

ANNAPOLIS HIGH SCHOOL BOILER REPLACEMENT AND POOL UPGRADES

Dearborn Heights School District No. 7

Dearborn Heights, Michigan

**ANNAPOLIS HIGH
SCHOOL POOL
IMPROVEMENTS AND
BOILER
REPLACEMENT**

4650 Clippert Street
Dearborn Heights, MI 48125

**Dearborn Heights School
District No. 7**
20629 Annapolis St. Dearborn Heights,
MI 48125



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ARCHITECTURAL

- D0.11 DEMOLITION PLANS - AREA 'A' & AREA 'B'
- A0.01 DETAILS OF CONSTRUCTION & MAIN LEVEL CODE PLAN
- A1.01 MAIN LEVEL FLOOR PLANS - AREA 'A' & AREA 'B'
- A3.01 ENLARGE FLOOR PATTERNS AND DETAILS
- A5.01 ROOF PLAN, DETAILS, AND STRUCTURAL DETAILS

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- M1.2 MECHANICAL BOILER ROOM DEMO AND NEW WORK PART PLANS, DETAILS, AND SCHEMATICS
- M1.3 MECHANICAL DETAILS, SYMBOLS, SCHEDULES, AND NOTES

ELECTRICAL

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- E1.2 BOILER ROOM REPLACEMENT PLANS, ELEC INFORMATION

**ANNAPOLIS HIGH SCHOOL
POOL IMPROVEMENTS
AND BOILER
REPLACEMENT**

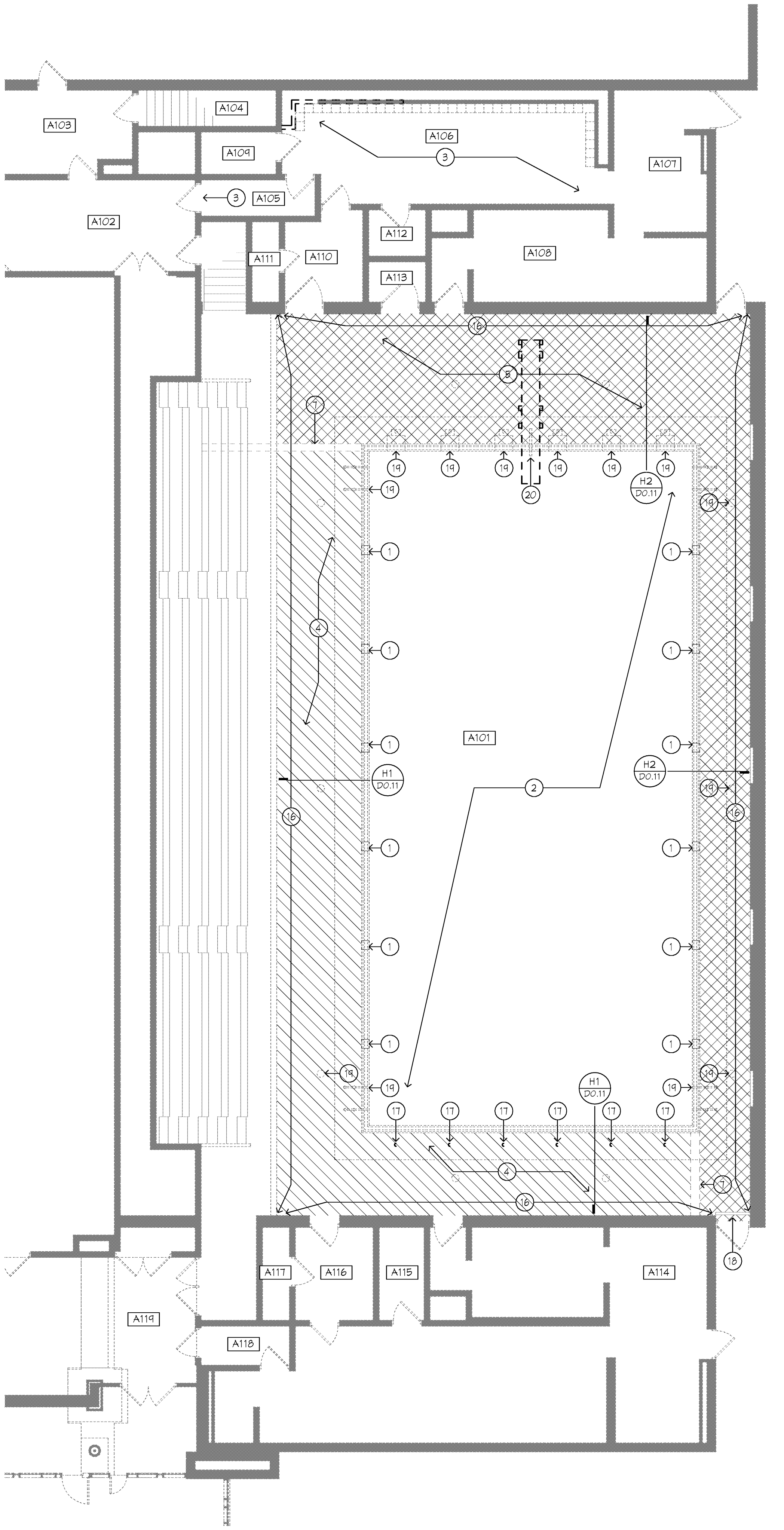
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MI



(F1) MAIN LEVEL DEMO FLOOR PLAN - AREA 'A'
1/8" = 1'-0"

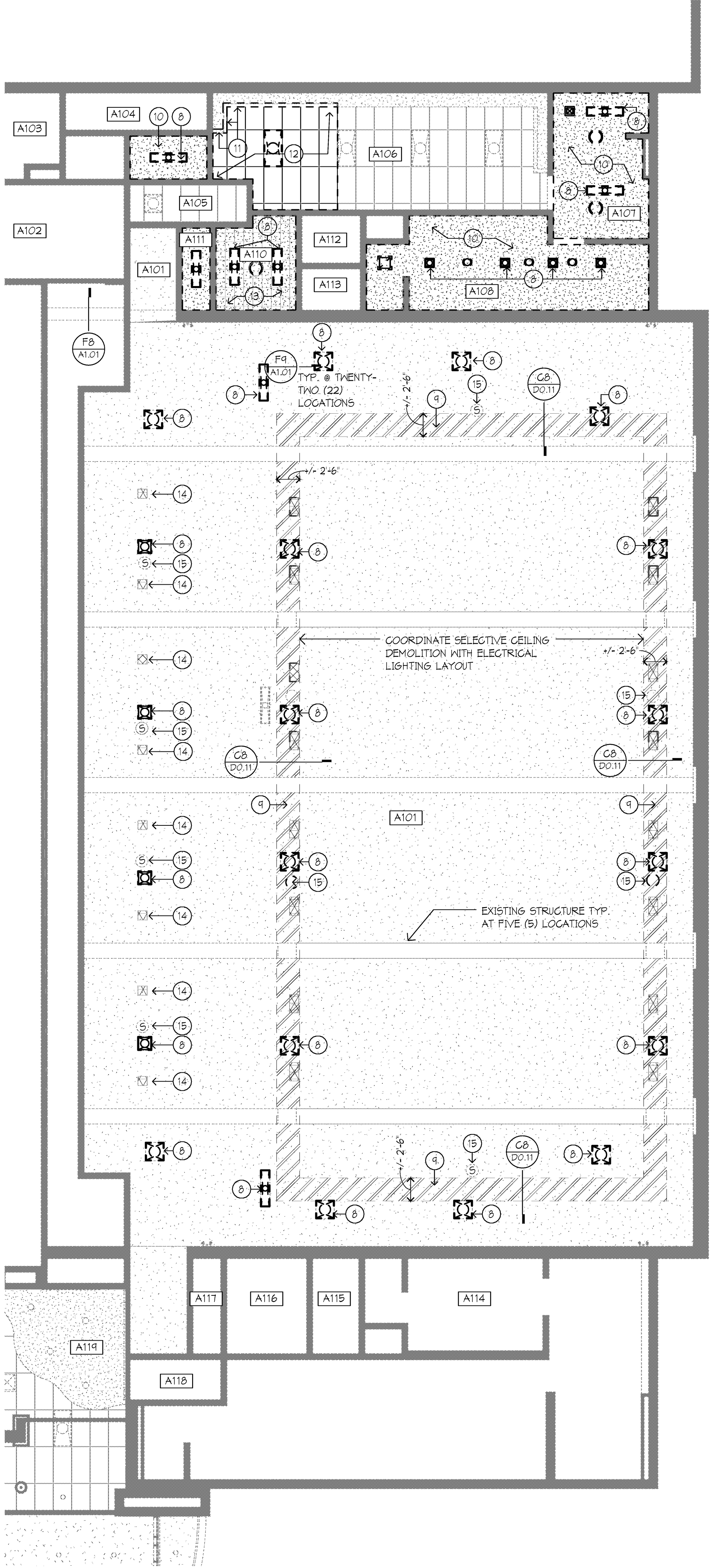
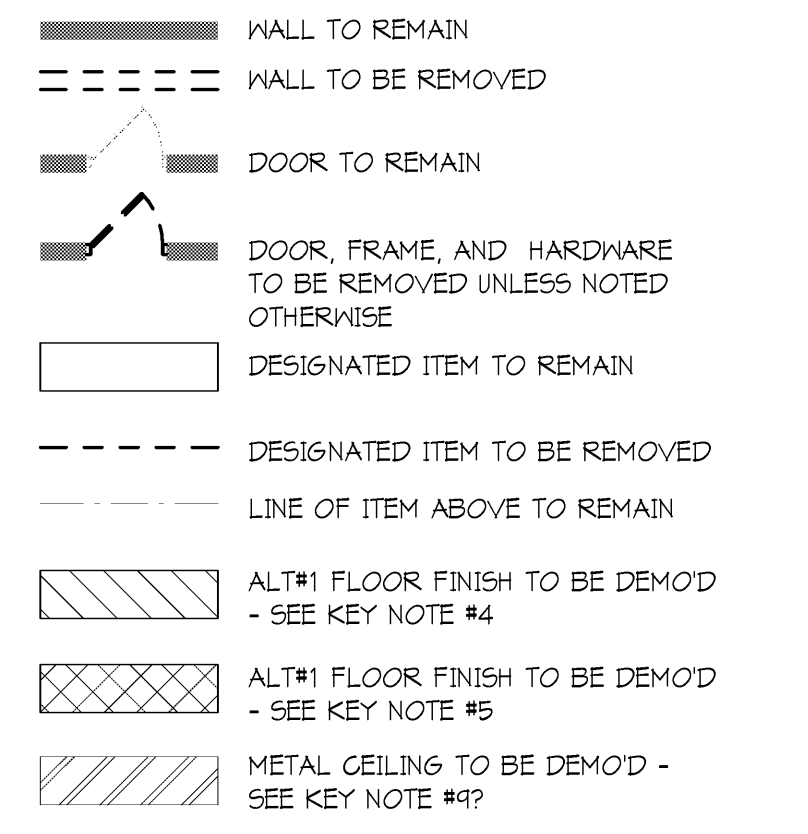
DEMOLITION PLAN KEY NOTES:

- 1 EXISTING POOL LIGHT TO BE DEMOLISHED, SEE ELECTRICAL FOR FURTHER INFORMATION.
- 2 NOT IN USE
- 3 SEE MECHANICAL & ELECTRICAL DRAWINGS FOR FURTHER DEMOLITION REQUIRED BY MODIFICATIONS
- 4 ALT #1 - DEMOLISH EXISTING POOL DECK TILE AND MORTAR BED, COVER BASE AND WALL TILE IS TO REMAIN, PROTECT DURING DEMOLITION, EXISTING INSTALLATION IS ON CONCRETE SLAB ON GRADE, SEE DETAIL H1/A0.11
- 5 ALT #1 - DEMOLISH EXISTING POOL DECK TILE AND MORTAR BED, COVER BASE AND WALL TILE IS TO REMAIN, PROTECT DURING DEMOLITION, EXISTING INSTALLATION IS ON CONCRETE PLANK TYPE STRUCTURE OVER PIPE TUNNELS, H2/A0.11
- 6 DEMOLISH A 6"x6" 5/8" OPENING (APPROXIMATELY) @ EXISTING EXTERIOR WALL FINISH FOR REINSTALLATION, EXISTING BOILER WILL BE REMOVED THROUGH NEW OPENING, PROTECT OPENING FROM WEATHER, VANDALISM, ETC, COORD. DEMOLITION W/ OWNER
- 7 EXISTING TUNNEL WALL BELOW POOL DECK
- 8 REMOVE EXISTING CEILING MOUNTED LIGHT FIXTURE, SEE ELEC. FOR FURTHER INFORMATION.
- 9 DEMOLISH EXISTING ALUM. PANEL CEILING SYSTEM TO EXTENTS SHOWN, PROVIDE A STRAIGHT, FINISHED EDGE, SEE DETAILS FOR FINISHING REQUIREMENTS, WHERE REQUIRED, RE-SUPPORT EXISTING METAL PANELS FROM ABOVE, SALVAGE MATERIAL AS NECESSARY TO PATCH LOCATIONS AS SHOWN ON DRAWING FS/A1.01
- 10 DEMOLISH EXISTING GYP BD/PLASTER CEILING AND ALL ASSOCIATED ACCESSORIES
- 11 DEMOLISH EXISTING GYP BD. SOFFIT AS REQUIRED FOR NEW MECHANICAL WORK, COORD. WITH MECHANICAL CONTRACTOR.
- 12 REMOVE AND SALVAGE FOR REINSTALLATION CEILING TILES AND GRID AS NECESSARY FOR MECHANICAL UNIT INSTALLATION AND STRUCTURAL MODIFICATIONS
- 13 OWNER TO DEMO 12"x12" CEILING TILE AND ALL ASSOCIATED HANGING ACCESSORIES
- 14 EXISTING CEILING PATCH TO REMAIN
- 15 EXISTING SPRINKLER HEAD TO REMAIN.
- 16 COVER BASE AND WALL TILE IS TO REMAIN, PROTECT DURING DEMOLITION
- 17 REMOVE EXISTING STARTING BLOCK SLEEVES & CAPS COMPLETELY
- 18 DEMOLISH EXISTING FLOOR TILE BETWEEN THRESHOLD AND FLOOR DRAIN
- 19 CONTRACTOR RESPONSIBLE FOR MAINTAINING INTEGRITY OF PERMANENT STRUCTURES IN FLOOR (I.E. POOL LADDERS, STANDARD SLEEVES, AND STARTING BLOCK SLEEVES)
- 20 EXISTING POOL FILL PIPE TO REMAIN
- 21 REMOVE AND SALVAGE FOR REINSTALLATION DIVING BOARD, AS NECESSARY FOR TILE REPLACEMENT

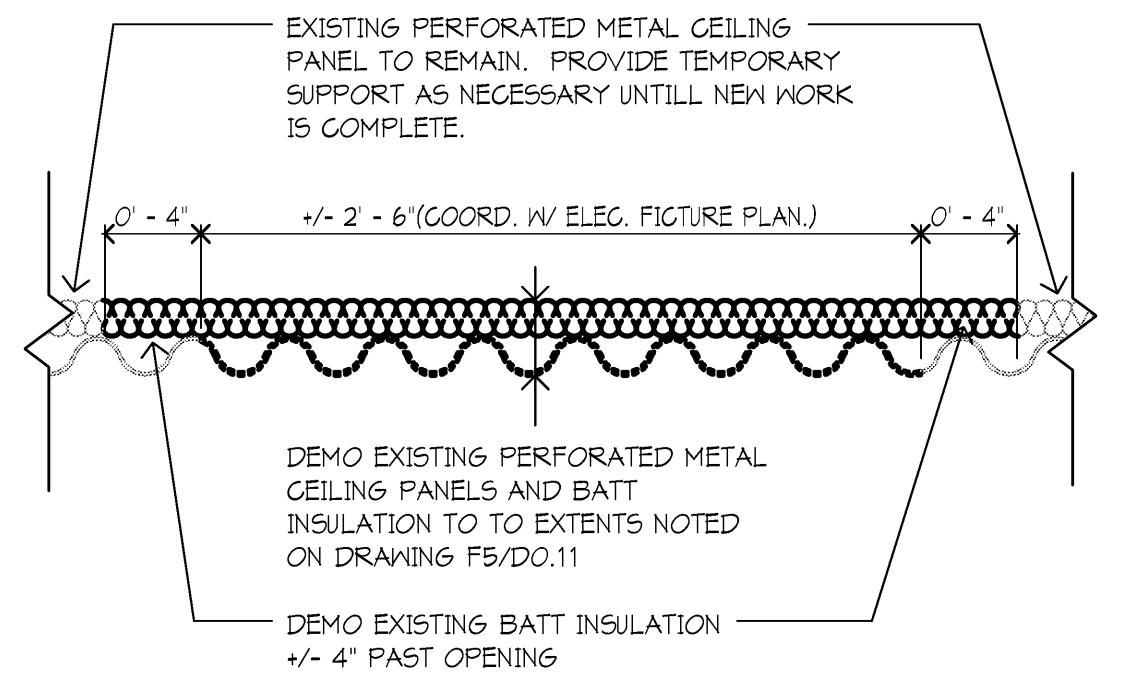
DEMOLITION PLAN GENERAL NOTES:

1. COORDINATE DEMOLITION SCHEDULE W/ SCHOOL OWNER TO CONDUCT HEAVY OPERATIONS AFTER OCCUPIED HOURS, MAINTAIN SAFETY ZONE/GUARDS AT DEMOLITION OPERATIONS TO PROTECT BUILDING OCCUPANTS & PREVENT UNAUTHORIZED ENTRY INTO DEMOLITION WORK AREAS. SEE SPECIFICATION FOR BLDGS. OCCUPIED TIMES AND DEMOLITION REQUIREMENTS.
2. PROTECT ADJACENT CONSTRUCTION/EQUIPMENT FROM DAMAGE DURING DEMOLITION/CONSTRUCTION OPERATIONS. REFER TO SPECIFICATION FOR REQUIREMENTS.
3. SEE MECHANICAL & ELECTRICAL SHEETS FOR FURTHER DEMOLITION INFORMATION.
4. PROTECT POOL DURING CONSTRUCTION EFFORTS, AFTER POOL IS DRAINED, COVER WITH VISQUEINE.
5. BASE TILE AT POOL DECK PERIMETER IS TO REMAIN, NEW TILE WILL BE INSTALLED ABUTTING IT. (ALT#1)

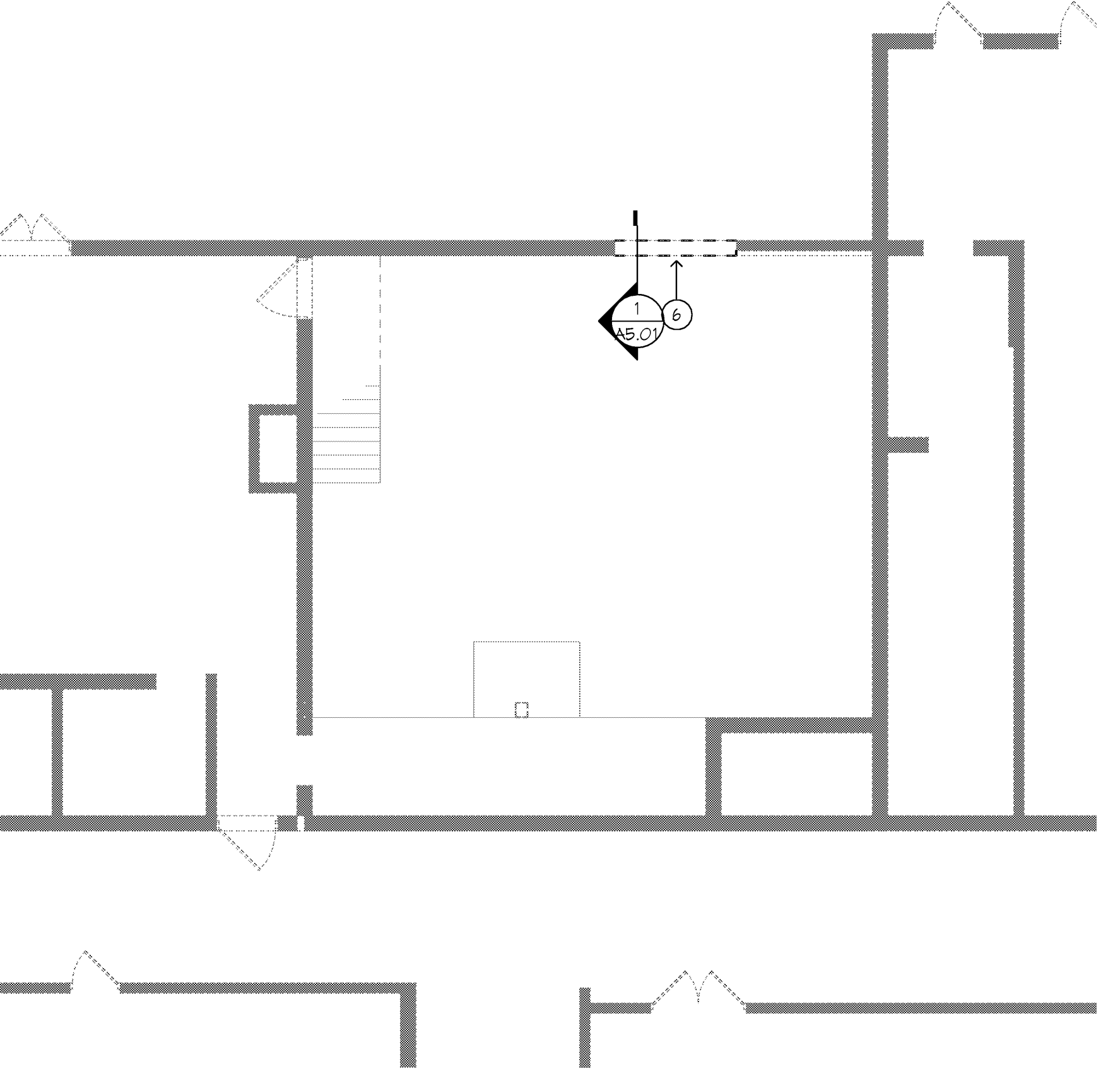
DEMOLITION LEGEND



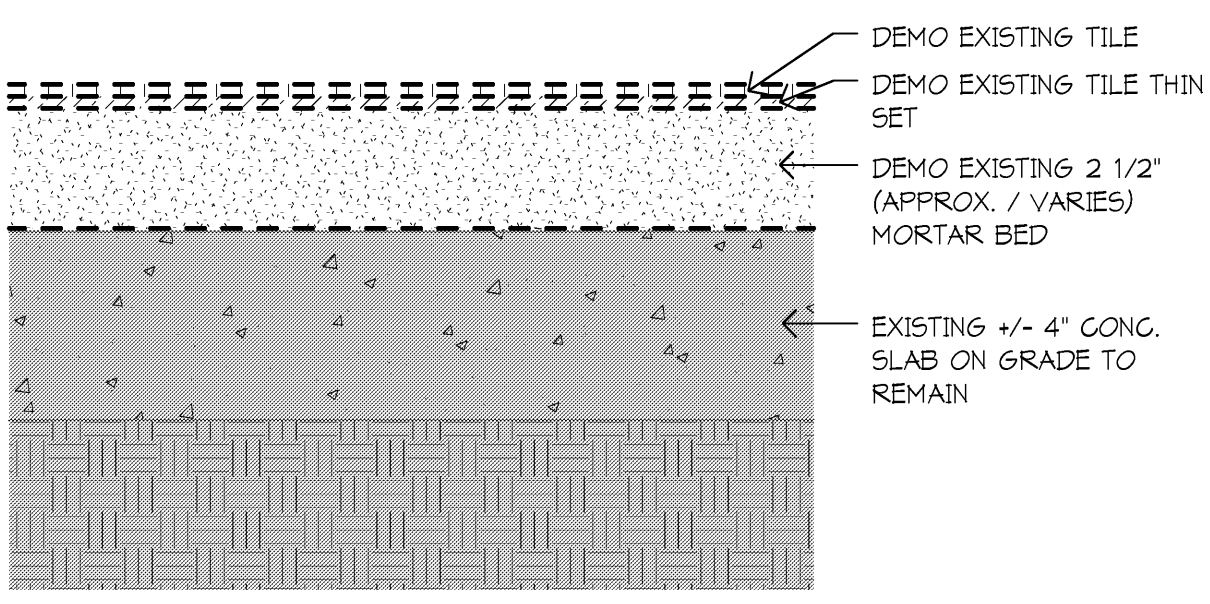
(FB) DEMO REFLECTED CEILING PLAN - AREA 'A'
1/8" = 1'-0"



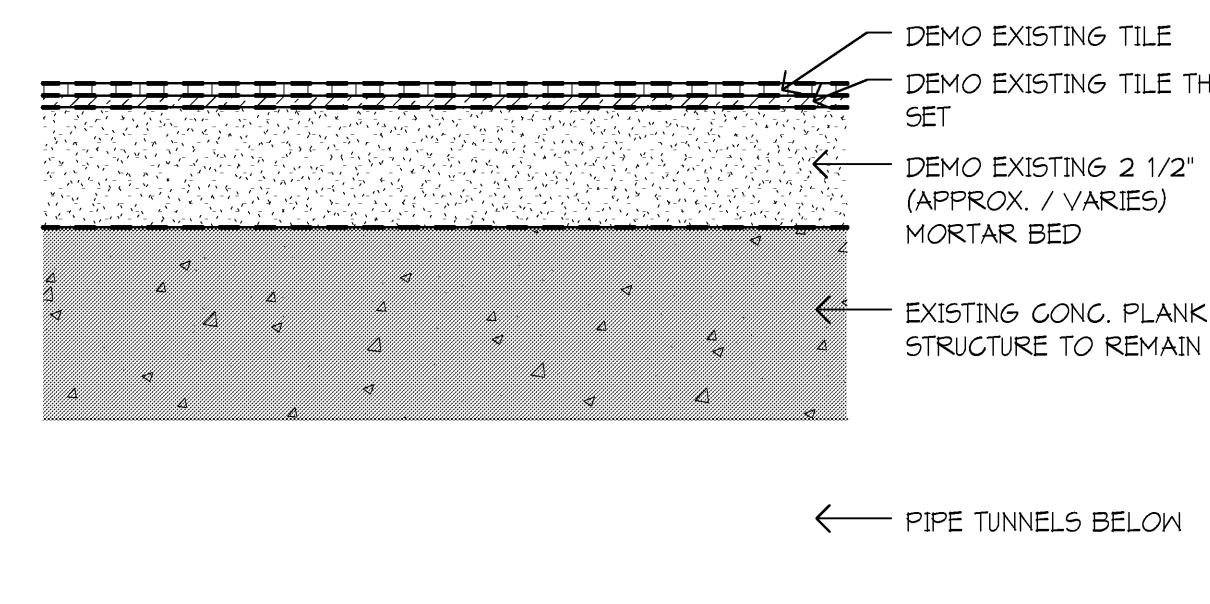
(CB) METAL PANEL DEMO DETAIL
1 1/2" = 1'-0"



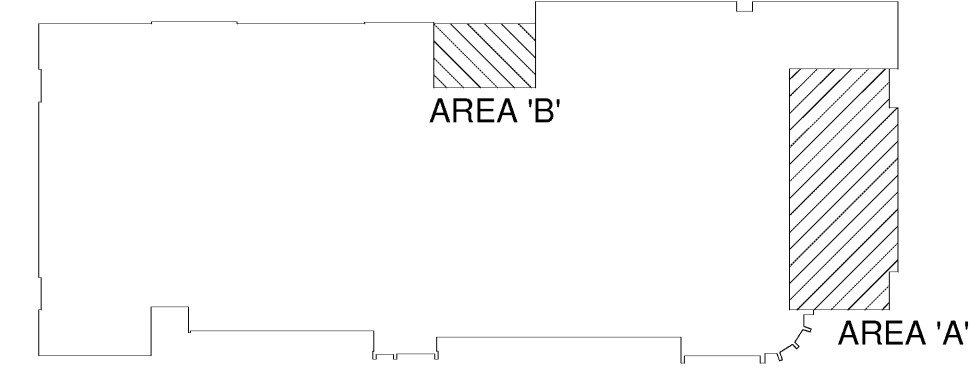
(FB) MAIN LEVEL DEMO FLOOR PLAN - AREA 'B'
1/8" = 1'-0"



(H1) DEMO DETAIL #1
3" = 1'-0"



(H2) DEMO DETAIL #2
3" = 1'-0"



KEY PLAN

I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly licensed ARCHITECT under the laws of the State of Reg 5506

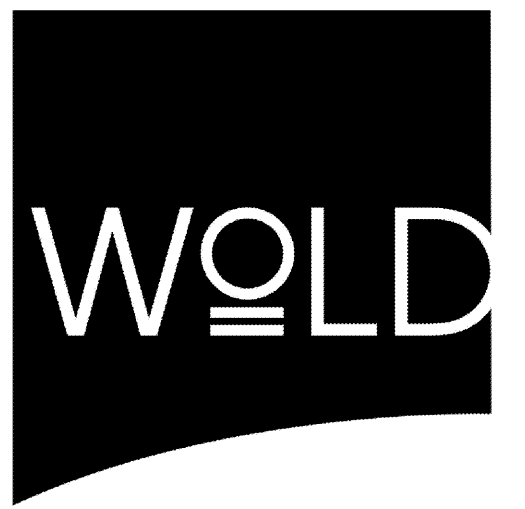
Revisions			
Description	Revisions	Date	Hum

Comm: 124008
Date: 3/29/2012
Drawn: VM
Check: ACS

**DEMOLITION PLANS
- AREA 'A' & AREA
'B'**

Scale: As indicated

DO.11

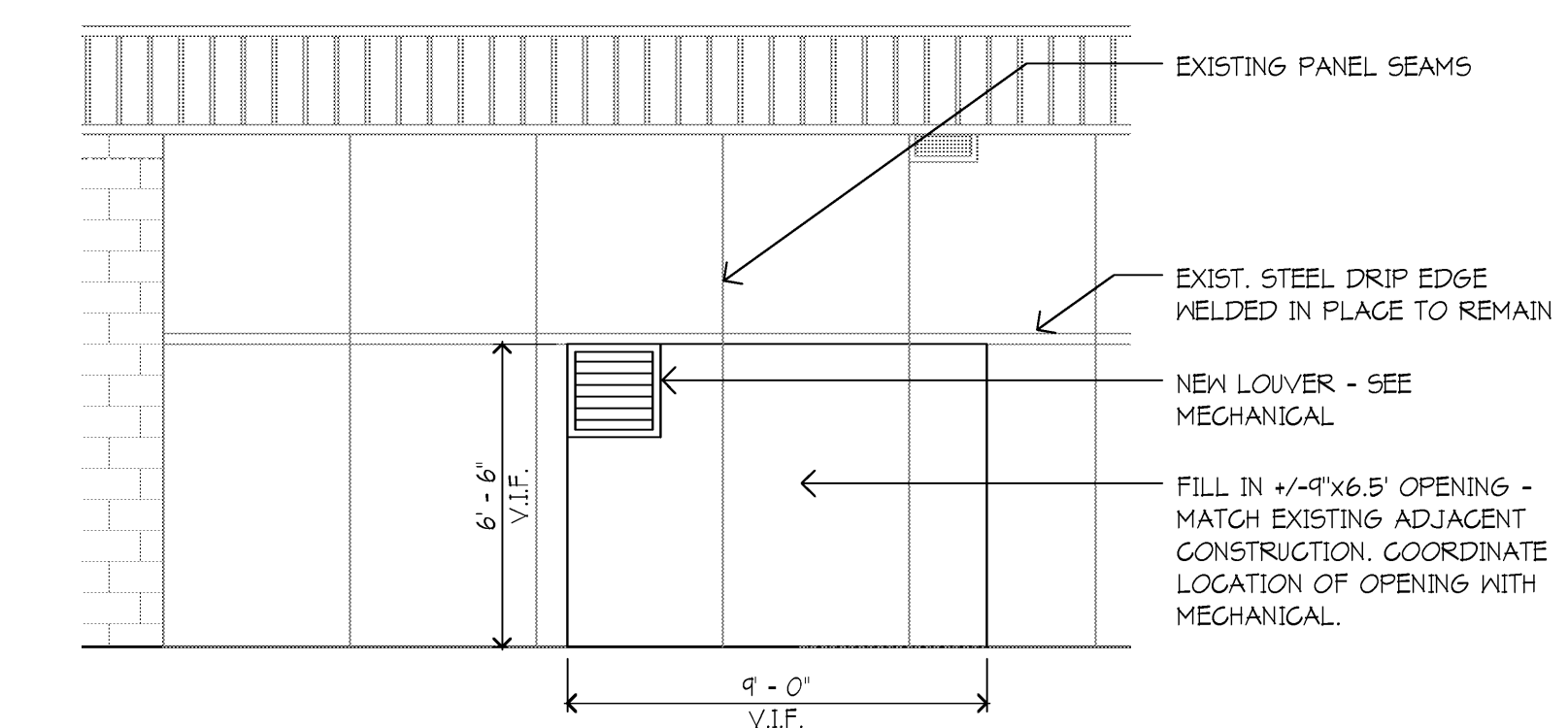


FLOOR PLAN GENERAL NOTES:

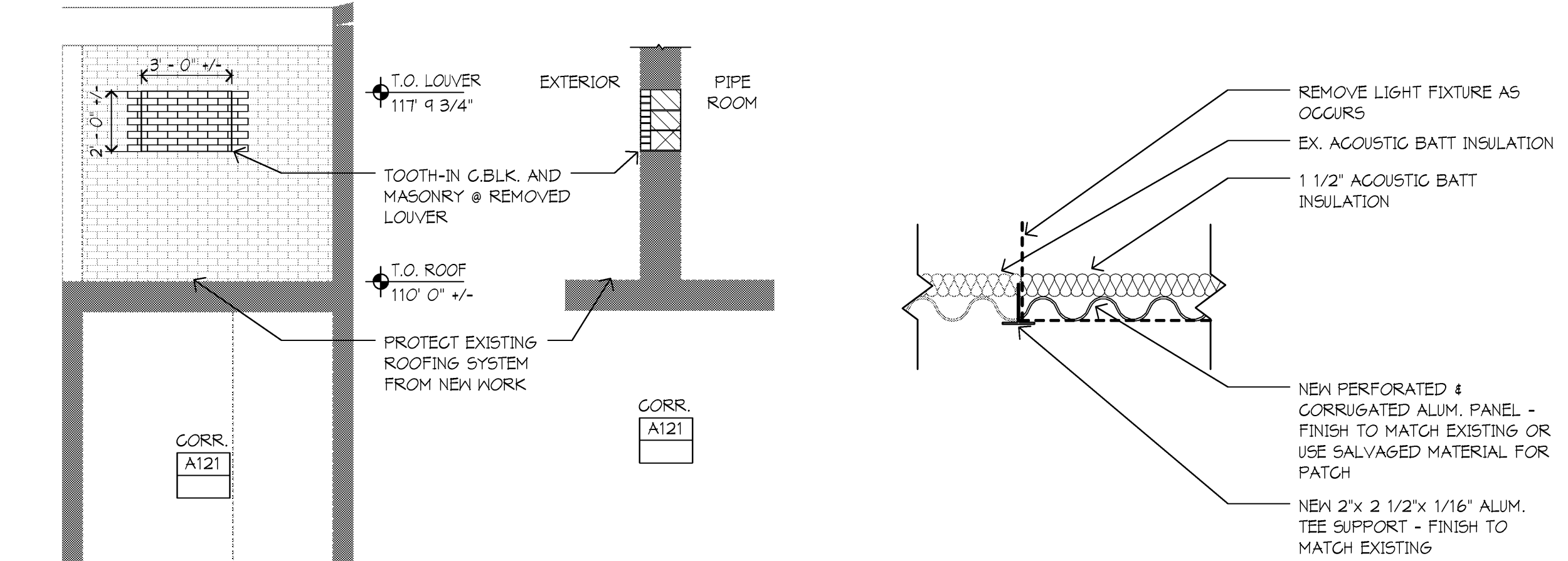
- REFER TO DETAILS OF CONSTRUCTION ON DRAWING A0.01 FOR:
 - ABBREVIATIONS, MATERIAL SYMBOLS
 - MOUNTING HEIGHTS
 - INTEL. SCHEDULE
 - MATERIAL FINISH/COLOR SCHEDULE
 - WALL TYPES
 - MARKER BOARD TYPES AND MOUNTING HEIGHTS
- THE ABOVE SECTIONS ARE LISTED FOR REFERENCE ONLY, AND ARE NOT EXCLUSIVE TO AREAS OF WORK. ALL DETAILS SHALL BE REVIEWED FOR SCOPE OF WORK.
- ALL CONCRETE BLOCK WALLS ARE TO BE 8" THICK UNLESS OTHERWISE NOTED.
- COORDINATE SIZE AND LOCATION OF ALL DUCT AND SHAFT OPENINGS IN WALLS AND FLOORS W/ MECH. AND ELEC. PROVIDE ALL REQUIRED LINTELS FOR OPENINGS. SEE INTEL. SCHEDULE.
- FIELD VERIFY ALL EXISTING CONSTRUCTION AS REQUIRED FOR NEW WORK.
- SET FLOOR DRAINS 1/4" BELOW FINISHED CONCRETE FLOORS UNLESS NOTED OTHERWISE. PROVIDE CONSISTENT SLOPE FROM WALL TO DRAIN BY SLOPING CONCRETE.
- PROTECT EXISTING BUILDING AGAINST NEW CONSTRUCTION ACTIVITIES. CONTRACTOR RESPONSIBLE FOR ANY DAMAGES THAT OCCUR.
- HEAVY LINES THIS INDICATES BUILDING MATCH LINE

REFLECTED CEILING PLAN LEGEND:

- 2 X 4 LIGHT FIXTURE (IN CEILING GRID)
- 2 X 4 PENDANT LIGHT FIXTURE (SEE ELEC.)
- SPEAKER N.I.C. (FOR REF. ONLY)
- AIR DIFFUSER (IN CEILING GRID)
- RETURN AIR GRILLE (IN CEILING GRID)
- EXHAUST GRILLE
- GYPSUM BOARD CEILING / SOFFIT

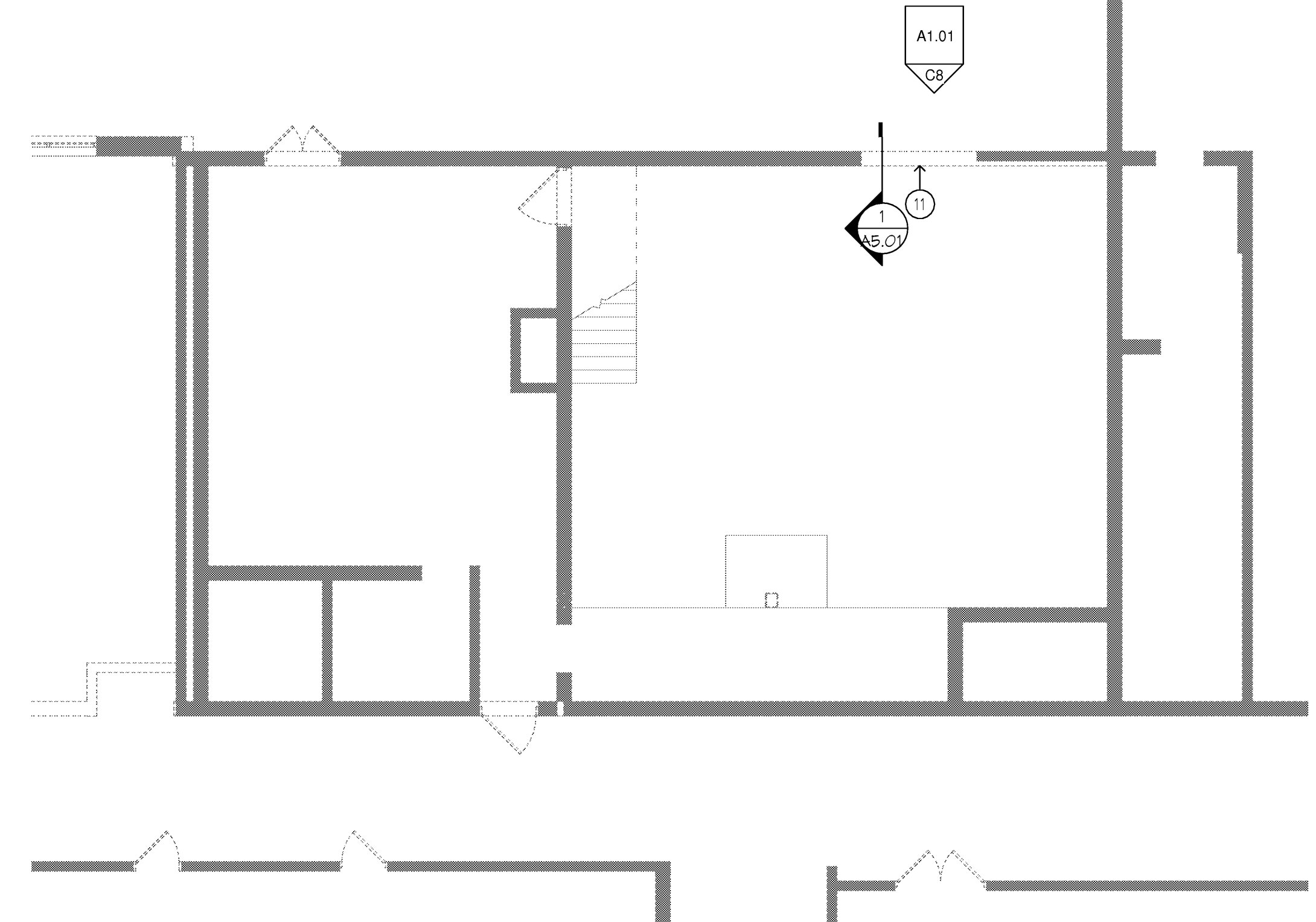


CB EXTERIOR WALL PATCHING @ MECHANICAL ROOM
1/4" = 1'-0"

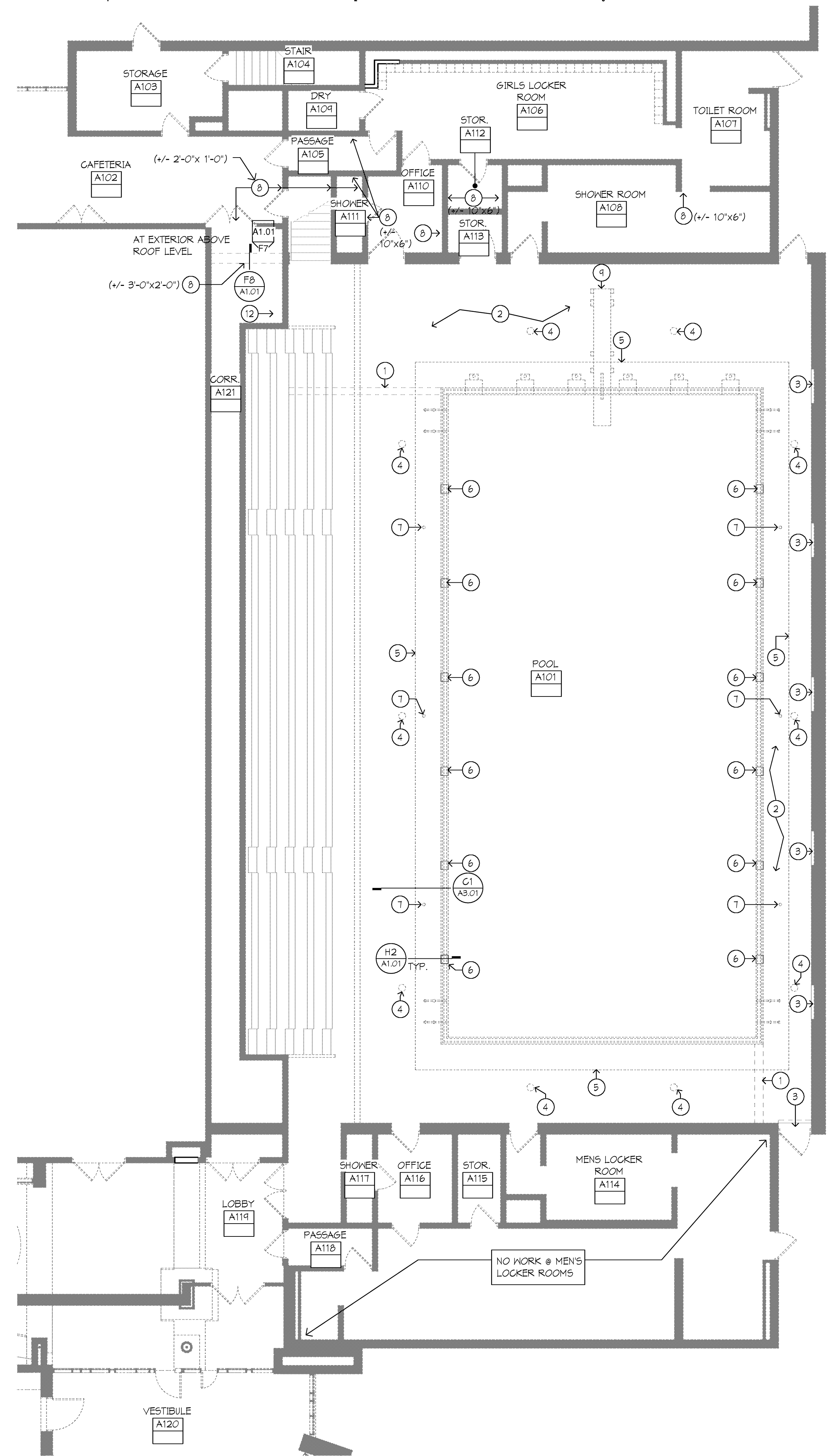


FA PATCHING DETAIL @ LIGHT FIXTURE REMOVAL
1 1/2" = 1'-0"

FB SECTION @ MASONRY PATCHING
1/4" = 1'-0"



HB MAIN LEVEL FLOOR PLAN - AREA 'B'
1/8" = 1'-0"

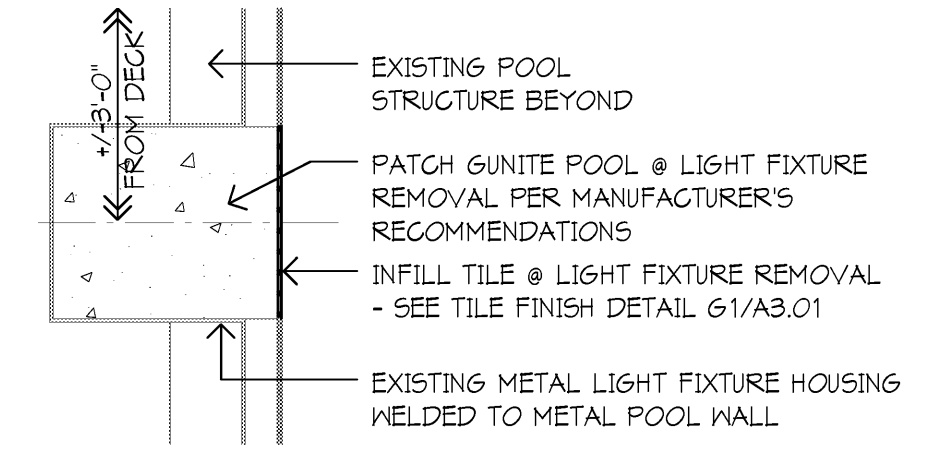


F1 MAIN LEVEL FLOOR PLAN - AREA 'A'
1/8" = 1'-0"

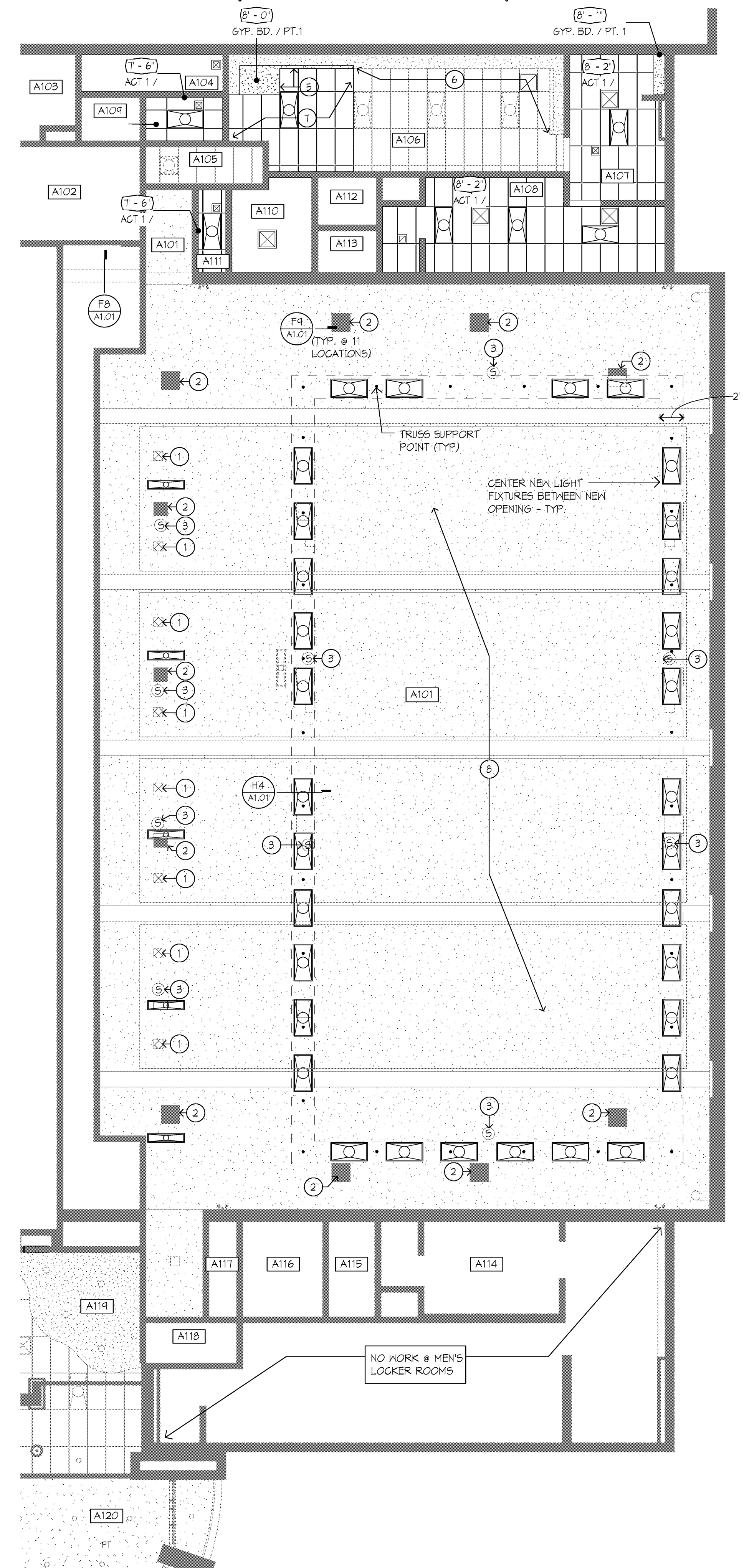
- FLOOR PLAN KEY NOTES:**
- EXISTING TUNNEL WALL BELOW POOL DECK
 - EXISTING PIPING TUNNEL BELOW POOL DECK
 - EXISTING MECHANICAL VENT/LOUVER PENETRATION
 - EXISTING FLOOR DRAIN LOCATION, SEE MECHANICAL FOR FURTHER INFORMATION.
 - LINE OF PREVIOUS POOL DECK REPLACEMENT REPAIR.
 - INFILL GUNITE POOL WALL AT LIGHT FIXTURE REMOVAL, SEE DETAIL H2/A1.01 FOR FURTHER INFORMATION.
 - EXISTING BACKSTROKES STANDARD TO REMAIN, PROTECT DURING CONSTRUCTION.
 - TOOTH-IN NEW CONCRETE BLOCK AT OPENING DUE TO MECHANICAL WORK. APPROXIMATE OPENING SIZE IS MARKED IN PARENTHESIS BESIDE KEYNOTE. MATCH ADJACENT EXISTING FINISHES. ENSURE NEW WORK COMPLIES W/ MICHIGAN BUILDING CODE 2004 AND NFPA.
 - REINSTALL SALVAGED DIVING BOARD
 - SEE PHASING PLAN ON DRAWING A0.01 FOR INSTRUCTION FOR POOL DRAINING & CARE THROUGHOUT CONSTRUCTION.
 - REBUILD HALL TO MATCH EXISTING CONSTRUCTION, SHEATH EXTERIOR WITH SALVAGED PANELS, SEE SECTION FB/A1.01 FOR FURTHER INFORMATION.
 - PATCH IN RETURN OPENING IN MEZZ. CONCRETE FLOOR DUE TO MECHANICAL WORK (16'X30')

GENERAL NOTES

- See mechanical and electrical sheets and coord. all work as required between each contractor.
 - Prep, prime, and paint all patching due to mechanical and electrical improvements to match existing adjacent finish.
- ROOM FINISH SCHEDULE GENERAL NOTES**
- See drawing A0.01 for abbreviations.
 - At discrepancies between the room finish schedule and drawings, the Architect will determine the finish.
 - Refer to material finish schedule for specific finish types.
 - For ceiling material when more than one ceiling material occurs the ceiling finish is indicated thus: "1".
 - All locations scheduled with epoxy paint are to match the paint color with the same number as called out in the material schedule.
 - See detail E1VA3.01 for floor tile pattern.



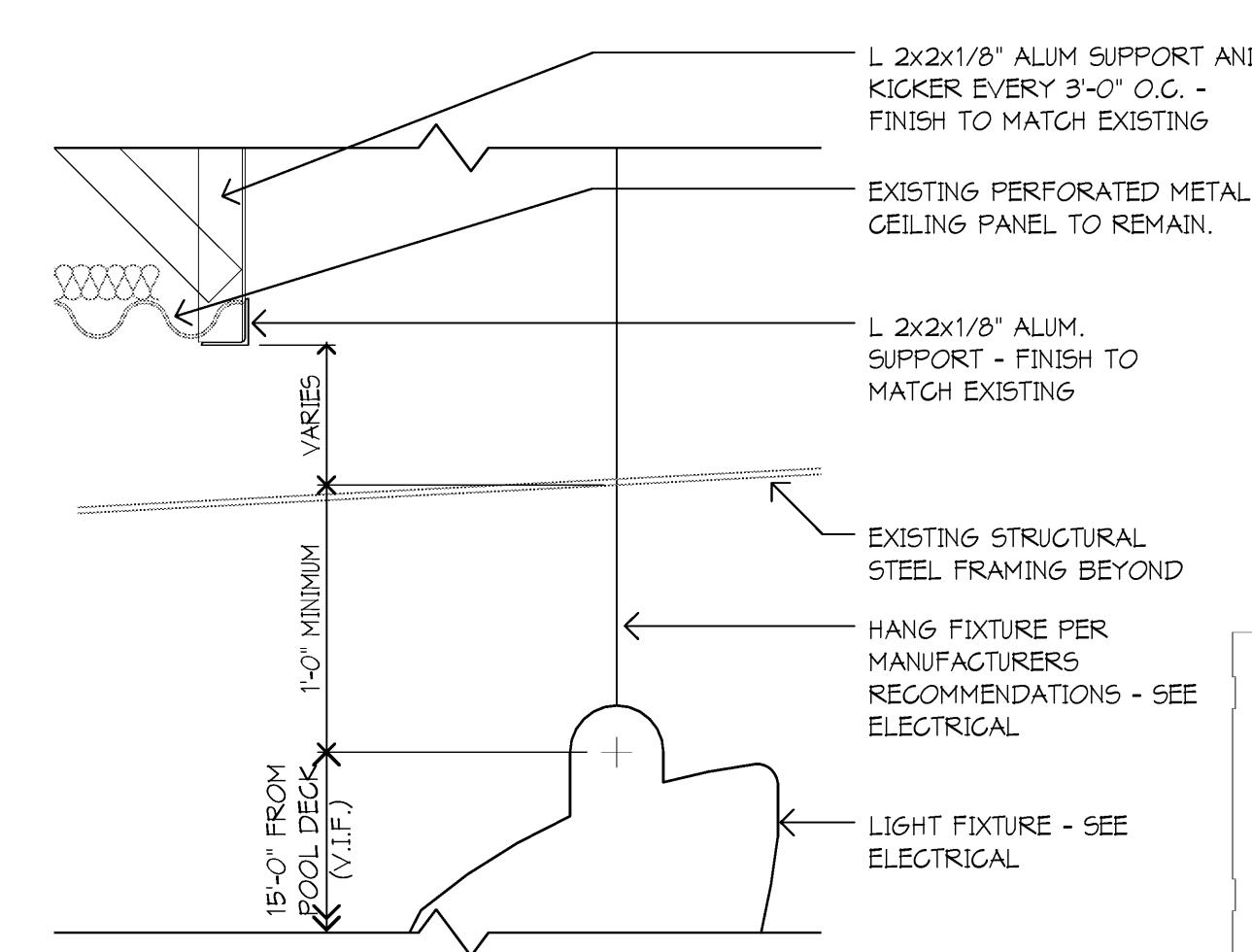
H2 LIGHT FIXTURE REMOVAL PATCHING
1 1/2" = 1'-0"



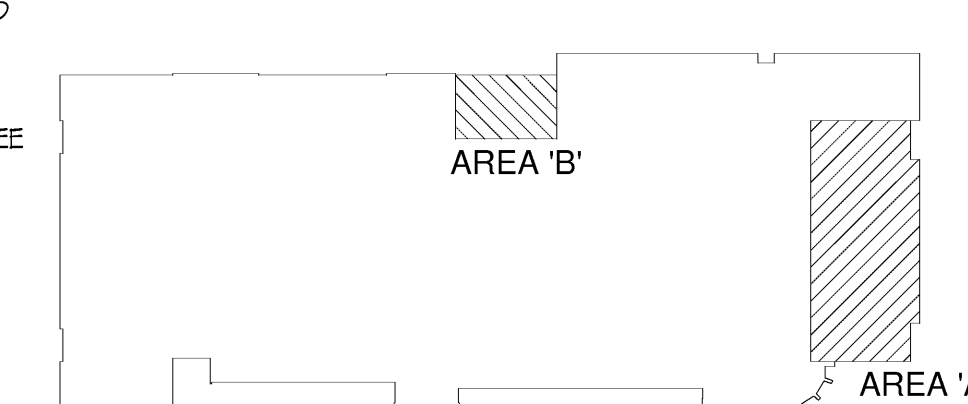
FB MAIN LEVEL REFLECTED CEILING PLAN - AREA 'A'
1/8" = 1'-0"

REFLECTED CEILING PLAN KEY NOTES:

- EXISTING PATCH AT PERFORATED METAL CEILING PANELS.
- PATCH EXISTING METAL CEILING PANEL SYSTEM WITH SALVAGED MATERIAL, SEE DETAIL FA/A1.01
- EXISTING SPRINKLER HEAD, TO REMAIN, MODIFY AS REQUIRED DUE TO NEW LIGHT FIXTURES.
- NOT IN USE
- NEW GYP. BD. SOFFIT/BULKHEAD
- EXIST. GYP. BD. CEILING/SOFFIT TO REMAIN
- REINSTALL SALVAGED CEILING TILES AND GRID.
- ALT #3 - PAINT EXTENTS OF EXISTING AND NEW METAL CEILING PANELS
- REINSTALL EXIST. CEILING DUE TO COMPLETE NEW MECHANICAL UNIT INSTALLATION



H4 SECTION @ CEILING OPENING
1 1/2" = 1'-0"



KEY PLAN

I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly licensed ARCHITECT under the laws of the State of Reg. State

Daniel Kribba
Registration Number 1301047942 Date 10/31/14

Description	Revisions	Date	Num

Comm: 12/03/08
Date: 3/29/2012
Drawn: VLS
Check: DTG

**MAIN LEVEL FLOOR
PLANS - AREA 'A' &
AREA 'B'**

Scale: As indicated

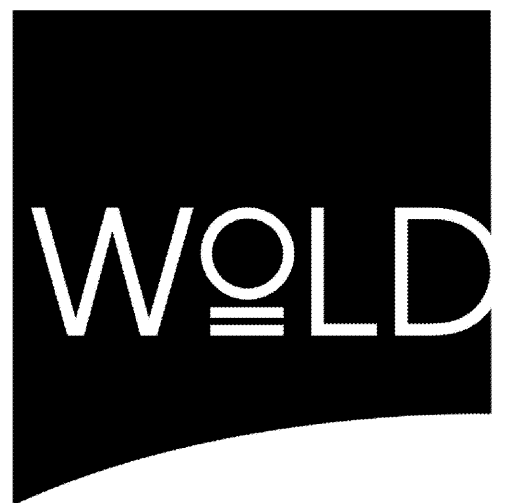
A1.01

MI

A

**ANNAPOLIS HIGH SCHOOL
POOL IMPROVEMENTS
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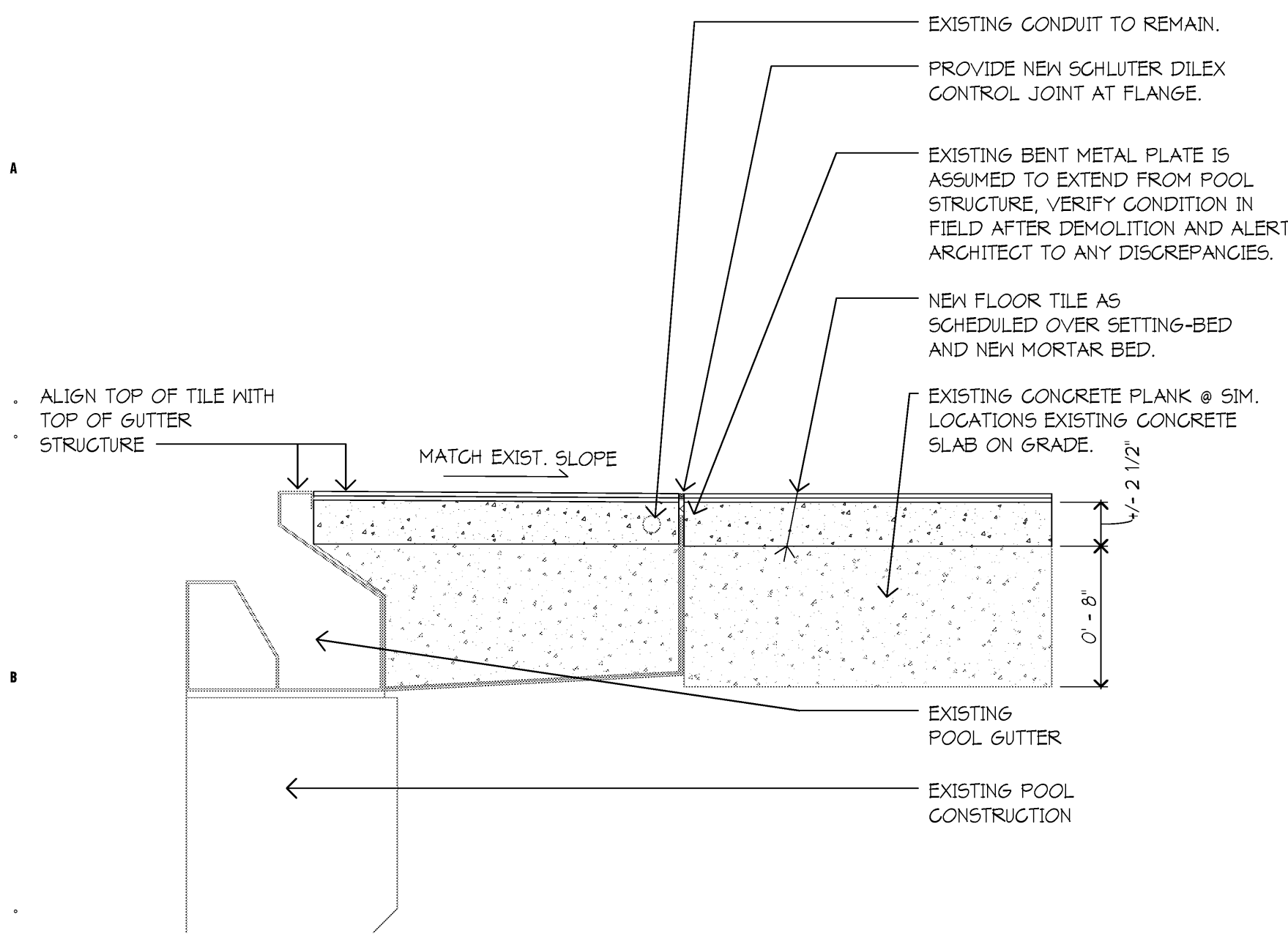
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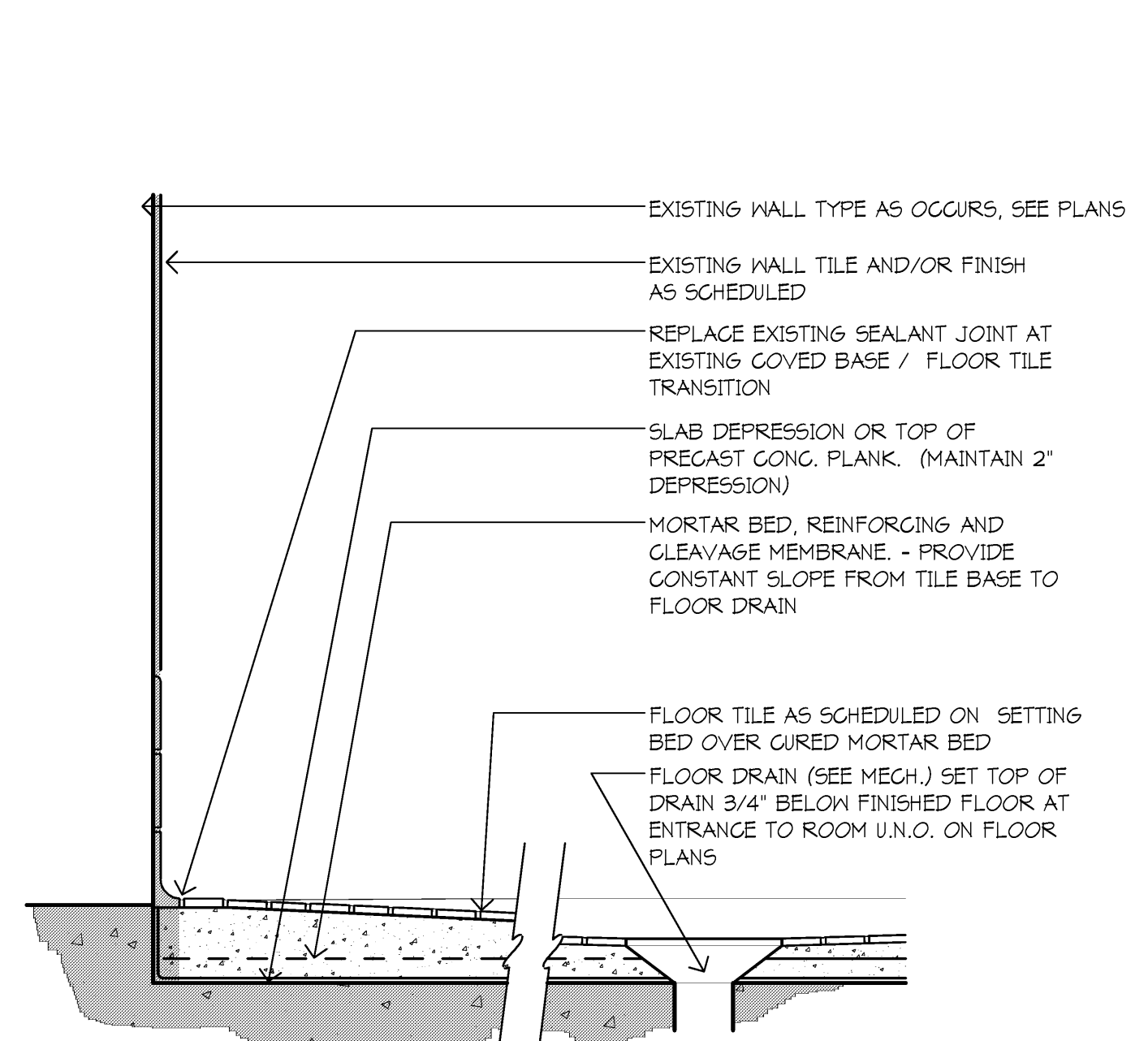
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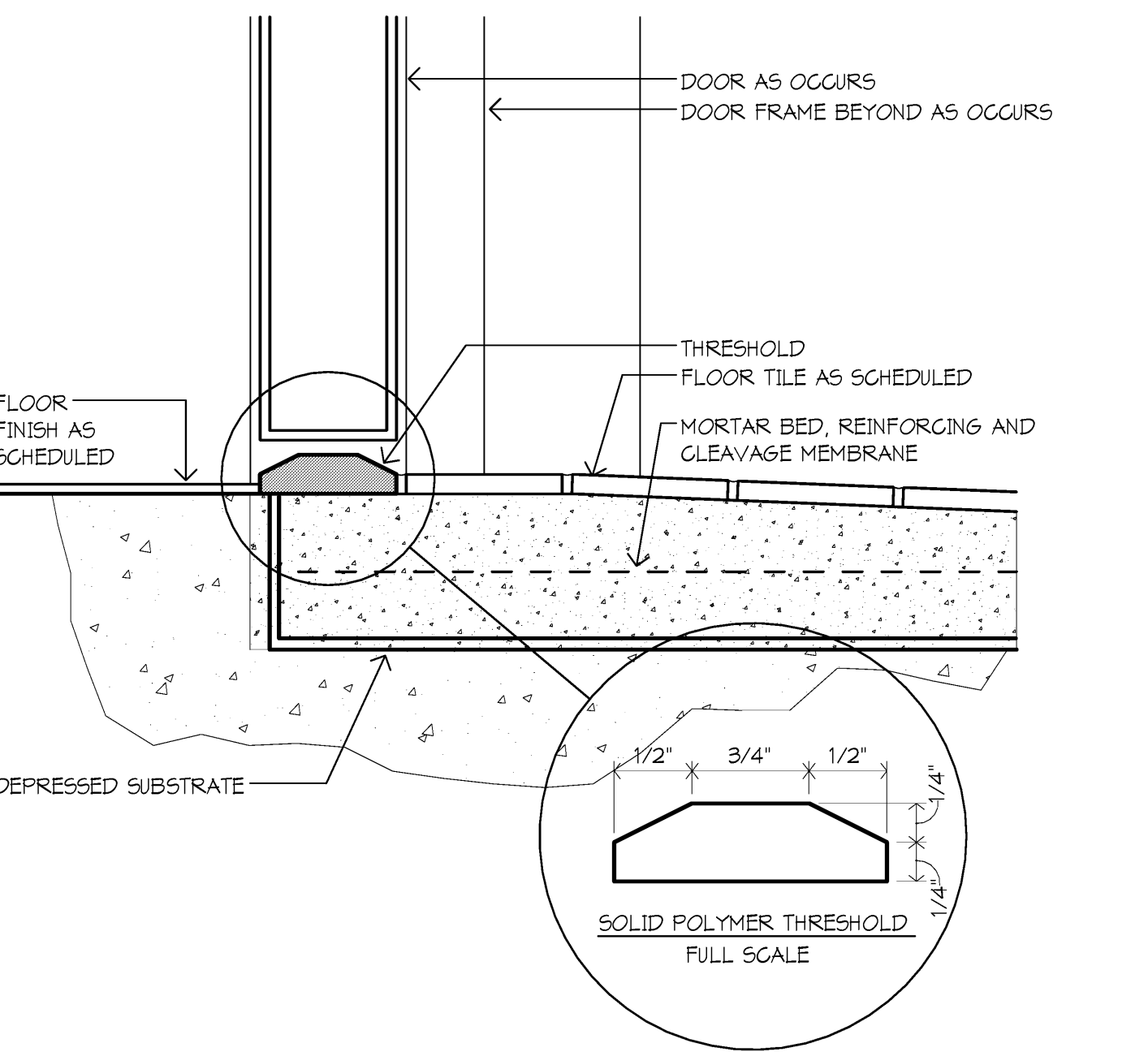


C1 DETAIL @ POOL DECK
1 1/2" = 1'-0"



D1 TYP. POOL ROOM SECTION
3" = 1'-0"

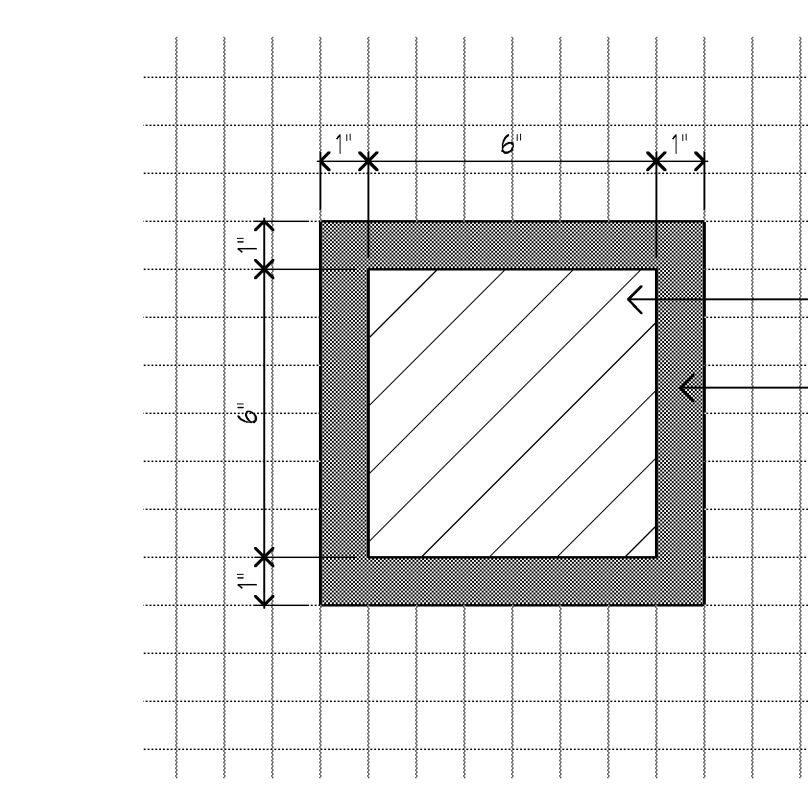
Item	MATERIAL FINISH / COLOR SCHEDULE	Manufacturer	Color/Finish
04 20 00 Unit Masonry Brick 1 - Field Mortar Colorant Block 1	Belden Brick Sales Co. As Specified As Specified		Color: Color to match existing building
07 92 00 Joint Sealants & Caulking Sealant	Tremco		Color: As selected by architect from standard color line
08 91 00 Louvers Prefinished Aluminum	As Specified		Custom color to match the material in which louver occurs
09 30 00 Tile Ceramic Floor Tile 1 - Field (1'X1') Ceramic Floor Tile 2 - Accent (1'X1') Ceramic Floor Tile 3 - Accent (1'X1') Grout - Ceramic Floor Tile	Dal Tile Dal Tile Dal Tile TEC Accucolor		Color: D037 Color: D189 Navy Color: D091 Moon Beam Color: 934 DeLorean Gray
09 91 00 Paint PT 1 - Walls, soffits and patching - Field Alt. #3 - PT 2 - Aluminum Ceiling Panels in Pool Room	Sherwin Williams Sherwin Williams		Color: Match existing wall surface Color: "White" - As selected by architect from standard color line



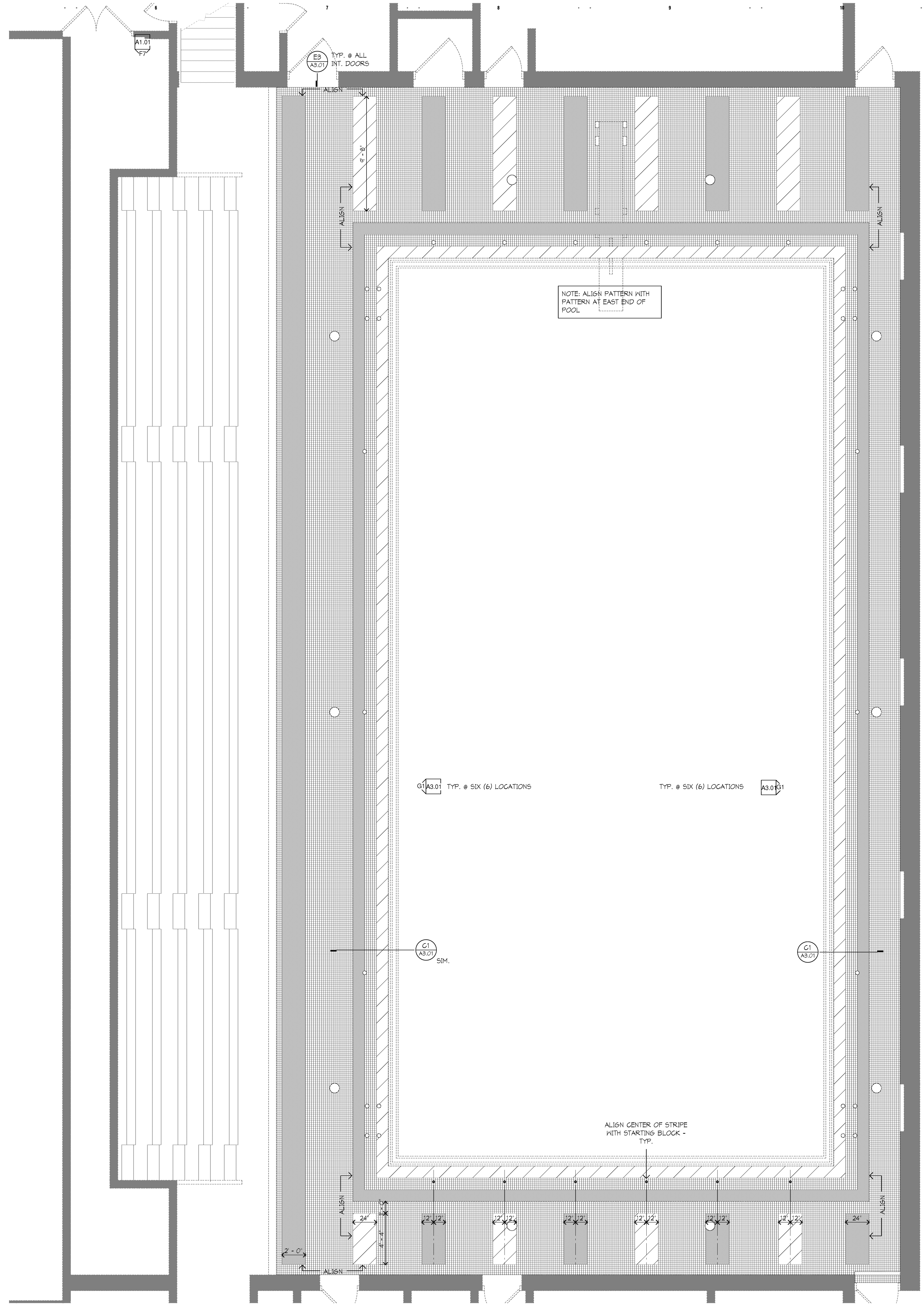
E3 TYP. POOL ROOM THRESHOLD
6" = 1'-0"

FLOOR FINISH LEGEND

- ALT#1 PORCELAIN TILE #1 DAL TILE 'KEYSTONES' - PEPPER WHITE D037
- ALT#1 PORCELAIN TILE #2 DAL TILE 'KEYSTONES' - NAVY D189
- ALT#1 PORCELAIN TILE #3 DAL TILE 'KEYSTONES' - MOON BEAM D091



G1 TILE FINISH DETAIL @ REMOVED LIGHT FIXTURES
3" = 1'-0"



E1 POOL TILE PATTERN
1/4" = 1'-0"

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Daniel Krizia
Registration Number 1301047842 Date 10/31/14

Description	Revisions	Date	Num

Comm: 124008
Date: 3/29/2012
Drawn: BAH
Check: DTK
North

ENLARGE FLOOR PATTERNS AND DETAILS

Scale: As Indicated

A3.01

A

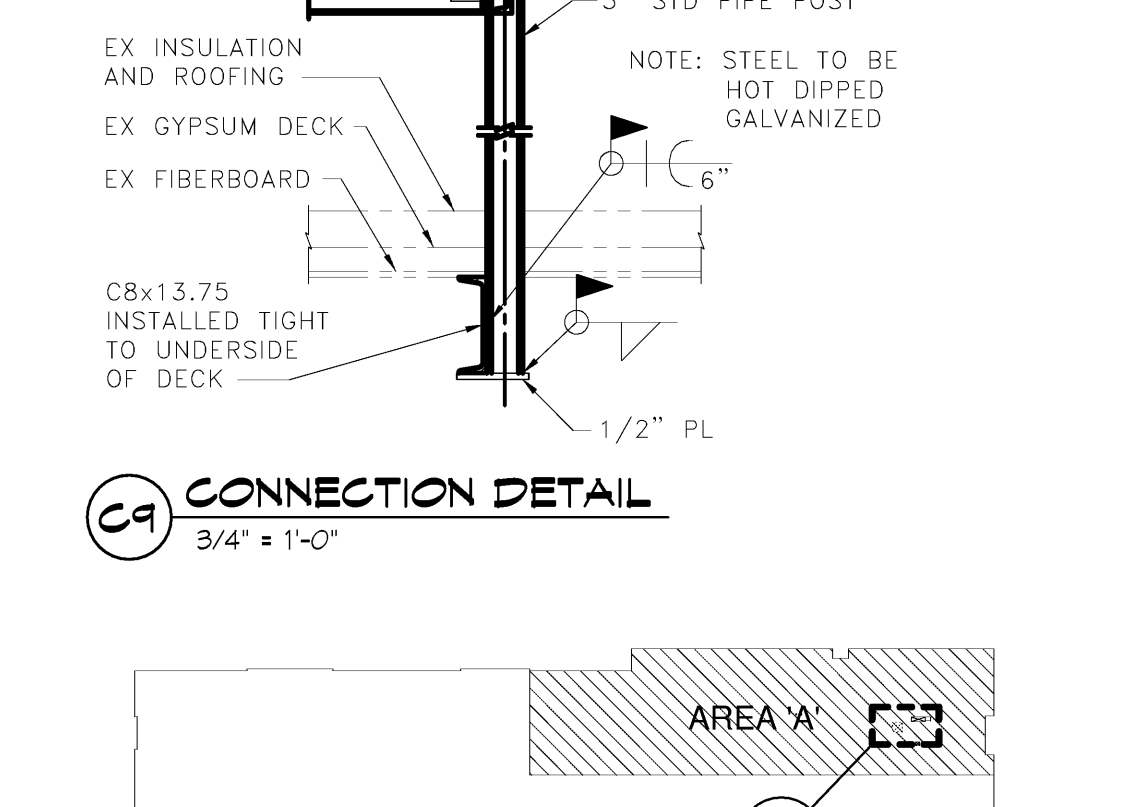
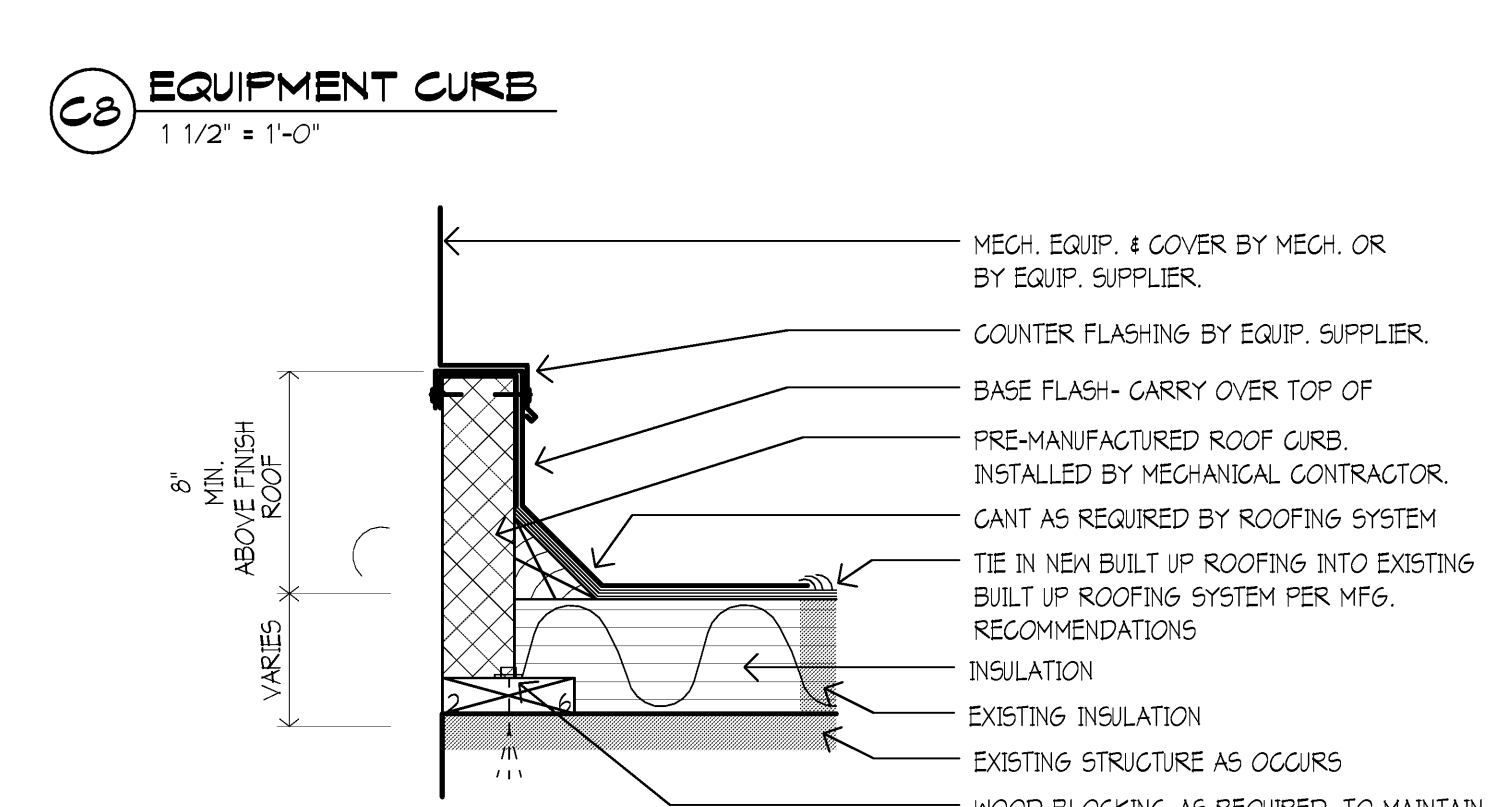
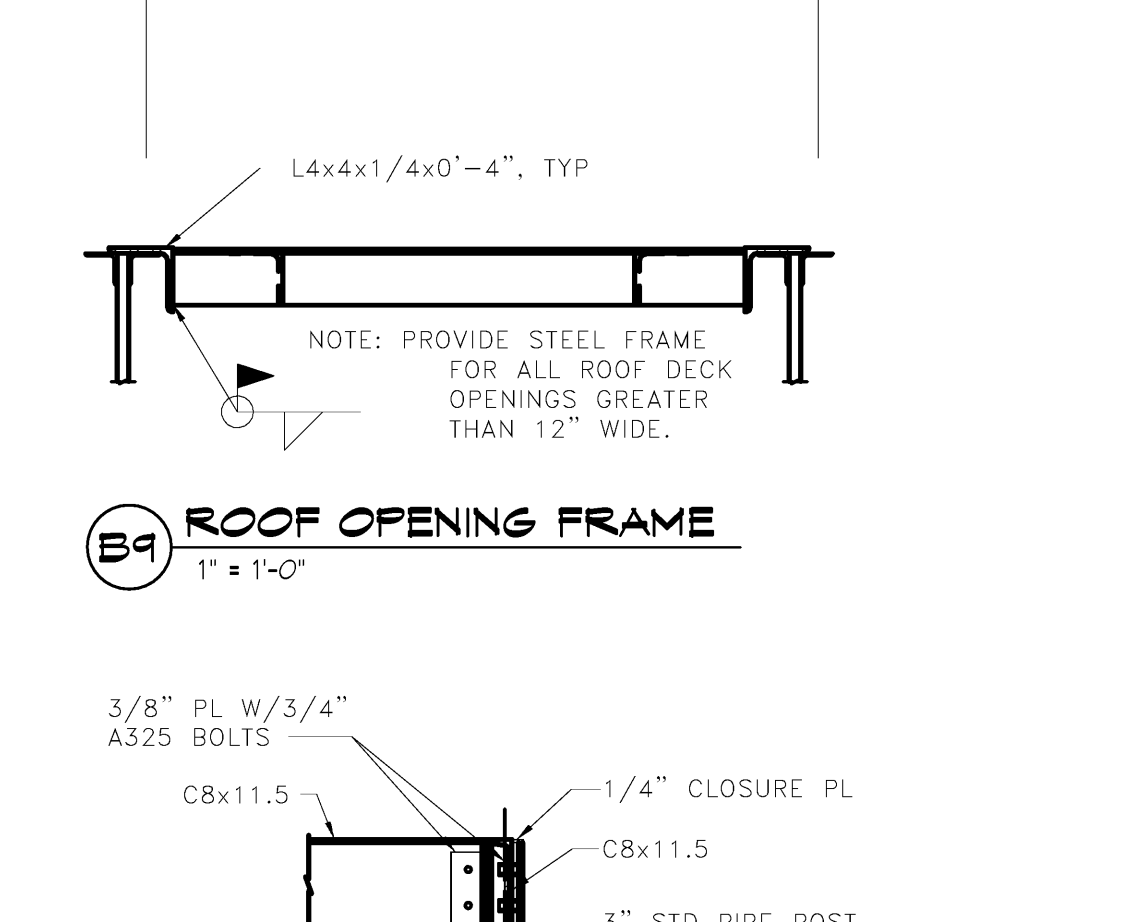
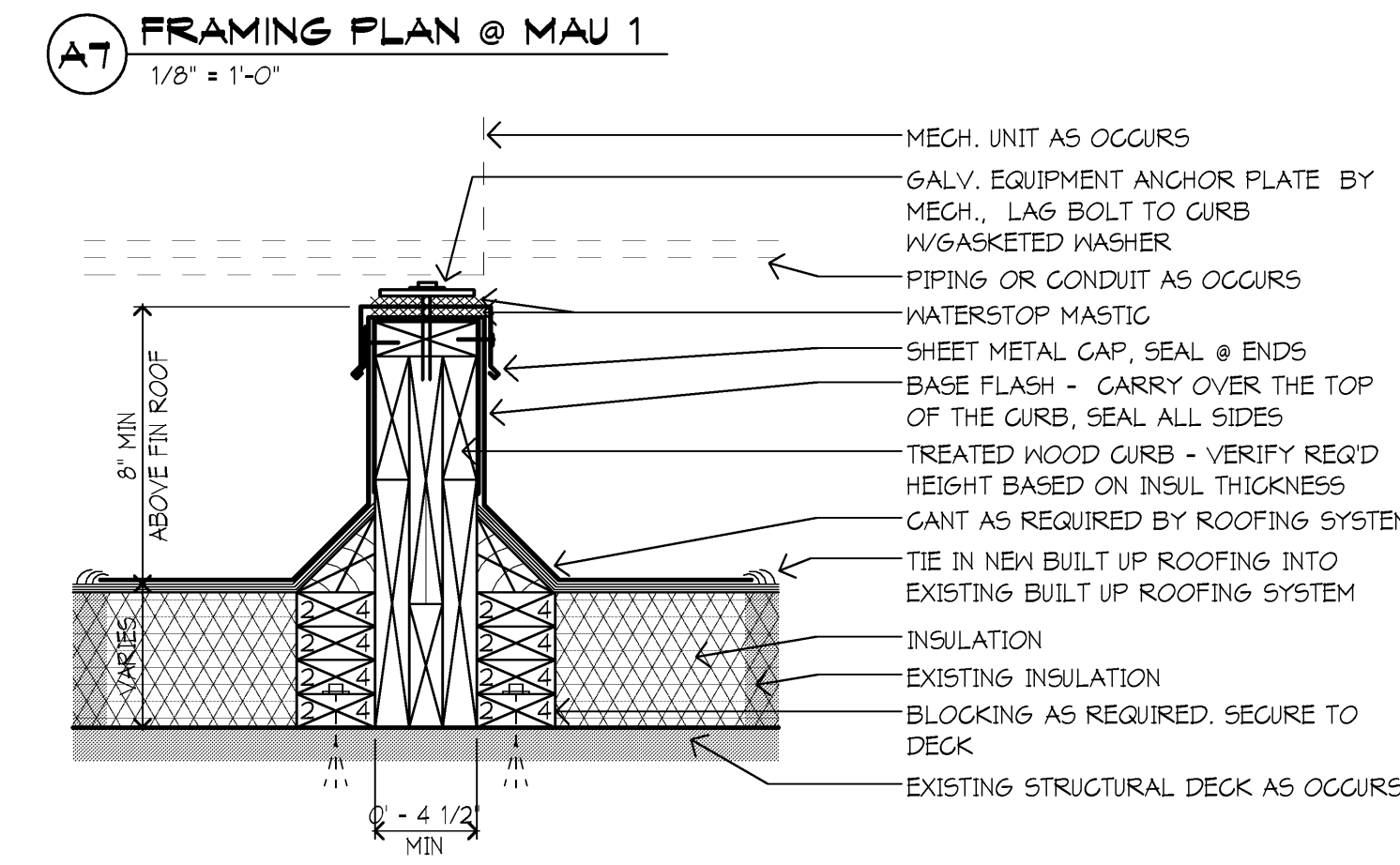
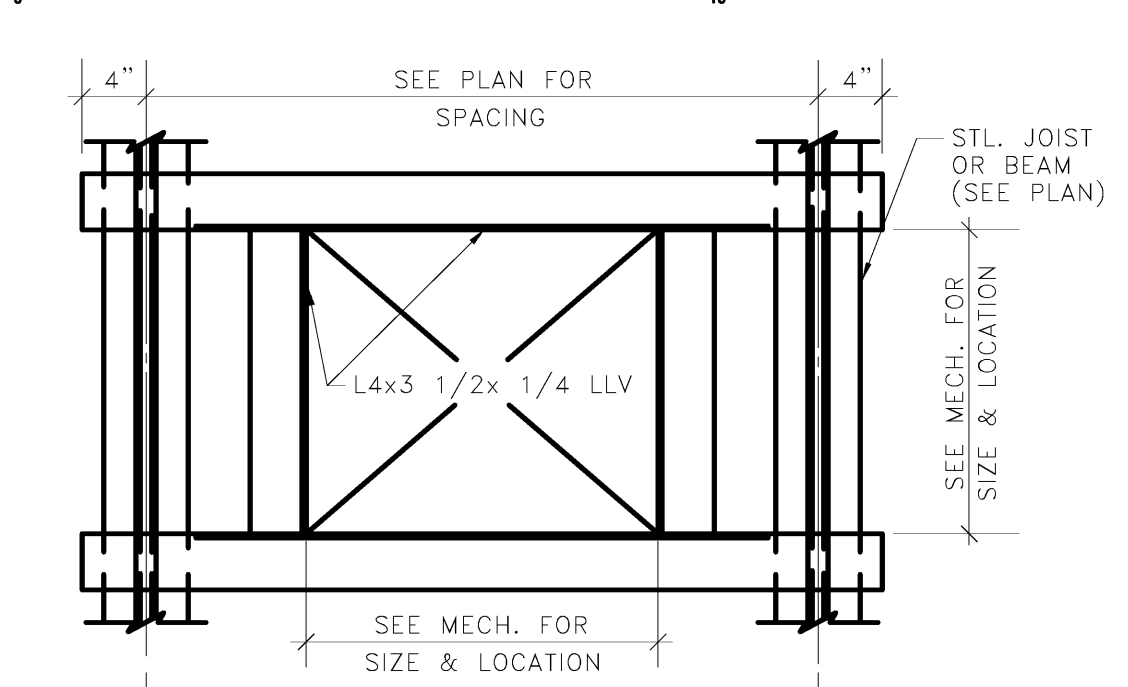
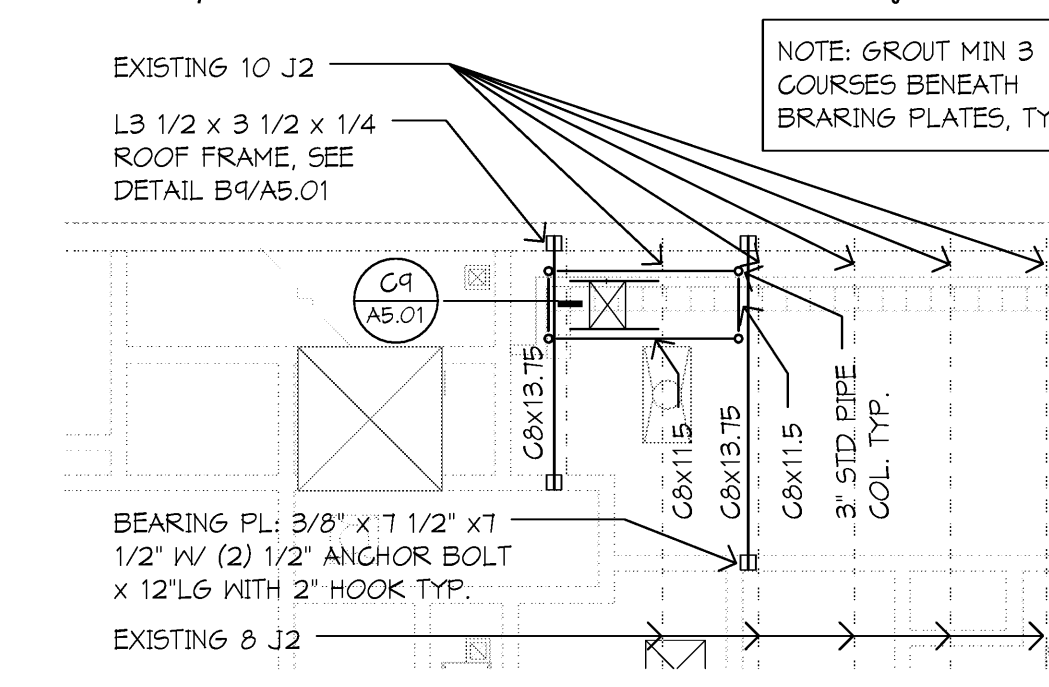
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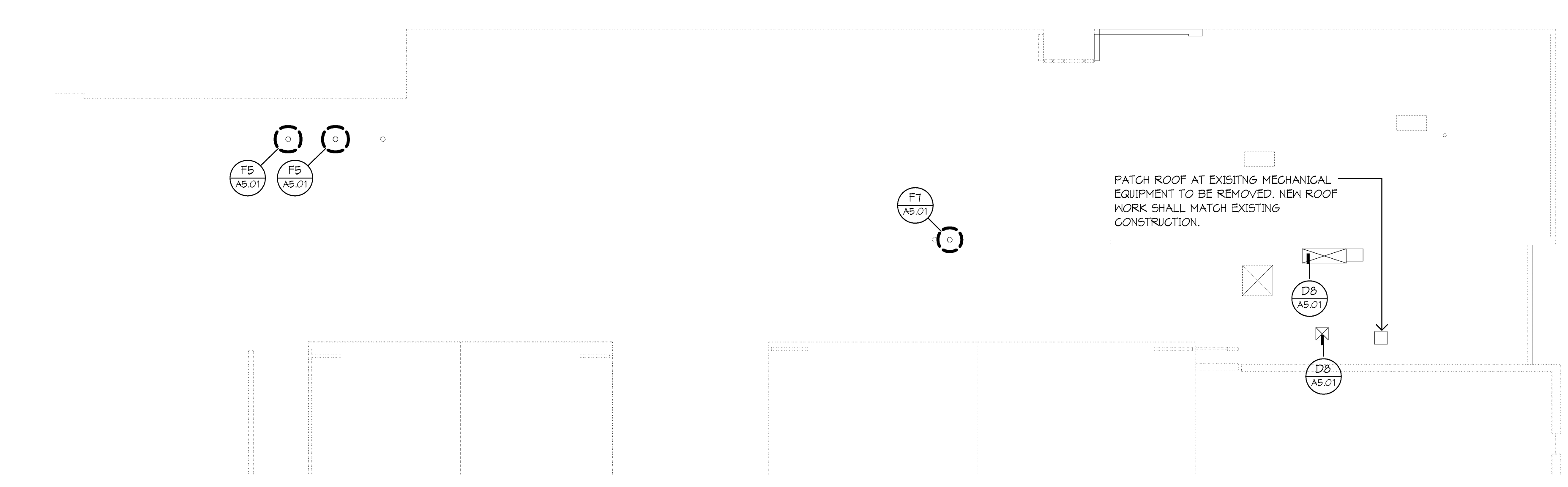
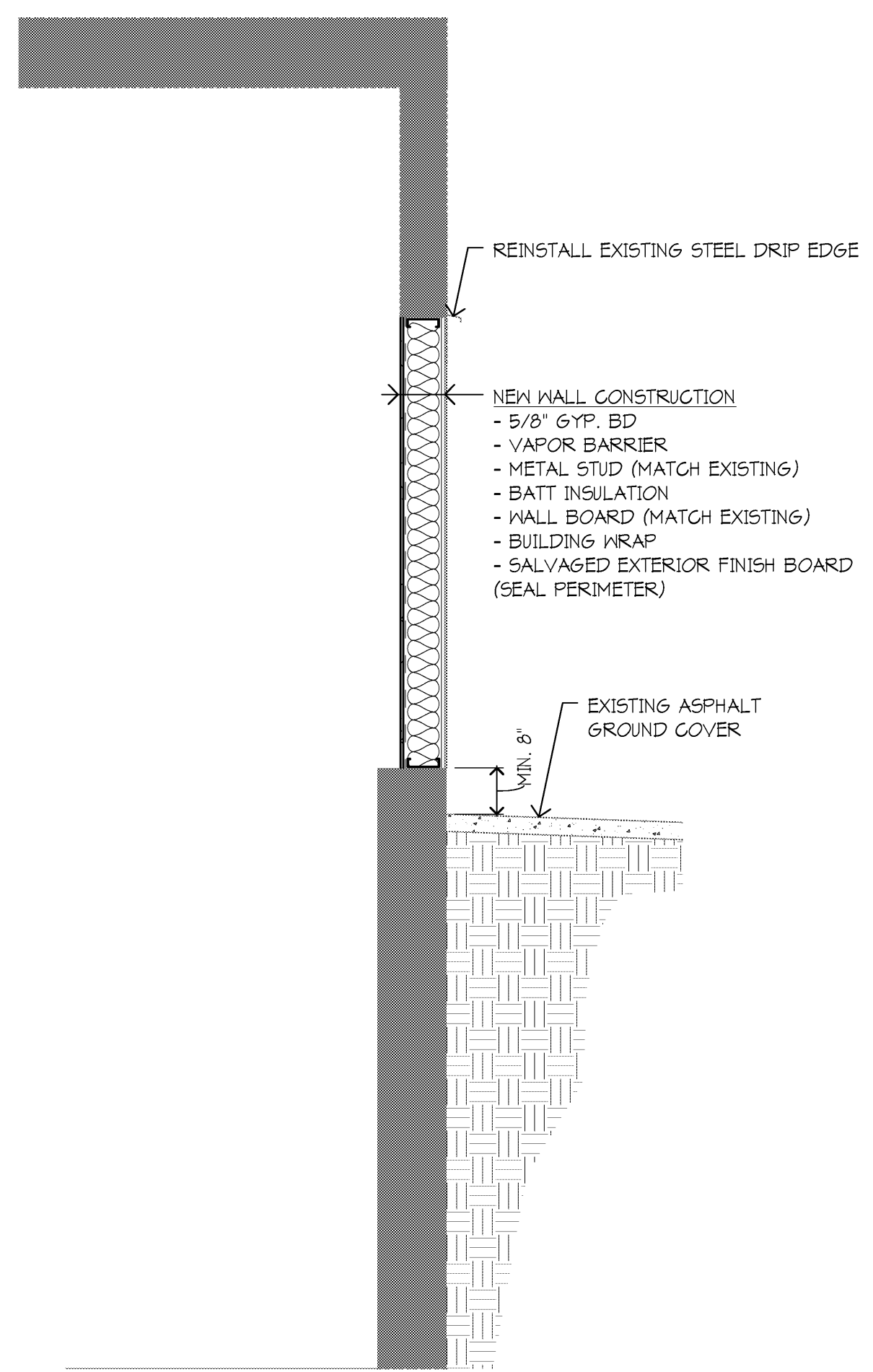
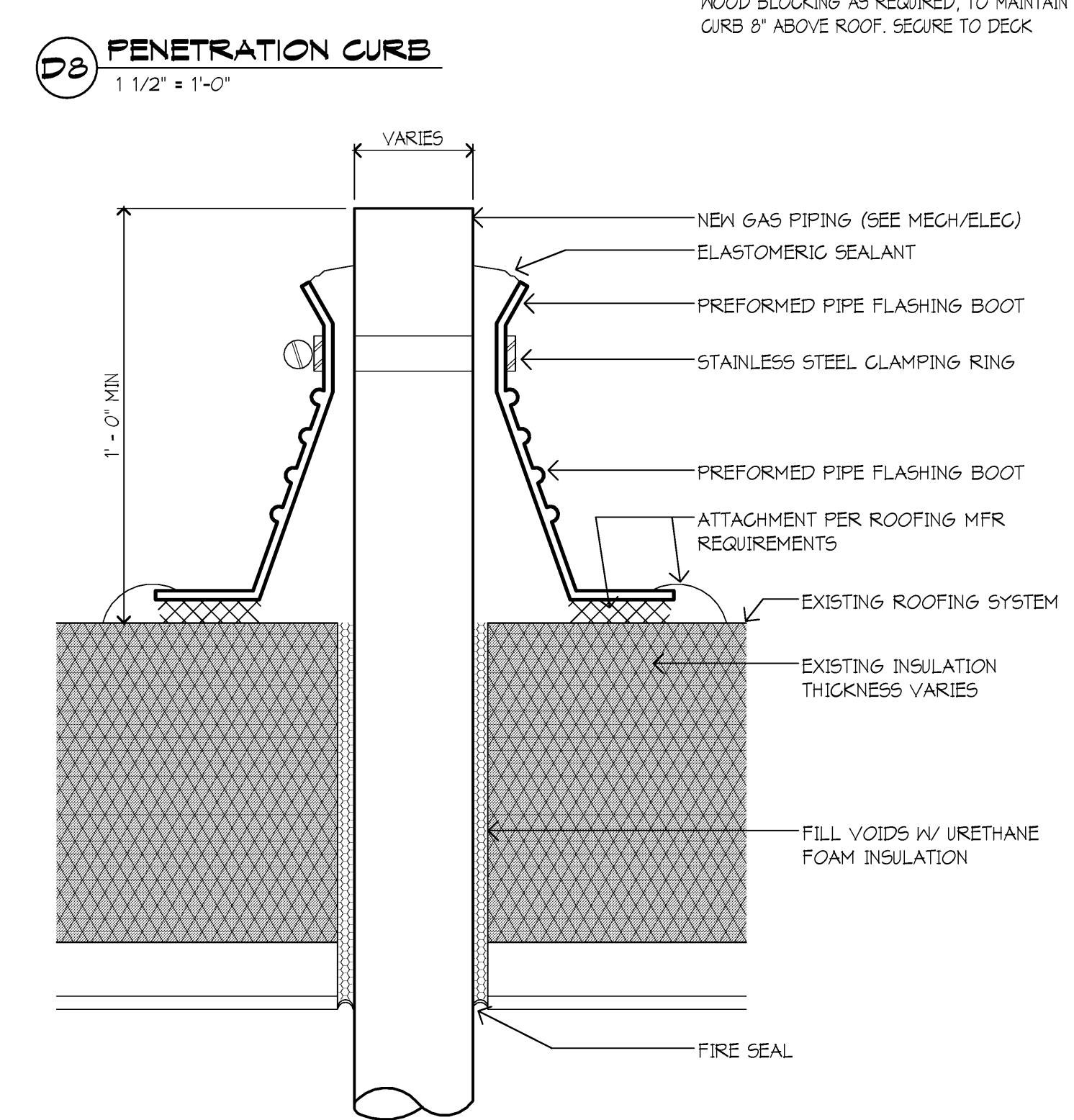
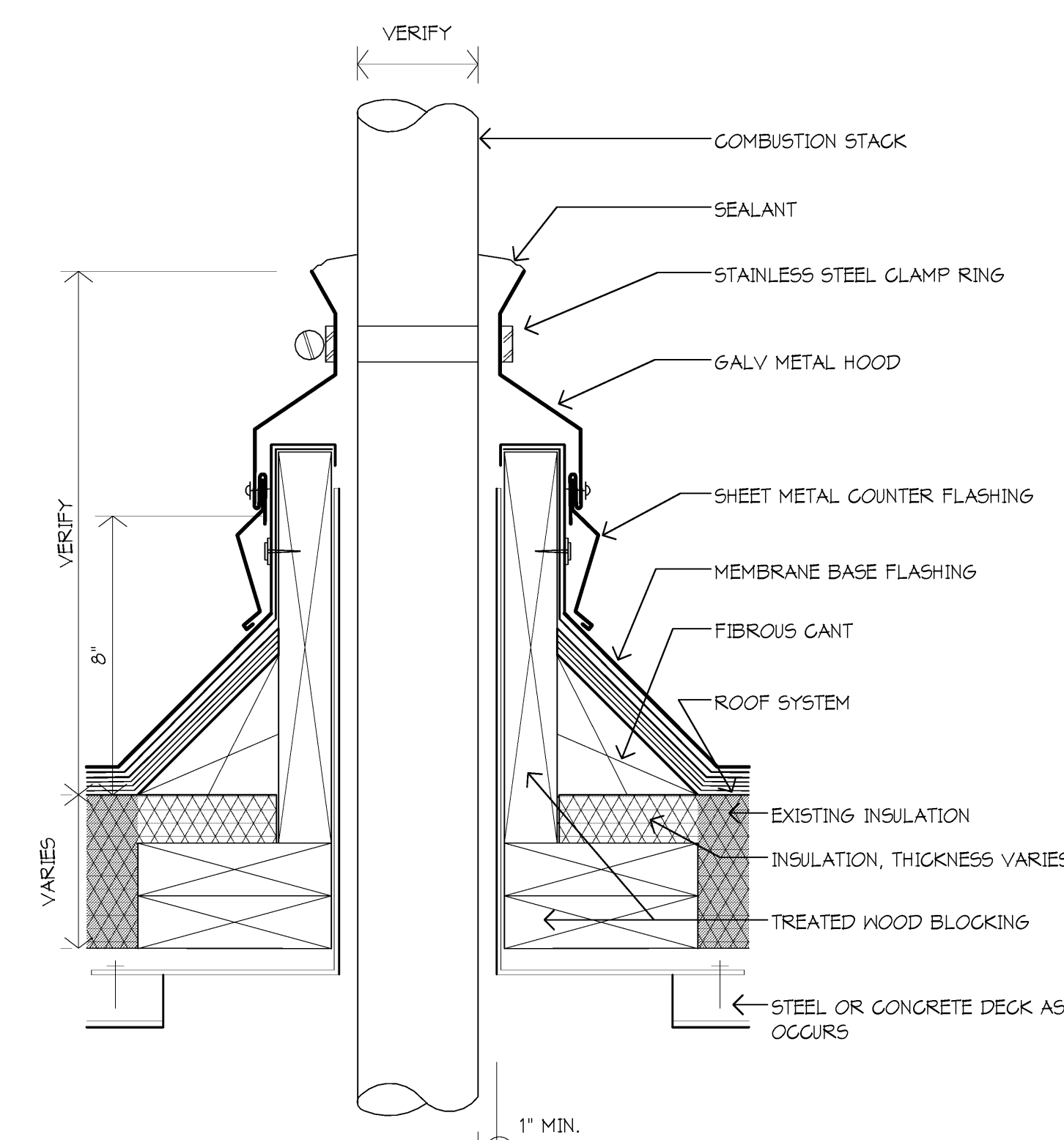


LEGEND:

- PENETRATION CURB AT
ROOF EXHAUST OR AIR INTAKE
REFER TO DETAIL B5006
- EQUIPMENT CURB AT
MECHANICAL EQUIPMENT
- ROOF EXHAUST OR AIR INTAKE
- CRICKET FOR POSITIVE DRAINAGE

ROOF PLAN GENERAL NOTES:

1. AT MECH. OPENINGS AND CURBS ON
ROOF, PROVIDE CRICKETS AS
REQUIRED FOR POSITIVE DRAINAGE.
2. MECHANICAL ITEM LOCATIONS ARE
SHOWN FOR REFERENCE ONLY. REFER
TO MECH. DRAWINGS FOR EXTENT OF
MECH. EQUIP. AND SIZE AND LOCATION
OF ALL ROOF PENETRATIONS.
3. ALL MECHANICAL AND ELECTRICAL
ROOFTOP EQUIPMENT, PIPING, CONDUIT,
ETC. TO BE PAINTED.
4. PROVIDE CURBS FOR ALL ROOF
MOUNTED EQUIPMENT. PROVIDE CUTS
TO ENSURE POSITIVE DRAINAGE.
VERIFY LOCATION AND SIZE W/
MECHANICAL/ ELECTRICAL.



I hereby certify that this plan, specification or report was prepared by
me or under my direct supervision and that I am a duly licensed
ARCHITECT
under the laws of the State of Reg. State

Registration Number: Daniel Krizala 1301047842 Date: 10/31/14

Description	Revisions	Date	Num

Comm: 124008
Date: 3/29/2012
Drawn: VPL
Check: JJJ

North

**ROOF PLAN,
DETAILS, AND
STRUCTURAL
DETAILS**

Scale: As indicated

A5.01

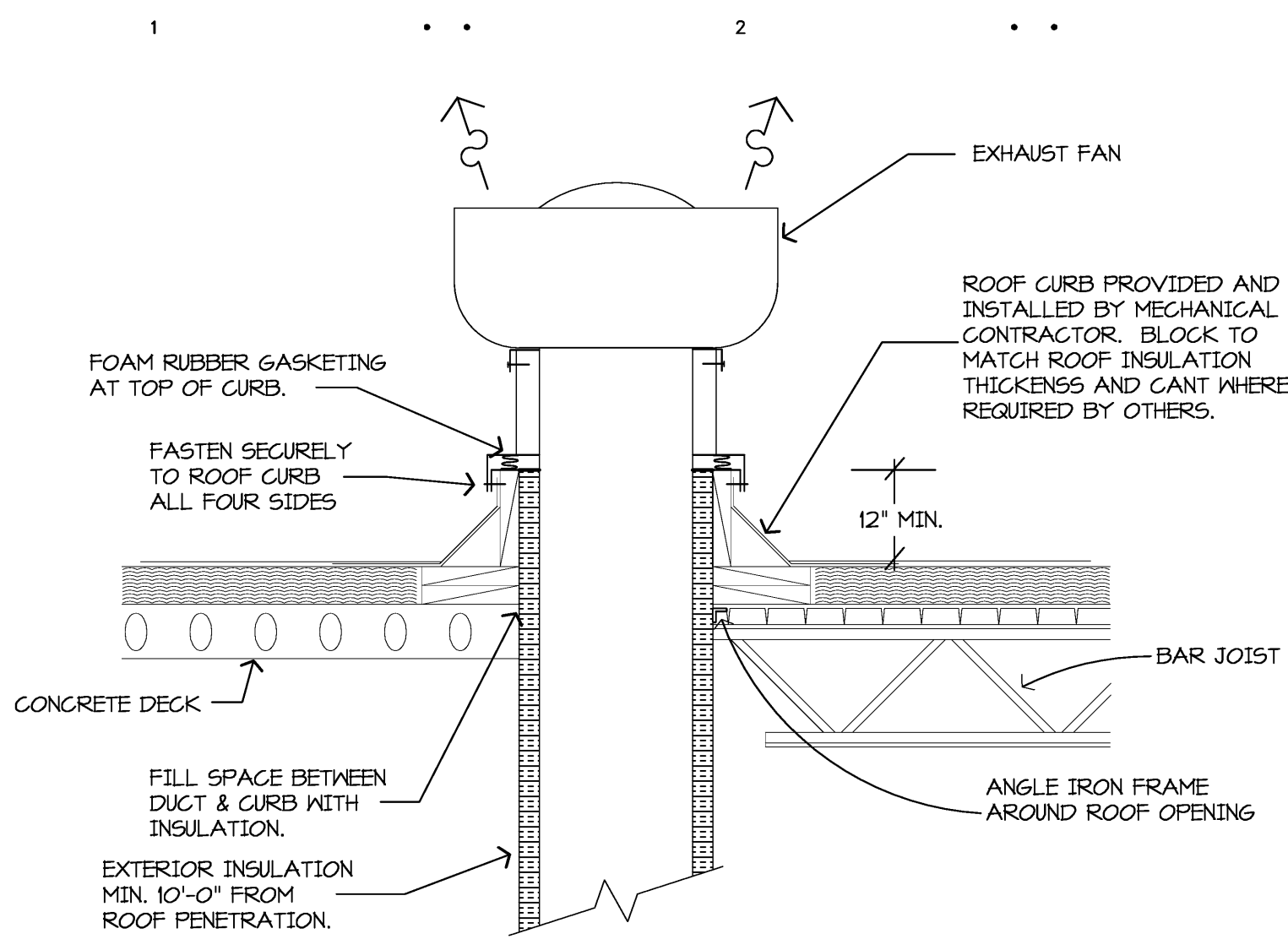
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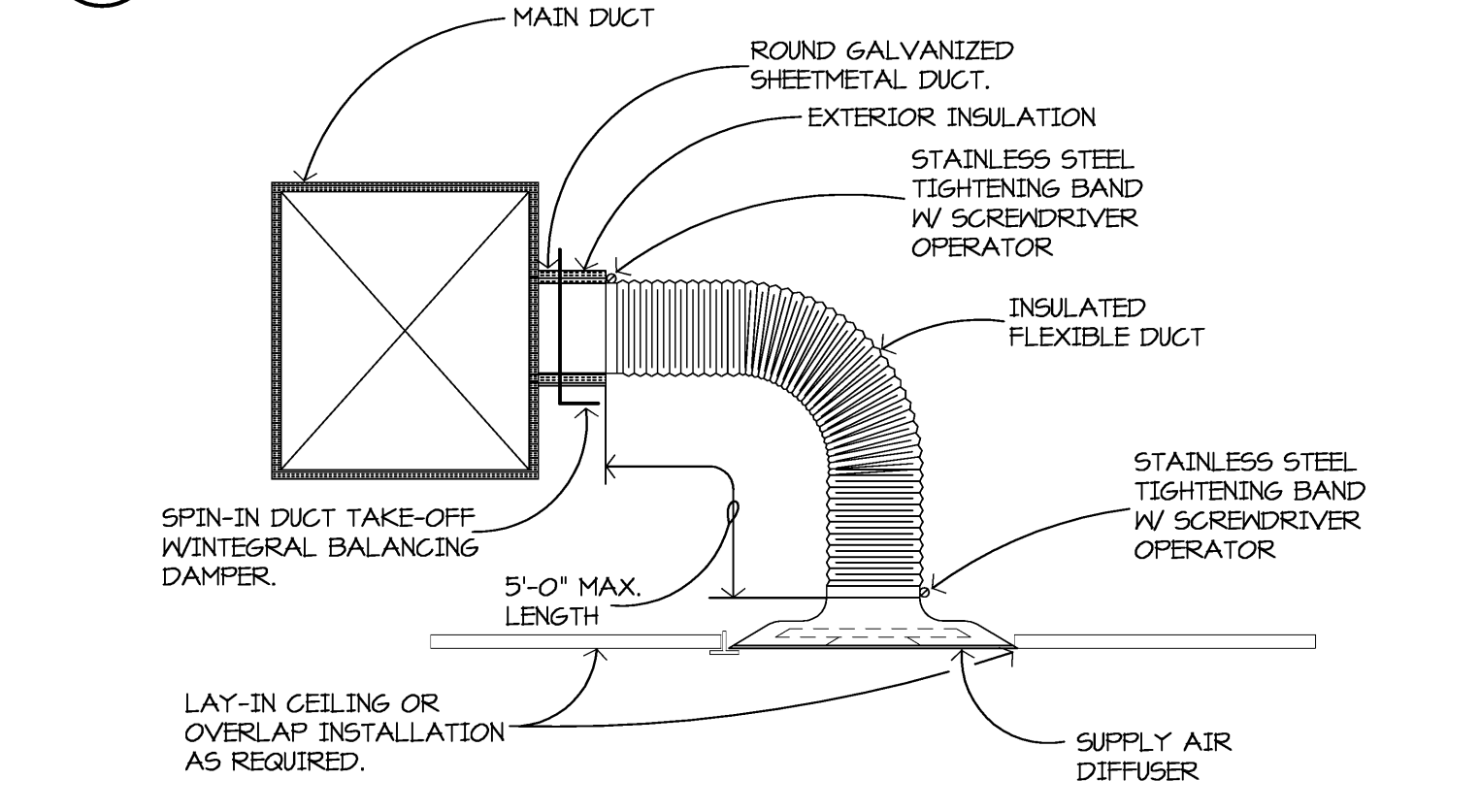
1 WALL SECTION @ RECONSTRUCTION
1/2" = 1'-0"

H6 ROOF PLAN - AREA 'A'
1/16" = 1'-0"

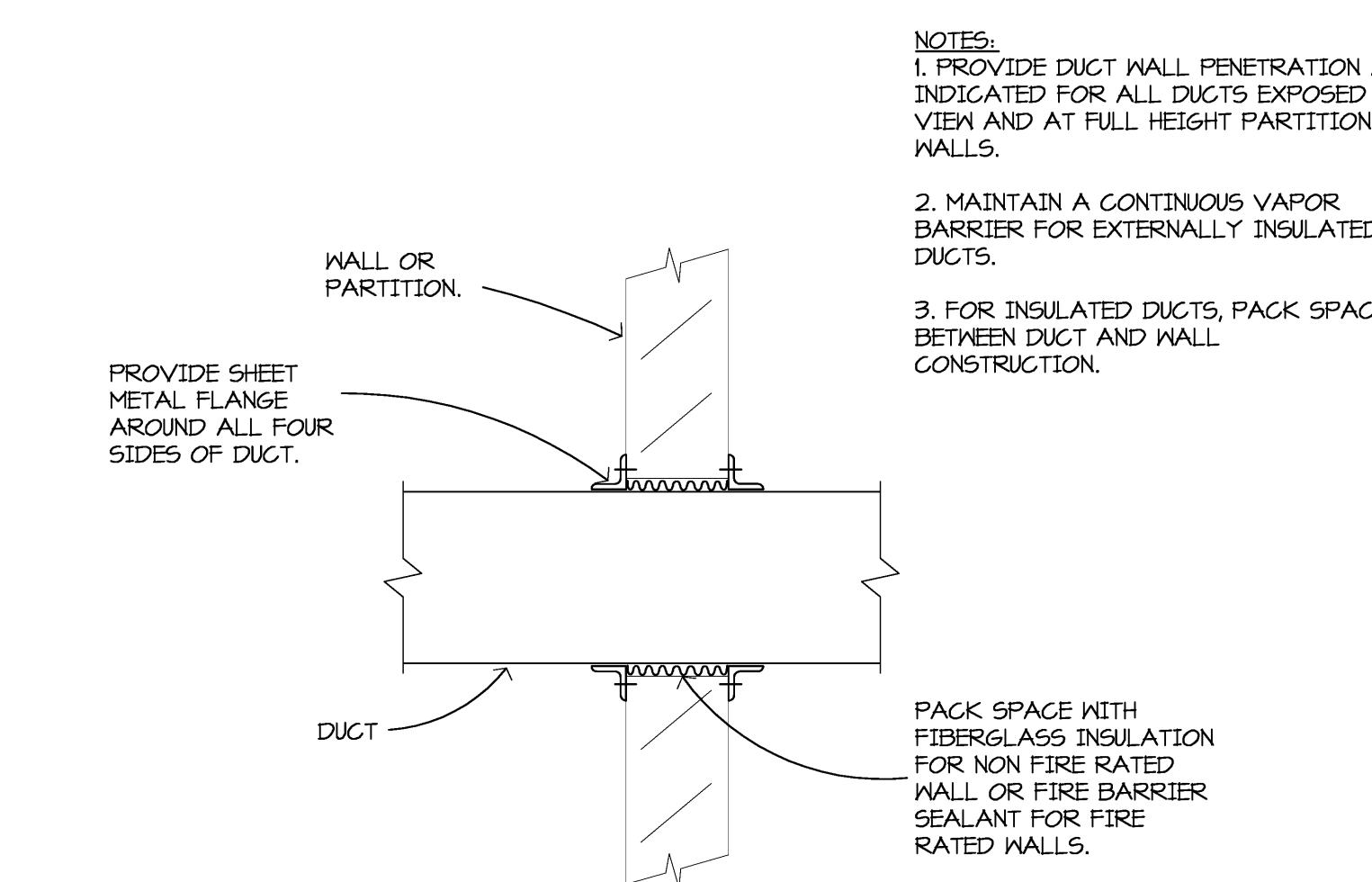
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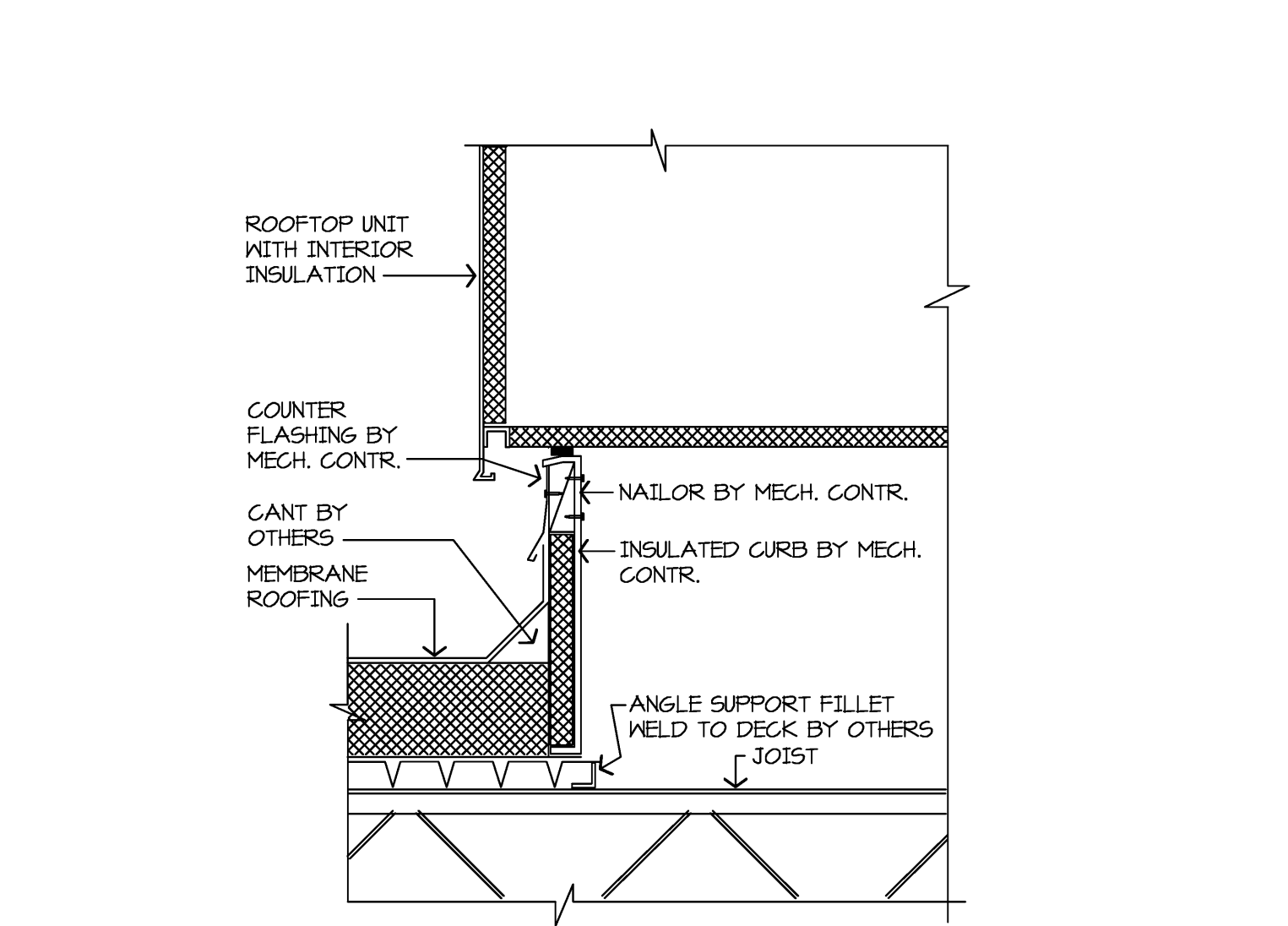
B2 UPBLAST EXHAUST FAN DETAIL
NO SCALE



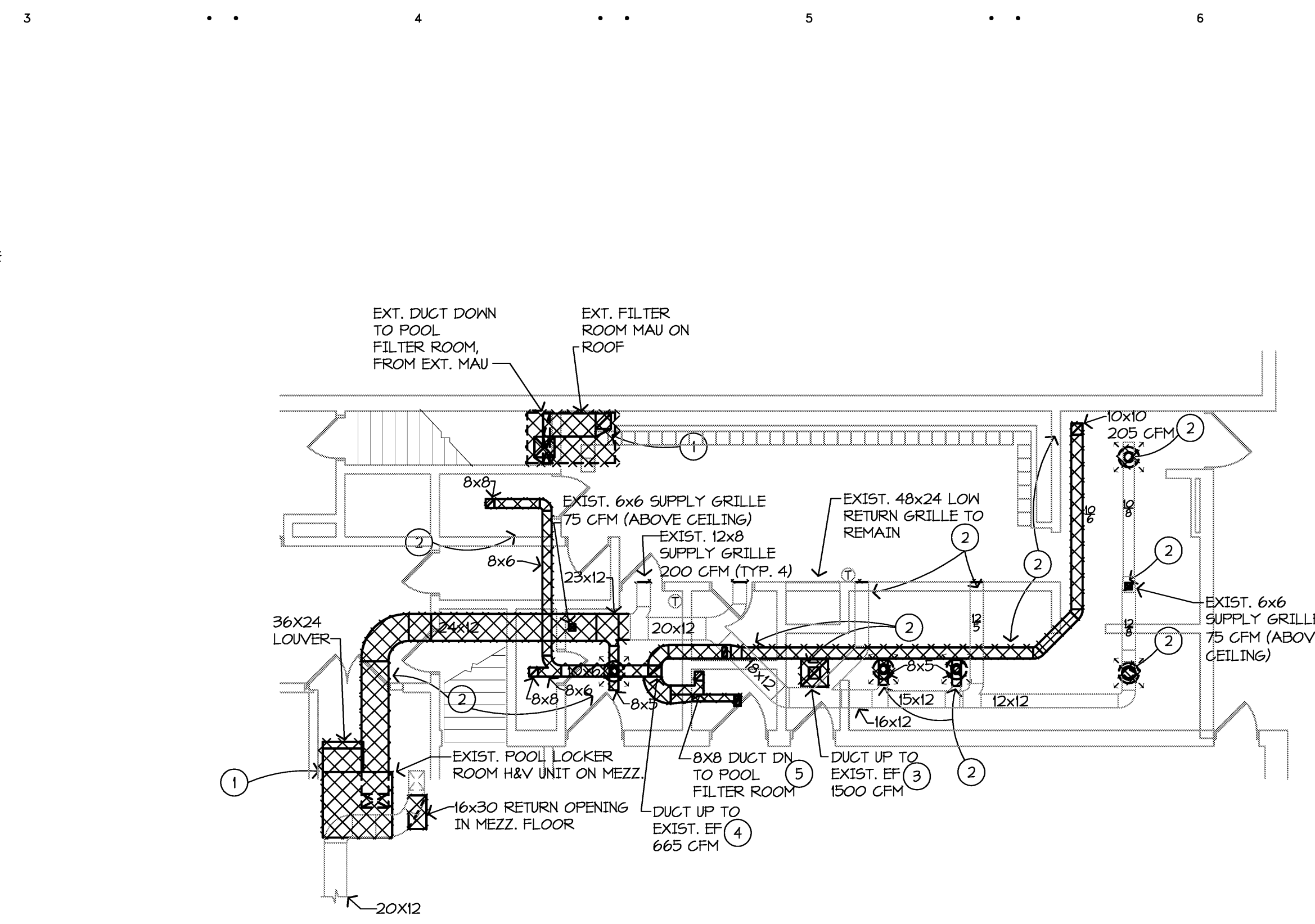
D2 FLEXIBLE DUCT CONNECTION DETAIL
NO SCALE



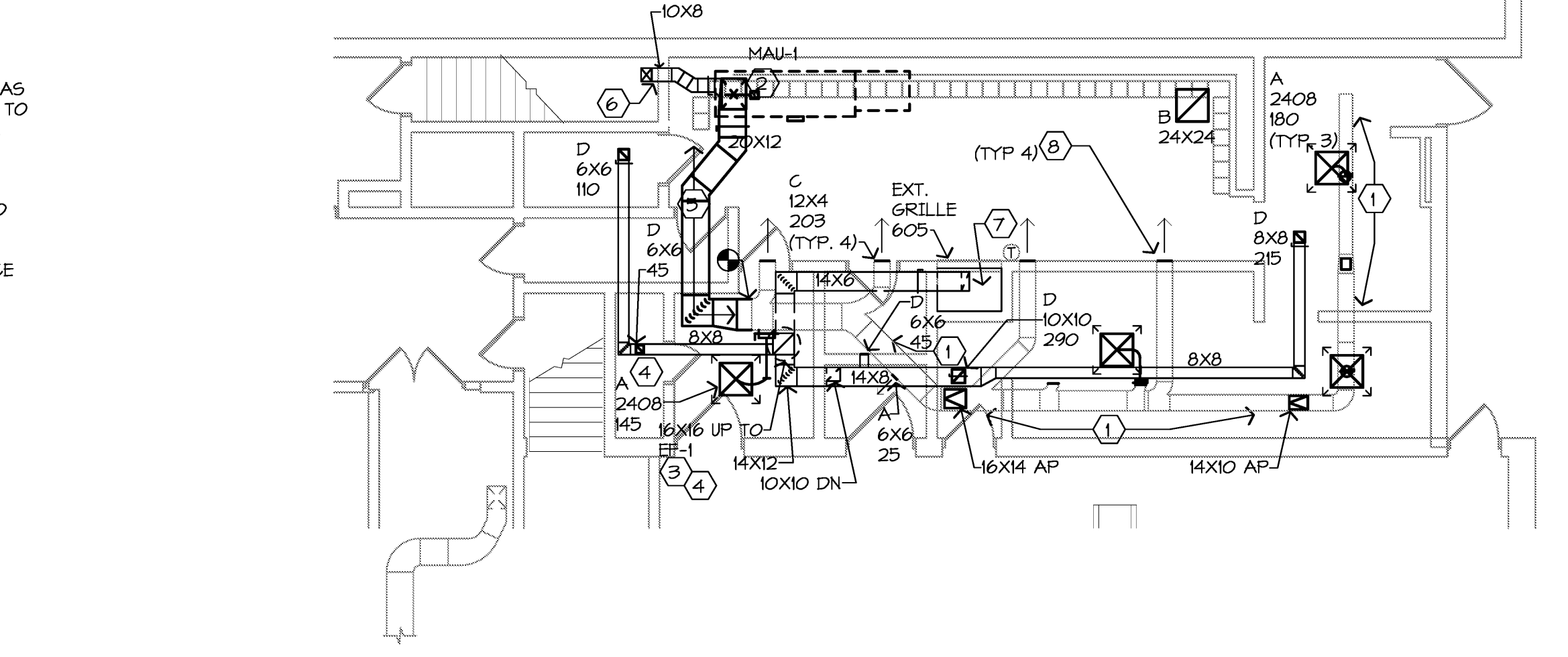
E2 DUCT WALL PENETRATION DETAIL
NO SCALE



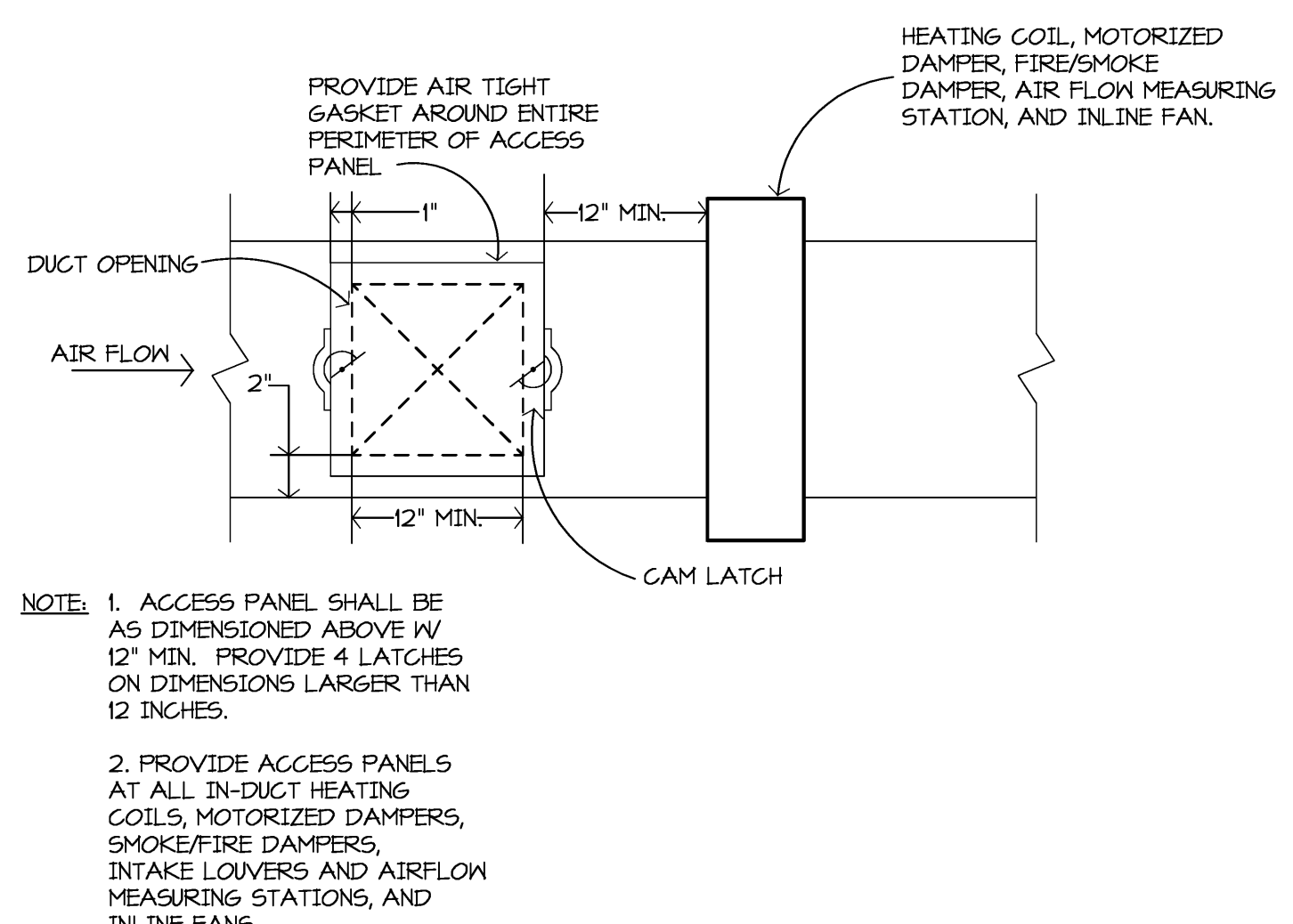
G2 ROOFTOP UNIT CURB DETAIL
NO SCALE



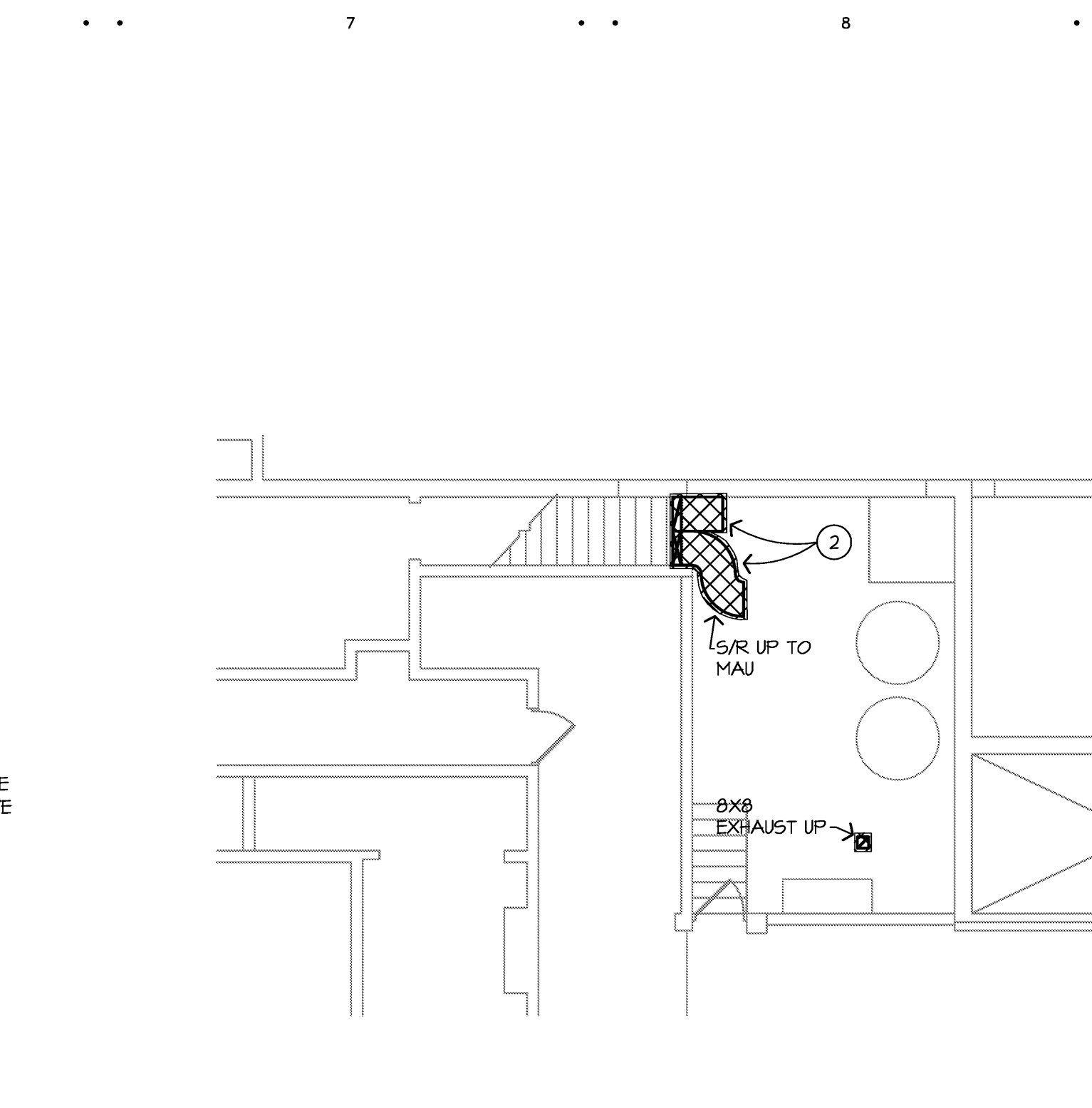
B4 MAIN LEVEL MECHANICAL DEMOLITION PLAN
1/8"=1'-0"



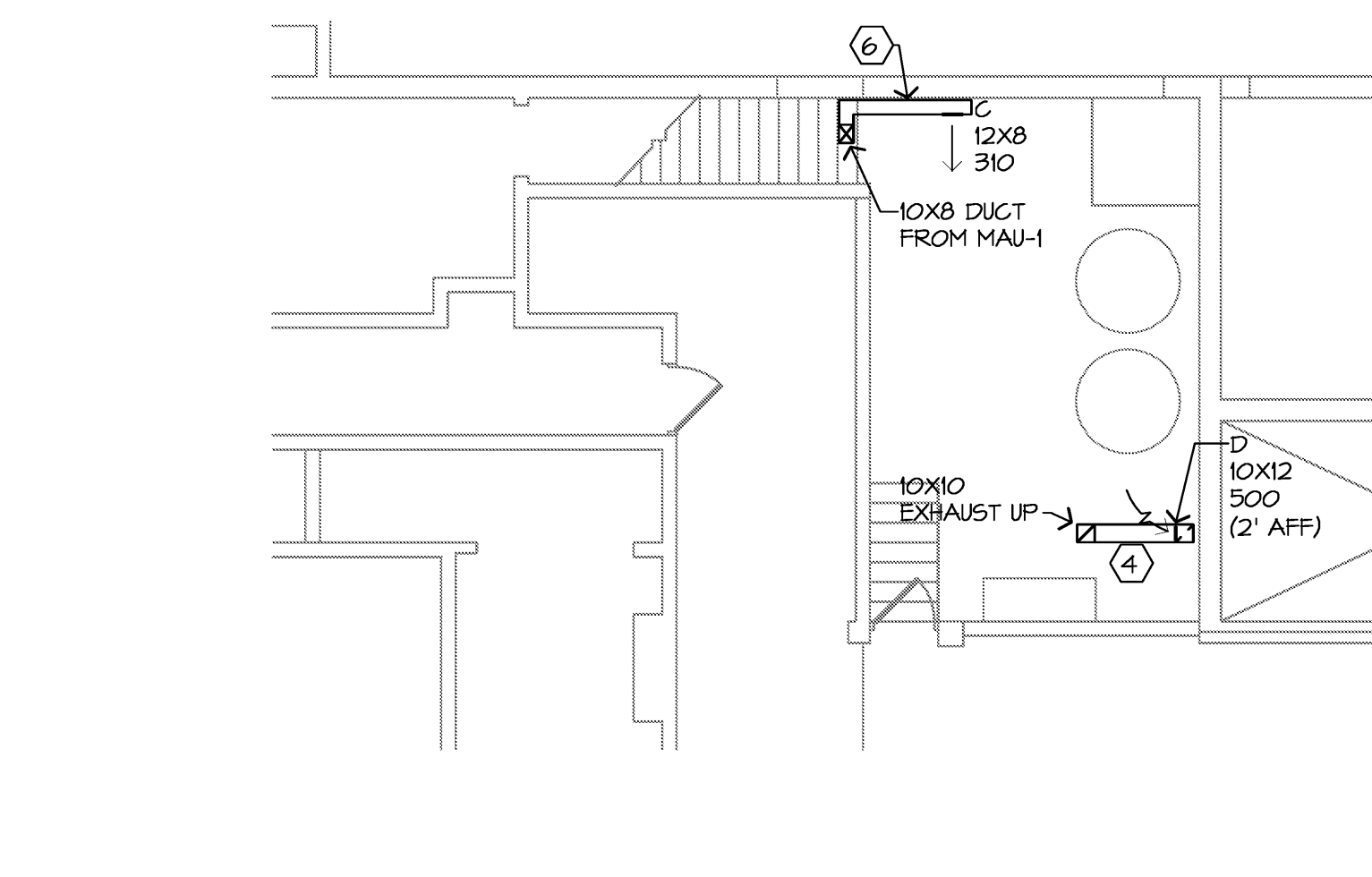
E4 MAIN LEVEL MECHANICAL NEW WORK PLAN
1/8"=1'-0"



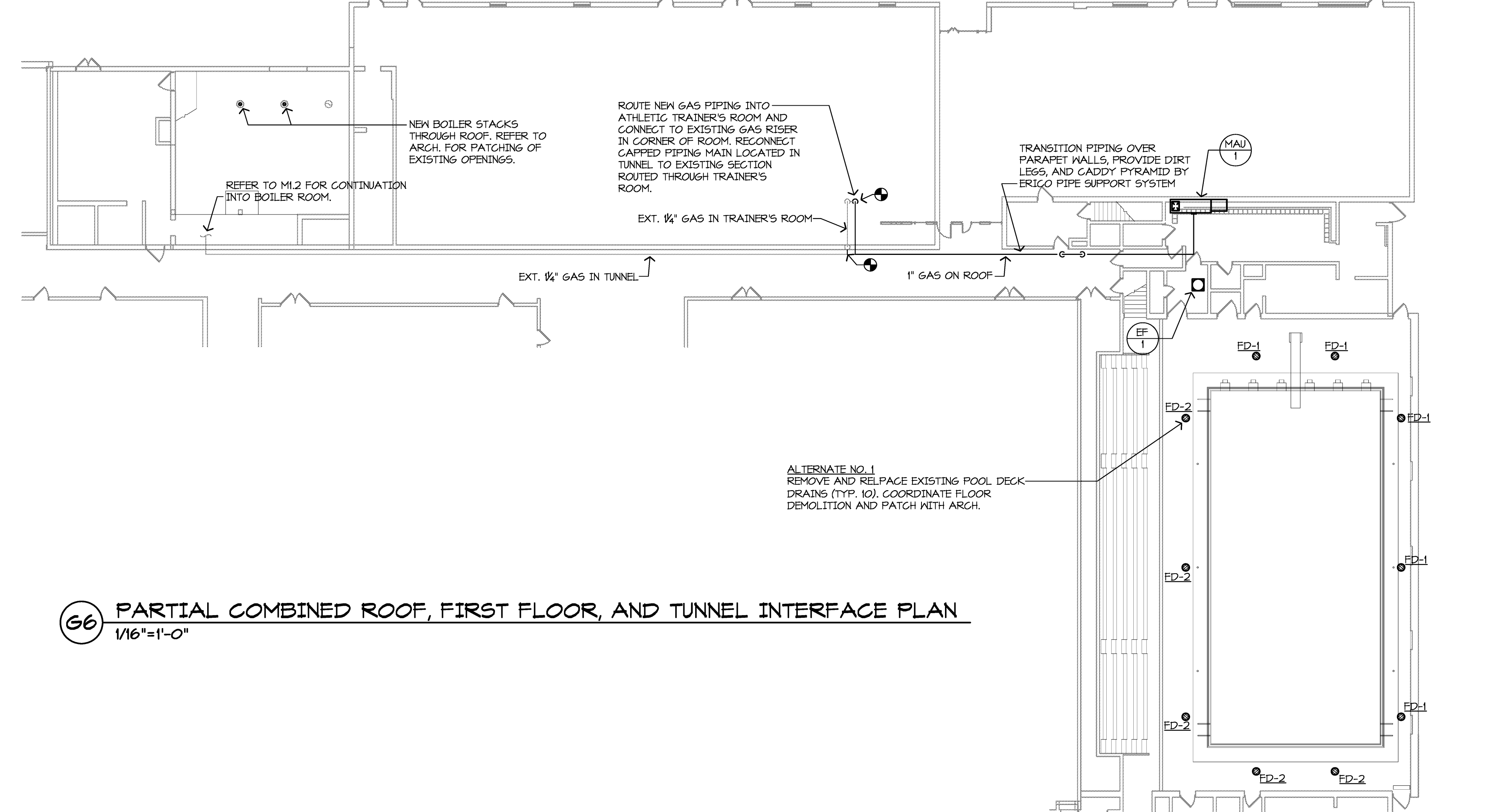
G4 ACCESS PANEL DETAIL
NO SCALE



B8 LOWER LEVEL MECHANICAL DEMOLITION PLAN
1/8"=1'-0"



E8 LOWER LEVEL MECHANICAL NEW WORK PLAN
1/8"=1'-0"



G6 PARTIAL COMBINED ROOF, FIRST FLOOR, AND TUNNEL INTERFACE PLAN
1/16"=1'-0"

- DEMOLITION KEYED NOTES:**
- REMOVE EXISTING AIR HANDLER / MAKE-UP AIR UNIT. MECHANICAL CONTRACTOR TO REMOVE ALL EXISTING CONTROLS AND GAS/HOT WATER SERVICES AND CAP AS ABANDONED. REFER TO NEW WORK PLAN FOR RECONNECTION TO EXISTING. REMOVE EXISTING OA DUCT AND LOWER. SEE ARCH. FOR INFILL AT REMOVED LOWER.
 - REMOVE EXISTING DUCTWORK AND DIFFUSERS SHOWN HATCHED. REFER TO NEW WORK PLAN AND ARCHITECTURAL FOR PATCHING OF EXISTING CONSTRUCTION. PROVIDE SEALED SHEET METAL CAP AT ALL REMOVED DIFFUSER LOCATIONS AT DUCTWORK TO REMAIN.
 - REMOVE AND SALVAGE EXISTING EXHAUST FAN ON ROOF. TURN FAN AND ALL ASSOCIATED DISCONNECTS AND PARTS OVER TO OWNER. REFER TO ARCHITECTURAL FOR PATCHING OF EXISTING ROOF AND DECK.
 - REMOVE AND SALVAGE EXISTING EXHAUST FAN ON ROOF. TURN FAN AND ALL ASSOCIATED DISCONNECTS AND PARTS OVER TO OWNER. REFER TO NEW WORK PLANS FOR NEW FAN TO BE RE-INSTALLED IN THIS LOCATION. ENLARGE EXISTING OPENING TO ACCOMMODATE LARGER FAN AND DUCT SIZES.
 - REMOVE EXISTING DUCT DROP, ENLARGE EXISTING OPENING FOR NEW EXHAUST DUCT. REFER TO NEW WORK PLANS FOR LOCATION AND LARGER SIZE.

- NEW WORK KEYED NOTES:**
- IN EXISTING SUPPLY DUCTWORK TO REMAIN, CLEAN EXTENT OF SYSTEM IN CONFORMANCE WITH SPECIFICATIONS SECTION 23 01 50. PROVIDE NEW ACCESS PANELS SHOWN FOR CLEANING AND INSPECTION. ADDITIONAL A/F'S AND DUCT ACCESS TO BE PROVIDED AS NEEDED. INSULATE ALL EXISTING DUCTWORK TO MATCH NEW INSULATION SYSTEM ON NEW DUCTWORK. PER SPECIFICATIONS, CAP AND SEAL ALL REMOVED/ABANDONED DUCT OPENINGS.
 - INSTALL NEW MAU-1 OVER EXISTING ROOF OPENING. EXPAND EXISTING OPENING FOR NEW GASES AND DUCT INSTALLATION. REFER TO ARCH. FOR ROOF WORK AND ADDITIONAL CEILING REQUIREMENTS.
 - INSTALL NEW EF-1 OVER EXISTING ROOF OPENING. EXPAND EXISTING OPENING FOR NEW GASES AND DUCT INSTALLATION. REFER TO ARCH. FOR ROOF WORK AND ADDITIONAL CEILING REQUIREMENTS.
 - PROVIDE ALL ALUMINUM DUCTWORK, ACCESSORIES, AND SUPPORTS FOR EXTENT OF EXHAUST DUCT SYSTEM.
 - SUPPLY DUCTWORK INDICATED TO BE SHEET METAL.
 - DUCTWORK INDICATED TO BE ALL ALUMINUM INCLUDING CONNECTIONS, ACCESSORIES, AND SUPPORTS.
 - PROVIDE SEALED ALUMINUM CAP APPROX. 32X48 AT TOP OF SHAFT WALL WITH EXHAUST DUCT CONNECTED AT TOP. VACUUM AND CLEAN EXISTING SHAFT OF ALL DEBRIS. BALANCE DUCT DROP TO CFM INDICATED.
 - PROVIDE SHEET METAL COVER TO BLANK-OFF PORTION OF EXISTING OPENING ABOVE NEW GRILLE. PAINT TO MATCH NEW GRILLE.

- GENERAL NOTES:**
- MECHANICAL CONTRACTOR SHALL PERFORM A SITE OBSERVATION SURVEY TO DETERMINE LIMITATIONS AND/OR CONFLICTS RELATIVE TO THE EXECUTION OF HIS WORK PRIOR TO BID. VERIFY EXACT DETAIL OF INSTALLATION REQUIRED TO PROVIDE SYSTEMS SHOWN WITHIN SPACE INTENDED.
 - DIFFUSER AND REGISTER LOCATIONS SHALL BE COORDINATED WITH LIGHT FIXTURE LOCATIONS AND SHALL BE IN ACCORDANCE WITH CEILING PATTERNS AS SHOWN ON THE ARCHITECTURAL REFLECTED CEILING PLANS.
 - ALL RISES AND DROPS IN PIPING AND DUCTWORK ARE NOT NECESSARILY SHOWN. LAYOUT ROUTING AND COORDINATE WORK WITH OTHER TRADES BEFORE CONSTRUCTION.
 - ALL EXISTING SERVICES SHALL BE MAINTAINED AT ALL TIMES, UNLESS OTHERWISE INDICATED ON THE PLANS. COORDINATE DISRUPTION OF SERVICES WITH OWNER TO PROVIDE AN ACCEPTABLE TIME FOR DOWN TIME.
 - MECHANICAL CONTRACTOR SHALL BE RESPONSIBLE FOR CUTTING AND PATCHING OF EXISTING CONSTRUCTION UNLESS OTHERWISE NOTED ON PLANS. NO CUTTING OF STRUCTURAL MEMBERS OR STRUCTURE WHICH WILL DETERIORATE THE INTEGRITY AND STRENGTH OF THE BUILDING WILL BE ALLOWED WITH OUT WRITTEN APPROVAL FROM THE STRUCTURAL ENGINEER.
 - THE MECHANICAL CONTRACTOR SHALL REMOVE ALL EXISTING CEILING TILES AND GRIDS AS REQUIRED FOR INSTALLATION OF NEW WORK. ANY DAMAGED TILES AND OR GRIDS SHALL BE REPLACED WITH NEW TO MATCH AT THE CONTRACTORS EXPENSE.
 - DIFFUSER DUCT RUNOUTS AND FLEXIBLE DUCT CONNECTIONS SHALL BE THE SAME SIZE AS THE DIFFUSER NECK.
 - LOCATE ALL BALANCING DAMPERS ABOVE ACCESSIBLE CEILINGS.
 - DO NOT INSTALL FLEXIBLE DUCT CONNECTIONS ABOVE INACCESSIBLE CEILINGS.
 - ALL SUPPLY DUCTWORK ROUTED IN CONCEALED SPACES AND ABOVE CEILING SHALL BE EXTERNALLY INSULATED. DO NOT INSULATE RETURN DUCTWORK. INSULATE RELIEF DUCTWORK AS SPECIFIED.
 - PATCH AND REPAIR OPENINGS THROUGH WALLS AND FLOORS WHERE MECHANICAL SYSTEMS WERE REMOVED TO MATCH EXISTING AND TO MAINTAIN 1 HR FIRE RATING. WALL FINISHED BY OTHERS.

I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly licensed ENGINEER under the laws of the State of MICHIGAN

Jonathan Loose
Registration Number: 622025908 Date: 10/31/13

Revisions	Description	Date	Num

Comm: 124008
Date: 3/29/2013
Drawn: JIAL
Check: JIAL

MECHANICAL DEMO AND NEW WORK PART PLANS, DETAILS, AND SCHEDULES
Scale: AS NOTED

M1.1

GENERAL NOTES

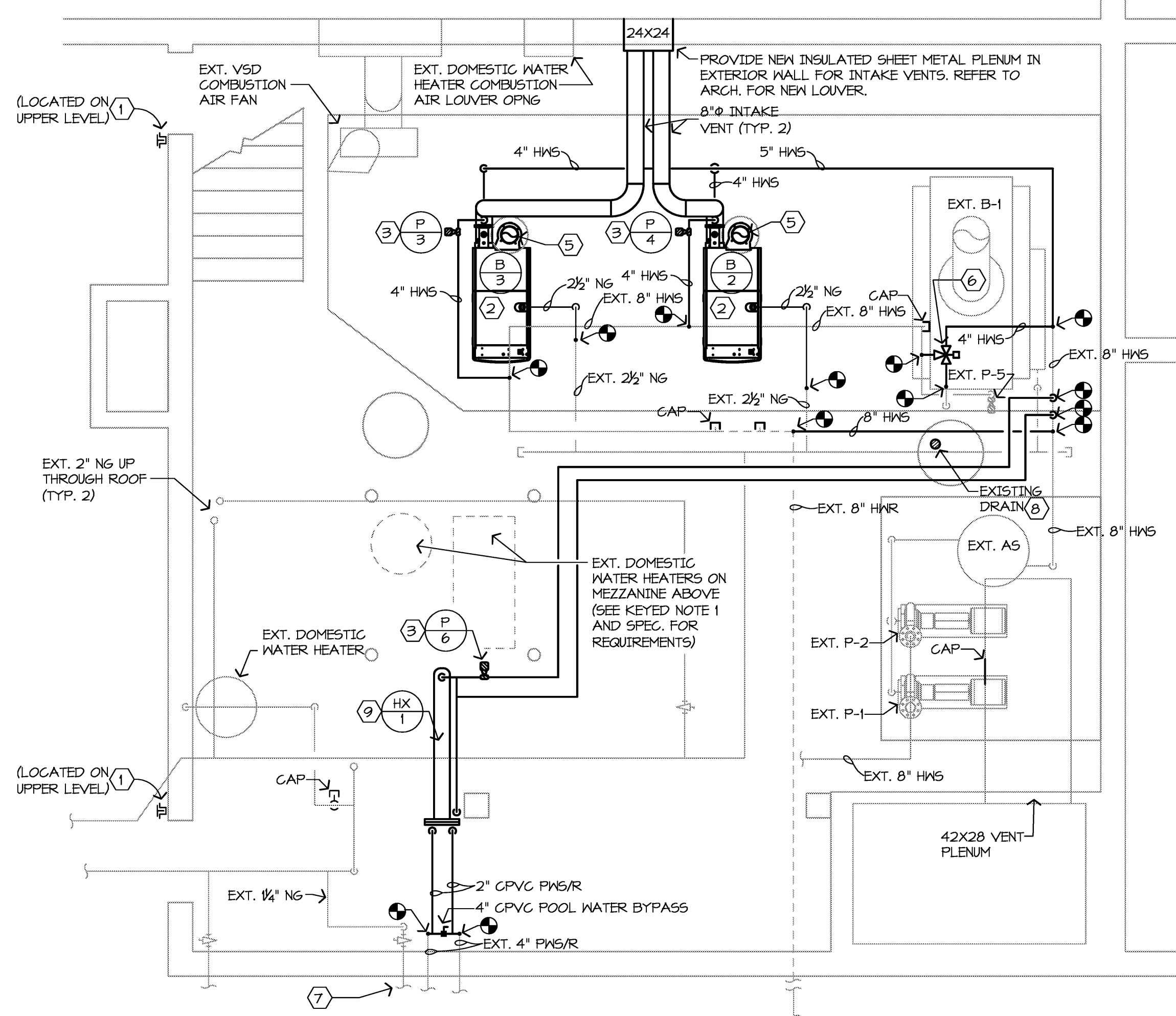
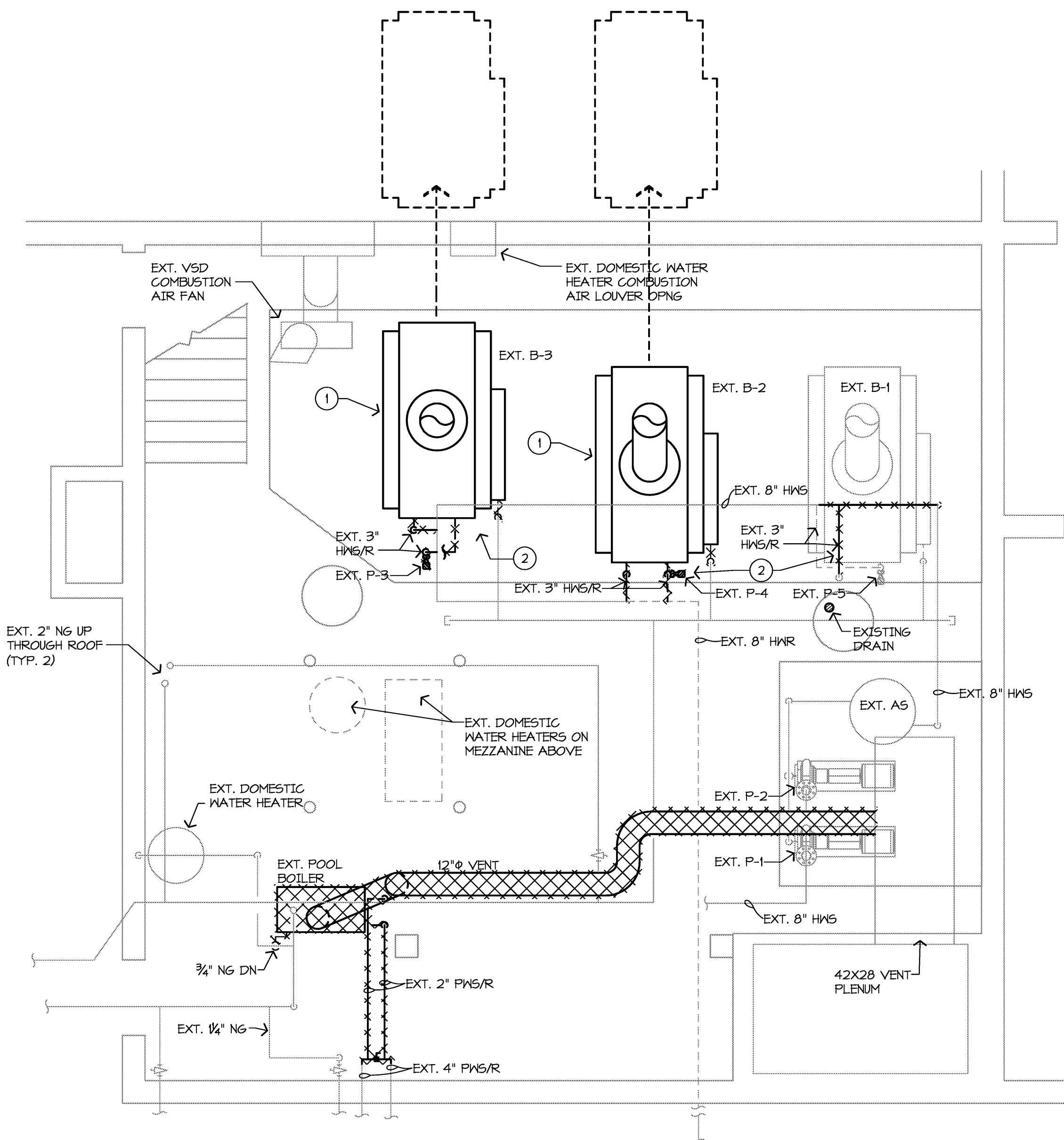
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- DO NOT INSTALL FLEXIBLE DUCT CONNECTIONS ABOVE INACCESSIBLE CEILING.
- ALL SUPPLY DUCTWORK ROUTED IN CONCEALED SPACES AND ABOVE CEILING SHALL BE EXTERNALLY INSULATED. DO NOT INSULATE RETURN DUCTWORK. INSULATE RELIEF DUCTWORK AS SPECIFIED.
- PATCH AND REPAIR OPENINGS THROUGH WALLS AND FLOORS WHERE MECHANICAL SYSTEMS WERE REMOVED TO MATCH EXISTING AND TO MAINTAIN 1 HR FIRE RATING. WALL FINISHED BY OTHERS.

NEW WORK KEYED NOTES:

- PROVIDE EMERGENCY BOILER SHUT-OFF PUSHPUTTON AT 7'-0" AFF. TEMPERATURE CONTROLS CONTRACTOR TO TIE ALL THREE (3) BOILERS AND THREE (3) DOMESTIC WATER HEATERS INTO SHUT-OFF SEQUENCE.
- PROVIDE AND INSTALL NEW BOILERS ON EXISTING PAD PER MANUFACTURER'S RECOMMENDATIONS. COORDINATE TEMPERATURE CONTROL WORK AND INSTALLATION LOCATIONS. MAINTAIN ALL REQUIRED SERVICE CLEARANCES. REFER TO THIS SHEET FOR BOILER INSTALLATION DETAILS.
- PROVIDE AND INSTALL NEW PUMPS. REFER TO INLINE PUMP DETAIL FOR INSTALLATION REQUIREMENTS. COORDINATE WITH ELECTRICAL FOR INSTALLATION.
- ROUTE ALL CONDENSATE, RELIEF-VALVE, AND BOILER DRAIN PIPING TO FLOOR DRAIN. REFER TO SCHEMATICS AND DETAILS THIS SHEET FOR ADDITIONAL INFORMATION. PROVIDE IN-LINE NEUTRALIZATION TRAP FOR CONDENSATE DRAIN.
- PROVIDE NEW 8"Ø EXHAUST VENT THROUGH THE ROOF PER MANUFACTURER'S RECOMMENDATIONS (APPROX. 20' HEIGHT, VERIFY IN FIELD). REFER TO BOILER INSTALLATION DETAILS FOR ADDITIONAL REQUIREMENTS.
- PROVIDE NEW THREE-WAY VALVE FOR BOILER B-1, TIE INTO NEW CENTRAL PLANT CONTROLS.
- REFER TO M1 FOR CONTINUATION AND RECONNECTION TO EXISTING GAS PIPING.
- ROUTE ALL RELIEF VENT, CONDENSATE DRAIN, AND BOILER DRAIN PIPING TO EXISTING DRAIN IN SUMP PUMP COVER. ALL DRAINS SHALL BE ROUTED AS CLOSE AS POSSIBLE TO EXISTING EQUIP. PAD AND CONCRETE FLOOR TO ELIMINATE TRIPPING HAZARDS.
- PROVIDE AND INSTALL NEW HEAT EXCHANGER WITH STEEL FRAME TO FLOOR FOR SUPPORT. REFER TO SCHEMATIC FOR ADDITIONAL REQUIREMENTS. INSTALL IN POSITION TO ALLOW FOR TUBE PULLING CLEARANCE.

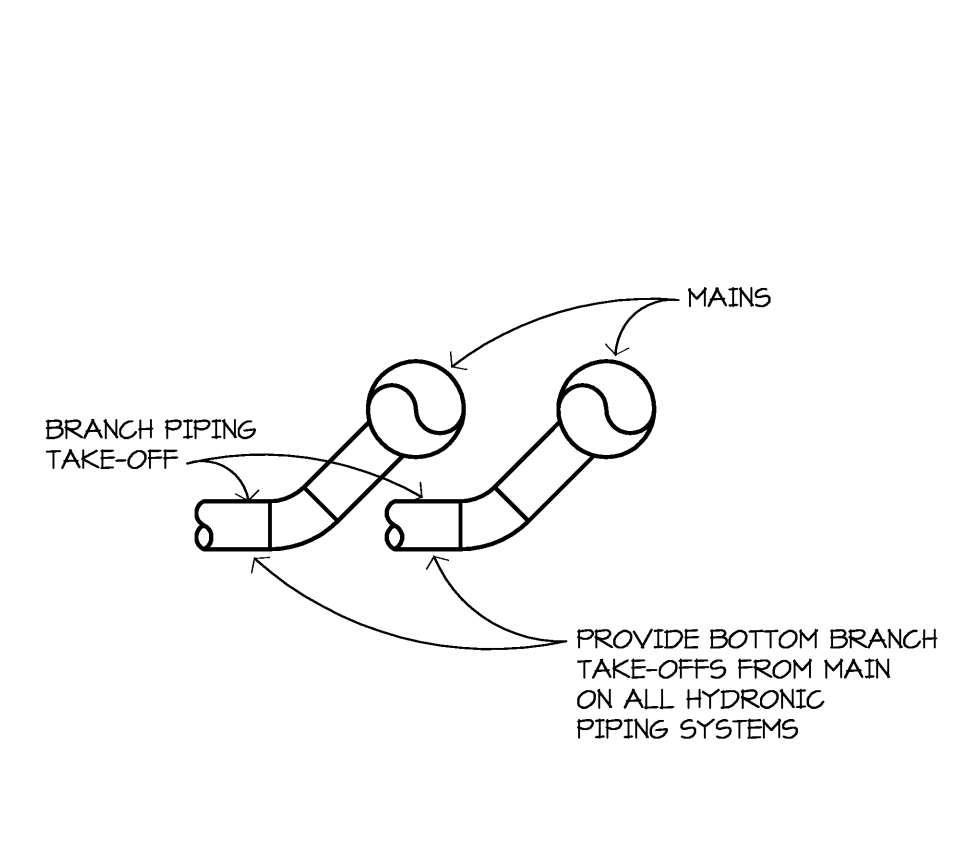
DEMOLITION KEYED NOTES:

- REMOVE EXISTING BOILER STACK, SALVAGE VENT DRAFT FAN AND TURN OVER TO OWNER. DISCONNECT ALL EXISTING CONNECTIONS TO EXT. BOILER. REMOVE ENTIRE ASSEMBLED BOILER FROM EXISTING BOILER ROOM AND SET ON FLATBED PROVIDED BY OWNER LOCATED IN PARKING LOT JUST WEST OF BOILER ROOM. EQUIPMENT WILL THEN BE OWNER'S RESPONSIBILITY. FINAL DISASSEMBLY/SALVAGE OF BOILER WILL BE BY OWNER. REFER TO ARCH. FOR REMOVAL OF PORTION OF WALL FOR BOILER ROOM ACCESS AND REMOVAL. REFER TO ELEC. FOR DISCONNECT.
- REMOVE EXISTING PIPING SHOWN HATCHED. REFER TO NEW WORK PLANS FOR EXT. PIPING TO REMAIN AND RECONNECTIONS TO EXT.
- REMOVE EXT. POOL BOILER, EXT. 12"Ø EXHAUST, AND ALL ASSOCIATED POOL WATER PIPING AND GAS PIPING SHOWN HATCHED. REMOVE ALL EXT. CONTROLS COMPONENTS. REFER TO ELEC. FOR DISCONNECT.

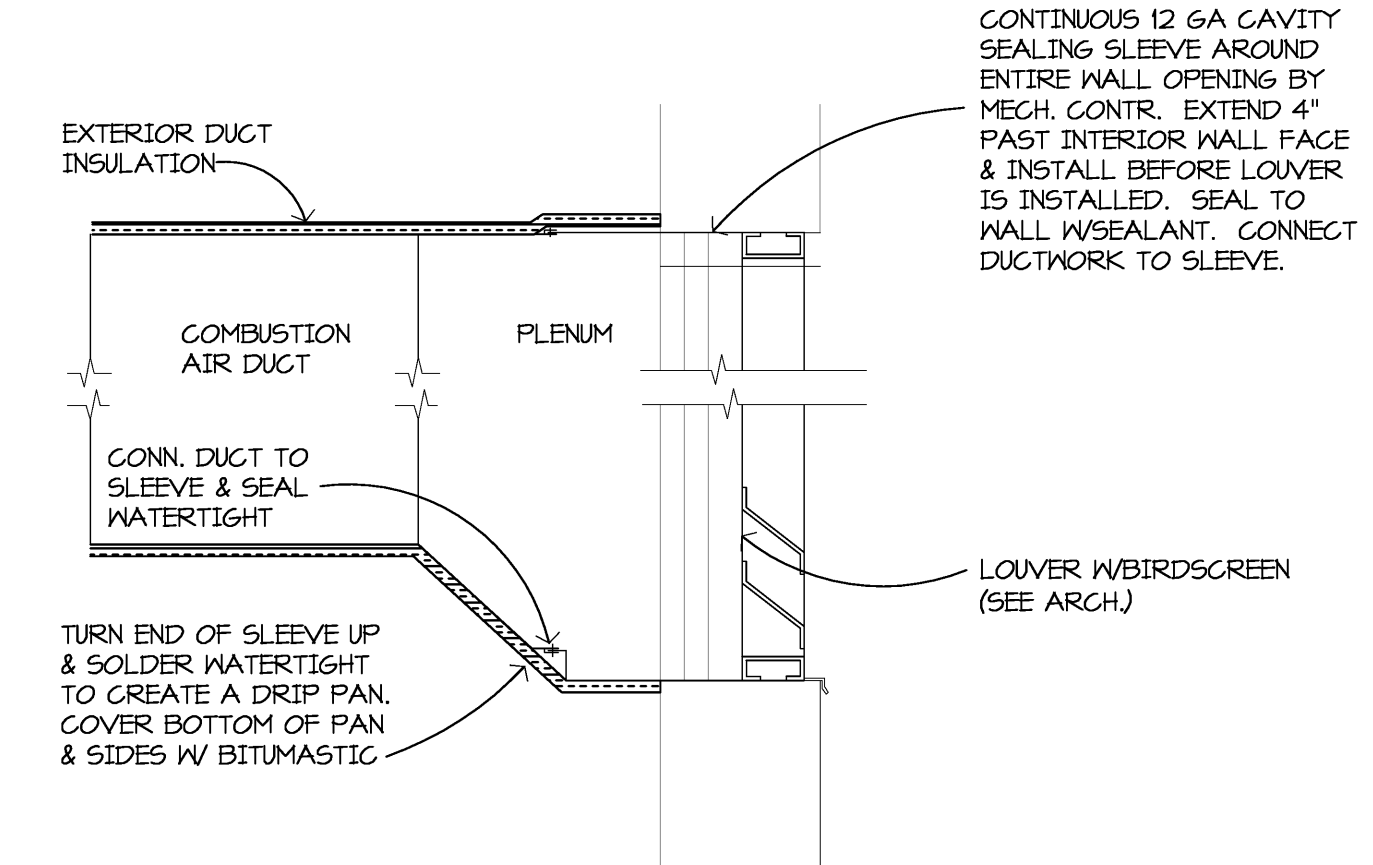


D2 BOILER ROOM DEMOLITION PLAN
1/8"=1'-0"

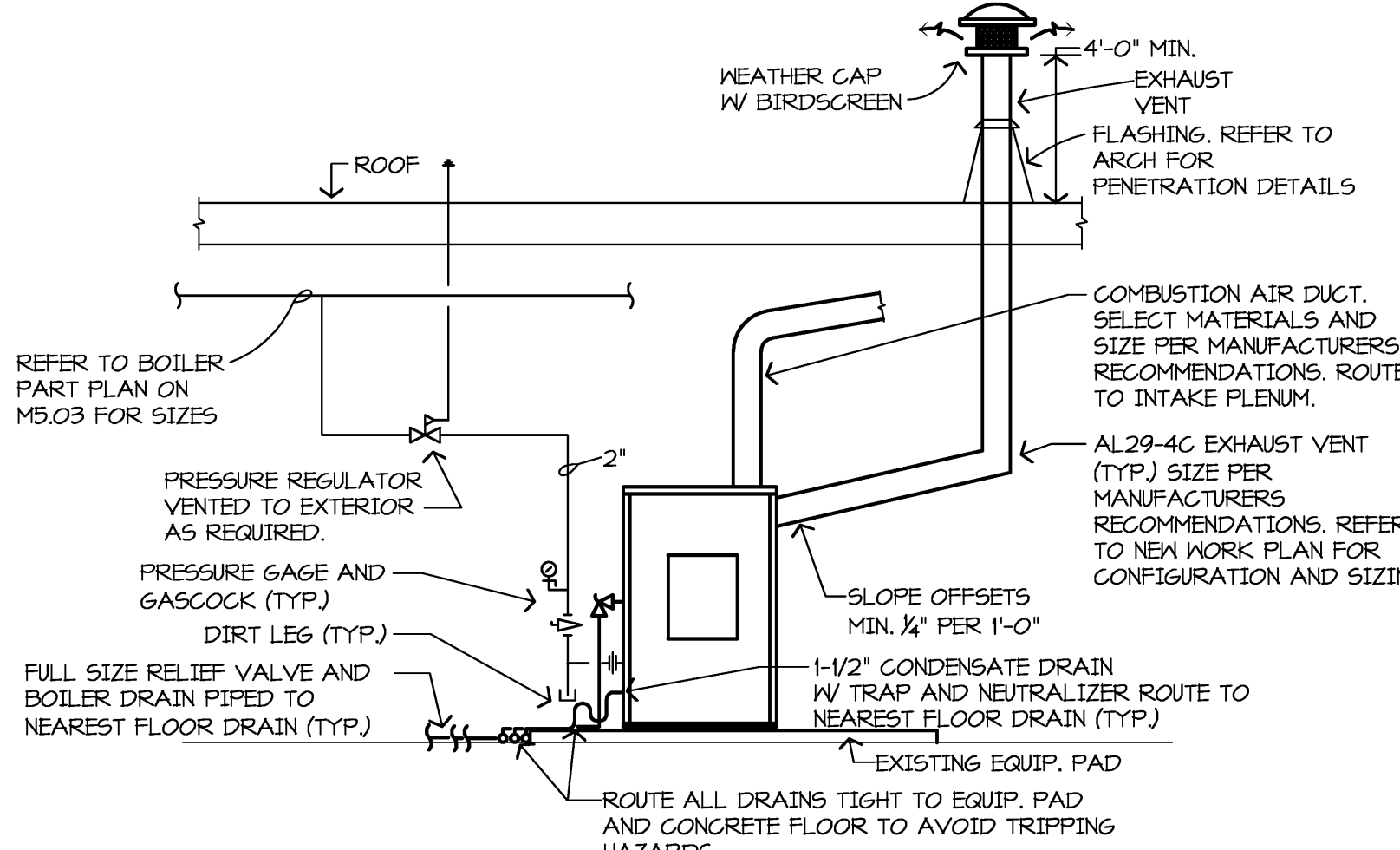
D6 BOILER ROOM NEW WORK PLAN
1/8"=1'-0"



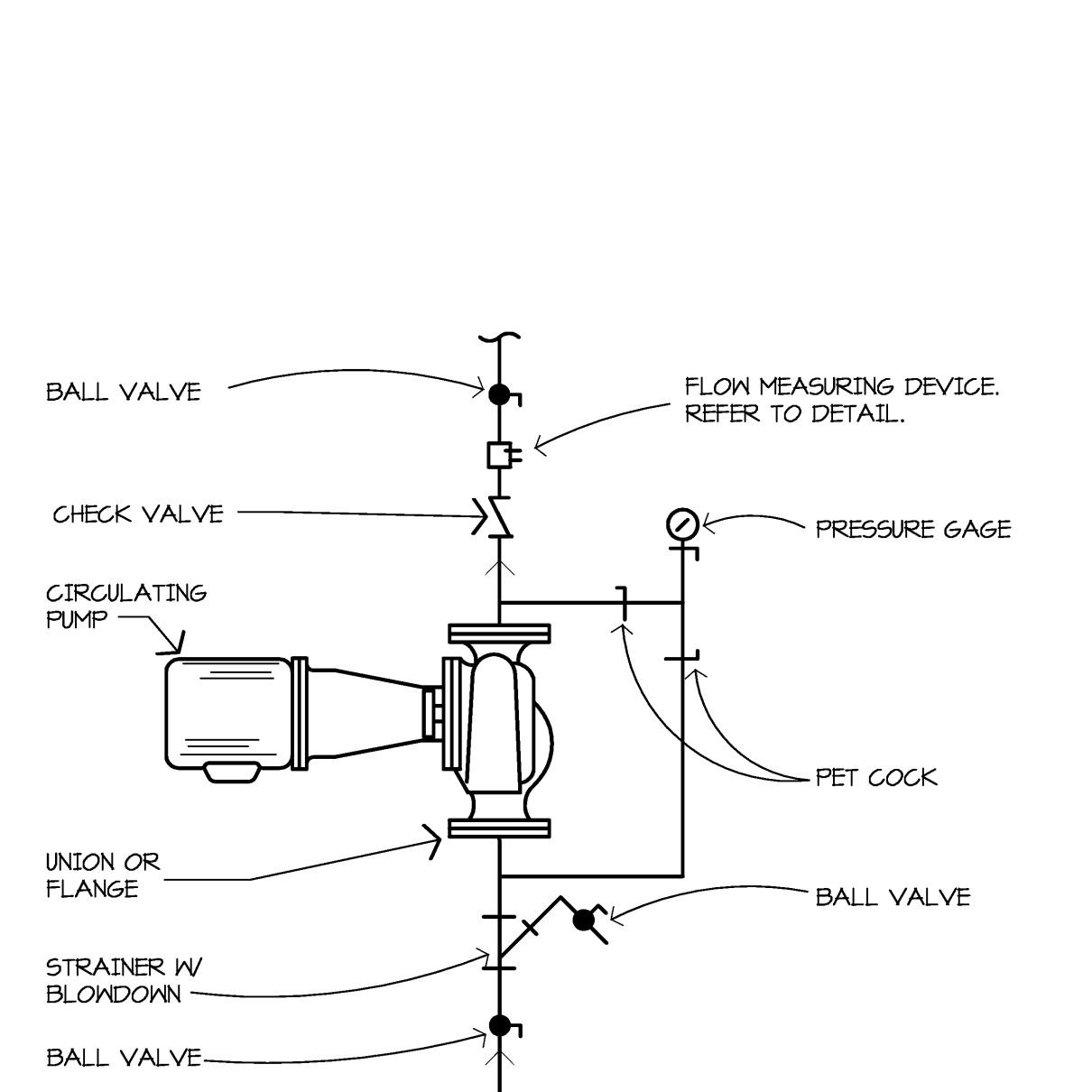
F1 HYDRONIC BRANCH PIPING TAKE-OFF DETAIL
NO SCALE



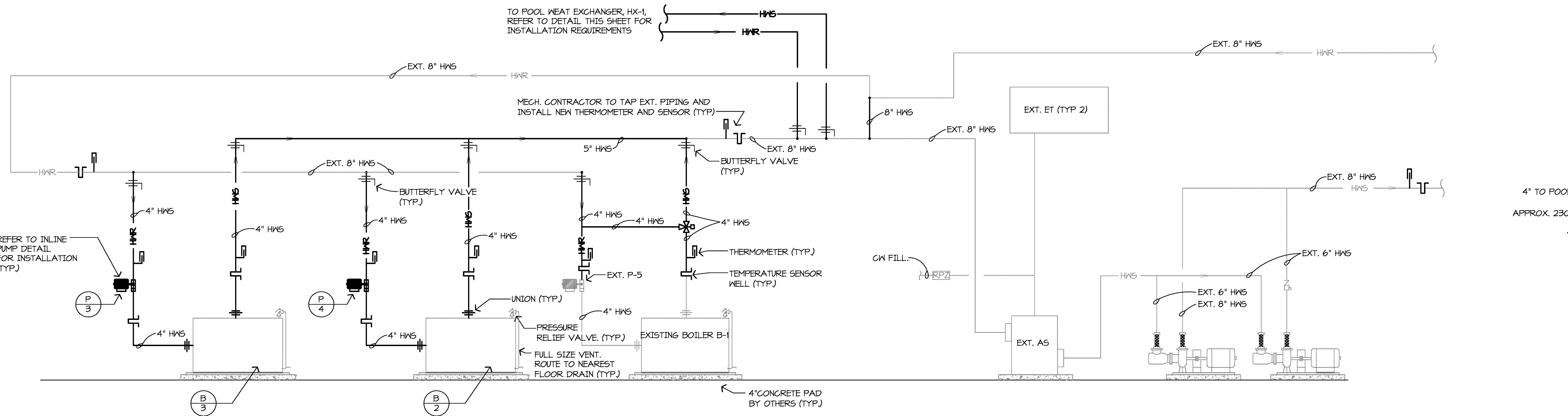
F4 LOUVER INSTALLATION DETAIL
NO SCALE



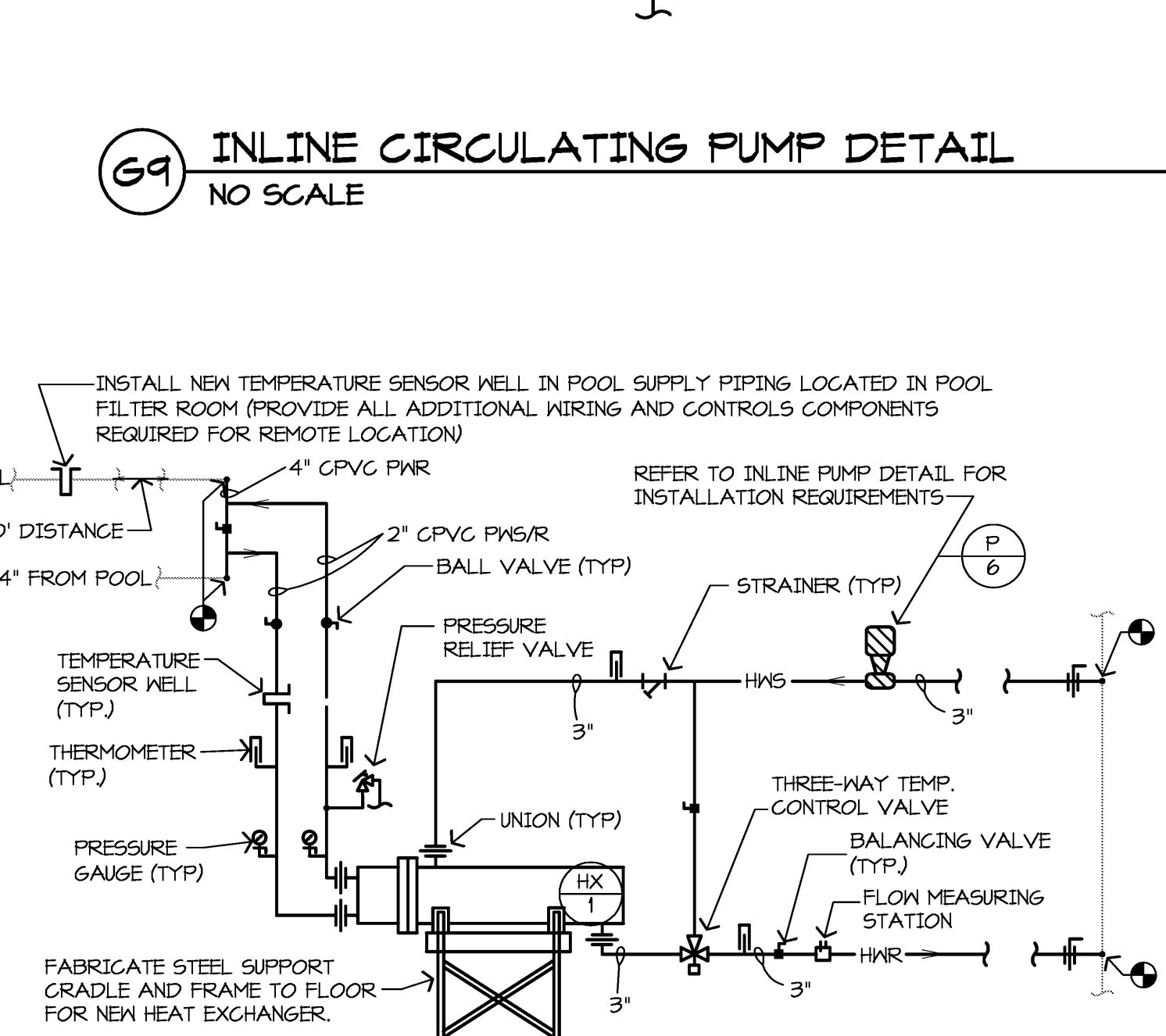
F6 BOILER INSTALLATION DETAILS
NO SCALE



G9 INLINE CIRCULATING PUMP DETAIL
NO SCALE



H4 HOT WATER PIPING SCHEMATIC
NO SCALE



H9 POOL HEAT EXCHANGER PIPING SCHEMATIC
NO SCALE

I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly licensed ENGINEER under the laws of the State of MICHIGAN

Jonathan Loose
6220259028 Date 10/31/13

Revisions		
Description	Date	Num

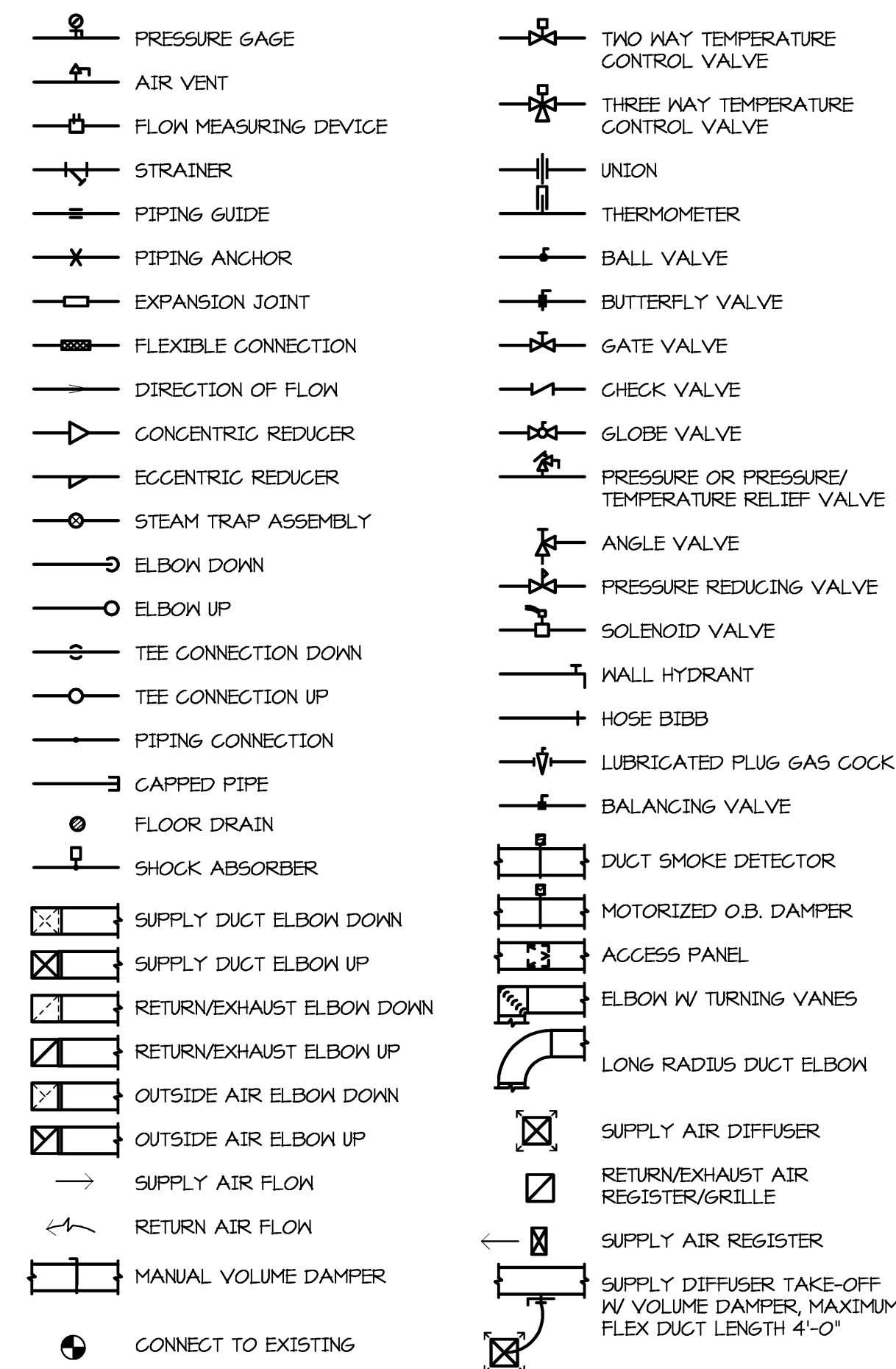
Comm: 124028
Date: 3/29/2013
Drawn: JIAL
Check: JIAL

**MECHANICAL
BOILER ROOM
DEMO AND NEW WORK
PART PLANS, DETAILS,
AND SCHEMATICS**

Scale: AS NOTED

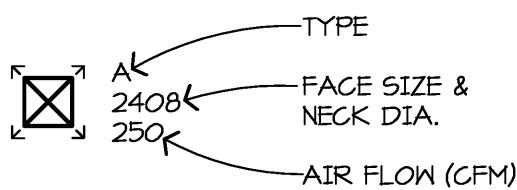
M1.2

MECHANICAL SYMBOLS

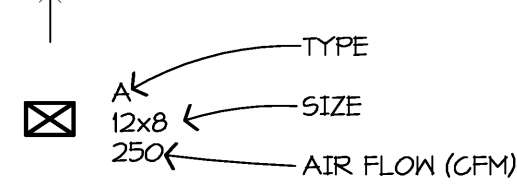


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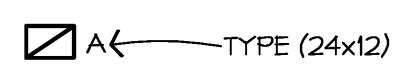
SUPPLY DIFFUSER



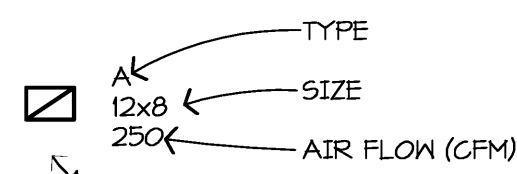
SUPPLY REGISTER OR GRILLE



RETURN GRILLE



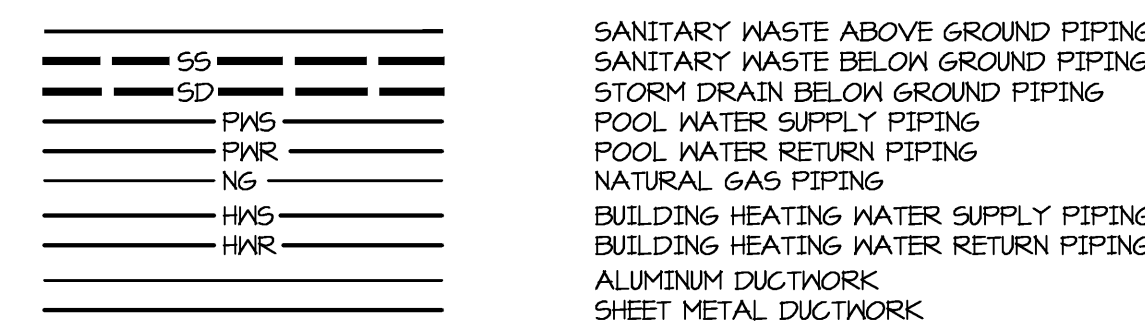
EXHAUST, TRANSFER & RETURN REGISTERS & GRILLES



MECHANICAL ABBREVIATIONS

AD AREA DRAIN	GR GRILLE
AFF ABOVE FINISHED FLOOR	HB HOSE BIBB
AHAP AS HIGH AS POSSIBLE	HCM HARD COLD WATER
BFF BELOW FINISHED FLOOR	HP HORSE POWER
BLDG BUILDING	HW HOT WATER
BSMT BASEMENT	INV INVERT
BTWN BETWEEN	KN KILOWATT
CB CATCH BASIN	LAT LEAVING AIR TEMPERATURE
CFM CUBIC FEET/MINUTE	LWT LEAVING WATER TEMPERATURE
CHW CIRCULATING HOT WATER	MAX MAXIMUM
CLG CEILING	MDU 1000 BTU
CO CLEANOUT	MECH MECHANICAL
CONCR CONCRETE	MH MANHOLE
CONTR CONTRACTOR	MIN MINIMUM
GN GOLD WATER	NTS NOT TO SCALE
DB DRY BULB	OA OUTSIDE AIR
DEG DEGREE	ODD OPPOSED BLADE DAMPER
DIA DIAMETER	ORD OVERFLOW ROOF DRAIN
DIFF DIFFUSER	P-# PLUMBING FIXTURE NUMBER
EAT ENTERING AIR TEMPERATURE	P & T PRESSURE AND THERMOSTATIC
EDR SQUARE FEET RADIATION	PD PRESSURE DROP
EFF EFFICIENCY	PLBG PLUMBING
EL ELBOW	QUAN QUANTITY
ELEC ELECTRICAL	RA RETURN AIR
ELEV ELEVATION	RD ROOF DRAIN
EMT ENTERING WATER TEMPERATURE	REG REGISTER
EAH EXHAUST	REQD REQUIRED
EXIST EXISTING	RFM REVOLUTIONS/MINUTE
F FAHRENHEIT	SA SUPPLY AIR
F & T FLOAT AND THERMOSTATIC	SCW SOFT COLD WATER
FD FLOOR DRAIN	SHT SHEET
FH FIRE HYDRANT	SP STATIC PRESSURE
FLA FULL LOAD AMPS	TD TEMPERATURE DIFFERENCE
FLR FLOOR	VTR VENT THROUGH ROOF
FTR FINNED TUBE RADIATION	W WITH
GEN GENERAL	WB NET BULB
GPM GALLONS/MINUTE	WH WALL HYDRANT

MECHANICAL LINETYPES



SCHEDULED EQUIPMENT/NUMBER

AG AIR COMPRESSOR	HX HEAT EXCHANGER
AHU AIR HANDLING UNIT	MAU MAKE-UP AIR UNIT
AS AIR SEPARATOR	P PUMP
B BOILER	RE RETURN/EXHAUST FAN
C CONNECTOR	RH RELIEF HOOD
CC COOLING COIL	TF TRANSFER FAN
CU CONDENSING UNIT	UH UNIT HEATER
DC DUST COLLECTOR	VAV VARIABLE AIR VOLUME
EF EXHAUST FAN	VFD VARIABLE FREQUENCY DRIVE
ET EXPANSION TANK	

PUMP SCHEDULE

UNIT NO.	SERVES	LOCATION	MANUFACTURER	SERIES	MODEL NUMBER	TYPE	DESIGN GPM	DESIGN HEAD	SOB FLOW HEAD	SHUTOFF HEAD	IMP. SIZE	EFF.	SUC. SIZE	DISCH. SIZE	MOTOR				REMARKS	
															RPM	HP.	VOLTS	PHASE		
P-3	BOILER B-3	BOILER ROOM	B&G	BOSC	3KX37B	IN-LINE	145	10	16	16	6.25"	61.0%	3"	3"	1150	1.0	208	3	N	
P-4	BOILER B-3	BOILER ROOM	B&G	BOSC	3KX37B	IN-LINE	145	10	16	16	6.25"	61.0%	3"	3"	1150	1.0	208	3	N	
P-6	POOL HEAT EXCHANGER HX-1	BOILER ROOM	B&G	60	15X15X5.25	IN-LINE	46	15	18	18	4.25"	58.1%	1.5"	1.5"	1750	1/2	115	1	N	

- NOTES:
 1. INSTALL IN ACCORDANCE WITH MANUFACTURER'S WRITTEN INSTRUCTIONS.
 2. PROVIDE AND INSTALL A STRAP-ON LINE VOLTAGE AGUSTAT TO CYCLE PUMP. COORDINATE INSTALLATION WITH THE ELECTRICAL CONTRACTOR FOR WIRING.

BOILER SCHEDULE

UNIT NO.	MANUF.	MODEL NUMBER	TYPE	FUEL	FIRING RATE MBH/GPH	GROSS OUTPUT MBH	ELECTRICAL POWER	VOLTS/PHASE	NOTES
B-1	AERCO	BMK-3.0LN 6NB	HOT WATER	GAS	3000	2883	20 AMPS 110 FLA	208 3 1	
B-2	AERCO	BMK-3.0LN 6NB	HOT WATER	GAS	3000	2883	20 AMPS 110 FLA	208 3 1	

- NOTES:
 1. INSTALL IN ACCORDANCE WITH MANUFACTURER'S INSTALLATION INSTRUCTIONS. VERIFY EXHAUST AND COMBUSTION DUCT SIZES WITH MANUFACTURER.

HEAT EXCHANGER SCHEDULE

UNIT NO.	SERVES	LOCATION	MANUFACTURER	MODEL	WORKING PRESS. (PSI)	TUBE SIDE			SHELL SIDE			MBH	DIA.	LENGTH	REMARKS		
						E.I.T. (°F)	L.I.T. (°F)	P.D. (PSI)	E.I.T. (°F)	L.I.T. (°F)	P.D. (PSI)						
HX-1	POOL	BOILER ROOM	B & G	HU 6 6-43	175	22.5	60	100	1.04	45.0	160	140	2.04	448.2	6"	6'	1

- NOTES:
 1. PROVIDE WITH CUPRO-NICKEL TUBES.

GAS FIRED MAKE-UP AIR UNIT SCHEDULE

UNIT NO.	SERVES	MANUFACTURER	MODEL NO.	TYPE	MOUNTING	CFM	EXTERNAL STATIC PRESSURE	VOLTAGE	PHASE	HP.	EAT	LAT	OUTPUT MBH	TURNDOWN	REMARKS
MAU-1	GIRLS LOCKER / POOL FILTER ROOM	REZNOR	RDH-225	INDIRECT-FIRED	ROOF	1820	2.00	208	3	15	0	95	1823	MIN. 0.1	1, 2, 3, 4, 5

- NOTES:
 1. INSTALL IN ACCORDANCE WITH MANUFACTURER'S WRITTEN INSTRUCTIONS.
 2. PROVIDE GAS PRESSURE REGULATOR ON ALL 2" WC GAS SERVICE.
 3. PROVIDE INTAKE HOOD WITH BIRDSCREEN, MOTORIZED DAMPER AND FILTER SECTION (65% EFFICIENT)
 4. PROVIDE FACTORY CONTROLS WITH BACnet INTERFACE TO TIE INTO BAS.
 5. PROVIDE FACTORY SUPPLIED DUCT SMOKE DETECTOR, INSTALLED BY MECH. IN SUPPLY AIR DUCT, SELECT DETECTOR COMPATIBLE WITH EXISTING FIRE ALARM SYSTEM.

EXHAUST FAN AND TRANSFER FAN SCHEDULE

UNIT NO.	SERVES	MANUFACTURER	MODEL NO.	TYPE	CFM	TOTAL S.P. I.C.	RPM	HP	VOLTS	PH	DAMPER SIZE	COMPONENTS AND ACCESSORIES			REMARKS	
												SPEED SWITCH	MOT. DAMPER	GRAVITY DAMPER	DISCONNECT SWITCH	
EF-1	GIRLS LOCKER ROOM, POOL FILTER ROOM	GREENHECK	CUBE-16HHP-7	CENT. UPBLAST	1400	1.00	1427	3/4	115	1	16X16	NO	NO	YES	YES	1, 2, 3, 4

- NOTES:
 1. INSTALL IN ACCORDANCE WITH MANUFACTURER'S WRITTEN INSTRUCTIONS.
 2. PROVIDE WITH FACTORY MOUNTED SPEED SWITCH IN MOTOR COMPARTMENT FOR BALANCING.
 3. PROVIDE WITH GRAVITY DAMPER WHERE INDICATED AND BIRDSCREEN. THE TEMPERATURE CONTROL CONTRACTOR SHALL PROVIDE ALL MOTORIZED DAMPERS.
 4. PROVIDE WITH ALL ALUMINUM FASTENERS AND MATERIALS FOR SERVICE IN POOL ENVIRONMENT.

GRILLES, REGISTERS AND DIFFUSERS SCHEDULE

TYPE	SERVICE	MANUF. & MODEL NO.	DESCRIPTION	REMARKS
A	SUPPLY AIR DIFFUSER (LAY-IN CEILING MOUNT)	TITUS MODEL TMS-AA BORDER TYPE 3	24" x 24" ALUMINUM 3 CONE LOUVERED FACE SUPPLY AIR DIFFUSER WITH ROUND INLET NECK, HEAVY GAUGE ALUMINUM BACK FAN, FACTORY BAKED WHITE ENAMEL FINISH, AND OPPOSED BLADE DAMPER.	
B	RETURN GRILLE (LAY-IN CEILING MOUNT)	TITUS MODEL 50F BORDER TYPE 7	ALUMINUM 1/2" x 1/2" x 1/2" EGGS GRATE GRILLE OF THE SIZE INDICATED ON THE PLANS. PROVIDE WITH BORDER CHANNEL, AND FACTORY BAKED WHITE ENAMEL FINISH.	
C	SUPPLY REGISTER (SURFACE MOUNT)	TITUS MODEL 300FL	ALL ALUMINUM SUPPLY REGISTER OF THE SIZE AS INDICATED ON THE PLANS. PROVIDE WITH DOUBLE DEFLECTION HORIZONTAL FRONT BLADES, 3/4" SPACING, OPPOSED BLADE DAMPER, AND BAKED WHITE ENAMEL FINISH.	
D	EXHAUST REGISTER (SURFACE MOUNT)	TITUS MODEL 350FL	ALL ALUMINUM EXHAUST REGISTER OF THE SIZE AS INDICATED ON THE PLANS. PROVIDE WITH SINGLE DEFLECTION HORIZONTAL BLADES AT A FIXED 35° PATTERN AT 3/4" SPACING, OPPOSED BLADE DAMPER, AND FACTORY BAKED WHITE ENAMEL FINISH.	

Annapolis High School Pool Improvements and Boiler Replacement

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I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly licensed ENGINEER under the laws of the State of MICHIGAN

Jonathan Loose
 Registration Number: 620059908 Date: 10/31/13

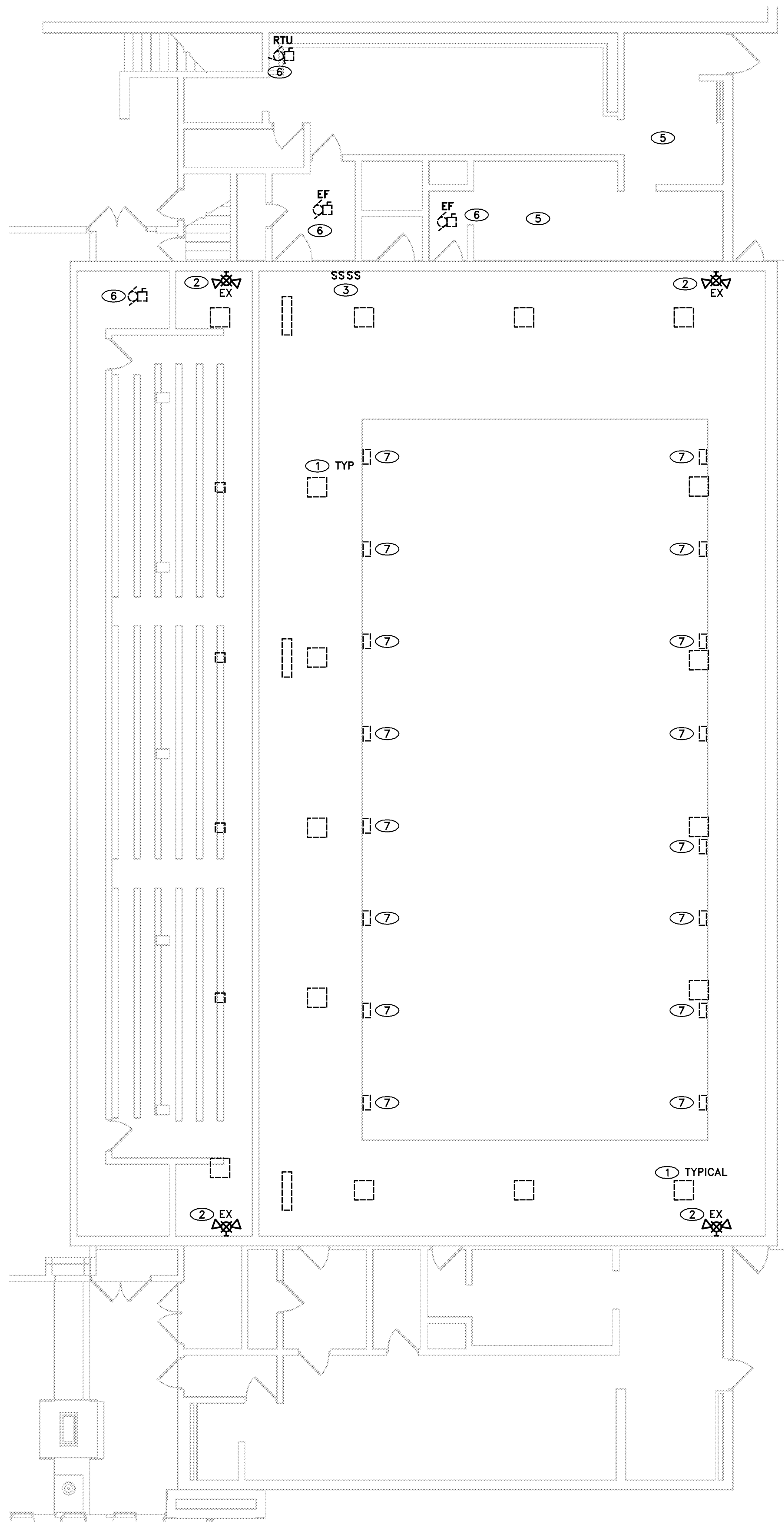
Revisions		
Description	Date	Rev

Comm: 124008
 Date: 3/29/2013
 Drawn: JIAL
 Check: JIAL North

MECHANICAL DETAILS, SYMBOLS, SCHEDULES, AND NOTES

Scale:

M1.3



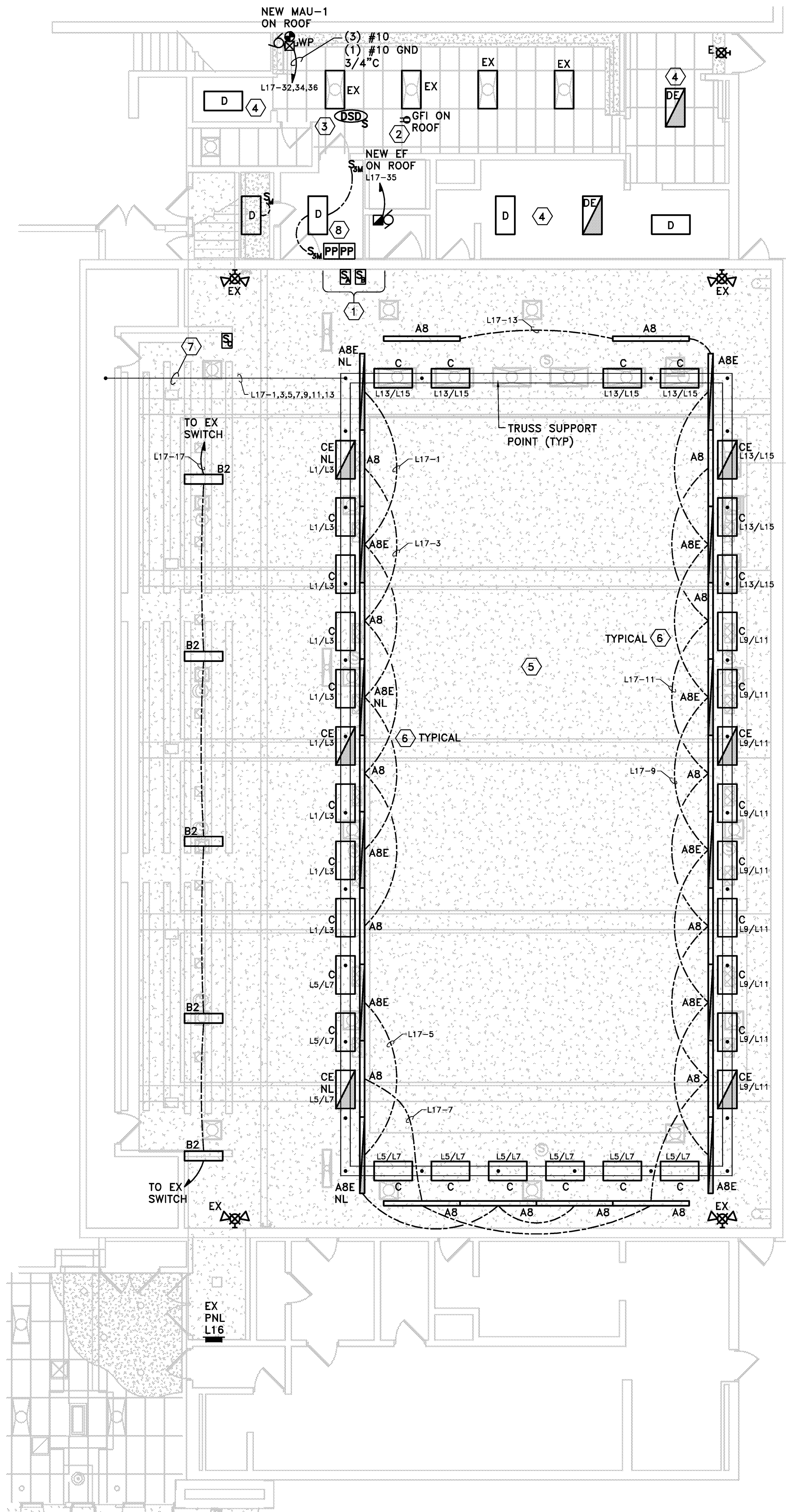
NATATORIUM PLAN - ELECTRICAL DEMOLITION
1/8"=1'-0"

GENERAL DEMOLITION NOTES

- ALL EXISTING LIGHTING AND POWER OUTSIDE THE DEMOLITION SCOPE LIMITS SHALL REMAIN UNLESS NOTED OTHERWISE.
- REFER TO THE NEW LIGHTING AND POWER AND SYSTEMS PLANS FOR UPDATES.
- CONTRACTOR SHALL FIELD CONFIRM ALL QUANTITIES OF ELECTRICAL ITEMS REQUIRED TO BE REMOVED AND OR RELOCATED ABOVE THOSE NOTED OR SHOWN THAT ARE WITHIN THE SCOPE LIMITS SHALL BE INCLUDED AS PART OF BID SUBMITTED.
- DEVICE LOCATIONS ARE SHOWN DIAGMATIC. FIELD CONFIRM THE EXACT LOCATION.
- CONTRACTOR SHALL DISPOSE OF ALL DEMOED EQUIPMENT UNLESS NOTED OTHERWISE.
- DASHED LINE SHOWN ON DEMOLITION SHEETS ARE ITEMS SHOWN TO BE REMOVED UNLESS NOTED OTHERWISE.

KEYED NOTES - DEMOLITION

- EC SHALL DISCONNECT AND REMOVE ALL EXISTING CONDUIT/WIRE POOL LIGHTING AS SHOWN. PROVIDE A BLANK COVER PLATE OVER EXISTING LIGHT FIXTURE OPENING, PAINT COVER TO MATCH CEILING COLOR. EC SHALL REMOVE ALL CIRCUITS BACK TO PANEL E2 OR L17.
- EXISTING EXIT LIGHT SHALL REMAIN SHOWN ONLY FOR REFERENCE.
- EC SHALL DISCONNECT AND REMOVE EXISTING POOL LIGHT SWITCHES AND COVERPLATE.
- EC SHALL DISCONNECT AND REMOVE ALL EXISTING CONTACTORS THAT CONTROL THE POOL LIGHTS. REMOVE AND REPLACE EXISTING CONTACTOR PANEL WITH NEW REPLAY CONTROL PANEL L17R. RECONNECT EXISTING RELAYS TO NEW PANEL.
- EC SHALL DISCONNECT AND REMOVE EXISTING ROOM LIGHTING. REMOVE POWER FEED BACK TO THE NEAREST JUNCTION BOX. REFER TO ARCHITECTURAL PLANS FOR DEMOLITION COORDINATION.
- EXISTING HVAC UNIT IS BEING REMOVED. EC SHALL DISCONNECT AND REMOVE EXISTING POWER CONNECTION, DISCONNECT AND ASSOCIATED CIRCUIT AND WIRE BACK TO THE SOURCE.
- DISCONNECT AND REMOVE EXISTING UNDERWATER POOL LIGHTING, TRANSFORMERS INCLUDING ALL ASSOCIATED CONDUIT, WIRE AND SUPPORTS BACK TO PANEL L17. ALSO REMOVE AND ASSOCIATED CONTACTOR WIRING. UPDATE ALL PANEL AND CONTACTOR SCHEDULES ACCORDINGLY. REFER TO ARCHITECTURAL DRAWINGS FOR TUNNEL LOCATIONS. FURNISH AND INSTALL WATER TIGHT THREADED CAP IN NICHE WHERE WIRING IS REMOVED.



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

LIGHTING WIRING METHODS

- HALF-TONE SHADED FIXTURES REPRESENTS THE FIXTURE IS AN EMERGENCY LIGHT AND WIRED WITH AN EMERGENCY BATTERY PACK.
- ALL LIGHTING CIRCUITS SHALL BE INSTALLED IN CONDUIT.
- EXISTING CONDUIT IS ALLOWED TO BE REUSED, EC SHALL INSTALL ALL NEW WIRE FOR ALL NEW LIGHTS. MODIFY CONDUIT AND JUNCTION BOXES TO MEET SPECIFICATIONS AND TO ACCOMMODATE NEW LIGHTING LAYOUT. IF SURFACE CONDUIT ALONG THE CEILING IS NECESSARY, THE CONTRACTOR SHALL PRIME AND PAINT CONDUIT TO MATCH CEILING COLOR PRIOR TO INSTALLATION.
- MC CABLE IS ONLY ACCEPTABLE AS A FINAL WIRING CONNECTION TO RECESSED LIGHTING INSTALLED IN ACCESSIBLE CEILING. MC CABLE LENGTH SHALL NOT EXCEED 6'-0".
- CEILING OCCUPANCY SENSOR SHALL BE WIRED AHEAD OF THE LOCAL SWITCHING. THIS ALLOWS THE LOCAL SWITCHES TO OVERRIDE THE SENSOR TO TURN OFF THE LIGHTS.
- PROVIDE A DEDICATED NEUTRAL CONDUCTOR FOR EACH NEW LIGHTING CIRCUIT. SHARED NEUTRALS ARE NOT PERMITTED FOR THIS PROJECT.
- PROVIDE AN EQUIPMENT GROUNDING CONDUCTOR FOR LIGHTING CIRCUITS. THE USE OF THE RACEWAY FOR A GROUNDING PATH IS NOT ACCEPTABLE FOR THIS PROJECT. THE USE OF SHARED GROUNDS FOR LIGHTING CIRCUITS IN A COMMON CONDUIT IS ACCEPTABLE.
- OCCUPANCY SENSORS, POWER PACKS AND CONTROLS ARE SHOWN DIAGMATICALLY. INFRARED SENSORS MUST REMAIN AT A MINIMUM OF 4'-0" AWAY FROM ANY MECHANICAL HEAT DIFFUSER TO ELIMINATE FALSE TRIPS. CIRCUIT LINES ARE SHOWN FROM SWITCHES TO LIGHT FIXTURES TO COMMUNICATE SWITCHING CONFIGURATION ONLY. ALL SENSORS, POWER PACKS AND WIRING MUST BE WIRED PER MANUFACTURER'S WIRING METHOD.
- A SINGLE POWER PACK CAN HAVE MULTIPLE SWITCHES WIRED TO THE DEVICE PROVIDED THAT THE FIXTURES BEING CONTROLLED BY THESE SWITCHES ARE ON THE SAME CIRCUIT. TWO POWER PACKS ARE REQUIRED IF A SECOND CIRCUIT IS INTRODUCED. REFER TO MANUFACTURER'S WIRING METHODS.

KEYED NOTES - LIGHTING

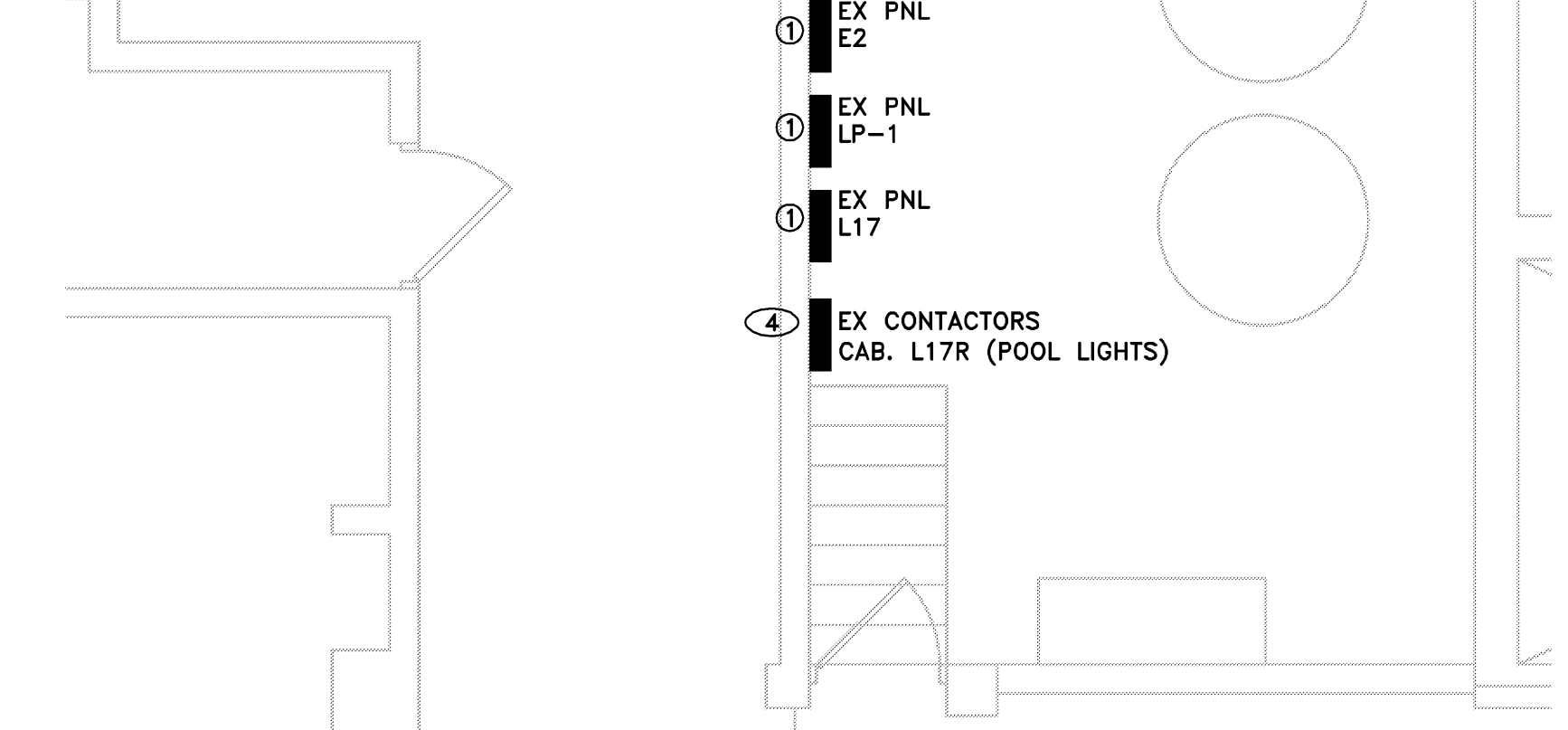
- INSTALL NEW LOW VOLTAGE TOGGLE SWITCHES IN EXISTING ROUGH-IN WIRE TO THE NEW RELAY PANEL L17R TO CONTROL THE POOL LIGHTS. FURNISH AND INSTALL A NEW CUSTOM COVER PLATE FOR THE EXISTING MULTI GANG BOX WITH FACTORY BLANKS FOR ALL THE UNUSED SPACES.
- EC SHALL FURNISH AND INSTALL A NEW WEATHER PROOF GFCI RECEPTACLE ON THE ROOF. WIRE TO THE PUMP ROOM RECEPTACLE CIRCUIT.
- EC SHALL WIRE NEW MAU SELF EQUIPPED DUCT SMOKE DETECTOR FOR THE NEW MAU. WIRE BACK TO THE EXISTING FIRE ALARM PANEL.
- EC SHALL INSTALL NEW LIGHTS AS SHOWN. REUSE/MODIFY EXISTING LIGHTING CIRCUIT AS REQUIRED. REUSE EXISTING LOCAL SWITCHES FOR CONTROLLING THE NEW LIGHTS IN THIS SPACE.
- TWO LIGHTING APPROACHES ARE SHOWN. BID THE C/C LIGHT FIXTURES AS BASE BID AND THE A8/ABE FIXTURES AS ALTERNATE 2.
- ALT 2. EC SHALL CONSULT FACTORY FOR EXACT RUN LENGTHS OF INDIRECT PAN FOR HANGING BASED ON THE NUMBER OF TYPE A FIXTURES SHOWN. MOUNT INDIRECT PAN SUSPENDED 3" DOWN FROM CEILING WITH SUPPORTS SUPPLIED WITH HANGING PAN. HANGING PAN SHALL BE SUPPLIED IN STRAIGHT RUNS. (1) RUN PER SIDE FOR AND (2) RUNS PER END FOR A TOTAL OF (5) RUNS.
- FURNISH AND INSTALL ALL NEW LIGHTING CIRCUIT CONDUIT AND WIRE FROM EXISTING PANEL L17 TO FEED THE NEW LIGHTING. CONCEAL CONDUIT ALONG STRUCTURAL STEEL AND THEN RUN CONCEALED IN UTILITY SPACES BACK TO THE PANEL.
- EC SHALL LOCATE OCCUPANCY POWER PACKS ABOVE CEILING BEHIND POOL LIGHT SWITCHES.

LIGHT FIXTURE SCHEDULE

- (ALT2) AB 8' SMALL PROFILE ENCLOSED POOL FIXTURE (3) 54 WATT T5 HO LAMPS PER 4' SECTION, 120 VOLT, ETCHED SOFT WHITE LENS, STAINLESS STEEL LATCH KIT, ONE PIECE FIBERGLASS HOUSING, SEAMLESS NEOPRENE GASKET, 1/2" CONDUIT ENTRY HOLES WITH WEATHERITE PLUG. MOUNTED IN THE INDIRECT HANGING PAN. (REFER TO DRAWING FOR INDIRECT PAN LENGTHS.) USE INCONEL ALLOY 625 HANGERS FOR SUPPORTING PAN. MONSOON #MON2-8-54-MV-ET-HS4-INDPAN
- (ALT2) ABE SAME AS TYPE "A4" EXCEPT EQUIPPED WITH A 1400 LUMEN EMERGENCY BATTERY.
- B 1x4 WET LOCATION LISTED FIXTURE. (1) 54 WATT T5 HO LAMP SURFACE MOUNTED. 4000K LAMP. MULTI VOLT BALLAST. MONSOON #MON1-4-54-MV-ET-HS4 OR EQUAL
- BE SAME AS TYPE "B" EXCEPT WITH A 1400 LUMEN BATTERY BACK UP.
- B2 1x4 WET LOCATION LISTED FIXTURE. (2) T5 HO 54 WATT LAMPS, SURFACE MOUNTED. 4000K LAMP. MULTI VOLT BALLAST. MONSOON #MON2-4-54-MV-ET-HS4 OR EQUAL
- (BASE BID) C SPI FLUORESCENT LIGHT TRUSS. (6) TSHO LAMPS. FIXTURE SHALL BE PART OF ONE CONTINUES LIGHT TRUSS SYSTEM. FURNISH AND INSTALL ALL SUPPORTS, HANGERS, WIRING FOR A COMPLETE INSTALLATION. UTILIZE INCONEL ALLOY 625 HANGERS. (2) BALLASTS FOR SPLIT SWITCHING. SPI #STYLE LCA4 654 D16 F54 PTXX
- (BASE BID) CE SAME AS TYPE "C" EXCEPT EQUIPPED WITH A 3000 LUMEN EMERGENCY BATTERY.
- D 2x4 LAY-IN FIXTURE. (2) 32 WATT T8 LAMPS. ALUMINUM DOOR. FRAME PAINTED WHITE AFTER FABRICATION. DOUBLE GASKETING BETWEEN LENS/DOOR AND DOOR/FRAME HOUSING. METALUX #20C8-RA-232-UNV-EBB1-PAF OR EQUAL
- DE SAME AS TYPE "D" EXCEPT EQUIPPED WITH A 1400 LUMEN BATTERY PACK.
- E LED SELF POWERED EXIT LIGHT. WHITE WITH RED LETTERS. 120/277V, POLYCARBONATE HOUSING, UNIVERSAL MOUNTING. SURLITE #LPX-7 OR EQUAL

LIGHT FIXTURE SCHEDULE GENERAL NOTES:

- CONTRACTOR SHALL FURNISH T8 4100K LAMPS MANUFACTURED BY GE OR PHILLIPS TO MEET THE DISTRICT'S STANDARD.
- ALL BALLASTS SHALL BE ELECTRONIC, 10% THD, PROGRAM START.
- FIXTURE DESCRIPTIONS SHALL GOVERN OVER PRODUCT NUMBERS. IN THE EVENT OF A DISCREPANCY.



LOWER LEVEL ELECTRICAL PLAN
1/4"=1'-0"

POWER AND SYSTEMS KEYED NOTES - LOWER LEVEL ELECTRICAL PLAN

- REPLACE EXISTING PANEL ONE FOR ONE WITH NEW REVISE/EXTEND EXISTING FEEDERS AND BRANCH CIRCUIT CONDUCTORS AS REQUIRED TO INSTALL NEW PANEL. FIELD VERIFY EXISTING LOADS PRIOR TO ORDERING NEW PANEL AND UPDATE PANEL SCHEDULE'S ACCORDINGLY.
- FEED NEW LOAD FROM NEW PANEL.
- REMOVE CIRCUIT BACK TO SOURCE. REUSE FOR NEW POOL LIGHTS.
- REMOVE CIRCUIT BACK TO SOURCE. LABEL AS SPARE.
- MOVE PARKING LOT CIRCUIT TO PANEL L17 AND CONTROL FROM THE NEW RELAY PANEL.

EXISTING PANEL LP-1 (TO BE REPLACED WITH NEW)

① SQUARE D OR SIEMENS TYPE S3
400A 120/208V, 3Ø, 4W

UL	20A	1	2	20A	UL
UL	3	4	-	UL	UL
UL	5	6	3P	UL	UL
UL	7	8	20A	UL	UL
UL	9	10	-	UL	UL
UL	11	12	3P	UL	UL
UL	13	14	20A	UL	UL
UL	15	16	-	UL	UL
UL	17	18	3P	UL	UL
UL	19	20	20A	UL	UL
UL	21	22	-	UL	UL
UL	23	24	3P	UL	UL
SUMP PUMP #1 (LEFT)	20A	25	26	20A	SUMP PUMP #2 (RIGHT)
SUMP PUMP #1 (LEFT)	27	28	-	SUMP PUMP #2 (RIGHT)	SUMP PUMP #2 (RIGHT)
SUMP PUMP #1 (LEFT)	29	30	3P	SUMP PUMP #2 (RIGHT)	SUMP PUMP #2 (RIGHT)
POOL FILTER PUMP #2 (RIGHT)	40A	31	32	30A	AIR HANDLER
POOL FILTER PUMP #2 (RIGHT)	33	34	30A	AIR HANDLER	AIR HANDLER
POOL FILTER PUMP #2 (RIGHT)	35	36	3P	AIR HANDLER	AIR HANDLER
POOL FILTER PUMP #1 (LEFT)	40A	37	38	20A	CONDENSE PUMP
POOL FILTER PUMP #1 (LEFT)	39	40	-	PREPARED SPACE	PREPARED SPACE
POOL FILTER PUMP #1 (LEFT)	3P	41	42	PREPARED SPACE	PREPARED SPACE

EXISTING PANEL E2 (TO BE REPLACED WITH NEW)

① SIEMENS OR SQUARE D NQ
100A 120/208V, 3Ø, 4W

EXITS	20A	1	2	20A	LIGHTS SPECTATORS
LIGHTS LOBBY #11, CORR #2	20A	3	4	20A	UL
PARKING LOT	20A	5	6	20A	LIGHTS NATATORIUM
PARKING LOT	2P	7	8	20A	GFI NORTH POLE IN LOT
BLANK	9	10	20A	UL	SPARE
SPARE	20A	11	12	20A	UL
PREPARED SPACE	13	14	-	PREPARED SPACE	PREPARED SPACE
PREPARED SPACE	15	16	-	PREPARED SPACE	PREPARED SPACE
PREPARED SPACE	17	18	-	PREPARED SPACE	PREPARED SPACE
PREPARED SPACE	19	20	-	PREPARED SPACE	PREPARED SPACE
PREPARED SPACE	21	22	-	PREPARED SPACE	PREPARED SPACE
PREPARED SPACE	23	24	-	PREPARED SPACE	PREPARED SPACE
PREPARED SPACE	25	26	-	PREPARED SPACE	PREPARED SPACE
PREPARED SPACE	27	28	-	PREPARED SPACE	PREPARED SPACE
PREPARED SPACE	29	30	-	PREPARED SPACE	PREPARED SPACE

EXISTING PANEL L17 (TO BE REPLACED WITH NEW)

① SIEMENS OR SQUARE D NQ 225A MLO
120/208V, 3Ø, 4W

EX POOL LIGHTS	1620	20A	1	2	20A	EX LOAD
EX POOL LIGHTS	1620	20A	3	4	20A	EX LOAD
EX POOL LIGHTS	1620	20A	5	6	20A	EX LOAD
EX POOL LIGHTS	1620	20A	7	8	20A	EX LOAD
EX POOL LIGHTS	1620	20A	9	10	20A	EX LOAD
EX POOL LIGHTS	1620	20A	11	12	20A	EX LOAD
EX POOL LIGHTS	1620	20A	13	14	20A	EX LOAD
EX POOL LIGHTS	1620	20A	15	16	20A	EX LOAD
EX POOL LIGHTS	1620	20A	17	18	20A	EX LOAD
EX POOL LIGHTS	1620	20A	19	20	20A	EX LOAD
EX POOL LIGHTS	1620	20A	21	22	20A	EX LOAD
EX POOL LIGHTS	1620	20A	23	24	20A	EX LOAD
EX POOL LIGHTS	1620	20A	25	26	20A	EX LOAD
EX POOL LIGHTS	1620	20A	27	28	20A	EX LOAD
EX POOL LIGHTS	1620	20A	29	30	20A	EX LOAD
EX LOAD	20A	31	32	20A	EX LOAD	
PARKING LOT	20A	33	34	20A	EX LOAD	
PARKING LOT	20A	35	36	20A	EX LOAD	
MAU-1	7000	30A	29	30	PREPARED SPACE	
MAU-1	31	32	PREPARED SPACE	PREPARED SPACE	PREPARED SPACE	
MAU-1	33	34	PREPARED SPACE	PREPARED SPACE	PREPARED SPACE	
EF ON ROOF	20A	35	36	PREPARED SPACE	PREPARED SPACE	
SPARE	20A	37	38	PREPARED SPACE	PREPARED SPACE	
SPARE	39	40	PREPARED SPACE	PREPARED SPACE	PREPARED SPACE	
SPARE	3P	41	42	PREPARED SPACE	PREPARED SPACE	

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I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly-licensed Engineer under the laws of the State of Michigan.

Edward A. Barry

Registration Number: 620193688 Date: 10/31/14

Description	Revisions	Date	Num

Comm:124008
Date: 3/22/2013
Drawn: DCT
Check: EAB

**NATATORIUM
LIGHTING
RENOVATIONS**

Scale: As indicated

E1.1

