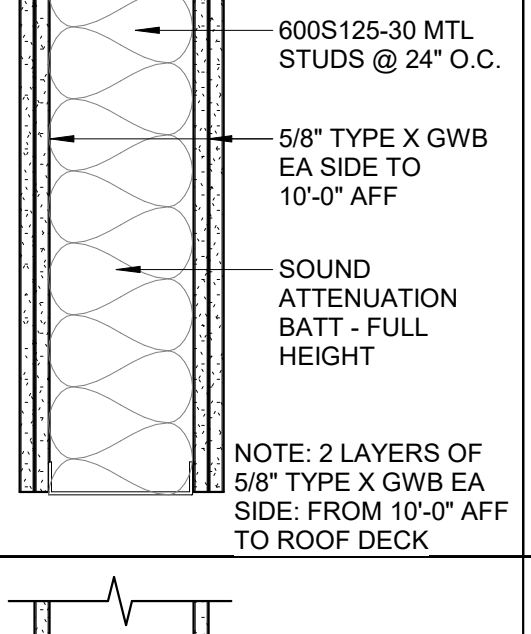
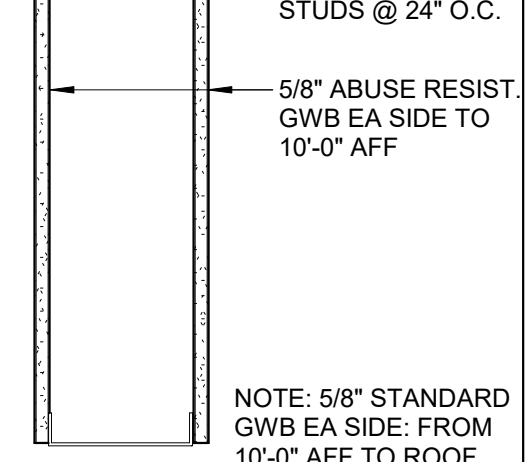
GENERAL NOTES (PARTITION TYPES)

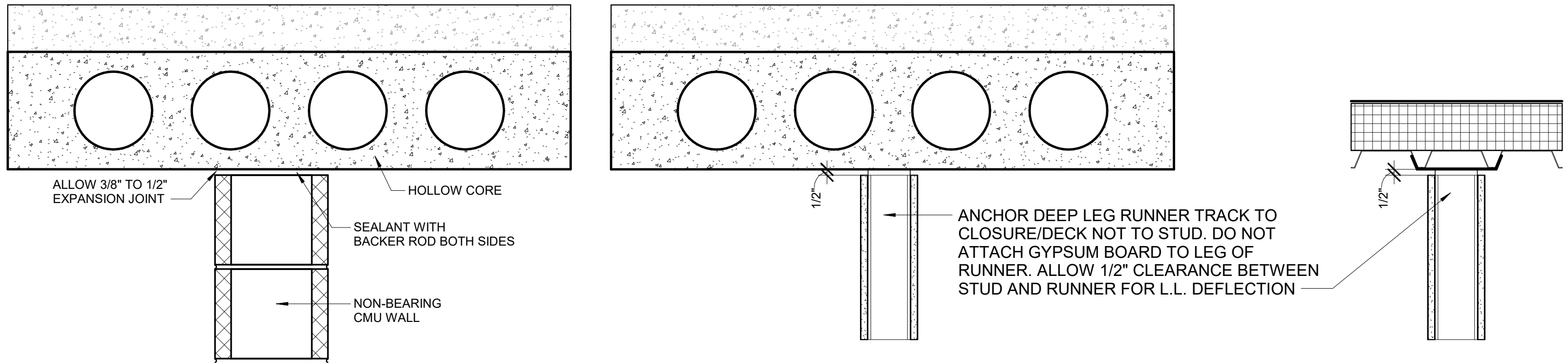
1. PROVIDE BEAD OF ACOUSTICAL SEALANT AT JOINT WHERE GYPSUM BOARD MEETS FLOOR SURFACE AND WHERE GYPSUM BOARD MEETS DISSIMILAR SURFACE (EACH SIDE OF PARTITION WALL).
2. PROVIDE "LEVEL 1" GYPSUM BOARD FINISH AT ALL AREAS OF PARTITION WALLS ABOVE CEILING WHERE CONCEALED FROM VIEW.
3. PROVIDE DIAGONAL BRACING OF ALL METAL STUD PARTITIONS THAT DO NOT EXTEND FULL HEIGHT TO ROOF DECK. PLACE BRACING @ 48" O.C. AND SECURE FROM TOP OF WALL ABOVE CEILING BACK DIAGONALLY TO ROOF JOISTS. PROVIDE CROSS BRACING BETWEEN ROOF JOISTS WHERE NECESSARY.
4. SEE SPEC. SECT. 092900 FOR DESCRIPTION OF GWB TYPES.
5. GYPSUM BOARD CONTROL JOINTS @ 30'-0" O.C. MAX. LOCATE AT DOOR HEADS.
6. SEE STRUCTURAL FOR LOAD BEARING WALLS.
7. BULLNOSE ALL EXPOSED CMU WALL PARTITION CORNERS.

MASONRY PARTITION TYPES

	A 6"Wx8"Hx16"L (NOMINAL) CMU 12' HEIGHT - SEE STRUCTURAL
	B ICC 500 RATED STORM SHELTER WALL CONSTRUCTION - 2HR RATED WALL 10"Wx8"Hx16"L (NOMINAL) CMU HEIGHT TO BOTTOM OF FLOOR/DECK ABOVE - FULLY GROUT EACH CORE - SEE STRUCTURAL FOR REINFORCING DETAILS
	C 12"Wx8"Hx16"L (NOMINAL) CMU HEIGHT TO BOTTOM OF FLOOR/DECK ABOVE

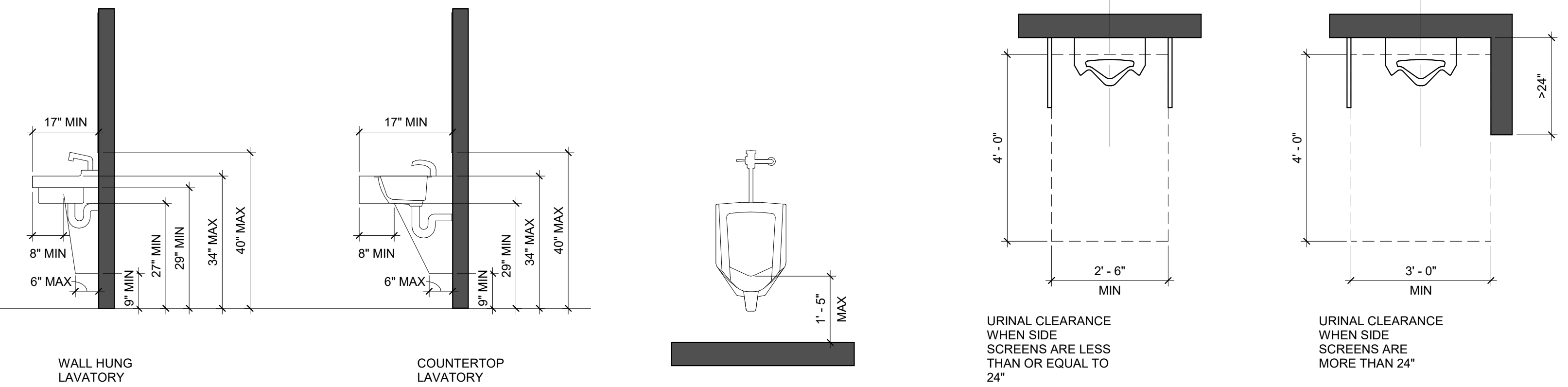
METAL STUD PARTITION TYPES

	D PARTITION TO EXTEND TO BOTTOM OF ROOF DECK. SEE "HEAD-OF-WALL" DETAIL THIS SHEET.
	E PARTITION TO EXTEND TO BOTTOM OF ROOF DECK. SEE "HEAD-OF-WALL" DETAIL THIS SHEET.
	F PARTITION TO EXTEND TO BOTTOM OF ROOF DECK. SEE "HEAD-OF-WALL" DETAIL THIS SHEET.
	G PARTITION TO EXTEND TO BOTTOM OF ROOF DECK. SEE "HEAD-OF-WALL" DETAIL THIS SHEET.



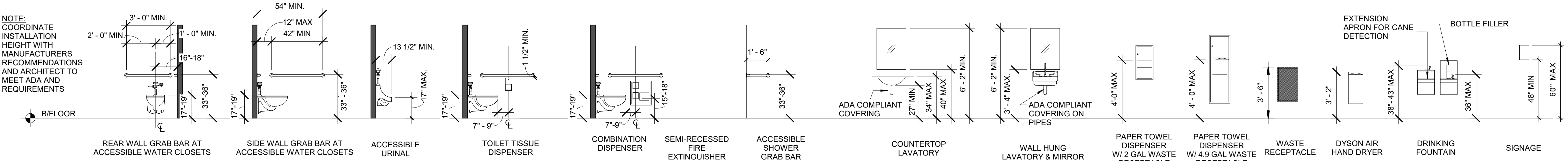
1 HEAD OF WALL DETAIL @ CMU
1 1/2" = 1'-0"

2 HEAD-OF-WALL DETAIL @ METAL STUD
1 1/2" = 1'-0"



LAVATORY CLEARANCEES
1/2" = 1'-0"

URINAL ADA CLEARANCES
1/2" = 1'-0"



ADA MOUNTING HEIGHTS
1/4" = 1'-0"

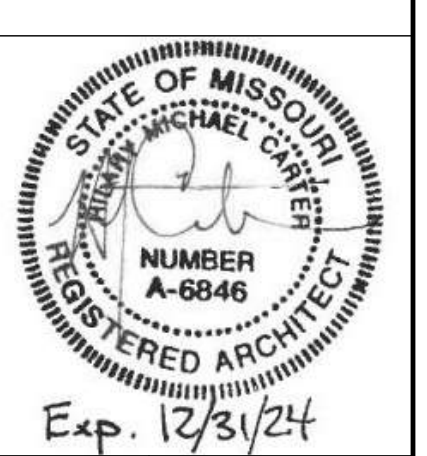
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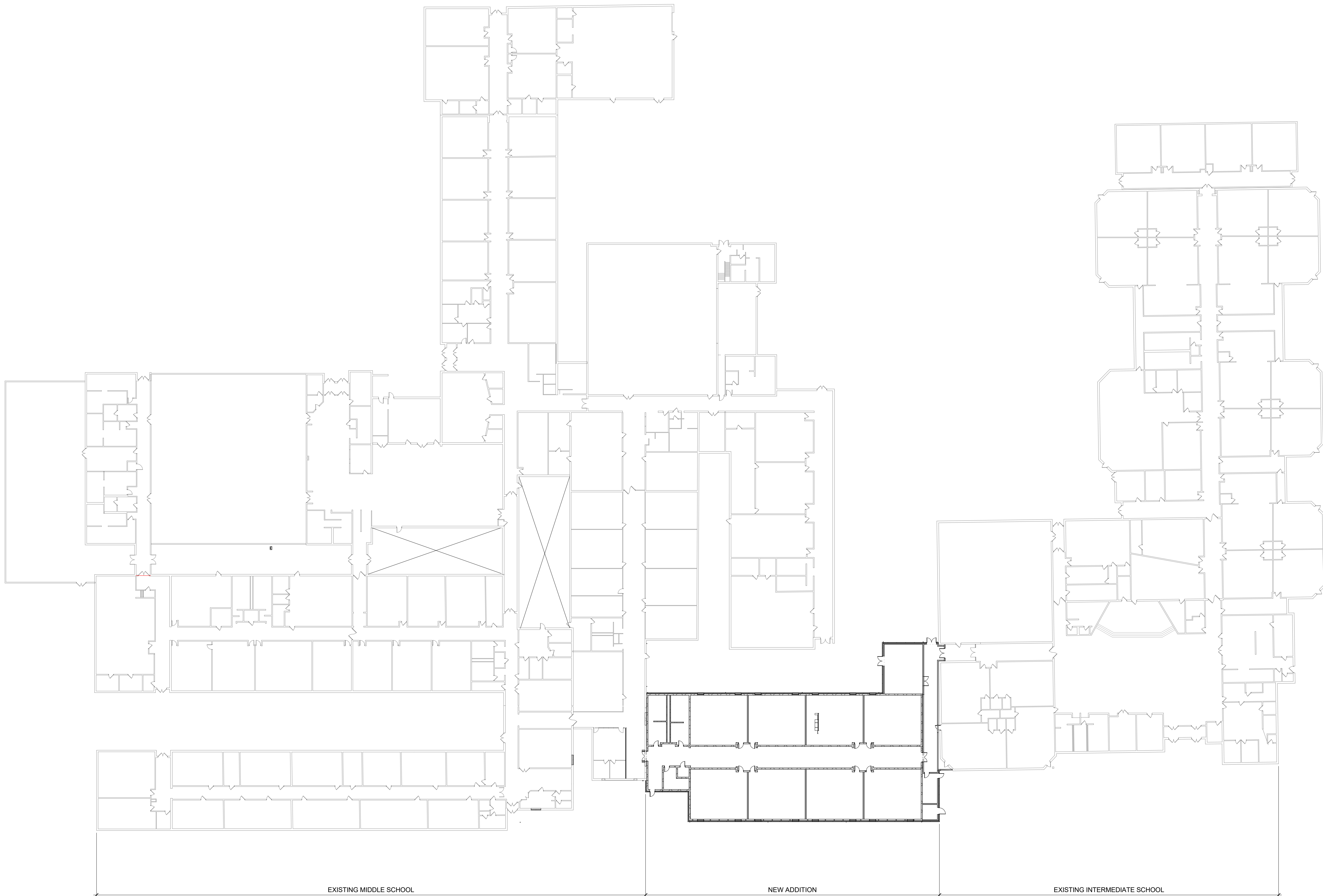


HALLSVILLE MIDDLE SCHOOL ADDITION
HALLSVILLE SCHOOL DISTRICT
421 MO-124 E
HALLSVILLE MO, 65255

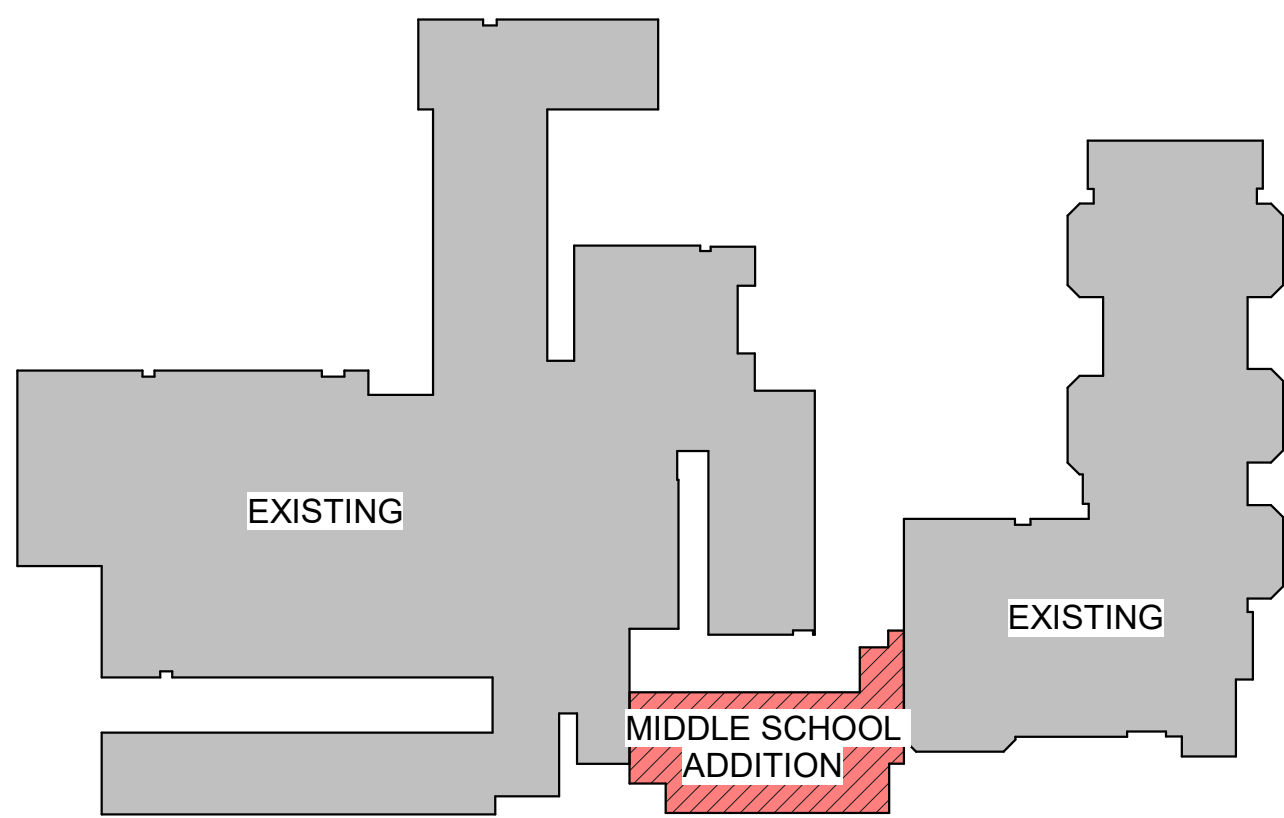
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FIELD		FIELD BOOK	
CHECKED	HMC	CHECK DATE	
SHEET TITLE			
PARTITION TYPES & STANDARD MOUNTING HEIGHTS			
PROJECT NO. 21-5022			
DRAWING ISSUED DATE: 01/16/2023			
SHEET			
A001			

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COMPOSITE FLOOR PLAN
1/32" = 1'-0"



KEY PLAN- MIDDLE SCHOOL ADDITION

0 8' 16' 32'
SCALE: 1/16" = 1'-0"



HALLSVILLE MIDDLE SCHOOL ADDITION

HALLSVILLE SCHOOL DISTRICT
421 MO-124 E
HALLSVILLE MO, 65255



Klingner & Associates, P.C.
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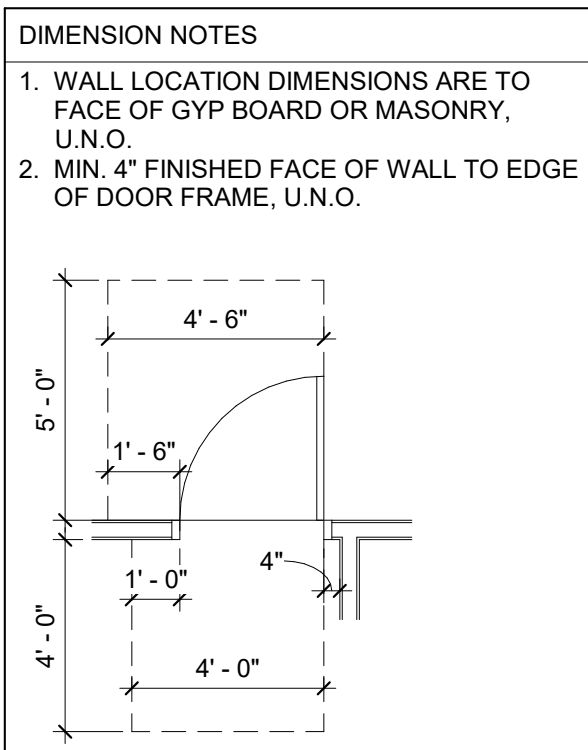
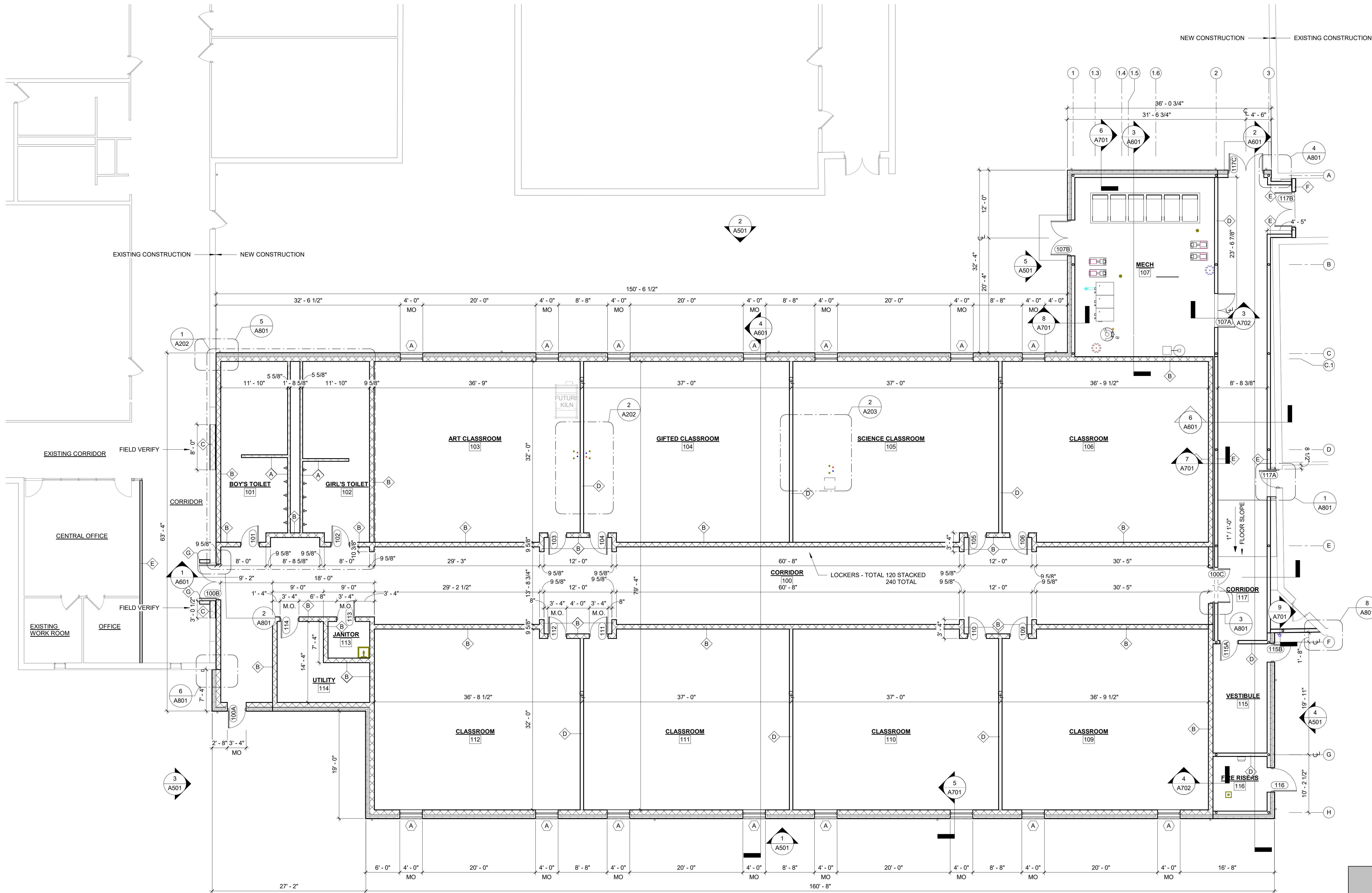
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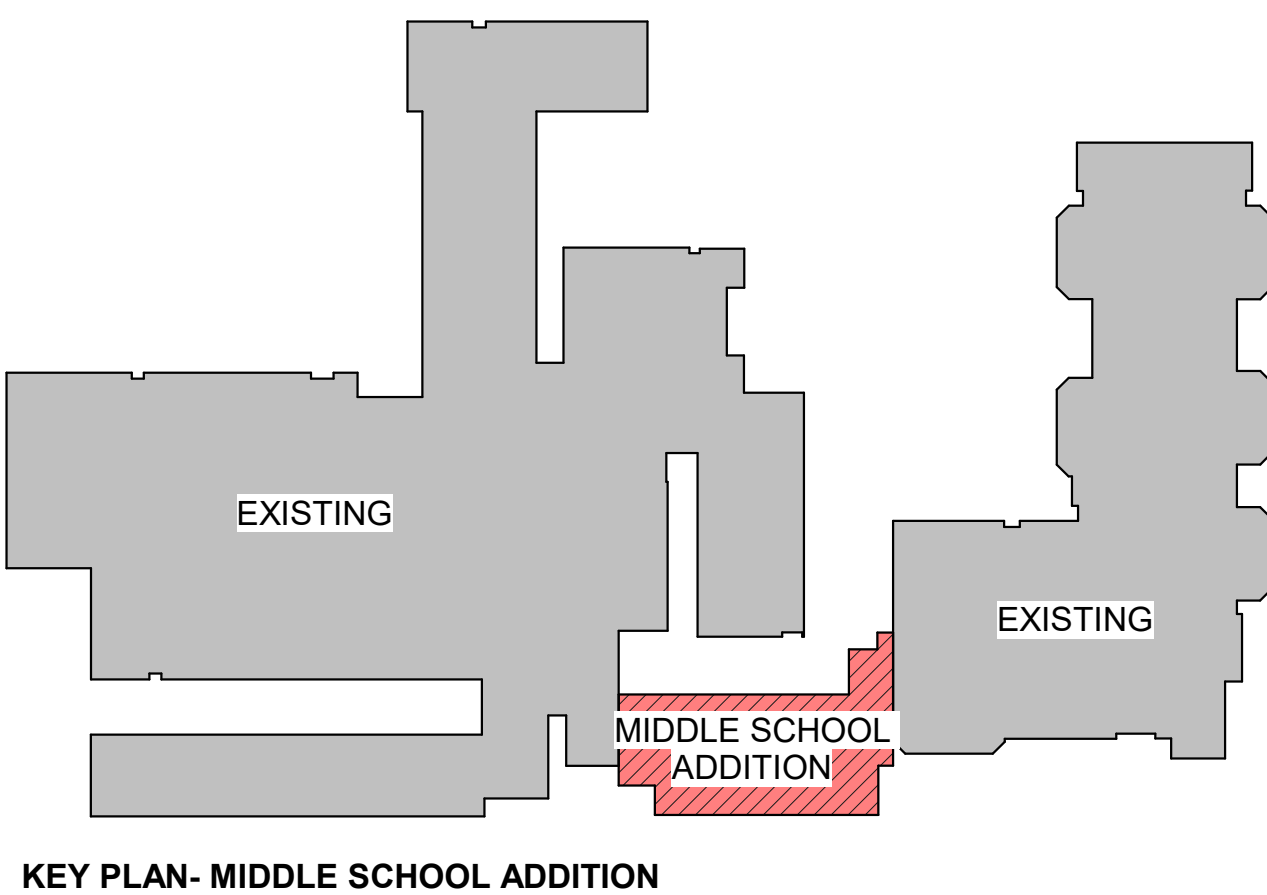
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FIELD FIELD BOOK
CHECKED HMC CHECK DATE
SHEET TITLE
COMPOSITE FLOOR PLAN
PROJECT NO.
21-5932
DRAWING ISSUED DATE:
01/16/2023
SHEET
A100

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1 MAIN FLOOR PLAN
1/8" = 1'-0"



0 4' 8' 16'
SCALE: 1/8" = 1'-0"

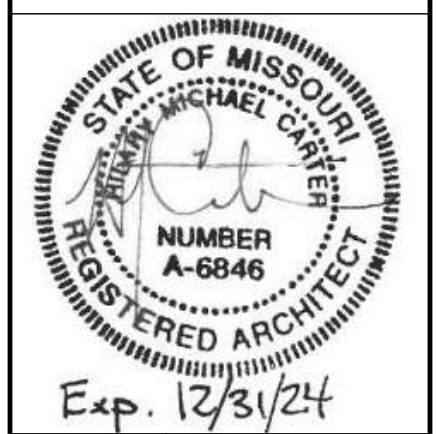
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REVISION HISTORY			
NO.	DESCRIPTION	DATE	APPR
1			

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Missouri State Certificate of Authority
No. E-000866
ISSUED FOR 01/16/2023

BIDDING DOCUMENTS



HALLSVILLE MIDDLE SCHOOL ADDITION
HALLSVILLE SCHOOL DISTRICT
421 MO-124 E
HALLSVILLE MO, 65255

Non-Reduced Sheet Size 30" x 42"
Full sized plans have been prepared using standard scales.
Reduced sized plans may not conform to standard scales.

DESIGNED	JRT	DRAWN	JRT
FIELD	HMC	FIELD BOOK	HMC
CHECKED	HMC	CHECK DATE	
SHEET TITLE			

MAIN FLOOR PLAN

PROJECT NO.
21-5022
DRAWING ISSUED DATE:
01/16/2023
SHEET

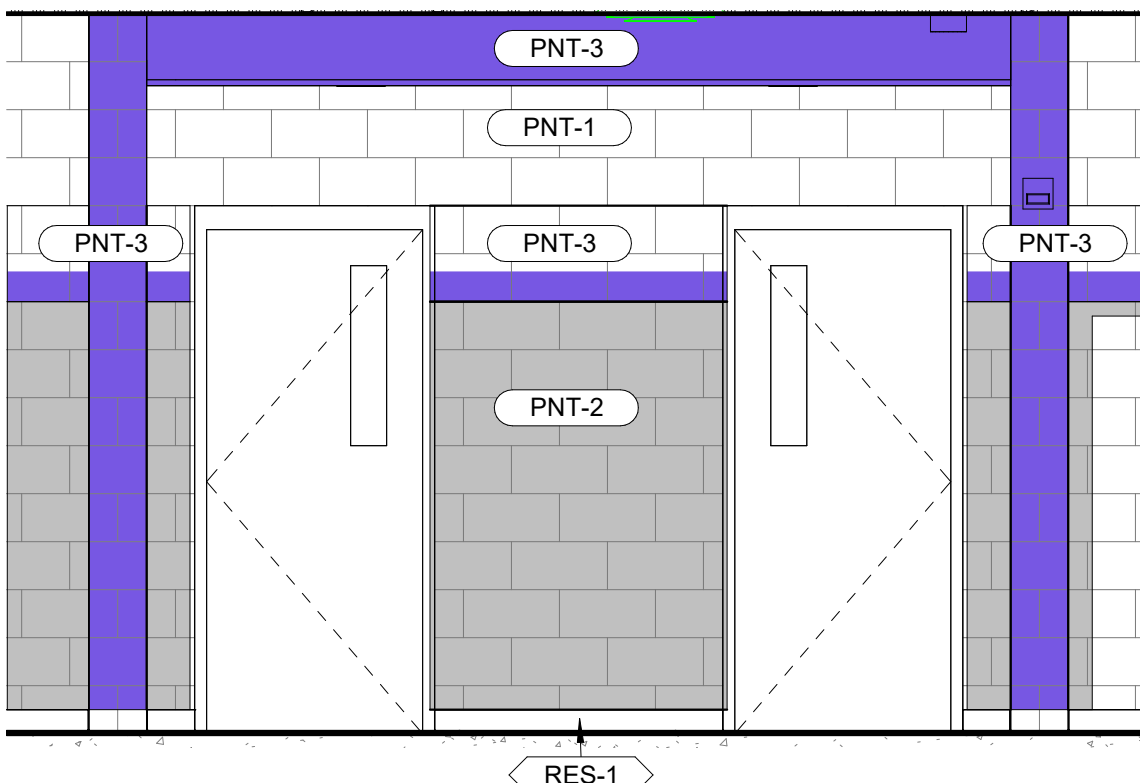
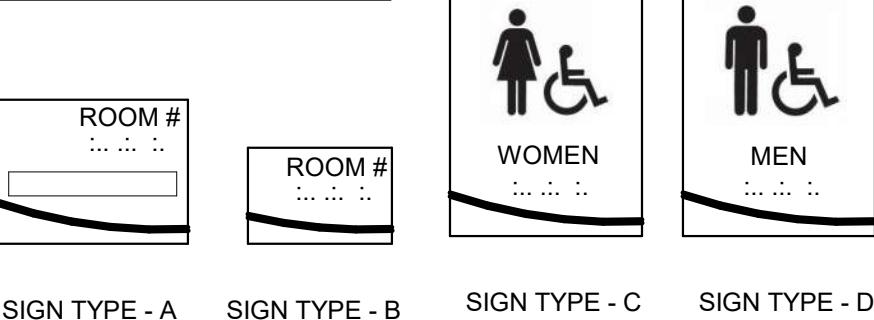
A101

WALLS			
TAG	MANUFACTURER	PRODUCT DESCRIPTION	REMARKS
FRP-1	NUDO	BASIS OF DESIGN PRODUCT: FIBERLITE	FRP
PNT-0	SHERWIN WILLIAMS	COLOR: SW 7002 DOWNY	CEILING PAINT
PNT-1	SHERWIN WILLIAMS	COLOR: SW 7017 REPOSE GRAY	WALL PAINT
PNT-2	SHERWIN WILLIAMS	COLOR: SW 7018 DOVETAIL	WALL PAINT & HOLLOW METAL DOORS
PNT-3	SHERWIN WILLIAMS	COLOR: SW6983 FULLY PURPLE	WALL PAINT & CORRIDOR SOFFIT PAINT
PNT-4	SHERWIN WILLIAMS	COLOR: SW 6251 OUTERSPACE	HOLLOW METAL FRAMES
WALL BASE			
TAG	MANUFACTURER	PRODUCT DESCRIPTION	REMARKS
RES-1	JOHNSONITE	BASIS OF DESIGN PRODUCT: 4" RUBBER COVE BASE; COLOR: TA6 BEDROCK	
FLOORING SCHEDULE			
TAG	MANUFACTURER	PRODUCT DESCRIPTION	REMARKS
CT-1	ATLAS CONCORDE USA	BASIS OF DESIGN PRODUCT: BLAZE, COLOR: ALUMINUM, SIZE: 14 3/4" x 29 1/2"; MATTE, INSTALLATION PATTERN: STACKED, GROUT: MAPE 09 GREY	TILE FOR BATHROOM FLOORS
LVT-1	ARMSTRONG	BASIS OF DESIGN PRODUCT: ARMSTRONG, ID TERRA, COLOR: PALAZZO, BIANCO ST555; SIZE: 18" X 36"; INSTALLATION PATTERN: STACKED; PROVIDE SCHLUTER METAL EDGE TRANSITION FOR LVT TO CT/CONG TRANSITIONS; COLOR: ANNOXIDIZED ALUMINUM	CLASSROOM AND CORRIDOR FLOORS
LVT-2	ARMSTRONG	BASIS OF DESIGN PRODUCT: ARMSTRONG, ID TERRA, COLOR: PALAZZO, VERDE ST552; SIZE: 18" X 36"; INSTALLATION PATTERN: STACKED; PROVIDE SCHLUTER METAL EDGE TRANSITION FOR LVT TO CT/CONG TRANSITIONS; COLOR: ANNOXIDIZED ALUMINUM	ACCENT CORRIDOR FLOOR
SC-1	BASF	BASIS OF DESIGN PRODUCT: MASTERKURE CC1315 WB	APPLY TWO (2) COATS MIN
SURFACES - HORIZONTAL			
TAG	MANUFACTURER	PRODUCT DESCRIPTION	REMARKS
EPOXY-1	CAMPBELLRHEA CORP.	BLACK SCIENCE LAB COUNTERTOPS	CABINETS @ CLASSROOMS
SS-1	CORIAN	BASIS OF DESIGN PRODUCT: DEEP NIGHT SKY	
SURFACES - VERTICAL			
TAG	MANUFACTURER	PRODUCT DESCRIPTION	REMARKS
LAM-1	WILSONART	BASIS OF DESIGN PRODUCT: PASADENA OAK 7986-38	CABINETS @ CLASSROOMS
WB-1	SHERWIN WILLIAMS	BASIS OF DESIGN PRODUCT: MINWAX; WOOD STAIN TO MATCH CAMPBELLRHEA EMPIRE OAK CABINETS; 1000 OAK NATURAL	

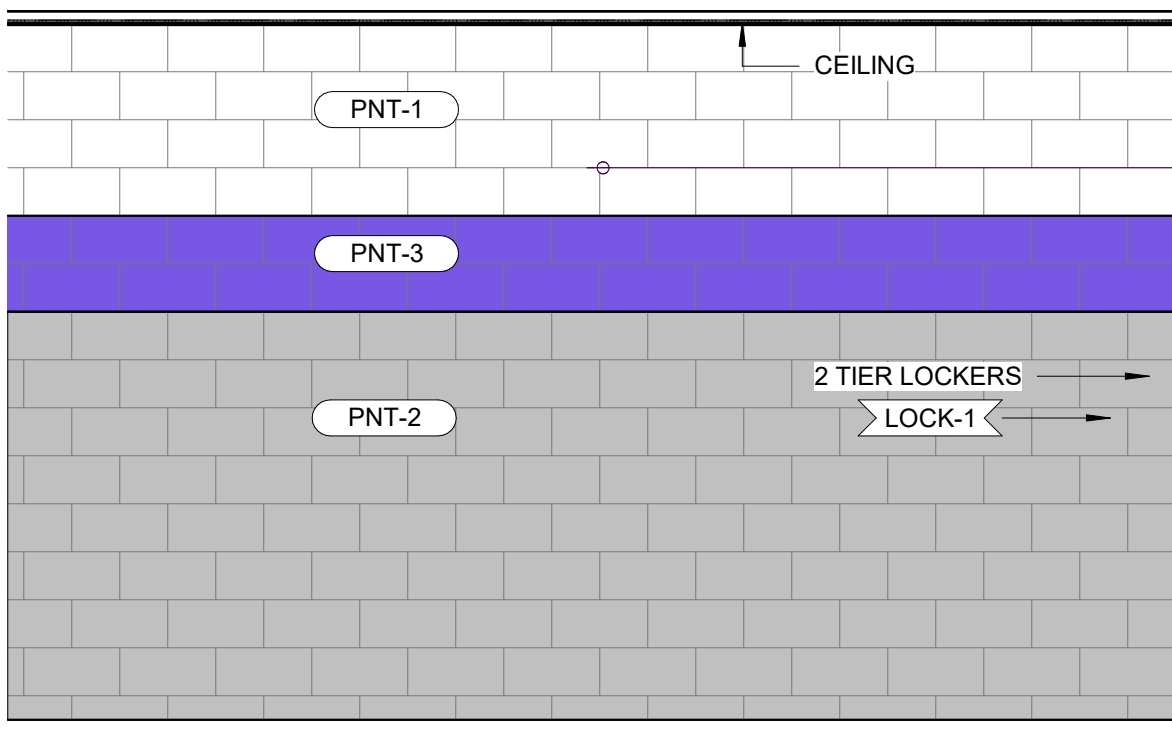
MISCELLANEOUS INTERIOR FINISH SCHEDULE			
TAG	MANUFACTURER	PRODUCT DESCRIPTION	REMARKS
CG-1	INPRO	BASIS OF DESIGN PRODUCT: 180 SERIES HIGH IMPACT CORNER GUARD; COLOR: GALA 0380; SIZE: 9'-0" X 3' WING	CLASSROOMS
LOCK-1	DEBOURGH	BASIS OF DESIGN PRODUCT: DEBOURGH REBEL WELDED ECONOMY LOCKERS; COLOR: URBAN DUSK	SEE SPECIFICATION
TPT-1	GENERAL PARTITIONS	BASIS OF DESIGN PRODUCT: HDPE PARTITIONS; COLOR: OILED SOAPSTONE	SEE SPECIFICATION 102113
SIGN TYPE SCHEDULE			
SIGN TYPE	DESCRIPTION	Count	
A	BASIS OF DESIGN PRODUCT: INPRO SIGNSCAPE; COLLECTION: MANHATTAN; MATERIAL: RIGID VINYL, ROOM ID W/ WINDOW INSERT; SIZE: 8" W X 6" H; FACE PLATE: DESIGNER WHITE 0101; BACK PLATE: BRUSHED SILVER SE025; ACCENT: AMERICAN TEAK 0553; FONT: ADA AVENIR; TEXT COLOR: BLACK 0152	9	
B	BASIS OF DESIGN PRODUCT: INPRO SIGNSCAPE; COLLECTION: MANHATTAN; MATERIAL: RIGID VINYL; ROOM NUMBER SIGN; SIZE: 8" W X 4" H; FACE PLATE: DESIGNER WHITE 0101; BACK PLATE: BRUSHED SILVER SE025; ACCENT: AMERICAN TEAK 0553; FONT: ADA AVENIR; TEXT COLOR: BLACK 0152	3	
C	BASIS OF DESIGN PRODUCT: INPRO SIGNSCAPE; COLLECTION: MANHATTAN; MATERIAL: RIGID VINYL, REGULATORY SIGN ID; SIZE: 8" W X 10" H; FACE PLATE: SANTA ROSA 0532; BACK PLATE: BRUSHED SILVER SE025; ACCENT: AMERICAN TEAK 0553; FONT: ADA AVENIR; TEXT COLOR: BLACK 0152; PICTOGRAM: MEN P4	1	
D	BASIS OF DESIGN PRODUCT: INPRO SIGNSCAPE; COLLECTION: MANHATTAN; MATERIAL: RIGID VINYL, REGULATORY SIGN ID; SIZE: 8" W X 10" H; FACE PLATE: SANTA ROSA 0532; BACK PLATE: BRUSHED SILVER SE025; ACCENT: AMERICAN TEAK 0553; FONT: ADA AVENIR; TEXT COLOR: BLACK 0152; PICTOGRAM: WOMEN P2	1	

NOTE: COORDINATE ROOM NUMBERS FOR SIGNS WITH OWNER

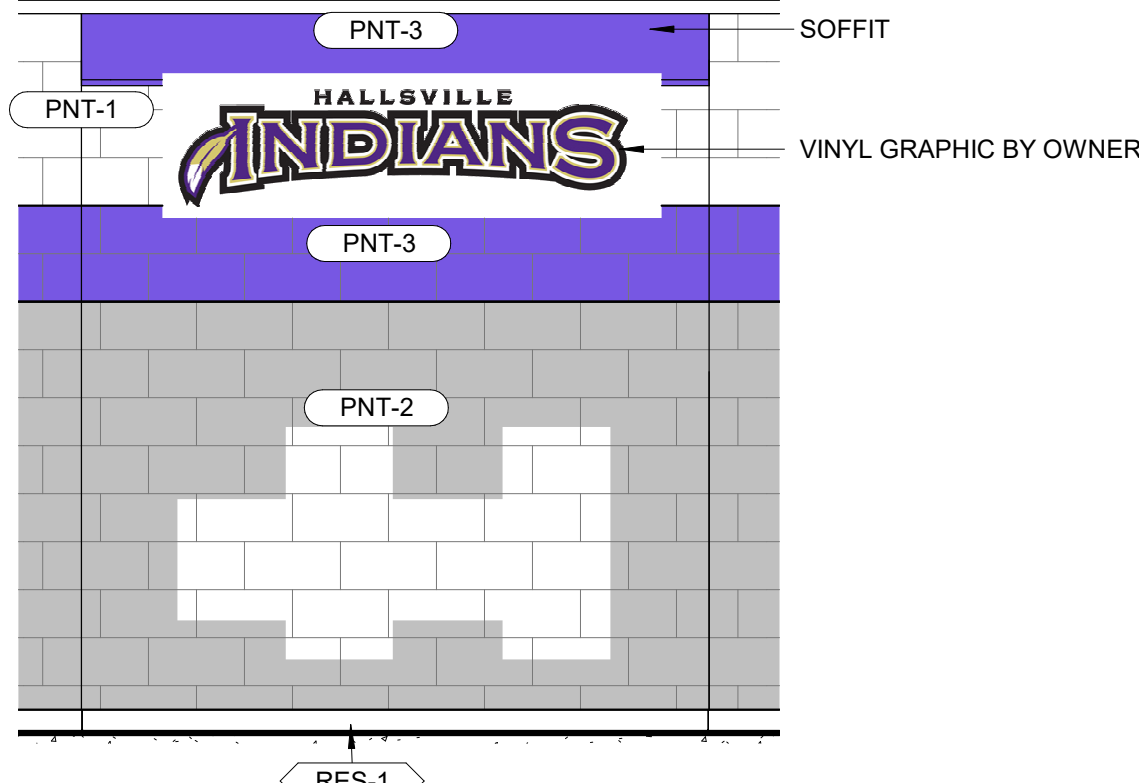
SIGN TYPE



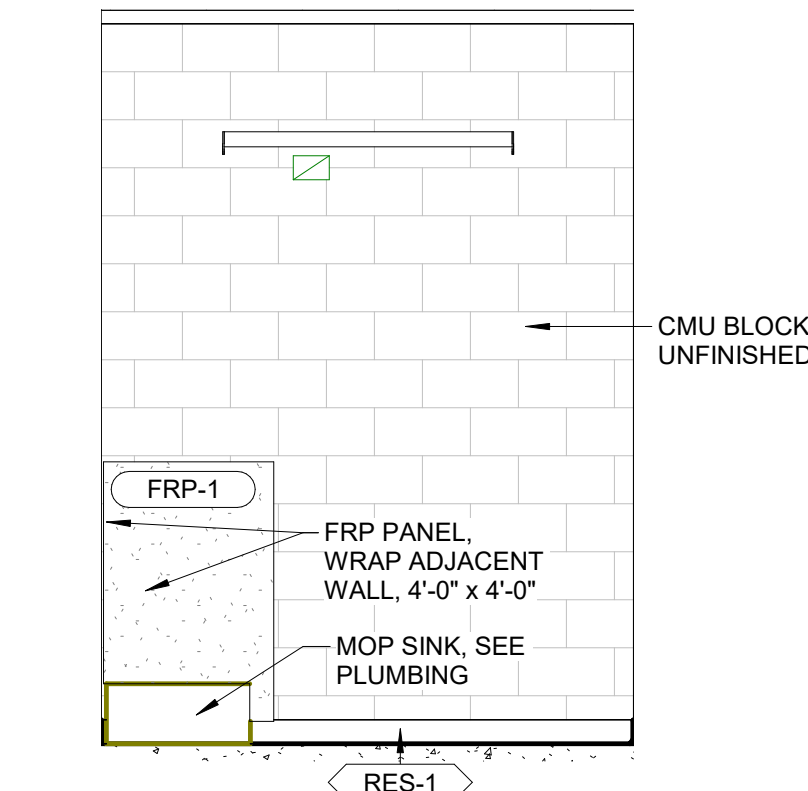
2 CLASSROOM ENTRANCE, TYP.
3/8" = 1'-0"



4 TYPICAL CORRIDOR PAINT
3/8" = 1'-0"



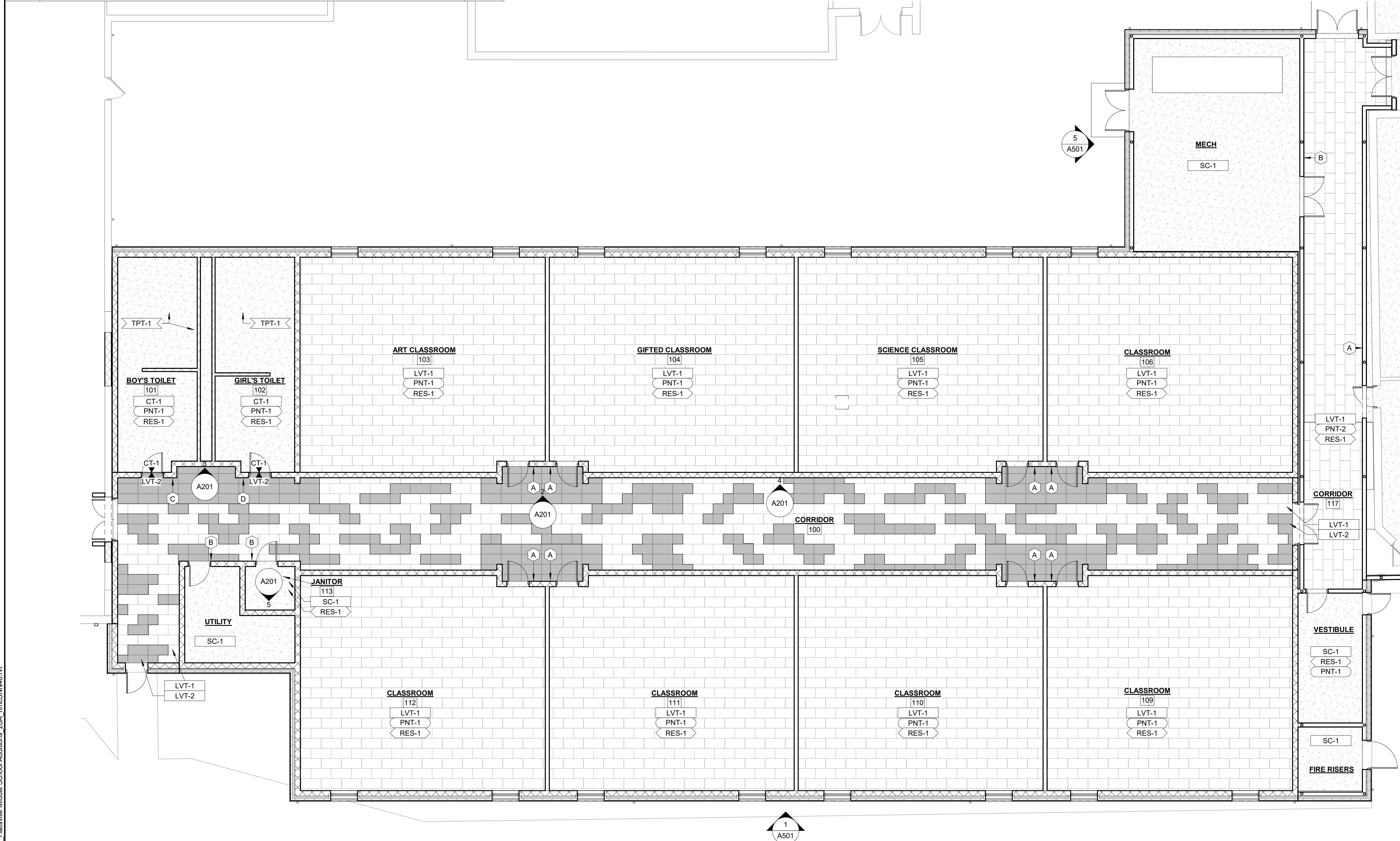
3 CORRIDOR DRINKING FOUNTAIN
3/8" = 1'-0"



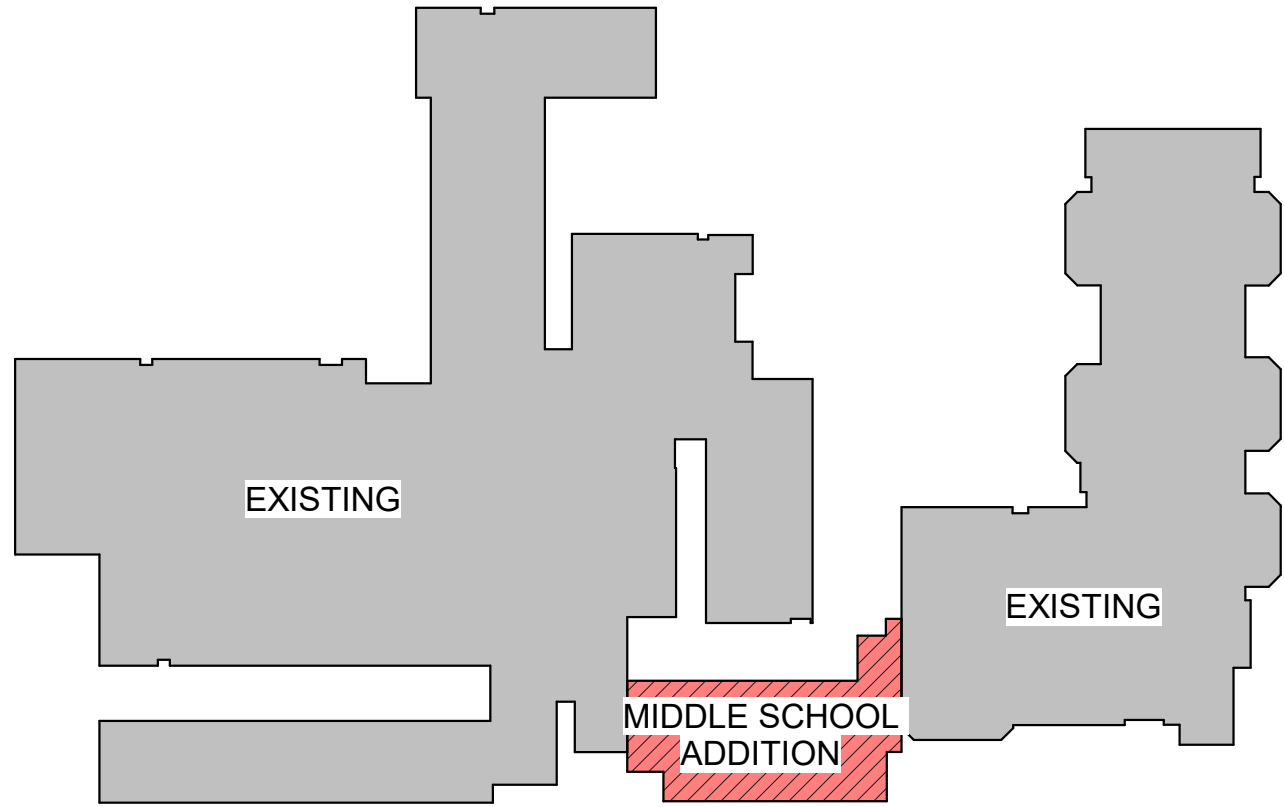
5 JANITOR 113
3/8" = 1'-0"

INTERIOR FINISH LEGEND		GENERAL NOTES-INTERIOR
ACP	ACOUSTICAL CEILING PANELS	1. BASIS-OF-DESIGN PRODUCT: WHERE SPECIFICATIONS OR DRAWINGS NAME A PRODUCT AND MANUFACTURER, PROVIDE THE SPECIFIED PRODUCT/MANUFACTURER. "EQUAL" PRODUCTS MAY BE SUBMITTED FOR ARCHITECT APPROVAL. DRAWINGS AND SPECIFICATIONS INDICATE SIZES, PROFILES, DIMENSIONS, AND OTHER CHARACTERISTICS THAT ARE BASED ON THE PRODUCT NAMED. INSTALL PRODUCT COMPLETE WITH ALL REQUIRED ACCESSORIES IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS, INSTRUCTION AND DETAILS.
AP	ACORN GUARD	
CG	CONTROL JOINT	
CJ	CONCRETE MASONRY UNIT	
CMU	CERAMIC TILE	
CPT	EPOXY PAINT	
CT	EXPOSED STRUCTURE/COLUMNS	
EPOXY	EXPOSED STRUCTURE/BEAMS	
E/S/C	EXISTING	
E/S/B	END WALL PROTECTOR	
FRP	FIBERGLASS REINFORCED PANELS	
GLS	GLASS	
GYP	GYPSON WALL BOARD	
PNT	PAINT	
PLAM	PLASTIC LAMINATE	
RES	RESILIENT WALL BASE	
RSN	RESINOUS FLOORING	
SC	SEALED CONCRETE	
SHWR	SHOWER UNIT	
SS	SOLID SURFACE	
SSTL	STAINLESS STEEL	
STC	STAINED CONCRETE	
TPT	TOILET PARTITION	
TS	TRANSITION STRIP	
VCT	VINYL COMPOSITION TILE	
VET	VINYL ENHANCED TILE	
VWC	VINYL WALL COVERING	
WD	WOOD	
WLK	WALK-OFF CARPET	

FINISH PLAN SYMBOL LEGEND	
XX	WALL FINISH TAG
XX	ACCENT WALL FINISH
XX	WALL BASE TAG
XX	FLOOR FINISH TAG
XX	FLOOR MATERIAL TRANSITION
ALIGN	ALIGN TRANSITION WITH ADJACENT ITEM
LINEAR PATTERN DIRECTION	PATTERN/LINEAR DIRECTION
XX	CASEWORK COUNTER/TRANSITION TOP FINISH
XX	CASEWORK BASE AND UPPER CABINET FINISH
CORNER GUARD	CORNER GUARD
WALL GUARD	WALL GUARD
WINDOW DRAPES / PRIVACY CURTIAN	WINDOW DRAPES / PRIVACY CURTIAN
SIGNAGE DETAIL TAG	SIGNAGE DETAIL TAG
MISCELLANEOUS FINISH TAG	MISCELLANEOUS FINISH TAG



1 FINISH PLAN
1/8" = 1'-0"



KEY PLAN- MIDDLE SCHOOL ADDITION

0 4' 8' 16'
SCALE: 1/8" = 1'-0"

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REVISION HISTORY		
DESCRIPTION	DATE	APPR

Klingner & Associates, P.C.
Missouri State Certificate of Authority
No. E-000866

ISSUED FOR: 01/16/2023

BIDDING DOCUMENTS

STATE OF MISSOURI
MICHAEL COMPTON
NUMBER A-6846
REGISTERED ARCHITECT
Exp. 12/31/24

HALLSVILLE MIDDLE SCHOOL ADDITION
HALLSVILLE SCHOOL DISTRICT
421 MO-124 E
HALLSVILLE MO, 65255

Non-Reduced Sheet Size 30" x 42"
Full sized plans have been prepared using standard scales.
Reduced sized plans may not conform to standard scales.

DESIGNED	JRT	DRAWN	JRT
FIELD	JRT	FIELD BOOK	JRT
CHECKED	HMC	CHECK DATE	

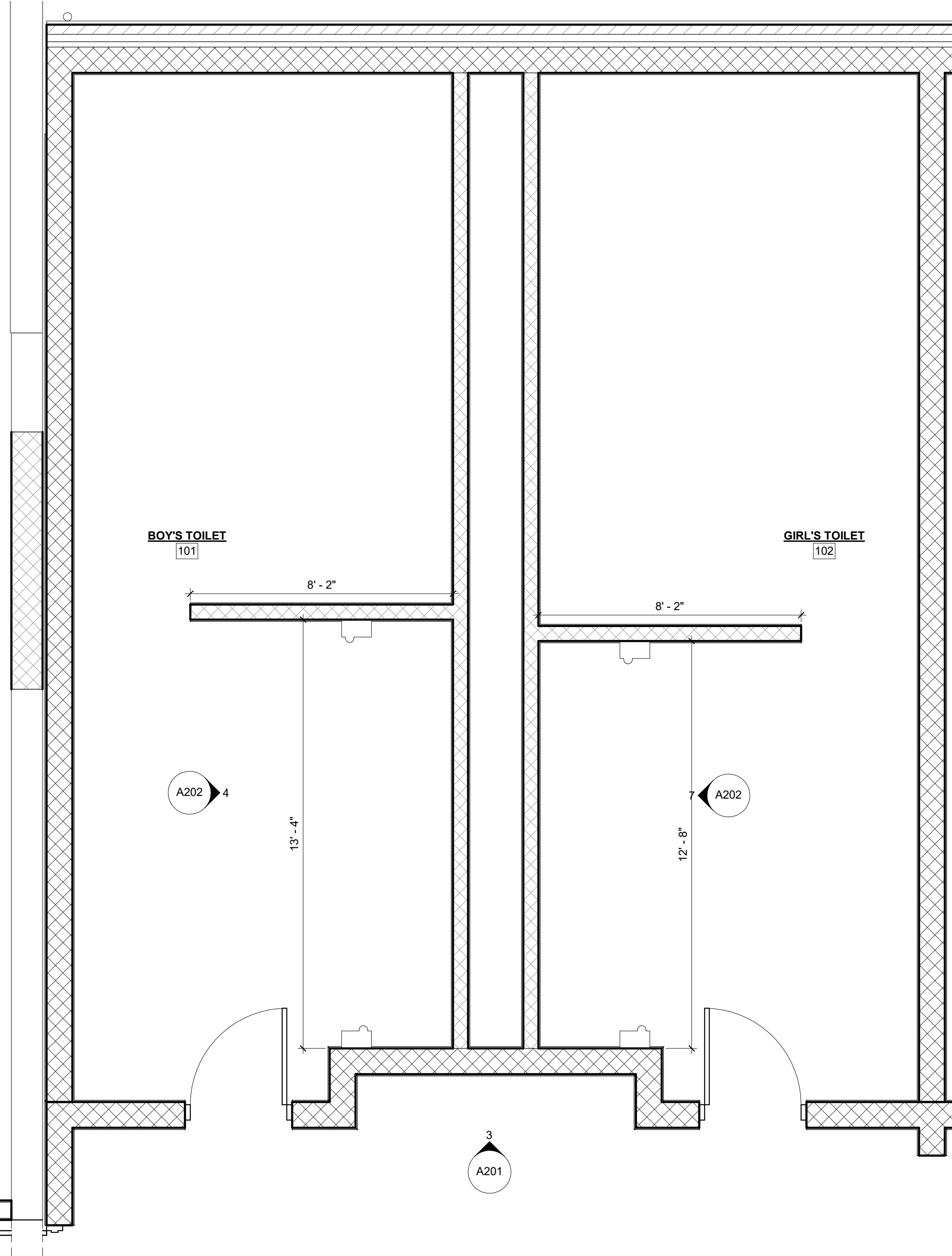
SHEET TITLE
INTERIOR FINISH PLAN & ELEVATIONS

PROJECT NO.
21-002

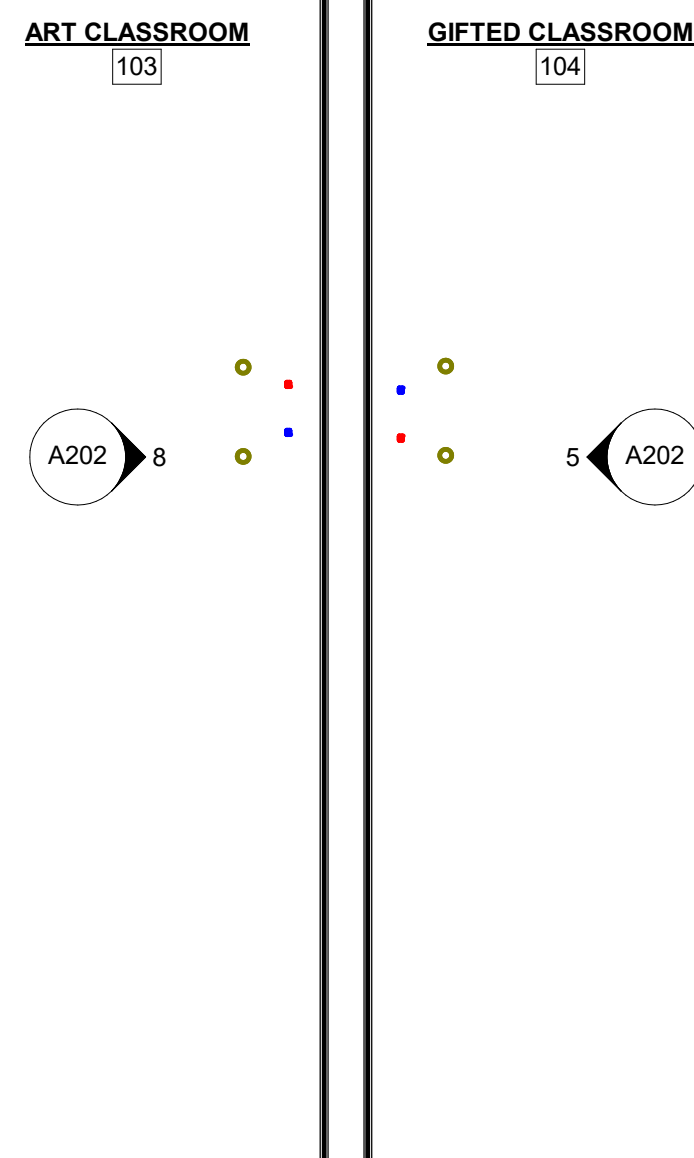
DRAWING ISSUED DATE:
01/16/2023

SHEET
A201

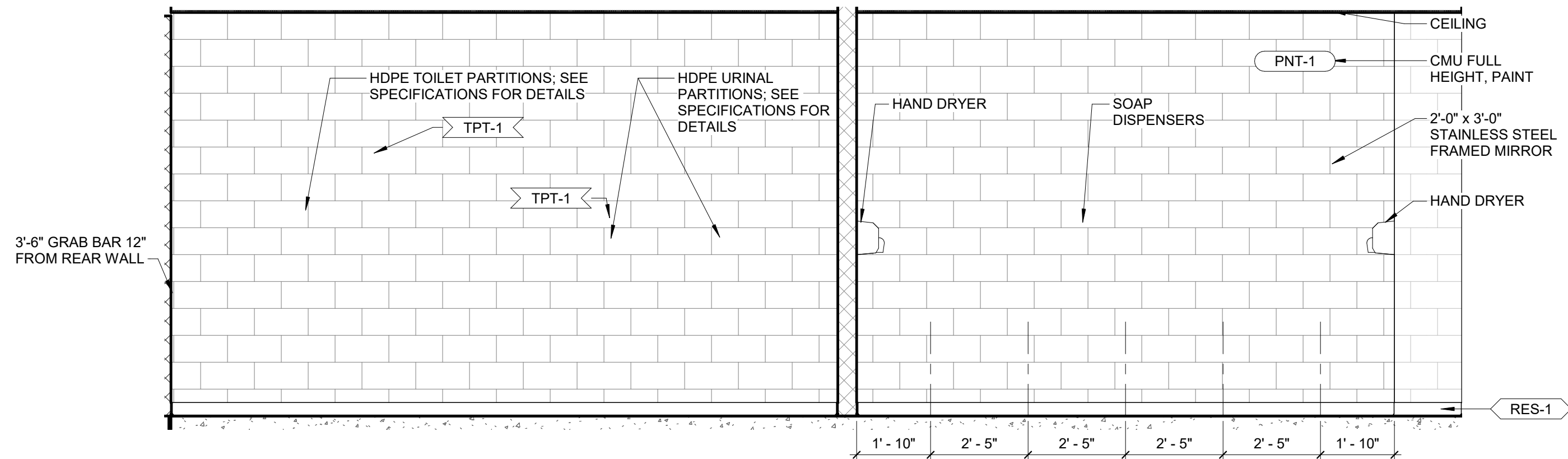
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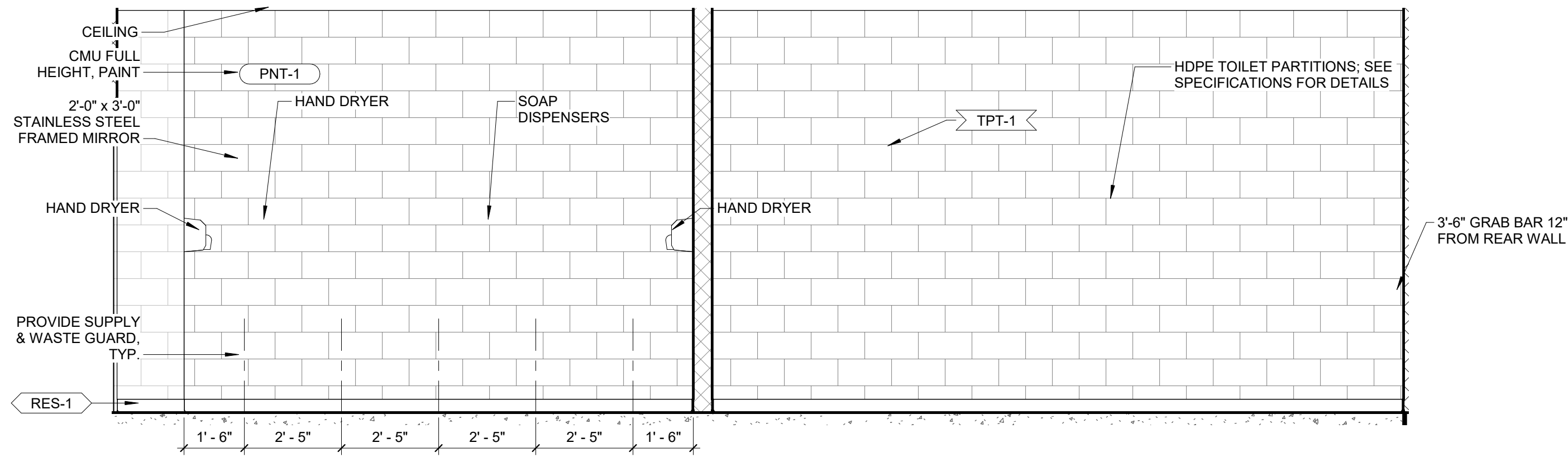
1 ENLARGED RESTROOM PLAN
3/8" = 1'-0"



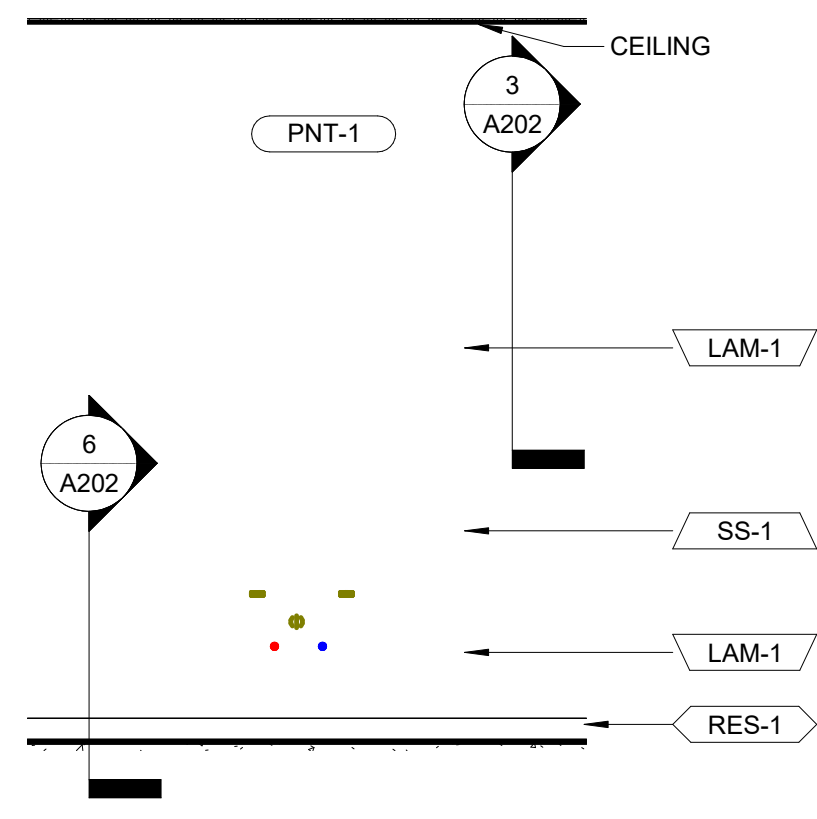
2 ART & GIFTED CLASSROOM CABINETRY
3/8" = 1'-0"



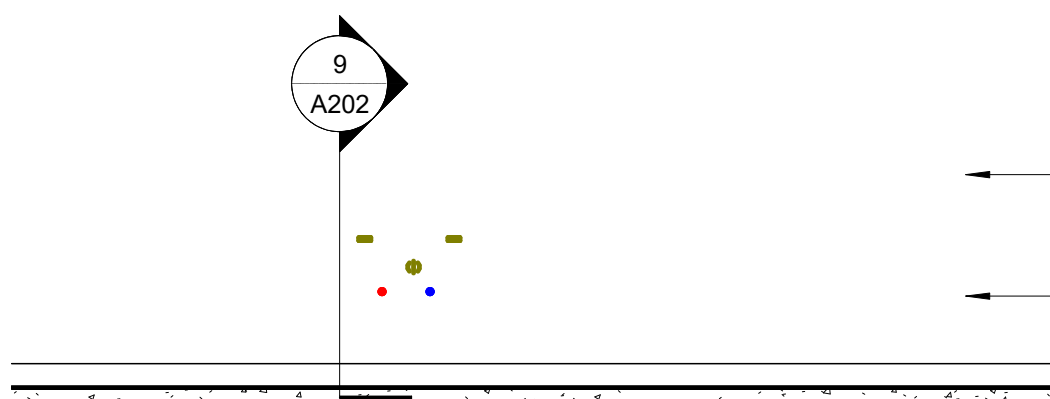
4 MEN'S TOILET ROOM EAST
3/8" = 1'-0"



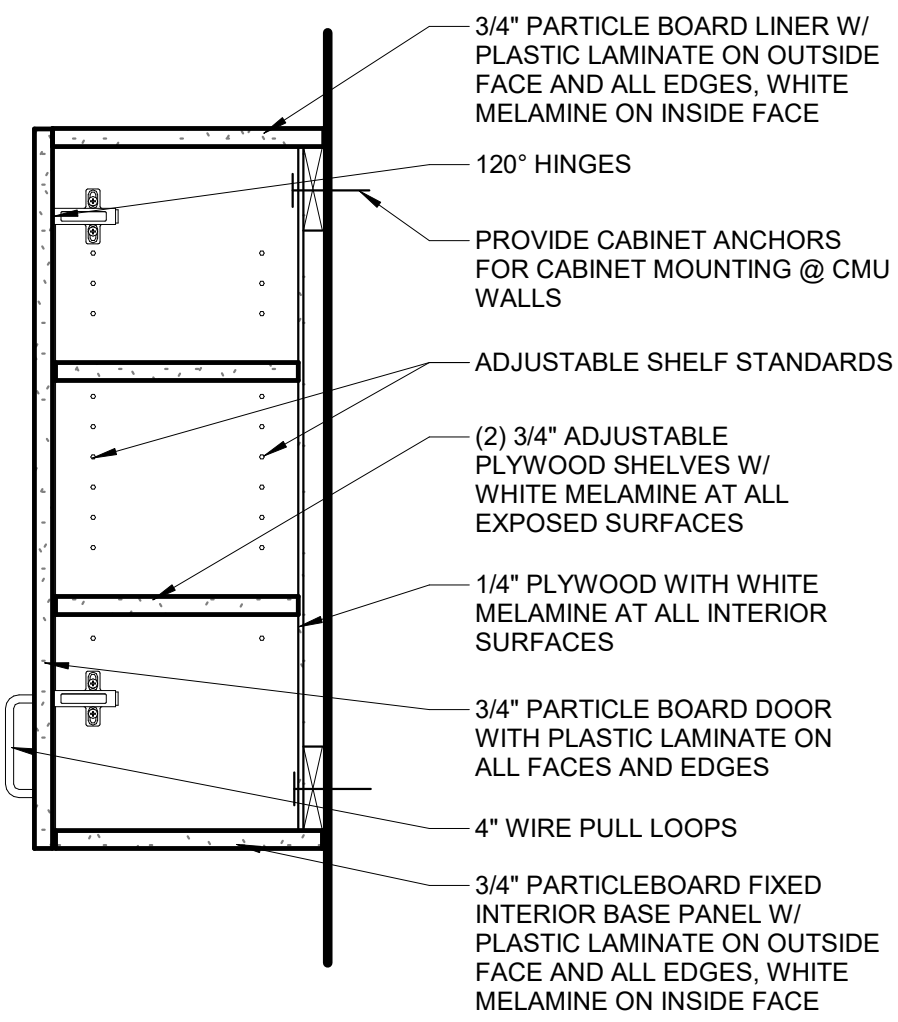
7 WOMEN'S TOILET ROOM WEST
3/8" = 1'-0"



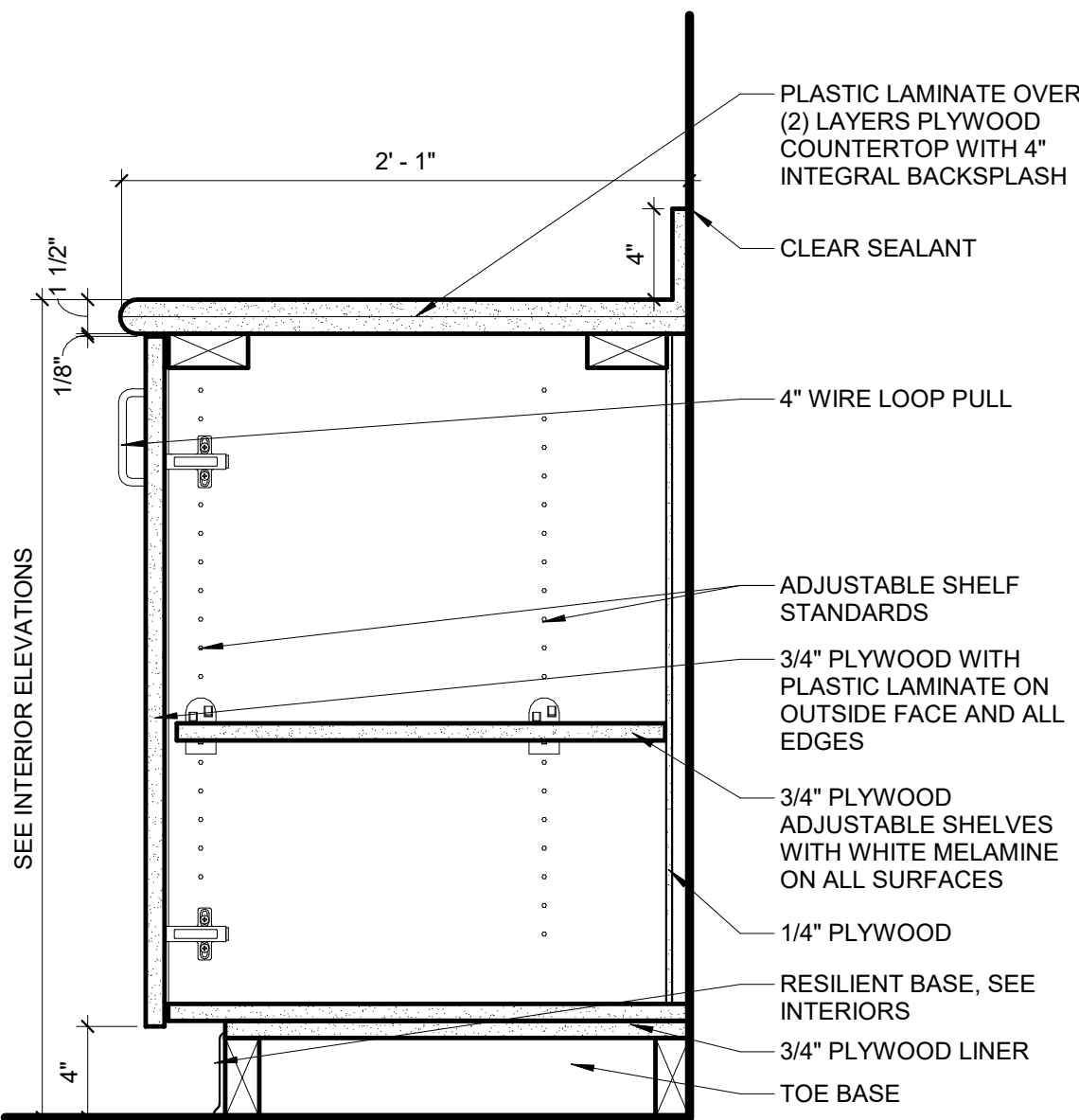
5 GIFTED CLASSROOM WEST
3/8" = 1'-0"



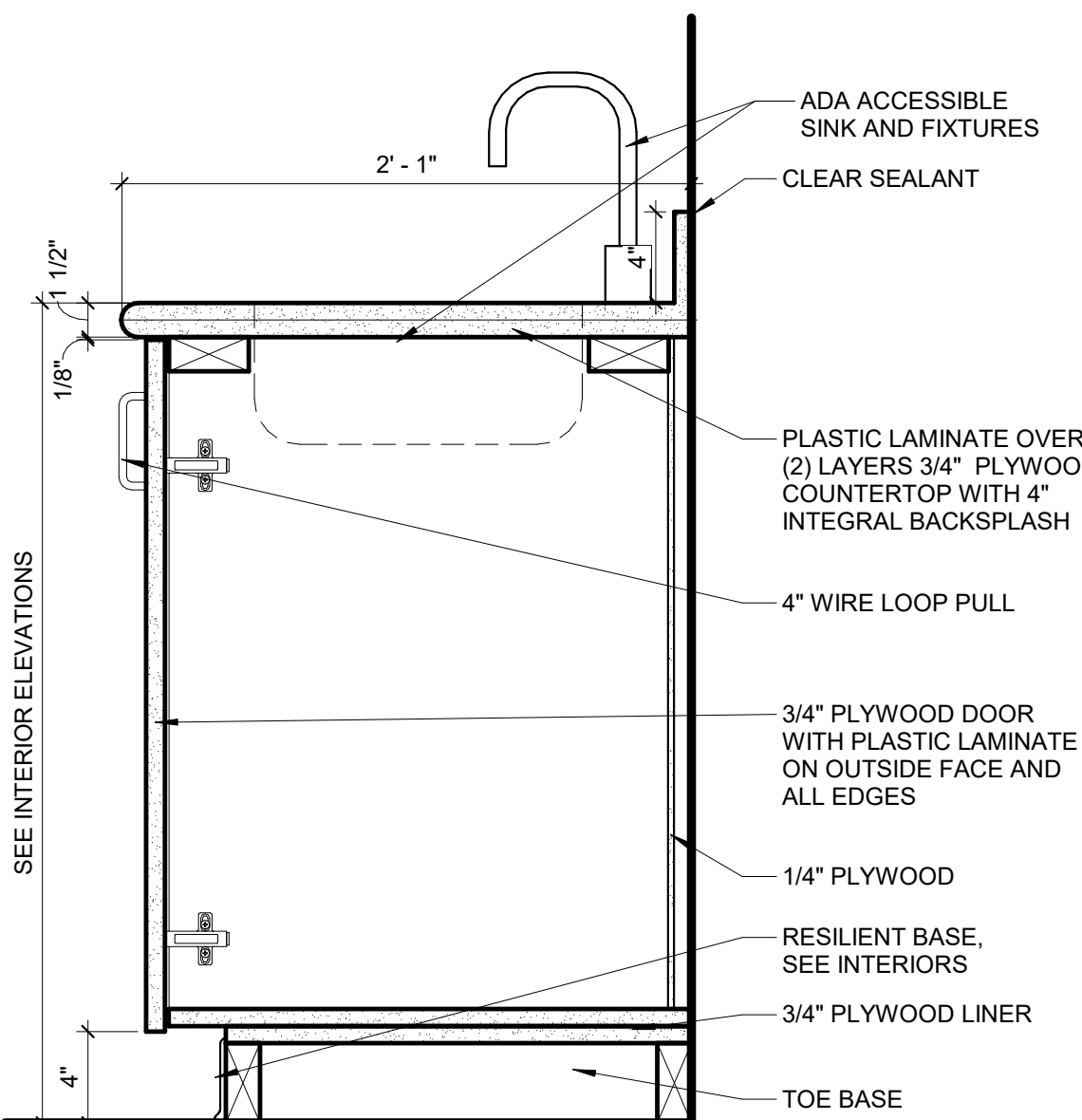
8 ART CLASSROOM EAST
3/8" = 1'-0"



3 CASEWORK-UPPER
1 1/2" = 1'-0"



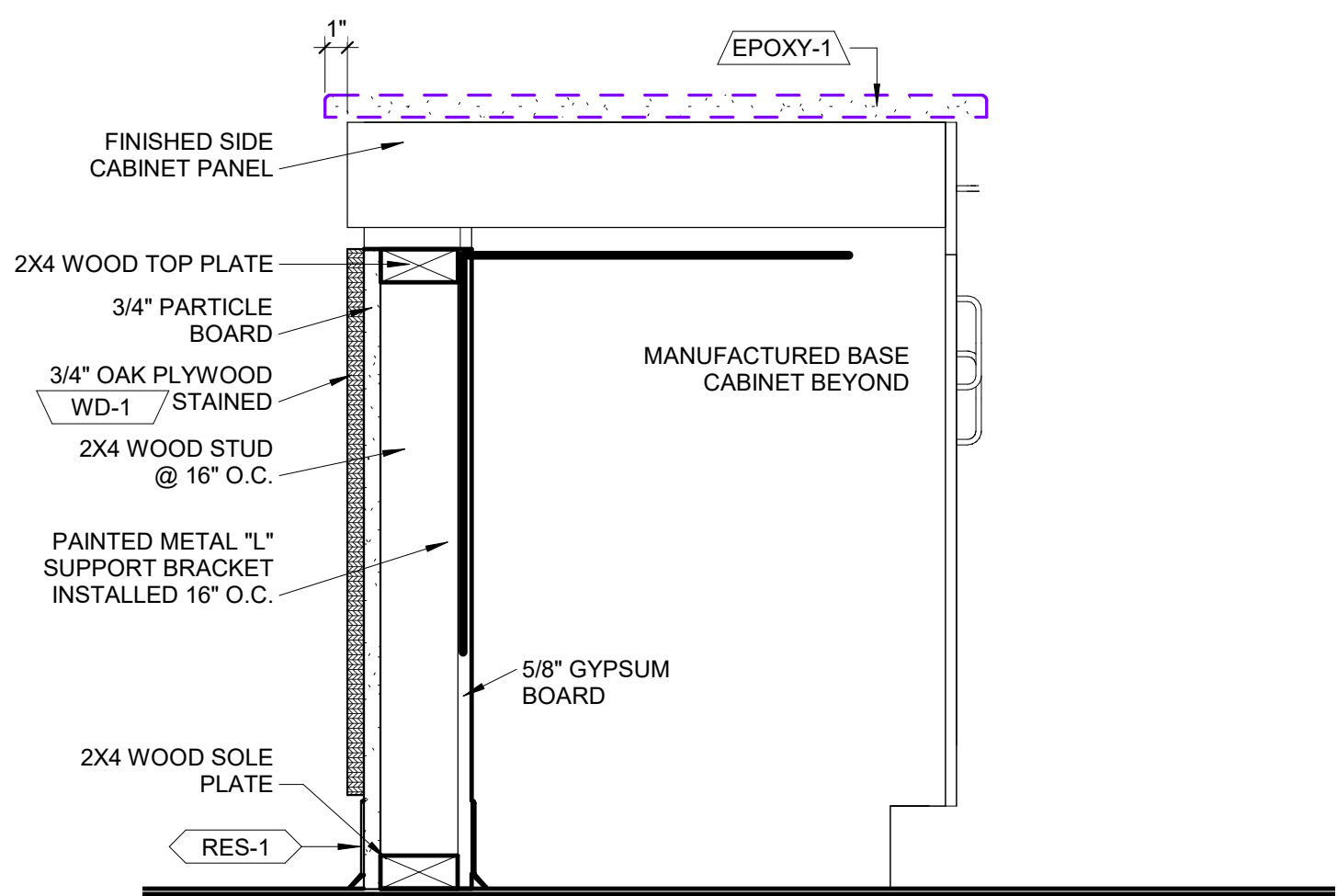
6 CASEWORK - BASE - 1 FULL HEIGHT DOOR
1 1/2" = 1'-0"



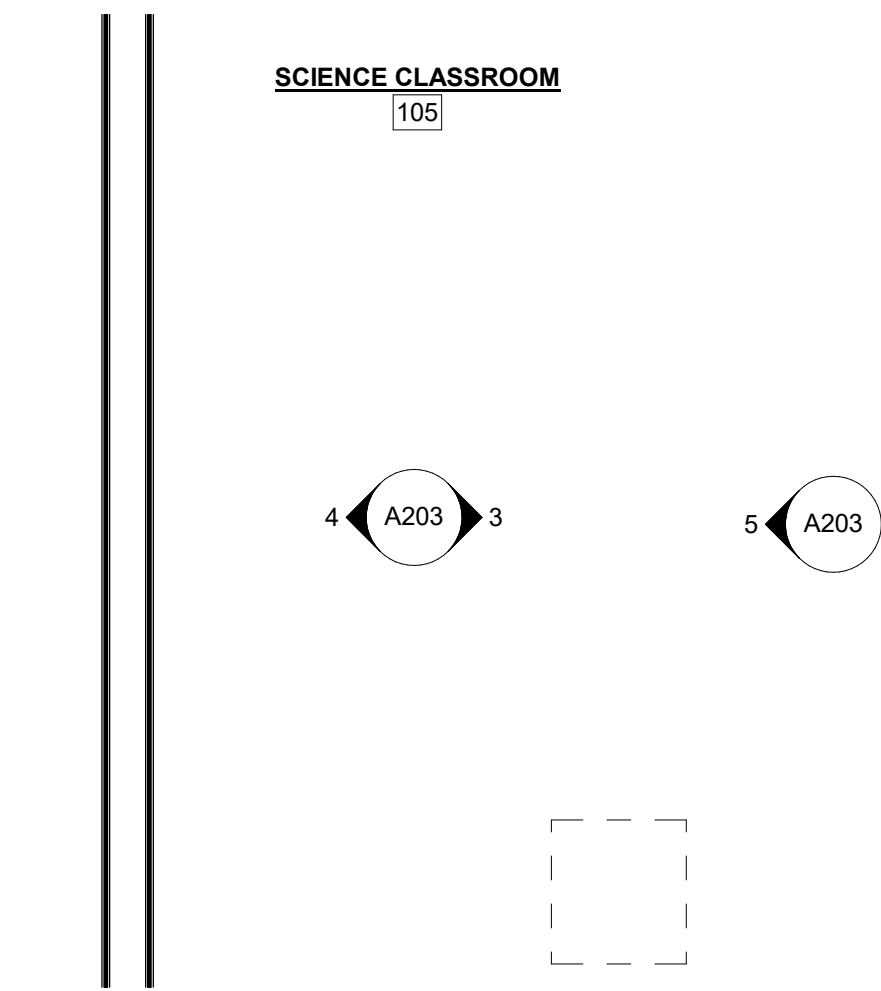
9 CASEWORK- BASE - SINK - 1 FULL HEIGHT DOOR
1 1/2" = 1'-0"

0 2 4
SCALE: 3/8" = 1'-0"

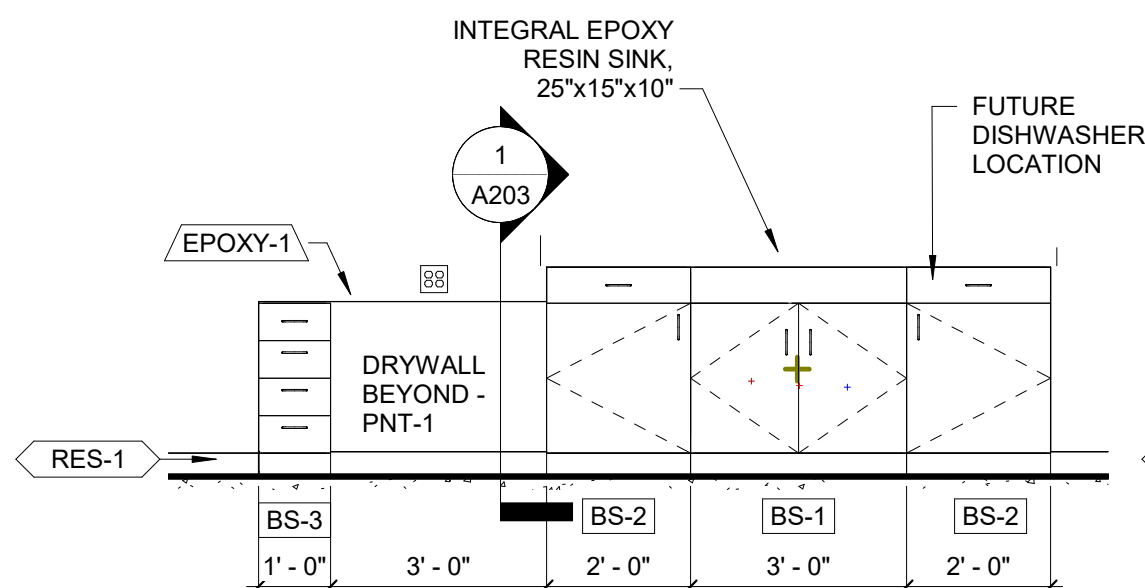
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1 SECTION @ LAB INSTRUCTOR TABLE
1 1/2" = 1'-0"

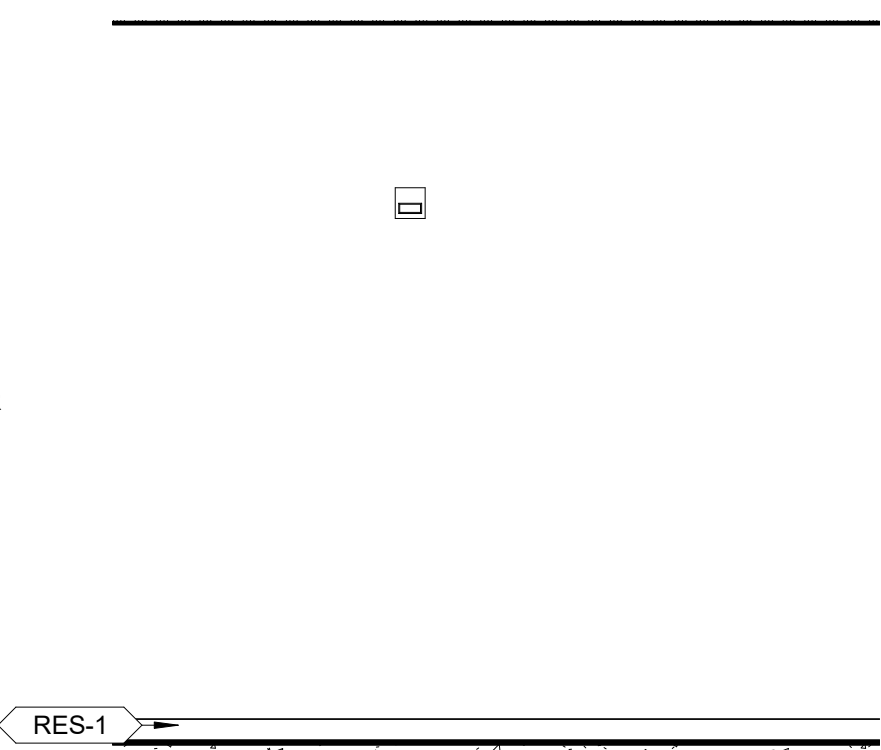


2 SCIENCE CLASSROOM CABINETRY
3/8" = 1'-0"

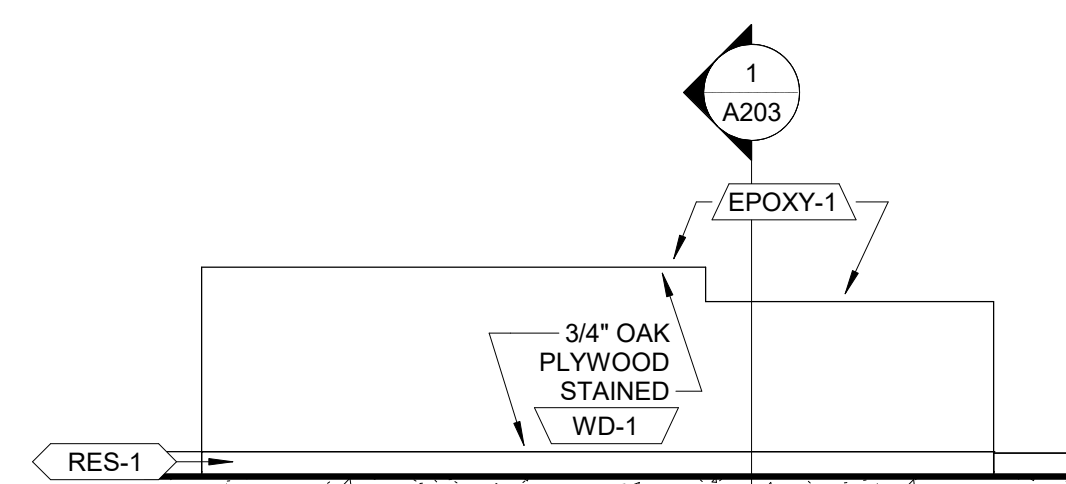


3 SCIENCE INSTRUCTOR TABLE
3/8" = 1'-0"

LAB CASEWORK SCHEDULE				
TAG	MANUFACTURER	DESCRIPTION	FINISH	DEPTH
BS-1	ICI SCIENTIFIC	BASIS OF DESIGN PRODUCT: CAMPBELLRHEA EMPIRE OAK: SINK BASE; EPOXY SINK PROVIDED BY CABINET MANUFACTURER	1000 OAK NATURAL	1' - 10 1/2"
BS-2	ICI SCIENTIFIC	BASIS OF DESIGN PRODUCT: CAMPBELLRHEA EMPIRE OAK: BASE; 1 DOORS, 1 DRAWER	1000 OAK NATURAL	1' - 10 1/2"
BS-3	ICI SCIENTIFIC	BASIS OF DESIGN PRODUCT: CAMPBELLRHEA EMPIRE OAK: 4 DRAWER BASE; CUSTOM HEIGHT	1000 OAK NATURAL	1' - 10 1/2"



4 SCIENCE INTERIOR WEST ELEVATION
3/8" = 1'-0"



5 SCIENCE CLASSROOM INSTRUCTOR TABLE
3/8" = 1'-0"

HALLSVILLE MIDDLE SCHOOL ADDITION

HALLSVILLE SCHOOL DISTRICT

421 MO-124 E

HALLSVILLE MO, 65255

Non-Reduced Sheet Size 30" x 42"	
Full sized plans have been prepared using standard scales. Reduced sized plans may not conform to standard scales.	
DESIGNED	JRT
FIELD	JRT
CHECKED	HMC
SHEET TITLE	
SCIENCE CASEWORK PLANS, ELEVATIONS & DETAILS	
PROJECT NO. 21-5022	
DRAWING ISSUED DATE: 01/16/2023	
SHEET	
A203	

REVISION HISTORY			
Δ	DESCRIPTION	DATE	APPR

ISSUED FOR 01/16/2023

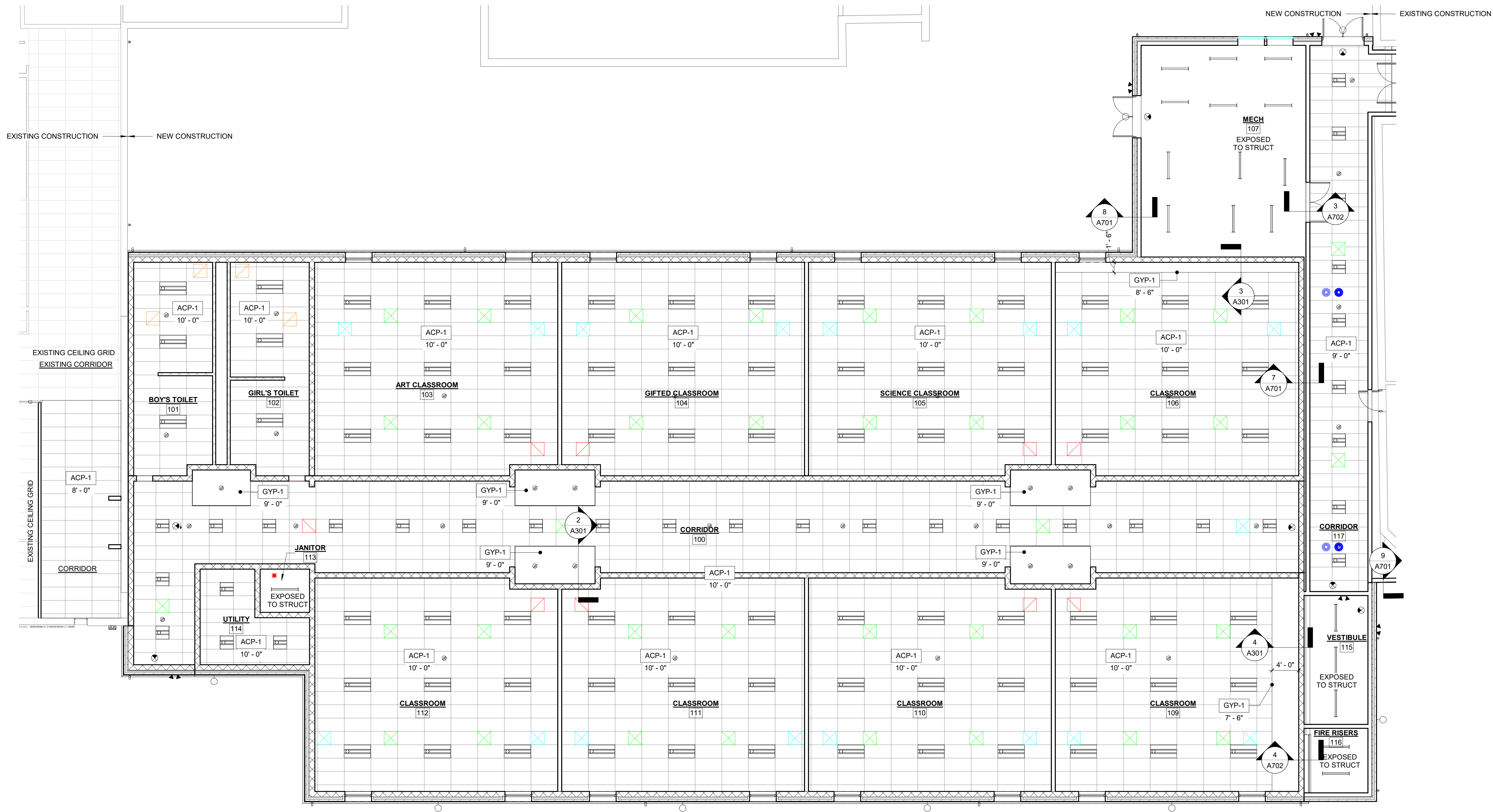
BIDDING DOCUMENTS



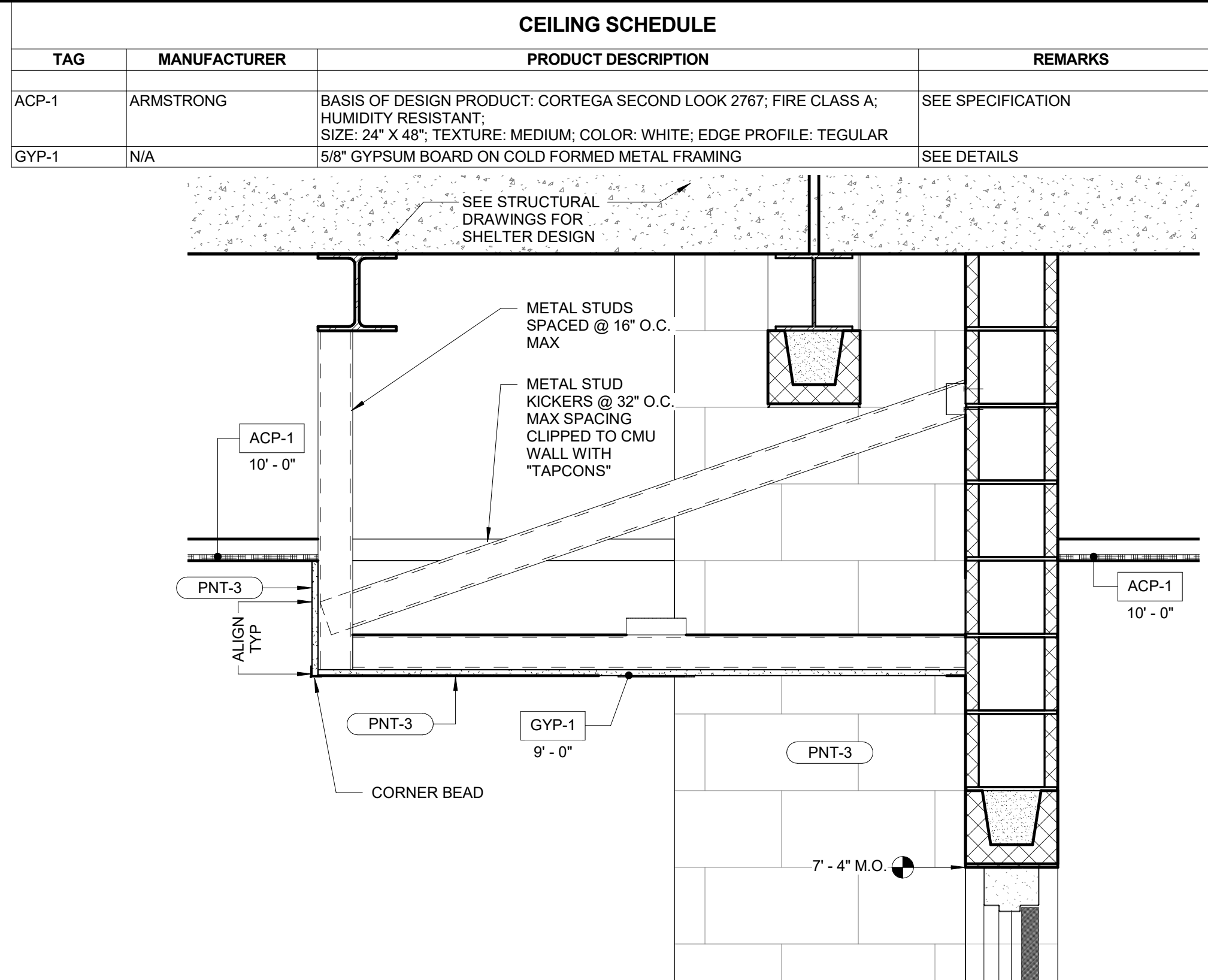
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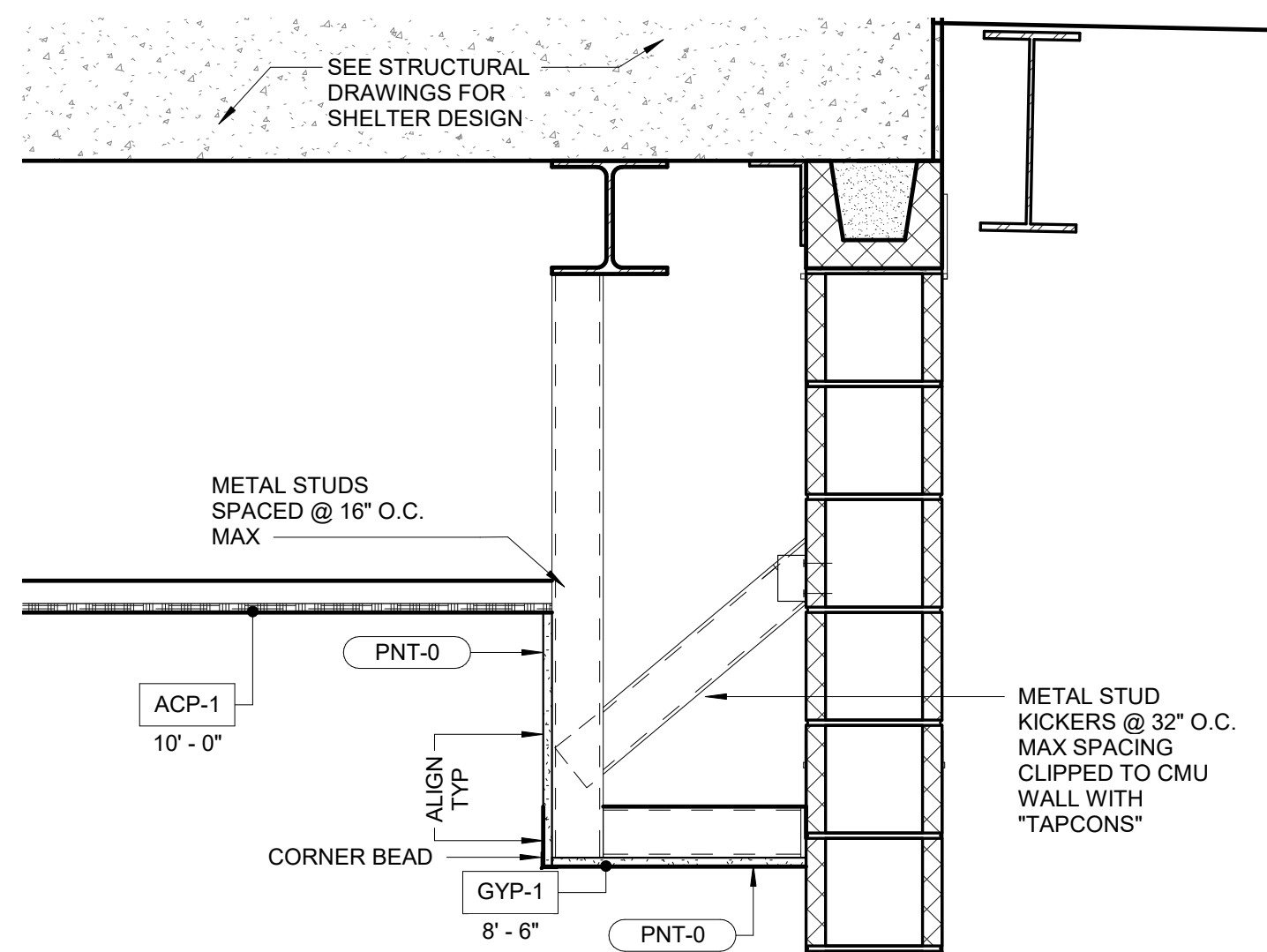
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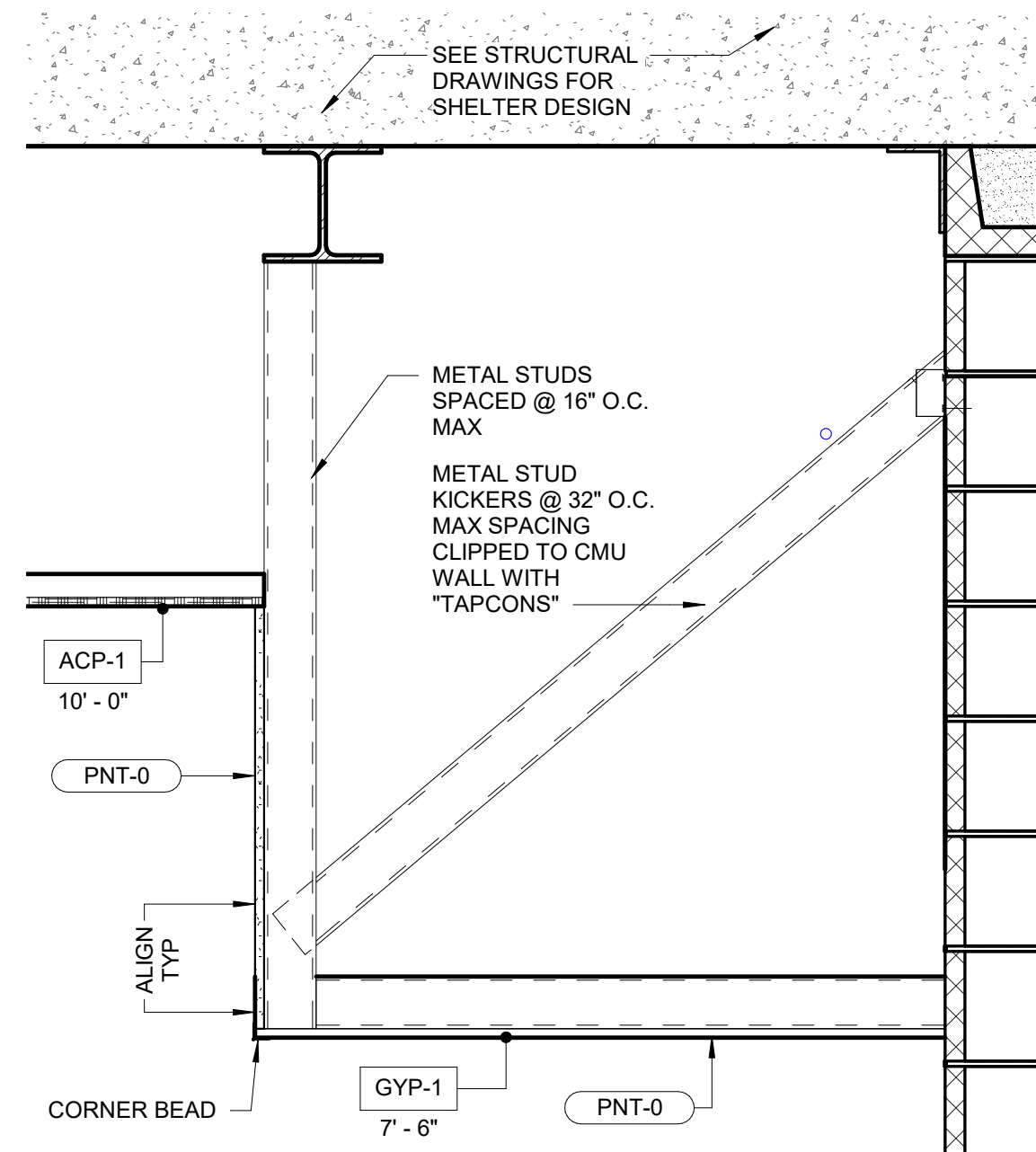
1 REFLECTED CEILING PLAN
1/8" = 1'-0"



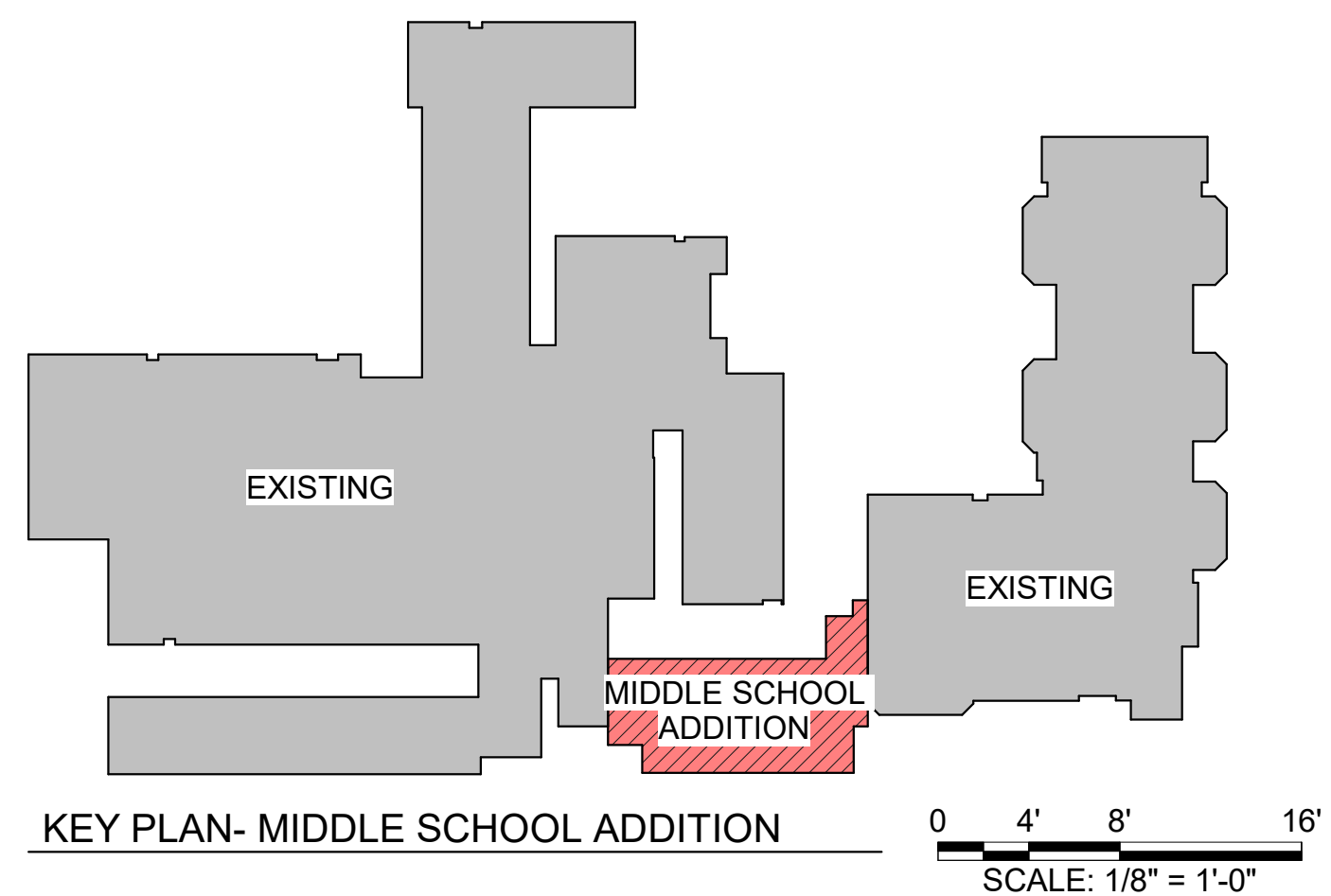
2 TYP SOFFIT DETAIL @ CORRIDOR ALCOVE
1" = 1'-0"



3 CLASSROOM 106 SOFFIT DETAIL
1" = 1'-0"



4 CLASSROOM 109 SOFFIT DETAIL
1" = 1'-0"



GENERAL NOTES: ROOF PLAN

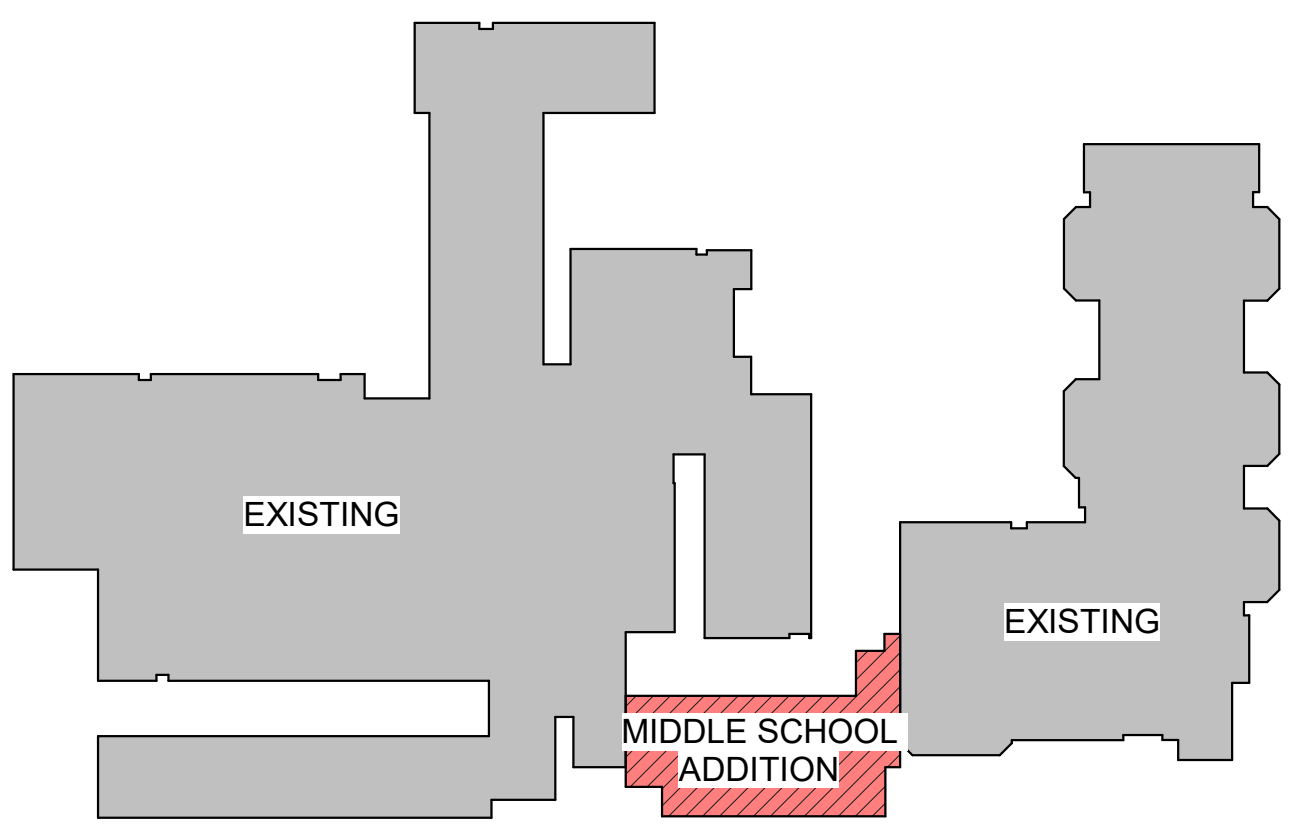
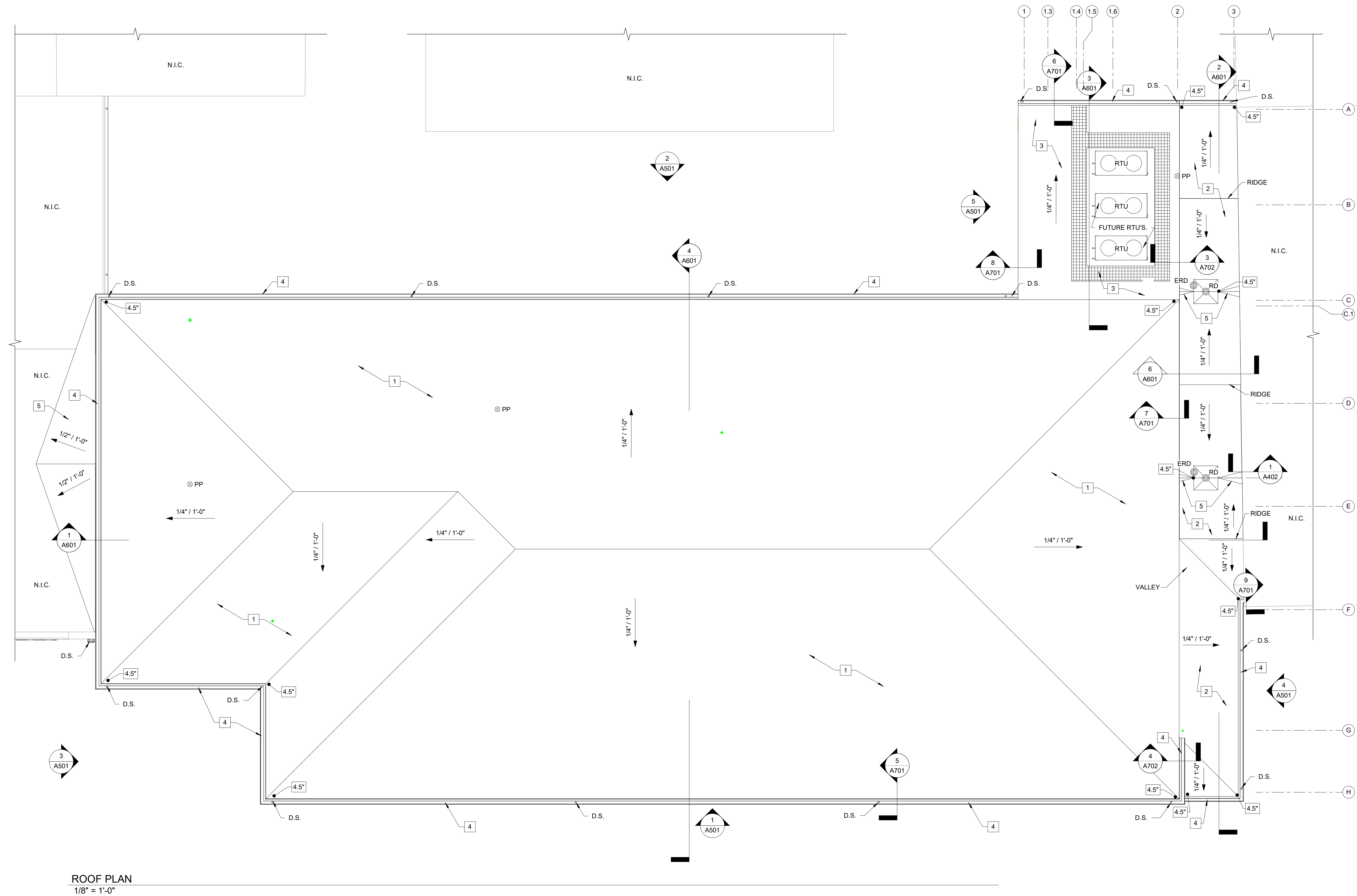
1. ALL NEW ROOF SURFACES TO SLOPE MIN. 1/4" IN 12" UNLESS NOTED OTHERWISE.
2. PROVIDE CRICKETS AT ALL CURBS: 1/2" IN 12" MIN. SURFACE SLOPE.
3. DOWNSPOUTS SHALL BE MFR'D. 4"x6" PREFINISHED ALUMINUM.
4. GUTTER SHALL BE MFR'D. 8" PREFINISHED ALUMINUM.

KEYED NOTES : ROOF PLAN

- 1 60 MIL EPDM MEMBRANE OVER 1/2" H.D. POLYISO COVER BOARD OVER 1/4" TAPERED POLYISO RIGID INSULATION OVER 2" BASE LAYERS OF POLYISO RIGID INSULATION OVER PRECAST CONCRETE ROOF PLANK DECK. EPDM MEMBRANE, COVER BOARD AND ALL LAYERS OF RIGID INSULATION TO BE FULLY ADHERED TO PRECAST CONCRETE DECK. PRECAST CONCRETE ROOF DECK IS NOT STRUCTURALLY SLOPED.
- 2 60 MIL EPDM MEMBRANE OVER 1/2" H.D. POLYISO COVER BOARD OVER 1/4" TAPERED POLYISO RIGID INSULATION OVER BASE LAYER(S) OF POLYISO RIGID INSULATION OVER METAL ROOF DECK. EPDM MEMBRANE SHALL BE FULLY ADHERED OVER 1/2" COVER BOARD. COVER BOARD AND ALL LAYERS OF RIGID INSULATION SHALL BE MECHANICALLY ATTACHED TO METAL ROOF DECK. METAL DECK IS NOT STRUCTURALLY SLOPED.
- 3 60 MIL EPDM MEMBRANE OVER 1/2" H.D. POLYISO COVER BOARD OVER (2) LAYERS OF 2-1/2" POLYISO RIGID INSULATION OVER METAL ROOF DECK. EPDM MEMBRANE SHALL BE FULLY ADHERED OVER 1/2" COVER BOARD. COVER BOARD AND BOTH LAYERS OF RIGID INSULATION SHALL BE MECHANICALLY ATTACHED TO METAL ROOF DECK. METAL DECK IS STURUTCTURALLY SLOPED.
- 4 PREFINISHED 8" ALUMINUM GUTTER.
- 5 INSTALL NEW TAPERED POLYISO CRICKETS. CRICKETS TO HAVE 1/2" IN 12" SURFACE SLOPE AND 1 TO 4 PROPORTION IN PLAN VIEW.

ROOF LEGEND

- N.I.C. NOT IN CONTRACT
- NEW WALK MATS
- INDICATES THICKNESS OF INSULATION INCLUDING COVER BOARD
- 4.5"
- D.S. DOWNSPOUT
- RD ROOF DRAIN
- ERD EMERGENCY ROOF DRAIN
- RTU ROOF TOP UNIT



0 4' 8' 16'

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

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573.355.5988

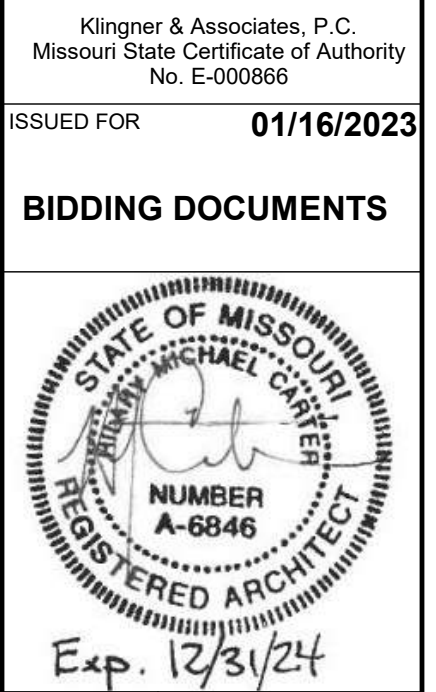
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REVISION HISTORY		
Δ	DESCRIPTION	DATE APPR

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Missouri State Certificate of Authority
No. E-000866

ISSUED FOR **01/16/2023**

BIDDING DOCUMENTS



HALLSVILLE MIDDLE SCHOOL ADDITION
HALLSVILLE SCHOOL DISTRICT
421 MO-124 E
HALLSVILLE MO, 65255

Non-Reduced Sheet Size 30" x 42"	
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DESIGNED HMC	DRAWN JRT
FIELD HMC	FIELD BOOK
CHECKED HMC	CHECK DATE
SHEET TITLE	
ROOF PLAN	
PROJECT NO. 21-0902	
DRAWING ISSUED DATE: 01/16/2023	
SHEET	
A401	

1/16/2023 11:28:42 PM
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ISSUED FOR **01/16/2023**

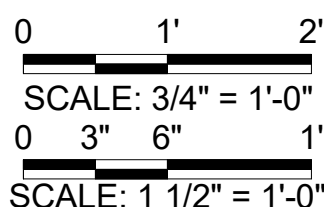


KEY WORDS: aging; depression; health status; life expectancy

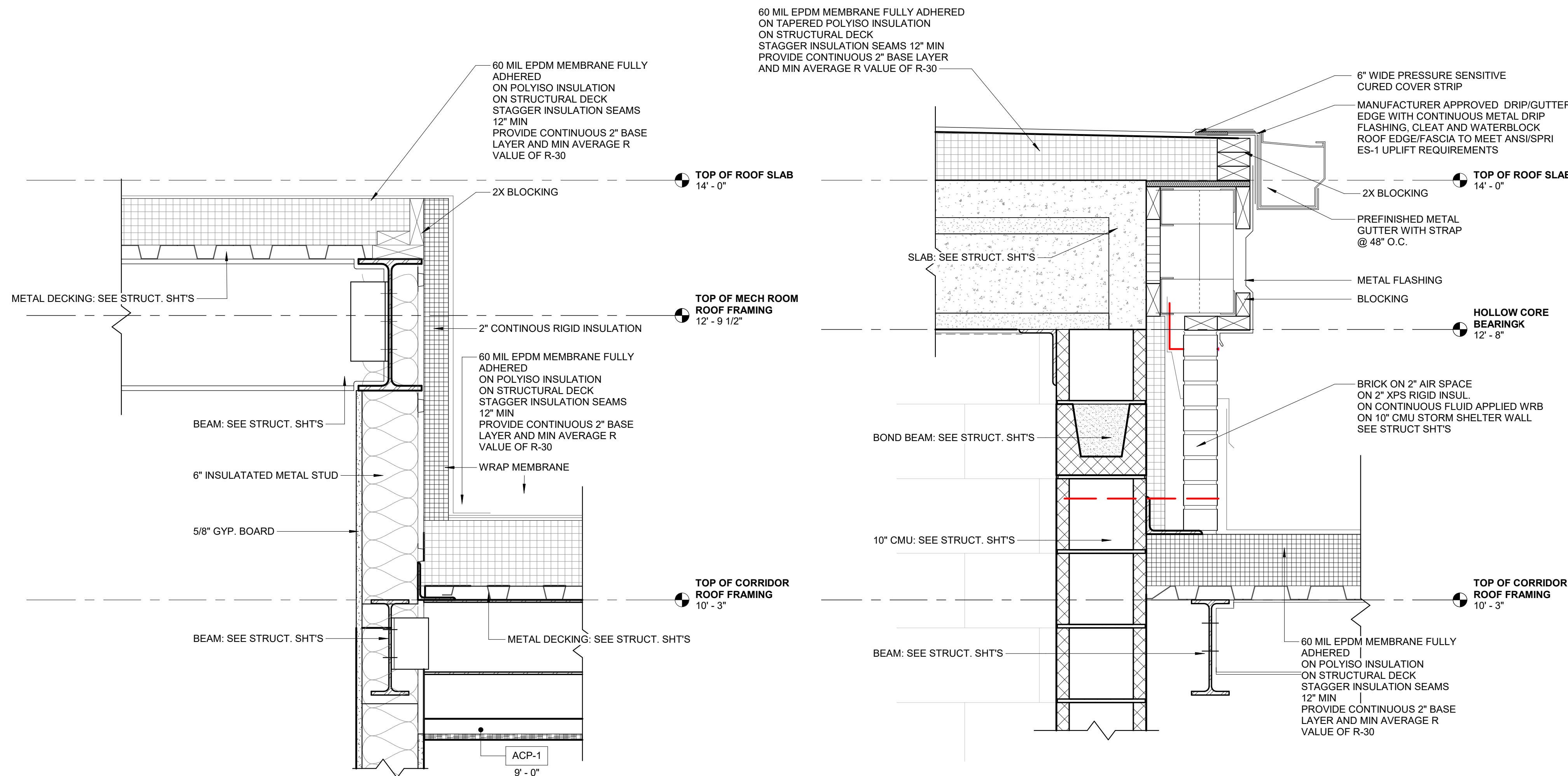
WALL SECTIONS

21-5052
DRAWING ISSUED DATE:

A701

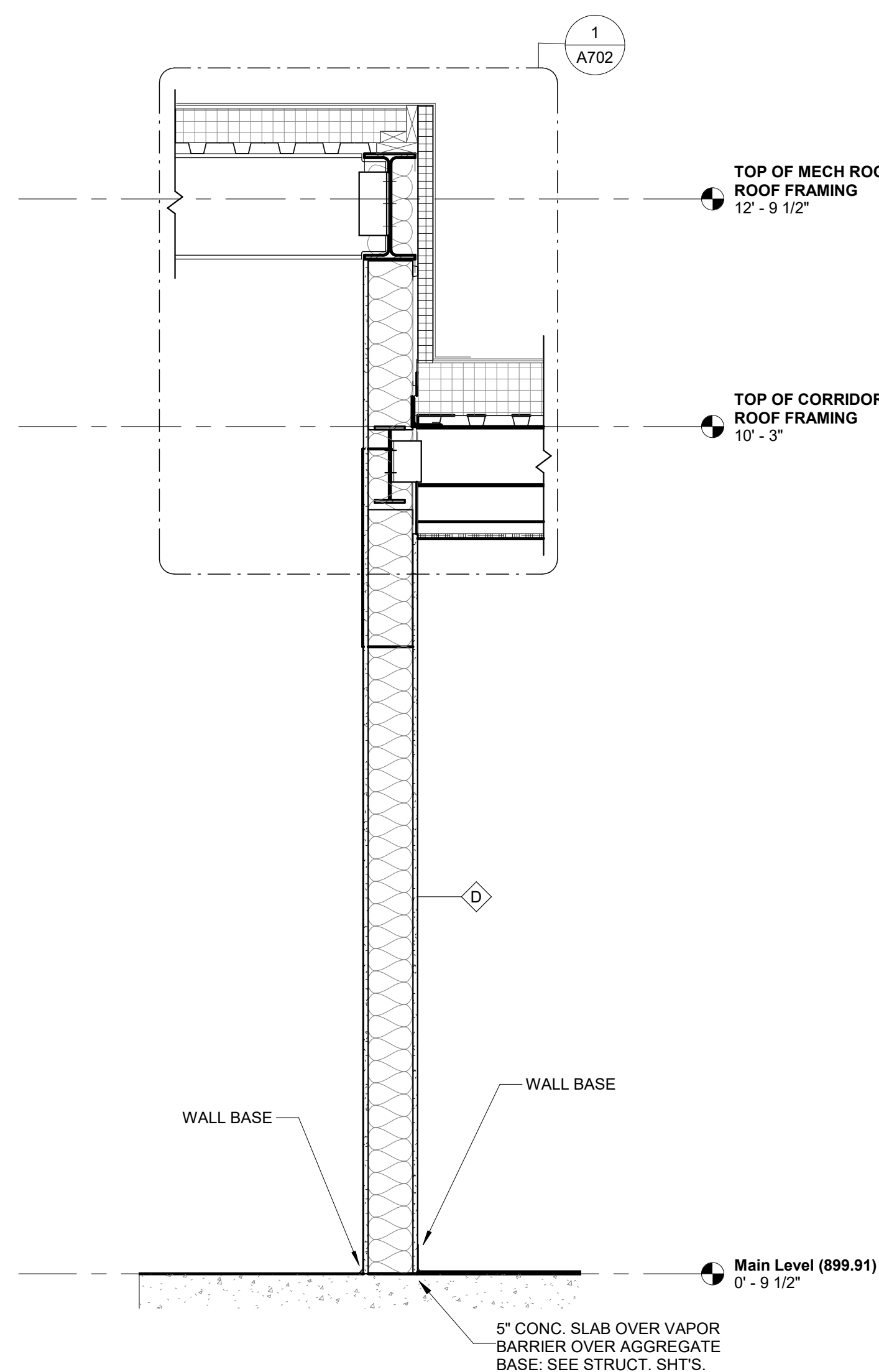


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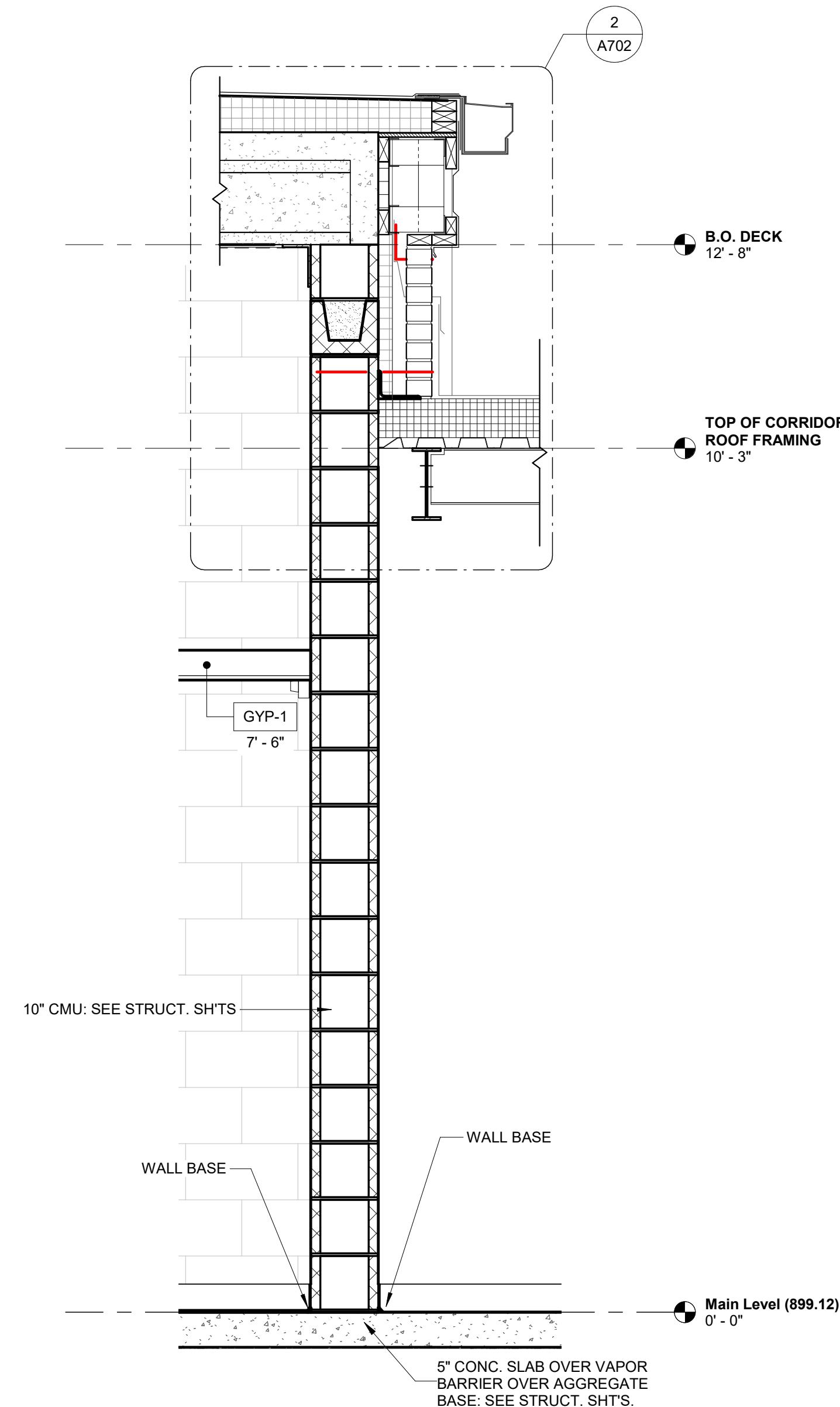


1 ENLARGED WALL SECTION E
1 1/2" = 1'-0"

2 ENLARGED WALL SECTION F
1 1/2" = 1'-0"



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



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

0 3" 6" 1'
SCALE: 1 1/2" = 1'-0"
0 1' 2'
SCALE: 3/4" = 1'-0"

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REVISION HISTORY

Δ	DESCRIPTION	DATE	APPR
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Klingner & Associates, P.C.
Missouri State Certificate of Authority
No. E-000866

ISSUED FOR 01/16/2023

BIDDING DOCUMENTS

STATE OF MISSOURI
MICHAEL C. CLARK
NUMBER A-6846
REGISTERED ARCHITECT
Exp. 12/31/24

HALLSVILLE MIDDLE SCHOOL ADDITION

HALLSVILLE SCHOOL DISTRICT

421 MO-124 E

HALLSVILLE MO, 65255

Non-Reduced Sheet Size 30" x 42"

Full sized plans have been prepared using standard scales. Reduced sized plans may not conform to standard scales.

DESIGNED JRT

DRAWN JRT

FIELD FIELD BOOK

CHECKED HMC

CHECK DATE

SHEET TITLE

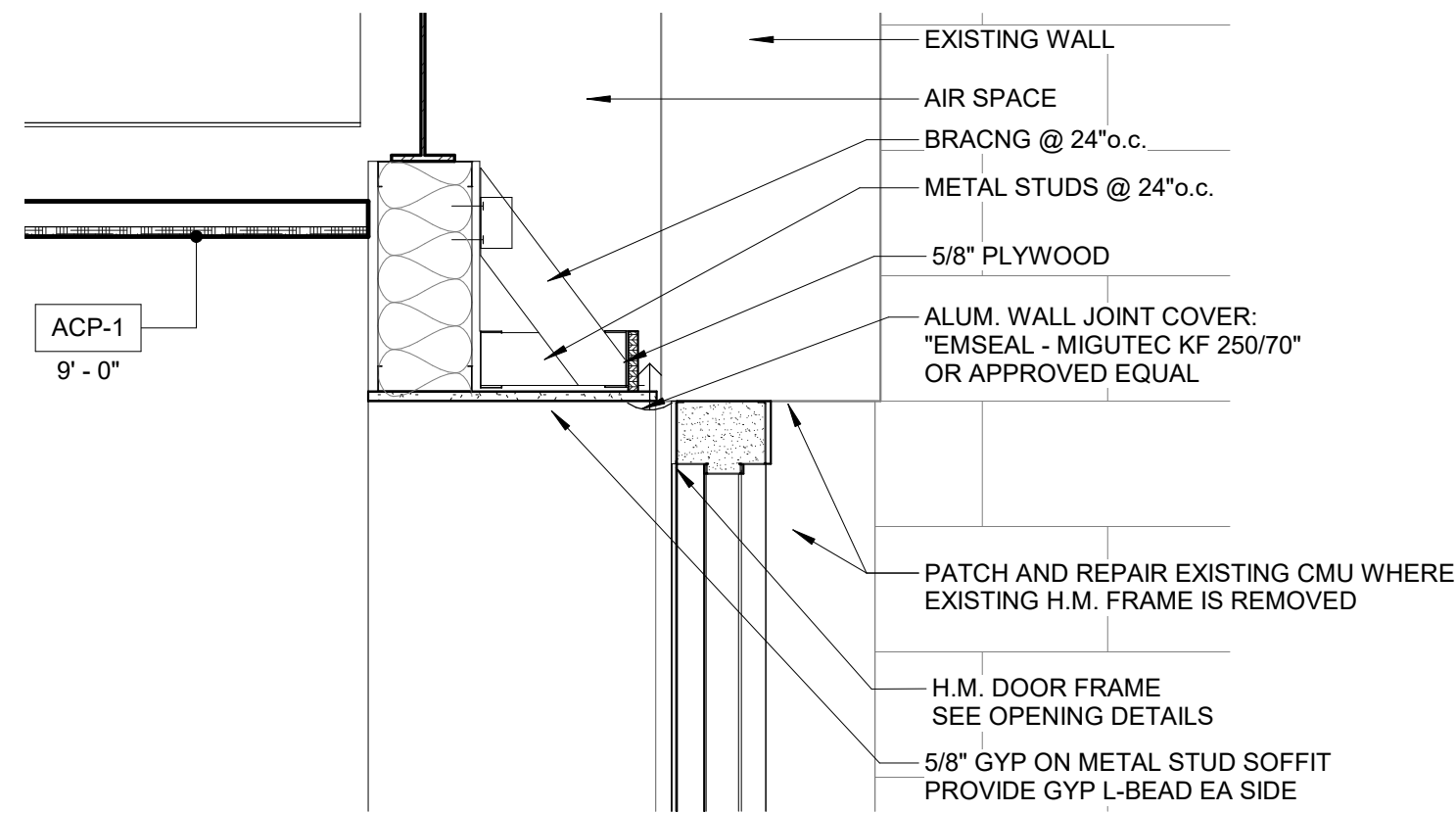
WALL SECTIONS

PROJECT NO. 21-5802

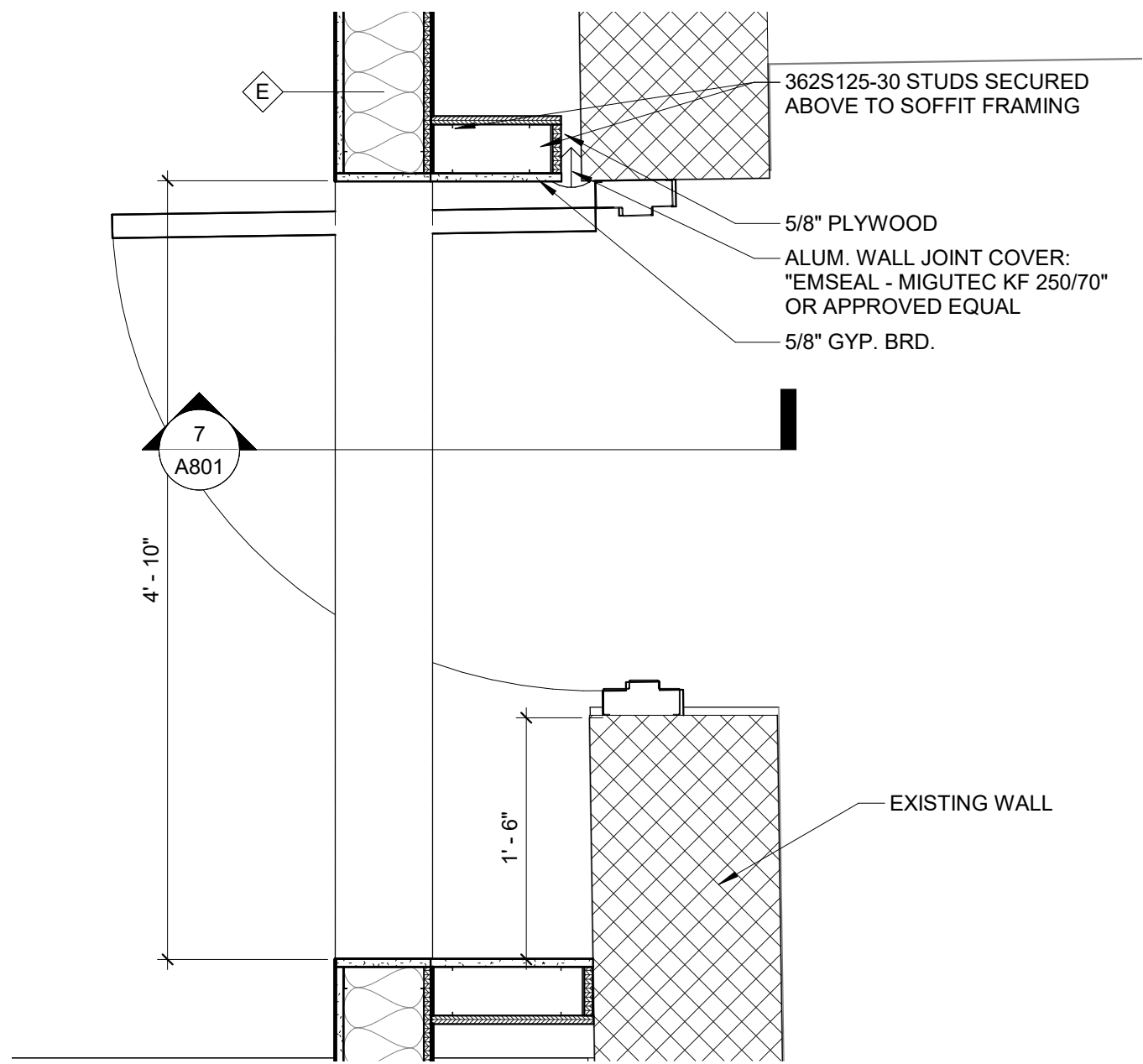
DRAWING ISSUED DATE: 01/16/2023

SHEET

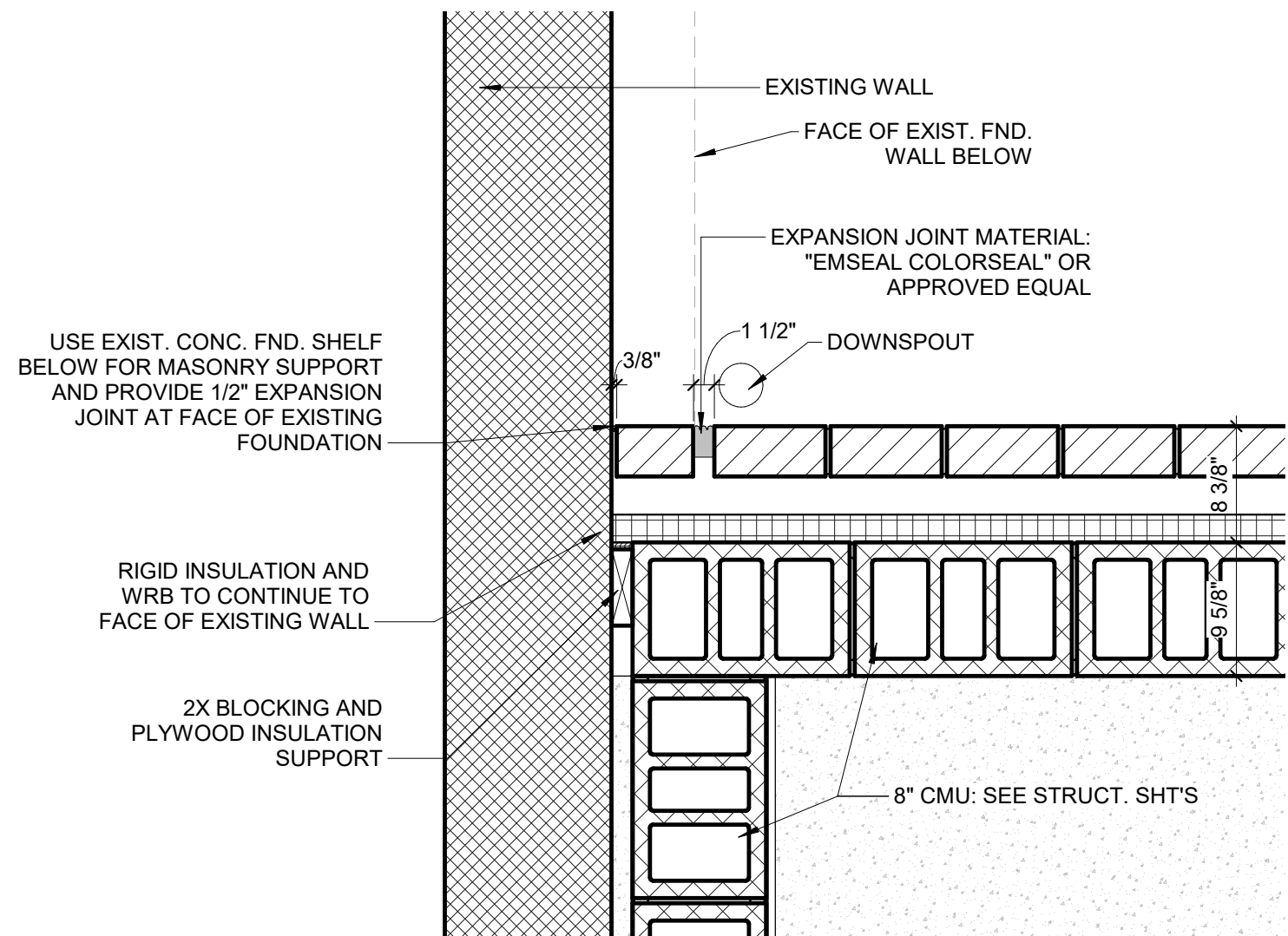
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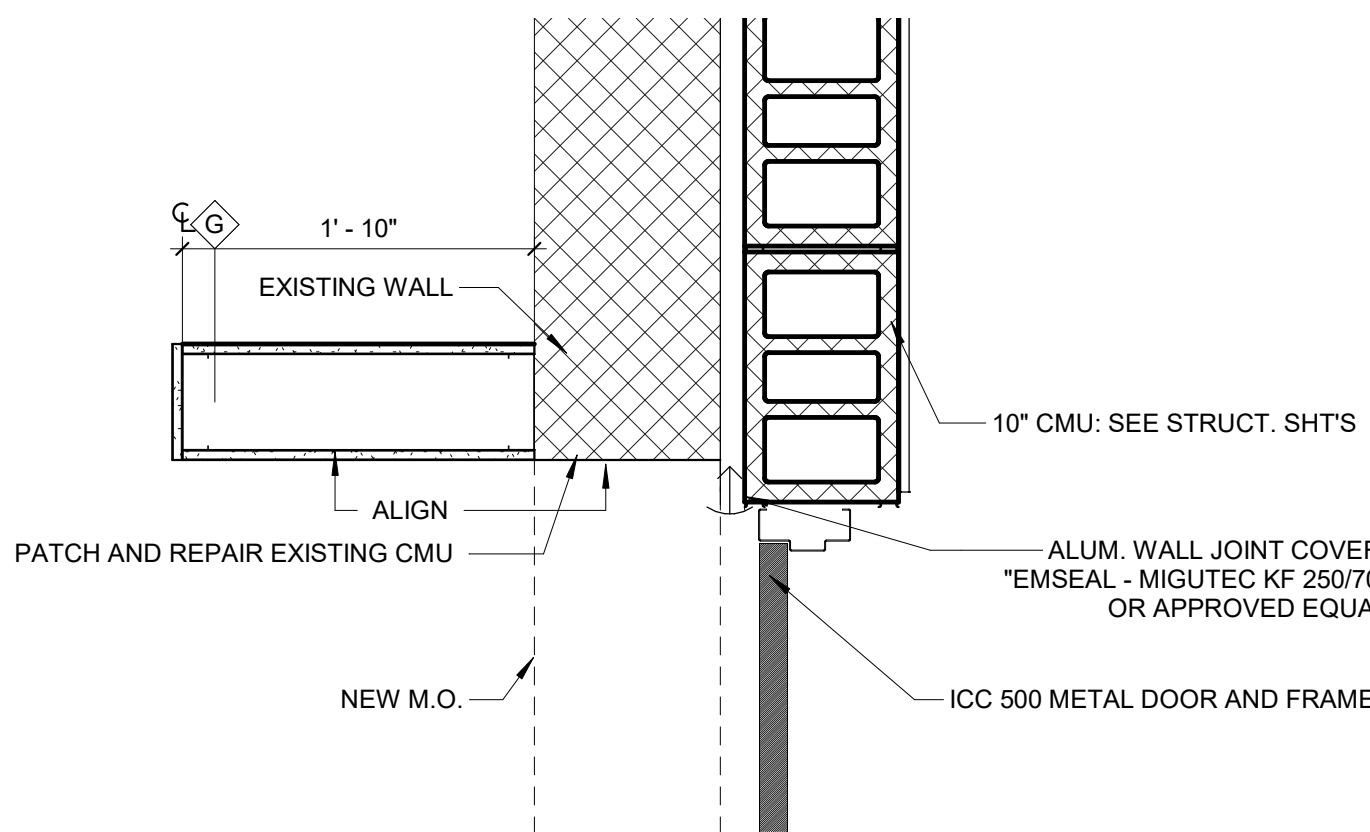
7 HEAD DETAIL @ EXISTING INTERMEDIATE WALL
1" = 1'-0"



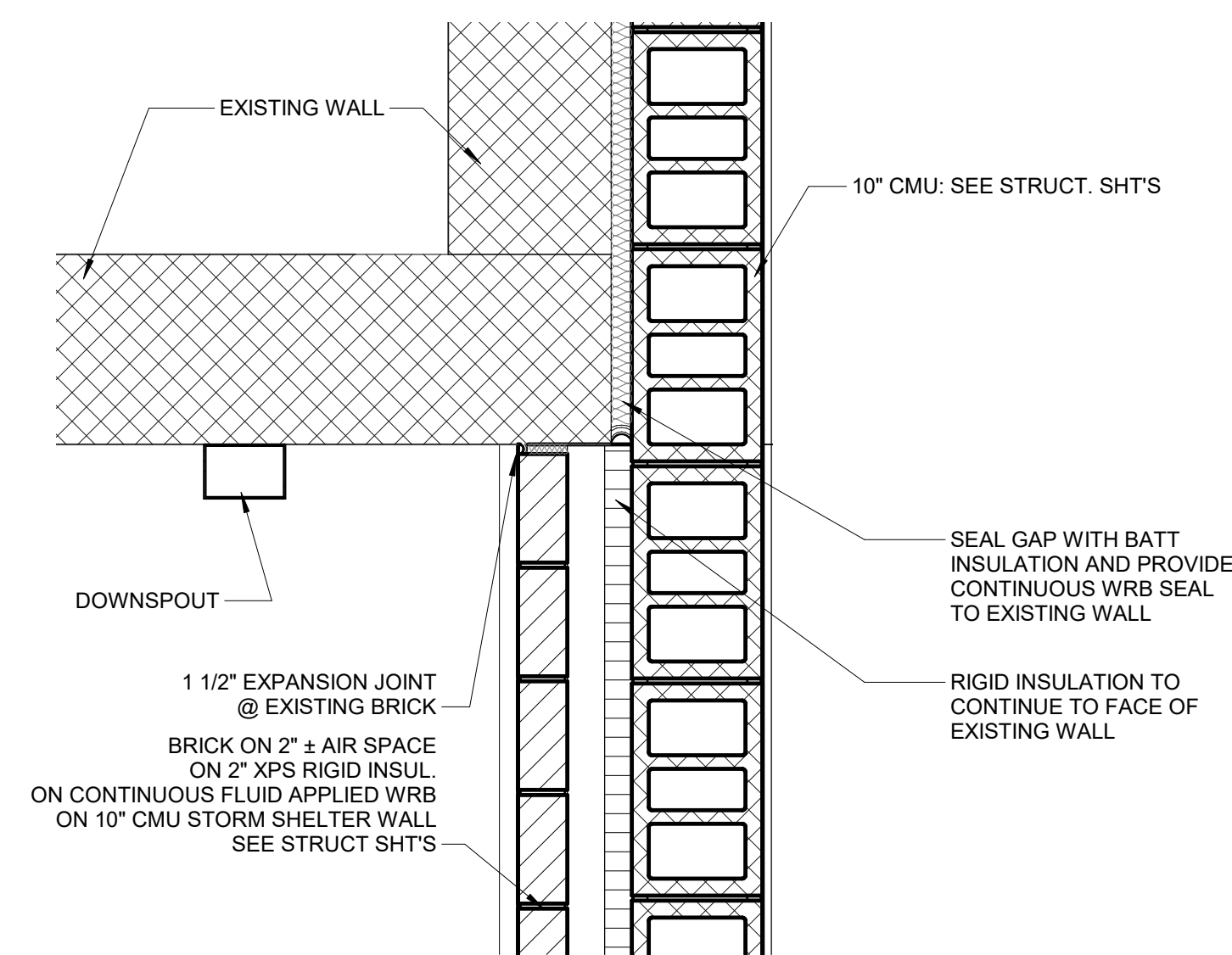
1 DOOR JAMB DETAIL @ EXISTING INTERMEDIATE WALL
1" = 1'-0"



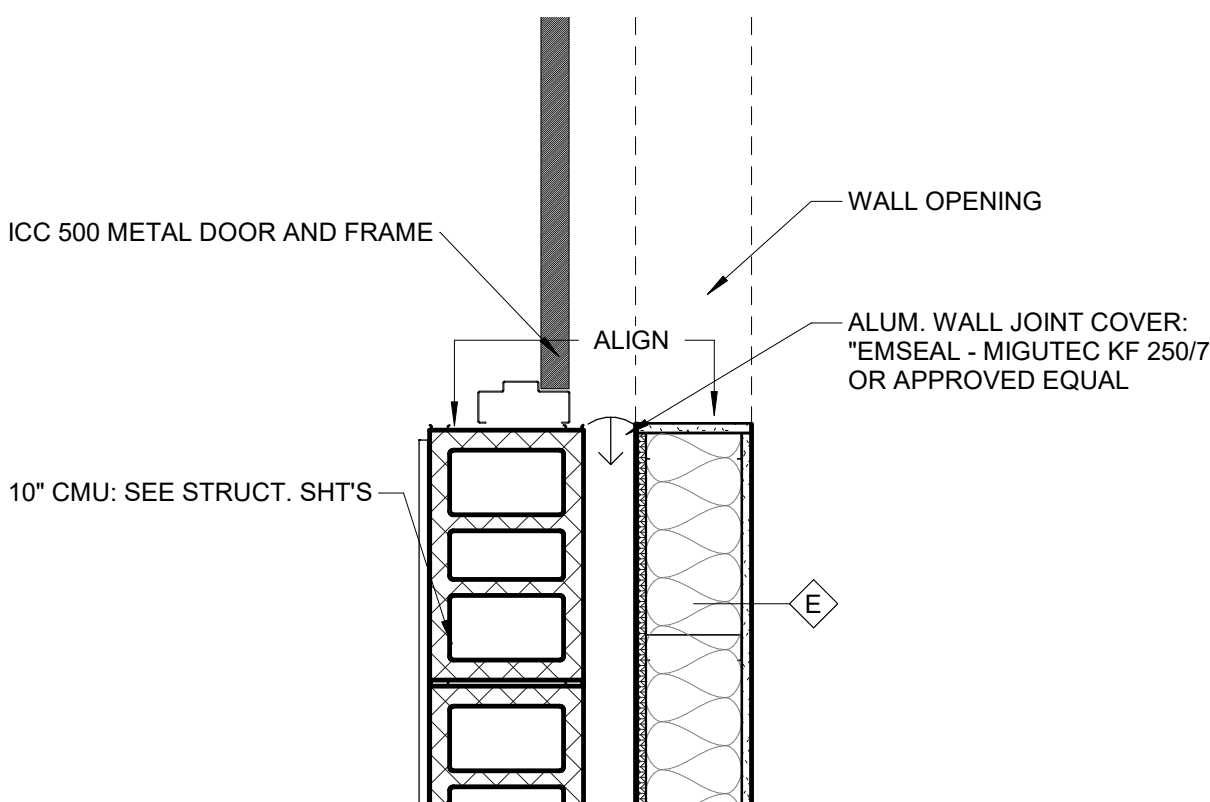
5 NORTH EXPANSION JOINT DETAIL @ EXISTING WALL
1" = 1'-0"



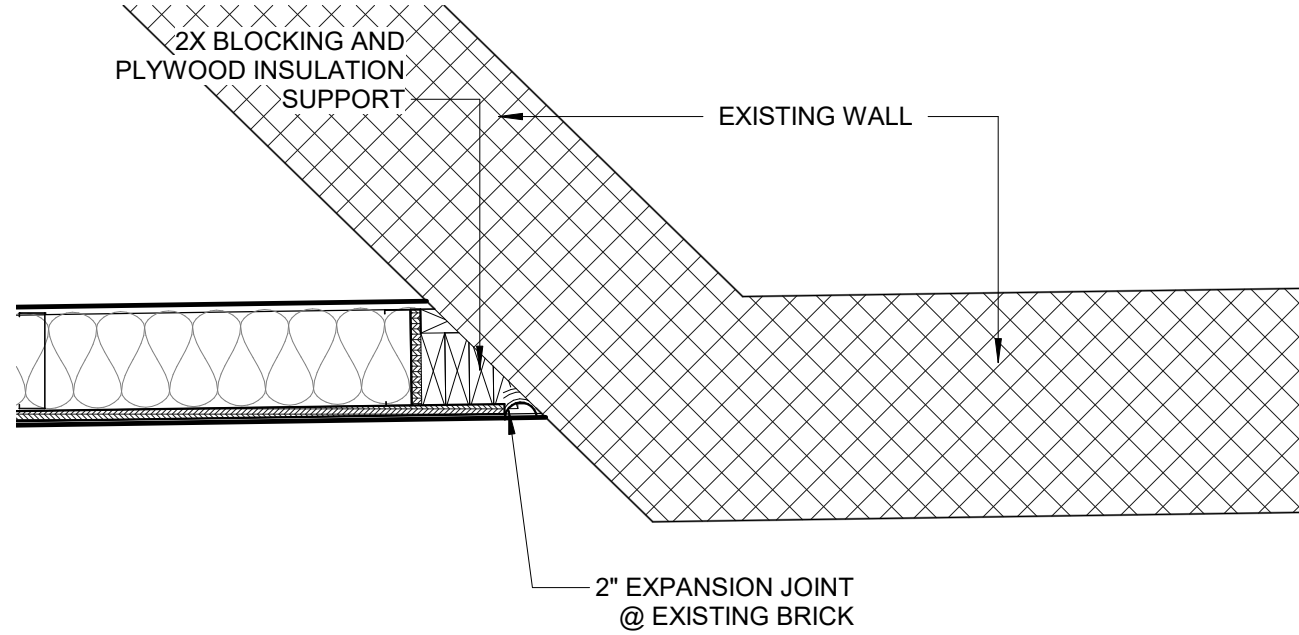
2 DOOR JAMB @ EXISTING INTERMEDIATE WALL 2
1" = 1'-0"



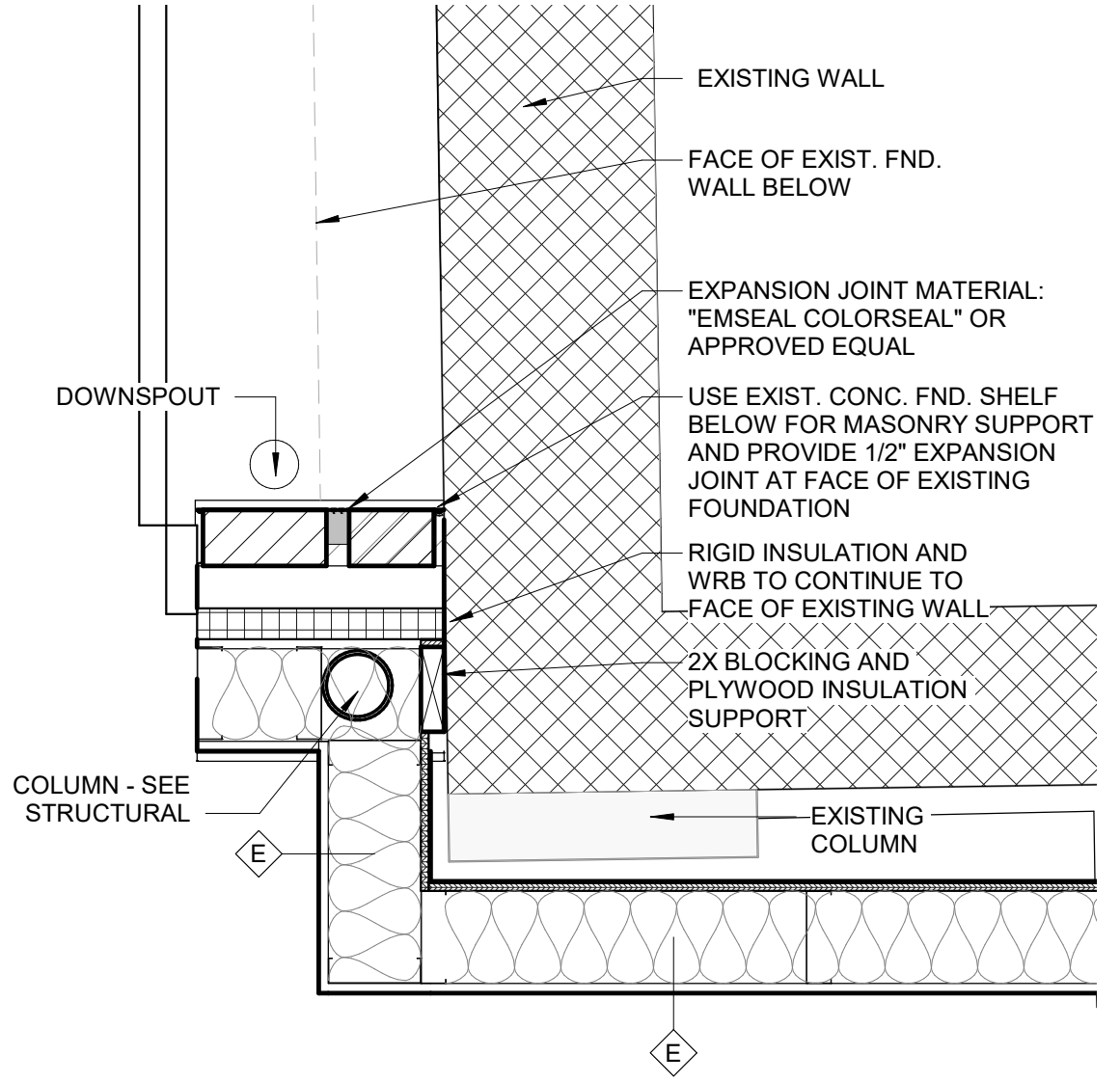
6 SOUTH EXPANSION JOINT DETAIL @ EXISTING WALL
1" = 1'-0"



3 DOOR JAMB @ WEST CORRIDOR
1" = 1'-0"



8 SOUTH WALL @ EXISTING INTERMEDIATE
1" = 1'-0"



4 NORTH WALL @ EXISTING INTERMEDIATE
1" = 1'-0"

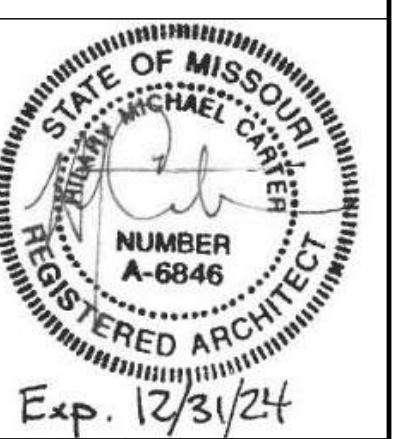
0 6" 1' 2'
SCALE: 1" = 1'-0"

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BIDDING DOCUMENTS



HALLSVILLE MIDDLE SCHOOL ADDITION
HALLSVILLE SCHOOL DISTRICT
421 MO-124 E
HALLSVILLE MO, 65255

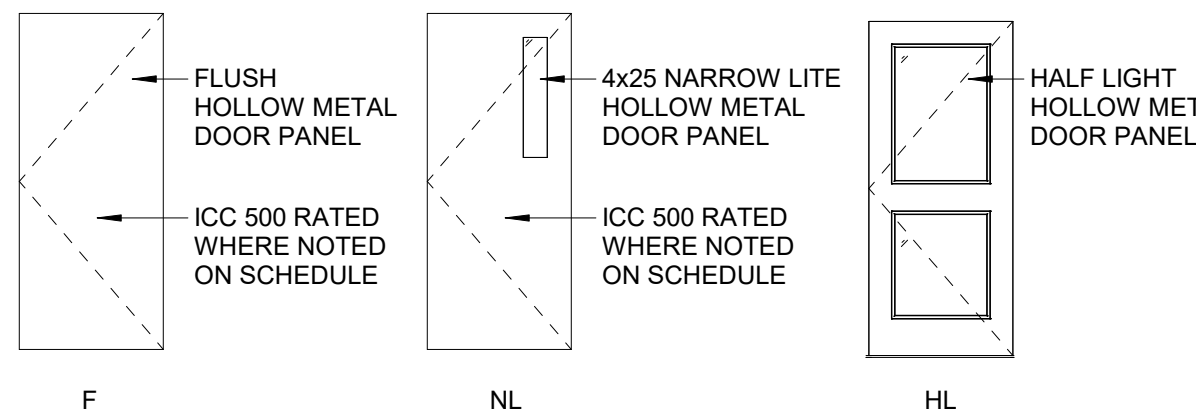
Non-Reduced Sheet Size 30" x 42"
Full sized plans have been prepared using standard scales.
Reduced sized plans may not conform to standard scales.

DESIGNED	JRT	DRAWN	JRT
FIELD	JRT	FIELD BOOK	JRT
CHECKED	HMC	CHECK DATE	
SHEET TITLE			
DETAILS			
PROJECT NO. 21-0002			
DRAWING ISSUED DATE: 01/16/2023			
SHEET			
A801			

ABBREVIATIONS
HM HOLLOW METAL
PREF PREFINISHED
PNT PAINT
STL STU
F FLUSH
NL NARROW LITE
G HALF GLAZED
FG FULL GLAZED
L LOUVER BOTTOM

DOOR AND FRAME SCHEDULE

DOOR													FRAME				FIRE RATING	HARDWARE GROUP	DOOR NUMBER	REMARKS
NUMBER	SIZE	WIDTH	HEIGHT	THICKNESS	TYPE	MATERIAL	FINISH	TYPE	MATERIAL	FINISH	DETAILS	HEAD	JAMB							
100A	3'-0"	7'-0"	7'-0"	1 3/4"	NL	MTL	PNT	B	MTL	PNT	1/A901	7/A901						01	100A	ICC 500 RATED DOOR/FRAME/HARDWARE SYSTEM
100B	6'-0"	7'-0"	7'-0"	1 3/4"	NL	WD	STAINED	A	MTL	PNT	4/A901	10/A901	90 MIN	07				07	100B	DOOR PAIR ICC 500 RATED DOOR/FRAME/HARDWARE SYSTEM
100C	6'-0"	7'-0"	7'-0"	1 3/4"	NL	WD	STAINED	B	MTL	PNT	4/A901	10/A901	90 MIN	07				07	100C	DOOR PAIR ICC 500 RATED DOOR/FRAME/HARDWARE SYSTEM
101	3'-0"	7'-0"	7'-0"	1 3/4"	F	MTL	PNT	A	MTL	PNT	5/A901	11/A901		08				08	101	
102	3'-0"	7'-0"	7'-0"	1 3/4"	F	MTL	PNT	A	MTL	PNT	5/A901	11/A901		08				08	102	
103	3'-0"	7'-0"	7'-0"	1 3/4"	NL	WD	STAINED	A	MTL	PNT	5/A901	11/A901		09				09	103	
104	3'-0"	7'-0"	7'-0"	1 3/4"	NL	WD	STAINED	A	MTL	PNT	5/A901	11/A901		09				09	104	
105	3'-0"	7'-0"	7'-0"	1 3/4"	NL	WD	STAINED	A	MTL	PNT	5/A901	11/A901		09				09	105	
106	3'-0"	7'-0"	7'-0"	1 3/4"	NL	WD	STAINED	A	MTL	PNT	5/A901	11/A901		09				09	106	
107A	6'-0"	7'-0"	7'-0"	1 3/4"	F	MTL	PNT	D	MTL	PNT	3/A901	9/A901		10A				10A	107A	
107B	6'-0"	7'-0"	7'-0"	1 3/4"	F	MTL	PNT	B	MTL	PNT	2/A901	8/A901		04				04	107B	
109	3'-0"	7'-0"	7'-0"	1 3/4"	NL	WD	STAINED	A	MTL	PNT	5/A901	11/A901		09				09	109	
110	3'-0"	7'-0"	7'-0"	1 3/4"	NL	WD	STAINED	A	MTL	PNT	5/A901	11/A901		09				09	110	
111	3'-0"	7'-0"	7'-0"	1 3/4"	NL	WD	STAINED	A	MTL	PNT	5/A901	11/A901		09				09	111	
112	3'-0"	7'-0"	7'-0"	1 3/4"	NL	WD	STAINED	A	MTL	PNT	5/A901	11/A901		09				09	112	
113	3'-0"	7'-0"	7'-0"	1 3/4"	F	MTL	PNT	A	MTL	PNT	5/A901	11/A901		10				10	113	
114	3'-0"	7'-0"	7'-0"	1 3/4"	F	MTL	PNT	A	MTL	PNT	5/A901	11/A901		10				10	114	
115A	3'-0"	7'-0"	7'-0"	1 3/4"	HL	MTL	PNT	C	MTL	PNT	3/A901	9/A901		11				11	115A	
115B	3'-0"	7'-0"	7'-0"	1 3/4"	F	MTL	PNT	C	MTL	PNT	2/A901	8/A901		03				03	115B	
116	4'-0"	7'-0"	7'-0"	1 3/4"	F	MTL	PNT	C	MTL	PNT	2/A901	8/A901		05				05	116	
117A	3'-0"	7'-0"	7'-0"	1 3/4"	NL	MTL	PNT	A	MTL	PNT	1/A901	7/A901	90 MIN	09A				09A	117A	
117B	6'-0"	7'-0"	7'-0"	1 3/4"	NL	MTL	PNT	D	MTL	PNT	3/A901	9/A901	90 MIN	12				12	117B	
117C	6'-0"	7'-0"	7'-0"	1 3/4"	HL	MTL	PNT	D	MTL	PNT	2/A901	8/A901		02				02	117C	

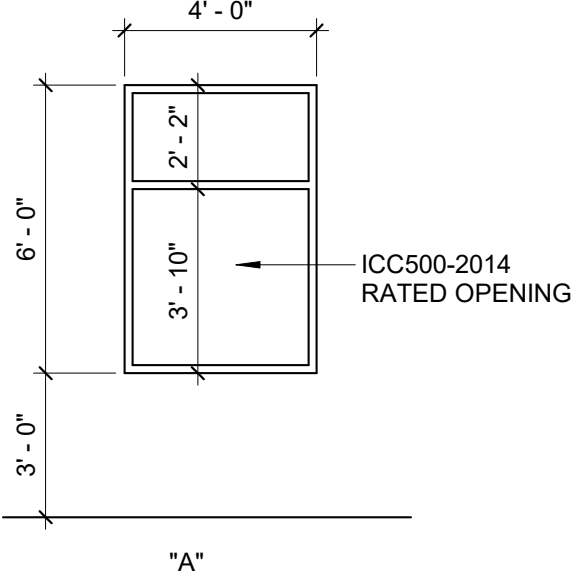


DOOR TYPE ELEVATIONS
NTS

GLAZING NOTES:
PROVIDE TEMPERED GLAZING IN ALL DOORS UNLESS OTHERWISE NOTED
PROVIDE FIRE RATED GLAZING IN FIRE RATED AND ICC 500 RATED DOORS UNLESS OTHERWISE NOTED
SEE SPECIFICATIONS FOR FULL GLAZING DETAILS

FRAME TYPE ELEVATION
NTS

WINDOW TYPE 'A' TO BE ALUMINUM UNIT WINDOWS - SEE SPECIFICATIONS FOR DETAILS
GLAZING NOTES:
PROVIDE TEMPERED GLAZING IN ALL WINDOW OPENINGS 7'-0" AND BELOW
PROVIDE INSULATED GLAZING IN ALL EXTERIOR WINDOWS UNLESS OTHERWISE NOTED
SEE SPECIFICATIONS FOR FULL GLAZING DETAILS



WINDOW TYPE ELEVATION
NTS

DOOR HARDWARE SCHEDULE

REFER TO DOOR HARDWARE SPECIFICATION FOR FULL DETAILS

DOOR HARDWARE SET NO. 01 - EXTERIOR EXIT DOOR - ICC 500 RATED

ITEM

PROVIDE COMPLETE TESTED ICC 500 DOOR/FRAME/HARDWARE SYSTEM
WINDSTORM RATED EXIT DEVICE - LEVER FUNCTION (LOCK/UNLOCK)
NOTE: EGRESS ALWAYS FREE

DOOR HARDWARE SET NO. 02 - EXTERIOR ENTRANCE DOOR PAIR

ITEM

KEYED REMOVABLE CENTER MULLION
NOTE: EGRESS ALWAYS FREE

DOOR HARDWARE SET NO. 03 - EXIT ONLY DOOR

ITEM

ACTIVE - RIM EXIT DEVICE - NIGHT LATCH WITH PULL FUNCTION (ALWAYS LOCKED)
INACTIVE - RIM EXIT DEVICE - EXIT ONLY (NO EXTERIOR HARDWARE)

DOOR HARDWARE SET NO. 04 - EXTERIOR LOCKED DOOR PAIR

ITEM

LEVER SET - EXTERIOR STORAGE FUNCTION (ALWAYS LOCKED)

DOOR HARDWARE SET NO. 05 - EXTERIOR LOCKED DOOR

ITEM

LEVER SET - EXTERIOR STORAGE FUNCTION (ALWAYS LOCKED)

DOOR HARDWARE SET NO. 06 - INTERIOR STORM SHELTER DOOR PAIR - ICC 500 RATED - 90 MIN FIRE RATING

ITEM

PROVIDE COMPLETE TESTED ICC 500 DOOR/FRAME/HARDWARE SYSTEM
(2) WINDSTORM RATED EXIT DEVICE - LEVER FUNCTION (LOCK/UNLOCK)
MAGNETIC CLOSER/HOLDER HOLDS DOOR OPEN - RELEASES WHEN FIRE ALARM ACTIVATED
NOTE: EGRESS ALWAYS FREE

DOOR HARDWARE SET NO. 07 - INTERIOR STORM SHELTER DOOR PAIR - ICC 500 RATED

ITEM

PROVIDE COMPLETE TESTED ICC 500 DOOR/FRAME/HARDWARE SYSTEM
(2) WINDSTORM RATED EXIT DEVICE - LEVER FUNCTION (LOCK/UNLOCK)
NOTE: EGRESS ALWAYS FREE

DOOR HARDWARE SET NO. 08 - INTERIOR RESTROOM DOOR

ITEM

PUSH / PULL PLATE

DOOR HARDWARE SET NO. 09 - CLASSROOM FUNTION

ITEM

LEVER SET - ENTRY/OFFICE FUNTION

DOOR HARDWARE SET NO. 09A - CLASSROOM FUNTION - UL RATED

ITEM

LEVER SET - ENTRY/OFFICE FUNTION

DOOR HARDWARE SET NO. 10A - STORAGE FUNCTION DOOR PAIR

ITEM

LEVER SET - STORAGE FUNCTION (ALWAYS LOCKED)

DOOR HARDWARE SET NO. 11 - INTERIOR VESTIBULE DOOR

ITEM

DUMMY TRIM RIM EXIT DEVICE

NOTE: EGRESS ALWAYS FREE

DOOR HARDWARE SET NO. 12 - INTERIOR SECURITY DOOR PAIR - UL RATED

ITEM

CONCEALED ROD EXIT DEVICES

NOTE: EGRESS ALWAYS FREE

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REVISION HISTORY
A DESCRIPTION DATE APPR

Klingner & Associates, P.C.
Missouri State Certificate of Authority
No. E-000665
ISSUED FOR 01/16/2023

BIDDING DOCUMENTS



HALLSVILLE MIDDLE SCHOOL ADDITION
HALLSVILLE SCHOOL DISTRICT
421 MO-124 E
HALLSVILLE MO, 65255

Non-Reduced Sheet Size 30" x 42"
Full sized plans have been prepared using standard scales.
Reduced sized plans may not conform to standard scales.
DESIGNED JRT DRAWN JRT
FIELD FIELD BOOK
CHECKED HMC CHECK DATE
SHEET TITLE
OPENING SCHEDULES & DETAILS
PROJECT NO. 21-002
DRAWING ISSUED DATE: 01/16/2023
SHEET
A901

0 3" 6" 1"
SCALE: 1 1/2" = 1'-0"

11/6/2023 2:25:04 PM
C:\Users\new.klingner\Documents\SSD 21-5692 HALLSVILLE MIDDLE SCHOOL ADDITIONS - eaw.rvt

DESIGN CRITERIA (NON-SHELTER)

1. Design Codes:
a. International Building Code: IBC 2015
b. Minimum Design Loads for Buildings and Other Structures: ASCE 7-10
2. Design Loads:
a. Risk Category III
b. Live Loads
i. Typical Floor LL = 40 psf
c. Roof Live Load = 20 psf
d. Roof Snow Load
i. Ground Snow Load (P_g) = 20 psf
ii. Flat Roof Snow Load (P_f) = 12.6 psf
iii. Snow Exposure Factor (C_e) = 0.9
iv. Snow Load Importance (I_s) = 1.0
v. Minimum Snow Load (P_s) = 20 psf
vi. Roof Thermal Factor (C_t) = 1.0
vii. Drifting and Sliding on Lower roof from Upper Roofs: As per ASCE 7-10
- e. Wind Load
i. Ultimate Wind Speed, V_{ult} = 120 mph (3 sec. Gust)
ii. Risk Category = III
iii. Wind Exposure = C
iv. Internal pressure Coefficient (C_{pi}) = ±0.18 (enclosed)
- f. Earthquake Load: Equivalent Lateral Force Procedure
i. Importance Factor (I_e) = 1.25
ii. Site Class C
iii. S_{ds} = 0.128 (S_s = 16.0%)
iv. S_{d1} = 0.103 (S₁ = 9.1%)
v. Seismic Design Category B
vi. Design Coefficients and Factors for Seismic Force-Resisting Systems
1. Resisting System - Steel Ordinary Moment Frames.
a. Response Coefficient, R = 3.5
b. Deflection Amplification Factor, C_d = 3
c. System Overstrength Factor, O_o = 3
vii. Design Coefficients and Factors for Seismic Force-Resisting Systems
2. Resisting System - Ordinary Reinforced Masonry Shear Walls
a. Response Coefficient, R = 2
b. Deflection Amplification Factor, C_d = 1.5
c. System Overstrength Factor, O_o = 2.5
viii. Component Design per ASCE 7-10
3. Deflection Limit:
a. Exterior Load-Bearing Wall Framing: Horizontal deflection of h/600.
b. Interior Load-Bearing Wall Framing: Horizontal deflection of h/360 using lateral load of 5 psf.
c. Elevated Floor Framing: Vertical deflection of l/480 for live loads and l/240 for total loads of the span.

DESIGN CRITERIA (STORM SHELTER)

1. BUILDING CODES:
a. IBC 2015/ASCE 7-10, ICC500-2014
2. DESIGN LOADS:
a. Roof Dead Load = 50 psf from 4" topping slab plus precast hollow core weight
b. Roof Dead Load for Uplift = 50 psf + 0.6 (from 4" slab plus Precast Hollow Core weight)
c. Collateral Roof Dead Load = 5 psf
d. Roof Live Load = 100 psf
e. Wind Loading - Analytical Procedure
i. Basic Wind Speed (3 Second Gust) = 250 mph
ii. Exposure Category C
iii. Importance Factor, I_w = 1.0
iv. Directional Factor, K_d = 1.0
v. Topographic Factor, K_{zt} = 1.0
vi. Internal Pressure Coefficient, GCPI = ±0.55 (Partially Enclosed)
vii. Main Wind Force Resisting System Pressures (0.6 Factor included)
1. Storm Shelter Walls:
a. 90 psf VVW + LW
b. 100 psf WW only
2. Storm Shelter Roof Uplift = 107 psf
i. ± 3.0'
- viii. Design Pressure for Components and Cladding
1. Storm Shelter Walls (39 SQ FT) = 222 psf
2. Roof Uplift:
a. Roof H/C Panel (300 SQ FT) = 225 psf
b. Storm Shelter Roof Connections (10 SQ FT) = 456 psf
ix. Gym Addition Storm Shelter Roof Net Uplift = 64 psf - 0.6' (Precast weight)
x. Missile Size and Speed:
1. Vertical Surfaces - 15 lb 2x4 at 100 mph
2. Horizontal Surface - 15 lb 2x4 at 67 mph
g. Seismic Loading - Equivalent Lateral Force Procedure
i. Importance Factor, I_e = 1.25
ii. Site Class C
iii. S_{ds} = 0.128 (S_s = 16.0%)
iv. S_{d1} = 0.103 (S₁ = 9.1%)
v. Seismic Design Category B

SPECIAL STRUCTURAL INSPECTIONS AND TESTING

1. Owner will engage a qualified testing and inspecting agency to perform field special structural inspections and testing in accordance with the applicable International Building Code and to submit reports.
2. See specifications and list of elements below for a summary of the elements of construction that shall require verification or special inspection. The tables shall be considered a guide, and the contractor and inspector shall refer to the IBC for complete requirements, qualifications, exceptions, and submittals. Refer to IBC section 1704 for IBC 2003-2009 codes, and section 1705 for IBC 2012-2015 codes.
3. Special inspections noted as "Continuous" requires the presence of a qualified inspector in the vicinity of the work being performed for 100% of that work. Special inspections noted as "Periodic" requires part-time observation of the work being performed and observation of the final condition of the work before it is closed from view.
4. Special inspection and testing reports shall be furnished to owner, structural engineer, and contractor. Special Inspector shall inform engineer of record immediately of all items found in non-compliance with construction documents or approved submittals.
5. The special inspector shall submit a final report stating that the structural work was, to the best of the special inspector's knowledge, performed in accordance with the construction documents.
6. Special inspections shall conform to Chapter 17 of the International Building Code, IBC, 2015. Special inspections include:
a. Steel Construction - 1705.2
b. Concrete Construction - 1705.3
c. Masonry Construction - 1705.4
d. Sols - 1705.6
e. Wind Resistance Construction - 1705.11

ABBREVIATIONS

&	AND	LG	LONG
AB	ANCHOR BOLT	LL	LIVE LOAD
ALT	ALTERNATE	LJH	LONG LEG HORIZONTAL
ARCH	ARCHITECT	LLV	LONG LEG VERTICAL
@	AT	LONG	LONGITUDINAL
		LWC	LIGHT WEIGHT CONCRETE
BLDG	BUILDING		
BM	BEAM	MAX	MAXIMUM
BO	BOTTOM OF	MECH	MECHANICAL
BOT	BOTTOM	MIN	MINIMUM
BRO	BEARING		
BRDG	BRIDGING	NO (#)	NUMBER
BYD	BEYOND	NTS	NOT TO SCALE
CIP	CAST IN PLACE	OC	ON CENTER
CJ	CONSTRUCTION JOINT	OH	OPPOSITE HAND
CL (C)	CENTERLINE	OPNG	OPENING
CLR	CLEAR	OPP	OPPOSITE
CMU	CONCRETE MASONRY UNIT	PAR	PARALLEL
COL	COLUMN	PEMB	PRE-ENGINEERED METAL BUILDING
CONC	CONCRETE	PERP	PERPENDICULAR
CTR	CENTER	PL (E)	PLATE
		PSF	POUNDS PER SQUARE FOOT
DBA	DEFORMED BAR ANCHOR	PT	PRESSURE TREATED
DBL	DOUBLE		
DA (Ø)	DIAMETER	REINF	REINFORCING
DIAPH	DIAPHRAGM	RO	ROUGH OPENING
DL	DEAD LOAD	RTU	ROOF TOP UNIT
DWLS	DOWELS		
EA	EACH	SCH	SCHEDULE
EF	EACH FACE	SM	SIMILAR
ELEV (EL)	ELEVATION	SL (\$)	STEEL LINE
EMBED	EMBEDMENT	STAGG	STAGGERED
EW	EACH WAY	STD	STANDARD
EX	EXISTING	STIFF	STIFFENER
FB	FIELD BEND	TBR	TO BE REMOVED
FDN	FOUNDATION	THK	THICK
FF	FINISHED FLOOR	THRU	THROUGH
FLOOR	FLOOR	TOP OF	TOP OF
FTG	FOOTING	TOF	TOP OF FOOTING
FV	FIELD VERIFY	TOS	TOP OF STEEL
		TOW	TOP OF WALL
GA	GAUGE	TRANS	TRANSVERSE
GALV	GALVANIZED	TYP	TYPICAL
HDG	HOT DIP GALVANIZED	UNO	UNLESS OTHERWISE NOTED
HDR	HEADER		
HGR	HANGER	VERT	VERTICAL
HORIZ	HORIZONTAL		
HS	HEADED STUD	W/	WITH
HOLLOW	HOLLOW STRUCTURAL SECTION	WF	WIDE FLANGE
HT	HEIGHT	W/O	WITHOUT
		WP	WORKING POINT
ID	INSIDE DIAMETER	WWF	WELDED WIRE FABRIC
		W.R.	WATER REDUCER
JOIST	JOIST		

SPECIAL INSPECTIONS - STEEL TABLE

ITEM	VERIFICATION AND INSPECTION	INSPECTION FREQUENCY
High Strength Bolts	Verify identification markings conform to ASTM standards specified in the Construction Documents.	Periodic
	Verify Bearing-Type Connections bolts, nuts, washers, paint, installation, and tightening conform to their respective standards.	Periodic
Welds	Verify Slip Critical-Type Connections mating surfaces and tightening to the requirements of the Contract Documents.	Periodic
	Verify Welder and Welding Inspector Qualifications and verify use of proper WPS's	Periodic
	Verify identification markings of Weld Filler Materials for field installed welds conform with AWS Specifications and the Construction Documents.	Periodic
Structural Steel Framing	Inspection of field installed Single Pass fillet welds not greater than 5/16".	Periodic
	Inspection of field installed Complete and Partial Joint Penetration groove welds and single or multipass fillet welds greater than 5/16".	(Continuous)
	Verification of Non-Destructive Testing (Ultrasonic Testing, U.T.) of field installed Complete Joint Penetration Welds of Moment Connections according to Construction Document requirements.	(Periodic)
Metal Decking	Verify identification markings conform to ASTM standards specified in the Construction Documents.	Periodic
	Inspection of Steel Framing for compliance with Construction Documents for member sizes and locations, bracing, stiffeners, and connections in accordance with the quality assurance inspection requirements of AISC 360.	Periodic
Open Web Steel Joists	Verify identification markings conform to ASTM standards specified in the Construction Documents.	Periodic
	Inspection of puddle welding, screw attachments, mechanical deck fastener attachments, and sidelap fastening of Roof and Floor decking.	Periodic
	Inspection of Joist and Joist Girders for welded or bolted end connections, horizontal and diagonal bridging in accordance with SJI specifications, and inspection of bridging that differs from SJI specifications.	Periodic

SPECIAL INSPECTIONS - CONCRETE TABLE

ITEM	VERIFICATION AND INSPECTION	INSPECTION FREQUENCY
Reinforcement	Inspection of reinforcement and placement for conformance with the Construction Documents and inspection that bars are free from materials that could prevent bond, are adequately lapped, spliced, tied, and supported.	Periodic
	Verify weldability of rebar other than ASTM A706 and Inspection of Single Pass Fillet Welds not greater than 5/16".	Periodic
Anchor Installation	Inspection of all other rebar welds.	Continuous
	Inspection of Cast-In-Place Anchors and Bolts.	Periodic
Mix Design	Inspection of Post-Installed adhesive anchors installed in horizontally or upwardly inclined orientations to resist sustained tension loads.	N/A (Continuous)
	Inspection of Post-Installed mechanical and adhesive anchors not otherwise specified.	Periodic
Sampling and Testing	Verify use of required mix design(s).	Periodic
	Prior to concrete placement, fabricate specimens for strength tests, perform slump and air content tests, and determine the temperature of concrete.	Continuous (Testing)
Concrete Placement	Inspection of concrete placement for proper application techniques (excludes isolated concrete spread footings and slab-on-grade)	Continuous
	Verify maintenance of specified curing temperature and techniques.	Periodic
Precast Concrete Members	Inspection of formwork for shape, location, and dimensions of the concrete member being formed.	Periodic
	Inspect erection of precast concrete.	Periodic
	Inspect welded connections of precast members to steel framing and precast members.	Periodic

SPECIAL INSPECTIONS - MASONRY TABLE

ITEM	VERIFICATION AND INSPECTION	INSPECTION FREQUENCY
Reinforcement	Inspection of reinforcement and placement for conformance with the Construction Documents and that bars are adequately lapped, spliced, and supported.	Periodic
	Masonry, Grout, and Mortar Installation and Mix Design	Periodic
	Inspection of grout placement in cells with steel reinforcement for load bearing Structural Masonry.	Continuous
	Verify proportions of site-prepared mortar and grout conform to approved mix designs.	Periodic
Anchor Installation	Inspection of Post-Installed mechanical and adhesive anchors in accordance with the requirements of their respective ICC-ES reports.	Periodic
Sampling and Testing	Preparation of required grout specimens, mortar specimens, and/or prisms and verify fm prior to construction in accordance with Contract Documents.	Continuous (Testing)

SPECIAL INSPECTIONS - SOILS TABLE

ITEM	VERIFICATION AND INSPECTION	INSPECTION FREQUENCY
Soil Bearing Capacity	Verify materials below shallow foundation are adequate to achieve the design bearing capacity.	Periodic
Excavation	Verify excavations are extended to proper depth and have reached proper material.	Periodic
Materials	Perform classification and testing of compacted fill materials.	Periodic
Sampling and Testing	Verify use of proper materials, densities and lift thicknesses during placement and compaction of compacted fill in accordance with the Geotechnical Report.	Continuous
	Prior to placement of compacted fill, inspect subgrade and verify that site has been prepared properly.	Periodic

SPECIAL INSPECTIONS - WIND RESISTANCE TABLE

ITEM	VERIFICATION AND INSPECTION	INSPECTION FREQUENCY
Masonry Shear Walls	Inspection of reinforcement and placement for conformance with the Construction Documents and that bars are adequately lapped, spliced, and supported.	Periodic
	Inspection of mortar joint construction, size and location of structural elements, grout space, and protection of masonry in cold weather (below 40°) or hot weather (above 90°) in accordance with the quality assurance program requirements of TMS 402/ACI 530/ASCE 5 and TMS 602/ACI 530.1/ASCE 6.	Periodic
Masonry Shear Walls	Inspection of grout placement in cells with steel reinforcement for load bearing Structural Masonry.	Continuous
	Verify proportions of site-prepared mortar and grout conform to approved mix designs.	Periodic
Masonry Shear Walls	Preparation of required grout specimens, mortar specimens, and/or prisms and verify fm prior to construction in accordance with Contract Documents.	Continuous (Testing)

GENERAL

1. The structure is designed to be self-supporting and stable after the building is fully completed. It is solely the contractor's responsibility to determine erection procedure and sequence and insure the safety of the construction personnel, public, building and its components parts, and adjacent buildings and properties. This includes the addition of whatever temporary or permanent shoring, bracing, rereading, underpinning, or sheet piling, etc. that may be necessary to brace new construction, adjacent buildings, so that the structure is braced for wind, seismic, gravity, construction loads, etc. and that no horizontal or vertical settlement or any damage occurs to the adjacent existing structure. Temporary supports shall be maintained in place until permanents supports and/or shoring and bracing are installed.
2. Fall protection support from perimeter columns or walls shall be provided in accordance with OSHA requirements as required. Such material shall remain the contractor's property after the completion of the project.
3. It is the contractor's responsibility to enforce all applicable safety codes and regulations during all phases of construction.
4. The contractor shall perform all construction for the project in a manner and sequence that are based on accepted industry standards that recognize the interaction of the components that comprise the structure, without causing distress, unanticipated movements or irregular load paths as a result of the construction means and methods employed.
5. Construction loads shall not exceed design live loads. The contractor shall be responsible for all design required to support construction equipment used in constructing this project. Shoring and reshoring is the responsibility of the contractor.
6. Principal openings through the framing are shown on these drawings. The general contractor shall examine the structural and mechanical drawings for the required openings and shall verify size and location of all openings with the mechanical contractor. Providing all openings required by the mechanical, electrical, plumbing, or other trades shall be part of the general contract, whether or not shown in the structural drawings. Any deviation from the openings shown on the structural drawings shall be brought to the engineer's attention for review.
7. All contractors are required to examine the drawings and specifications carefully, visit the site and fully inform themselves as to all existing conditions and limitations, prior to agreeing to perform the work. Failure to visit the site and familiarize themselves with the existing conditions and limitations will in no way relieve the contractor from furnishing any materials or performing any work in accordance with drawings and specifications without additional cost to the owner.
8. Contractor shall verify all dimensions and conditions at the job site before commencing work and shall report any discrepancies to the engineer.
9. Omissions or conflicts between various elements of the drawings, notes, details and specifications shall be brought to the attention of the engineer and resolved before proceeding with the work.
10. Details labeled "Typical Details" on drawings apply to situations occurring on the project that are the same or similar to those specifically details. Such details apply whether or not details are referenced at each location. Notify engineer of clarification regarding applicability of "Typical Details".
11. Work these drawings with architectural, civil, mechanical, and electrical drawings.
12. Do not scale drawings.
13. Should any of the general notes conflict with any details or instructions on plans, the strictest provision shall govern.
14. Coordinate masonry and concrete work with the plumbing. The plumbing shall not be placed inside of exterior reinforced masonry walls where it could freeze. Route plumbing around masonry cells and knock-out bond beams with reinforcing steel. Do not place plumbing in masonry cells with reinforcing steel. Maintain the continuity of the masonry horizontal joint reinforcing. Do not route plumbing vertically through footings. The plumbing engineer needs to be informed when there may be conditions like those described above.
15. Shop drawings and submittals:
A. These drawings shall be checked and coordinated with other materials and contracts by the general contractor and shop drawings and submittals shall bear the contractor's review stamp with the checker's initials before being submitted to the architect for approval.
B. When the fabricator has been authorized to use the architect and engineer's drawings as erection drawings, the fabricator must remove all title blocks, professional seals and any other reference to the architect and engineer from that erection drawing. The fabricator's name and title shall be placed on the erection drawing.

EXISTING WORK

1. Existing conditions shown or noted on the drawings were obtained from field measurements or existing plans were assumed. If conditions other than those shown exist, immediately notify the Engineer before proceeding with the work at that location. If conditions other than those shown exist, alternate methods of construction may need to be used.
2. Where specifically noted on the drawings that existing construction be verified, notify the Engineer in writing of the findings. Verification shall take place prior to preparation of shop drawings and shop drawings shall show all field verified existing conditions. Modifications to details may be required should actual condition significantly differ from those presumed. Any required modifications will be made during the review of the shop drawings.
3. Use appropriate construction methods and equipment as necessary to support existing structures and to avoid over stressing the existing structures.
4. Existing framing is assumed to be in original condition. If deterioration has occurred notify the Engineer in writing of the findings. For example, some types of deterioration are as follows: rotten wood, broken or cracked masonry, and broken wood members.

PRECAST STRUCTURAL CONCRETE

1. Precast structural concrete construction shall consist of the design, manufacture, transportation and erection of structural precast hollowcore planks.
2. Design of precast members shall be in accordance with the following standards:
ACI 301 - Specifications for Structural Concrete for Buildings.
ACI 318 - Building Code Requirements for Reinforced Concrete.
PCI MNL - 117 - Manual for Quality Control for Plants and Production of Architectural Precast Concrete Products.
AWS D1.1 - Structural Welding Code - Steel.
ACI 315 - Details and Detailing of Concrete Reinforcement.
AWS D14 - Structural Welding Code - Reinforcing Steel.
3. Precast members may be conventionally reinforced and/or prestressed, consistent with the design loads, spans, handling stresses, etc. Design loads are shown on drawings.
4. Precast contractor shall furnish complete design calculations signed by a licensed professional engineer licensed in Missouri, including details of connections, bearings, fittings.
5. Precast contractor shall furnish and place any temporary shoring, bracing, etc., required for erection of precast work.
6. Precast contractor shall furnish all plates, inserts, angles, rods, etc., required to connect precast to precast concrete members, structural steel members or masonry members. Details placing plans shall be furnished for all items to be embedded in masonry.
7. Precast manufacturer shall cast in structural inserts, bolts, plates, angles, dowels, keyways as detailed in the contract drawings.
8. In order to accommodate varying manufacturing and erection procedures, shop practices, etc, deviations from the details and members sizes shown in the contract will be considered. Such deviations will be permitted only after the engineer's approval.
9. Refer to architectural and mechanical drawings for openings required through the floor/roof. Precaster shall lay out his panels, considering such openings, and shall furnish any headers or supports as required. Locations of field cut openings shall be coordinated with wall layout.
10. Precast roof panels to have weep holes drilled at mid span and each end of each core on bottom side of hollow core panel.

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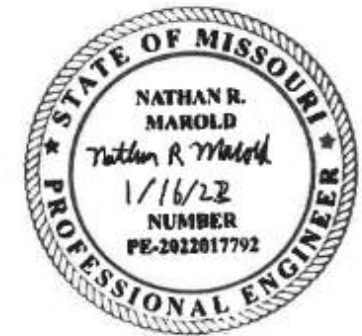
REVISION HISTORY

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Klingner & Associates, P.C.
Missouri State Certificate of Authority
No. E-000866

ISSUED FOR 01/16/23

BIDDING DOCUMENTS



HALLSVILLE MIDDLE SCHOOL ADDITION
HALLSVILLE SCHOOL DISTRICT
421 MO-124 E
HALLSVILLE MO. 65255

Non-Reduced Sheet Size 30" x 42"
Full sized plans have been prepared using standard scales.
Reduced sized plans may not conform to standard scales.

DESIGNED	DRAWN
NRM	EAW
FIELD	FIELD BOOK

CHECKED	CHECK DATE
NRM/KTH	01/12/23

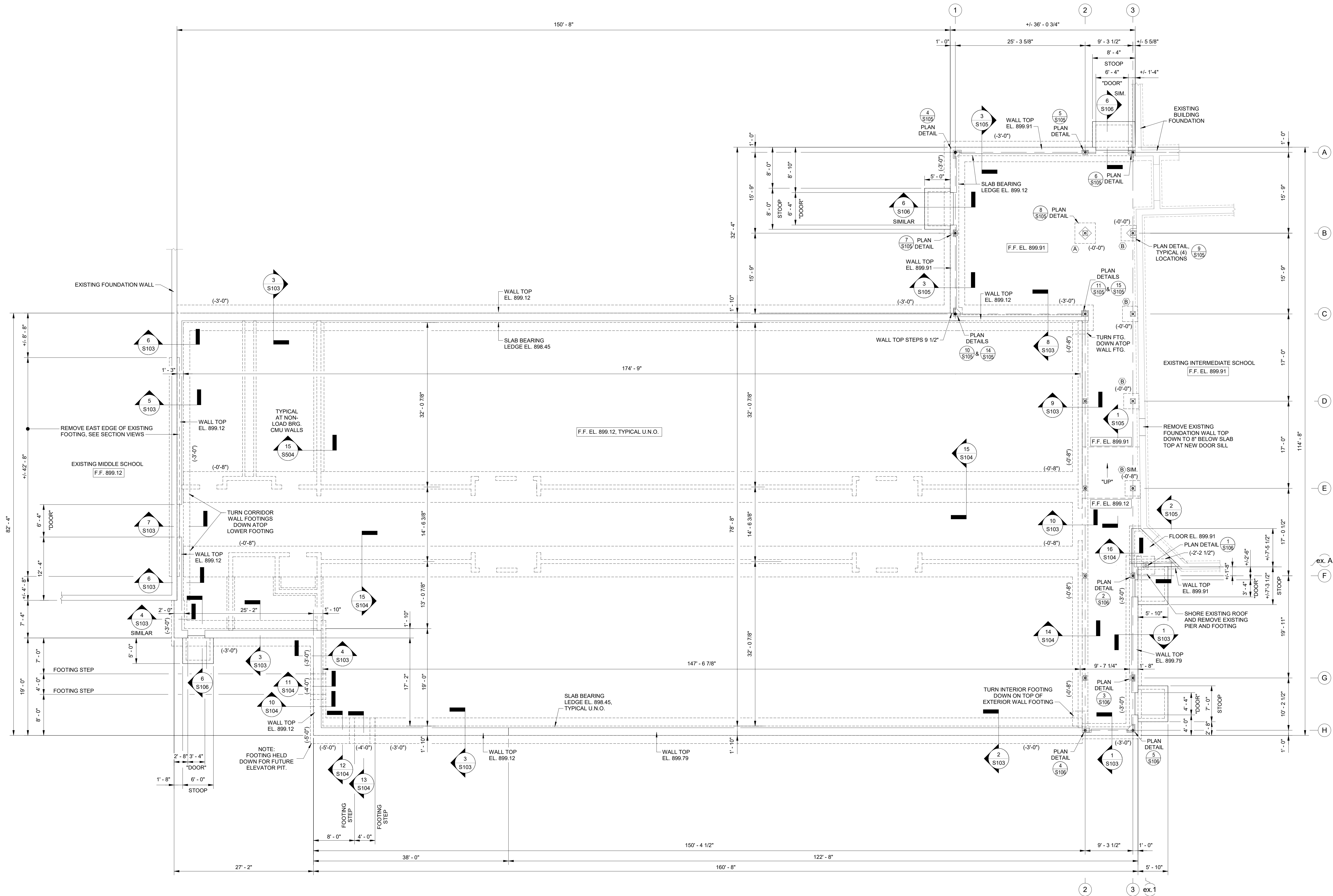
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STRUCTURAL NOTES

PROJECT NO.
21-5692
DRAWING ISSUED DATE:
01/16/2023

SHEET

S001

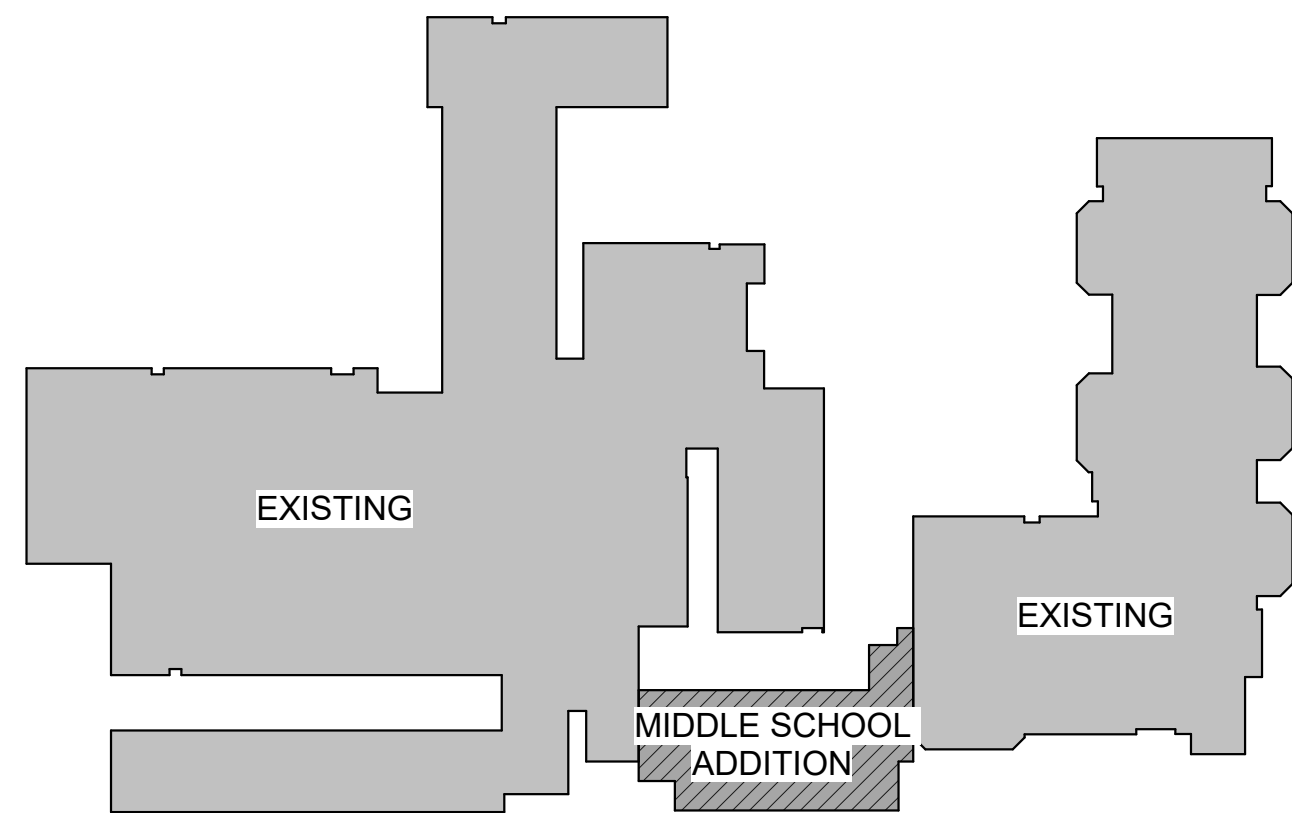


1 FOUNDATION PLAN
1/8" = 1'-0"

NOTE:
ALIGN SOUTH WALL OF NEW ADDITION TO
SOUTH FACE OF EXISTING CLASSROOM
BUILDING TO THE WEST

LEGEND

- A - DENOTES FOOTING MARK. SEE DETAILS ON SHEET S105
- "DOOR" - DENOTES DOOR OPENING IN FOUNDATION WALL; SEE STOOP SECTION 6/S106.
- CMU NON LOAD BEARING MASONRY WALLS.
- CMU LOAD BEARING WALL WITH FOOTING BELOW
- - DENOTES PIPE COLUMN, SEE SCHEDULE
- (-3'-0") - DENOTE TOP OF FOOTING ELEVATION BELOW FINISH FLOOR (+0'-0")



KEY PLAN- MIDDLE SCHOOL ADDITION

0 4' 8' 16'
SCALE: 1/8" = 1'-0"

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HALLSVILLE MIDDLE SCHOOL ADDITION
HALLSVILLE SCHOOL DISTRICT
421 MO-124 E
HALLSVILLE MO. 65255

Non-Reduced Sheet Size 30" x 42"
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DESIGNED		DRAWN	
NRM	EAW	NRM	EAW
FIELD		FIELD BOOK	
CHECKED	CHECK DATE	CHECKED	CHECK DATE
NRM/KTH	01/12/23	NRM/KTH	01/12/23
SHEET TITLE			

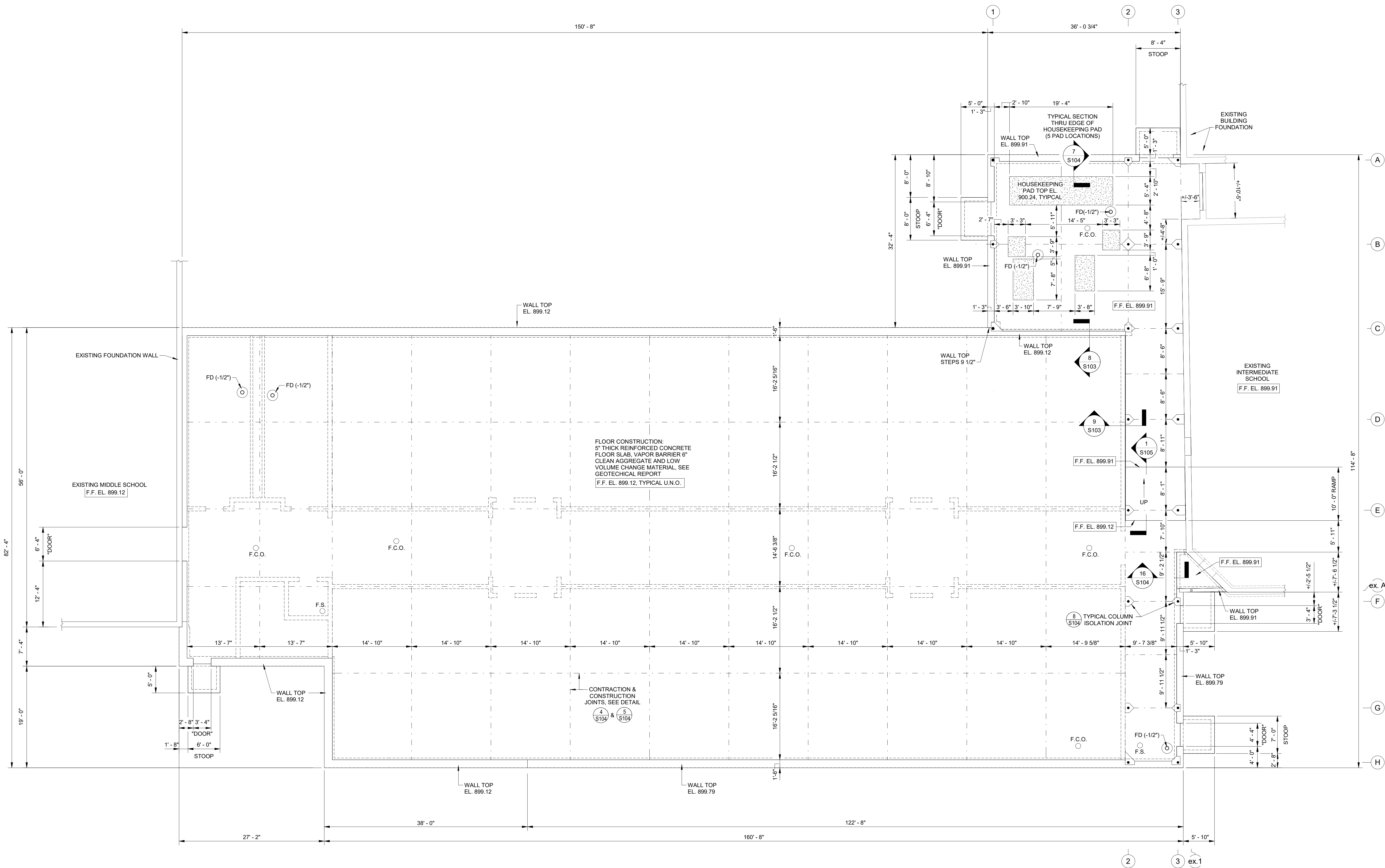
FOUNDATION PLAN

PROJECT NO.
21-5052

DRAWING ISSUED DATE:
01/16/2023

SHEET
S101

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1 SLAB PLAN
1/8" = 1'-0"

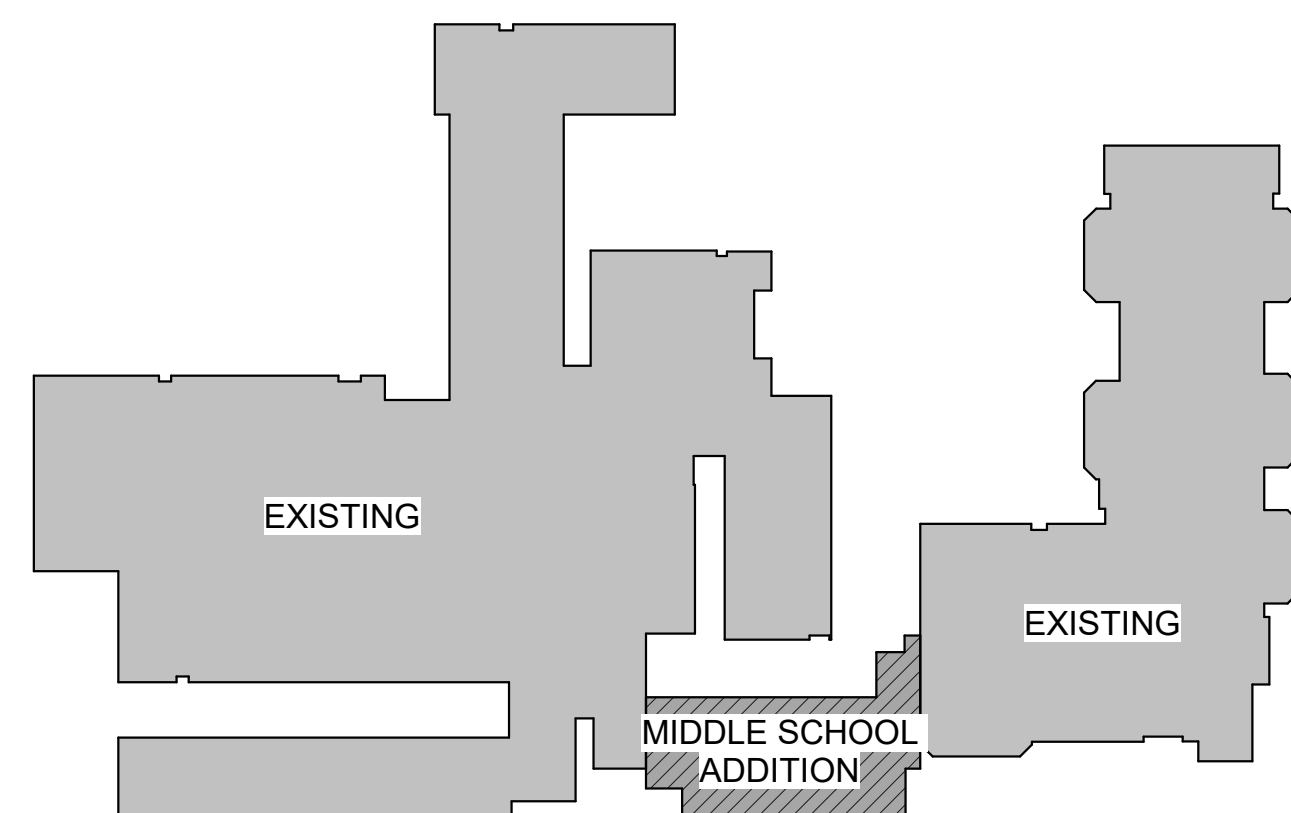
LEGEND

- "DOOR" - DENOTES DOOR OPENING IN FOUNDATION WALL; SEE STOOP SECTION 6/S106.
- - - DENOTES SAWED CONSTRUCTION OR CONTRACTION JOINT.
- F.D. - DENOTES FLOOR DRAIN WITH 24" DIAMETER DISHED FLOOR CREATED BY REMOVING EXCEED CONCRETE, SEE PLUMBING PLANS FOR DETAILS
- F.C.O. - DENOTES FLOOR CLEAN OUT, SEE PLUMBING PLANS FOR DETAILS
- F.S. - DENOTES FLOOR SINK, SEE PLUMBING PLANS FOR DETAILS
- - - DENOTES HOUSEKEEPING PAD, SEE DETAIL 7/S104
- - - CMU MASONRY WALLS.
- DENOTES PIPE COLUMN, SEE SCHEDULE

NOTES:

SEE PLUMBING PLANS FOR FLOOR DRAIN TYPES AND LOCATIONS.

SEE PLUMBING PLANS FOR LOCATION AND ELEVATIONS OF PIPE PENETRATIONS THRU FOUNDATION WALL FOR LOCATIONS OF PIPE SLEEVE OPENINGS FORMED WITH STANDARD STEEL PIPE.



KEY PLAN - MIDDLE SCHOOL ADDITION

0 4' 8' 16'
SCALE: 1/8" = 1'-0"

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BIDDING DOCUMENTS



HALLSVILLE MIDDLE SCHOOL ADDITION
HALLSVILLE SCHOOL DISTRICT
421 MO-124 E
HALLSVILLE MO. 65255

Non-Reduced Sheet Size 30" x 42"

Full sized plans have been prepared using standard scales.
Reduced sized plans may not conform to standard scales.

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FIELD	FIELD BOOK
CHECKED NRM / KTH	CHECK DATE 01/12/23

SHEET TITLE

SLAB PLAN

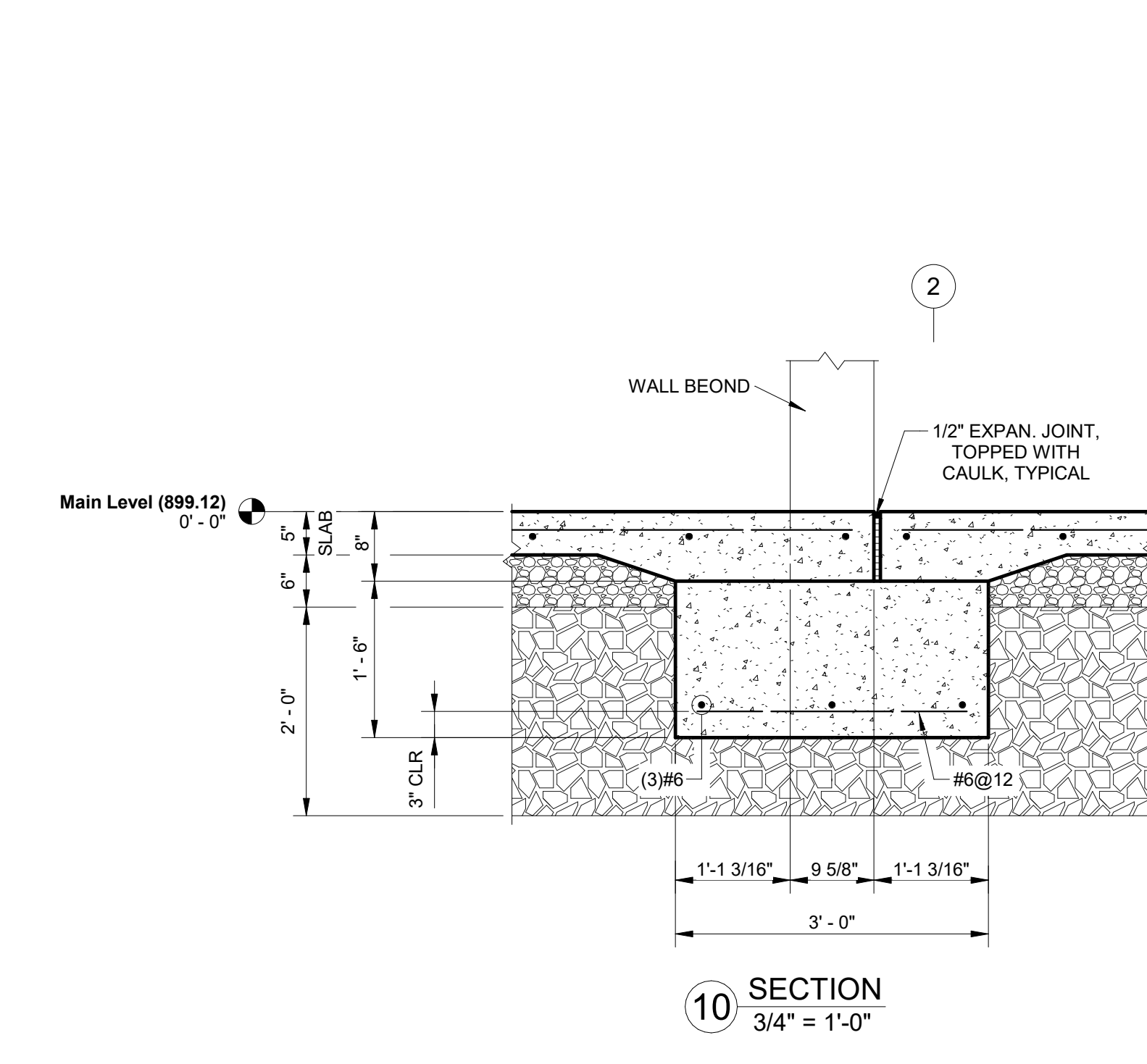
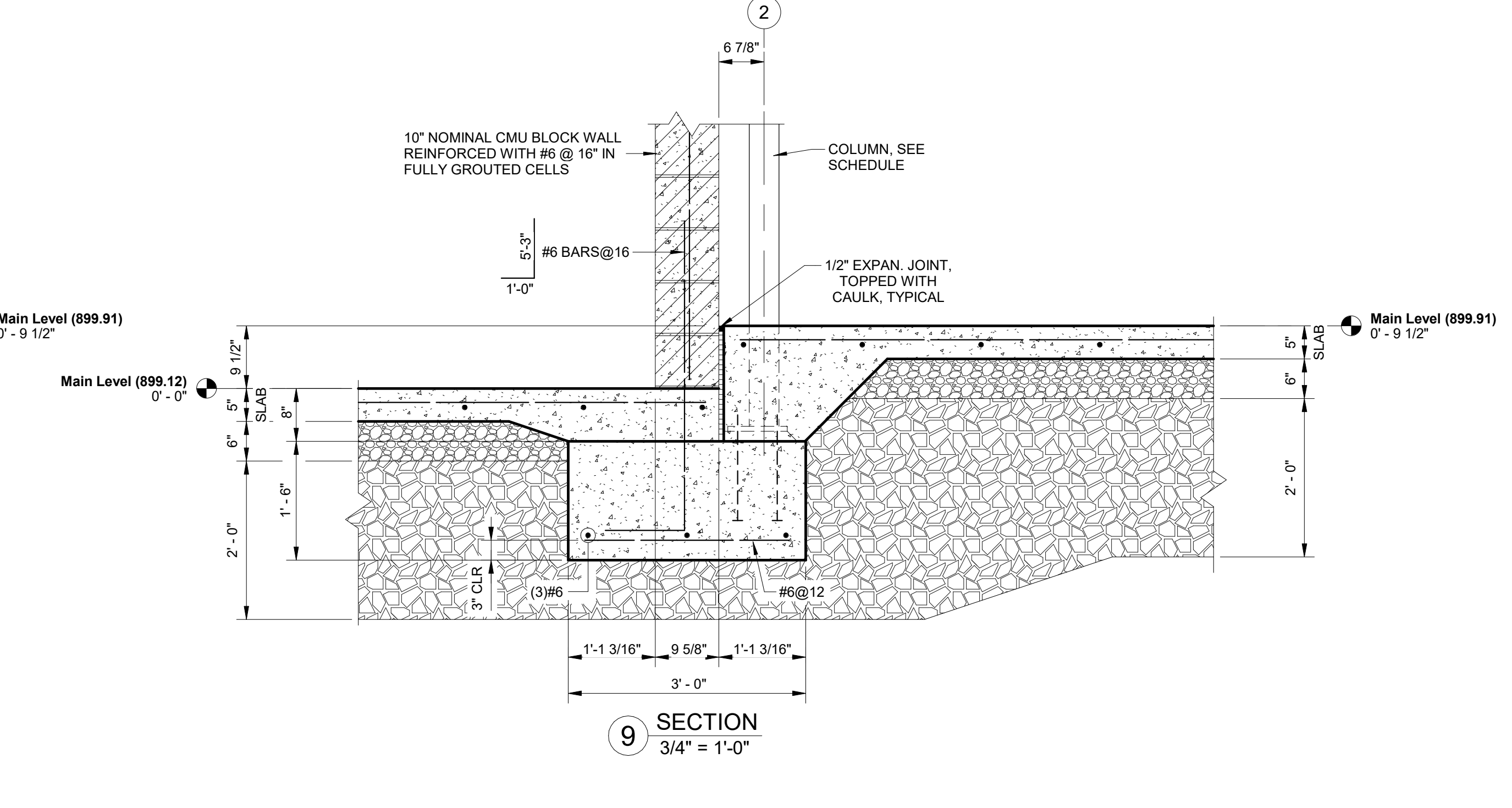
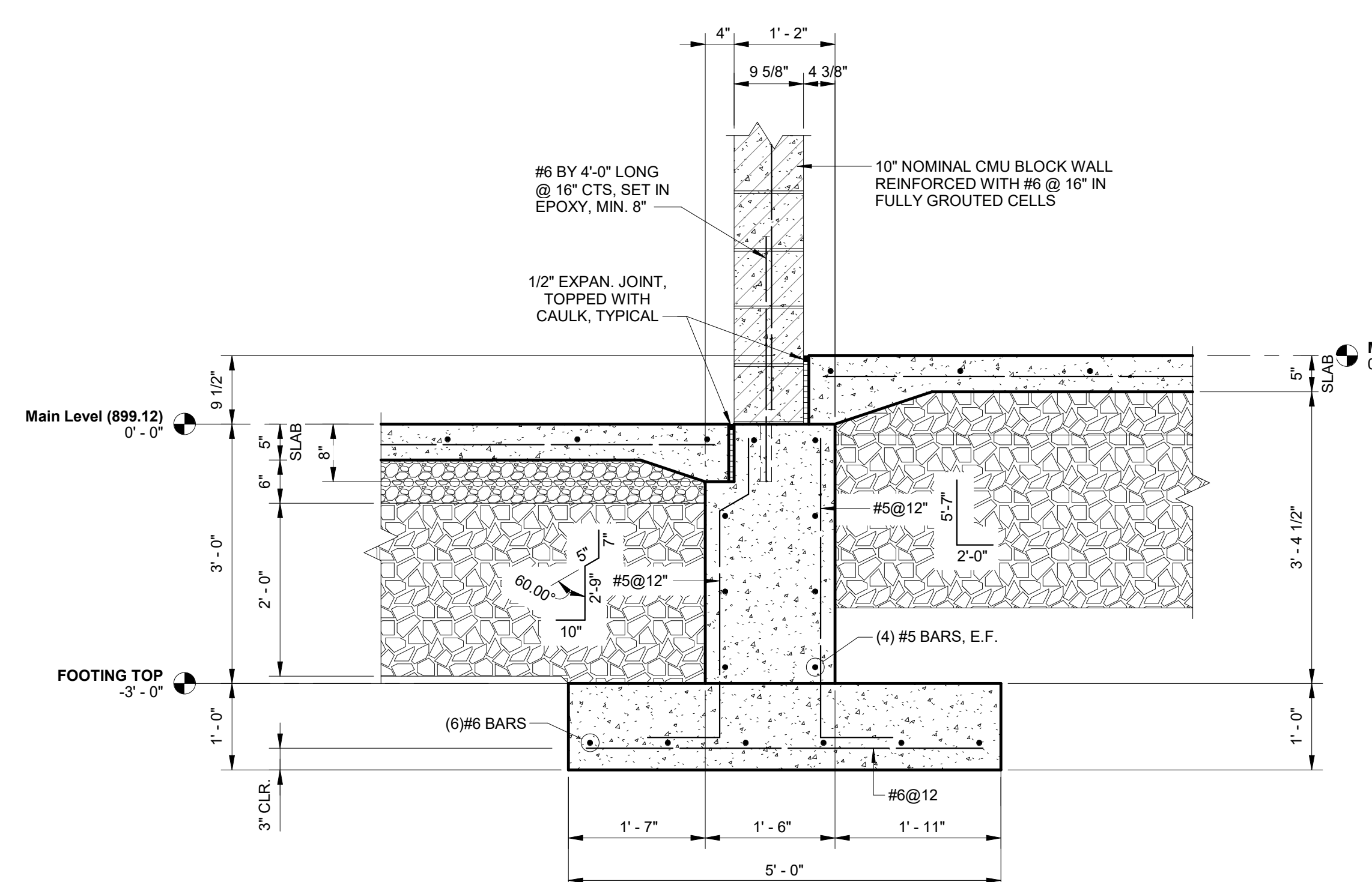
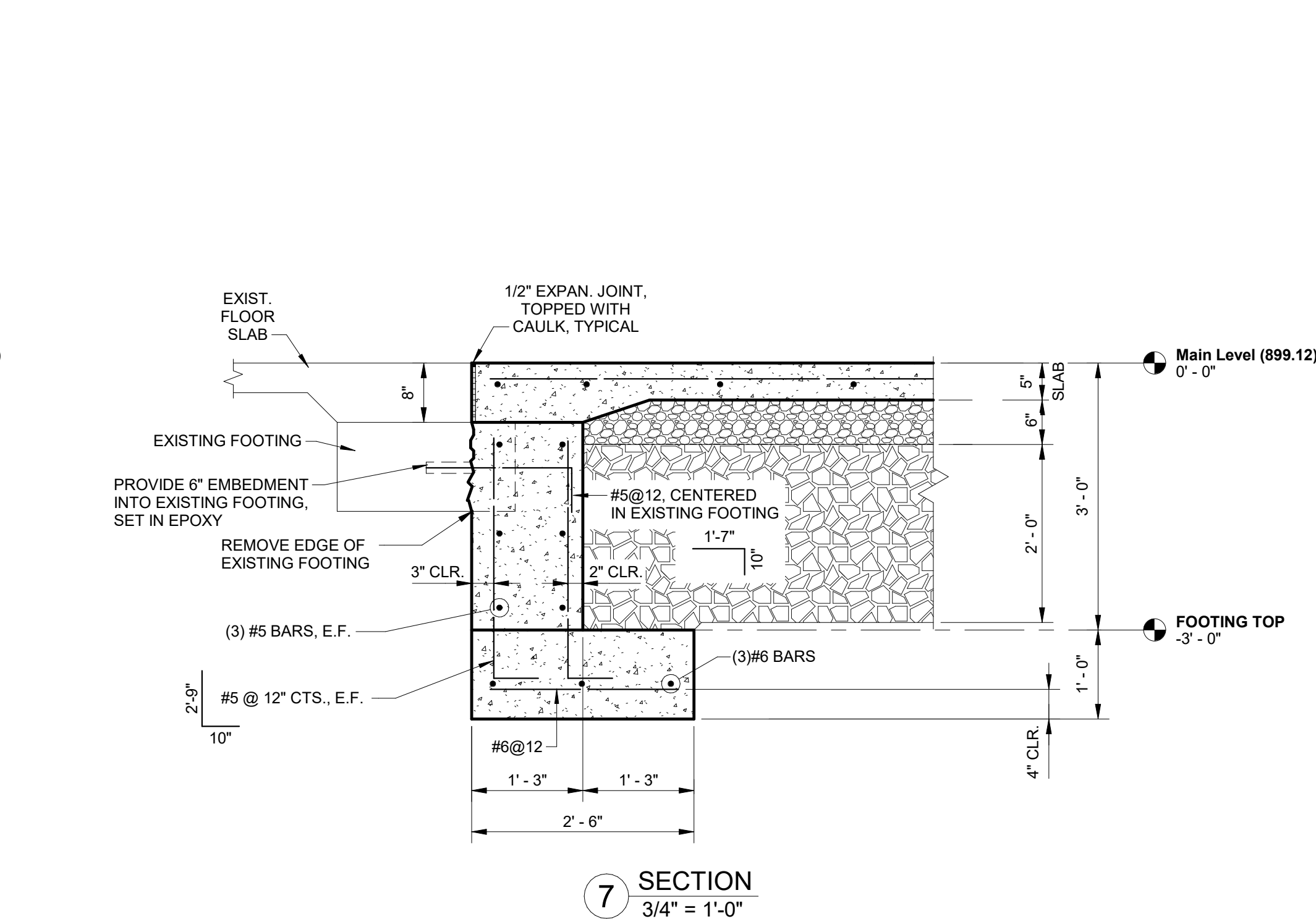
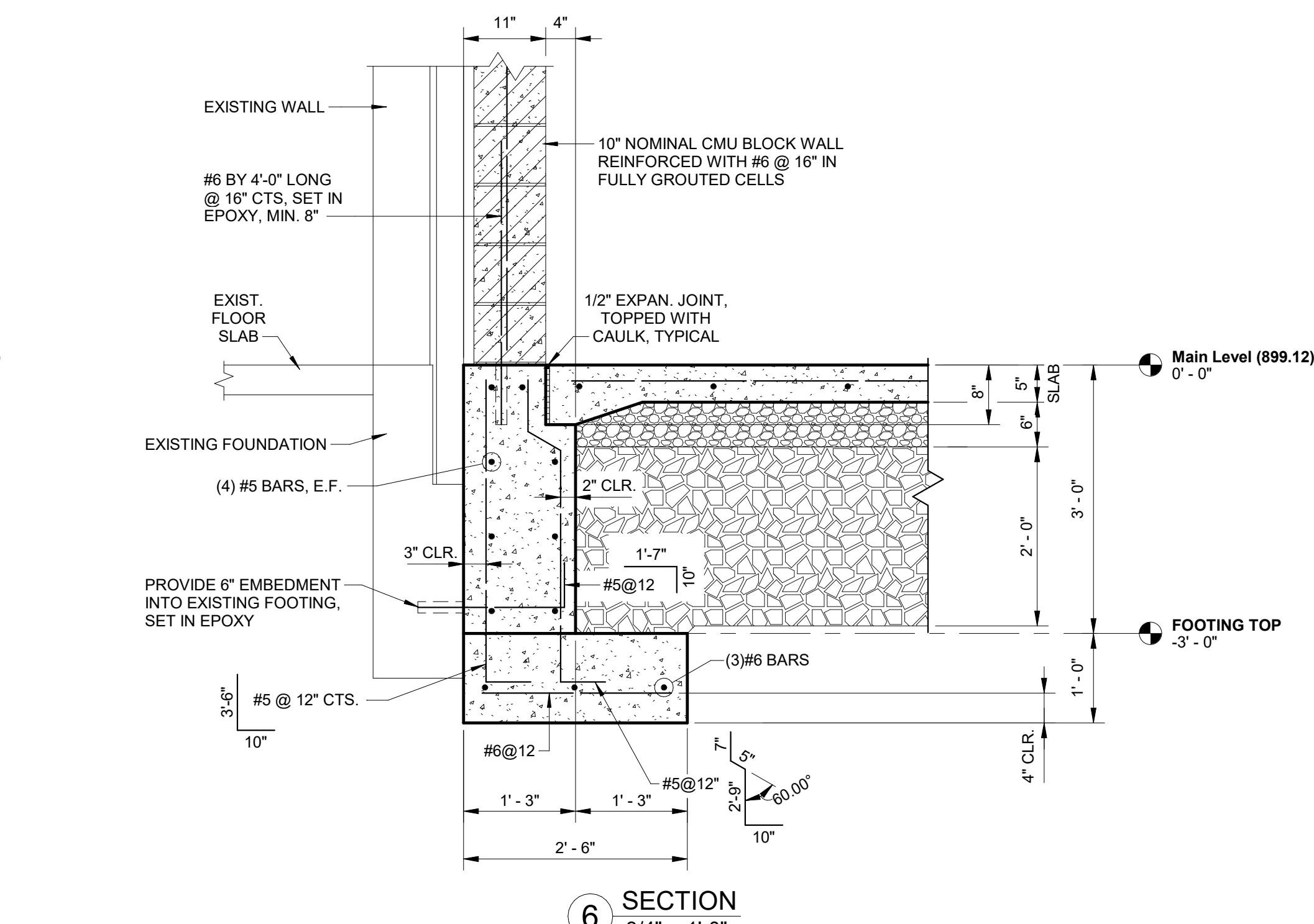
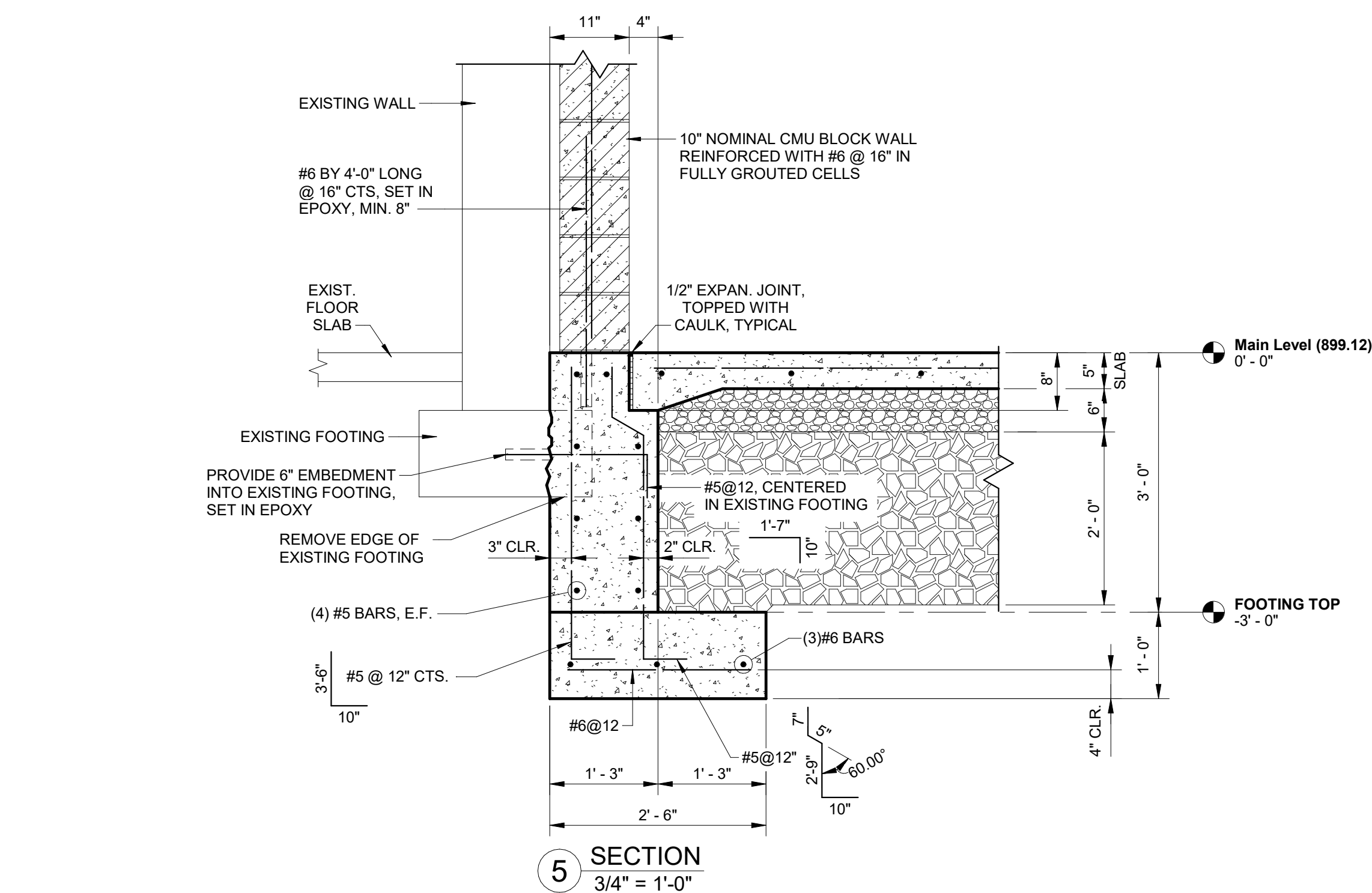
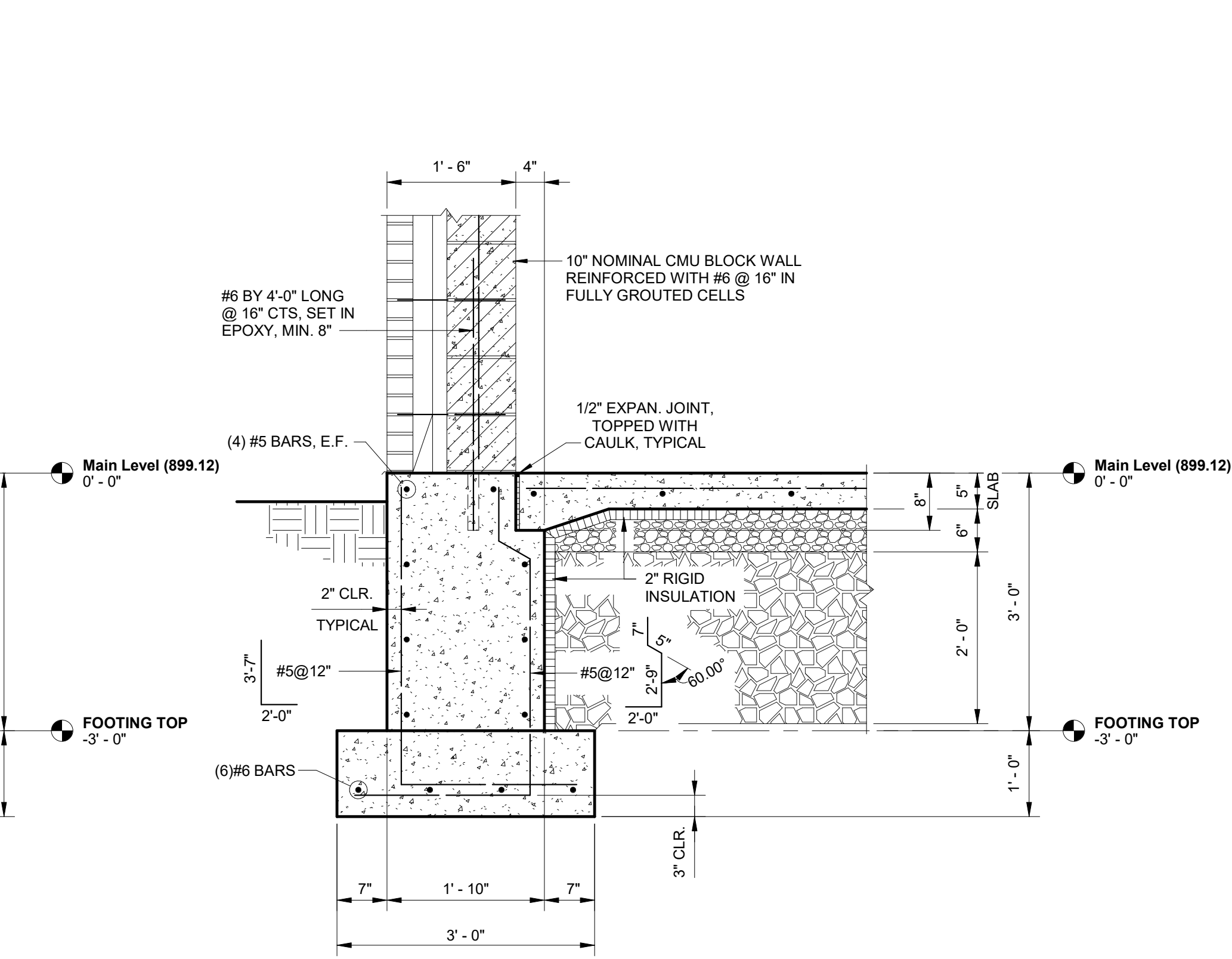
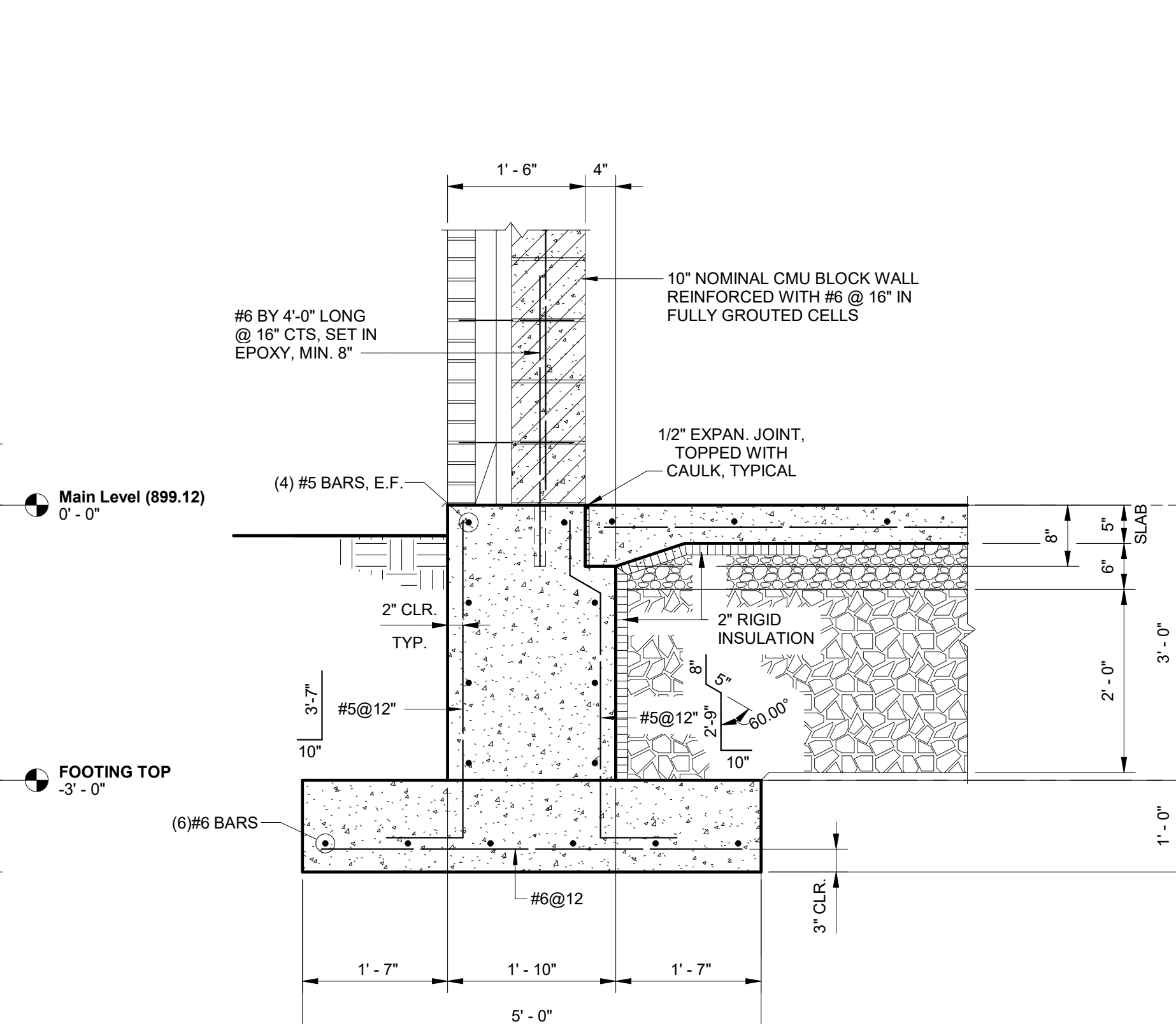
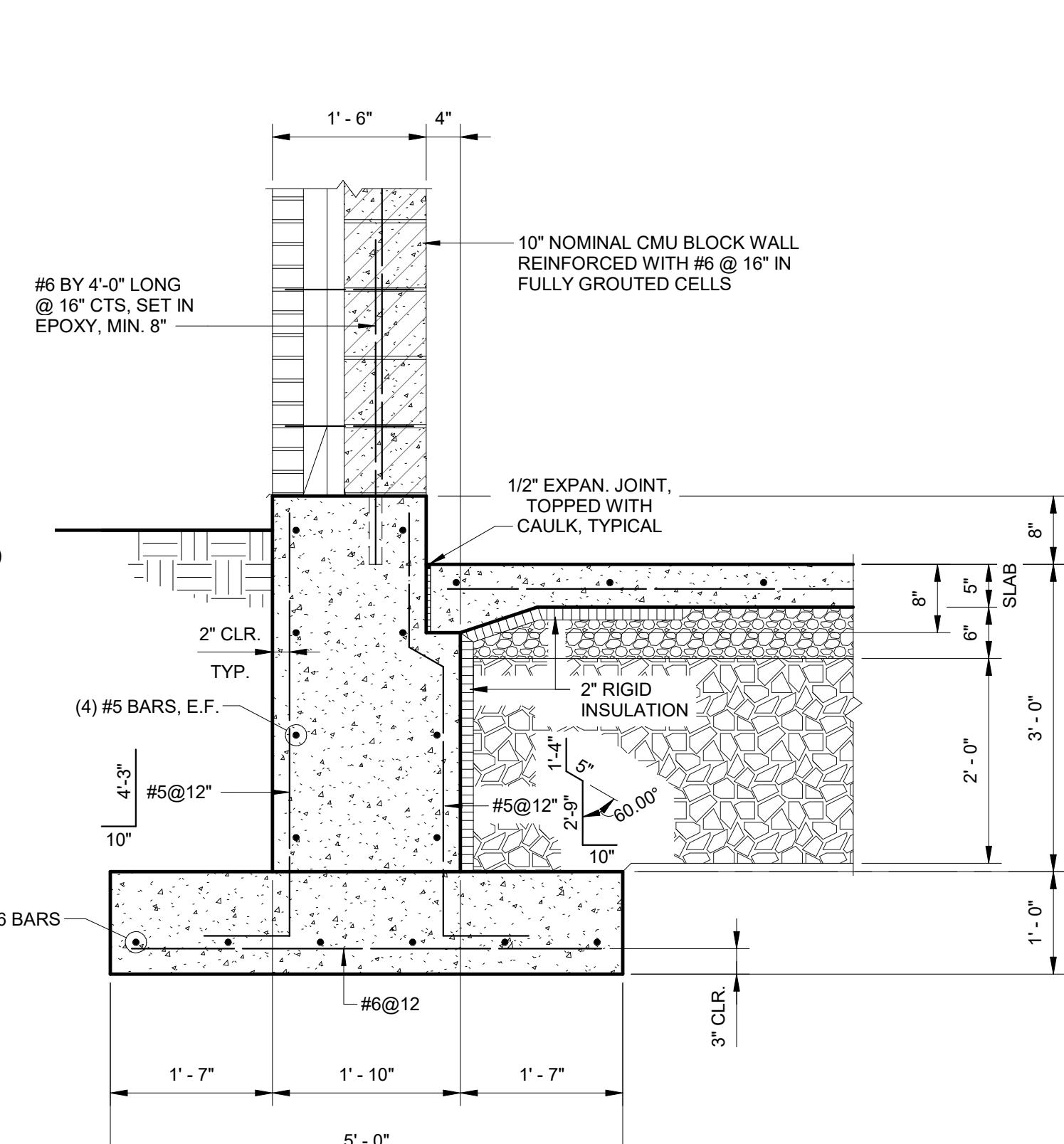
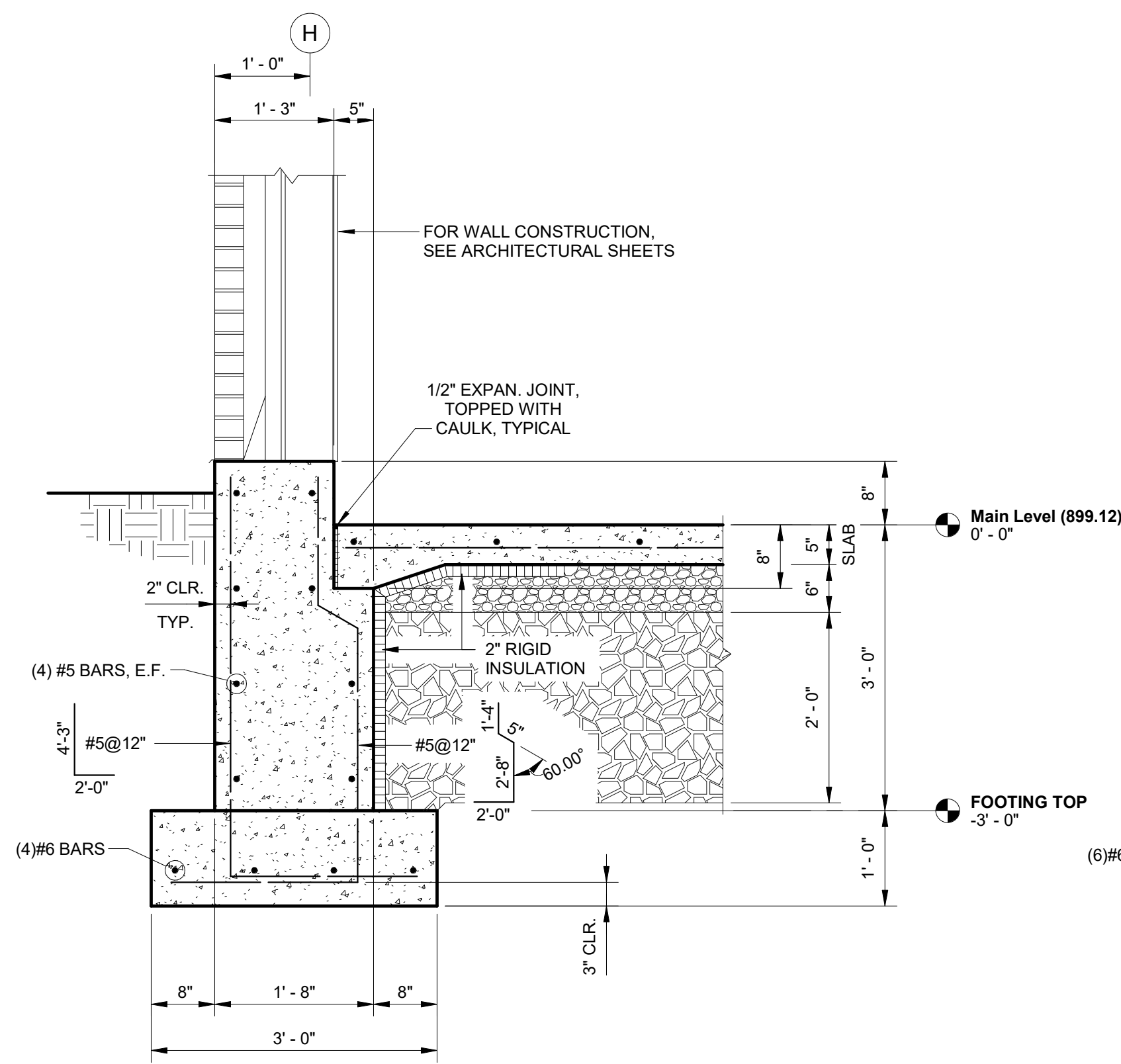
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21-5052

DRAWING ISSUED DATE:
01/16/2023

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S102

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No. E-000866

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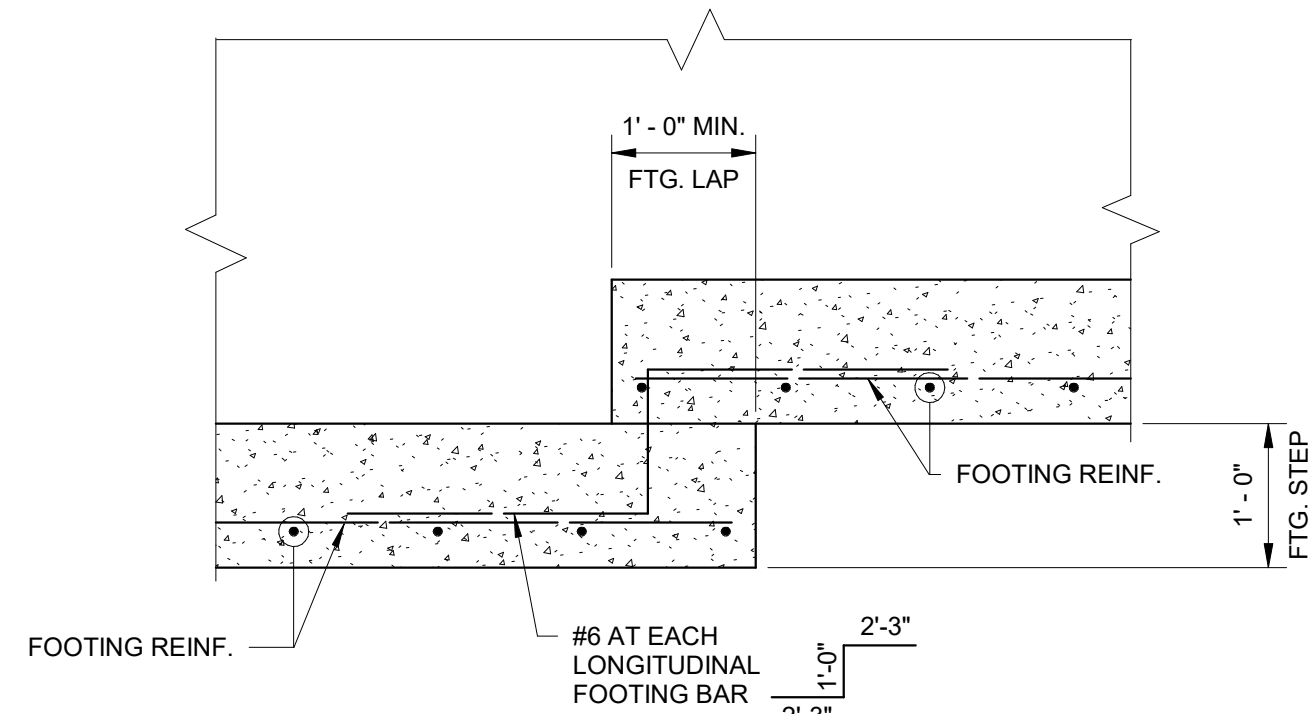
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STATE OF MISSOURI
NATHAN B. MARSHALL
1/16/23
NUMBER
PE-00000772
PROFESSIONAL ENGINEER

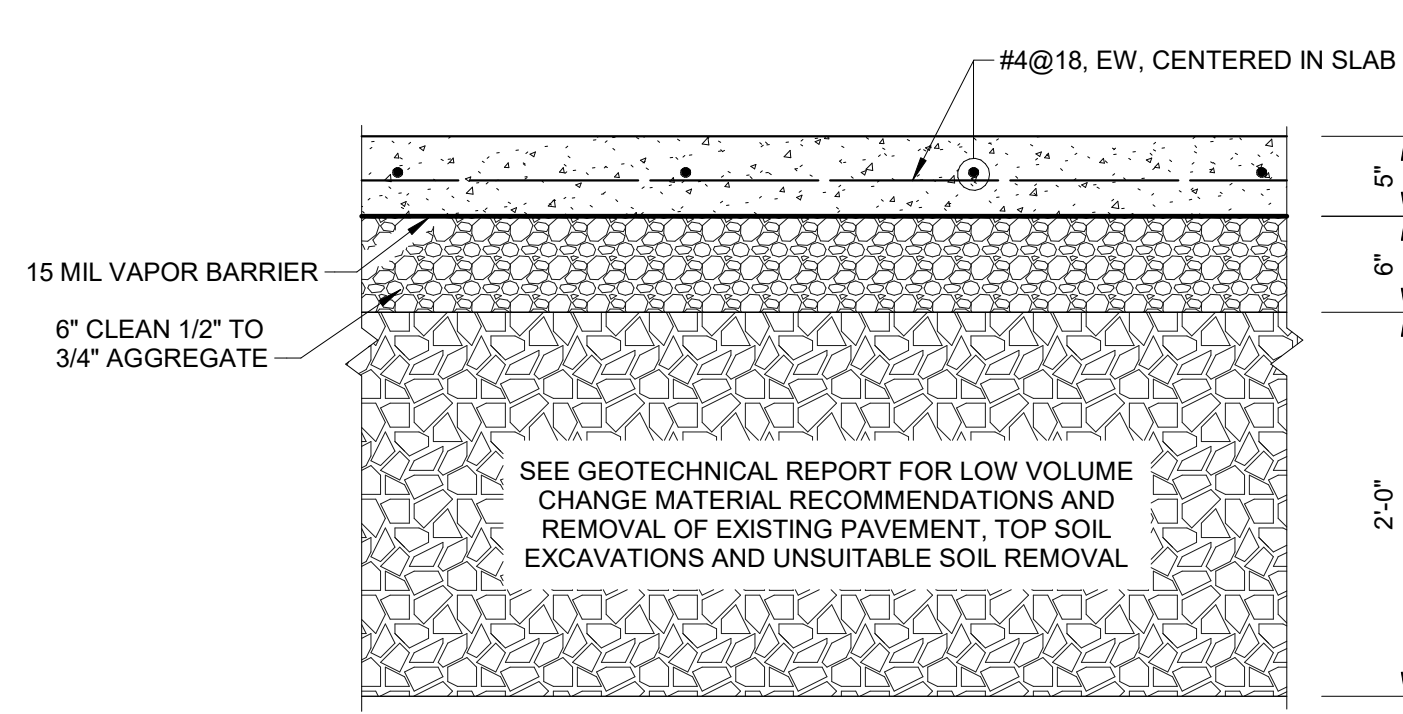
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HALLSVILLE SCHOOL DISTRICT
421 MO-124 E
HALLSVILLE MO. 65255

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CHECKED	NRM/KTH	CHECK DATE	01/12/23
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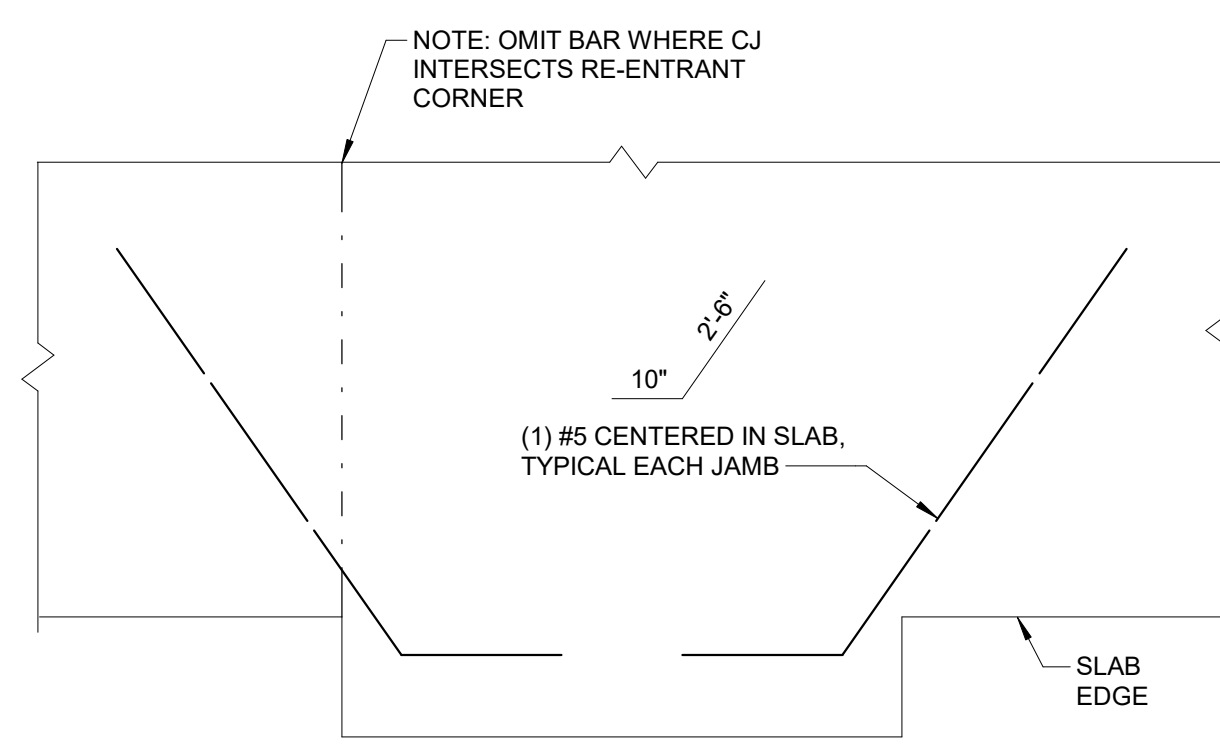
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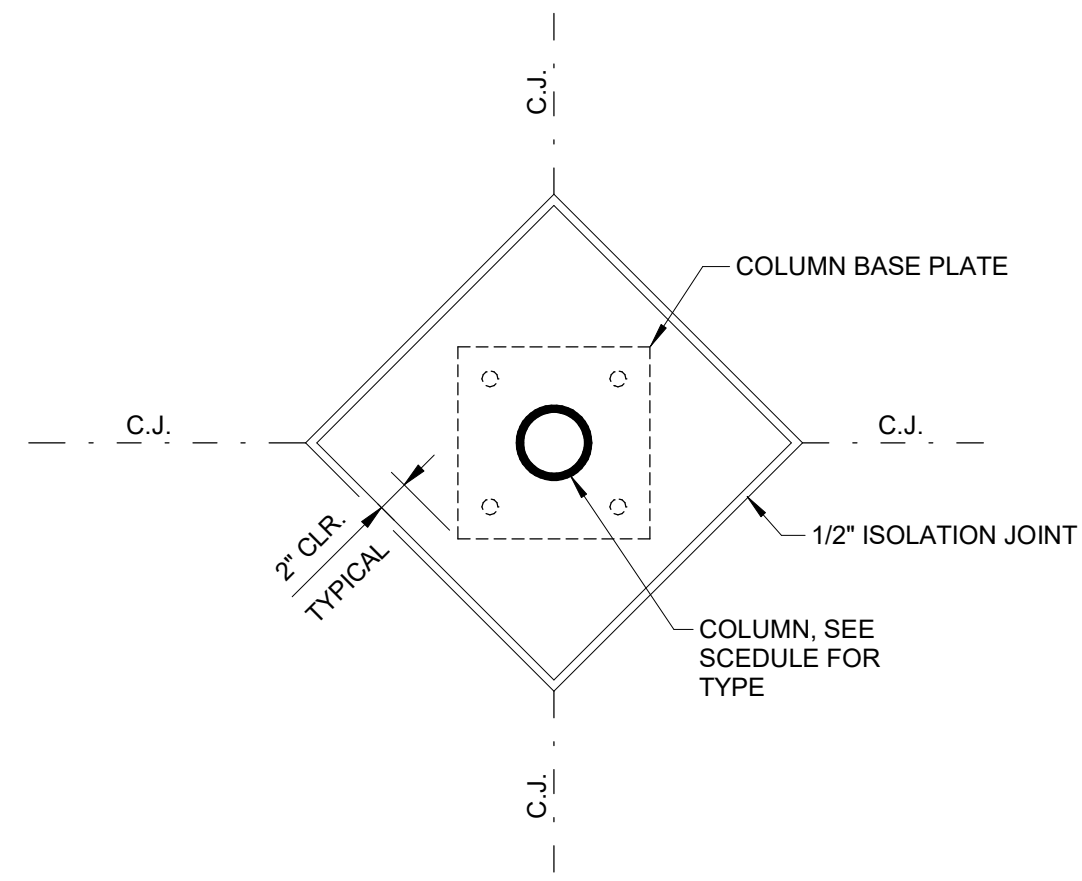
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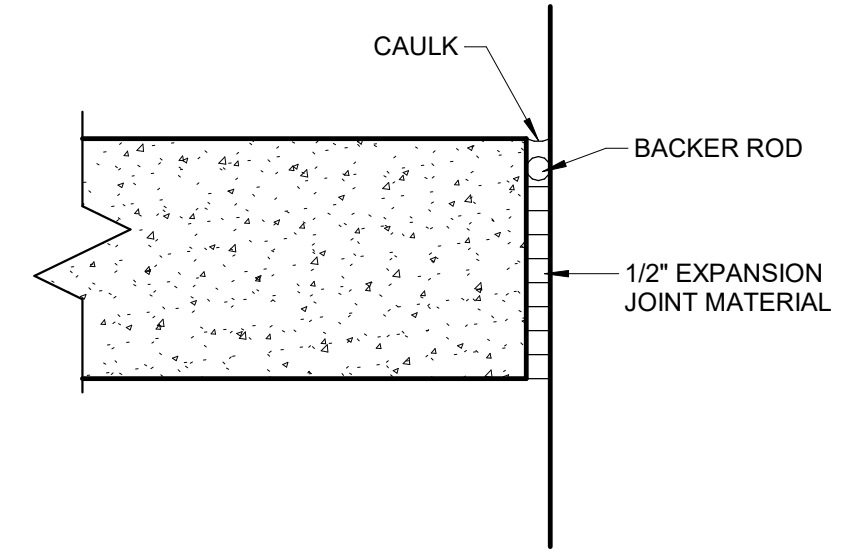
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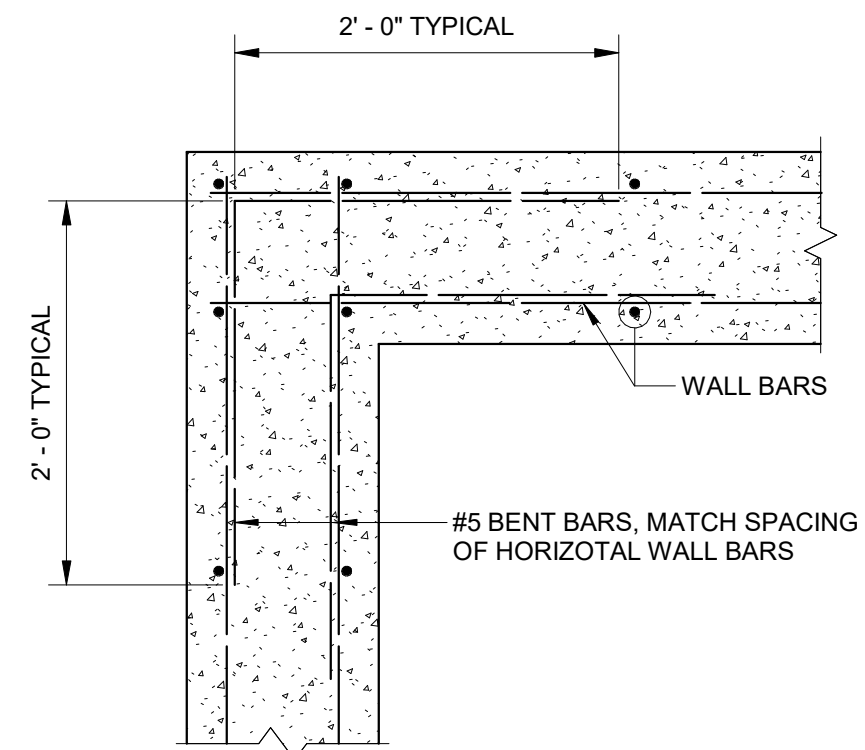
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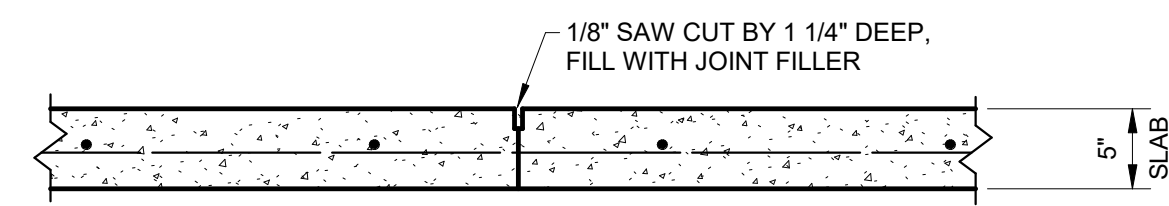
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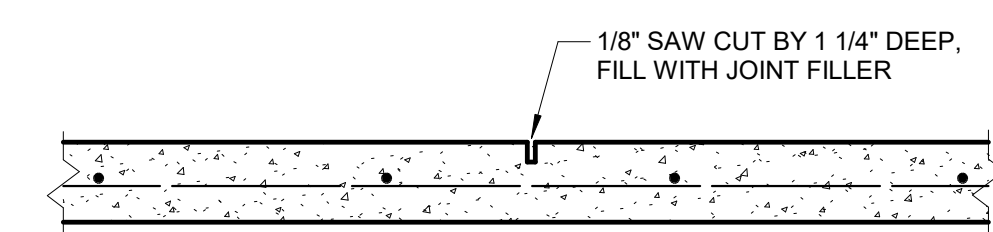
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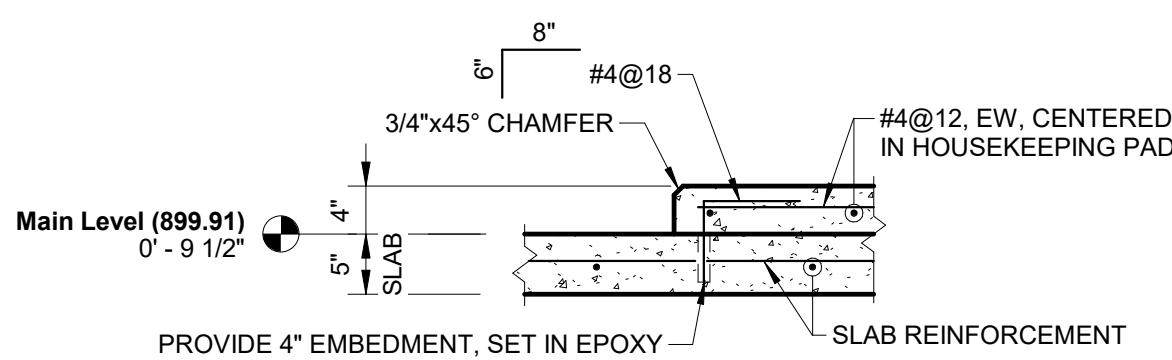
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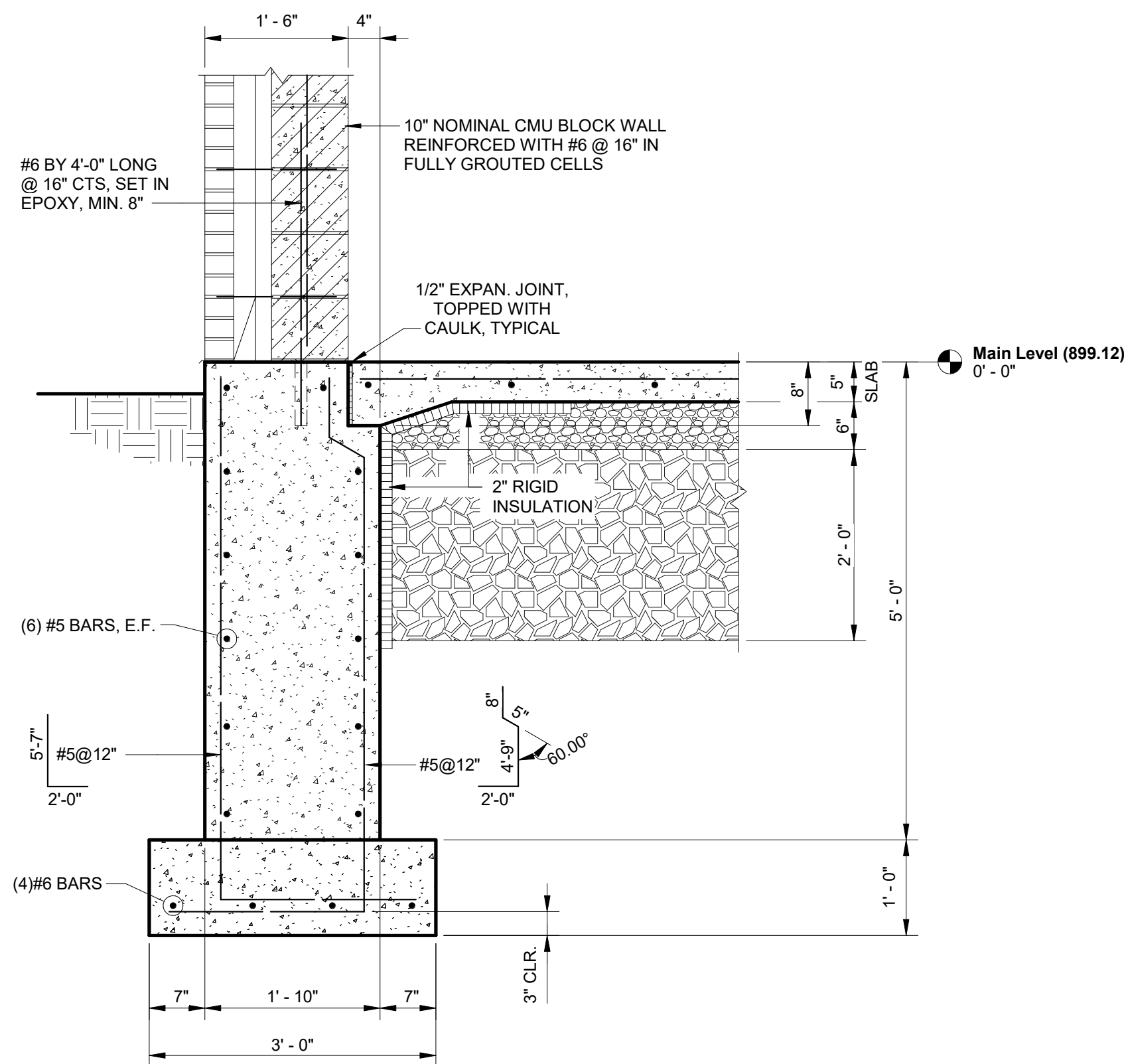
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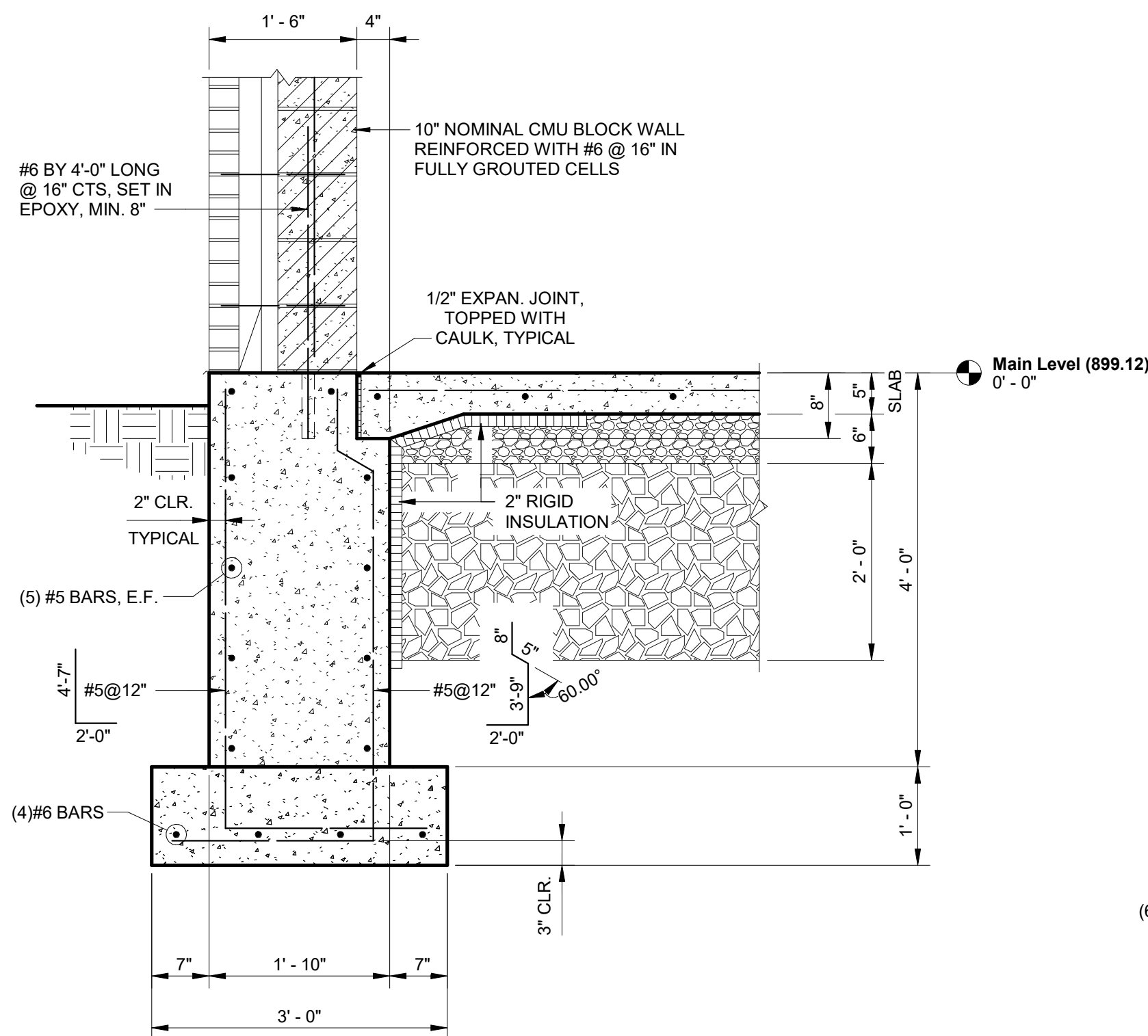
5 TYPICAL SLAB CONTRACTION JOINT DETAIL
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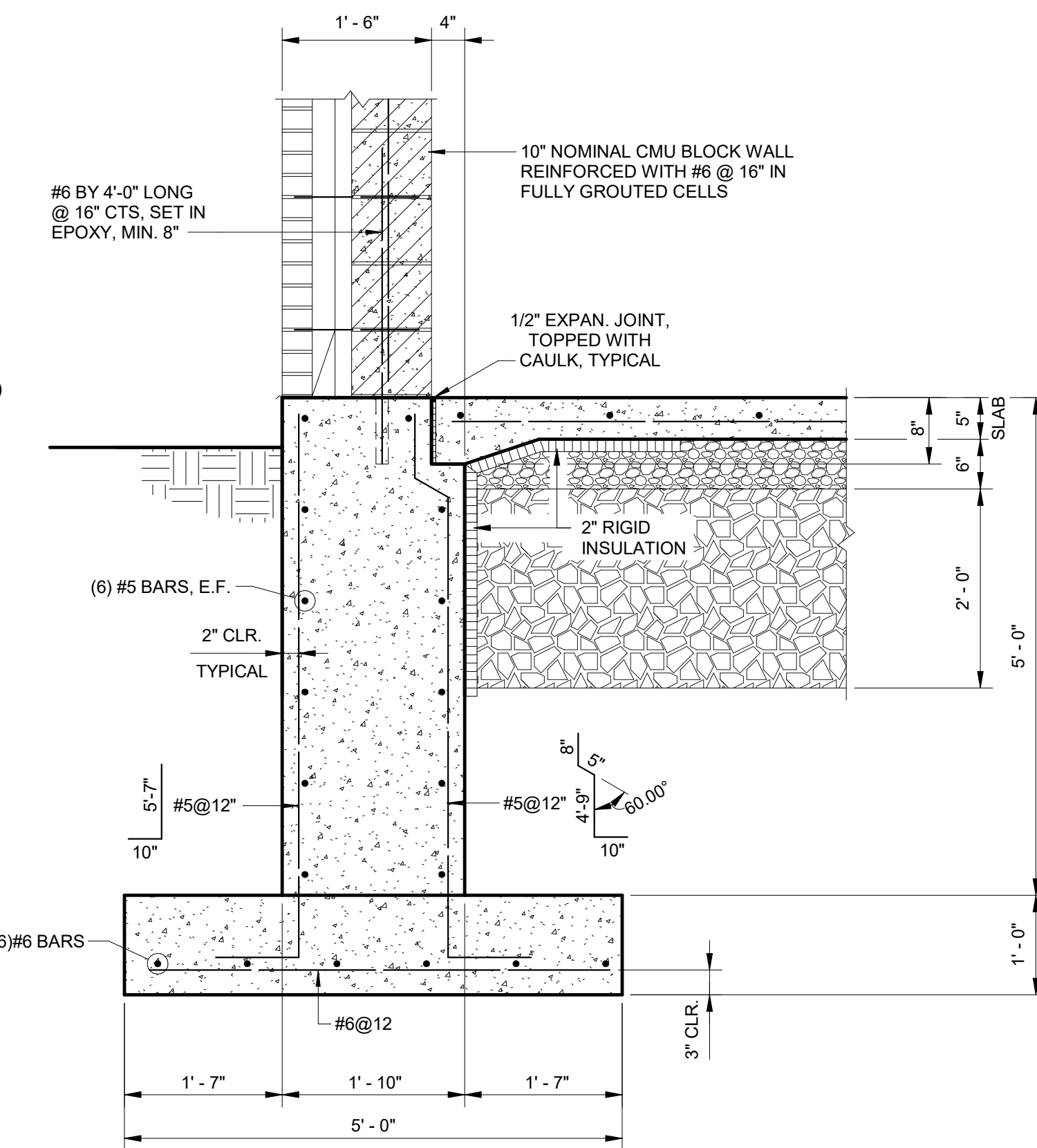
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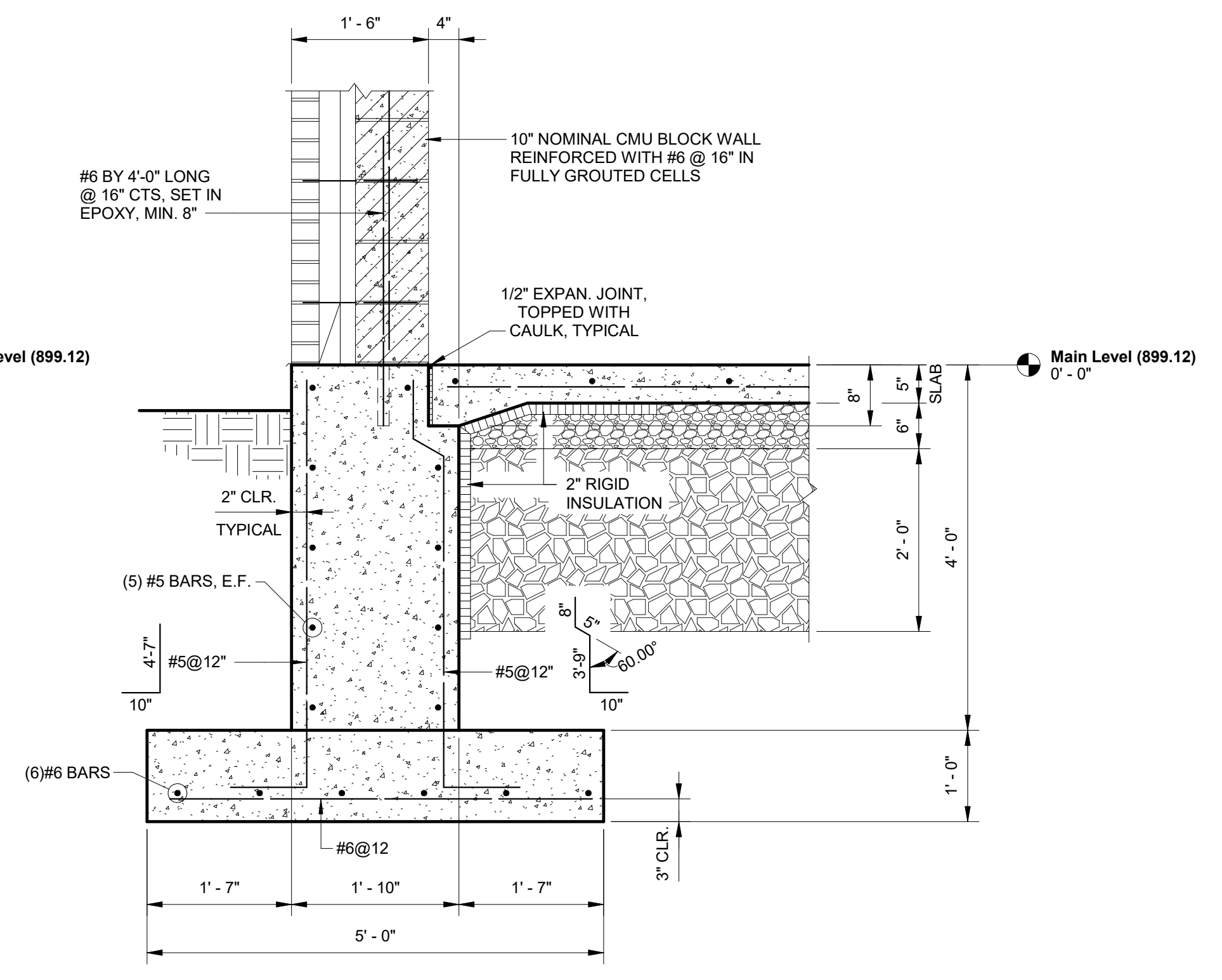
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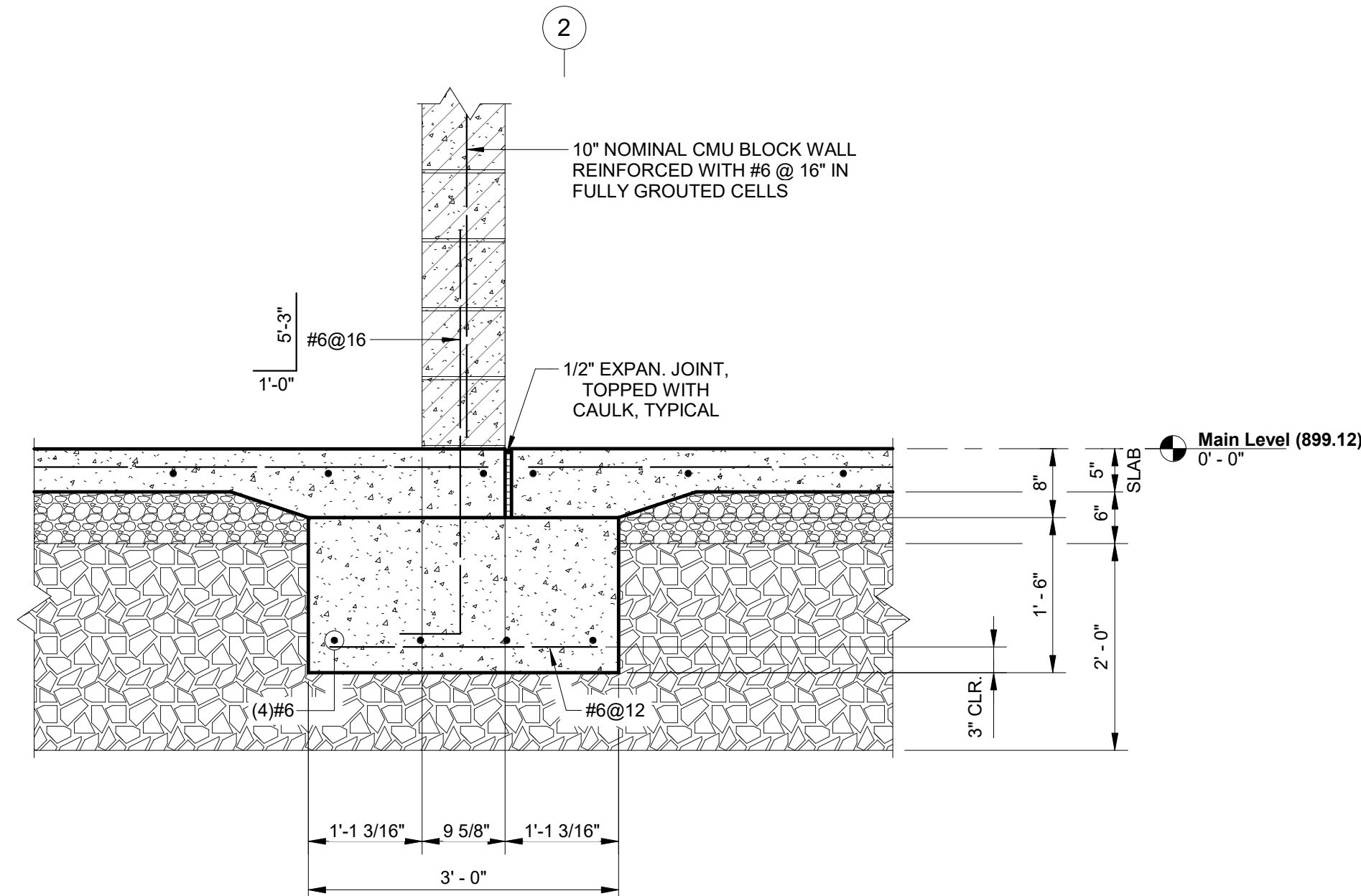
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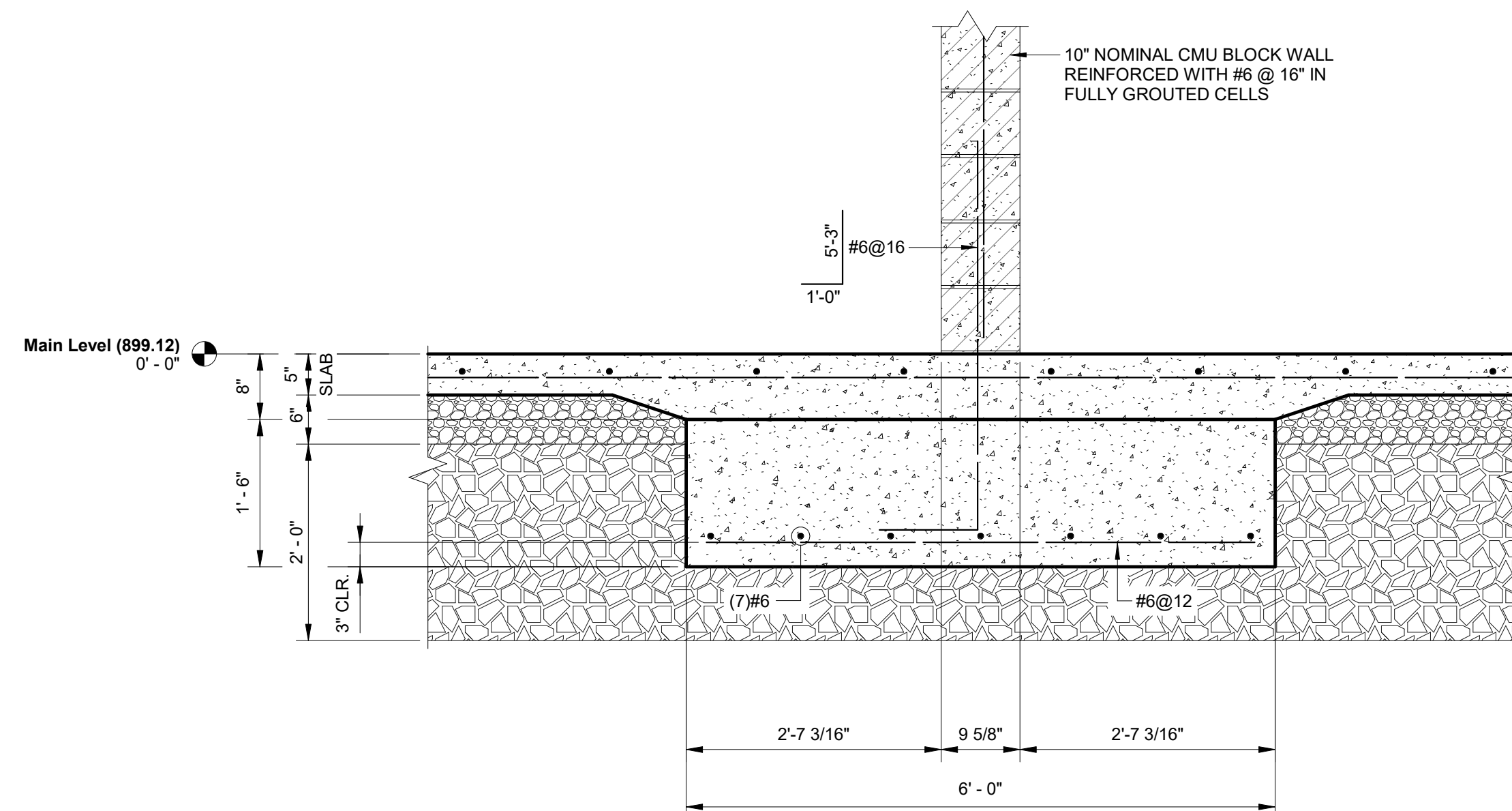
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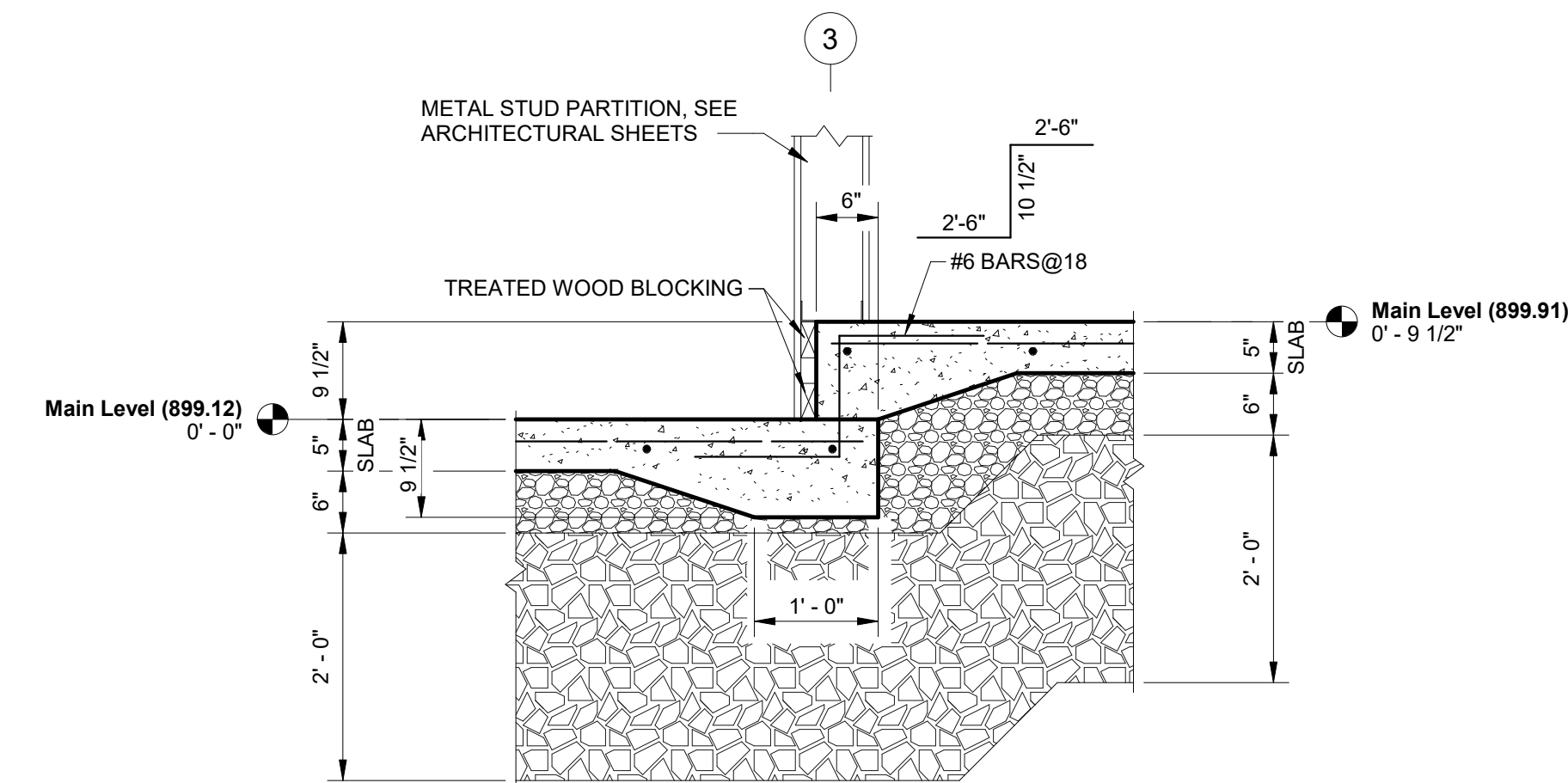
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14 SECTION
3/4" = 1'-0"



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



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

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

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REVISION HISTORY		
NO.	DESCRIPTION	DATE
1	ISSUED FOR	01/16/23

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KLINGNER & ASSOCIATES, P.C.	FIELD BOOK	DATE	APPROVED

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KLINGNER & ASSOCIATES, P.C.	FIELD BOOK	DATE	APPROVED

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KLINGNER & ASSOCIATES, P.C.	FIELD BOOK	DATE	APPROVED

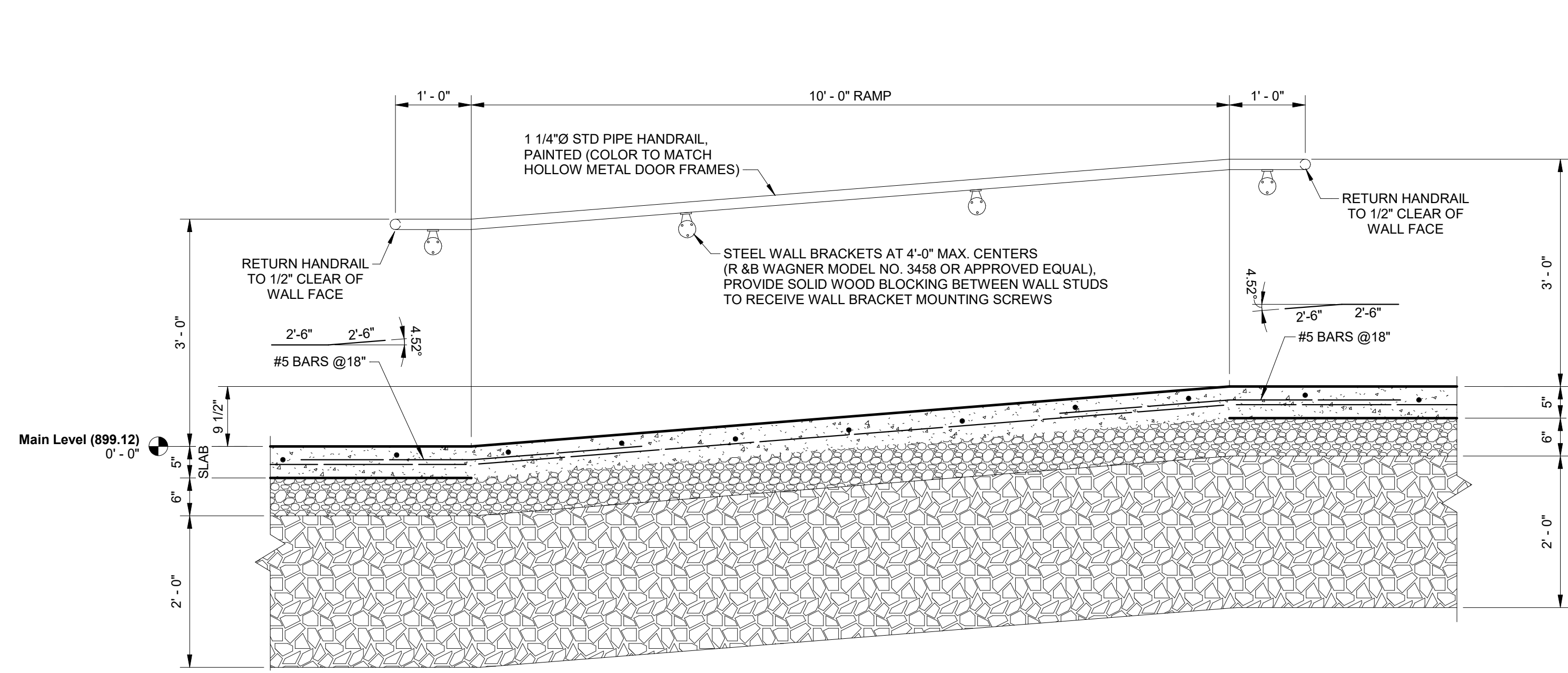
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KLINGNER & ASSOCIATES, P.C.	FIELD BOOK	DATE	APPROVED

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KLINGNER & ASSOCIATES, P.C.	FIELD BOOK	DATE	APPROVED

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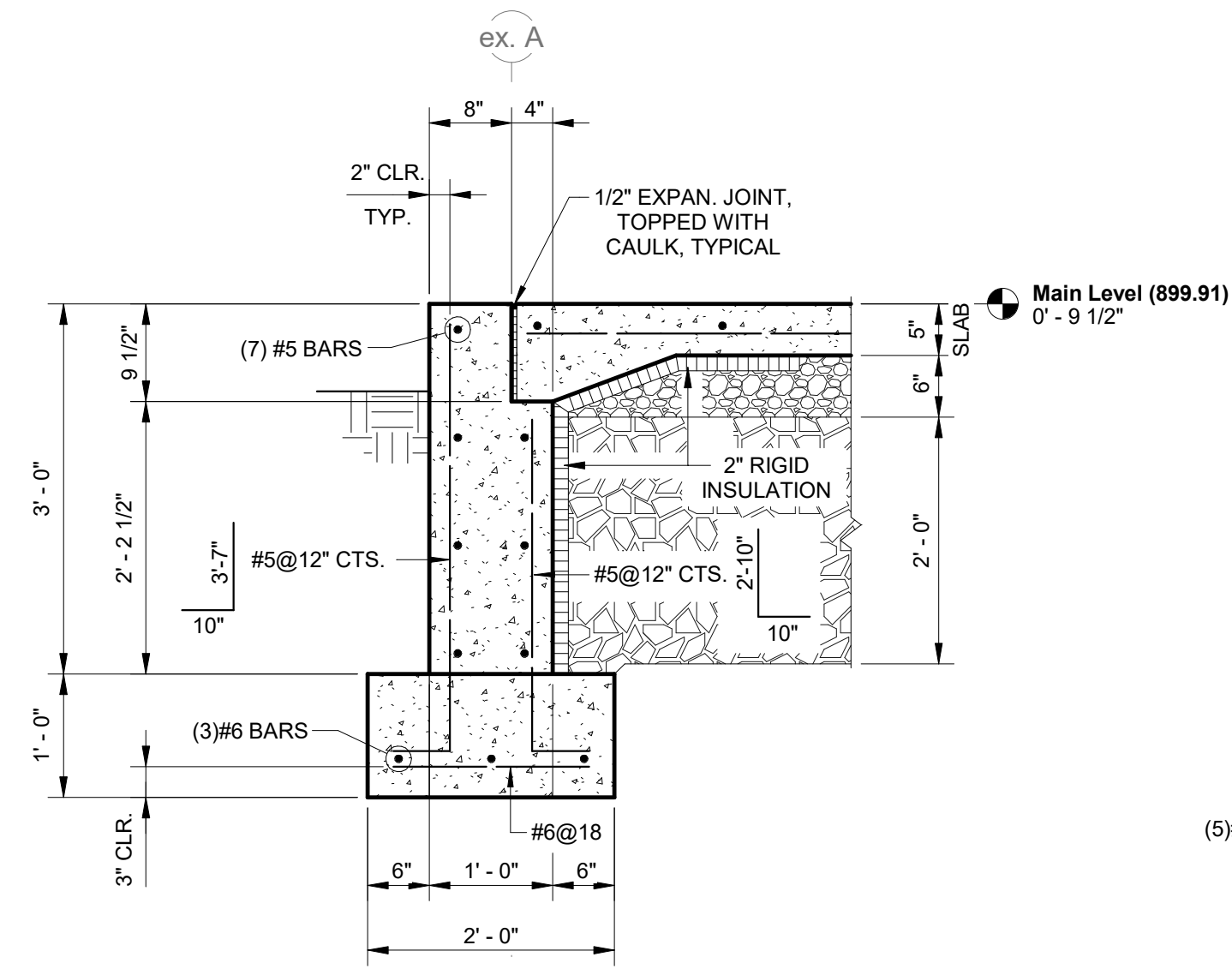
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KLINGNER & ASSOCIATES, P.C.	FIELD BOOK	DATE	APPROVED

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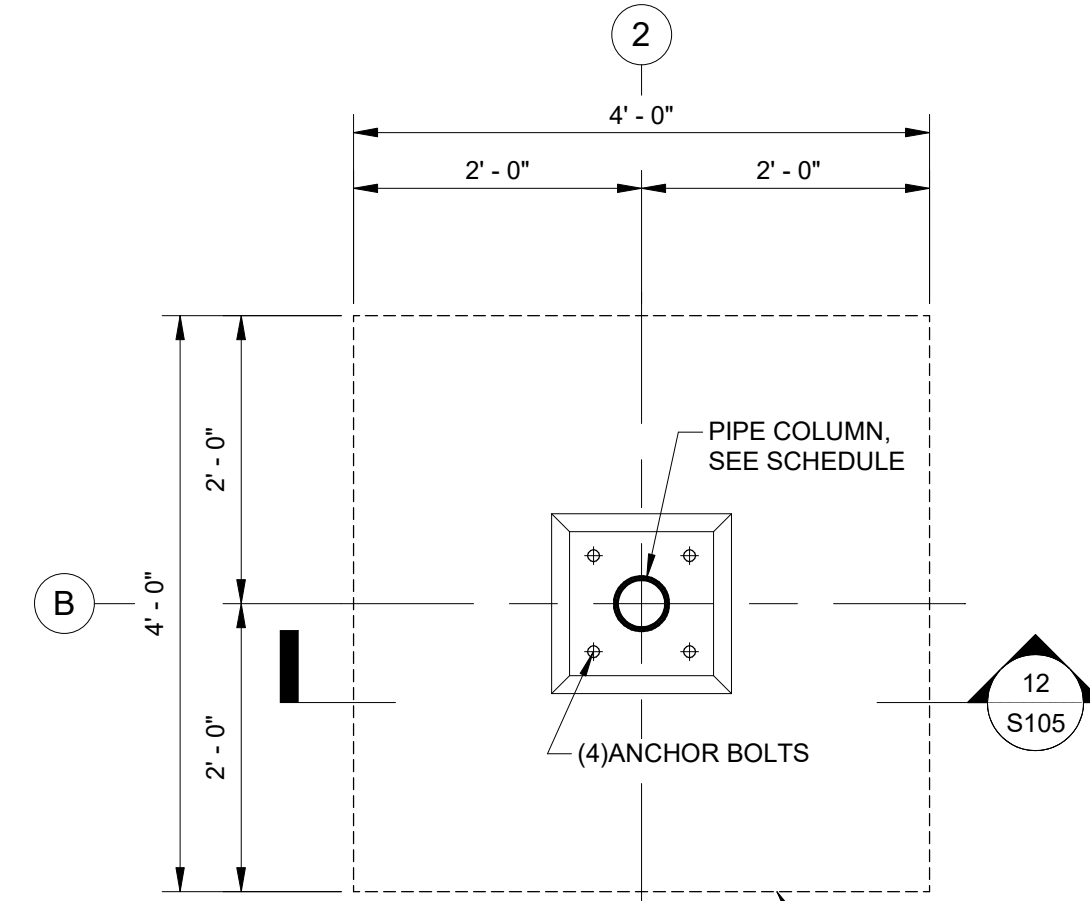


1 SECTION THROUGH RAMP
3/4" = 1'-0"

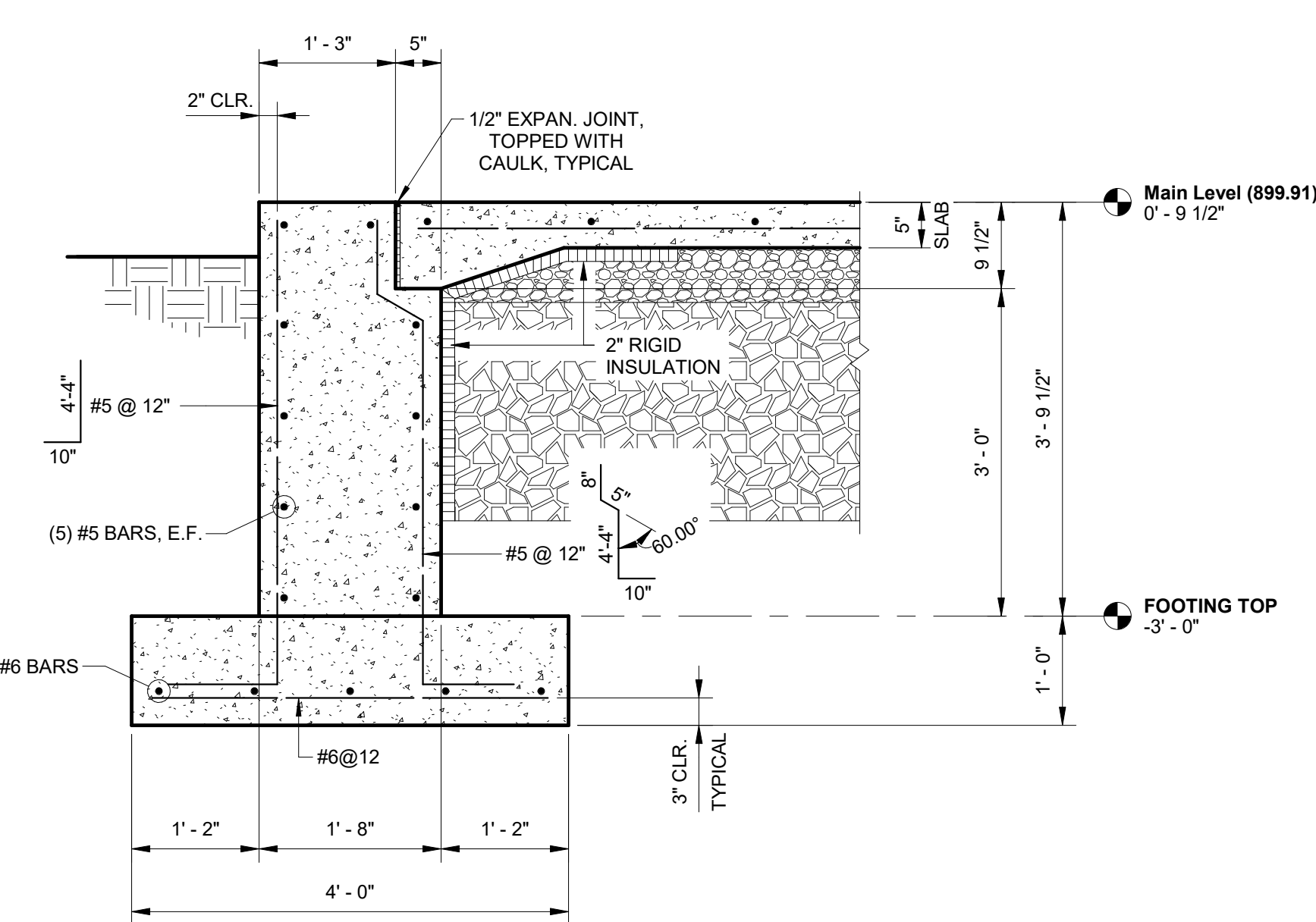
NOTE:
HANDRAIL OCCURS EACH
SIDE OF CORRIDOR



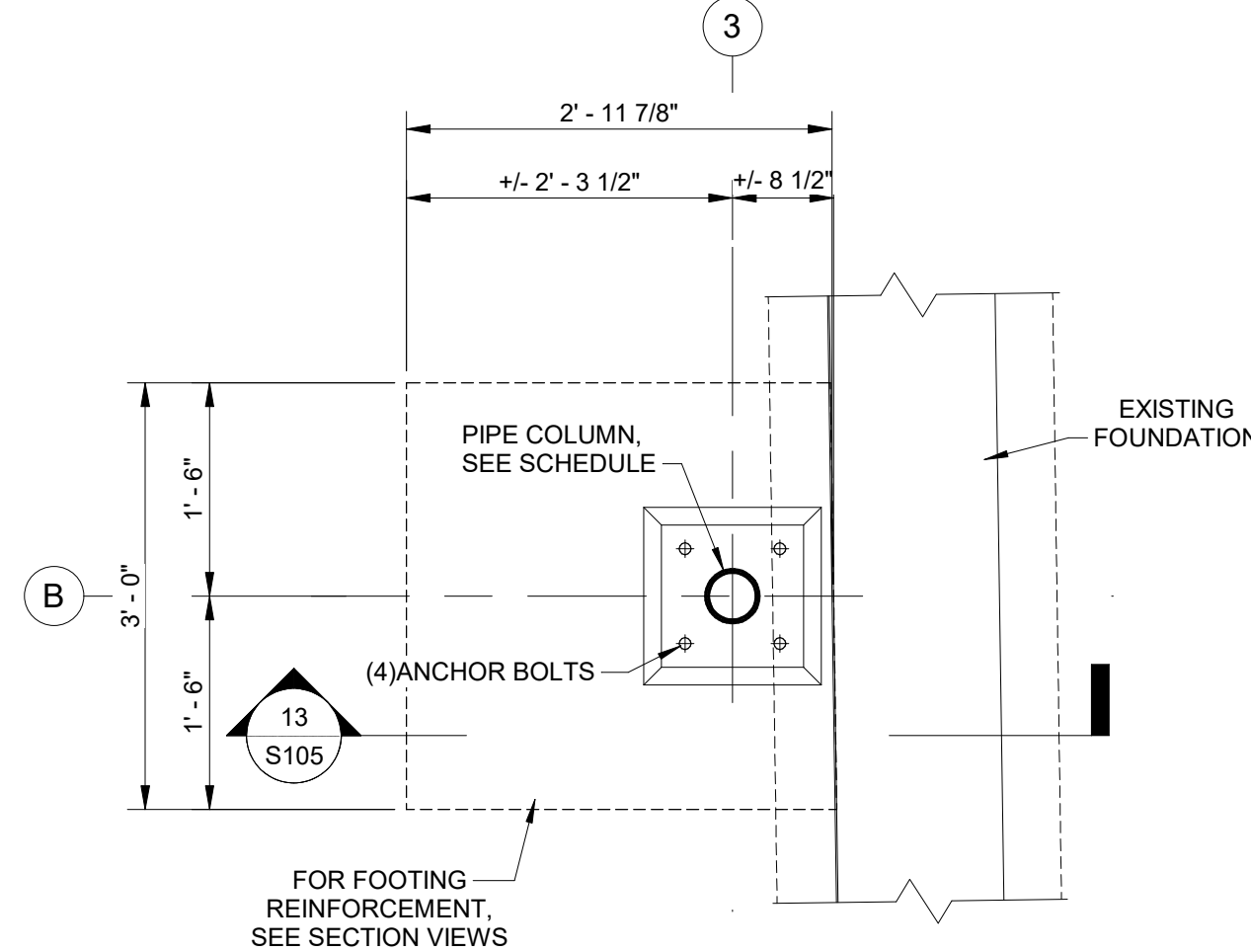
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3/4" = 1'-0"



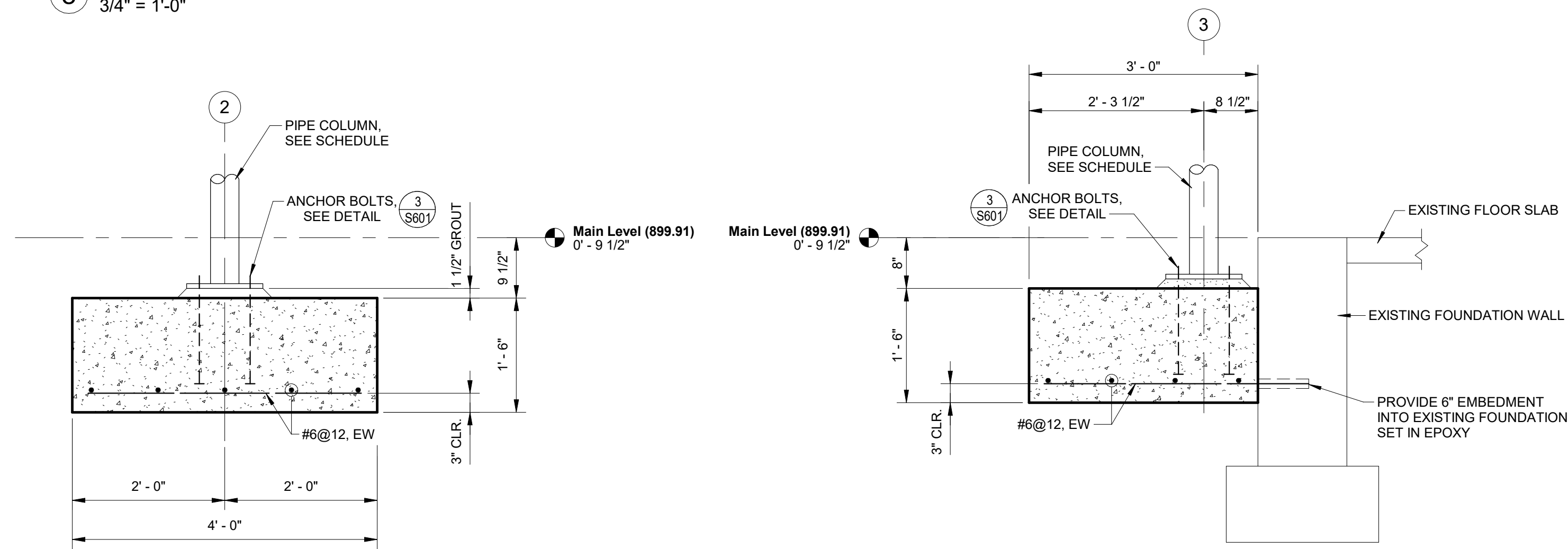
8 PLAN DETAIL - FOOTING "A"
3/4" = 1'-0"



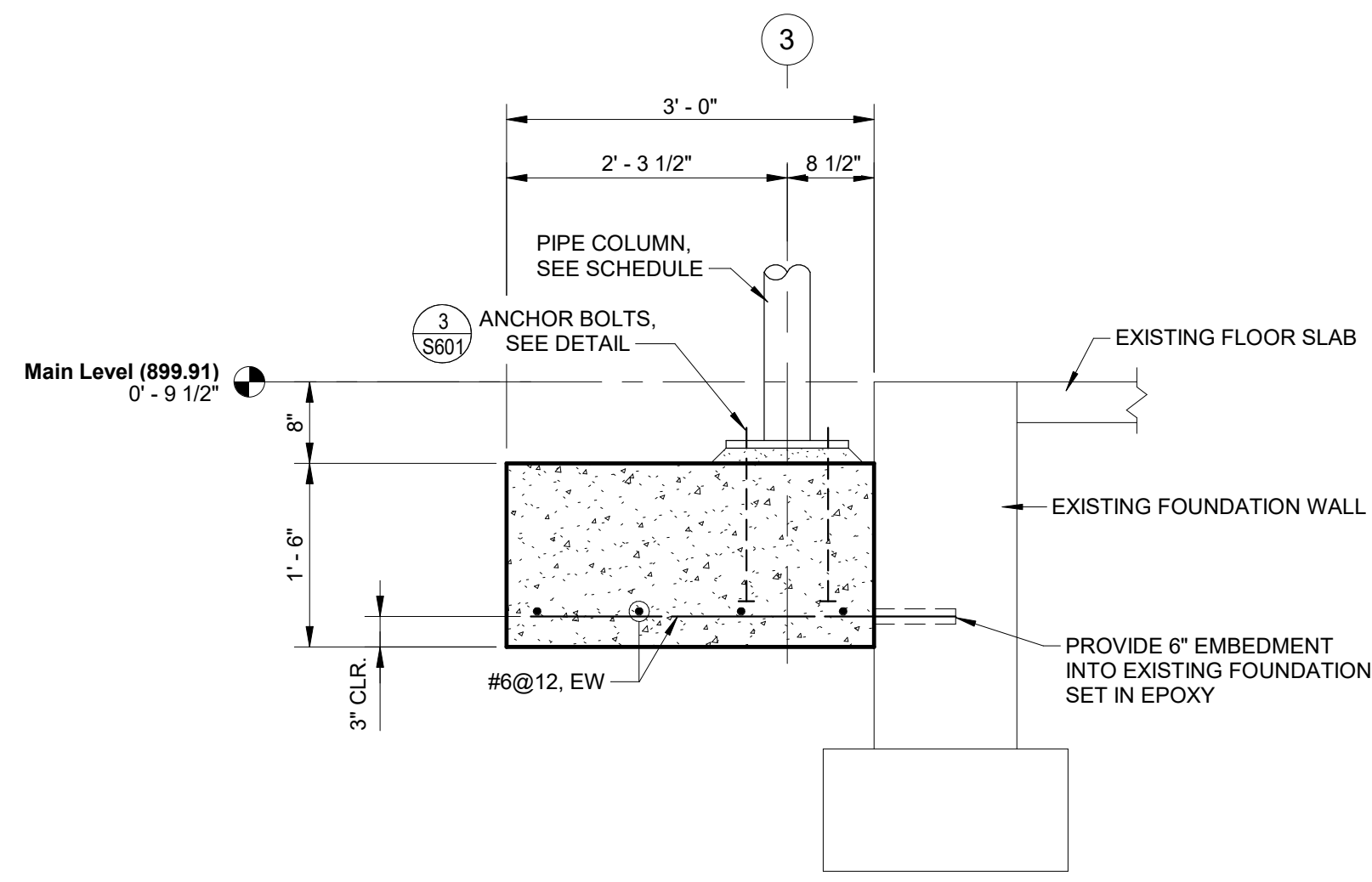
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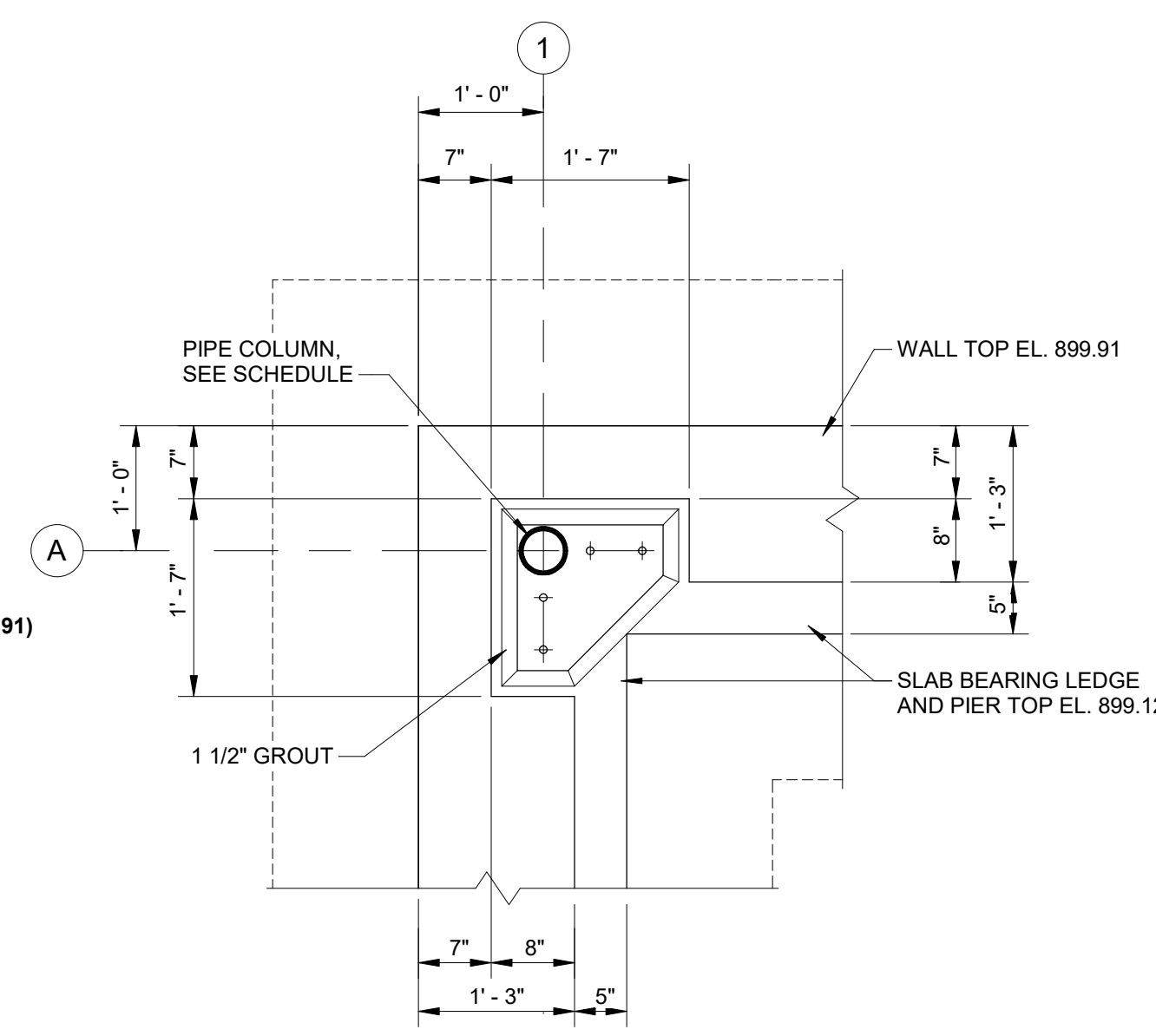
9 PLAN DETAIL - FOOTING "B"
3/4" = 1'-0"



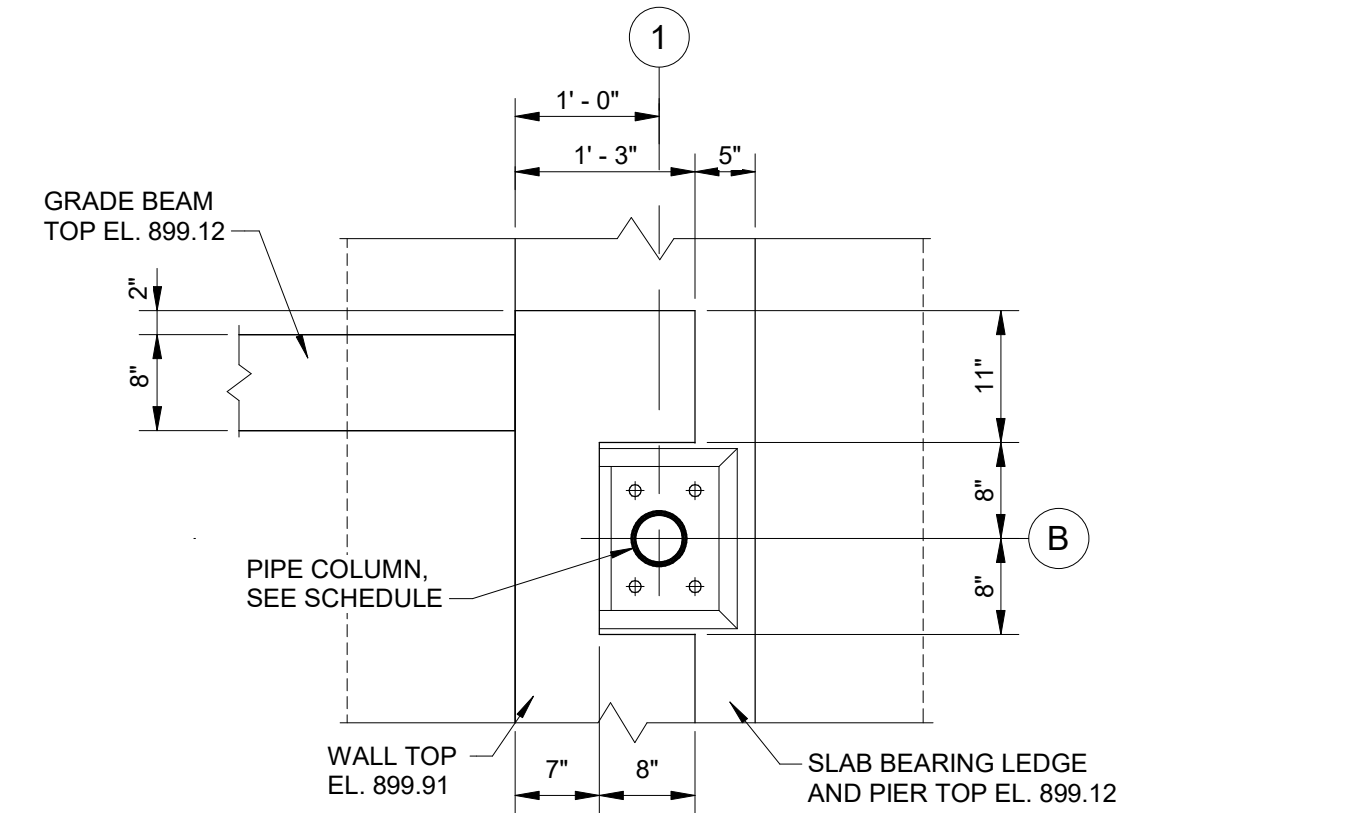
12 SECTION
3/4" = 1'-0"



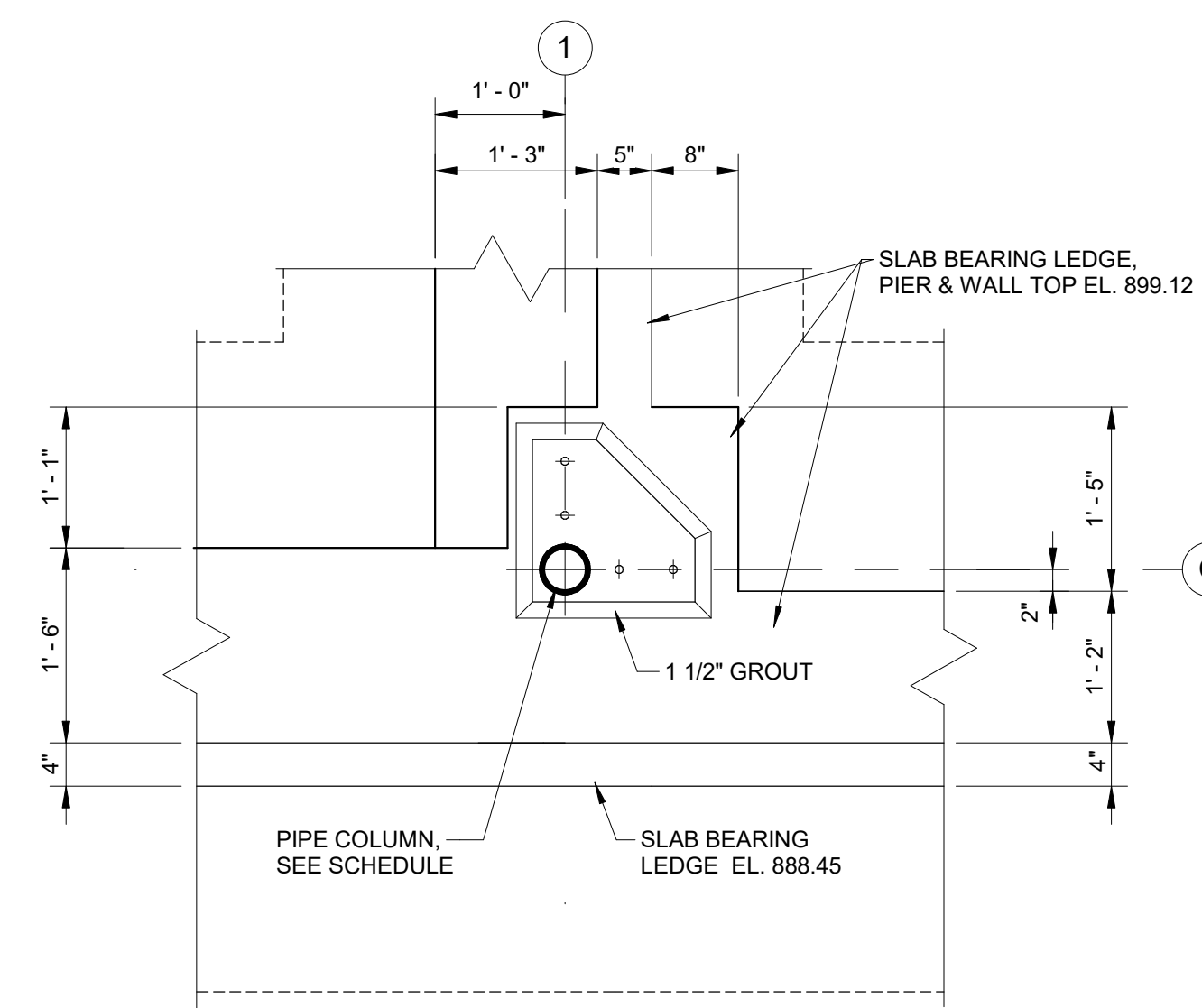
13 SECTION
3/4" = 1'-0"



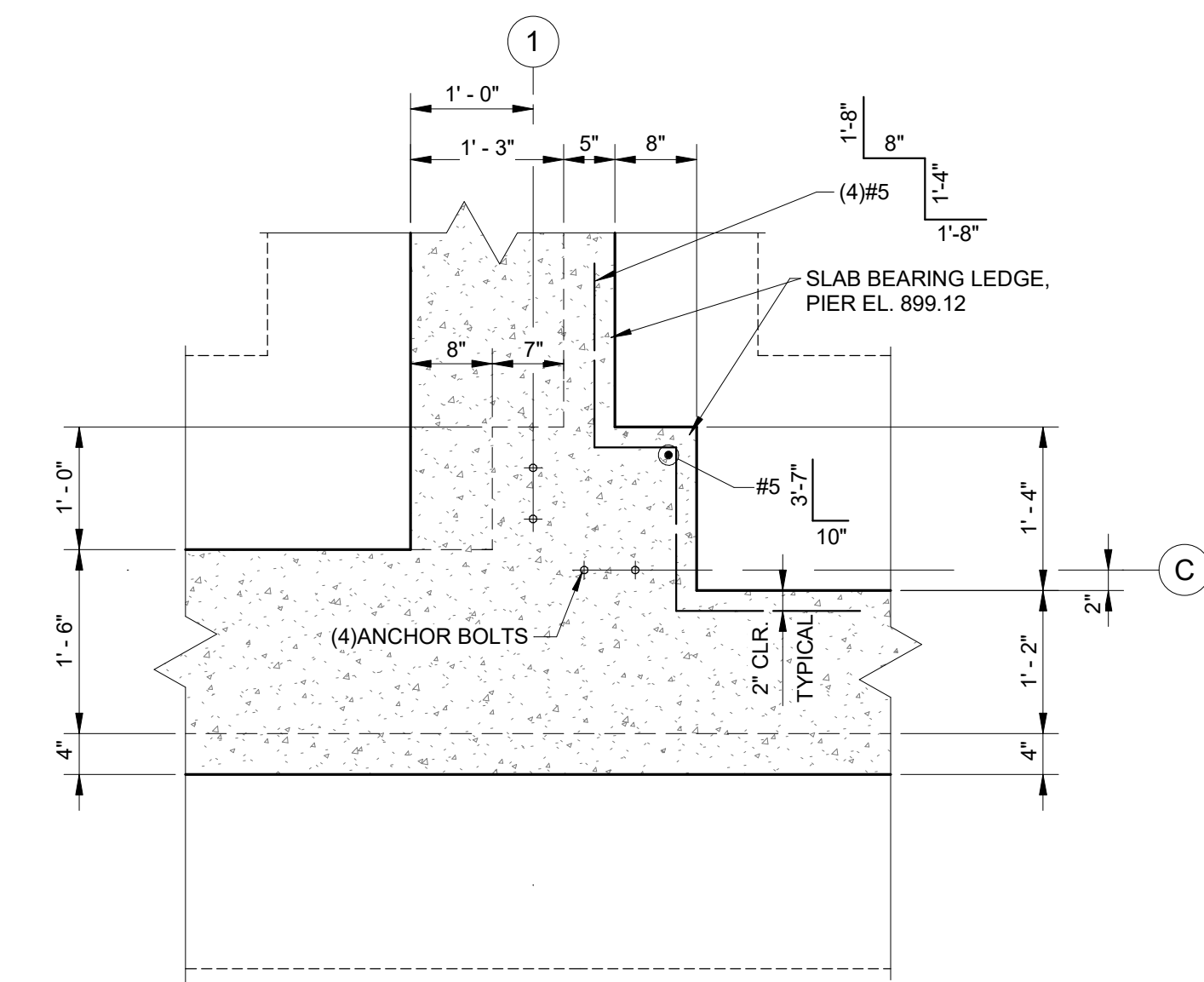
4 PLAN DETAIL
3/4" = 1'-0"



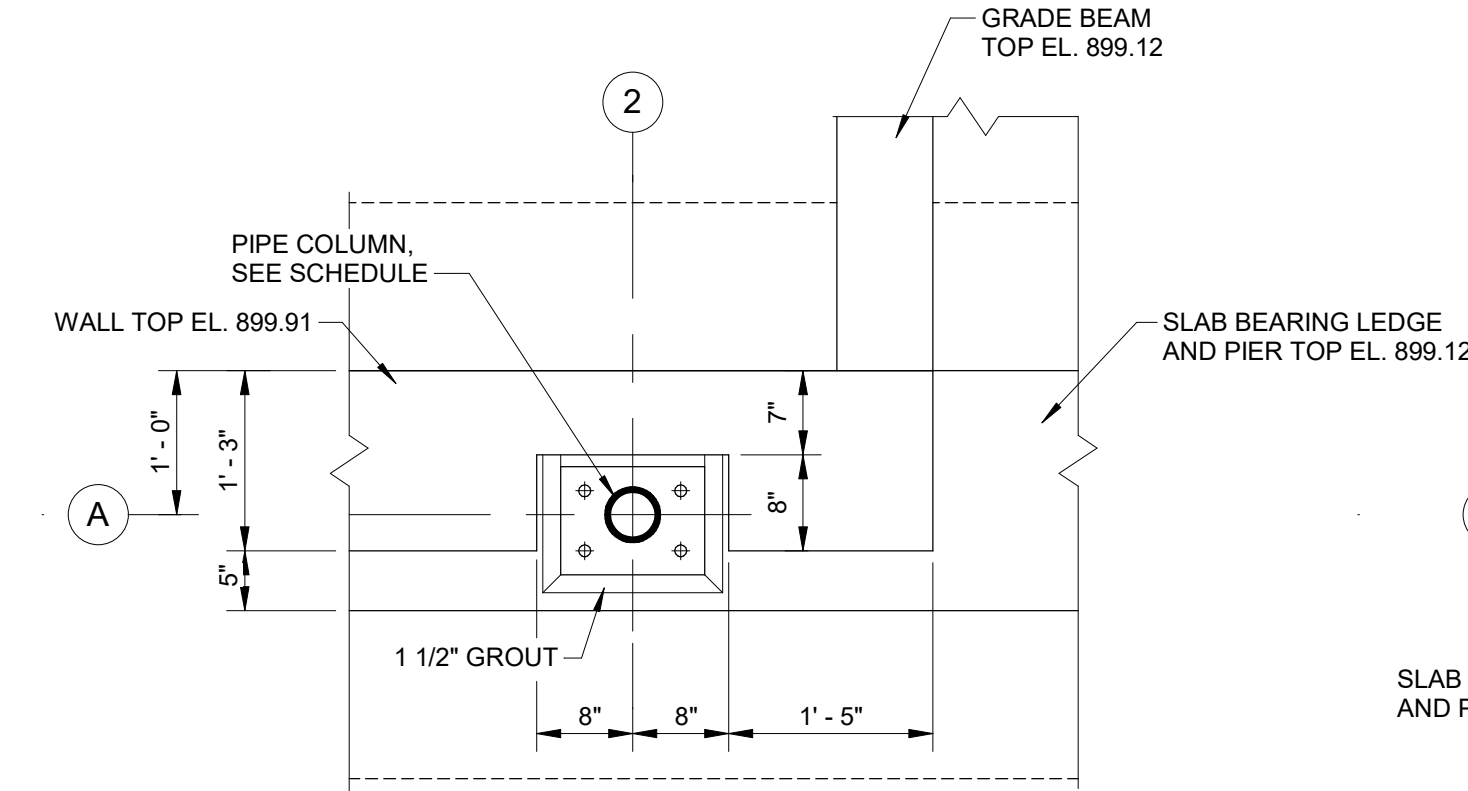
7 PLAN DETAIL
3/4" = 1'-0"



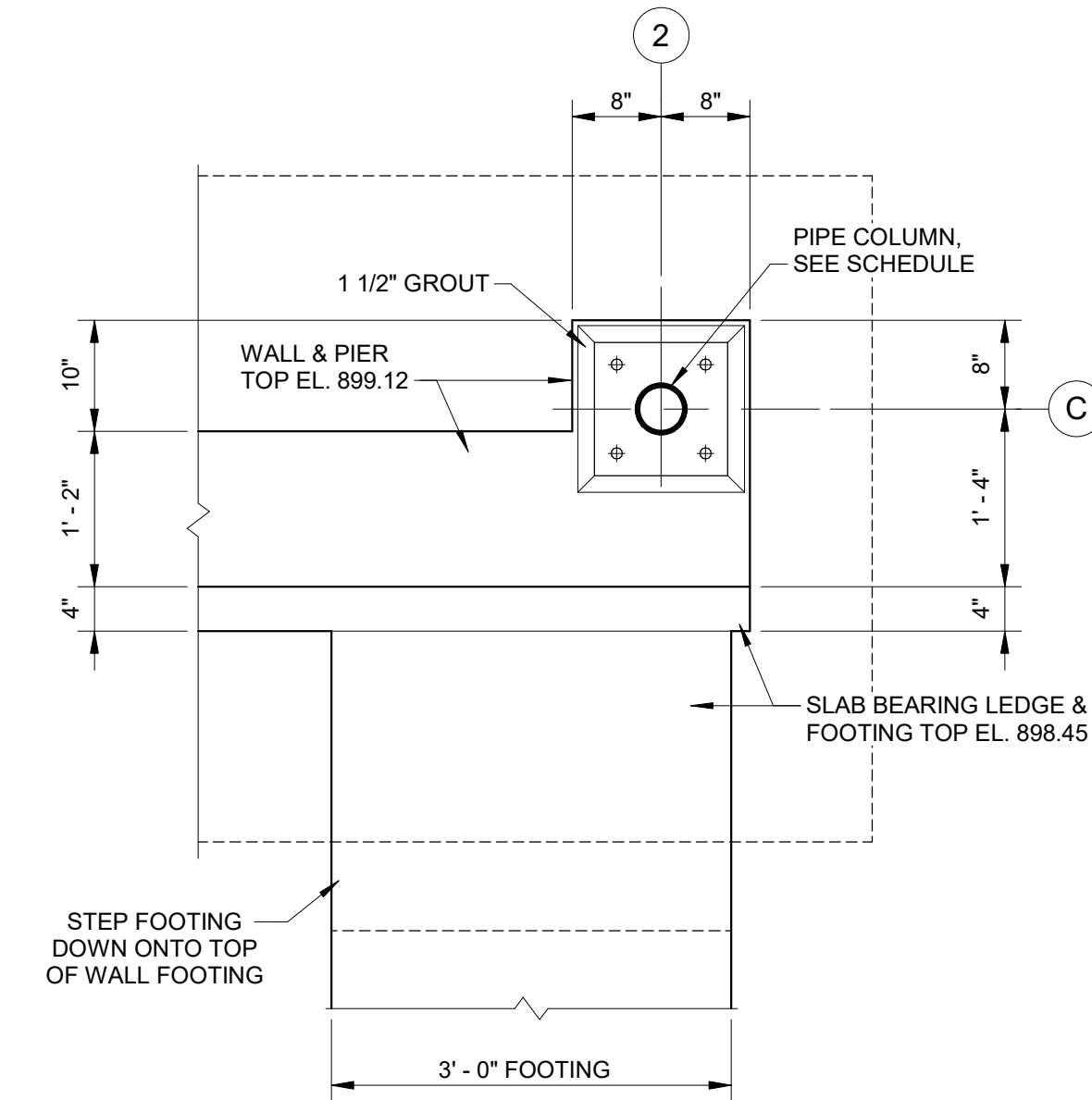
10 PLAN DETAIL
3/4" = 1'-0"



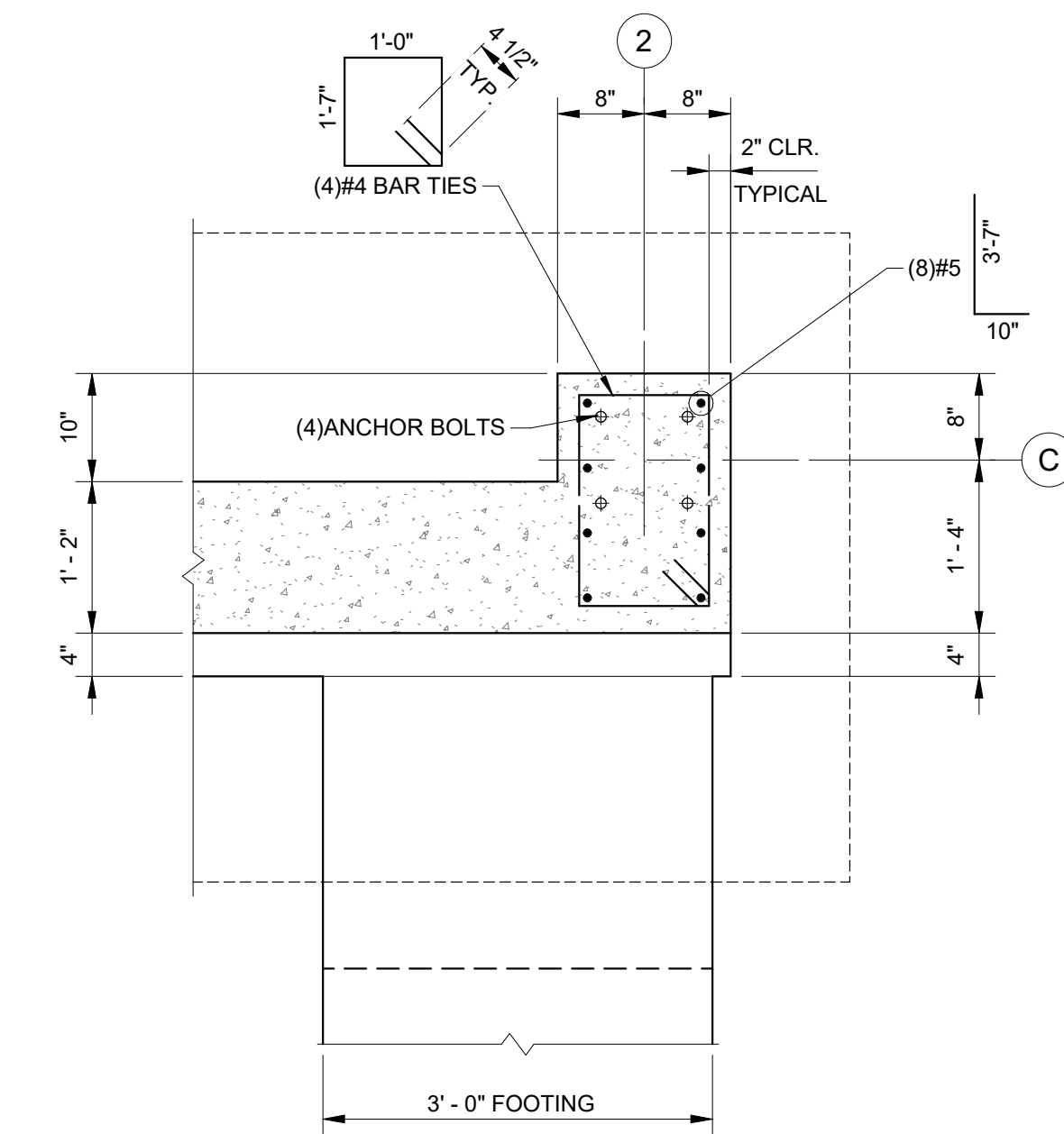
14 SECTION
3/4" = 1'-0"



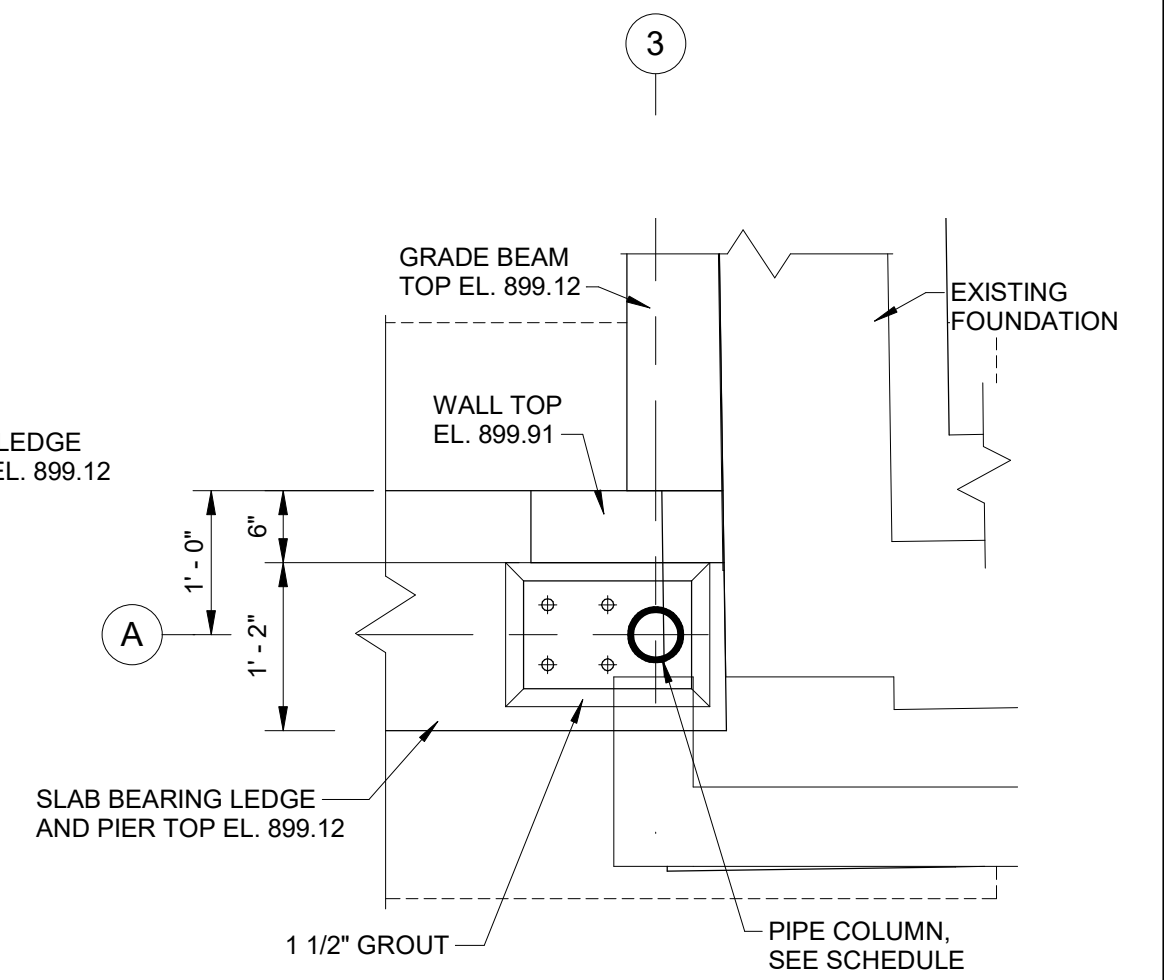
5 PLAN DETAIL
3/4" = 1'-0"



11 PLAN DETAIL
3/4" = 1'-0"



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



6 PLAN DETAIL
3/4" = 1'-0"

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

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DESCRIPTION DATE APPR

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Missouri State Certificate of Authority
No. E-000866

ISSUED FOR 01/16/23

BIDDING DOCUMENTS

NATHAN B. NATHAN
1/16/23
NUMBER
PE-00000000

HALLSVILLE MIDDLE SCHOOL ADDITION

HALLSVILLE SCHOOL DISTRICT

421 MO-124 E

HALLSVILLE MO. 65255

FOUNDATION DETAILS

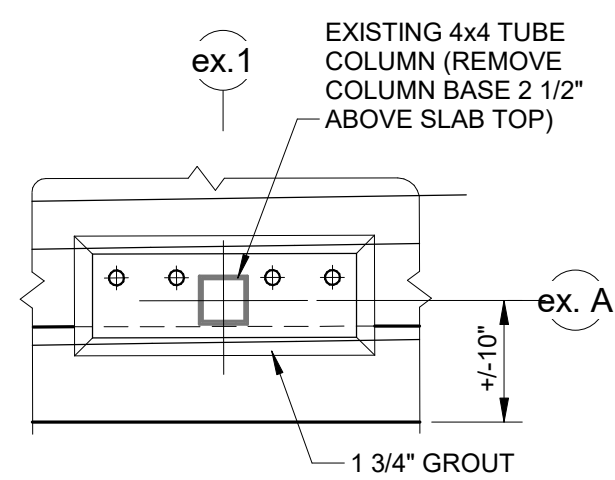
PROJECT NO. 21-5052

DRAWING ISSUED DATE: 01/16/2023

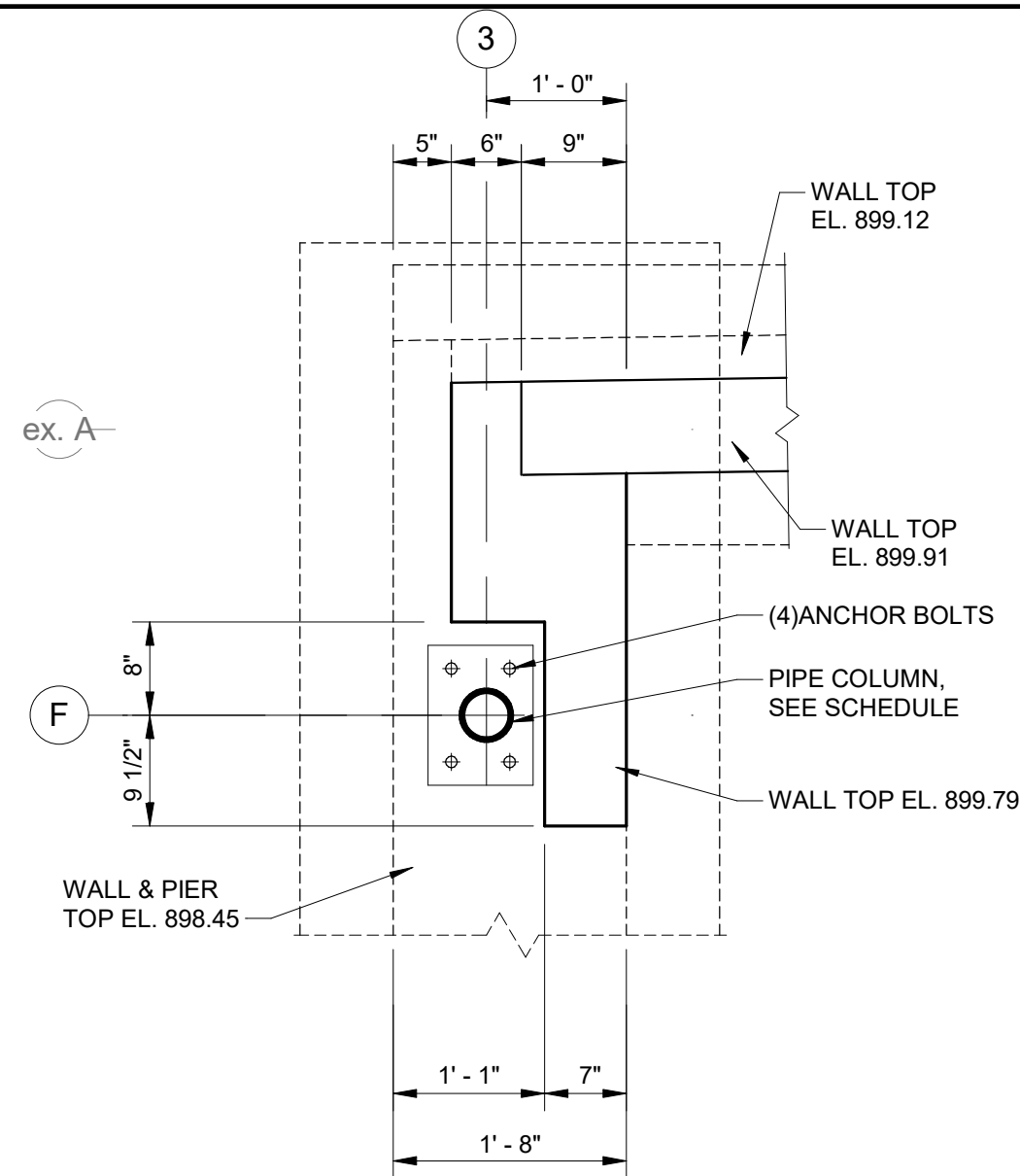
SHEET

S105

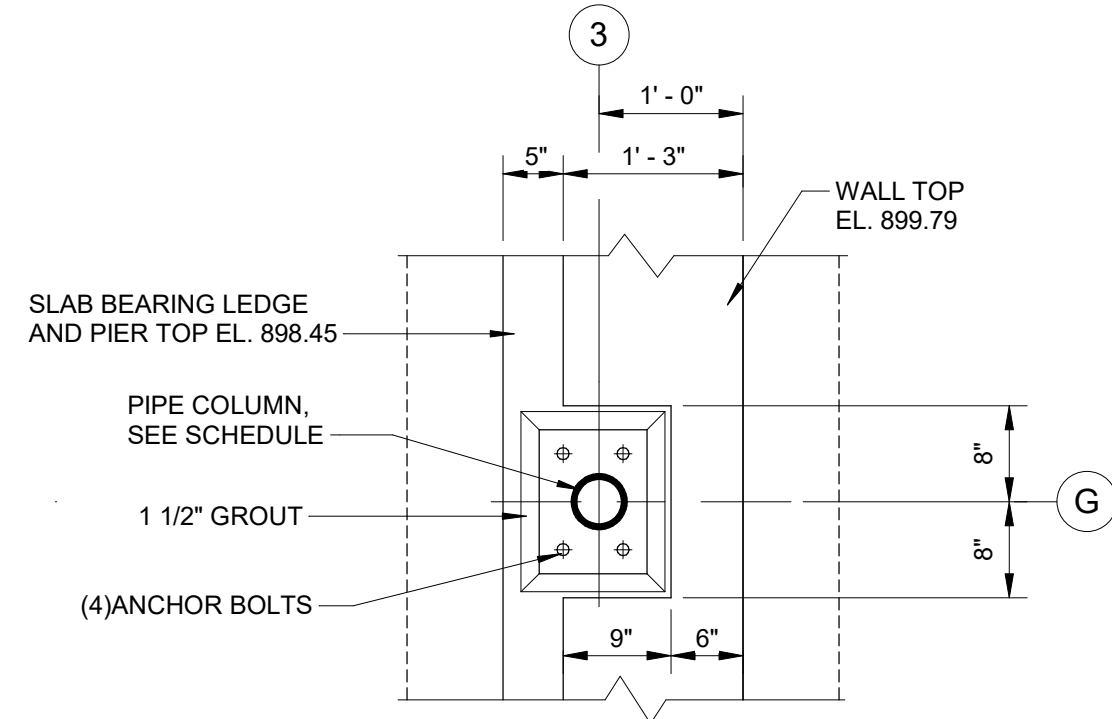
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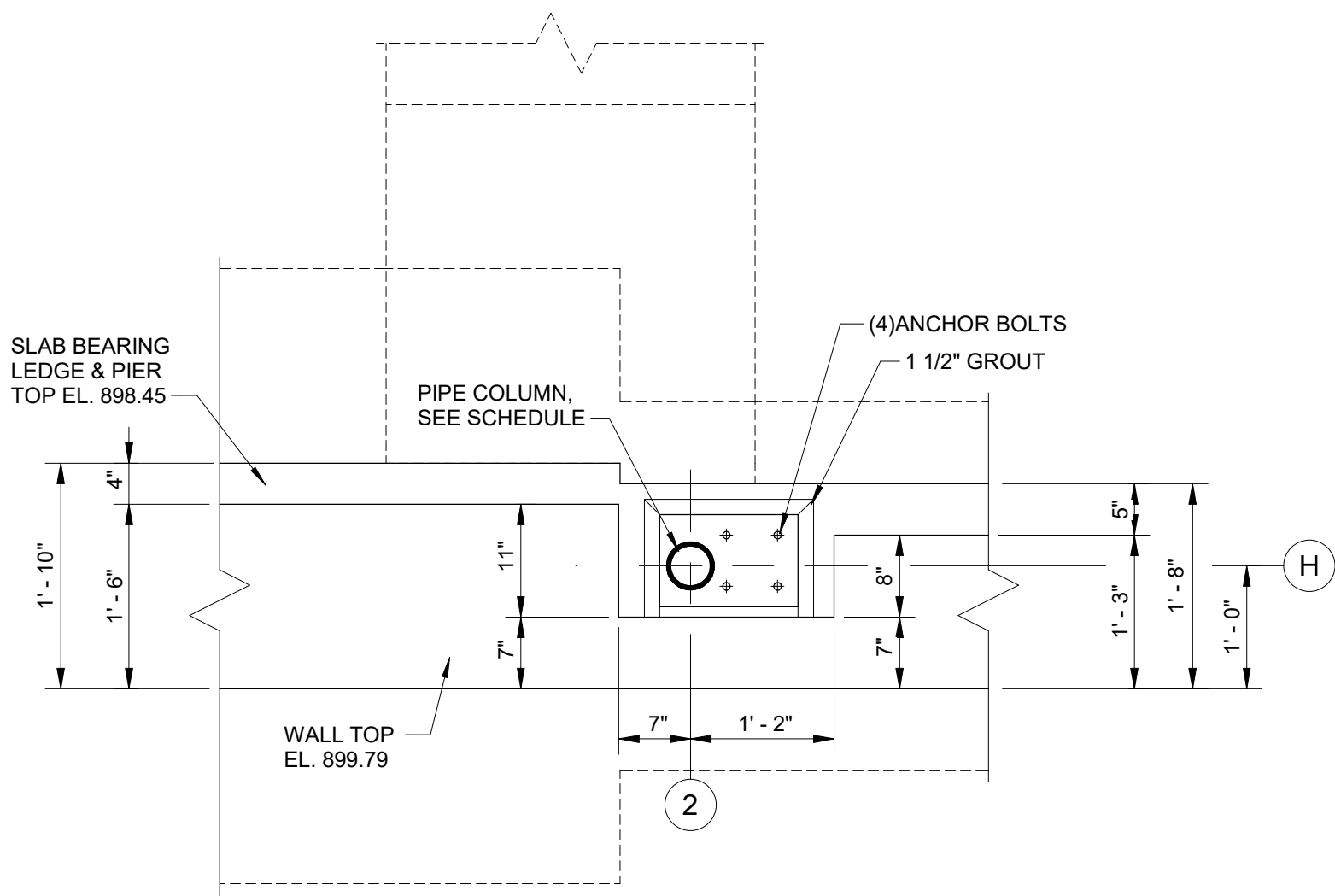
1 PLAN DETAIL
3/4" = 1'-0"



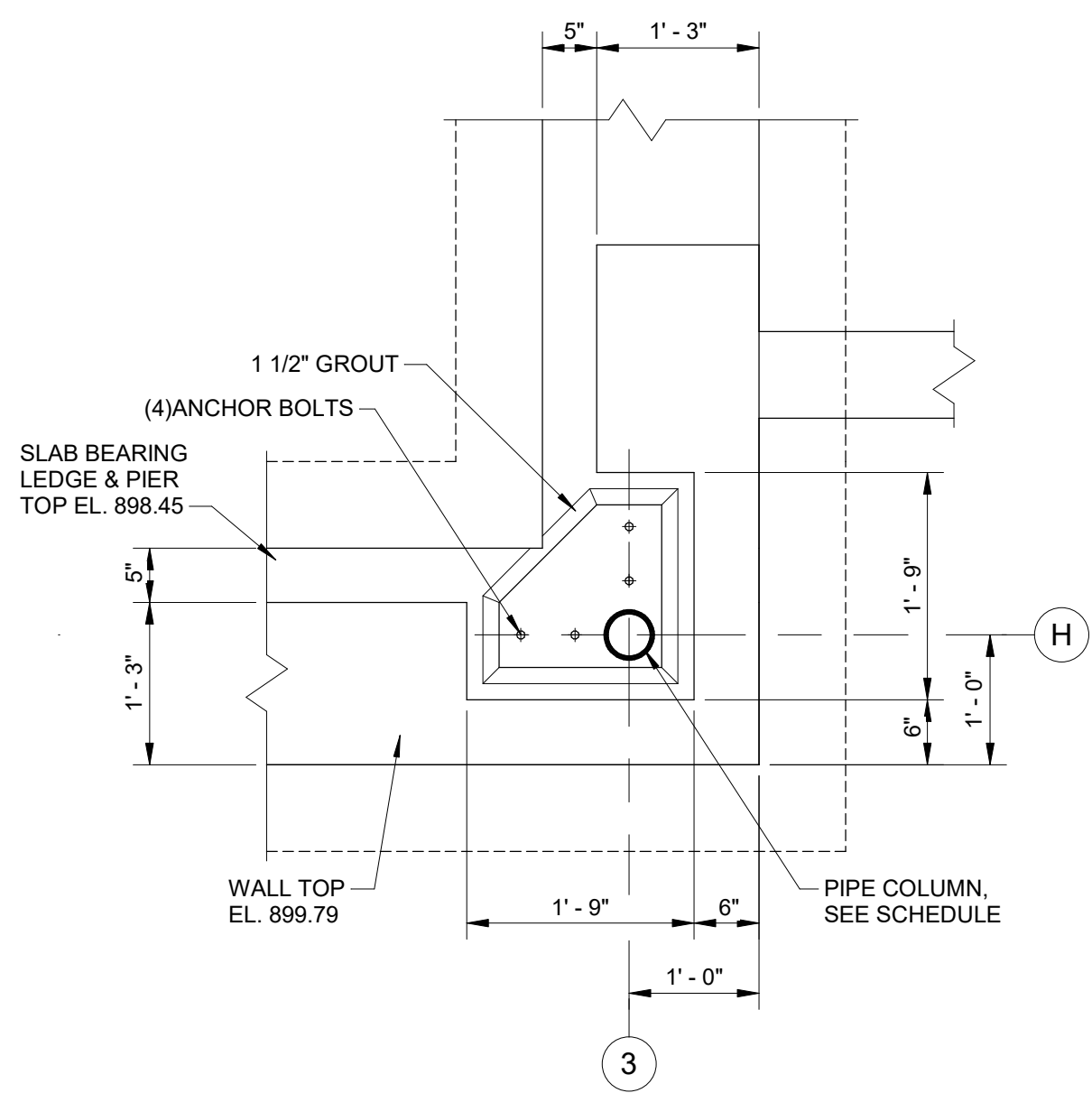
2 PLAN DETAIL
3/4" = 1'-0"



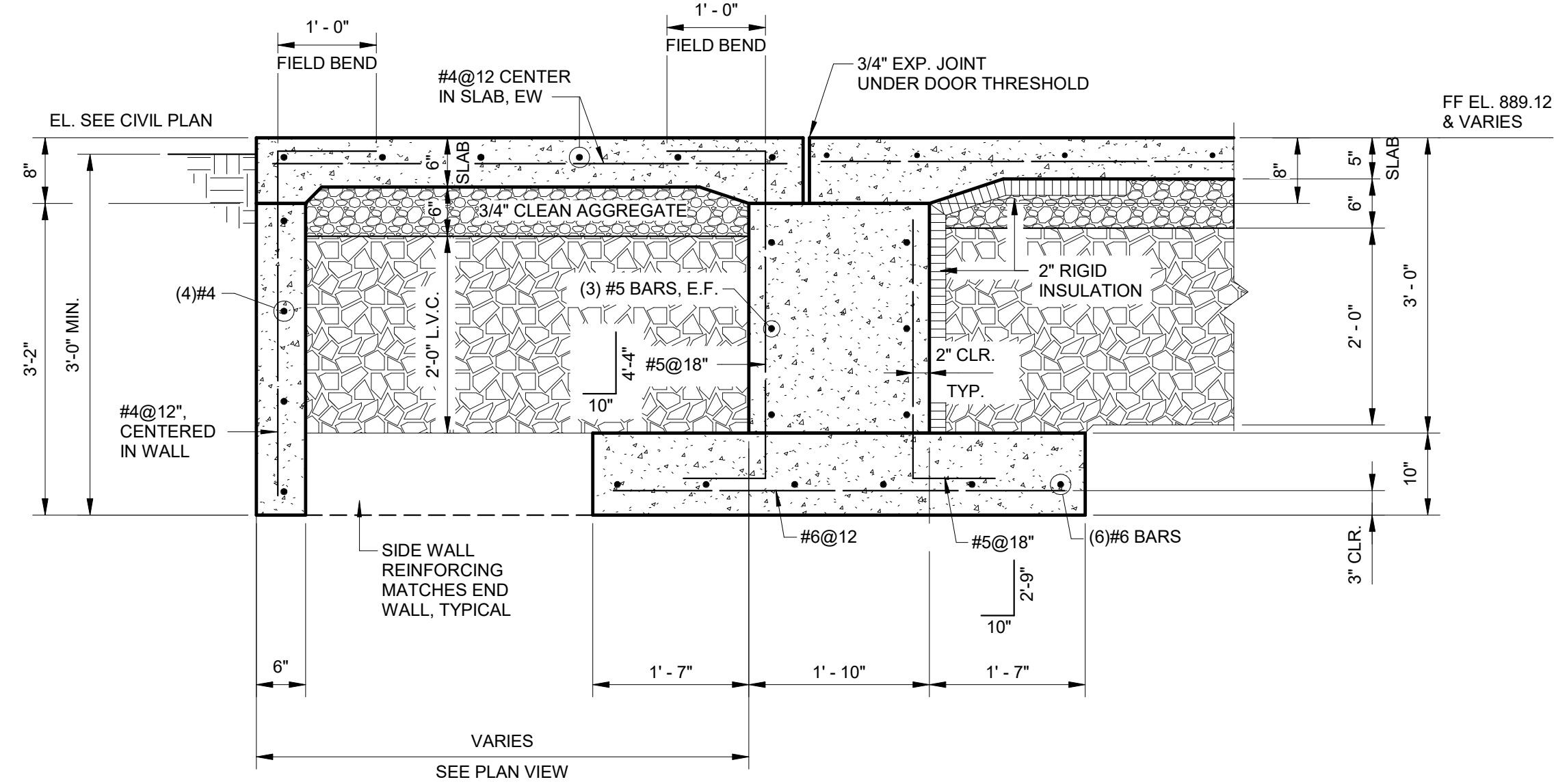
3 PLAN DETAIL
3/4" = 1'-0"



4 PLAN DETAIL
3/4" = 1'-0"



5 PLAN DETAIL
3/4" = 1'-0"



6 SECTION
NTS

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

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BIDDING DOCUMENTS



HALLSVILLE MIDDLE SCHOOL ADDITION
HALLSVILLE SCHOOL DISTRICT
421 MO-124 E
HALLSVILLE MO. 65255

Non-Reduced Sheet Size 30" x 42"
Full sized plans have been prepared using standard scales.
Reduced sized plans may not conform to standard scales.

DESIGNED NRM DRAWN EAW
FIELD FIELD BOOK

CHECKED NRM / KTH CHECK DATE 01/12/23

SHEET TITLE

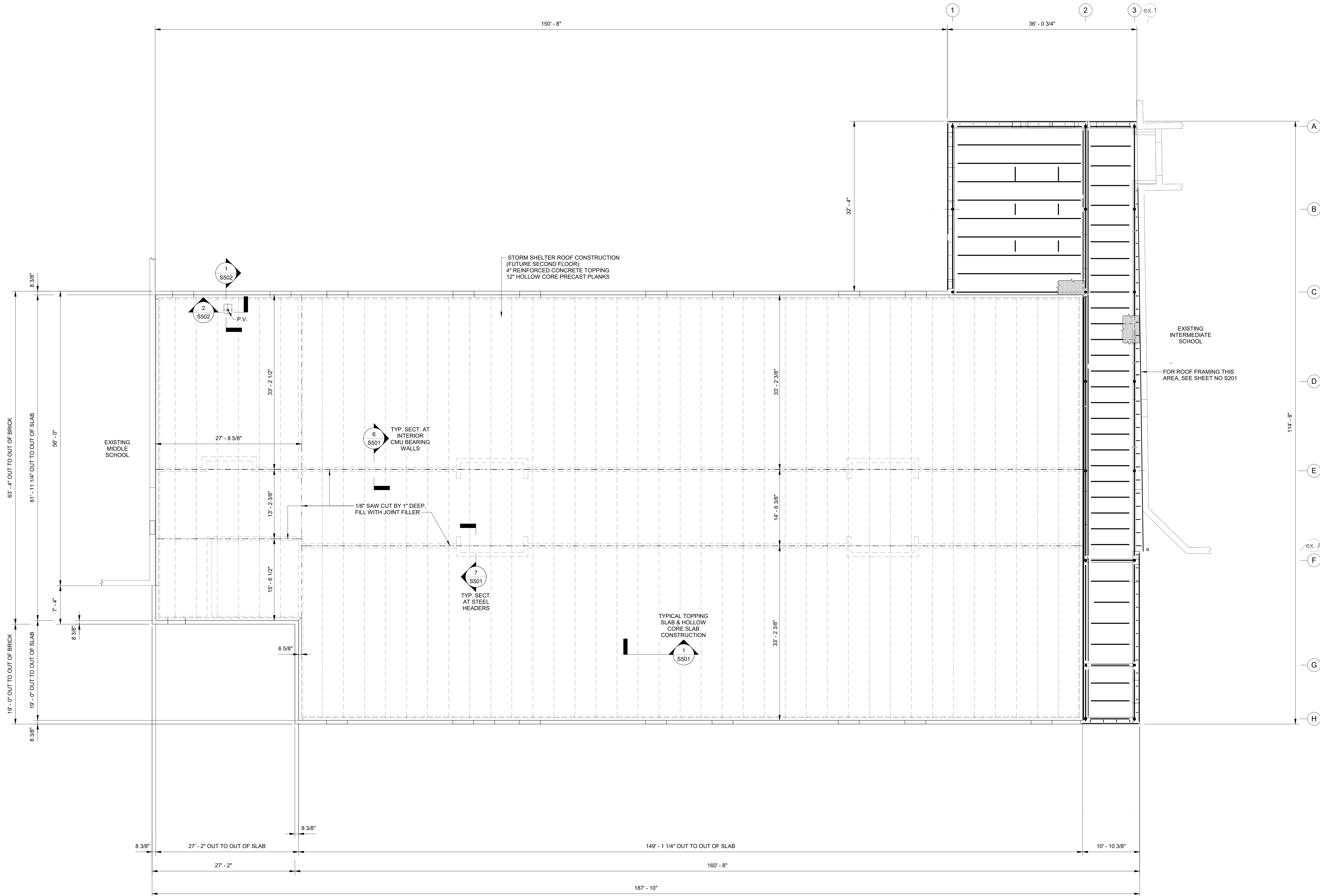
FOUNDATION
DETAILS

PROJECT NO.
21-5052

DRAWING ISSUED DATE:
01/16/2023

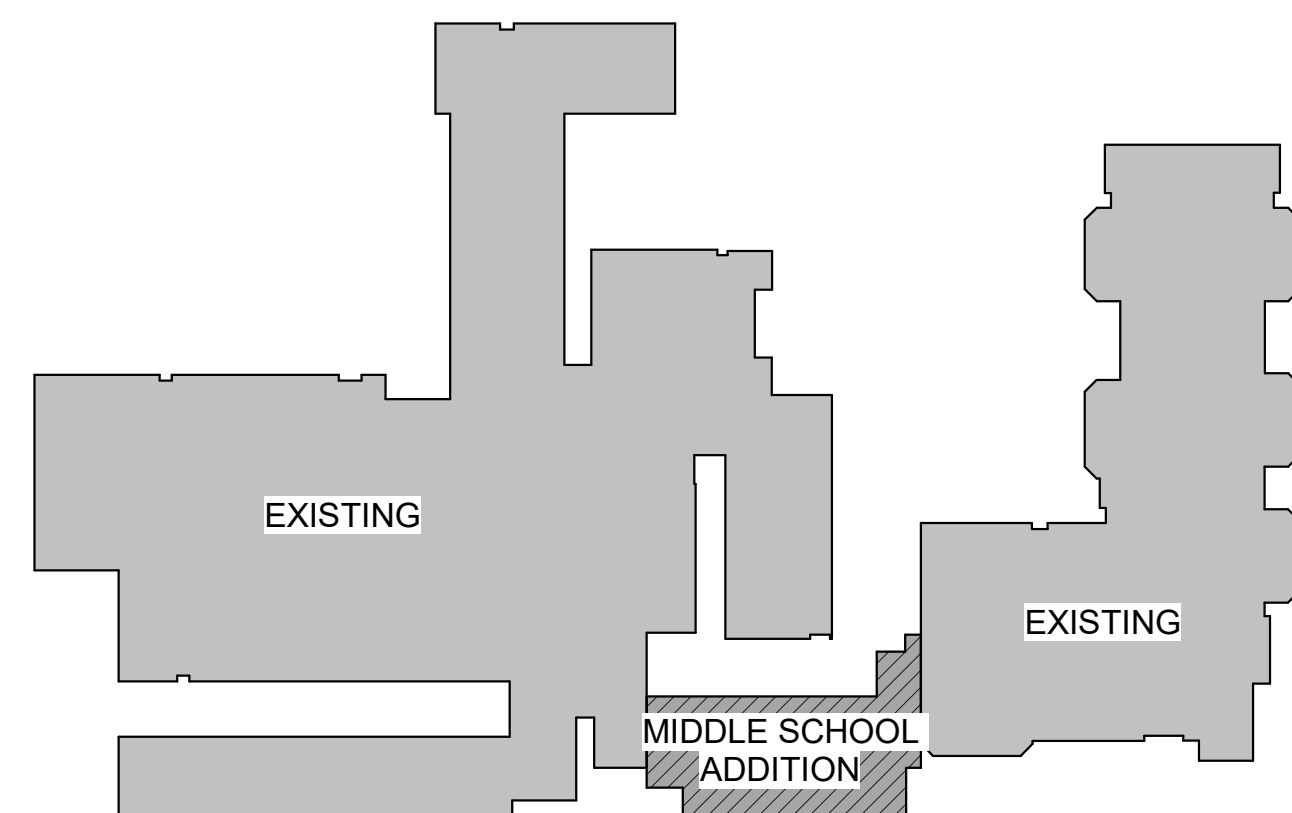
SHEET
S106

1/16/2023 2:25:10 PM C:\Users\new KLINGNER\Documents\S201-5052 HALLSVILLE MIDDLE SCHOOL ADDITIONS.dwg nrm



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

- LEGEND**
- - - DENOTES SAWED CONSTRUCTION OR CONTRACTION JOINT.
 - P.V. DENOTES PLUMBING VENT, SEE PLUMBING PLANS FOR DETAILS
 - ⊕ CMU LOAD BEARING MASONRY WALLS BELOW.
 - DENOTES PIPE COLUMN, SEE SCHEDULE
 - DENOTES BEAM AND GIRDER LOCATION, SEE ROOF FRAMING PLAN



KEY PLAN - MIDDLE SCHOOL ADDITION

0 4' 8' 16'
SCALE: 1/8" = 1'-0"

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BIDDING DOCUMENTS



HALLSVILLE MIDDLE SCHOOL ADDITION
HALLSVILLE SCHOOL DISTRICT
421 MO-124 E
HALLSVILLE MO. 65255

Non-Reduced Sheet Size 30" x 42"

Full sized plans have been prepared using standard scales. Reduced sized plans may not conform to standard scales.

DESIGNED		DRAWN	
NRM	EAW	NRM	EAW
FIELD		FIELD BOOK	
CHECKED	CHECK DATE	CHECKED	CHECK DATE
NRM/KTH	01/12/23	NRM/KTH	01/12/23

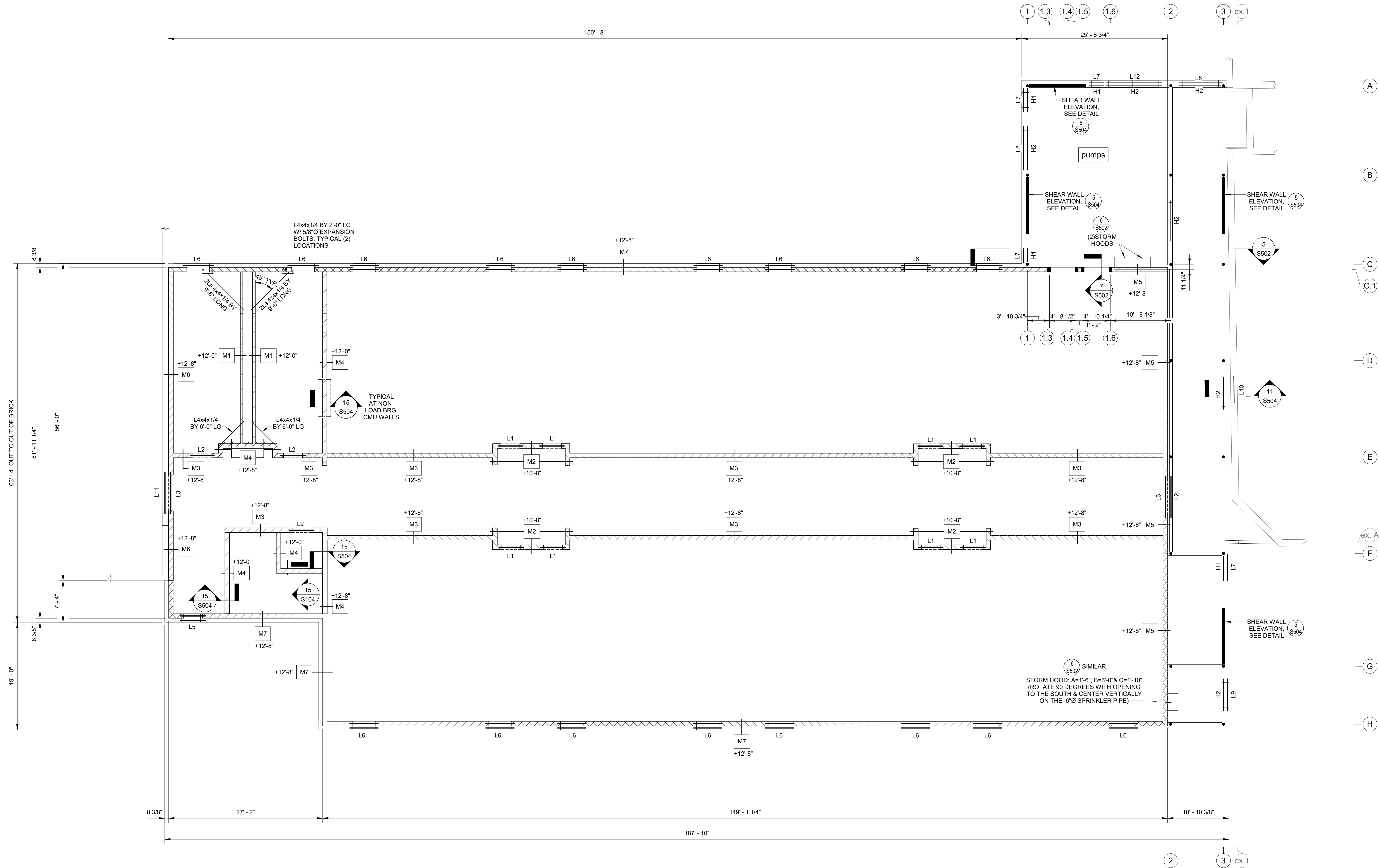
SHEET TITLE

ROOF SLAB PLAN

PROJECT NO.
21-5052
DRAWING ISSUED DATE:
01/16/23

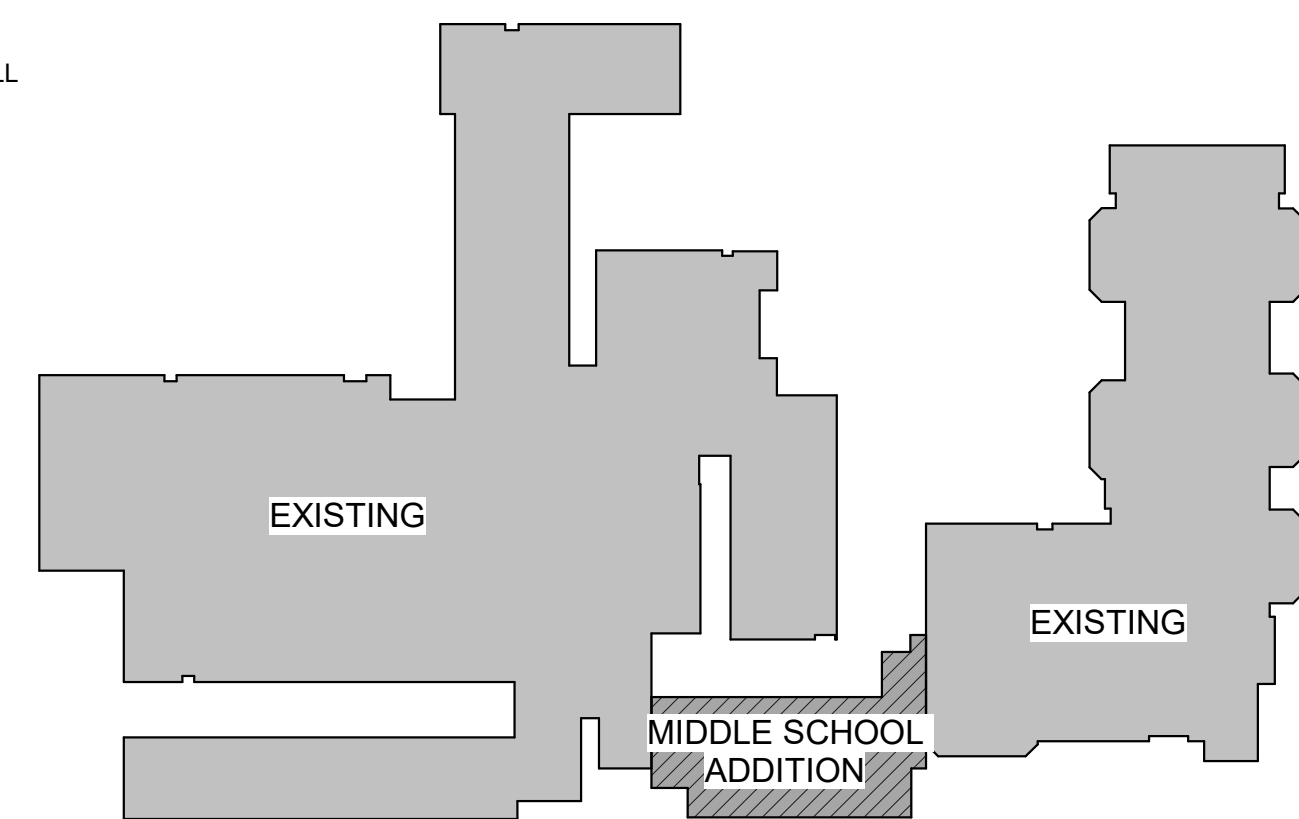
SHEET

S202



1 CONCRETE MASONRY, HEADER & LINTEL PLAN
1/8" = 1'-0"

LEGEND	
	NON LOAD BEARING CMU WALL
	LOAD BEARING CMU WALL
	PIPE COLUMN, SEE SCHEDULE ON SHEET NO. S601
	LINTEL, SEE PLAN AND LINTEL SCHEDULE ON SHEET NO. S504
	CMU TYPE AND HEIGHT ABOVE FINISH FLOOR, SEE PLAN AND SCHEDULE ON SHEET NO. S504
	NON LOAD BEARING COLD FORM STUD WALL



KEY PLAN - MIDDLE SCHOOL ADDITION

0 4' 8' 16'
SCALE: 1/8" = 1'-0"

HALLSVILLE MIDDLE SCHOOL ADDITION

HALLSVILLE SCHOOL DISTRICT

421 MO-124 E

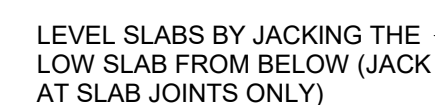
HALLSVILLE MO. 65255

Non-Reduced Sheet Size 30" x 42"	
Full sized plans have been prepared using standard scales. Reduced sized plans may not conform to standard scales.	
DESIGNED	DRAWN
FIELD	FIELD BOOK
CHECKED	CHECK DATE
NRM/KTH	01/12/23
SHEET TITLE	
CONCRETE MASONRY, HEADER & LINTEL PLAN	
PROJECT NO.	
21-5052	
DRAWING ISSUED DATE:	
01/16/2023	
SHEET	
S203	

REVISION HISTORY		
DESCRIPTION	DATE	APPR

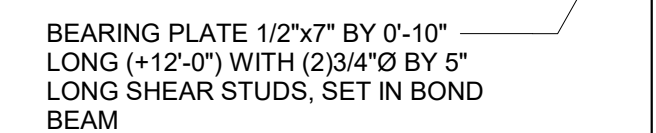
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Pella, IA, Davenport, IA, Hannibal, MO
907 East Ash St.
573.955.5988

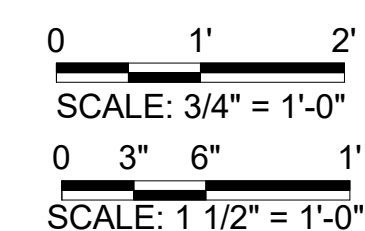
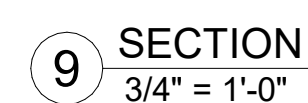
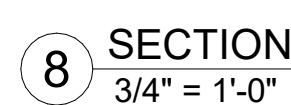
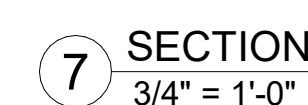
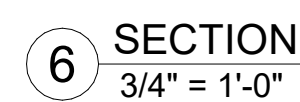
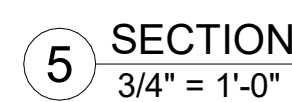


GROUTING PROCEDURE:

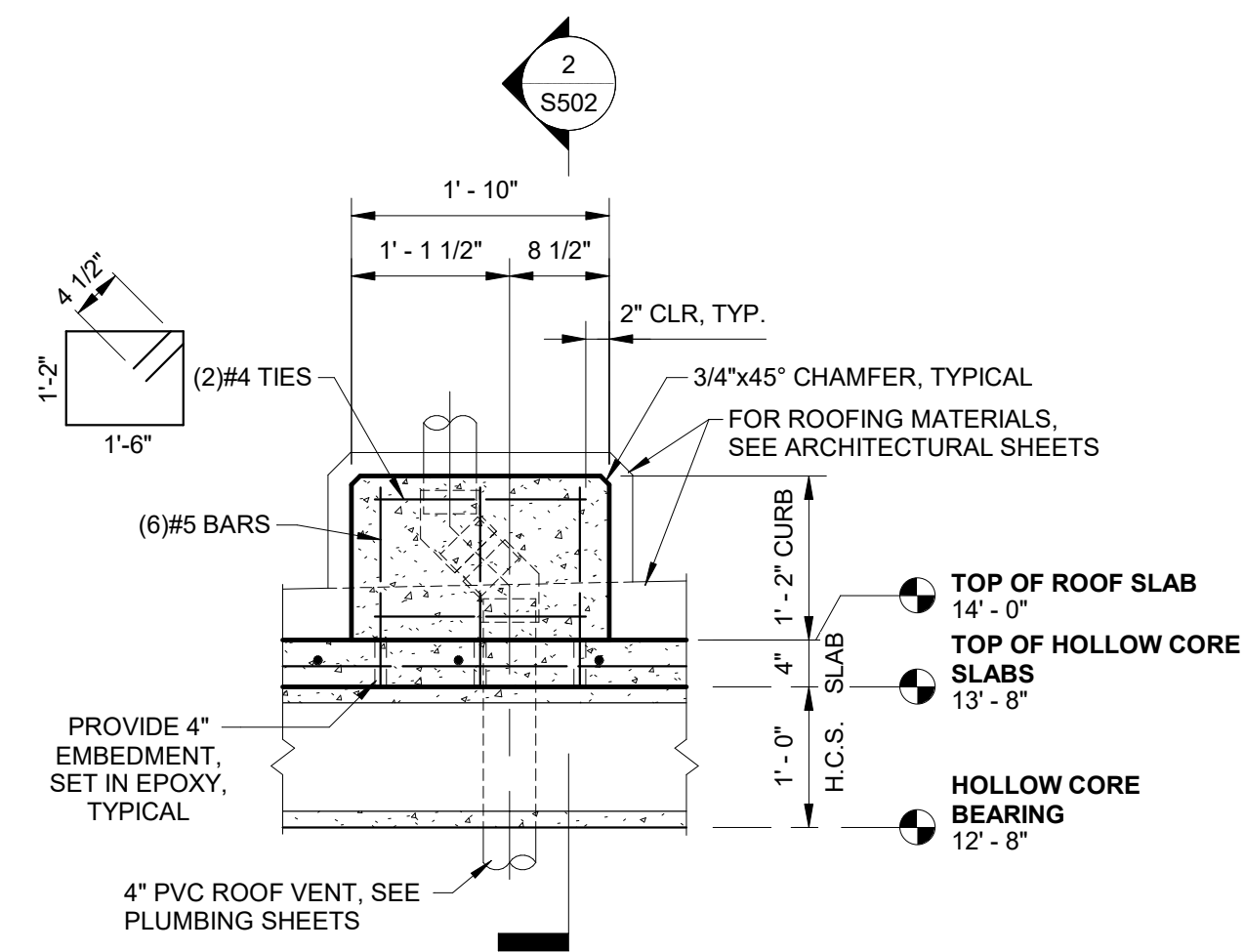
1. 3 TO 1 RATIO - SAND TO CEMENT - WITH ENOUGH WATER FOR STIFF CONSISTENCY.
2. FILL JOINTS COMPLETELY WITH GROUT.
3. 1 HOUR AFTER GROUTING, WIPE UNDERSID OF JOINT WITH BURLAP.



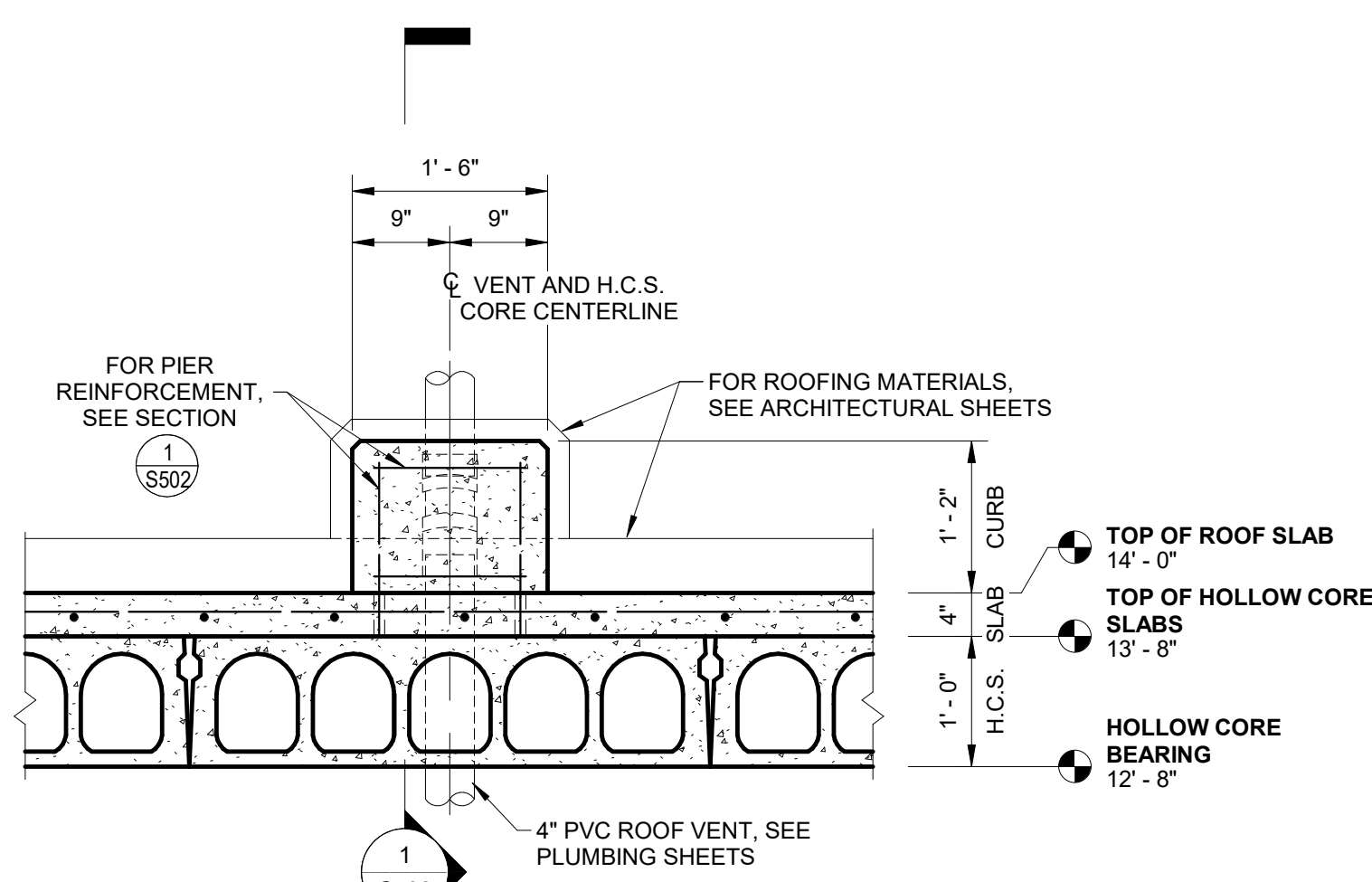
4 BEARING PLATE DETAIL
1 1/2" = 1'-0"



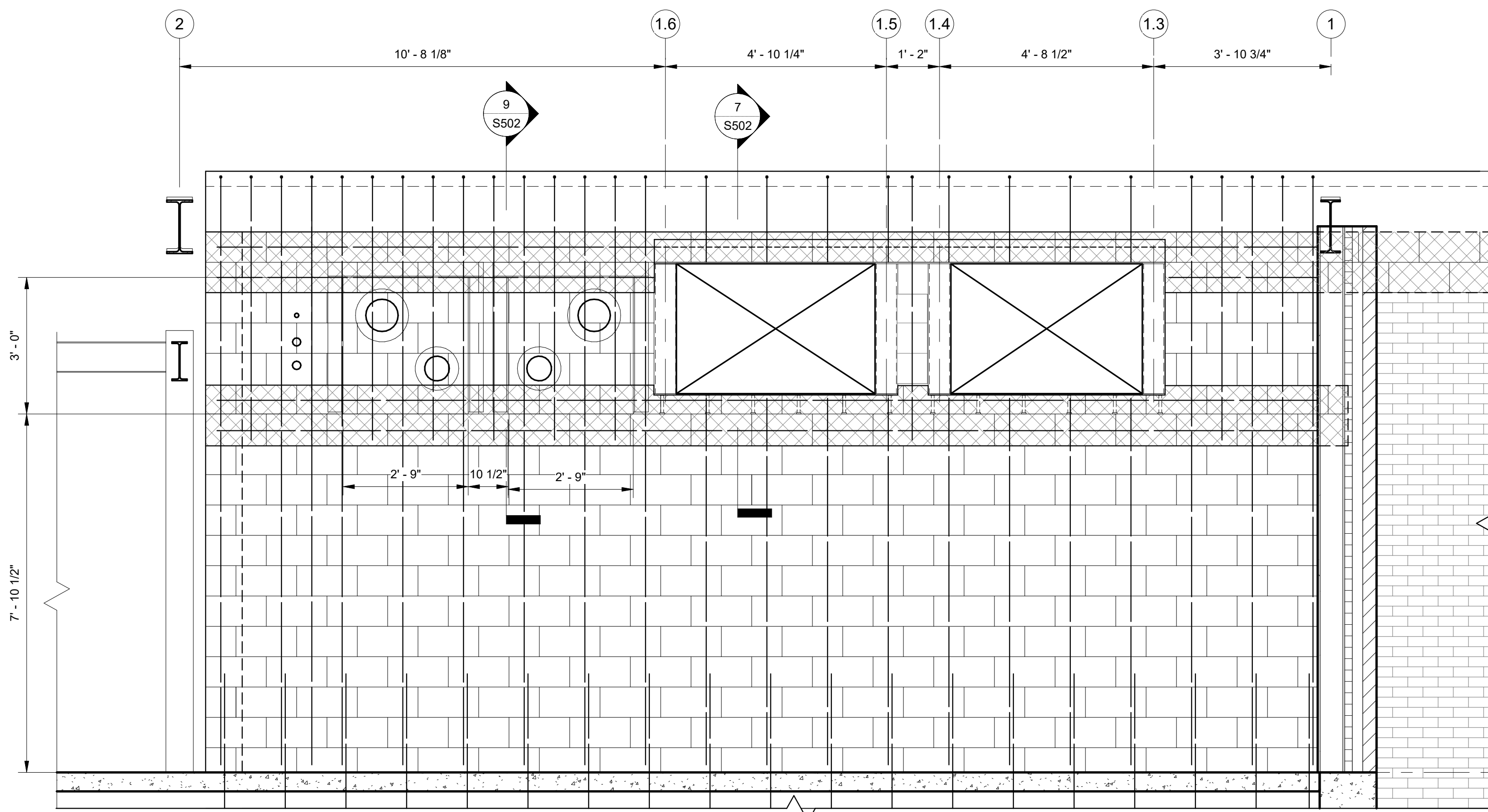
1/16/2023 2:25:13 PM C:\Users\new KLINGNER\Documents\S502 21-5052 HALLSVILLE MIDDLE SCHOOL ADDITIONS.dwg



1 SECTION THROUGH VENT CURB - LOOKING EAST
3/4" = 1'-0"



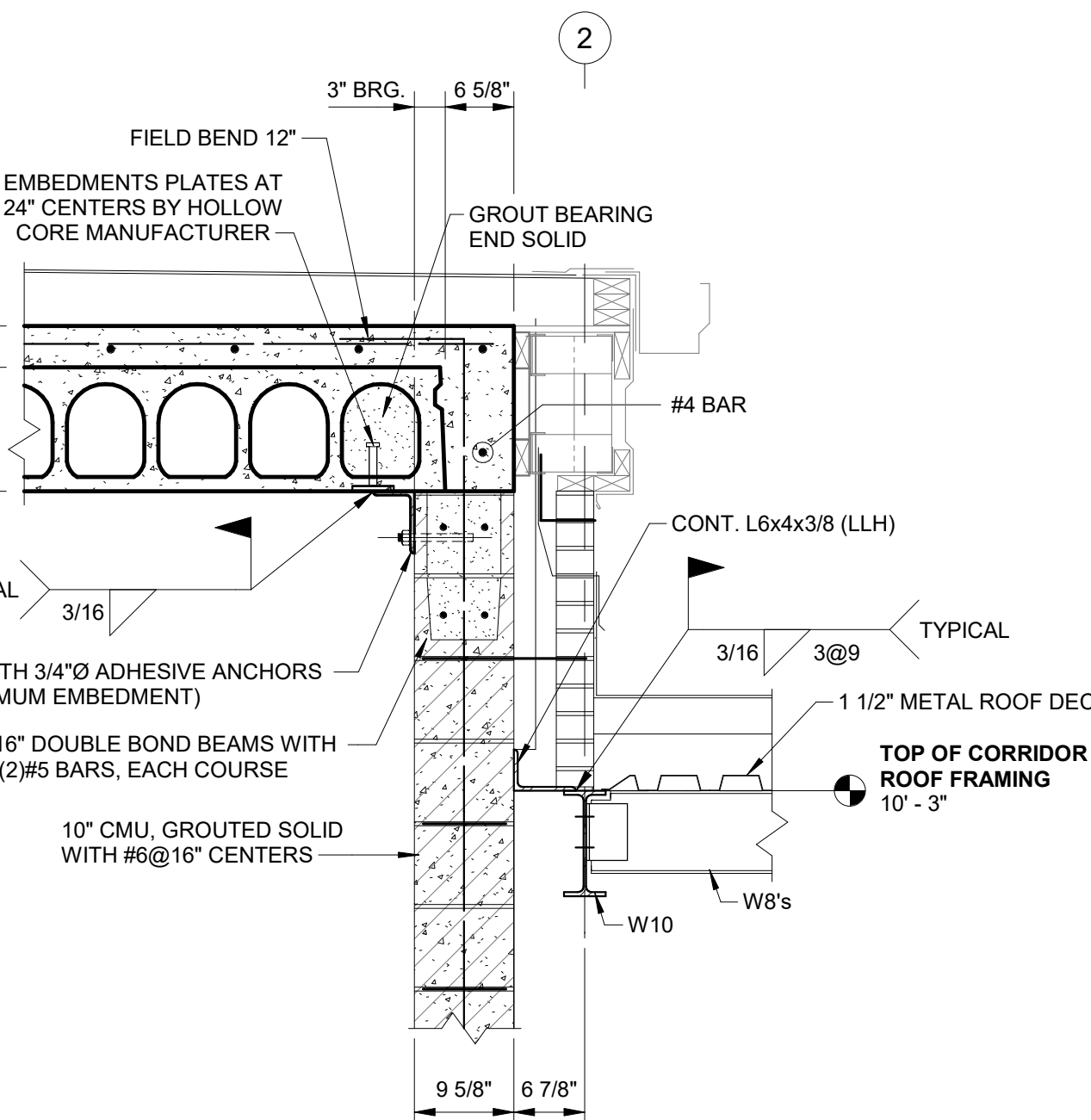
2 SECTION THROUGH VENT CURB - LOOKING NORTH
3/4" = 1'-0"



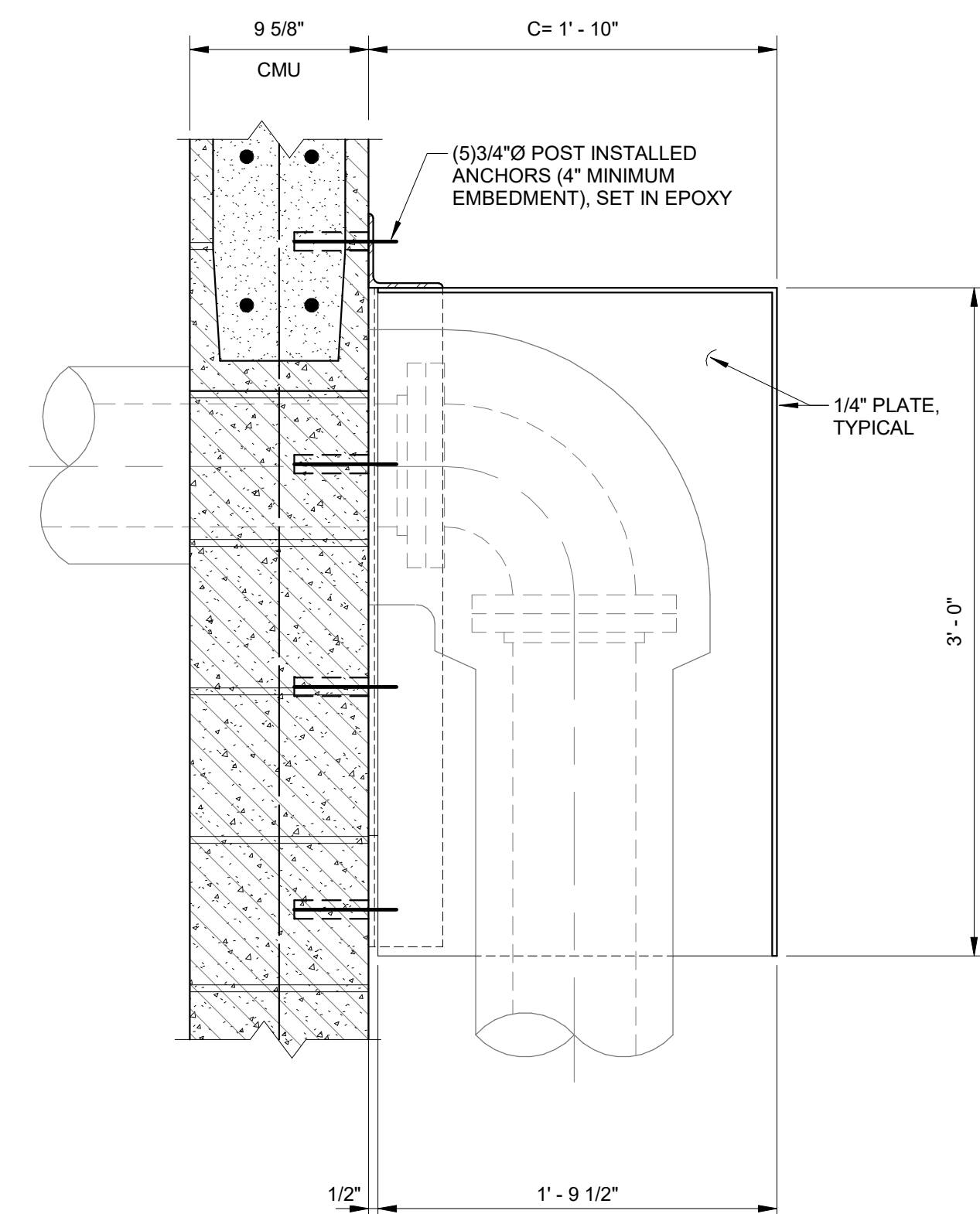
5 SECTION
1/2" = 1'-0"

TOP OF ROOF SLAB
14'-0"

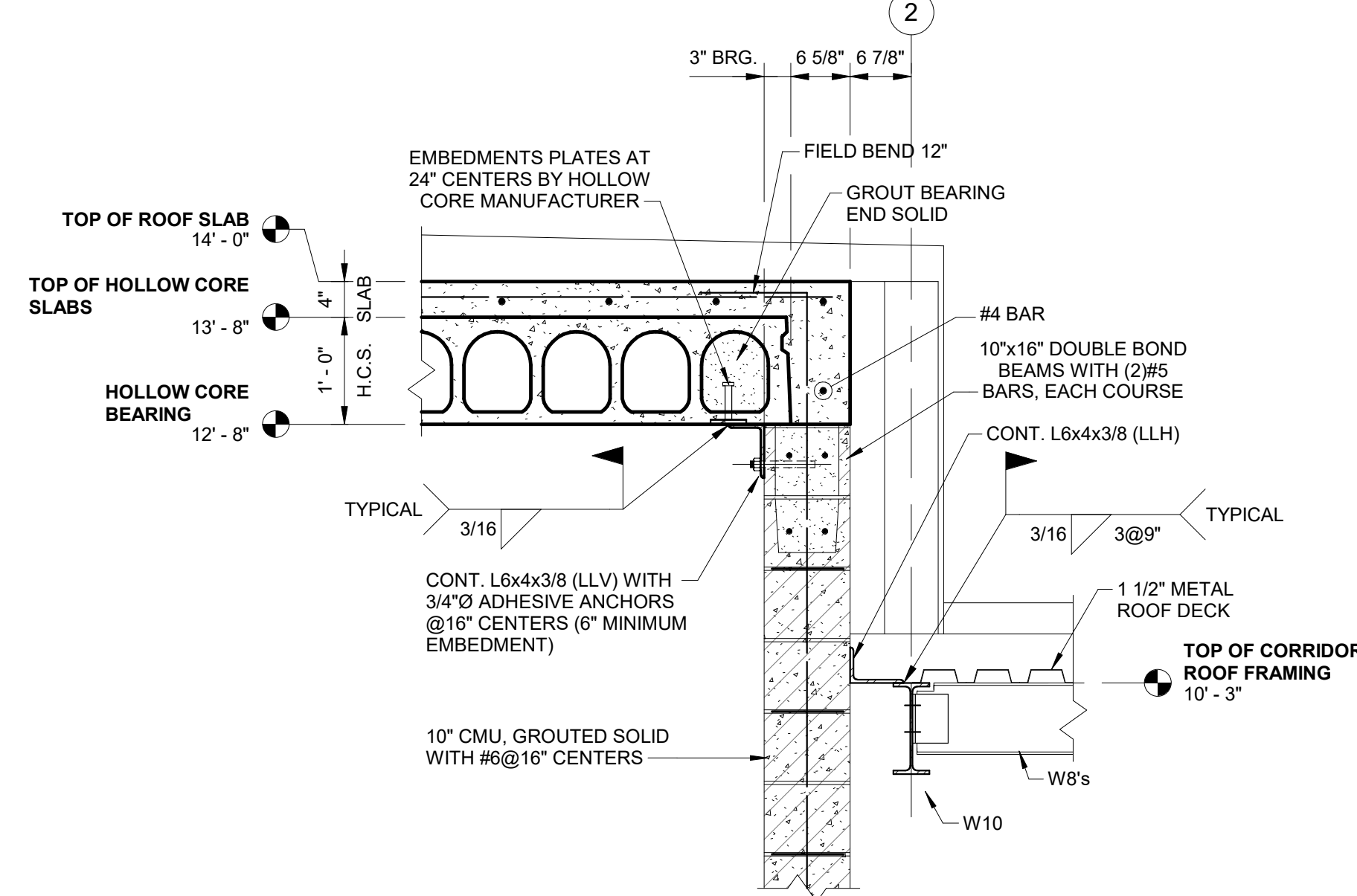
Main Level (899.91)
0'-9 1/2"



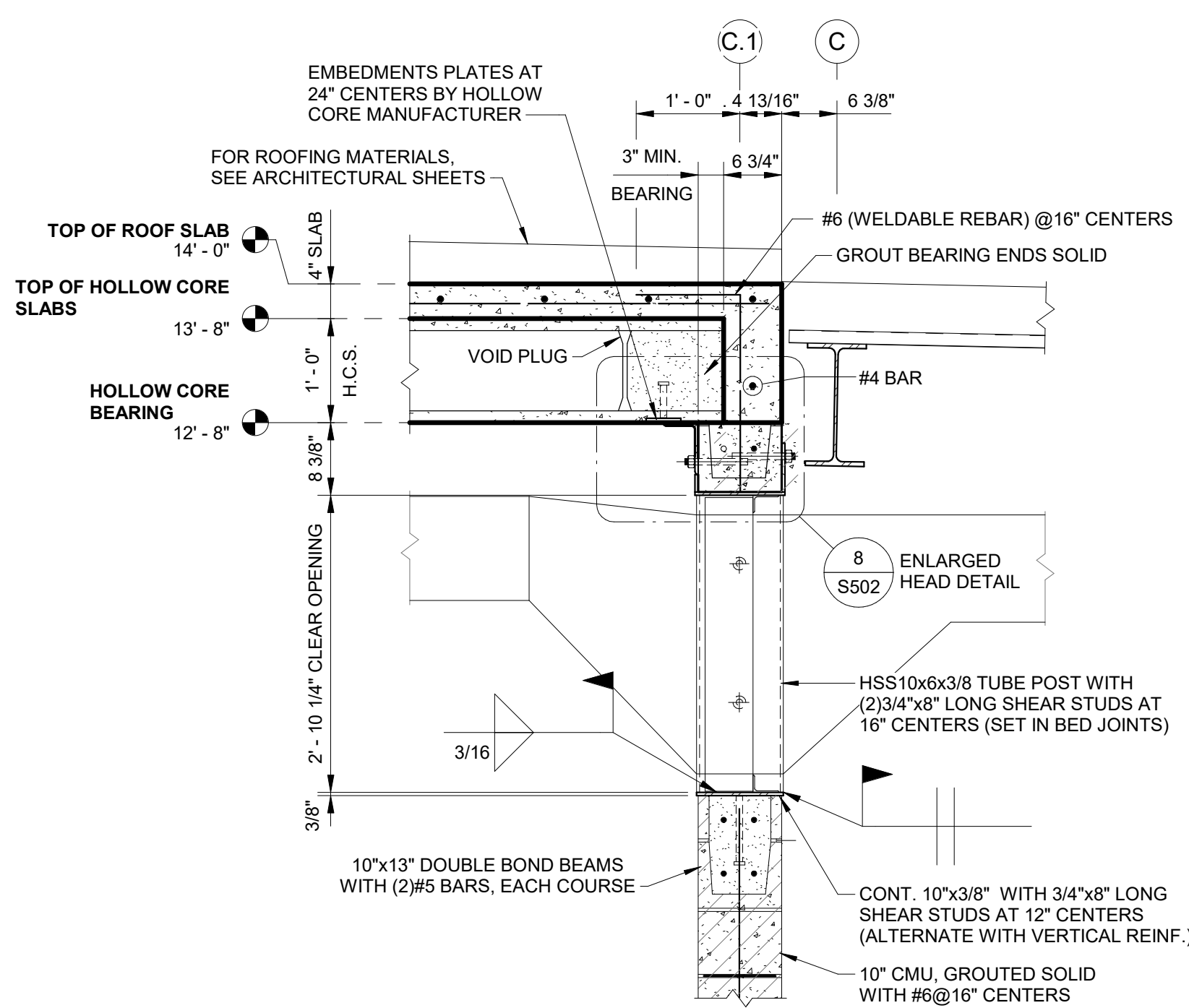
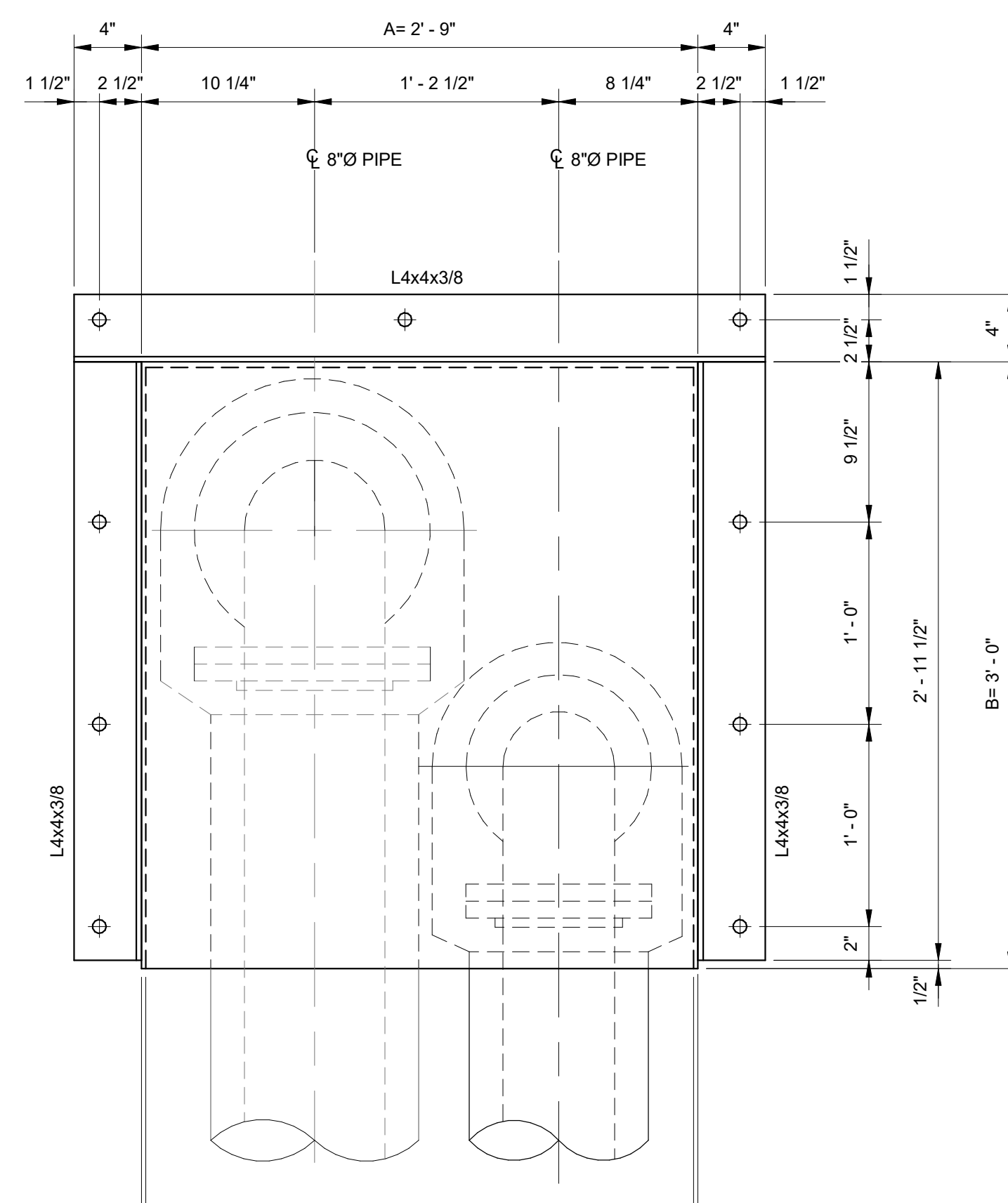
3 SECTION
3/4" = 1'-0"



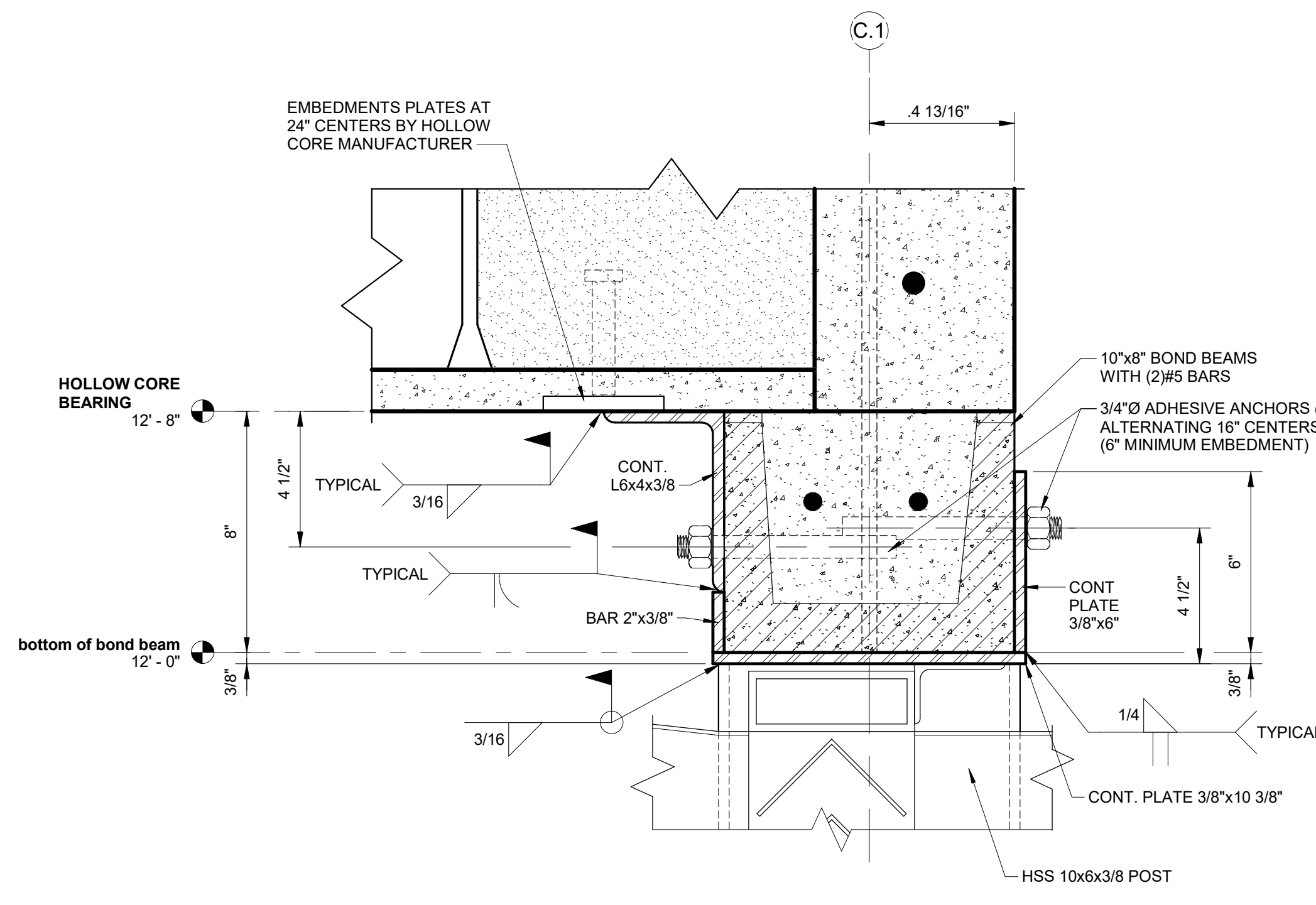
6 STORM HOOD DETAIL
1 1/2" = 1'-0"



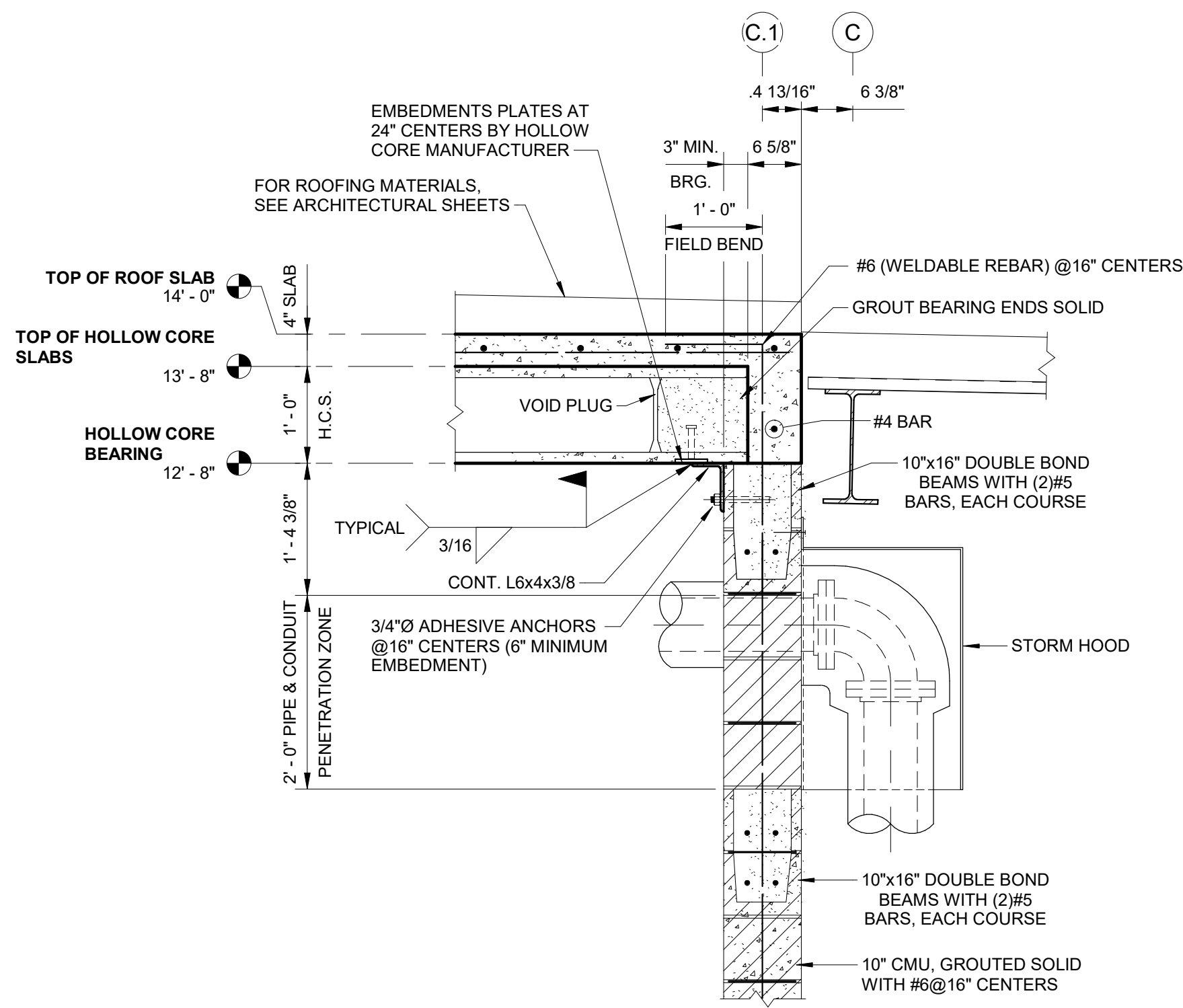
4 SECTION
3/4" = 1'-0"



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



8 ENLARGED LOUVER HEAD DETAIL
3" = 1'-0"



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

0 1' 2' 4'
SCALE: 1/2" = 1'-0"

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

0 3' 6' 1'
SCALE: 1 1/2" = 1'-0"

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REVISION HISTORY		
DESCRIPTION	DATE	APPR

Klingner & Associates, P.C.
Missouri State Certificate of Authority
No. E-000866

ISSUED FOR: **01/16/23**

BIDDING DOCUMENTS

NATHAN B. MARKOLF
1/16/23
REGISTERED PROFESSIONAL ENGINEER

HALLSVILLE MIDDLE SCHOOL ADDITION
HALLSVILLE SCHOOL DISTRICT
421 MO-124 E
HALLSVILLE MO. 65255

Non-Reduced Sheet Size 30" x 42"
Full sized plans have been prepared using standard scales.
Reduced sized plans may not conform to standard scales.

DESIGNED	DRAWN
NRM	EAW

CHECKED	CHECK DATE
NRM/KTH	01/12/23

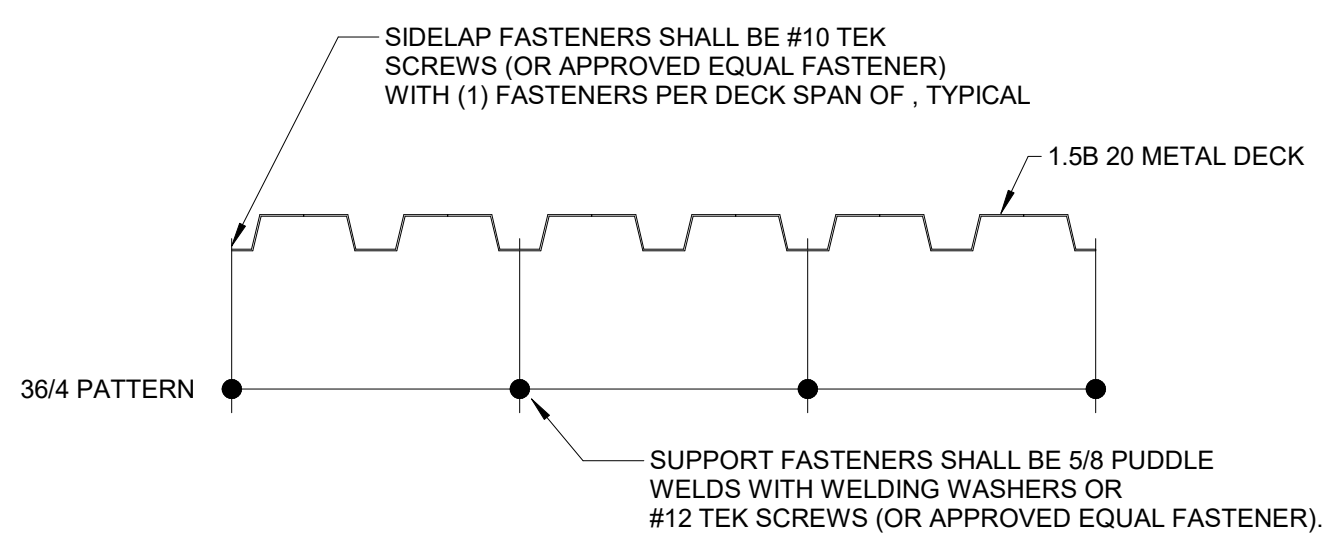
SHEET TITLE

STRUCTURAL DETAILS

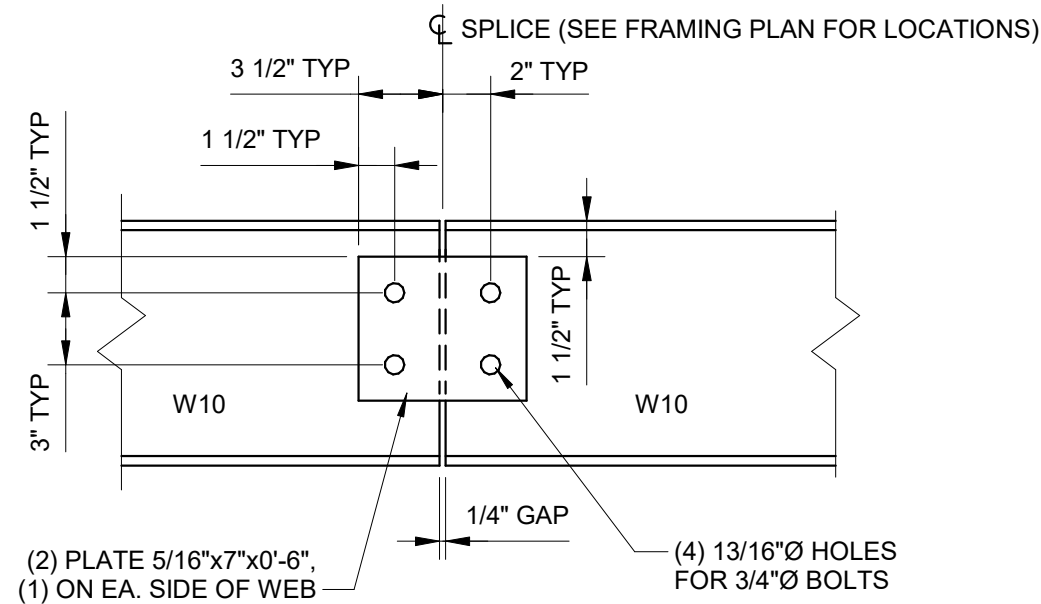
PROJECT NO. 21-5052
DRAWING ISSUED DATE: 01/16/2023
SHEET

S502

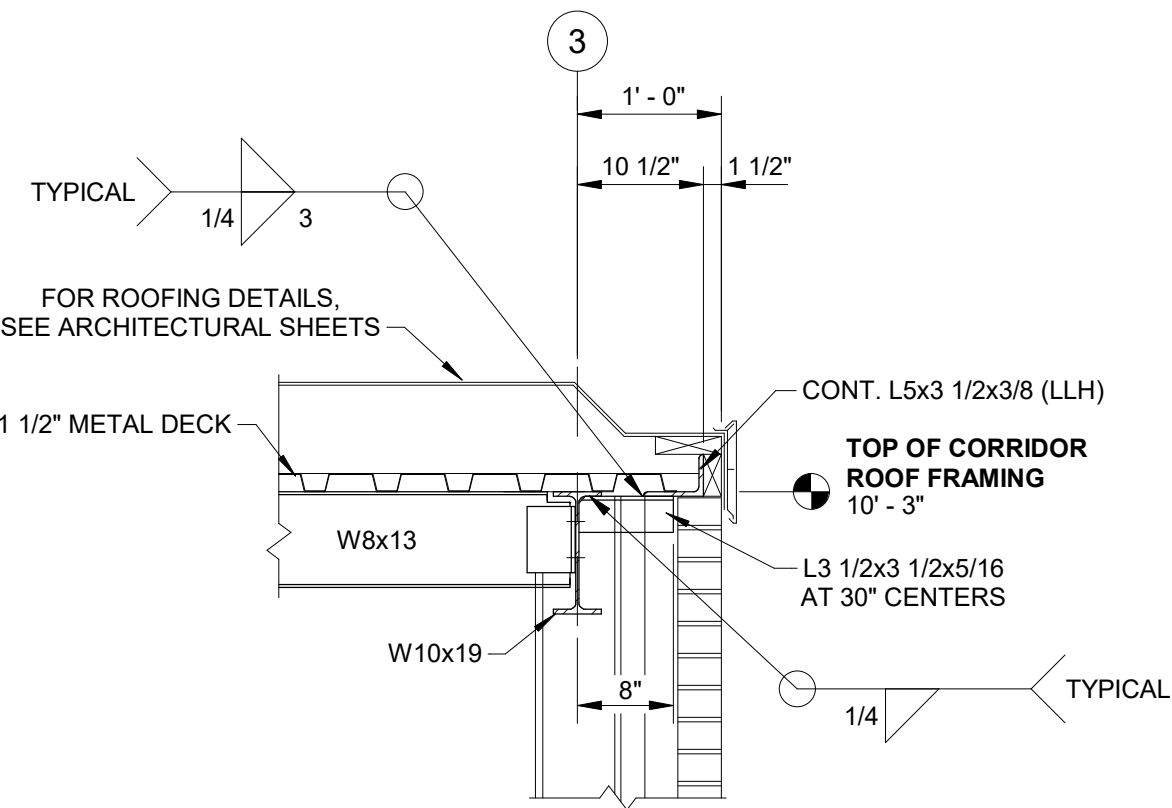
1/16/2023 2:25:14 PM
C:\Users\new KLINGNER\Documents\SSD_21-5032 HALLSVILLE MIDDLE SCHOOL ADDITIONS.dwg.rvt



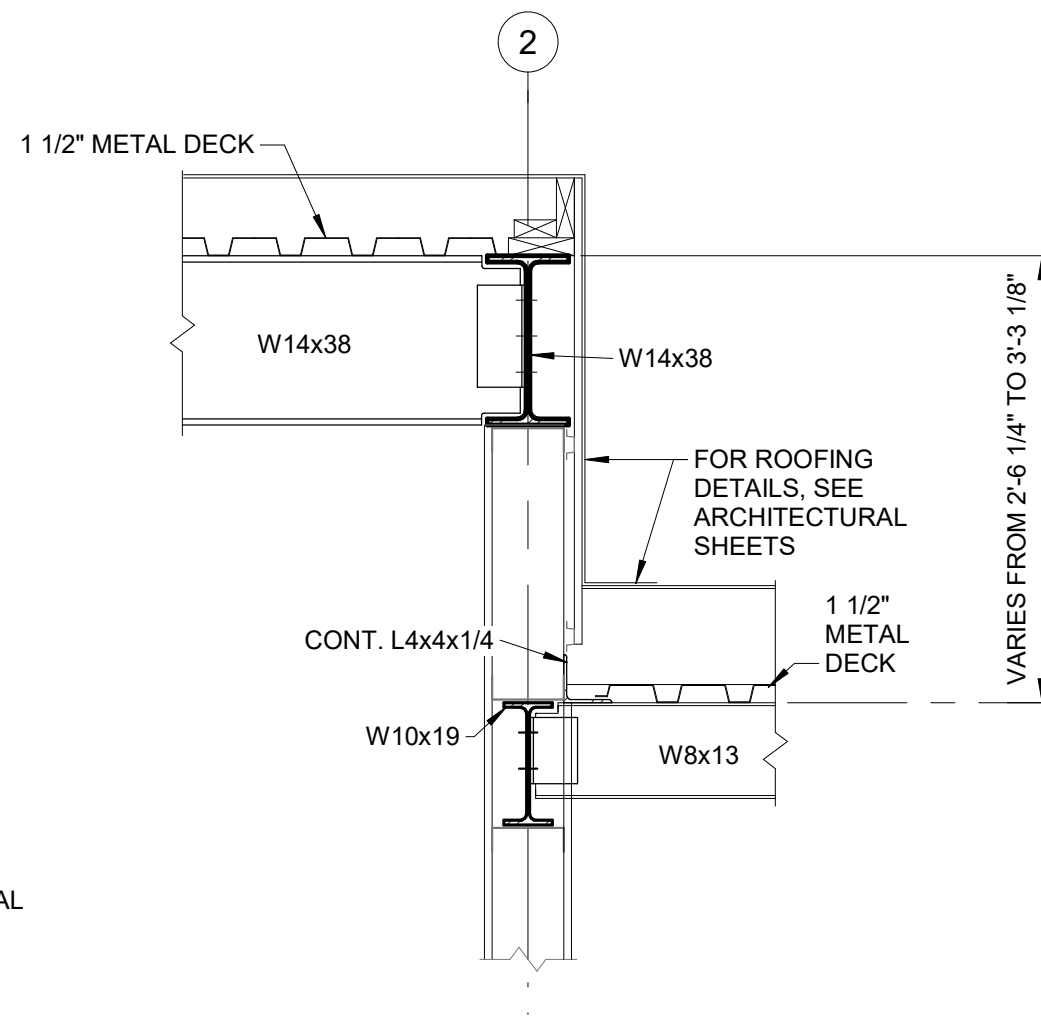
1 1.5B 20 METAL ROOF DECKING CONNECTION DETAIL
NTS



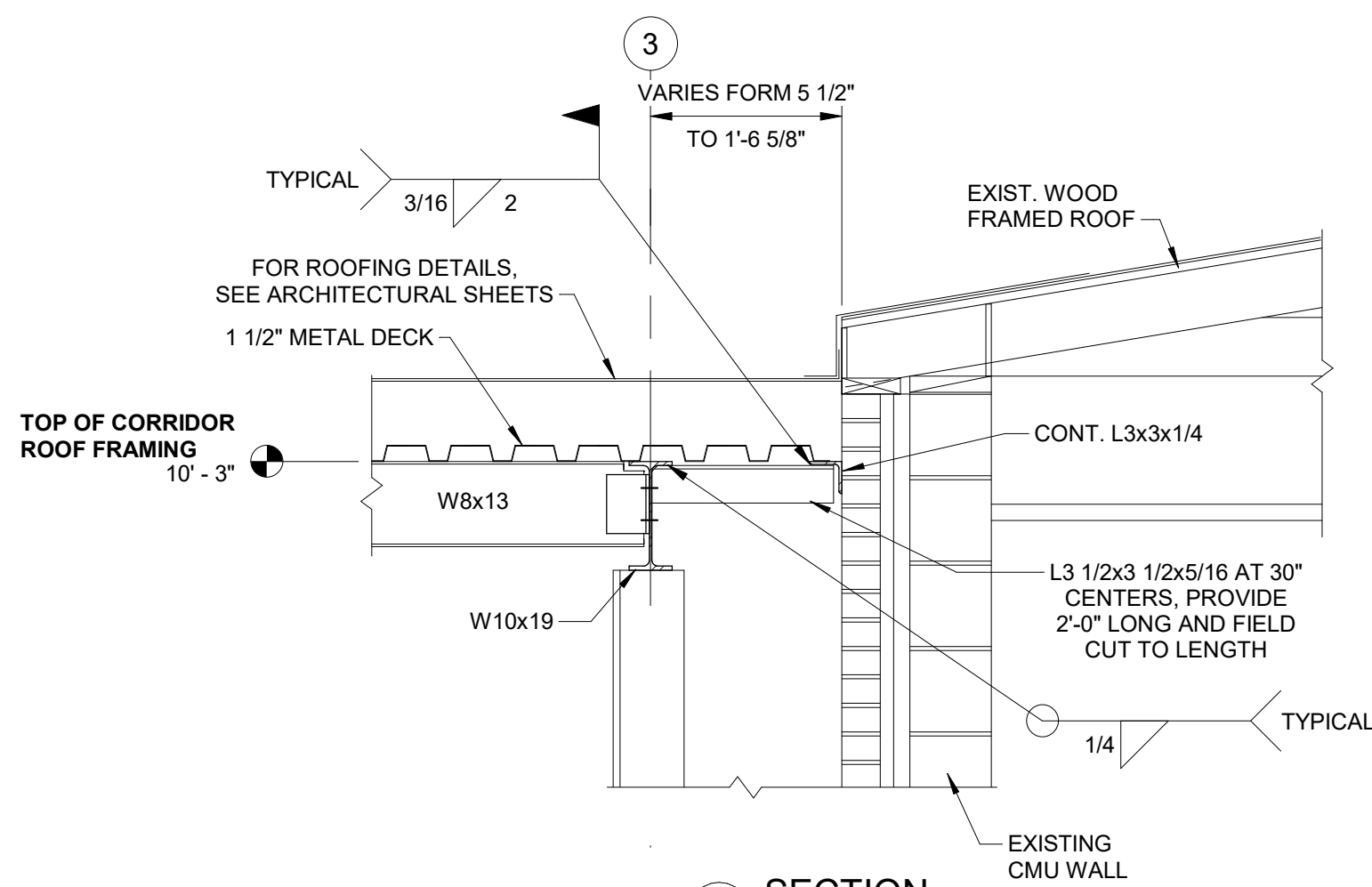
2 W10 SPLICE DETAIL
1 1/2" = 1'-0"



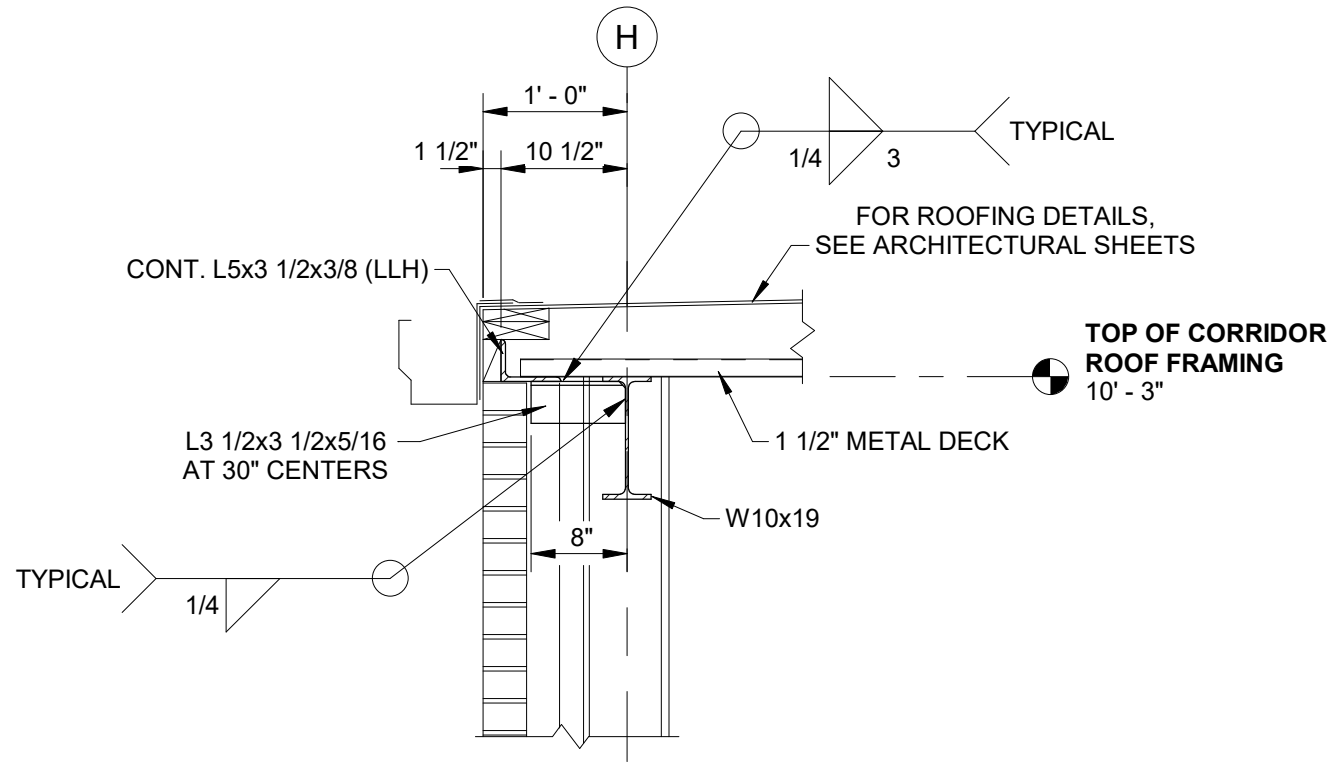
3 SECTION
3/4" = 1'-0"



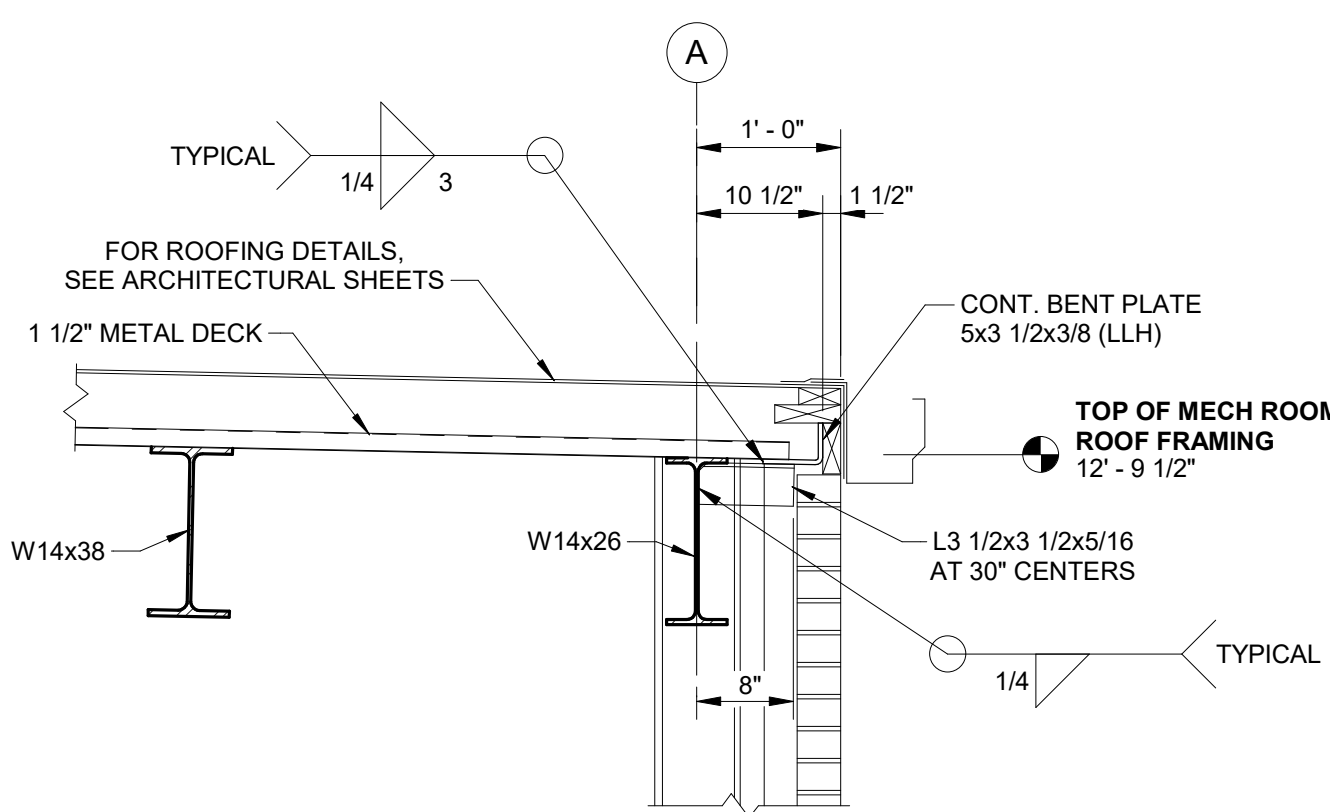
4 SECTION
3/4" = 1'-0"



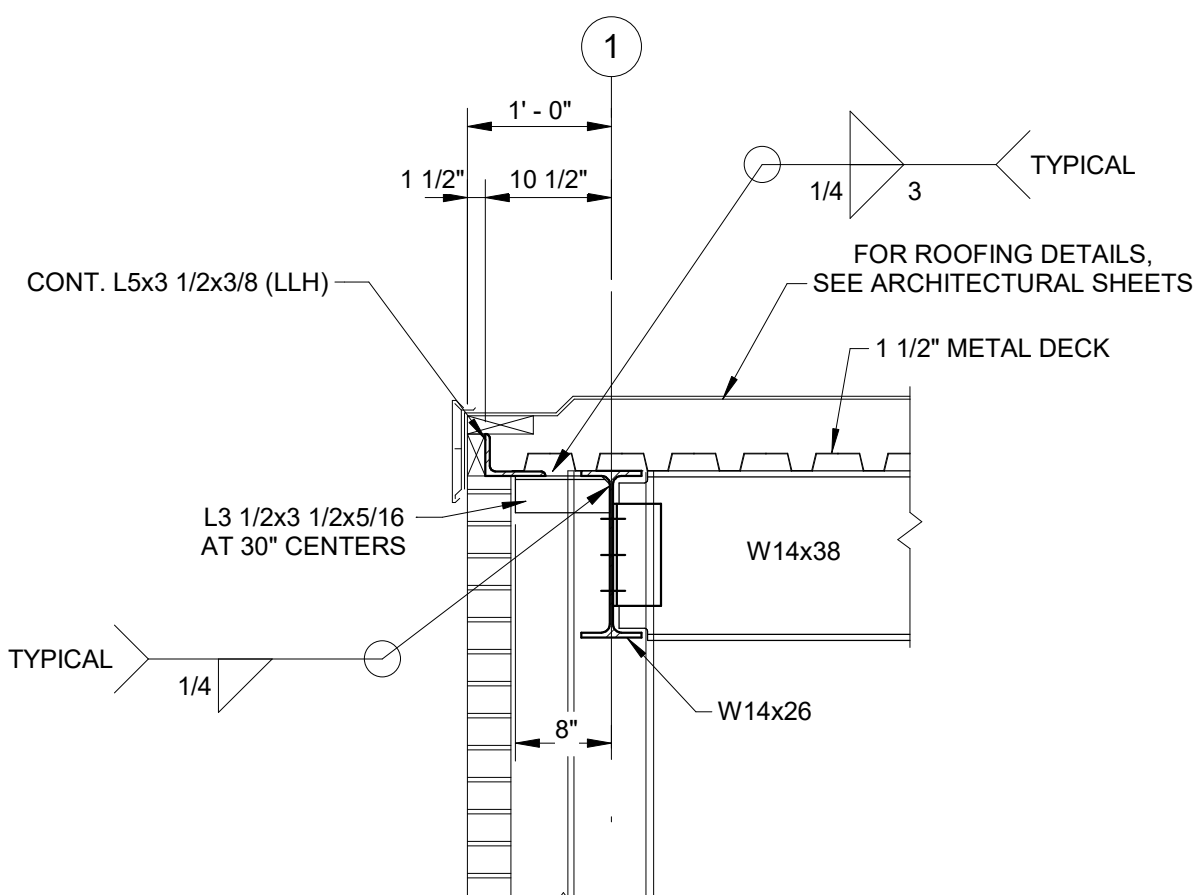
5 SECTION
3/4" = 1'-0"



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



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



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

0 3" 6" 1'
SCALE: 1 1/2" = 1'-0"

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

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REVISION HISTORY		
DESCRIPTION	DATE	APPR

Klingner & Associates, P.C.
Missouri State Certificate of Authority
No. E-000866

ISSUED FOR 01/16/23

BIDDING DOCUMENTS



HALLSVILLE MIDDLE SCHOOL ADDITION
HALLSVILLE SCHOOL DISTRICT
421 MO-124 E
HALLSVILLE MO. 65255

Non-Reduced Sheet Size 30" x 42"
Full sized plans have been prepared using standard scales.
Reduced sized plans may not conform to standard scales.

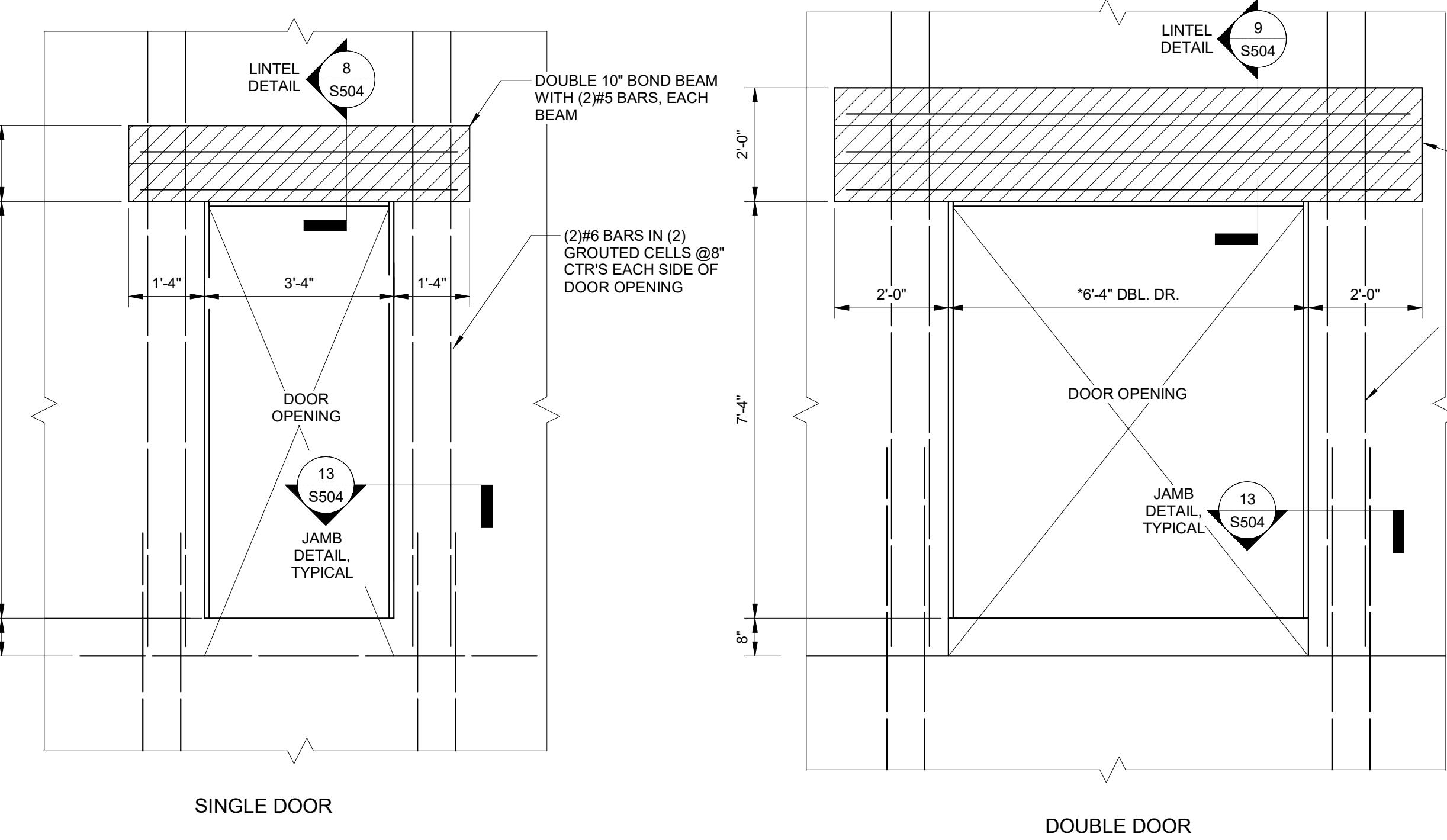
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FIELD	NRM	FIELD BOOK	EAW
CHECKED	NRM / KTH	CHECK DATE	01/12/23

SHEET TITLE
STRUCTURAL DETAILS

PROJECT NO.
21-5032
DRAWING ISSUED DATE:
01/16/2023
SHEET
S503

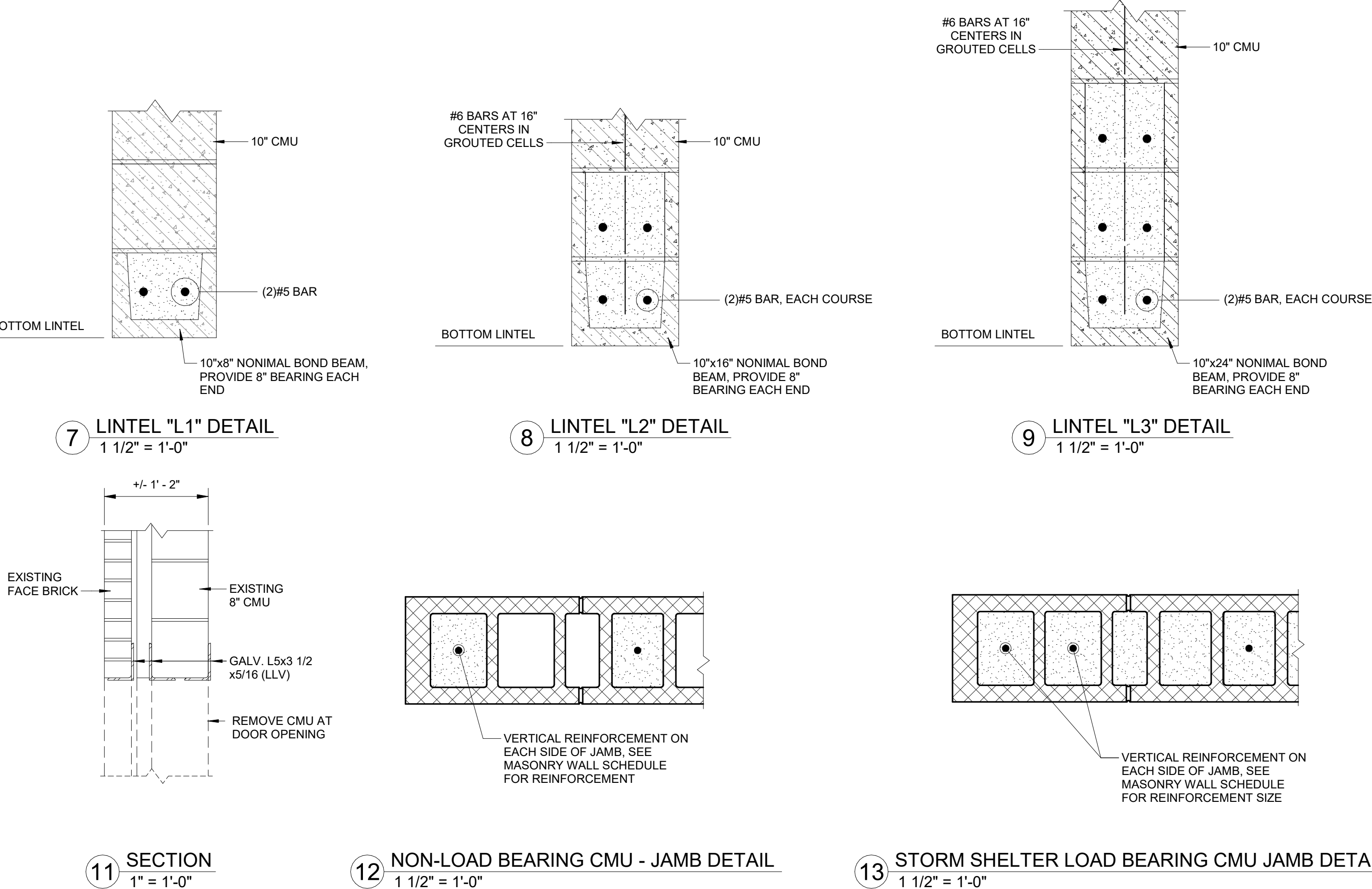
LINTEL SCHEDULE						
LINTEL #	OPENING SIZE	NOM. WALL THICKNESS	WALL TYPE	BOND BEAM SIZE & REINFORCEMENT	ANGLE SIZE	DETAILS
L1	3'-4"	10"	NON LOAD BEARING	10"x8" BOND BEAM WITH (2) #5 BARS	N/A	3/S504
L2	3'-4"	10"	LOAD BEARING STORM SHELTER	10"x16" BOND BEAM WITH (2) #5 BARS, EACH COURSE	N/A	4/S504
L3	6'-4"	10"	LOAD BEARING STORM SHELTER	10"x24" BOND BEAM WITH (2) #5 BARS, EACH COURSE	N/A	5/S504
L4	2'-6"	10 1/4" CAVITY WALL	LOAD BEARING STORM SHELTER	10"x16" BOND BEAM WITH (2)#5 BARS, EACH COURSE	(GALV.) L5x3 1/2x5/16 (LLV) W/ 8" BRG.	6/S504
L5	3'-4"	10 1/4" CAVITY WALL	LOAD BEARING STORM SHELTER	10"x16" BOND BEAM WITH (2)#4 BAR, EACH COURSE	(GALV.) L5x3 1/2x5/16 (LLV) W/ 8" BRG.	6/S504
L6	4'-0"	10 1/4" CAVITY WALL	LOAD BEARING STORM SHELTER	10"x16" BOND BEAM WITH (2)#4 BAR, EACH COURSE	(GALV.) L5x3 1/2x5/16 (LLV) W/ 8" BRG.	6/S504
L7	3'-4"	4" BRICK WITH 6" LIGHT GAGE STUD BACKUP	NON LOAD BEARING BRICK VENEER	N/A	(GALV.) L5x3 1/2x5/16 (LLV) W/ 8" BRG.	
L8	6'-4"	4" BRICK WITH 6" LIGHT GAGE STUD BACKUP	NON LOAD BEARING BRICK VENEER	N/A	(GALV.) L5x3 1/2x5/16 (LLV) W/ 8" BRG.	
L9	4'-4"	4" BRICK WITH 6" LIGHT GAGE STUD BACKUP	NON LOAD BEARING BRICK VENEER	N/A	(GALV.) L5x3 1/2x5/16 (LLV) W/ 8" BRG.	
L10	3'-4"	EXISTING 4" BRICK AND 8" NOMINAL CMU (1'-2" WIDTH)	EXISTING LOAD BEARING	N/A	(3)L5x3 1/2x5/16 (LLV) W/ 8" BRG.	7/S504
L11	6'-4"	EXIST. 12" NOM. CMU	EXISTING LOAD BEARING	N/A	(3)L5x3 1/2x5/16 (LLV) W/ 8" BRG.	
L12	(2)4'-2"	4" BRICK WITH 6" LIGHT GAGE STUD BACKUP	NON LOAD BEARING BRICK VENEER	N/A	(GALV.) L5x3 1/2x5/16 (LLV) W/ 8" BRG. (2 SPAN)	

CMU WALL REINFORCEMENT SCHEDULE			
WALL MARK	WALL TYPE	VERTICAL WALL REINFORCEMENT	HORIZONTAL WALL REINFORCEMENT
M1	6" CMU NON LOAD BEARING	#4 @ 48" CTS	9 GAGE LADDER HOOK & EYE JOINT REINF. @ 16" CTS
M2	10" CMU NON LOAD BEARING	#6 @ 16" CTS	9 GAGE LADDER HOOK & EYE JOINT REINF. @ 16" CTS
M3	10" CMU STORM SHELTER LOAD BEARING	#6 @ 16" CTS. (ALL CELLS FULLY GROUTED)	9 GAGE LADDER HOOK & EYE JOINT REINF. @ 16" CTS
M4	10" CMU NON LOAD BEARING	#6 @ 48" CTS	9 GAGE LADDER HOOK & EYE JOINT REINF. @ 16" CTS
M5	10" CMU STORM SHELTER LOAD BEARING	#6 @ 16" CTS. (ALL CELLS FULLY GROUTED)	9 GAGE LADDER HOOK & EYE JOINT REINF. @ 16" CTS
M6	10" CMU STORM SHELTER LOAD BEARING ADJACENT TO EX. WALL	#6 @ 16" CTS. (ALL CELLS FULLY GROUTED)	9 GAGE LADDER HOOK & EYE JOINT REINF. @ 16" CTS
M7	10" CMU STORM SHELTER LOAD BEARING WITH BRICK	#6 @ 16" CTS. (ALL CELLS FULLY GROUTED)	9 GAGE LADDER HOOK & EYE JOINT REINF. @ 16" CTS



3 TORNADO SHELTER CMU DOOR OPENING
1/2" = 1'-0"

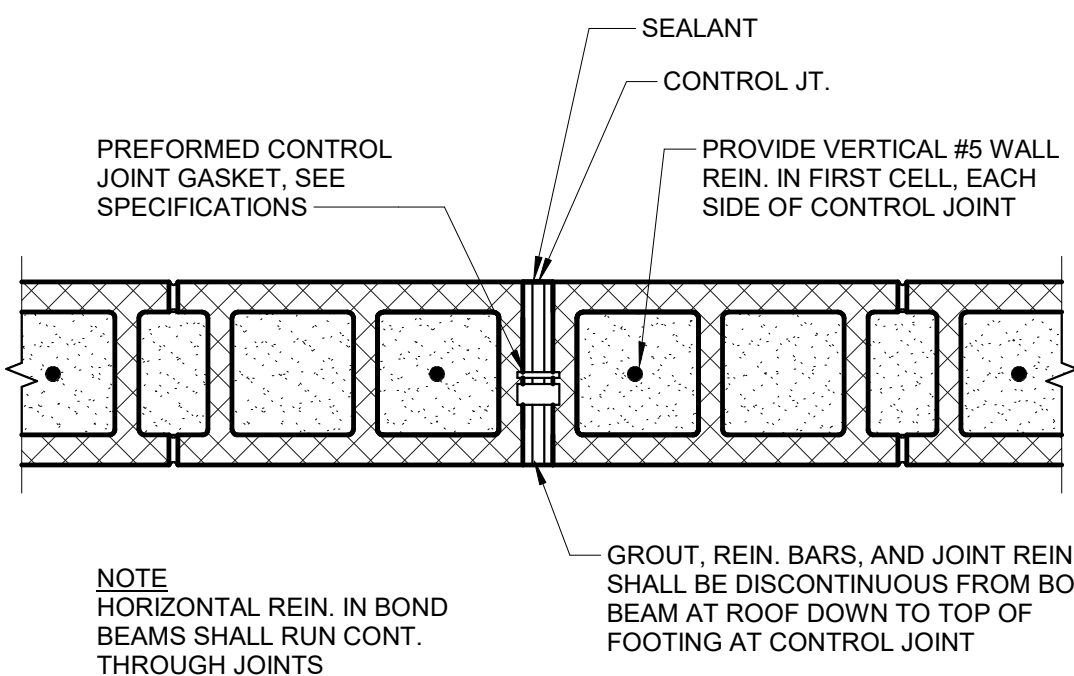
4 "STORM SHELTER" CMU WINDOW OPENING DETAIL
1/2" = 1'-0"



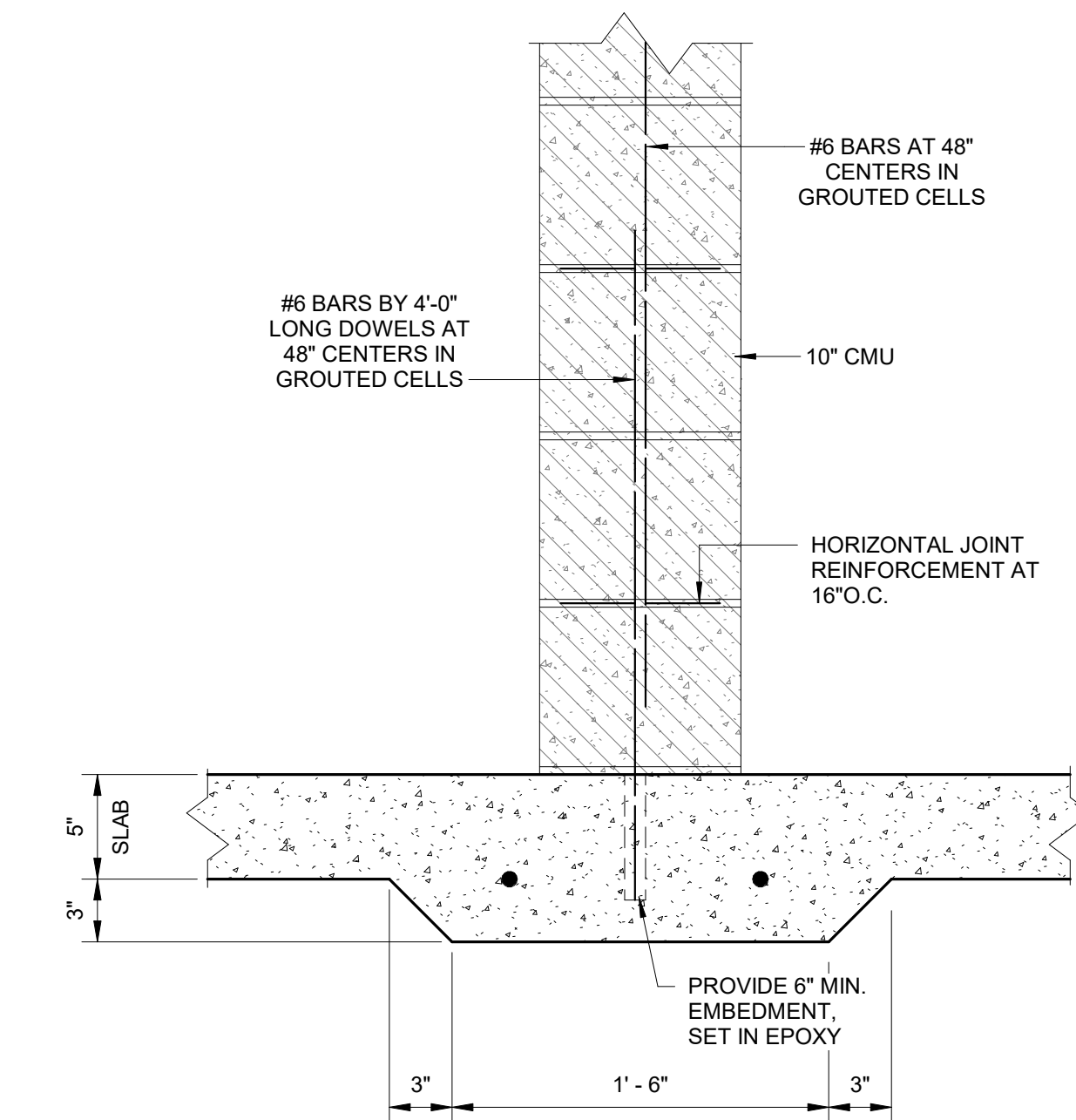
11 SECTION
1" = 1'-0"

12 NON-LOAD BEARING CMU - JAMB DETAIL
1 1/2" = 1'-0"

13 STORM SHELTER LOAD BEARING CMU JAMB DETAIL
1 1/2" = 1'-0"

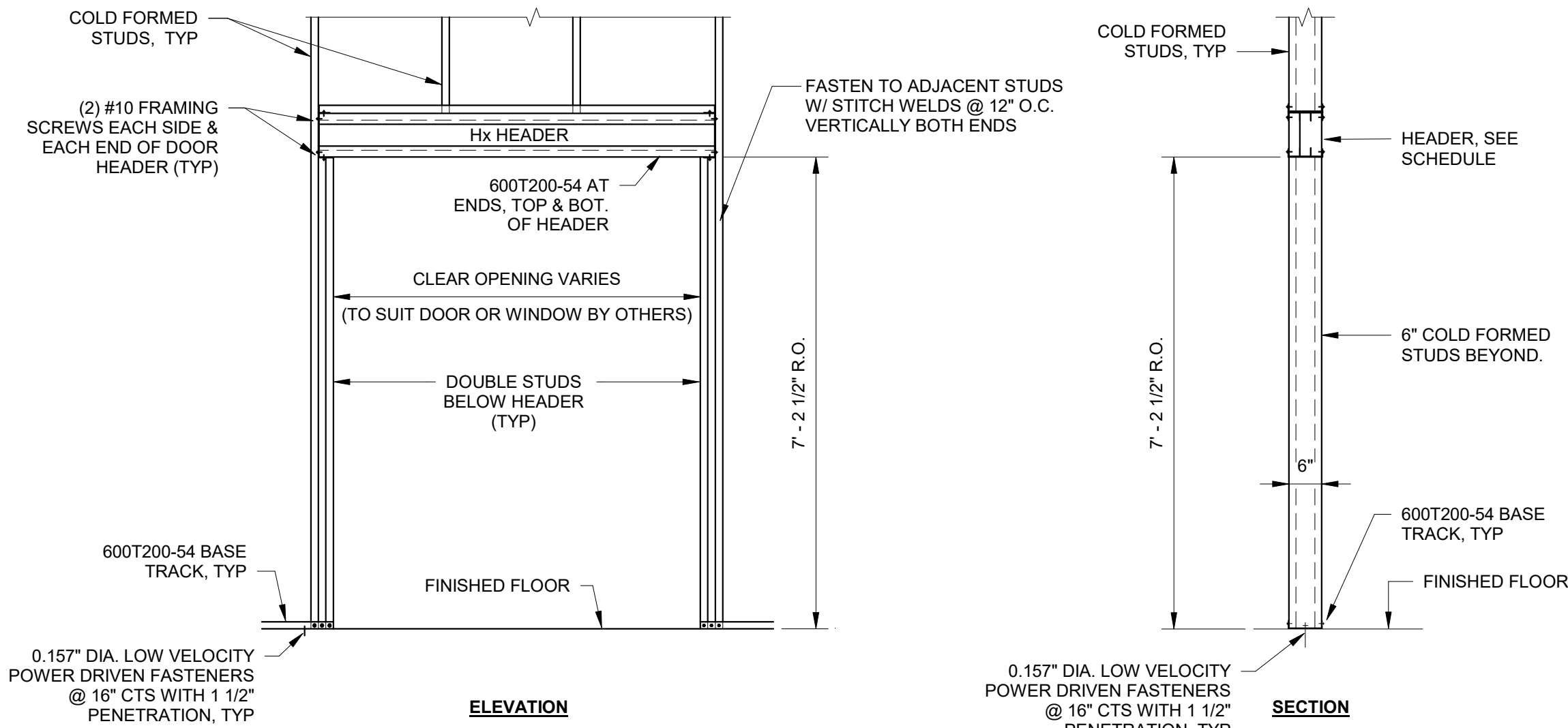


14 MASONRY CONTROL JOINT
1 1/2" = 1'-0"



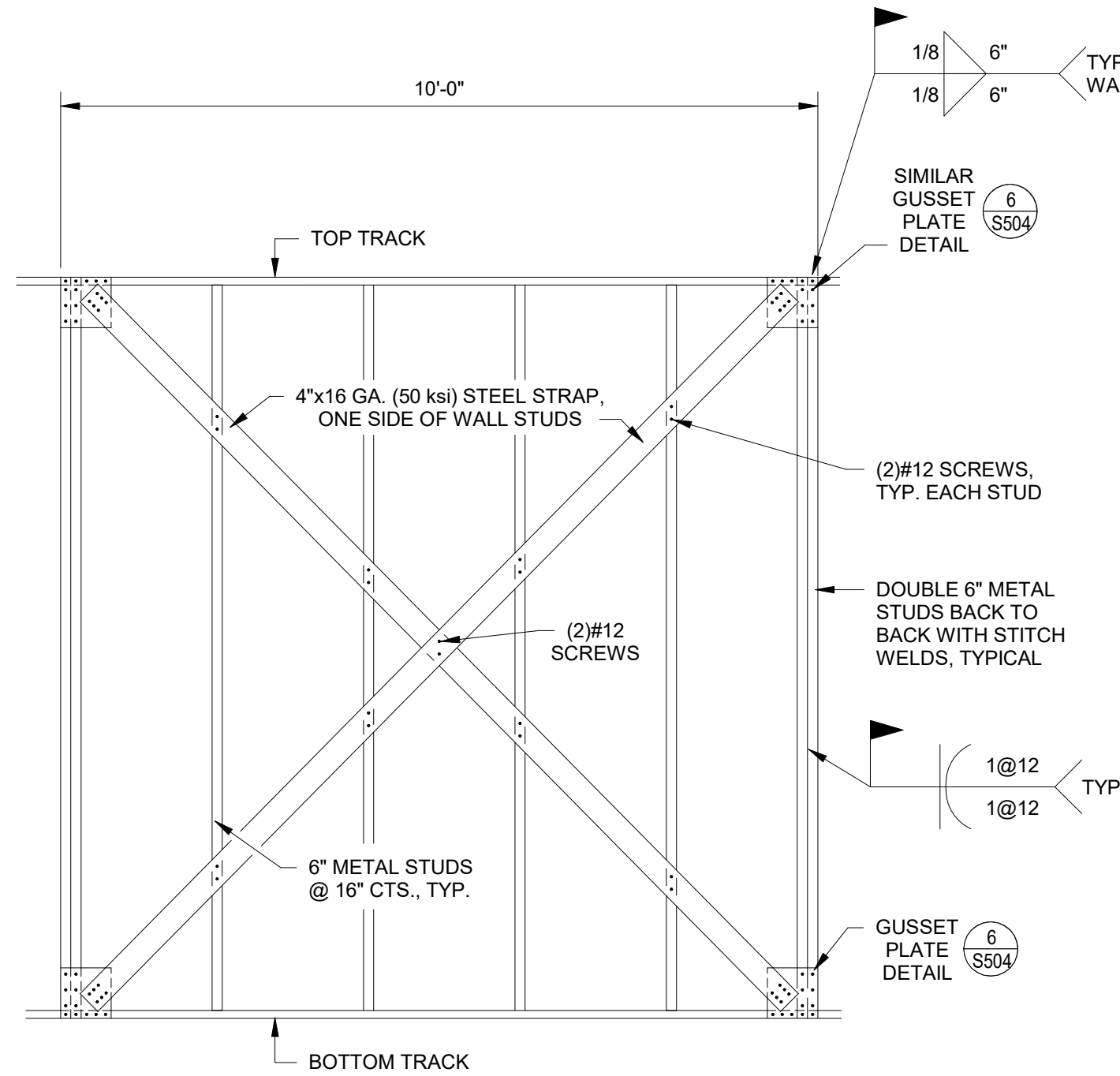
15 TYPICAL NON-STORM SHELTER CMU BASE TO SLAB CONNECTION
1 1/2" = 1'-0"

HEADER SCHEDULE		
MARK	SIZE	APPLICABLE OPENING (SPAN RANGE)
H1	(2) 600S162-33	OPENING ≤ 4'-0"
H2	(2) 800S162-33 (50KSI)	4'-0" > OPENING ≤ 7'-0"

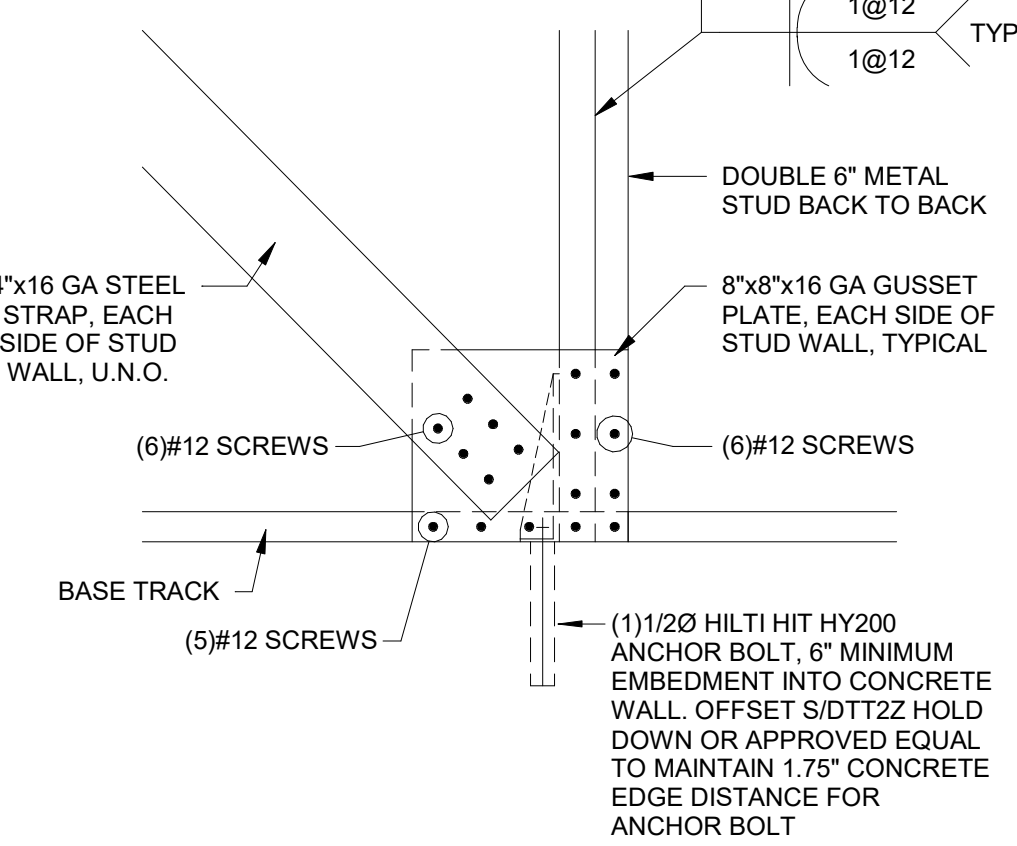


1 EXTERIOR COLD FORMED HEADER DETAIL
1/2" = 1'-0"

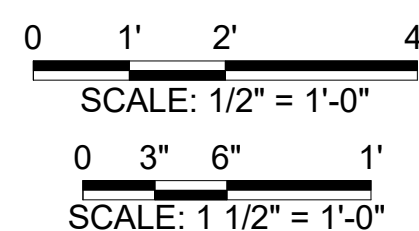
2 LIGHT GAUGE STEEL HEADER DETAIL
1 1/2" = 1'-0"



5 SHEAR WALL ELEVATION - DETAIL
1/2" = 1'-0"

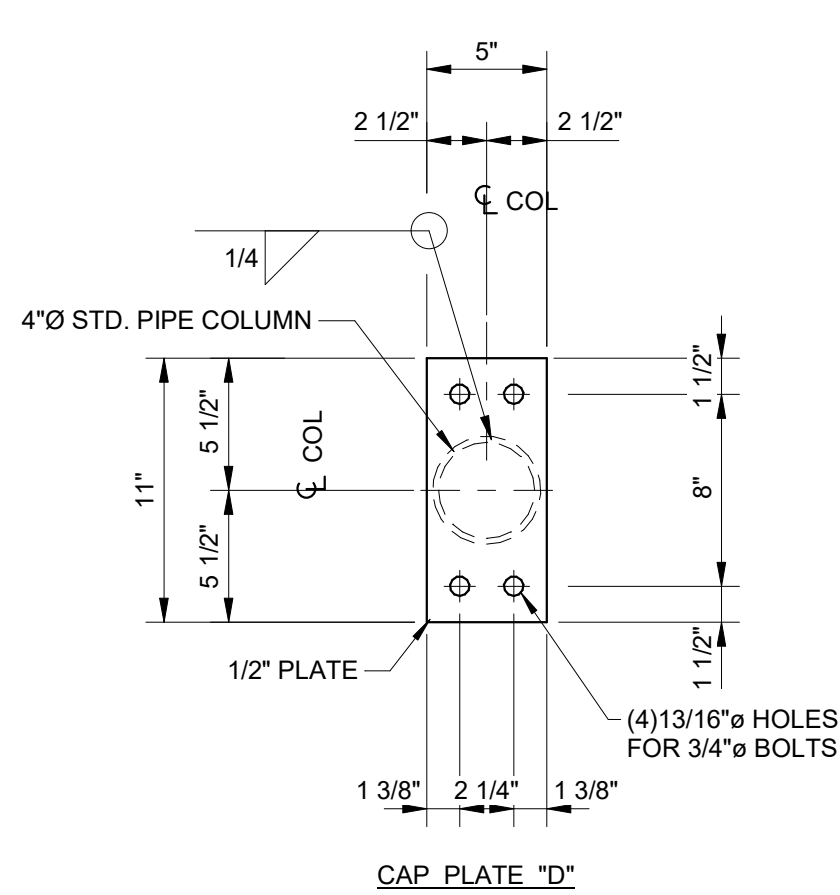
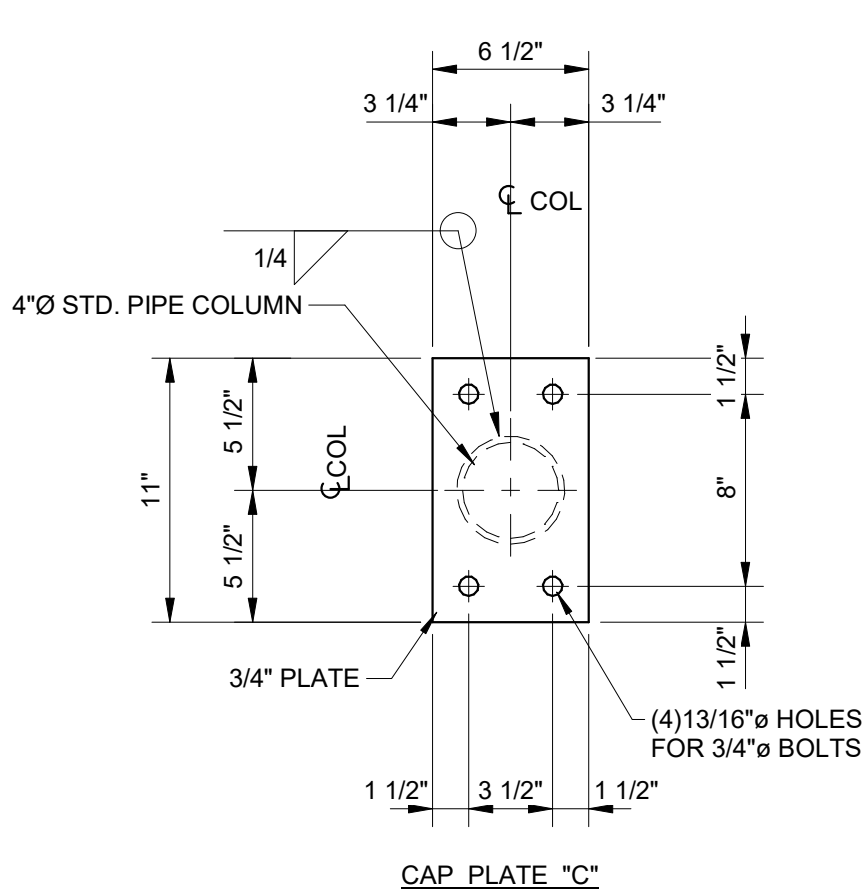
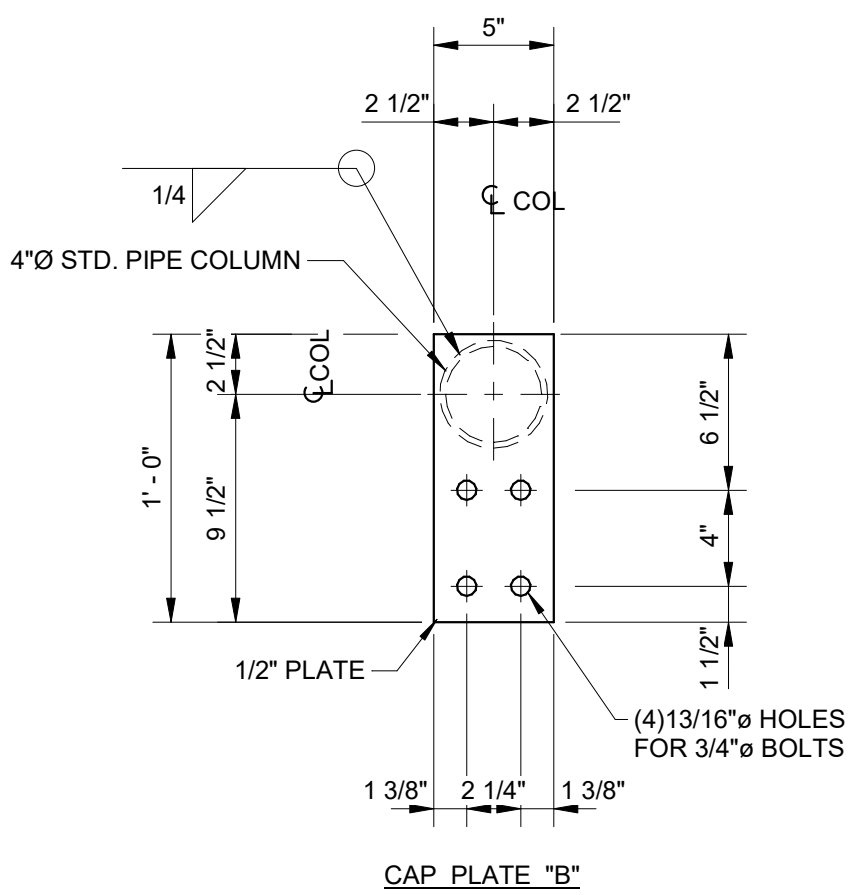
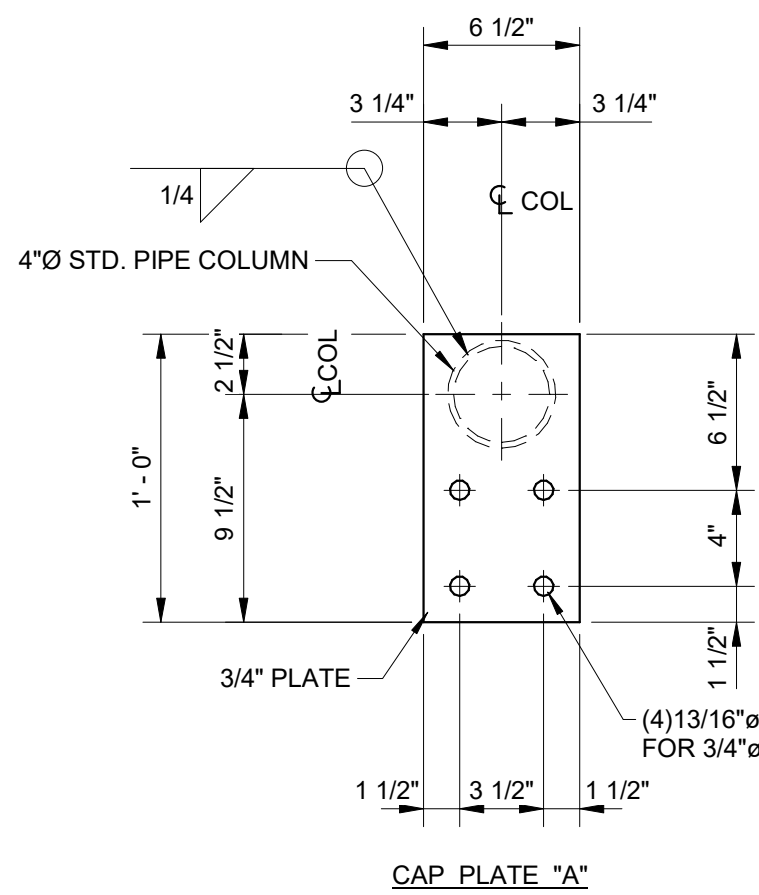


6 SHEAR WALL GUSSET PLATE DETAIL
1 1/2" = 1'-0"



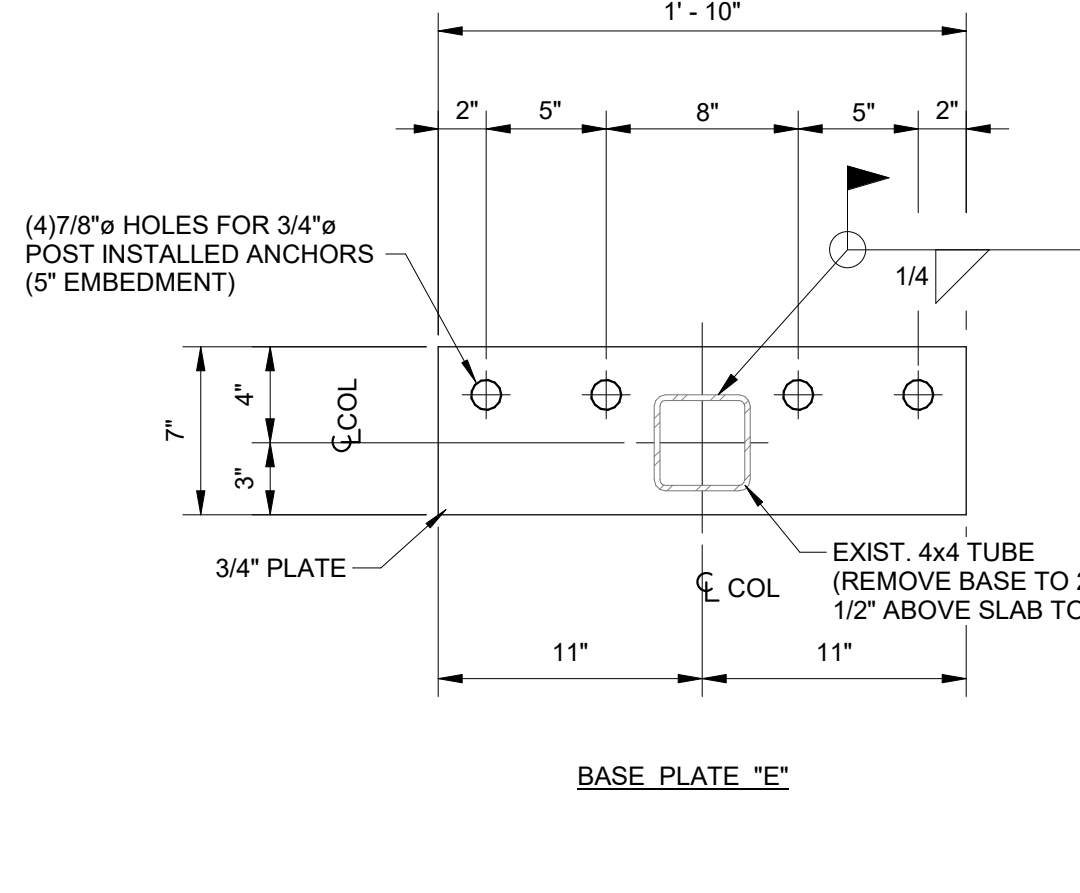
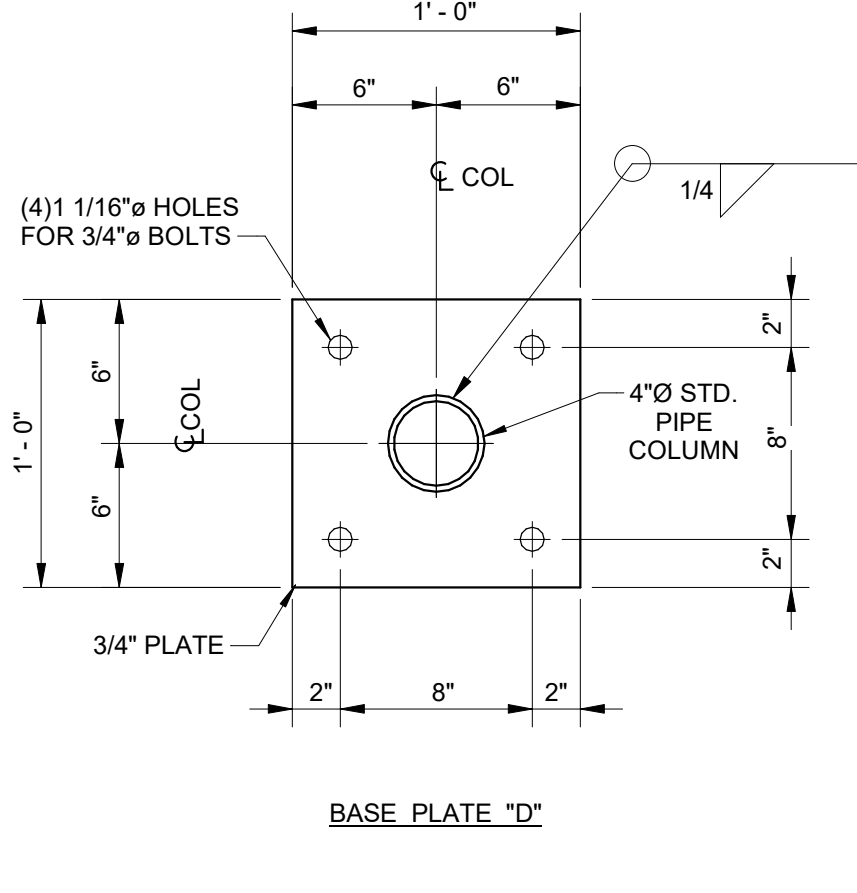
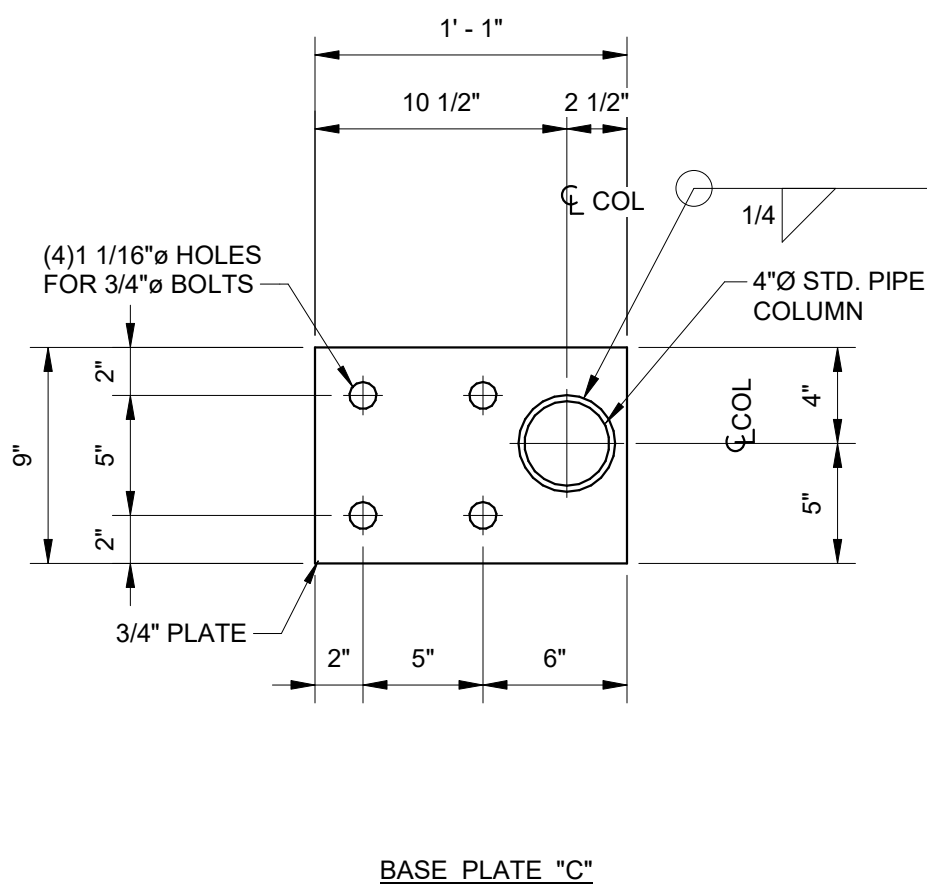
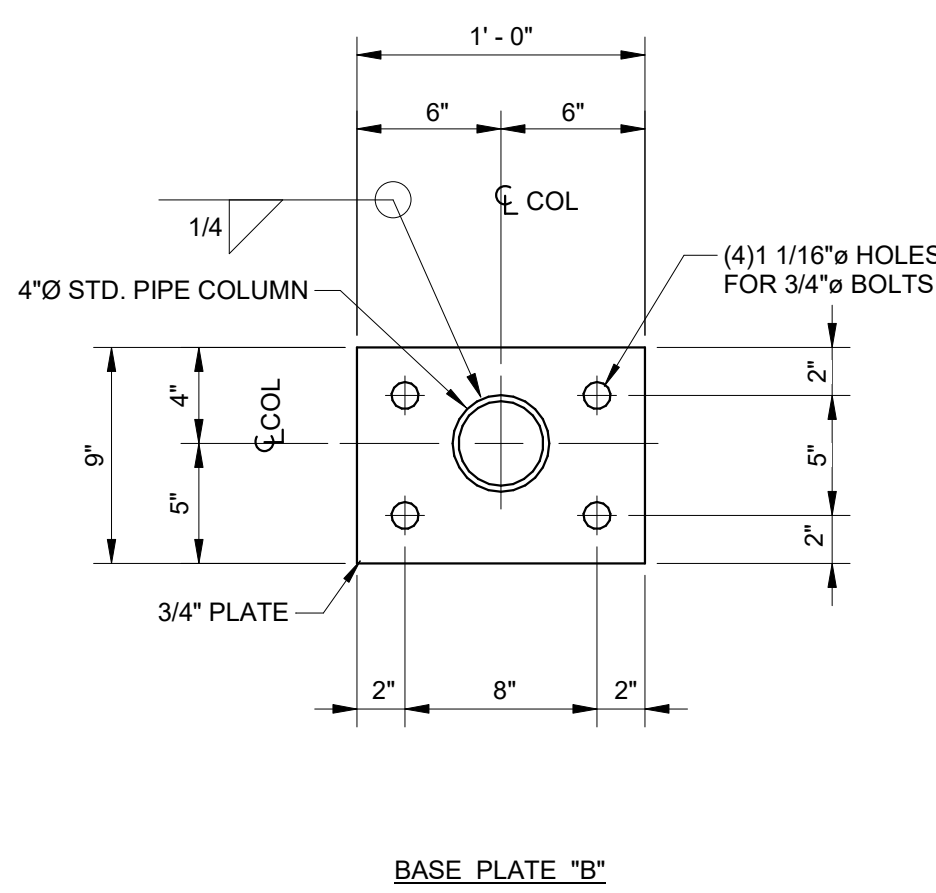
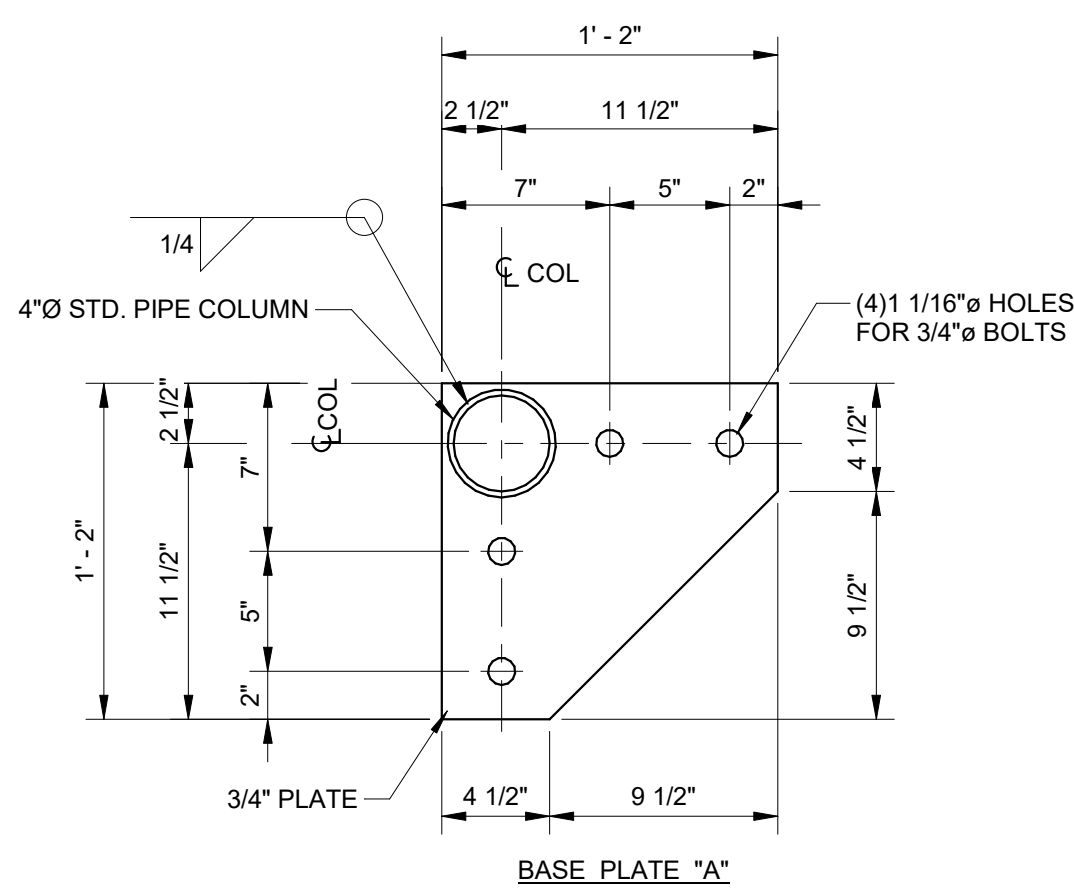
COLUMN SCHEDULE							
Column Location Mark	Type	Base Level	Base Offset	Top Offset	Base Plate	Cap Plate	Comments
A-1	Pipe4STD	Main Level (899.91)	-0' - 8"	11' - 7 1/8"	2A/S601	3A/S601	CAP PLATE SLOPES TO ACCOMMODATE ROOF SLOPE
A-2	Pipe4STD	Main Level (899.91)	-0' - 8"	11' - 7 1/8"	2B/S601	3A/S601	CAP PLATE SLOPES TO ACCOMMODATE ROOF SLOPE
A-3	Pipe4STD	Main Level (899.91)	-0' - 8"	9' - 4 3/4"	2C/S601	3B/S601	
B-1	Pipe4STD	Main Level (899.91)	-0' - 8"	11' - 11 1/4"	2B/S601	3C/S601	CAP PLATE SLOPES TO ACCOMMODATE ROOF SLOPE
B-2	Pipe4STD	Main Level (899.91)	-0' - 8"	11' - 11"	2D/S601	3C/S601	CAP PLATE SLOPES TO ACCOMMODATE ROOF SLOPE
B-3	Pipe4STD	Main Level (899.91)	-0' - 8"	9' - 4 3/4"	2D/S601	3D/S601	
C-1	Pipe4STD	Main Level (899.91)	-0' - 8"	12' - 3 1/8"	2A/S601	3A/S601	CAP PLATE SLOPES TO ACCOMMODATE ROOF SLOPE
C-2	Pipe4STD	Main Level (899.91)	-0' - 8"	12' - 3"	2D/S601	3A/S601	CAP PLATE SLOPES TO ACCOMMODATE ROOF SLOPE
C-3	Pipe4STD	Main Level (899.91)	-0' - 8"	9' - 4 3/4"	2D/S601	3D/S601	
D-2	Pipe4STD	Main Level (899.91)	-1' - 4"	9' - 4 3/4"	2B/S601	3D/S601	
D-3	Pipe4STD	Main Level (899.91)	-0' - 8"	9' - 4 3/4"	2D/S601	3D/S601	
E-2	Pipe4STD	Main Level (899.12)	-0' - 6 1/2"	9' - 4 3/4"	2B/S601	3D/S601	
E-3	Pipe4STD	Main Level (899.12)	-0' - 6 1/2"	9' - 4 3/4"	2D/S601	3D/S601	
ex.1-ex. A	Existing 4X4 tube	Main Level (899.91)	0' - 1 3/4"	10' - 1 1/2"	2E/S601	-----	
F-2	Pipe4STD	Main Level (899.12)	-0' - 6 1/2"	10' - 2 1/2"	2B/S601	3/8" PLATE	PROVIDE 3/8" PLATE SHEAR TAB CONNECTION FOR ROOF BEAMS
F-3	Pipe4STD	Main Level (899.12)	-0' - 6 1/2"	10' - 2 1/2"	2B/S601	3/8" PLATE	PROVIDE 3/8" PLATE SHEAR TAB CONNECTION FOR ROOF BEAMS
G-2	Pipe4STD	Main Level (899.12)	-0' - 6 1/2"	10' - 2 1/2"	2B/S601	3/8" PLATE	PROVIDE 3/8" PLATE SHEAR TAB CONNECTION FOR ROOF BEAMS
G-3	Pipe4STD	Main Level (899.12)	-0' - 6 1/2"	10' - 2 1/2"	2B/S601	3/8" PLATE	PROVIDE 3/8" PLATE SHEAR TAB CONNECTION FOR ROOF BEAMS
H-2	Pipe4STD	Main Level (899.12)	-0' - 6 1/2"	9' - 4 3/4"	2C/S601	3B/S601	
H-3	Pipe4STD	Main Level (899.12)	-0' - 6 1/2"	9' - 4 3/4"	2A/S601	3B/S601	

NOTE:
1. BASE OFFSET IS FROM BASE LEVEL, WHERE COLUMN OCCURS TO BOTTOM OF BASE PLATE.
2. CAP OFFSET IS FROM MAIN LEVEL (899.12) TO TOP OF CAP PLATE.



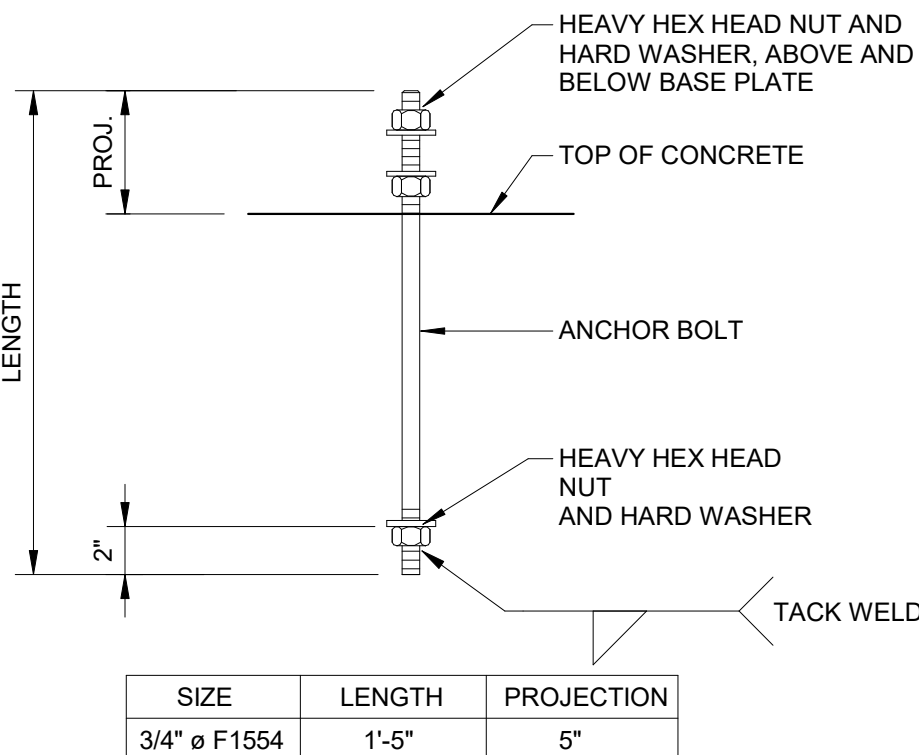
1 CAP PLATE DETAILS

1 1/2" = 1'-0"



2 BASE PLATE DETAILS

1 1/2" = 1'-0"



3 ANCHOR BOLT DETAIL

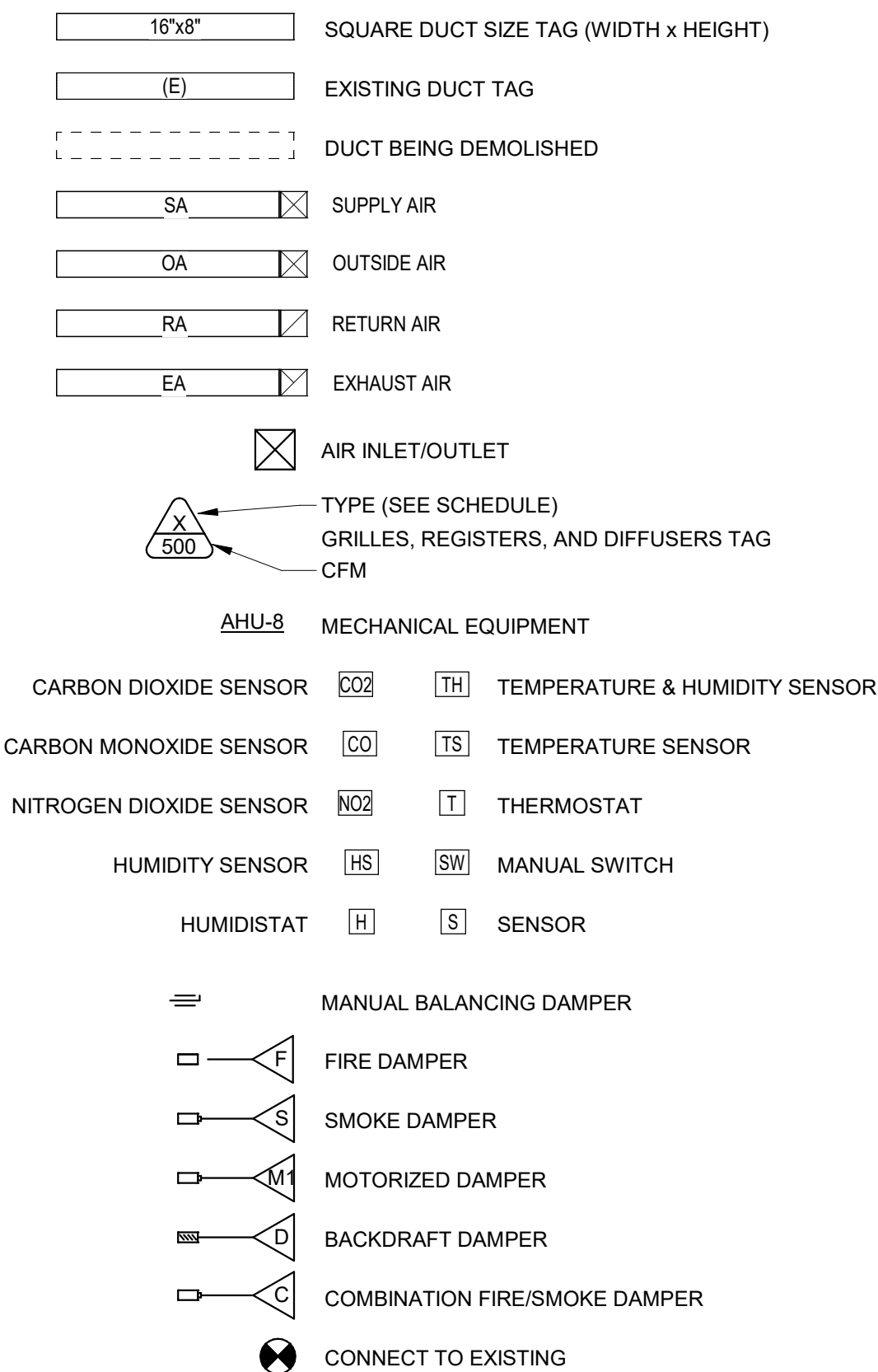
NTS

0 3" 6" 1'
SCALE: 1 1/2" = 1'-0"

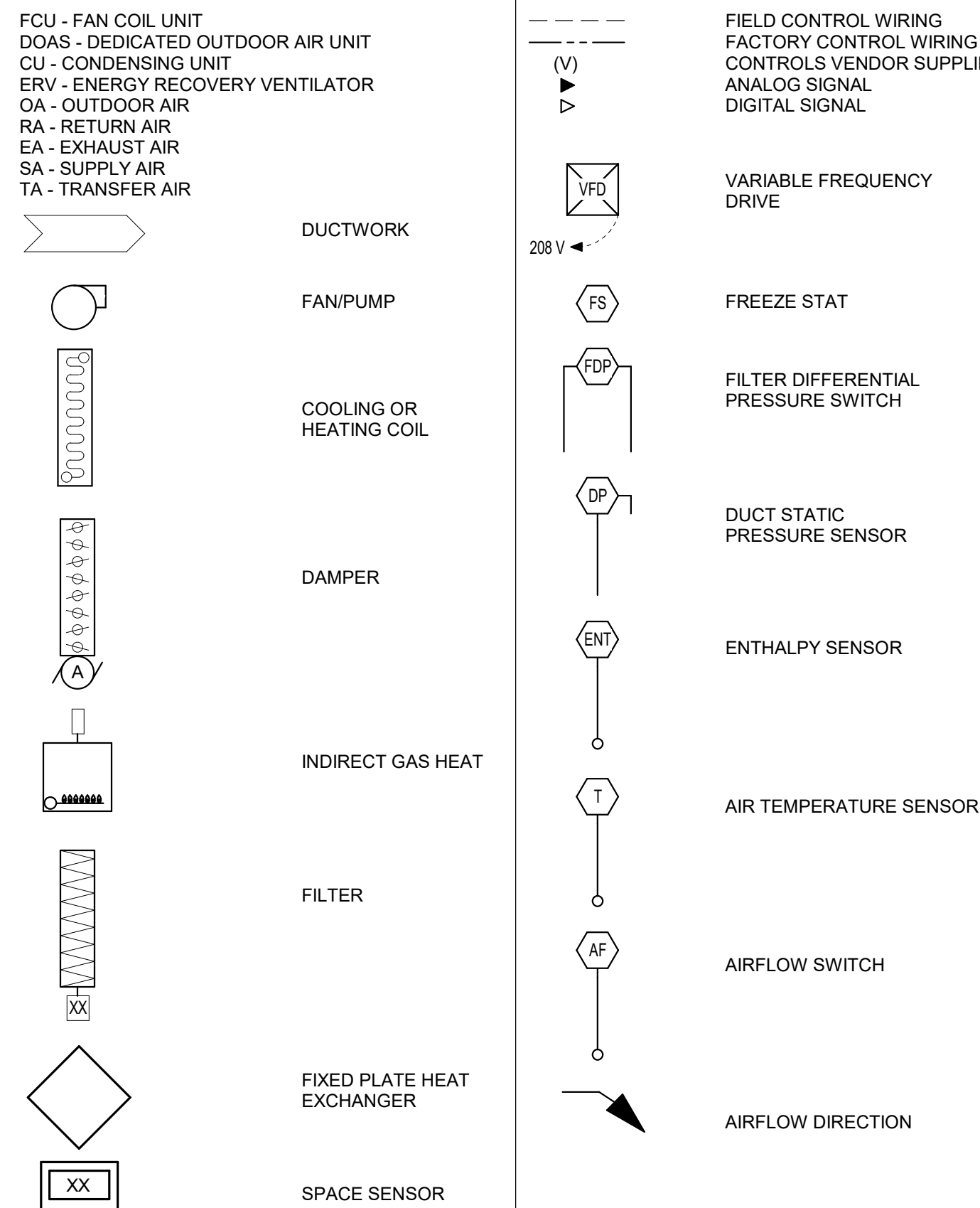
GENERAL HVAC NOTES:

1. ALL MECHANICAL INSTALLATIONS SHALL CONFORM TO NFPA 90A, SMACNA, ASHRAE AND ALL OTHER STATE AND LOCAL CODES.
2. UPON COMPLETION OF CONSTRUCTION, REPLACE ALL FILTERS.
3. ALL 90 DEGREE BENDS IN AIR DUCTS SHALL HAVE TURNING VANES. VANES SHALL BE SINGLE THICKNESS WITH RADIIUS = 4"5" AND SPACING = 2.25"
4. ALL MAIN AND BRANCH DUCTS SHALL BE RECTANGULAR GALV. STEEL SIZED AS NOTED ON THE PLANS. SIZE SHALL REFER TO UNOBSTRUCTED INTERNAL AIRFLOW AREA. DUCTWORK SHALL BE MOUNTED TIGHT TO JOISTS ABOVE OR RUN IN SPACE BETWEEN JOISTS, U.N.O. CLEARANCES FROM FINISH FLOOR SHALL BE MAXIMIZED WHERE POSSIBLE.
5. ALL RUNOUTS TO DIFFUSERS SHALL HAVE A VOLUME CONTROL DAMPER AT THE CONNECTION TO THE BRANCH OR MAIN DUCT.
6. FLEXIBLE DUCT SHALL BE A MAXIMUM OF FIVE (5) FEET IN LENGTH AND SHALL BE ROUTED TO MINIMIZE LENGTH WITH NO KINKS OR SHARP BENDS.
7. CONTRACTOR SHALL CONNECT RUNOUT TO CONTRACTOR FABRICATED BOOT AS NECESSARY TO ACCOMMODATE DIFFUSER.
8. A FLEXIBLE CONNECTION BETWEEN MECHANICAL UNITS AND BOTH THE SUPPLY AND RETURN AIR DUCTWORK IS REQUIRED FOR VIBRATION ISOLATION AND NOISE REDUCTION.
9. BALANCE ALL MECHANICAL EXHAUST, MAKE-UP AIR, HEATING AND AIR CONDITIONING SYSTEMS WITHIN 10% OF THE FLOWRATES NOTED ON PLANS.
10. INSULATE DUCTWORK AS REQUIRED IN THE SPECIFICATIONS.
11. SERVICE OPENINGS SHALL BE LOCATED IN THE DUCTWORK BEFORE AND AFTER EACH TURNING VANE. SEE SPECIFICATIONS AND NFPA 90A FOR LOCATIONS OF ADDITIONAL ACCESS DOORS AND PANEL REQUIRED THROUGHOUT THE AIR DISTRIBUTION SYSTEM.
12. ROUTE DUCTWORK BETWEEN JOISTS WHERE POSSIBLE TO INCREASE CLEARANCES BELOW.
13. LEAVE ADEQUATE SPACE FOR INSTALLATION OF PLUMBING PIPES. COORDNATE WITH PLUMBING CONTRACTOR.
14. INSTALL/FABRICATE FILTER RACK AND MIXING BOX FOR ALL FURNACES. MIXING SECTION SHALL BE DOWSTREAM OF THE FILTERS AND FREE AIR VOLUME SHALL BE CONTROLLED BY A DAMPER AT THE ENTRANCE TO THE BOX.
15. SEE ARCHITECTURAL SHEET FOR FIRE RATED CONSTRUCTION LOCATIONS. ALL HVAC PENETRATIONS IN FIRE RATED CONSTRUCTION SHALL BE UL LISTED OF EQUAL OR GREATER HOUR RATING.

HVAC SYMBOLS



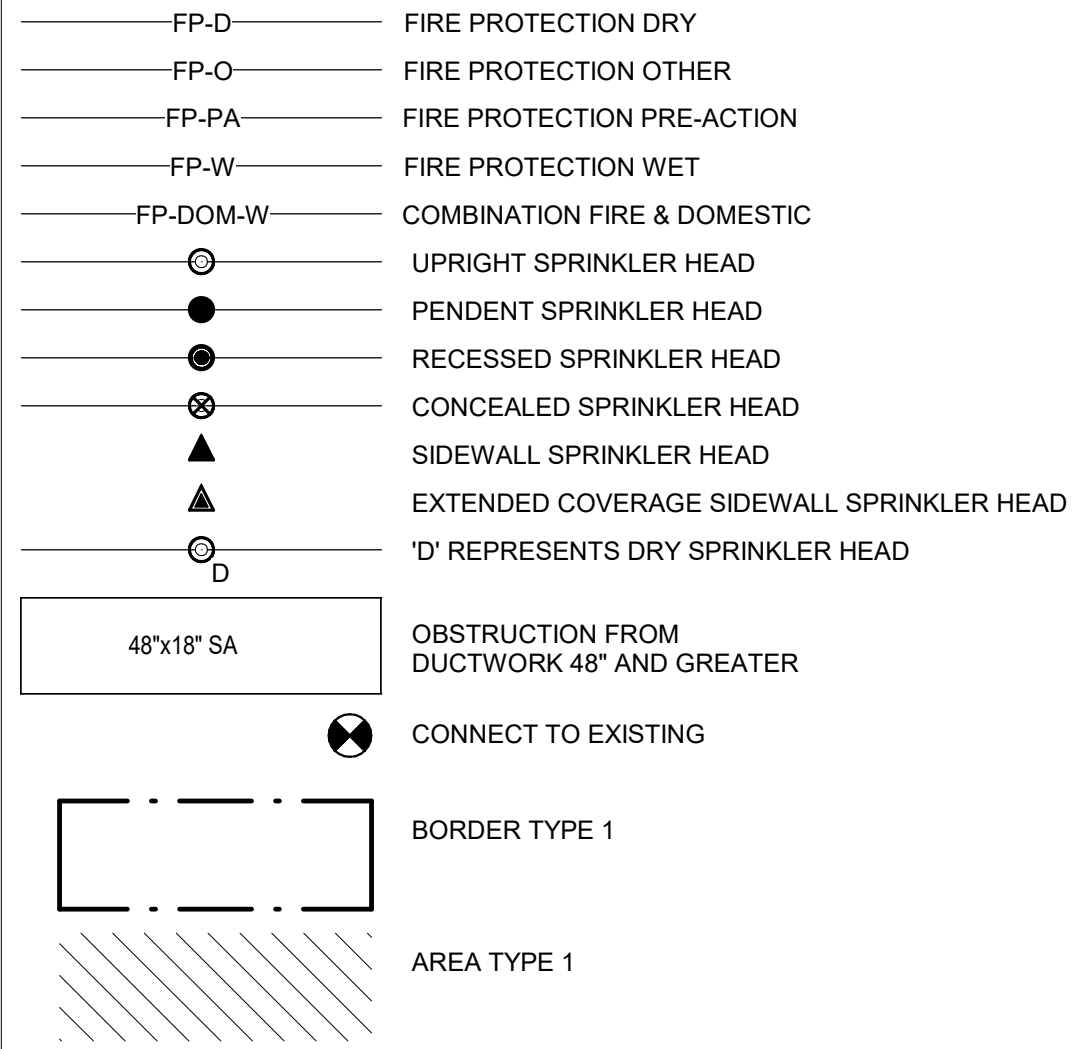
HVAC SCHEMATIC DIAGRAM SYMBOLS



FIRE PROTECTION NOTES:

1. THE INFORMATION PROVIDED ON THE FIRE PROTECTION DRAWINGS IS INTENDED TO SERVE AS THE "PRELIMINARY PLANS" FOR THE PROJECT AS DEFINED BY NFPA 13 FOR THE PURPOSE OF PRELIMINARY BUILDING PERMIT APPROVAL AND CONSTRUCTION BIDDING. "WORKING PLANS" IN ACCORDANCE WITH THE "HYDRAULIC CALCULATION METHODS" DEFINED BY NFPA 13, SHALL BE DEVELOPED BY THE CONTRACTOR AND APPROVED BY THE ENGINEER AND THE AUTHORITY HAVING JURISDICTION PRIOR TO PURCHASE OR INSTALLATION OF ANY FIRE PROTECTION SYSTEM EQUIPMENT.
2. THE CONTRACTOR IS RESPONSIBLE FOR REVIEWING ALL DRAWINGS ASSOCIATED WITH THE PROJECT TO UNDERSTAND BUILDING COMPONENTS AND ARRANGEMENTS (INCLUDING CONCEALED SPACE THAT COULD IMPACT THE FINAL DESIGN OF THE FIRE SPRINKLER SYSTEM).
3. ALL AREAS OF THE BUILDING SHALL BE PROVIDED WITH SPRINKLERS EXCEPT WHERE SPRINKLER OMISSION IS PERMITTED BY NFPA 13.
4. PRELIMINARY FLOW ANALYSIS HAS DETERMINED THAT A FIRE PUMP IS NOT REQUIRED FOR THE PROPOSED FIRE PROTECTION SYSTEM. CONTRACTOR SHALL NOTIFY THE ENGINEER DURING THE BIDDING PERIOD IF THEY BELIEVE A FIRE PUMP IS REQUIRED.
5. SEE ARCHITECTURAL SHEET FOR FIRE RATED CONSTRUCTION LOCATIONS. ALL HVAC PENETRATIONS IN FIRE RATED CONSTRUCTION SHALL BE UL LISTED OF EQUAL OR GREATER HOUR RATING.

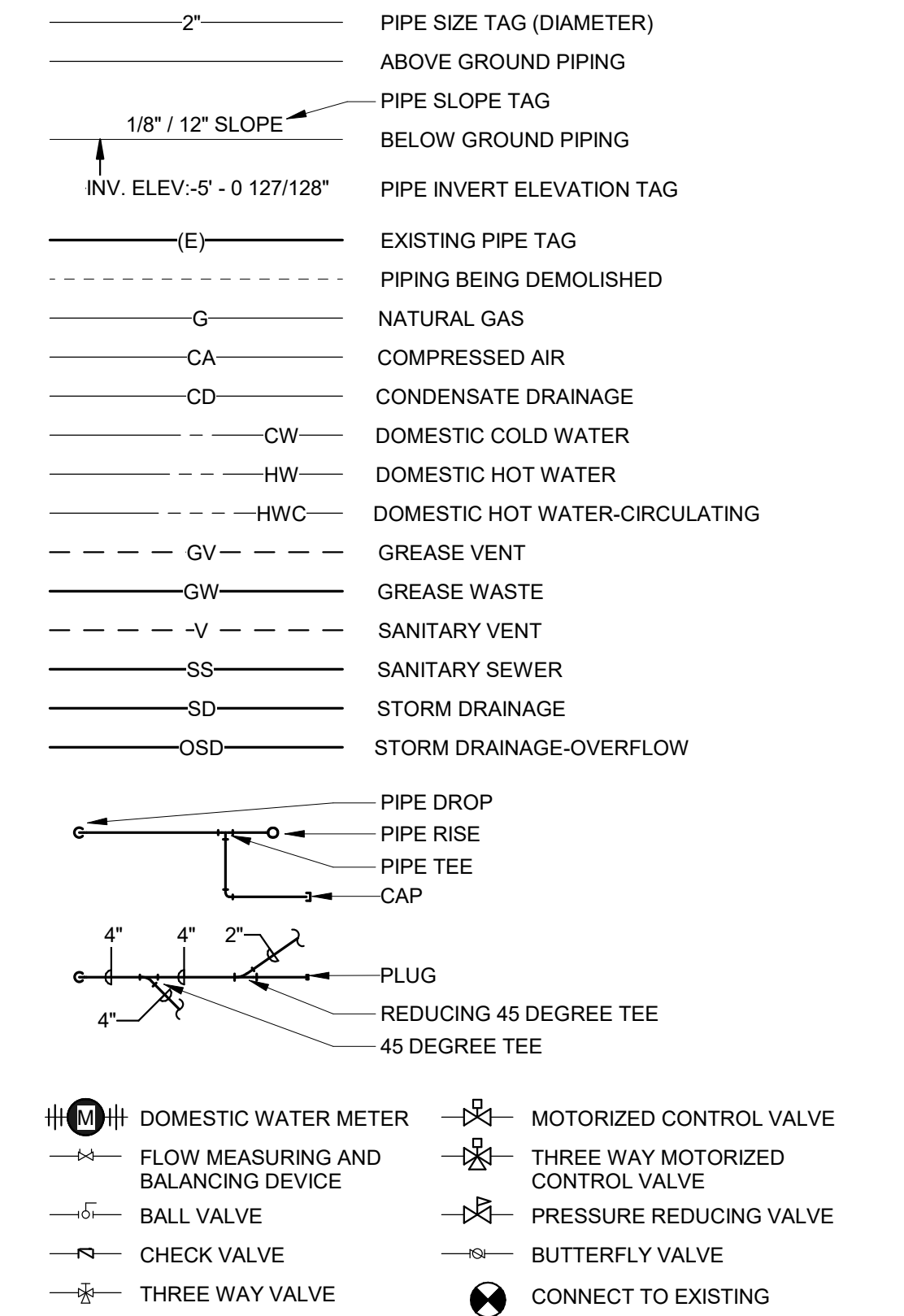
FIRE PROTECTION SYMBOLS



GENERAL PLUMBING NOTES:

1. ALL WORK SHALL COMPLY WITH APPLICABLE LOCAL, STATE, AND NATIONAL CODES AND REGULATIONS.
2. PLUMBING CONTRACTOR SHALL FURNISH AND INSTALL ALL MATERIALS, ACCESSORIES, TOOLS, EQUIPMENT, TRANSPORTATION, LABOR, SERVICES AND OPERATIONS NECESSARY FOR A COMPLETE PLUMBING SYSTEM INCLUDING FIXTURES, SANITARY SEWERS, CLEANOUTS, WATER SUPPLY PIPING, AND NATURAL GAS PIPING.
3. ALL DOMESTIC WATER HEATING SYSTEMS SHALL BE SET TO MAINTAIN A MINIMUM OF 140°F AND HOT WATER CIRCULATION SYSTEMS SHALL BE SET TO MAINTAIN A RETURN WATER TEMPERATURE OF 130°F UNLESS NOTED OTHERWISE.
4. PLUMBING CONTRACTOR SHALL OBTAIN ALL NECESSARY PERMITS AND ARRANGE FOR ALL INSPECTIONS REQUIRED BY STATE OR LOCAL AUTHORITIES.
5. MATERIALS MUST BE NEW, IN FIRST CLASS CONDITION.
6. WORK SHALL BE DONE BY TRAINED, EXPERIENCED, SKILLED, JOURNEYMAN UNDER AN APPROVED FULL TIME SUPERVISOR. WORK SHALL BE PERFORMED IN A NEAT WORKLIKE MANNER.
7. PIPE INSTALLATION SHALL BE COORDINATED WITH OTHER TRADES.
8. PIPING SHALL BE SEPARATELY HUNG AND ANCHORED, FREE TO EXPAND AND CONTRACT QUIETLY, WITHOUT IMPOSING STRAINS ON STRUCTURE, PIPING, VALVES, DEVICES, AND EQUIPMENT. PIPING SHALL BE RUN PARALLEL OR PERPENDICULAR TO BUILDING LINES.
9. CONNECTIONS BETWEEN DISSIMILAR METALS SHALL BE SEPARATED BY DIELECTRIC COUPLINGS.
10. CONTRACTOR SHALL PERFORM EXCAVATION REQUIRED TO INSTALL HIS WORK.
11. PRESSURE PIPING SYSTEMS, ETC., SHALL BE TESTED TO AT LEAST 125 PSI.
12. PIPE HANGERS AND SUPPORTS SHALL MEET THE LOCAL SEISMIC REQUIREMENTS.
13. PROVIDE BALL VALVE ON PIPES TO EACH GROUP OF FIXTURES OR TO EACH PIECE OF EQUIPMENT.
14. PLUMBING CONTRACTOR SHALL INSTALL GAS PIPING TO WITHIN 2" OF EACH APPLIANCE AND TERMINATE WITH A GAS COOK. HVAC CONTRACTOR TO MAKE FINAL CONNECTION.
15. LOCATE ALL SHUT-OFFS, CLEANOUTS, AND OTHER DEVICES REQUIRING ACCESS IN AN EASILY ACCESSIBLE AREA.
16. DRAWINGS ARE SCHEMATIC AND SHOW APPROXIMATE LOCATIONS OF PIPING. EXACT LOCATIONS SHALL BE COORDINATED BY THE CONTRACTOR AND VERIFIED IN THE FIELD PRIOR TO ROUGH-IN.
17. SEE ARCHITECTURAL SHEET FOR FIRE RATED CONSTRUCTION LOCATIONS. ALL PLUMBING PENETRATIONS IN FIRE RATED CONSTRUCTION SHALL BE UL LISTED OF EQUAL OR GREATER HOUR RATING.

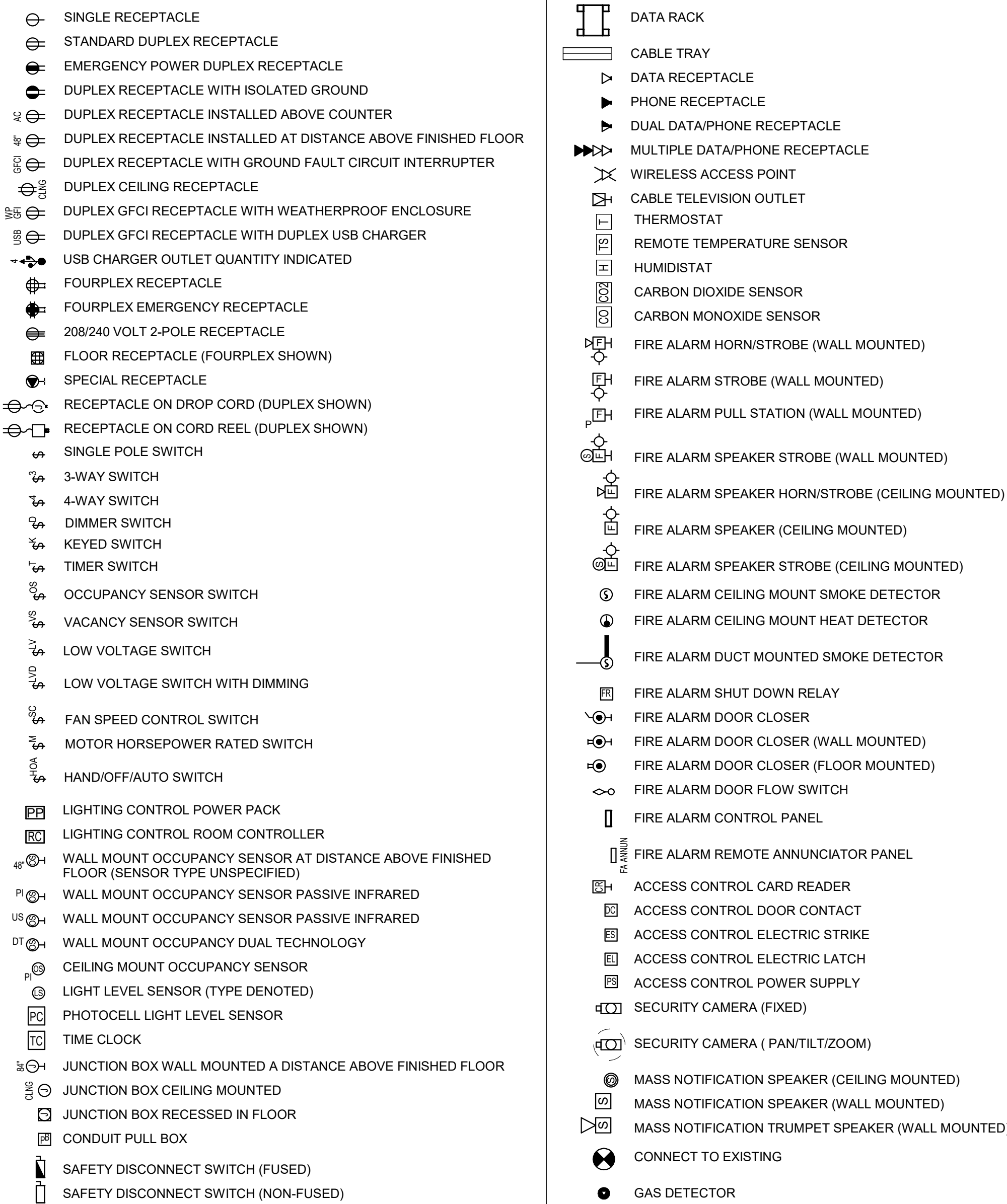
PLUMBING AND PIPING SYMBOLS



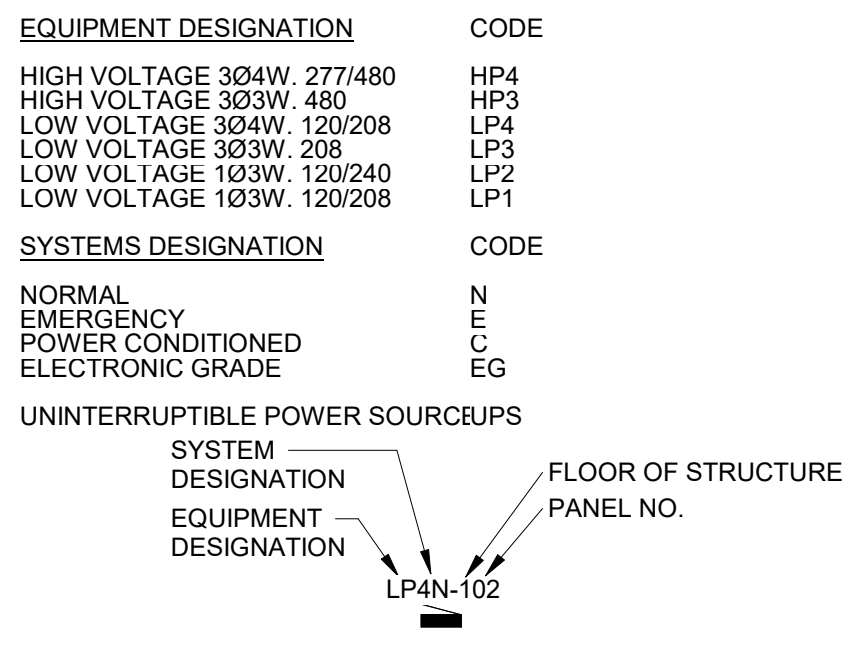
GENERAL ELECTRICAL NOTES:

1. APPLICABLE STANDARDS: NFPA-70, NFPA-101, STATE BUILDING CODES, AND THE OCCUPATIONAL SAFETY AND HEALTH ACT (OSHA) OF 1971 AND ALL AMENDMENTS THERETO; EQUIPMENT, DEVICES, APPARATUS, SYSTEMS, AND INSTALLATIONS SHALL BE ENTIRELY SUITABLE AND SAFE FOR EACH INTENDED APPLICATION AND BE IN FULL COMPLIANCE WITH APPLICABLE STANDARDS, REQUIREMENTS, RULES, REGULATIONS, CODES, STATUTES, ORDINANCES, ETC., OF MUNICIPAL, COUNTY, AND STATE GOVERNMENTS, OWNER'S INSURANCE COMPANY, LOCAL UTILITIES, AND LABOR REGULATIONS. NOTHING CONTAINED IN THESE PLANS AND SPECIFICATIONS SHALL BE CONSTRUED TO CONFLICT WITH THESE LAWS, CODES, AND ORDINANCES.
2. DRAWINGS ARE SCHEMATIC AND SHOW APPROXIMATE LOCATIONS OF ELECTRICAL EQUIPMENT. EXACT LOCATIONS SHALL BE COORDINATED BY THE CONTRACTOR AND VERIFIED IN THE FIELD PRIOR TO ROUGH-IN.
3. INSTALLATIONS WHICH INCLUDE ELECTRICAL FIXTURES, DEVICES, CONDUIT, SWITCHES, PANELS, HANGERS, WIRE, CABLE, STANDARDS, ETC., MUST BE ENTIRELY SUITABLE FOR TEMPERATURES, HUMIDITY, DAMP AREAS, VOLTAGE, FREQUENCY, AND ALL INSTALLATION CONDITIONS ENCOUNTERED.
4. INSTALLATION MUST BE ENTIRELY SAFE IN EVERY RESPECT, AND MUST NOT CREATE ANY CONDITIONS OF ANY KIND WHICH WILL BE HARMFUL TO ANY OCCUPANT OF THE BUILDING. IF CONTRACTOR BELIEVES THAT INSTALLATION WILL NOT BE SAFE FOR ALL PEOPLE, HE/SH/ SHE/SHALL SO REPORT IN WRITING TO ENGINEER BEFORE ANY EQUIPMENT IS PURCHASED OR WORK IS INSTALLED, GIVING EXACT RECOMMENDATIONS, AND REASONS FOR THEM.
5. GROUNDING: ALL GROUNDING SHALL BE IN STRICT ACCORDANCE WITH THE LATEST EDITION OF THE NATIONAL ELECTRICAL CODE (NEC).
6. INSTALLATION OF ELECTRICAL DEVICES SHALL BE COORDINATED WITH OTHER TRADES AS NECESSARY TO PREVENT ANY CONFLICTS DURING CONSTRUCTION.
7. LOW VOLTAGE CONDUIT AND JUNCTION BOXES SHALL BE INSTALLED BY THE ELECTRICAL CONTRACTOR.
8. WHERE PHONE/DATA OUTLET LOCATIONS ARE INDICATED INSTALL 1" EMT FROM OUTLET BOX (4"x4"x1/2"MIN.) TO TOP OF FINISHED WALL (ABOVE S.A.T. CEILING).
9. WHERE THERMOSTAT LOCATIONS ARE SHOWN, THE ELECTRICAL CONTRACTOR SHALL PROVIDE A RECESSED WALL BOX WITH CONDUIT TO AN ACCESSIBLE LOCATION, IN AREAS WHERE SURFACE MOUNTED BOXES ARE REQUIRED, A SURFACE MOUNTED BOX AND CONDUIT TO 10' AFF SHALL BE PROVIDED (OR TO THE EQUIPMENT LOCATION, WHICHEVER IS CLOSER). THERMOSTAT INSTALLATION AND THE CORRESPONDING LOW VOLTAGE THERMOSTAT WIRING SHALL BE BY THE MECHANICAL CONTRACTOR.
10. LIGHTING: FURNISH AND INSTALL ALL LIGHTING FIXTURES COMPLETE WITH LAMPS IN ACCORDANCE WITH THE LIGHTING FIXTURE SCHEDULE SHOWN ON THE DRAWINGS. ALL UNITS SHALL BE COMPLETE WITH SUSPENSION ACCESSORIES, CANOPIES, SOCKETS, LOUVERS, FRAMES, AND ROUGH-IN BOXES, WIRED AND ASSEMBLES TO FURNISH A COMPLETE WORKABLE SYSTEM.
11. EQUIPMENT GROUNDING CONDUCTORS SHALL BE PULLED WITH ALL BRANCH CIRCUITS. CONDUIT SHALL NOT BE USED AS A GROUND U.N.O.
12. ELECTRICAL CONTRACTOR SHALL FURNISH AND INSTALL ALL MATERIALS, ACCESSORIES, TOOLS, EQUIPMENT, TRANSPORTATION, LABOR, SERVICES AND OPERATIONS NECESSARY FOR A COMPLETE ELECTRICAL SYSTEM.
13. ELECTRICAL CONTRACTOR SHALL OBTAIN ALL NECESSARY PERMITS AND ARRANGE FOR ALL INSPECTIONS REQUIRED BY STATE OR LOCAL AUTHORITIES.
14. MATERIALS MUST BE NEW, IN FIRST CLASS CONDITION.
15. CONDUIT SHALL BE SEPARATELY HUNG AND ANCHORED, FREE TO EXPAND AND CONTRACT QUIETLY, WITHOUT IMPOSING STRAINS ON STRUCTURE, DEVICES, AND EQUIPMENT. CONDUIT SHALL BE RUN PARALLEL OR PERPENDICULAR TO BUILDING LINES.
16. CONTRACTOR SHALL PERFORM EXCAVATION REQUIRED TO INSTALL HIS WORK.
17. SEE ARCHITECTURAL SHEET FOR FIRE RATED CONSTRUCTION LOCATIONS. ALL ELECTRICAL PENETRATIONS IN FIRE RATED CONSTRUCTION SHALL BE UL LISTED OF EQUAL OR GREATER HOUR RATING.

ELECTRICAL SYMBOLS



PANELBOARD IDENTIFICATION LEGEND



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FIELD	FIELD BOOK	
CHECKED	JUN	CHECK DATE
SHEET TITLE		

MEP SYMBOLS LIST

PROJECT NO.	21-002
DRAWING ISSUED DATE:	01/16/2023
SHEET	

MEP001

HALLSVILLE MIDDLE SCHOOL ADDITION

HALLSVILLE SCHOOL DISTRICT

421 MO-124 E

HALLSVILLE, MO 65255



MATTHEW H. BRIDGES, ENGINEER
MO # PE-2021031578

BIDDING DOCUMENTS

ISSUED FOR **1/16/23**

Klingner & Associates, P.C.
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Engineers • Architects • Surveyors

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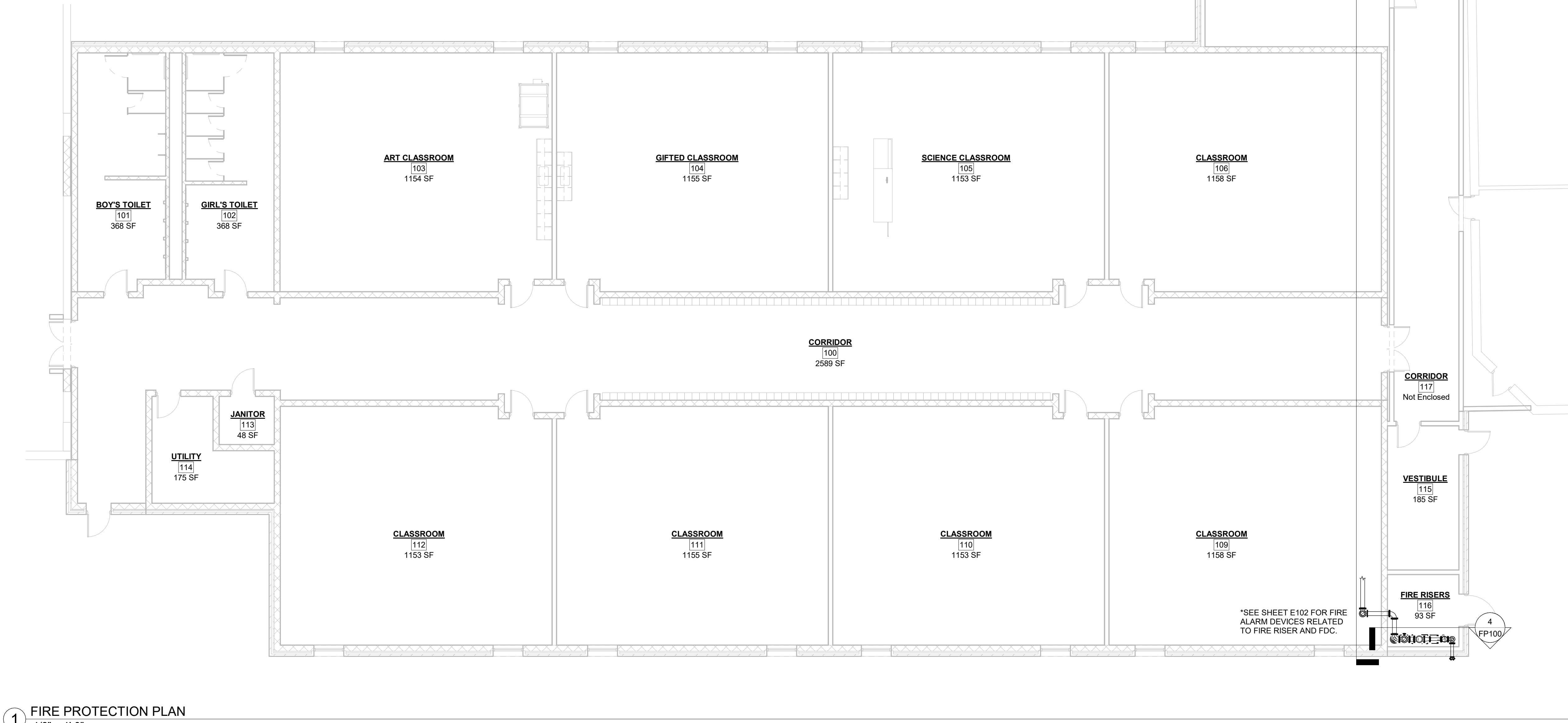
FIRE SUPPRESSION SYSTEM SUMMARY				
ROOM #	ROOM NAME	OCCUPANCY HAZARD TYPE (NFPA 13)	MINIMUM REQUIRED DENSITY (GPM/SF)	SYSTEM NAME
100	CORRIDOR	LIGHT HAZARD	0.07	WET RISER #1
101	BOYS' TOILET	LIGHT HAZARD	0.07	WET RISER #1
102	GIRLS' TOILET	LIGHT HAZARD	0.07	WET RISER #1
103	ART CLASSROOM	ORDINARY HAZARD, GROUP 1	0.10	WET RISER #1
104	GIFTED CLASSROOM	LIGHT HAZARD	0.07	WET RISER #1
105	SCIENCE CLASSROOM	LIGHT HAZARD	0.07	WET RISER #1
106	CLASSROOM	LIGHT HAZARD	0.07	WET RISER #1
107	MECH	ORDINARY HAZARD, GROUP 1	0.10	WET RISER #1
109	CLASSROOM	LIGHT HAZARD	0.07	WET RISER #1
110	CLASSROOM	LIGHT HAZARD	0.07	WET RISER #1
111	CLASSROOM	LIGHT HAZARD	0.07	WET RISER #1
112	CLASSROOM	LIGHT HAZARD	0.07	WET RISER #1
113	JANITOR	ORDINARY HAZARD, GROUP 1	0.10	WET RISER #1
114	UTILITY	ORDINARY HAZARD, GROUP 1	0.10	WET RISER #1
115	VESTIBULE	LIGHT HAZARD	0.07	WET RISER #1
116	FIRE RISERS	LIGHT HAZARD	0.07	WET RISER #1
117	CORRIDOR	LIGHT HAZARD	0.07	WET RISER #1

FIRE HYDRANT TEST FLOW SUMMARY					
HYDRANT	PRESSURE (PSI)			CALCULATED FLOW (GPM)	CALCULATED FLOW (GPM) AT 20 PSI
	STATIC	RESIDUAL	PITOT		
0019	52	15	10	530.78	490.76
0020	50	5	11	556.69	447.22
0021	50	13	10	530.78	473.95
9001	50	14	10	530.78	490.76
9003	52	12	10	583.86	517.58

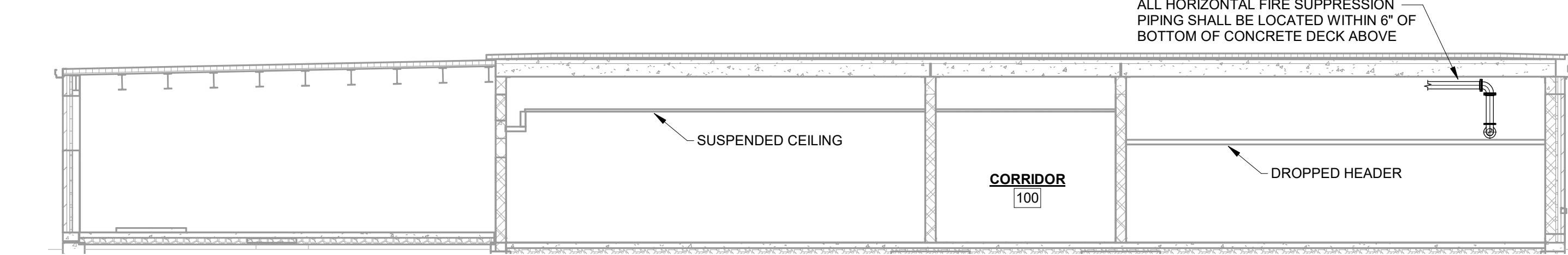
- NOTES:
- BOONE COUNTY FIRE PROTECTION DISTRICT PROVIDED THE HYDRANT FLOW AND PRESSURE DATA IN THE TABLE ABOVE BASED ON HYDRANT TESTING IN FALL 2022.
 - THE DATA IS PROVIDED FOR INFORMATION ONLY, AND CONTRACTOR IS RESPONSIBLE FOR PERFORMING THEIR OWN FLOW TEST AS PART OF THE CONSTRUCTION PROCESS. THE CITY OF HALLSVILLE IS CURRENTLY REVIEWING OPTIONS FOR WATER UTILITY UPGRADES NECESSARY TO PROVIDE 1,000 GPM OF FIRE FLOW FOR A MINIMUM OF TWO (2) HOURS TO COMPLY WITH ORDINANCE 14N OF THE BOONE COUNTY FIRE PROTECTION DISTRICT.



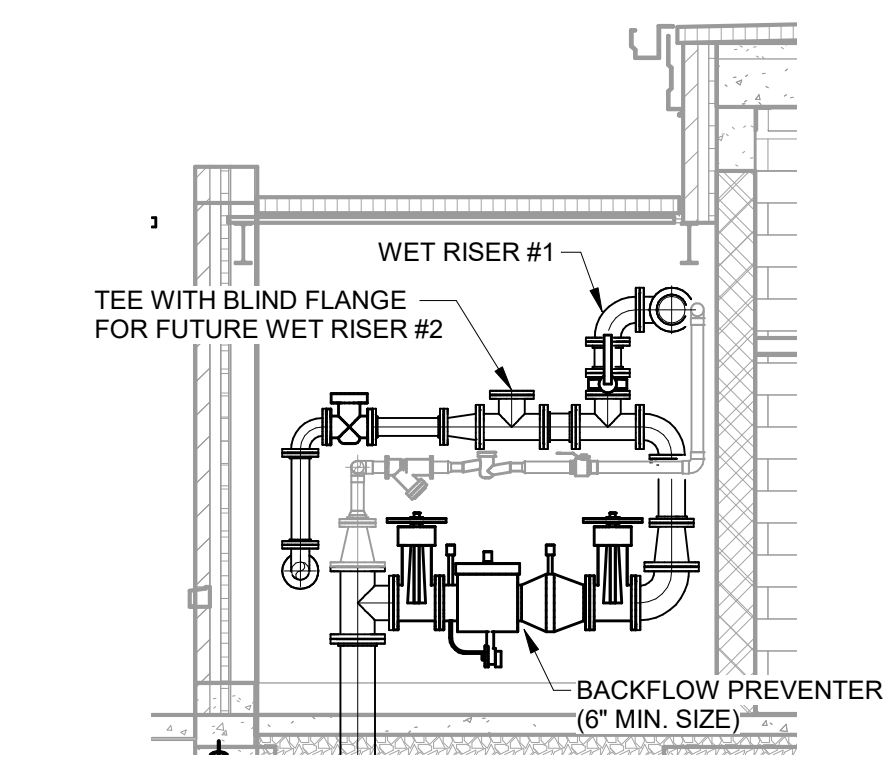
2 EXISTING FIRE HYDRANT LOCATIONS
1" = 100'-0"



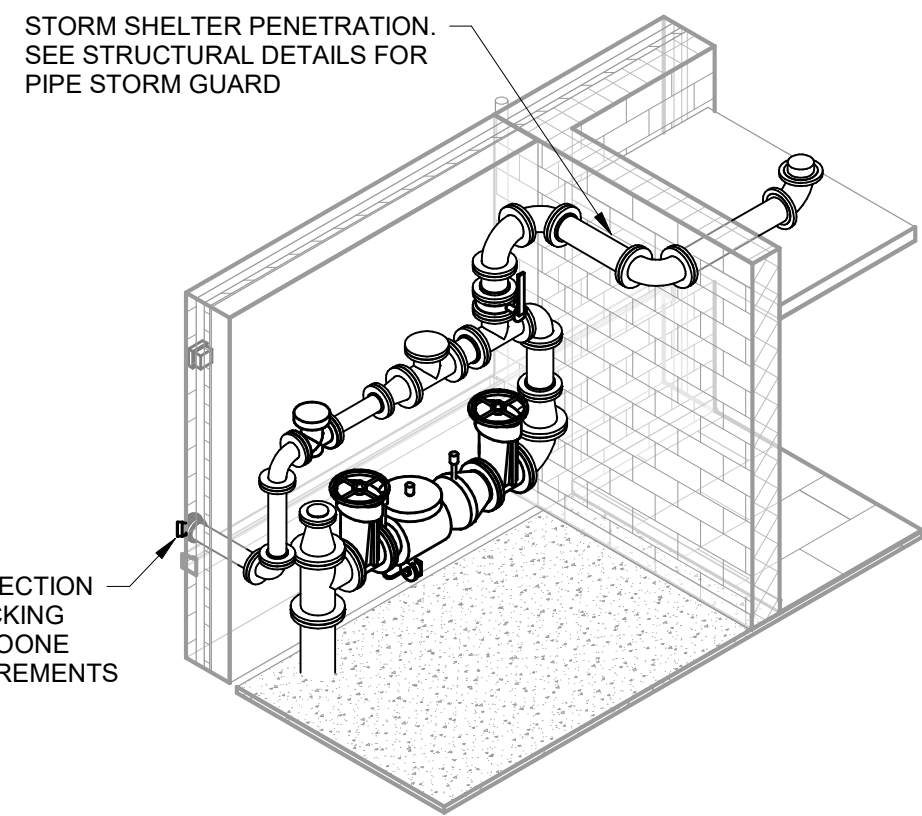
1 FIRE PROTECTION PLAN
1/8" = 1'-0"



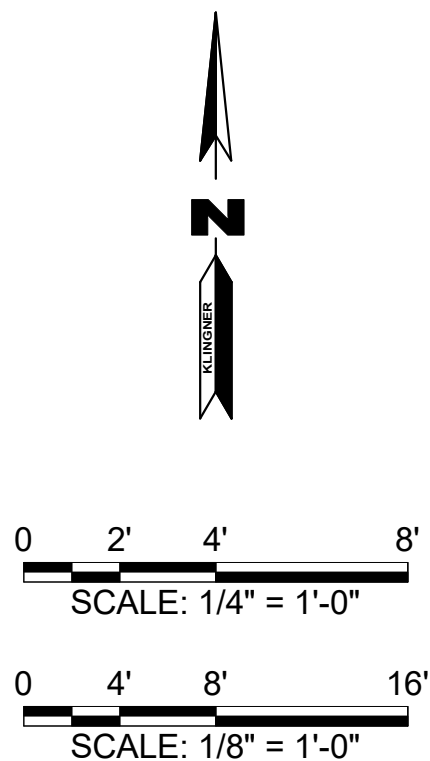
3 FIRE PROTECTION BUILDING SECTION
1/8" = 1'-0"



4 FIRE PROTECTION SERVICE ENTRANCE
1/4" = 1'-0"



5 FIRE PROTECTION ISOMETRIC
NTS



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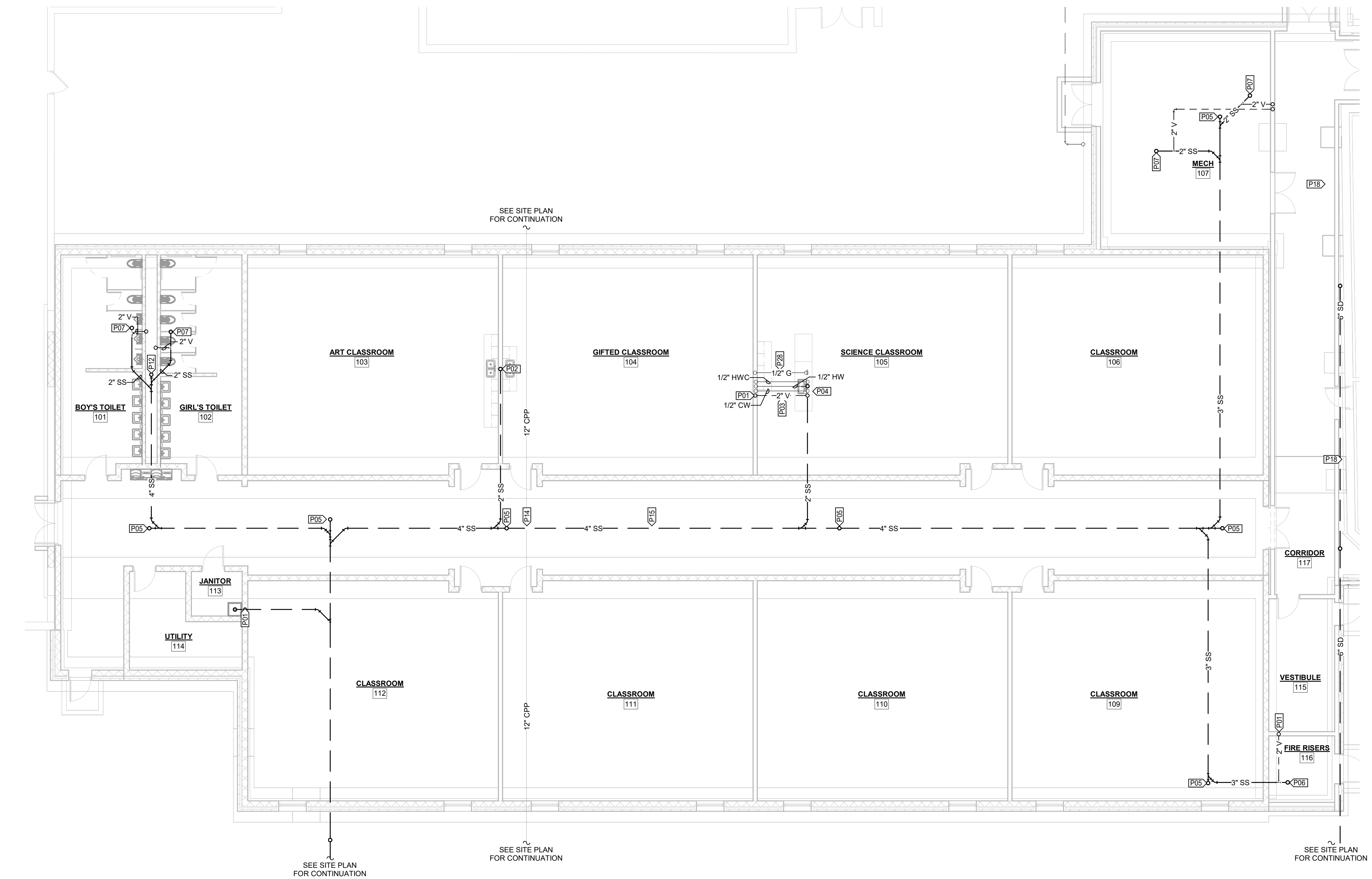
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STATE OF MISSOURI
JOSHUA BRADLEY MOORE
NUMBER
PE-2022038556
PROFESSIONAL SEAL
JOSHUA B. MOORE, ENGINEER
MO # PE-2022038556

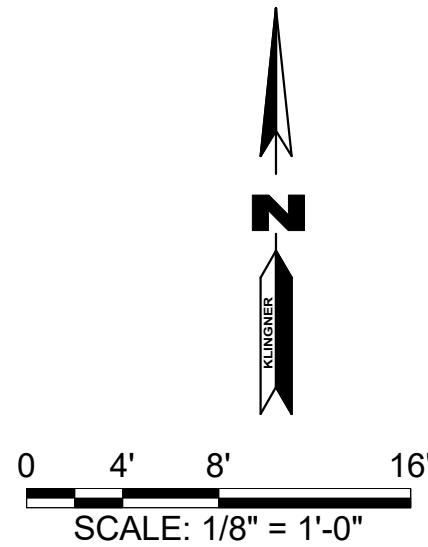
HALLSVILLE MIDDLE SCHOOL ADDITION
HALLSVILLE SCHOOL DISTRICT
421 MO-124 E
HALLSVILLE, MO 65255

Non-Reduced Sheet Size 30" x 42"
Full sized plans have been prepared using standard scales.
Reduced sized plans may not conform to standard scales.

DESIGNED	JBM	DRAWN	JBM
FIELD	JBM	FIELD BOOK	JBM
CHECKED	JUN	CHECK DATE	01/09/2023
SHEET TITLE			
FIRE PROTECTION PLAN			
PROJECT NO. 21-0022			
DRAWING ISSUED DATE: 01/16/2023			
SHEET			
FP100			



1 PLUMBING PLAN - BELOW FLOOR
1/8" = 1'-0"



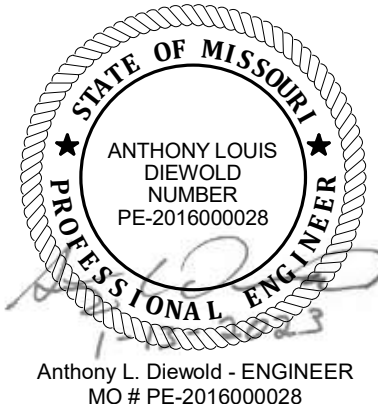
KEYNOTE LEGEND	
VALUE	DESCRIPTION
P01	ROUTE 2" VENT UP AND PROVIDE A 3" VENT THROUGH ROOF.
P02	ROUTE SANITARY SEWER UP TO CLASSROOM SINKS. REFER TO ABOVE FLOOR PLUMBING PLAN FOR ADDITIONAL INFORMATION.
P03	ROUTE DOMESTIC HOT WATER, DOMESTIC COLD WATER, AND DOMESTIC HOT WATER CIRCULATION PIPING UNDER FLOOR AND IN CASEWORK TO ISLAND SINK.
P04	ROUTE SANITARY SEWER UP TO CLASSROOM ISLAND SINK AND PROVIDE ISLAND VENT.
P05	ROUTE SANITARY SEWER UP TO CLEANOUT. REFER TO ABOVE FLOOR PLUMBING PLAN FOR ADDITIONAL INFORMATION.
P06	ROUTE SANITARY SEWER UP TO FLOOR SINK. COORDINATE INSTALLATION OF FLOOR SINK WITH FIRE SUPPRESSION DRAIN.
P07	ROUTE SANITARY SEWER UP TO FLOOR DRAIN. REFER TO ABOVE FLOOR PLUMBING PLAN FOR ADDITIONAL INFORMATION.
P12	ROUTE 4" SANITARY SEWER UP. REFER TO ABOVE FLOOR PLUMBING PLAN FOR ADDITIONAL INFORMATION.
P14	EXISTING STORM WATER DRAINAGE PIPE APPROXIMATELY 5FT BELOW FINISHED FLOOR WHERE NEW SANITARY SEWER PIPE CROSSES ABOVE.
P15	SLOPE 4" SANITARY SEWER AT 1/8" PER FOOT.
P18	ROUTE STORM DRAIN PIPING DOWN. REFER TO BELOW FLOOR PLUMBING PLAN FOR ADDITIONAL INFORMATION.
GENERAL NOTES:	
1. SLOPE 3" AND SMALLER SANITARY SEWER PIPING AT 1/4" PER FOOT. (MINUS 3/8" HAT) (B-1) GAS	
2. SANITARY SEWER PIPING WHICH IS 4" AND LARGER CAN BE SLOPED AT 1/8" PER FOOT.	

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HALLSVILLE SCHOOL DISTRICT
421 MO-124 E
HALLSVILLE, MO 65255

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SHEET TITLE	

BELOW FLOOR
PLUMBING PLAN

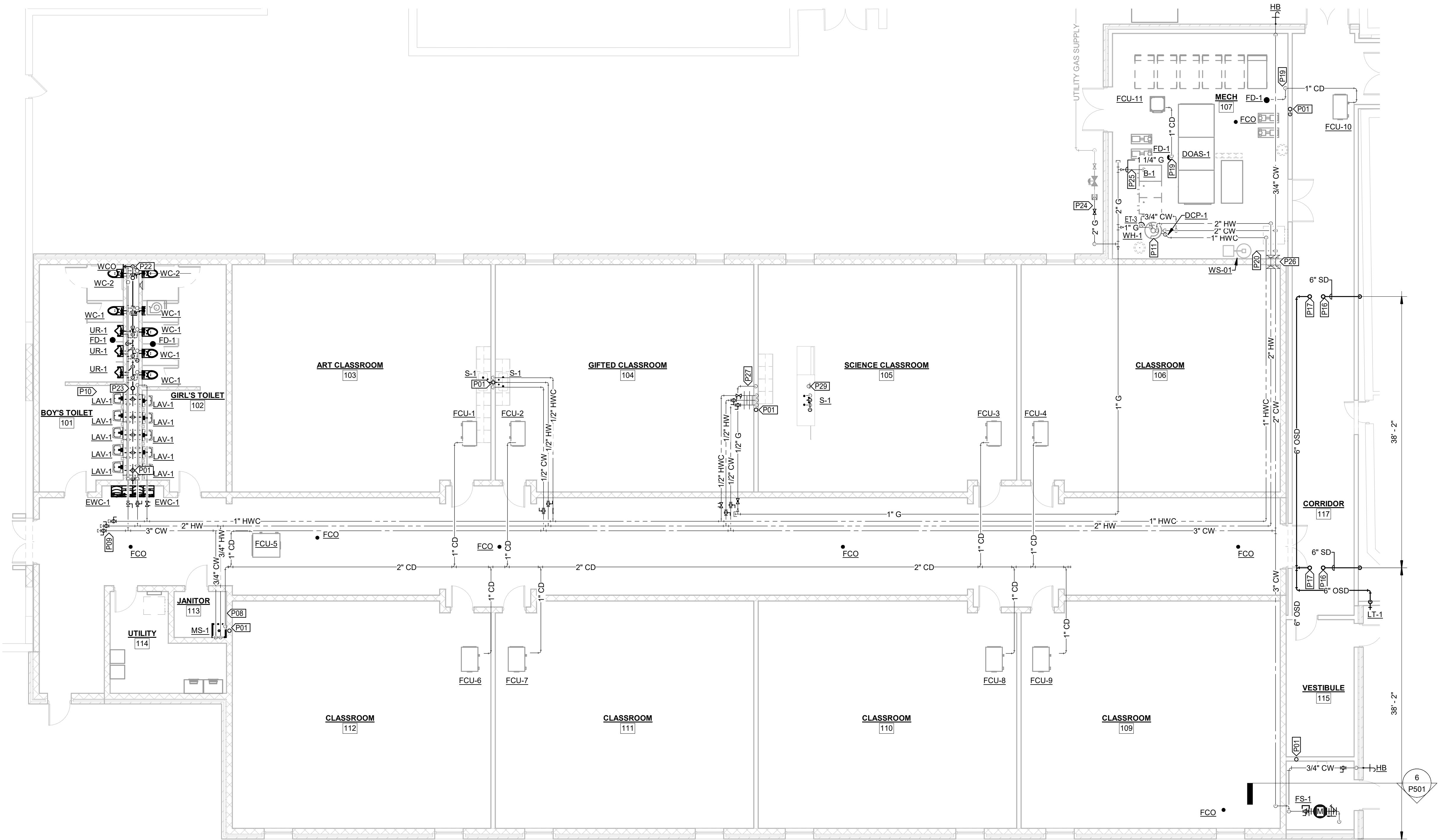
PROJECT NO.
21-0002
DRAWING ISSUED DATE:
01/16/2023
SHEET

P101

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1 PLUMBING PLAN - ABOVE FLOOR
1/8" = 1'-0"



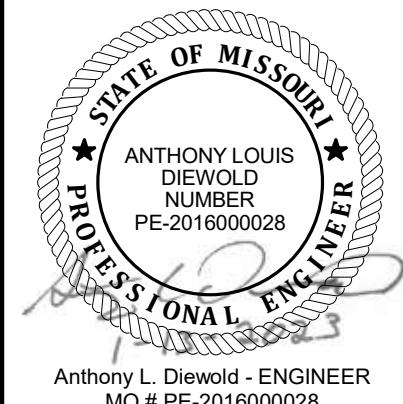
KEYNOTE LEGEND	
VALUE	DESCRIPTION
P01	ROUTE 2" VENT UP AND PROVIDE A 3" VENT THROUGH ROOF.
P08	ROUTE CONDENSATE DISCHARGE PIPE DOWN TIGHT TO WALL AND INTO MOP SINK.
P09	PROVIDE SHUTOFF VALVES IN DOMESTIC COLD WATER PIPE, DOMESTIC HOT WATER PIPE, AND DOMESTIC HOT WATER CIRCULATION PIPE AND CAP FOR FUTURE CONNECTION.
P10	REFER TO 3-D VIEW FOR PIPING INFORMATION IN BOY'S AND GIRL'S TOILET ROOMS.
P11	REFER TO DOMESTIC WATER HEATER PIPING SCHEMATIC DIAGRAM FOR ACCESSORIES, COMPONENTS, AND PIPING ARRANGEMENT.
P16	STORM WATER DRAINAGE PIPE UP TO ROOF DRAIN.
P17	STORM WATER DRAINAGE PIPE UP TO OVERFLOW ROOF DRAIN.
P19	ROUTE CONDENSATION DRAIN DOWN TO NEAREST FLOOR DRAIN.
P20	COORDINATE FINAL CONNECTION OF DOMESTIC COLD WATER TO WATER SOFTENING SYSTEM. REFER TO M101 FOR CONTINUATION.
P22	4" MAIN VENT UP THROUGH ROOF.
P23	4" SS UP FOR FUTURE EXTENSION TO FLOOR ABOVE.
P24	MAKE FINAL CONNECTION TO NATURAL GAS METER BY UTILITY. COORDINATE NATURAL SERVICE WITH UTILITY. DEMAND SHALL BE 850 CFH AT 7 IN W.C. WITH A FUTURE DEMAND OF 2,150 CFH AT 7 IN W.C.
P25	PROVIDE TEE, GAP, NIPPLE, DIRT LEG, ISOLATION VALVE, AND FLEXIBLE CONNECTOR AND MAKE FINAL CONNECTION TO BOILER.
P26	REDUCE CW AND HW TO 1-1/2" THROUGH WALL IN THIS LOCATION. COMPRESS PIPE INSULATION TO ALLOW INSTALLATION THROUGH 2" PENETRATION.
P27	TRANSITION TO PE TUBING AND ROUTE TUBING DOWN IN WALL INTO CASING PIPE AND UP IN LABORATORY CASEWORK.
P29	ROUTE NATURAL GAS PIPING UP FROM FLOOR AND PROVIDE DECK MOUNTED LABORATORY TURRET. COORDINATE TURRET WITH ARCHITECTURAL.

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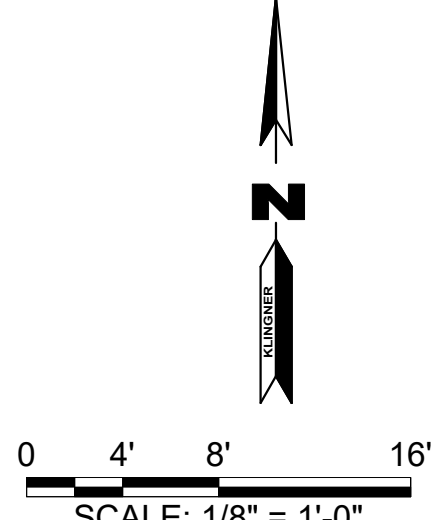
Anthony L. Diewold, ENGINEER
MO # PE-2016000028

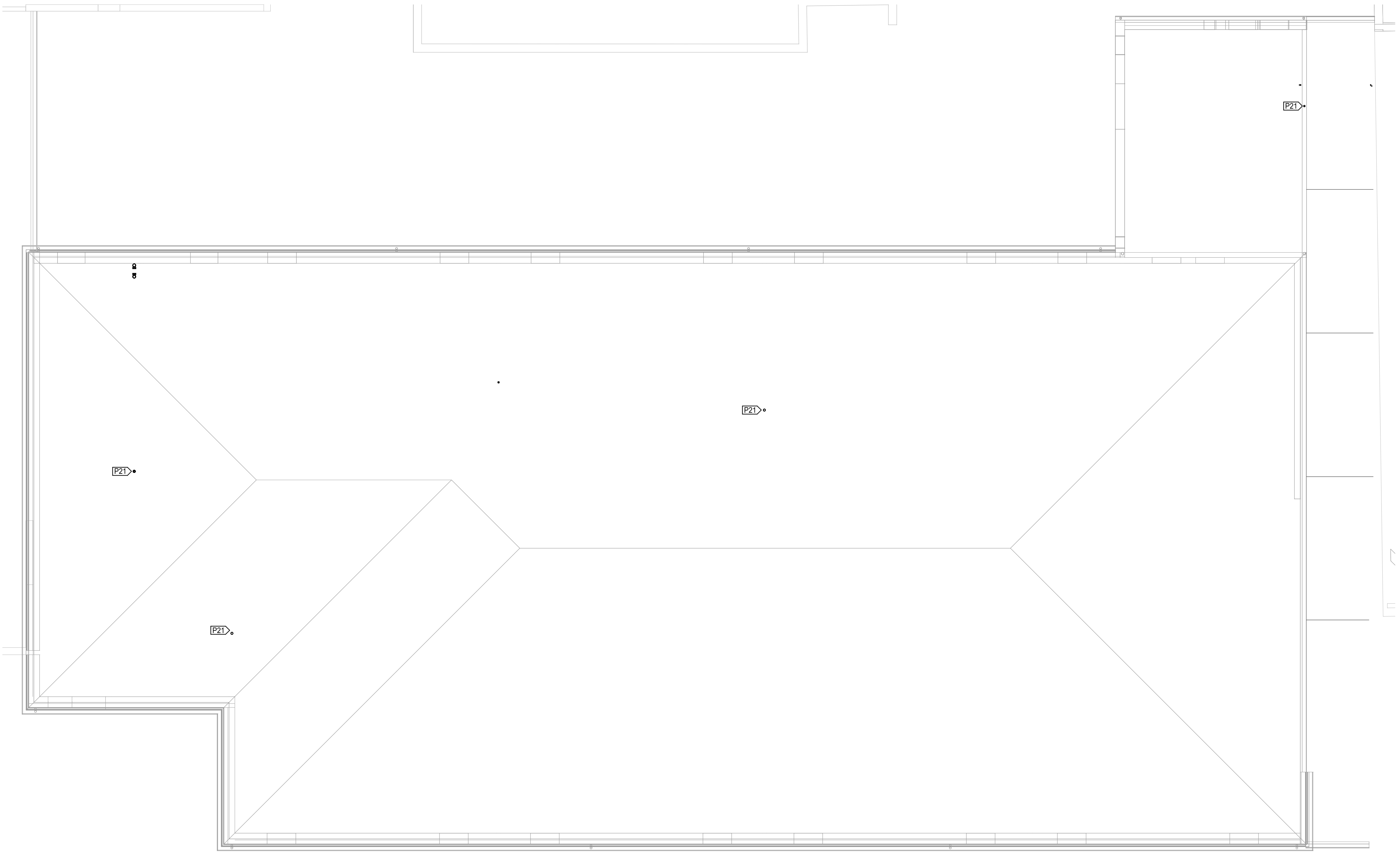
HALLSVILLE MIDDLE SCHOOL ADDITION
HALLSVILLE SCHOOL DISTRICT
421 MO-124 E
HALLSVILLE, MO 65255

Non-Reduced Sheet Size 30" x 42"	
Full sized plans have been prepared using standard scales. Reduced sized plans may not conform to standard scales.	
DESIGNED	DRAWN
MHB	MHB
FIELD	FIELD BOOK
CHECKED	CHECK DATE
JUN	01/09/2023

SHEET TITLE
ABOVE FLOOR
PLUMBING PLAN

PROJECT NO.
21-0902
DRAWING ISSUED DATE:
01/16/2023
SHEET
P102





1 PLUMBING ROOF PLAN
NTS

KEYNOTE LEGEND	
VALUE	DESCRIPTION
P21	PLUMBING VENT THROUGH ROOF. REFER TO P102 FOR CONTINUATION.

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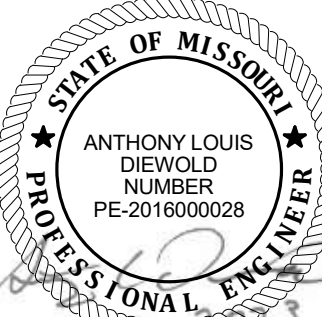
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Anthony L. Diebold, ENGINEER
MO # PE-2016000028

HALLSVILLE MIDDLE SCHOOL ADDITION

HALLSVILLE SCHOOL DISTRICT
421 MO-124 E
HALLSVILLE, MO 65255

Non-Reduced Sheet Size 30" x 42"
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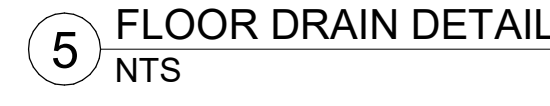
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FIELD	MHB	FIELD BOOK	MHB
CHECKED	JUN	CHECK DATE	01/09/2023

SHEET TITLE
PLUMBING ROOF PLAN

PROJECT NO.
21-0002

DRAWING ISSUED DATE:
01/16/2023

SHEET
P103



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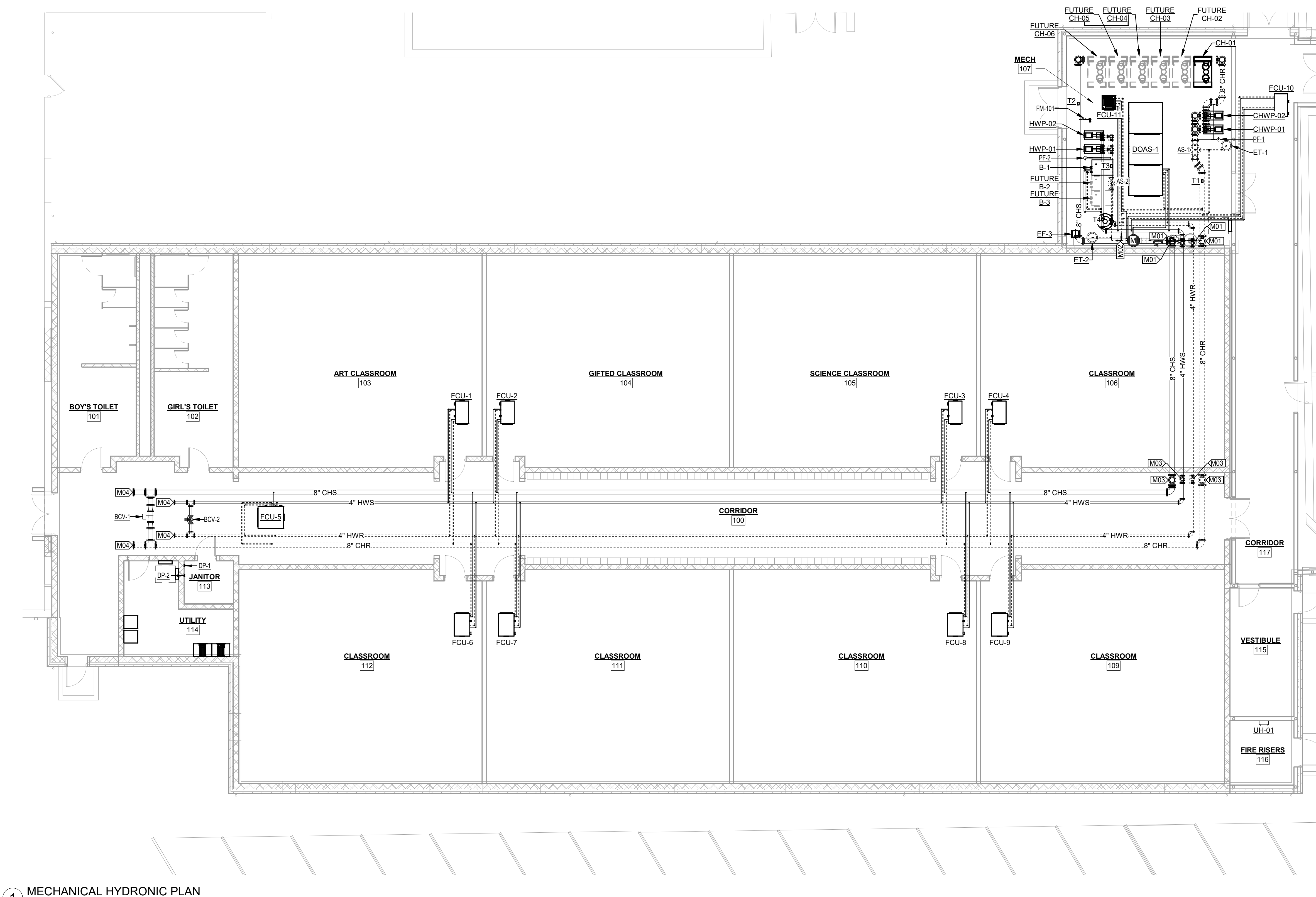
PLUMBING FIXTURE SCHEDULE															
TAG	ADA	TYPE	DESCRIPTION	ROUGH-IN PIPE SIZE					MAKE	MODEL	ACCESSORIES				
				CW	HW	SS	V	SD			TYPE	DESCRIPTION	MAKE	MODEL	
ECO	No	FLOOR CLEANOUT	CAST IRON WITH BRONZE PLUG & RUBBER GASKET CONNECTION TO PIPE			4"			ZURN JAY R. SMITH MIFAB	1400 4020 C1220					
EW-1	Yes	ELECTRIC WATER COOLER	BOTTLE FILLING STATION & BI-LEVEL ADA COLLER	1/2"		1-1/2"	1-1/4"		ELKAY HALSEY TAYLOR OASIS	L25TLBWSLK HTHB-HAC8BLSS-WF PG8EBFSL					
FCO	Yes	FLOOR CLEANOUT	ADJUSTABLE, CAST IRON BODY W/ POLISHED NICKEL BROZE TOP & BRONZE PLUG			4"			ZURN JAY R. SMITH MIFAB	ZN-1400 4021S C1220					
FD-1	Yes	FLOOR DRAIN	CAST IRON BODY, POLISHED NICKEL-BRONZE HEEL PROOF STRAINER, HEAVY DUTY			2"	2"		ZURN JAY R. SMITH SIOUX CHIEF	Z415B 2005 832					
FS-1	No	FLOOR SINK	12 x 12 A.R.E. SANI-FLOOR RECEPTOR, 6 INCH SUMP DEPTH			3"	2"		ZURN JAY R. SMITH WATTS	Z1900 SERIES 320 FS-730					
HB	No	HOSEBIB	EXTERIOR FROSTPROOF, BACKFLOW PREVENTER, ANTI-SIPHON, AUTOMATIC DRAINING, W/ LOOSE KEY	3/4"					WOODFORD WATTS ZURN	67					
LAV-1	Yes	LAVATORY	19x17 VITREOUS CHINA, WALL MOUNT, CONCEALED ARM SUPPORT	1/2"	1/2"	1-1/2"	1-1/4"		AMERICAN STANDARD GERBER KOHLER	0321.026 12-314 K-1728	FAUCET CARRIER	COMMERCIAL, CHROME FINISH, SENSOR OPERATED, BATTERY POWERED, CERAMIC DISC, 0.5 GPM, VANDAL RESISTANT AERATOR, WITH THERMOSTATIC POINT-OF-USE MIXING VALVE	DELTA CHICAGO KOHLER ZURN JAY R. SMITH WADE		
LT-1	No	LAMBS TONGUE	DOWNSPOUT NOZZLE, ALL NICKEL BRONZE BODY					6"	ZURN WATTS JAY R. SMITH	Z199 RD-940 1770		LAVATORY SUPPORT SYSTEM WITH CONCEALED ARMS			
MS-1	No	MOP RECEPTOR	3" DRAIN, MOLDED ONE-PIECE CONSTRUCTION			3"	2"		SWAN FIAT ACORN	MS-2424 MSBID2424 TRH-242410	HOSE CORNER GUARD RIM GUARD MOP HOLDER FAUCET	5/8" DIA. REINFORCED RUBBER HOSE, SPRING LOADED RUBBER HOLDER 20 GA. TYPE 304 STAINLESS STEEL STAINLESS STEEL SPRING LOADED RUBBER ON STAINLESS STEEL WALL PLATE 8" ADJUSTABLE CENTERS, LEVER ACTUATED TYPE W/ SEPARATE HOT & COLD WATER CONTROL, VACUUM BREAKER NOZZLE, WALL BRACE, AND ROUGH CHROME PLATED FINISH			
RD-1	Yes	ROOF DRAIN	12"ø CAST IRON BODY AND DOME STRAINER, W/ FLASHING CLAMP, ROOF SUMP, & UNDER DECK CLAMP					6"	ZURN JAY R. SMITH WATTS	Z121					
RDO-1	Yes	ROOF DRAIN - OVERFLOW	12"ø CAST IRON BODY AND DOME STRAINER, W/ FLASHING CLAMP, ROOF SUMP, & UNDER DECK CLAMP					6"	ZURN JAY R. SMITH WATTS	Z121	WATER DAM	EXTERNAL 2" HIGH			
S-1	Yes	SINK	INTEGRAL BOWL	1/2"	1/2"	2"	1-1/2"		REFER TO	ARCHITECTURAL	FAUCET EYE WASH	8" CENTERS, LEVER ACTUATED TYPE W/ SEPARATE HOT & COLD WATER CONTROL, 4" BLADE HANDLES, AND 8" GOOSENECK SWING SPOUT DECK MOUNTED, SWING DOWN, WITH THERMOSTATIC MIXING VALVE	ELKAY CHICAGO FAUCETS AMERICAN STANDARD HAWES BRADLEY GUARDIAN	LKAV3032 434-ABCP 4931,360 7610-AXION GBF1849 S19274HDS	
UR-1	Yes	URINAL	WALL MOUNTED, WASHOUT FLUSHING ACTION, VITREOUS CHINA URINAL WITH TOP SPUD	1"		4"	2"		AMERICAN STANDARD GERBER KOHLER	WASHBROOK FLOWWISE 6590.001 27-780 K-4904-ET	FLUSH VALVE CARRIER	MANUAL LEVER OPERATED W/ FLUSH VALVE SUPPORT AND LOWER BEARING PLATE	SLOAN AMERICAN STANDARD ZURN WADE JAY R SMITH ZURN	ROYAL 196-1 6045, 101,002 28003AV 400-AM1-AM11 0617 Z1222-58	
WC-1	No	WATER CLOSET	WALL MOUNTED VITREOUS CHINA, ELONGATED BOWL, SIPHON JET, WATER SAVING, TOP SPUD	1"		4"	2"		AMERICAN STANDARD ZURN KOHLER	2257.101 Z5615-BWL K-4325	FLUSH VALVE CARRIER SEAT	MANUAL PISTON TYPE, ANGLE STOP, NON-HOLD OPEN, 1.6 GPF ADJUSTABLE, RATED FOR 750 LB. LOAD ELONGATED BOWL, OPEN FRONT, ANTI-MICROBIAL	AMERICAN STANDARD ZURN SLOAN JAY R. SMITH ZURN WADE AMERICAN STANDARD BEMIS KOHLER	6047,161 ROYAL 115 Z6200-WS1-YB-YC 5901,110T Z155CTJ K-4666-CA	
WC-2	Yes	WATER CLOSET	ADA HEIGHT, WALL MOUNTED VITREOUS CHINA, ELONGATED BOWL, SIPHON JET, WATER SAVING, TOP SPUD	1"		4"	2"		AMERICAN STANDARD ZURN KOHLER	2257.101 Z5615-BWL K-4325	FLUSH VALVE CARRIER SEAT	MANUAL PISTON TYPE, ANGLE STOP, NON-HOLD OPEN, 1.6 GPF ADJUSTABLE, RATED FOR 750 LB LOAD ELONGATED BOWL, OPEN FRONT, ANTI-MICROBIAL	AMERICAN STANDARD ZURN SLOAN JAY R. SMITH ZURN WADE AMERICAN STANDARD BEMIS KOHLER	6047,161 ROYAL 115 Z6200-WS1-YB-YC 5901,110T Z155CTJ K-4666-CA	
WCO	No	WALL CLEANOUT	CLEANOUT WITH ROUND, POLISHED STAINLESS STEEL ACCESS COVER			4"			ZURN JAY R SMITH SIOUX CHIEF	Z1468 4450 837					

GAS WATER HEATER SCHEDULE															
DESCRIPTION	WATER VOLUME	FUEL TYPE	INPUT CAP.	MIN. UEF	HEAT RECOVERY	RATINGS		ELECTRICAL			MAKE	MODEL	WEIGHT	REMARKS	
						MAX. PRES.	MAX. TEMP.	VOLT	POLES	FLA					MOP
COMMERCIAL, CONDENSING, MODULATING BURNER GAS WATER HEATER	60.0 gal	NAT. GAS	120000 Btu/h	95%	138 GPH @ 100°F	370.0 RH2O	180 °F	120 V	1	5 A	15 A	A. O. SMITH	6TH-120 MXI	460 lb	1, 2, 3
1. PROVIDE CONCENTRIC VENT TERMINATION KIT. 2. PROVIDE CONDENSATE NEUTRALIZATION KIT. 3. SET STORAGE TEMPERATURE AT 140°F.															

DOMESTIC EXPANSION TANK SCHEDULE									
TAG	DESCRIPTION	MAX. PRES.	MAX. TEMP.	PRE-CHARGE	TANK VOLUME	ACCEPTANCE VOLUME	BASIS OF DESIGN		
							MAKE	MODEL	WEIGHT
ET-3	POTABLE WATER, DIAPHRAGM EXPANSION TANK 1. PROVIDE MOUNTING HARDWARE.	150 psi	200 °F	38 psi	4.4 gal	3.2 gal	BELL AND GOSSETT	PT-12	45 lb

DOMESTIC CIRCULATING PUMP SCHEDULE									
TAG	TYPE	FLOW	HEAD	VOLT	ELECTRICAL		BASIS OF DESIGN		
					POLES	MOP	MAKE	MODEL	WEIGHT
DCP-1	ECM HIGH-EFFICIENCY, VARIABLE SPEED, ADJUSTABLE SETTINGS CIRCULATOR PUMP	3 GPM	18.0 ftH2O	120 V	1	15 A	TACO GRUNDFOS BELL & GOSSETT	0034e	25 lb
1. PROVIDE AQUASTAT.									

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1 MECHANICAL HYDRONIC PLAN
1/8" = 1'-0"

KEYNOTE LEGEND	
VALUE	DESCRIPTION
M01	PROVIDE FLEXIBLE PIPE CONNECTION AT VERTICAL PIPE DROP.
M02	MAKE FINAL CONNECTION TO 1" SOFTENED WATER METER IN THIS LOCATION. REFER TO P102 FOR CONTINUATION.
M03	INSTALL HYDRONIC TEE AND CAP FOR FUTURE CONNECTION TO SECOND FLOOR.
M04	CAP FOR FUTURE CONNECTION.

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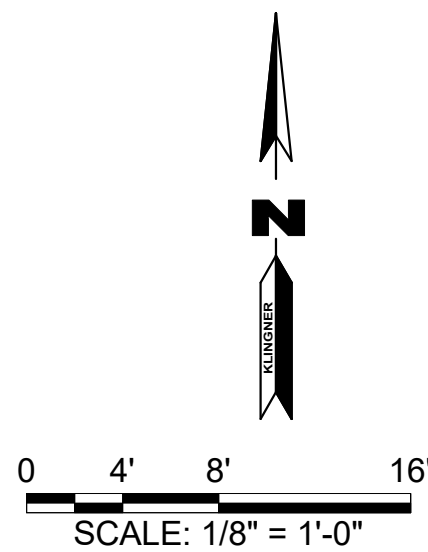
HALLSVILLE MIDDLE SCHOOL ADDITION
HALLSVILLE SCHOOL DISTRICT
421 MO-124 E
HALLSVILLE, MO 65255

Non-Reduced Sheet Size 30" x 42"
Full sized plans have been prepared using standard scales.
Reduced sized plans may not conform to standard scales.

DESIGNED	MHB	DRAWN	MHB
FIELD	MHB	FIELD BOOK	
CHECKED	JUN	CHECK DATE	

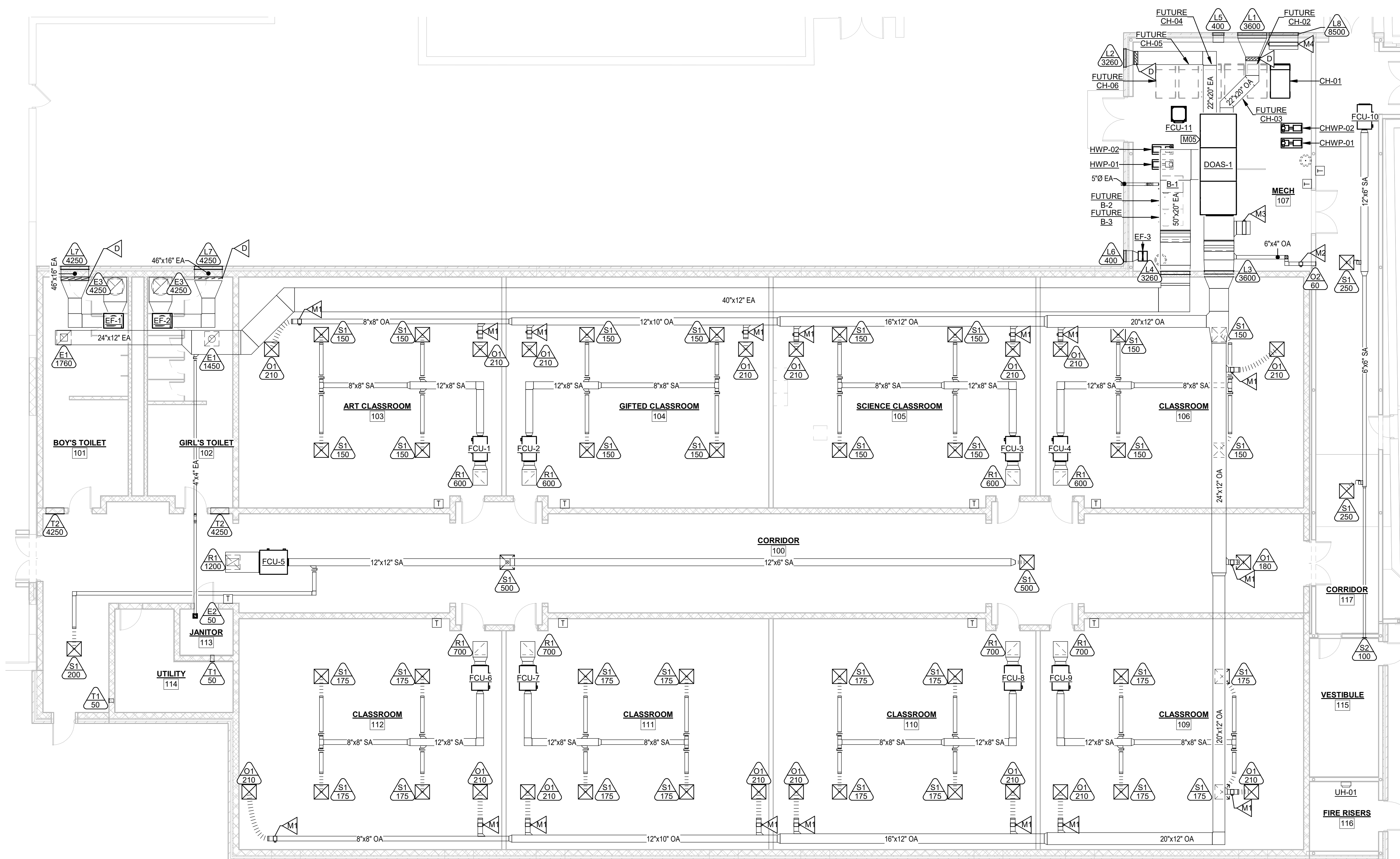
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MECHANICAL HYDRONIC PLAN

PROJECT NO.
21-0002
DRAWING ISSUED DATE:
01/16/2023
SHEET
M101

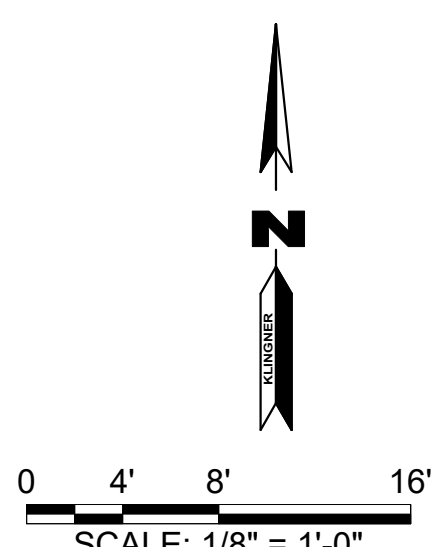


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1 MECHANICAL DUCTWORK PLAN
1/8" = 1'-0"



KEYNOTE LEGEND	
VALUE	DESCRIPTION
M05	SUSPEND DOAS-1 FROM MECHANICAL ROOM CEILING. MAINTAIN 8FT OF CLEARANCE FROM THE FINISHED FLOOR TO THE BOTTOM OF DOAS-1.



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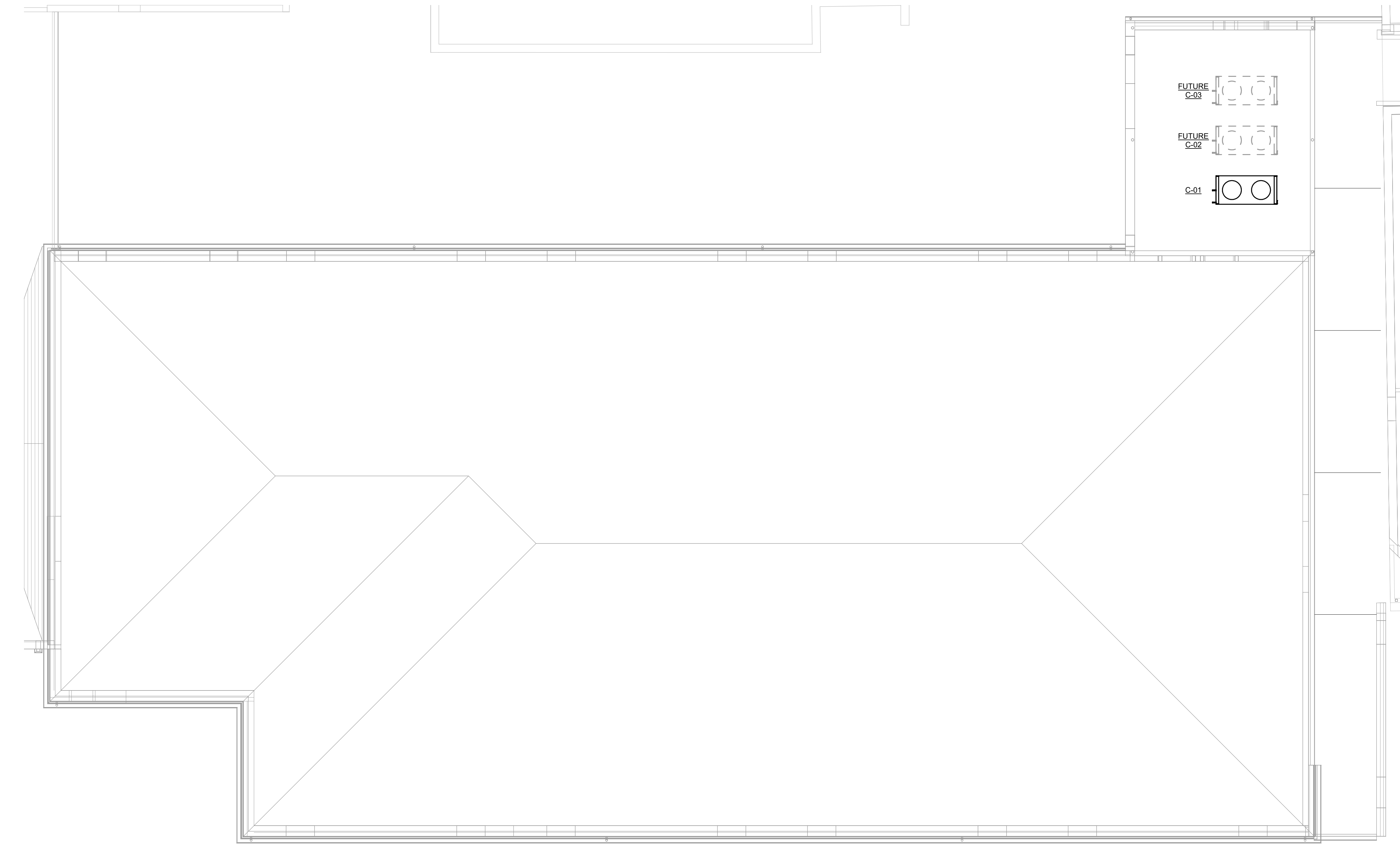
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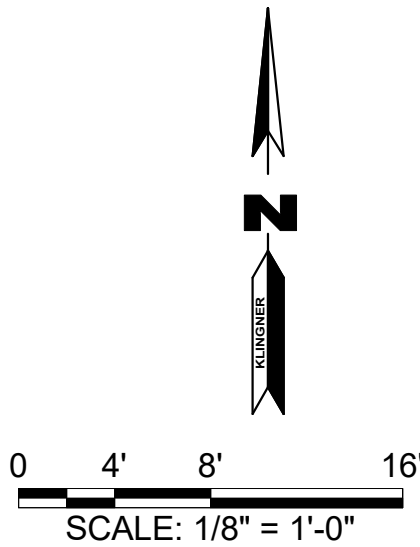
HALLSVILLE MIDDLE SCHOOL ADDITION
HALLSVILLE SCHOOL DISTRICT
421 MO-124 E
HALLSVILLE, MO 65255

Non-Reduced Sheet Size 30" x 42"	
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DESIGNED	MHB
FIELD	MHB
CHECKED	JUN
SHEET TITLE	
MECHANICAL DUCTWORK PLAN	
PROJECT NO. 21-0022	
DRAWING ISSUED DATE: 01/16/2023	
SHEET	
M102	

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



KEYNOTE LEGEND	
VALUE	DESCRIPTION

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HALLSVILLE MIDDLE SCHOOL ADDITION
HALLSVILLE SCHOOL DISTRICT
421 MO-124 E
HALLSVILLE, MO 65255

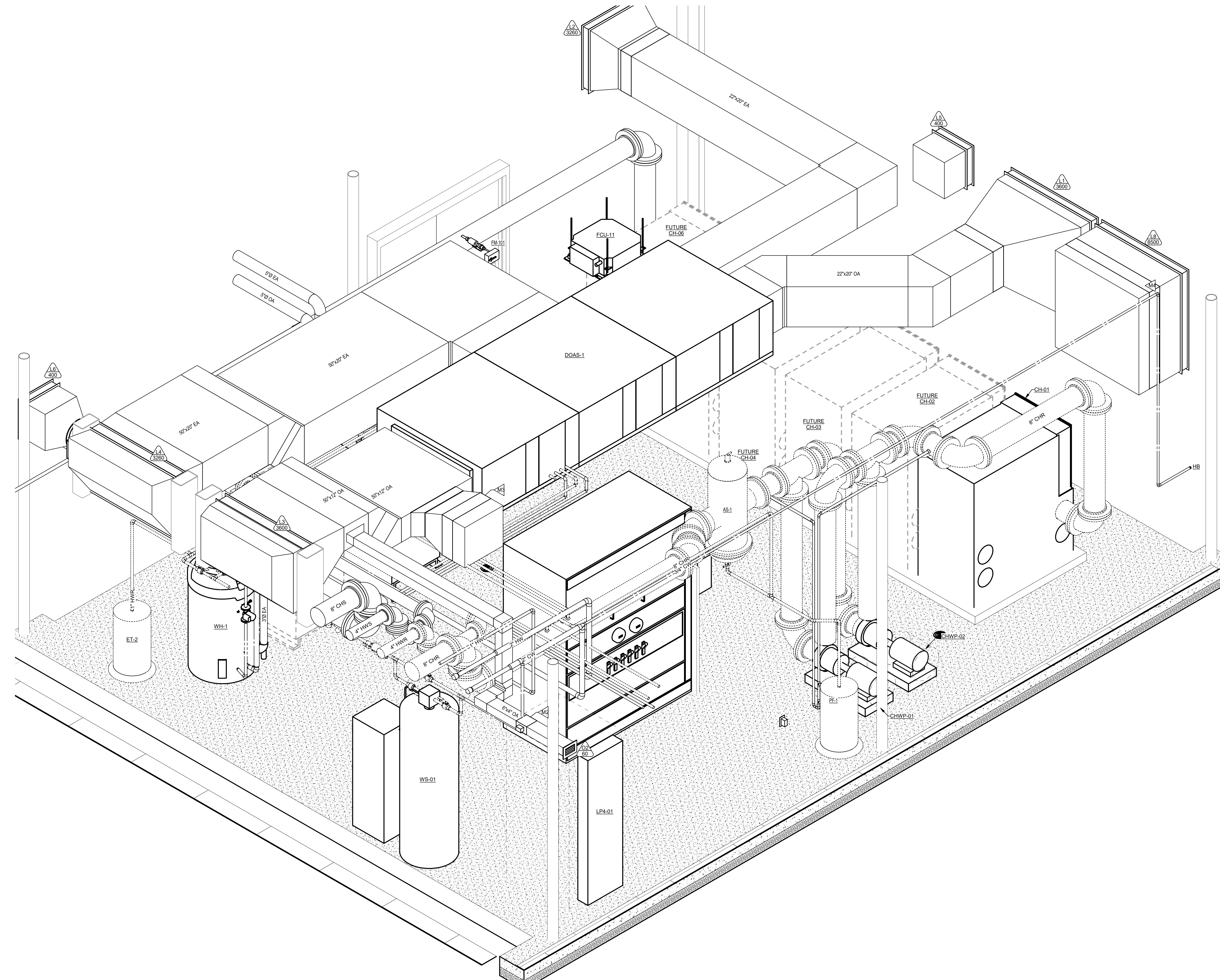
Non-Reduced Sheet Size 30" x 42"
Full sized plans have been prepared using standard scales.
Reduced sized plans may not conform to standard scales.

DESIGNED	MHB	DRAWN	MHB
FIELD	MHB	FIELD BOOK	
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SHEET TITLE
MECHANICAL ROOF PLAN

PROJECT NO.
21-0002
DRAWING ISSUED DATE:
01/16/2023
SHEET
M103

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1 MECHANICAL ROOM ISOMETRIC
NTS

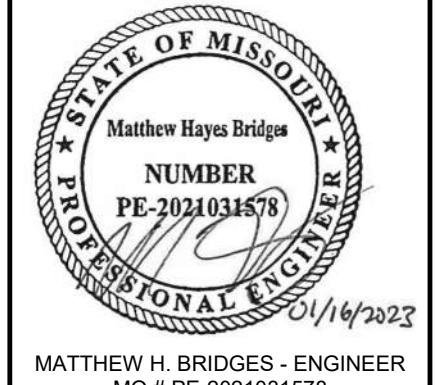
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HALLSVILLE MIDDLE SCHOOL ADDITION
HALLSVILLE SCHOOL DISTRICT
421 MO-124 E
HALLSVILLE, MO 65255

Non-Reduced Sheet Size 30" x 42"
Full sized plans have been prepared using standard scales.
Reduced sized plans may not conform to standard scales.

DESIGNED	MHB	DRAWN	MHB
FIELD	MHB	FIELD BOOK	MHB
CHECKED	JUN	CHECK DATE	

SHEET TITLE

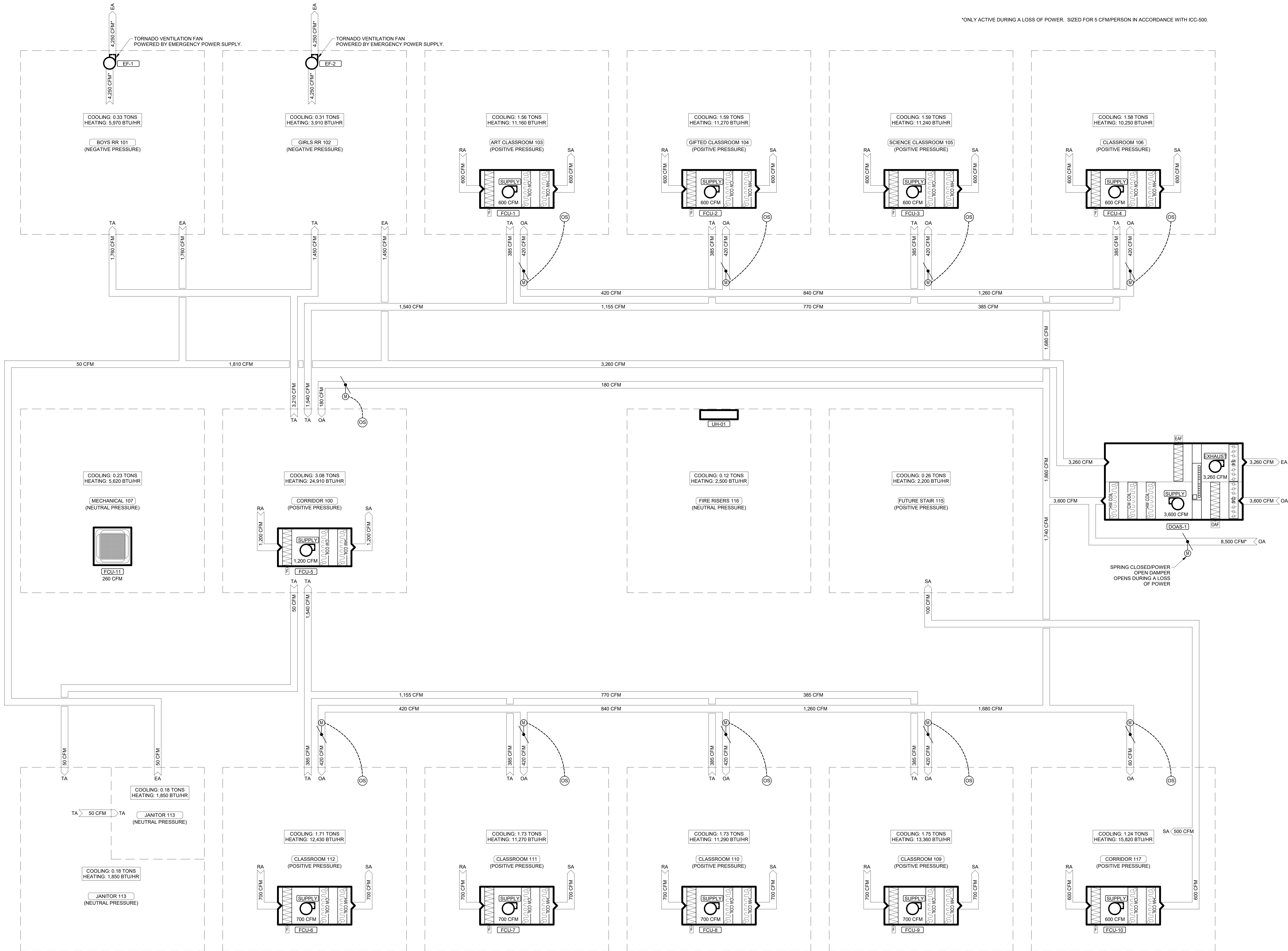
MECHANICAL
ROOM ISOMETRIC

PROJECT NO.
21-0002

DRAWING ISSUED DATE:
01/16/2023
SHEET

M201

1 AIR FLOW SCHEMATIC - BOILER/CHILLER NTS



*ONLY ACTIVE DURING A LOSS OF POWER. SIZED FOR 5 CFM/PERSON IN ACCORDANCE WITH ICC-500.

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Matthew Hays Bridge
NUMBER
PE-2021031575
01/14/2023
MATTHEW H. BRIDGES, ENGINEER
MO # PE-2021031575

HALLSVILLE MIDDLE SCHOOL ADDITION
HALLSVILLE SCHOOL DISTRICT
421 MO-124 E
HALLSVILLE, MO 65255

Non-Reduced Sheet Size 30" x 42"
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Reduced sized plans may not conform to standard scales.

DESIGNED	MHB	DRAWN	MHB
FIELD	JUN	FIELD BOOK	
CHECKED	JUN	CHECK DATE	
SHEET TITLE			
AIR FLOW DIAGRAM			
PROJECT NO. 21-0022			
DRAWING ISSUED DATE: 01/16/2023			
SHEET			
M401			

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CHILLER SCHEDULE																	
BASIS OF DESIGN				NOMINAL CAPACITY (TONS)	MINIMUM CAPACITY (%)	REFRIGERANT	MAXIMUM FULL LOAD ENERGY USAGE (KW/TON)	EVAPORATOR				ELECTRICAL					
MARK	MANUFACTURER	MODEL	DESCRIPTION					DESIGN FLOW (GPM)	MINIMUM FLOW (GPM)	DESIGN EWT (DEG. F)	DESIGN LWT (DEG. F)	DESIGN PD (FT)	VOLTAGE	PHASE	HZ	MCA	MOCP
CH-01	CARRIER	30MPA	MODULAR, REMOTE-CONDENSER TYPE CHILLER	45	10	R-410A	1.100	80	64	56	44	5.07	208	3	60	181.35	225

NOTES:
1. PROVIDE WITH FACTORY INSTALLED BACNET CARD AND GRAPHICAL USER INTERFACE.
2. PROVIDE WITH DIGITAL COMPRESSOR ON LEAD CIRCUIT.

CONDENSER SCHEDULE														
MARK	BASIS OF DESIGN			DESIGN CAPACITY (TONS)	REFRIGERANT	DESIGN AMBIENT AIR TEMPERATURE (DEG. F)	MAXIMUM WIDTH (IN.)	MAXIMUM LENGTH (IN.)	ELECTRICAL					NOTES
	MANUFACTURER	MODEL	DESCRIPTION						VOLTAGE	PHASE	HZ	MCA	MOCP	
C-01	CARRIER	09DP	DUAL CIRCUIT, AIR-COOLED CONDENSER	80	R-410A	95	90	160	208	3	60	37.5	40	1.2

NOTES:
1. SECURE CONDENSER TO ROOF. REFER TO STRUCTURAL PLANS.
2. PROVIDE WITH SECURITY GRILLES/SHAIL GUARDS AND NON-FUSED DISCONNECT.

HYDRONIC PUMP SCHEDULE																
MARK	APPLICATION	BASIS OF DESIGN				FUTURE DESIGN FLOW RATE (GPM)	FUTURE DESIGN HEAD (FT)	PHASE 1 DESIGN FLOW RATE (GPM)	PHASE 1 DESIGN HEAD (FT)	MINIMUM FLOW RATE (GPM)	MOTOR HP	MAXIMUM MOTOR RPM	ELECTRICAL			NOTES
		MANUFACTURER	MODEL	DESCRIPTION	VOLTAGE								PHASE	HZ		
CHWP-01	MECHANICAL ROOM	BELL & GOSSETT	e1510	CLOSED-COUPLED, END SUCTION CENTRIFUGAL	160	30	80	20	64	2	1800	208	3	60	1,2,3	
CHWP-02	MECHANICAL ROOM	BELL & GOSSETT	e1510	CLOSED-COUPLED, END SUCTION CENTRIFUGAL	160	30	80	20	64	2	1800	208	3	60	1,2,3	
HWP-01	MECHANICAL ROOM	BELL & GOSSETT	e1510	CLOSED-COUPLED, END SUCTION CENTRIFUGAL	60	20	30	2	18	2	1800	208	3	60	1,2,3	
HWP-02	MECHANICAL ROOM	BELL & GOSSETT	e1510	CLOSED-COUPLED, END SUCTION CENTRIFUGAL	60	20	30	2	18	2	1800	208	3	60	1,2,3	

NOTES:
1. PROVIDE WITH SUCTION DIFFUSER AND TRIPLE DUTY VALVE FROM PUMP MANUFACTURER.
2. PROVIDE WITH INVERTER DUTY MOTOR.
3. PROVIDE WITH CIRCUIT SETTER.

FAN COIL UNIT SCHEDULE																			
BASIS OF DESIGN				COOLING				HEATING				ELECTRICAL							
MARK	MANUFACTURER	MODEL	CAPACITY (BTU/HR)	ENTERING WATER TEMPERATURE (DEG. F)	LEAVING WATER TEMPERATURE (DEG. F)	FLOW RATE (GPM)	PRESSURE DROP (FT)	CAPACITY (BTU/HR)	ENTERING WATER TEMPERATURE (DEG. F)	LEAVING WATER TEMPERATURE (DEG. F)	FLOW RATE (GPM)	PRESSURE DROP (FT)	AIRFLOW (CFM)	EXTERNAL STATIC (IN. WG)	VOLTAGE	PHASE	HZ	MCA	NOTES
FCU-1	CARRIER	42DC10	25,422	44	56	4.0	3.7	26,199	140	110	0.8	1.5	600	0.63	120	1	60	5.13	1,2,3
FCU-2	CARRIER	42DC10	25,422	44	56	4.0	3.7	26,199	140	110	0.8	1.5	600	0.63	120	1	60	5.13	1,2,3
FCU-3	CARRIER	42DC10	25,422	44	56	4.0	3.7	26,199	140	110	0.8	1.5	600	0.63	120	1	60	5.13	1,2,3
FCU-4	CARRIER	42DC10	25,422	44	56	4.0	3.7	26,199	140	110	0.8	1.5	600	0.63	120	1	60	5.13	1,2,3
FCU-5	CARRIER	42DC14	33,363	44	56	6.0	4.8	25,772	140	110	1.6	5.4	1,200	0.64	120	1	60	9.00	1,2,3
FCU-6	CARRIER	42DC10	25,422	44	56	4.3	4.3	26,199	140	110	0.9	1.5	700	0.63	120	1	60	5.13	1,2,3
FCU-7	CARRIER	42DC10	25,422	44	56	4.3	4.3	26,199	140	110	0.9	1.5	700	0.63	120	1	60	5.13	1,2,3
FCU-8	CARRIER	42DC10	25,422	44	56	4.3	4.3	26,199	140	110	0.9	1.5	700	0.63	120	1	60	5.13	1,2,3
FCU-9	CARRIER	42DC10	25,422	44	56	4.3	4.3	26,199	140	110	0.9	1.5	700	0.63	120	1	60	5.13	1,2,3
FCU-10	CARRIER	42DC10	25,422	44	56	3.0	3.7	26,199	140	110	1.0	1.5	600	0.63	120	1	60	5.13	1,2,3
FCU-11	CARRIER	42WKN08	2,800	44	56	0.5	2.0	5,600	140	110	0.4	1.0	260	--	120	1	60	0.88	1,2,3

NOTES:
1. PROVIDE WITH CONDENSATE PUMP. CONDENSATE PUMPS MAY BE INTEGRAL OR FIELD PROVIDED AND EXTERNALLY MOUNTED.
2. PROVIDE WITH HOT WATER AND CHILLED WATER HYDRONIC CONTROL VALVES.
3. PROVIDE WITH ECM FAN.

DEDICATED OUTDOOR AIR UNIT SCHEDULE																																			
MARK	MANUFACTURER	MODEL	DESCRIPTION	OCCUPANCY	SUPPLY FAN			EXHAUST FAN			CAPACITY (BTU/HR)	COOLING COIL				CAPACITY (BTU/HR)	PRE-HEATING COIL				CAPACITY (BTU/HR)	POST-HEATING COIL													
					AIR FLOW (CFM)	ESP (IN. WG)	BHP	AIR FLOW (CFM)	ESP (IN. WG)	BHP		ENTERING WATER TEMPERATURE (DEG. F)	LEAVING WATER TEMPERATURE (DEG. F)	FLOW RATE (GPM)	PRESSURE DROP (FT)		ENTERING AIR TEMPERATURE (DEG. F)	LEAVING AIR TEMPERATURE (DEG. F)	ENTERING WATER TEMPERATURE (DEG. F)	LEAVING WATER TEMPERATURE (DEG. F)		FLOW RATE (GPM)	PRESSURE DROP (FT)	ENTERING AIR TEMPERATURE (DEG. F)	LEAVING AIR TEMPERATURE (DEG. F)	FLOW RATE (GPM)	PRESSURE DROP (FT)	ENTERING AIR TEMPERATURE (DEG. F)	LEAVING AIR TEMPERATURE (DEG. F)						
DOAS-1	AAON	H3	AIR HANDLING UNIT WITH ENERGY RECOVERY WHEEL	OCCUPIED	3,600	1.00	5	3,260	1.00	4	209,480	44	56	37.3	12.0	79.3/70.5	50/50						140	110	7.2		0		194,700	140	110	13	4.0	41.7	89.1
				UNOCCUPIED	1,680	0.75		1,500	0.75																										

DEDICATED OUTDOOR AIR UNIT SCHEDULE-CONT.																	
BASIS OF DESIGN				ENERGY RECOVERY WHEEL													
				SUMMER							WINTER						
MARK	OCCUPANCY	OUTDOOR AIR ENTERING (DEG. F)	OUTDOOR AIR LEAVING (DEG. F)	EXHAUST AIR ENTERING (DEG. F)	EXHAUST AIR LEAVING (DEG. F)	OUTDOOR AIR ENTERING (DEG. F)	OUTDOOR AIR LEAVING (DEG. F)	EXHAUST AIR ENTERING (DEG. F)	EXHAUST AIR LEAVING (DEG. F)	SUPPLY SIDE PRESSURE DROP (IN. WC)	EXHAUST SIDE PRESSURE DROP (IN. WC)	VOLTAGE	PHASE	HZ	MCA	MOCP	NOTES
DOAS-1	OCCUPIED	85.3/79.2	79.3/70.5	75.0/62.0	81.5/73.1	0/-1	41.7/39.6	75.0/62.0	28.9/28.8	1.08	0.98	208	3	60	12	15	
	UNOCCUPIED	85.3/79.2		75.0/62.0		0/-1		76.0/62.0									

BOILER SCHEDULE																					
MARK	BASIS OF DESIGN		HEATING TYPE	HEATING INPUT	HEATING OUTPUT	MINIMUM EFFICIENCY (%)	MINIMUM TURNDOWN	WATER FLOW RATE (GPM)	ENTERING WATER	LEAVING WATER	WATER CONNECTION SIZE (IN.)	VENT CONNECTION SIZE (IN.)	AIR INTAKE CONNECTION SIZE (IN.)	GAS CONNECTION SIZE (IN.)	MAXIMUM DIMENSIONS		ELECTRICAL				NOTES
	MANUFACTURER	MODEL		CAPACITY (BTU/HR)	CAPACITY (BTU/HR)				TEMPERATURE (DEG. F)	TEMPERATURE (DEG. F)					WIDTH (IN.)	DEPTH (IN.)	VOLTAGE	PHASE	HZ	FLA	
B-1	LOCHINVAR	KBX0650	NAT. GAS	650,000	630,500	97	63,050	30	110	140	2	4	4	1-1/4	30	45	120	1	60	3.3	1,2,3

NOTES:
1. PROVIDE WITH FACTORY INSTALLED BACNET CARD.
2. PROVIDE WITH A DEDICATED **XX** HP CIRCULATOR PUMP RATED FOR **XX** GPM AND **XX** FT HEAD.
3. PROVIDE ALL REQUIRED AIR SIDE, WATER SIDE, AND NATURAL GAS ACCESSORIES PER LOCAL CODE AND MANUFACTURER'S WRITTEN INSTRUCTIONS.

EXHAUST FAN SCHEDULE											
BASIS OF DESIGN				AIRFLOW (CFM)	ESP (IN. WG)	MOTOR HP	ELECTRICAL				NOTES
MARK	DESCRIPTION	MANUFACTURER	MODEL				VOLTAGE	PHASE	HZ	FLA	
EF-1	EMERGENCY EXHAUST FAN	GREENHECK	SG16	4,250	1.5	2	208	3	60	7.5	1
EF-2	EMERGENCY EXHAUST FAN	GREENHECK	SG16	4,250	1.5	2	208	3	60	7.5	1
EF-3	IN-LINE DUCT FAN	CAPTIVEAIRE	DFA-200-CA	400	0.10	0.25	120	1	60	4.8	1

NOTES:
1. PROVIDE WITH A SEPARATE MOTOR STARTER.

WALL HEATER SCHEDULE							
MARK	MANUFACTURER	MODEL	CAPACITY (KW)	VOLTAGE	PHASE	HZ	FLA
UH-01	QMARK	CWH	1.5	120	1	60	12.5

NOTES:
1. PROVIDE INTEGRAL THERMOSTAT.
2. PROVIDE WITH SURFACE MOUNTING FRAME.

GRILLES, REGISTERS, AND DIFFUSERS SCHEDULE																	
BASIS OF DESIGN				FACE SIZE			CONNECTION SIZE			TOTAL P.D.	THROW				DAMPER	MATERIAL	FINISH
TAG	TYPE	DISCRPTION		LENGTH	WIDTH	ROUND	RECTANGULAR LENGTH	RECTANGULAR WIDTH	ROUND		150 FPM	100 FPM	50 FPM	MAX. NC			
E1	CEILING EXHAUST	1/2" x 1/2" x 1" EGGRATE GRID		12"	12"										---	ALUMINUM	WHITE ENAMEL
E2	EXHAUST GRILLE	35 DEG. FIXED DEFLECTION REGISTER WITH BLADES PARALLEL TO LONG DIMENSION. 3/4" SPACING.		8"	8"	4"	6"							0	OPPOSED BLADE DAMPER	STEEL	WHITE ENAMEL
E3	CEILING EXHAUST	1/2" x 1/2" x 1" EGGRATE GRID.		30"	30"									0	---	ALUMINUM	WHITE ENAMEL
O1	CEILING DIFFUSER	24x24 MODULAR FULL-FACE DIFFUSER WITH ROUND NECK		24"	24"				8"	0.00 in-wg				0	OPPOSED BLADE DAMPER	STEEL	WHITE ENAMEL
O2	SUPPLY REGISTER	DOUBLE DEFLECTION REGISTER WITH FRONT BLADES PARALLEL TO LONG DIMENSION. 3/4" SPACING.		8"	6"	6"	4"			0.00 in-wg				0	---	STEEL	WHITE ENAMEL
R1	CEILING RETURN	1/2" x 1/2" x 1" EGGRATE GRID.		12"	20"										---	ALUMINUM	WHITE ENAMEL
S1	CEILING SUPPLY DIFFUSER	24x24 MODULAR FULL-FACE DIFFUSER WITH ROUND NECK		24"	24"				6"	0.00 in-wg				0	---	STEEL	WHITE ENAMEL
S2	SUPPLY REGISTER	DOUBLE DEFLECTION REGISTER WITH FRONT BLADES PARALLEL TO LONG DIMENSION. 3/4" SPACING.		8"	6"	4"	4"			0.00 in-wg				0	---	STEEL	WHITE ENAMEL
T1	TRANSFER GRILLE	SIGHT PROOF GRILLE WITH INVERTED-V BLADES IN HORIZONTAL POSITION.		8"	6"	6"	4"							0	---	ALUMINUM	WHITE ENAMEL
T2	TRANSFER GRILLE	SIGHT PROOF GRILLE WITH INVERTED-V BLADES IN HORIZONTAL POSITION.		32"	26"	30"	24"							0	---	ALUMINUM	WHITE ENAMEL

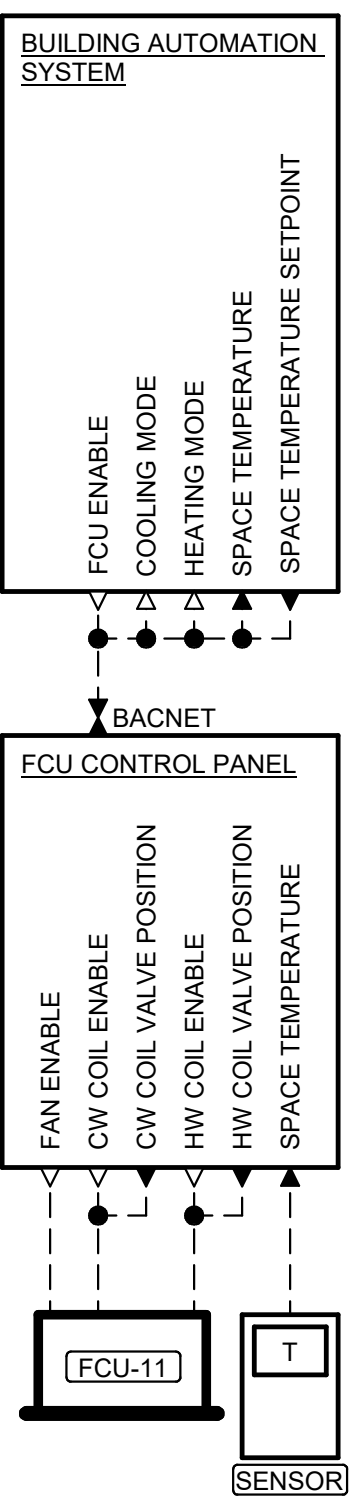
LOUVER SCHEDULE																	
TAG	DESCRIPTION	FUNCTION	AIRFLOW	WIDTH	HEIGHT	FRAME DEPTH	FREE AREA	MAX. P.D.	MAX. VELOCITY	MATERIAL	FINISH	DAMPER		BASIS OF DESIGN		REMARKS	
												TYPE	ACTUATOR	MAKE	MODEL		
L1	COMBINATION INTAKE LOUVER	OUTDOOR AIR	3,800 CFM	4" - 2"	0" - 4"	0" - 2"	8.0 SF	0.21 in-wg	500 FPM	ALUMINUM	BAKED ENAMEL	ACTUATED	N/A	RUSKIN	ELBD812	INCLUDED EXTENDED SILL AND END DAMS, INSECT SCREEN	
L2	COMBINATION EXHAUST LOUVER	EXHAUST AIR	3,260 CFM	2" - 8"	2" - 8"	0" - 4"	2.9 SF	0.27 in-wg	0 FPM	ALUMINUM	BAKED ENAMEL	BACKDRIFT	N/A	RUSKIN	ELBD813	INCLUDED EXTENDED SILL AND END DAMS, INSECT SCREEN	
L3	FEMA 361 TORNADO LOUVER	OUTDOOR AIR	3,600 CFM	4" - 2"	2" - 8"	0" - 5 1/2"	4.8 SF	0.18 in-wg	0 FPM	ALUMINUM	BAKED ENAMEL	N/A	N/A	RUSKIN	XP500		
L4	FEMA 361 TORNADO LOUVER	EXHAUST AIR	3,260 CFM	4" - 2"	2" - 8"	0" - 5 1/2"	4.8 SF	0.14 in-wg	0 FPM	ALUMINUM	BAKED ENAMEL	N/A	N/A	RUSKIN	XP500		
L5	COMBINATION INTAKE LOUVER	OUTDOOR AIR	400 CFM	1" - 8"	1" - 8"	0" - 4"	0.8 SF	0.21 in-wg	500 FPM	ALUMINUM	BAKED ENAMEL	ACTUATED	N/A	RUSKIN	ELBD812	INCLUDED EXTENDED SILL AND END DAMS, INSECT SCREEN	
L6	COMBINATION EXHAUST LOUVER	EXHAUST AIR	400 CFM	1" - 8"	1" - 8"	0" - 4"	0.8 SF	0.21 in-wg	0 FPM	ALUMINUM	BAKED ENAMEL	BACKDRIFT	N/A	RUSKIN	ELBD813	INCLUDED EXTENDED SILL AND END DAMS, INSECT SCREEN	
L7	FEMA 361 TORNADO LOUVER	EXHAUST AIR	4,250 CFM	4" - 0"	1" - 6"	0" - 5 1/2"	2.2 SF	1.10 in-wg	0 FPM	ALUMINUM	BAKED ENAMEL	N/A	N/A	RUSKIN	XP500	INCLUDED EXTENDED SILL AND END DAMS, INSECT SCREEN	
L8	COMBINATION INTAKE LOUVER	OUTDOOR AIR	8,500 CFM	4" - 2"	4" - 2"	0" - 4"	8.0 SF	0.21 in-wg	550 FPM	ALUMINUM	BAKED ENAMEL	ACTUATED	N/A	RUSKIN	ELBD812	INCLUDED EXTENDED SILL AND END DAMS, INSECT SCREEN	

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SEQUENCE OF OPERATION

GENERAL OPERATION

- A. OCCUPANCY MODE:
1. THE OCCUPANCY MODE (OCCUPIED OR UNOCCUPIED) SHALL BE DETERMINED THROUGH A USER-ADJUSTABLE, GRAPHICAL, SCHEDULING PROGRAM. SCHEDULING PROGRAM SHALL SUPPORT SEVEN-DAY SCHEDULING, CALENDAR SCHEDULING, AND HOLIDAY SCHEDULE OVERRIDE. THE BAS SHALL SUPPORT DIFFERENT OCCUPANCY SCHEDULES FOR EACH ROOM TEMPERATURE SETPOINT.
- B. ROOM TEMPERATURE SETPOINTS (FAN COIL UNITS ONLY)
1. INITIAL OCCUPIED PERIOD ROOM SETPOINTS (REGULARLY SCHEDULED WORK DAYS FROM 7:00 AM- 6:00 PM, MONDAY-FRIDAY)
 - a. COOLING
 1. 72°F (ADJUSTABLE BETWEEN 65°F AND 80°F)
 2. USERS SHALL BE ABLE TO OVERRIDE INDIVIDUAL ROOM SETPOINTS AT THE LOCAL THERMOSTATS. USER SELECTED RANGE SHALL BE LIMITED TO +/-5°F (ADJUSTABLE FROM 0° F-10°F) AND WITHIN THE COOLING SETPOINT RANGE DESCRIBED ABOVE. USER OVERRIDES SHALL RESET FOLLOWING SYSTEM SWITCHOVER TO UN-OCCUPIED CONDITION.
 - b. HEATING
 1. 68°F (ADJUSTABLE BETWEEN 60°F AND 75°F)
 2. USERS SHALL BE ABLE TO OVERRIDE INDIVIDUAL ROOM SETPOINTS AT THE LOCAL THERMOSTATS. USER SELECTED RANGE SHALL BE LIMITED TO +/-5°F (ADJUSTABLE FROM 0° F-10°F) AND WITHIN THE HEATING SETPOINT RANGE DESCRIBED ABOVE. USER OVERRIDES SHALL RESET FOLLOWING SYSTEM SWITCHOVER TO UN-OCCUPIED CONDITION.
 2. INITIAL UN-OCCUPIED PERIOD ZONE SETPOINTS (ALL REMAINING TIME THAT IS NOT DEFINED AS OCCUPIED)
 - a. COOLING
 1. 80°F (ADJUSTABLE BETWEEN 65°F AND 80°F)
 2. USERS SHALL BE ABLE TO OVERRIDE INDIVIDUAL ROOM SETPOINTS. USER SELECTED RANGE SHALL BE LIMITED TO +/-5°F (ADJUSTABLE FROM 0°F-10°F) AND WITHIN THE COOLING SETPOINT RANGE DESCRIBED ABOVE. USER OVERRIDES SHALL RESET FOLLOWING SYSTEM SWITCHOVER TO OCCUPIED CONDITION.
 - b. HEATING
 1. 60°F (ADJUSTABLE BETWEEN 60°F AND 75°F)
 2. USERS SHALL BE ABLE TO OVERRIDE INDIVIDUAL ROOM SETPOINTS. USER SELECTED RANGE SHALL BE LIMITED TO +/-5°F (ADJUSTABLE FROM 0°F-10°F) AND WITHIN THE HEATING SETPOINT RANGE DESCRIBED ABOVE. USER OVERRIDES SHALL RESET FOLLOWING SYSTEM SWITCHOVER TO OCCUPIED CONDITION.
- C. ALL SETPOINTS INDICATED SHALL BE ADJUSTABLE WITHIN THE BAS SYSTEM.

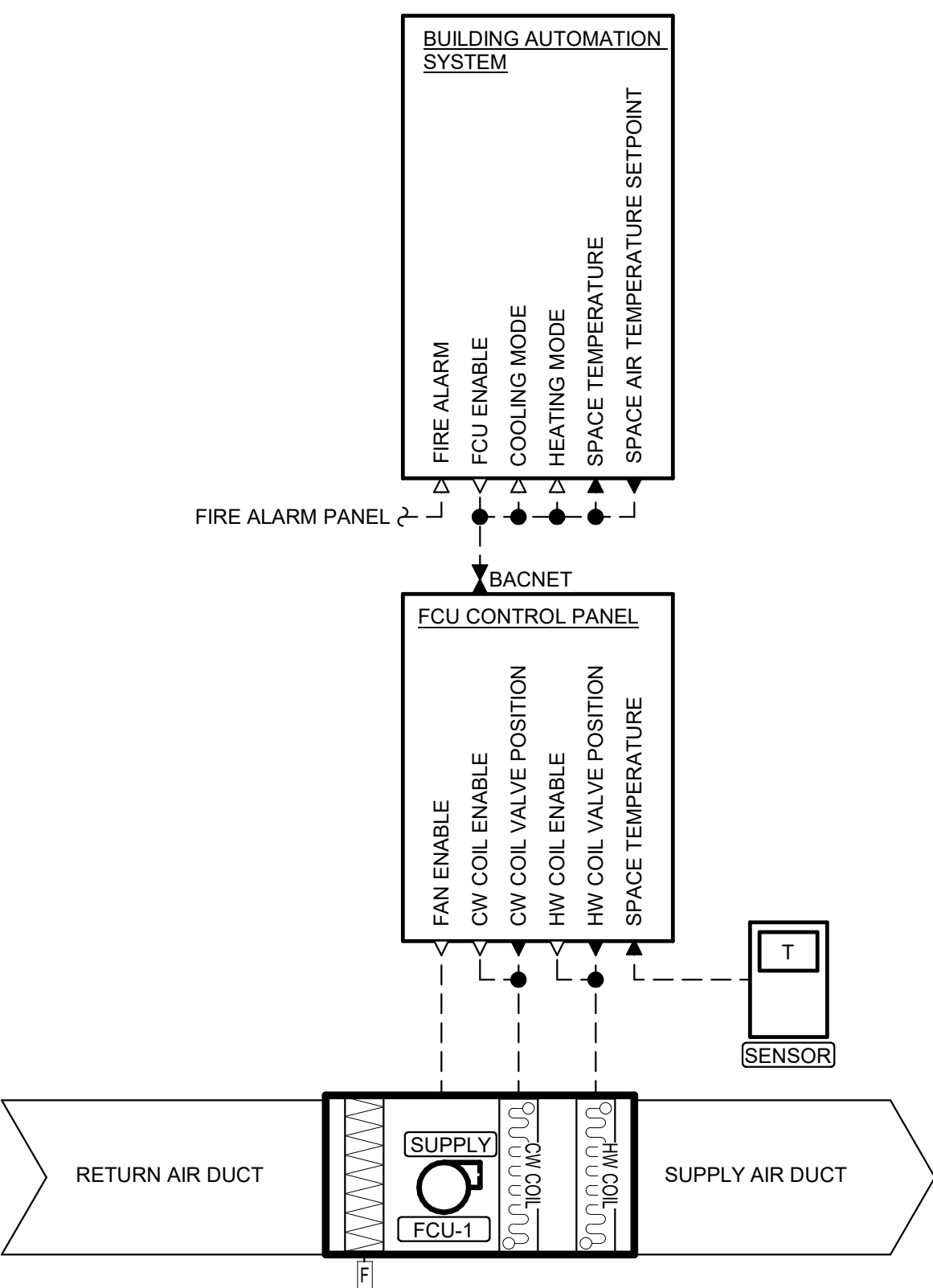


CASSETTE UNIT CONTROL SUMMARY					
CONTROL POINT	VRF SYSTEM CONTROL PANEL DISPLAY		BAS DISPLAY		COMMENTS
	BAS DISPLAY	BAS ADJUSTABLE	BAS TEND	BAS ALARM	
FCU ON/OFF	●	●			
SPACE TEMPERATURE	●	●		●	
SPACE TEMPERATURE SET POINT	●	●			
COOLING MODE	●				
HEATING MODE	●				

CASSETTE FAN COIL UNIT SEQUENCE OF OPERATION

- A. CENTRAL BAS SYSTEM CONTROL
1. SPACE TEMPERATURE SHALL ENABLE THE FCU AT ALL TIMES.
 2. SAFETY SHUTDOWNS/ALARM GENERATION:
 - a. AN FCU GENERAL ALARM SHALL BE GENERATED IF THE SPACE TEMPERATURE IS GREATER THAN +/-5°F (ADJUSTABLE BETWEEN 2°F AND 10°F) FROM SETPOINT FOR MORE THAN FIVE MINUTES (ADJUSTABLE BETWEEN 1 AND 30 MINUTES).
 3. FAN COIL UNIT SETPOINTS
 - a. SETPOINTS: AS PROVIDED WITHIN THE GENERAL BAS SYSTEM DESCRIPTION.
- B. FAN COIL UNIT CONTROLLER
1. FAN COIL UNIT SHALL OPERATE TO MAINTAIN SPACE TEMPERATURE SETPOINT.
 2. FAN COIL UNIT OPERATING MODE SHALL AUTOMATICALLY SWITCH BETWEEN HEATING AND COOLING BASED ON THE SPACE TEMPERATURE RELATIONSHIP TO SETPOINT.
 3. SPACE TEMPERATURE SETPOINTS SHALL BE CONTROLLED THROUGH THE BAS WITH TEMPORARY OCCUPANT OVERRIDE AT THE LOCAL TEMPERATURE SENSORS.

HYDRONIC CEILING CASSETTE CONTROLS DIAGRAM

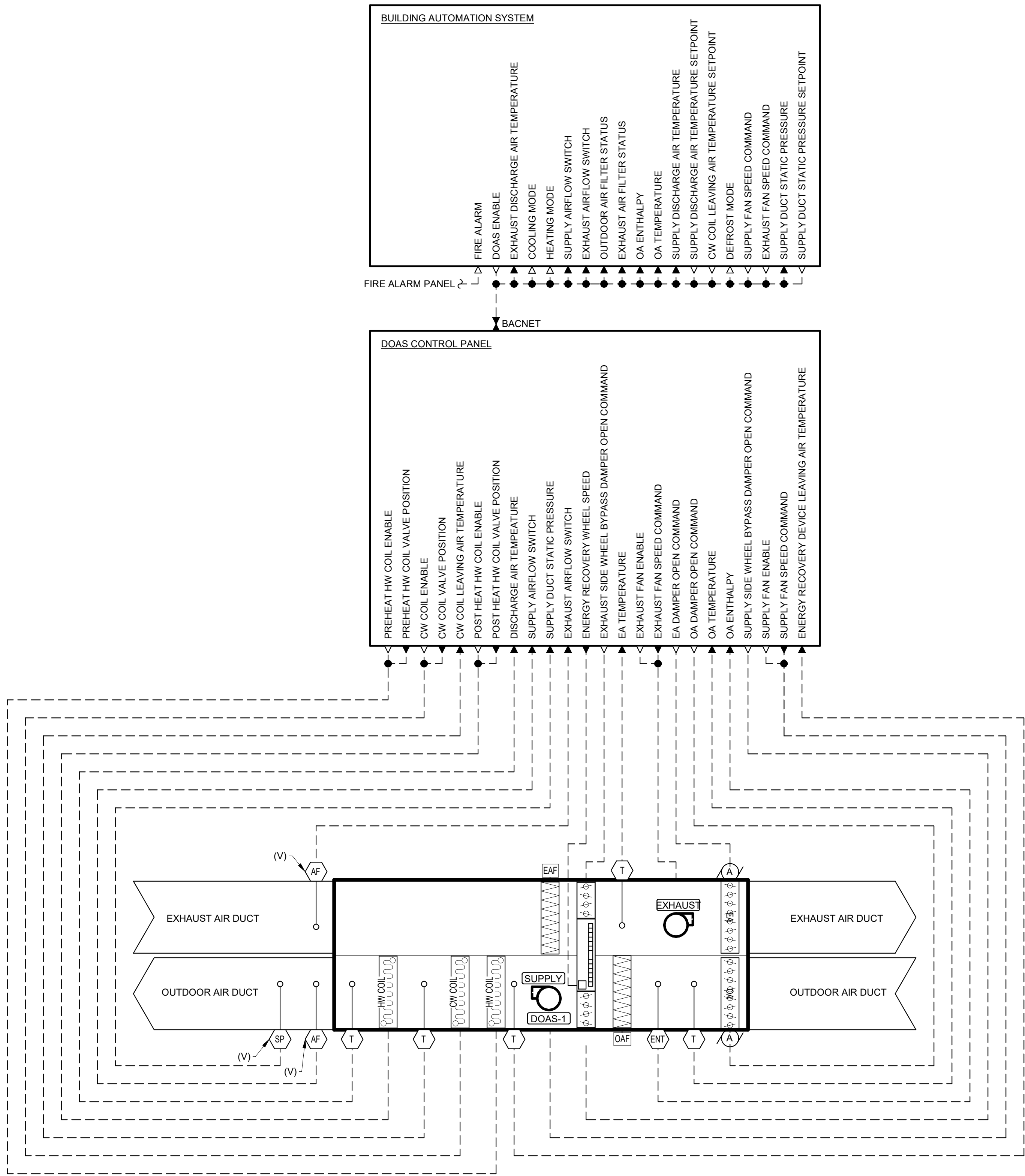


FAN COIL UNIT CONTROLS DIAGRAM

DUCTED FAN COIL UNIT CONTROL SUMMARY					
CONTROL POINT	LOCAL CONTROLLER DISPLAY		BAS DISPLAY		COMMENTS
	BAS DISPLAY	BAS ADJUSTABLE	BAS TEND	BAS ALARM	
FCU ENABLE	●	●			
SPACE TEMPERATURE	●	●		●	
SPACE TEMPERATURE SETPOINT	●	●			
COOLING MODE	●				
HEATING MODE	●				

DUCTED FAN COIL UNIT SEQUENCE OF OPERATION

- A. CENTRAL BAS SYSTEM CONTROL
1. SPACE TEMPERATURE SHALL ENABLE THE FCU AT ALL TIMES.
 2. SAFETY SHUTDOWNS/ALARM GENERATION:
 - a. BUILDING FIRE ALARM ACTIVATION SHALL DISABLE OPERATION OF THE FCU.
 - b. AN FCU GENERAL ALARM SHALL BE GENERATED IF THE SPACE TEMPERATURE IS GREATER THAN +/-5°F (ADJUSTABLE BETWEEN 2°F AND 10°F) FROM SETPOINT FOR MORE THAN FIVE MINUTES (ADJUSTABLE BETWEEN 1 AND 20 MINUTES).
 3. FAN COIL UNIT SETPOINTS
 - a. SETPOINTS: AS PROVIDED WITHIN THE GENERAL BAS SYSTEM DESCRIPTION.
- B. FAN COIL UNIT CONTROLLER
1. FAN COIL UNITS SHALL OPERATE TO MAINTAIN SPACE TEMPERATURE SETPOINT.
 2. FAN COIL UNITS OPERATING MODE SHALL AUTOMATICALLY SWITCH BETWEEN HEATING AND COOLING BASED ON THE SPACE TEMPERATURE RELATIONSHIP TO SETPOINT.
 3. SPACE TEMPERATURE SETPOINTS SHALL BE CONTROLLED THROUGH THE BAS WITH TEMPORARY OCCUPANT OVERRIDE AT THE LOCAL TEMPERATURE SENSORS (FOR CLASSROOM UNITS ONLY).



DEDICATED OUTDOOR AIR SYSTEM CONTROL SUMMARY					
CONTROL POINT	LOCAL CONTROLLER DISPLAY		BAS DISPLAY		COMMENTS
	BAS DISPLAY	BAS ADJUSTABLE	BAS TEND	BAS ALARM	
DOAS ENABLE	●	●			
COOLING MODE	●	●			
HEATING MODE	●	●			
SUPPLY FAN ON/OFF	●				
SUPPLY FAN SPEED COMMAND	●	●			
EXHAUST FAN ON/OFF	●				
EXHAUST FAN SPEED COMMAND	●	●			
SUPPLY DISCHARGE AIR TEMPERATURE	●	●			
SUPPLY DISCHARGE AIR TEMPERATURE SETPOINT	●	●			
EXHAUST AIR TEMPERATURE	●	●			
OA AIRFLOW SWITCH				●	ALARM IF ERV ON AND NO AIRFLOW AFTER 2 MINUTES
EA AIRFLOW SWITCH				●	ALARM IF ERV ON AND NO AIRFLOW AFTER 2 MINUTES
CW COIL LEAVING AIR TEMPERATURE	●	●			
CW COIL LEAVING AIR TEMPERATURE SETPOINT	●	●			
OUTDOOR AIR TEMPERATURE	●	●			
OUTDOOR AIR ENTHALPY	●	●			
DEFROST MODE	●	●			
SUPPLY DUCT STATIC PRESSURE	●	●			
SUPPLY DUCT STATIC PRESSURE SETPOINT	●	●			

DEDICATED OUTDOOR AIR UNIT CONTROLS DIAGRAM

DEDICATED OUTDOOR AIR SYSTEM SEQUENCE OF OPERATION

- A. CENTRAL BAS SYSTEM CONTROL
1. THE BAS SHALL ENABLE DOAS-1 FROM 6AM TO 5PM (FULLY ADJUSTABLE).
 2. SAFETY SHUTDOWNS/ALARM GENERATION:
 - a. BUILDING FIRE ALARM ACTIVATION SHALL DISABLE OPERATION OF THE DOAS.
 - b. A DOAS GENERAL ALARM SHALL BE GENERATED IF THE DOAS IS NOT PROVEN BY THE SUPPLY AIR FLOW SWITCH WITHIN FIVE MINUTES OF GENERATING A DOAS RUN SIGNAL.
 - c. A DOAS GENERAL ALARM SHALL BE GENERATED IF THE DOAS IS NOT PROVEN BY THE EXHAUST AIR FLOW SWITCH WITHIN FIVE MINUTES OF GENERATING A DOAS RUN SIGNAL.
 3. THE BAS SYSTEM SHALL DETERMINE SETPOINTS ACCORDING TO THE FOLLOWING:
 - a. IF THE ENTERING AIR TEMPERATURE TO THE CHILLED WATER COIL IS ABOVE 54°F (ADJUSTABLE BETWEEN 50°F AND 60°F):
 1. THE DOAS SHALL BE IN COOLING MODE.
 2. THE CHILLED WATER COIL CONTROL VALVE SHALL MODULATE TO MAINTAIN THE BAS PROVIDED LEAVING CHILLED WATER COIL AIR TEMPERATURE SETPOINT OF 50°F (ADJUSTABLE BETWEEN 40°F AND 60°F). THE HOT WATER COIL CONTROL VALVE SHALL MODULATE TO MAINTAIN THE BAS PROVIDED DISCHARGE AIR TEMPERATURE SETPOINT OF 70°F (ADJUSTABLE BETWEEN 65°F AND 75°F).
 - b. IF THE ENTERING AIR TEMPERATURE TO THE CHILLED WATER COIL IS BELOW 54°F (ADJUSTABLE BETWEEN 50°F AND 60°F):
 1. THE DOAS SHALL BE IN HEATING MODE.
 2. THE CHILLED WATER COIL SHALL BE DISABLED. THE HOT WATER COIL CONTROL VALVE SHALL MODULATE TO MAINTAIN THE BAS PROVIDED DISCHARGE AIR TEMPERATURE SETPOINT OF 70°F (ADJUSTABLE BETWEEN 65°F AND 75°F).
 4. IN COOLING MODE, THE CHILLED WATER COIL AND HOT WATER COIL SHALL BE ENABLED. THE CHILLED WATER COIL CONTROL VALVE SHALL MODULATE TO MAINTAIN THE LEAVING CHILLED WATER COIL AIR TEMPERATURE SETPOINT PROVIDED BY THE BAS. THE HOT WATER COIL CONTROL VALVE SHALL MODULATE TO MAINTAIN THE BAS PROVIDED DISCHARGE AIR TEMPERATURE SETPOINT.
 5. IN HEATING MODE, THE CHILLED WATER COIL SHALL BE DISABLED. THE PREHEAT HOT WATER COIL SHALL PROVIDE FIRST STAGE HEATING. THE PREHEAT HOT WATER COIL IS UNABLE TO MAINTAIN THE BAS PROVIDED DISCHARGE AIR TEMPERATURE SETPOINT. WHEN THE PREHEAT HOT WATER COIL IS UNABLE TO MAINTAIN THE BAS PROVIDED DISCHARGE AIR TEMPERATURE SETPOINT, THE POST HEAT HOT WATER COIL SHALL BE ENABLED. THE PREHEAT HOT WATER COIL CONTROL VALVE SHALL REMAIN FULLY OPEN AND THE POST HEAT HOT WATER COIL CONTROL VALVE SHALL MODULATE TO MAINTAIN THE BAS PROVIDED DISCHARGE AIR TEMPERATURE SETPOINT.
 6. THE SUPPLY SIDE AND EXHAUST SIDE WHEEL BYPASS DAMPERS SHALL OPEN WHENEVER THERE IS A FROST CONDITION ON THE EXHAUST SIDE OF THE ENERGY RECOVERY WHEEL. ONCE THERE IS NO LONGER A FROST CONDITION, THE BYPASS DAMPERS SHALL CLOSE.
 7. SUPPLY AND EXHAUST FANS:
 - a. UPON ENABLING OF THE DOAS THE SUPPLY AND EXHAUST FANS SHALL BE ENERGIZED AND THE SUPPLY AIR AND EXHAUST AIR FANS SHALL MAINTAIN A DUCT STATIC PRESSURE OF 1.00 IN. W.C. (ADJUSTABLE BETWEEN 0.50 IN. W.C. AND 1.50 IN. W.C.).
 8. THE OUTDOOR AIR AND EXHAUST AIR CONTROL DAMPERS SHALL BE FULLY OPEN WHENEVER THE DOAS IS ENABLED.
 9. DISCHARGE AIR TEMPERATURE SETPOINT SHALL BE ADJUSTABLE THROUGH THE BAS.

BIDDING DOCUMENTS

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VARIABLE PRIMARY ONLY CHILLED WATER SYSTEM SEQUENCE OF OPERATION

A. CENTRAL BAS SYSTEM CONTROL

- AIR-COOLED CHILLER SUPPLY CHILLED WATER SETPOINT SHALL BE 44°F WHEN ENABLED (ADJUSTABLE BETWEEN 40°F AND 48°F).
- CHILLED WATER PUMPS SHALL HAVE A MINIMUM PUMP SPEED OF 30% OF THE DESIGN FLOW RATE. MINIMUM AND MAXIMUM PUMP SPEED PROGRAMMING TO BE CONTROLLED BY THE BAS AND NOT THE PUMP VARIABLE FREQUENCY DRIVE CONTROLLER.
- IN THE EVENT OF A FIRE ALARM, THE BAS SHALL DISABLE ALL HVAC EQUIPMENT.

B. CHILLER SEQUENCING

- THE AIR-COOLED CHILLER SHALL BE ENABLED WHENEVER THERE IS A COOLING CALL FROM AT LEAST TWO FAN COIL UNITS OR THE DEDICATED OUTDOOR AIR UNIT.
- CHILLED WATER LOAD SHALL BE CALCULATED AND TRENDED BY MEASURING THE CHILLED WATER FLOW (FM-1), CHILLED WATER SUPPLY WATER TEMPERATURE (T2), AND RETURN CHILLED WATER TEMPERATURE (T1). THE CALCULATED CHILLED WATER LOAD SHALL BE DISPLAYED THROUGH THE BAS USER INTERFACE.

C. PRIMARY CHILLED WATER PUMP SEQUENCING

- THE BAS SHALL ALTERNATE WHICH PUMP IS ENABLED, OR IN STANDBY MODE, BASED ON RUN HOURS. AFTER A PUMP HAS BEEN OPERATING FOR A TOTAL OF 400 HOURS (ADJUSTABLE BETWEEN 200 HOURS AND 800 HOURS), THE CURRENT STANDBY PUMP SHALL BECOME THE ENABLED PUMP.
- VARIABLE SPEED CHILLED WATER PRIMARY PUMPS:
 - CHWP-1 AND CHWP-2 SHALL VARY SPEED BETWEEN ITS MINIMUM AND MAXIMUM SPEED, WHENEVER ENABLED, TO MAINTAIN THE REQUIRED CHILLED WATER LOOP DIFFERENTIAL PRESSURE SETPOINT (MEASURE AT DIFFERENTIAL PRESSURE SENSOR DP-1). REQUIRED CHILLED WATER LOOP DIFFERENTIAL SETPOINT SHALL BE DETERMINED DURING THE TESTING, ADJUSTING, AND BALANCING PHASE (ADJUSTABLE BETWEEN 2 PSI AND 20 PSI). COORDINATE MINIMUM FLOW REQUIREMENTS FOR EACH CHILLER WITH THE ACTUAL CHILLERS PROVIDED.

D. AIR-COOLED CONDENSER:

- THE AIR-COOLED CONDENSER SHALL BE ENABLED WHEN THE AIR-COOLED CHILLER IS ENABLED.
- THE AIR-COOLED CHILLER SHALL CONTROL OPERATION OF THE AIR-COOLED CONDENSER.

E. CHILLED WATER LOOP BYPASS CONTROL VALVE:

- THE CHILLED WATER LOOP BYPASS CONTROL VALVE (BCV-1) SHALL MODULATE TO MAINTAIN THE REQUIRED CHILLED WATER LOOP DIFFERENTIAL PRESSURE SETPOINT AFTER THE ENABLED CHILLED WATER PRIMARY PUMP HAS REACHED ITS MINIMUM PUMP SPEED.

DEFINITIONS:

ENABLE: PUMP OR CHILLER IS AVAILABLE TO OPERATE IF A COOLING CALL IS RECEIVED.
STANDBY: PUMP OR CHILLER IS IN BACKUP OPERATIONAL MODE. IF THE ENABLED PUMP OR CHILLER IS NOT FUNCTIONAL FOR ANY REASON, THE STANDBY PUMP OR CHILLER WILL BE ENABLED.
RUN: PUMP OR CHILLER TO OPERATE.
OFF: PUMP OR CHILLER IS NOT AVAILABLE TO BE STARTED FOR ANY REASON.

CHILLED WATER SYSTEM SEQUENCE OF OPERATION

HEATING WATER SYSTEM SEQUENCE OF OPERATION

A. CENTRAL BAS SYSTEM CONTROL

- BOILER SUPPLY HEATING WATER SETPOINT SHALL BE 140°F WHEN ENABLED (ADJUSTABLE BETWEEN 140°F AND 180°F).
- HEATING WATER PUMPS SHALL HAVE A MINIMUM PUMP SPEED OF 30% OF THE DESIGN FLOW RATE. MINIMUM AND MAXIMUM PUMP SPEED PROGRAMMING TO BE CONTROLLED BY THE BAS AND NOT THE PUMP VARIABLE FREQUENCY DRIVE CONTROLLER.
- IN THE EVENT OF A FIRE ALARM, THE BAS SHALL DISABLE ALL HVAC EQUIPMENT.

B. BOILER SEQUENCING

- BOILERS SHALL BE ENABLED WHENEVER THE HEATING WATER LOOP SUPPLY TEMPERATURE (MEASURED AT TEMPERATURE SENSOR T4) DROPS BELOW THE BAS PROVIDED SETPOINT.

C. HEATING WATER PUMP SEQUENCING

- THE BAS SHALL ALTERNATE WHICH PUMP IS ENABLED, OR IN STANDBY MODE, BASED ON RUN HOURS. AFTER A PUMP HAS BEEN OPERATING FOR A TOTAL OF 400 HOURS (ADJUSTABLE BETWEEN 200 HOURS AND 800 HOURS), THE CURRENT STANDBY PUMP SHALL BECOME THE ENABLED PUMP.

2. VARIABLE SPEED HEATING WATER PUMPS:

- HWP-1 AND HWP-2 SHALL VARY SPEED BETWEEN ITS MINIMUM AND MAXIMUM SPEED, WHENEVER ENABLED, TO MAINTAIN THE REQUIRED HEATING WATER LOOP DIFFERENTIAL PRESSURE SETPOINT (MEASURE AT DIFFERENTIAL PRESSURE SENSOR DP-2). REQUIRED HEATING WATER LOOP DIFFERENTIAL SETPOINT SHALL BE DETERMINED DURING THE TESTING, ADJUSTING, AND BALANCING PHASE (ADJUSTABLE BETWEEN 2 PSI AND 20 PSI).

DEFINITIONS:

ENABLE: PUMP OR BOILER IS AVAILABLE TO OPERATE IF A HEATING CALL IS RECEIVED.
STANDBY: PUMP OR BOILER IS IN BACKUP OPERATIONAL MODE. IF THE ENABLED PUMP OR BOILER IS NOT FUNCTIONAL FOR ANY REASON, THE STANDBY PUMP OR BOILER WILL BE ENABLED.
RUN: PUMP OR BOILER TO OPERATE.
OFF: PUMP OR BOILER IS NOT AVAILABLE TO BE STARTED FOR ANY REASON.

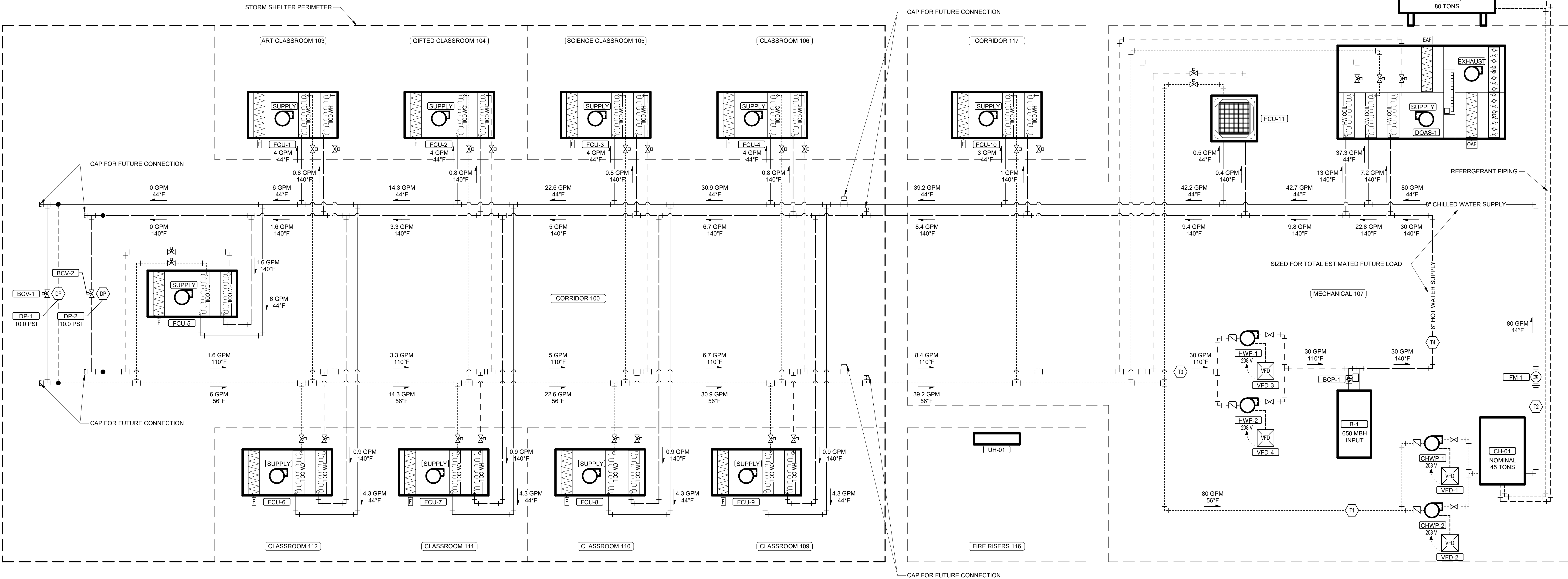
CHILLED WATER PLANT CONTROL SUMMARY					
CONTROL POINT		LOCAL CONTROLLER DISPLAY	BAS DISPLAY	BAS ADJUSTABLE	COMMENTS
CHILLERS	CHILLER ENABLE	●	●	●	
	CHILLER CAPACITY	●	●	●	
	CHILLER SUPPLY WATER TEMPERATURE	●	●	●	
	CHILLER SUPPLY WATER TEMPERATURE SETPOINT	●	●		
	CHILLER RETURN WATER TEMPERATURE	●	●		
	CHILLER FLOW RATE	●	●		
	EVAPORATOR PRESSURE	●	●	●	ALARM IF BELOW MANUFACTURER'S LOW LIMIT
	CONDENSER PRESSURE	●	●	●	ALARM IF ABOVE MANUFACTURER'S HIGH LIMIT
	OIL PRESSURE	●	●	●	ALARM IF ABOVE MANUFACTURER'S HIGH LIMIT
	PUMP ENABLE	●	●	●	
CHILLED WATER PUMPS	PUMP SPEED COMMAND	●	●	●	
	CHILLED WATER SUPPLY FLOW RATE	●	●		
	CHILLED WATER RETURN FLOW RATE	●	●		
	VFD OPERATING FREQUENCY	●	●		
	LOOP DIFFERENTIAL PRESSURE	●	●		
LOOP DIFFERENTIAL PRESSURE SETPOINT		●	●		

*ADDITIONAL ALARMS MAY BE REQUIRED. CONSULT THE CHILLER MANUFACTURER ON RECOMMENDED CHILLER ALARMS AND INCORPORATE ALL RECOMMENDED ALARMS.

HEATING WATER PLANT CONTROL SUMMARY					
CONTROL POINT		LOCAL CONTROLLER DISPLAY	BAS DISPLAY	BAS ADJUSTABLE	COMMENTS
BOILERS	BOILER ENABLE	●	●	●	
	HEATING SUPPLY WATER TEMPERATURE	●	●	●	
	HEATING SUPPLY WATER TEMPERATURE SETPOINT	●	●		
	HEATING WATER RETURN TEMPERATURE	●	●		
HEATING PUMPS	PUMP ENABLE	●	●	●	
	PUMP SPEED COMMAND	●	●	●	
	VFD OPERATING FREQUENCY	●	●		
	LOOP DIFFERENTIAL PRESSURE	●	●		
	LOOP DIFFERENTIAL PRESSURE SETPOINT	●	●		

*ADDITIONAL ALARMS MAY BE REQUIRED. CONSULT THE BOILER MANUFACTURER ON RECOMMENDED BOILER ALARMS AND INCORPORATE ALL RECOMMENDED ALARMS.

HEATING WATER SYSTEM SEQUENCE OF OPERATION

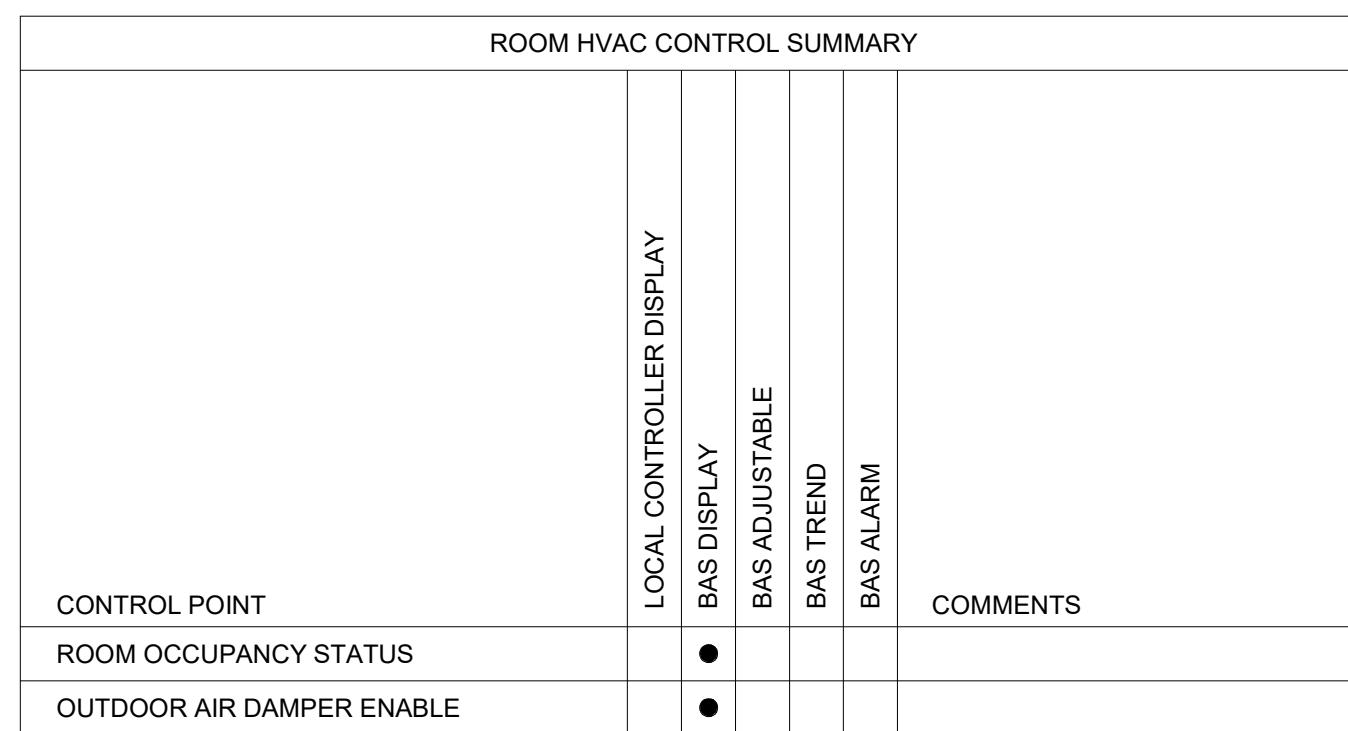


HYDRONIC PIPING SCHEMATIC

BIDDING DOCUMENTS



HALLSVILLE MIDDLE SCHOOL ADDITION
HALLSVILLE SCHOOL DISTRICT
421 MO-124 E
HALLSVILLE, MO 65255



ROOM OUTDOOR AIR DAMPER CONTROL SEQUENCE OF OPERATION

A. CENTRAL BAS SYSTEM CONTROL

1. THE BAS SHALL ENABLE THE ROOM OUTDOOR AIR DAMPERS AT ALL TIMES.
2. SAFETY SHUTDOWNS/ALARM GENERATION:
 - a. BUILDING FIRE ALARM ACTIVATION SHALL DISABLE OPERATION OF THE NORMALLY CLOSED OUTDOOR AIR DAMPERS.
3. OCCUPANCY SENSOR
 - a. THE ROOM OCCUPANCY SENSOR SHALL PROVIDE THE BAS WITH THE CURRENT SPACE OCCUPANCY STATUS.
4. ROOM OUTDOOR AIR DAMPER
 - a. THE ROOM OUTDOOR AIR DAMPER SHALL BE FULLY OPENED ANYTIME THE ROOM OCCUPANCY SENSOR SENSES OCCUPANCY.
 - b. WHEN NO OCCUPANCY IS SENSED FOR 20 MINUTES (ADJUSTABLE BETWEEN 5 MINUTES AND 30 MINUTES) THE ROOM OUTDOOR AIR DAMPER SHALL ADJUST TO THE DAMPER'S MINIMUM POSITION.

EXHAUST SYSTEM (EF-3)

A. EXHAUST SYSTEM CONTROL.

1. THE EXHAUST SHALL BE ENABLE AT ALL TIMES BY THE BAS.

2. THE BAS SHALL ENABLE THE EXHAUST FAN ONLY WHEN THE MECHANICAL ROOM REFRIGERANT MONITOR AND/OR CARBON MONOXIDE DETECTOR IS IN AN ALARM STATUS.

3. THE EXHAUST FAN SHALL PROVIDE THE AIR FLOW SPECIFIED ON THE EQUIPMENT SCHEDULE WHEN ENABLED.

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REVISION HISTORY			
	DESCRIPTION	DATE	APPR

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ISSUED FOR	1/16/23

MATTHEW H. BRIDGES - ENGINEER
MO # PE-2021031578

HALLSVILLE MIDDLE SCHOOL ADDITION
HALLSVILLE SCHOOL DISTRICT
421 MO-124 E
HALLSVILLE, MO 65255

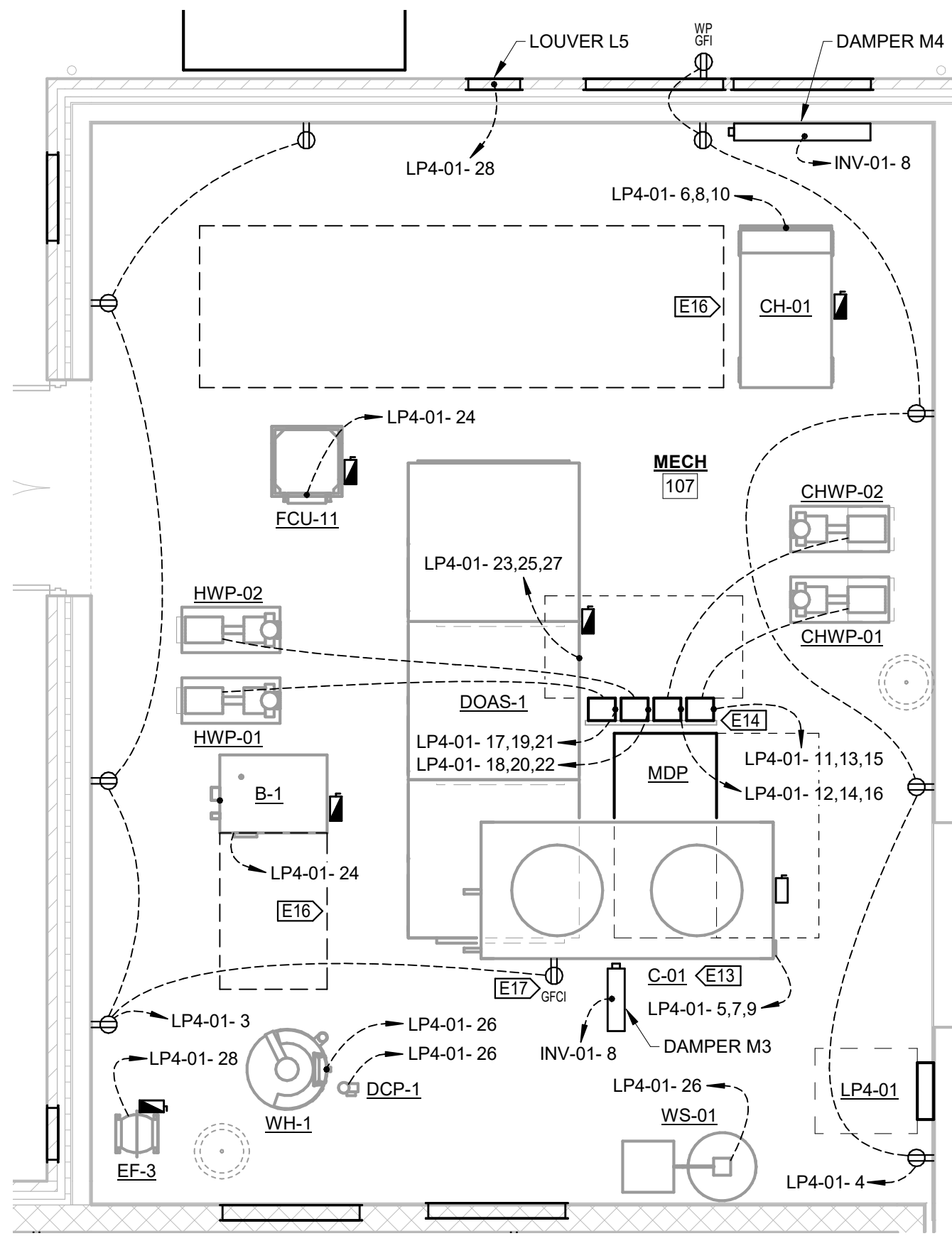
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FIELD	FIELD BOOK
CHECKED JJN	CHECK DATE

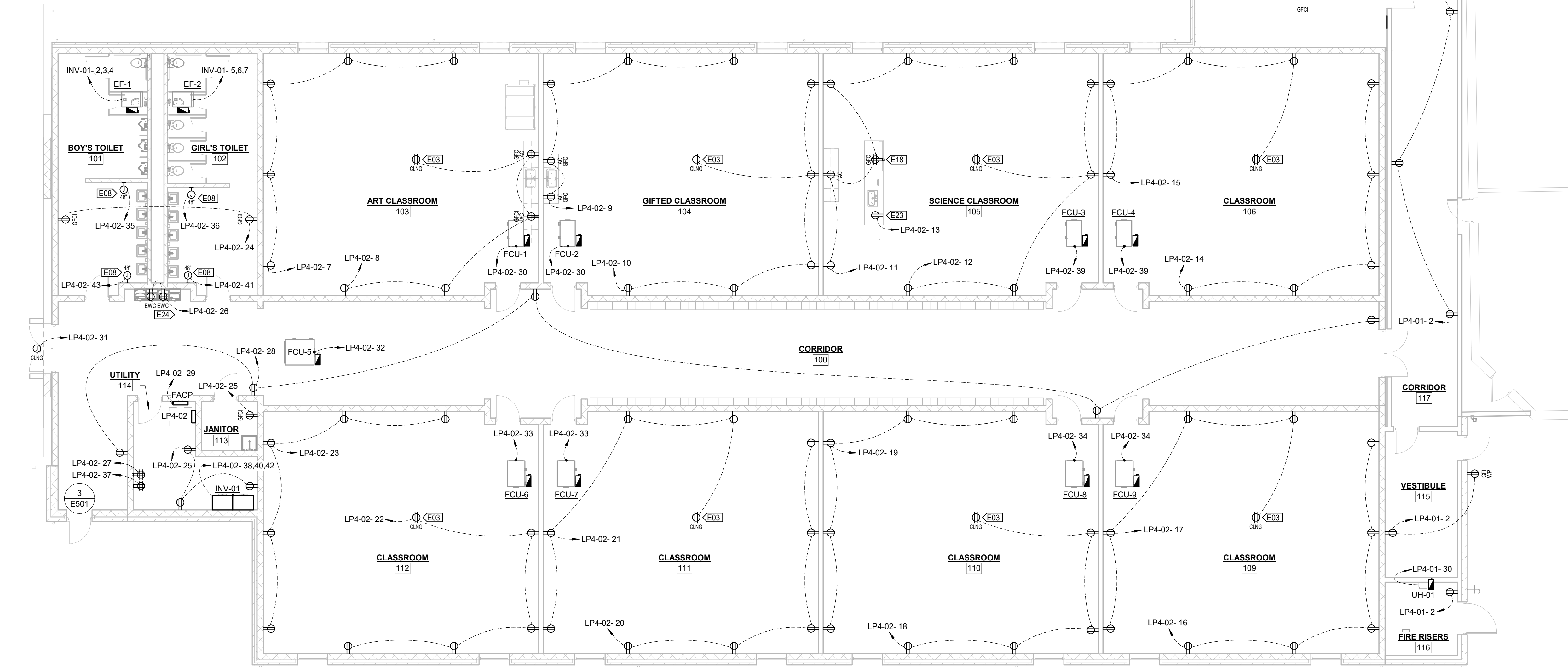
SHEET TITLE

CONTROLS
SEQUENCE OF
OPERATION

PROJECT NO. 21-5052
DRAWING ISSUED DATE: 01/16/2023
SHEET



2 ENLARGED MECH RM POWER PLAN
1/4" = 1'-0"



1 POWER PLAN
1/8" = 1'-0"

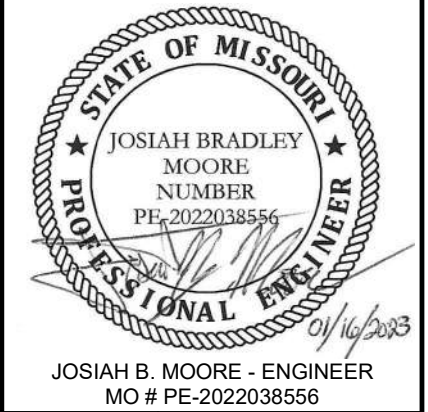
KEYNOTE LEGEND	
VALUE	DESCRIPTION
E03	INSTALL RECEPTACLE IN CEILING TILE FOR POWER TO PROJECTOR. COORDINATE LOCATION WITH OWNER.
E08	JUNCTION BOX FOR ELECTRIC HAND DRYER. SEE ELECTRIC HAND DRYER SCHEDULE.
E13	CONDENSER IS MOUNTED ON ROOF ABOVE MECHANICAL ROOM.
E14	PROVIDE (1) VARIABLE-SPEED CONTROLLER WITH INTEGRAL SAFETY SWITCH PER HYDRONIC PUMP. PROVIDE SEPARATE SAFETY SWITCH IF NOT AVAILABLE AS INTEGRAL COMPONENT OF CONTROLLER. MOUNT HYDRONIC PUMP VARIABLE-SPEED CONTROLLERS AND SAFETY SWITCHES ON STRUT CHANNEL FRAME. DO NOT EXTEND STRUT CHANNEL FRAME INTO THE SPACE DIRECTLY BELOW THE DOAS-1 UNIT.
E15	SEE CIVIL SITE UTILITY PLAN FOR ADDITIONAL DETAILS ON EXTERIOR ELECTRICAL ITEMS.
E16	SPACE RESERVED FOR FUTURE EQUIPMENT.
E17	CONVENIENCE RECEPTACLE FOR CONDENSER.
E18	COORDINATE INSTALLATION OF RECEPTACLE IN BOX ON TOP OF COUNTER WITH MANUFACTURER OF INSTRUCTOR TABLE.
E23	COORDINATE INSTALLATION OF RECEPTACLE UNDER COUNTER FOR FUTURE DISHWASHER (BY OTHERS) WITH MANUFACTURER OF INSTRUCTOR TABLE.
E24	PROVIDE GFCI BREAKER ON ELECTRIC WATER COOLER CIRCUIT.

KLINGNER & ASSOCIATES, P.C.
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REVISION HISTORY		
Δ	DESCRIPTION	DATE

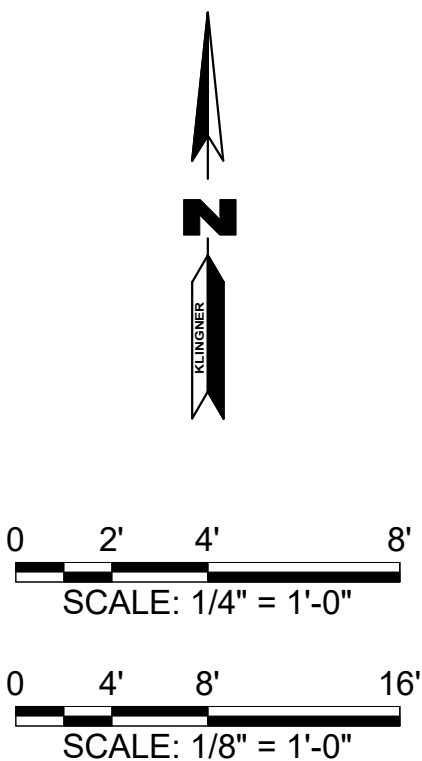
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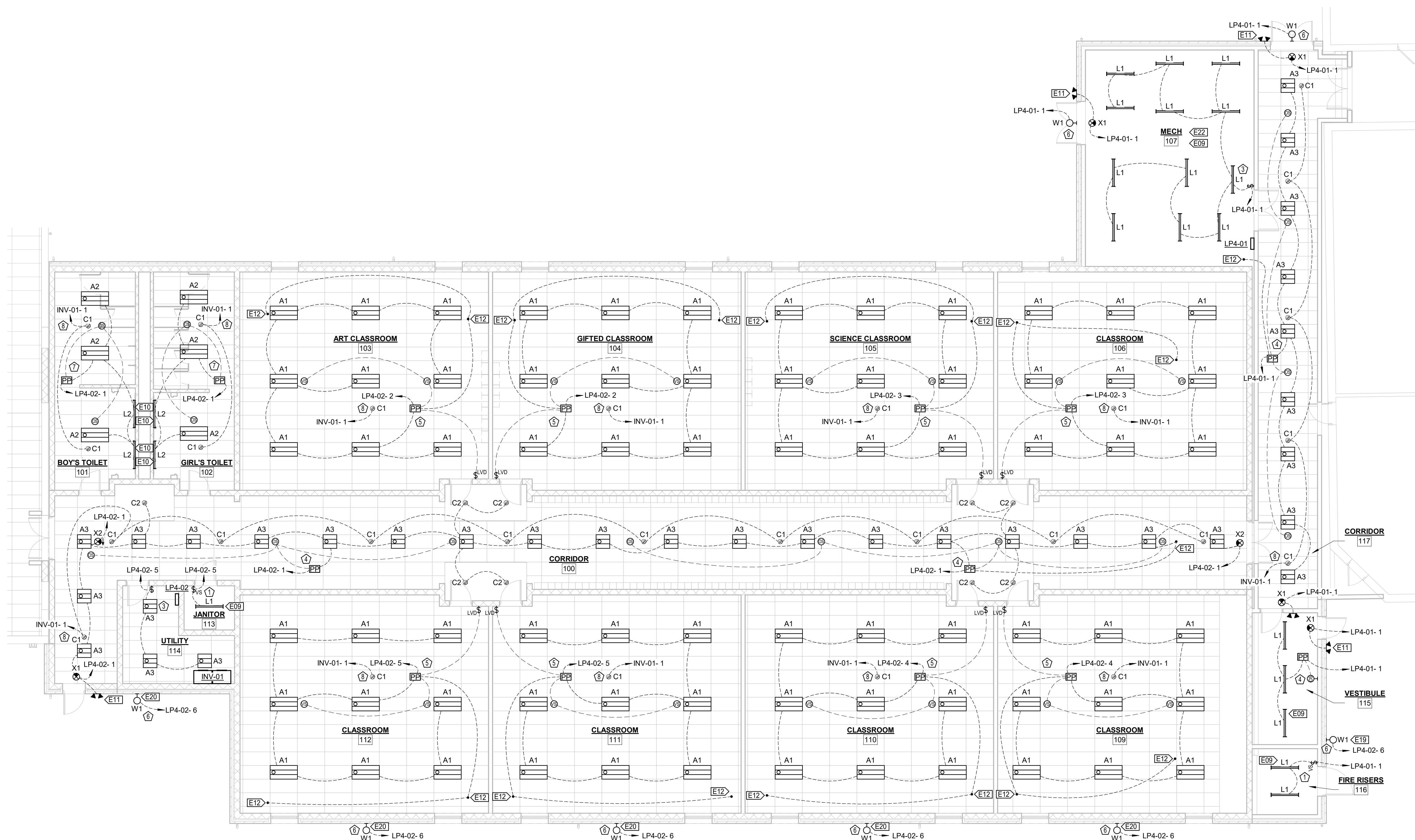


HALLSVILLE MIDDLE SCHOOL ADDITION
HALLSVILLE SCHOOL DISTRICT
421 MO-124 E
HALLSVILLE, MO 65255

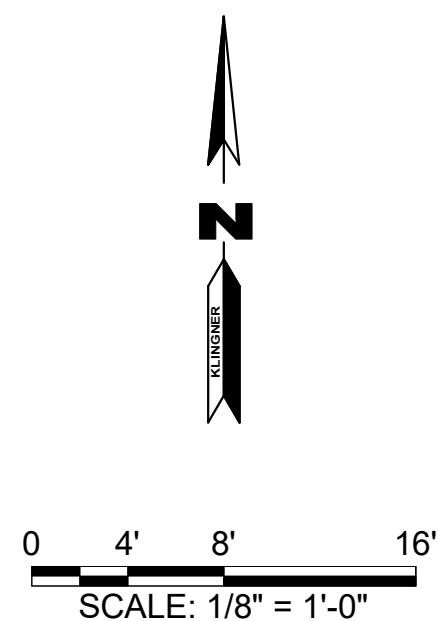
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Full sized plans have been prepared using standard scales. Reduced sized plans may not conform to standard scales.	
DESIGNED	DRAWN
JBM	JBM
FIELD	FIELD BOOK
CHECKED	CHECK DATE
JUN	01/09/2023
SHEET TITLE	
POWER PLAN	
PROJECT NO.	
21-0902	
DRAWING ISSUED DATE:	
01/16/2023	
SHEET	
E100	



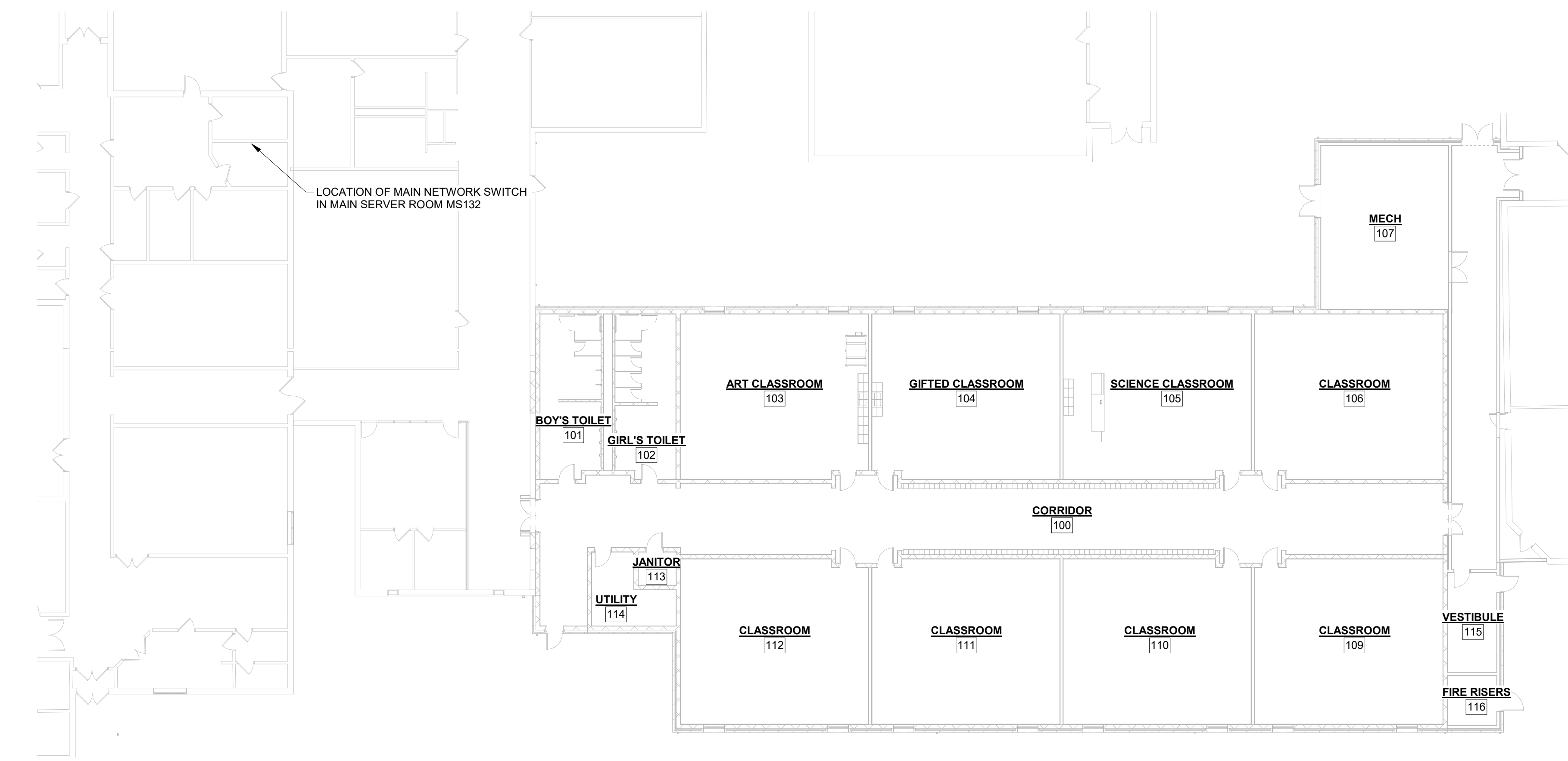
KEYNOTE LEGEND	
VALUE	DESCRIPTION
E09	STRIP LIGHT FIXTURE SUSPENDED AT APPROX. 9' AFF (TYPICAL FOR MATCHING FIXTURES WITHIN A ROOM).
E10	WRAPAROUND LIGHT FIXTURE MOUNTED AT APPROX. 7.5' AFF.
E11	COORDINATE INSTALLATION OF EMERGENCY RETRO HEADS WITH ARCHITECTURE.
E12	PROVIDE CIRCUIT TO OUTDOOR AIR DAMPER. SEE MECHANICAL DETAILS FOR CONTROL SEQUENCE.
E19	INSTALL EXTERIOR WALL PACK AT APPROX. 9' ABOVE GRADE.
E20	INSTALL EXTERIOR WALL PACK AT APPROX. 11' ABOVE GRADE.
E22	COORDINATE LOCATION OF LIGHT FIXTURES WITH MECHANICAL EQUIPMENT, DUCTWORK, AND PIPING SYSTEMS.



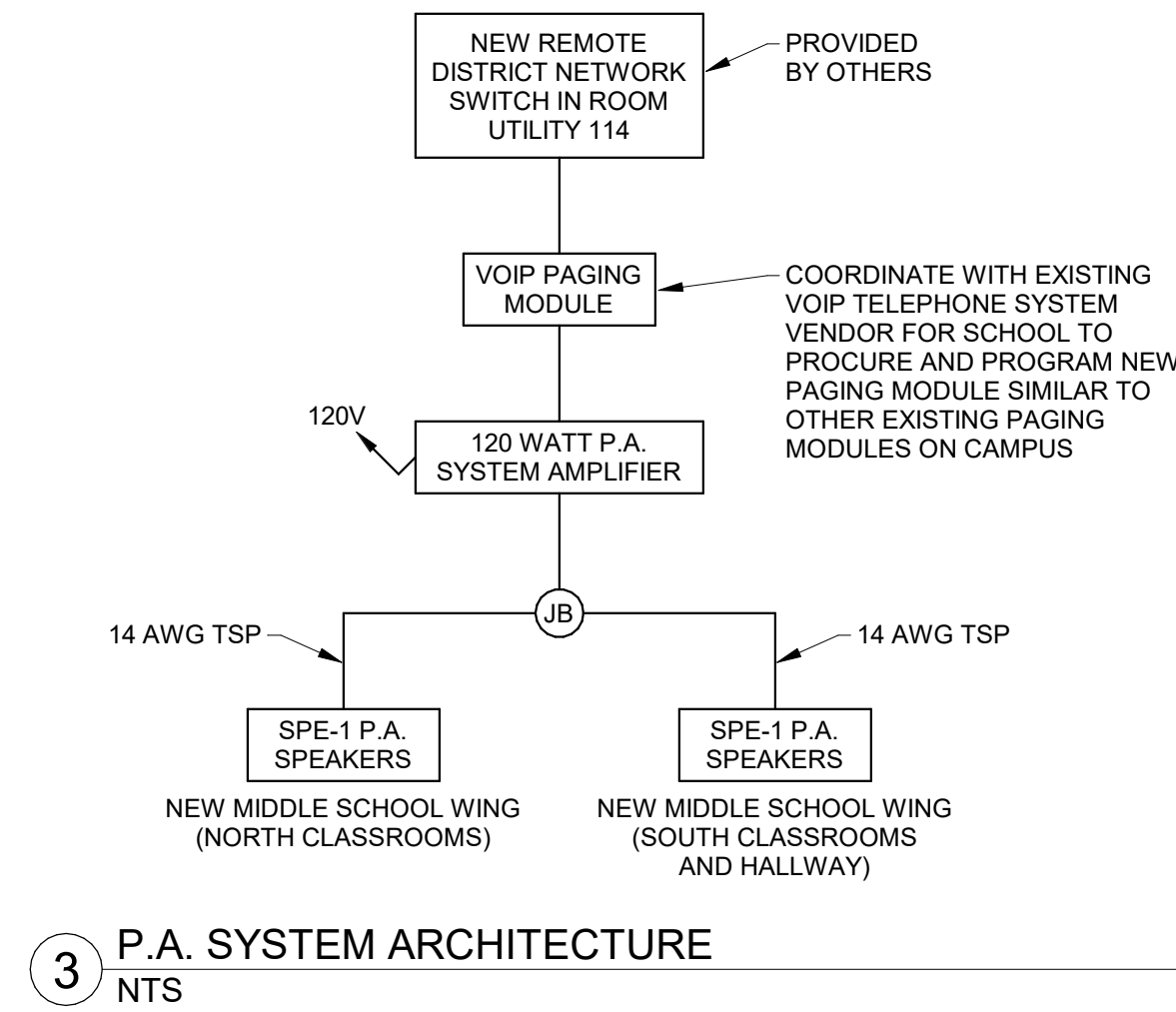
1 LIGHTING PLAN
1/8" = 1'-0"



1/16/2023 8:55:08 PM
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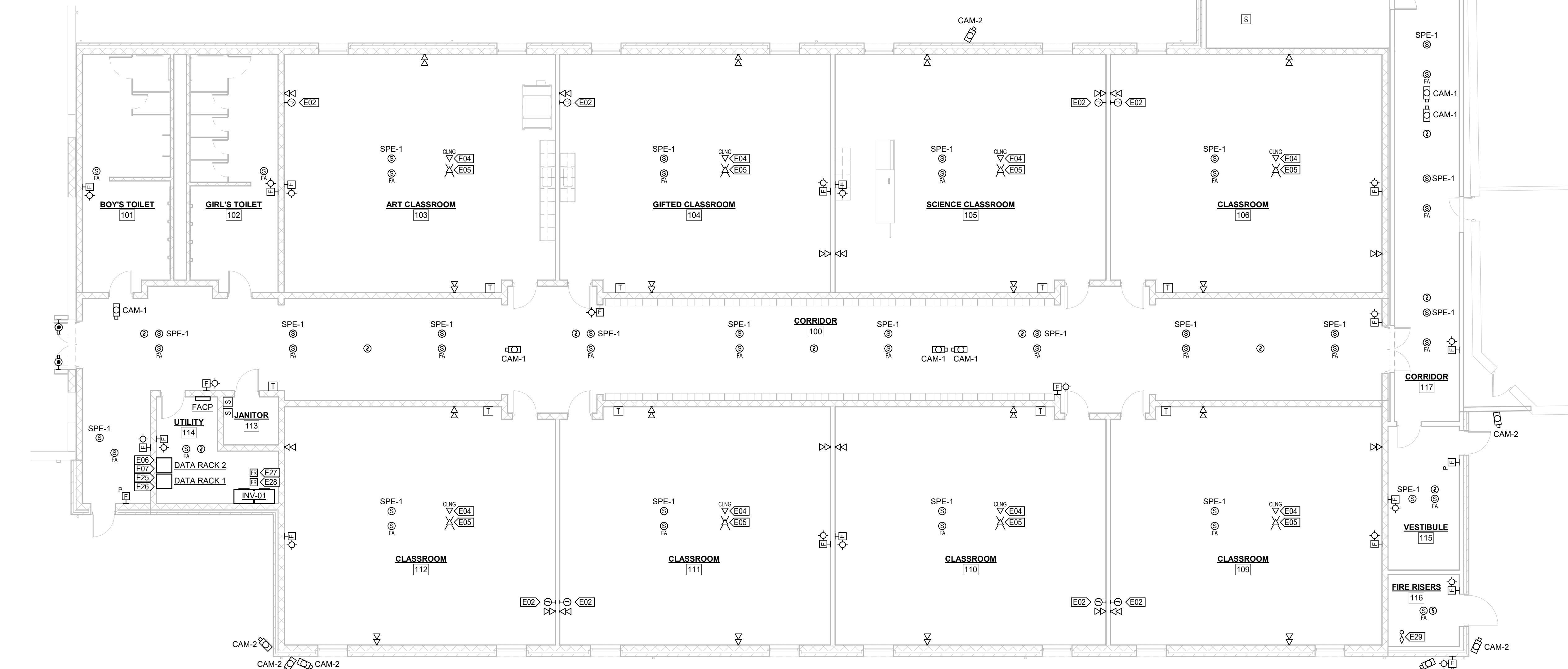


2 MAIN NETWORK SWITCH PLAN
NTS

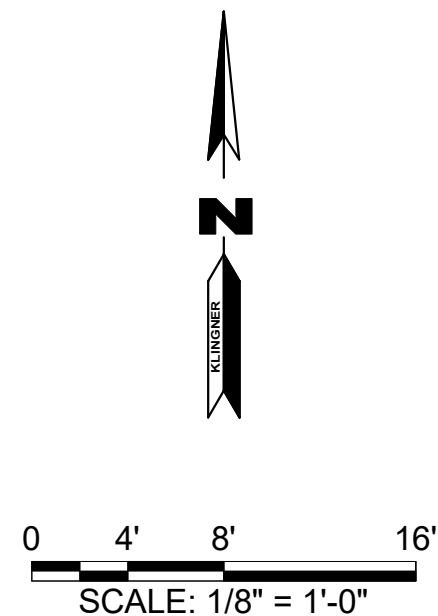


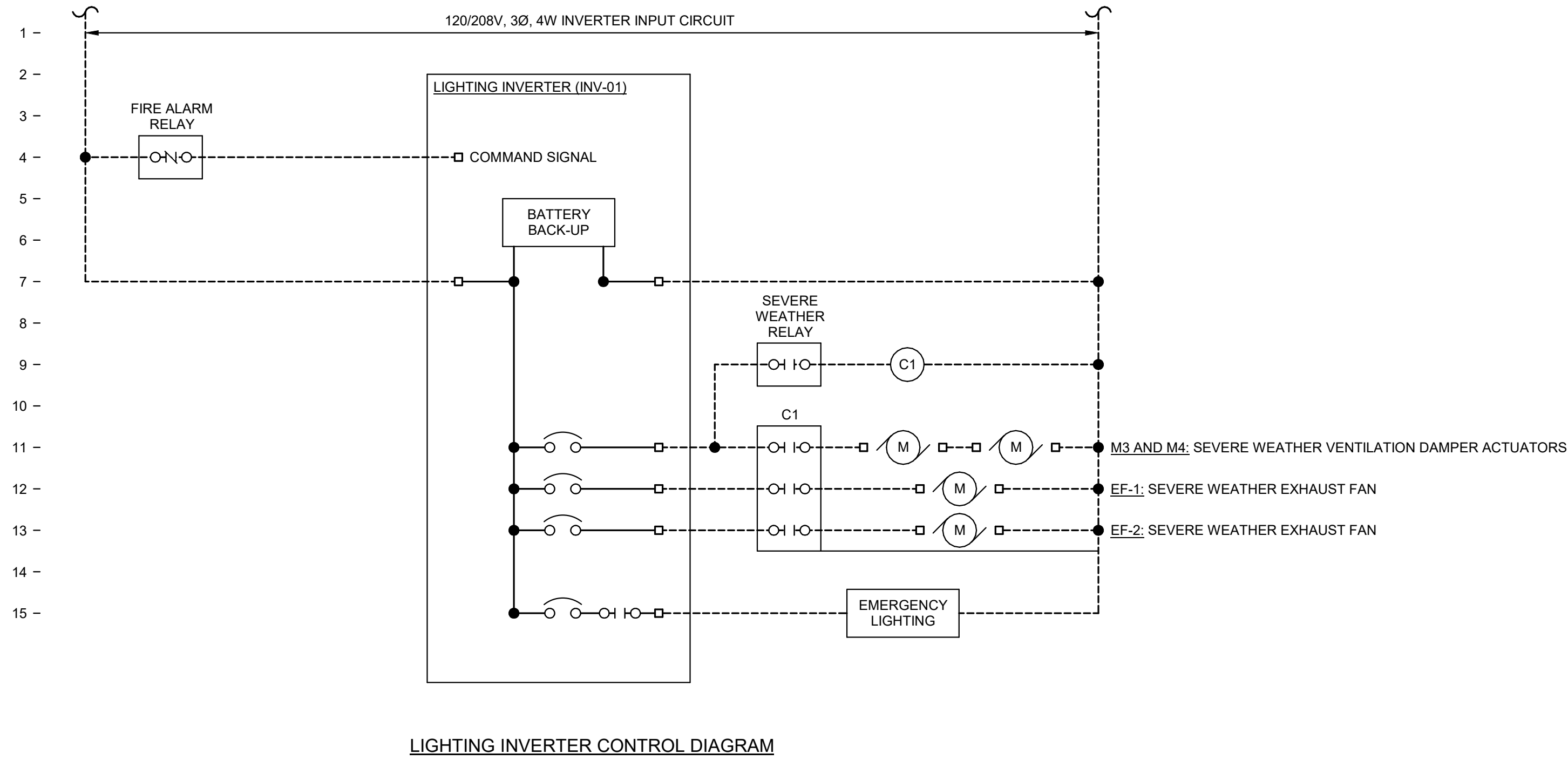
3 P.A. SYSTEM ARCHITECTURE
NTS

KEYNOTE LEGEND	
VALUE	DESCRIPTION
E02	INSTALL QUADPLEX JUNCTION BOX WITH 2" CONDUIT TO ABOVE FINISHED CEILING. LOCATE NEXT TO DATA RECEPTACLES. (TYPICAL FOR ALL WALL-MOUNTED JUNCTION BOXES SHOWN IN THIS ROOM ON THIS SHEET.)
E04	PROVIDE DATA CABLE TO CENTER OF ROOM ABOVE FINISHED CEILING WITH 20 FT OF EXCESS CABLE NEATLY COILED AND SECURED.
E05	PROVIDE DATA CABLE TO LOCATION SHOWN FOR FUTURE WIRELESS ACCESS POINT. PROVIDE 20 FT OF EXCESS CABLE NEATLY COILED AND SECURED ABOVE FINISHED CEILING. WIRELESS ACCESS POINT BY OWNER.
E06	TERMINATE ALL CLASSROOM NETWORK CABLES IN WALL-MOUNTED NETWORK CABINET USING PANDUIT MINICOM CAT6 JACKS IN PANDUIT RACK PANELS.
E07	INSTALL 12-STRAND 6-PAIR OM4 FIBER CABLE WITH LC CONNECTORS IN RACK PANEL INSIDE NETWORK CABINET AND ROUTE TO MAIN SERVER ROOM MS132 AND TERMINATE IN WALL BOX WITH LC ADAPTERS.
E25	INSTALL P.A. SYSTEM AMPLIFIER WITHIN DATA RACK.
E26	INSTALL DEDICATED CAMERA NETWORK SWITCH WITHIN DATA RACK AND ROUTE NEW CAMERA CABLES TO SWITCH. CONNECT SWITCH TO EXISTING CAMERA NETWORK VIDEO RECORDER VIA CAT6A CABLE.
E27	RELAY INPUT FOR LIGHTING INVERTER, FIRE ALARM AND INTRUDER.
E28	RELAY INPUT FOR LIGHTING INVERTER, SEVERE WEATHER.
E29	FIRE ALARM FLOW SWITCH ON FIRE RISER.



1 LOW VOLTAGE PLAN
1/8" = 1'-0"





LIGHTING INVERTER SEQUENCE OF OPERATION

NORMAL:

1. INVERTER BATTERIES ARE CHARGED BY INPUT LINE VOLTAGE.
2. SEVERE WEATHER VENTILATION DAMPERS ARE CLOSED.
3. SEVERE WEATHER EXHAUST FANS ARE OFF.
4. EMERGENCY LIGHTING IS OFF.

POWER OUTAGE:

1. INVERTER BATTERIES ARE DISCHARGED TO POWER EMERGENCY LOADS.
2. SEVERE WEATHER VENTILATION DAMPERS ARE CLOSED.
3. SEVERE WEATHER EXHAUST FANS ARE OFF.
4. EMERGENCY LIGHTING IS ON.

ACTIVE FIRE ALARM:

1. N.C. FIRE ALARM RELAY OPENS, WHICH REMOVES INPUT LINE VOLTAGE FROM COMMAND SIGNAL.
2. SEVERE WEATHER VENTILATION DAMPERS ARE CLOSED.
3. SEVERE WEATHER EXHAUST FANS ARE OFF.
4. EMERGENCY LIGHTING IS ON.
5. IF POWER OUTAGE OCCURS CONCURRENTLY WITH ACTIVE FIRE ALARM, THE SEQUENCE FOR THE ACTIVE FIRE ALARM OCCURS EXCEPT POWER IS PROVIDED BY THE BATTERY AS OPPOSED TO INPUT LINE VOLTAGE.

ACTIVE SEVERE WEATHER ALARM:

1. N.O. SEVERE WEATHER RELAY CLOSSES AND SEVERE WEATHER VENTILATION DAMPERS ARE POWERED OPEN.
2. N.O. SEVERE WEATHER RELAY CLOSSES AND SEVERE WEATHER EXHAUST FANS ARE POWERED ON.
3. IF POWER OUTAGE OCCURS CONCURRENTLY WITH ACTIVE SEVERE WEATHER ALARM, THE SEQUENCE FOR THE ACTIVE SEVERE WEATHER ALARM OCCURS EXCEPT POWER IS PROVIDED BY THE BATTERY AS OPPOSED TO INPUT LINE VOLTAGE.

LIGHTING CONTROL MATRIX									
TAG	LIGHTING CONTROL CAPABILITIES								
	LINE VOLTAGE	LOW VOLTAGE	MANUAL ON	MANUAL OFF	MANUAL DIMMING	OCCUPANCY SENSOR	VACANCY SENSOR	DUAL TECHNOLOGY	PHOTOCONTROL (ON/OFF)
①	X	X	X	X					
②	X	X	X	X					
③	X	X	X						
④	X	X				X			
⑤	X	X	X	X		X			
⑥	X							X	
⑦	X	X			X		X		
⑧	X								X

LIGHTING CONTROL SEQUENCES OF OPERATION

1. WALL MOUNT, LINE VOLTAGE, VACANCY SENSOR & MANUAL CONTROL.
A. UPON ACTIVATION BY MANUAL BUTTON LIGHTING SHALL BE ON.
B. AFTER NO MOTION DETECTION FOR 15 MIN. LIGHTING SHALL BE OFF.
C. LIGHTING MAY BE DEACTIVATED BY MANUAL BUTTON.
2. WALL MOUNT, DIMMING, LINE VOLTAGE, MANUAL CONTROL.
A. UPON ACTIVATION BY MANUAL BUTTON LIGHTING SHALL BE ON.
B. LIGHTING MAY BE MANUALLY DIMMED.
C. LIGHTING SHALL BE DEACTIVATED BY MANUAL BUTTON.
3. WALL MOUNT, LINE VOLTAGE, & MANUAL CONTROL.
A. UPON ACTIVATION BY MANUAL BUTTON LIGHTING SHALL BE ON.
B. UPON DEACTIVATION BY MANUAL BUTTON LIGHTING SHALL BE OFF.
4. LOW VOLTAGE, CEILING MOUNT OCCUPANCY SENSOR CONTROL.
A. UPON DETECTION OF MOTION BY ANY OCCUPANCY SENSOR IN THE ZONE, ALL LIGHTING SHALL BE ON.
B. AFTER NO MOTION DETECTION FOR 15 MIN. LIGHTING SHALL BE OFF.
5. LOW VOLTAGE, CEILING MOUNT VACANCY SENSOR CONTROL.
A. UPON ACTIVATION BY MANUAL BUTTON LIGHTING SHALL BE ON.
B. LIGHTING MAY BE MANUALLY DIMMED.
C. AFTER NO MOTION DETECTION FOR 15 MIN. LIGHTING SHALL BE OFF.
D. LIGHTING MAY BE DEACTIVATED BY MANUAL BUTTON.
6. EXTERIOR FIXTURE, PHOTOCELL CONTROL.
A. LIGHT FIXTURE SHALL BE CONTROLLED BY PHOTOCELL.
7. LOW VOLTAGE, CEILING MOUNT OCCUPANCY SENSOR CONTROL.
A. UPON DETECTION OF MOTION BY ANY OCCUPANCY SENSOR IN THE ZONE, ALL LIGHTING SHALL BE ON.
B. MOTION SENSOR SHALL BE DUAL TECHNOLOGY.
C. AFTER NO MOTION DETECTION FOR 15 MIN. LIGHTING SHALL BE OFF.
8. EMERGENCY LIGHTING.
A. SEE LIGHTING INVERTER CONTROL SCHEMATIC FOR SEQUENCE OF OPERATION.

CONTRACTOR NOTES:

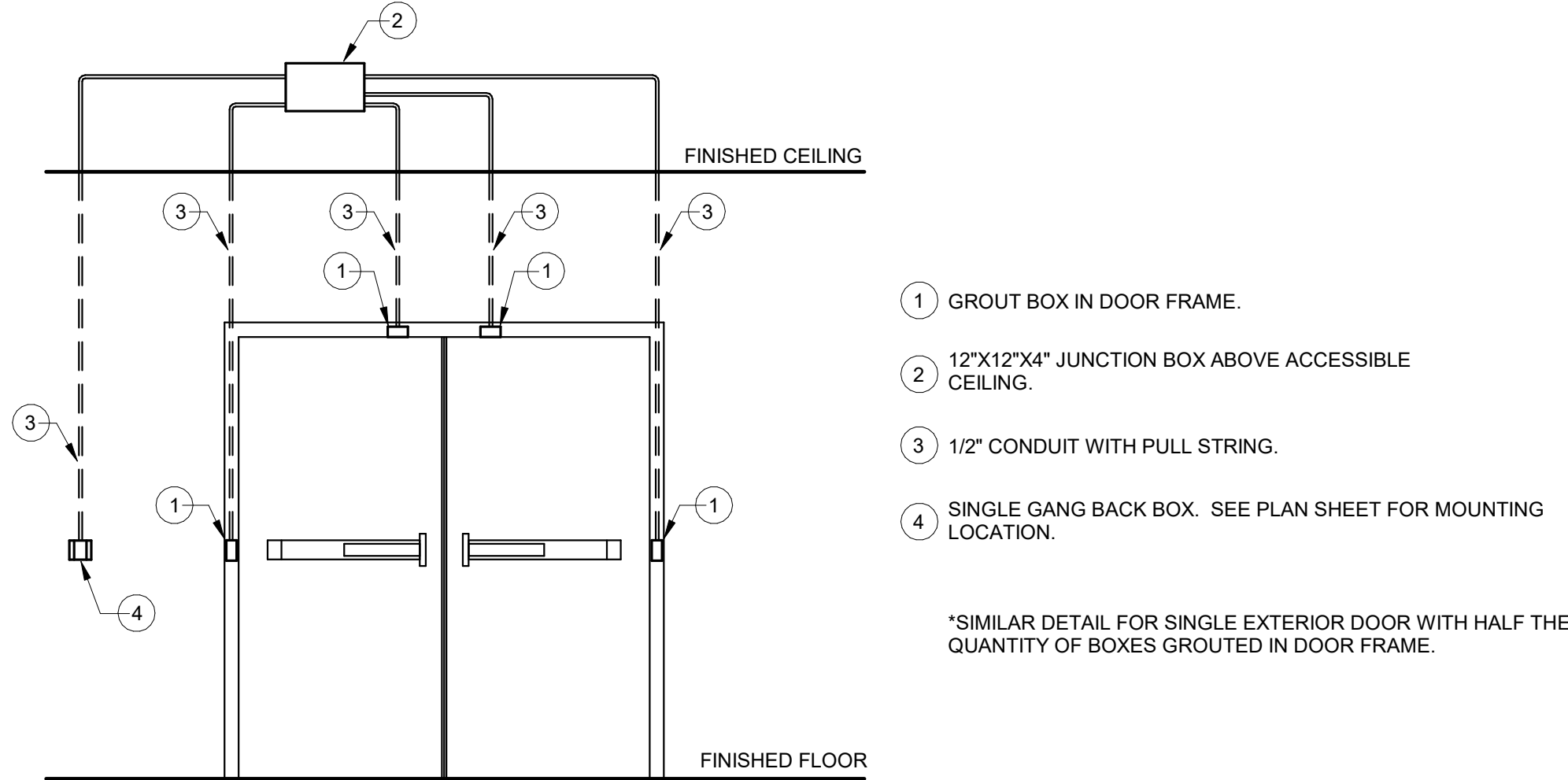
1. COORDINATE COMPATIBILITY OF ALL LIGHTING CONTROLS AND LIGHT FIXTURE DRIVERS.
2. PROVIDE ALL WIRE, DEVICES, POWER PACKS, SENSORS, ETC. AS NECESSARY TO CREATE A STAND-ALONE SYSTEM THAT ACCOMPLISHES THE DESCRIBED SEQUENCE OF OPERATION.
3. ALL LIGHTING CONTROLS SHALL BE HARD-WIRED (WIRELESS SYSTEMS ARE NOT ACCEPTABLE). ACCEPTABLE CONTROL DEVICE MANUFACTURERS SHALL INCLUDE SENSORSWITCH, WATTSTOPPER, AND LUTRON. SUBSTITUTIONS SHALL BE ALLOWED WITH ENGINEERS PRIOR APPROVAL ONLY.

1 INVERTER WIRING DIAGRAM

NTS

2 LIGHTING CONTROL MATRIX

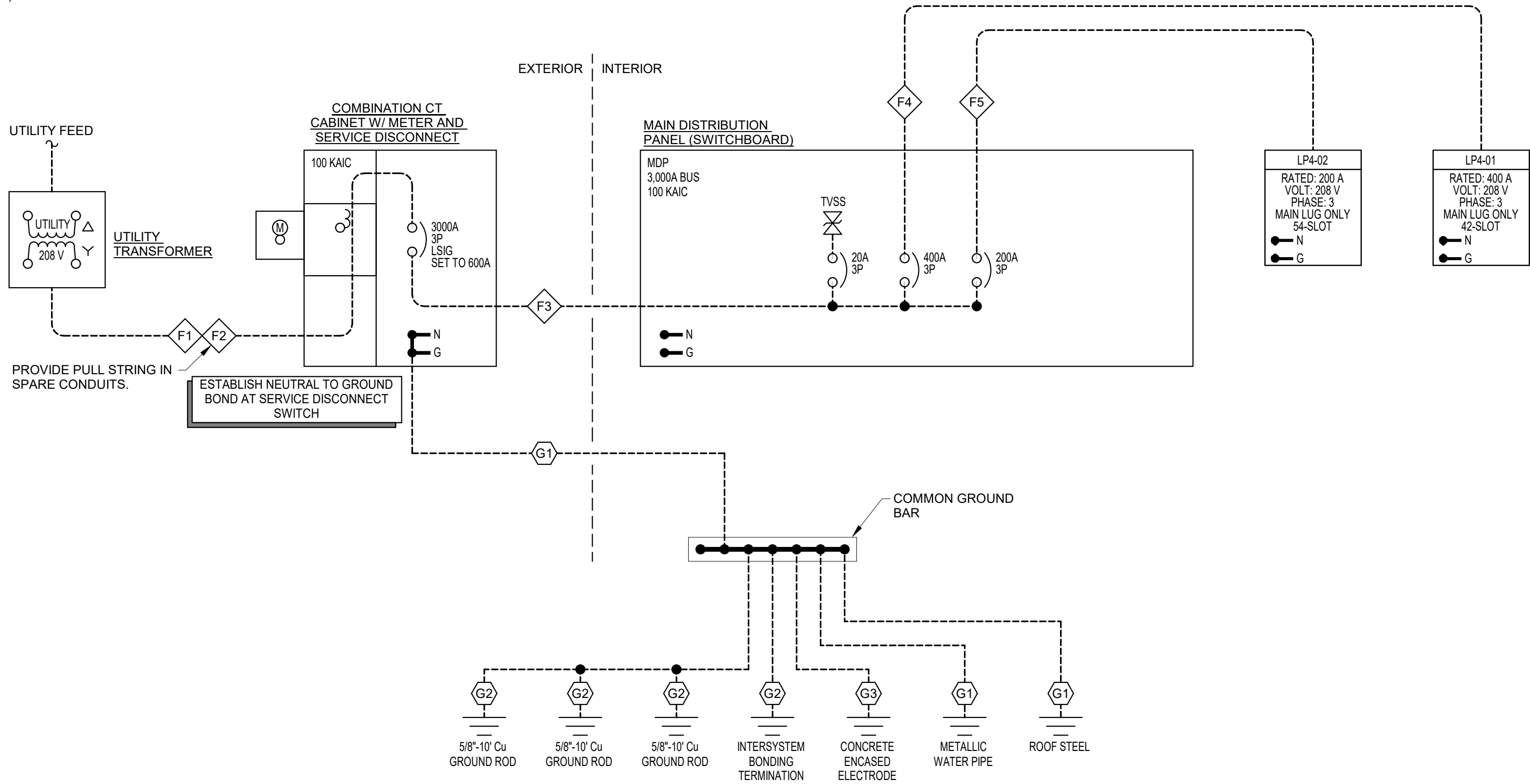
NTS



FEEDER SCHEDULE									
FEEDER TAG	PARALLEL SETS	PHASE CONDUCTORS QUANTITY	PHASE CONDUCTORS SIZE	NEUTRAL SIZE	EGC SIZE	CONDUIT SIZE	CONDUIT TYPE		
F1	2	3	600 KCML Cu	600 KCML Cu	NONE	4"	PVC		
F2	6	0	NONE	NONE	NONE	4"	PVC		
F3	2	3	600 KCML Cu	600 KCML Cu	#1 AWG Cu	4"	PVC		
F4	1	3	600 KCML Cu	600 KCML Cu	#3 AWG Cu	3-1/2"	EMT		
F5	1	3	3/0 AWG Cu	3/0 AWG Cu	#6 AWG Cu	2"	EMT		

NOTE: PROVIDE PULL STRING IN EMPTY (SPARE) CONDUITS.

GEC SCHEDULE	
GEC TAG	GEC SIZE
G1	3/0 AWG Cu
G2	#6 AWG Cu
G3	#4 AWG Cu



3 ACCESS CONTROL DETAIL - EXTERIOR DOOR ROUGH-IN

NTS

4 ELECTRICAL POWER ONE-LINE DIAGRAM

NTS

Branch Panel: INV-01

LOCATION: UTILITY 114

SUPPLY FROM:

MOUNTING: FLOOR

ENCLOSURE: NEMA 1

VOLTS: 120/208

PHASES: 3

WIRES: 4

A.I.C. RATING: 65 KAIC

CAPACITY: 6250 VA

Notes:

REFER TO INVERTER WIRING DIAGRAM.

INVERTER SHALL PROVIDE RATED CAPACITY FOR 90 MINUTES (MINIMUM).

CKT	Circuit Description	Trip	Poles	A	B	C
1	LIGHTING: EMERGENCY WAFER	20 A	1	367 VA		
2,3,4	EMERGENCY EXHAUST FAN EF-1	20 A	3	901 VA	901 VA	901 VA
5,6,7	EMERGENCY EXHAUST FAN EF-2	20 A	3	901 VA	901 VA	901 VA
8	MOTORIZED DAMPERS M3 & M4	20 A	1		60 VA	
9						
10						
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						
21						
Total Load:				2169 VA	1861 VA	1801 VA
Total Amps:				18 A	16 A	15 A

LIGHT FIXTURE SCHEDULE													
TAG	DESCRIPTION	MOUNT	LENS	LAMP		NOMINAL OUTPUT	DRIVER CONTROL	VOLTAGE	LOAD	BASIS OF DESIGN		ACCESSORIES	REMARKS
				TYPE	COLOR TEMP.					MODEL			
A1	2X4 ARCHITECTURAL TROFFER	LAY-IN	RIBBED	LED	4000 K	7200 lm	DIMS TO 1%	120 V	65 VA	MAKE	DAY-BRITE 2-FG-G-74L-840-4-D-INV-DIM LITHONIA 28LT4-72L-ADP-EZ1-LP840 METALUX 24C22-70HE-UNV-L840-HCD1		
A2	2X4 ARCHITECTURAL TROFFER	LAY-IN	RIBBED	LED	4000 K	6000 lm	DIMS TO 1%	120 V	48 VA	DAY-BRITE 2-FG-G-54L-840-4-D-INV-DIM LITHONIA 28LT4-60L-ADP-EZ1-LP840 METALUX 24C22-60-UNV-L840-HCD1			
A3	2X2 ARCHITECTURAL TROFFER	LAY-IN	RIBBED	LED	4000 K	4500 lm	DIMS TO 1%	120 V	44 VA	DAY-BRITE 2-FG-G-45L-840-2-D-INV-DIM LITHONIA 28LT2-45L-ADP-EZ1-LP840 METALUX 22C22-44-UNV-L840-HCD1			
C1	EMERGENCY RECESSED WAFFER LIGHT	RECESSED	FLUSH	LED	4000 K	1200 lm		120 V	14 VA	HALO HLBS-09-940-1E-MW LITHONIA WF6-LED-30K-40K50K-90CR-MW NORA NEFLINTW-RMPWP		CONNECTED TO LIGHTING INVERTER	
C2	RECESSED WAFFER LIGHT	RECESSED	FLUSH	LED	4000 K	1200 lm		120 V	14 VA	HALO HLBS-09-940-1E-MW LITHONIA WF6-LED-30K-40K50K-90CR-MW NORA NEFLINTW-RMPWP			
L1	4" STRIP	SUSPENDED	DIFFUSE	LED	4000 K	5000 lm		120 V	45 VA	DAY-BRITE FSS-4-55L-840-UNV-DIM LITHONIA CLX4-48-5000LM-SEF-RDL-MVOLT-GZ10-40K-80CR-WH METALUX 4SLSTP404QD-120V			
L2	4" WRAPAROUND	WALL	DIFFUSE	LED	4000 K	3000 lm		120 V	29 VA	DAY-BRITE FSW-4-30L-840-UNV-DIM LITHONIA BLWP4-30L-ADP-EZ1-LP840 METALUX 4SWLED-32SL-LW-UNV-L840-CD1			
W1	EXTERIOR WALL PACK	WALL	CLEAR	LED	3000 K	2500 lm		120 V	26 VA	LITHONIA WPX1-LED-P2-30K-MVOLT-PE-DBLXD LUMARK XTOR3B-Y-6K-PC1 STONCO LPW16-20-WW-WW-120-PCB-BK		INTEGRAL PHOTOCCELL	
X1	EXIT SIGN W/ REMOTE HEADS	WALL/CEILING		LED				120 V	13 VA	CHLORIDE CLX4-N-RW-4R LITHONIA LHQ4LED-RH-RH-RD-SD SURE-LITES LPX-R5-SD	CLR-2-W-G ELA1-QWP-L0309-SD SR-P-25-D-GY	SELF-DIAGNOSTICS; WET/LOCATION DUAL REMOTE HEAD	
X2	EXIT SIGN	WALL/CEILING		LED				120 V	9 VA	CHLORIDE CLX4-N-RW LITHONIA LHQ4LED-RH-RH-RD-SD SURE-LITES LPX-7-RD		SELF-DIAGNOSTICS	

ELECTRIC HAND DRYER SCHEDULE					
DESCRIPTION	MOUNT	BASIS OF DESIGN		VOLTAGE	LOAD
		MAKE	MODEL		
SENSOR-OPERATED WARM AIR ELECTRIC HAND DRYER	MASONRY WALL	EXCEL DRYER	XL-BW-120	120 V	1,450 W

2. BASIS OF DESIGN EQUIPMENT IS LISTED. OTHER MANUFACTURERS AND MODELS ARE ACCEPTABLE WITH ENGINEER APPROVAL

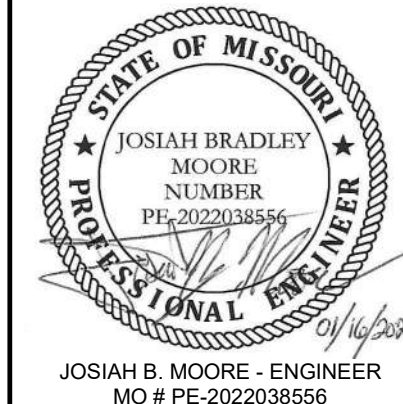
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LSVILLE MIDDLE SCHOOL ADDITION
LSVILLE SCHOOL DISTRICT
421 MO-124 E
HALLSVILLE, MO 65255

Non-Reduced Sheet Size 30" x 42"

Full sized plans have been prepared using standard scales.
Reduced sized plans may not conform to standard scales.

DESIGNED	DRAWN
JBM	JBM

FIELD	FIELD BOOK
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CHECKED LIN	CHECK DATE 01/09/2023
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SSN	01/09/2023
SHEET TITLE	

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