

St. George's
Episcopal Church
Nave & Chapel
Renovation

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1	Schematic Design	07.31.2015
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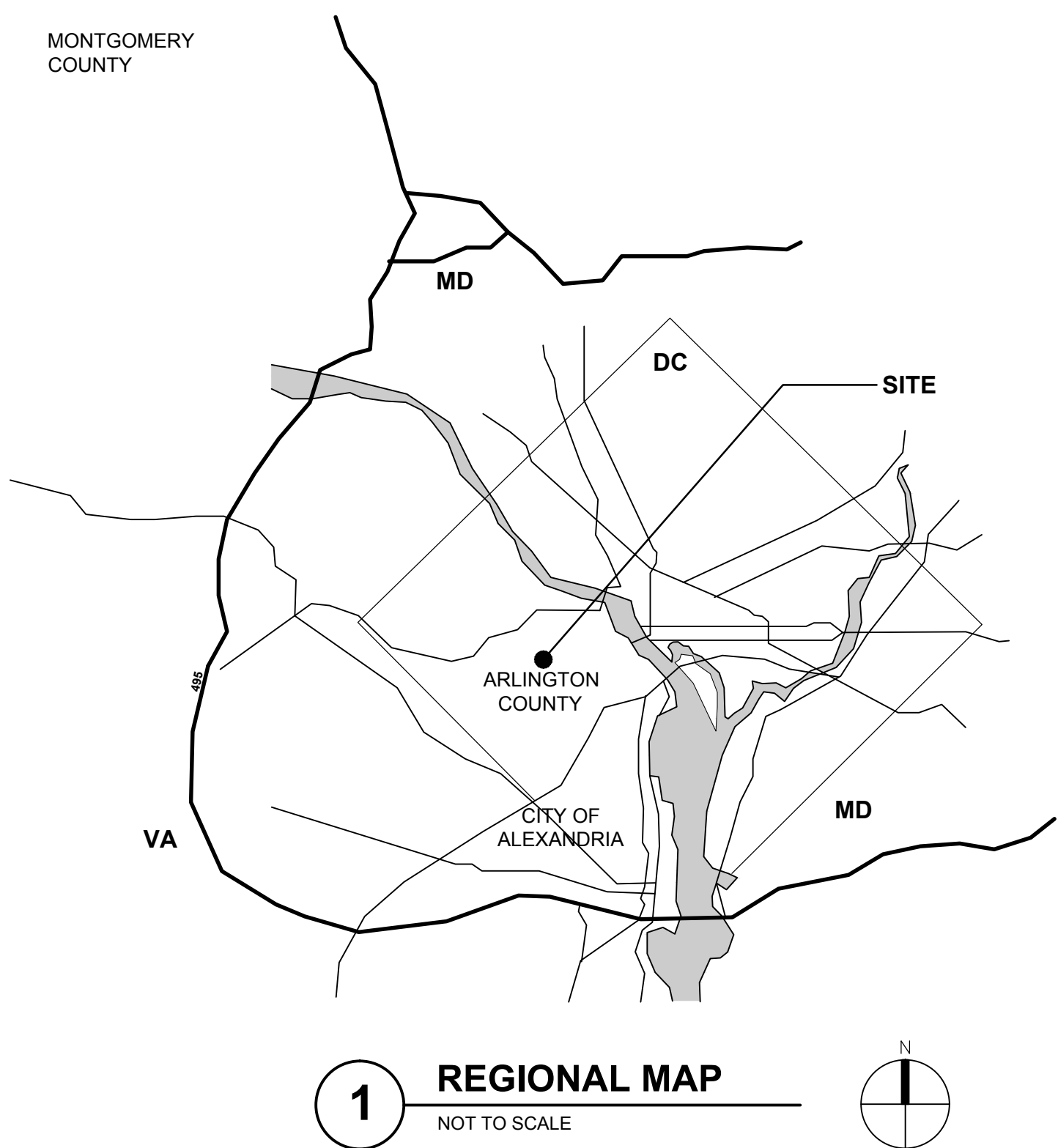
Drawing No.:

G1.01

St. George's Episcopal Church

Nave & Chapel Renovation

80% Pricing Set



DRAWING LIST

GENERAL
G1.01 COVER SHEET

ARCHITECTURAL

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AD1.01	FIRST FLOOR PLAN - DEMOLITION
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A1.01	FIRST FLOOR PLAN - NEW WORK
A2.01	REFLECTED CEILING PLAN - NEW WORK
A3.00	NAVE SECTION & INTERIOR ELEVATION
A3.01	NAVE CROSS BUILDING SECTIONS
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STRUCTURAL

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S3.00	TYPICAL FOUNDATION DETAILS
S4.00	TYPICAL SUPERSTRUCTURE DETAILS
S4.01	TYPICAL SUPERSTRUCTURE DETAILS

MECHANICAL

M0.00	COVER SHEET - MECHANICAL
M1.00	DEMO OVERALL FIRST FLOOR PLAN - MECHANICAL
M1.01	SAINT GEORGE DEMO BASEMENT FLOOR PLAN - MECHANICAL
M1.02	SAINT GEORGE DEMO FIRST FLOOR - MECHANICAL
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M3.00	SCHEDULES AND DETAILS - MECHANICAL
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ELECTRICAL

E0.00	COVER SHEET - ELECTRICAL
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E4.00	RISER DIAGRAM - ELECTRICAL
E4.01	SCHEDULES - ELECTRICAL

AUDIO

TA001	NOTES
TA101	FIRST FLOOR
TA201	ELEVATIONS
TA501	DETAILS
TA502	DETAILS

A	
⊙	At
<	Angle
A	Air
A.F.F.	Above Finished Floor
A.H.U.	Air Handling Unit
A.P.C.	Acoustical Panel Ceiling
A/C	Air Conditioning
ACOUS	Acoustical
ADJ	Adjacent
AESS	Architecturally Exposed Structural Steel
AIR BAR	Air Barrier
ALT	Alternate
ALUM	Aluminum
APPROX	Approximate
ARCH	Architect or Architectural
ATH-WD	Athletic Wood Flooring
B	
B.O.	Bottom of
B.O.F.	Bottom of Footing
B.T.U.	British Thermal Unit
BAR	Barrier
BATT INSUL	Fiberglass Batt Insulation
BD	Board
BEJ	Building Expansion Joint
BKBD	Backer Board
BLDG	Building
BLK	Block or Blocking
BM	Beam
BNT	Bent
BOTT	Bottom
BP	Base Plate
BRK	Brick
B-ROD	Backer Rod
C	
CLOS	Closet
C.D.	Ceiling Diffuser
CAV	Cavity
C-FLASH	Counterflash
CFM	Cubic Feet Per Minute
CFMF	Cold Form Metal Framing
CG	Corner Guard
CHAN	Channel
CJ	Control Joint
☒	Centerline
CLG	Ceiling
CMU	Concrete Masonry Unit
COL	Column
COMP FILL	Compressible Joint Filler
CONC	Concrete
CONST	Construction
CONT	Continuous
CONTR	Contractor
COORD	Coordinate
CORR	Corridor
CPT	Carpet
CRS	Courses
CT	Ceramic Tile
CTR	Center
D	
DN	Down
DBL	Double
DIA or ⌀	Diameter
DIAG	Diagonal
DIM	Dimension
DK	Deck
DMPF	Damproofing
DR	Door
DRN	Drain
DRNG	Drainage
DS	Downspout
DTL	Detail
DWG	Drawing
E	
E.F.	Exhaust Fan
E.W.C.	Electric Water Cooler
EA	Each
EIFS	Exterior Insulation Finish System
EJ	Expansion Joint
ELEC	Electrical
EL	Elevation
ELEV	Elevator
EMER	Emergency
ENGR	Engineer or Engineering
EQ	Equal
EQUIP	Equipment
ETR	Existing to Remain
EXG	Existing
EXP	Expansion or Exposed
EXT	Exterior
EXTR	Extruded
F	
F.C.U.	Fan Coil Unit
F.D.	Floor Drain
F.E.	Fire Extinguisher
F.E.C.	Fire Extinguisher Cabinet
F.F.	Finish Face or Finish Floor
F.F.E.	Finish Floor Elevation
F.M.	Floor Mounted

1

Abbreviations List

F	
F.O.	Face of
FAAP	Fire Alarm Annunciator Panel
FDN	Foundation
FIN	Finish
FIN.GR.	Finish Grade
FLASH	Flashing
FLR	Floor
FLTR FBRC	Geotextile Filter Fabric
FLUOR	Fluorescent
FP	Fire Proofing
FRGL	Fire Rated Glass
FRMR	Fire Retardant / Moisture Resistant
FRT	Fire Retardant Treated
FSMR	Flat Seam Metal Roofing
FT	Foot or Feet
FTG	Footing
FTGL	Fully Tempered Glass
FURR	Furring
FWAP	Fabric Wrapped Acoustical Wall Panel
G	
G	Gas
GA	Gage
GALV	Galvanized
GEN	General
GL	Glass — Single Pane
GLZ	Glazing
GMT	Glass Mosaic Tile
GRDRL	Guardrail
GYP BD	Gypsum Wall Board
H	
H.HD.	Hex Head
H.M.	Hollow Metal
HDWD	Hardwood
HNDRL	Handrail
HORIZ	Horizontal
HT	Height
I	
I.D.	Inside Diameter
IGU	Insulated Glass Unit
IN	Inch or inches
INSUL	Insulation
INT	Interior
J	
JAN	Janitor's Closet
JST	Joist
JT	Joint
JB	Junction Box
L	
L.F.	Lineal Feet
LAV	Lavatory
LGL	Laminated Glass
LGU	Laminated Glass Unit
LT	Light
LTG	Lighting
M	
M.O.	Masonry Opening
MACH	Machine
MAINT	Maintenance
MANUF	Manufacturer
MAR	Marble
MAS	Masonry
MAT	Material
MAX	Maximum
MDF	Medium Density Fiberboard
MECH	Mechanical
MEMB	Membrane
MIN	Minimum
MISC	Miscellaneous
mm	Millimeters
MTD	Mounted
MTG	Meeting
MTL	Metal
MTN	Muntin
MULL	Mullion
N	
N.I.C.	Not in Contract
N.T.S.	Not To Scale
NO.	Number
NOM	Nominal
O	
O.C.	On Center
O.D.	Outside Diameter
OPHD	Opposite Hand
OPNG	Opening
OPP	Opposite
ORIG	Original
OSB	Oriented Strand Board
P	
PAF	Powder Activated Fastener
PARGE	Portland Cement Parging
PART	Partition
PCT	Porcelain Ceramic Tile
PEMB	Pre-Engineered Metal Building
PERIM	Perimeter
PL	Plate

P	
PLAM	Plastic Laminate
PLAST	Plaster
PLBG	Plumbing
PLYWD	Plywood
PN.HD.	Pan Head
POLYSIO	Polyisocyanurate
PT	Pressure Treated
PNT	Paint
PVC	Polyvinylchloride
Q	
QT	Quarry Tile
QUANT	Quantity
R	
R	Radius or Riser
R.A.	Return Air
R.D.	Roof Drain
R.O.	Rough Opening
RE:	Reference or Refer
REBAR	Steel Reinforcing Bars
REC	Receiving
RECP	Receptacle
REG	Reglet
REINF	Reinforce or Reinforcing
REQD	Required
RES	Resilient
RET	Retaining Wall
REV	Reverse
RF	Roofing
RM	Room
RUB	Rubber
S	
S	Sewer
S.A.	Supply Air
S.CONC	Sealed Concrete
S.T.	Self Tapping
S.T.S.	Self Tapping Screw
SCHED	Schedule
SD	Solid
SECT	Section
SHT	Sheet
SHEATH	Sheathing
SIM	Similar
SPEC	Specification
SQ	Square
SR	Semi-Rigid
SSM	Solid Surfacing Material
SSMR	Standing Seam Metal Roofing
SSTL	Stainless Steel
STD	Standard
STL	Steel
STN	Stain
STOR	Storage
STRUCT	Structure or Structural
SUSP	Suspended
SYST	System
T	
T	Tread or Treads
T.D.	Towel Dispenser
T.O.	Top Of
T.O.P.	Top of Parapet
T.O.S.	Top of Slab/Steel
T.O.W.	Top of Wall
TC	Translucent Concrete
TCSS	Turn Coat Stainless Steel
TEL	Telephone
TEMP	Tempered
THRESH	Threshold
TILE BKBD	Cementitious Tile Backer Board
TR	Treated
TRANS	Transformer
TRSP	Transparent
TYP	Typical
U	
U.L.	Underwriters Laboratory
U.N.O.	Unless Noted Otherwise
V	
V	Vacuum
V.I.F.	Verify in Field
V.S.	Vent Stack
VPR BAR	Vapor Barrier
VCT	Vinyl Composition Tile
VEND	Vending or Vendor
VENT	Ventilate or Ventilation
VERT	Vertical
VEST	Vestibule
VSF	Vinyl Sheet Flooring
VWC	Vinyl Wall Covering
W	
W	Water
W.C.	Water Closet
W.M.	Wall Mounted
W/	With
W/O	Without
WD	Wood
WIND	Window
WP	Water Proofing
WT	Weight
WWF	Welded Wire Fabric

	BATT INSULATION		FINISHED WOOD
	BLOWN INSULATION		GROUT MORTAR / GYPSUM BOARD
	BLOCKING/SHIM NON-DIMENSIONAL		GRANULAR FILL
	EARTH: COMPACTED FILL		MDF/PARTICLEBOARD
	EARTH: UNDISTURBED		PLYWOOD
	CMU		RIGID INSULATION
	CONCRETE		SOLID SURFACE MATERIAL
	CONCRETE - LIGHT WEIGHT		STEEL
	EXISTING CONSTRUCTION		WOOD DIMENSIONAL

2

Material Hatches

ALIGN	
WALL SECTION	
	DRAWING REFERENCE NUMBER SHEET NUMBER WHERE SECTION IS DRAWN
BUILDING SECTION	
	DRAWING REFERENCE NUMBER SHEET NUMBER WHERE SECTION IS DRAWN
SCHEDULE REFERENCE SYMBOLS	
	DOOR TAG
	PARTITION TYPE
KEYNOTE SYMBOL	
	KEYNOTE NUMBER
TOILET FIXTURES AND ACCESSORIES	
	ACCESSORY OR FIXTURE TYPE
ARCHITECTURAL ACCESORIES/MILLWORK	
	WINDOW TYPE
	LOUVER TYPE
	ACCESSORY OR FIXTURE TYPE
ENLARGED DETAIL	
	DRAWING REFERENCE NUMBER SHEET NUMBER WHERE DETAIL IS DRAWN
	DRAWING REFERENCE NUMBER SHEET NUMBER WHERE DETAIL IS DRAWN
INTERIOR ELEVATION SYMBOLS	
	DRAWING REFERENCE NUMBER
	DRAWING SHEET NUMBER
ELEVATION SYMBOLS	
	EXISTING ELEVATION
	NEW ELEVATION
DIMENSION SYMBOLS	
	START DIMENSION STRING AT THIS POINT DIMENSIONS ARE FROM FACE OF MASONRY WALL OR FACE OF MTL STUD UNLESS OTHERWISE NOTED.

3

Symbols & Graphic Standards

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1 Schematic Design	07.31.2015
2 Design Development	09.18.2015
3 80% Pricing Set	11.18.2015

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ABBREVIATIONS,
MATERIALS AND
SYMBOLS

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ARCHITECTURAL SITE
PLAN

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3/32" = 1'-0"

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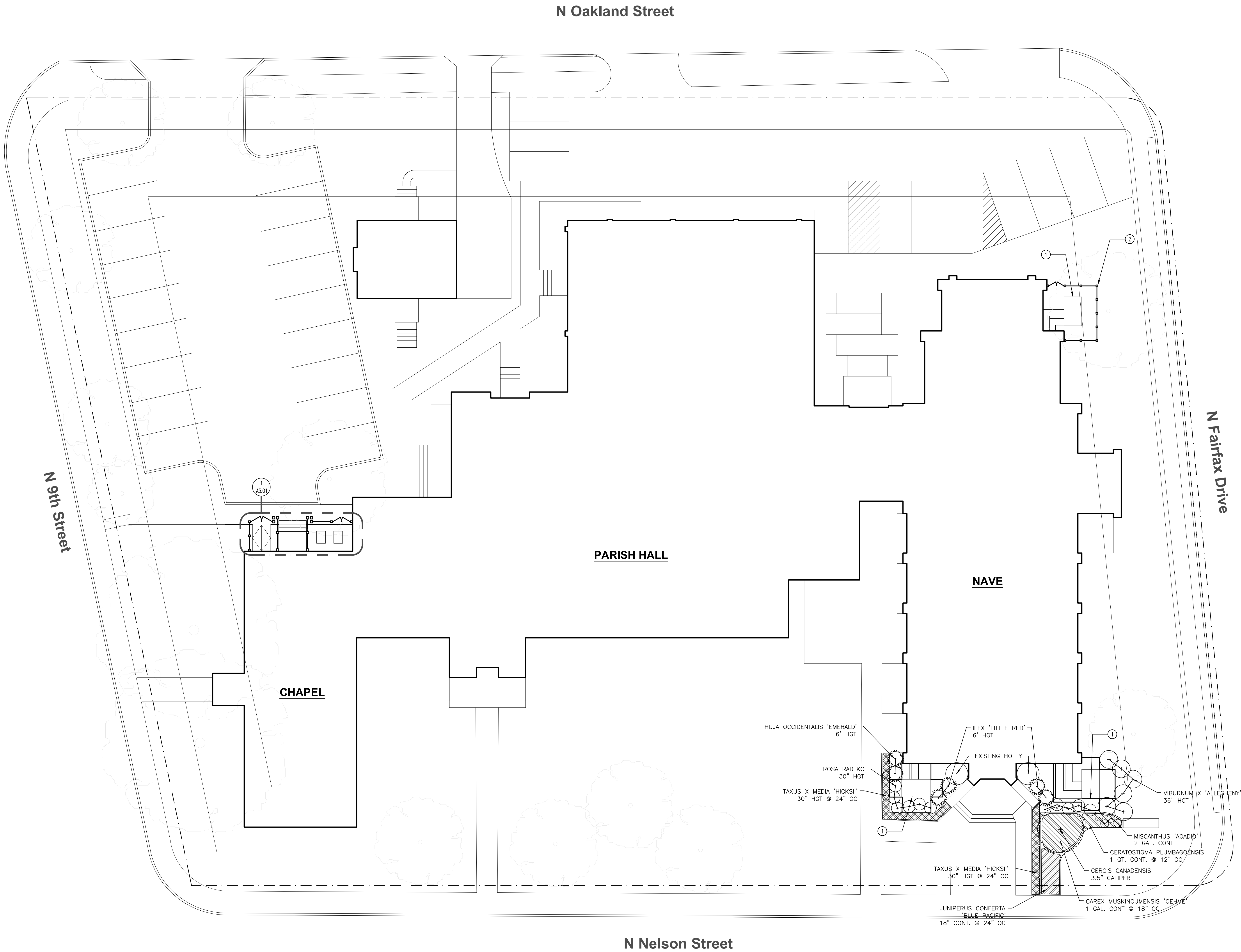
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AS.01

SITE NEW WORK KEYNOTES - This Page Only

- 1 NEW MECH UNITS (SEE MECH DWGS)
- 2 SCREENING FENCE



GENERAL DEMOLITION NOTES

- A. BEFORE SELECTIVE DEMOLITION OR REMOVAL OF EXISTING BUILDING ELEMENTS THAT WILL BE REPRODUCED OR DUPLICATED IN FINAL WORK, MAKE PERMANENT RECORD OF MEASUREMENTS, MATERIALS, AND CONSTRUCTION DETAILS REQUIRED TO MAKE EXACT REPRODUCTION.
- B. INVENTORY AND RECORD THE CONDITION OF ITEMS TO BE REMOVED AND SALVAGED. PROVIDE PHOTOGRAPHS OF CONDITIONS THAT MIGHT BE MISCONSTRUED AS DAMAGE CAUSED BY SALVAGE OPERATIONS.
- C. COORDINATE EXTENT OF DEMOLITION WORK WITH MEP & STRUCTURAL WORK.
- D. COORDINATE EXTENT OF DEMOLITION WITH NEW WORK
- E. REMOVE EXISTING CONSTRUCTION INDICATED BY DASHED LINES ON PLANS. NOTIFY ARCHITECT OF ANY DISCREPANCIES BETWEEN CONSTRUCTION DOCUMENTS AND SITE CONDITIONS.
- F. WHERE SELECTIVE DEMOLITION REQUIRES MODIFICATION TO STRUCTURAL COMPONENTS, OTHER THAN SHOWN ON STRUCTURAL DRAWINGS, CONSULT WITH ARCHITECT BEFORE PROCEEDING WITH WORK.
- G. PROTECT EXISTING FINISHES TO REMAIN DURING DEMOLITION WORK.
- H. COORDINATE WITH OWNER LOCATION FOR STORAGE OF SALVAGED ITEMS.
- I. PROVIDE TEMPORARY SHORING AS NEEDED.

- J. CONTRACTOR TO MAINTAIN ACCESS TO EXISTING EGRESS ROUTES AT THEIR CURRENT CAPACITY FOR THE DURATION OF CONSTRUCTION.
- K. EXISTING FIRE ALARM SYSTEM TO REMAIN : SALVAGE AND REINSTALL DEVICES ON CEILINGS AND WALLS IN AREAS OF WORK AS NECESSARY.

SELECTIVE DEMOLITION DEFINITIONS:

REMOVE... DETACH ITEMS FROM EXISTING CONSTRUCTION AND LEGALLY DISPOSE OF THEM OFF-SITE, UNLESS INDICATED TO BE REMOVED AND SALVAGED OR REMOVED AND REINSTALLED.

REMOVE AND SALVAGE... DETACH ITEMS FROM EXISTING CONSTRUCTION AND DELIVER THEM TO OWNER.

REMOVE AND REINSTALL... DETACH ITEMS FROM EXISTING CONSTRUCTION, PREPARE THEM FOR REUSE, AND REINSTALL THEM WHERE INDICATED.

EXISTING TO REMAIN... EXISTING ITEMS OF CONSTRUCTION THAT ARE NOT TO BE REMOVED AND THAT ARE NOT OTHERWISE INDICATED TO BE REMOVED, REMOVED AND SALVAGED, OR REMOVED AND REINSTALLED.

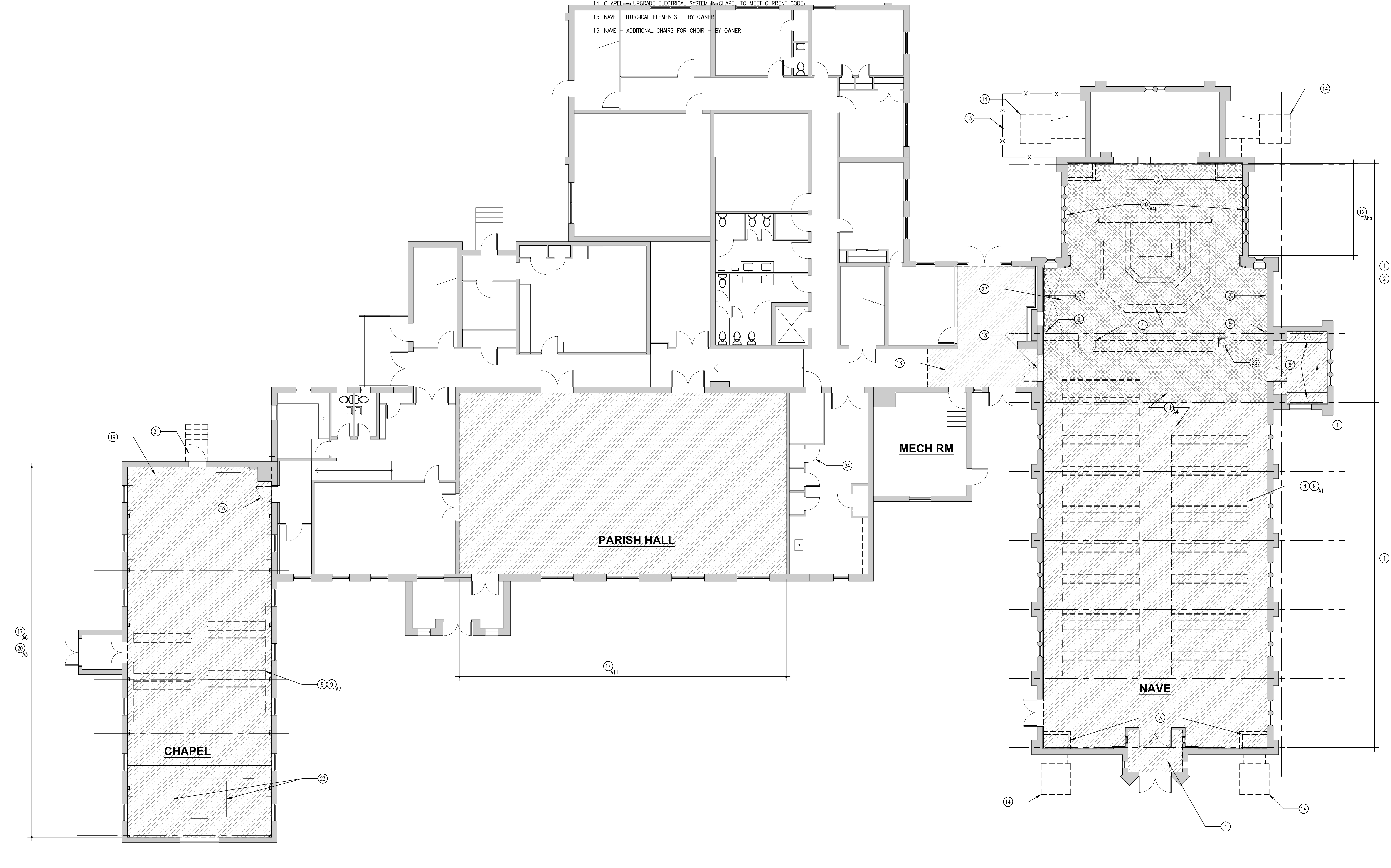
DISMANTLE; TO DISASSEMBLE AND DETACH ITEMS BY HAND FROM EXISTING CONSTRUCTION TO THE LIMITS INDICATED, USING SMALL HAND TOOLS AND SMALL ONE-HAND POWER TOOLS, SO AS TO PROTECT NEARBY HISTORIC SURFACES; AND LEGALLY DISPOSE OF DISMANTLED ITEMS OFF-SITE, UNLESS INDICATED TO BE SALVAGED OR REINSTALLED.

ALTERNATES

1. NAVE- PROVIDE NEW SEATING. BY OWNER
2. CHAPEL- PROVIDE NEW SEATING. BY OWNER
- 3A. CHAPEL- PENDANT FIXTURES, EMERGENCY LIGHTS & EXIT SIGNS
- 3B. CHAPEL- UPLIGHTING AND ALTAR LIGHTING
- 4A. NAVE- ALTAR LIGHTING, LIGHTING CONTROL, EMERGENCY LIGHTS & EXIT SIGNS
- 4B. NAVE- UPLIGHTING, STAINED GLASS WINDOW BACKLIGHTING
5. NAVE- PROVIDE NEW SOUND SYSTEM.
6. CHAPEL- PROVIDE NEW COMMERCIAL GRADE SHEET FLOORING
7. NOT USED
- 8A. NAVE- ACOUSTICAL FINISH UPGRADE TO WALLS.
- 8B. NAVE- ACOUSTICAL FINISH UPGRADE TO CEILING AT CHOIR
- 8C. NAVE- ACOUSTICAL FINISH UPGRADE TO CEILING AT NAVE
9. NOT USED
10. NOT USED
11. PARISH HALL - PROVIDE NEW COMMERCIAL GRADE SHEET FLOORING.
12. NAVE- PROVIDE PRAYER LABYRINTH PATTERN IN FLOORING.
13. NAVE- PROVIDE UNDER FLOOR DUCT WORK AT CONGREGATION
14. CHAPEL- UPGRADE ELECTRICAL SYSTEM IN CHAPEL TO MEET CURRENT CODE.
15. NAVE- LITURGICAL ELEMENTS - BY OWNER
16. NAVE- ADDITIONAL CHAIRS FOR CHOIR - BY OWNER

DEMO WORK KEYNOTES - This Page Only

- 1 REMOVE TOPPING SLAB WITH RADIANT FLOOR HEATING - ENTIRE ROOM.
- 2 REMOVE STRUCTURAL SLAB & EXCAVATE AS REQUIRED FOR NEW WORK. SEE STRUCTURAL DRAWINGS FOR EXTER.
- 3 REMOVE DRYWALL ENCLOSURES AND ASSOCIATED CONSTRUCTION
- 4 REMOVE RAISED PLATFORM, MILLWORK AND ASSOCIATED CONSTRUCTION
- 5 REMOVE WOOD POST
- 6 SALVAGE EXISTING CABINETS FOR REINSTALLATION
- 7 REMOVE WOOD PANELING
- 8 SALVAGE PEWS FOR REINSTALLATION.
- 9 REMOVE AND DISPOSE OF PEWS. (ALTERNATE 1 & ALTERNATE 2)
- 10 REMOVE COVE LIGHTING ABOVE CHOIR AREA (ALTERNATE 4b)
- 11 EXISTING PENDANT LIGHTS ARE EXISTING TO REMAIN. REMOVE SPOT LIGHTING AND ASSOCIATED CONSTRUCTION (ALTERNATE 4a)
- 12 REMOVE EXISTING CEILING AND ASSOCIATED CONSTRUCTION TO UNDERSIDE OF ROOF DECK (ALTERNATE 8b)
- 13 REMOVE DOOR & HARDWARE. DOOR FRAME EXISTING TO REMAIN. (ALTERNATE 10)
- 14 REMOVE AC UNIT, CONC PAD AND ASSOCIATED CONSTRUCTION.
- 15 REMOVE FENCE AROUND AC UNIT.
- 16 REMOVE FLOORING AND SLAB AS REQUIRED FOR NEW WORK.
- 17 REMOVE FLOORING TO PLYWOOD BELOW. (ALTERNATE 6 & ALTERNATE 11)
- 18 REMOVE DOOR AND FRAME.
- 19 SALVAGE CASEWORK AND PROVIDE TO OWNER.
- 20 REMOVE EXISTING LIGHTING AND ASSOCIATED CONSTRUCTION. CEILING FANS - EXISTING TO REMAIN. (ALTERNATE 3)
- 21 REMOVE DOOR, FRAME AND STAIRS AS REQUIRED FOR NEW WORK. SEE A5.01 FOR NEW WORK (ALTERNATE 7)
- 22 REMOVE CEILING AND ASSOCIATED CONSTRUCTION TO UNDERSIDE OF ROOF SUBSTRATE
- 23 REMOVE AND SALVAGE EXISTING COMMUNION RAIL FOR REINSTALLATION
- 24 REMOVE DOOR, FRAME EXISTING TO REMAIN. SALVAGE HARDWARE
- 25 SALVAGE BAPTISMAL FONT.



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

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DEMOLITION

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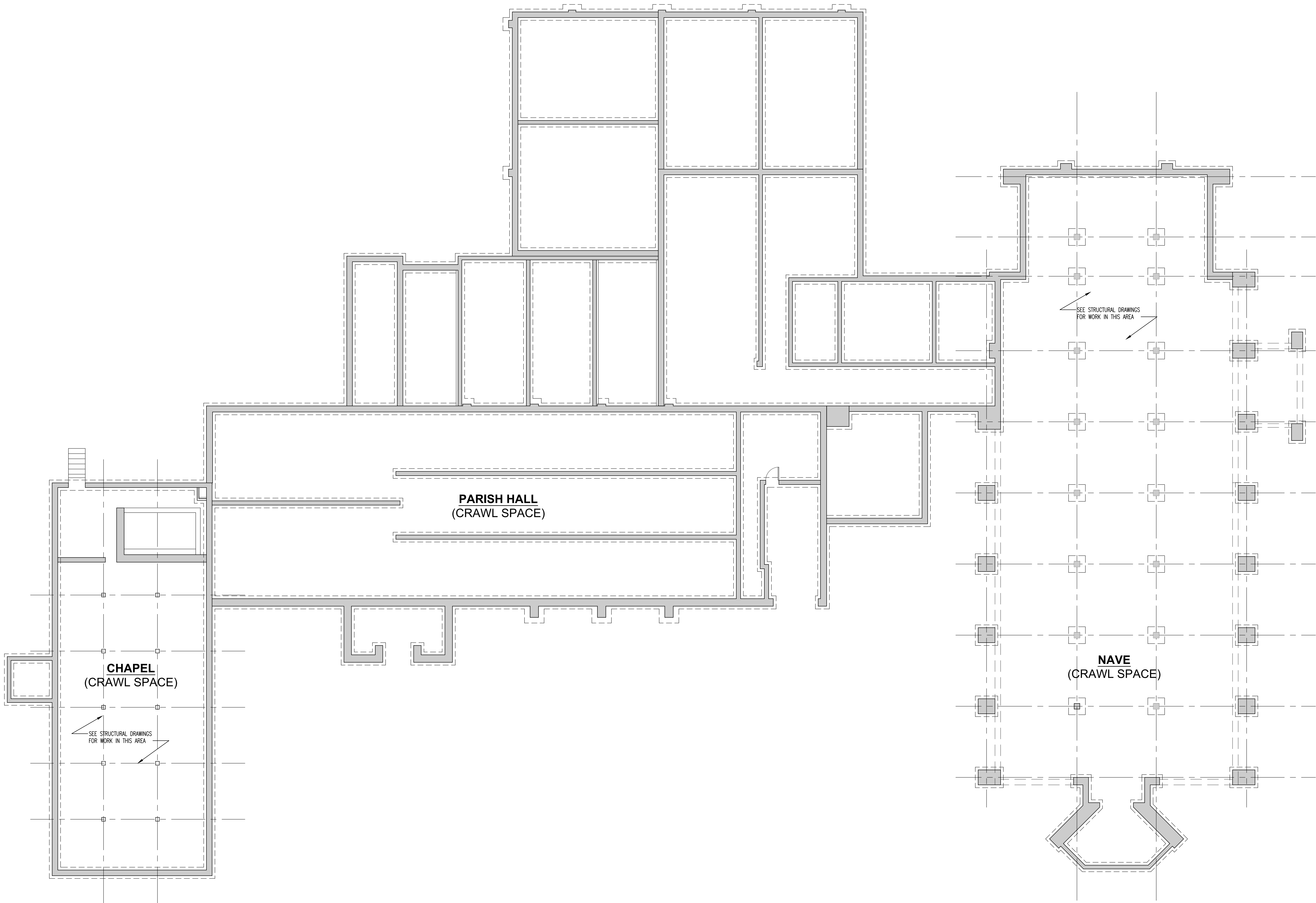
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AD1.01

GENERAL NEW WORK NOTES

- A. CONTRACTOR TO FIELD VERIFY ALL DIMENSIONS AND FLOOR ELEVATIONS.
- B. PLAN DIMENSIONS ARE TO FACE OF STUD OR FACE OF STRUCTURE. REFER TO ENLARGED PLAN DRAWINGS FOR ADDITIONAL DIMENSIONS.
- C. PROTECT EXISTING FINISHES TO REMAIN DURING CONSTRUCTION.
- D. CONTRACTOR TO MAINTAIN ACCESS TO EXISTING EGRESS ROUTES AT THEIR CURRENT CAPACITY.
- E. ITEMS NOT SPECIFICALLY CALLED OUT OR NOTED ARE EXISTING TO REMAIN.
- F. UNLESS OTHERWISE NOTED, PATCH REMOVED FLOOR FINISH. SEE FINISH SCHEDULE
- G. PATCH & REPAIR EXISTING TO REMAIN INTERIOR FINISHES WHERE MECHANICAL, ELECTRICAL, PLUMBING, OR FIRE PROTECTION EQUIPMENT HAS BEEN REMOVED AND NO NEW WORK IS SCHEDULED IN THAT LOCATION. FINISH AS SCHEDULED.
- H. PATCH & REPAIR ALL AREAS WHERE ARCHITECTURAL ELEMENTS OR EQUIPMENT (E.G. SPEAKERS, SOUND BOARDS, LIGHT ETC.) WERE REMOVED (E.G. WALLS, DOORS, TRIM, ETC.) AND NO NEW WORK IS SCHEDULED IN THAT LOCATION.
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1 BASEMENT FLOOR PLAN - NEW WORK
SCALE: 1/8" = 1'-0"

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Nave & Chapel
Renovation

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Issue:	Description:	Date:
1	Schematic Design	07.31.2015
2	Design Development	09.18.2015
3	80% Pricing Set	11.18.2015

Drawing Title:

BASEMENT FLOOR
PLAN - NEW WORK

Drawing Scale:

1/8" = 1'-0"

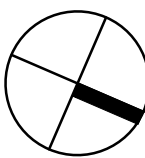
Project No.:

13118

Date:

11.18.2015

Drawing No.:



A1.00

GENERAL NEW WORK NOTES

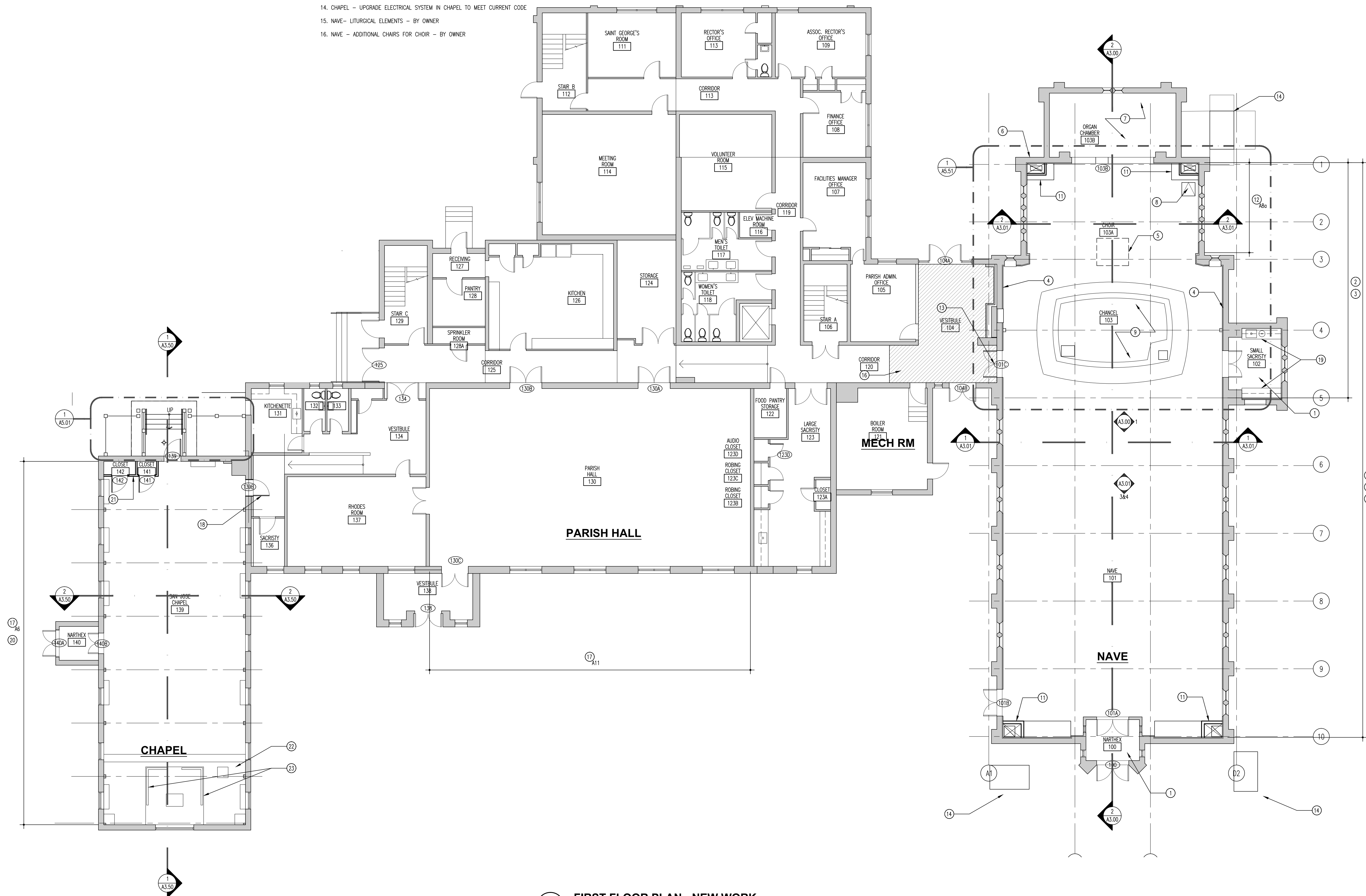
- CONTRACTOR TO FIELD VERIFY ALL DIMENSIONS AND FLOOR ELEVATIONS.
- PLAN DIMENSIONS ARE TO FACE OF STUD OR FACE OF STRUCTURE. REFER TO ENLARGED PLAN DRAWINGS FOR ADDITIONAL DIMENSIONS.
- PROTECT EXISTING FINISHES TO REMAIN DURING CONSTRUCTION.
- CONTRACTOR TO MAINTAIN ACCESS TO EXISTING EGRESS ROUTES AT THEIR CURRENT CAPACITY.
- ITEMS NOT SPECIFICALLY CALLED OUT OR NOTED ARE EXISTING TO REMAIN.
- UNLESS OTHERWISE NOTED, PATCH REMOVED FLOOR FINISH. SEE FINISH SCHEDULE.
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ALTERNATES

- NAVE- PROVIDE NEW SEATING. BY OWNER
- CHAPEL- PROVIDE NEW SEATING. BY OWNER
- CHAPEL- PENDANT FIXTURES, EMERGENCY LIGHTS & EXIT SIGNS
- CHAPEL- UPLIGHTING AND ALTAR LIGHTING
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- NAVE- UPLIGHTING, STAINED GLASS WINDOW BACKLIGHTING
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- CHAPEL- PROVIDE NEW COMMERCIAL GRADE SHEET FLOORING
- NOT USED
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- NAVE - ACOUSTICAL FINISH UPGRADE TO CEILING AT NAVE
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- NAVE- PROVIDE UNDER FLOOR DUCT WORK AT CONGREGATION
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- NAVE- LITURGICAL ELEMENTS - BY OWNER
- NAVE - ADDITIONAL CHAIRS FOR CHOR - BY OWNER

NEW WORK KEYNOTES - This Page Only

- NEW RADANT FLOOR HEATING, WITH PORCELAIN CERAMIC TILE FLOORING
- CONCRETE FLOOR METAL DECK AND ASSOCIATED STRUCTURE. SEE STRUCTURAL DWGS.
- PROVIDE WALL FINISH WHERE FLOOR WAS LOWERED. NEW FINISH TO MATCH EXISTING
- REPAIR/INSTALL PLASTER FINISH WHERE WOOD PANELING IS REMOVED
- NEW ORGAN CONSOLE LOCATION. PROVIDE POWER AND CONDUIT FOR FUTURE ORGAN
- PATCH HOLE IN BRICK WALL. MATCH EXISTING CONSTRUCTION. TOOTH IN BRICK
- OWNER IS RESPONSIBLE FOR REMOVAL AND REINSTALLATION OF EXISTING TO REMAIN ORGAN CONSOLE.
- PROVIDE FLOOR HATCH & FIXED METAL LADDER INTO CRAWL SPACE. 30x30 WITH TOP TO RESERVE PCT
- WOOD CHANCEL PLATFORM. TILE TO EXTEND BENEATH. SEE A5.51.
- REPAIR PLASTER CRACKS AT WINDOWS. REPAINT ENTIRE ROOM, WALLS ONLY
- WALL & MILLWORK ENCLOSING NEW HVAC DUCT WORK. SEE A8.02
- FILL VOIDS IN WALLS OF CHOR AREA WITH DENSE EXPANDABLE FOAM (ALTERNATE B4)
- PROVIDE NEW FIRE RATED DOOR & HARDWARE IN EXISTING FRAME (ALTERNATE 10)
- AC UNIT. SEE MECHANICAL. PROVIDE SCREENING FENCE
- SOUND SYSTEM. SEE AV DRAWINGS. (ALTERNATE 5)
- REINSTALL SALVAGED FLOORING
- NEW FLOORING. (ALTERNATE 6 & ALTERNATE 11)
- FIRE RATED DOOR AND FRAME.
- INSTALL SALVAGED CABINETS.
- PATCH AND REPAIR PLASTER FROM WATER DAMAGE. REPAINT - ENTIRE ROOM. PAINT ROOM.
- PROVIDE CLOSETS
- PROVIDE CONVENIENCE OUTLETS AT CHANCEL PLATFORM
- PANT AND INSTALL SALVAGED COMMUNION RAIL



1 FIRST FLOOR PLAN - NEW WORK
SCALE: 1/8" = 1'-0"

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Issue: Description: Date:

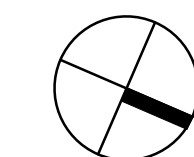
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|---|--------------------|------------|
| 1 | Schematic Design | 07.31.2015 |
| 2 | Design Development | 09.18.2015 |
| 3 | 80% Pricing Set | 11.18.2015 |

Drawing Title:
**FIRST FLOOR PLAN -
NEW WORK**

Drawing Scale:
1/8" = 1'-0"

Project No.: 13118
Date: 11.18.2015

Drawing No.:



A1.01

GENERAL NEW WORK NOTES

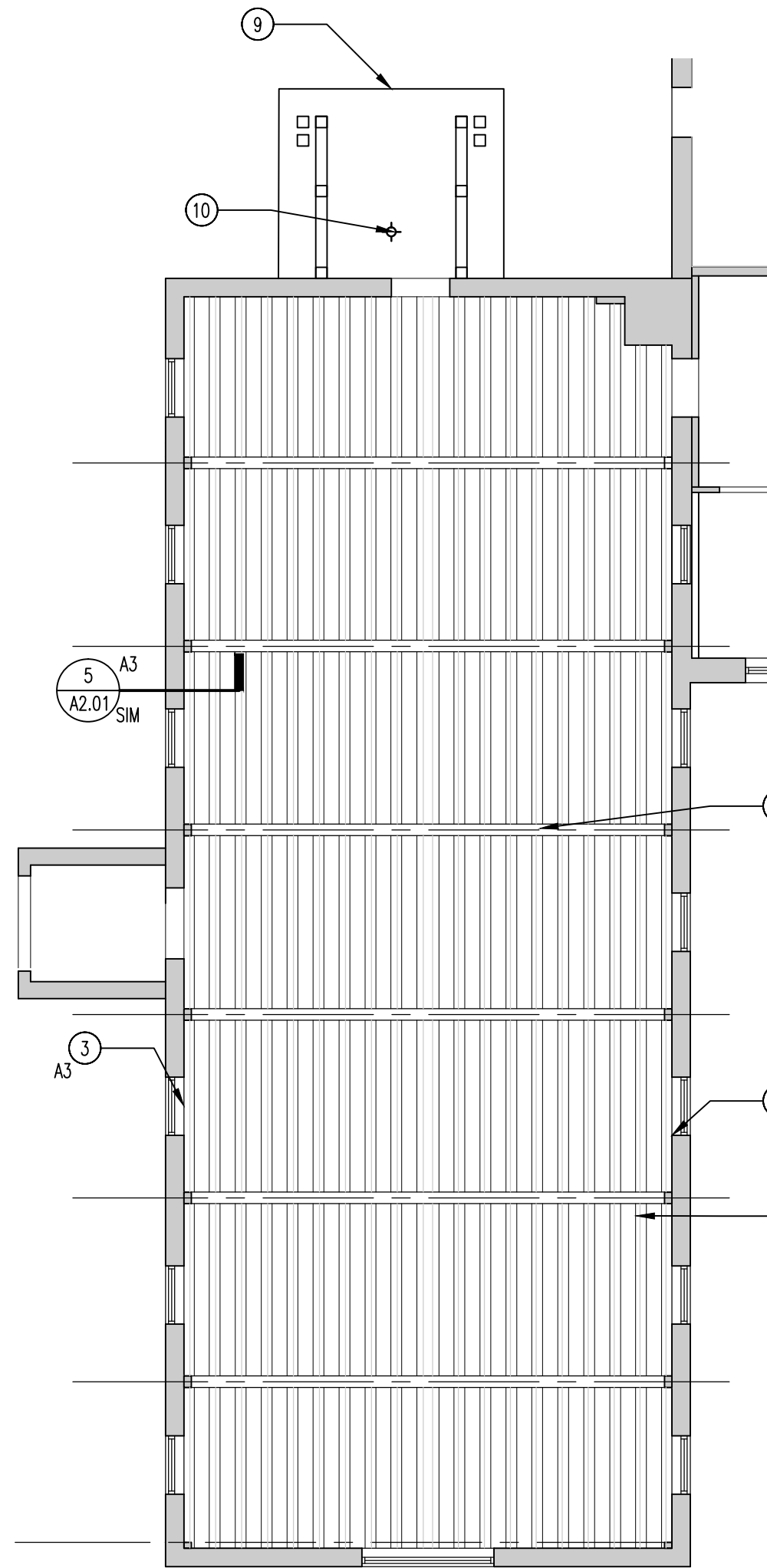
- A. CONTRACTOR TO FIELD VERIFY ALL DIMENSIONS AND FLOOR ELEVATIONS.
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ALTERNATES

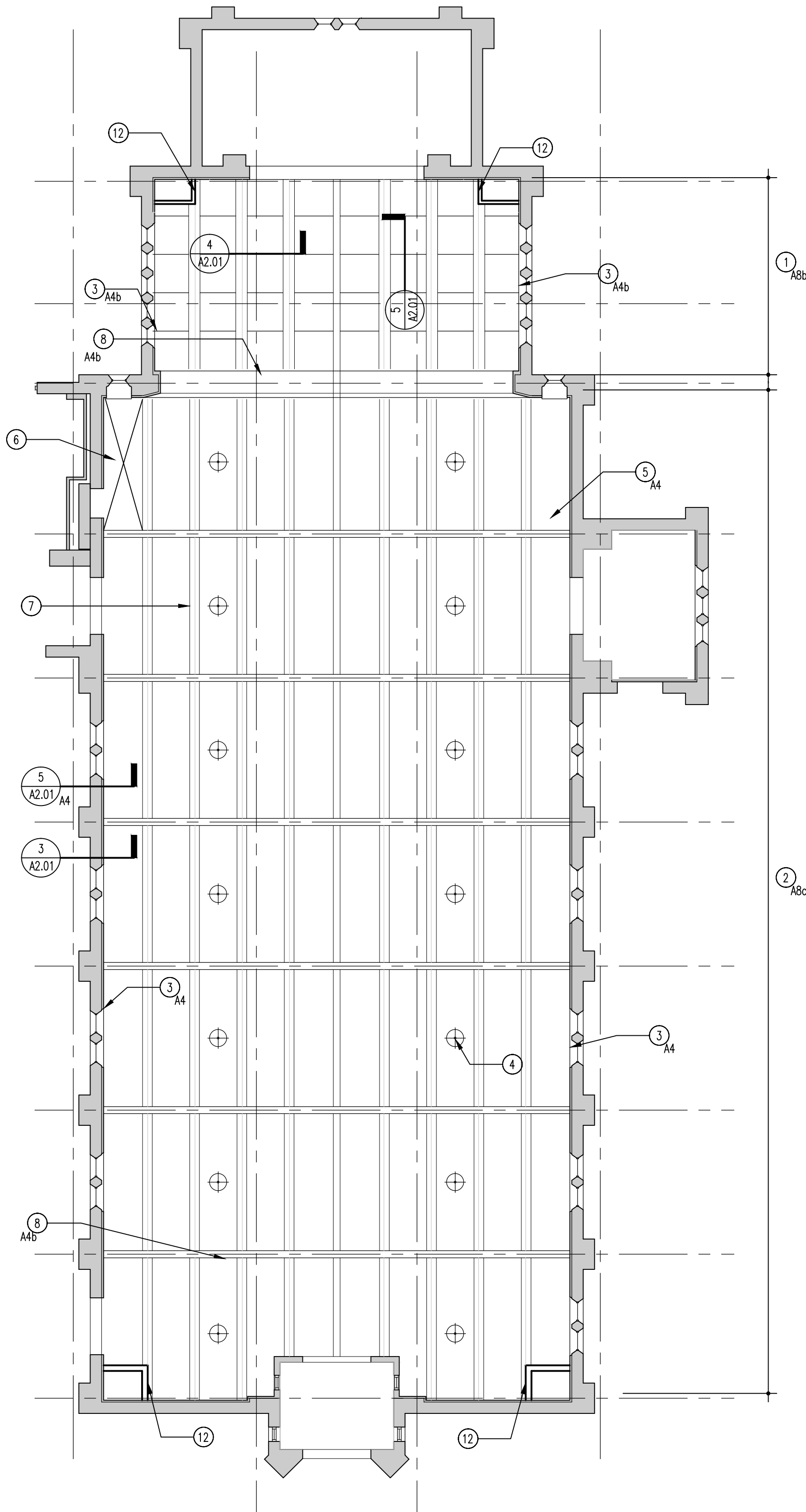
1. NAVE- PROVIDE NEW SEATING. BY OWNER
2. CHAPEL- PROVIDE NEW SEATING. BY OWNER
- 3A. CHAPEL- PENDANT FIXTURES, EMERGENCY LIGHTS & EXIT SIGNS
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- 4A. NAVE- ALTAR LIGHTING, LIGHTING CONTROL, EMERGENCY LIGHTS & EXIT SIGNS
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RCP NEW WORK KEYNOTES - This Page Only

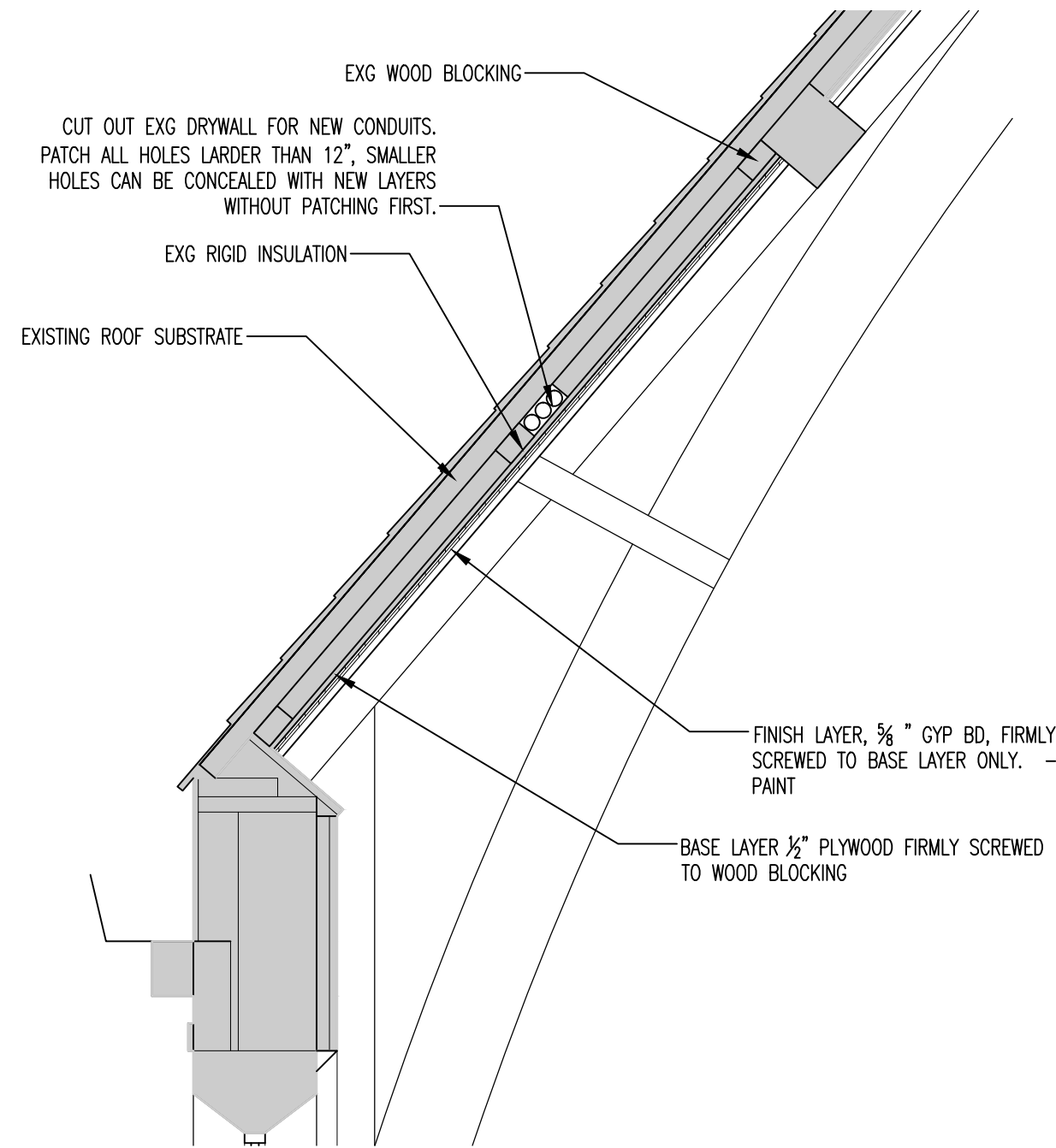
1. INSTALL NEW ANGLED CEILING ABOVE CHOR AREA. SEE DETAIL 4/A2.01 (ALTERNATE 8b)
2. INSTALL NEW ACOUSTICAL CEILING FINISH. SEE DETAIL 3/A2.01 (ALTERNATE 8c)
3. COVE LIGHTING. SEE ELECTRICAL DWGS. PROVIDE CROWN MOLDING COVE TO HIDE FIXTURE. STAIN TO MATCH TRUSSES. TYPICAL. (ALTERNATE 3b & ALTERNATE 4b) SEE 6/A2.01
4. EXISTING PENDANTS TO REMAIN. TYPICAL.
5. ACCENT LIGHTS MOUNTED TO FACE OF TRUSS. TYPICAL. SEE ELEC (ALTERNATE 3b & 4)
6. PROVIDE NEW CEILING IN THIS BAY. MATCH EXISTING.
7. REPLACE SPLITTING PURLIN. SEE STRUCTURAL.
8. ACCENT LIGHTS TO ILLUMINATE STAINED GLASS WINDOW MOUNTED TO FACE OF TRUSS/WALL. TYPICAL.(ALTERNATE 4b)
9. COVERED ENTRANCE.
10. ENTRANCE CEILING MOUNTED FIXTURE.
11. PENDANT FIXTURE. TYPICAL. SEE ELECTRICAL (ALTERNATE 3a)
12. TOP OF WALL ALIGNS WITH JOIST



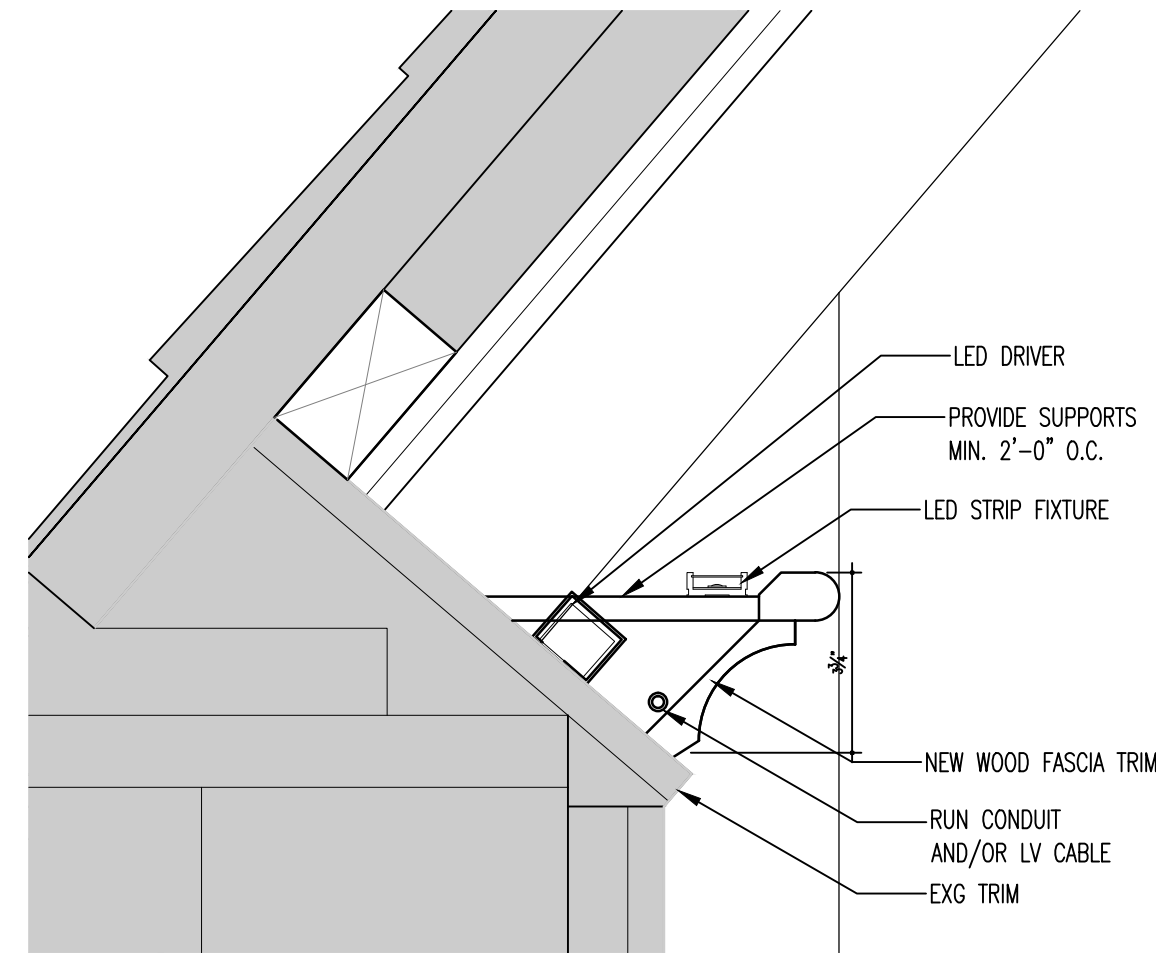
1 REFLECTED CEILING PLAN - CHAPEL
SCALE: 1/8" = 1'-0"



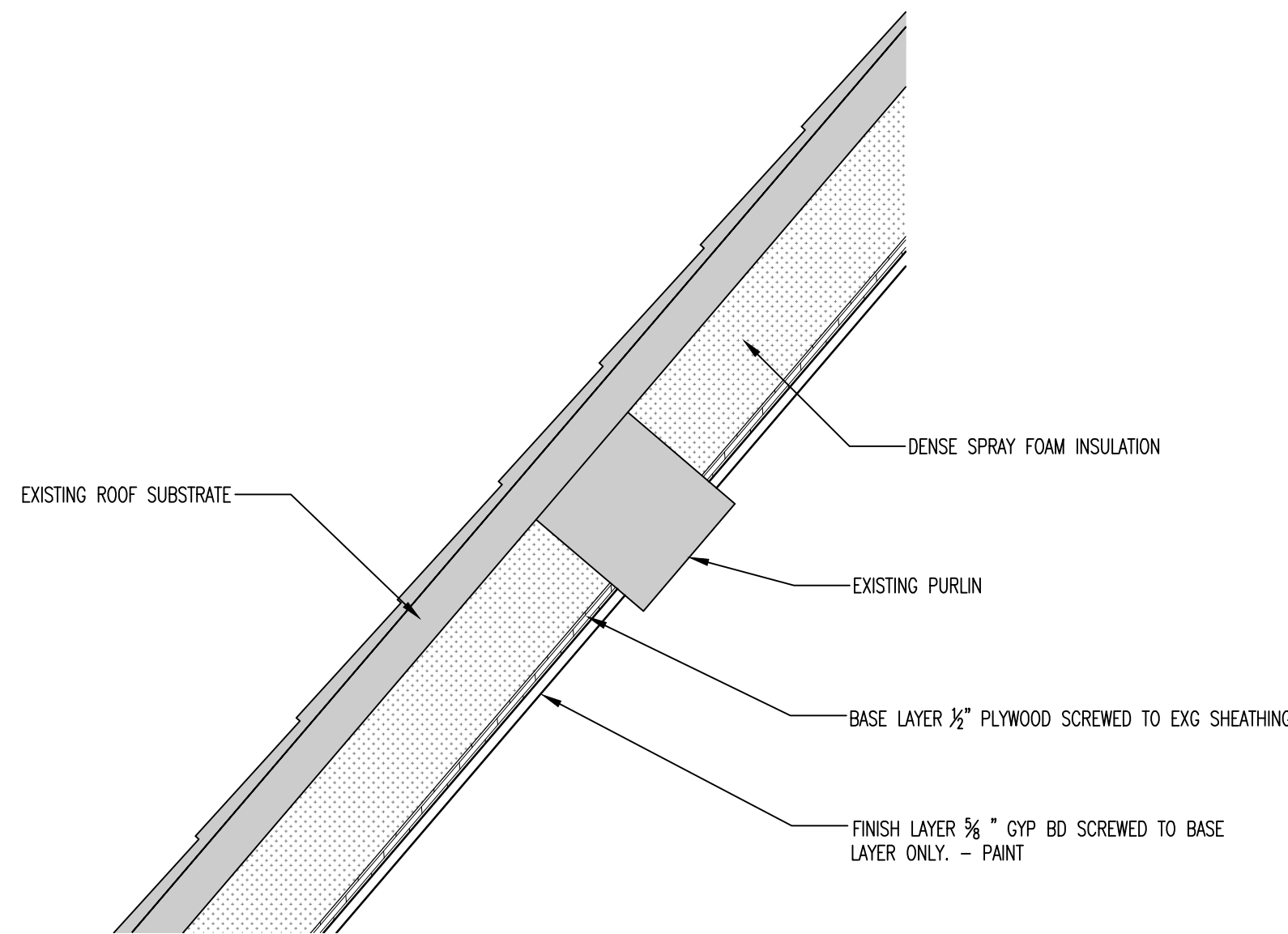
2 REFLECTED CEILING PLAN - NAVE
SCALE: 1/8" = 1'-0"



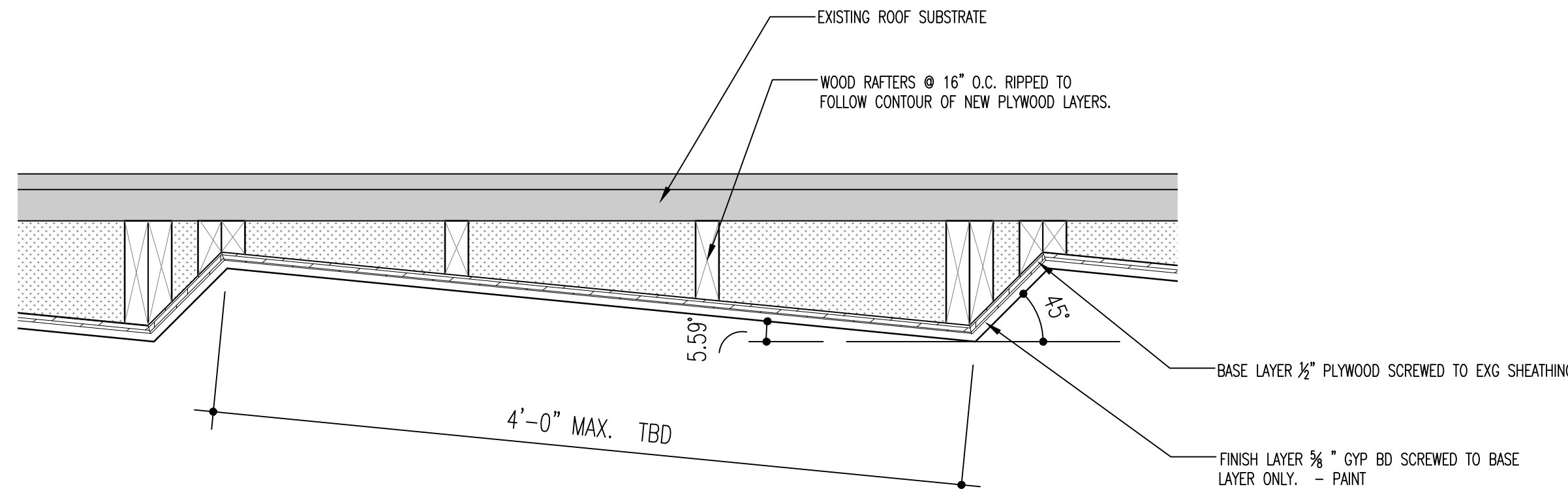
3 NAVE CEILING DETAIL (ALT 8c)
SCALE: As Noted



6 COVE LIGHTING DETAIL (ALT 3b&4b)
SCALE: 3" = 1'-0"



4 NAVE - CHOIR CEILING DETAIL (ALT 8b)
SCALE: 1 1/2" = 1'-0"



5 NAVE - CHOIR CEILING DETAIL (ALT 8b)
SCALE: 1 1/2" = 1'-0"

NOTE: ANGLES AND LENGTH OF SAW TOOTHED SECTIONS TO BE DETERMINED/CONFIRMED AT A LATER DATE.

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Issue:	Description:	Date:
1	Schematic Design	07.31.2015
2	Design Development	09.18.2015
3	80% Pricing Set	11.18.2015

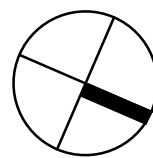
Drawing Title:
REFLECTED CEILING
PLAN - NEW WORK

Drawing Scale:
1/8" = 1'-0"

Project No.:
13118

Date:
11.18.2015

Drawing No.:



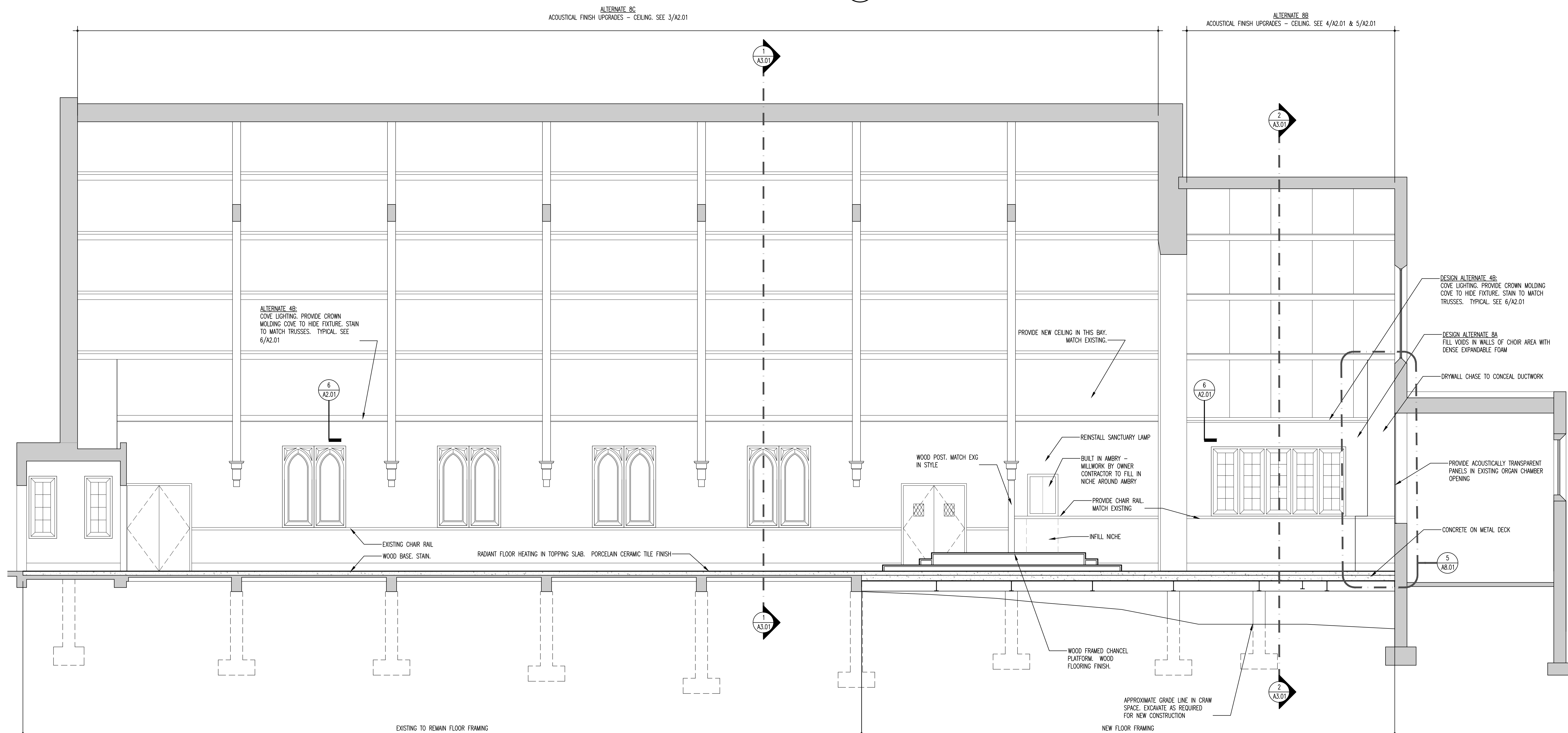
A2.01

ALTERNATES

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



2 NAVE SECTION / SOUTH INTERIOR ELEVATION
SCALE: 1/4" = 1'-0"

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Issue:	Description:	Date:
1	Schematic Design	07.31.2015
2	Design Development	09.18.2015
3	80% Pricing Set	11.18.2015

Drawing Title:
**NAVE SECTION /
INTERIOR ELEVATION**

Drawing Scale:
1/4" = 1'-0"

Project No.: **13118** Date: **11.18.2015**

Drawing No.:

A3.00

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Drawing Title:
NAVE SECTION /
INTERIOR ELEVATION

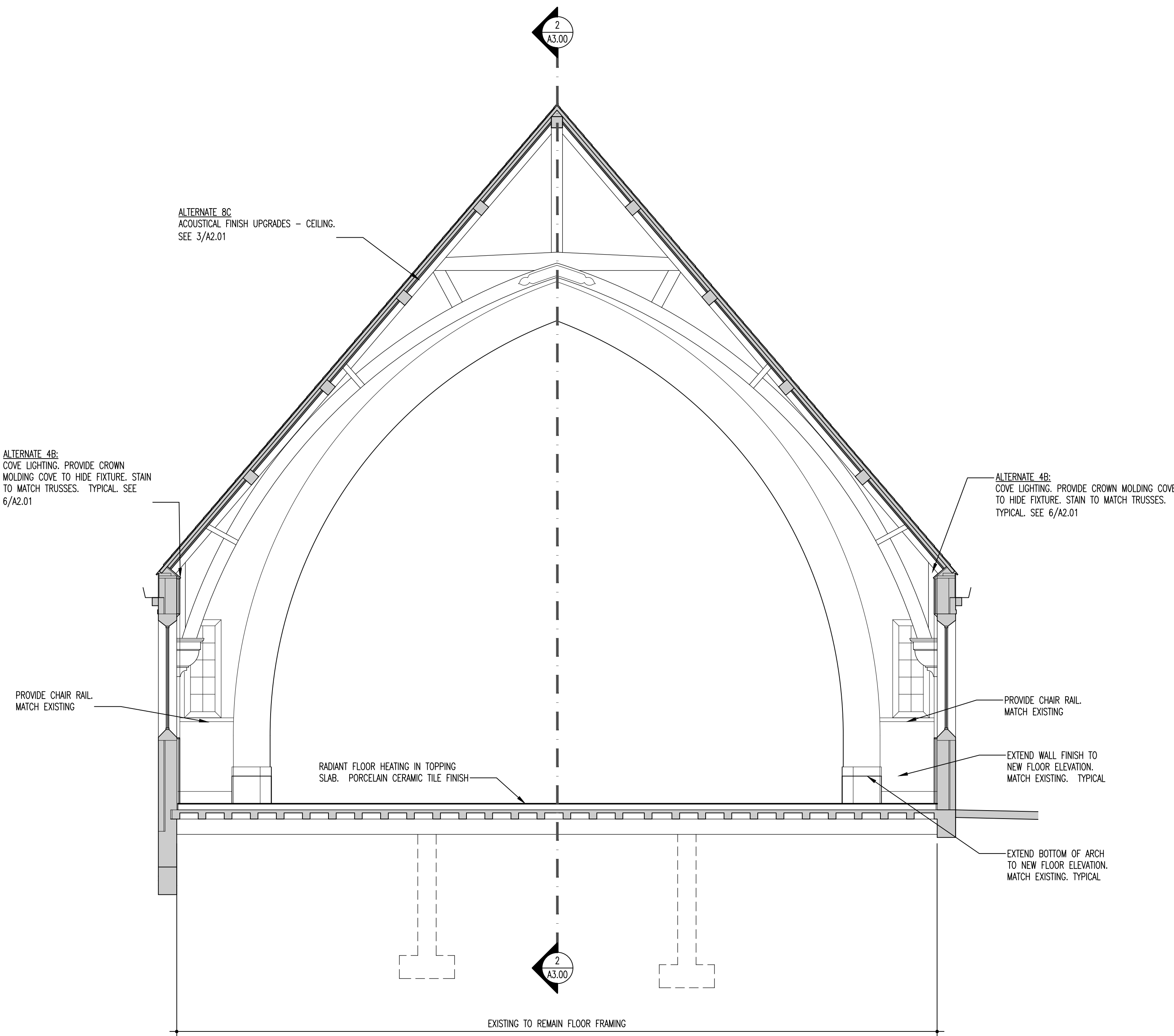
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Project No.:
13118

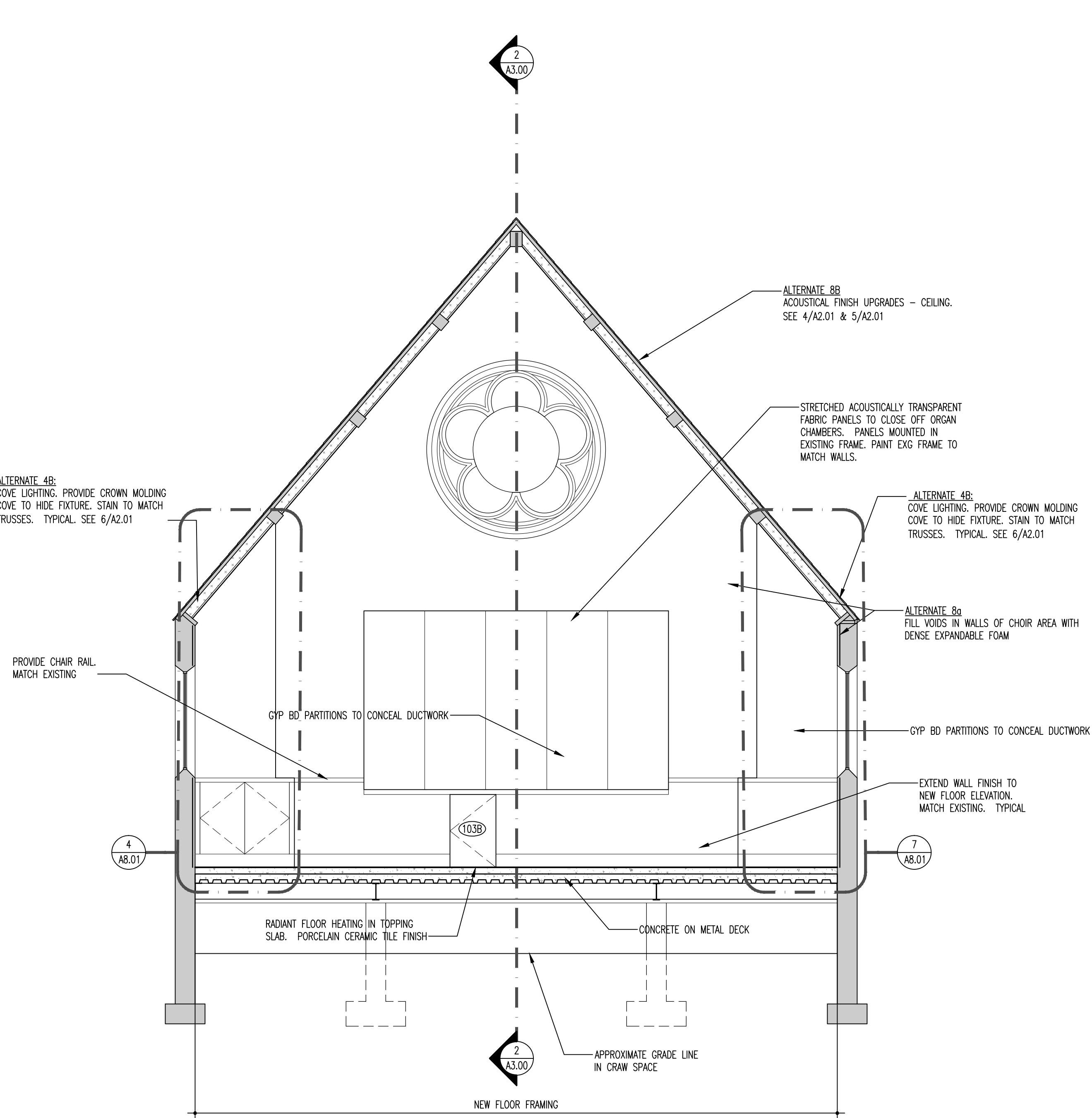
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11.18.2015

Drawing No.:

A3.01



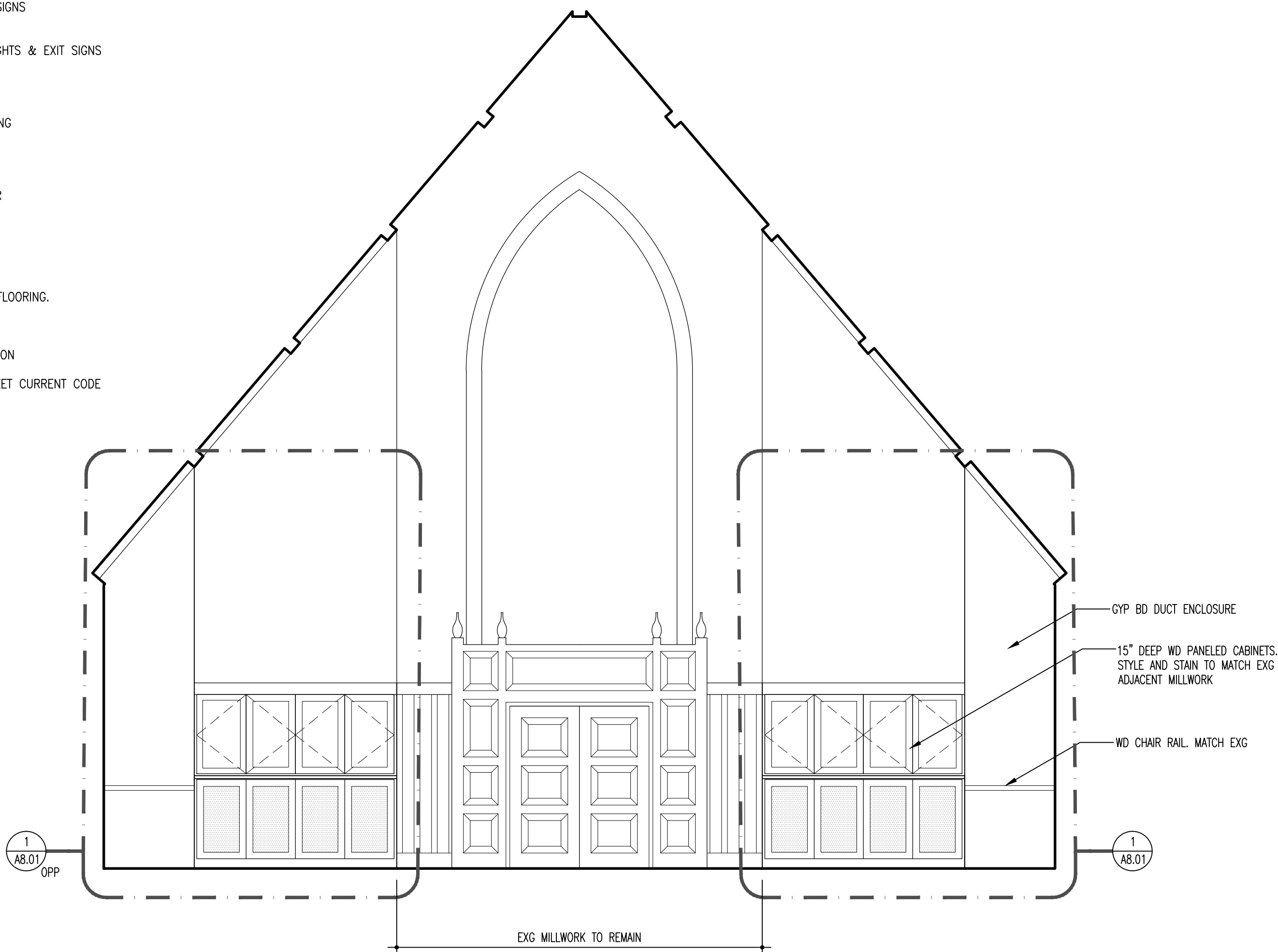
1 NAVE SECTION / INTERIOR ELEVATION
SCALE: 1/4" = 1'-0"



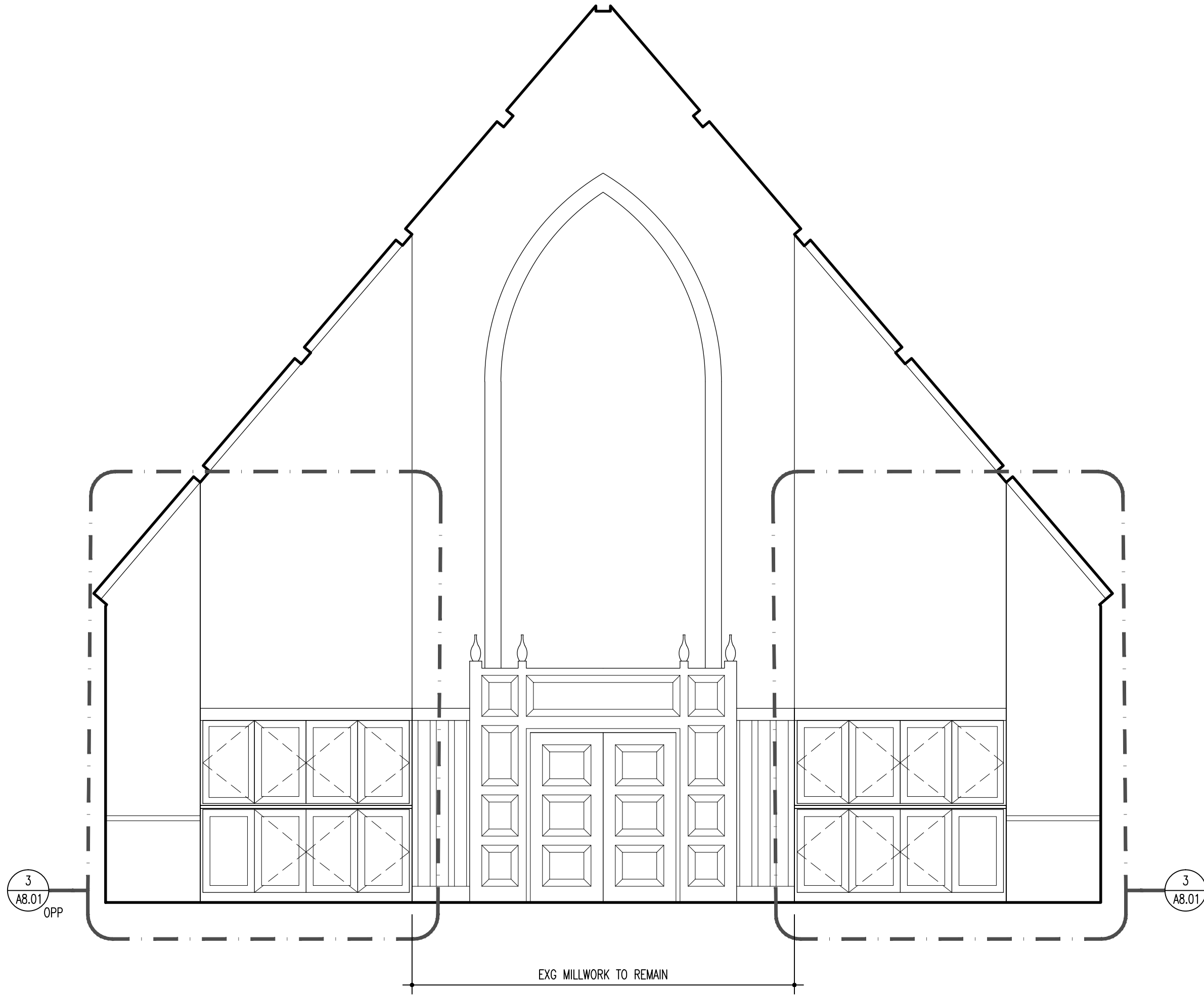
2 NAVE SECTION / INTERIOR ELEVATION
SCALE: 1/4" = 1'-0"

ALTERNATES

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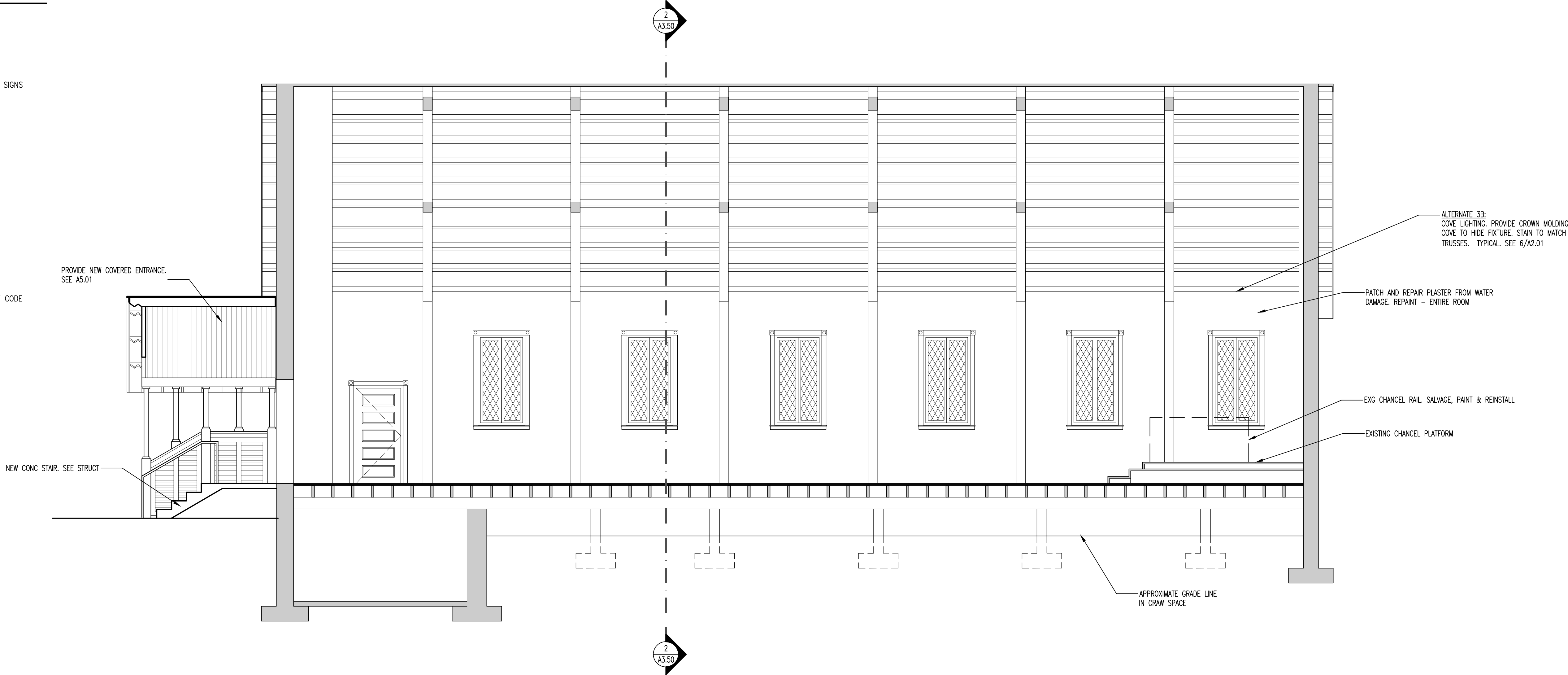
3 NAVE EAST INTERIOR ELEVATION
SCALE: 1/4" = 1'-0"



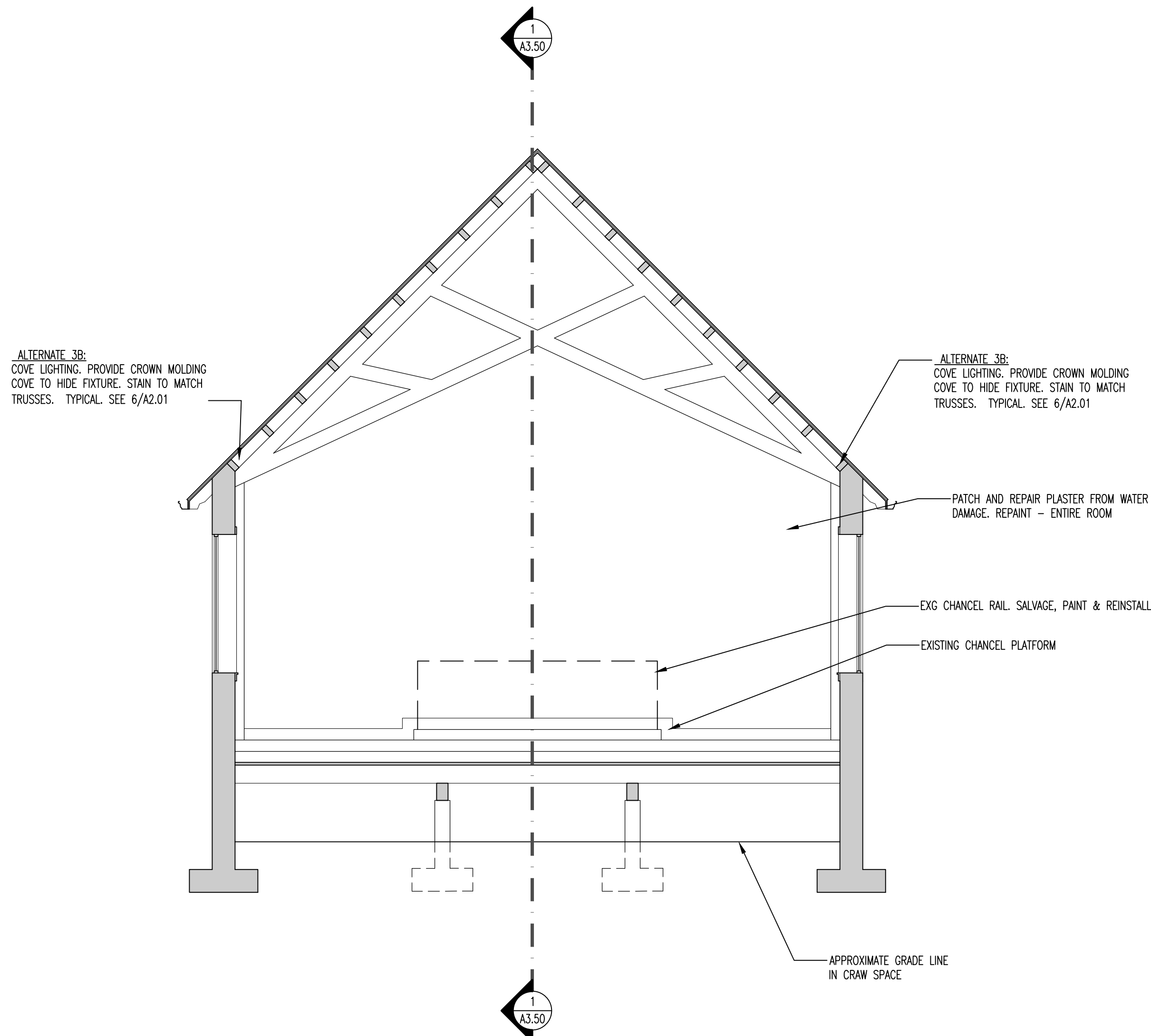
4 NAVE EAST INTERIOR ELEVATION - ALT 13
SCALE: 1/4" = 1'-0"

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1 CHAPEL SECTION / INTERIOR ELEVATION
SCALE: 1/4" = 1'-0"



2 CHAPEL SECTION / INTERIOR ELEVATION
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Issue:	Description:	Date:
1	Schematic Design	07.31.2015
2	Design Development	09.18.2015
3	80% Pricing Set	11.18.2015

Drawing Title:
CHAPEL SECTION /
INTERIOR ELEVATION

Drawing Scale:
1/4" = 1'-0"

Project No.: 13118
Date: 11.18.2015

Drawing No.:

A3.50

St. George's
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Issue:	Description:	Date:
1	Schematic Design	07.31.2015
2	Design Development	09.18.2015
3	80% Pricing Set	11.18.2015

Drawing Title:

Enlarged Plans: Chapel
Entrance

Drawing Scale:

As Noted

Project No.:

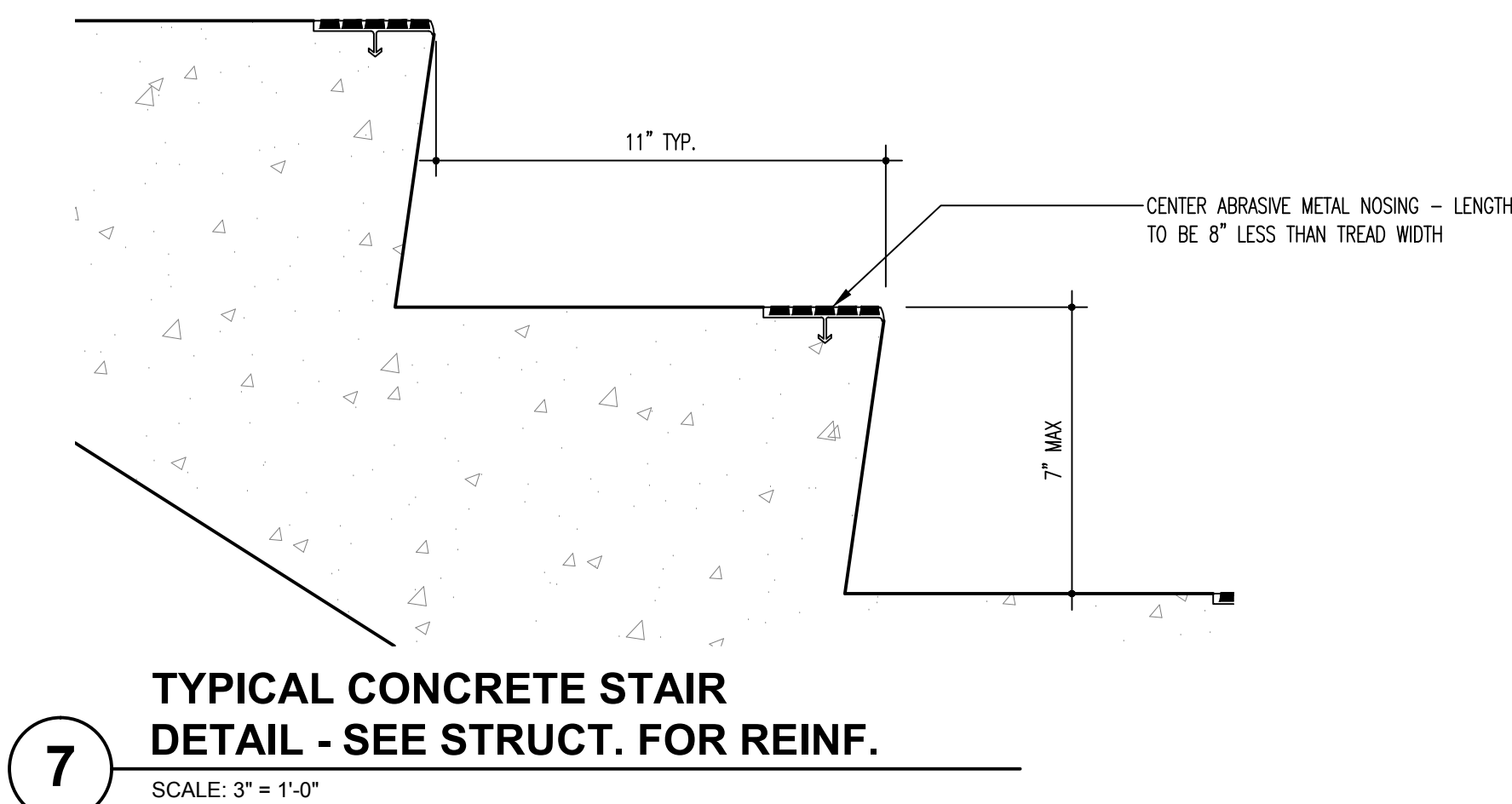
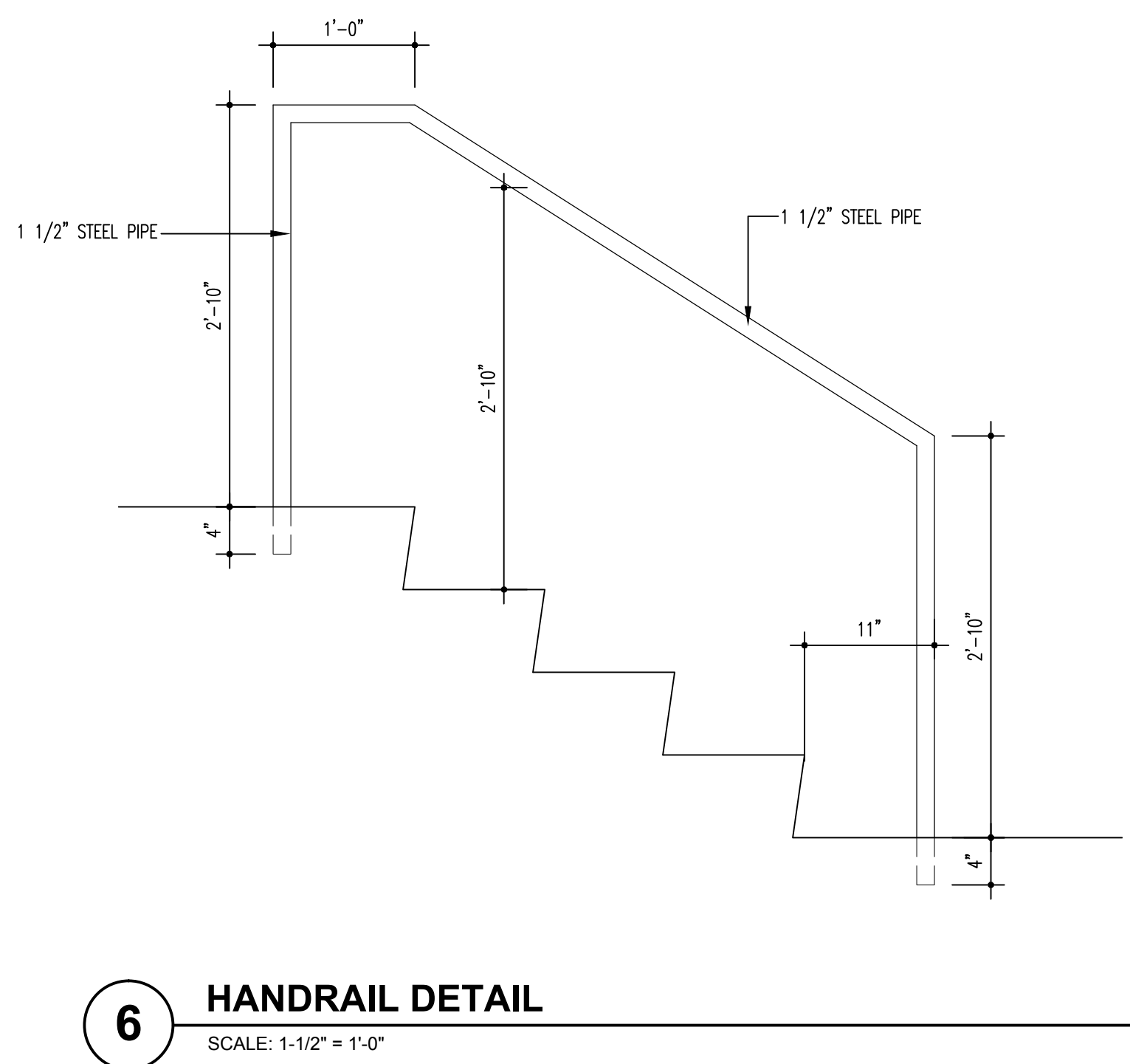
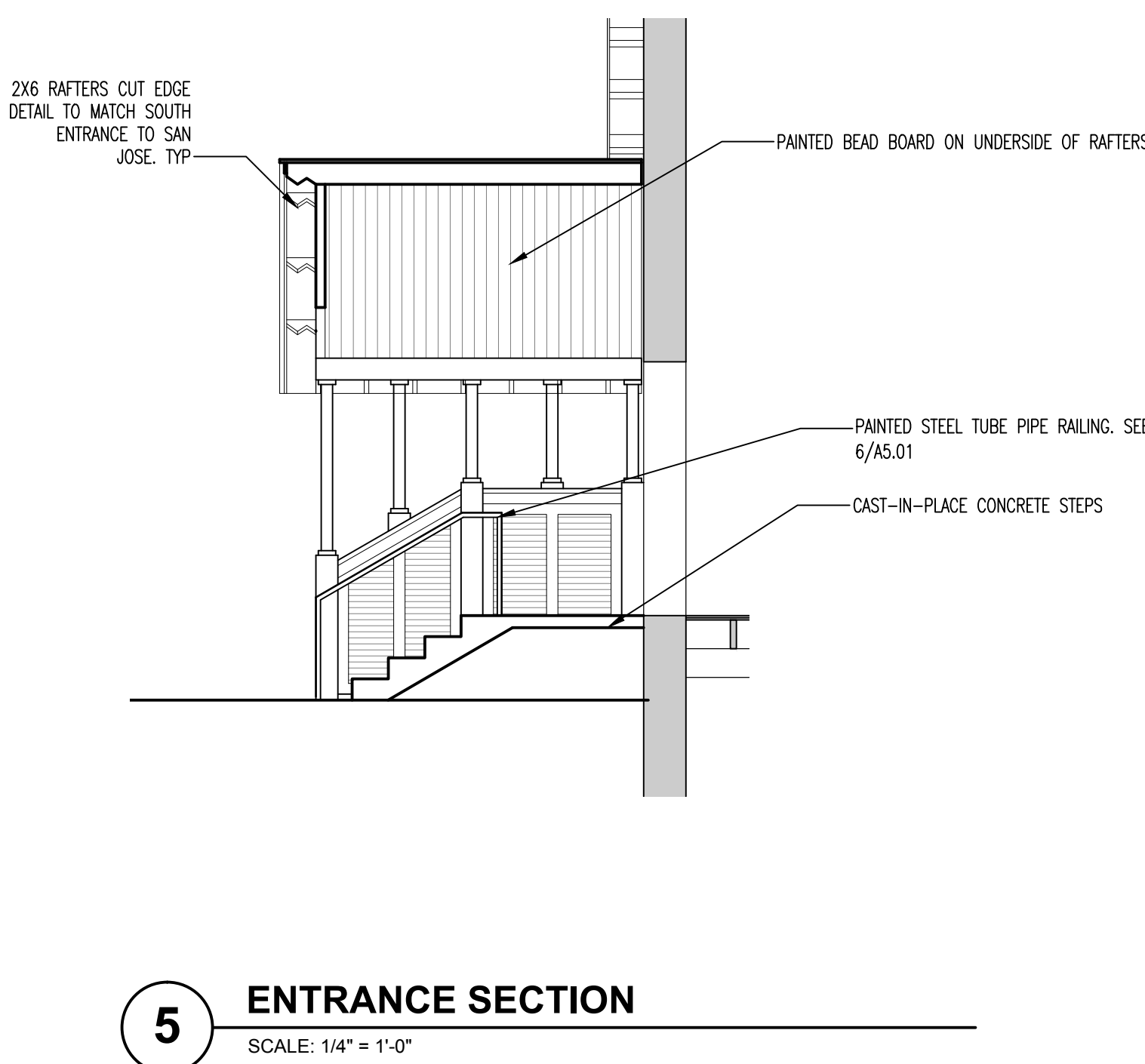
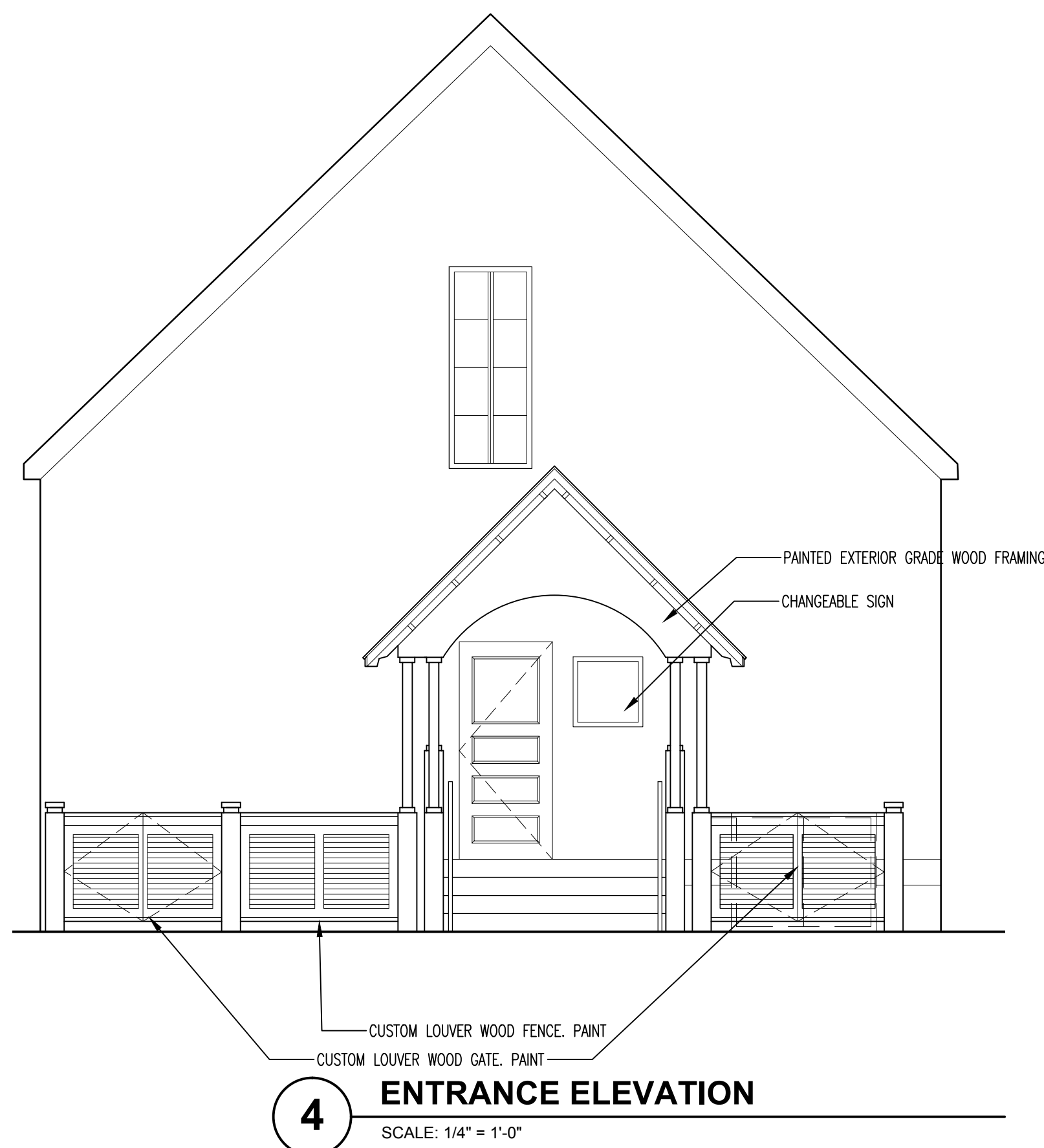
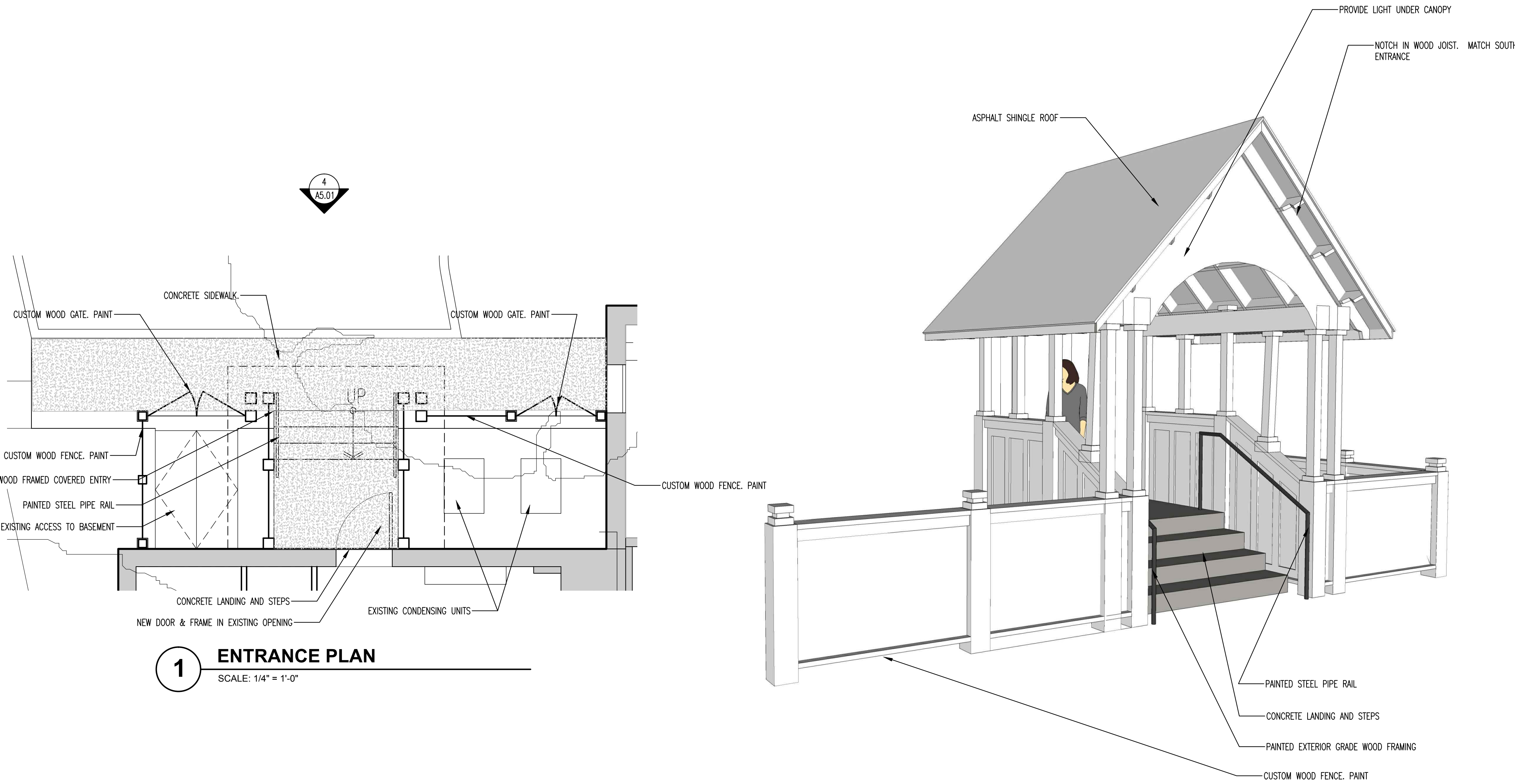
13118

Date:

11.18.2015

Drawing No.:

A5.01



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Issue:	Description:	Date:
1	Schematic Design	07.31.2015
2	Design Development	09.18.2015
3	80% Pricing Set	11.18.2015

Drawing Title:

Saint George's Chancel
Platform

Drawing Scale:

As Noted

Project No.:

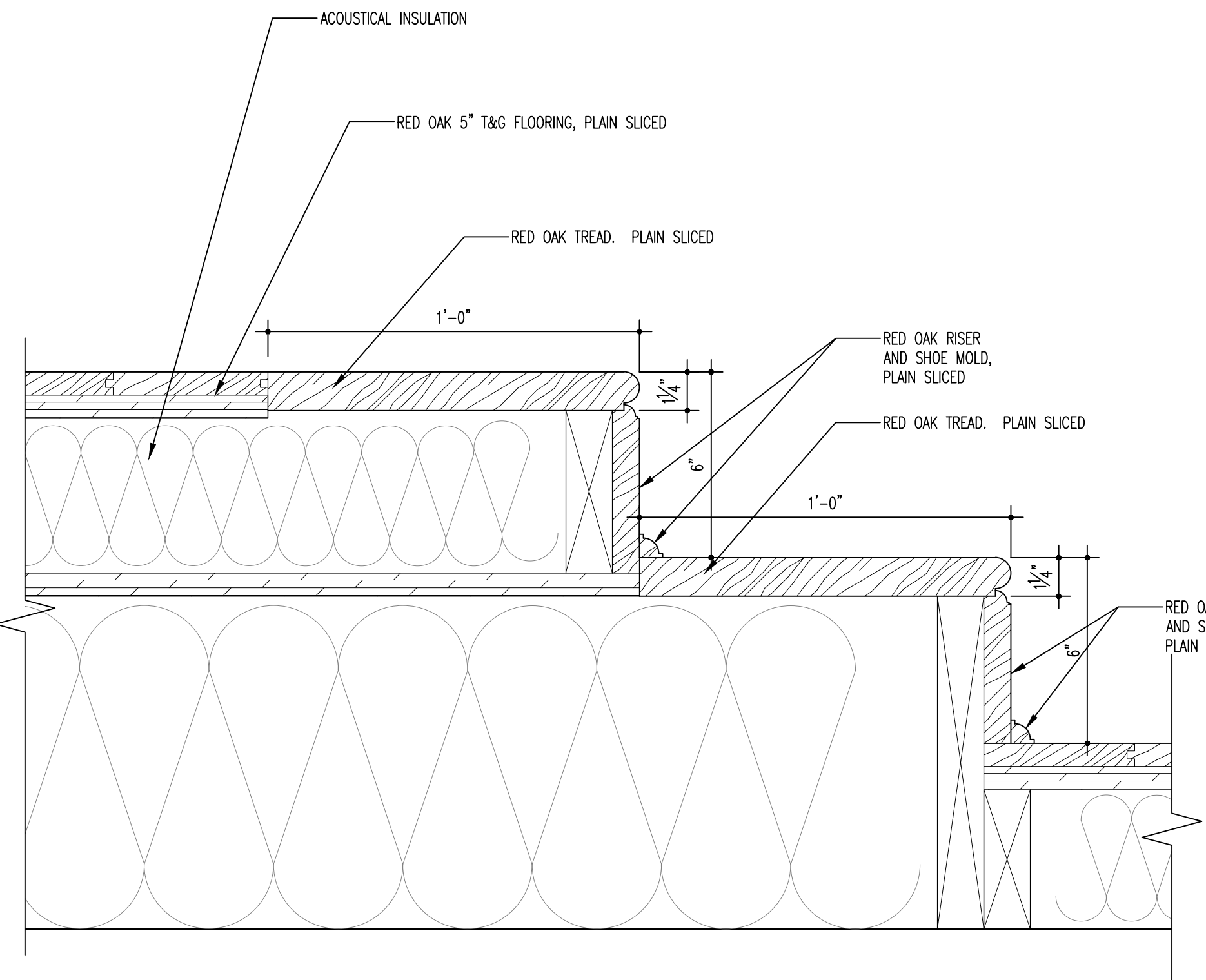
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Date:

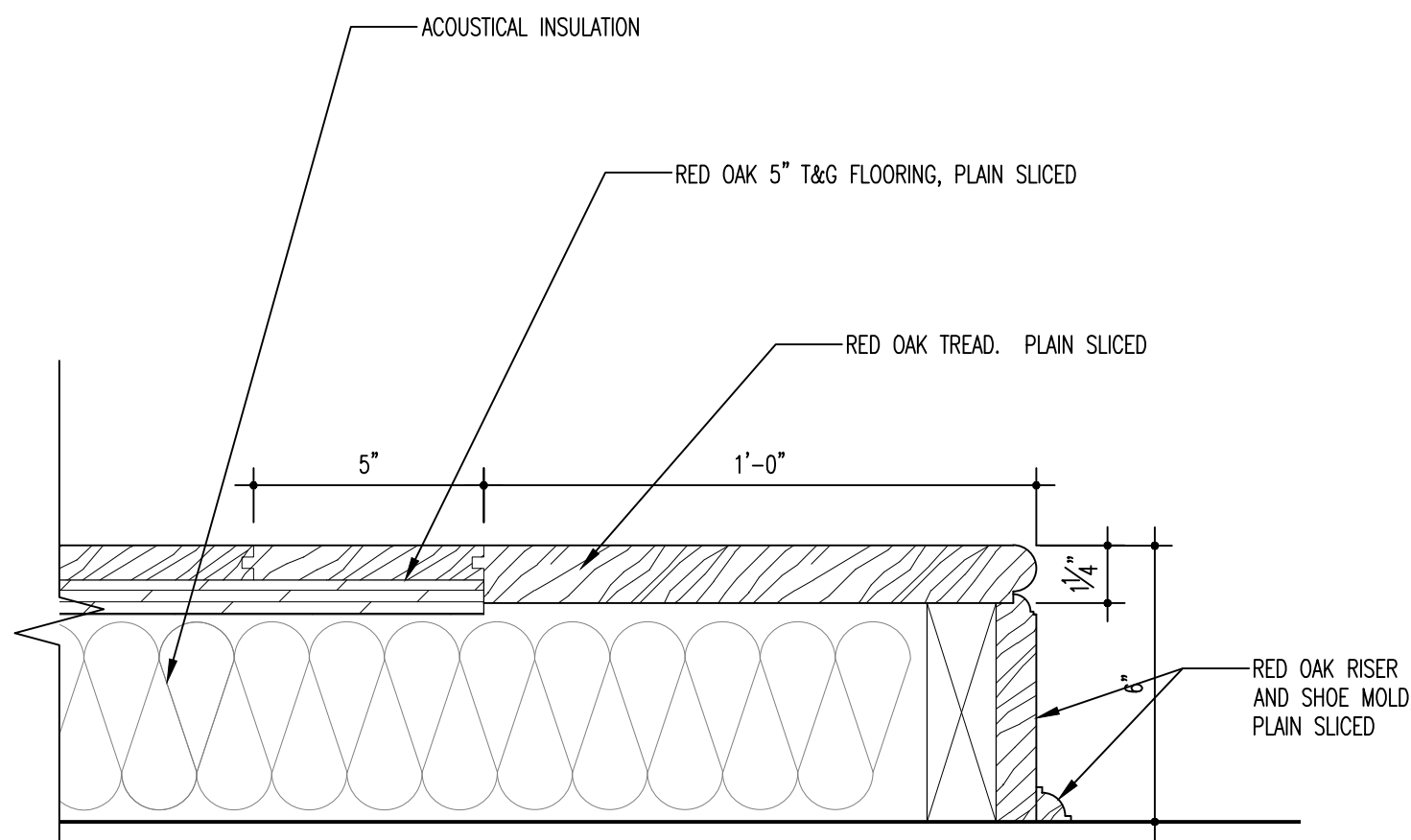
11.18.2015

Drawing No.:

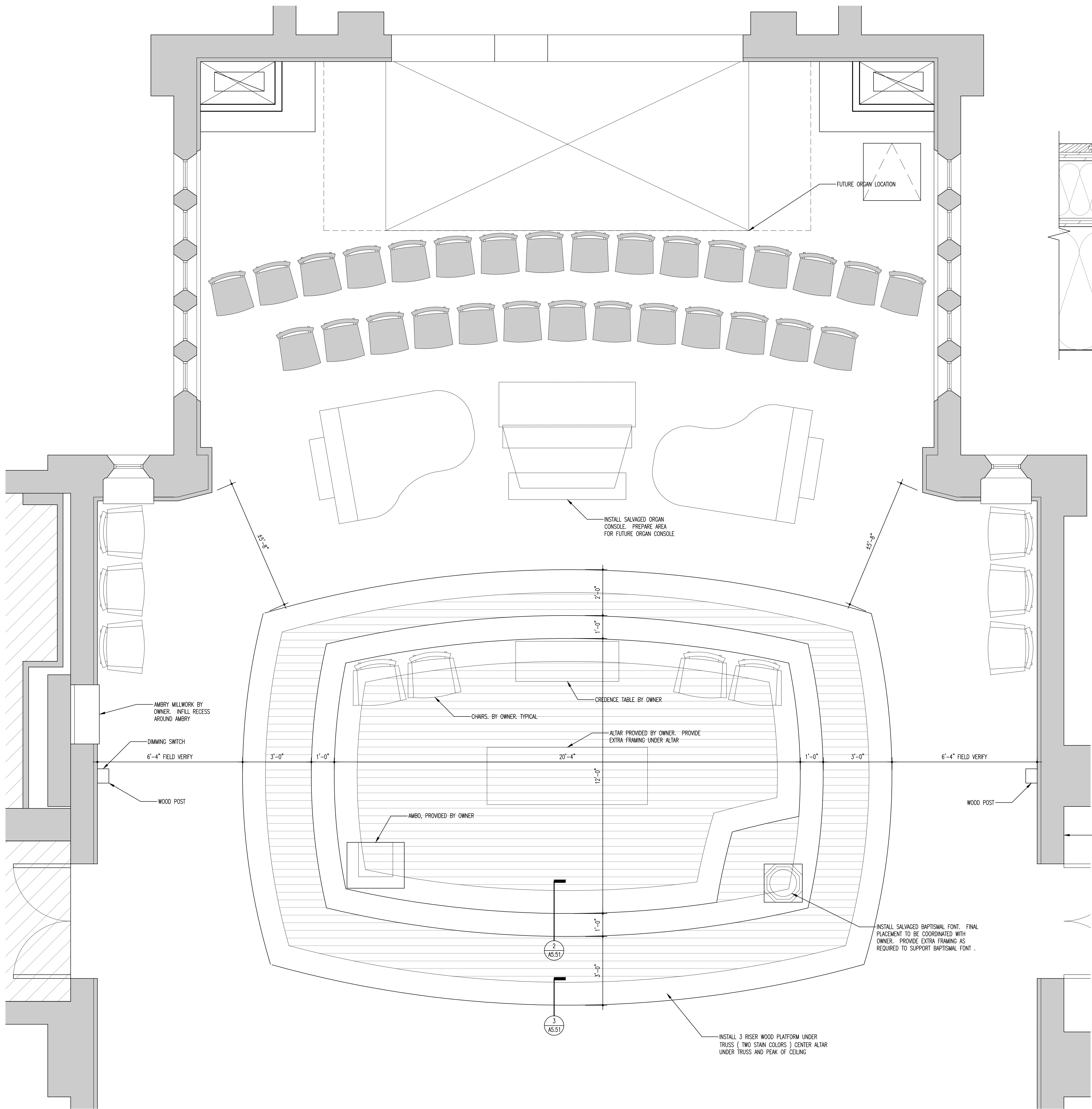
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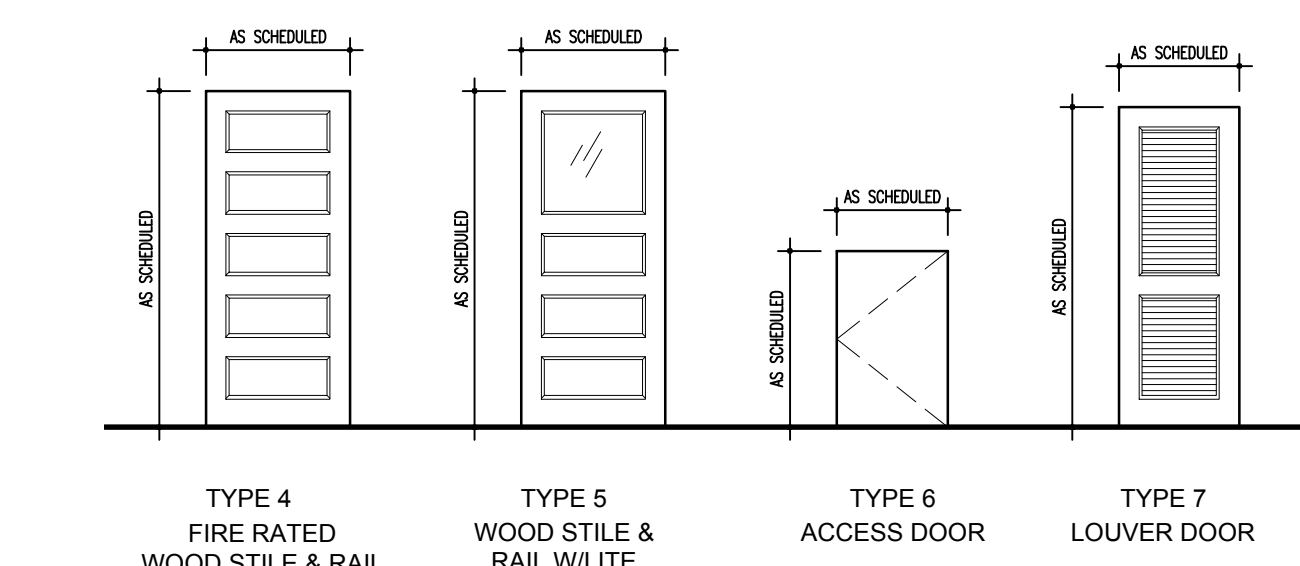
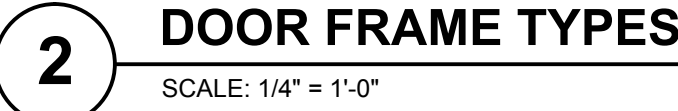
2 ALTAR STAIR SECTION
SCALE: 3" = 1'-0"



3 ALTAR STAIR SECTION
SCALE: 3" = 1'-0"



1 Saint George's Chancel Platform
SCALE: 1/2" = 1'-0"



FINISH SCHEDULE REMARKS	
1	
2	
3	
4	
5	
6	
7	
8	
FINISH TYPES	
WALL	
	PANT
PNT-1	
PNT-2	
PNT-3	
PNT-4	
PNT-5	
PNT-6	
PNT-7	
FLOOR	
	PORCELAIN CERAMIC TILE
PCT-1	PORCELAIN CERAMIC TILE
PCT-2	PORCELAIN CERAMIC TILE
	RESJIENT FLOORING
RES-1	RESJIENT FLOORING -1 (MARMOLEUM REAL)
RES-2	RESJIENT FLOORING -2 (MARMOLEUM REAL)
RES-3	RESJIENT FLOORING -3 (MARMOLEUM VIVACE)
RES-4	RESJIENT FLOORING -4 (MARMOLEUM VIVACE)
	WALK OFF CARPET
WOM	
BASE	
	WOOD
WD-1	WOOD BASE - STAIN TO MATCH TRUSSES - 8" HIGH
WD-2	WOOD BASE - PAINT TO MATCH WINDOW TRIM - 6" HIGH
	RUBBER
RB	ROPPE PINNACLE BASE - 4"
	PORCELAIN TILE BASE
PCTB	PORCELAIN TILE BASE

GENERAL DOOR NOTES	
A	
DOOR REMARKS	
1	
2	
3	
4	
5	
6	
7	
8	
THRESHOLD TYPES	
T-1	
T-2	
T-3	
T-4	
T-5	
T-6	
T-7	
T-8	
DOOR ABBREVIATIONS	
WD	WOOD
MTL	METAL
TRANS	TRANSPARENT FINISH – STAIN

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Issue:	Description:	Date:
1	Schematic Design	07.31.2015
2	Design Development	09.18.2015
3	80% Pricing Set	11.18.2015

Drawing Title:
**DOOR & FINISH
SCHEDULE**

Drawing Scale: AS NOTED

Project No.: 13118 Date: 11.18.2015

Drawing No.:

A7.01

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Issue:	Description:	Date:
1	Schematic Design	07.31.2015
2	Design Development	09.18.2015
3	80% Pricing Set	11.18.2015

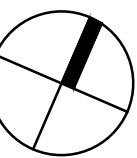
Drawing Title:
NAVE FLOORING
PATTERN

Drawing Scale:
1/4" = 1'-0"

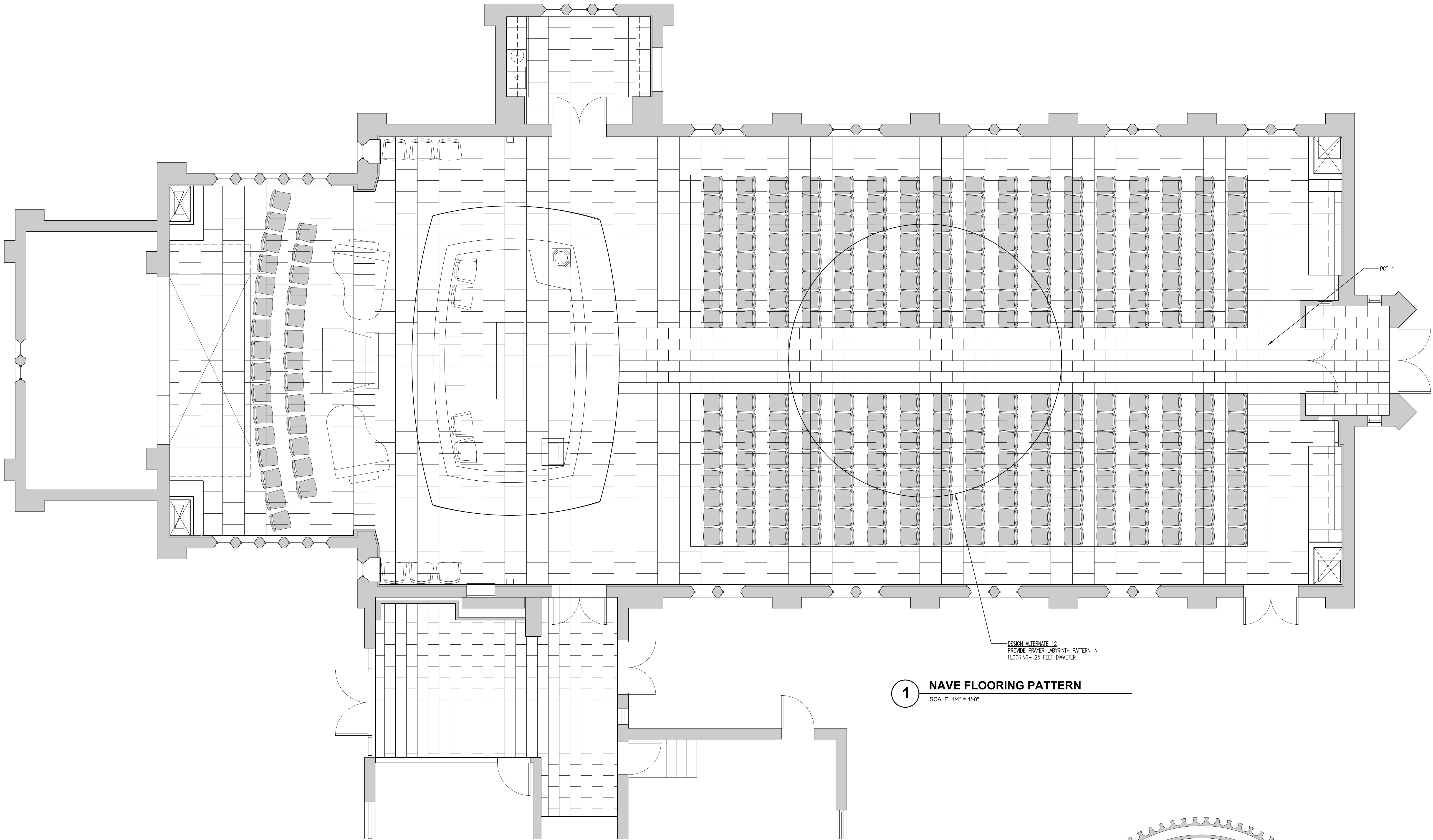
Project No.:
13118

Date:
11.18.2015

Drawing No.:



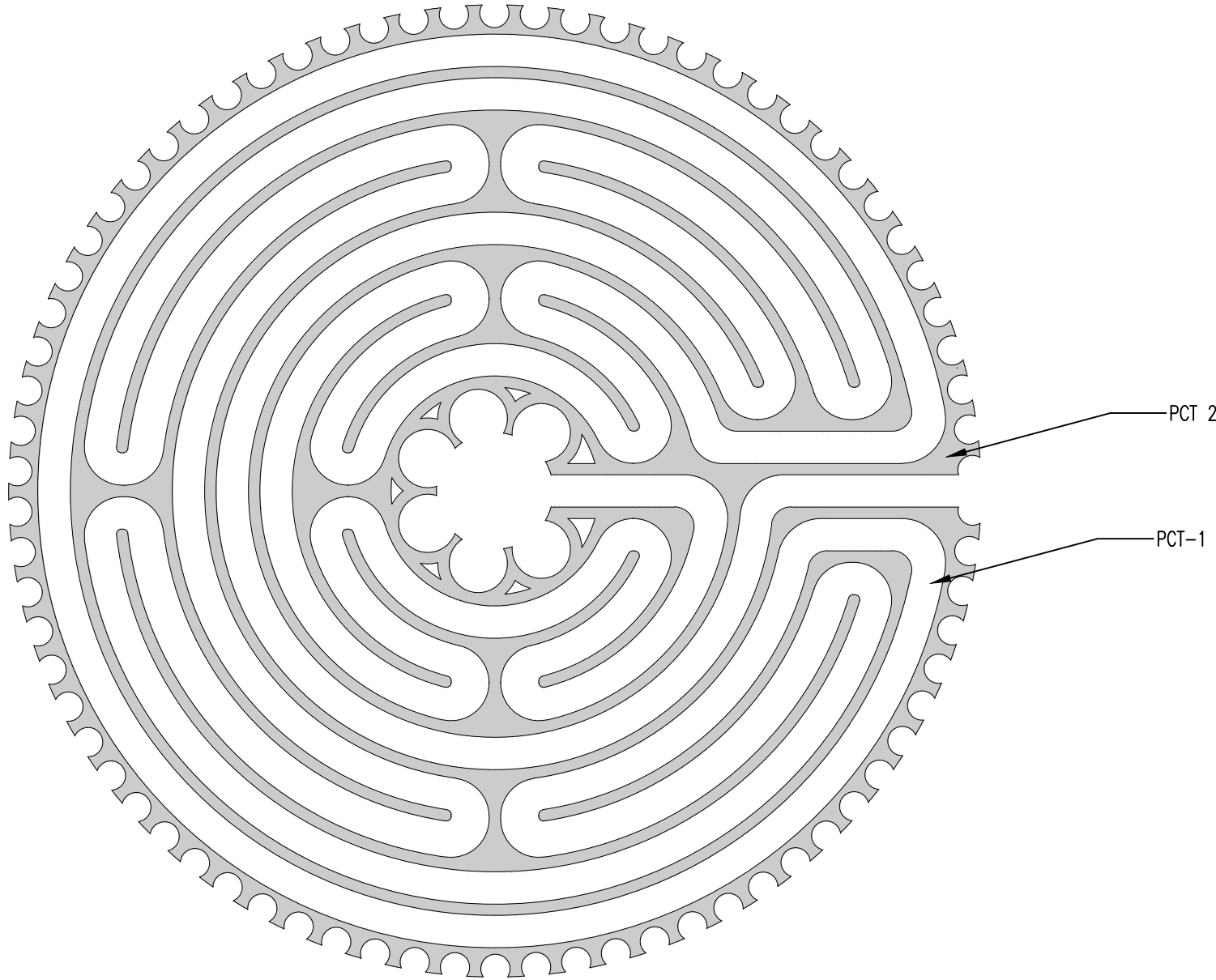
A7.11



1 NAVE FLOORING PATTERN
SCALE: 1/4" = 1'-0"

DESIGN ALTERNATE 12
PROVIDE PRAYER LABYRINTH PATTERN IN
FLOORING- 25 FEET DIAMETER

2 PRAYER LABYRINTH FLOORING PATTERN - ALT 12
SCALE: 1/4" = 1'-0"



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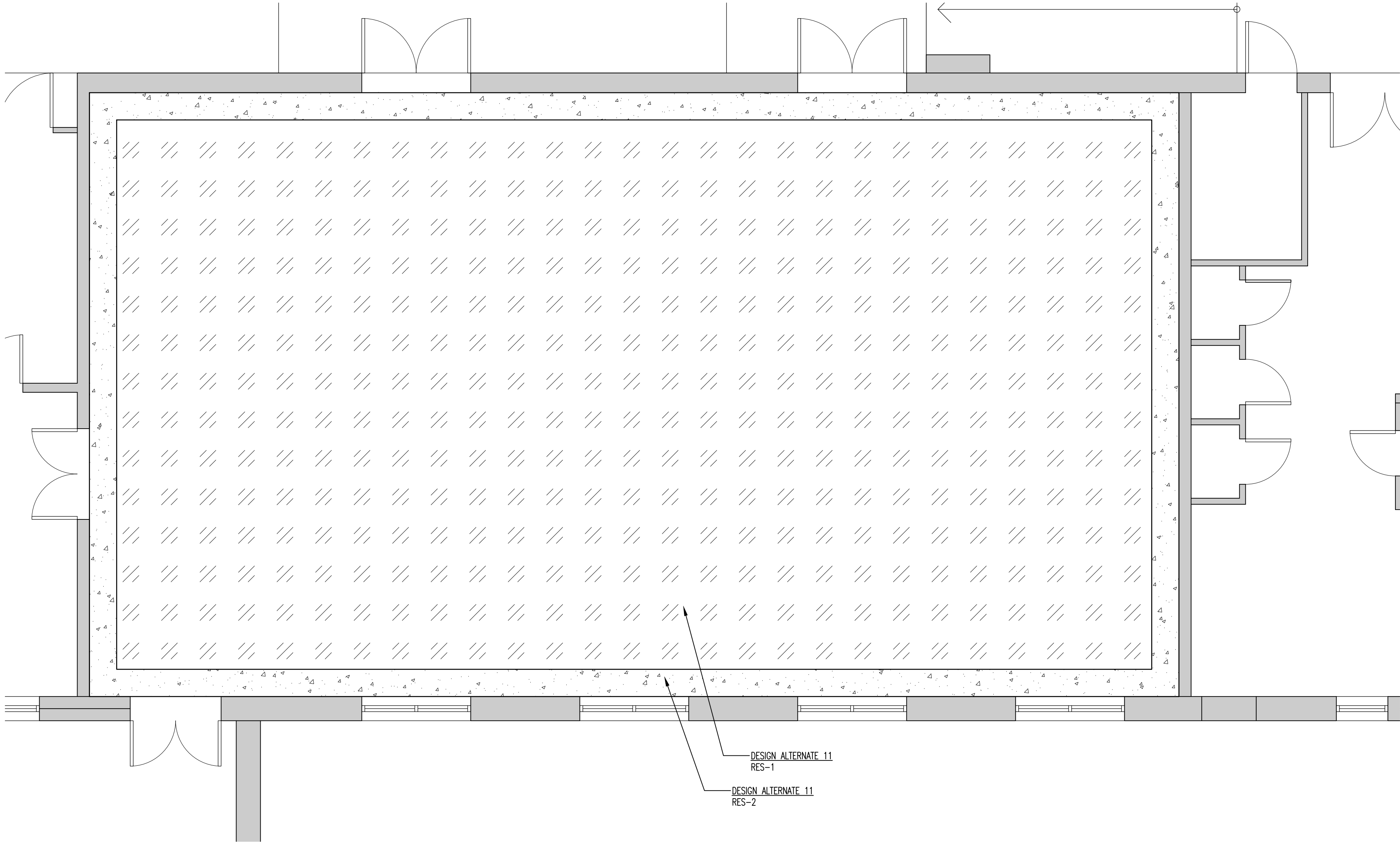
Drawing Title:
PARISH HALL &
CHAPEL FLOORING
PATTERN

Drawing Scale:
1/4" = 1'-0"

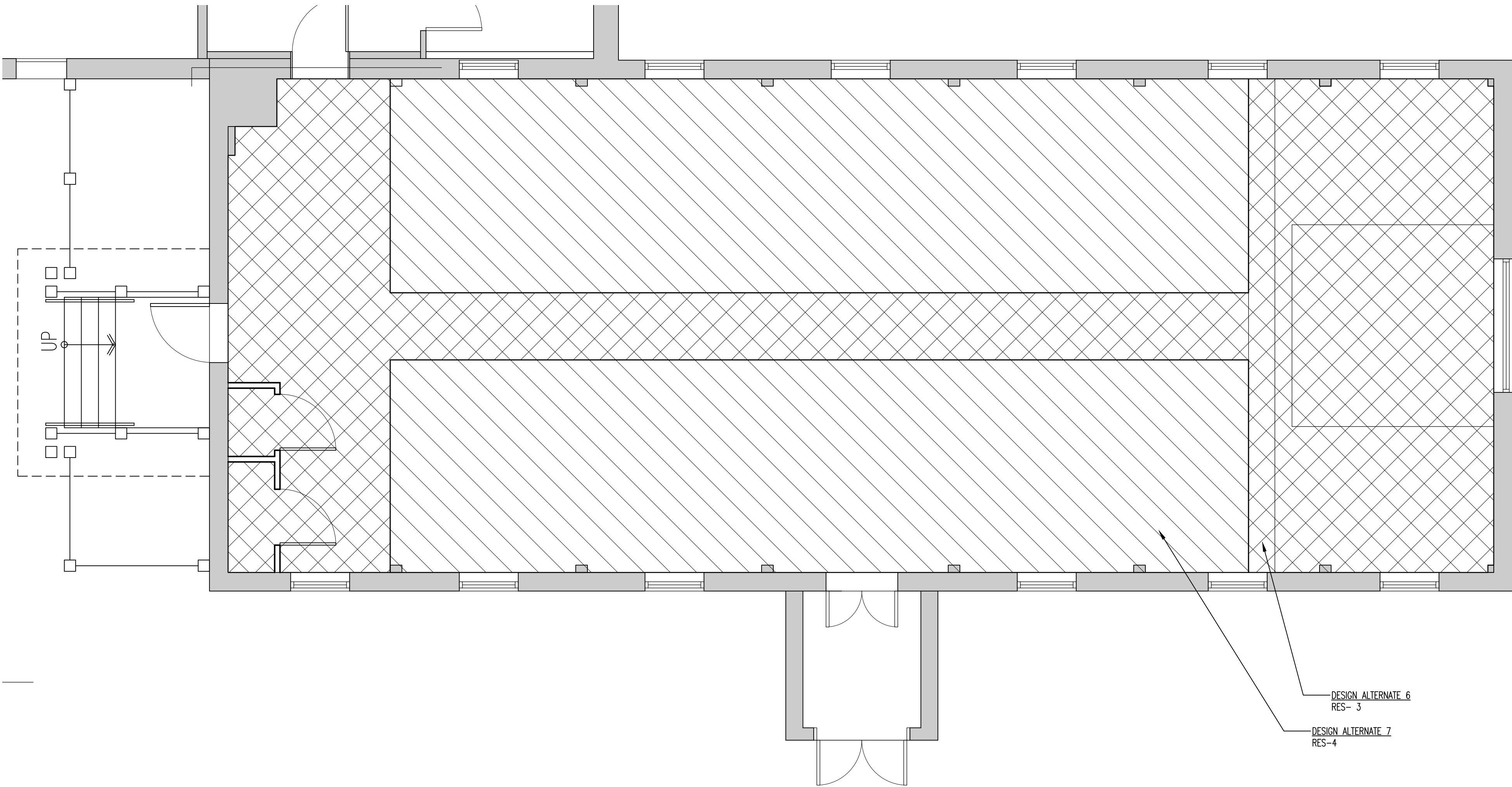
Project No.: 13118
Date: 11.18.2015

Drawing No.:

A7.12



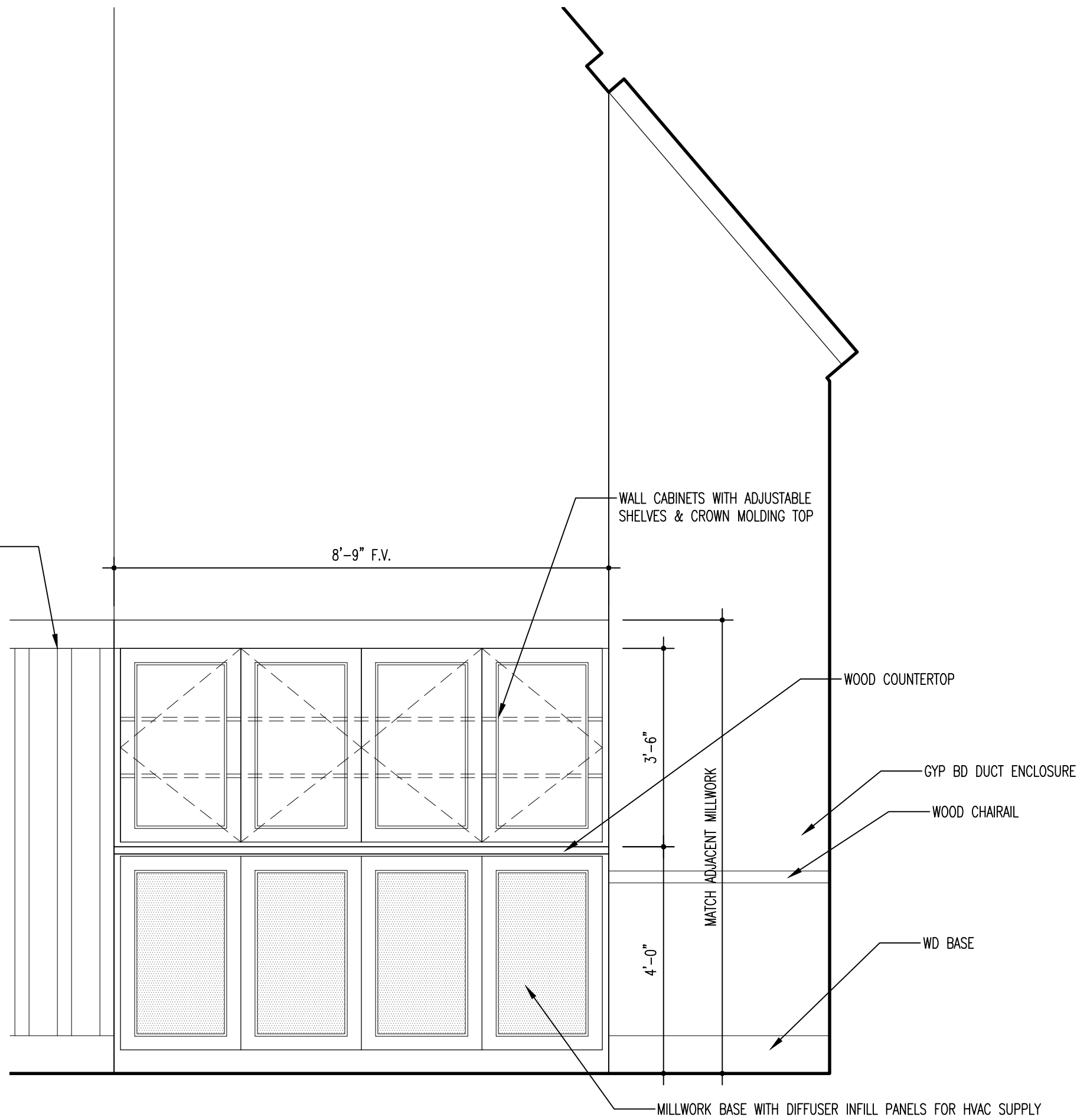
1 PARISH HALL FLOORING PATTERN
SCALE: 1/4" = 1'-0"



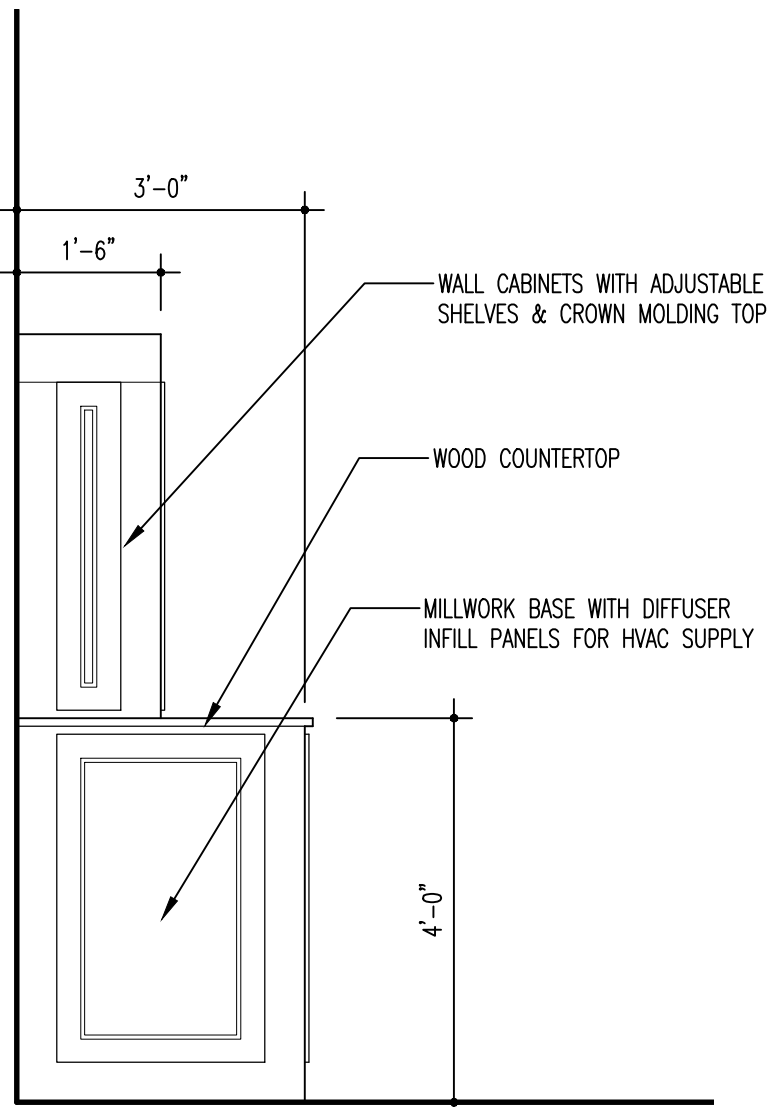
2 CHAPEL FLOORING PATTERN
SCALE: 1/4" = 1'-0"

ALTERNATES

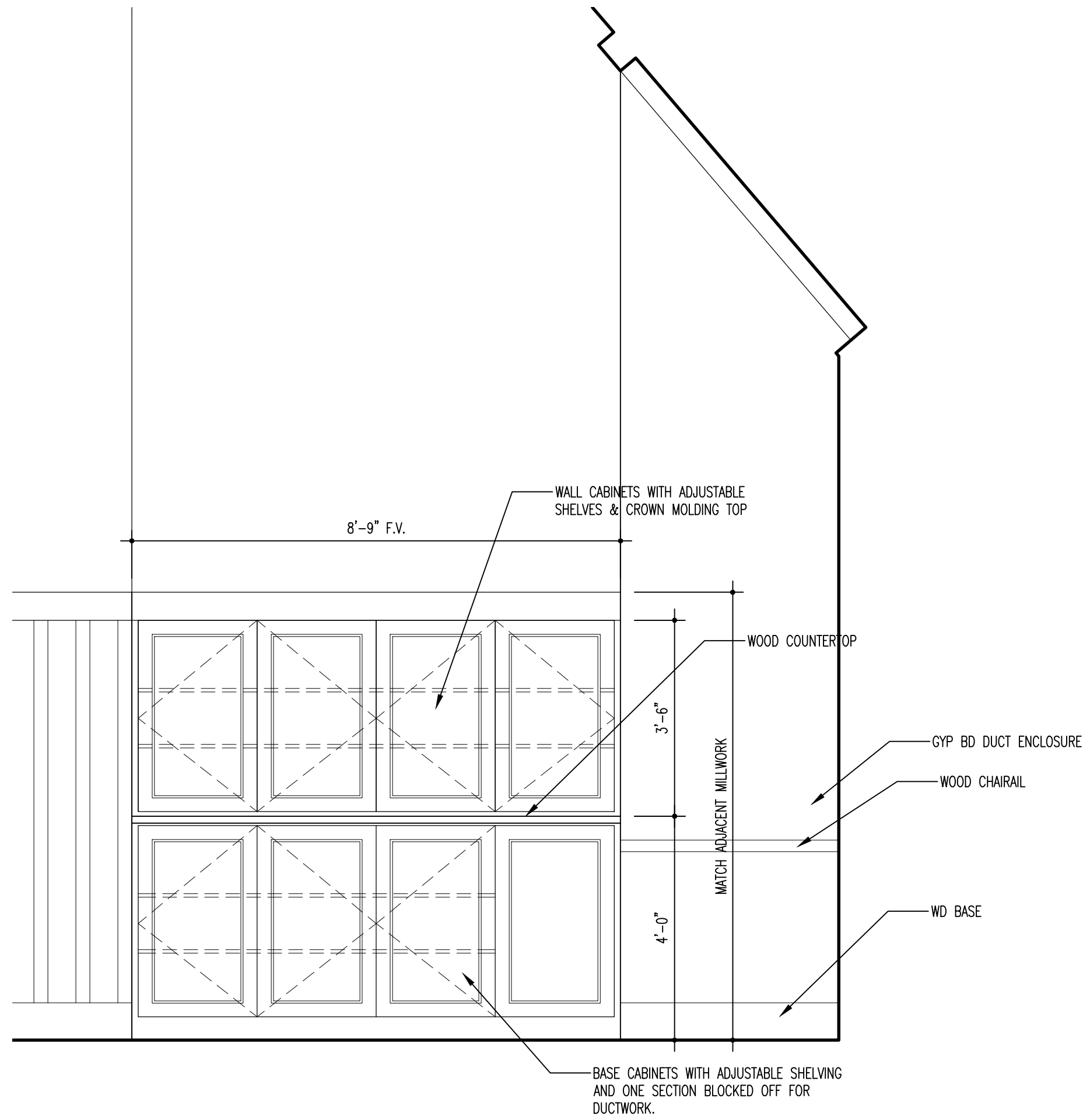
1. NAVE- PROVIDE NEW SEATING. BY OWNER
2. CHAPEL- PROVIDE NEW SEATING. BY OWNER
- 3A. CHAPEL- PENDANT FIXTURES, EMERGENCY LIGHTS & EXIT SIGNS
- 3B. CHAPEL- UPLIGHTING AND ALTAR LIGHTING
- 4A. NAVE- ALTAR LIGHTING, LIGHTING CONTROL, EMERGENCY LIGHTS & EXIT SIGNS
- 4B. NAVE- UPLIGHTING, STAINED GLASS WINDOW BACKLIGHTING
5. NAVE- PROVIDE NEW SOUND SYSTEM.
6. CHAPEL- PROVIDE NEW COMMERCIAL GRADE SHEET FLOORING
7. NOT USED
- 8A. NAVE- ACOUSTICAL FINISH UPGRADE TO WALLS.
- 8B. NAVE- ACOUSTICAL FINISH UPGRADE TO CEILING AT CHOIR
- 8C. NAVE - ACOUSTICAL FINISH UPGRADE TO CEILING AT NAVE
9. NOT USED
10. NOT USED
11. PARISH HALL - PROVIDE NEW COMMERCIAL GRADE SHEET FLOORING.
12. NAVE- PROVIDE PRAYER LABYRINTH PATTERN IN FLOORING.
13. NAVE- PROVIDE UNDER FLOOR DUCT WORK AT CONGREGATION
14. CHAPEL - UPGRADE ELECTRICAL SYSTEM IN CHAPEL TO MEET CURRENT CODE
15. NAVE- LITURGICAL ELEMENTS - BY OWNER
16. NAVE - ADDITIONAL CHAIRS FOR CHOIR - BY OWNER



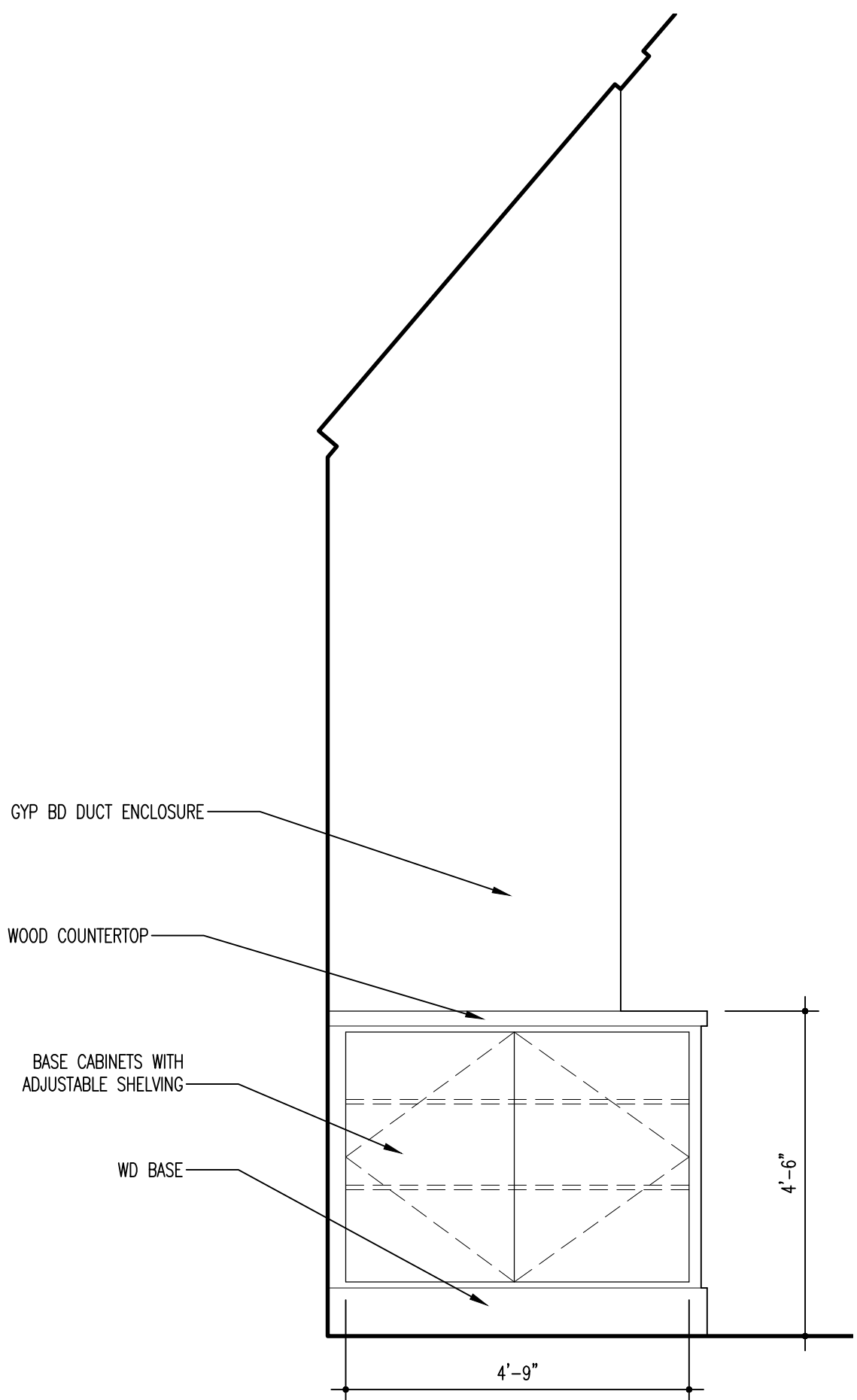
1 MILLWORK AT EAST ENTRANCE - ELEVATION
SCALE: 1/2" = 1'-0"



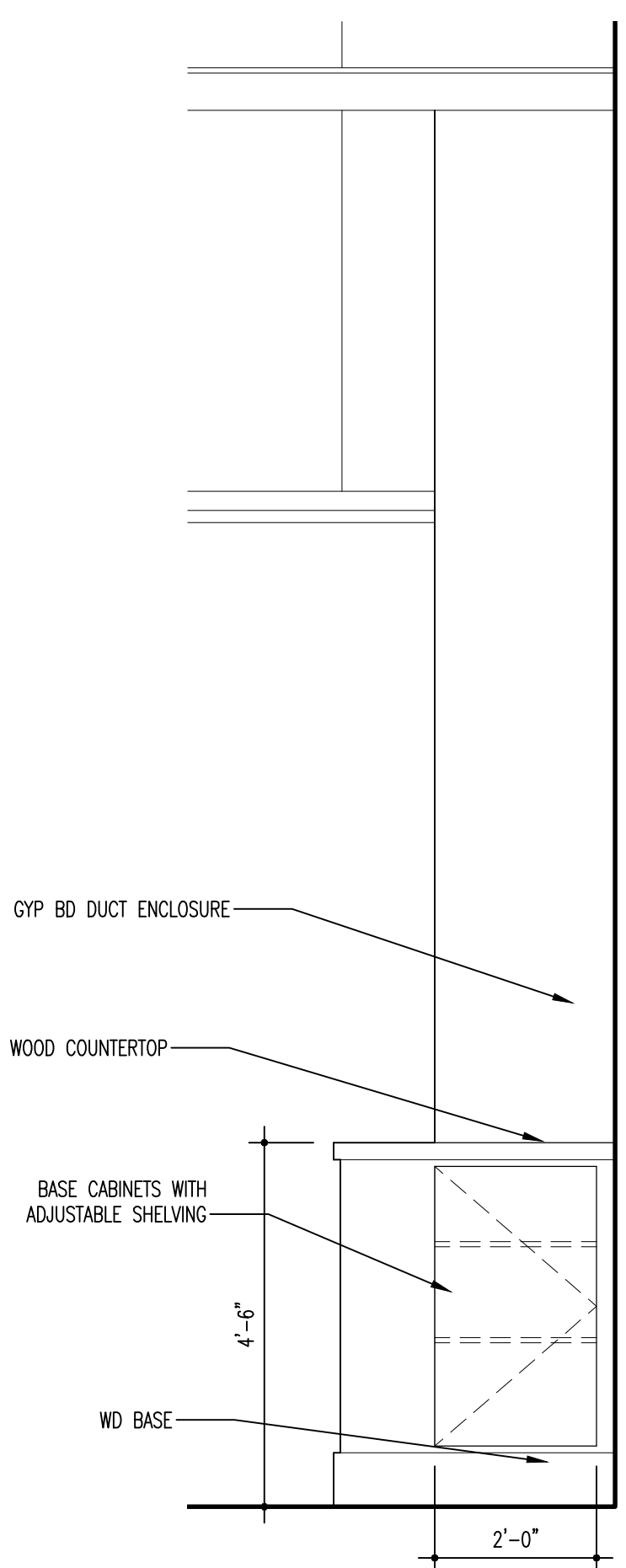
2 MILLWORK AT EAST ENTRANCE - ELEVATION
SCALE: 1/2" = 1'-0"



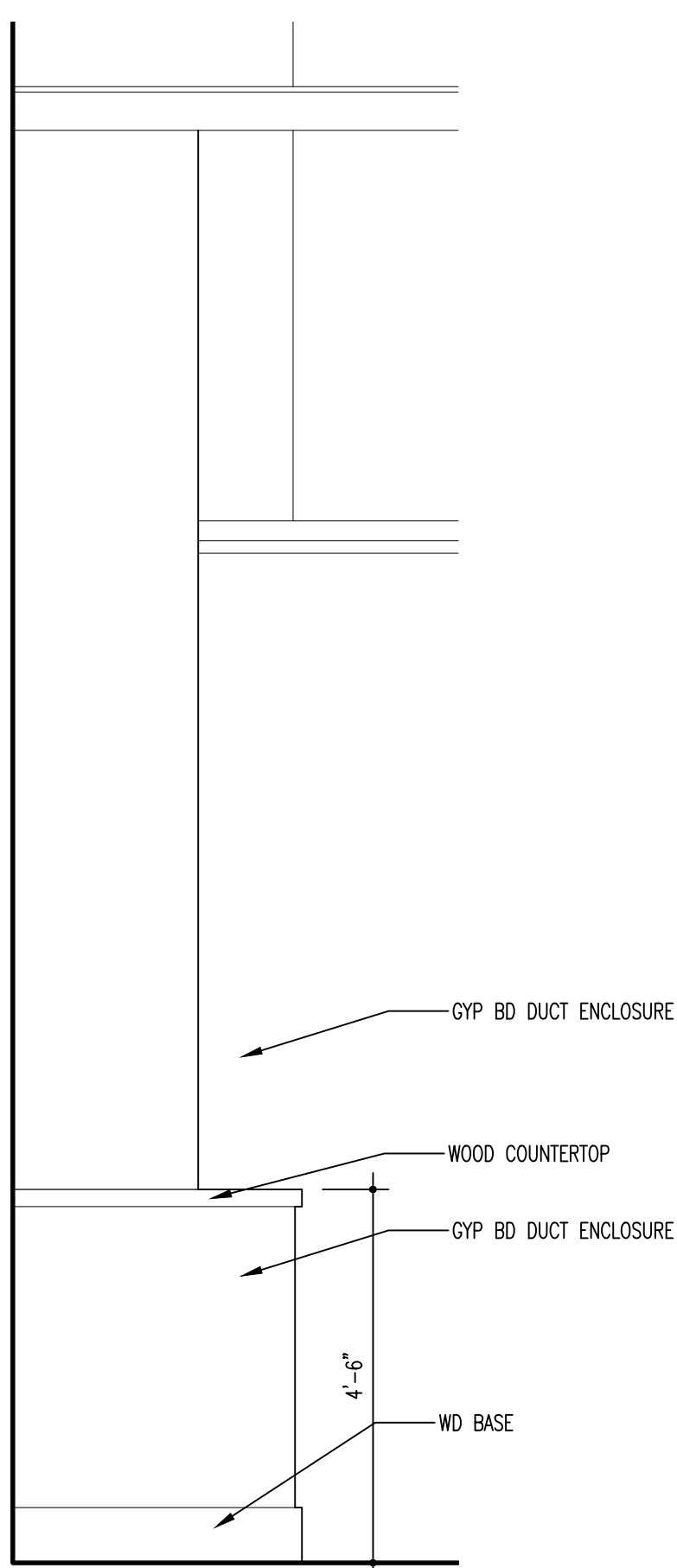
3 MILLWORK AT EAST ENTRANCE - ELEVATION (ALT 13)
SCALE: 1/2" = 1'-0"



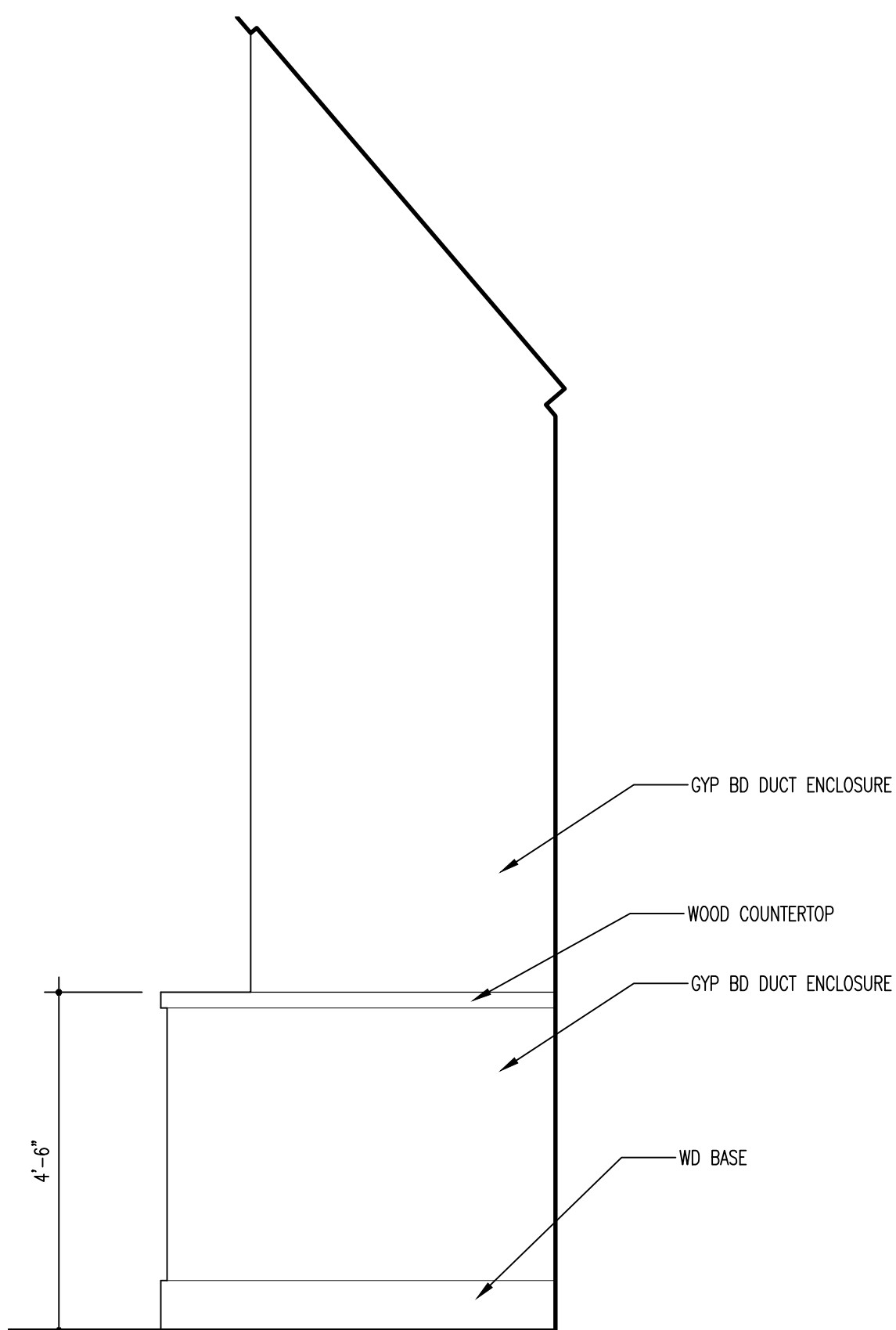
4 MILLWORK AT CHOIR - ELEVATION
SCALE: 1/2" = 1'-0"



5 MILLWORK AT CHOIR - ELEVATION
SCALE: 1/2" = 1'-0"



6 MILLWORK AT CHOIR - ELEVATION
SCALE: 1/2" = 1'-0"



7 MILLWORK AT CHOIR - ELEVATION
SCALE: 1/2" = 1'-0"

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Issue:	Description:	Date:
1	Schematic Design	07.31.2015
2	Design Development	09.18.2015
3	80% Pricing Set	11.18.2015

Drawing Title:
MILLWORK
ELEVATIONS

Drawing Scale:
1/2" = 1'-0"

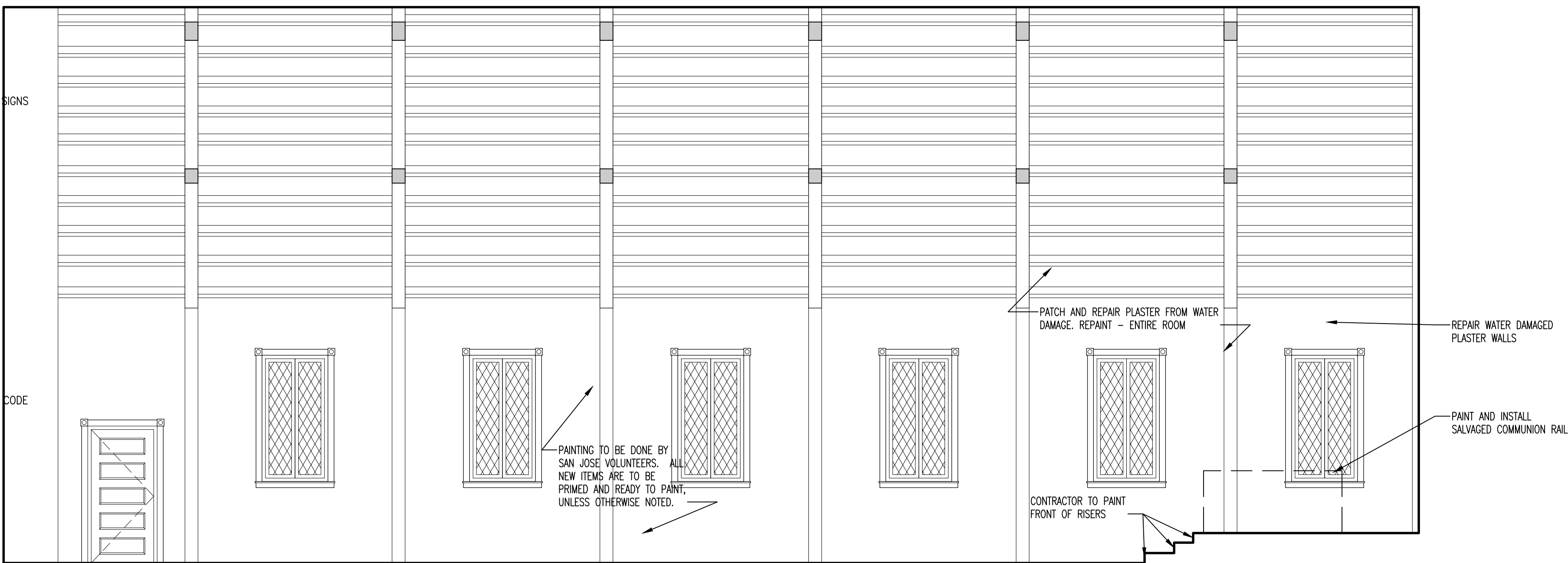
Project No.:
13118

Date:
11.18.2015

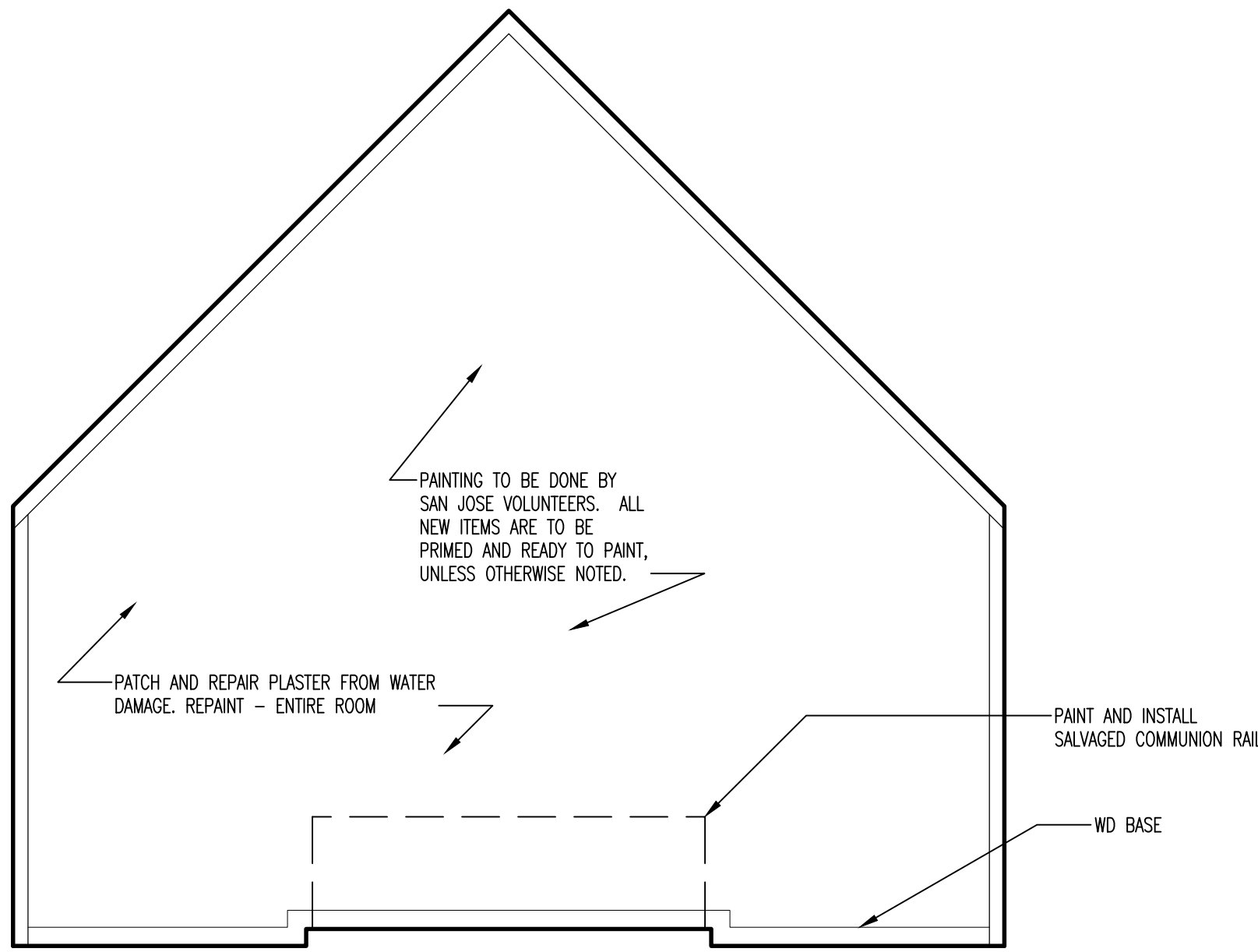
Drawing No.:

ALTERNATES

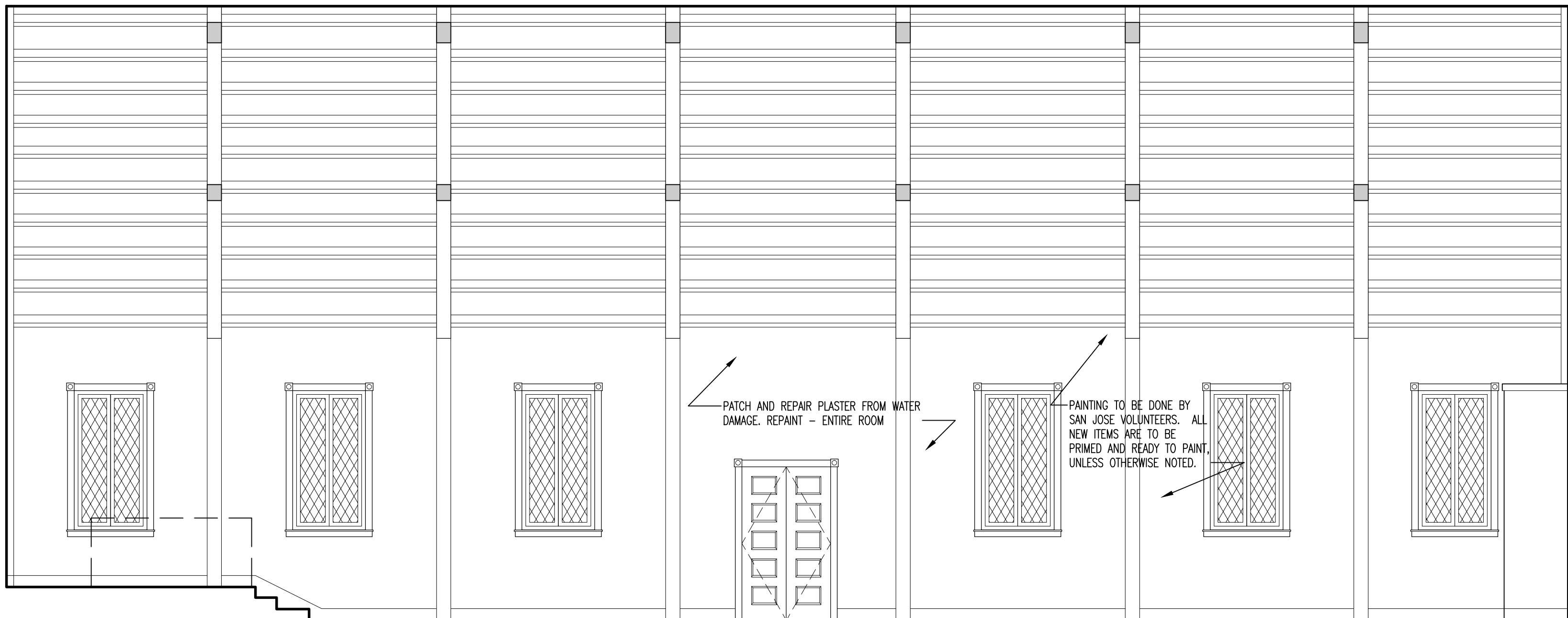
1. NAVE- PROVIDE NEW SEATING. BY OWNER
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- 3A. CHAPEL- PENDANT FIXTURES, EMERGENCY LIGHTS & EXIT SIGNS
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7. NOT USED
- 8A. NAVE- ACOUSTICAL FINISH UPGRADE TO WALLS.
- 8B. NAVE- ACOUSTICAL FINISH UPGRADE TO CEILING AT CHOIR
- 8C. NAVE - ACOUSTICAL FINISH UPGRADE TO CEILING AT NAVE
9. NOT USED
10. NOT USED
11. PARISH HALL - PROVIDE NEW COMMERCIAL GRADE SHEET FLOORING.
12. NAVE- PROVIDE PRAYER LABYRINTH PATTERN IN FLOORING.
13. NAVE- PROVIDE UNDER FLOOR DUCT WORK AT CONGREGATION
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16. NAVE - ADDITIONAL CHAIRS FOR CHOIR - BY OWNER



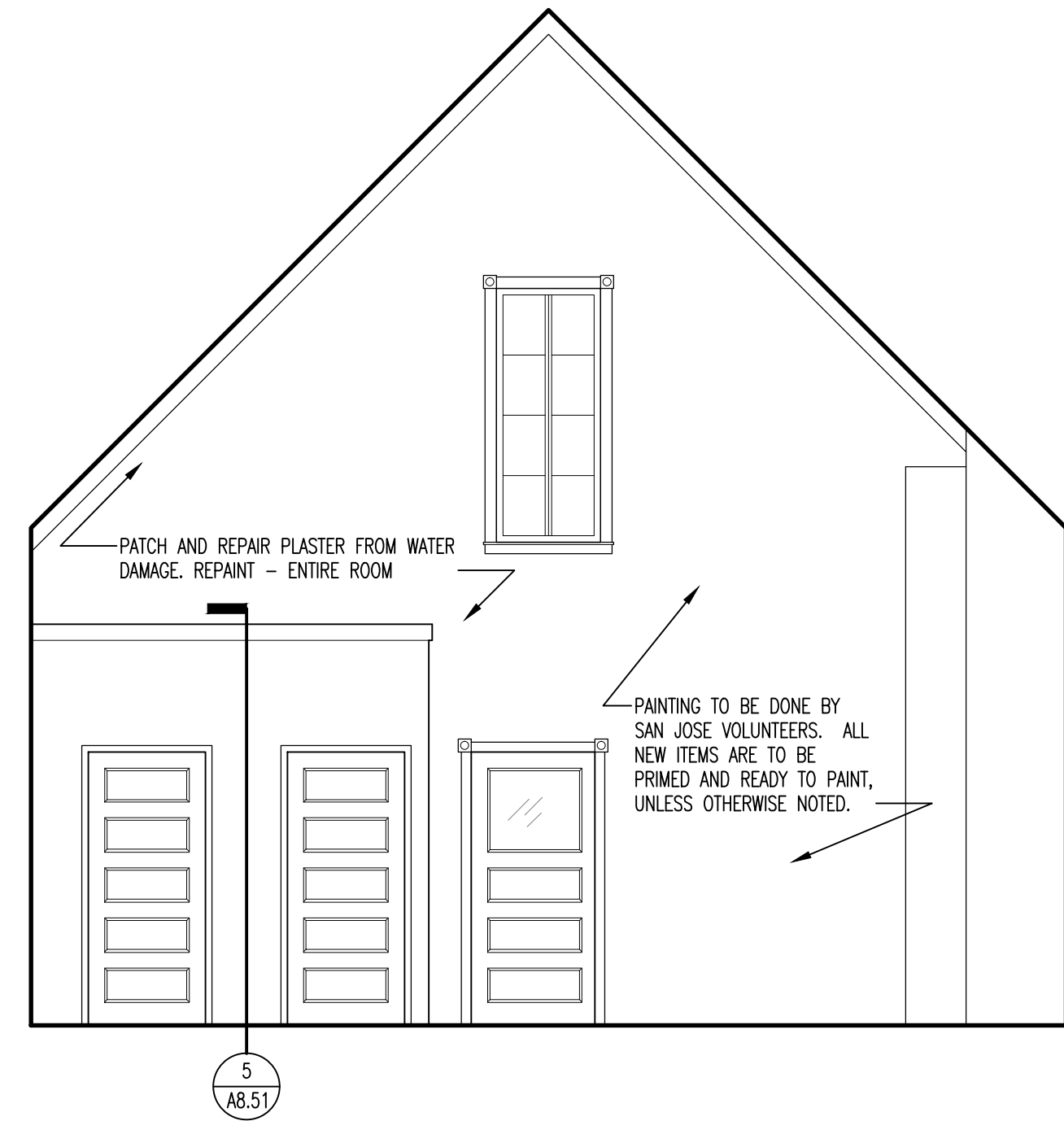
1 CHAPEL NORTH INTERIOR ELEVATION
SCALE: 1/4" = 1'-0"



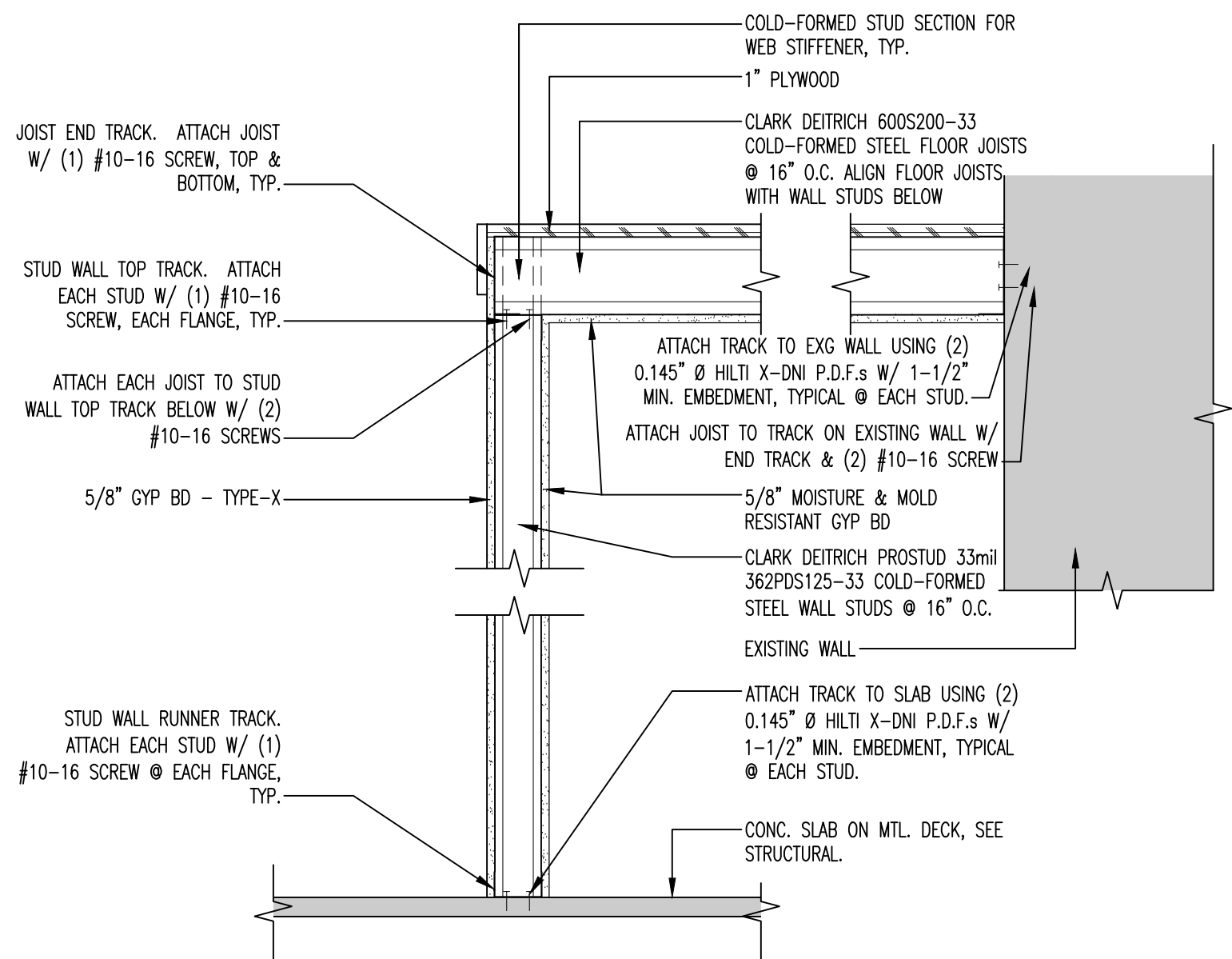
2 CHAPEL EAST INTERIOR ELEVATION
SCALE: 1/4" = 1'-0"



3 CHAPEL SOUTH INTERIOR ELEVATION
SCALE: 1/4" = 1'-0"



4 CHAPEL WEST INTERIOR ELEVATION
SCALE: 1/4" = 1'-0"



5 Typical Stud Wall Framing CLOSETS
SCALE: 1" = 1'-0"

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Issue:	Description:	Date:
1	Schematic Design	07.31.2015
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3	80% Pricing Set	11.18.2015

Drawing Title:
CHAPEL INTERIOR
ELEVATIONS

Drawing Scale:
1/4" = 1'-0"

Project No.:
13118

Date:
11.18.2015

Drawing No.:

A8.51

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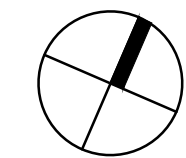
Issue:	Description:	Date:
1	Schematic Design	07.31.2015
2	Design Development	09.18.2015
3	80% Pricing Set	11.18.2015

Drawing Title:
NAVE FURNITURE
LAYOUT

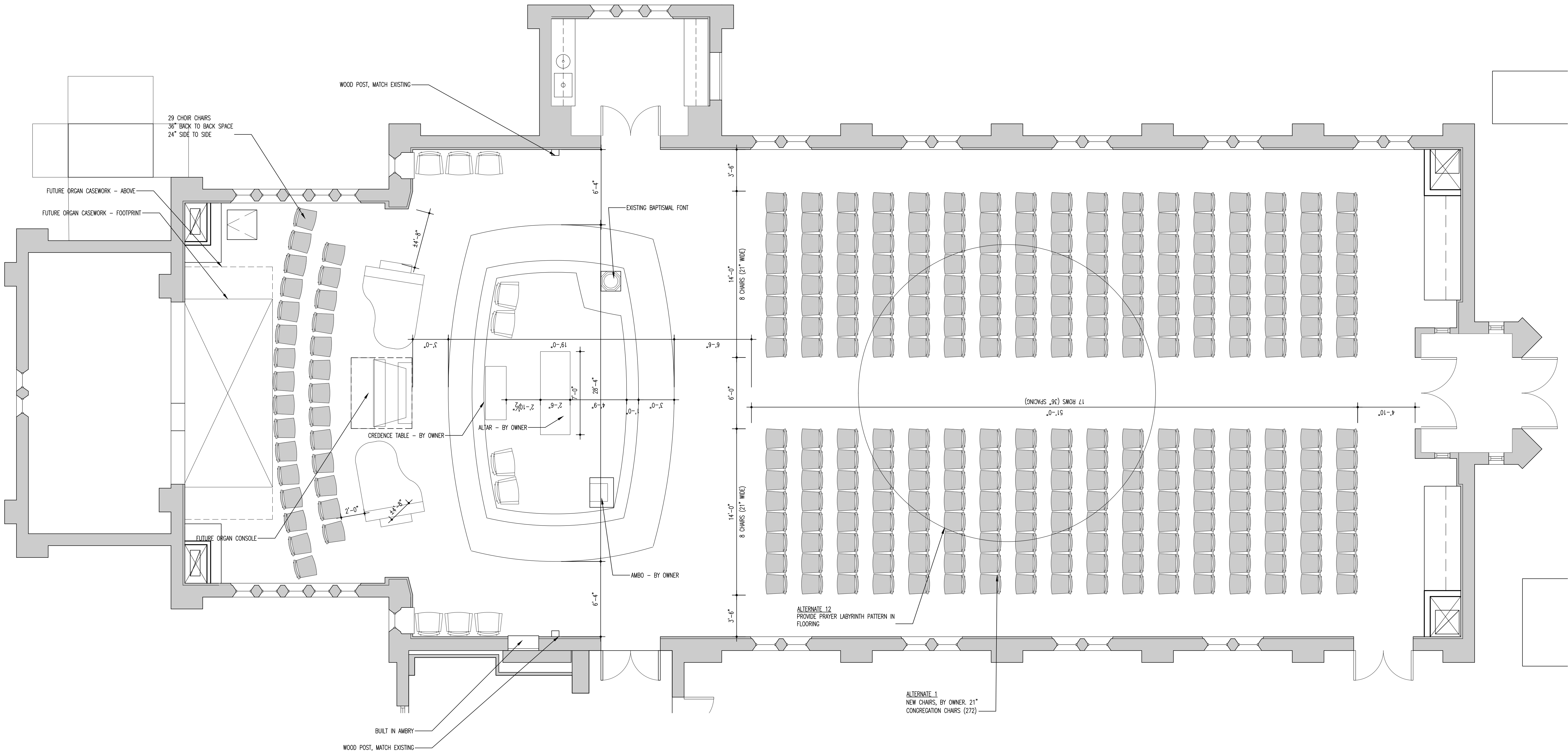
Drawing Scale:
1/4" = 1'-0"

Project No.: 13118
Date: 11.18.2015

Drawing No.:



F1.01



1 NAVE FURNITURE LAYOUT
SCALE: 1/4" = 1'-0"

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Issue:	Description:	Date:
1	Schematic Design	07.31.2015
2	Design Development	09.18.2015
3	80% Pricing Set	11.18.2015

Drawing Title:

CHAPEL FURNITURE
LAYOUT

Drawing Scale:

1/4" = 1'-0"

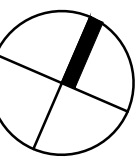
Project No.:

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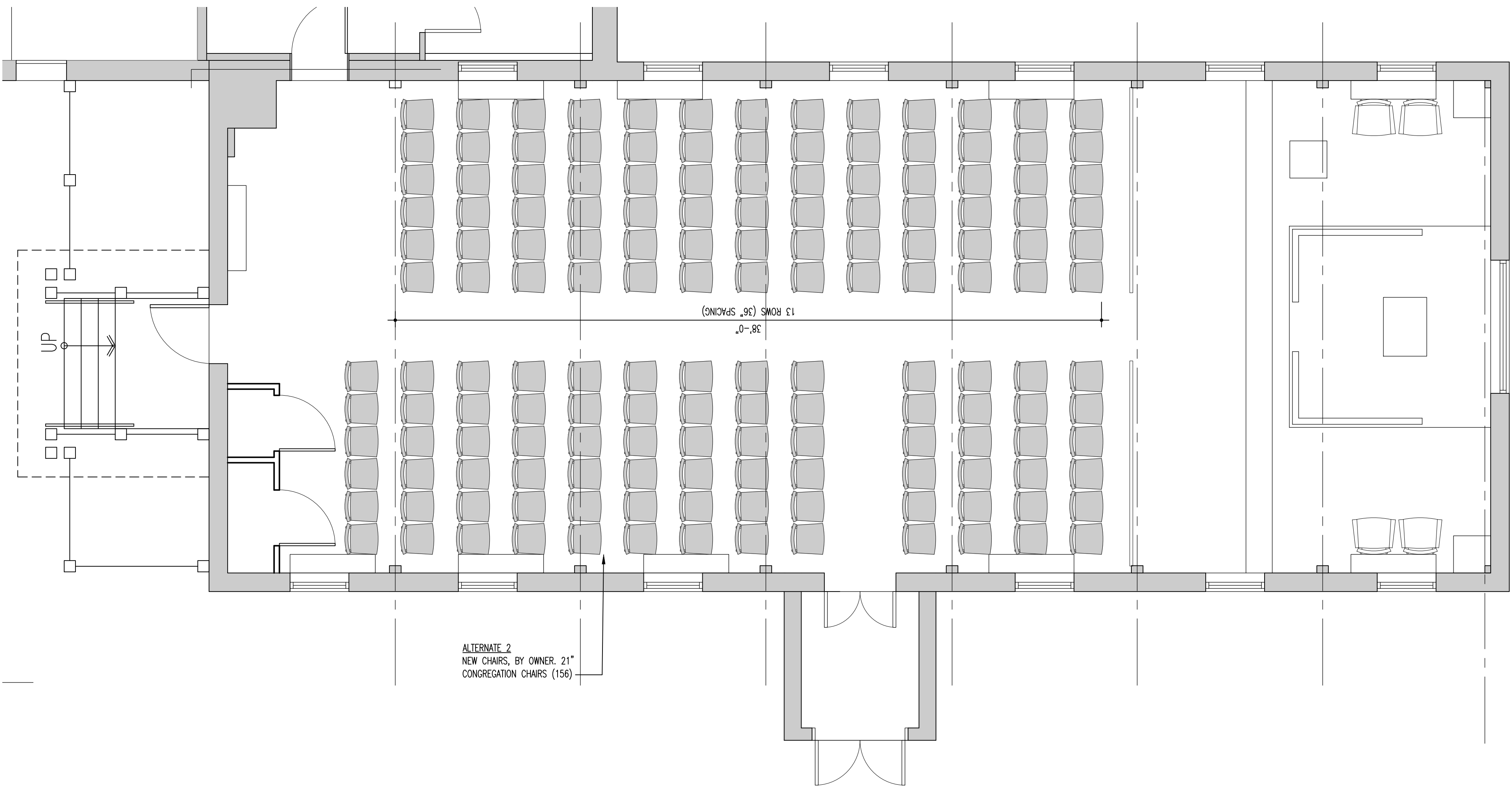
Date:

11.18.2015

Drawing No.:



F1.02



1 CHAPEL FURNITURE LAYOUT
SCALE: 1/4" = 1'-0"

GENERAL NOTES

- ALL STRUCTURAL WORK SHALL BE COORDINATED WITH ARCHITECTURAL AND MECHANICAL DRAWINGS AND SHALL CONFORM TO THE PROJECT SPECIFICATIONS, INCLUDING THE 2012 INTERNATIONAL BUILDING CODE, AS MODIFIED BY THE 2012 VIRGINIA UNIFORM STATEWIDE BUILDING CODE.
- CONTRACTOR SHALL PROVIDE TEMPORARY SHORING, BRACING, SHEETING AND MAKE SAFE ALL FLOORS, ROOFS, WALLS AND ADJACENT PROPERTY AS PROJECT CONDITIONS REQUIRE. SHORING AND SHEETING SHALL BE DESIGNED BY A REGISTERED PROFESSIONAL ENGINEER LICENSED IN THE COMMONWEALTH OF VIRGINIA HIRED BY THE CONTRACTOR WHO SHALL SUBMIT SHOP DRAWINGS AND CALCULATIONS FOR THE OWNER'S REVIEW.
- DIMENSIONS AND ELEVATIONS OF EXISTING CONSTRUCTION GIVEN IN STRUCTURAL DRAWINGS ARE BASED ON INFORMATION CONTAINED IN VARIOUS ORIGINAL DESIGN AND CONSTRUCTION DOCUMENTS PROVIDED BY THE OWNER, AND LIMITED FIELD OBSERVATIONS AND MEASUREMENTS; THE CONTRACTOR SHALL VERIFY ALL INFORMATION PERTAINING TO EXISTING CONDITIONS BY ACTUAL MEASUREMENT AND OBSERVATION AT THE SITE. ALL DISCREPANCIES BETWEEN ACTUAL CONDITIONS AND THOSE SHOWN IN THE CONTRACT DOCUMENTS SHALL BE REPORTED TO THE ENGINEER OF RECORD FOR HIS EVALUATION BEFORE THE AFFECTED CONSTRUCTION IS PUT IN PLACE.
- THE CONTRACT DRAWINGS AND SPECIFICATIONS ARE COMPLEMENTARY. THESE NOTES HIGHLIGHT RATHER THAN REPLACE THE SPECIFICATIONS CONTAINED IN THE PROJECT MANUAL. PLEASE NOTIFY THE ENGINEER OF ANY CONFLICTS. REFER TO THE SPECIFICATION FOR WORK NOT SHOWN ON THE DRAWINGS.

FOUNDATIONS

- BUILDING FOUNDATIONS SHALL BEAR ON UNDISTURBED SOIL HAVING MINIMUM BEARING CAPACITY OF 1500 PSF. ADEQUACY OF BEARING STRATUM SHALL BE VERIFIED IN FIELD PRIOR TO PLACING CONCRETE. ADJUST BOTTOM OF FOOTING ELEVATIONS AS REQUIRED.
- DO NOT PLACE BACKFILL AGAINST BASEMENT WALLS UNTIL ALL FLOORS BRACING THESE WALLS ARE IN PLACE AND HAVE ATTAINED THEIR 28 DAY STRENGTH.
- ALL EXTERIOR FOOTINGS SHALL BE PLACED A MINIMUM OF 2'-6" BELOW FINAL GRADE.
- CONCRETE SHALL BE POURED IN DRY EXCAVATIONS. CONTRACTOR SHALL NOTE SOIL AND WATER CONDITIONS AS SHOWN BY BORINGS AND DEPTHS OF FOOTING AS SHOWN ON FOUNDATION PLANS.

CONCRETE

- ALL CONCRETE WORK SHALL CONFORM TO THE ACI FOLLOWING GOVERNING STANDARDS.
A. AMERICAN CONCRETE INSTITUTE (ACI) "BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE" (ACI 318), LOCALLY APPROVED EDITION.
B. ACI "MANUAL OF CONCRETE PRACTICE" LOCALLY APPROVED EDITION
C. CONCRETE REINFORCING STEEL INSTITUTE (CRSI) "MANUAL OF STANDARD PRACTICE" LOCALLY APPROVED EDITION
- ALL CONCRETE COMPOSITE ON METAL DECK SHALL BE LIGHT WEIGHT CONCRETE WITH A MINIMUM COMPRESSIVE STRENGTH OF 3,000 PSI AT 28 DAYS, UNLESS OTHERWISE NOTED.
- ALL OTHER CONCRETE SHALL BE NORMAL WEIGHT CONCRETE WITH A MINIMUM COMPRESSIVE STRENGTH OF 4,000 PSI AT 28 DAYS, UNLESS OTHERWISE NOTED.
- REINFORCING STEEL SHALL BE DEFORMED BARS CONFORMING TO ASTM A615, GRADE 60 OR A775 EPOXY COATED WHEN CALLED OUT ON PLAN. REINFORCING STEEL SHALL BE DETAILED ACCORDING TO THE ACI "DETAILS AND DETAILING OF REINFORCEMENT", (ACI 315), LOCALLY APPROVED EDITION.
- WELDED WIRE FABRIC (WWF) SHALL CONFORM TO ASTM A185, WITH A MINIMUM YIELD STRENGTH OF 65,000 PSI.
- PROVIDE MINIMUM SHRINKAGE AND TEMPERATURE REINFORCEMENT, AS REQUIRED BY ACI 318, IN ALL SLABS AND WALLS WHERE REINFORCEMENT IS NOT INDICATED ON DRAWINGS.
- COORDINATE SIZE AND LOCATION OF ALL OPENINGS AND PIPE SLEEVES WITH ARCHITECTURAL AND MECHANICAL DRAWINGS. MINIMUM CONCRETE BETWEEN SLEEVES SHALL BE 6". CORE DRILLING OF WALLS AND SLABS SHALL NOT BE PERMITTED.
- ALL GROUT SHALL BE NONSHRINK WITH A MINIMUM COMPRESSIVE STRENGTH OF 5000 PSI.
- PROVIDE CLEARANCE FROM FACE OF CONCRETE TO REINFORCEMENT AS FOLLOWS:
SLABS: ¾"
BEAMS, COLUMNS: 1 ½"
FOOTINGS: 3"
EXTERIOR WALLS: 2" FOR #6 OR LARGER, 1 ½" FOR #5 OF SMALLER
INTERIOR WALLS: ¾"
- SHOP DRAWINGS SHALL BE SUBMITTED TO THE STRUCTURAL ENGINEER FOR REVIEW AND APPROVAL. NO CONCRETE WORK SHALL COMMENCE WITHOUT APPROVED SHOP DRAWINGS.
- SEE OTHER DRAWINGS IN THIS PROJECT FOR SIZE AND LOCATIONS OF EQUIPMENT PADS, INSERT AND EMBED ITEMS.
- REINFORCING DOWELS, WATERSTOPS AND OTHER EMBED ITEMS SHALL BE INSTALLED AND SECURED PRIOR TO CONCRETE PLACEMENT. "WET-SETTING" OF EMBEDDED ITEMS IS NOT PERMITTED.
- WHERE CONCRETE IS PLACED AGAINST AND DOWELED TO HARDENED CONCRETE AND/OR WHERE A ROUGHENED SURFACE IS INDICATED IN THE STRUCTURAL DRAWINGS, THE HARDENED CONCRETE SURFACE SHALL BE CLEAN AND FREE OF LAITANCE AND SHALL BE ROUGHENED TO A FULL AMPLITUDE OF APPROXIMATELY 1/4".

CONCRETE BLOCK

- ALL CONCRETE BLOCK WORK SHALL CONFORM TO THE "NATIONAL CONCRETE MASONRY ASSOCIATION SPECIFICATIONS," LOCALLY APPROVED EDITION AND "ACI 530-BUILDING CODE REQUIREMENTS FOR MASONRY STRUCTURES", LOCALLY APPROVED EDITION.
- CONCRETE BLOCK SHALL BE OF LIGHTWEIGHT AGGREGATE AND CONFORM TO THE FOLLOWING STANDARDS: SOLID/HOLLOW BLOCK: ASTM C90, GRADE N1.

NET AREA COMPRESSIVE STRENGTH OF CONCRETE MASONRY UNIT, PSI	NET AREA COMPRESSIVE STRENGTH OF MASONRY ASSEMBLY, F'm, PSI USING TYPE S MORTAR
1900	1500
2800	2000
3750	2500
4800	3000

- UNLESS OTHERWISE NOTED ON PLANS AND/ OR ELEVATIONS, CONCRETE BLOCK UNIT STRENGTH SHALL BE 1900 PSI MIN. NOTE: CONCRETE BLOCK WITH UNIT STRENGTH HIGHER THAN 1900 PSI REQUIRE LONGER DELIVERY LEAD TIMES.
- ALL MORTAR SHALL BE ASTM C270, TYPE S.
 - ALL GROUT FOR FILLING CELLS SHALL BE ASTM C 476 WITH MINIMUM COMPRESSIVE STRENGTH OF 2000 PSI BUT NOT LESS THAN THE COMPRESSIVE STRENGTH OF THE MASONRY ASSEMBLY, F'M, WHERE GROUT CELLS DO NOT EXCEED 4" IN DIAMETER FINE GROUT SHALL BE USED.
 - ALL BLOCK DIMENSIONS INDICATED ON STRUCTURAL PLANS ARE NOMINAL DIMENSIONS.
 - ALL CONCRETE BLOCK BELOW GRADE SHALL BE FILLED SOLID WITH GROUT.
 - CONCRETE BLOCK BELOW BEAM OR TRUSS BEARING POINTS SHALL BE FILLED SOLID FOR A MINIMUM OF TWO COURSES IN DEPTH AND A MINIMUM OF 32" IN WIDTH, U.O.N.
 - INSTALL HEAVY DUTY LADDER JOINT REINFORCEMENT AT 16" O/C (SPACED VERTICALLY).
 - UNLESS NOTED OTHERWISE ALL MASONRY WALLS SHALL BE REINFORCED WITH #4@48" O/C VERTICAL. GROUT ALL REINFORCED CELLS SOLID. PROVIDE DOWELS TO MATCH VERTICAL REINFORCING AT FOUNDATION.

STRUCTURAL STEEL

- ALL STRUCTURAL STEEL WORK SHALL CONFORM TO THE FOLLOWING GOVERNING STANDARDS:
A. AISC "SPECIFICATION FOR THE DESIGN, FABRICATION AND ERECTION OF STRUCTURAL STEEL FOR BUILDINGS," LOCALLY APPROVED EDITION.
B. THE AMERICAN WELDING SOCIETY (AWS D1.1) "CODE FOR WELDING IN BUILDING CONSTRUCTION," LOCALLY APPROVED EDITION.
- ALL STRUCTURAL STEEL SHALL CONFORM TO THE FOLLOWING ASTM SPECIFICATIONS:
A. WIDE FLANGE BEAMS, COLUMNS AND STRUCTURAL TEES: ASTM A992
B. HOLLOW STRUCTURAL SECTIONS: ASTM A500, GRADE B
C. STRUCTURAL PIPE SECTIONS: ASTM A53, GRADE B
D. CHANNELS, ANGLES AND PLATES: ASTM A36 UNLESS OTHERWISE NOTED.
E. BOLTED CONNECTIONS OF BEAMS/GIRDERS ARE TO BE DESIGNED AS FOLLOWS:
a. STANDARD BEAM TO BEAM/GRIDER: A325 OR A490 BEARING TYPE BOLTS (¾" DIAMETER MINIMUM).
b. BEAM/GRIDER TO COLUMN CONNECTIONS: A325-SC OR A490-SC TYPE BOLTS (¾" DIAMETER MINIMUM).
F. ANCHOR BOLTS: ASTM F1554, GRADE 36.
G. STRUCTURAL STEEL NOTED TO BE STAINLESS STEEL SHALL BE ASTM A276-97 STAINLESS STEEL GRADE 304.
H. ALL STAINLESS STEEL BOLTS SHALL CONFORM TO ASTM F593.95 ALLOY 304.
I. ALL STAINLESS STEEL NUTS SHALL CONFORM TO ASTM F594-91 ALLOY 304.
- STEEL CONNECTION SHALL BE STANDARD AISC FRAMED BEAM CONNECTIONS, AND SHALL BE SELECTED OR COMPLETED BY AN EXPERIENCED STEEL DETAILER, UTILIZING ASD LOADS AND PROCEDURES.
A. FOR NON-COMPOSITE MEMBERS. PROVIDE CONNECTIONS BASED ON REACTION AS DETERMINED FROM AISC UNIFORM LOAD TABLE. (UNLESS OTHERWISE NOTED ON PLANS.)
B. FOR COMPOSITE MEMBERS. PROVIDE CONNECTIONS BASED ON 1.5 x REACTION FROM AISC UNIFORM LOAD TABLE. (UNLESS OTHERWISE NOTED ON PLANS.)
C. REINFORCING IS TO BE PROVIDED AT CONNECTIONS WHERE CUTS REDUCE THE SHEAR OR MOMENT CAPACITY BELOW THAT REQUIRED TO SUSTAIN THE REACTION. FLANGES AND WEB ARE TO BE REINFORCED WHERE THE LOCAL CAPACITY TO SUSTAIN CONNECTION LOAD IS INADEQUATE.
D. CONNECTIONS SHALL BE DESIGNED FOR SHEAR AND ECCENTRICITY, CONSIDERING THAT THE CONNECTION IS AN EXTENSION OF THE BEAM AND GIRDERS.
- MINIMUM WELD SIZE IS ¼" FILLET UNLESS NOTED OTHERWISE.
- ALL BEAMS EXCEPT CANTILEVER BEAMS SHALL BE FABRICATED AND INSTALLED WITH NATURAL CAMBER UP. CANTILEVER BEAMS SHALL BE FABRICATED AND INSTALLED SO THAT NATURAL CAMBER RAISES CANTILEVER END.
- FIELD CUTTING OR BURNING OF STEEL IS PROHIBITED EXCEPT WITH THE EXPRESSED WRITTEN APPROVAL OF THE STRUCTURAL ENGINEER OF RECORD.
- WELDING SHALL BE PERFORMED BY CERTIFIED LICENSED, AWS-QUALIFIED WELDERS. ELECTRODES SHALL BE AWS 5.1, CLASS E70XX (USE LOW HYDROGEN ELECTRODES FOR A572, GRADE 50 STEEL), WELDING ELECTRODES FOR ASTM A276-97 STAINLESS STEEL, GRADE 304, SHALL CONFORM TO AWS A5.4 FOR SHIELDED METAL ARC WELDING, ELECTRODE CLASS E304; OR AWS A5.9 FOR GAS METAL ARC WELDING, ELECTRODE CLASS ER304, FI=70 ksi.
- SHOP PAINT EXTERIOR EXPOSED STEEL MEMBERS, STEEL MEMBERS NOT ENCASED IN CONCRETE OR SPRAY FIREPROOFED, AND ALL STEEL MEMBERS AT THE EXTERIOR WALL WITH TNEDEC #10-99. FIELD PAINT ALL EXTERIOR EXPOSED MEMBERS WITH TNEDEC 530 OMNITHANE OR APPROVED EQUAL.
- UNTELS SHALL BE INSTALLED OVER ALL OPENINGS IN MASONRY WALLS AS FOLLOWS:

MASONRY OPENING	UNTEL
4'-0" OR LESS	L 4" x 3 ½" x ¾"
4'-1" TO 7'-0"	L 6" x 3 ½" x ¾"

- 3 1/2" LEGS ARE HORIZONTAL.
 - PROVIDE ONE ANGLE FOR EACH 4" OF WALL THICKNESS.
 - PROVIDE L 5" x 5" x ¾" ANGLES FOR 6" THICK WALLS AND PARTITIONS WITH OPENINGS UP TO 6'-0".
 - PROVIDE MINIMUM 6" BEARING AT EACH END.
 - UNTELS OVER 4'-0" SHALL BE FIREPROOFED.
- 4'-0" FOR NYC ONLY
6'-0" FOR IBC

- SHOP AND ERECTION DRAWINGS SHALL BE SUBMITTED TO THE STRUCTURAL ENGINEER FOR REVIEW AND APPROVAL. NO FABRICATION OF STEEL SHALL COMMENCE WITHOUT APPROVED SHOP DRAWINGS.
- PROVIDE MECHANICALLY GALVANIZED BOLTS FOR EXTERIOR APPLICATIONS.

METAL DECK

- ALL METAL DECK WORK SHALL CONFORM TO THE AISI "SPECIFICATION FOR THE DESIGN OF COLD-FORMED STEEL STRUCTURAL MEMBERS," LOCALLY APPROVED EDITION.
- ALL METAL DECK UNITS AND ACCESSORY ITEMS SHALL BE FORMED FROM STEEL SHEETS CONFORMING TO ASTM A611 OR A653 WITH A MINIMUM YIELD STRENGTH OF 33,000 PSI. BEFORE FORMING, THE STEEL SHEET SHALL RECEIVE A HOT DIP GALVANIZED COATING CONFORMING TO ASTM A653, GRADE 90.
- ALL METAL DECK SHALL BE SHORED AS REQUIRED BY PLANS OR BY SPAN AND LOAD CONDITIONS TO SUPPORT WET WEIGHT OF CONCRETE AND ALL CONSTRUCTION LOADS.
- THE SIDE LAPS OF ADJACENT UNITS SHALL BE FASTENED BY APPROVED METHOD (TO BE SHOWN ON SHOP DRAWINGS) BETWEEN SUPPORTS, AT INTERVALS TO PROVIDE SUFFICIENT DIAPHRAGM STRENGTH TO MAINTAIN BUILDING ALIGNMENT AND TO SUSTAIN LOCAL CONSTRUCTION LOADS WITHOUT DISTORTION OR SEPARATION. MAXIMUM SPACING SHALL BE 3 FEET BETWEEN SUPPORT BEAMS. END LAPS OF SHEETS SHALL BE A MINIMUM OF 2 INCHES.
- EXCEPT AS OTHERWISE NOTED, DECK SHALL BE ATTACHED TO STRUCTURAL STEEL BY 3/4" FUSION WELDS @12"/c. AT END AND INTERIOR SUPPORTS PERPENDICULAR TO THE DECK SPAN AND AT EDGE AND INTERIOR SUPPORTS PARALLEL TO THE DECK SPAN. WELDS MAY BE OMITTED IN RISERS IN WHICH SHEAR CONNECTORS ARE TO BE APPLIED, EXCEPT THAT EACH DECK SECTION SHALL HAVE SUFFICIENT WELDS TO SECURELY BRING THE DECK INTO DIRECT CONTACT WITH THE SUPPORTING STEEL AND TO PROVIDE SUFFICIENT DIAPHRAGM STRENGTH TO MAINTAIN BUILDING ALIGNMENT.

POST INSTALLED ADHESIVE AND MECHANICAL ANCHORS

- POST INSTALLED ANCHORAGE SHALL BE INSTALLED PER MANUFACTURER TECHNICAL DATA TO INTACT BASE MATERIAL. NOTIFY ENGINEER OF RECORD PRIOR TO INSTALLATION IF BASE MATERIAL CONDITION DEVIATES FROM STRUCTURAL DRAWINGS OR MANUFACTURER TECHNICAL DATA.
 - MANUFACTURER DATA FOR ALTERNATE ANCHORAGE PROPOSED BY CONTRACTOR SHALL BE SUBMITTED TO ENGINEER OF RECORD FOR REVIEW AND APPROVAL. SUBMITTAL SHALL INCLUDE THE ICC EVALUATION SERVICE REPORT WITH ICC TESTED CAPACITY MEETING OR EXCEEDING CAPACITY OF ANCHORAGE SPECIFIED IN CONTRACT DOCUMENTS.
 - UNLESS OTHERWISE INDICATED, POST INSTALLED ANCHORAGE SHALL BE ADHESIVE TYPE HILTI HIT-HY150 INTO CONCRETE OR STONE BASE MATERIAL OR HY-70 INTO BRICK MASONRY BASE MATERIAL.
- WOOD STRUCTURAL PANEL SHEATHING
- PROVIDE STRUCTURAL I PLYWOOD SHEATHING WITH BOND CLASSIFICATIONS APPROPRIATE TO THE END USE: "EXTERIOR" (PERMANENT EXPOSURE), OR "EXPOSURE 1" (CONSTRUCTION EXPOSURE ONLY)
 - FLOOR SHEATHING: NOM. ¾" THICK T&G PLYWOOD (48/24 SPAN RATING), APA STURD-I-FLOOR, OR ADVANTECH SUBFLOOR.
 - ROOF SHEATHING (STANDARD): NOM. ¾" THICK T&G PLYWOOD (48/24 SPAN RATING).
 - ROOF SHEATHING (UNDER SLATE OR CLAY TILE): NOM. ¾" THICK T&G PLYWOOD (48/24 SPAN RATING).
 - WALL SHEATHING (STANDARD: NOM. ½" THICK PLYWOOD (32/16 SPAN RATING).
 - WALL SHEATHING (BEHIND SLATE, CLAY TILE, OR MASONRY VENEER): NOM. ¾" THICK PLYWOOD (48/24 SPAN RATING).
 - USE PLY CLIPS OR OTHER EDGE SUPPORT AS REQUIRED FOR PLYWOOD SHEATHING.
 - LEAVE ¼" SPACE AT ALL PLYWOOD PANEL END JOINTS AND ¼" SPACE AT ALL PANEL EDGE JOINTS.
 - UNLESS NOTED OTHERWISE, WALL SHEATHING SHALL BE FASTENED TO FRAMING WITH 8d COMMON NAILS @ 4" O/C. AT EACH SHEET PERIMETER AND 12" O/C. ELSEWHERE, PROVIDE 2x6 BLOCKING AT ALL FREE EDGES.
 - UNLESS NOTED OTHERWISE, FLOOR SHEATHING UP TO 3/4" THICK SHALL BE FASTENED TO FRAMING WITH 2-1/2" LONG SIMPSON WSNLT QUIK DRINK SCREWS (0.175" DIA.) AND FLOOR SHEATHING GREATER THAN 3/4" SHALL BE FASTENED TO FRAMING WITH 3" LONG SIMPSON WSNLT QUIK DRIVE SCREWS. FLOOR SHEATHING SHALL ALSO BE GLOUED TO FRAMING USING AN APA-APPROVED ADHESIVE.
 - UNLESS NOTED OTHERWISE, ROOF SHEATHING SHALL BE FASTENED TO FRAMING WITH 8d COMMON NAILS.
 - UNLESS NOTED OTHERWISE, FLOOR AND ROOF DIAPHRAGMS SHALL BE UNBLOCKED.
A. UNBLOCKED DIAPHRAGMS: UNLESS NOTED OTHERWISE, FASTENERS OF SHEATHING TO FRAMING SHALL BE SPACED @ 6" O.C. AT SUPPORTED SHEATHING PANEL EDGES AND AT ALL DIAPHRAGM BOUNDARIES (PERIMETER OF FLOOR/ROOF; PERIMETER OF ALL OPENINGS; AND ALL RIDGES, VALLEYS, HIPS, AND OTHER CHANGES IN SLOPE) AND @ 12" O.C. ELSEWHERE.
B. BLOCKED DIAPHRAGMS: UNLESS NOTED OTHERWISE, FASTENERS OF SHEATHING TO FRAMING SHALL BE SPACED @ 6" O.C. AT ALL SHEATHING PANEL EDGES AND @ 12" O.C. ELSEWHERE. PROVIDE 2x6 BLOCKING AT ALL UNSUPPORTED PANEL EDGES TO RECEIVE FASTENERS.

ENGINEERED WOOD PRODUCTS

- MICROLAM BEAMS: PROVIDE ENGINEERED BEAMS, SIZES AS SHOWN, MICROLAM LVL OR PARALLAM PSL AS MANUFACTURED BY WEYERHAEUSER OR APPROVED EQUAL. INSTALL IN STRICT COMPLIANCE WITH THE MANUFACTURER'S STANDARD RECOMMENDATIONS AND DETAILS.

FRAMING LUMBER

- ALL FRAMING LUMBER WORK SHALL CONFORM TO THE FOLLOWING GOVERNING STANDARDS:
A. AMERICAN INSTITUTE OF TIMBER CONSTRUCTION, "TIMBER CONSTRUCTION MANUAL," LOCALLY APPROVED EDITION.
B. NATIONAL FOREST PRODUCTS ASSOCIATION "NATIONAL DESIGN SPECIFICATIONS FOR WOOD CONSTRUCTION," LOCALLY APPROVED EDITION.
- FRAMING LUMBER SHALL HAVE EACH PIECE GRADE STAMPED, SHALL BE SURFACED DRY (EXCEPT STUDS, WHICH SHALL BE KILN DRIED) AND SHALL CONFORM TO THE FOLLOWING SPECIES AND GRADE:
RAFTERS AND JOISTS: DOUGLAS FIR-LARCH #2 OR HEM FIR #2
BEAMS, GIRDERS AND HEADERS: DOUGLAS FIR-LARCH #1 OR HEM FIR #1
STUDS AND PLATES: DOUGLAS FIR-LARCH STUD GRADE OR HEM FIR STUD GRADE
- TIMBER LUMBER SHALL CONFORM TO THE FOLLOWING SPECIE AND GRADE:
POST AND TIMBER: DOUGLAS FIR-LARCH #1 OR HEM FIR #1
BEAMS AND STRINGERS: DOUGLAS FIR-LARCH #1 OR HEM FIR #1
- PRESERVATIVE-TREATED WOOD: PROVIDE TREATED DOUG-FIR #2 LUMBER COMPLYING WITH ACQ-D (CARBONATE), COPPER AZOLE (CA-B), OR SODIUM BORATE (SBX (DOT) WITH NaS10/2) AT ALL LUMBER IN CONTACT WITH CONCRETE OR MASONRY, OR AS OTHERWISE INDICATED ON ARCHITECTURAL OR STRUCTURAL DRAWINGS. ACZA TREATMENT IS NOT PERMITTED. TREATED LUMBER AND/OR PLYWOOD SHALL BEAR THE LABEL OF AN ACCREDITED AGENCY SHOWING 0.40 POF RETENTION. WHERE LUMBER AND/OR PLYWOOD IS CUT OR DRILLED AFTER TREATMENT, THE TREATED SURFACE SHALL BE FIELD-TREATED WITH COPPER NAPHTHENATE (THE CONCENTRATION OF WHICH SHALL CONTAIN A MINIMUM OF 2% COPPER METAL) BY REPEATED BRUSHING, DIPPING, OR SOAKING UNTIL THE WOOD ABSORBS NO MORE PRESERVATIVE.
- ALL WOOD FRAMING INCLUDING DETAILS FOR BRIDGING, BLOCKING, FIRE STOPPING, ETC., SHALL CONFORM TO THE LOCALLY APPROVED EDITION OF THE "NATIONAL DESIGN SPECIFICATION FOR WOOD CONSTRUCTION" AND ITS SUPPLEMENTS AND SHALL BE INSTALLED IN ACCORDANCE WITH THE NFPA "MANUAL FOR HOUSE FRAMING" OR THE GOVERNING LOCAL/STATE BUILDING CODE.
- FASTENING SHALL BE IN ACCORDANCE WITH THE MOST RESTRICTIVE OF: THE GOVERNING LOCAL/STATE BUILDING CODE, (LOCALLY APPROVED EDITION), OR THE MANUFACTURER'S RECOMMENDED FASTENING SCHEDULES.
- ALL FLUSH FRAMED CONNECTIONS SHALL BE MADE WITH APPROVED GALVANIZED STEEL JOIST OR BEAM HANGERS, MINIMUM 18 GAUGE, INSTALLED ACCORDING TO MANUFACTURER'S RECOMMENDATIONS.
- WHERE FRAMING LUMBER IS FLUSH FRAMED TO MICROLAM, STEEL OR FLITCH-PLATE GRIDER, SET THESE GIRDERS 1/2" CLEAR (MIN.) BELOW TOP OF FRAMING LUMBER, TO ALLOW FOR SHRINKAGE.
- STUD BEARING WALLS ARE TO BE 2 x 4 @ 16" O/C. AT THE INTERIOR AND 2 x 6 @ 16" O/C. AT THE EXTERIOR, UNLESS NOTED OTHERWISE ON PLAN.
- ALL RAFTERS AND JOISTS SHALL ALIGN DIRECTLY WITH STUDS BELOW, WHERE REQUIRED INSTALL ADDITIONAL STUDS.
- LAP ALL PLATES AT CORNERS AND AT INTERSECTION OF PARTITIONS.
- STAGGER ALL TOP AND BOTTOM PLATE SPLICES A MINIMUM OF 32 INCHES.
- USE DOUBLE STUDS @ ENDS OF WALL AND ENDS OF WALL OPENINGS.
- AT THE ENDS OF ALL BEAMS, HEADERS AND GIRDERS PROVIDE A BUILT UP OR SOLID POST WHOSE WIDTH IS AT LEAST EQUAL TO THE WIDTH OF THE MEMBER IT IS SUPPORTING AND WHOSE DEPTH IS 4" (NOM.) AT INTERIOR WALLS AND 6" (NOM.) AT EXTERIOR WALLS.
- USE DOUBLE TRIMMERS AND HEADERS AT ALL FLOOR OPENINGS WHERE BEAMS ARE NOT DESIGNATED.
- PROVIDE CROSS BRIDGING AT A MAXIMUM OF 8' O/C.
- BUILT UP BEAMS LESS THAN 8" DEEP SHALL BE SPIKED TOGETHER WITH 2 - 16d NAILS @16"/c. BUILT UP BEAMS GREATER THAN 8" DEEP SHALL BE SPIKED TOGETHER WITH 3 - 16d NAILS @16" O/C.
- WHERE THERE IS NO PLYWOOD WALL SHEATHING, PROVIDE DIAGONALS AT ALL EXTERIOR CORNERS OF STUD WALLS AT EACH FLOOR. (1" x 4" BRACES LET INTO STUDS AND NAILED AT EACH STUD CROSSING WITH 2 - 10d NAILS.)
- WHERE CANTILEVERED BEAMS ARE INDICATED, THE FAR CONNECTOR SHALL BE CAPABLE OF RESISTING AN UPLIFT OF 1000 LBS. MIN., U.N.O.
- NO NEW OR EXISTING JOISTS SHALL BE CUT OR NOTCHED WITHOUT APPROVAL.
- WOOD HEADER SCHEDULE
ROUGH OPENING WIDTH HEADER
2 x 4 WALL 2 x 6 WALL
LESS THAN 3'-0" (2) 2 x 6 (3) 2 x 8
3'-1 TO 4'-0" (2) 2 x 8 (3) 2 x 8
4'-1" TO 6'-0" (2) 2 x 10 (3) 2 x 10
6'-1" TO 8'-0" (2) 2 x 12 (3) 2 x 12
OVER 8'-0" SEE PLANS SEE PLANS
NOTE: PROVIDE (1) JACK STUD FOR SPANS LESS THAN 4'-0" WIDE,
(2) JACK STUDS FOR SPANS LESS THAN 8'-0" WIDE,
(3) JACK STUDS FOR SPANS OVER 8'-0" WIDE.
- ALL LIGHT-GAUGE HANGERS SUPPORTING PRESERVATIVE TREATED WOOD SHALL MEET OR EXCEED G185 (1.85 OZ OF ZINC PER SQUARE FOOT). ALTERNATIVELY, STAINLESS STEEL CONNECTIONS MAY BE USED. FASTENERS SHALL MATCH THE HANGER FINISH AND MATERIAL.
- WHERE JOIST ORIENTATION IS PARALLEL TO EXTERIOR STUD OR FOUNDATION WALLS, PROVIDE FULL-SECTION BLOCKING FOR 3 BAYS @ 4'-0" O/C. MAX. WHERE SHEATHING IS NOT CONTINUOUSLY FASTENED TO TOP OR BOTTOM OF JOIST. PROVIDE 18 GA x 1-½" x 1'-0" (MIN.) FLAT TENSION STRAP BETWEEN ALIGNED BLOCKING MEMBERS.
- ALL SILL PLATES SHALL BE PRESSURE TREATED AND ANCHORED TO FOUNDATION WALLS WITH ½" DIA. HEADED ANCHOR BOLTS (ASTM F1554) @ 4'-0" O/C. AND WITHIN 12" OF ALL SILL PLATES SPLICES. (MIN. 7" EMBED.)

SPECIAL INSPECTIONS

- INSPECTIONS REQUIRED BY THE LOCAL JURISDICTION SHALL BE PERFORMED BY A TESTING AGENCY PROVIDED BY THE OWNER FOR THE FOLLOWING ITEMS:
A. STEEL CONSTRUCTION (IBC 1704.3, TABLE 1704.3)
i. WELDING (IBC 1704.3.1)
ii. DETAILS (IBC 1704.3.2)
iii. HIGH-STRENGTH BOLTING (IBC 1704.3.3)
B. CONCRETE CONSTRUCTION (IBC 1704.4, TABLE 1704.4)
i. MATERIALS (IBC 1704.4.1)
C. MASONRY CONSTRUCTION (IBC 1704.5)
i. LEVEL 1 SPECIAL INSPECTIONS (TABLE 1704.5.1)
ii. LEVEL 2 SPECIAL INSPECTIONS (TABLE 1704.5.3)
D. SOILS (IBC 1704.7, TABLE 1704.7)

THE TESTING AGENCY FOR THE INSPECTIONS SHALL FILE ALL APPROPRIATE FORMS WITH THE BUILDING DEPARTMENT.

DESIGN LOADS AND FACTORS

LIVE LOADS		SNOW LOADS		WIND DESIGN PARAMETERS		SEISMIC DESIGN PARAMETERS	
FLOOR OR ROOF AREA	LOAD (PSF)	LOAD TYPE	LOAD (PSF)	PARAMETER	VALUE	PARAMETER	VALUE
STAIRS & FIRST FLOOR CORRIDORS	100	SNOW	30	BASIC WIND SPEED	115 MPH	SEISMIC DESIGN CATEGORY	B
ASSEMBLY; LOBBIES, ALTAR & MOVABLE SEATING	100	DRIFT	N/A	WIND EXPOSURE	B	RISK CATEGORY	II
ASSEMBLY; FIXED SEATING	60					SITE CLASS (ASSUMED)	D
OFFICES	50					SHORT PERIOD MAP VALUE (S _{MS})	0.164g
CORRIDORS ABOVE FIRST FLOOR	80					1.0 SEC. PERIOD MAP VALUE (S ₁₀)	0.081g
CLASSROOMS	40	PARAMETER	VALUE			RESPONSE MODIFICATION (R)	1.5
ROOF	20	GROUND SNOW LOAD (P _g)	30			SEISMIC FORCE-RESISTING SYSTEM: ORDINARY PLAIN MASONRY SHEAR WALLS	
		SNOW EXPOSURE FACTOR (C _e)	1.0				
		SNOW LOAD IMPORTANCE FACTOR (I)	1.0				
		TERRAIN EXPOSURE	B				
SPECIAL CONSIDERATIONS:		SPECIAL CONSIDERATIONS:		SPECIAL CONSIDERATIONS:		SPECIAL CONSIDERATIONS:	

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Issue:	Description:	Date:
1	Schematic Design	07.31.2015
2	Design Development	09.18.2015
3	80% Pricing Set	11.18.2015

Drawing Title:

STRUCTURAL NOTES

Drawing Scale:

Project No.:
13118

Date:
11.18.2015

Drawing No.:

S0.00

ADD'L	ADDITIONAL	INFO.	INFORMATION
ADJ.	ADJUNCT	INTER.	INTERIOR
DESIGN TEAM	DESIGN TEAM OF RECORD	JWN	JONES
A/E	ALTERNATE	K	KIPS
ALT.	ANCHOR	LB.	POUNDS
APPROX.	APPROXIMATE	LL	LIVE LOAD
ARCH.	ARCHITECTURAL/ARCHITECT	LLH	LONG LEG HORIZONTAL
B.O.	BOTTOM OF	LLV	LONG LEG VERTICAL
BUILDING	BUILDING	L-W	LONG WAY
BUDG.	BUDGET	L.P.	LOW POINT
BM.	BEAM	L.W.	LIGHTWEIGHT
BOT.	BOTTOM	MAS.	MASONRY
BUCG.	BEARING	M.	MAXIMUM
BSMT.	BASEMENT	MECH.	MECHANICAL
CANT.	CANTILEVER	MECH., ELEC., PLUMBING, & F.P.	M.E.C.H., E.L.E.C., P.L.U.M.B.I.N.G., & F.P.
CFS.	CORRODED STEEL	MFR.	MANUFACTURER
C.I.P.	CAST IN PLACE	MIN.	MINIMUM
C.J.	CONTROL JOINT	MISC.	MISCELLANEOUS
C.G.	CENTERLINE	M.O.	MASONRY OPENING
CLR.	CLEAR	N.F.	NEAR FACE
CMU	CONCRETE MASONRY UNIT	N.I.C.	NOT IN CONTRACT
COL.	COLUMN	N.	NUMBER
COMPS.	COMPOSITE	N.S.	NEAR SIDE
CONC.	CONCRETE	N.T.S.	NOT TO SCALE
CONST.	CONSTRUCTION	O.C.	ON CENTER
CONTE.	CONCRETE	O.D.	OUTSIDE DIAMETER
COORD.	COORDINATE	O.F.	OUTSIDE FACE
CONTR.	CONTRACTOR	OP.	OPENING
CONTR.	CONTRACT OFFICER'S TECHNICAL REP.	O.P.P.	OPPOSITE
CTR.	CENTER	P.A.F.	POWER ACTUATED FASTENER
D.B.A.	DEFORMED BAR ANCHOR	PREC.	PRECAST
DBL	DOUBLE	P/C	PRECAST CONCRETE
DEMO	DEMOLITION	PED.	PEDISTAL
DIAL	DIAL	PERF.	PERFORATED
DM.	DIAMETER	PL.	PLATE
DN.	DOWN	PLF.	POUNDS PER LINEAR FOOT
DOW.	DOWEL	PRETAB.	PRECAST
DL.	DITCH	PSF	POUNDS PER SQUARE FOOT
DLT.	DITCH	PSI.	POUNDS PER SQUARE INCH
DWG(S)	DRAWING(S)	P-T	POST-TENSIONED
D.W.	DRAIN	REF.	REINFORCE(0), REINFORCEMENT
D.W.	DRAIN	REQ'D	REQUIRED
E.A.	EACH	REV.	REVISION
E/F	EACH FACE	RM.	ROOM
E.F.	EACH FACE	SCHED.	SCHEDULE
E.J.	EXPANSION JOINT	SECT.	SECTION
ELEV.	ELEVATION	SIM.	SIMILAR
ELEC.	ELECTRICAL	S.I.F.	STEP IN FOOTING
ELEV.	ELEVATOR	S.O.G.	SLAB ON GRADE
EMBED.	EMBEDMENT	SPEC.	SPECIFICATION
ENGR.	ENGINEER	SQ.	SQUARE
E.O.R.	ENGINEER OF RECORD	S.S.	STANDARD STEEL
EQ.	EQUIPMENT	STD.	STANDARD
EXP.	EXPANSION	STIFF.	STIFFENER
EXT.	EXTERIOR	STR.	STRUT
E.W.	EACH WAY	STL.	STEEL
FDN.	FOUNDATION	STRUC.	STRUCTURAL
FIN.	FINISH	S-W	SHORT WAY
FLR.	FLOOR	S.	SYMMETRIC
FRM.	FRAMING	T.O.	TOP OF
F.S.	FAR SIDE	T & B	TOP & BOTTOM
FT.	FEET	TEMP.	TEMPORARY
FTG.	FOOTING	THK.	THICKNESS
FP.	FLAT PROTECTION	T.L.S.	TENSION LAP SPLICE
FW.	FLAT WISE	TR.	TRANSFER
GA.	GAGE	TP.	TYPICAL
GALVAN.	GALVANIZED	UNL.O.	UNLESS NOTED OTHERWISE
G.B.	GRADE BEAM	VERT.	VERTICAL
HDR.	HEADER	W	WITH
HCR.	HANGER	W-P	WATERPROOF
HORIZ.	HORIZONTAL	W.F.F.	WELDED WIRE FABRIC
H.P.	HIGH POINT	N.W.F.	NUMBER/SIZE
HT.	HEIGHT	Ø	CENTERLINE
HVAC	HEATING, VENTILATION, & AIR CONDITIONING	Ø	DIAMETER
I.D.	INSIDE DIAMETER	Ø	DIAMETER
I.F.	INSIDE FACE	Ø	DIAMETER
I.J.	ISOLATION JOINT	Ø	DIAMETER
I.J.	ISOLATION JOINT	Ø	DIAMETER

(C.E.)	CONCRETE ENCASED MEMBER	T.C.	TERRACOTTA
C.I.	CAST IRON	U-P	UNDERPINNING
(E)	EXISTING MEMBER OR DIMENSION	V.I.F.	VERIFY IN FIELD
EXIST.	EXISTING		

APC	ANTHONY POWER COLUMN	PSL	PARALLEL STRAND LUMBER
G-LAM	GLUELAMINATED LUMBER	P.T.	PRESERVATIVE TREATED
LSL	LAMINATED STRAND LUMBER	R.O.	ROUGH OPENING
LVL	LAMINATED VENEER LUMBER	SQ.	SQUARE
NOM.	NOMINAL	T & G	TONGUE AND GROOVE

	EXIST. CONCRETE FOOTING		CONCRETE BEAM. (W=WIDTH, D=DEPTH.)
	CONCRETE FOOTING		EXIST. CONCRETE BEAM. (W=WIDTH, D=DEPTH.)
	EXIST. BRICK MASONRY		SHEAR CONNECTION
	BRICK MASONRY		MOMENT CONNECTION
	EXIST. CONCRETE MASONRY (CMU)		WALL PLATE CONNECTION (SEE SCHED.)
	CONCRETE MASONRY (CMU)		BEAM POCKET IN MASONRY (SEE SCHED.)
	EXIST. CONCRETE WALL		BP: INDICATES STANDARD BEAM POCKET AP: INDICATES ACoustically ISOLATED BEAM POCKET
	CONCRETE WALL		STEEL COLUMN
	EXIST. WOOD BEARING WALL		STEEL COLUMN ABOVE
	EXIST. WOOD BEAM		STEEL COLUMN BELOW
	WOOD BEAM		INDICATES WOOD POST THROUGH OR DOWN
	EXIST. STEEL BEAM		CONCRETE SLAB ON COMPOSITE METAL DECK (SEE SCHED.) ARROW INDICATES SPAN DIRECTION OF SLAB
	EXIST. STEEL BEAM TO BE REMOVED		INDICATES BOTTOM OF FOOTING ELEVATION
	STEEL BEAM		COLUMN LINE
	STEEL LINTEL (SEE SCHED.)		EXIST. DIMENSION LINE (FOR REFERENCE ONLY)
	INDICATES LEDGER ANGLE (SEE DETAIL)		EXIST. DIMENSION OR ELEVATION BASED ON ORIGINAL DIMENSIONS, V.I.F. (TO CLARIFY ALTERATIONS CONDITIONS.)
	BENT STEEL FRAMING		

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Issue:	Description:	Date:
1	Schematic Design	07.31.2015
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Drawing Title:

LEGEND & SCHEDULES

Drawing Scale:

Project No.: 13118 Date: 11.18.2015

Drawing No.:

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Issue:	Description:	Date:
1	Schematic Design	07.31.2015
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3	80% Pricing Set	11.18.2015

Drawing Title:

FOUNDATION
STRUCTURAL
DEMOLITION

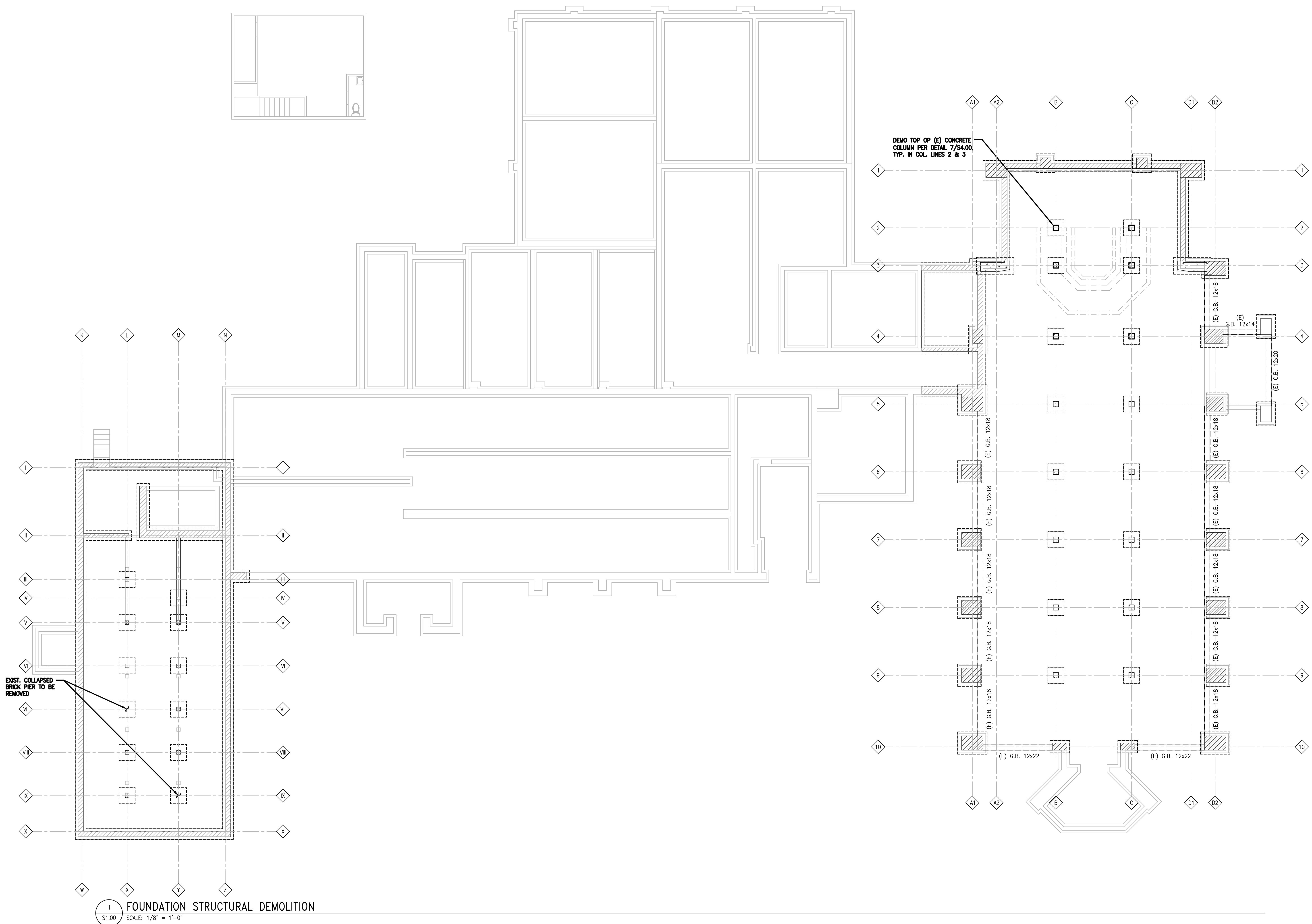
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Project No.: 13118 Date: 11.18.2015

Drawing No.:



\$1.00



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Issue: Description: Date:

1	Schematic Design	07.31.2015
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3	80% Pricing Set	11.18.2015

Drawing Title:

FIRST FLOOR STRUCTURAL DEMOLITION

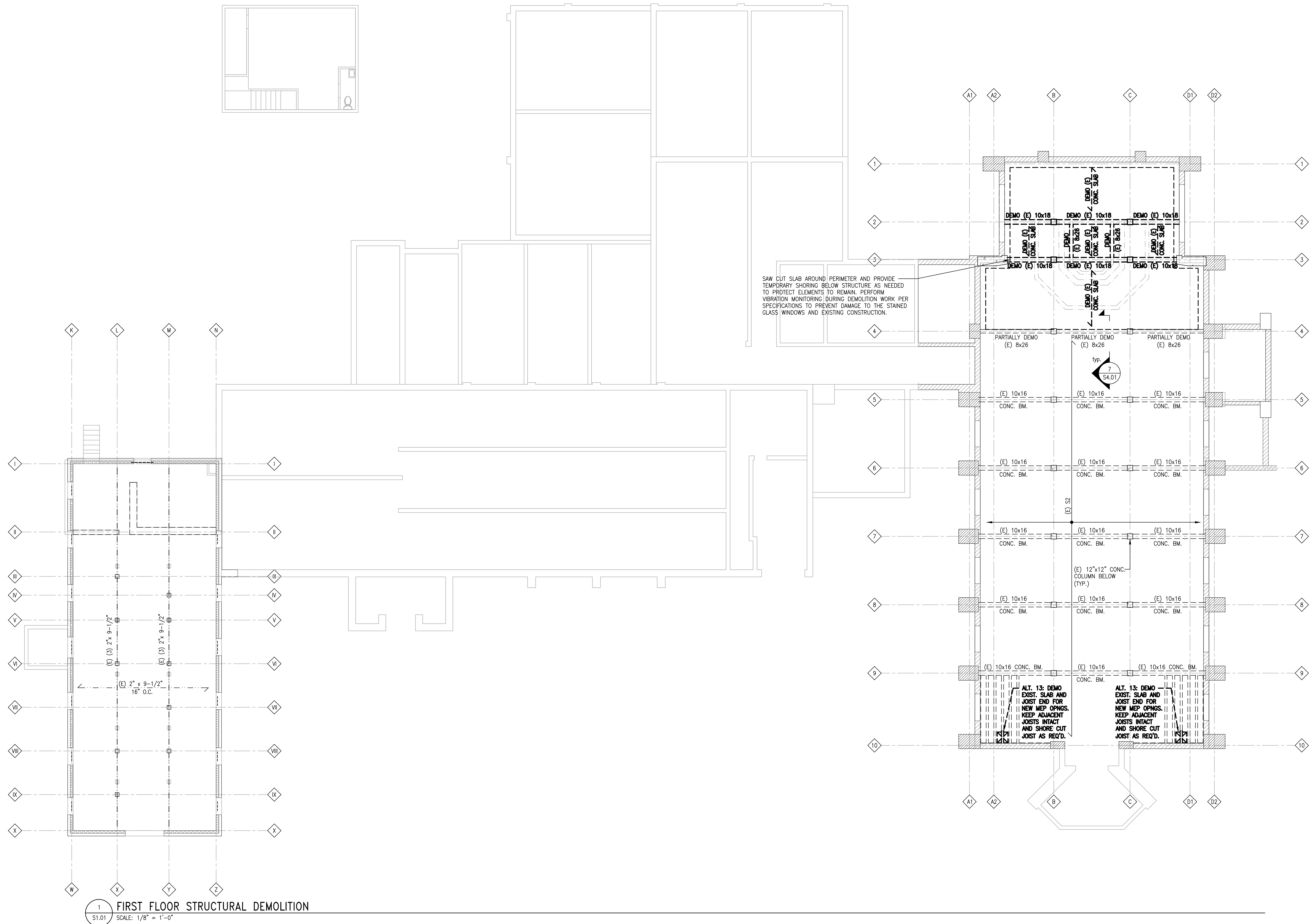
Drawing Scale: _____

Project No.: 13118 Date: 11.18.2015

Drawing No.:



S1.01



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Issue:	Description:	Date:
1	Schematic Design	07.31.2015
2	Design Development	09.18.2015
3	80% Pricing Set	11.18.2015

Drawing Title:

FOUNDATION PLAN

Drawing Scale:

Project No.:

13118

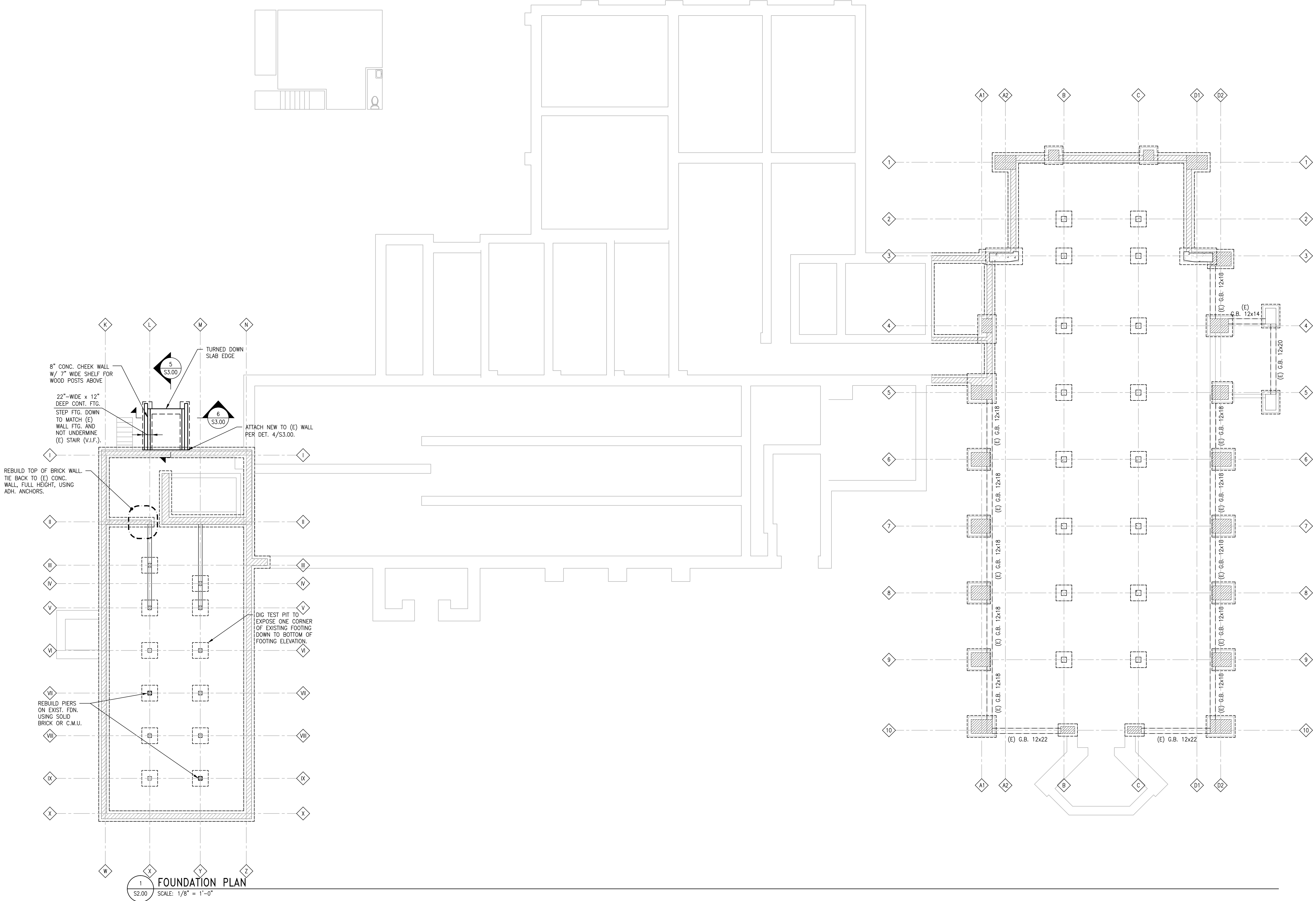
Date:

11.18.2015

Drawing No.:



S2.00



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Issue:	Description:	Date:
1	Schematic Design	07.31.2015
2	Design Development	09.18.2015
3	80% Pricing Set	11.18.2015

Drawing Title:
FIRST FLOOR FRAMING
PLAN

Drawing Scale:

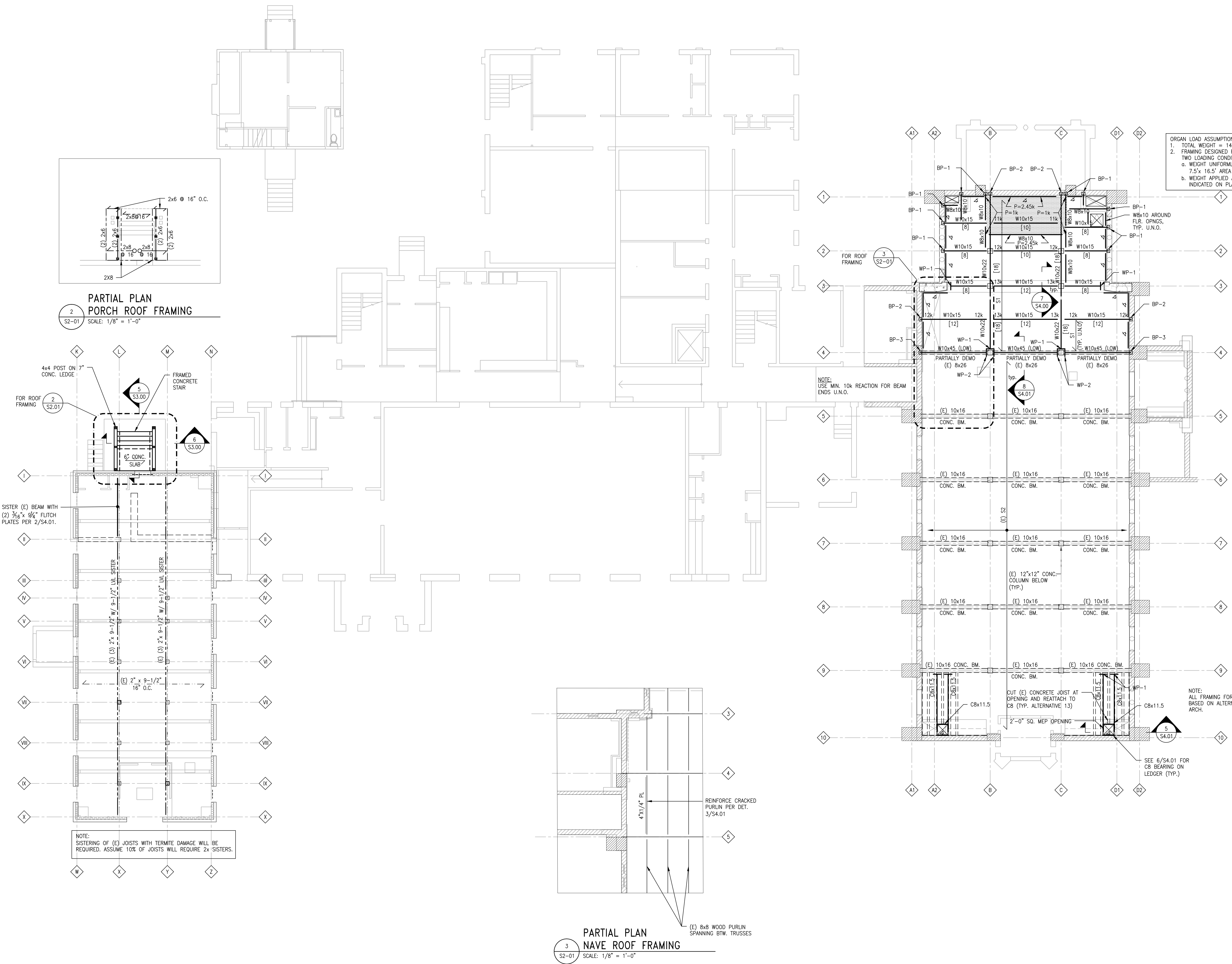
Project No.:
13118

Date:
11.18.2015

Drawing No.:



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Issue: Description: Date:
1 Schematic Design 07.31.2015
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3 80% Pricing Set 11.18.2015

Drawing Title:

TYPICAL FOUNDATION
DETAILS

Drawing Scale:

Project No.: Date:
13118 11.18.2015

Drawing No.:

S3.00

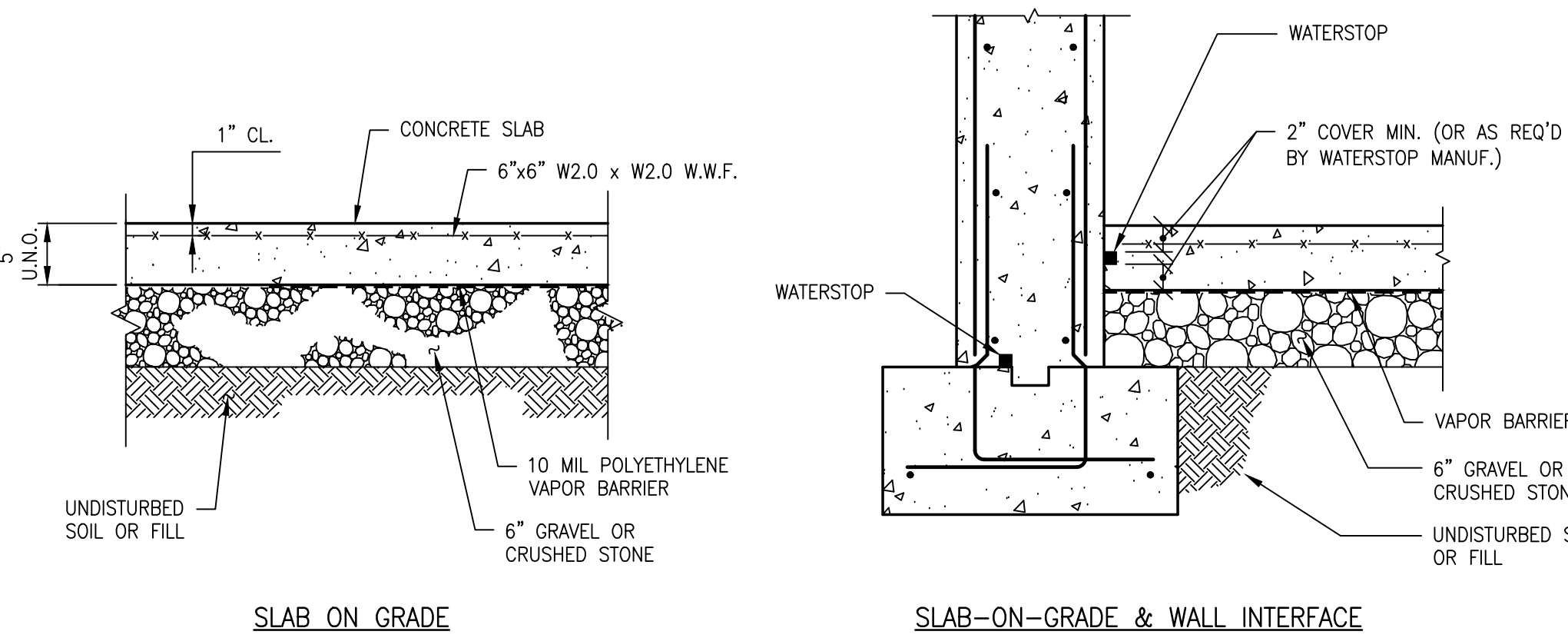
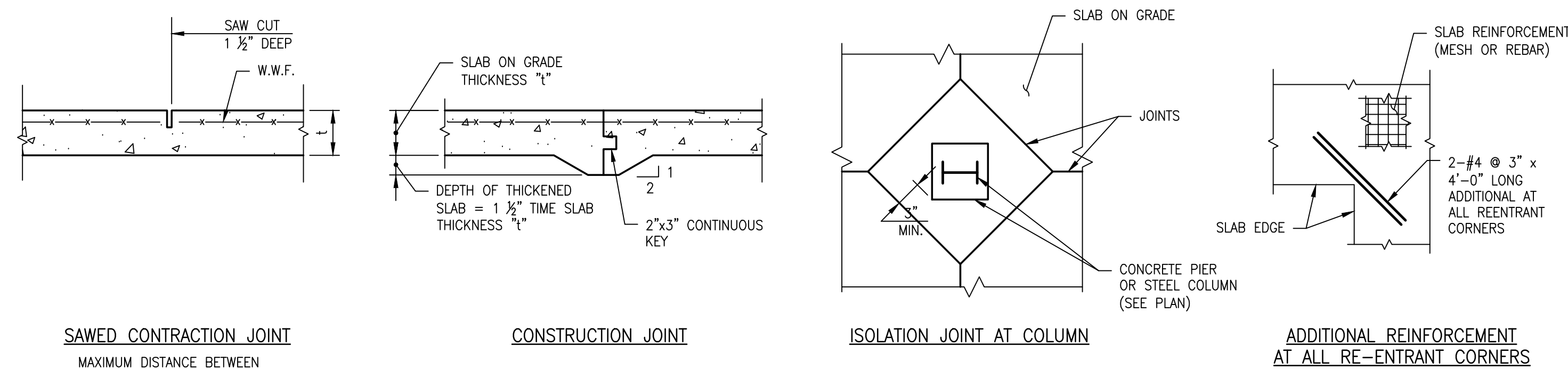
DEFORMED BAR TENSION DEVELOPMENT LENGTH (Ld)

	3000 PSI		3500 PSI		4000 PSI		4500 PSI		5000 PSI	
BAR SIZE	CASE I	CASE II	CASE I	CASE II	CASE I	CASE II	CASE I	CASE II	CASE I	CASE II
#3	17	25	16	23	15	22	14	21	13	20
#4	22	33	21	30	19	29	18	27	17	26
#5	28	42	26	38	24	36	23	34	22	32
#6	33	50	31	46	29	43	27	41	26	39
#7	48	72	45	67	42	63	40	59	38	56
#8	55	83	51	77	48	72	45	68	43	64
#9	62	93	58	86	54	81	51	76	48	72
#10	70	105	65	97	61	91	57	86	54	81
#11	78	116	72	108	67	101	64	95	60	90

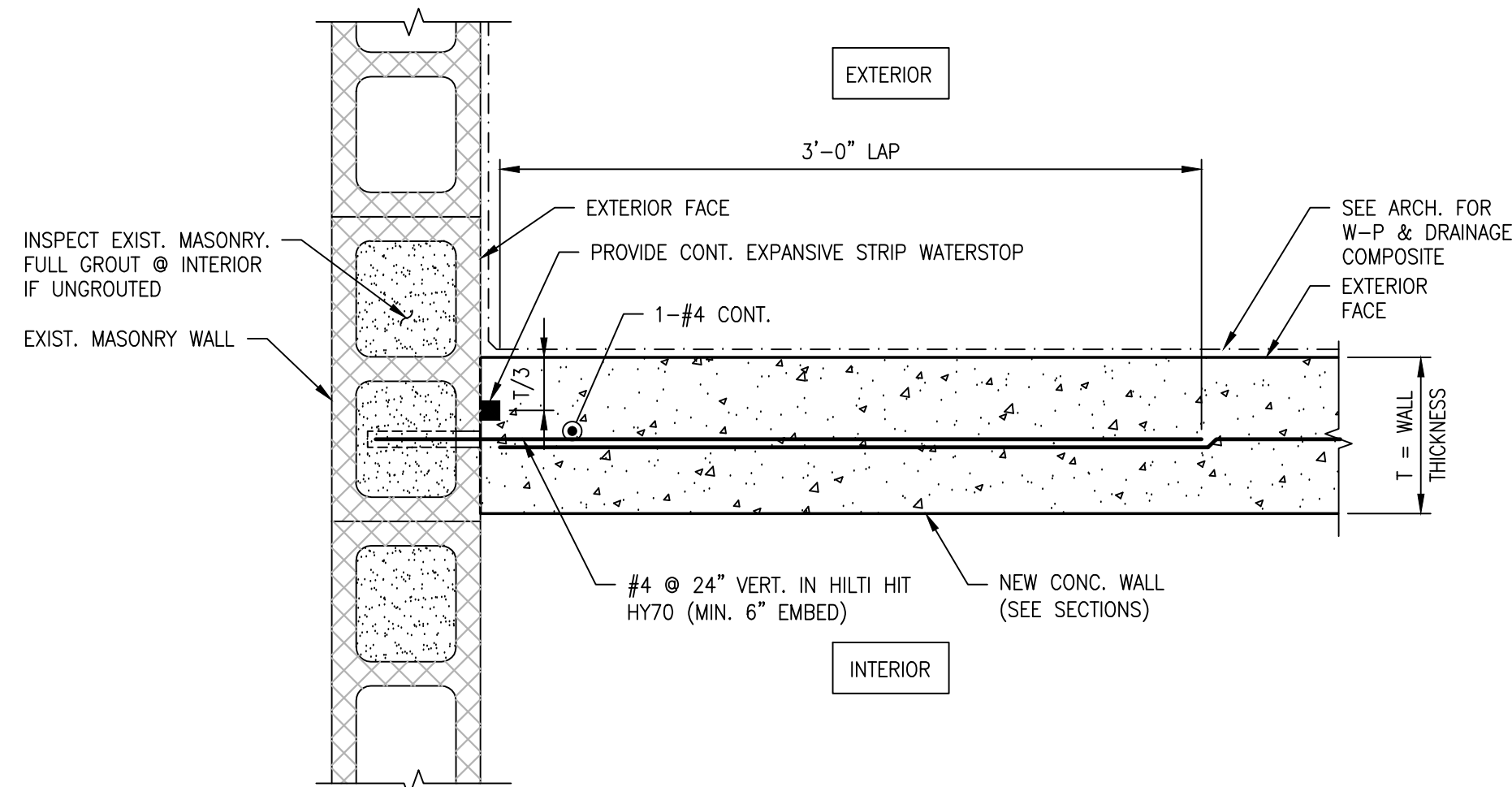
TENSION LAP SPLICE - CLASS B (Ls)

	3000 PSI		3500 PSI		4000 PSI		4500 PSI		5000 PSI	
BAR SIZE	CASE I	CASE II	CASE I	CASE II	CASE I	CASE II	CASE I	CASE II	CASE I	CASE II
#3	23	33	21	30	20	29	19	28	17	26
#4	29	43	28	40	25	38	24	36	23	34
#5	37	55	34	50	32	47	30	45	29	42
#6	43	65	41	60	38	56	36	54	34	51
#7	63	94	59	88	55	82	52	77	50	73
#8	72	108	67	101	63	94	59	89	56	84
#9	81	121	76	112	71	106	67	99	63	94
#10	91	137	85	127	80	119	75	112	71	106
#11	102	151	94	141	88	132	84	124	78	117

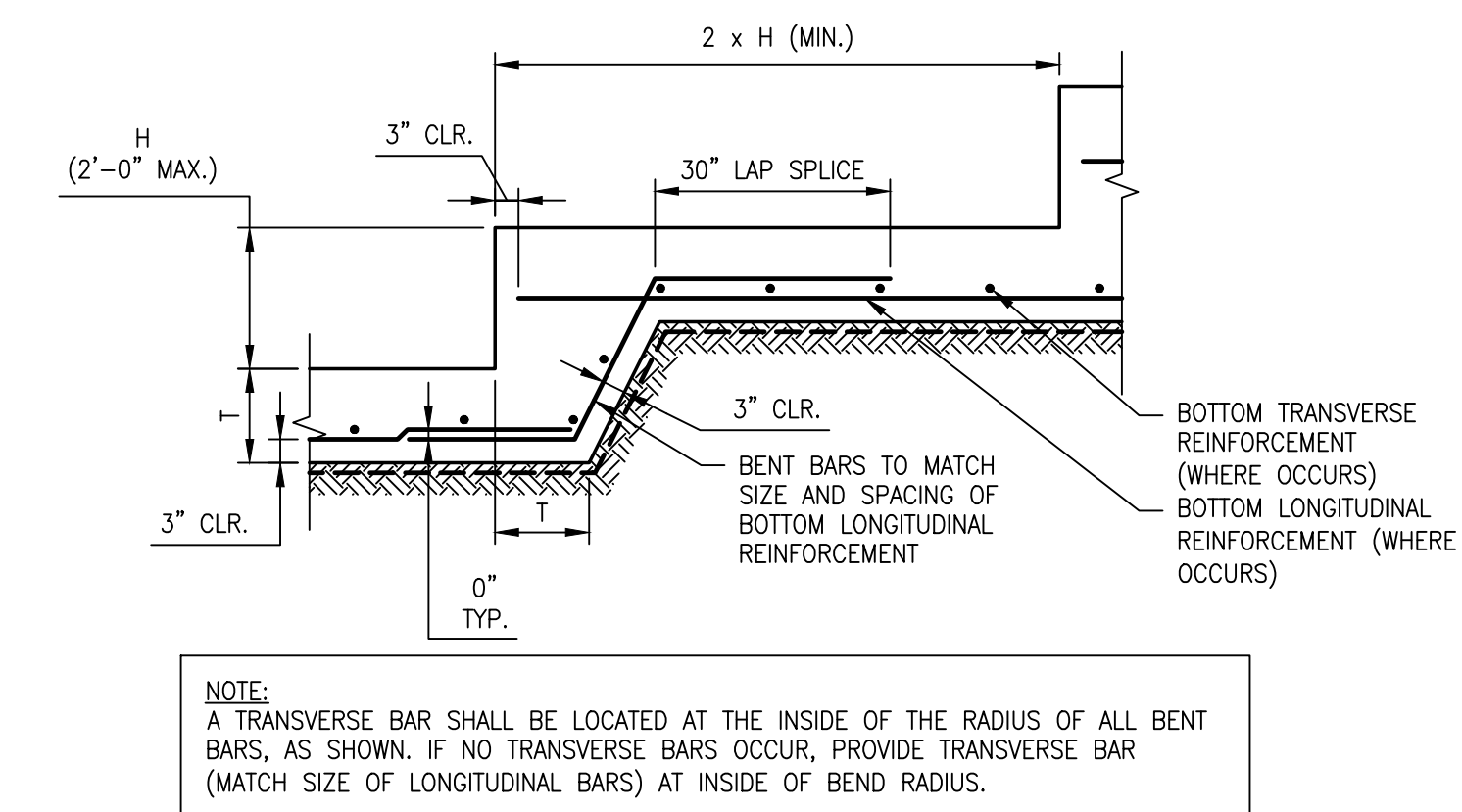
- NOTES:
- VALUES PROVIDED IN THE TENSION DEVELOPMENT LENGTH AND TENSION LAP SPLICE TABLES CORRESPOND TO NORMAL WEIGHT CONCRETE AND UNCOATED BARS.
 - TABLES ARE NOT APPLICABLE FOR HOOKED BARS, HEADED BARS, OR MECHANICALLY ANCHORED BARS.
 - THE FOLLOWING CASES SHALL BE CONSIDERED IN THE DETERMINATION OF REQUIRED DEVELOPMENT LENGTH AND TENSION LAP SPLICES:
 - CASE I: CLEAR SPACING AND CLEAR COVER OF BARS OR WIRES BEING DEVELOPED OR LAP SPLICED IS NOT LESS THAN THE BAR DIAMETER, AND STIRRUPS OR TIES THROUGHOUT Ld NOT LESS THAN CODE MINIMUM; OR
 - CASE II: CLEAR SPACING OF BARS OR WIRES BEING DEVELOPED OR LAP SPLICED NOT LESS THAN 2x BAR DIAMETER, AND CLEAR COVER NOT LESS THAN THE BAR DIAMETER.
 - FOR LIGHTWEIGHT CONCRETE, MULTIPLY TABLE VALUES BY 1.33.
 - FOR EPOXY COATED BARS WITH:
 - CASE I: ALL OTHER CONDITIONS
 - CASE II: MULTIPLY TABLE VALUES BY 1.5.
 - IF MORE THAN 12 IN. OF FRESH CONCRETE IS PLACED BELOW HORIZONTAL REINFORCEMENT, MULTIPLY TABLE VALUES BY 1.3. THIS CONDITION INCLUDES, BUT IS NOT LIMITED TO, TOP BARS IN SLABS, FOOTINGS AND BEAMS THAT ARE GREATER THAN 13" THICK, AND ALL HORIZONTAL WALL REINFORCING.



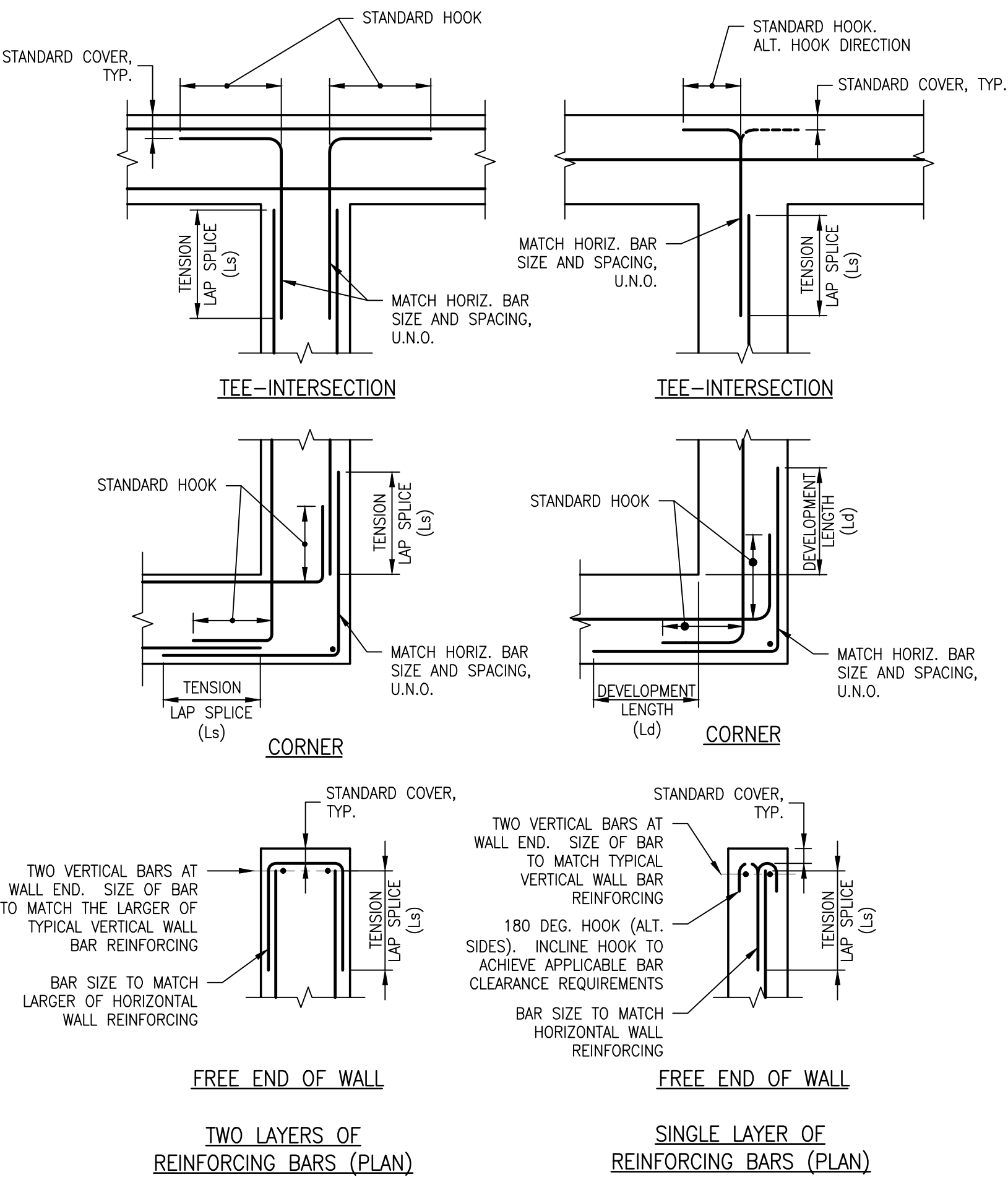
1 TYPICAL SLAB ON GRADE DETAILS
SCALE: N.T.S.



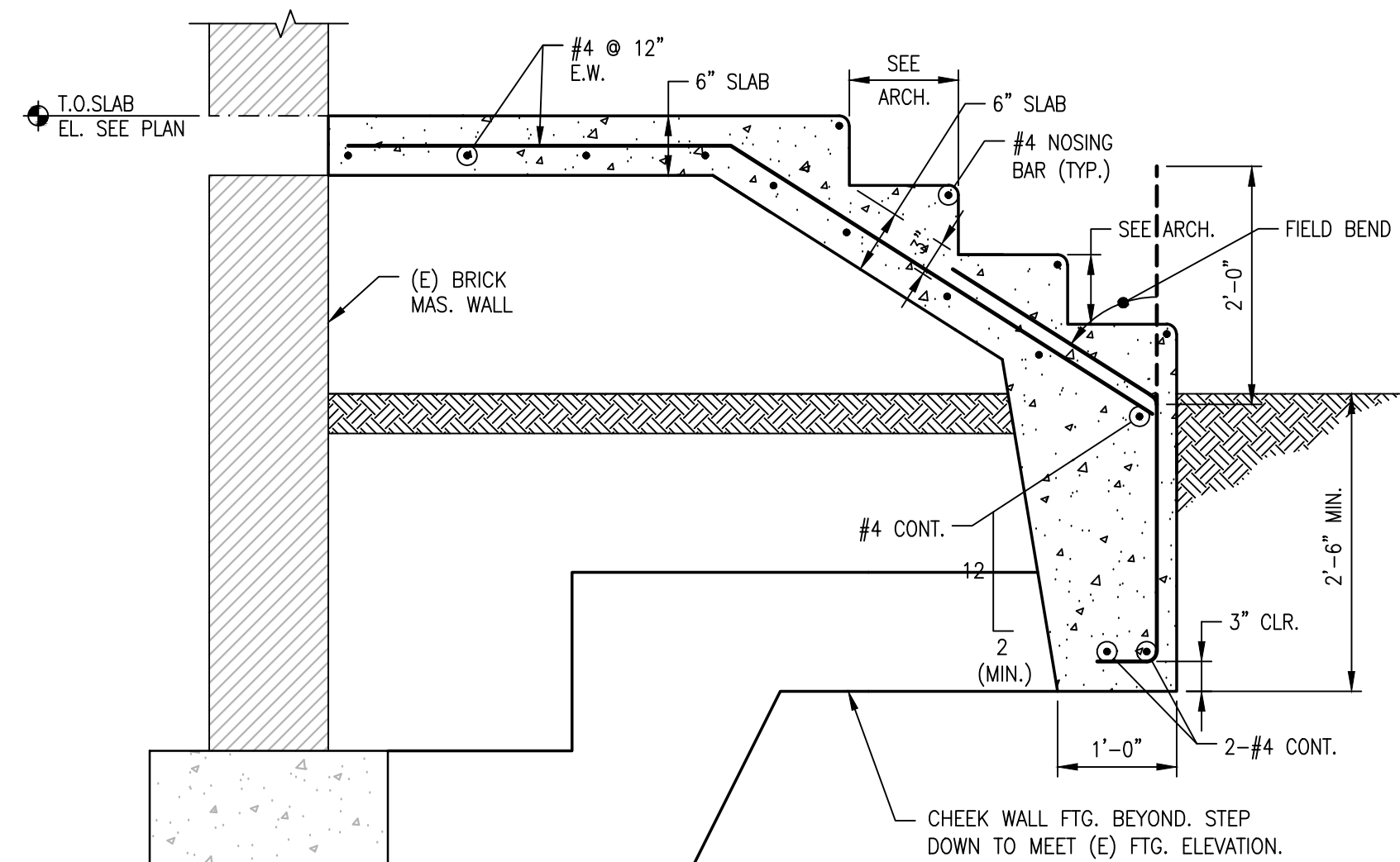
4 CONN. OF NEW CONC. WALL TO EXIST. MASONRY WALL (PLAN)
SCALE: N.T.S.



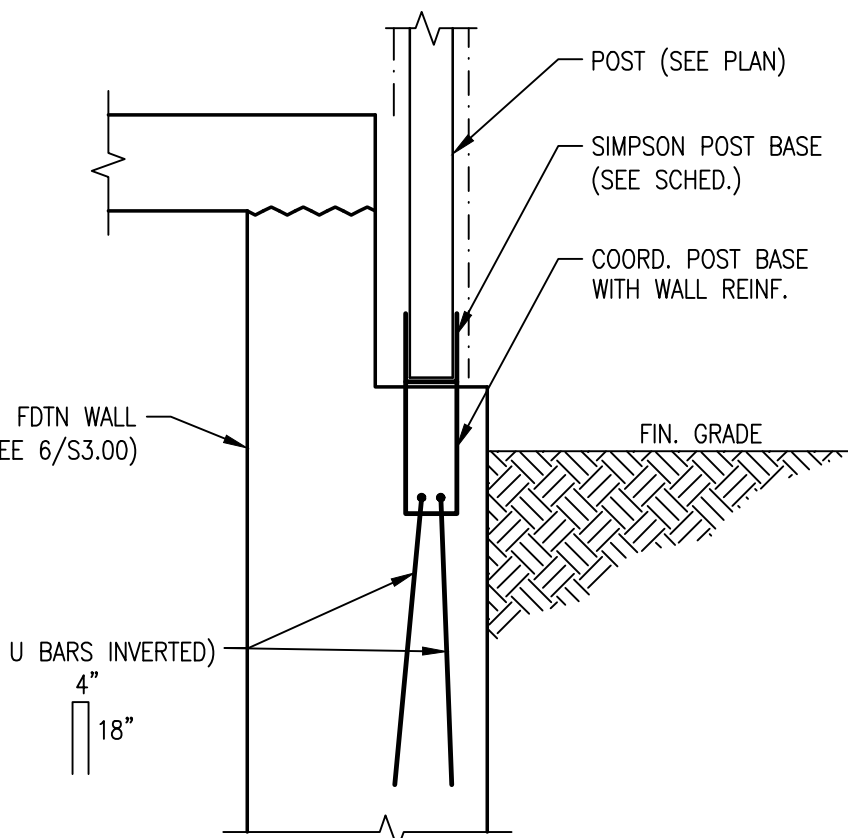
7 TYPICAL STEPPED FOOTING DETAIL
SCALE: N.T.S.



2 HORIZONTAL REINFORCEMENT DETAILS AT CONCRETE WALL CORNERS, INTERSECTIONS AND ENDS
SCALE: N.T.S.

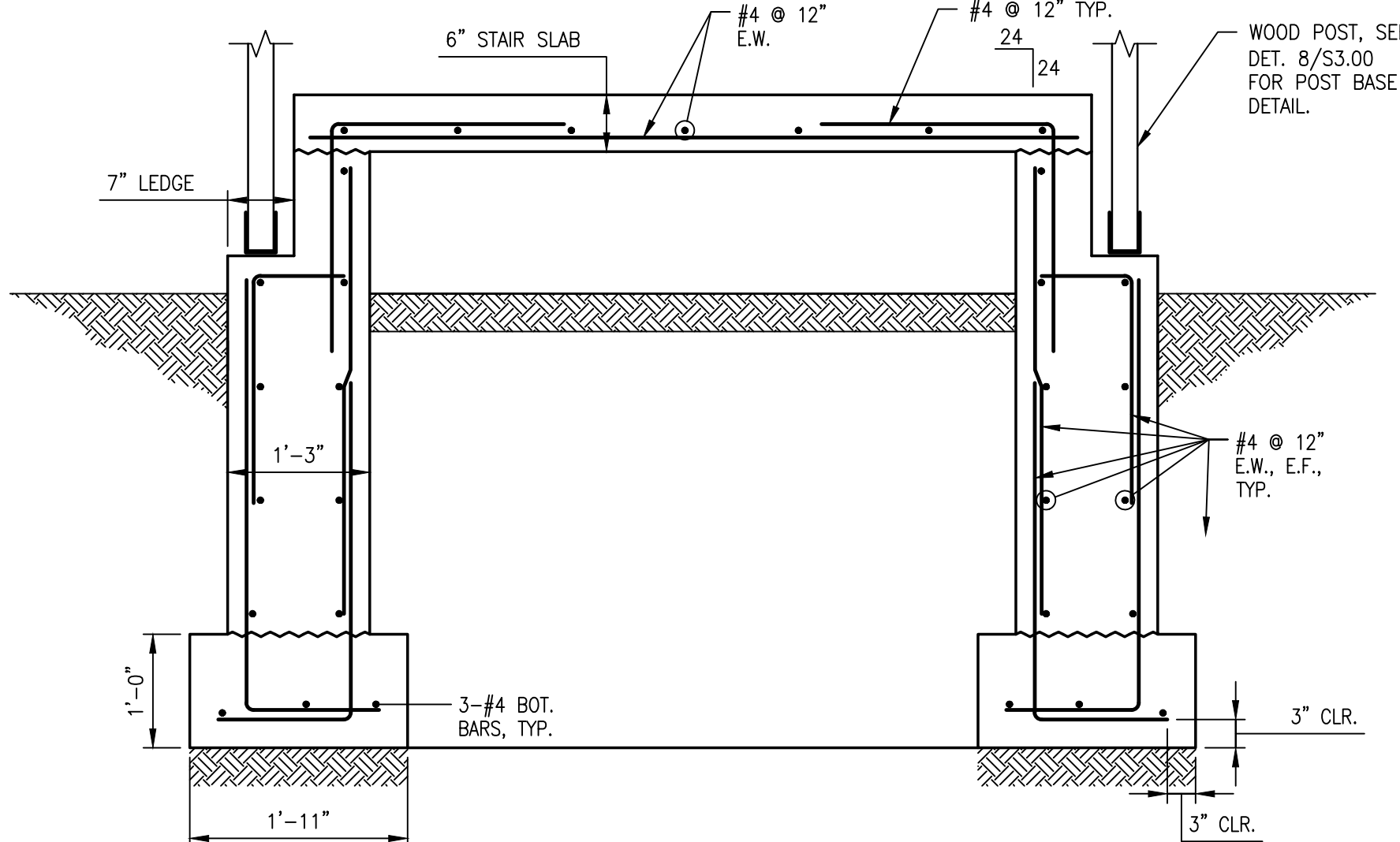


5 SECTION AT ENTRY STAIR
SCALE: 3/4" = 1'-0"

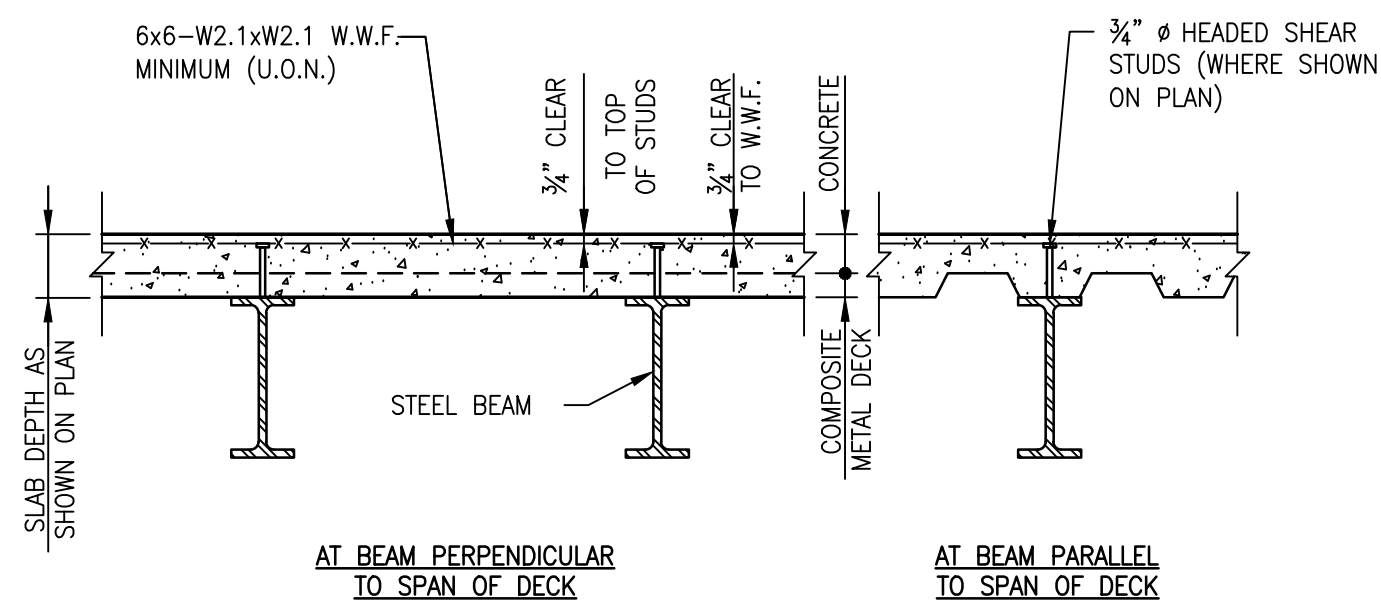


8 POST BASE DETAIL
SCALE: 1" = 1'-0"

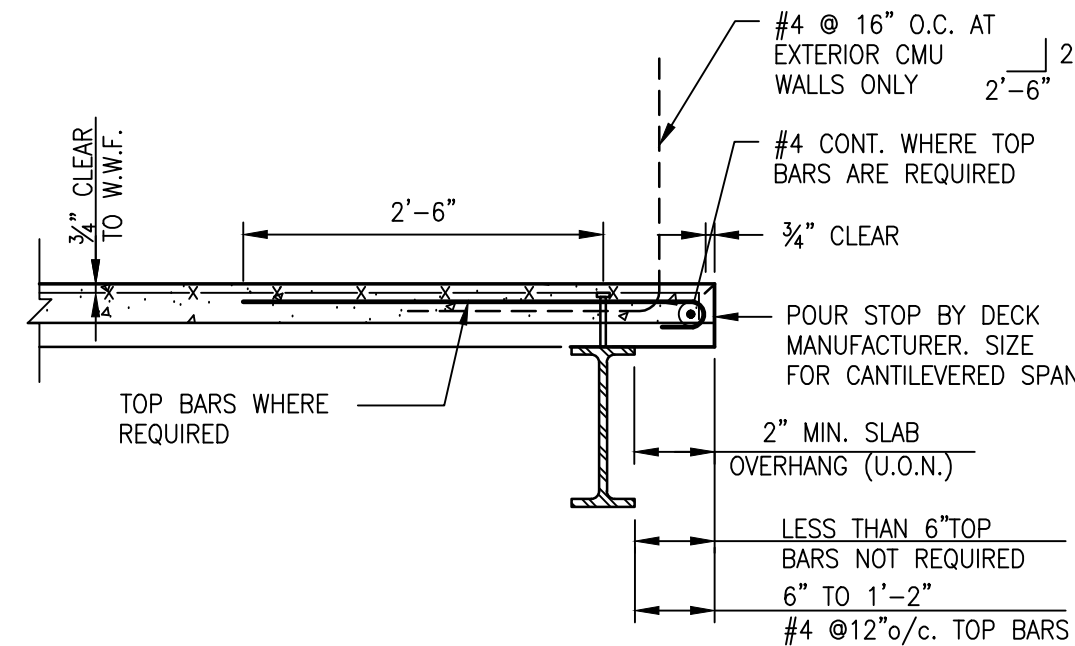
3 TENSION DEVELOPMENT LENGTH AND SPLICING OF STEEL REINFORCING IN CONCRETE
SCALE: N.T.S.



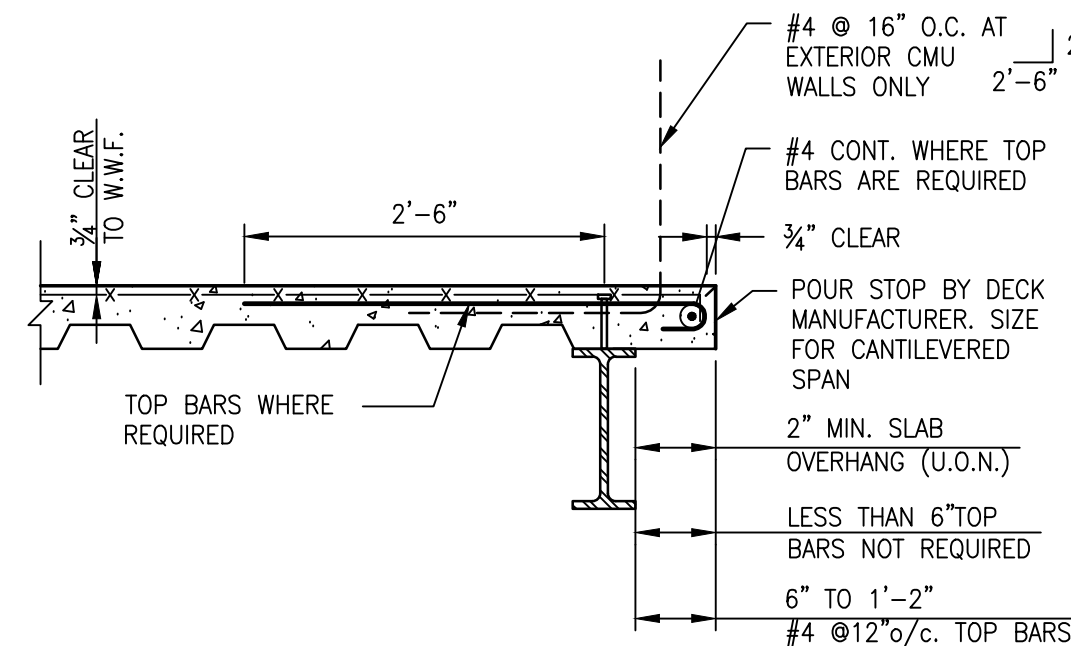
6 SECTION AT ENTRY STAIR
SCALE: 3/4" = 1'-0"



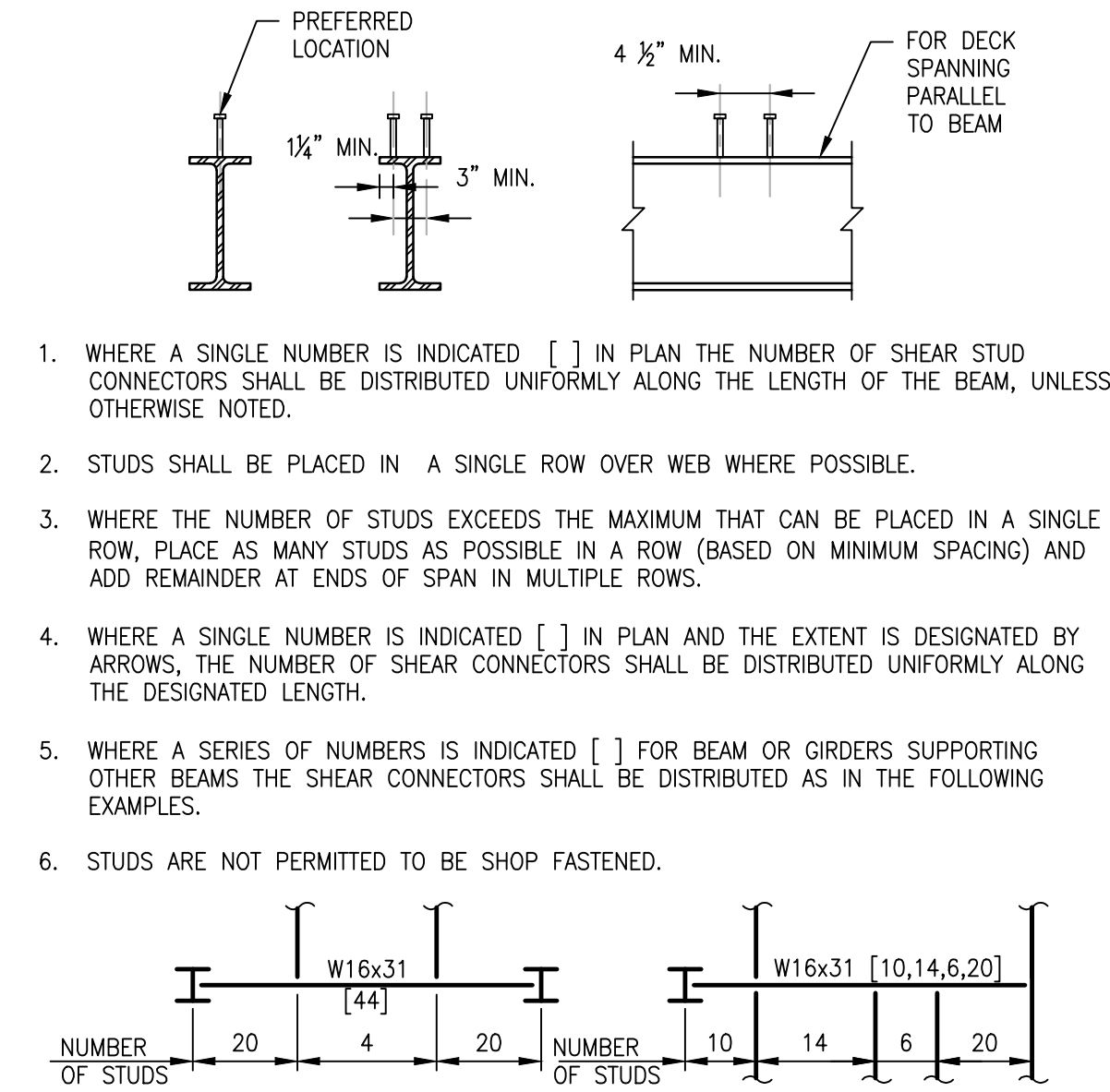
1 TYPICAL DETAIL COMPOSITE BEAM & SLAB CONSTRUCTION
\$4.00 SCALE: 3/4"=1'-0"



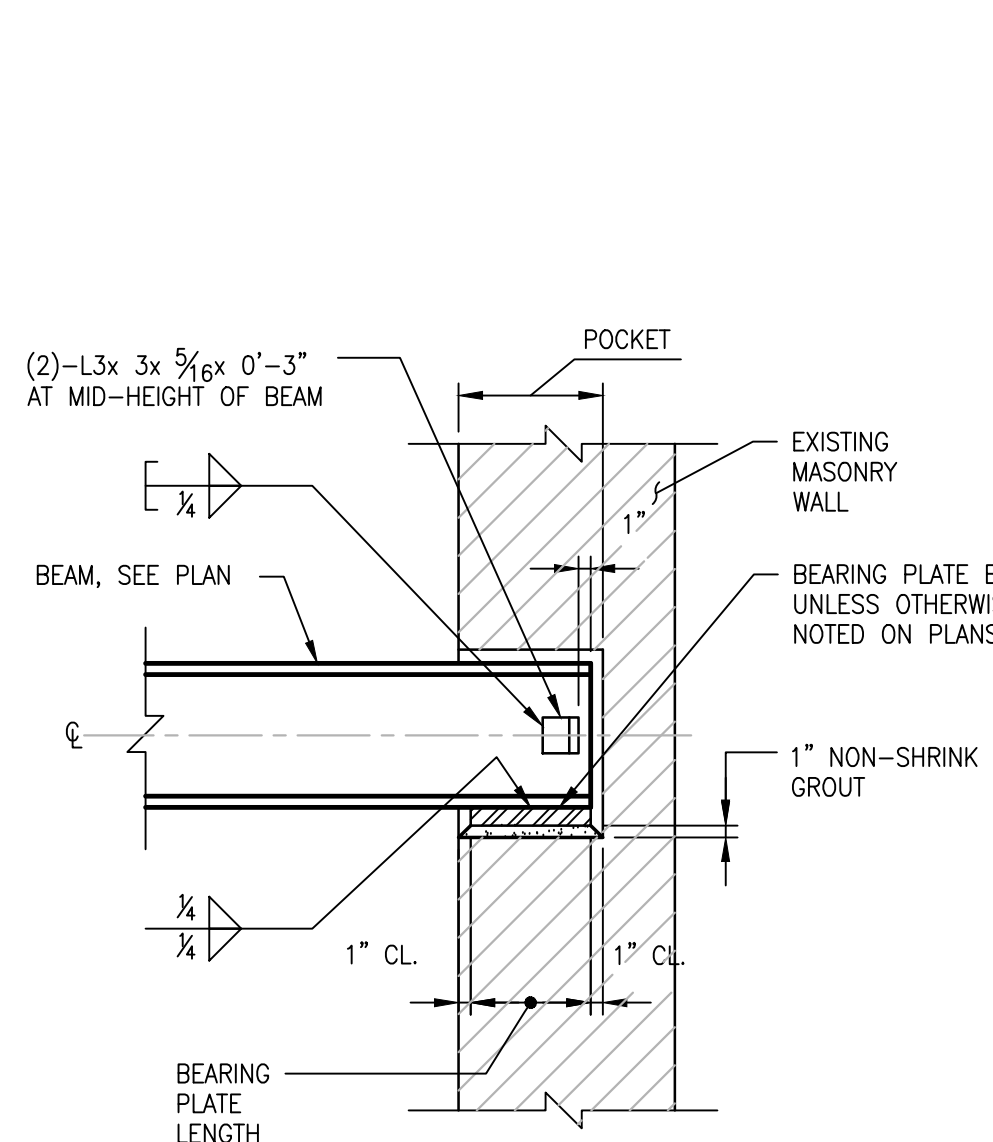
2 TYPICAL DETAIL COMPOSITE DECK PERPENDICULAR EDGE CONDITION
\$4.00 SCALE: 3/4"=1'-0"



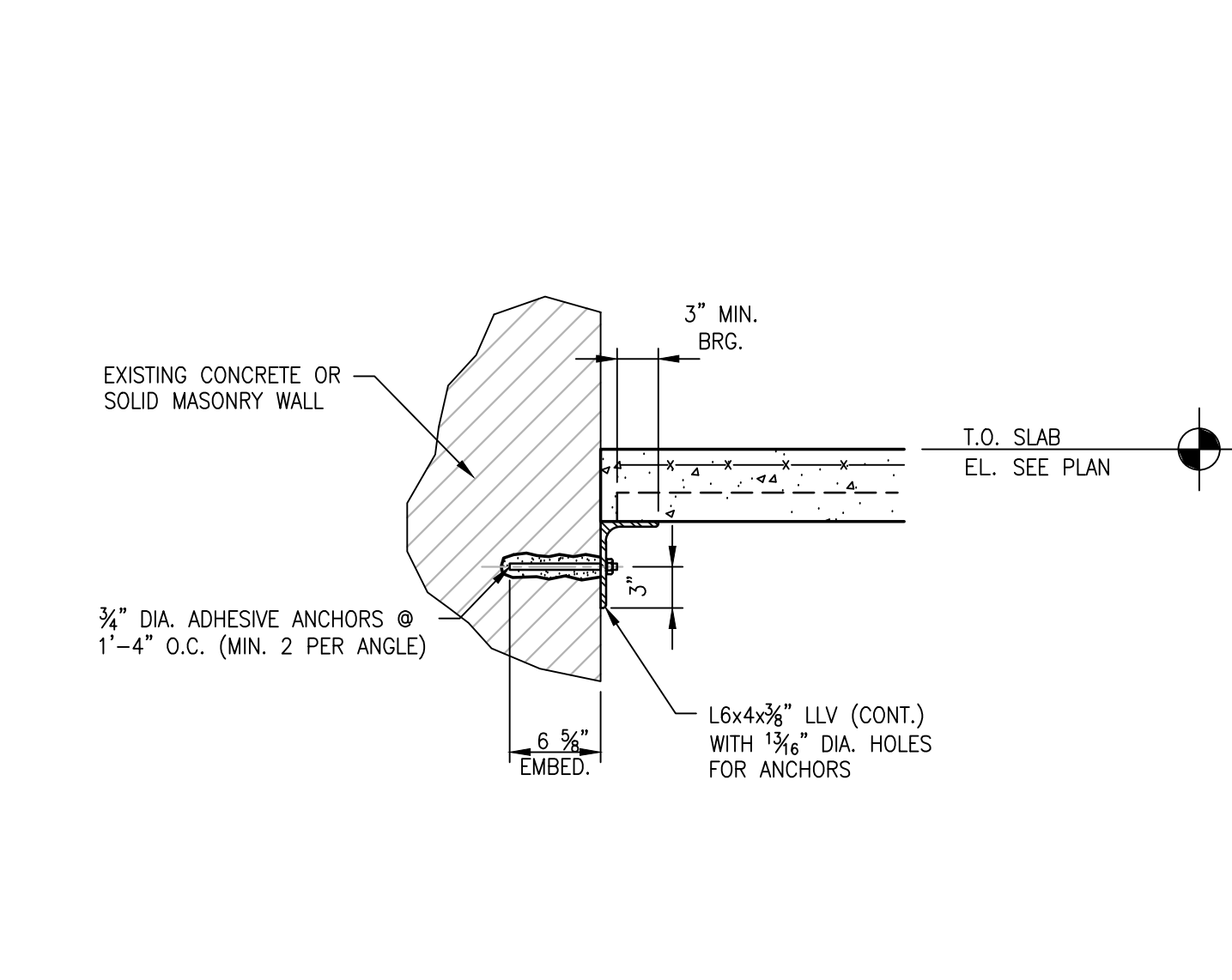
3 TYPICAL DETAIL COMPOSITE DECK PARALLEL EDGE CONDITION
\$4.00 SCALE: 3/4"=1'-0"



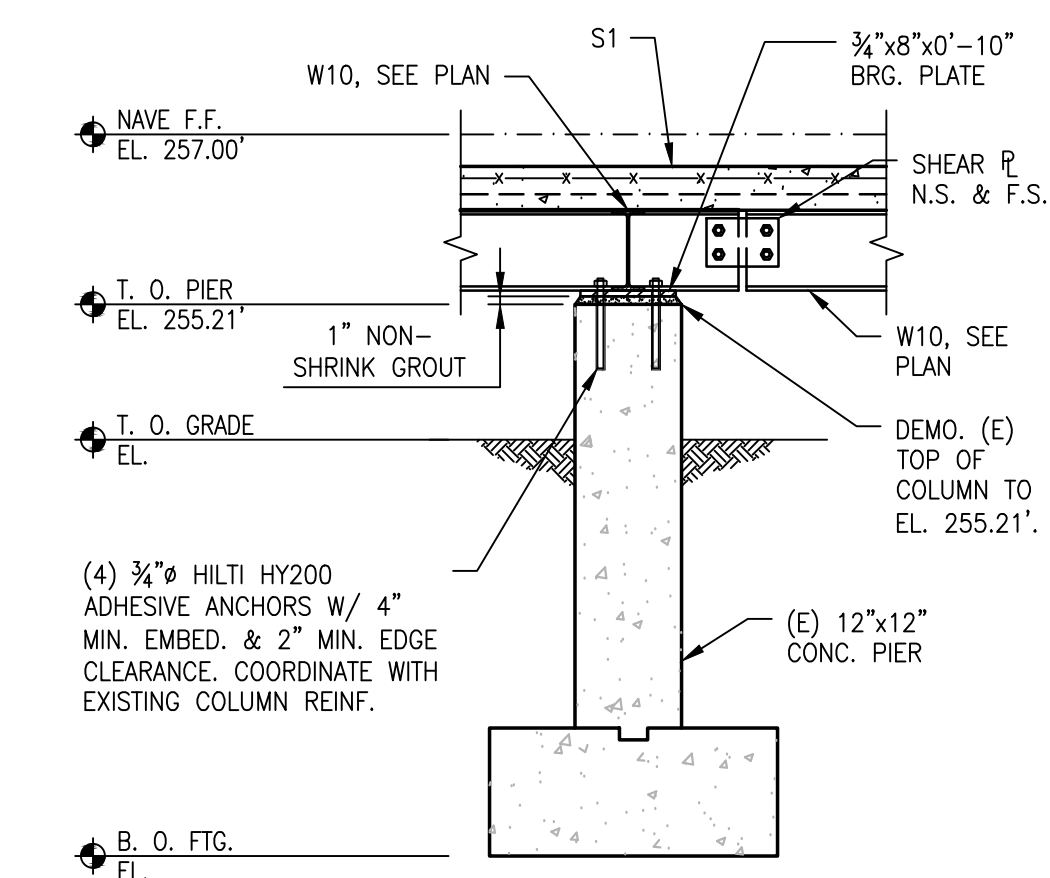
4 TYPICAL DETAIL COMPOSITE BEAM SHEAR CONNECTORS
\$4.00 SCALE: 3/4"=1'-0"



5 TYPICAL DETAIL - SUGGESTED SHEAR CONNECTION AT GRAVITY LOADS ONLY
\$4.00 SCALE: N.T.S.

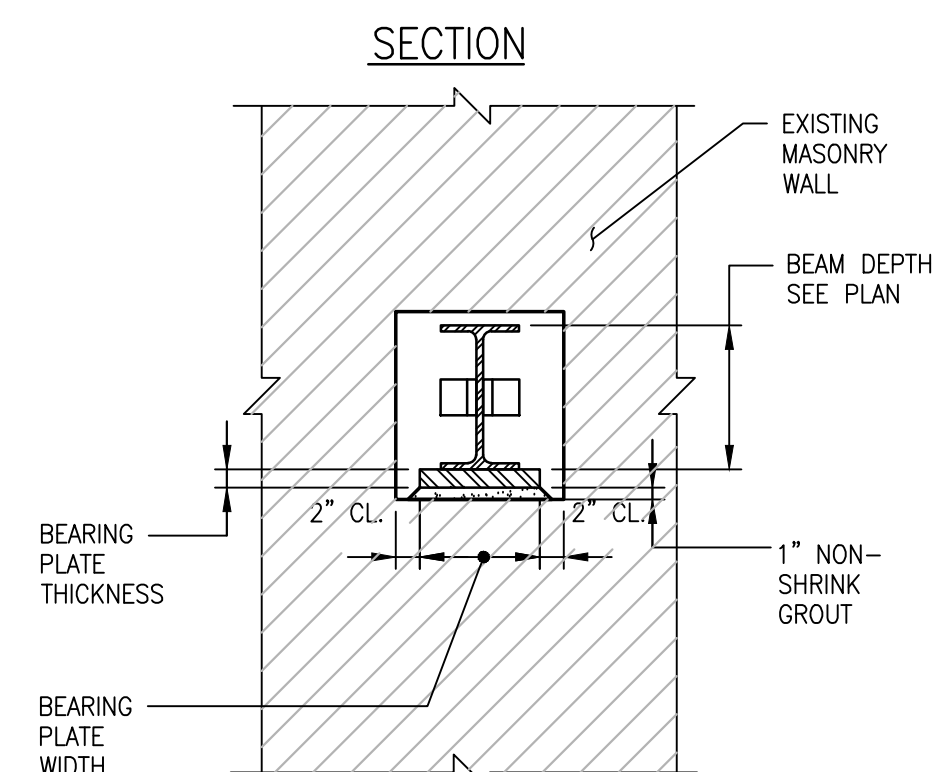


6 TYP. DTL. SHELF ANGLE AT EXIST. LOAD BEARING WALL
\$4.00 SCALE: 1"=1'-0"



7 CONCRETE PIER AND FOOTING DETAIL
\$4.00 SCALE: 1/2"=1'-0"

NOTE: FILL HOLLOWS IN WALL UNDER BEARING PLATE SOLID WITH MORTARED BRICK BEFORE PLACING PLATE. (MINIMUM 2 COURSES)

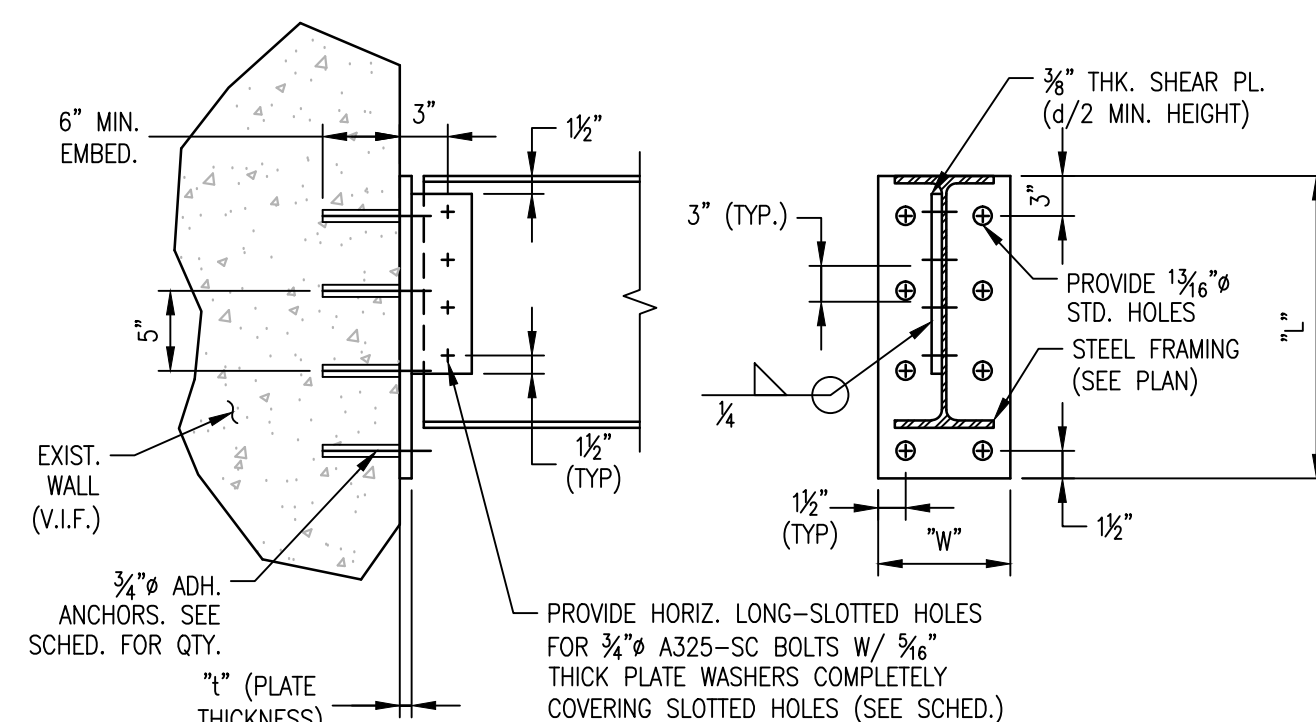


NOTE: CUT POCKET IN WALL AS SHOWN. AFTER BEAM IS INSTALLED FILL POCKET SOLID WITH NON-SHRINK GROUT.

BEAM BEARING ON EXISTING WALL

BEARING PLATE SCHEDULE			
MARK	LENGTH (TO BM.)	WIDTH (⊥ TO BM.)	THICKNESS
BP-1	6"	6"	3/8"
BP-2	7"	8"	1/2"
BP-3	7"	12"	3/8"
BP-4	7"	14"	1"
BP-5	7"	16"	1 1/4"
BP-6	11"	16"	1 1/4"
BP-7	7"	10"	1"

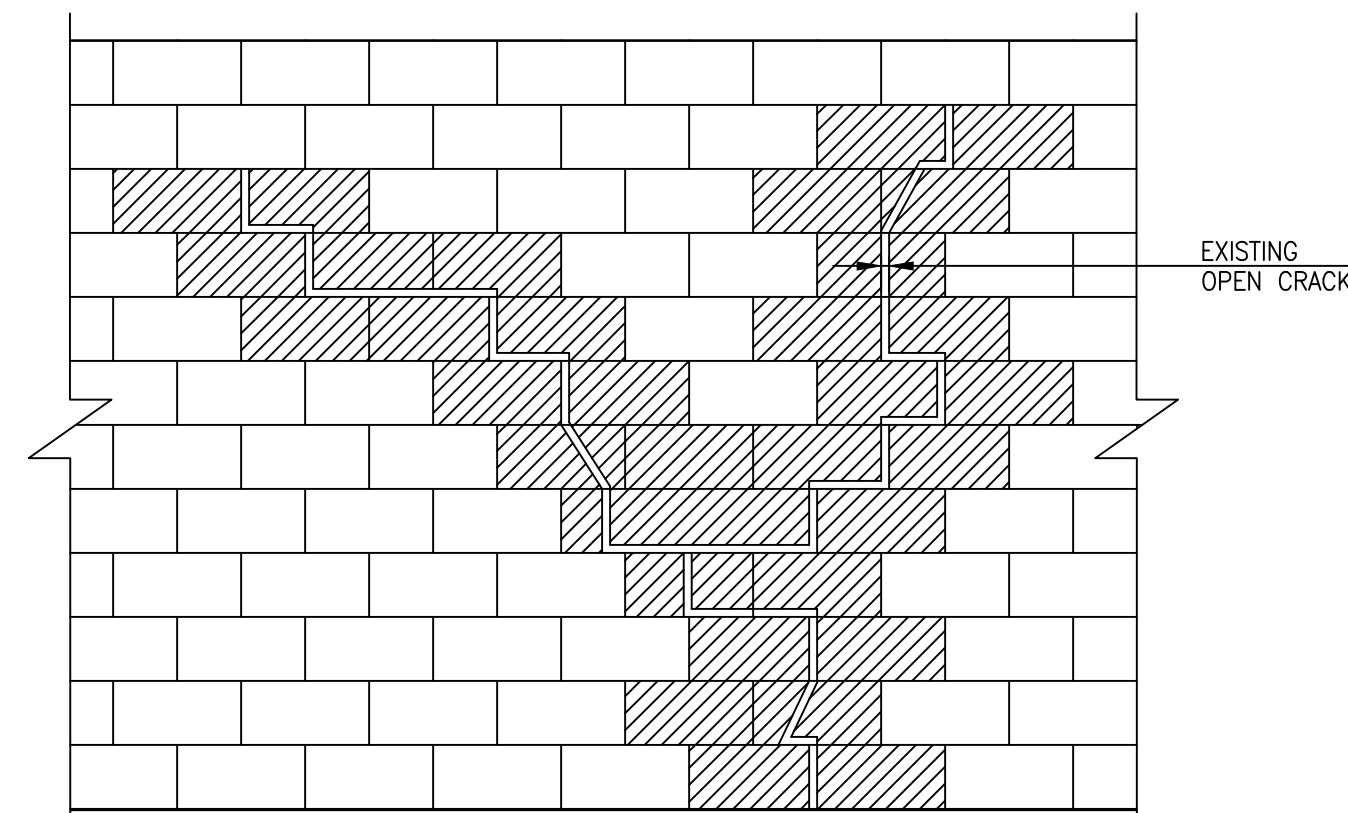
8 TYPICAL BEARING PLATE DETAIL AND SCHEDULE
\$4.00 SCALE: 1"=1'-0"



WALL PLATE SCHEDULE				
MARK	W	L	t	# ADHESIVE ANCHORS
WP-1	9"	9 1/2"	1/2"	4
WP-2	9"	14 1/2"	1/2"	6

NOTE: LOCATE ALL EXISTING REINFORCEMENT PRIOR TO INSTALLATION OF ADHESIVE ANCHORS. DO NOT DAMAGE EXISTING REINFORCEMENT.

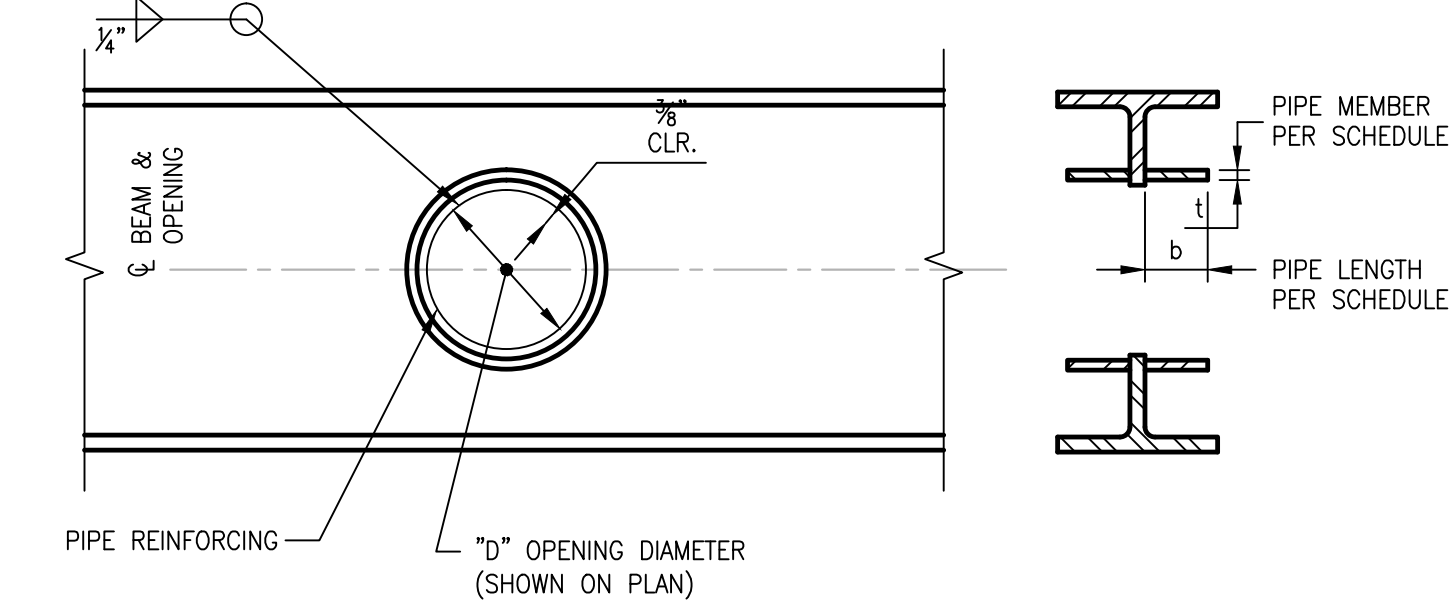
9 TYPICAL WALL PLATE CONNECTION
\$4.00 SCALE: N.T.S.



10 TYP. DTL. REPAIR IN BRICK MASONRY
\$4.00 SCALE: N.T.S.

BEAM WEB PENETRATION SCHEDULE			
MARK	"b" WIDTH	x "t" THICKNESS	REINFORCING DETAIL
PO	NO ADDITIONAL PLATE REINFORCEMENT NEEDED		

NOTES:
1. SEE PLAN FOR OPENING SIZE AND LOCATION.
2. ALL OPENINGS TO BE CENTERED AT BEAM MID-DEPTH.
3. AN ADDITIONAL 2 STUDS PER FOOT (IN ADDITION TO STUDS SHOWN ON PLAN) ARE REQUIRED AT EACH END OF OPENING FOR 3'-0".
4. COORDINATE ALL BEAM PENETRATION WITH HVAC, PLUMBING, AND ELECTRICAL CONTRACTORS.



11 TYPICAL DETAIL OF BEAM WEB PENETRATION
\$4.00 SCALE: N.T.S.

St. George's Episcopal Church Nave & Chapel Renovation

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202.298.8079 f
www.mcl-inc.com

Issue:	Description:	Date:
1	Schematic Design	07.31.2015
2	Design Development	09.18.2015
3	80% Pricing Set	11.18.2015

Drawing Title:

TYPICAL SUPERSTRUCTURE DETAILS

Drawing Scale:

Project No.: 13118
Date: 11.18.2015

Drawing No.:

\$4.00

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TYPICAL
SUPERSTRUCTURE
DETAILS

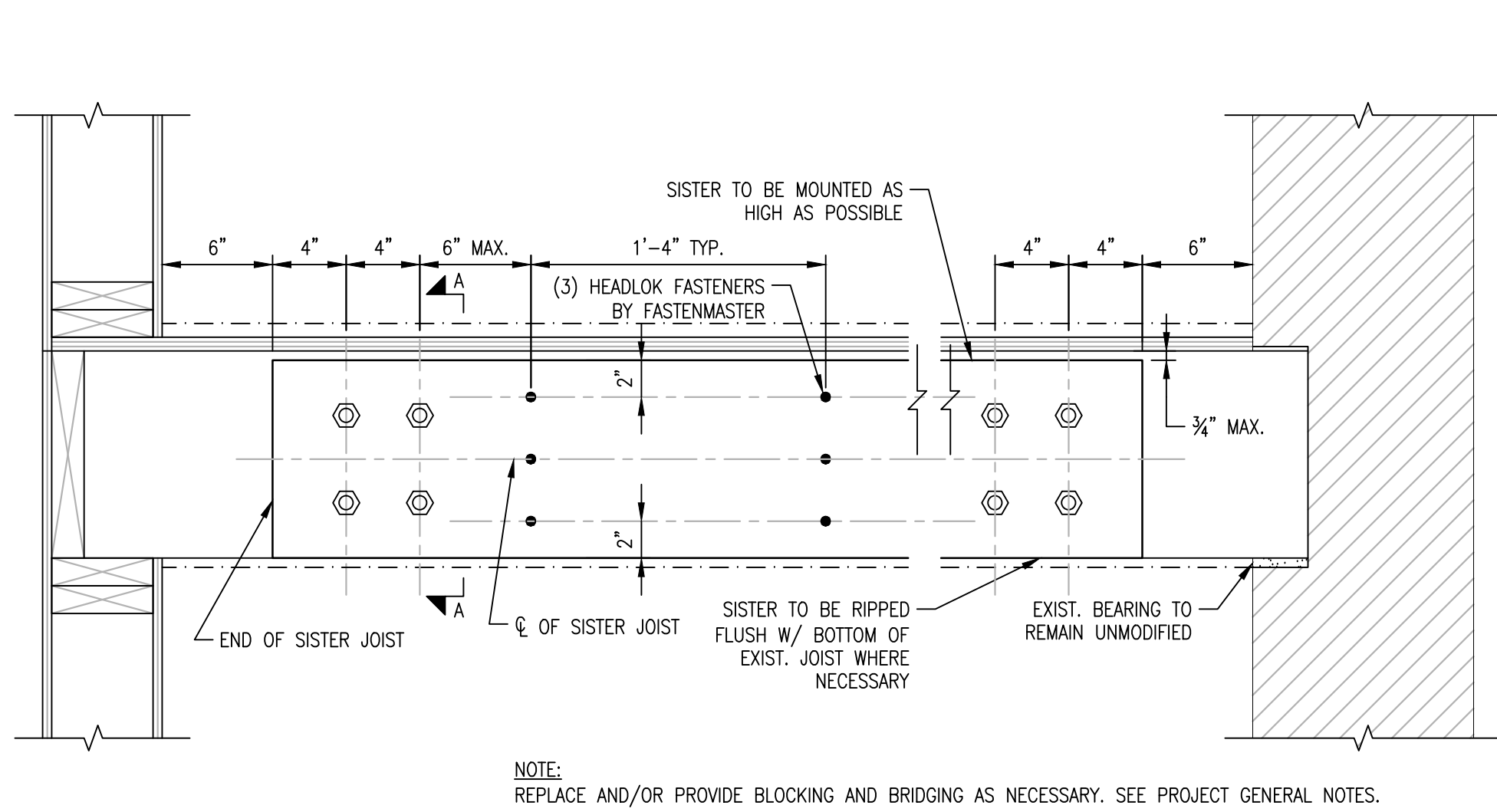
Drawing Scale:

Project No.:
13118

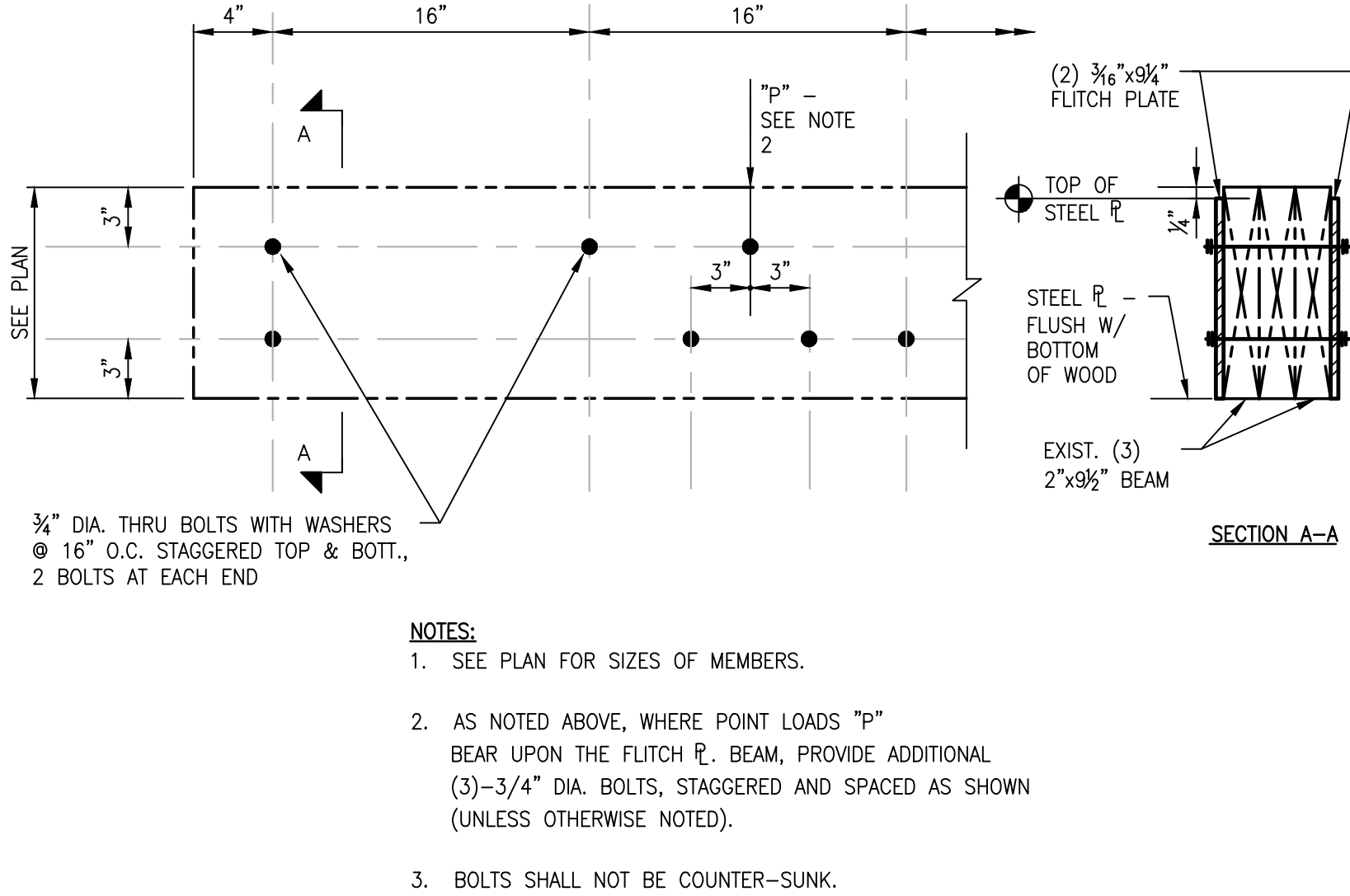
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11.18.2015

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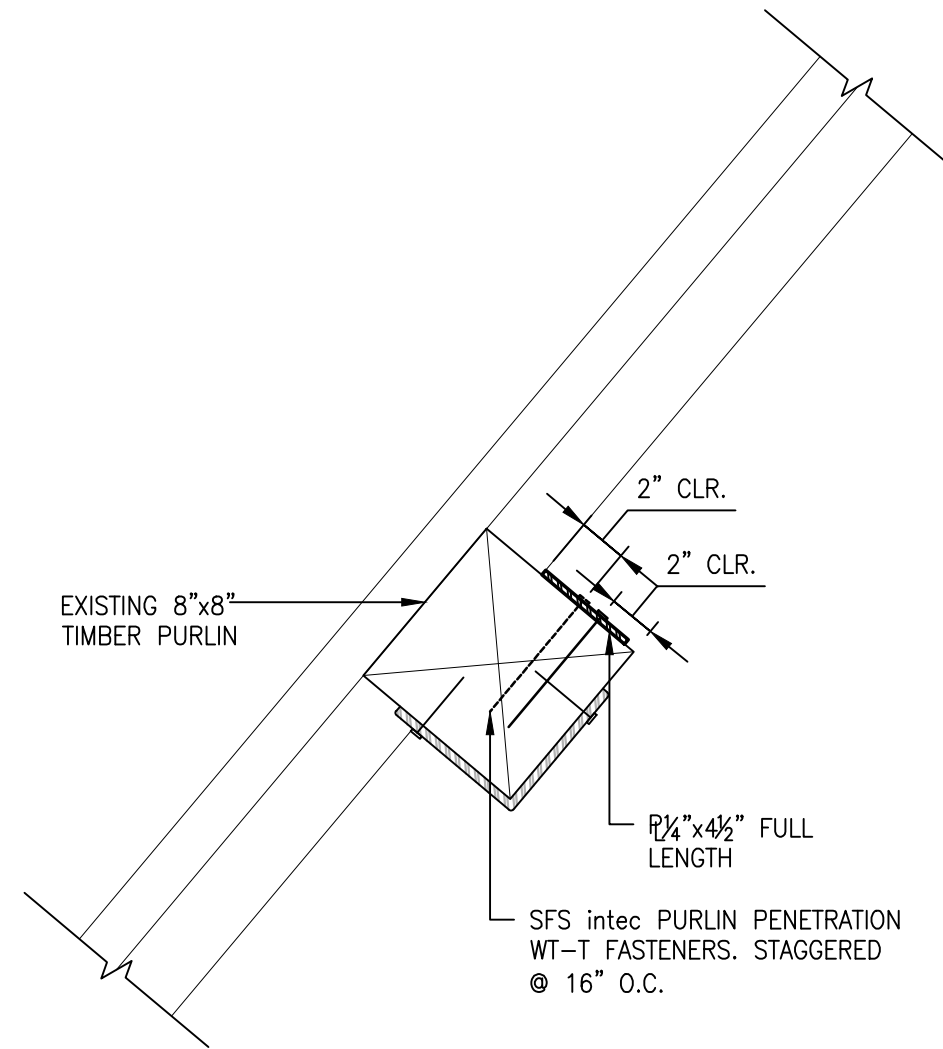
S4.01



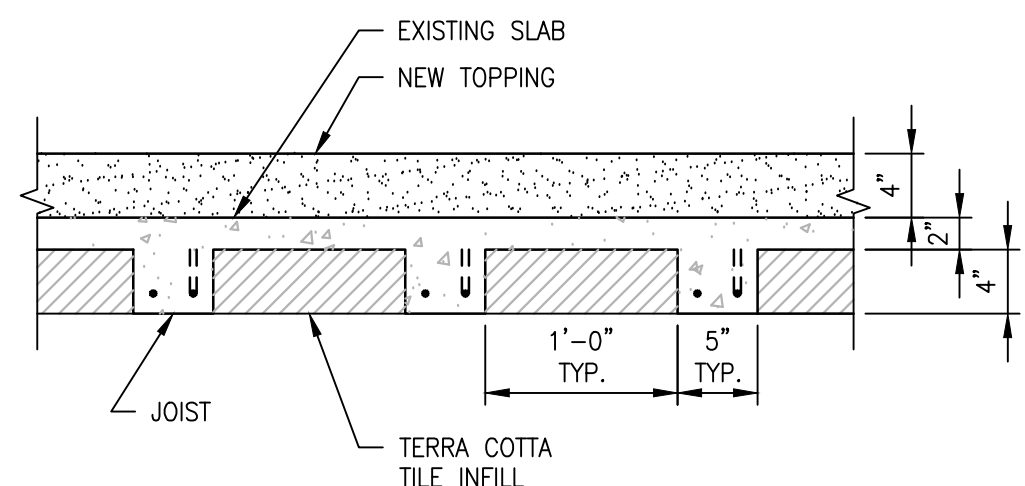
1 TYPICAL DETAIL- BOLTED AND SCREWED SISTER
S4.01 SCALE: NTS



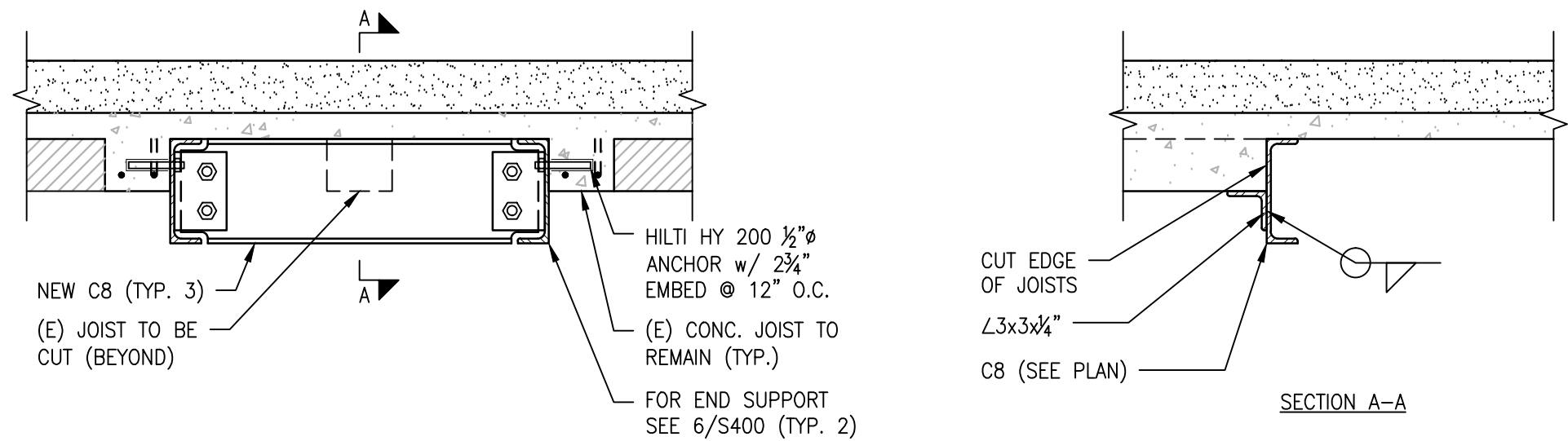
2 FLITCH PLATE BEAM DETAIL (FOR WOOD BEAM)
S4.01 SCALE: 1-1/2"=1'-0"



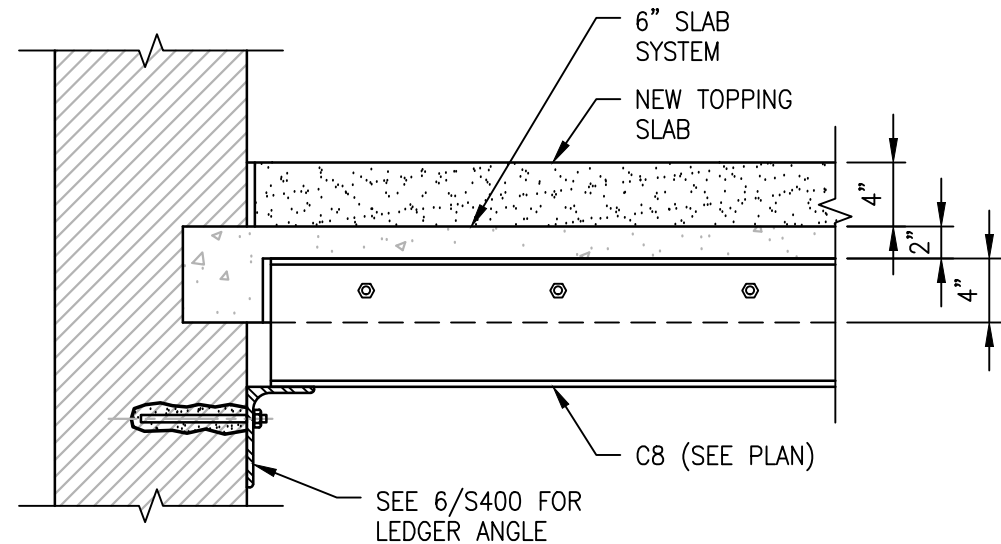
3 PURLIN REINFORCEMENT DETAIL
S4.01 SCALE: 1' 1/2"=1'



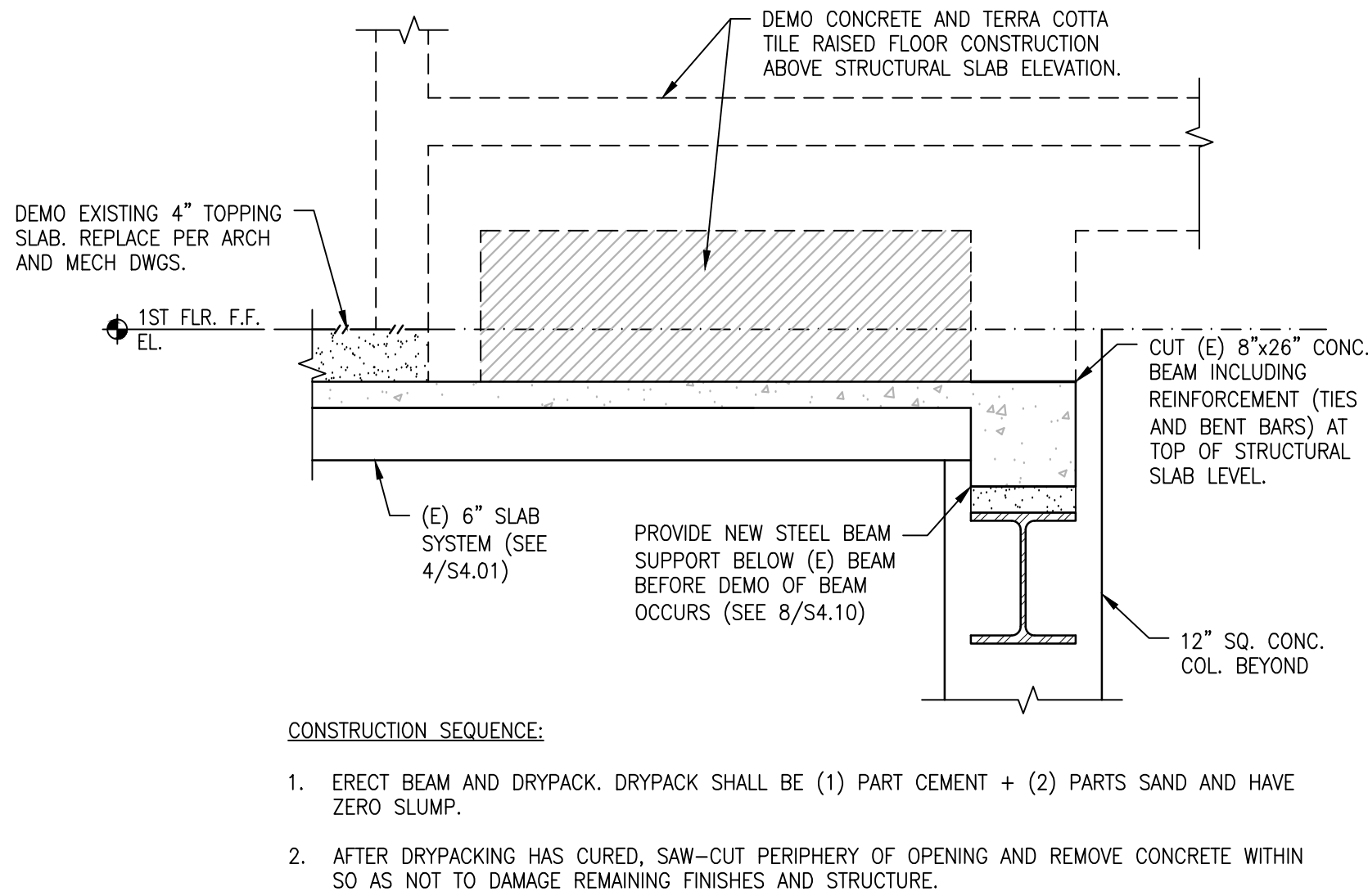
4 TYPICAL EXISTING ONE-WAY JOIST w/
TERRA COTTA TILE INFILL CONSTRUCTION
S4.01 SCALE: 1"=1'-0"



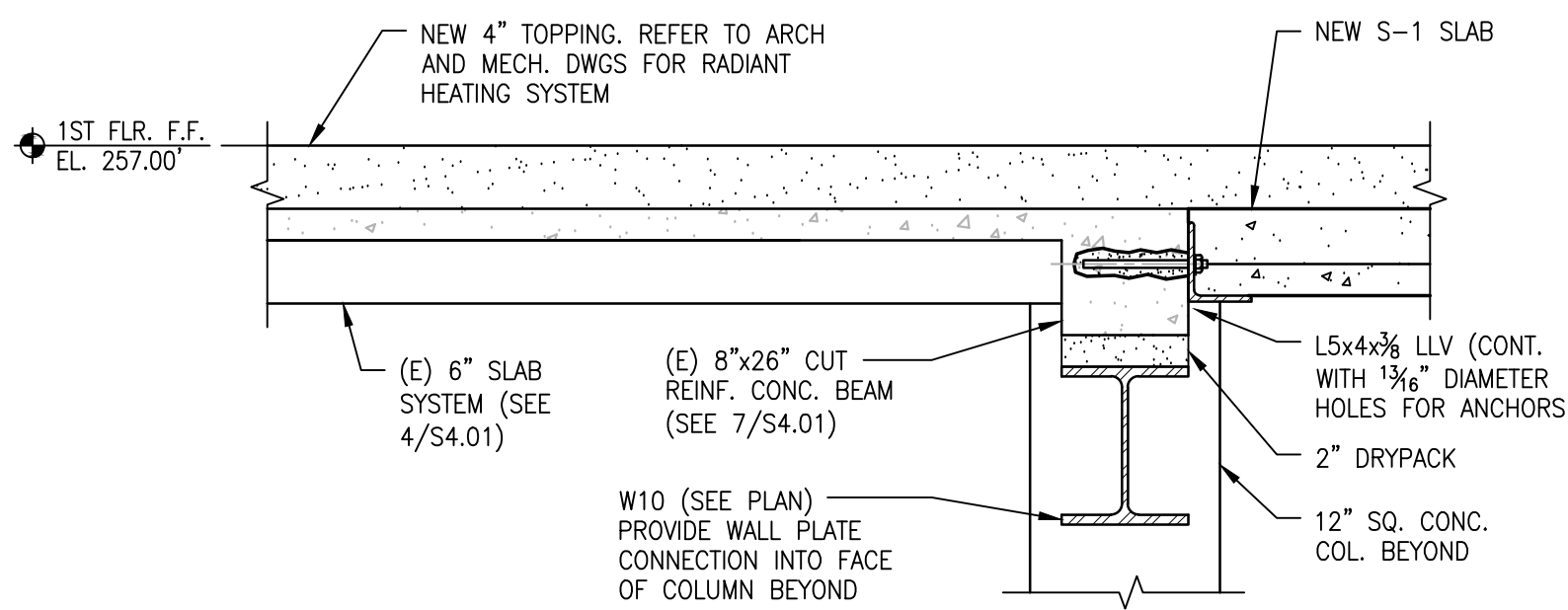
5 TYPICAL SUPPORT OF CUT CONC. JOIST
S4.01 SCALE: 1"=1'-0"



6 TYPICAL SUPPORT OF CUT CONC. JOIST
S4.01 SCALE: 1"=1'-0"



7 SECTION AT RAISED SLAB EDGE TO BE DEMOLISHED
S4.01 SCALE: 1"=1'-0"



8 SECTION AT JUNCTURE OF NEW AND EXISTING SLAB
S4.01 SCALE: 1"=1'-0"

LIST OF MPE DRAWINGS	
DRAWING NUMBER	DRAWING NAME
M0.00	COVER SHEET – MECHANICAL
M1.00	DEMO OVERALL FIRST FLOOR PLAN – MECHANICAL
M1.01	SAINT GEORGE DEMO BASEMENT FLOOR PLAN – MECHANICAL
M1.02	SAINT GEORGE DEMO FIRST FLOOR PLAN – MECHANICAL
M2.00	OVERALL FIRST FLOOR PLAN – MECHANICAL
M2.01	SAINT GEORGE BASEMENT FLOOR PLAN – MECHANICAL
M2.02	SAINT GEORGE FIRST FLOOR PLAN – MECHANICAL
M2.03	SAINT GEORGE FIRST FLOOR ALTERNATE 13 – MECHANICAL
M3.00	DETAILS AND SCHEDULES – MECHANICAL
M4.00	SEQUENCE OF OPERATIONS – MECHANICAL
E0.00	COVER SHEET – ELECTRICAL
E1.00	DEMO OVERALL FIRST FLOOR PLAN – ELECTRICAL
E1.01	DEMO BASEMENT PLAN – ELECTRICAL
E1.02	DEMO FIRST FLOOR PLAN – ELECTRICAL
E1.03	DEMO BASEMENT PLAN – ELECTRICAL
E1.04	SAN JOSE CHAPEL DEMO FIRIST FLOOR PLAN – ELECTRICAL
E2.00	OVERALL FIRST FLOOR PLAN – ELECTRICAL
E2.01	SAINT GEORGE BASEMENT LIGHTING PLAN – ELECTRICAL
E2.02	SAINT GEORGE FIRST FLOOR LIGHTING PLAN – ELECTRICAL
E2.03	SAINT JOSE CHAPEL BASEMENT LIGHING PLAN – ELECTRICAL
E2.04	SAN JOSE CHAPEL FIRST FLOOR LIGHTING PLAN – ELECTRICAL
E2.05	LIGHTING CONTROL DIAGRAM AND SCHEDULES – ELECTRICAL
E3.01	SAINT GEORGE BASEMENT POWER PLAN – ELECTRICAL
E3.02	SAINT GEORGE FIRST FLOOR POWR PLAN – ELECTRICAL
E3.03	SAINT JOSE CHAPEL BASEMENT POWER PLAN –ELECTRICAL
E3.04	SAN JOSE CHAPEL FIRST FLOOR POWER PLAN – ELECTRICAL
E4.00	RISER DIAGRAM – ELECTRICAL
E4.01	SCHEDULES – ELECTRICAL

MECHANICAL ABBREVIATIONS	
ABBREVIATION	DESCRIPTION
AC	AIR CONDITIONING
AD	AUTOMATIC DAMPER
AHU	AIR HANDLING UNIT
ARCH	ARCHITECTURAL
BTU	BRITISH THERMAL UNIT
CD	CONDENSATE DRAIN
CFM	CUBIC FEET PER MINUTE
CHWR	CHILLED WATER RETURN
CHWS	CHILLED WATER SUPPLY
CU	CONDENSING UNIT
DN	DOWN
DWG	DRAWING
EF	EXHAUST FAN
EMCS	ENERGY MANAGEMENT CONTROL SYSTEM
ENT	ENTERING
ESP	EXTERNAL STATIC PRESSURE
ENT	ENTERING WATER TEMPERATURE
FD	FIRE DAMPER
HP	HORSEPOWER
HR	HOUR
HWR	HOT WATER RETURN
HWS	HOT WATER SUPPLY
IN WG	INCH WATER GAUGE
KW	KILOWATT
LAT	LEAVING AIR TEMPERATURE
LBS	POUNDS
LV	LEAVING
LWT	LEAVING WATER TEMPERATURE
MAX	MAXIMUM
MBH	1000 BRITISH THERMAL UNITS PER HOUR
MCA	MINIMUM CIRCUIT AMPACITY
MIN	MINIMUM
MOCP	MAXIMUM OVERCURRENT PROTECTION
NIC	NOT IN CONTRACT
OA	OUTSIDE AIR
OBD	OPPOSED BLADE DAMPER
PD	PRESSURE DROP
PH	PHASE
RPM	REVOLUTIONS PER MINUTE
SCU	SELF CONTAINED UNIT
SENS	SENSIBLE
SF	SQUARE FEET
TYP	TYPICAL
V	VOLTAGE
VD	VOLUME DAMPER
W	WATTS
WG	WATER GAUGE
Ø	ROUND

MECHANICAL SYMBOLS	
SYMBOL	DESCRIPTION
	NEW DUCTWORK OR EQUIPMENT
	ACOUSTICALLY LINED DUCTWORK
	FLEXIBLE DUCTWORK
	ROUND RIGID DUCTWORK RUNOUT
	SUPPLY AIR DUCT MOUNTED DIFFUSER WITH EXTRACTOR
	RETURN/EXHAUST AIR CEILING GRILLE
	THERMOSTAT/THERMOSENSOR (WITH CONTROL WIRING/TUBING)
	SPACE OR DUCT MOUNTED HUMIDSTAT SENSOR
	DUCT MOUNTED SMOKE DETECTOR
	FLEXIBLE CONNECTION
	DIFFUSER/REGISTER/GRILLE DESIGNATION WITH CFM INDICATION
	REFERENCED PLAN NOTE DESIGNATION
	DUCTWORK WITH TURNING VANES
	FIRE DAMPER
	BAROMETRIC DAMPER
	AUTOMATIC DAMPER
	MANUAL VOLUME DAMPER
	CONDENSATE DRAIN PIPING
	REFRIGERANT PIPING
	PLAN OR DETAIL NUMBER
	DRAWING NUMBER WHERE PLAN OR DETAIL APPEARS
	SUPPLY AIR CEILING GRILLE
	EXISTING DUCTWORK OR EQUIPMENT TO BE REMOVED

MECHANICAL DEMOLITION NOTES

- THE EXACT SIZES AND LOCATIONS OF ALL EXISTING DUCTWORK AND PIPING SHALL BE FIELD VERIFIED BY THE CONTRACTOR PRIOR TO DEMOLITION OF ANY EXISTING WORK.THE DEMOLITION WORK SHALL BE COORDINATED WITH THE NEW WORK TO ASSURE PROPER LIMITS OF DEMOLITION.
- WHETHER SPECIFICALLY INDICATED OR NOT, THE CONTRACTOR SHALL REMOVE ALL EXISTING EQUIPMENT AND ASSOCIATED PIPING AND DUCTWORK THAT IS NO LONGER REQUIRED TO REMAIN AS A PART OF AN ACTIVE SYSTEM.
- ALL EXISTING DIFFUSERS, EQUIPMENT AND PIPING REMOVED DURING CONSTRUCTION SHALL REMAIN THE PROPERTY OF THE OWNER AND SHALL BE STORED, REMOVED FROM THE JOB SITE, OR DISPOSED OF AS DIRECTED BY THE OWNER'S REPRESENTATIVE.
- REFER TO THE GENERAL NOTES, MECHANICAL NOTES, AND SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.

MECHANICAL GENERAL NOTES

- ALL WORK SHALL BE IN ACCORDANCE WITH ALL APPLICABLE TO LOCAL STATE REQUIREMENTS, LOCAL AUTHORITIES, AND NFPA 90.
- PRIOR TO BID, THE CONTRACTOR SHALL EXAMINE ALL PROJECT DOCUMENTS TO DEVELOP A COMPLETE UNDERSTANDING OF THE PROJECT SCOPE. FAILURE TO REVIEW ALL CONTRACT DRAWINGS AND EXISTING CONDITIONS WILL NOT RELIEVE THE CONTRACTOR OF THE RESPONSIBILITY TO PERFORM ALL WORK REQUIRED. THE CONTRACTOR SHALL, UPON REVIEW OF THE DRAWINGS AND EXISTING CONDITIONS, ADVISE THE OWNER OF ANY DISCREPANCIES WHICH WILL AFFECT THE WORK REQUIRED.
- IT IS THE INTENT OF THE CONTRACT DOCUMENTS TO INDICATE FINISHED WORK THAT IS FULLY ADJUSTED, TESTED, AND READY FOR OPERATION. WHEREVER THE WORD "PROVIDE" IS USED, IT SHALL MEAN "FURNISH AND INSTALL COMPLETE AND READY FOR USE", UNLESS OTHERWISE NOTED.
- THE CONTRACTOR SHALL FURNISH AND INSTALL THE COMPLETE AND FUNCTIONAL SYSTEMS REQUIRED, INCLUDING EQUIPMENT, CONTROLS, DUCTWORK, PIPING, WIRING, VALVES, AND ALL OTHER APPURTENANCES AND HARDWARE FOR A COMPLETE SYSTEM.
- THE CONTRACTOR SHALL FURNISH AND INSTALL ALL ITEMS NECESSARY FOR THE COMPLETE INSTALLATION OF THE EQUIPMENT AS REQUIRED BY CODE WITHOUT ADDITIONAL COST TO THE OWNER, REGARDLESS WHETHER THE ITEMS ARE INDICATED IN THE CONTRACT DRAWINGS OR SPECIFICATIONS. SUCH ITEMS COULD BE, BUT ARE NOT LIMITED TO, SUPPORTS, INSULATION, WIRING, LUBRICATION, MOTOR CONTROLLERS, REFRIGERANTS, START-UP AND SERVICE, ETC.
- THE CONTRACTOR SHALL FURNISH AND INSTALL A FIRST CLASS SYSTEM AND SHALL COMPLETELY COORDINATE WITH ALL OTHER TRADES.
- ALL CONFLICTS WHICH MAY PREVENT THE COMPLETION OF WORK SHALL BE BROUGHT TO THE ATTENTION OF THE OWNER'S REPRESENTATIVE. THE CONTRACTOR SHALL NOT PROCEED WITH RELATED WORK UNTIL THE CONFLICT IS RESOLVED.
- THE CONTRACTOR SHALL INSTALL ALL MECHANICAL AND ELECTRICAL EQUIPMENT IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS.
- THE CONTRACT DRAWINGS ARE DIAGRAMMATIC AND DO NOT INDICATE ALL COMPONENTS AND ACCESSORIES REQUIRED FOR THE COMPLETE INSTALLATION. THE CONTRACTOR SHALL PROVIDE SUCH ITEMS TO COMPLETE THE ENTIRE SYSTEM AND PLACE IN PROPER OPERATION IN ACCORDANCE WITH APPLICABLE CODES, INDUSTRY STANDARDS, AND EQUIPMENT MANUFACTURER'S RECOMMENDATIONS.
- LOCATIONS OF EQUIPMENT, PIPING, VALVES, ETC. ARE INDICATED DIAGRAMMATICALLY ON THE DRAWINGS. THE CONTRACTOR SHALL OBTAIN EXACT LOCATIONS AND ESTABLISH EXACT DIMENSIONS ON THE JOB SITE AFTER STUDYING THE CONDITIONS.
- THE CONTRACTOR SHALL OBTAIN ALL PERMITS AND ARRANGE FOR ALL INSPECTIONS BY LOCAL AUTHORITIES HAVING JURISDICTION.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR INSTALLING ALL ADDITIONAL FITTINGS AND REROUTING OF PIPING AS REQUIRED TO ASSURE THE PIPING SYSTEMS ARE INSTALLED PROPERLY AND IN ACCORDANCE WITH CODE.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR INSTALLING ALL ADDITIONAL FITTINGS AND REROUTING OF DUCTWORK AS REQUIRED TO ASSURE THE AIR DISTRIBUTION SYSTEMS ARE INSTALLED PROPERLY AND IN ACCORDANCE WITH SMACNA STANDARDS.
- THE CONTRACTOR SHALL INSTALL ALL AIR DISTRIBUTION SYSTEMS SO AS TO NOT INTERFERE WITH THE PLUMBING, STRUCTURAL, ELECTRICAL, AND ARCHITECTURAL SYSTEMS. THE CONTRACTOR SHALL COORDINATE THIS PROJECT REQUIREMENT.
- ALL NEW AIR SYSTEMS SHALL BE BALANCED AND TESTED BY THE CONTRACTOR UPON COMPLETION OF THE PROJECT. IT SHALL BE ESTABLISHED THAT ALL EQUIPMENT IS CAPABLE OF OPERATING AT THE DESIGN CAPACITY AND ALL CONTROLS ARE OPERATING TO THE SATISFACTION OF THE OWNER. ALL SYSTEMS SHALL BE CHECKED FOR EXCESSIVE NOISE OR VIBRATION AND ALL SUCH CONDITIONS BE CORRECTED BY THE CONTRACTOR. BALANCING CONTRACTOR SHALL BE NEBB OR ABC. THE CONTRACTOR SHALL SUBMIT A CERTIFIED BALANCING REPORT TO THE OWNER UPON COMPLETION OF THE PROJECT.
- ANY EQUIPMENT LOCATED WITHIN A RETURN AIR PLENUM SHALL BE RATED FOR SUCH APPLICATION IN ACCORDANCE WITH APPLICABLE REGULATIONS.
- STRUCTURAL COMPONENTS SHALL BE X-RAYED PRIOR TO CUTTING OR DRILLING, AND SHALL NOT BE CUT, DRILLED, OR MODIFIED IN ANY WAY WITHOUT REVIEW AND WRITTEN APPROVAL FROM THE STRUCTURAL ENGINEER.
- THE DUCTWORK SHALL BE CONSTRUCTED IN ACCORDANCE WITH SMACNA (SHEET METAL AND AIR CONDITIONING CONTRACTORS NATIONAL ASSOCIATION) DUCT STANDARDS AND ASHRAE (AMERICAN SOCIETY OF HEATING, REFRIGERATING, AND AIR CONDITIONING ENGINEERS) RECOMMENDATIONS. IN CASE SIZE OF DUCTWORK IS NOT SHOWN ON THE DRAWINGS, THE CONTRACTOR MAY REQUEST THE SIZE FROM THE OWNER'S REPRESENTATIVE. THE SHAPE OF THE DUCT MAY BE CHANGED WHEN APPROVED BY THE OWNER'S REPRESENTATIVE AND THAT THE STATIC LOSS WITHIN THE DUCT IS NOT CHANGED.
- ALL DUCT SIZES SHOWN ON THE DRAWINGS ARE INSIDE CLEAR DIMENSIONS.
- PROVIDE NFPA APPROVED FIRE STOPPING AT ALL PIPING AND CONDUIT PENETRATIONS OF FIRE RATED FLOORS, WALLS, AND COMPONENTS.
- THE MECHANICAL CONTRACTOR SHALL FURNISH AND INSTALL MOTOR STARTERS FOR MECHANICAL EQUIPMENT AND THE EQUIPMENT SHALL BE WIRED BY THE ELECTRICAL CONTRACTOR.
- THE CONTRACTOR SHALL GUARANTEE ALL WORKMANSHIP, MATERIALS, EQUIPMENT, AND RELATED ITEMS FOR A PERIOD AFTER COMPLETION OF THE PROJECT AND REPLACE ANY DEFECTIVE MATERIALS, EQUIPMENT, AND RELATED ITEMS WITHIN THE GUARANTEE PERIOD. THE PERIOD SHALL BE TWELVE MONTHS FROM THE COMPLETION OF THE PROJECT UNLESS SPECIFIED OTHERWISE IN THE SPECIFICATIONS OR CONTRACT DOCUMENTS.
- ALL CONTRACT DOCUMENTS INCLUDING ARCHITECTURAL, STRUCTURAL, ELECTRICAL, MECHANICAL, AND PLUMBING ARE COMPLEMENTARY AND MUST BE USED IN COMBINATION BY THE CONTRACTOR TO OBTAIN COMPLETE CONSTRUCTION INFORMATION AND PROVIDE A COMPLETE OPERABLE SYSTEM.
- REFER TO THE PROJECT SPECIFICATIONS FOR ADDITIONAL INFORMATION AND REQUIREMENTS.

MECHANICAL GAS NOTES

- ALL GAS PIPING SHALL BE INSTALLED IN ACCORDANCE WITH NFPA #54 AND ALL LOCAL AUTHORITY AND UTILITY COMPANY REQUIREMENTS.
- GAS LINES ARE TO BE LEAK TESTED BY CONTRACTOR TO DETERMINE THAT THERE ARE NO LEAKS PRIOR TO EQUIPMENT START-UP.
- ALL GAS VALVES AND CONNECTIONS TO EQUIPMENT MUST BE ACCESSIBLE, GAS SHUT-OFF VALVES SHALL BE LOCATED OUTSIDE OF HOUSING ON ALL ITEMS OF EQUIPMENT.
- CONTRACTOR SHALL INSTALL INDIVIDUAL VENTS TO ATMOSPHERE FOR ALL PRESSURE REGULATORS IN ACCORDANCE WITH THE INTERNATIONAL FUEL GAS CODE.
- CONTRACTOR SHALL INSTALL TEE FITTINGS FOR TESTING OF ALL PRESSURE REGULATORS IN ACCORDANCE WITH THE INTERNATIONAL FUEL GAS CODE.
- CONTRACTOR SHALL INSTALL VENT PIPING FOR ALL PRESSURE REDUCING VALVES AND ALL GAS RELATED DEVICES WHICH REQUIRE VENTING.
- ALL GAS PIPING SHALL BE INSTALLED IN ACCORDANCE WITH NFPA 54 AND LOCAL JURISDICTION REQUIREMENTS. GAS VALVES AND CONNECTIONS TO THE EQUIPMENT SHALL BE IN AN ACCESSIBLE LOCATION. GAS SHUT-OFF VALVES SHALL BE LOCATED OUTSIDE OF UNIT HOUSINGS.
- PROVIDE AN A.G.A. APPROVED OR U.L. LISTED GAS VALVE REGULATOR AND A QUICK-DISCONNECT UNION AT EACH PIECE OF GAS FUELED EQUIPMENT AND AS INDICATED ON THE DRAWINGS. ALL EQUIPMENT SHALL BE COMPLETE WITH GAS COCKS, UNIONS, DRIP LEGS, SOLENOID VALVES, AND PRESSURE REGULATORS. VALVES SHALL BE INSTALLED AT AN ACCESSIBLE LOCATION. GAS VALVES 2" AND SMALLER SHALL BE A.G.A. OR U.L. APPROVED. VALVES 2-1/2" AND LARGER SHALL BE CERTIFIED BY THE MANUFACTURER TO BE SUITABLE FOR NATURAL GAS SERVICE.
- ALL GAS REGULATOR VENTS SHALL BE APPROVED VENTLESS MODELS FOR THE APPLICATION OR SHALL TERMINATE VENT TO THE ATMOSPHERE DEPENDANT ON EQUIPMENT REQUIREMENTS.

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Issue:	Description:	Date:
1	Schematic Design	07.31.2015
2	Design Development	09.18.2015
3	80% Pricing Set	11.18.2015

Drawing Title:

COVER SHEET - MECHANICAL

Drawing Scale: **NONE**

Project No.: **13118** Date: **11.18.2015**

Drawing No.:

M0.00

OUTSIDE AIR COMPLIANCE

Project Name:	Unit Total Supply Air:8800
Date:	Unit Total Outdoor Air:2640
Unit Designation:	

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
Room Number	Description	Area (ft²) (Az)	Area Outdoor Air Rate per VMC Table 403.3 (Ra)	Area Outdoor Air (RaAz)	Occupant Load Rate per VMC Table 403.3 (People/1000 ft²)	Occupancy C x F/1000 (Pz)	Occupant Outdoor Air Rate per VMC Table 403.3 (Rp)	Occupant Outdoor Air (RpPz)	Breathing Zone Outdoor Air (Vbz = RpPz + RaAz)	Zone Air Distribution Effectiveness (Ez)	Zone Outdoor Air (Voz = Vbz / Ez)	Supply Air Design (Vpz)	Secondary Recirculated Air	Outdoor Air Fraction (Zp = Voz / Vpz)
103,103A, 103B	Fellowship Hall	1890	0.06	113	120	227	5	1135	1248	1	1248	2800	0	0.446
101	Fellowship Hall	2500	0.06	150	120	300	5	1500	1650	1	1650	6000	0	0.275
Totals		4390		263		527		2635	2898		2898	8800	0	0.446

2012 OA Version 6.0 A-1 Option - FFX - REG - 3/15/10

Do not utilize Occupant Diversity without specific approval from the Authority Having Jurisdiction

Occupant Diversity
D = Ps/∑ all zones Pz

0.594

Total Required Outdoor Air

2612

Uncorrected O.A.
Vou = D ∑ all zones RpPz + ∑ all zones RaAz

System Population (Ps)

Diversity → 313

1828

Percentage of Outdoor Air

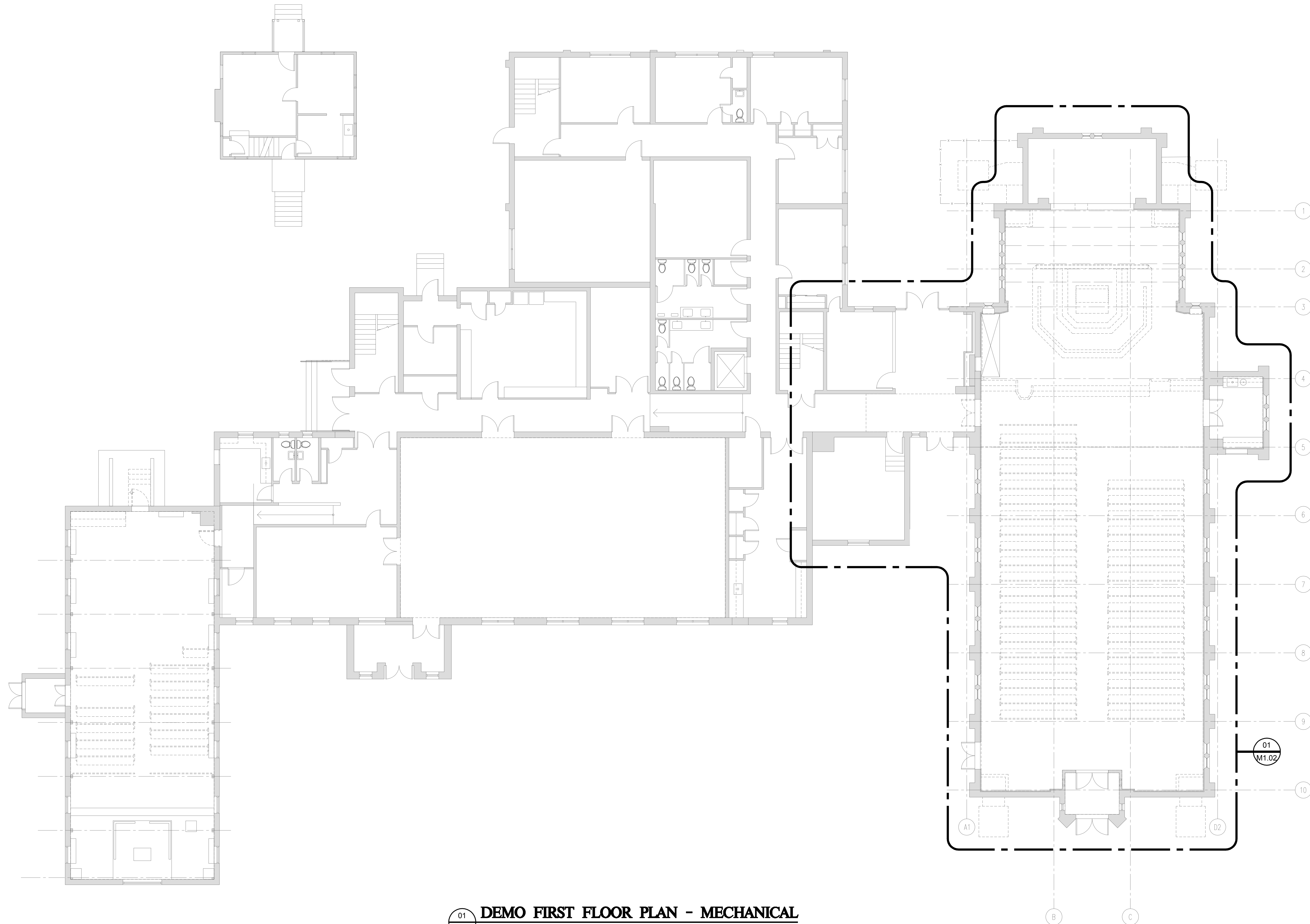
30%

Method

IMC Chart

SCHEDULE NOTES

- OUTSIDE AIR COMPLIANCE CHART BASED ON IMC 2012 TABLE 403.3.
- THE SYSTEM POPULATION IS ADJUSTED PER THE ARCHITECTS' OCCUPANCY LOAD DESIGN. REFER TO THE ARCHITECTURAL DRAWING FOR MORE INFORMATION.
- THE SELF CONTAINED (SCU-1, SCU-2, AND SCU-3) COMBINED PROVIDE THE REQUIRED OUTSIDE AIR TO THE SPACE.



01
M1.02

DEMO FIRST FLOOR PLAN - MECHANICAL

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

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Issue:	Description:	Date:
1	Schematic Design	07.31.2015
2	Design Development	09.18.2015
3	80% Pricing Set	11.18.2015

Drawing Title:

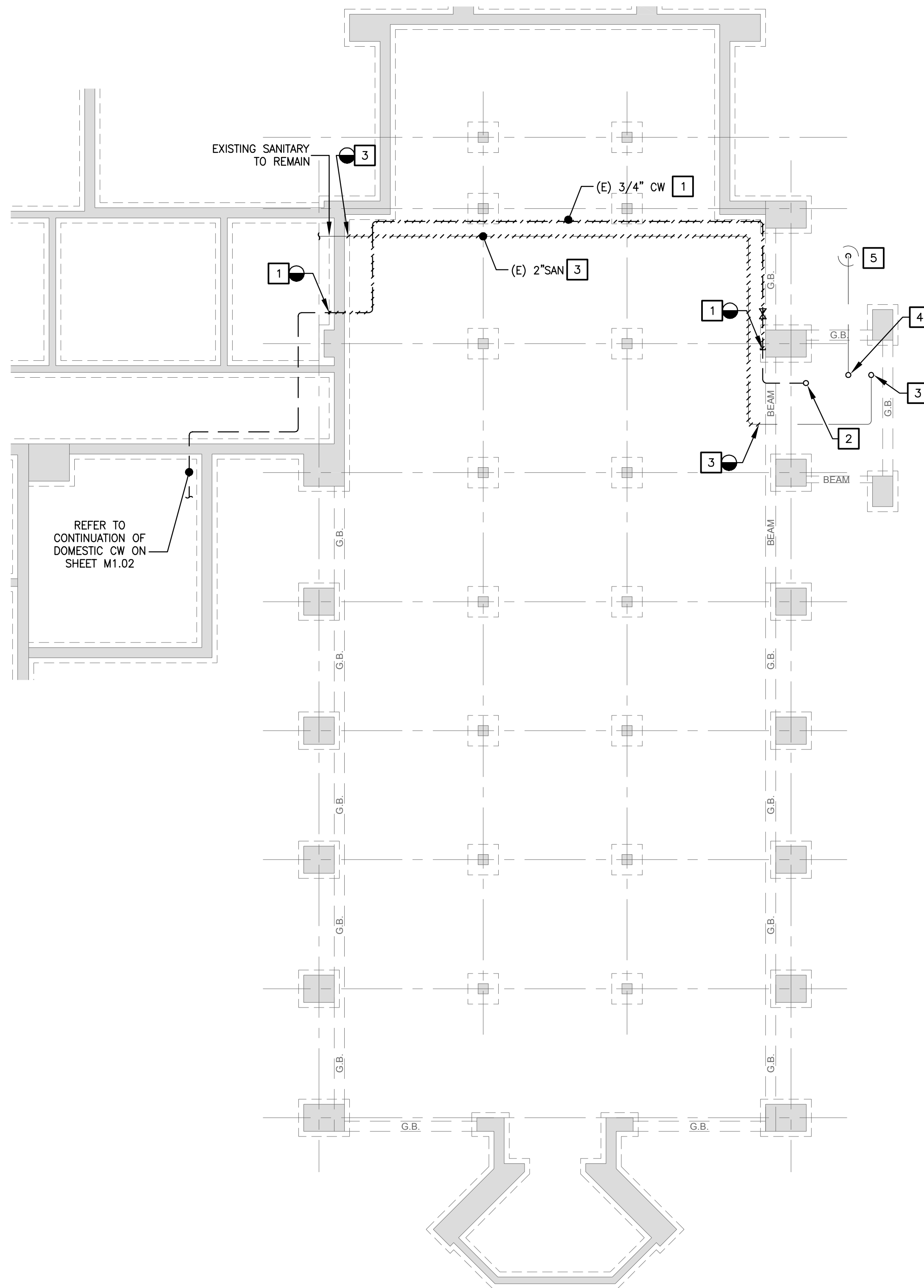
**DEMO OVERALL
FIRST FLOOR PLAN
- MECHANICAL**

Drawing Scale: **NONE**

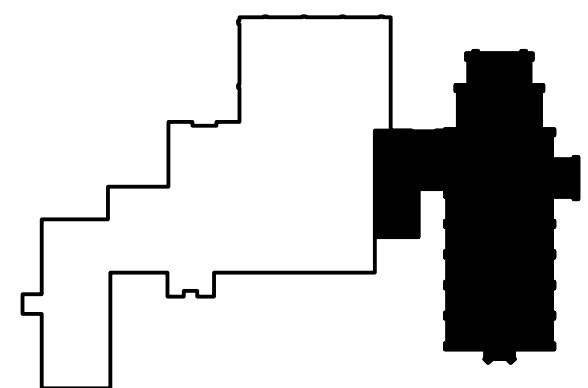
Project No.: **13118** Date: **11.18.2015**

Drawing No.:

M1.00



01 **SAINT GEORGE DEMO BASEMENT FLOOR PLAN - MECHANICAL**
M1.01 Scale: 1/8" = 1'-0"



REFERENCED PLAN NOTES	
Applicable to this drawing only	
1	REMOVE EXISTING 3/4" DOMESTIC COLD WATER DISTRIBUTION PIPING TO THE LIMITS OF DEMOLITION SHOWN. CAP EXISTING PIPING AND REFER TO RECONNECTION AS SHOWN ON NEW WORK PLANS.
2	EXISTING 3/4" DOMESTIC COLD WATER DISTRIBUTION UP TO SACRISTY AREA ABOVE TO REMAIN.
3	REMOVE EXISTING 2" SANITARY DRAIN PIPING TO GENERAL USE SINK IN SACRISTY AREA ABOVE TO THE LIMITS OF DEMOLITION SHOWN. CAP EXISTING TO REMAIN PIPING AND REFER TO RECONNECTION AS SHOWN ON NEW WORK PLANS.
4	EXISTING 2" SANITARY DRAIN CONNECTION TO SACRISTY SINK ABOVE AND CONNECTION TO EXISTING DRY-WELL DRAIN SYSTEM TO REMAIN.
5	EXISTING DRY-WELL DRAIN SYSTEM TO REMAIN.

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1	Schematic Design	07.31.2015
2	Design Development	09.18.2015
3	80% Pricing Set	11.18.2015

Drawing Title:

**SAINT GEORGE DEMO
BASEMENT FLOOR PLAN
- MECHANICAL**

Drawing Scale: **NONE**

Project No.: **13118** Date: **11.18.2015**

Drawing No.:

M1.01

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Drawing Title:

SAINT GEORGE DEMO FIRST
FLOOR PLAN - MECHANICAL

Drawing Scale: NONE

Project No.: 13118
Date: 11.18.2015

Drawing No.:

M1.02

GENERAL PLAN NOTES

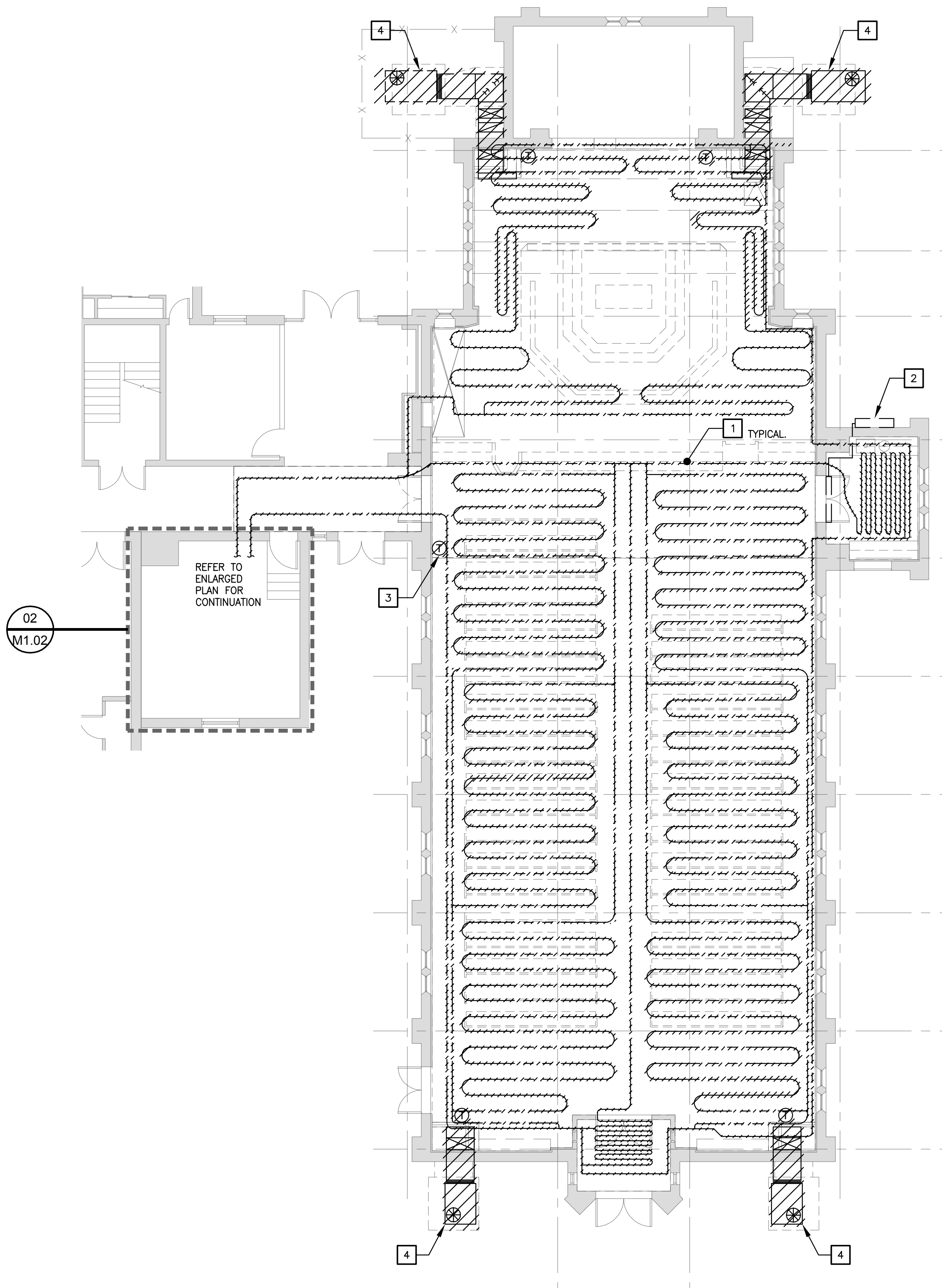
Applicable to this drawing only

- 1 CEILING IN EXISTING MECHANICAL ROOM HAS NOT BEEN TESTED BUT IT IS ASSUMED TO CONTAIN ASBESTOS. CONTRACTOR SHALL NOT DISTURB CEILING DURING DEMOLITION OF EXISTING SYSTEMS, PIPING, AND DUCTWORK.

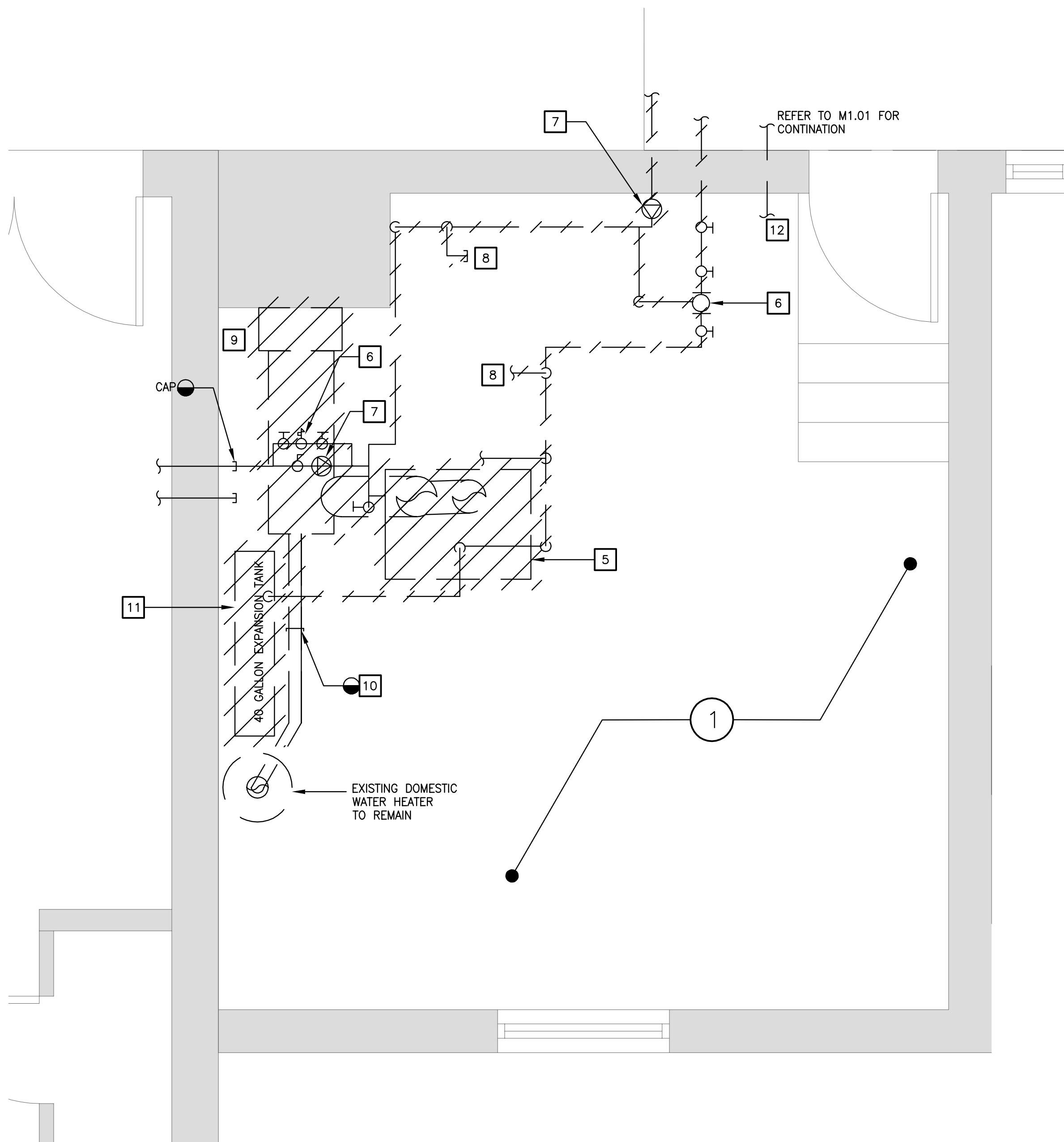
REFERENCED PLAN NOTES

Applicable to this drawing only

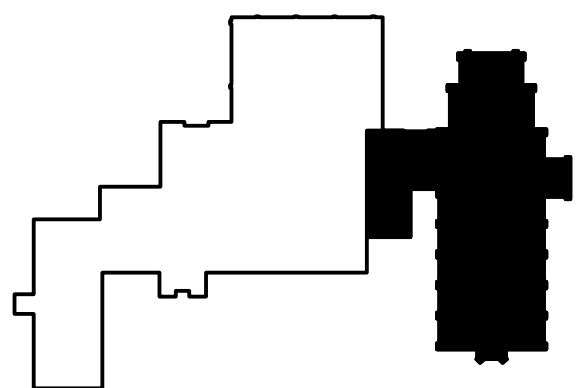
- 1 REMOVE ALL EXISTING RADIANT FLOOR HEATING PIPING THROUGHOUT THE AREA OF WORK. REMOVE ALL RELATED CONTROL VALVE AND MANIFOLD LOCATIONS ASSOCIATED WITH INDIVIDUAL PIPING CIRCUITS.
- 2 EXISTING SPLIT-SYSTEM DUCTLESS AC UNIT AND EXTERIOR HEAT PUMP UNIT SERVING SACRISTY AREA TO REMAIN.
- 3 REMOVE ALL EXISTING CONTROL ASSOCIATED FOR RADIANT FLOOR HEATING SYSTEM SCHEDULED FOR REMOVAL.
- 4 REMOVE EXISTING GRADE MOUNTED PACKAGED AC UNIT AND ALL ASSOCIATED DUCTWORK, DIFFUSERS, CONTROLS, AND POWER WIRING.
- 5 REMOVE EXISTING 500 MBH BOILER AND ALL ASSOCIATED HOT WATER PIPING, GAS PIPING, FLUE VENT AND POWER, AND CONTROL WIRING.
- 6 REMOVE EXISTING CONTROL VALVE AND ASSEMBLY TO EXISTING RADIANT FLOOR HEATING ZONE. REMOVE ALL ASSOCIATED MANUAL VALVE AND CONTROL WIRING.
- 7 REMOVE EXISTING RADIANT FLOOR HEATING ZONE CIRCULATOR PUMP AND ALL ASSOCIATED CONTROL AND POWER WIRING.
- 8 REMOVE EXISTING HOT WATER PIPING TO PREVIOUSLY DISCONNECTED AND ABANDONED RADIANT FLOOR HEATING ZONE.
- 9 REMOVE EXISTING BOILER BREECHING VENT DUCTWORK CONNECTION TO EXISTING CHIMNEY.
- 10 REMOVE EXISTING DOMESTIC WATER FLUE VENT DUCTWORK TO THE LIMITS OF DEMOLITION SHOWN. REFER TO NEW WORK PLAN FOR NEW CONNECTION AND ROUTING.
- 11 REMOVE EXISTING HOT WATER HEATING SYSTEM EXPANSION TANK AND ALL ASSOCIATED PIPING AND FITTINGS.
- 12 EXISTING DOMESTIC COLD WATER PIPING DISTRIBUTION TO REMAIN.



01 SAINT GEORGE DEMO FIRST FLOOR PLAN - MECHANICAL
M1.02 Scale: 1/8" = 1'-0"



02 SAINT GEORGE DEMO FIRST FLOOR PLAN - MECHANICAL
M1.02 Scale: 1/2" = 1'-0"



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3	80% Pricing Set	11.18.2015

Drawing Title:

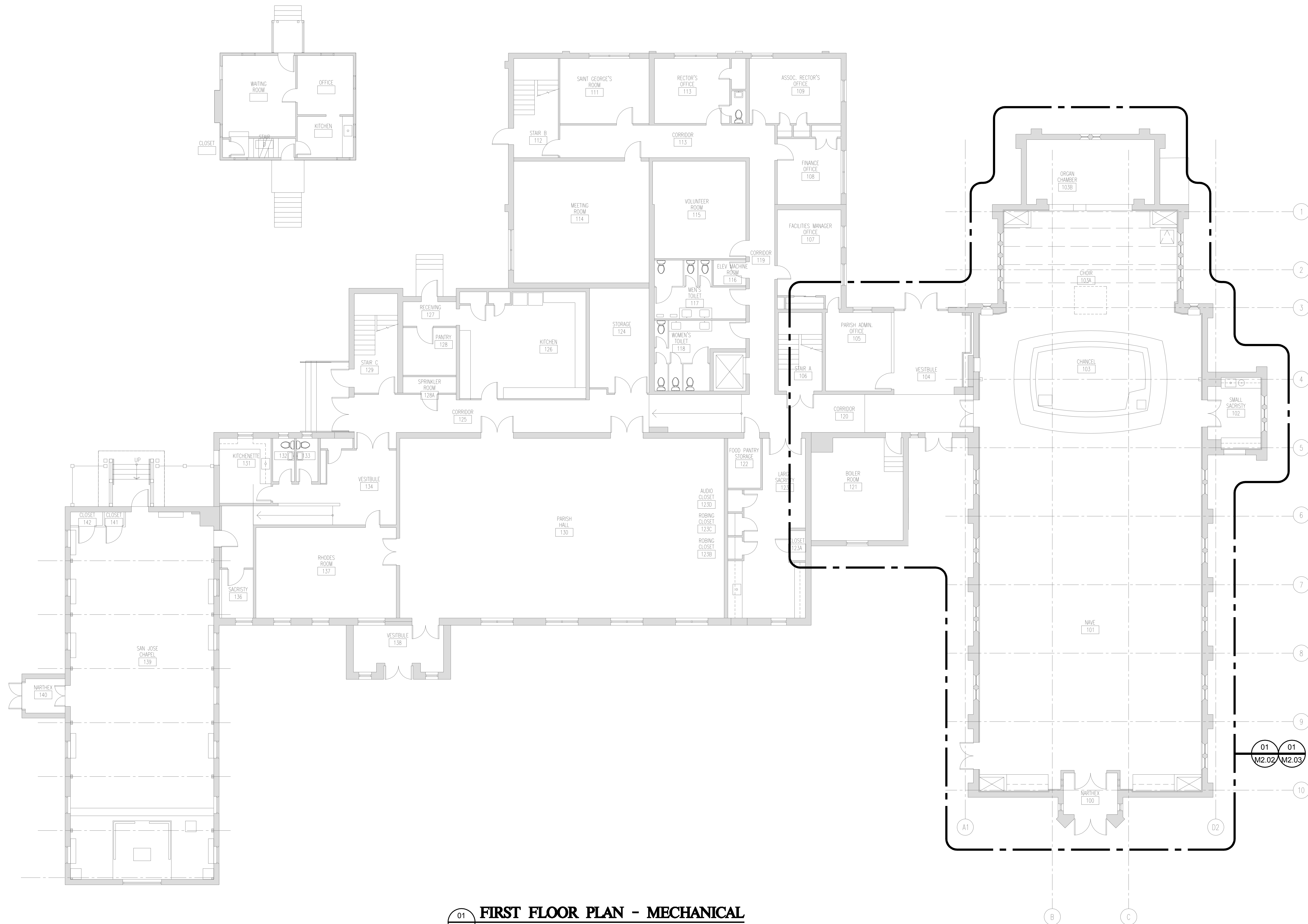
OVERALL
FIRST FLOOR PLAN
- MECHANICAL

Drawing Scale: **NONE**

Project No.: 13118 Date: 11.18.2015

Drawing No.:

M2.00



FIRST FLOOR PLAN - MECHANICAL

REFERENCED PLAN NOTES

Applicable to this drawing only

1

CONNECT NEW 3/4" DOMESTIC COLD WATER TO EXISTING TO REMAIN DISTRIBUTION AT AREA. PROVIDE CONNECTION AT EXISTING TO REMAIN ISOLATION VALVES TO SACRISTY.

2

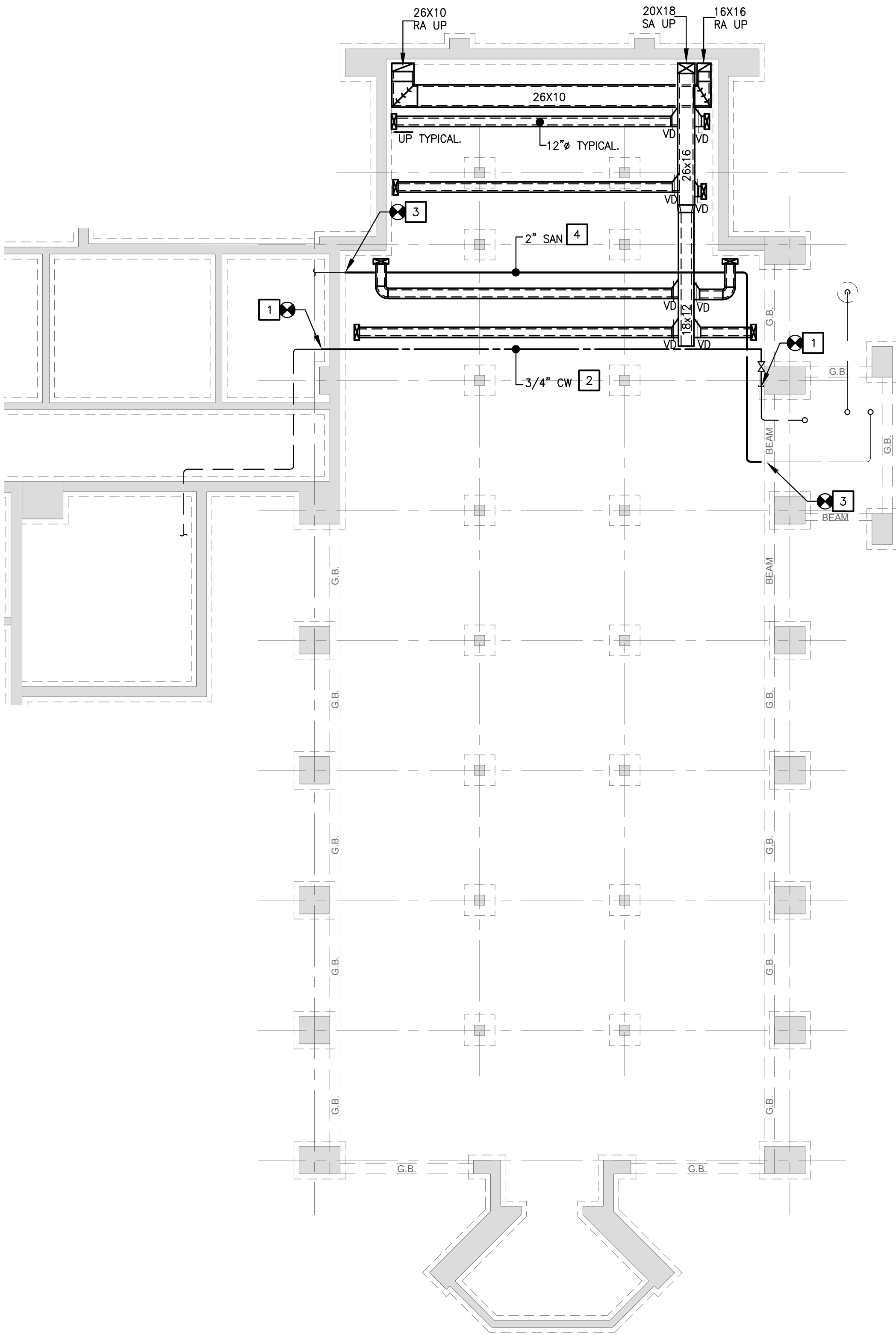
CONTRACTOR SHALL COORDINATE TO INSTALL NEW DOMESTIC WATER DISTRIBUTION PIPING THIGH TO NEW STRUCTURE ABOVE FOR RENOVATED CHANCE AREA FINISHED FROM ELEVATIONS.

3

CONNECT NEW 2" SANITARY WASTE LINE TO EXISTING TO REMAIN DISTRIBUTION AT AREA.

4

CONTRACTOR SHALL COORDINATE TO INSTALL NEW SANITARY WASTE LINE TO CONNECT TO EXISTING PIPING ELEVATIONS AND TO MAINTAIN 1/8" PER LINEAR FOOT SLOPE FOR PIPING. COORDINATE LAYOUT WITH NEW FLOOR STRUCTURE AND MECHANICAL DUCTWORK.

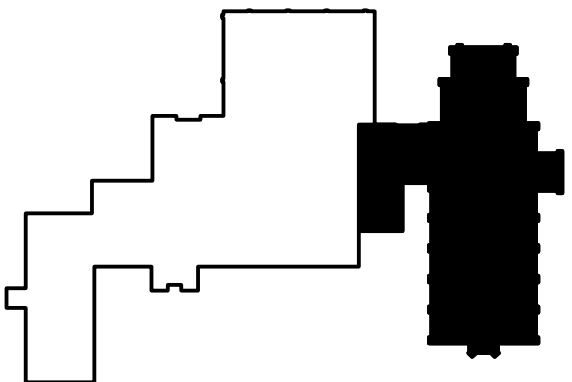


01

SAINT GEORGE BASEMENT FLOOR PLAN - MECHANICAL

M2.01

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



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Drawing Title:

SAINT GEORGE
BASEMENT FLOOR PLAN
- MECHANICAL

Drawing Scale: NONE

Project No.: 13118
Date: 11.18.2015

Drawing No.:

M2.01

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1	Schematic Design	07.31.2015
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3	80% Pricing Set	11.18.2015

Drawing Title:

SAINT GEORGE FIRST
FLOOR PLAN - MECHANICAL

Drawing Scale: NONE

Project No.: 13118
Date: 11.18.2015

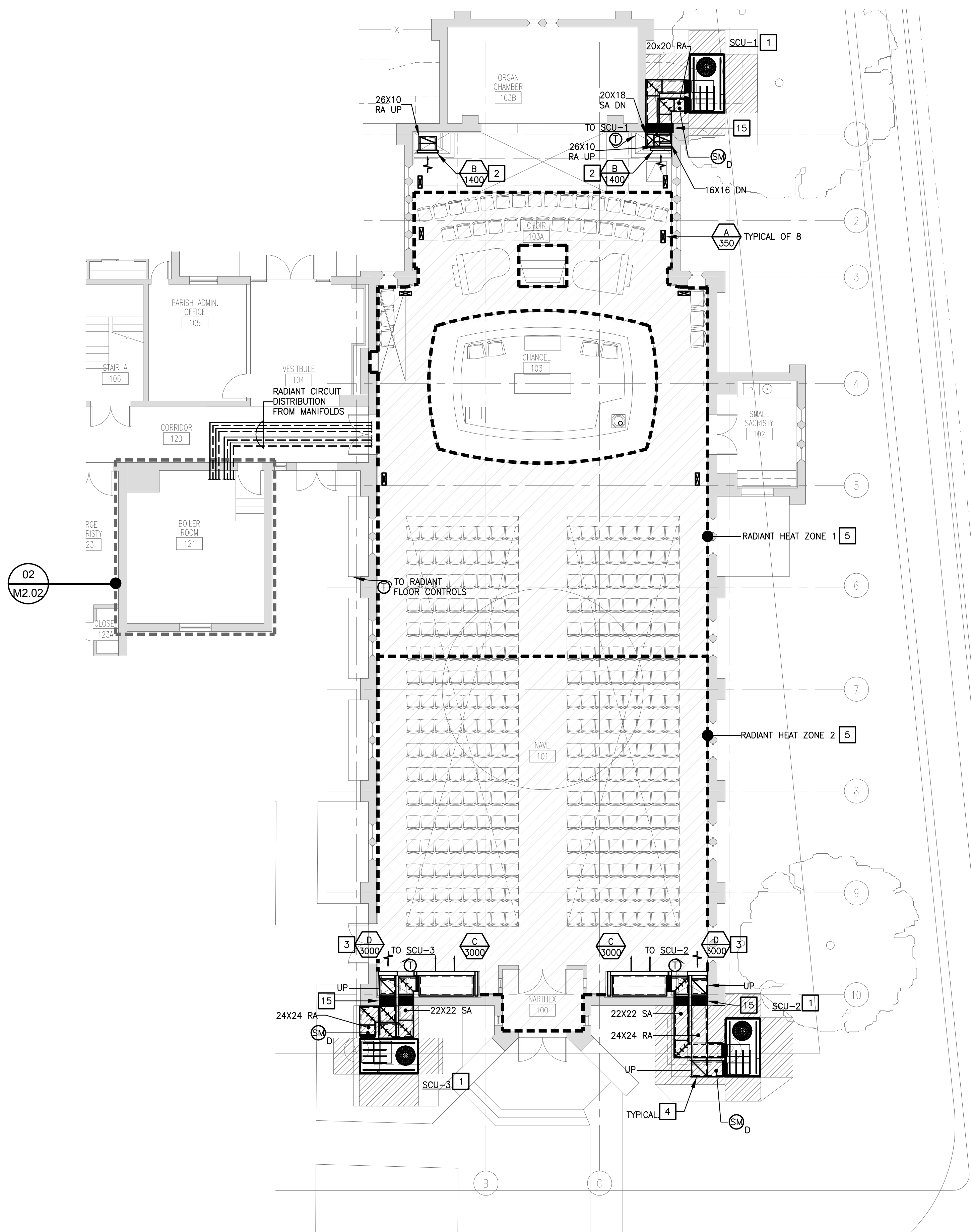
Drawing No.:

M2.02

REFERENCED PLAN NOTES

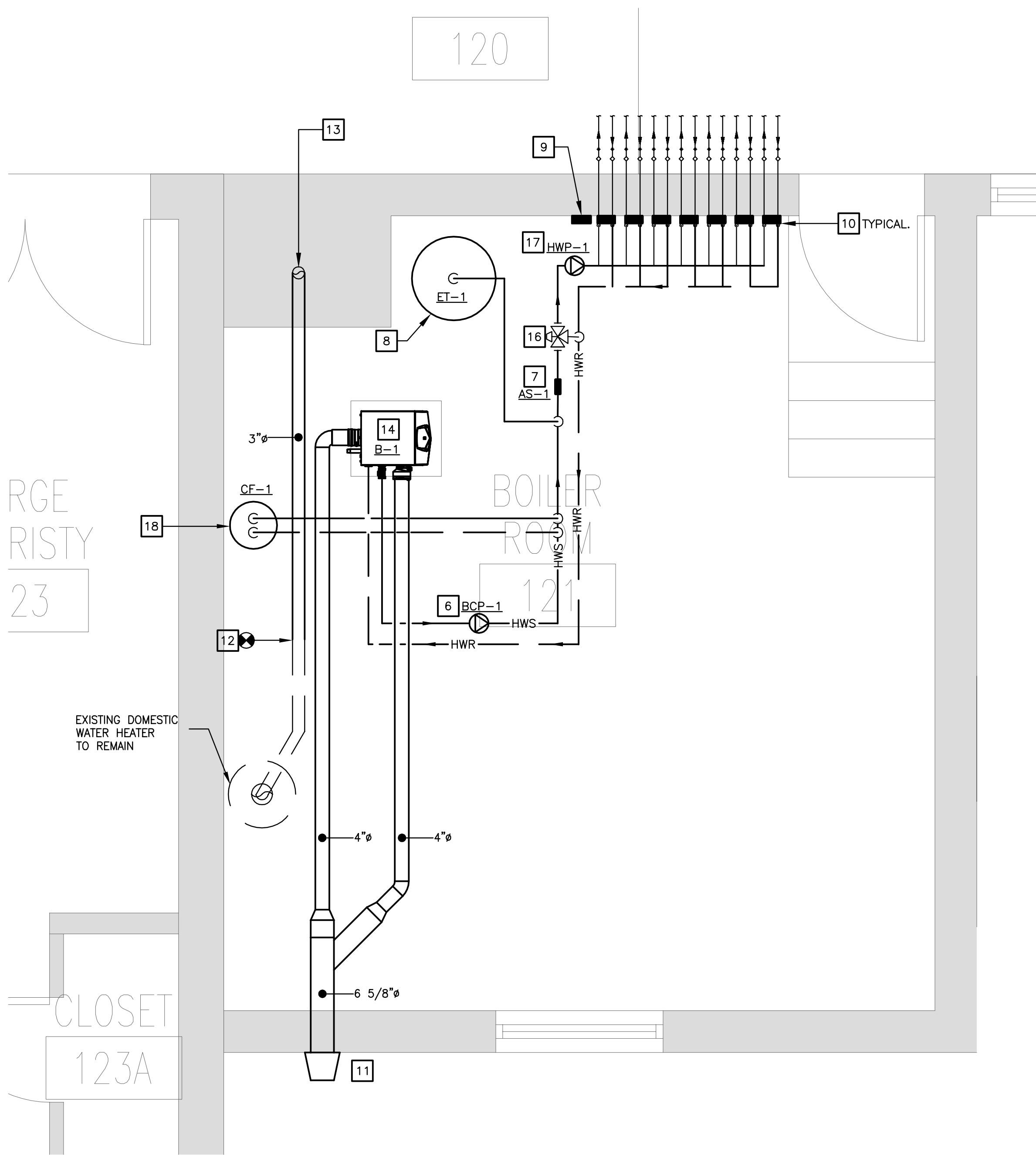
Applicable to this drawing only

- 1 PROVIDE PACKAGED AIR CONDITIONING UNIT MOUNTED ON GRADE MAINTAINING ALL REQUIRED MANUFACTURER CLEARANCES. UNIT SHALL BE PROVIDED WITH HORIZONTAL DUCTWORK DISCHARGE UNIT CONFIGURATION. PROVIDE UNIT WITH EQUIPMENT RAIL SUPPORT CURB INSTALLED ON CONCRETE PAD WITH INTEGRAL VIBRATION ISOLATION. REFER TO UNIT SCHEDULE AND DETAILS FOR MORE INFORMATION.
- 2 HIGH SIDEWALL ARCHITECTURAL RETURN AIR GRILLE WITH 12.0 SQ.FT MINIMUM FREE AREA.
- 3 HIGH SIDEWALL ARCHITECTURAL RETURN AIR GRILLE WITH 12.0 SQ.FT MINIMUM FREE AREA.
- 4 ALL EXTERIOR SUPPLY AND RETURN AIR DUCTWORK SHALL BE PROVIDED WITH INTERNAL SOUND LINING INSULATION AND PRIME/PAINTED FOR EXTERIOR WEATHER APPLICATION.
- 5 TYPICAL CONTROL ZONE FOR FLOOR RADIANT HEATING SYSTEM CONSTRUCTED OF 5/8" PEX TUBING INSTALLED WITH A SEPARATION OF 9 INCHES O.C. PROVIDE EACH CONTROL ZONE WITH PIPE MANIFOLD AND CONTROLS. INSTALL PER MANUFACTURER GUIDELINES. WITH REINFORCED INSULATION BOARD AND WIRE ATTACHMENT SYSTEM. REFER TO DETAIL: UPONOR RADIANT SYSTEM OR EQUIVALENT EQUAL MANUFACTURER.
- 6 HOT WATER IN-LINE CIRCULATION PUMP WITH VARIABLE SPEED ECM MOTOR CONTROL CONNECTED TO BOILER HEATING CONTROLS. REFER TO DETAILS AND SPECIFICATIONS FOR MORE INFORMATION.
- 7 IN-LINE AIR SEPARATION INSTALLED PER MANUFACTURER REQUIREMENTS.
- 8 FLOOR MOUNTED PRESSURIZED DIAPHRAGM EXPANSION TANK INSTALLED PER MANUFACTURER REQUIREMENTS.
- 9 RADIANT FLOOR HEATING SYSTEM CONTROLLER.
- 10 RADIANT FLOOR HEATING SYSTEM SUPPLY/RETURN CIRCUIT MANIFOLDS.
- 11 PROVIDE SIDEWALL CONCENTRIC VENT FOR CONDENSING BOILER B-1. INSTALL CONCENTRIC FITTING PER MANUFACTURE RECOMMENDATIONS. PIPING SHALL BE PROVIDED AS CPVC.
- 12 PROVIDE NEW 3"Ø EXTENSION OF EXISTING DOMESTIC HOT WATER FLUE VENT TO EXISTING CHIMNEY.
- 13 ROUTE 3" DOMESTIC HOT WATER FLUE VENT UP EXISTING CHIMNEY TO AND INDEPENDENT TERMINATION CHIMNEY SHALL BE USED AS SHAFT ONLY.
- 14 GAS-FIRED CONDENSING BOILER MOUNTED ON 4" CONCRETE HOUSE-KEEPING PAD PER MANUFACTURER REQUIREMENTS MAINTAINING ALL SERVICE CLEARANCES. PROVIDE UNIT WITH MANUFACTURER CONTROL. CONTRACTOR SHALL COORDINATE REQUIRED MODIFICATIONS TO EXISTING DISTRIBUTION FROM REMOVED 500 MBH BOILER. CONTRACTOR SHALL PROVIDE NEW GAS TRAIN CONNECTION TO 300 MBH BOILER PER CODE AND MANUFACTURE REQUIREMENTS.
- 15 CONTRACTOR SHALL COORDINATE NEW DUCTWORK PENETRATION TO UTILIZE EXISTING WALL PENETRATION OPENINGS AND COORDINATE ADJUST TO DUCTWORK AND OPENINGS AS REQUIRED.
- 16 THERE-WAY MIXING CONTROL VALVE CONNECTED TO RADIANT FLOOR HEATING SYSTEM CONTROLLER.
- 17 HOT-WATER IN-LINE CIRCULATION PUMP WITH VARIABLE SPEED ECM MOTOR CONTROL CONNECTED TO RADIANT FLOOR HEATING CONTROLS.
- 18 CHEMICAL SHOT FEEDER FOR HOT WATER SYSTEM. NEPTUNE CHEMICAL POT FEEDER OR EQUIVALENT MANUFACTURER.



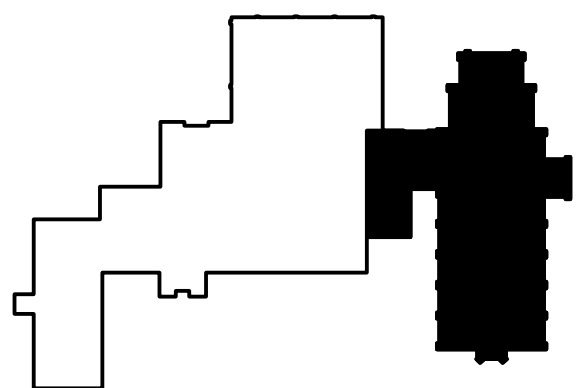
01 SAINT GEORGE FIRST FLOOR PLAN - MECHANICAL

M2.02 Scale: 1/8" = 1'-0"



02 BOILER ROOM ENLARGED PLAN - MECHANICAL

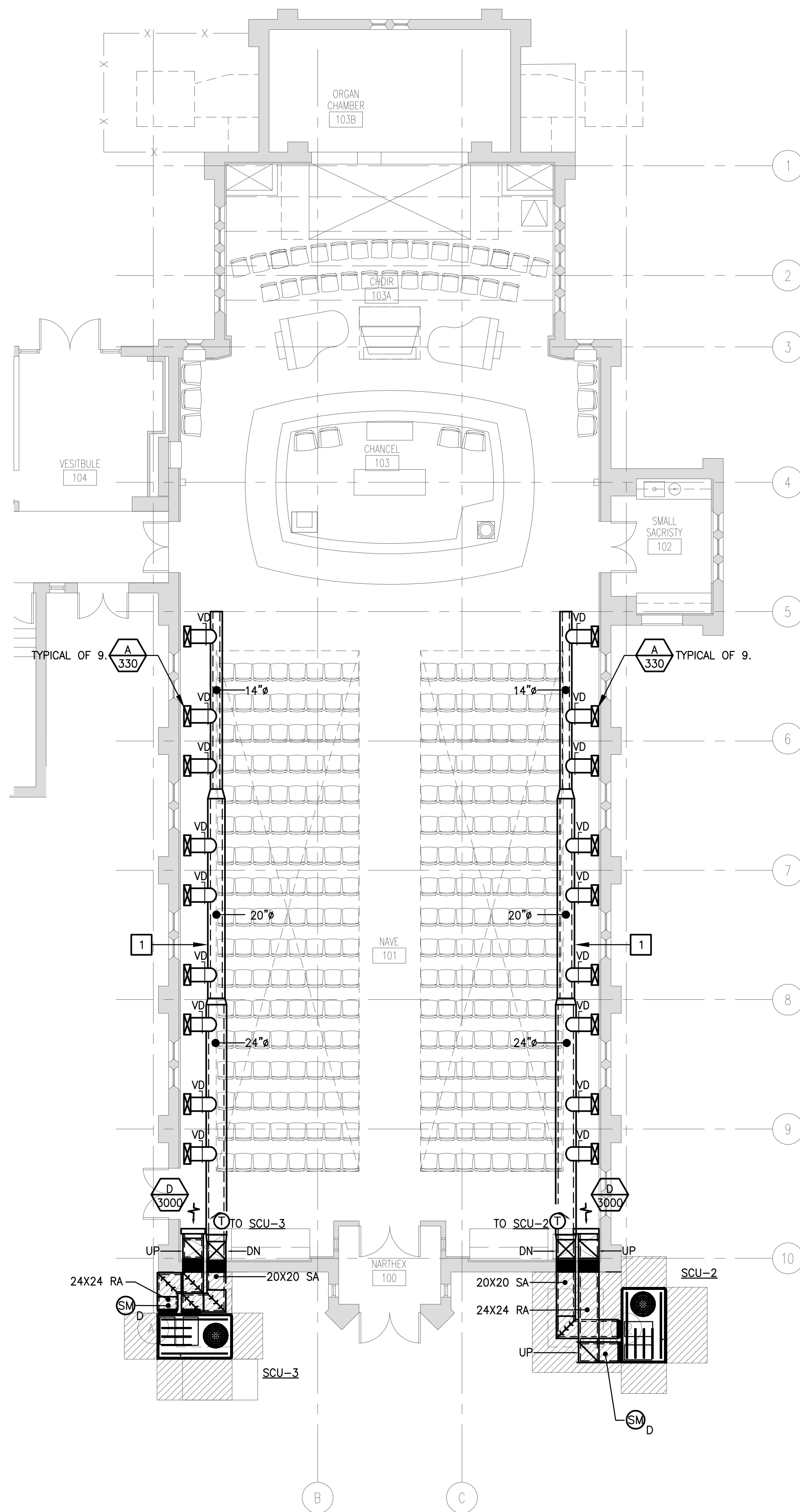
M2.02 Scale: 1/2" = 1'-0"



REFERENCED PLAN NOTES

Applicable to this drawing only

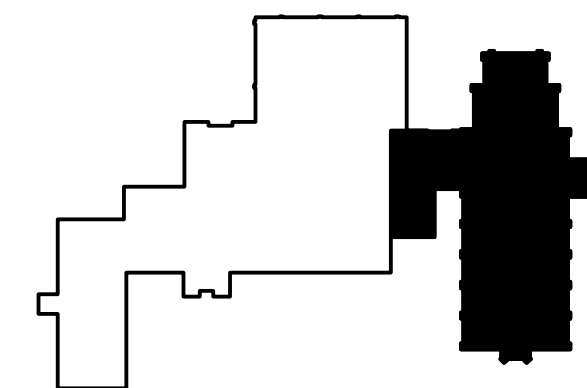
1. INSTALL BELOW GRADE POLYVINYL COATED C-60 STEEL DUCTWORK AND MAINTAIN 0.5% SLOPE BACK TOWARD THE ACCESSIBLE CRAWL SPACE BELOW THE CHANCEL AREA. INSTALL THE DUCTWORK IN SUITABLE TRENCH WITH 4" PEA GRAVEL BED ON THE SOB GRADE AND COORDINATE BACKFILL COMPACTING PER MANUFACTURER REQUIREMENTS. REFER TO DETAILS AND SPECIFICATIONS FOR ADDITIONAL INFORMATION.



01
M2.03

SAINT GEORGE FIRST FLOOR PLAN - MECHANICAL - ALTERNATE 13

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



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Issue:	Description:	Date:
1	Schematic Design	07.31.2015
2	Design Development	09.18.2015
3	80% Pricing Set	11.18.2015

Drawing Title:

SAINT GEORGE FIRST
FLOOR PLAN - MECHANICAL
ALTERNATE 13

Drawing Scale: **NONE**

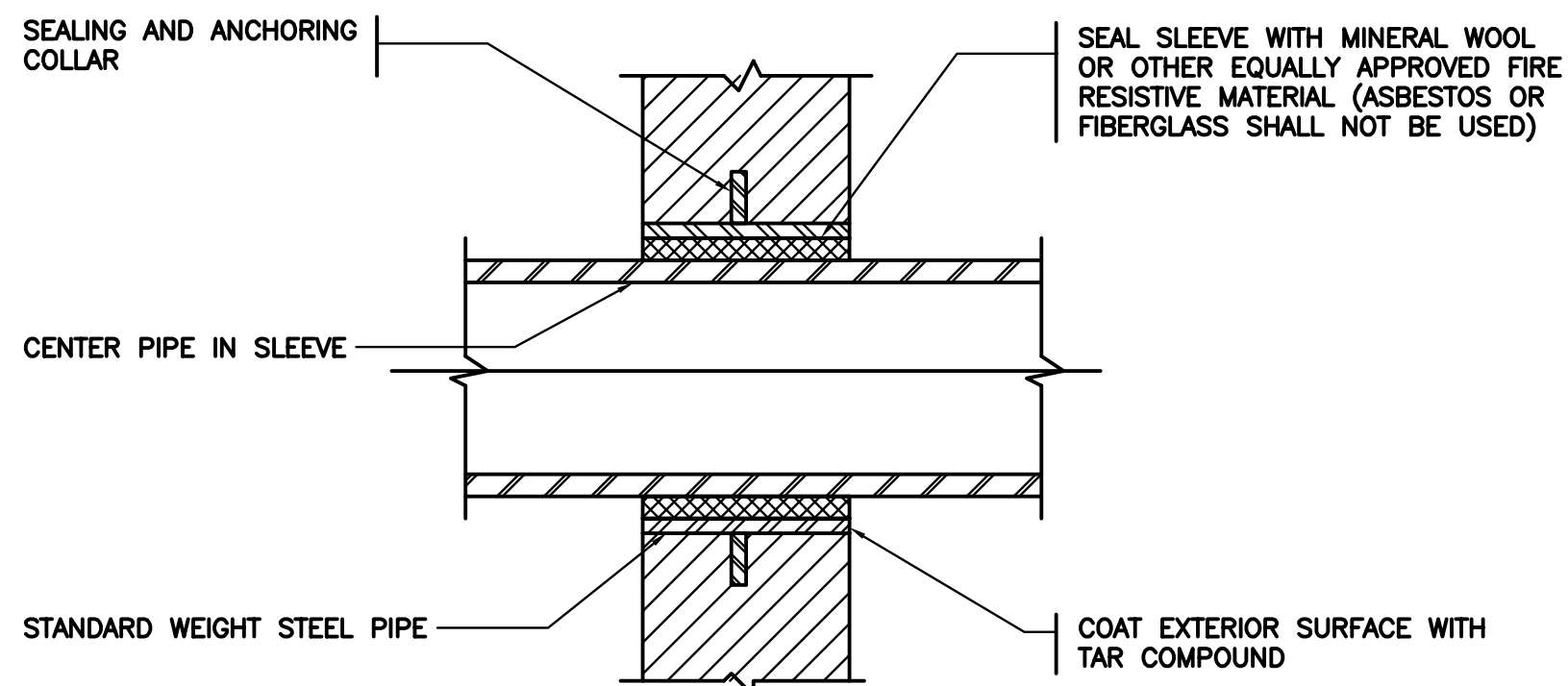
Project No.: 13118
Date: 11.18.2015

Drawing No.:

M2.03

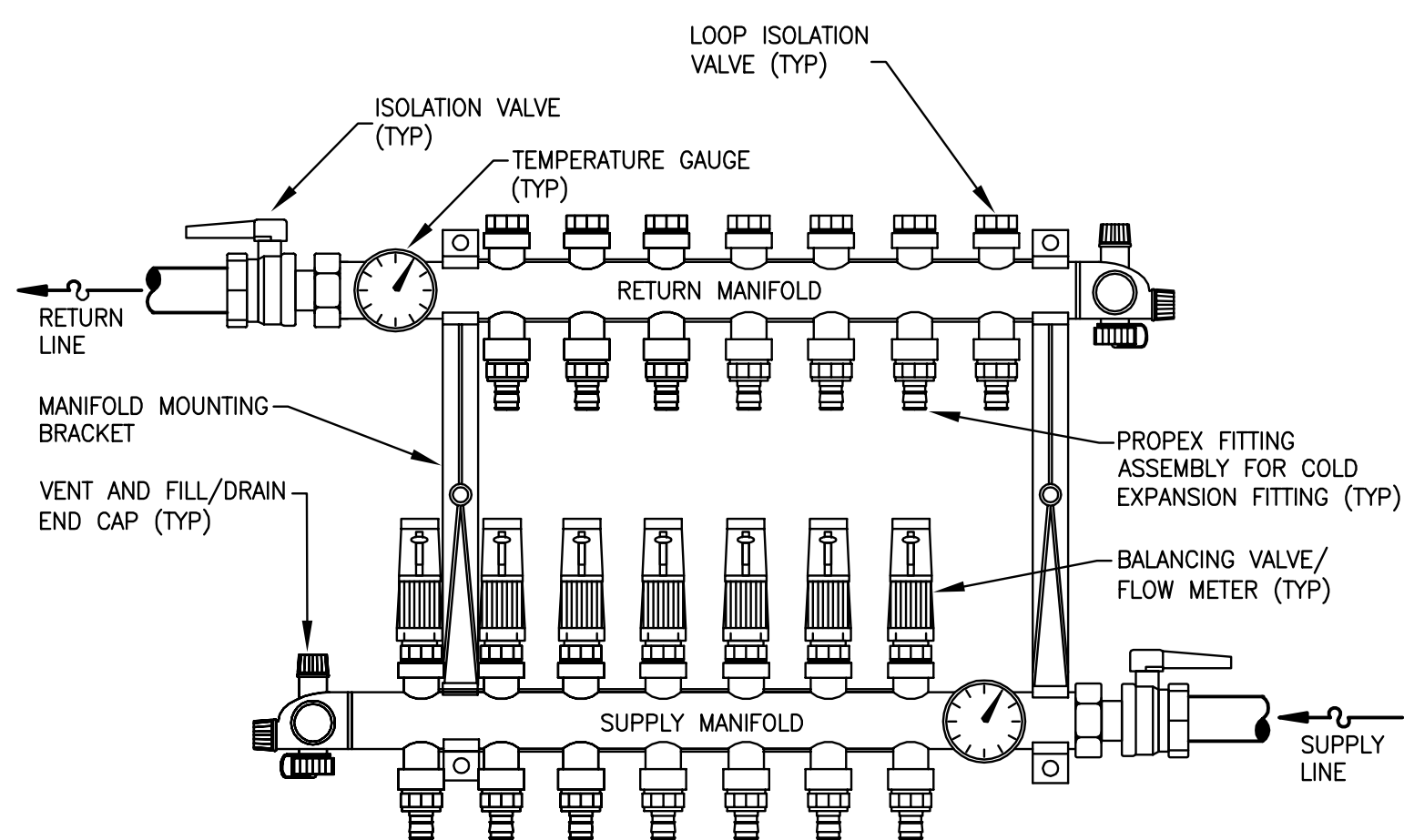
DIFFUSER AND REGISTER SCHEDULE					
DESIGNATION	CFM RANGE	THROW (FEET)	NECK SIZE (INCHES)	MANUFACTURER AND MODEL	DESCRIPTION
A	0-350	-	24X6	TITUS CT-541	DECORATIVE FLOOR SUPPLY AIR REGISTER, 1/2" SPACING
B	0-1500	-	12X48	-	DECORATIVE ARCHITECTURAL SIDEWALL RETURN AIR GRILLE
C	0-3000	-	42X18	TITUS DVR	(4) 42"x18" DISPLACEMENT DIFFUSER IN COMBINED 84"x36" AREA
D	0-3000	-	24X48	-	DECORATIVE ARCHITECTURAL SIDEWALL RETURN AIR GRILLE
-	-	-	-	-	-
-	-	-	-	-	-
-	-	-	-	-	-
SCHEDULE NOTES:					
1. MAXIMUM NC LEVEL OF ALL DIFFUSERS SHALL BE NC20 UNLESS OTHERWISE NOTED.					
2. ALL SUPPLY REGISTERS SHALL BE 3-WAY BLOW UNLESS OTHERWISE INDICATED WITH DIRECTION ARROWS ON DRAWINGS.					
3. ALL REGISTERS, GRILLES, AND DIFFUSERS SHALL BE PROVIDED WITH FRAME AND BORDER SUITABLE FOR THE MOUNTING REQUIREMENTS OF THE INSTALLATION LOCATION. PROVIDE TYPE A REGISTERS WITH SUITABLE FRAME FOR FLOOR INSTALLATION. ALL FINISHES AND FRAME ACCESSORIES SHALL BE COORDINATED WITH ARCHITECTURAL INTENT.					
4. MAXIMUM PRESSURE DROP ACROSS DIFFUSER SHALL NOT EXCEED 0.02 IN W.G., UNLESS OTHERWISE NOTED.					

FLEXIBLE DUCT SIZING SCHEDULE	
CFM RANGE	FLEXIBLE DUCT DIAMETER
0 TO 100	8"
101 TO 200	10"
201 TO 350	12"
351 TO 550	14"
SCHEDULE NOTES:	
1. SCHEDULE SHALL APPLY TO ALL FLEXIBLE DUCT SERVING DIFFUSERS UNLESS OTHERWISE INDICATED.	
2. ROUND RIGID RUNOUTS FROM TRUNK DUCTS TO DIFFUSERS SHALL BE SAME SIZE AS FLEXIBLE DUCT FOR THE APPROPRIATE CFM IDENTIFIED.	
3. PROVIDE VOLUME DAMPER WITH SPIN-IN COLLAR OR FLAT OVAL CONNECTOR FOR EACH BRANCH CONNECTION.	
4. WHERE DUCTWORK DEPTH DOES NOT PERMIT A SPIN-IN COLLAR FITTING, EQUAL FLAT OVAL CONNECTION WITH MANUAL DAMPER SHALL BE PROVIDED WITH OVAL TO ROUND TRANSITION.	



01 PIPE THRU WALL DETAIL

M3.00 Not to Scale



NOTE:
1. REFER TO MANIFOLD SCHEDULE FOR ACTUAL NUMBER OF LOOPS REQUIRED FOR EACH MANIFOLD.
2. SUPPLY AND RETURN MANIFOLDS MAY BE ORIENTED WITH INLETS/OUTLETS ON THE SAME SIDE IF NEEDED

02 RADIANT HEAT MANIFOLD PIPING DETAIL

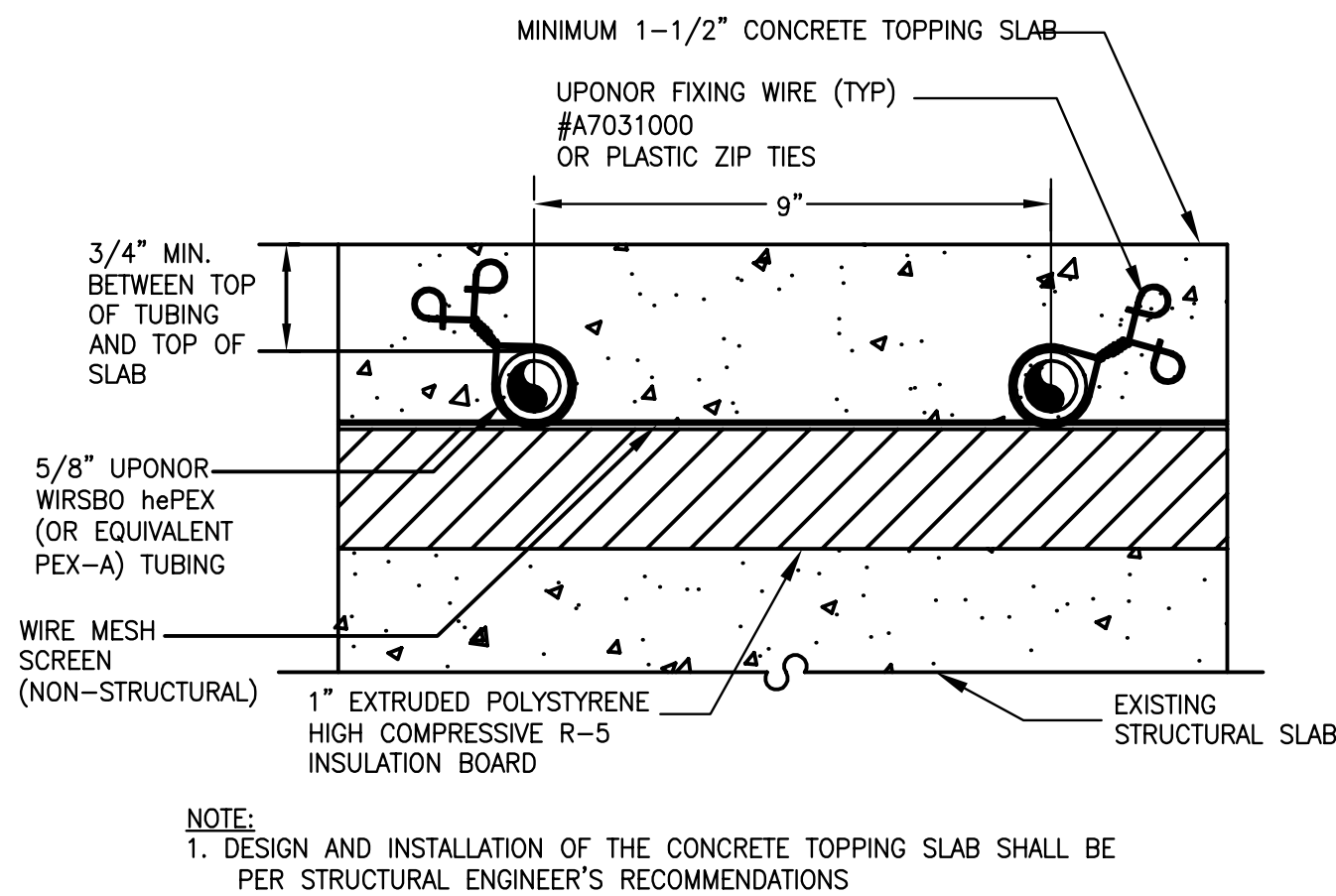
M3.00 Not to Scale

BOILER SCHEDULE									
DESIGNATION	TYPE	BURNER MOTOR		WORKING PRESSURE (PSI)	GAS INPUT (MBH)	GROSS OUTPUT (MBH)	RELIEF VALVE SETTING (PSI)	DIMENSIONS (INCHES)	VENT SIZE (INCHES)
		MCA	VOLTS/PHASE						
B-1	MODULAR CONDENSING	5.2	120/1	-	285.0	287.0	30	16"x20"x43"	4"
SCHEDULE NOTES:									
1. PROVIDE ALL SAFETY CONTROLS AND DEVICES AS REQUIRED BY LOCAL CODES. GAS TRAIN SHALL BE AGA OR IRI AS REQUIRED BY LOCAL JURISDICTION.									
2. PROVIDE OPTIONAL ACID NEUTRALIZATION KIT AND ROUTE CONDENSATE TO SPILL AT MECHANICAL ROOM FLOOR DRAIN.									
3. PROVIDE BOILER WITH MANUFACTURER CONTROLS SET TO MAINTAIN DISCHARGE WATER TEMPERATURE BASED ON OUTSIDE AIR RESET SCHEDULE.									
4. PROVIDE BOILER WITH MANUFACTURER RECOMMENDED PVC/CPVC CONCENTRIC SIDEWALL TERMINATION.									

PUMP SCHEDULE									
DESIGNATION	SERVICE	PUMP TYPE	FLOW (GPM)	HEAD (FEET)	MAX WATER TEMP (°F)	SHUTOFF HEAD (FT)	VOLTS/PHASE	IMPELLER DIA (IN)	MAX RPM
HWP-1	RADIANT SECONDARY	INLINE	14.0	20	120	30	120/1	-	0.75
BCP-1	BOILER PRIMARY	INLINE	26.7	15	120	20	120/1	-	0.5
SCHEDULE NOTES:									
1. HWP-1 TO BE ECM MOTOR DRIVEN WITH INTEGRAL VFD AND DIFFERENTIAL PRESSURE SENSOR. PUMP CONTROL SHALL BE INTEGRAL TO RADIANT FLOOR HEATING SYSTEM CONTROLLER.									
2. INTERLOCK BCP-1 WITH B-1 OPERATION VIA BOILER MANUFACTURER CONTROL PANEL.									

AIR SEPARATOR SCHEDULE					
DESIGNATION	SERVICE	MAXIMUM FLOW (GPM)	INLET PIPE SIZE	MAXIMUM WATER P.D. (FT)	MANUFACTURER AND MODEL
AS-1	HOT WATER	-	-	-	BELL & GOSSETT IAS
SCHEDULE NOTES:					
1. PROVIDE AIR SEPARATOR IN ARRANGEMENT SHOWN ON DRAWINGS.					

EXPANSION TANK SCHEDULE				
DESIGNATION	SERVICE	ACCEPTANCE VOLUME (GALLONS)	TANK VOLUME (GALLONS)	MANUFACTURER AND MODEL
ET-1	HOT WATER	2.4	10.9	12"x26"
				BELL & GOSSETT D-20V
SCHEDULE NOTES:				
1. TANK SHALL BE ASME STAMPED APPROVED.				

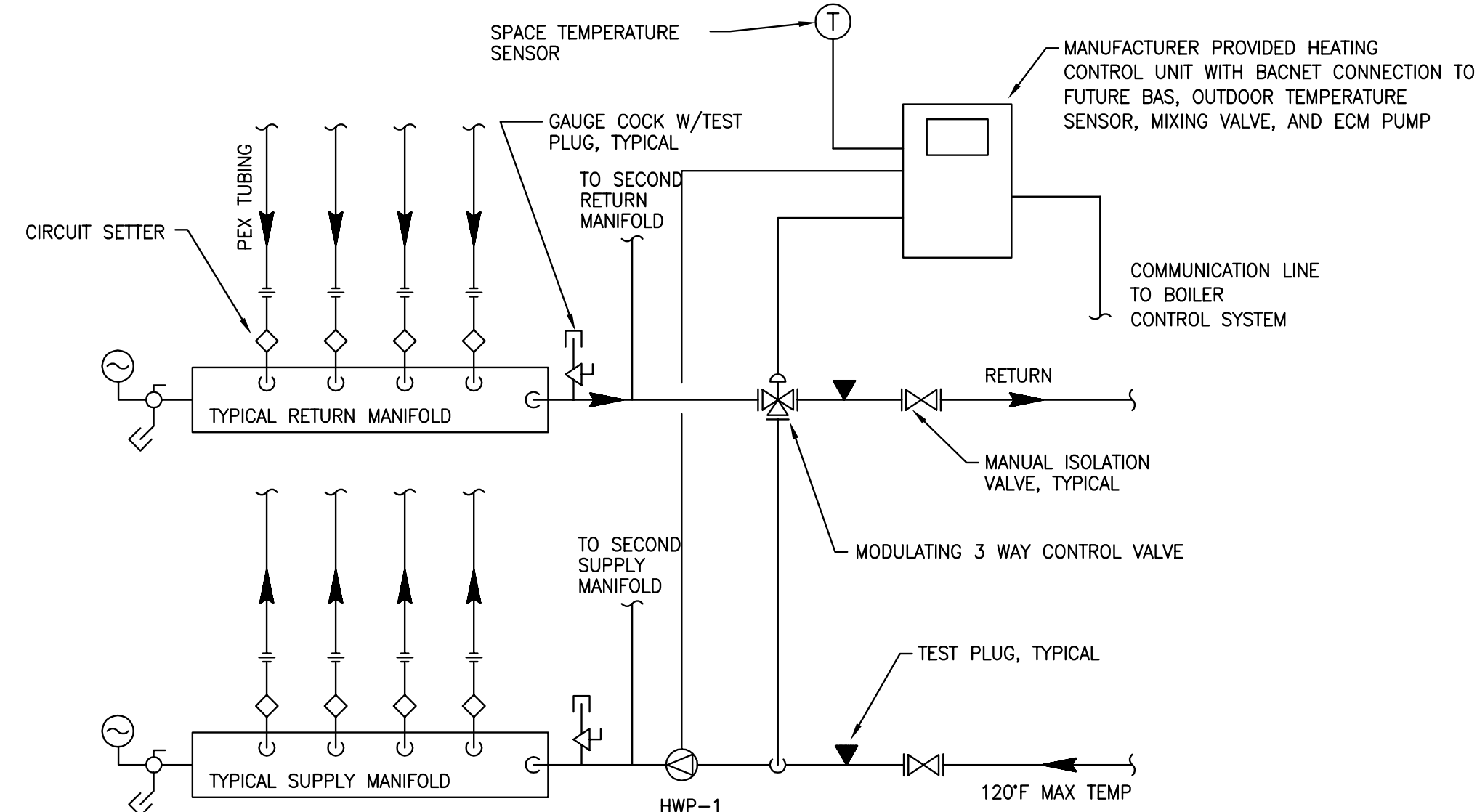


NOTE:
1. DESIGN AND INSTALLATION OF THE CONCRETE TOPPING SLAB SHALL BE PER STRUCTURAL ENGINEER'S RECOMMENDATIONS

03 HYDRONIC RADIANT FLOORING DETAIL

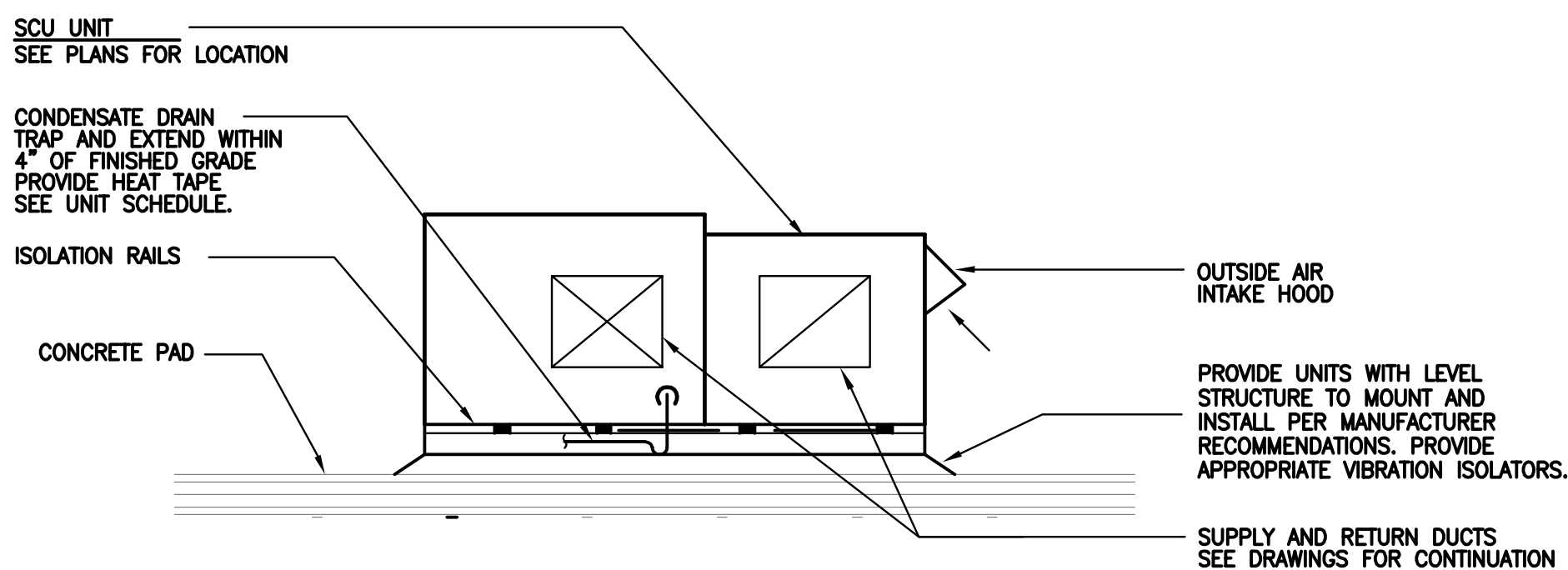
M3.00 Scale: Not To Scale

SELF CONTAINED UNIT SCHEDULE												
DESIGNATION	SUPPLY AIR TOTAL CFM	OUTSIDE AIR CFM	ESP (W.G.)	SUPPLY FAN HP	COOLING CAPACITY		HEAT CAPACITY		UNIT POWER SUPPLY		UNIT EER	UNIT WEIGHT (LBS)
					TOTAL (MBH)	SENSIBLE (MBH)	ELECTRIC (KW)	HOT GAS (MBH)	MCA	MOCP		
SCU-1	2800	840	0.75	5.0	89.3	65.5	18.0	70.2	57.5	60.0	208/3	12.6
SCU-2	3000	900	0.75	5.0	96.0	73.1	18.0	79.2	57.5	60.0	208/3	12.5
SCU-3	3000	900	0.75	5.0	96.0	73.1	18.0	79.2	57.5	60.0	208/3	12.5
SCHEDULE NOTES:												
1. COOLING DESIGN BASED ON 95°FDB/78°FWB AMBIENT OUTDOOR CONDITION, 45°F SUCTION TEMPERATURE, AND 75°F 50% RH SPACE CONDITION.												
2. UNIT POWER SUPPLY DOES NOT INCLUDE POWER EXHAUST FAN. EACH UNIT SHALL HAVE SINGLE POINT ELECTRICAL CONNECTION.												
3. PROVIDE LEVEL CURB AND VIBRATION ISOLATION RAIL WITH EACH UNIT SUITABLE FOR INSTALLATION ON CONCRETE PAD AT GRADE.												
4. EXTERNAL STATIC PRESSURE IS EXCLUSIVE OF FILTERS, CASING LOSSLESS WET COIL, AND HEATING COIL.												
5. PROVIDE WITH ECONOMIZER OPERATION INCLUDING DAMPER AND ENTHALPY CONTROLS FOR EACH UNIT.												
6. EER IS ENERGY EFFICIENCY RATING.												
7. ALL UNIT CONTROLS SHALL BE CONNECTED TO MANUFACTURER PROVIDED CONTROLLER. UNITS SHALL BE PROVIDED WITH SINGLE ZONE VAV CONTROL, DEMAND CONTROL VENTILATION, ECONOMIZER, AND HOT GAS REHEAT DEHUMIDIFICATION SEQUENCE.												
8. UNITS SHALL BE PROVIDED WITH HOT GAS REHEAT COILS FOR HUMIDITY CONTROL. PROVIDE UNITS WITH SPACE AIR HUMIDITY CONTROL SENSORS.												
9. RETURN AIR SMOKE DETECTOR SHALL BE INTERLOCKED WITH UNIT OPERATION.												
10. ALL SCU CONTROLS SHALL BE FURNISHED AND STARTED UP BY SCU MANUFACTURER WITH BACNET INTERFACE FOR FUTURE BUILDING ECMs.												
11. SEE M4.00 FOR SCU SEQUENCE OF OPERATION AND CONTROL DIAGRAM TO BE PERFORMED BY SCU CONTROLLER. THE ENTIRE CONTROL SEQUENCE OF OPERATION SHALL BE PERFORMED BY THE SCU MANUFACTURER CONTROLLER.												



04 RADIANT HEAT SCHEMATIC DETAIL

M3.00 NOT TO SCALE



NOTE: CONTROL WIRING SHALL BE RUN IN CONDUIT.

05 SELF CONTAINED UNIT DETAIL

M3.00 NOT TO SCALE

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Issue: Description:	Date:
1 Schematic Design	07.31.2015
2 Design Development	09.18.2015
3 80% Pricing Set	11.18.2015

Drawing Title:

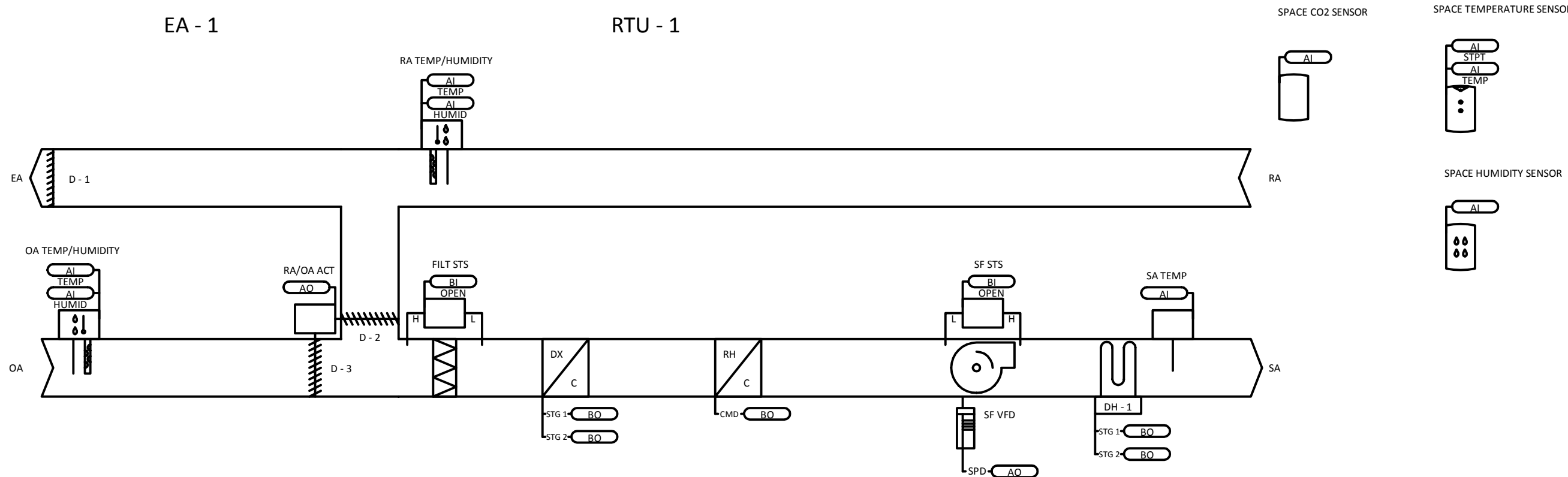
SCHEDULES AND DETAILS - MECHANICAL

Drawing Scale: NONE

Project No.:	Date:
13118	11.18.2015
Drawing No.:	

M3.00

RTU SZ VAV RTU - 1 FLOW - SYSTEM POINTS LIST																
CONTROLLER: ReliaTel	POINT TYPE						ALARMS									
	SYSTEM POINT DESCRIPTION															
	GRAPHIC	HARDWARE INPUT	HARDWARE OUTPUT	SOFTWARE POINT	HARDWARE INTERLOCK	WIRELESS	NETWORK	DEFAULT VALUE	HIGH ANALOG LIMIT	LOW ANALOG LIMIT	BINARY	LATCH DIAGNOSTIC	SENSOR FAIL	COMMUNICATION FAIL	DIAGNOSTICS	NOTES
DISCHARGE AIR TEMPERATURE LOCAL	X	AI							X	X			X			
OUTSIDE AIR TEMPERATURE/HUMIDITY LOCAL	X	AI											X			
OUTSIDE AIR TEMPERATURE/HUMIDITY LOCAL	X	AI														
RETURN AIR TEMPERATURE/HUMIDITY LOCAL	X	AI											X			
RETURN AIR TEMPERATURE/HUMIDITY LOCAL	X	AI														
SPACE CO2 LOCAL	X	AI							X				X			
SPACE HUMIDITY LOCAL	X	AI							X				X			
SPACE TEMPERATURE LOCAL	X	AI														
SPACE TEMPERATURE SETPOINT LOCAL	X	AI														
PRIMARY FILTER STATUS LOCAL OPEN	X	BI									X					
SUPPLY FAN STATUS LOCAL OPEN	X	BI									X	X				
MIXED AIR DAMPER	X	AO														
SUPPLY FAN SPEED	X	AO														
COOLING OUTPUT 1	X	BO														
COOLING OUTPUT 2	X	BO														
HEATING OUTPUT 1	X	BO														
HEATING OUTPUT 2	X	BO														
REHEAT OUTPUT	X	BO														
OCCUPANCY		X														
OCCUPIED COOLING SETPOINT		X						74.0 deg. F								
OCCUPIED HEATING SETPOINT		X						70.0 deg. F								
OCCUPIED STANDBY COOLING SETPOINT		X						80.0 deg. F								
OCCUPIED STANDBY HEATING SETPOINT		X						65.0 deg. F								
UNOCCUPIED COOLING SETPOINT		X						85.0 deg. F								
UNOCCUPIED HEATING SETPOINT		X						60.0 deg. F								
OCCUPIED BYPASS TIMER		X						2.0 HRS								
ECONOMIZER MINIMUM POSITION		X														
HEATING MODE SETPOINT		X														
COOLING MODE SETPOINT		X														
SPACE RELATIVE HUMIDITY SETPOINT		X						50%					X		DIAGNOSTIC ALARM STATUS	
SPACE CO2 LIMIT		X						900 PPM								
SETPOINT OFFSET		X														
COMPRESSOR ENABLE		X						AUTO								
HEAT / COOL MODE		X						COOL								
FAN MODE COMMAND		X						ON								
APPLICATION MODE		X						AUTO								
OUTSIDE AIR DAMPER MINIMUM POSITION		X						10%								
EFFECTIVE OCCUPANCY		X														
EFFECTIVE HEAT / COOL MODE		X														
EFFECTIVE SPACE TEMPERATURE		X														
EFFECTIVE SPACE SETPOINT		X														
LOCAL SETPOINT		X														
HEAT OUTPUT		X														
COOL OUTPUT		X														
ALARM		X														
SPACE HEATING/COOLING SETPOINT		X														
MAINTENANCE REQUIRED		X						600 HRS								
BAS COMMUNICATION STATE		X													Provide BacNet interface for future EMS	
GENERAL NOTES																



SEQUENCE OF OPERATIONS

THE BUILDING AUTOMATION SYSTEM (BAS) SHALL SEND THE CONTROLLER OCCUPIED BYPASS, MORNING WARM-UP / PRE-COOL, OCCUPIED / UNOCCUPIED AND HEAT / COOL MODES. IF A BAS IS NOT PRESENT, OR COMMUNICATION IS LOST WITH THE BAS THE CONTROLLER SHALL OPERATE USING DEFAULT MODES AND SETPOINTS.

OCCUPIED MODE:
DURING OCCUPIED PERIODS, THE SUPPLY FAN SHALL RUN CONTINUOUSLY AND THE OUTSIDE AIR DAMPER SHALL OPEN TO MAINTAIN MINIMUM VENTILATION REQUIREMENTS. THE DX COOLING AND GAS HEAT SHALL STAGE TO MAINTAIN THE OCCUPIED SPACE TEMPERATURE SETPOINT. IF ECONOMICIZING IS ENABLED THE OUTSIDE AIR DAMPER SHALL MODULATE TO MAINTAIN THE OCCUPIED SPACE TEMPERATURE SETPOINT.

UNOCCUPIED MODE:
WHEN THE SPACE TEMPERATURE IS BELOW THE UNOCCUPIED HEATING SETPOINT OF 60.0 DEG. F (ADJ.) THE SUPPLY FAN SHALL START, THE OUTSIDE AIR DAMPER SHALL REMAIN CLOSED AND THE GAS HEAT SHALL BE ENABLED. WHEN THE SPACE TEMPERATURE RISES ABOVE THE UNOCCUPIED HEATING SETPOINT OF 60.0 DEG. F (ADJ.) PLUS THE UNOCCUPIED DIFFERENTIAL OF 4.0 DEG. F (ADJ.) THE SUPPLY FAN SHALL STOP AND THE GAS HEAT SHALL BE DISABLED. WHEN THE SPACE TEMPERATURE IS ABOVE THE UNOCCUPIED COOLING SETPOINT OF 85.0 DEG. F

ENABLED AND REMAIN CLOSED IF ECONOMICIZING IS DISABLED AND THE DX COOLING SHALL BE

85.0 DEG. F (ADJ.) MINUS THE UNOCCUPIED DIFFERENTIAL OF 4.0 DEG. F (ADJ.) THE SUPPLY FAN SHALL STOP, THE DX COOLING SHALL BE DISABLED AND THE OUTSIDE AIR DAMPER SHALL

OPTIMAL START:
THE BAS SHALL MONITOR THE SCHEDULED OCCUPIED TIME, OCCUPIED SPACE SETPOINTS AND SPACE TEMPERATURE TO CALCULATE WHEN THE OPTIMAL START OCCURS.

MORNING WARM-UP MODE:

A MORNING WARM-UP MODE SHALL BE ACTIVATED. WHEN MORNING WARM-UP IS INITIATED THE UNIT SHALL ENABLE THE HEATING AND SUPPLY FAN. THE OUTSIDE AIR DAMPER SHALL REMAIN CLOSED. WHEN THE SPACE TEMPERATURE REACHES THE OCCUPIED HEATING SETPOINT (ADJ.), THE UNIT SHALL TRANSITION TO THE OCCUPIED MODE.

PRE-COOL MODE:

PRE-COOL MODE SHALL BE ACTIVATED. WHEN PRE-COOL IS INITIATED THE UNIT SHALL ENABLE THE FAN AND COOLING OR ECONOMICIZER. THE OUTSIDE AIR DAMPER SHALL REMAIN CLOSED. UNLESS ECONOMICIZING. WHEN THE SPACE TEMPERATURE REACHES OCCUPIED COOLING SETPOINT (ADJ.), THE UNIT SHALL TRANSITION TO THE OCCUPIED MODE.

OPTIMAL STOP:
THE BAS SHALL MONITOR THE SCHEDULED UNOCCUPIED TIME, OCCUPIED SETPOINTS AND SPACE TEMPERATURE TO CALCULATE WHEN THE OPTIMAL STOP OCCURS. WHEN THE OPTIMAL STOP MODE IS ACTIVE THE UNIT CONTROLLER SHALL MAINTAIN THE SPACE TEMPERATURE TO THE SPACE TEMPERATURE OFFSET SETPOINT.

OCCUPIED BYPASS:
THE BAS SHALL MONITOR THE STATUS OF THE "ON" AND "CANCEL" BUTTONS OF THE SPACE TEMPERATURE SENSOR. WHEN AN OCCUPIED BYPASS REQUEST IS RECEIVED FROM A SPACE SENSOR, THE UNIT SHALL TRANSITION FROM ITS CURRENT OCCUPANCY MODE TO OCCUPIED BYPASS MODE AND THE UNIT SHALL MAINTAIN THE SPACE TEMPERATURE TO THE OCCUPIED SETPOINTS (ADJ.).

COOLING MODE:
THE UNIT CONTROLLER SHALL MONITOR SPACE TEMPERATURE AND SPACE TEMPERATURE COOLING SETPOINT TO DETERMINE WHEN TO INITIATE REQUESTS FOR COOLING. WHEN THE SPACE TEMPERATURE RISES ABOVE THE SPACE TEMPERATURE COOLING SETPOINT, THE UNIT CONTROLLER SHALL MODULATE THE ECONOMICIZER OR STAGE THE MECHANICAL COOLING ON OR OFF AS REQUIRED TO MAINTAIN THE SPACE TEMPERATURE COOLING SETPOINT. THE FIRST COMPRESSOR SHALL ENERGIZE AFTER ITS MINIMUM 3-MINUTE OFF TIME HAS EXPIRED. THE SUPPLY FAN SHALL MODULATE ABOVE MINIMUM SPEED TO MEET ZONE REQUIREMENTS. IF ADDITIONAL COOLING CAPACITY IS REQUIRED THE SECOND STAGE OF COOLING SHALL BE ENABLED. ONCE THE SPACE TEMPERATURE FALLS BELOW THE SETPOINT THE COMPRESSORS SHALL BE DEACTIVATED AND THE FAN SHALL MODULATE TO MINIMUM SPEED.

HEATING MODE:
THE UNIT CONTROLLER SHALL MONITOR SPACE TEMPERATURE AND SPACE TEMPERATURE HEATING

FIRST STAGE OF HEAT. IF ADDITIONAL HEATING CAPACITY IS REQUIRED THE SECOND STAGE OF HEAT SHALL BE ENABLED. THE SUPPLY FAN WILL REMAIN AT 100% DURING HEATING OPERATION. ONCE THE SPACE TEMPERATURE RISES ABOVE THE SETPOINT, THE HEATING STAGES SHALL BE DISABLED AND THE SUPPLY FAN SPEED WILL VARY ACCORDING TO VENTILATION AND COOLING

DEHUMIDIFICATION:
FACTORY INSTALLED HOT GAS REHEAT SHALL ALLOW APPLICATION OF DEHUMIDIFICATION.

DEG. F AND BELOW 100.0 DEG. F. THE ECONOMICIZER OUTSIDE AIR DAMPER SHALL DRIVE TO MINIMUM POSITION DURING DEHUMIDIFICATION.

DUAL COMPRESSOR UNITS:
ON A CALL FOR DEHUMIDIFICATION, THE REHEAT VALVE SHALL ENERGIZE AND BOTH COMPRESSORS SHALL ENABLE. WHEN THE HUMIDITY CONTROL SETPOINT IS SATISFIED, THE VALVE SHALL BE DE-ENERGIZED AND BOTH COMPRESSORS SHALL BE DISABLED. IF THERE IS A CALL FOR 1ST STAGE COOLING WHILE IN THE DEHUMIDIFICATION MODE, NO ACTION SHALL TAKE PLACE. IF THERE IS A CALL FOR 2ND STAGE COOLING, THE REHEAT VALVE SHALL BE DE-ENERGIZED, AND THE UNIT SHALL REVERT TO THE COOLING MODE. IF 2ND STAGE COOLING IS SATISFIED AND THERE IS STILL A CALL FOR DEHUMIDIFICATION, THE REHEAT VALVE SHALL ONCE AGAIN BE ENERGIZED.

ECONOMICIZER CONTROL / COMPARATIVE ENTHALPY:
THE SUPPLY AIR SENSOR SHALL MEASURE THE DRY BULB TEMPERATURE OF THE AIR LEAVING THE EVAPORATOR COIL WHILE ECONOMICIZING. WHEN ECONOMICIZING IS ENABLED AND THE UNIT IS

OPERATING IN THE COOLING MODE, THE ECONOMICIZER DAMPER SHALL MODULATE BETWEEN ITS

SHALL BE CALCULATED BASED ON SUPPLY FAN SPEED. IF THE MIXED AIR TEMPERATURE STARTS

SHALL BE AT MINIMUM POSITION. COMPRESSORS SHALL BE DELAYED FROM OPERATING UNTIL THE ECONOMICIZER HAS OPENED TO 100% FOR 5 MINUTES.

COMPARATIVE ENTHALPY:
OUTSIDE AIR (OA) ENTHALPY IS COMPARED WITH RETURN AIR (RA) ENTHALPY POINT. THE ECONOMICIZER SHALL BE DISABLED WHEN OA ENTHALPY IS LESS THAN RA - 3.0 BTU/LB. THE ECONOMICIZER SHALL BE DISABLED WHEN OA ENTHALPY IS GREATER THAN RA ENTHALPY.

DEMAND CONTROL VENTILATION (DCV) OPERATION:
WHEN THE DEMAND CONTROL VENTILATION (DCV) THRESHOLD IS REACHED, THE ECONOMICIZER SHALL START TO MODULATE OPEN TO BRING IN MORE FRESH AIR TO REDUCE THE CO2 LEVEL. THE DAMPER SHALL MODULATE OPEN IN SMALL INCREMENTS, ACCOUNTING FOR CO2 LEVELS AND SUPPLY FAN SPEED, UNTIL THE CO2 LEVEL IS SATISFIED OR THE DAMPER REACHES THE FULL OPEN POSITION. IF THERE IS A CALL FOR ECONOMICIZER COOLING, THE OUTDOOR AIR DAMPER MAY BE OPENED FURTHER TO SATISFY THE COOLING REQUEST. ONCE THE THRESHOLD IS SATISFIED, THE DAMPER SHALL RETURN TO MINIMUM POSITION OR NORMAL ECONOMICIZER OPERATION. IF THE MIXED AIR TEMPERATURE DROPS TO 40.0 DEG. F, THE CO2 SENSOR INPUT IS OVERRIDDEN AND CLOSSES THE DAMPER TO MINIMUM POSITION. WHEN THE MIXED AIR TEMPERATURE RISES TO 43.0 DEG. F, CO2 OR ECONOMICIZER OPERATION IS ONCE AGAIN RESTORED.

SUPPLY FAN OPERATION:
THE SUPPLY FAN SHALL BE ENABLED WHILE IN THE OCCUPIED MODE AND CYCLED ON DURING THE UNOCCUPIED MODE. THE UNIT CONTROLLER SHALL VARY THE SUPPLY FAN SPEED TO OPTIMIZE MINIMUM FAN SPEED IN ALL COOLING MODES. A DIFFERENTIAL PRESSURE SWITCH SHALL MONITOR THE DIFFERENTIAL PRESSURE ACROSS THE FAN. IF THE SWITCH DOES NOT OPEN WITHIN 40 SECONDS AFTER A REQUEST FOR FAN OPERATION A FAN FAILURE ALARM SHALL BE ANNUNCIATED, THE UNIT SHALL STOP, REQUIRING A MANUAL RESET.

BUILDING PRESSURE CONTROL:
THE FIELD ADJUSTABLE BAROMETRIC DAMPER SHALL BE SET TO ALLOW BUILDING AIR RELIEF. ENABLE WHEN THE ECONOMICIZER DAMPER POSITION IS EQUAL TO OR GREATER THAN THE NOMINAL UNIT VENTILATION OUTSIDE AIR SET POINT.

FILTER STATUS:
A DIFFERENTIAL PRESSURE SWITCH SHALL MONITOR THE DIFFERENTIAL PRESSURE ACROSS THE FILTER WHEN THE FAN IS RUNNING. IF THE SWITCH CLOSSES FOR 2 MINUTES AFTER A REQUEST FOR FAN OPERATION A DIRTY FILTER ALARM SHALL BE ANNUNCIATED AT THE BAS.

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Issue: Description: Date:

1	Schematic Design	07.31.2015
2	Design Development	09.18.2015
3	80% Pricing Set	11.18.2015

Drawing Title:

SEQUENCE OF OPERATIONS - MECHANICAL

Drawing Scale: **NONE**

Project No.: 13118 Date: 11.18.2015

Drawing No.:

M4.00

ELECTRICAL ABBREVIATIONS			
ABBREVIATION	DESCRIPTION	ABBREVIATION	DESCRIPTION
ABV	ABOVE	KVA	KILOVOLT AMPERES
A	AMPERE	KW	KILOWATT
AFF	ABOVE FINISHED FLOOR	LF	LINEAR FOOT
AFG	ABOVE FINISHED GRADE	MAX	MAXIMUM
AI	ASYMMETRICAL INTERRUPT CURRENT	MCA	MINIMUM CIRCUIT AMPACITY
ARCH	ARCHITECTURAL	MCB	MAIN CIRCUIT BREAKER
ATC	AUTOMATIC TEMPERATURE CONTROL	MDP	MAIN DISTRIBUTION PANEL
AWG	AMERICAN WIRE GAUGE	MECH	MECHANICAL
BLW	BELOW	MH	METAL HALIDE
C	CONDUIT	MLO	MAIN LUGS ONLY
C/B	CIRCUIT BREAKER	MOC	MAXIMUM OVERCURRENT PROTECTION
CF	COMPACT FLUORESCENT	NEC	NATIONAL ELECTRICAL CODE
CLG	CEILING	NF	NON-FUSIBLE
C/T	CURRENT TRANSFORMER	NFSS	NON-FUSED SAFETY SWITCH
DED	DEDICATED	P	POLES
DN	DOWN	PNL	PANEL
DWG	DRAWING	RECEPT	RECEPTACLE
EG	EQUIPMENT GROUND	SWBD	SWITCHBOARD
ELEC	ELECTRICAL	TBD	TO BE DETERMINED
EOL	END OF LINE (RESISTOR)	TEL	TELEPHONE
ETR	EXISTING TO REMAIN	TYP	TYPICAL
EW	ELECTRIC WATER COOLER	UC	UNDER COUNTER
FA	FIRE ALARM	UG	UNDERGROUND
FAAP	FIRE ALARM ANNUNCIATOR PANEL	UON	UNLESS OTHERWISE NOTED
FACP	FIRE ALARM CONTROL PANEL	V	VOLTS
GFCI	GROUND FAULT CIRCUIT INTERRUPTER	W	WATTS
GND	GROUND	WG	WIREGUARD
GFP	GROUND FAULT PROTECTION	WP	WEATHERPROOF
HP	HORSEPOWER	Y	WYE
IG	ISOLATED GROUND	Ø or Ph	PHASE
J-BOX	JUNCTION BOX		

ELECTRICAL DEMOLITION NOTES

- WHETHER SPECIFICALLY INDICATED OR NOT, THE CONTRACTOR SHALL REMOVE ALL EXISTING WIRING AND EQUIPMENT THAT IS NO LONGER REQUIRED TO REMAIN AS A PART OF AN ACTIVE SYSTEM.
- FOR ALL EQUIPMENT REMOVED INCLUDING LIGHTS, RECEPTACLES, AND WIRING DEVICES, THE CONTRACTOR SHALL REMOVE ALL CIRCUITING BACK TO THE ELECTRICAL PANEL OR TO THE NEAREST JUNCTION BOX TO REMAIN ENERGIZED. CIRCUITS NO LONGER REQUIRED TO REMAIN AS PART OF AN ACTIVE SYSTEM SHALL BE REMOVED BACK TO THE PANEL. INACTIVE OUTLETS SHALL BE PROVIDED WITH BLANK COVERS UNLESS OTHERWISE NOTED.
- THE CONTRACTOR SHALL REMOVE ALL EXISTING WIRING NOT BEING USED IN CEILING. CONDUIT NOT BEING USED SHALL BE REMOVED BACK TO THE SOURCE.
- ALL EXISTING CIRCUITS NO LONGER USED SHALL BE LABELED AS A SPARE CIRCUIT IN THE RESPECTIVE PANEL.
- ALL EXISTING EQUIPMENT REMOVED DURING CONSTRUCTION SHALL REMAIN THE PROPERTY OF THE OWNER AND SHALL BE STORED, REMOVED FROM THE JOB SITE, OR DISPOSED OF AS DIRECTED BY THE OWNER'S REPRESENTATIVE.
- WHERE EXISTING EQUIPMENT IS RELOCATED, EXTREME CARE SHALL BE TAKEN TO PREVENT DAMAGE DURING THE REMOVAL AND REINSTALLATION. WHERE DAMAGE OCCURS, THE EQUIPMENT SHALL BE REPLACED OR REPAIRED TO THE SATISFACTION OF THE OWNER, AT NO ADDITIONAL COST TO THE OWNER.
- UNLESS NOTED OTHERWISE, ALL EXISTING ELECTRICAL SYSTEMS TO REMAIN ACTIVE THAT ARE DISTURBED UNDER THIS CONTRACT SHALL BE RESTORED TO THE ORIGINAL OPERATING CONDITION.
- WHERE EXISTING ELECTRICAL SYSTEMS INTERFERE WITH THE INSTALLATION OF NEW SYSTEMS AND THE EXISTING IS TO REMAIN ACTIVE, THE INSTALLATION SHALL BE DISCONNECTED, RELOCATED, AND RECONNECTED AS REQUIRED TO MAINTAIN THE SYSTEM. CONFLICTS SHALL BE BROUGHT TO THE ATTENTION OF THE OWNER'S REPRESENTATIVE AND ENGINEER IMMEDIATELY.
- FEEDERS AND BRANCH CIRCUITS EXTENDING THROUGH THE CONTRACT SPACE TO SERVE OTHER AREAS NOT IN THE CONTRACT SHALL REMAIN ACTIVE. IT IS THE CONTRACTOR RESPONSIBILITY TO MAINTAIN THIS CIRCUIT CONTINUITY.
- THE CONTRACTOR SHALL NOT DISCONNECT ANY SERVICE WITHOUT OBTAINING WRITTEN APPROVAL FROM THE OWNER NOT LESS THAN THREE DAYS PRIOR. IT IS THE CONTRACTOR RESPONSIBILITY TO KEEP OUTAGES TO A MINIMUM.
- UNLESS NOTED OTHERWISE, PANELBOARD, LIGHT FIXTURE CABINETS, AND OTHER CABINETS SHALL NOT BE USED FOR PURPOSES OTHER THAN CIRCUIT PROTECTION OR DISTRIBUTION POINTS. THESE CABINETS ARE NOT TO BE USED AS JUNCTION BOXES.
- ALL EXISTING EQUIPMENT TO REMAIN OR THAT IS RELOCATED SHALL BE INSPECTED FOR DAMAGE, CLEANED, REPAIRED OR REPLACED AT NO ADDITIONAL COST AND INSTALLED AS SHOWN ON THE ELECTRICAL DRAWINGS.

GENERAL ELECTRICAL NOTES

- ALL ELECTRICAL WORK SHALL COMPLY WITH THE 2011 EDITION OF NATIONAL ELECTRICAL CODE (N.E.C.), AND SHALL BE IN ACCORDANCE WITH ALL APPLICABLE VIRGINIA STATE CODE REQUIREMENTS AND LOCAL AUTHORITIES.
- ALL ELECTRICAL EQUIPMENT SHALL BE UNDERWRITERS LABORATORY (UL) LABELED OR LABELED BY AN APPROVED ACCREDITED AGENCY AND TESTING ORGANIZATION.
- PRIOR TO BID, THE CONTRACTOR SHALL EXAMINE ALL PROJECT DOCUMENTS TO DEVELOP A COMPLETE UNDERSTANDING OF THE PROJECT SCOPE. FAILURE TO REVIEW ALL CONTRACT DRAWINGS AND EXISTING CONDITIONS WILL NOT RELIEVE THE CONTRACTOR OF THE RESPONSIBILITY TO PERFORM ALL WORK REQUIRED. THE CONTRACTOR SHALL, UPON REVIEW OF THE DRAWINGS AND EXISTING CONDITIONS, ADVISE THE OWNER OF ANY DISCREPANCIES WHICH WILL AFFECT THE WORK REQUIRED.
- THE CONTRACTOR SHALL FURNISH, INSTALL, WIRE, CONNECT, AND ENERGIZE ALL EQUIPMENT, DEVICES, APPURTENANCES, AND THE COMPLETE SYSTEM INDICATED IN THE CONTRACT DOCUMENTS.
- THE CONTRACTOR SHALL FURNISH AND INSTALL ALL ITEMS NECESSARY FOR THE COMPLETE INSTALLATION OF THE EQUIPMENT AS REQUIRED BY CODE WITHOUT ADDITIONAL COST TO THE OWNER, REGARDLESS WHETHER THE ITEMS ARE SHOWN ON THE PLAN OR COVERED BY THE SPECIFICATIONS.
- THE CONTRACTOR SHALL INSTALL ALL MECHANICAL AND ELECTRICAL EQUIPMENT IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS.
- ALL EQUIPMENT, DEVICES, AND RELATED APPURTENANCES SHALL BE THE LATEST PRODUCT OF THE SPECIFIED MANUFACTURERS UNLESS OTHERWISE INDICATED.
- ALL ELECTRICAL SYSTEMS, DEVICES, AND RELATED ITEMS SHALL BE TESTED AT THE COMPLETION OF THE PROJECT. THE CONTRACTOR SHALL REPLACE ANY AND ALL DEFECTIVE DEVICES, ITEMS, OR SYSTEMS AT COMPLETION OF THE PROJECT.
- THE CONTRACTOR SHALL GUARANTEE ALL WORKMANSHIP, MATERIALS, EQUIPMENT, AND RELATED ITEMS FOR A PERIOD AFTER ACCEPTANCE OF THE PROJECT BY THE OWNER AND REPLACE ANY DEFECTIVE MATERIALS, EQUIPMENT, AND RELATED ITEMS WITHIN THE GUARANTEE PERIOD. THE PERIOD SHALL BE TWELVE MONTHS FROM THE COMPLETION OF THE PROJECT UNLESS OTHERWISE SPECIFIED IN THE SPECIFICATIONS OR CONTRACT DOCUMENTS.
- THE CONTRACTOR SHALL PROVIDE AND INSTALL A FIRST CLASS SYSTEM AND SHALL COMPLETELY COORDINATE WITH ALL OTHER TRADES.
- THE CONTRACTOR SHALL OBTAIN ALL PERMITS AND ARRANGE FOR ALL INSPECTIONS BY LOCAL AUTHORITIES HAVING JURISDICTION.
- ANY EQUIPMENT LOCATED WITHIN A RETURN AIR PLENUM SHALL BE RATED FOR SUCH APPLICATION IN ACCORDANCE WITH APPLICABLE REGULATIONS.
- FOR ALL EQUIPMENT CONNECTIONS, THE CONTRACTOR SHALL PERFORM THE FOLLOWING AS REQUIRED BY THE EQUIPMENT OR AS INDICATED: EXTEND AND CONNECT TO EQUIPMENT; MOUNT AND CONNECT TO STARTERS; INSTALL PUSH BUTTON STATION AND THERMAL OVERLOAD SWITCHES; FURNISH SUITABLE RECEPTACLES, PLUG, COVER PLATE, CORD, ARMORED CABLE, WIRE, DIRECT CONNECTIONS, DISCONNECT SWITCHES, ETC.
- EXACT LOCATION AND MOUNTING HEIGHTS OF JUNCTION BOXES, OUTLETS, STUB-UPS, ETC. SHALL BE DETERMINED FROM CONSTRUCTION DRAWINGS, EQUIPMENT, DETAILS, SPECIFICATIONS, WHERE APPLICABLE, AND MANUFACTURERS' BUILT-IN DRAWINGS.
- ALL LIGHTING FIXTURE LOCATIONS SHALL BE COORDINATED WITH THE REFLECTED CEILING PLANS, ARCHITECTURAL SECTIONS AND DETAILS, MECHANICAL AND PLUMBING DRAWINGS AND SYSTEMS. SHOULD A DISCREPANCY ARISE, NOTIFY THE ARCHITECT/ENGINEER IMMEDIATELY.
- LOCATIONS OF EQUIPMENT ARE SHOWN DIAGRAMMATICALLY ON THE DRAWINGS. THE CONTRACTOR SHALL OBTAIN EXACT LOCATIONS AND ESTABLISH EXACT DIMENSIONS ON THE JOB SITE AFTER STUDYING THE CONDITIONS.
- ELECTRICAL DRAWINGS ARE DIAGRAMMATIC ONLY. THE CONTRACTOR SHALL REFER TO THE ARCHITECTURAL DRAWINGS FOR EXACT LOCATIONS, MOUNTING METHODS, AND DIMENSIONS OF LIGHT FIXTURES, LIFE SAFETY DEVICES, CEILING DEVICES, RECEPTACLES, AND OTHER ITEMS VISIBLE IN PUBLIC AREAS.
- IN THE EVENT THAT ANY OWNER FURNISHED EQUIPMENT, DEVICES, OR MATERIAL BECOMES DAMAGED AFTER RECEIPT FROM OWNER, THE CONTRACTOR SHALL REPLACE THE EQUIPMENT AT NO ADDITIONAL COST TO THE OWNER.
- ELECTRICAL EQUIPMENT REQUIRING ACCESS SUCH AS JUNCTION BOXES, CONNECTIONS TO EQUIPMENT, ETC. SHALL NOT BE INSTALLED ABOVE INACCESSIBLE CEILINGS OR BEHIND WALLS.
- THE MECHANICAL CONTRACTOR SHALL FURNISH MOTOR STARTERS FOR MECHANICAL EQUIPMENT AND THE STARTER SHALL BE INSTALLED AND WIRED BY THE ELECTRICAL CONTRACTOR.
- THE CONTRACTOR SHALL REFER TO MECHANICAL/PLUMBING DRAWINGS FOR EXACT LOCATION OF MECHANICAL/PLUMBING EQUIPMENT. THE ELECTRICAL CONTRACTOR SHALL COORDINATE AND VERIFY VOLTAGE/PHASE INDICATED ON ELECTRICAL DRAWINGS WITH MECHANICAL/PLUMBING EQUIPMENT TO BE PROVIDED PRIOR TO INSTALLING ELECTRICAL SERVICE. SHOULD A DISCREPANCY BE NOTED BETWEEN EQUIPMENT TO BE SUPPLIED AND WHAT IS INDICATED ON THE DRAWINGS, THE CONTRACTOR SHALL OBTAIN WRITTEN DIRECTION FROM ENGINEER BEFORE PROCEEDING WITH WORK.
- ALL SWITCHES, RECEPTACLES, SHOWN ON THE DRAWINGS IN THE SAME LOCATION SHALL BE INSTALLED IN MULTIPLE GANG BOXES MOUNTED IN A COMMON COVER PLATE UNLESS OTHERWISE NOTED. POWER SYSTEMS SHALL NOT BE INSTALLED IN THE SAME BOX WITH TELEPHONE/DATA. THE CONTRACTOR SHALL PROVIDE DIVIDER AS REQUIRED BY CODES.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR CORRECTLY PHASING THE CIRCUITS IN THE PANELBOARDS. UNLESS OTHERWISE INDICATED, THREE SINGLE-PHASE CIRCUITS MAY BE COMBINED IN ONE CONDUIT WITH A COMMON NEUTRAL, PROVIDED EACH CIRCUIT IS ON AN OPPOSITE PHASE.
- ALL GROUNDING SHALL BE DONE AS PER N.E.C. REQUIREMENTS. THE CONTRACTOR SHALL USE GREEN GROUND WIRE FOR GROUNDING.
- ALL BRANCH CIRCUIT WIRING ON THE DRAWINGS THAT IS UNMARKED INDICATES TWO CURRENT CARRYING CONDUCTORS AND A GROUNDING CONDUCTOR.
- RECEPTACLES MOUNTED WITHIN 6'-0" OF LAVATORIES SHALL BE GROUND FAULT CIRCUIT INTERRUPTER (GFCI) TYPE.
- THE CONTRACTOR SHALL PROVIDE 3/4" EMPTY CONDUIT WITH PULL STRING FROM ALL TELEPHONE, DATA OUTLETS UP FROM JUNCTION BOX TO ACCESSIBLE CEILING UNLESS OTHERWISE INDICATED. GROMMETS SHALL BE PROVIDED AT THE END OF THE CONDUIT AT THE CEILING SPACE.
- ALL ELECTRICAL EQUIPMENT INCLUDING DISCONNECT SWITCHES LOCATED OUTSIDE OF THE BUILDING SHALL BE WEATHERPROOF.
- ALL CONDUCTORS SHALL BE COPPER WITH TYPE THW OR THHN 75° C INSULATION, NO. 12 AWG MINIMUM UNLESS OTHERWISE NOTED.
- ALL PANELBOARDS AND DISCONNECT SWITCHES SHALL HAVE COPPER BUS AND APPURTENANCES.
- ALL PANELBOARD LUGS SHALL ACCOMMODATE THE INDICATED CONDUCTOR SIZES.
- PANELBOARDS SHALL BE "DOOR-IN-DOOR" TYPE AND SHALL HAVE BACK-BOX LARGE ENOUGH TO ACCOMMODATE TEMPORARILY OR PERMANENT INSTALLED CHECK METERING DEVICES.
- ALL 20 AMP 120V/208V HOMERUNS LONGER THAN 75'-0" SHALL BE MINIMUM #10 AWG.
- ALL DUPLEX RECEPTACLES ON DEDICATED CIRCUITS SHALL BE NEMA 5-20R.
- METALLIC CONDUIT WITH CONDUCTORS SHALL BE USED IN LIEU OF CABLE IN ALL VISIBLE PUBLIC AREAS. IF USED, "MC" CABLE SHALL NOT BE TERMINATED AT PANELBOARDS. CABLE SHALL TERMINATE OUTSIDE OF ELECTRICAL CLOSEST AND ROOMS WITH GUTTERS. CONDUIT SHALL BE USED TO CONNECT GUTTERS TO PANELS.
- RECEPTACLE NEUTRAL CONDUCTOR(S) SHALL BE A MINIMUM #10 AWG AT POINT WHERE MORE THAN ONE 20 AMP PHASE CONDUCTOR IS CONNECTED TO A COMMON NEUTRAL BACK TO PANELBOARD. #10 "MC" CABLE SHALL BE USED FOR ALL PHASES AND NEUTRAL FOR "MC" CABLE INSTALLATION AT CONNECTION POINT OF COMMON NEUTRAL.
- ALL BALLASTS SHALL BE ELECTRONIC AND RATED FOR THE LAMP IT OPERATES.
- THE ELECTRICAL CONTRACTOR SHALL COORDINATE WITH THE MECHANICAL CONTRACTOR ON ANY REQUIRED CONTROL CIRCUITS INCLUDING "LINE" AND "LOW" VOLTAGE POWER REQUIREMENTS. THE ELECTRICAL CONTRACTOR WILL BE RESPONSIBLE FOR PROVIDING ANY NECESSARY "LINE" OR "LOW" VOLTAGE WIRING AND CONDUIT TO NEW ELECTRIC THERMOSTATS, DAMPERS OR OTHER ACTUATORS AND CONTROL EQUIPMENT. CONTROL SYSTEMS FOR NEW MECHANICAL SYSTEMS SHALL BE COMPLETE AND OPERATIONAL.
- COUPLINGS AND FITTINGS FOR EMT SHALL BE OF STEEL (CAST POT METAL IS NOT ACCEPTABLE) AND SHALL BE OF THE COMPRESSION OR SET STEEL SCREW TYPE.
- ALL CONDUITS SHALL BE RIGIDLY SUPPORTED TIGHT TO THE BUILDING STRUCTURE. THE MAXIMUM SPACING OF SUPPORTS SHALL BE 10'-0" FOR VERTICAL RUNS AND 8'-0" FOR HORIZONTAL RUNS.
- CONDUIT/CABLE SHALL BE PROVIDED AS FOLLOWS:
 - EXTERIOR: ALL EXTERIOR CONDUIT SHALL BE GALVANIZED RIGID STEEL OR I.M.T. WITH GALVANIZED COMPRESSION CONNECTORS UNLESS CONDUIT IS EXPOSED TO STRIKING OR CAUSTIC. IN THIS CASE, CONDUIT SHALL BE RIGID STEEL. ALL CONNECTIONS TO MOTORS SHALL BE U.L. LISTED LIQUID TIGHT FLEX. (MINIMUM 24" LONG).
 - EXPOSED INTERIOR: ALL EXPOSED INTERIOR WIRING SHALL BE IN GALVANIZED STEEL OR ALUMINUM EMT WITH STEEL SET SCREW CONNECTORS.
 - CABLE: BRANCH CIRCUIT WIRING CONCEALED IN A WALL OR CEILING CONNECTING RECEPTACLES AND LIGHTS MAY BE "MC" CABLE.
- THE CONTRACTOR SHALL DETERMINE THE NUMBER AND SIZE OF CORE DRILLS NECESSARY FOR INDICATED WORK AND SHALL DETERMINE RECOMMENDED LOCATION AND PROVIDE TO STRUCTURAL ENGINEER FOR REVIEW AND APPROVAL PRIOR TO COMMENCING WORK.
- ALL WIRING SHALL BE COPPER CONDUCTOR. ALL WIRING #10 AND LESS SHALL BE SOLID CONDUCTOR.
- THE CONTRACTOR SHALL VERIFY THAT ALL DOOR SWINGS ARE CORRECT BEFORE INSTALLING LIGHT SWITCH OUTLETS.
- LIGHTING FIXTURES INSTALLED IN SUSPENDED CEILINGS SHALL BE SUPPORTED FROM THE BUILDING STRUCTURE AND SHALL BE INDEPENDENT OF THE CEILING SYSTEM.
- ALL EMPTY CONDUIT RUNS IN EXCESS OF 10 FEET SHALL BE PROVIDED WITH A PULL WIRE OF FISH TAPE/CORD.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROPER SIZING OF ALL MOTOR OVERLOAD DEVICES (HEATERS) IN STARTERS BASED ON ACTUAL NAMEPLATE RATINGS ON THE MOTORS BEING INSTALLED.
- THE CONTRACTOR SHALL NOTE U.L. LABEL/NAMEPLATE ON MECHANICAL EQUIPMENT, OR IF THE LOCAL INSPECTOR REQUIRES THE OVERLOAD PROTECTIVE DEVICES TO BE FUSED, THE ELECTRICAL CONTRACTOR SHALL PROVIDE A FUSED DISCONNECT SWITCH WITH PROPER SIZE FUSES AT THE SWITCH LOCATION AS INDICATED ON THE DRAWINGS.
- FIRE ALARM SYSTEM:
 - PROVIDE COMPONENTS AS SPECIFIED AND SHOWN. SEE FIRE ALARM SYSTEM NOTES ON PLANS. ALL DEVICES SHALL BE MOUNTED IN RECESSED JUNCTION BOX UNLESS OTHERWISE NOTED.
 - PROVIDE FIRE ALARM SYSTEM WIRING REQUIRED. FIRE ALARM SYSTEM WIRING SHALL BE CONCEALED IN WIRE AND CONDUIT AS PER MANUFACTURER'S REQUIREMENT.
 - MORE THAN TWO VISIBLE NOTIFICATION APPLIANCES IN THE SAME ROOM OR ADJACENT SPACE WITHIN THE FIELD OF VIEW SHALL FLASH IN SYNCHRONIZATION. THIS REQUIREMENT SHALL NOT PRECLUDE SYNCHRONIZATION OF APPLIANCES THAT ARE NOT WITHIN THE SAME FIELD OF VIEW. FLASH RATE SHALL NOT EXCEED 3 PER SECOND OR BE LESS THAN 1 PER 3 SECONDS.
- SEE ELECTRICAL SPECIFICATIONS FOR ADDITIONAL INFORMATION.

ELECTRICAL SYMBOLS

SYMBOL	DESCRIPTION
	STRIP FLUORESCENT LIGHTING FIXTURE.
	FLUORESCENT DOWNLIGHT.
	2'x2' FLUORESCENT LIGHTING FIXTURE.
	EXTERIOR EGRESS FIXTURE BUILT-IN EMERGENCY OPERATION AND PHOTOCELL.
	EMERGENCY LIGHTING WITH BATTERY BACK-UP
	EXIT LIGHTING FIXTURE ON EMERGENCY CIRCUIT, CEILING OR WALL MOUNTED, WITH BATTERY DIRECTIONAL ARROWS AS INDICATED ON PLANS
	INDICATES TYPE OF LIGHTING FIXTURE - SEE LIGHTING FIXTURE SCHEDULE FOR COMPLETE LISTING OF FIXTURES.
	SINGLE POLE FLUSH TUMBLER SWITCH MOUNTING HEIGHT 4'-0" ABOVE FINISHED FLOOR, UNLESS OTHERWISE NOTED ON DRAWINGS
	THREE OR FOUR WAY FLUSH TUMBLER SWITCH, MOUNTING HEIGHT 4'-0" ABOVE FINISHED FLOOR, UNLESS OTHERWISE NOTED ON DRAWINGS
	DUPLEX RECEPTACLE, 2P, 3W, 20A, 125V, NEMA 5-20R, FLUSH MOUNTED 18" ABOVE FINISHED FLOOR, UNLESS OTHERWISE NOTED ON DRAWINGS
	GROUND FAULT CIRCUIT INTERRUPTER SAFETY TYPE DUPLEX RECEPTACLE, 2P, 3W, 20A, 125V, NEMA 5-20R FLUSH MOUNTED 42" ABOVE FINISHED FLOOR, UNLESS OTHERWISE NOTED ON DRAWINGS.
	GROUND FAULT CIRCUIT INTERRUPTER SAFETY TYPE DUPLEX RECEPTACLE, 2P, 3W, 15A, 125V, NEMA 5-15R FLUSH MOUNTED 18" ABOVE FINISHED FLOOR, UNLESS OTHERWISE NOTED ON DRAWINGS.
	QUAD RECEPTACLE, 2P, 3W, 20A, 125V, NEMA 5-20R, FLUSH MOUNTED 18" ABOVE FINISHED FLOOR, UNLESS OTHERWISE NOTED ON DRAWINGS.
	MOTOR OUTLET.
	JUNCTION BOX ABOVE CEILING OR WALL MOUNTED
	MANUAL MOTOR CONTROLLER.
	CARD READER OUTLET LOCATION. PROVIDE 3/4" EC WITH PULL STRING UP TO 6" ABOVE ACCESSIBLE CEILING.
	FIRE ALARM MANUAL PULL STATION SURFACE MOUNTED 4'-0" ABOVE FLOOR
	FIRE ALARM AUDIO VISUAL TYPE SIGNALING DEVICE FLUSH MOUNTED 6'-8" ABOVE FINISHED FLOOR TO BOTTOM, UNLESS OTHERWISE NOTED, DEVICE SHALL BE 75 CANDELA UNLESS OTHERWISE NOTED WITH SUBSCRIPT ON FLOOR PLAN.
	FIRE ALARM VISUAL ONLY TYPE SIGNALING DEVICE FLUSH MOUNTED 6'-8" ABOVE FINISHED FLOOR TO BOTTOM, UNLESS OTHERWISE NOTED, DEVICE SHALL BE 75 CANDELA UNLESS OTHERWISE NOTED WITH SUBSCRIPT ON FLOOR PLAN.
	CEILING MOUNTED SMOKE DETECTOR
	AIR DUCT TYPE SMOKE DETECTOR WITH REMOTE INDICATED LIGHT.
	WALL MOUNTED, AIR DUCT TYPE SMOKE DETECTOR REMOTE INDICATOR LIGHT.
	ELECTRICAL CONNECTION TO EQUIPMENT
	EQUIPMENT ENCLOSURE. DESIGNATION AS NOTED ON PLANS.
	NON-FUSIBLE SAFETY SWITCH.
	FUSIBLE SAFETY SWITCH.
	DRY TYPE TRANSFORMER.
	SURFACE MOUNTED 120/208V BRANCH CIRCUIT PANELBOARD, PANEL DESIGNATION AS NOTED ON PLANS.
	RECESSED MOUNTED 120/208V BRANCH CIRCUIT PANELBOARD, PANEL DESIGNATION AS NOTED ON PLANS.
	BRANCH CIRCUIT HOMERUN TO PANELBOARD, NUMBER OF SHORTER CROSSMARKS INDICATE NUMBER OF CIRCUITS RUN, UNLESS OTHERWISE NOTED, CONNECT CIRCUIT TO A SINGLE POLE, 20 AMP BRANCH CIRCUIT BREAKER IN PANELBOARD INDICATED. EQUIPMENT GROUND WIRE IS INDICATED WITH DOT. PROVIDE GROUND WIRE IN ACCORDANCE WITH PROJECT SPECIFICATIONS. LONGER CROSSMARK INDICATES NEUTRAL.
	BRANCH CIRCUIT WIRING CONCEALED IN CEILING OR WALLS - CROSS MARKS INDICATE NUMBER OF CONDUCTORS FOR CLARIFICATION WHERE NECESSARY.
	BRANCH CIRCUIT WIRING CONCEALED IN FLOOR, IN CEILING SPACE BELOW, OR BELOW FINISHED GRADE
	REFERENCED PLAN NOTE DESIGNATION
	PLAN OR DETAIL NUMBER
	DRAWING WHERE PLAN OR DETAIL APPEARS
	EXISTING WIRING, EQUIPMENT OR OUTLETS TO BE REMOVED OR RELOCATED.
	WALL PLATE. REFER TO POLYSONICS DRAWINGS FOR DETAILS.
	CEILING MOUNTED AV DUPLEX RECEPTACLE WITH ISOLATED GROUND. REFER TO POLYSONICS DRAWINGS FOR DETAILS.
	FLOOR BOX. REFER TO POLYSONICS DRAWINGS FOR DETAILS.
	FLOOR BOX. REFER TO POLYSONICS DRAWINGS FOR DETAILS.
	AV DUPLEX RECEPTACLE WITH ISOLATED GROUND TYPE.

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Issue: Description:

Date:

1	Schematic Design	07.31.2015
2	Design Development	09.18.2015
3	80% Pricing Set	11.18.2015

Drawing Title:

COVER SHEET - ELECTRICAL

Drawing Scale: **NONE**

Project No.: 13118
Date: 11.18.2015

Drawing No.:

E0.00

REFERENCED PLAN NOTES

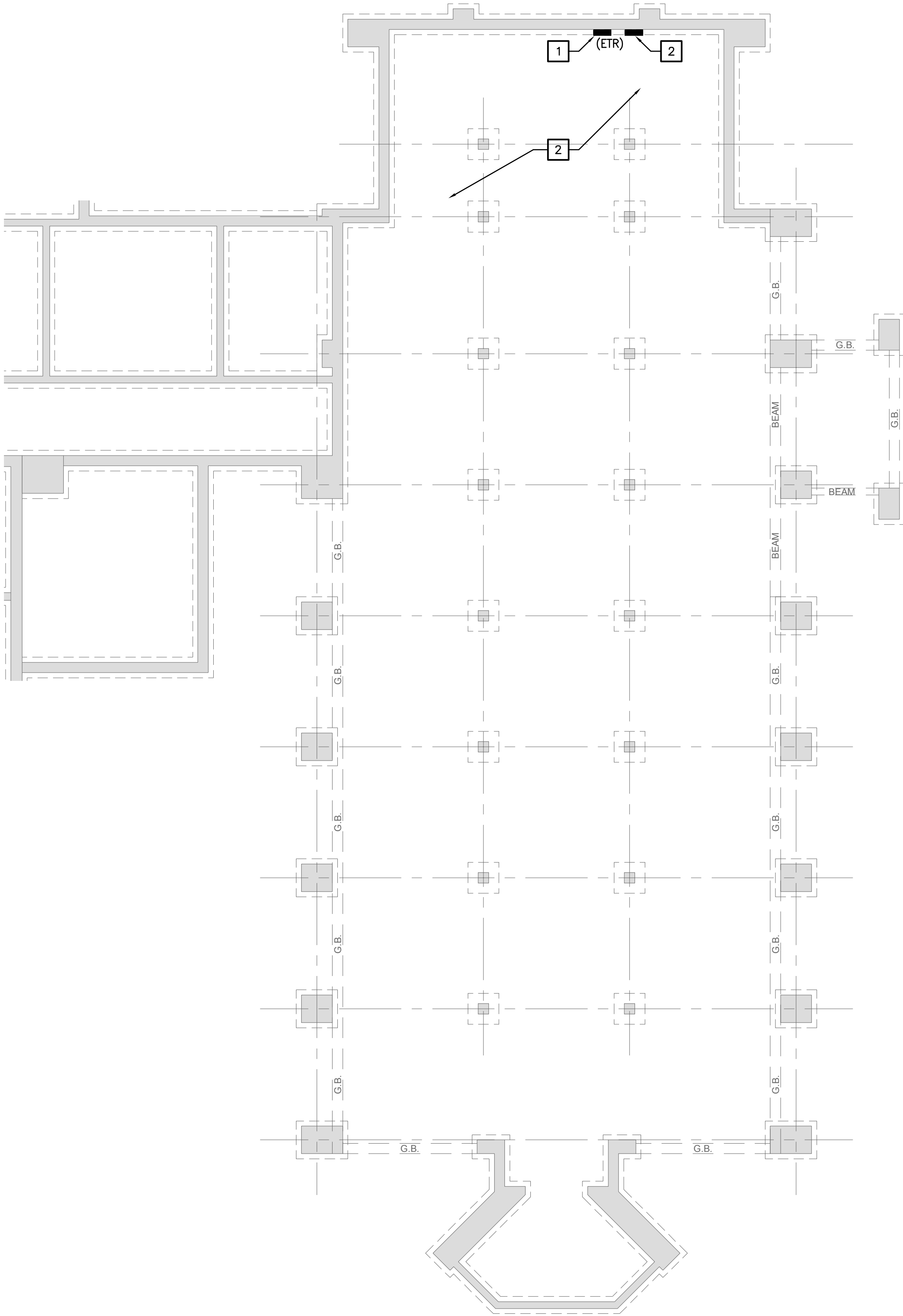
Applicable to this drawing only

1

EXISTING ORGAN CONTROL PANEL TO REMAIN.

2

ALL EXISTING ACTIVE RACEWAYS SHALL BE TEMPORARILY REMOVED TO ALLOW FOR DEMOLITION AND CONSTRUCTION OF NEW FLOOR ABOVE, THEN REINSTALL AND RE-ENERGIZE PER EXISTING CONDITION.

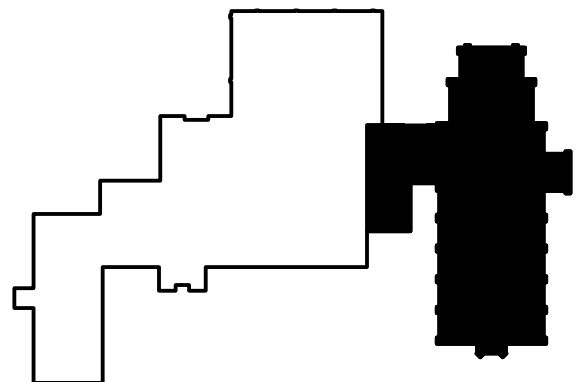


01

SAINT GEORGE DEMO BASEMENT PLAN - ELECTRICAL

E1.01

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



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3	80% Pricing Set	11.18.2015

Drawing Title:

SAINT GEORGE
DEMO BASEMENT PLAN
- ELECTRICAL

Drawing Scale: NONE

Project No.: 13118
Date: 11.18.2015

Drawing No.:

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Issue:	Description:	Date:
1	Schematic Design	07.31.2015
2	Design Development	09.18.2015
3	80% Pricing Set	11.18.2015

Drawing Title:

SAINT GEORGE
DEMO FIRST FLOOR PLAN
- ELECTRICAL

Drawing Scale: NONE

Project No.: 13118
Date: 11.18.2015

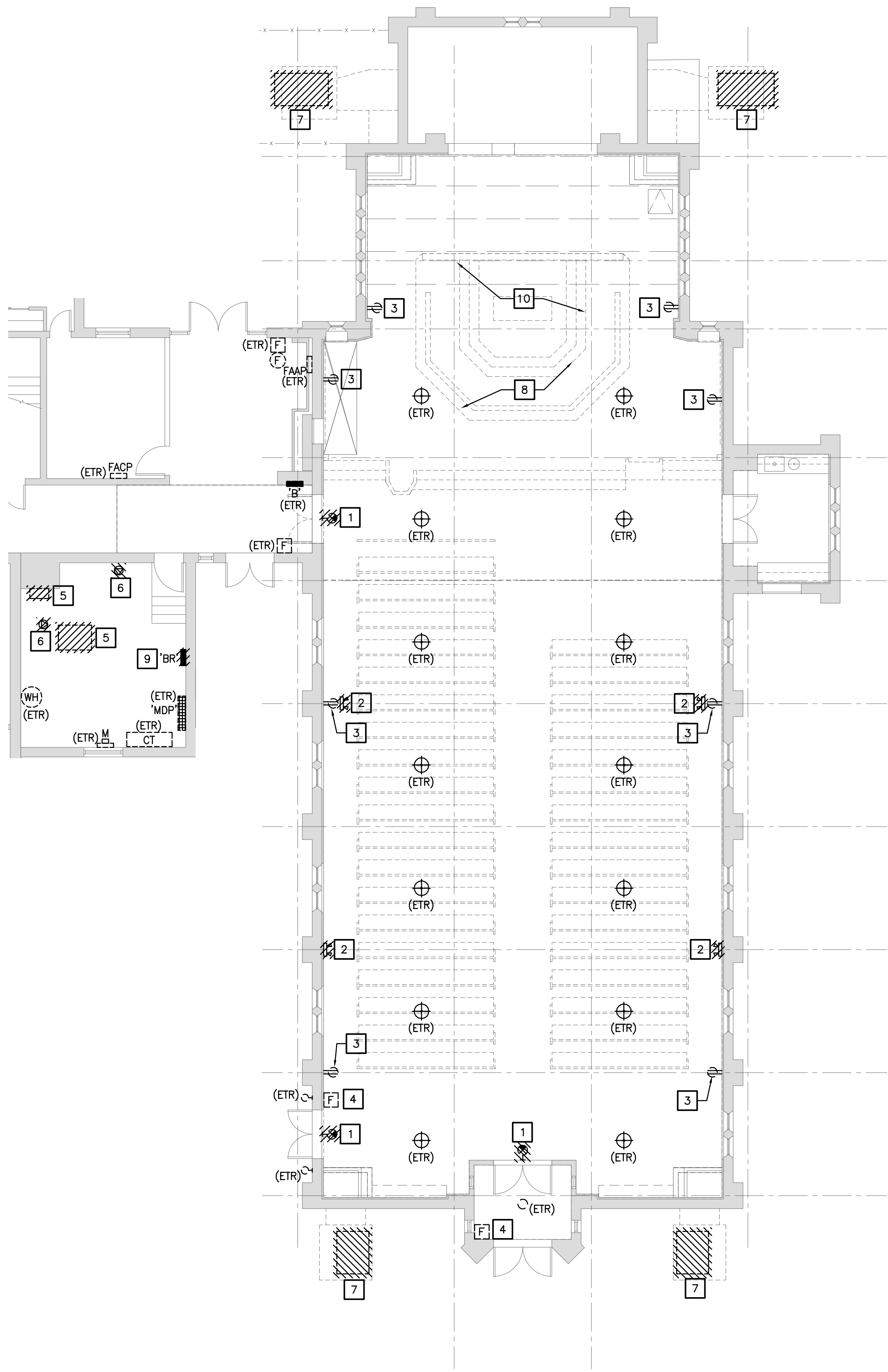
Drawing No.:

E1.02

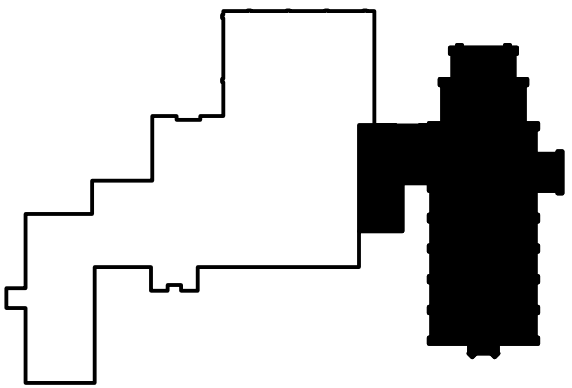
REFERENCED PLAN NOTES

Applicable to this drawing only

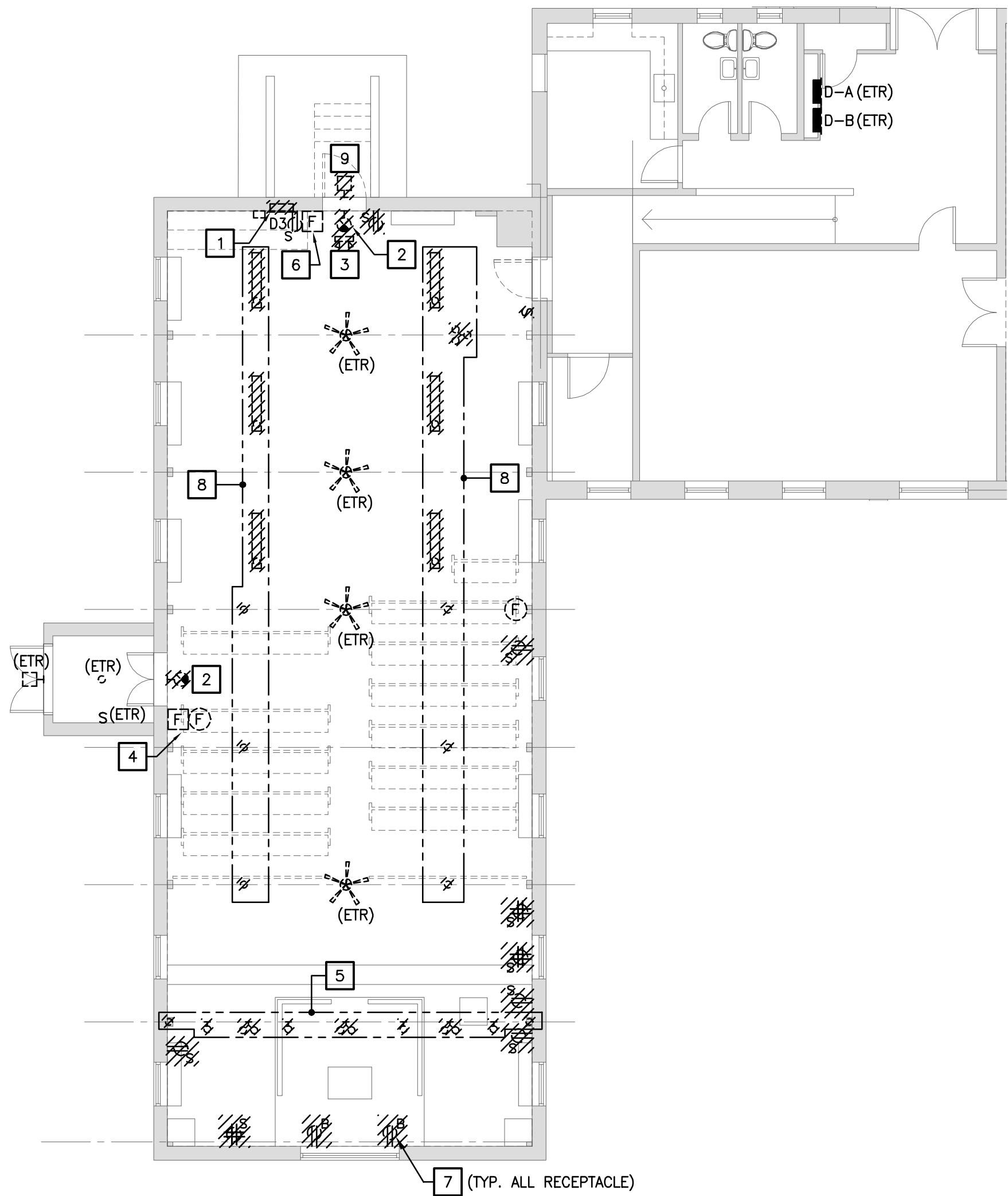
- 1 REMOVE EXISTING EXIT SIGN AND ITS ASSOCIATED WIRING BACK TO SOURCE (ALTERNATE 4A).
- 2 REMOVE EXISTING EMERGENCY BATTERY PACK UNIT AND ITS ASSOCIATED WIRING BACK TO SOURCE (ALTERNATE 4A).
- 3 EXISTING POWER OUTLET TO REMAIN.
- 4 EXISTING F.A. PULL STATION TO REMAIN, U.O.N.
- 5 REMOVE POWER AND CONTROL WIRING BACK TO SOURCE ASSOCIATED TO BOILER BEING REMOVED BY DIVISION 15 CONTRACTOR. REFER TO MECHANICAL DRAWINGS.
- 6 REMOVE POWER AND CONTROL WIRING BACK TO SOURCE ASSOCIATED TO CIRCULATOR PUMP BEING REMOVED BY DIVISION 15 CONTRACTOR. REFER TO MECHANICAL DRAWINGS.
- 7 REMOVE POWER AND CONTROL WIRING BACK TO SOURCE ASSOCIATED TO A/C UNIT BEING REMOVED BY DIVISION 15 CONTRACTOR. REFER TO MECHANICAL DRAWINGS.
- 8 REMOVE EXISTING CHANEL LIGHTS AND ASSOCIATED WIRING BACK TO SOURCE (ALTERNATE 4A).
- 9 EXISTING ELECTRICAL PANEL TO BE REMOVED AND REPLACED WITH NEW. REFER TO ELECTRICAL POWER RISER DIAGRAM.
- 10 REMOVE COVE LIGHTING AT CHOIR AREA AND STAINED GRASS WINDOW LIGHTS AND ASSOCIATED WIRING BACK TO SOURCE (ALTERNATE 4B).



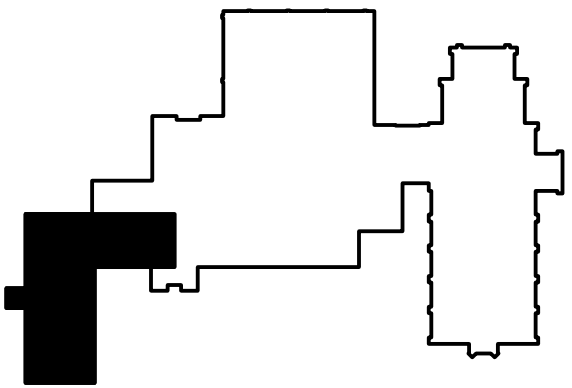
01 SAINT GEORGE DEMO FIRST FLOOR PLAN - ELECTRICAL
E1.02 Scale: 1/8" = 1'-0"



REFERENCED PLAN NOTES	
Applicable to this drawing only	
1	EXISTING ELECTRICAL PANEL TO BE REMOVED AND REPLACED WITH NEW. REFER TO ELECTRICAL POWER RISER DIAGRAM.
2	REMOVE EXISTING EXIT SIGN AND ITS ASSOCIATED WIRING BACK TO SOURCE (ALTERNATE 3A).
3	REMOVE EXISTING EMERGENCY BATTERY PACK UNIT AND ITS ASSOCIATED WIRING BACK TO SOURCE (ALTERNATE 3A).
4	EXISTING F.A. PULLSTATION AND AV NOTIFICATION DEVICE TO REMAIN.
5	REMOVE EXISTING CHANCEL LIGHTING FIXTURES AND THEIR ASSOCIATED WIRING BACK TO SOURCE (ALTERNATE 3B).
6	EXISTING F.A. PULLSTATION TO REMAIN.
7	REMOVE RECEPTACLE AND ASSOCIATED WIRING BACK TO SOURCE. (ALTERNATE 14)
8	REMOVE EXISTING LIGHTING FIXTURES AND THEIR ASSOCIATED WIRING BACK TO SOURCE (ALTERNATE 3A).
9	REMOVE EXISTING EXTERIOR LIGHTING FIXTURE AND ASSOCIATED WIRING BACK TO SOURCE.



01 SAN JOSE CHAPEL DEMO FIRST FLOOR PLAN - ELECTRICAL
E1.04 Scale: 1/8" = 1'-0"



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3	80% Pricing Set	11.18.2015

Drawing Title:

SAN JOSE CHAPEL DEMO
FIRST FLOOR PLAN
- ELECTRICAL

Drawing Scale: NONE

Project No.: 13118
Date: 11.18.2015

Drawing No.:

E1.04

REFERENCED PLAN NOTES

Applicable to this drawing only

1

REFER TO LIGHTING CONTROL DIAGRAM AND LIGHTING FIXTURES SCHEDULE ON DWG. E2.05.

2

CONNECT EXIT SIGNS AND EMERGENCY BATTERY PACK UNITS TO LOCAL CIRCUIT AHED OF SWITCHING (ALTERNATE 4A).

3

INSTALL SCENE SWITCH ON BACK SIDE OF FAUX WOOD COLUMN.

4

LUTRON PANELS. SEE LIGHTING CONTROL DIAGRAM ON DWG. E2.05.

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Issue:	Description:	Date:
1	Schematic Design	07.31.2015
2	Design Development	09.18.2015
3	80% Pricing Set	11.18.2015

Drawing Title:

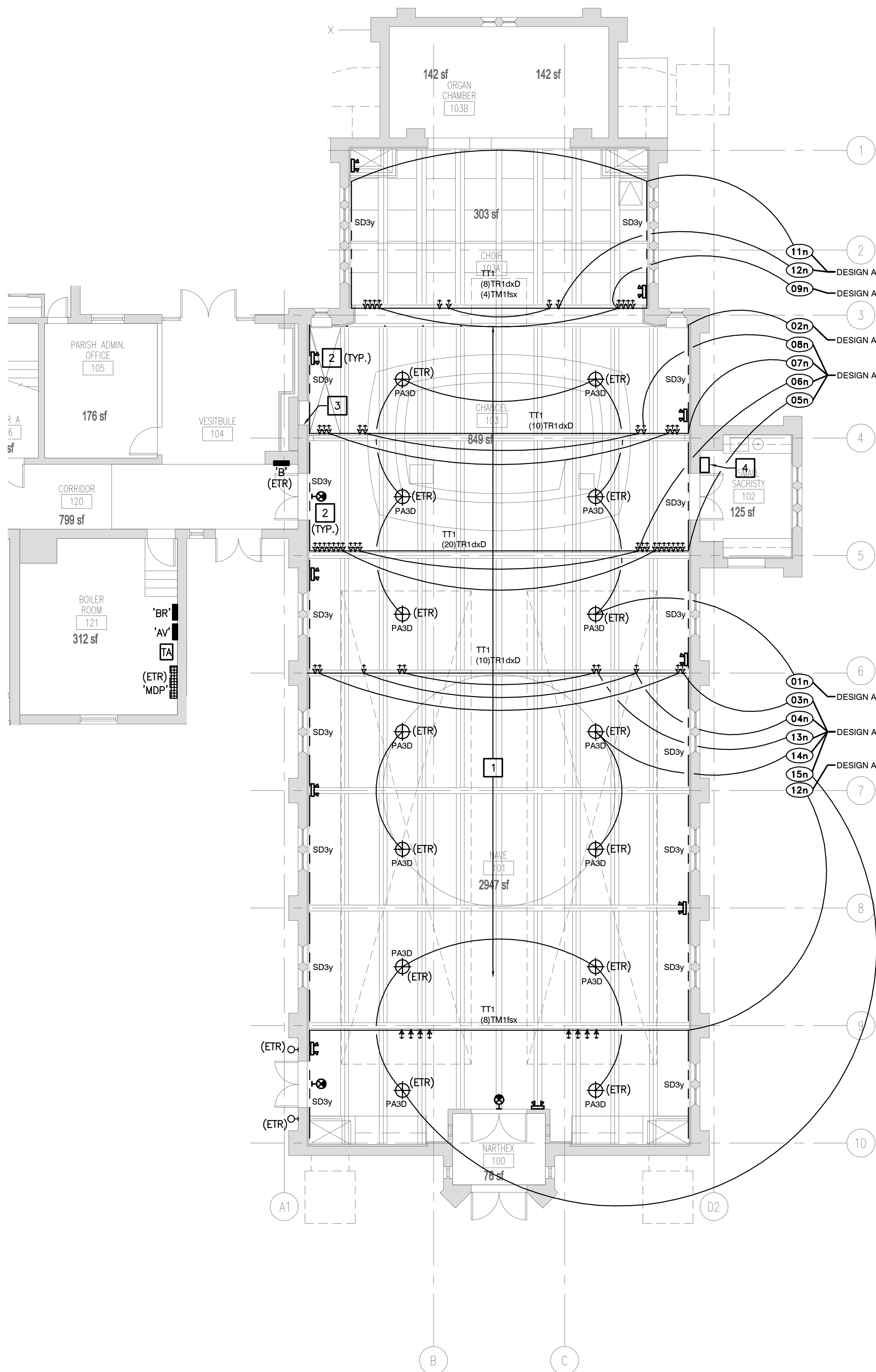
SAINT GEORGE
FIRST FLOOR LIGHTING PLAN
- ELECTRICAL

Drawing Scale: NONE

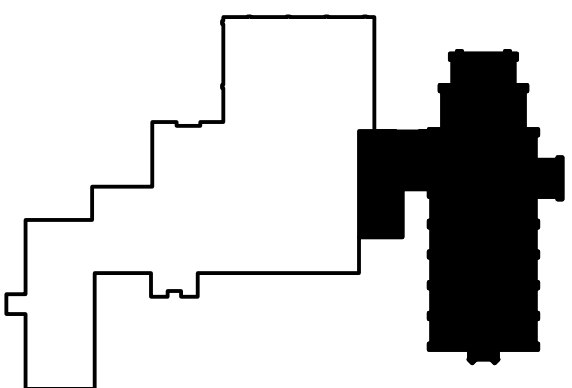
Project No.: 13118
Date: 11.18.2015

Drawing No.:

E2.02



01 SAINT GEORGE FIRST FLOOR LIGHTING PLAN - ELECTRICAL
E2.02 Scale: 1/8" = 1'-0"



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Issue:	Description:	Date:
1	Schematic Design	07.31.2011
2	Design Development	09.18.2011
3	80% Pricing Set	11.18.2011

Drawing Title:

SAN JOSE CHAPEL
FIRST FLOOR LIGHTING PLAN
- ELECTRICAL

Drawing Scale: **NONE**

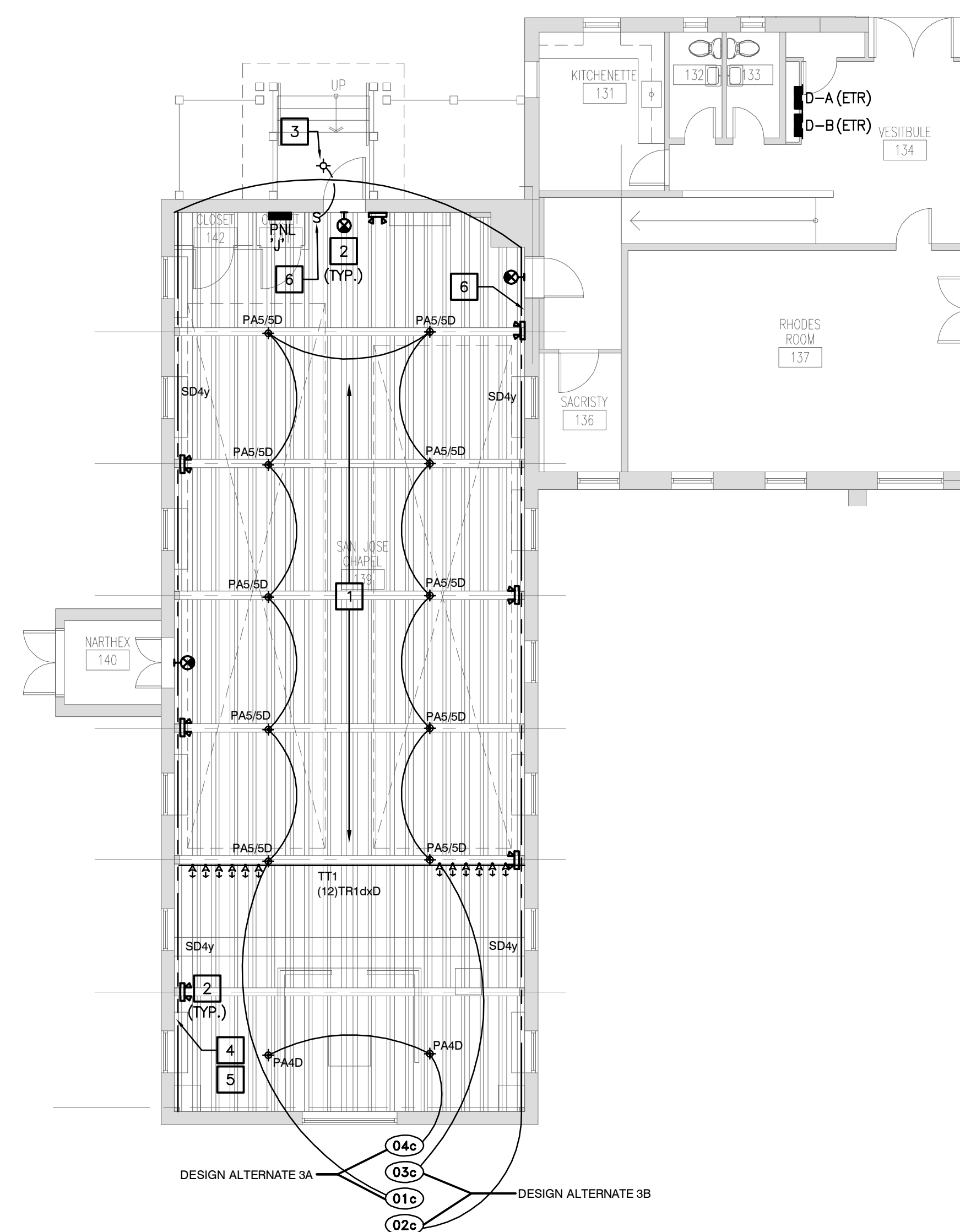
Project No.: 13118 Date: 11.18.2015

Drawing No.:

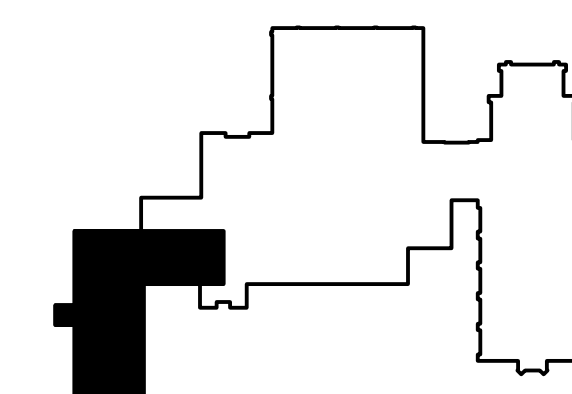
E2.04

Applicable to this drawing only

- | | |
|---|--|
| 1 | REFER TO LIGHTING CONTROL DIAGRAM AND LIGHTING FIXTURES SCHEDULE ON DWG. E2.05. |
| 2 | PROVIDE EXIT SIGN EQUAL TO LITHONIA, CAT. NO. LES 1R 120 ELN. PROVIDE EMERGENCY LIGHTING BATTERY PACK EQUAL TO LITHONIA, CAT. NO. LES 1R 120 ELN. PROVIDE EMERGENCY LIGHTING BATTERY PACK UNITS TO LOCAL CIRCUIT AREA OF SWITCHING (ALTERNATE 3A). |
| 3 | PROVIDE CANOPY LIGHTING FIXTURE EQUAL TO PROGRESS LIGHTING CAT. NO. P5549, 100W INCANDESCENT LAMP. |
| 4 | PROPOSED LOCATION OF DIMMER SWITCH FOR PENDANTS ZONES 1C & 4C (ALTERNATE 3A). |
| 5 | PROPOSED LOCATION OF DIMMER SWITCH FOR UPLIGHTS AND ZONES 2C & 3C (ALTERNATE 3B). |
| 6 | PROPOSED LOCATION OF LIGHTING SWITCH FOR PENDANTS ONLY ZONES 1C (ALTERNATE 3A). |



01 **SAN JOSE CHAPEL FIRST FLOOR LIGHTING PLAN - ELECTRICAL**
E2.04 Scale: 1/8" = 1'-0"



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Issue: Description: Date:

1 Schematic Design 07.31.2015
2 Design Development 09.18.2015
3 80% Pricing Set 11.18.2015

Drawing Title:

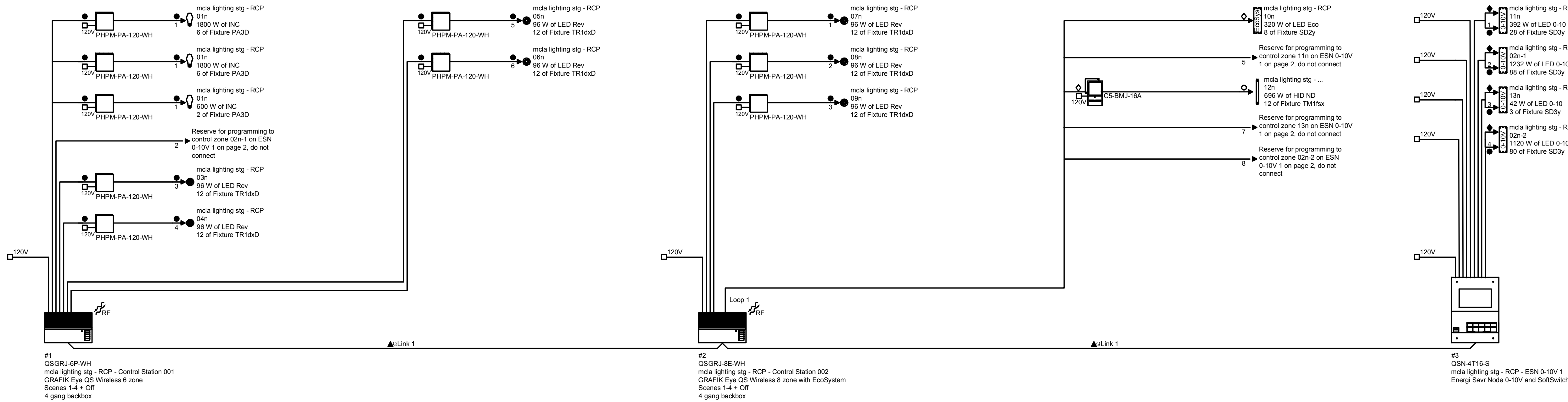
LIGHTING CONTROL
DIAGRAM AND SCHEDULES -
ELECTRICAL

Drawing Scale: NONE

Project No.: Date:
13118 11.18.2015

Drawing No.:

E2.05



01
E2.05 LIGHTING CONTROL ONE-LINE DIAGRAM
Scale: N.T.S.

Architectural Dimming Control Intent Schedule

ARCHITECTURAL LIGHTING DESIGN

Space and Control Scheme Descriptions

1.1 Summary:

A. Provide complete functioning dimming systems, including all components required for the control of the lighting, as shown on the contract drawings and as specified.

1.2 Description:

A. There shall be one preset dimming system for each of the following spaces:

1. Chapel (Nove-T)

2. Nave (GrafEye OS)

B. Recommended manufacturers are:

1. Lutron GrafEye QS / Nova-T

C. The dimming system shall be all solid state with a remote control:

1. All spaces shall be controlled with a minimum of four preset scenes.

2. Individual fade rates shall be programmable for each preset scene.

D. Programming panels and remote control panels shall be wall mounted as located on the reflected ceiling plan drawings. All other devices not located at standard wall switch height shall have their installation heights noted on the drawings or in the D

E. Each major component of the systems shall be completely factory assembled and factory wired such that the contractor field connections are limited to:

1. Incoming power is single phases, 20 amp.

2. Dimmer section power interconnections at factory installed lugs.

3. Low voltage control wiring between components.

4. Branch circuit load wiring.

F. Manufacturer to engrave or otherwise label wall stations as directed by Owner after move in and 2 weeks use of space.

G. System to be commissioned by Factor Authorized Service Agent rather than third party (i.e., Technician employed directly by Lutron rather than a subcontractor.)

H. Emergency lighting shall be provided utilizing emergency transfer relay such that all fixtures dim as zoned under normal power.

I. System to be provided with astronomical time clock such that scenes can be activated on a daily and weekly schedule without required user interface.

Control Device Schedule

Type	Function / Description	Manufacturer (and Series)	Notes
cp-C	Wall recessed 4-gang wall box dimmer.	Lutron NTF-10 / NTELV-300 / NCTL-250 / NCTL-250 / VWP-4	Design Alternate 3A
cp-N	Wall recessed multiscene preset station with individual zone raise/lower.	Lutron QSGRJ 4E / QSGRJ 4E / QSGRJ 8E	Design Alternate 4A

General Notes:

1. All finishes to be selected and reviewed by Architect and/or Interior Designer.

2. All equipment substitutions shall have a working sample provided to the Lighting Designer for review within

Dimming Zone Schedule

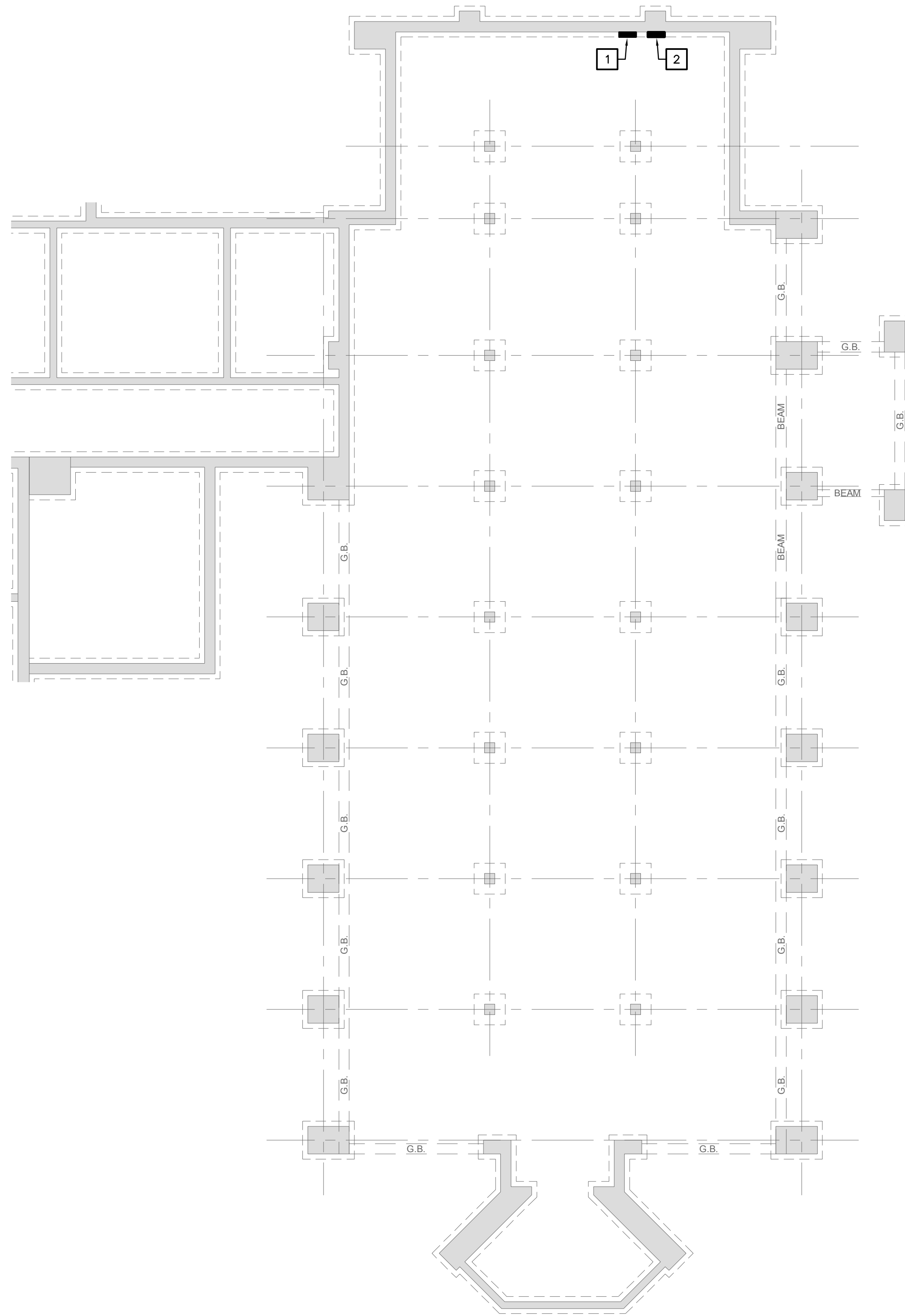
Zone	Source	Dim/ Switch	Fixture Types	Qty	Watts /Fixture	Watts Controlled	Dimmers Required	Description / Location	Control Devices
01c	3 Wire	Dim	PA5D	10	45	450	1	congregation - Design Alternate 3A	cp-C
02c	INC	Dim	SD4y	130 ft.	1.2	156	1	uplight - Design Alternate 3B	cp-C
03c	ELV	Dim	TR1d4D	12	7	84	1	focal lights - Design Alternate 3B	cp-C
04c	INC	Dim	PA4D	2		0	0	altar - Design Alternate 3A	cp-C

Nave

Zone	Source	Dim/ Switch	Fixture Types	Qty	Watts /Fixture	Watts Controlled	Dimmers Required	Description / Location	Control Devices
01n	INC	Dim	PA3D	6		0	0	pendants (front) - Design Alternate 4A	cp-N
02n	LED 0-10V	Dim	SD3y	168 ft.	12.3	2066.4	2	uplight - Design Alternate 4B	cp-N
03n	ELV	Dim	TR1d4D	4	7	28	1	pulpit - Design Alternate 4A	cp-N
04n	ELV	Dim	TR1d4D	2	7	14	1	font - Design Alternate 4A	cp-N
05n	ELV	Dim	TR1d4D	12	7	84	1	chancel 1 - Design Alternate 4A	cp-N
06n	ELV	Dim	TR1d4D	12	7	84	1	chancel 2 - Design Alternate 4A	cp-N
07n	ELV	Dim	TR1d4D	12	7	84	1	choir 1 - Design Alternate 4A	cp-N
08n	ELV	Dim	TR1d4D	12	7	84	1	choir 2 - Design Alternate 4A	cp-N
09n	ELV	Dim	TR1d4D	12	7	84	1	choir 3 - Design Alternate 4A	cp-N
10n	ES	Dim	SD2y	24 ft.	10.6	254.4	1	choir 4 - Design Alternate 4A	cp-N
11n	LED 0-10V	Dim	SD3y	28 ft.	12.3	344.4	1	choir uplight - Design Alternate 4B	cp-N
12n	ELV	Dim	TD1fx	12	58	696	1	stained glass - Design Alternate 4B	cp-N
13n	ELV	Dim	TR1d4D	4	7	28	1	altar - Design Alternate 4A	cp-N
14n	INC	Dim	PA3D	4		0	0	pendants (middle) - Design Alternate 4A	cp-N
15n	INC	Dim	PA3D	4		0	0	pendants (back) - Design Alternate 4A	cp-N

Lighting Fixture Schedule				
ARCHITECTURAL LIGHTING DESIGN				
Type	Mounting	Lamps	Manufacturer and Series	Notes
General Notes:				
1. All fixture substitutions shall have a working sample provided for review within 10 working days upon request from the design team.				
2. Judgment of fixture quality and optics, as equal, shall be determined by the Architect or Lighting Designer.				
3. All transpositions of the specifications in this schedule must be complete and accurate in order to be considered valid.				
4. Low-temperature ballast must be capable of starting at -18 degrees Celsius.				
5. All fixtures shall have appropriate UL label, damp, or wet as required by local codes.				
6. All fixtures shall include all accessories required for installation according to all local and national codes.				
7. Prior to ordering any lighting equipment the contractor shall verify all locations and recess depths.				
8. All lamps shall be installed according to the Lighting Fixture Schedule.				
9. Contractor shall verify final voltages and ceiling trim compatibility prior to ordering fixtures.				
10. All finishes to be verified by Architect / Interior Designer, prior to ordering.				
11. Any unspecified or TBD finishes are to be assumed as standard available finishes for pricing, unless otherwise noted.				
12. Ceiling thickness in excess of 3/4" shall be identified in writing by contractor/architect.				
13. All fixtures shall be ordered with the appropriate ballasts that have UL and CBM labels. All ballasts must conform to local energy code requirements for performance, switching, and wiring (i.e. tandem).				
14. Provide approved fire-rated enclosures for all lighting fixtures located in a fire-rated ceiling or wall.				
15. Walls directly illuminated shall be installed and finished in a manner to eliminate shadows or blemishes (i.e. hang dry wall vertically).				
16. All fixtures located in an insulated ceiling area, should have an IC housing (electrical contractor to coordinate).				
17. All adjustable downlights MUST be shipped to site with lamp facing straight down. Contractor to install all fixtures with lamp facing down.				
18. All white trim downlights to be painted to match the color of the ceiling, if ceiling is not white. This applies to both open downlights as well as pinhole aperture downlights.				
19. Locations for all tree mounted landscape fixtures or fixtures uplighting trees to be indicated on site by Lighting Designer via stakes or flags subsequent to installation of all pertinent trees.				
20. All landscape mounted fixtures to have in-grade junction boxes. Visible conduit shall not be acceptable.				
PA3D	Ceiling Pendant	<3> 19A21/2700-WHT DIM by Philips	Existing to Remain Design Alternate 4A	Existing incandescent pendant. - Clean and re-lamp. location(s): Nave
PA4D	Ceiling Pendant	T.B.D.	Existing to Remain Design Alternate 3A	Existing incandescent pendant. - Clean and re-lamp. location(s): Chapel
PA5 /SD	Ceiling Pendant	<5> 42054 Milky by Spotlite USA	Progress P4319 finish	Pendant mount 5-amp incandescent decorative chandelier. Etched white shades. Swivel mount adjustment. Ceiling chain suspension. For use with LED lamps. location(s): Chapel
SD2 y	Surface	<1/ft.> L9L4 30 by Birchwood	Birchwood NOL LED 325 L9LR 30 CR10 SC FW volts HLAD Design Alternate 4A	Surface mount linear LED extruded troffer. Convex lens. Dimmable driver for use with Lutron GrafEye QS. - Contractor to provide elevations and field location(s): Nave
SD3 y	Surface	<1/ft.> Ultra Plus 121W / WW	Design Plan Linear Flex LED Ultra Plus 121W / WW 8010400/C12 M130367/C01 Design Alternate 4B	Surface mount LED strip light. 3000K color temperature. 1000 lumen/ft. light output. Remote dimmable driver. - See detail.
SD4 y	Surface	Integral	Bruck 138550 3 Design Alternate 3B	Surface mount LED line voltage strip light. 3000K color temperature. 75 lumen/ft. light output. - See detail. - Install in continuous lengths as shown in plan. location(s): Chapel

TD1 fix	Track Mount	<1> CDM39/T4/830 by Philips	WAC H 1052N 930 finish accessories: LENS-25-FR, LENS-25-SPR, LENS-25-CRL-BK Design Alternate 4B	LED adjustable track head. Locking adjustment. Narrow flood optics. Lightly frosted accessory lens. Prismatic overall spread accessory lens. Hex cell lower accessory. Dimmable to 1% with ELV dimming. For use with TT1 track. - Contractor to install with location(s): Nave
TR1 d4D	Track Mount	<1> SM16GA-07-10D-830-03 by SORAA	WAC HTK 103LED finish SORAA AC-GC-2525-00 AC-LU-4040-00 Design Alternate 4A	Low voltage MR16 adjustable track head. Locking adjustment. For use with LED MR16 lamp. Prismatic diffusion accessory lens. Hex cell lower accessory. For use with TT1 track. - Provide transformer compatible with both supplied lamp and dimming system. location(s): Chapel, Nave
TT1	Surface	n/a	WAC H Series Track system Design Alternate 4A and Design Alternate 4B	Line voltage track. - Install in continuous lengths as shown in plans and elevations. - Provide fixture lengths to fill entire run as shown in plans and elevations. Field cut or factory cut odd lengths as required. location(s): Chapel, Nave



01 SAINT GEORGE BASEMENT POWER PLAN - ELECTRICAL
E3.01 Scale: 1/8" = 1'-0"

REFERENCED PLAN NOTES

Applicable to this drawing only

- 1 EXISTING CONTROL PANEL (RECTIFIER) FOR EXISTING ORGAN.
- 2 CONTROL PANEL (RECTIFIER) FOR NEW ORGAN.

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Issue:	Description:	Date:
1	Schematic Design	07.31.2015
2	Design Development	09.18.2015
3	80% Pricing Set	11.18.2015

Drawing Title:

SAINT GEORGE
BASEMENT POWER PLAN
- ELECTRICAL

Drawing Scale: NONE

Project No.: 13118
Date: 11.18.2015

Drawing No.:

E3.01

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1	Schematic Design	07.31.2015
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3	80% Pricing Set	11.18.2015

Drawing Title:

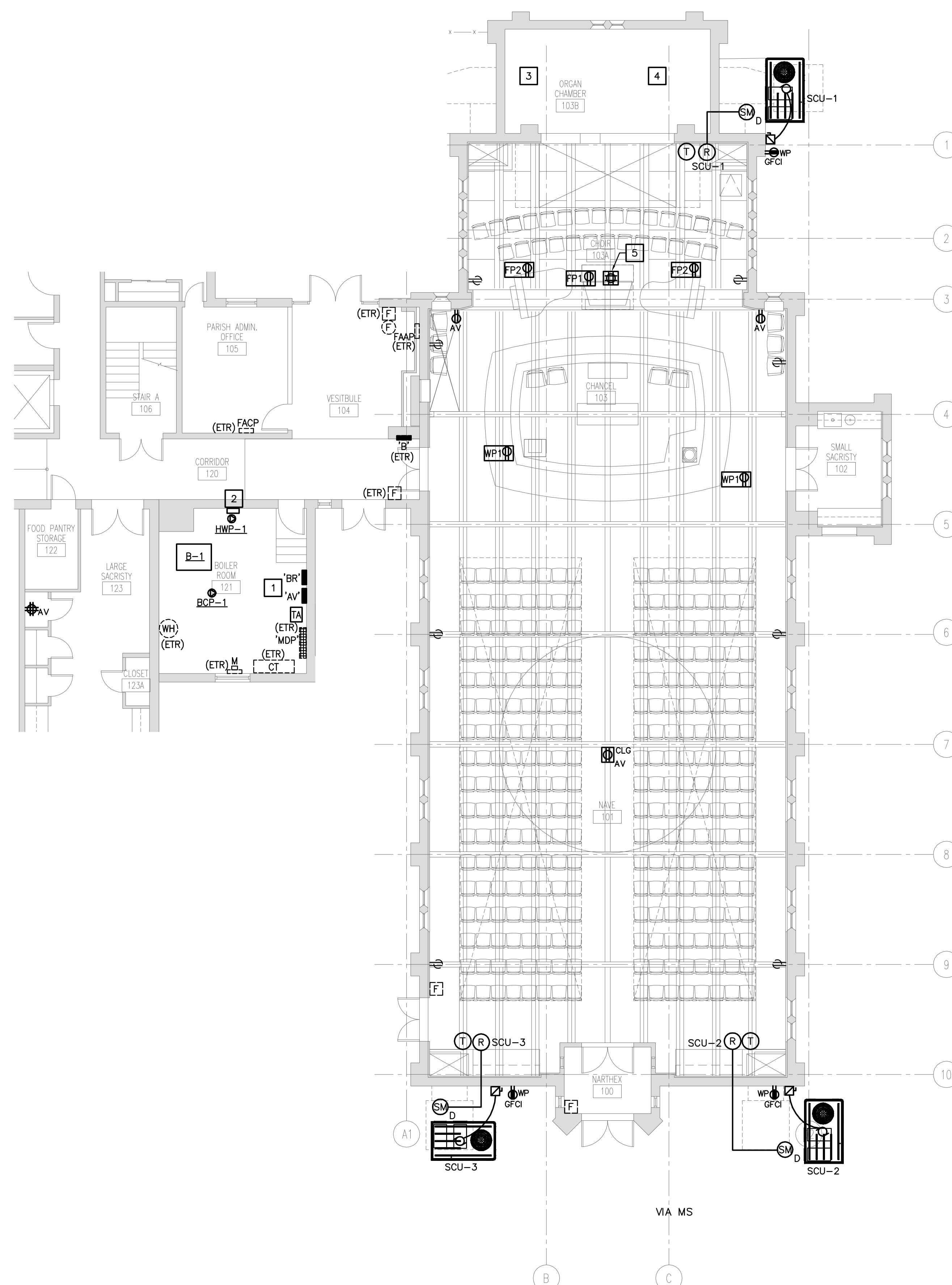
SAINT GEORGE FIRST
FLOOR POWER PLAN
- ELECTRICAL

Drawing Scale: **NONE**

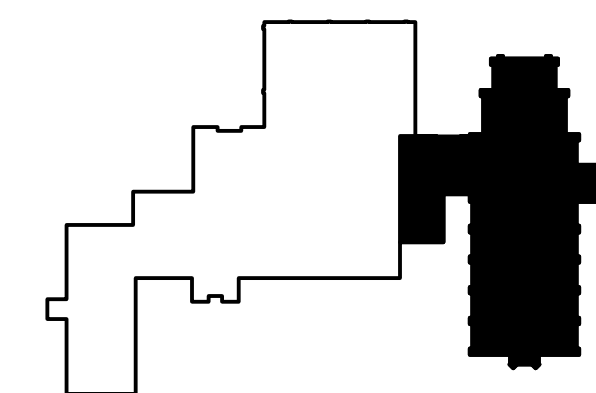
Project No.:	Date:
13118	11.18.2015

Drawing No.:

E3.02



01 SAINT GEORGE FIRST FLOOR POWER PLAN - ELECTRICAL
E3.02 Scale: 1/8" = 1'-0"



REFERENCED PLAN NOTES

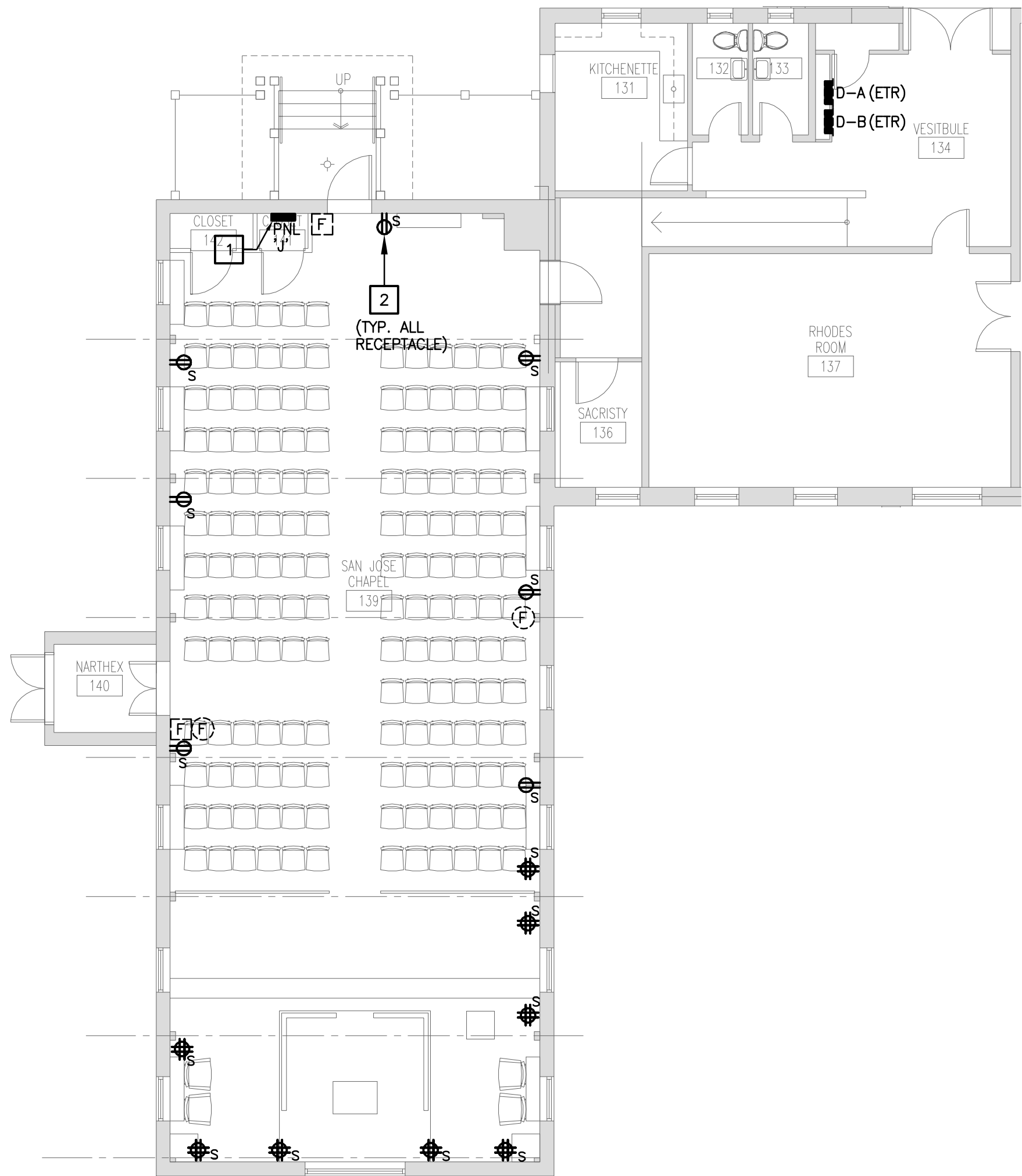
Applicable to this drawing only

1

NEW PANEL 'J'. SEE POWER RISER DIAGRAM ON DWG. E4.00.

2

NEW RECEPTACLE, GROUNDING TYPE, SURFACE MOUNTED. (ALTERNATE 14)

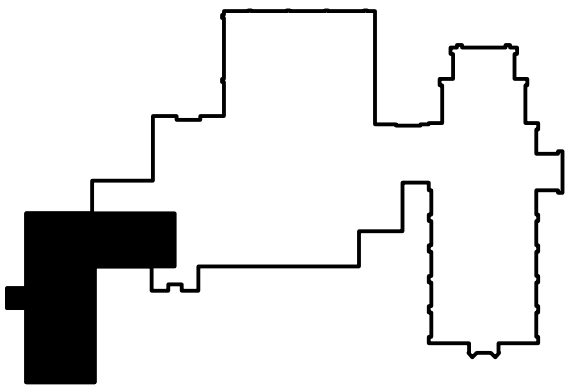


01

SAN JOSE CHAPEL FIRST FLOOR POWER PLAN - ELECTRICAL

E3.04

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



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Drawing Title:

**SAN JOSE CHAPEL FIRST
FLOOR POWER PLAN
- ELECTRICAL**

Drawing Scale: **NONE**

Project No.: **13118** Date: **11.18.2015**

Drawing No.:

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Drawing Title:

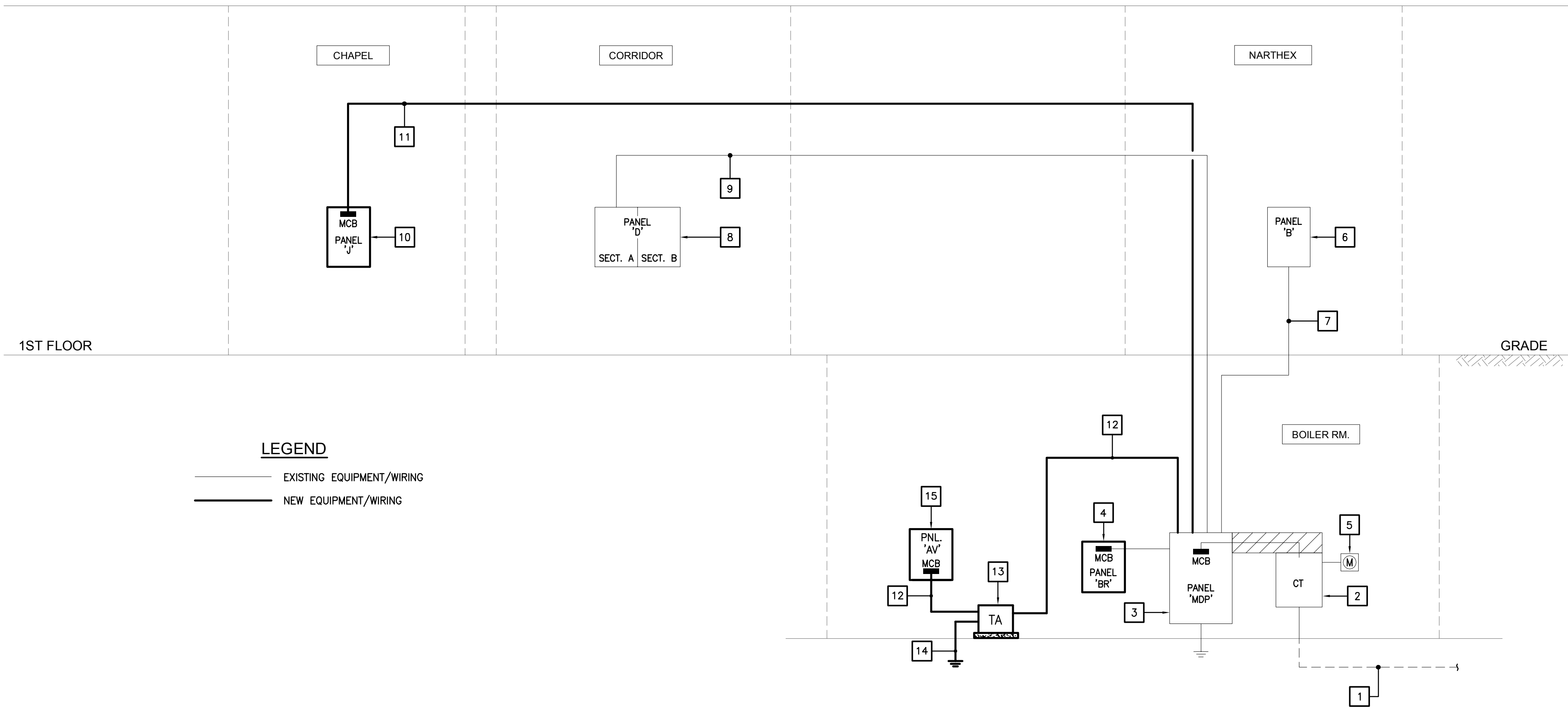
RISER DIAGRAM
- ELECTRICAL

Drawing Scale: NONE

Project No.: 13118
Date: 11.18.2015

Drawing No.:

E4.00



01 PARTIAL POWER RISER DIAGRAM - ELECTRICAL
E4.00 Scale: N.T.S

- POWER RISER DIAGRAM NOTES**
Applicable to this drawing only
- (ETR) INCOMING UNDERGROUND ELECTRICAL SERVICE.
 - (ETR) CURRENT TRANSFORMER CABINET (CT), 1200A, 208Y/120V, 3 ϕ , 4W.
 - (ETR) MAIN DISTRIBUTION PANEL 'MDP', 1200A, 208Y/120V, 3 ϕ , 4W, SERVICE RATED. SEE PANEL SCHEDULE ON DWG. E4.01.
 - NEW PANEL 'BR', 200A MCB, 208Y/120V, 3 ϕ , 4W, TO REPLACE EXISTING ONE AT ITS CURRENT LOCATION. SEE PANEL SCHEDULE ON DRAWING E4.01.
 - (ETR) ELECTRICAL SERVICE METER.
 - (ETR) PANEL 'B', 226A MLO, 208Y/120V, 3 ϕ , 4W. SEE PANEL SCHEDULE ON DWG. E4.01.
 - (ETR) 4 #3/0, 1 #6 GND IN 2" CONDUIT.
 - (ETR) 2-SECTION PANEL 'D', 225A MLO, 208Y/120V, 3 ϕ , 4W.
 - (ETR) 4 #4/0, 1 #4 GND IN 2-1/2" CONDUIT.
 - NEW PANEL 'J', 200A, 120/240V, 1 ϕ , 3W. SEE PANEL SCHEDULE ON DWG. E4.01.
 - 3 #4/0, 1 #4 GND IN 2-1/2" CONDUIT. CONNECT THIS FEEDER AT EXISTING 'MDP' VIA EXISTING 200A, 2-POLE CIRCUIT BREAKER.
 - 4 #6, 1 #8 GND IN 1" CONDUIT.
 - ISOLATION TRANSFORMER 'TA', 15 KVA, 208 Δ - 208Y/120V, 3P, 4W.
 - ONE(1) #8 GROUND CONDUCTOR TO BUILDING GROUNDING SYSTEM.
 - PANEL 'AV', 50A MCB, 208Y/120V, 3P, 4W. SEE PANEL SCHEDULE ON DRAWING E4.01.

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Issue: Description:

Date:

- | | | |
|---|--------------------|------------|
| 1 | Schematic Design | 07.31.2015 |
| 2 | Design Development | 09.18.2015 |
| 3 | 80% Pricing Set | 11.18.2015 |

Drawing Title:

SCHEDULES
- ELECTRICAL

Drawing Scale: NONE

Project No.:

13118

Date:

11.18.2015

Drawing No.:

E4.01

EXISTING PANEL SCHEDULE															
PANEL DESIGNATION		VOLTAGE: 208Y/120V 3P 4W				MAINS: MLD		FED FROM: UTILITY		ROOM:		MOUNTING: SURFACE			
MDP		A.I.C. RATING: 22,000		BUS AMPS: 1200		LUGS: STANDARD		NEUTRAL: 100%		REMARKS:					
BRANCH CIRCUIT LOAD DESCRIPTION	LOAD KVA	CIRCUIT BREAKER TRIP / POLE	No.	PHASE			CIRCUIT BREAKER TRIP / POLE	LOAD KVA	BRANCH CIRCUIT LOAD DESCRIPTION	SPARE	No.	CIRCUIT BREAKER TRIP / POLE	LOAD KVA	BRANCH CIRCUIT LOAD DESCRIPTION	SPARE
				A	B	C									
SPARE	0	20/1	1				2	20/1	0	SPARE					SPARE
SPARE	0	20/1	3				4	20/1	0	SPARE					SPARE
SPARE	0	20/1	5				6	20/1	0	SPARE					SPARE
SPARE	0	20/1	7				8	20/1	0	SPARE					SPARE
SPARE	0	20/1	9				10	20/1	0	SPARE					SPARE
SPARE	0	20/1	11				12	20/1	0	SPARE					SPARE
SPARE	0	20/1	13				14	20/1	0	SPARE					SPARE
SPARE	0	20/1	15				16	20/1	0	SPARE					SPARE
SPARE	0	20/1	17				18	20/1	0	SPARE					SPARE
SPARE	0	20/1	19				20	20/1	0	SPARE					SPARE
SPARE	0	20/1	21				22	20/1	0	SPARE					SPARE
SPARE	0	20/1	23				24	20/1	0	SPARE					SPARE
SPARE	0	20/1	25				26	20/1	0	SPARE					SPARE
SPARE	0	20/1	27				28	20/1	0	SPARE					SPARE
SPARE	0	20/1	29				30	20/1	0	SPARE					SPARE
SPARE	0	20/1	31				32	20/1	0	SPARE					SPARE
SPARE	0	20/1	33				34	20/1	0	SPARE					SPARE
SPARE	0	20/1	35				36	20/1	0	SPARE					SPARE
SPARE	0	20/1	37				38	20/1	0	SPARE					SPARE
SPARE	0	20/1	39				40	20/1	0	SPARE					SPARE
SPARE	0	20/1	41				42	20/1	0	SPARE					SPARE
CONN. KVA CALC. KVA CONTINUOUS (125%) HEATING 0 0 (125%)															
LIGHTING	0														
LARGEST MOTOR	0														
OTHER MOTORS	0														
RECEPTACLES	0														
TOTAL KVA 0 0 NONCON/DIVERSE 0 0 (N/A)															
BALANCED THREE PHASE AMPS 0															

SECT. I				PANEL SCHEDULE				EXISTING							
PANEL DESIGNATION		VOLTAGE: 208Y/120V 3P 4W		MAINS: MLO		FED FROM: UTILITY		ROOM:		MOUNTING: RECESSED					
D		A.I.C. RATING: 22,000		BUS AMPS: 225		LUGS: FEEDTHRU		NEUTRAL: 100%		REMARKS:					
BRANCH CIRCUIT LOAD DESCRIPTION	LOAD KVA	CIRCUIT BREAKER TRIP / POLE	No.	PHASE			CIRCUIT BREAKER TRIP / POLE	LOAD KVA	BRANCH CIRCUIT LOAD DESCRIPTION	SPARE	No.	CIRCUIT BREAKER TRIP / POLE	LOAD KVA	BRANCH CIRCUIT LOAD DESCRIPTION	SPARE
				A	B	C									
SPARE	0	20/1	1				2	20/1	0	SPARE					SPARE
SPARE	0	20/1	3				4	20/1	0	SPARE					SPARE
SPARE	0	20/1	5				6	20/1	0	SPARE					SPARE
SPARE	0	20/1	7				8	20/1	0	SPARE					SPARE
SPARE	0	20/1	9				10	20/1	0	SPARE					SPARE
SPARE	0	20/1	11				12	20/1	0	SPARE					SPARE
SPARE	0	20/1	13				14	20/1	0	SPARE					SPARE
SPARE	0	20/1	15				16	20/1	0	SPARE					SPARE
SPARE	0	20/1	17				18	20/1	0	SPARE					SPARE
SPARE	0	20/1	19				20	20/1	0	SPARE					SPARE
SPARE	0	20/1	21				22	20/1	0	SPARE					SPARE
SPARE	0	20/1	23				24	20/1	0	SPARE					SPARE
SPARE	0	20/1	25				26	20/1	0	SPARE					SPARE
SPARE	0	20/1	27				28	20/1	0	SPARE					SPARE
SPARE	0	20/1	29				30	20/1	0	SPARE					SPARE
SPARE	0	20/1	31				32	20/1	0	SPARE					SPARE
SPARE	0	20/1	33				34	20/1	0	SPARE					SPARE
SPARE	0	20/1	35				36	20/1	0	SPARE					SPARE
SPARE	0	20/1	37				38	20/1	0	SPARE					SPARE
SPARE	0	20/1	39				40	20/1	0	SPARE					SPARE
SPARE	0	20/1	41				42	20/1	0	SPARE					SPARE
CONN. KVA CALC. KVA CONTINUOUS (125%) HEATING 0 0 (125%)															
LARGEST MOTOR 0 0 (125%) HEATING 0 0 (100%)															
OTHER MOTORS 0 0 (100%) KITCHEN EQUIP 0 0 (100%)															
RECEPTACLES 0 0 (50%>10) NONCON/DIVERSE 0 0 (N/A)															
TOTAL KVA 0 0 NONCON/DIVERSE 0 0 (N/A)															
BALANCED THREE PHASE AMPS 0															

LUG LOAD: 0 KVA PANEL D*2

SECT. II										PANEL SCHEDULE										EXISTING									
PANEL DESIGNATION				VOLTAGE: 208Y/120V 3P 4W				MAINS: MLO				FED FROM: D				ROOM:				MOUNTING: RECESSED									
D*2				A.I.C. RATING: 22,000				BUS AMPS: 225				LUGS: STANDARD				NEUTRAL: 100%				REMARKS:									
BRANCH CIRCUIT LOAD DESCRIPTION		LOAD KVA	CIRCUIT BREAKER		PHASE						CIRCUIT BREAKER		LOAD KVA	BRANCH CIRCUIT LOAD DESCRIPTION															
			TRIP / POLE	No.	A	B	C	No.	TRIP / POLE																				
SPARE	0	20/1	43								44	20/1	0	SPARE															
SPARE	0	20/1	45								46	20/1	0	SPARE															
SPARE	0	20/1	47								48	20/1	0	SPARE															
SPARE	0	20/1	49								50	20/1	0	SPARE															
SPARE	0	20/1	51								52	20/1	0	SPARE															
SPARE	0	20/1	53								54	20/1	0	SPARE															
SPARE	0	20/1	55								56	20/1	0	SPARE															
SPARE	0	20/1	57								58	20/1	0	SPARE															
SPARE	0	20/1	59								60	20/1	0	SPARE															
SPARE	0	20/1	61								62	20/1	0	SPARE															
SPARE	0	20/1	63								64	20/1	0	SPARE															
SPARE	0	20/1	65								66	20/1	0	SPARE															
SPARE	0	20/1	67								68	20/1	0	SPARE															
SPARE	0	20/1	69								70	20/1	0	SPARE															
SPARE	0	20/1	71								72	20/1	0	SPARE															
SPARE	0	20/1	73								74	20/1	0	SPARE															
SPARE	0	20/1	75								76	20/1	0	SPARE															
SPARE	0	20/1	77								78	20/1	0	SPARE															
SPARE	0	20/1	79								80	20/1	0	SPARE															
SPARE	0	20/1	81								82	20/1	0	SPARE															
SPARE	0	20/1	83								84	20/1	0	SPARE															
CONN. KVA		CALC. KVA										CONN. KVA		CALC. KVA															
LIGHTING	0	0	(125%)									0		0	(125%)														
LARGEST MOTOR	0	0	(125%)									0		0	(100%)														
OTHER MOTORS	0	0	(100%)									0		0	(100%)														
RECEPTACLES	0	0	(50%-10)									0		0	(N/A)														
										NONCON/DIVERSE																			
										TOTAL KVA																			
										BALANCED THREE PHASE AMPS																			

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Issue:	Description:	Date:
1	Schematic Design	07.31.2015
2	Design Development	09.18.2015
3	80% Pricing Set	11.18.2015

Drawing Title:

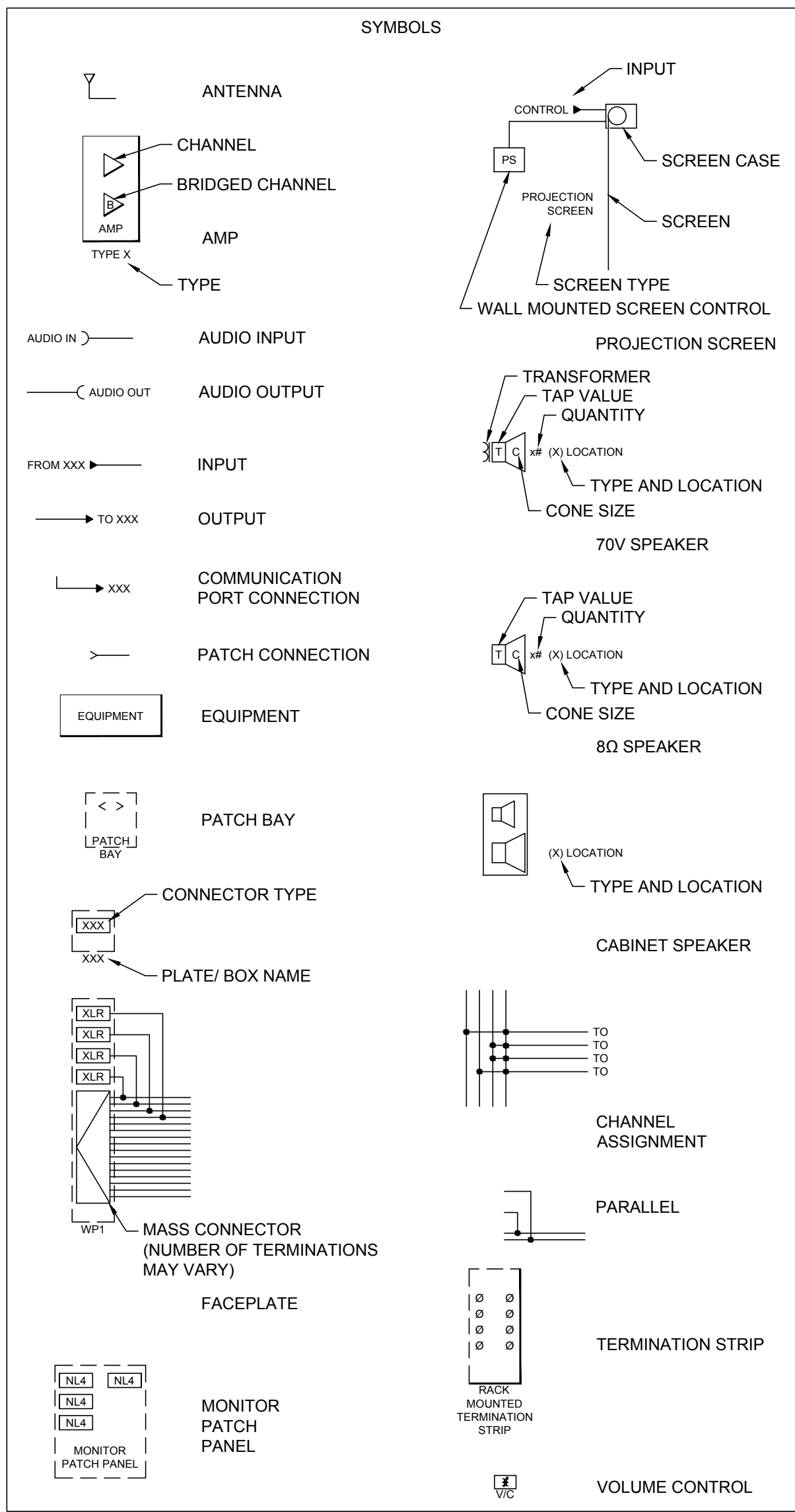
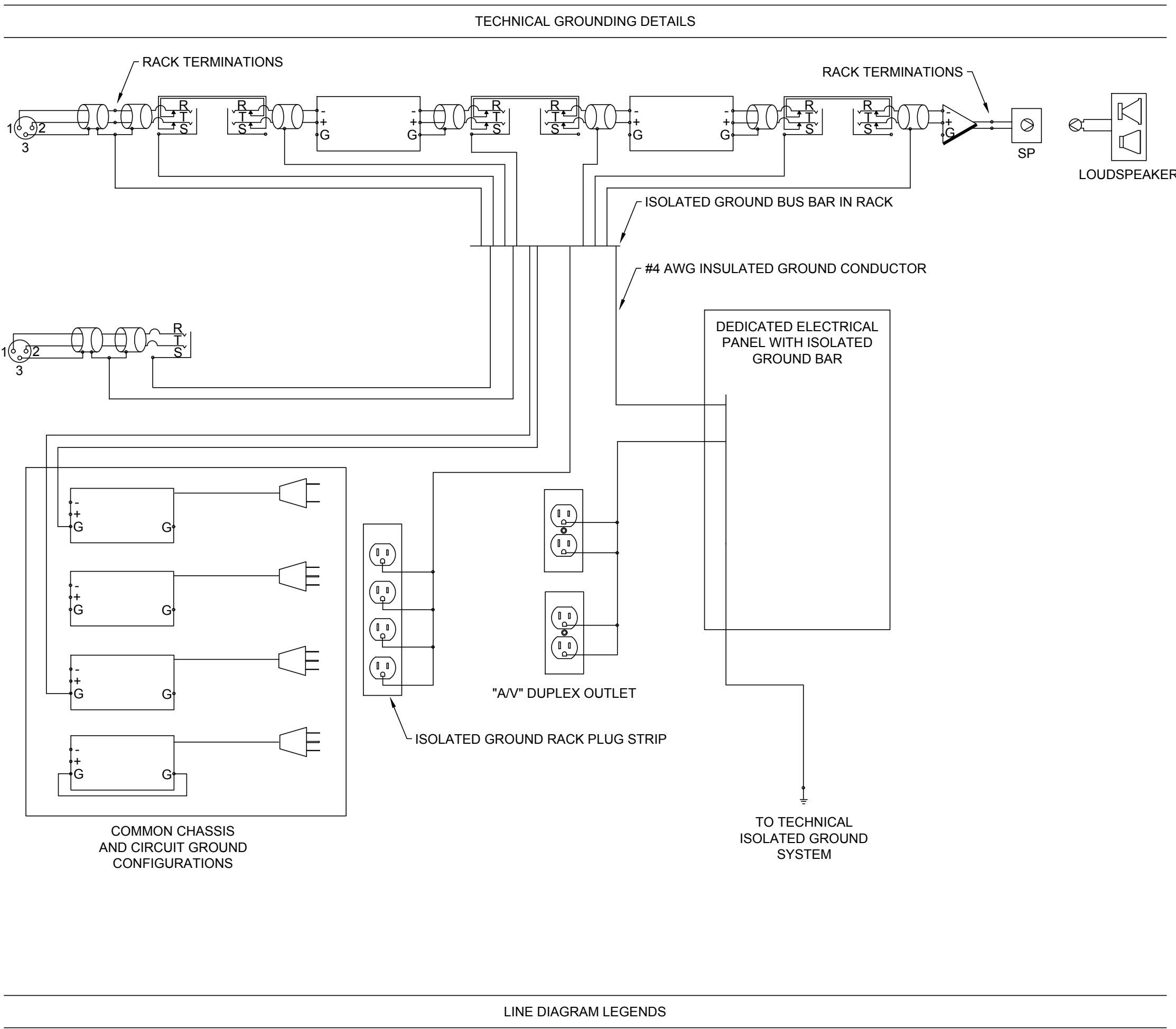
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Drawing Scale:

Project No.: 13118
Date: 11.18.2015

Drawing No.:

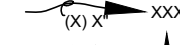
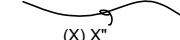
TA001



SYMBOL	CONNECTOR
1/4	TRS PHONE
1/8	3.5MM TRS MINI PHONE
BNC	BAYONET NEILL-CONCELMAN
DIN	DEUTSCHES INSTITUT FÜR NORMUNG
DP	DISPLAY PORT
DVID	DVI-DIGITAL DUAL LINK
DVII	DVI-INTEGRATED DUAL LINK
F	COAX F
HD15	VGA 15-PIN
HD9	RS232 9-PIN
HDMI	HDMI
LC	FIBER OPTIC LC
LGT	LIGHTNING
MASS	MASS CONNECTOR
MXLR	MINI XLR MALE
NL4	NEUTRIK NL4
NL8	NEUTRIK NL8
PHX	PHOENIX
RCA	PHONO
RJ11	PHONE CONNECTOR
RJ45	CATEGORY CABLE
SC	FIBER OPTIC SC
SI45	SHIELDED RJ45
ST	FIBER OPTIC ST
SVID	S-VIDEO MINI DIN
USBA	UNIVERSAL SERIAL BUS - TYPE A
USBB	UNIVERSAL SERIAL BUS - TYPE B
USBM	UNIVERSAL SERIAL BUS - TYPE B MINI
XLR	XLR FEMALE
XLR4	XLR 4-PIN FEMALE
XLR5	XLR 5-PIN FEMALE
XLRM	XLR MALE
XLRC	COMBO XLR 1/4" STEREO JACK

SHEET NUMBER				SHEET NAME			
TA001				NOTES			
TA101				FIRST FLOOR			
TA201				ELEVATIONS			
TA501				DETAILS			
TA502				DETAILS			

DEVICE SCHEDULE						
DEVICE NAME	DESCRIPTION	POWER	BOX SIZE	HEIGHT	Comments	
CS	WALL MOUNTED BOX FOR AUDIO CONTROL SWITCH	NO	DOUBLE GANG	SWITCH HEIGHT		
FB1	FLOOR BOX FOR ORGAN CONNECTIONS	YES (DUPLEX)	FSR FL 540P-4	FLOOR		
FB2	FLOOR BOX FOR CHOIR AUDIO CONNECTIONS	YES (DUPLEX)	FSR FL 540P-4	FLOOR		
FB3	FLOOR BOX FOR AMBO AUDIO CONNECTIONS	YES (DUPLEX)	FSR FL 540P-4	FLOOR		
FB4	FLOOR BOX FOR ALTAR AUDIO CONNECTIONS	YES (DUPLEX)	FSR FL 540P-4	FLOOR		
JB	WALL MOUNTED JUNCTION BOX FOR AUDIO RACK	YES (QUAD)	8"X8"	18" AFF		
M	CEILING MOUNTED BOX AND PLATE FOR MICROPHONES	NO	SINGLE GANG	CEILING		
RF	WALL MOUNTED BOX AND PLATE FOR WIRELESS	NO	SINGLE GANG	84" AFF		
SM	WALL MOUNTED BOX AND PLATE FOR CHOIR MONITORS	NO	DOUBLE GANG	72" AFF		
SP1	WALL MOUNTED BOX AND PLATE FOR SPEAKER	YES	DOUBLE GANG	108" AFF		
WP1	MOUNTED BOX AND PLATE FOR AUDIO INPUTS	NO	DOUBLE GANG	COORDINATE		

AV INFRASTRUCTURE DEVICE LEGEND	
	WALL MOUNTED BOX/ DEVICE
	FLUSH MOUNTED BOX/ IN FLOOR/ CEILING
	CEILING MOUNTED SPEAKER
	AUDIO/VISUAL EQUIPMENT RACK
	CONDUIT DESTINATION
	CONDUIT SIZE
	CONDUIT QUANTITY
	CONDUIT LABEL FOR DAISY CHAINED DEVICES
	PROJECTION SCREEN LOCATION

GENERAL PROJECT NOTES	
- REFER TO ARCHITECTURAL DRAWINGS FOR EXACT LOCATIONS OF ALL AV DEVICES. - DEVICE ICONS ARE NOT SCALED. DEVICE WILL BE CENTERED WHERE THE SYMBOL IS LOCATED AT EACH FLOOR, CEILING AND WALL LOCATION. - WOOD BLOCKING TO SUPPORT 180 POUNDS IS REQUIRED AT ALL "FP" AND "TV" FLAT PANEL LOCATIONS AND SHALL BE PROVIDED AND INSTALLED BY GC. - ALL AV PLATES PROVIDED AND INSTALLED BY AV CONTRACTOR UNLESS OTHERWISE NOTED. - ALL PROJECTION SCREENS AND ASSOCIATED LOW VOLTAGE CONTROLLERS TO BE PROVIDED AND INSTALLED BY GC UNLESS OTHERWISE NOTED. - ALL MOTORIZED LIFTS AND PROJECTION SCREENS TO BE ON A BUILDING STANDARD POWER 20 AMP CIRCUIT SEPARATE FROM OTHER AV EQUIPMENT. - ANY LOW VOLTAGE CONTROLLERS FOR PROJECTION SCREENS REQUIRE CONDUIT PROVIDED BY EC FROM LVC TO PROJECTION SCREEN FOR POWER. - ALL FLOOR BOXES/POKE-THRU TO BE PROVIDED AND INSTALLED BY GC. EXPOSED INTERNAL CONNECTION PLATES TO BE PROVIDED BY TRADE RESPONSIBLE. - ALL FLOOR BOX/POKE-THRU COVER PLATES, BOTH TEMPORARY AND PERMANENT, SHALL BE PROVIDED AND INSTALLED BY GC UNLESS OTHERWISE NOTED.	
AV CONDUIT AND BACK BOX REQUIREMENTS	
AV DRAWINGS DO NOT INCLUDE CONDUIT FOR ELECTRICAL OR TELECOM	

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Issue:	Description:	Date:
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Drawing Title:
FIRST FLOOR

Drawing Scale:

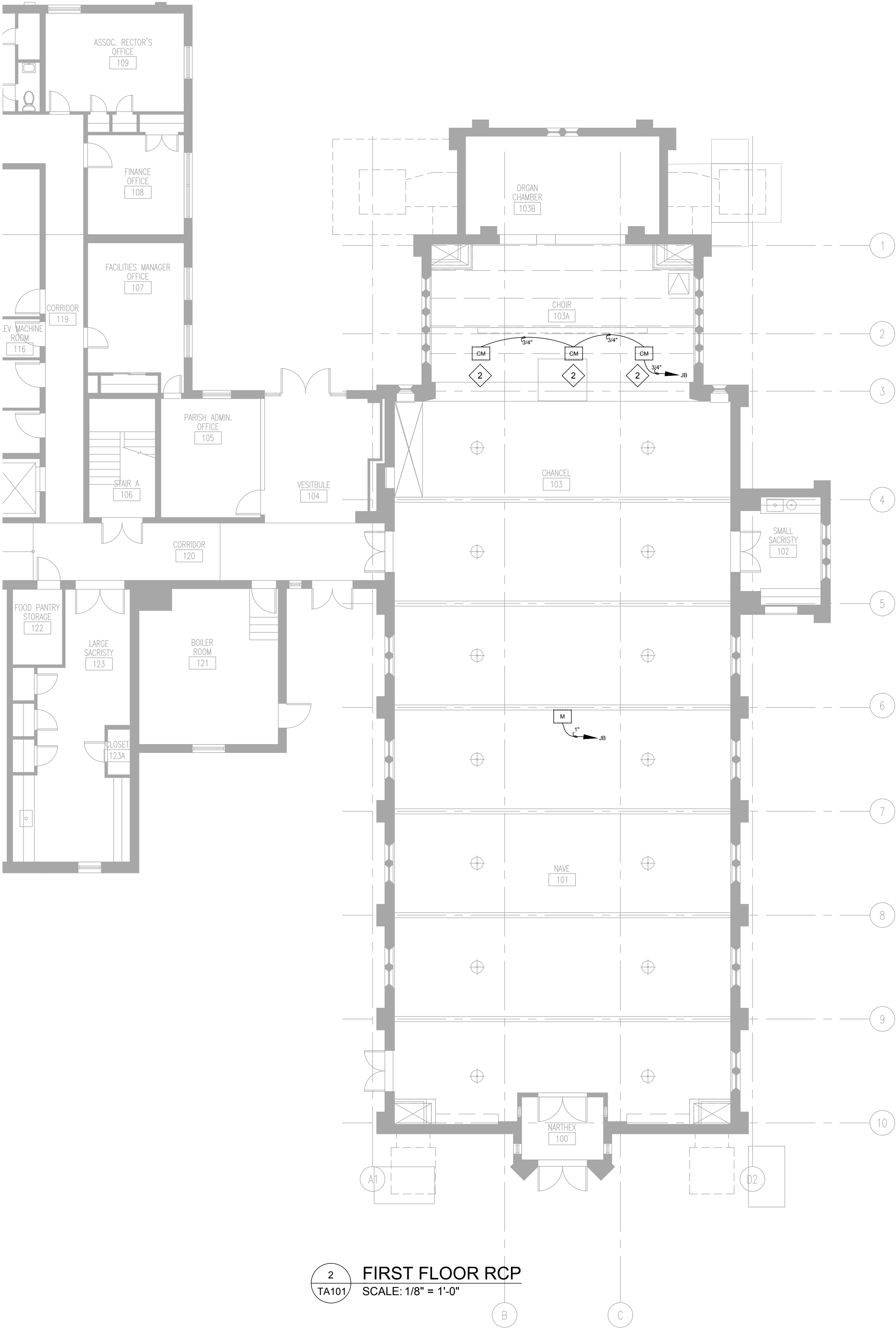
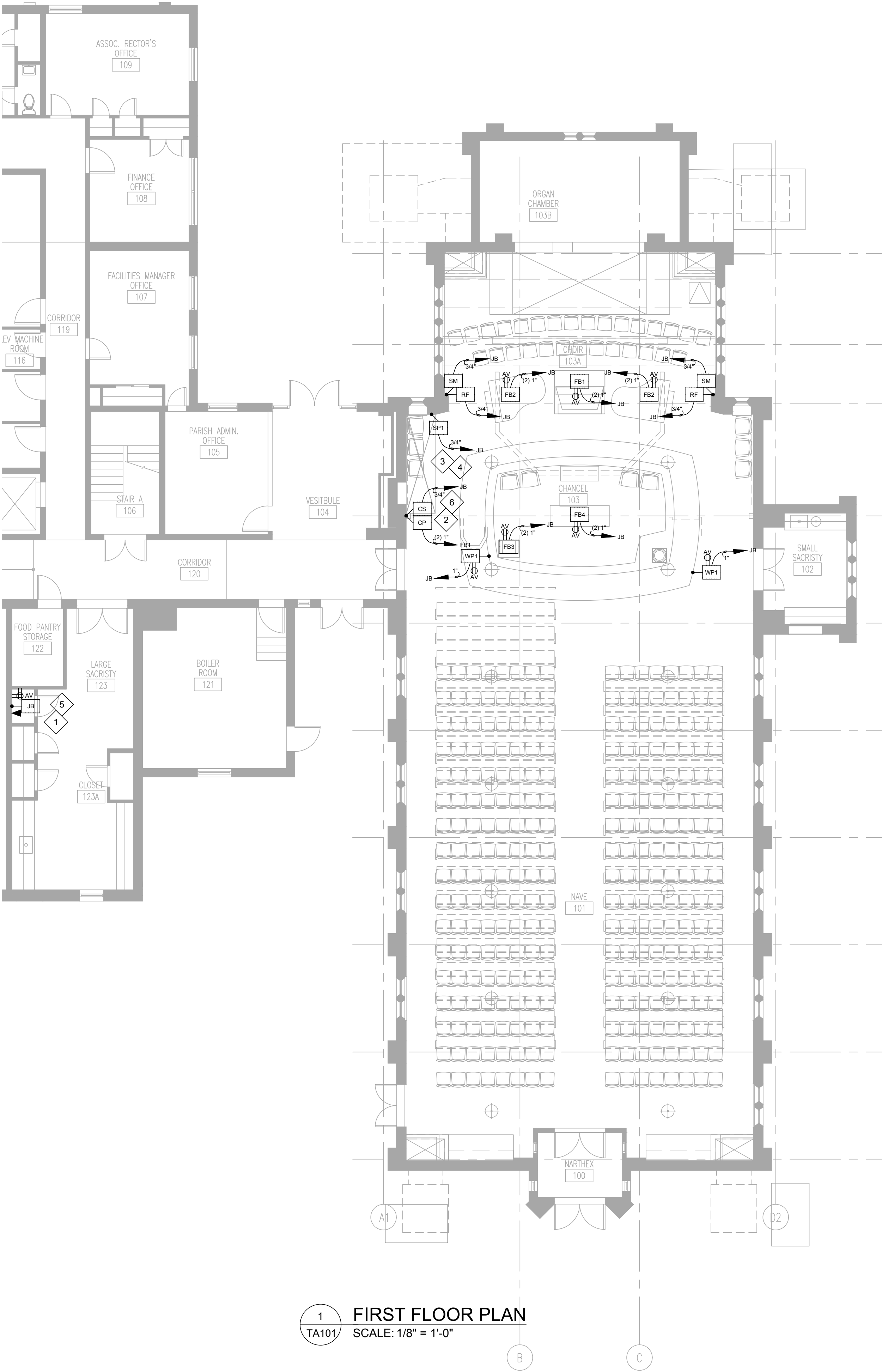
Project No.:
13118

Date:
11.18.2015

Drawing No.:

TA101

- KEY NOTE: #
1. AV EQUIPMENT RACK WILL BE INSTALLED BELOW THE EXISTING WALL MOUNTED AUDIOVISUAL RACK, IN LARGE SACRISTY CLOSET.
 2. FINAL LOCATION TO BE DETERMINED.
 3. SP1 LOCATION REQUIRES A DEDICATED AV 20A 120V FEED WITH A POWER CON 32 CONNECTOR. EC TO PROVIDE POWER FEED IN A SEPARATE BACKBOX WITH PLATE AND POWER CON 32 CONNECTOR AT SP1 LOCATION.
 4. WALL MUST BE ABLE TO SUPPORT 100LBS FOR WALL MOUNTED SPEAKER
 5. THE AVC SHALL BE RESPONSIBLE FOR INSTALLING/ TESTING THE EXISTING AV EQUIPMENT BEING RELOCATED TO THE LARGE SACRISTY CLOSET. IF THE NEW AUDIO SYSTEM IS NOT SELECTED, THE EXISTING CHOIR SPEAKERS WOULD NEED TO BE REINSTALLED AND TESTED BY THE AVC. THE MAIN SPEAKERS WILL NEED TO BE REINSTALLED AND TESTED. ALL NEW AUDIO AND VIDEO CABLING SHALL BE NEW AND INSTALLED TO THE AV RACK LOCATION.
 6. THE CS DEVICE WILL BE ALIGNED WITH THE LIGHT SWITCHES/ CONTROLS ON THE BACK OF THE POST.



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Drawing Title:

ELEVATIONS

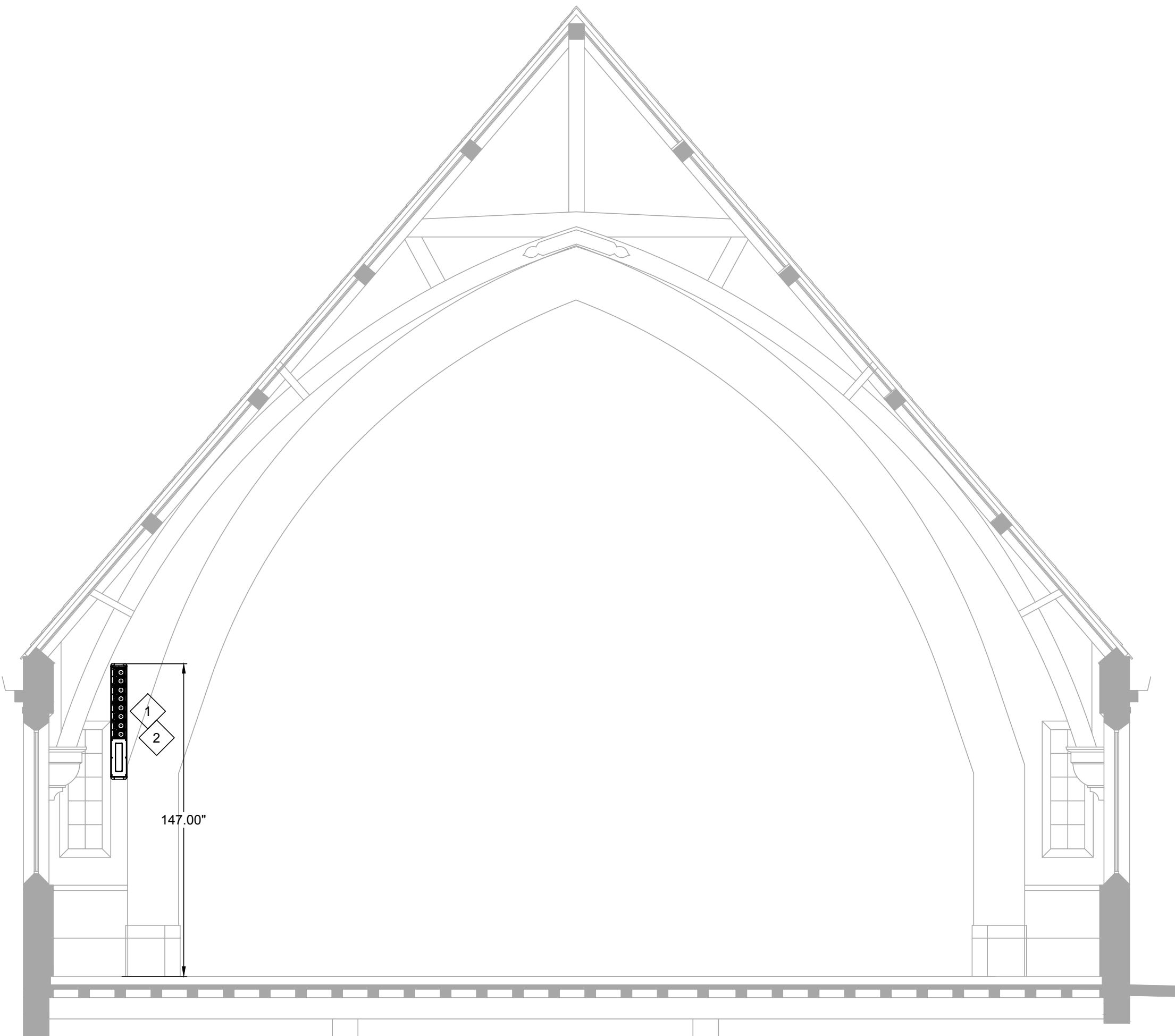
Drawing Scale:

Project No.: 13118
Date: 11.18.2015

Drawing No.:

TA201

- KEY NOTE:
1. SP1 LOCATION REQUIRES A DEDICATED AV 20A 120V FEED WITH A POWER CON 32 CONNECTOR. EC TO PROVIDE POWER FEED IN A SEPARATE BACKBOX WITH PLATE AND POWER CON 32 CONNECTOR AT SP1 LOCATION.
 2. WALL MUST BE ABLE TO SUPPORT 100LBS FOR WALL MOUNTED SPEAKER.



1
TA201
SPEAKER ELEVATION/ SECTION
SCALE: 1/4" = 1'-0"

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2	Design Development	09.18.2015
3	80% Pricing Set	11.18.2015

Drawing Title:

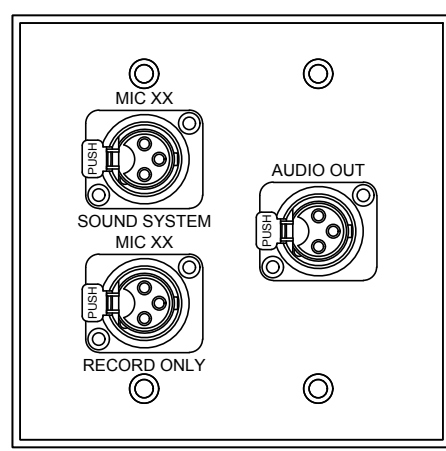
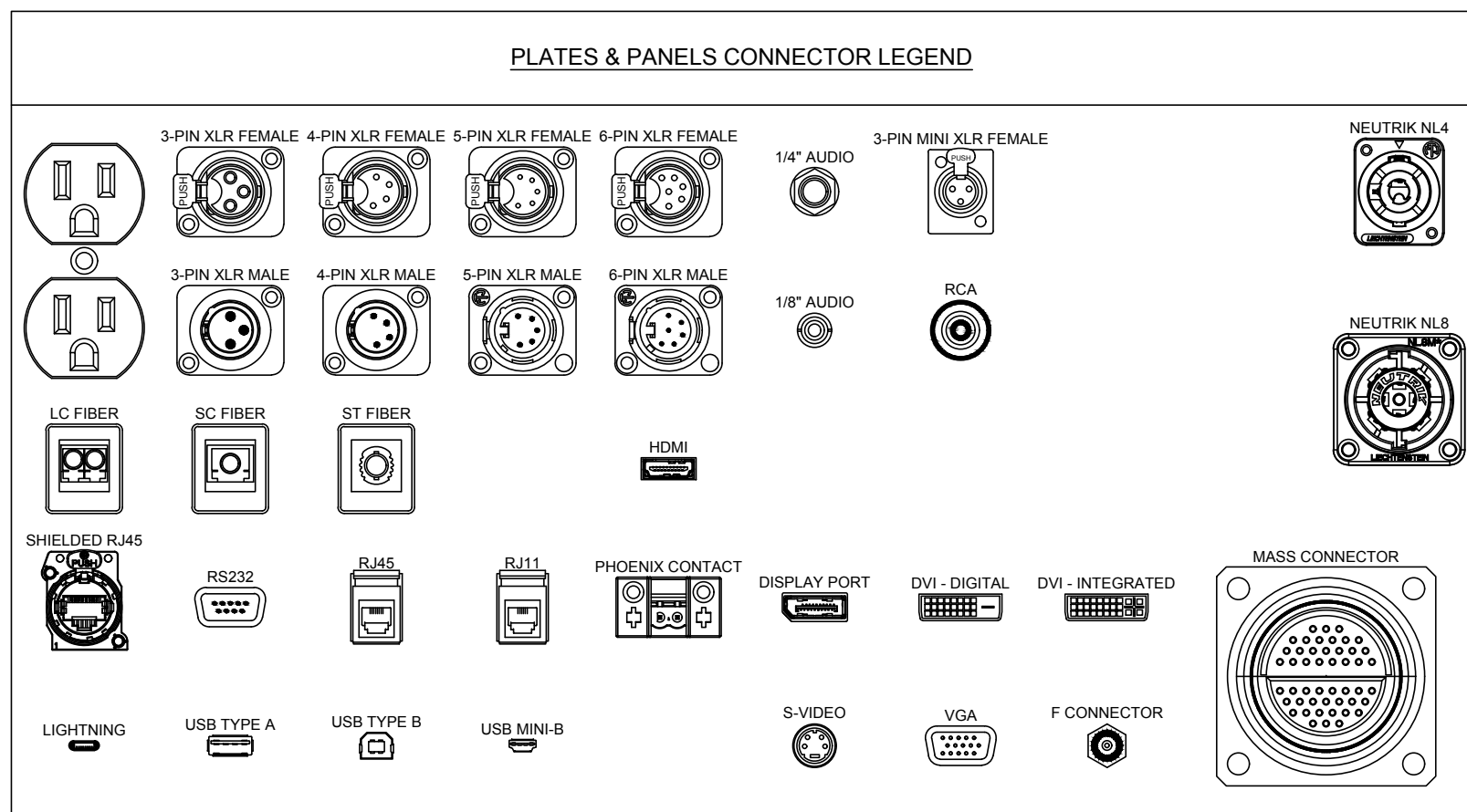
DETAILS

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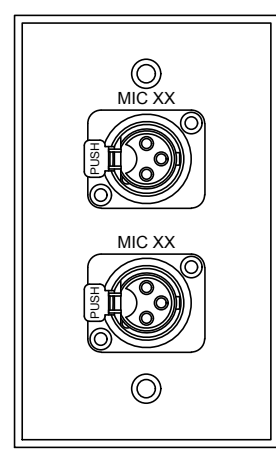
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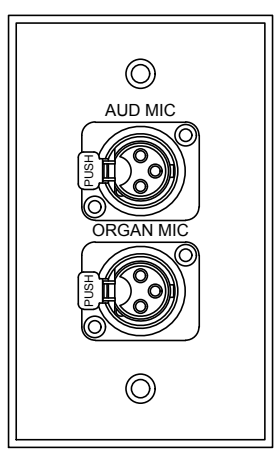
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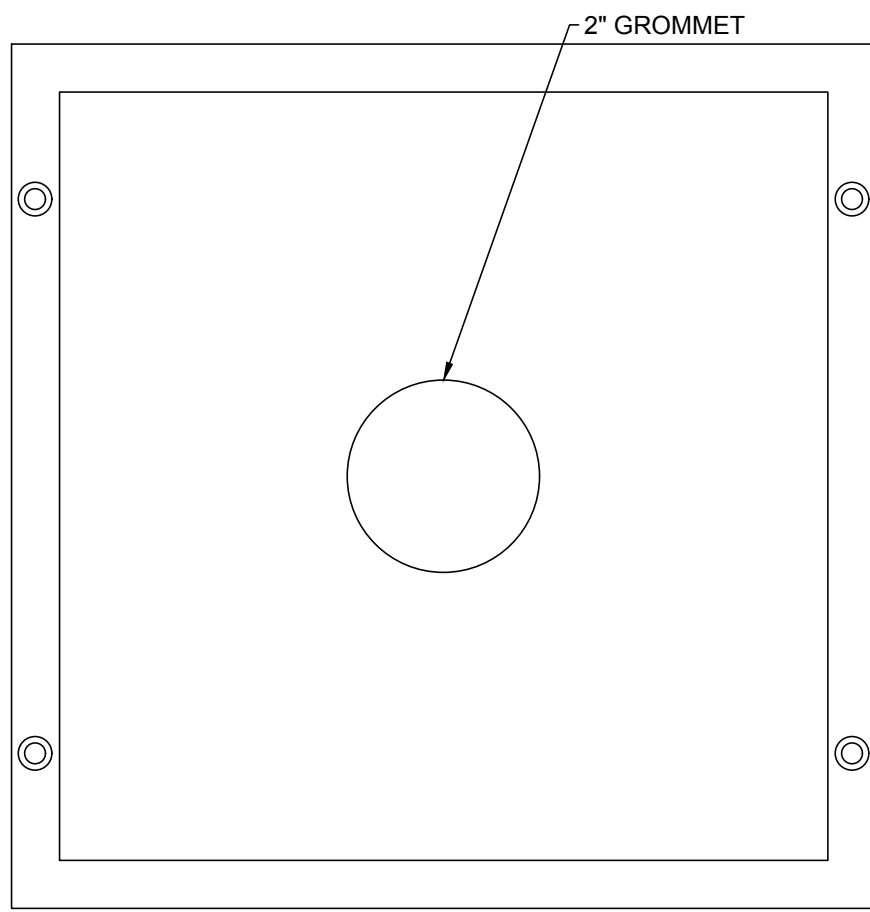
WP1
MICROPHONE WALL PLATE
QUANTITY: SEE DRAWINGS
SIZE: TWO GANG
FINISH: ANNOIDIZED BRONZE
NOTE: -



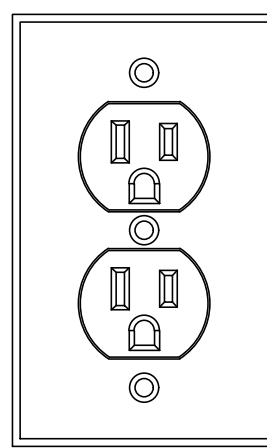
CM
CHOIR MICROPHONE
QUANTITY: THREE
SIZE: ONE GANG
FINISH: COORDINATE WITH ARCHITECT
NOTE: -



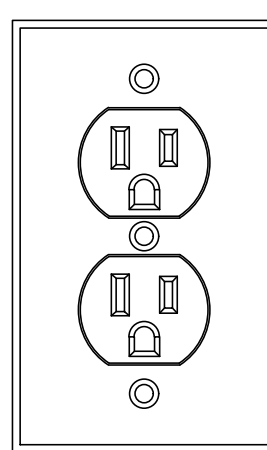
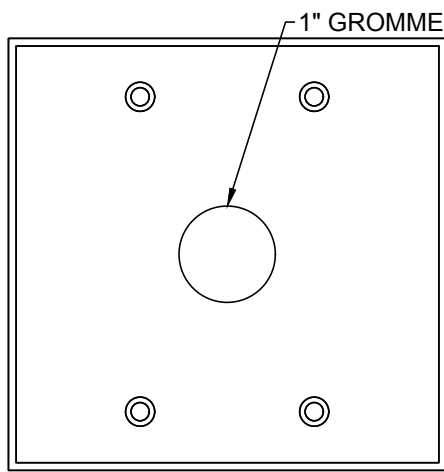
AM
AUDIENCE MIC
QUANTITY: ONE
SIZE: ONE GANG
FINISH: COORDINATE WITH ARCHITECT
NOTE: -



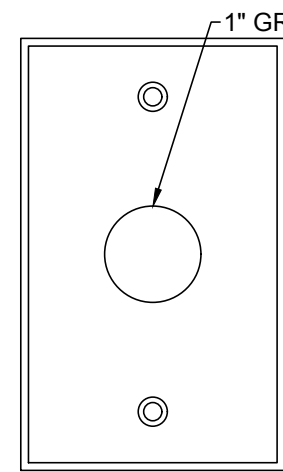
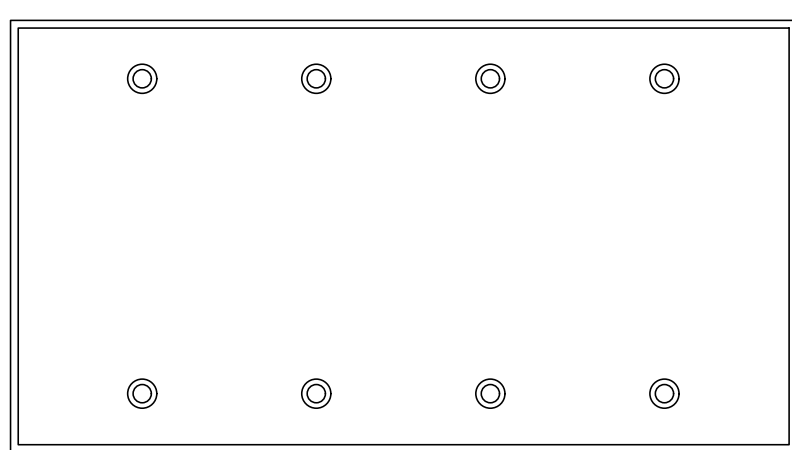
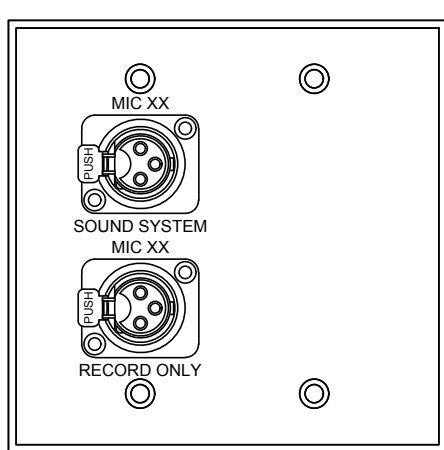
JB
JUNCTION BOX FOR AV RACK
QUANTITY: ONE
SIZE: 8"x8"
FINISH: POWDER COAT WHITE
NOTE: -



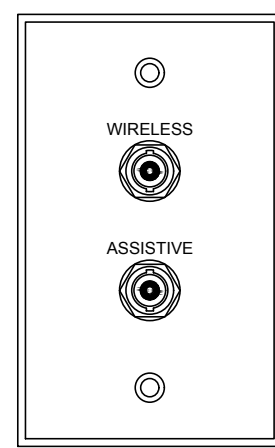
FB1
ORGAN FLOOR BOX
QUANTITY: ONE
SIZE: FSR FL 540P-4
FINISH: ANNOIDIZED BRONZE
NOTE: -



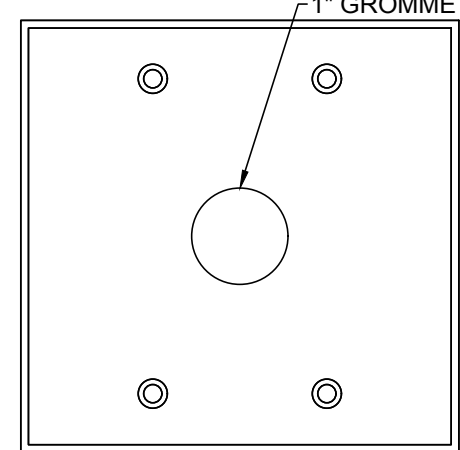
FB2
CHOIR FLOOR BOX
QUANTITY: SEE DRAWINGS
SIZE: FSR FL 540P-4
FINISH: ANNOIDIZED BRONZE
NOTE: -



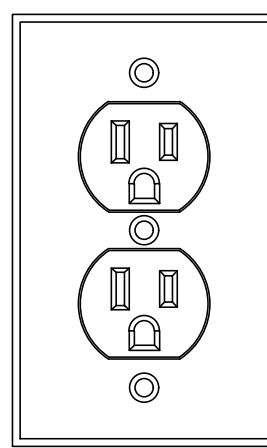
SM
CHOIR MONITORS
QUANTITY: TWO
SIZE: ONE GANG
FINISH: POWDER COAT WHITE
NOTE: -



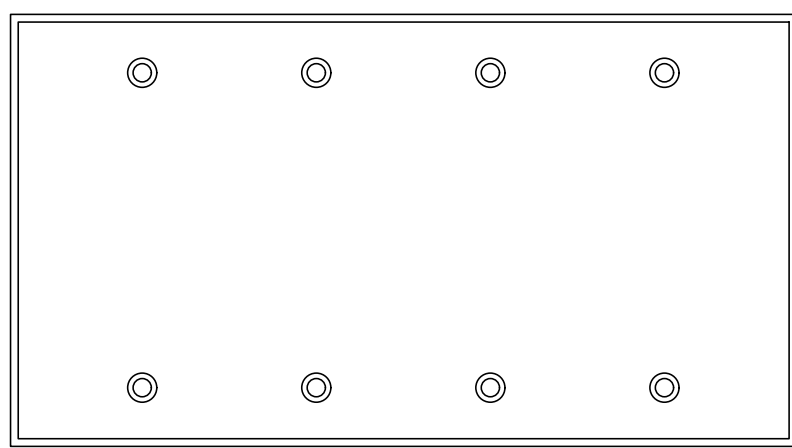
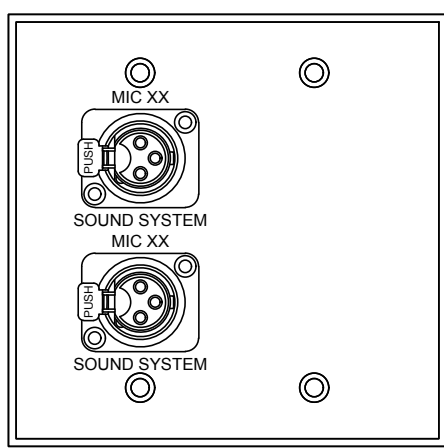
RF
ANTENNA PLATE
QUANTITY: TWO
SIZE: ONE GANG
FINISH: COORDINATE WITH ARCHITECT
NOTE: -



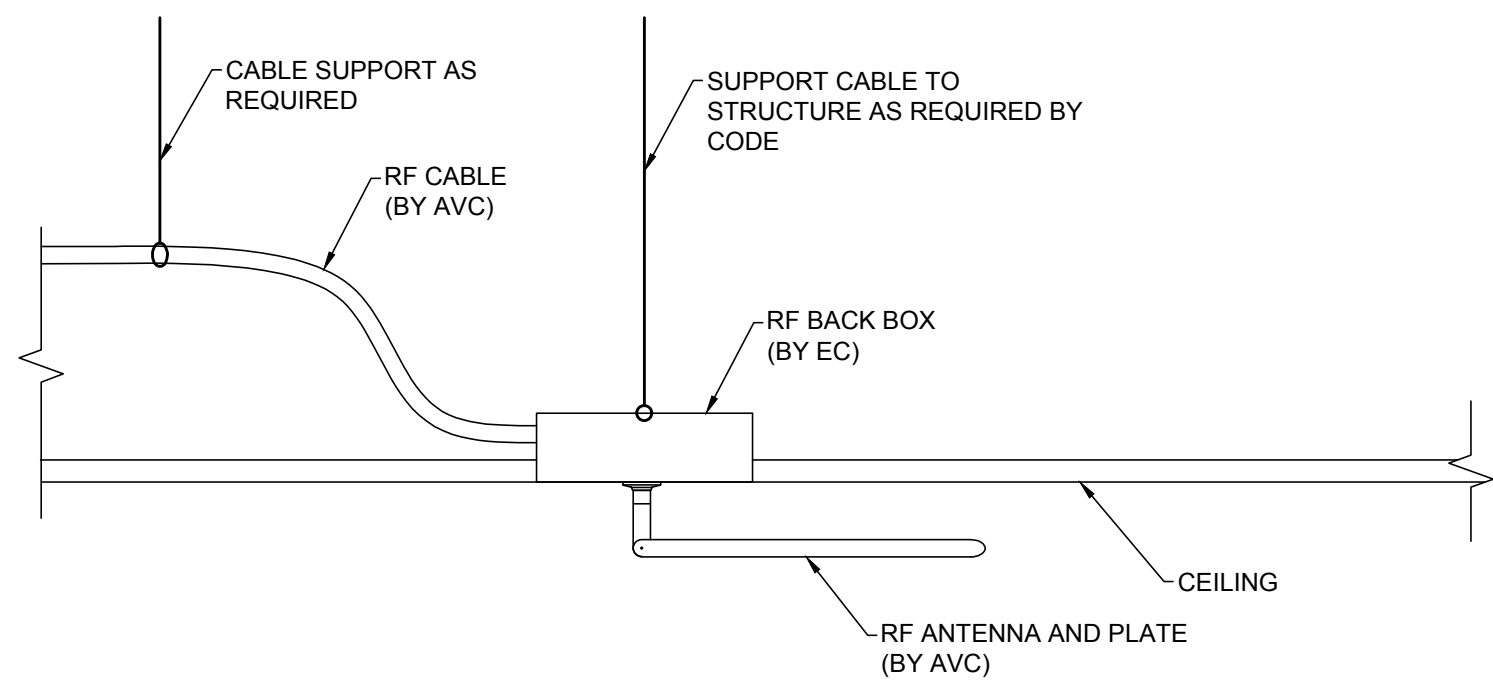
SP1
SPEAKER PLATE
QUANTITY: ONE
SIZE: TWO GANG
FINISH: POWDER COAT WHITE
NOTE: -



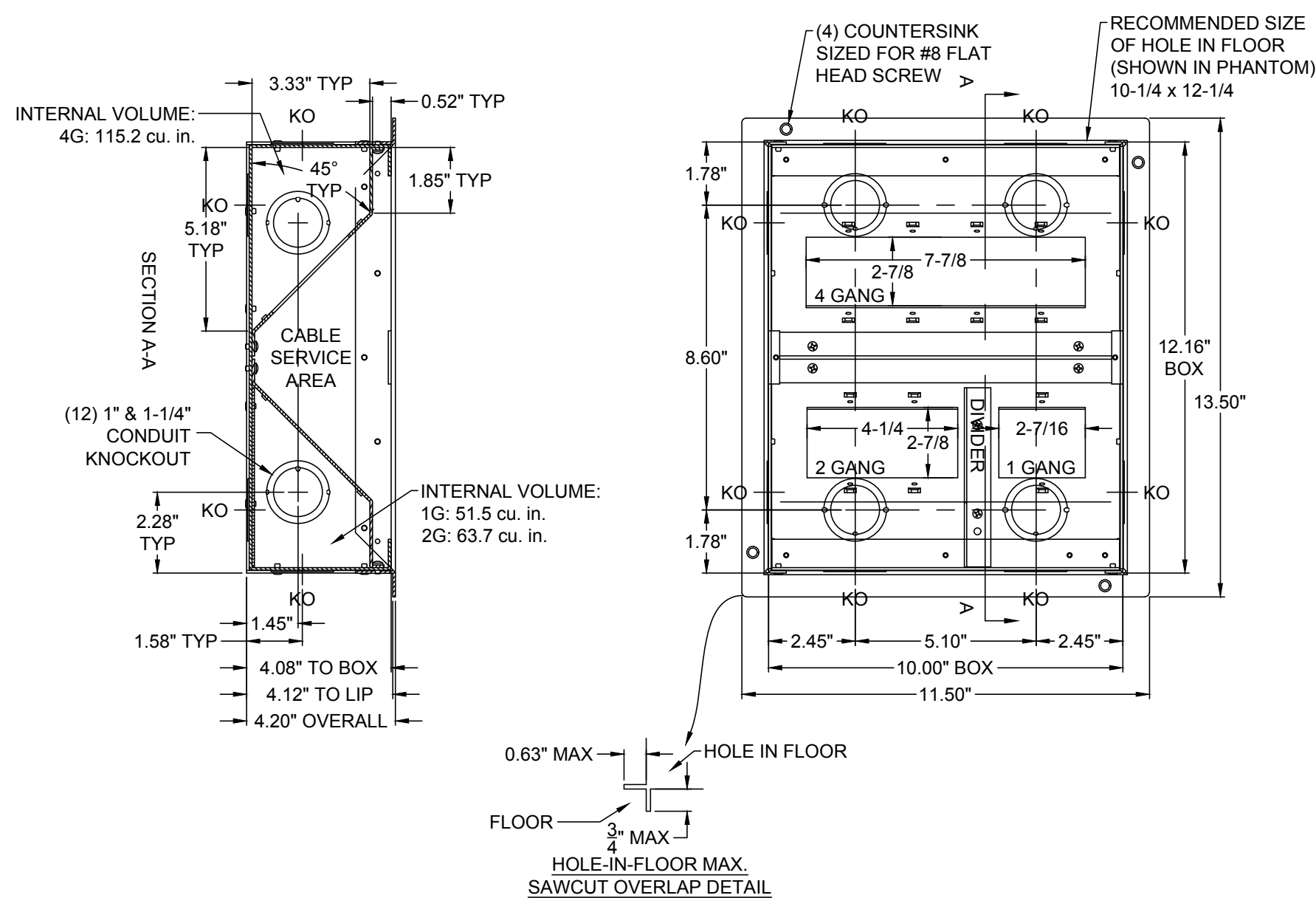
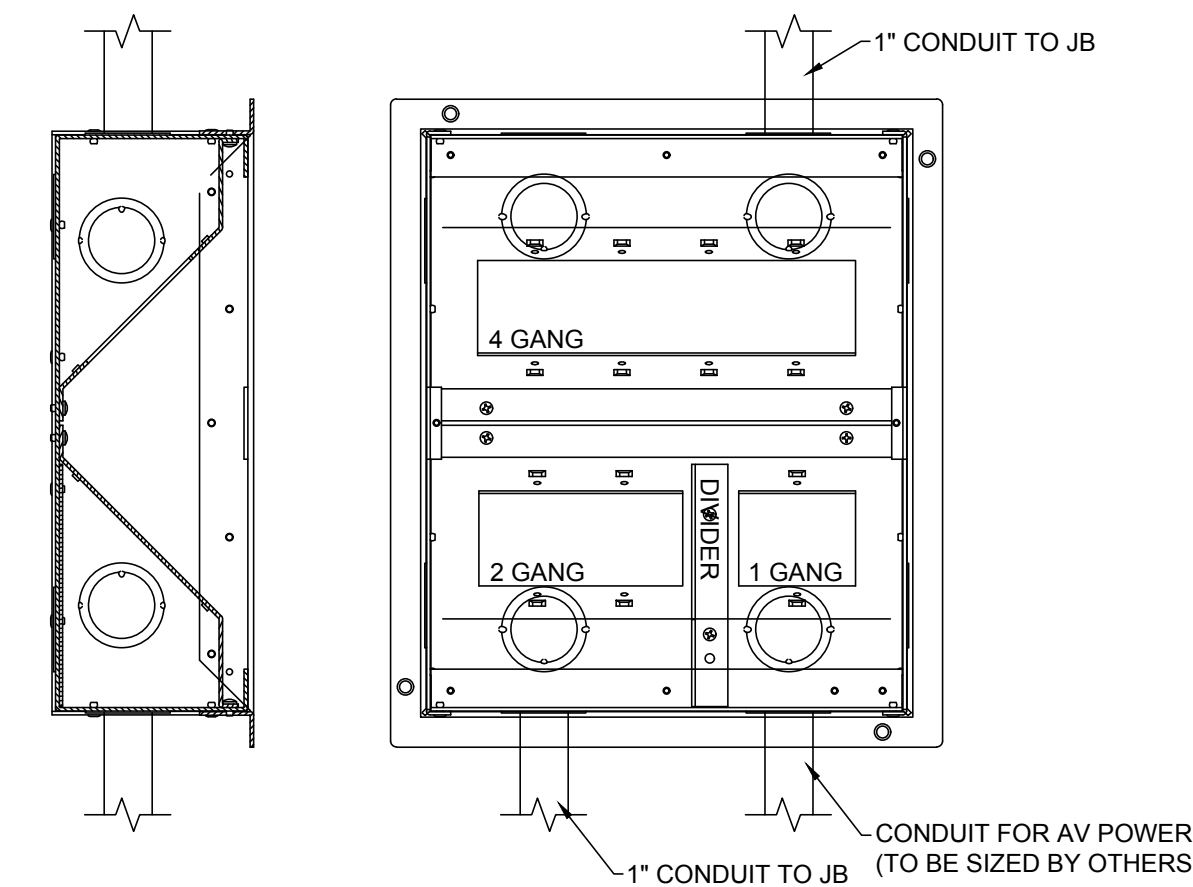
FB3 **FB4**
AMBO AND CHANCEL FLOOR BOX
QUANTITY: TWO
SIZE: FSR FL 540P-4
FINISH: ANNOIDIZED BRONZE
NOTE: -



1
TA501
PLATES AND PANELS
SCALE: NTS



2
TA501
RF ANTENNA MOUNTING DETAIL (RF)
SCALE: NTS



3
TA501
FSR FL 540P-4 FLOOR BOX DETAIL (FB1/ FB2/ FB3/ FB4)
SCALE: NTS

FLOOR BOX AND PERMANENT COVER TO BE PROVIDED AND
INSTALLED BY ELECTRICAL CONNECTOR.
PERMANENT COVER TO BE COORDINATED WITH ARCHITECT.

St. George's
Episcopal Church
Nave & Chapel
Renovation

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Arlington, VA 22203

Geier Brown Renfrow
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Alexandria, VA 22314
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Potomoc Energy Group
M/E/P

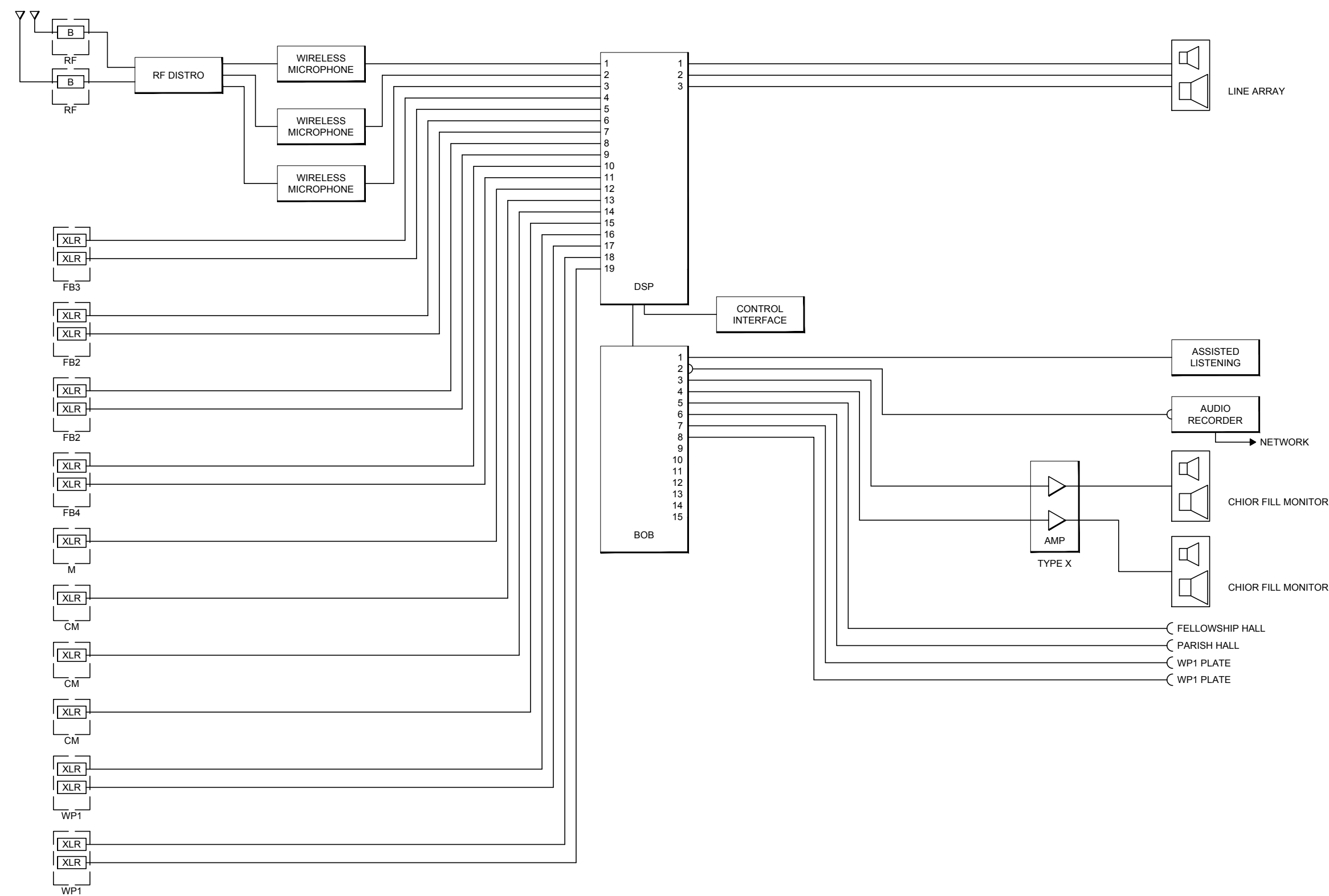
2901 Telesar Court, Suite 400
Falls Church, VA 22042
703.683.5000 v
703.823.3358 f
www.pegroup.net

Polysonics Corporation
audio / visual consultant

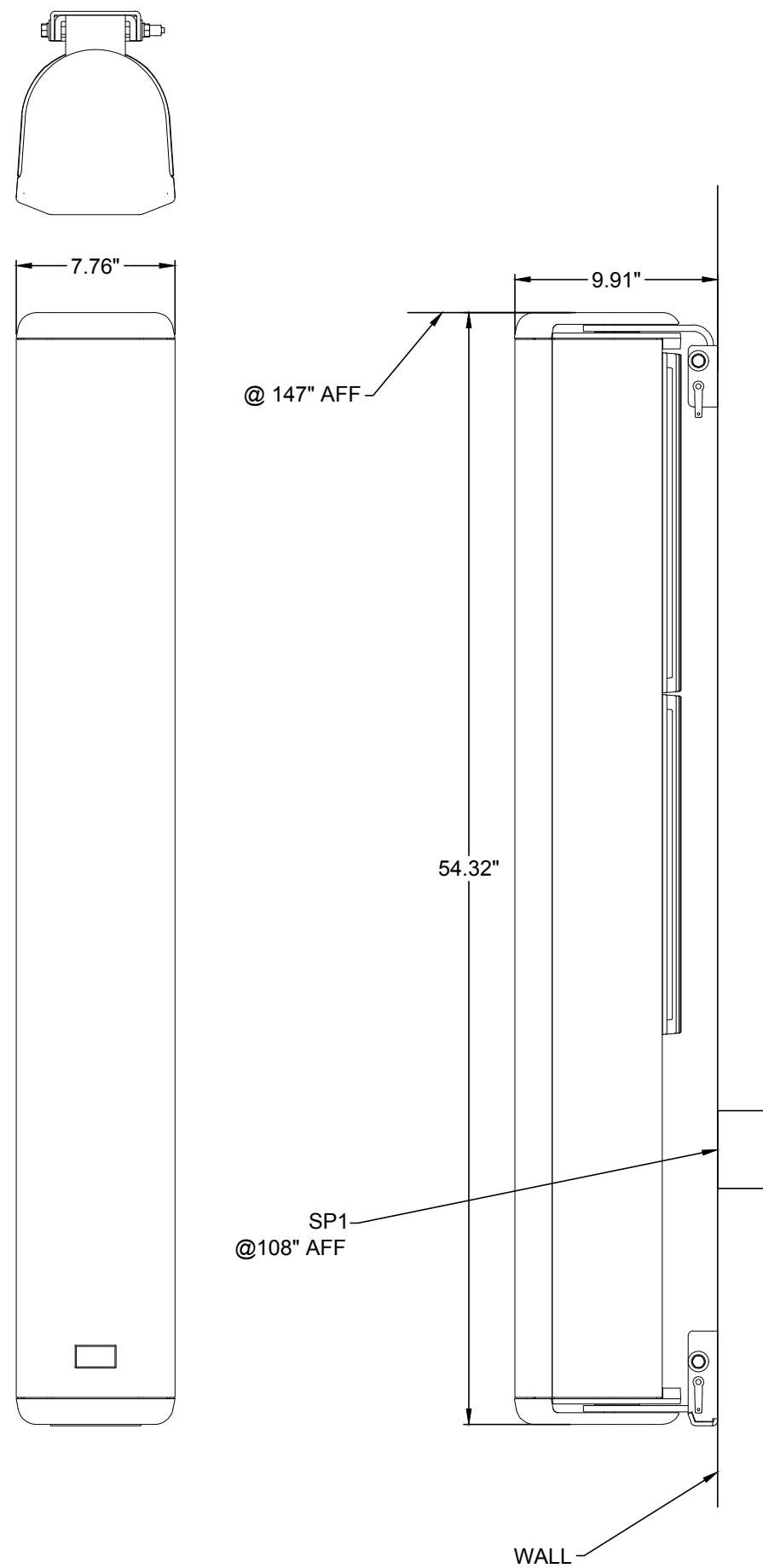
405 Belle Air Lane
Warrenton, VA 20186
540.431.4988 v
540.431.0909 f
www.polysonics.com

m c l a
lighting consultant

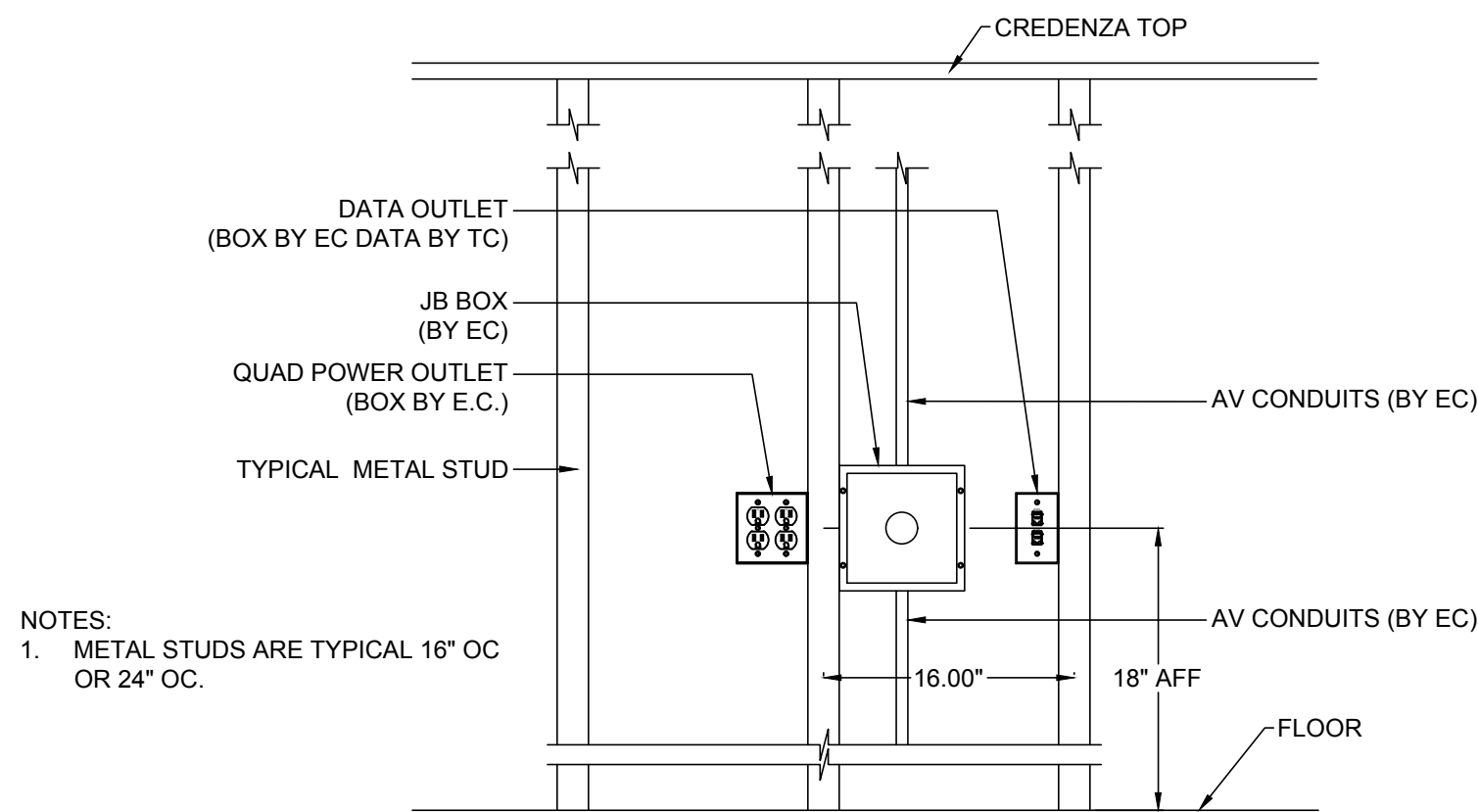
1000 Potomac Street, NW Suite 121
Washington, D.C. 20007
202.298.8062 v
202.298.8079 f
www.mcla-inc.com



1 AUDIO LINE DIAGRAM
TA502 SCALE: NTS

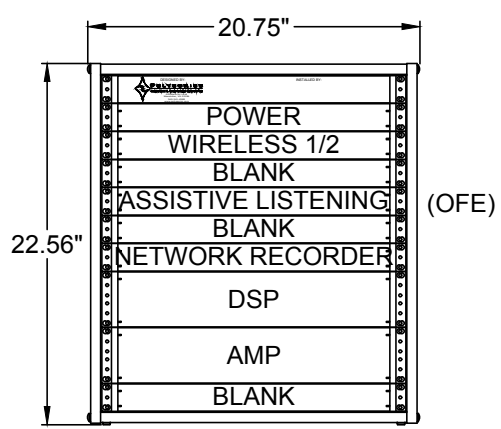


2 SPEAKER DETAIL
TA502 SCALE: NTS



NOTES:
1. METAL STUDS ARE TYPICAL 16" OC
OR 24" OC.

3 RACK INFRASTRUCTURE DETAIL (JB)
TA502 SCALE: NTS



AUDIO RACK
CLOSET 123D
TOTAL AMPS: 9
TOTAL WATTS: 1090
TOTAL STU: 3706
CIRCUITS: (2) 20A 120V
QUAD

4 RACK ELEVATION DETAIL
TA502 SCALE: NTS

Drawing Title:

DETAILS

Drawing Scale:

Project No.: 13118
Date: 11.18.2015

Drawing No.:

TA502