

Wayne State University

Matthaei Office Addition 080-325090

SILVERI ARCHITECTS

BIDS 07-25-19

ARCHITECT
SILVERI ARCHITECTS
FERNDALE, MICHIGAN

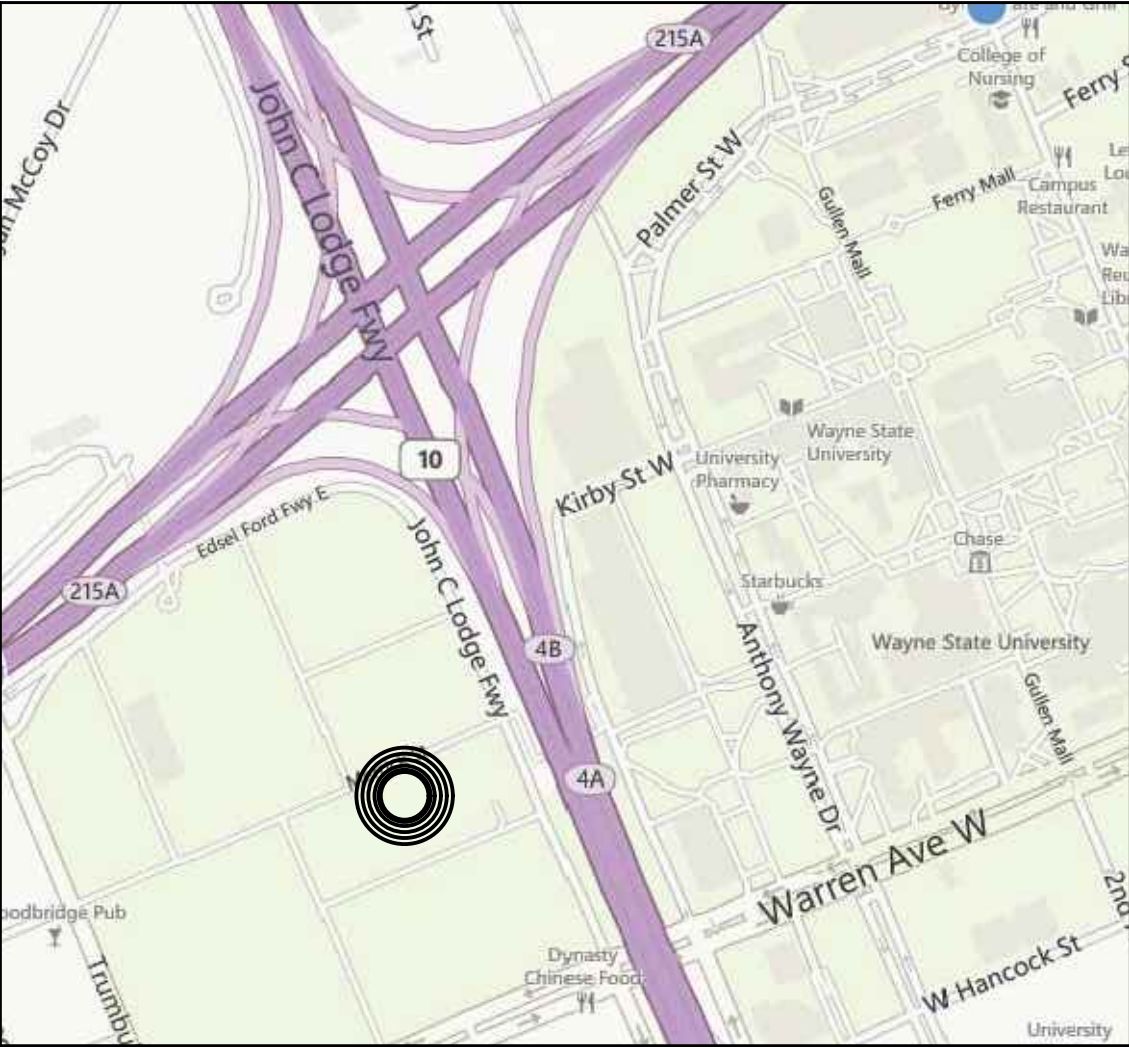
CIVIL ENGINEER
SPALDING DEDECKER ASSOCIATES, INC.
DETROIT, MICHIGAN

STRUCTURAL ENGINEER
JCA ENGINEERING, INC
PLYMOUTH, MICHIGAN

MECHANICAL AND ELECTRICAL ENGINEER
PETER BASSO ASSOCIATES
TROY, MICHIGAN

SECURITY CONSULTANT
COMMTECH DESIGN
ROCKFORD, MICHIGAN

LOCATION



Wayne State University, Detroit, Michigan 48202

INDEX

A.00	TITLE SHEET - INDEX	08/2/19	08/12/19	08/25/19
CIVIL				
C1.1	SITE DEMOLITION PLAN	•	•	•
C1.2	SITE ENGINEERING PLAN		•	•
ARCHITECTURAL				
A.01	MOUNTING HEIGHTS, GENERAL NOTES		•	•
A.02	CODE DATA	•	•	•
A.03	SCHEDULES	•	•	•
A.11	PLAN, KEY PLAN	•	•	•
A.12	CEILING PLAN, ROOF PLAN, DEMOLITION PLAN	•	•	•
A.21	BLDG SECTION, WALL SECTIONS	•	•	•
A.22	WALL SECTIONS		•	•
A.31	EXTERIOR ELEVATIONS	•	•	•
A.41	DETAILS		•	•
A.42	DETAILS			•
STRUCTURAL				
S.11	FOUNDATION PLAN AND ROOF FRAMING PLAN	•	•	•
S.21	GENERAL NOTES		•	•
S.22	SPECIAL INSPECTION NOTES		•	•
S.23	TYPICAL DETAILS		•	•
S.31	SECTIONS AND DETAILS	•	•	•
MECHANICAL				
M0.1	MECHANICAL STANDARDS AND DRAWING INDEX	•	•	•
M2.1	PLUMBING	•	•	•
M4.1	SHEET METAL PLAN	•	•	•
M4.2	ROOF MECHANICAL PLAN	•	•	•
M6.1	MECHANICAL DETAILS		•	•
M7.1	MECHANICAL SCHEDULES	•	•	
M7.2	MECHANICAL SCHEDULES		•	
M8.1	TEMPERATURE CONTROL STANDARDS		•	•
M8.2	TEMPERATURE CONTROLS		•	•
ELECTRICAL				
E0.1	ELECTRICAL STANDARDS AND DRAWING INDEX	•	•	•
E0.2	ELECTRICAL STANDARD SCHEDULES	•	•	•
E0.3	ELECTRICAL COMPOSITE PLAN	•	•	•
E2.1	LIGHTING PLAN	•	•	•
E3.1	POWER AND AUXILLIARY SYSTEMS PLAN	•	•	•
E3.2	ROOF POWER AND AUXILLIARY SYSTEMS PLAN	•	•	•
E5.1	ONE LINE DIAGRAMS AND PANEL SCHEDULES	•	•	•
E7.1	ELECTRICAL DETAILS AND DIAGRAMS	•	•	•
ED1.1	ELECTRICAL DEMOLITION PLAN	•	•	•
SECURITY / COMMUNICATION				
TC101	CABLING LEGEND SCHEDULES AND DETAILS	•	•	•
TC102	CABLING CONNECTIVITY CODES	•	•	•
TC103	SIGNAGE SYSTEM FIBER DETAILS	•	•	•
TC201	TECHNOLOGY FLOOR PLAN			•
FURNITURE				
F-1	PRELIMINARY SPACE PLAN (FOR REFERENCE ONLY)	•	•	



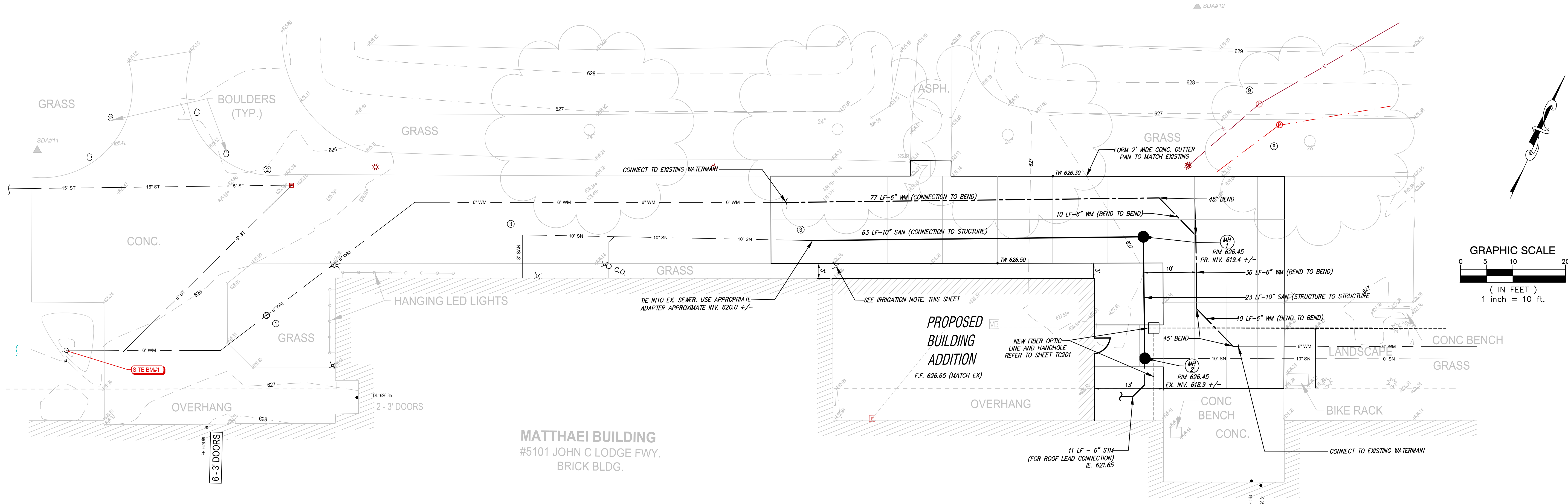
ELEV.=628.19



#	TYPE	RIM	SIZE	INVERT	TO	STRUCTURE/ BEARING	NOTES
1	GATE VALVE & WELL	626.31	N/A	620.91	TO	TOP OF WATER	
			N/A	620.26	TO	TOP OF PIPE	RUNS 10' & 190'
			N/A	619.21	TO	TOP OF DEBRIS	
2	SQUARE CATCH BASIN	625.60	N/A	617.80	TO	TOP OF DEBRIS	
			N/A	620.50	TO	TOP OF WATER	
			6"	621.35	TO	SW	
			15"	618.61	TO	85°	
			15"	620.35	TO	255°	
3	SANITARY MANHOLE	626.45	8"	621.00	TO	170°	
			10"	620.72	TO	STR. #4	
4	GATE VALVE & WELL	626.40	N/A	N/A		COULD NOT OPEN	
5	GATE VALVE & WELL	626.43	N/A	619.43	TO	TOP OF WATER	
			N/A	619.63	TO	TOP OF DEBRIS	
			N/A	620.23	TO	TOP OF PIPE	310° AZ.
6	SANITARY MANHOLE	626.13	10"	618.70	TO	STR. #7	
			10"	618.61	TO	90° AZ.	
7	SANITARY MANHOLE	626.40	10"	623.43	TO	STR. #6	
			10"	618.87	TO	230° AZ.	
8	PHONE MANHOLE	626.63	N/A	621.53	TO	TOP OF WATER	
			N/A	621.73	TO	TOP OF WIRES	80° AZ.
			N/A	617.53	TO	BOTTOM OF MANHOLE	
9	PUBLIC LIGHTING MANHOLE	627.36	N/A	622.76	TO	TOP OF WATER	
			N/A	623.16	TO	TOP OF WIRES	
			N/A	619.06	TO	BOTTOM OF MANHOLE	

CONTRACTOR IS RESPONSIBLE FOR SAFETY AND PROTECTION IN AND AROUND THE CONSTRUCTION SITE. CONSTRUCTION FENCING (MIN. 6' HEIGHT) AND SIGNAGE SHALL BE INSTALLED TO PROTECT THE AREA FROM PEDESTRIANS. CONTRACTOR IS ALSO RESPONSIBLE FOR DUST CONTROL AT ALL TIMES.

C1.1 - DEMOLITION PLAN
C1.2 - SITE ENGINEERING PLAN



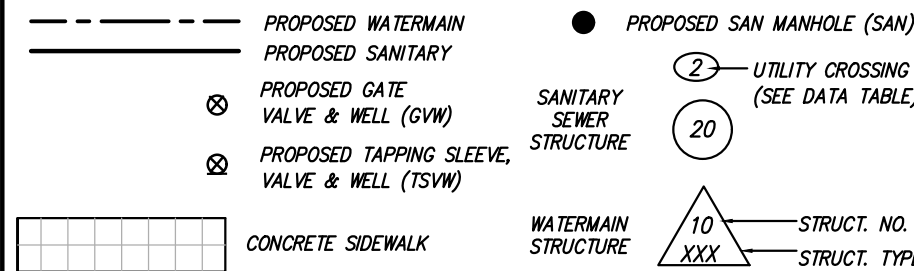
IRRIGATION NOTES

CONTRACTOR SHALL SUPPLY NEW IRRIGATION SYSTEM AND COORDINATE WITH OWNER FOR PLACEMENT OF NEW SPRINKLER HEADS, CONTROL VALVES, NEW PIPING, AND CONNECTION TO EXISTING.

SANITARY SEWER NOTES

CONTRACTOR SHALL CONFIRM INVERTS AT CONNECTION POINTS AND INSTALL NEW SEWER AT A CONSTANT SLOPE BETWEEN THE TWO POINTS. CONTRACTOR SHALL PLAN ACCORDINGLY WITH MANHOLE CONSTRUCTION TO ALLOW FOR ADJUSTMENT. COORDINATE CONSTRUCTION WITH OWNER TO MINIMIZE DISRUPTION TO EXISTING BUILDING SERVICES. CONSTRUCT NEW SEWER STARTING AT MH #2 GOING UPSTREAM TO KEEP EXISTING SERVICE ACTIVE UNTIL EXISTING MANHOLE IS REMOVED AND CONNECTION IS MADE AT UPSTREAM END.

LEGEND

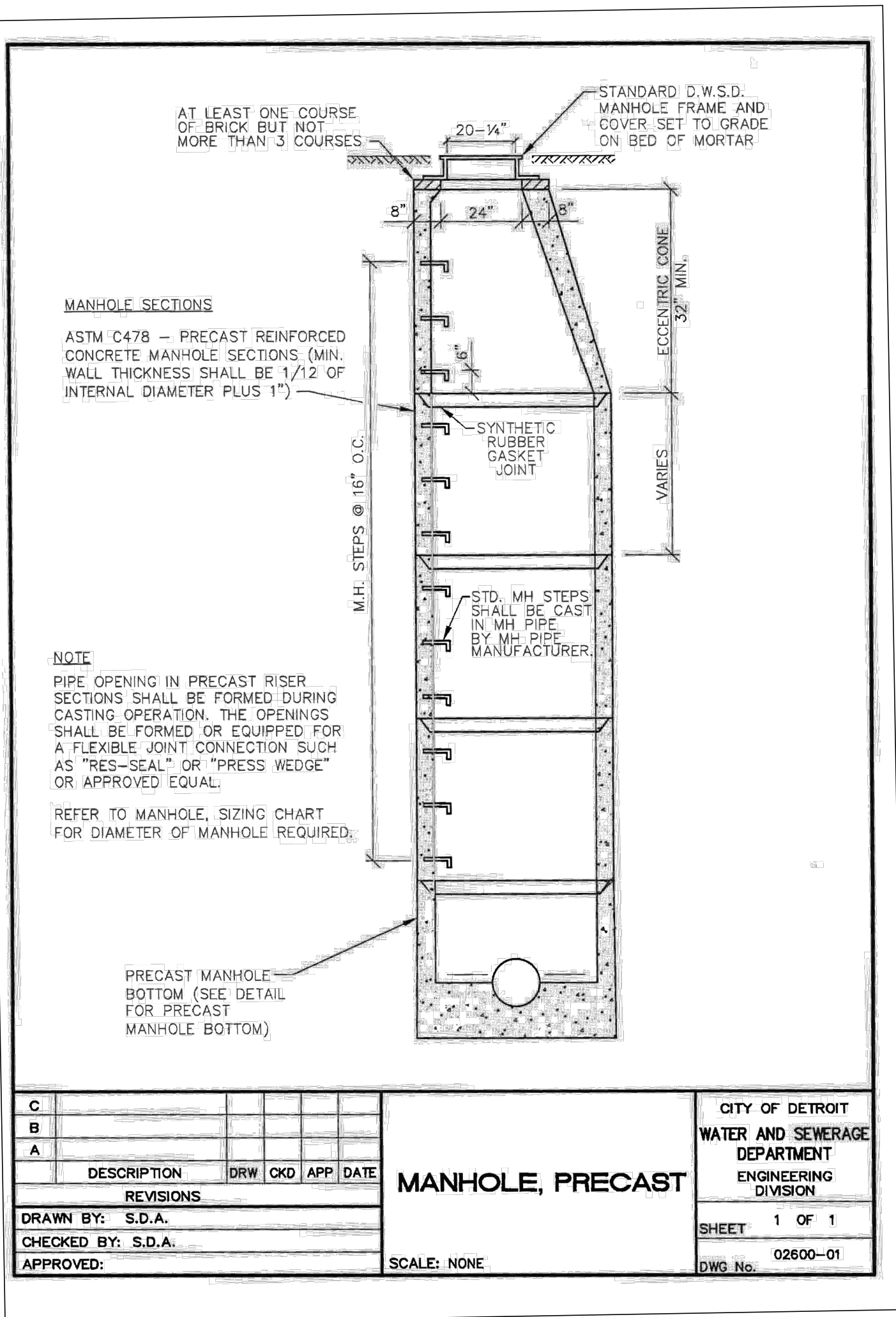


PAVING CONSTRUCTION NOTES

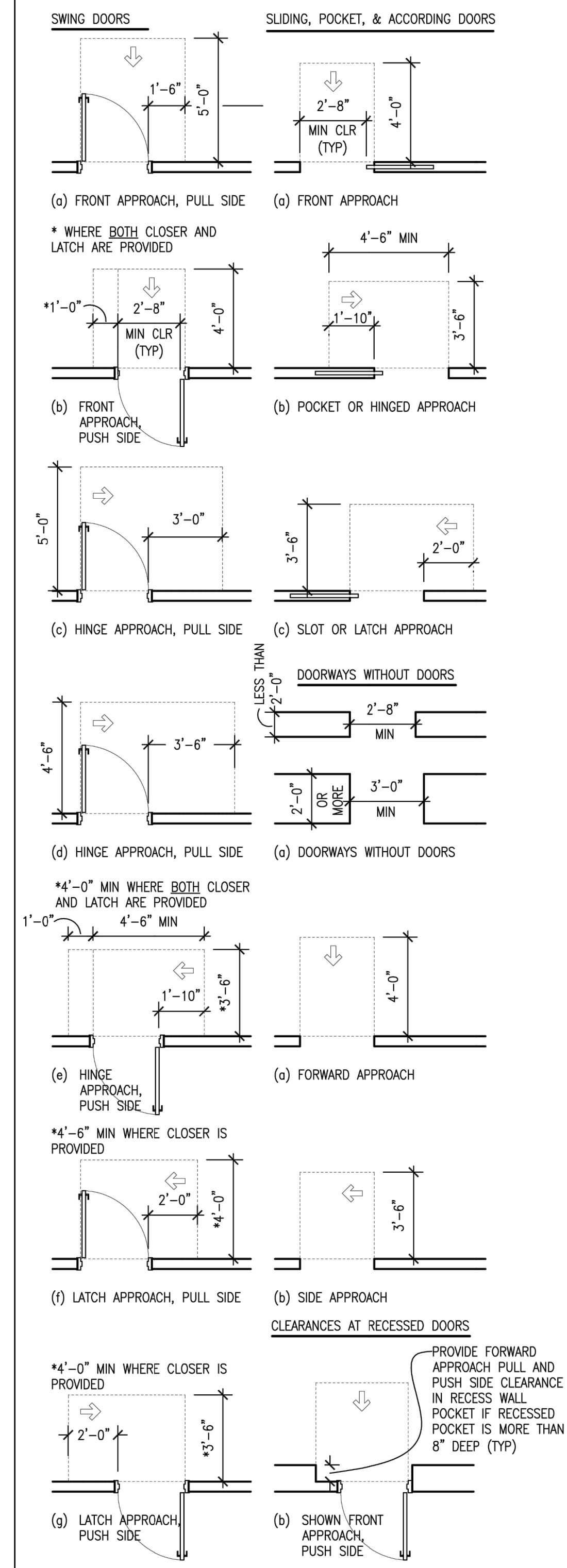
1. EARTHWORK AND PAVEMENT CONSTRUCTION SHALL BE PERFORMED IN ACCORDANCE WITH THE CURRENT MDOOT STANDARD SPECIFICATIONS FOR CONSTRUCTION UNLESS OTHERWISE NOTED IN THE FOLLOWING ITEMS.
2. REMOVE ANY EXISTING TOPSOIL, VEGETATION, TREES AND OTHER DELETERIOUS MATERIALS TO EXPOSE THE SUBGRADE SOIL. TREE ROOTS SHALL BE COMPLETELY REMOVED.
3. EXCAVATE TO THE DEPTH OF THE FINAL SUBGRADE ELEVATION TO ALLOW FOR GRADE CHANGES AND THE PLACEMENT OF THE RECOMMENDED PAVEMENT SYSTEM.
4. CONTRACTOR SHALL PROTECT EXISTING CURB, GUTTER, SIDEWALK, WALLS, FENCES AND ALL OTHER EXISTING SITE FEATURES NOT INDICATED FOR REMOVAL OR REHABILITATION.
5. PLACE EXPANSION JOINTS WHERE NEW CONCRETE PAVEMENT OR WALKS ABUT BUILDING WALLS (PROPOSED OR EXISTING), CURB, OR EXISTING CONCRETE PAVEMENT. PLACE JOINT SEALANT ON ALL EXPANSION JOINTS.
6. CONTRACTOR TO CONSTRUCT CONTRACTION AND EXPANSION JOINTS IN ALL NEW CONCRETE PAVEMENT. CONTRACTION JOINTS SHALL BE TOOLED WHERE SIDEWALK WIDTH IS 8' OR LESS, AND SHALL BE SPACED EQUAL TO THE WIDTH OF THE PAVEMENT (I.E. 8' SPACING FOR 8' WIDE WALK), BUT NOT MORE THAN 10' APART. PLACE EXPANSION JOINTS WITH JOINT SEALANT AT MAXIMUM 50' SPACING. CONTRACTOR SHALL GENERALLY MATCH THE JOINT PATTERNS FOR CONCRETE PAVEMENT WHEN SHOWN ON THE PLANS.
7. CONCRETE PAVEMENT SHALL MEET THE REQUIREMENTS FOR MDOOT GRADE P1 CONCRETE PER THE CURRENT MDOOT STANDARD SPECIFICATIONS FOR CONSTRUCTION.

UTILITY NOTES

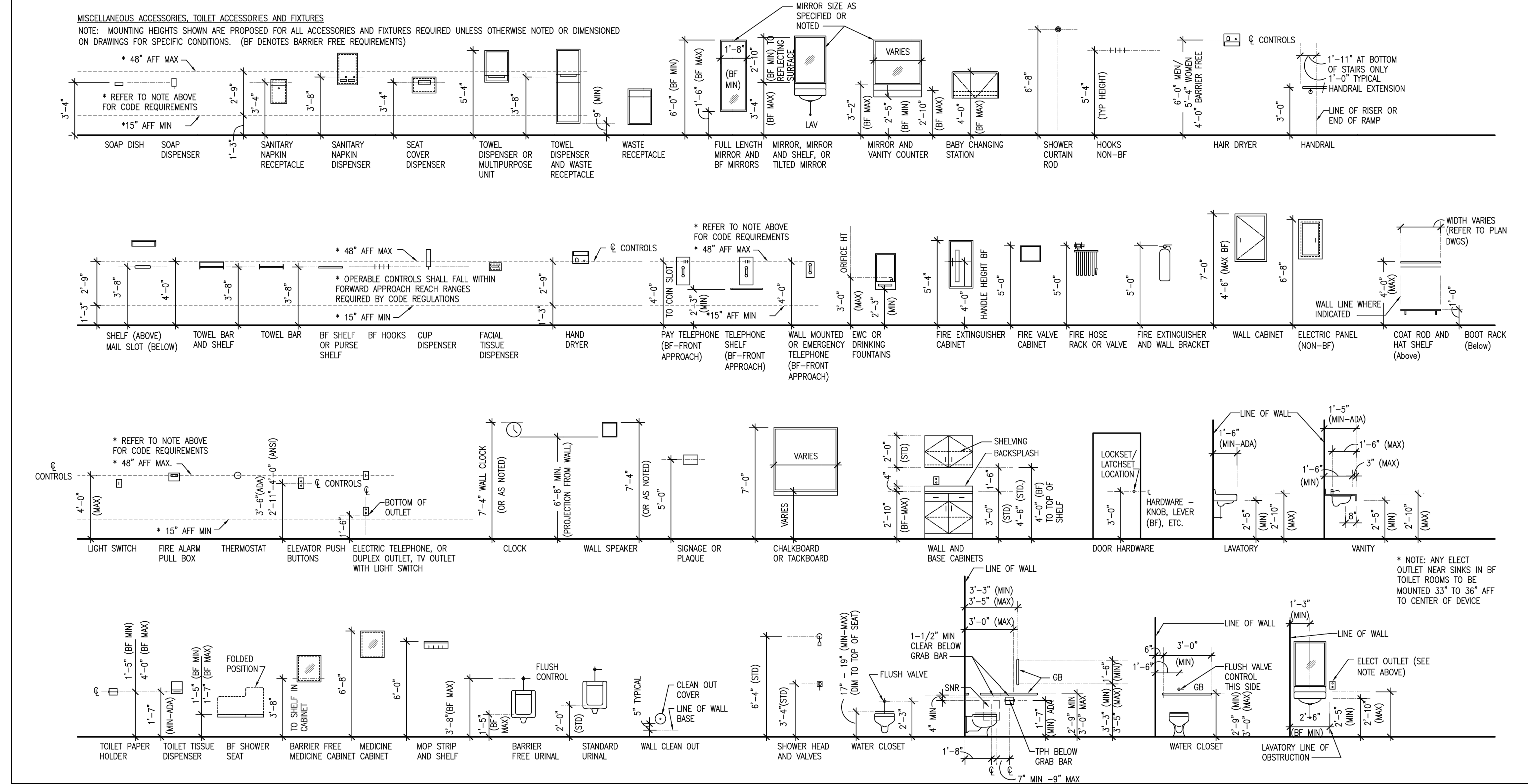
1. STORM SEWER 6" AND SMALLER SHALL BE PVC SDR 23.5. STORM SEWER GREATER THAN 6" THROUGH 10" SHALL BE PVC SDR 26.
2. SANITARY SEWER SHALL BE PVC TRUSS PIPE. LEADS SHALL BE SOLID WALL, PVC, SDR 23.5.
3. WATER MAIN SHALL BE CLASS 54 DUCTILE IRON. WATER MAINS SHALL BE LEAKAGE AND PRESSURE TESTED IN ACCORDANCE WITH AWWA STANDARD C600. WATER MAINS SHALL BE DISINFECTED IN ACCORDANCE WITH AWWA STANDARD C651 PRIOR TO BEING PUT INTO SERVICE.
4. ALL UTILITY TRENCHES THAT FALL WITHIN A 1'-ON-1 INFLUENCE OF PAVEMENT AREAS SHALL BE BACKFILLED WITH CLASS 2 SAND AND COMPACTED TO SUR OF MAXIMUM DENSITY.
5. ALL WATER MAIN SHALL BE BURIED WITH 6" OF COVER FROM PROPOSED GRADES. USE 22.5" BENDS TO LOWER WATER MAIN WHERE NOTED AT UTILITY CROSSING.
6. ALL UTILITIES SHALL BE INSTALLED IN ACCORDANCE WITH THE STANDARDS AND SPECIFICATIONS OF THE CITY OF DETROIT WATER SEWER DEPT.
7. ALL UTILITIES SHALL BE INSTALLED ON CLASS "B" BEDDING OR BETTER.
8. ALL UTILITIES SHALL BE PLACED AT LEAST 10" FROM OTHER UTILITIES, SIGNIFICANT TREES, AND FIXED STRUCTURES.
9. SANITARY MANHOLE COVERS SHALL BE LABELED PER DWSO STANDARDS.



Door Clearances



Mounting Heights



ALL WORK INCLUDED UNDER THIS CONTRACT SHALL BE IN COMPLIANCE WITH ALL FEDERAL, STATE AND LOCAL CODES, STANDARDS AND REGULATIONS.

THE GENERAL CONTRACTOR/CONSTRUCTION MANAGER SHALL THROUGH CATEGORY ASSIGNMENT ARRANGE FOR ALL INSPECTIONS AND PAY FOR ALL PERMITS, FEES, AND INSURANCE REQUIRED.

GENERAL CONTRACTOR/CONSTRUCTION MANAGER AS WELL AS SUB-CONTRACTOR SHALL BE FAMILIAR WITH AND COMPLY WITH ALL PROCEDURES SET FORTH BY FEDERAL, STATE, AND LOCAL GOVERNING AGENCIES IN THE CONSTRUCTION OF THIS PROJECT. IT IS THE GENERAL CONTRACTOR'S/CONSTRUCTION MANAGER'S RESPONSIBILITY TO FURNISH ALL AFFIDAVITS, CERTIFICATES, AND REPORTS AS MAY BE REQUIRED BY ANY AND ALL AGENCIES UPON REQUEST.

THE GENERAL CONTRACTOR/CONSTRUCTION MANAGER, THROUGH CATEGORY ASSIGNMENT, SHALL BE RESPONSIBLE FOR BARRICADES/ENCLOSURES TO ASSURE PUBLIC CONTRACTOR EMPLOYEE AND WORKER PROTECTION AT AREAS OF CONSTRUCTION.

GENERAL CONTRACTOR/CONSTRUCTION MANAGER IS RESPONSIBLE TO INSPECT THE SITE AND PROVIDE FOR THE REMOVAL AND/OR RELOCATION OF ALL ITEMS NOT INDICATED ON THE DRAWINGS THAT WOULD INTERFERE WITH THE INTENT AND COMPLETION OF THE PROJECT.

PROVIDE 16 GA. 10" STEEL PLATES ATTACHED TO FACE OF STUDS FOR THE FOLLOWING ITEMS UNLESS OTHERWISE NOTED.

SHEVLING	COUNTERS / COUNTER SUPPORT
WALL STANDARDS	WALL MOUNTED ITEMS
WALL AND BASE CABINETS	AS INDICATED IN DRAWINGS
TACK BOARDS AND MARKER BOARDS	
COAT HOKS	
VIDEO DISPLAY MONITOR	

COORDINATE WITH ARCHITECTURAL, MECHANICAL, AND ELECTRICAL DRAWINGS FOR LOCATION, MOUNTING CONDITIONS, QUANTITIES AND TYPE OF ALL LIGHTS, GRILLES, DIFFUSERS, EXIT SIGNS, SPEAKERS, AND ALL MISCELLANEOUS ITEMS. (NOTE: FOR LOCATION OF ALL MECHANICAL AND ELECTRICAL ITEMS LOCATED IN THE CEILING AND IN CEILING DROPS, REFER TO THE ARCHITECTURAL, MECHANICAL, AND ELECTRICAL DRAWINGS. ALL ITEMS ARE NOT SHOWN ON THE ARCHITECTURAL DRAWINGS. LOCATIONS SHALL BE AS INDICATED ON THE ARCHITECTURAL DRAWINGS. NOTIFY THE ARCHITECT OF ANY DISCREPANCIES IMMEDIATELY AND BEFORE PROCEEDING WITH THE WORK.)

SIZE AND LOCATION OF ALL FLOOR OPENINGS, ROOF OPENINGS AND WALL OPENINGS
REQUIRED TO ACCOMMODATE DUCT PENETRATIONS, EQUIPMENT, ACCESS PANELS, ETC.,
TO BE COORDINATED AND MECHANICAL AND ELECTRICAL TRADES.

THE PROJECT SHALL CONFORM TO UNDERWRITERS LABORATORY FIRE RESISTANCE DIRECTORY AND BUILDING MATERIALS DIRECTORY.

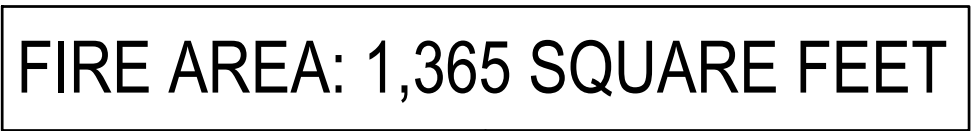
ANY MATERIAL SUBSTITUTIONS TO A LISTED U.L. DESIGN NUMBER SHALL BE COORDINATED BY THE GENERAL CONTRACTOR/CONSTRUCTION MANAGER AND SUB-CONTRACTOR FOR MATERIAL COMPLIANCE. THE GENERAL CONTRACTOR/CONSTRUCTION MANAGER SHALL BE RESPONSIBLE FOR ALL APPROVALS OR ANY MATERIAL SUBSTITUTIONS TO THE REQUIRED U.L. DESIGN NUMBERS LISTED. APPROVALS SHALL BE GRANTED FROM THE FIRE MARSHAL AND BUILDING INSPECTOR HAVING LOCAL JURISDICTION PRIOR TO ACCEPTANCE.

CHANGE IN THE U.L. DESIGN NUMBERS LISTED DUE TO MATERIAL SUBSTITUTIONS WILL BE THE RESPONSIBILITY OF THE GENERAL CONTRACTOR/CONSTRUCTION MANAGER TO COORDINATE ALL OTHER RELATED MATERIALS AFFECTED BY THE U.L. NUMBERS CHANGE.

GENERAL CONTRACTOR/CONSTRUCTION MANAGER THROUGH CATEGORY ASSIGNMENT TO SUBMIT CERTIFICATIONS AND ALL FINAL U.L. DESIGN NUMBERS USED FOR EACH REQUIRED ASSEMBLY.

The diagram illustrates four standard drawing symbols used in architectural and engineering drawings:

- ELEVATION SYMBOLS:** Shows two types of elevation symbols. The first is a diamond shape with a circle inside, containing the number '2' and 'A2.00'. The second is a diamond shape with a circle inside, containing the number '2' and 'A2.00'. Labels point to the '2' as 'DRAWING NUMBER-TYP' and the 'A2.00' as 'SHEET WHERE DRAWN-TYP'.
- SECTION SYMBOL:** Shows a section symbol consisting of a circle with the number '2' and 'A2.00' inside, and a vertical line below it. Labels point to the '2' as 'DRAWING NUMBER-TYP' and the 'A2.00' as 'SHEET WHERE DRAWN-TYP'.
- ENLARGED PLAN OR DETAIL SYMBOL:** Shows an enlarged plan or detail symbol consisting of a dashed circle with a solid circle inside, containing the number '2' and 'A2.00'. Labels point to the '2' as 'DRAWING NUMBER-TYP' and the 'A2.00' as 'SHEET WHERE DRAWN-TYP'.
- DRAWING TITLE:** Shows a drawing title symbol consisting of a circle with the number '2' and 'A2.00' inside, and a horizontal line below it. Labels point to the '2' as 'DRAWING NUMBER-TYP' and the 'A2.00' as 'SHEET WHERE REFERENCED-TYP'. The horizontal line is labeled 'TITLE' and the text below it is '1/4"=1'-0"'. The label 'DRAWING TITLE' is placed below the symbol.



PROPOSED USE:	OFFICE
USE GROUP:	B, BUSINESS
TYPE OF CONSTRUCTION:	TYPE IIB
BUILDING AREA:	1,365 GSF
FIRE AREA:	1,365 GSF
OCCUPANCY:	14 PERSONS (MBC 2015 TABLE 1004.1.2)
NUMBER OF EXITS:	1 (PER MBC 2015 TABLE 1006.2.1, OCCUPANCY < 30)
EXIT ACCESS TRAVEL DISTANCE:	60' (200' ALLOWED PER MBC 2015 TABLE 1017.2)
COMMON PATH OF TRAVEL:	60' (100' ALLOWED PER MBC 2015 TABLE 1006.2.1)
MAXIMUM DEAD END CORRIDOR:	NOT APPLICABLE (PER MBC 2015 1020.4 - ONE EXIT REQUIRED)
CORRIDOR FIRE RESISTANCE:	NONE (PER TABLE MBC 2015 1020.1, OCCUPANCY <30)
EXIT ACCESS CORRIDOR WIDTH:	48"
PANIC HARDWARE:	NONE
AUTOMATIC SPRINKLER SYSTEM:	NONE

SOUTH DEMISING WALL:	2 HOURS
WEST DEMISING WALL (EXISTING):	2 HOURS
DOOR D00:	90 MINUTE

Ceiling System

CODE	BASIS OF DESIGN	MODEL	FIRE RATING	COLOR	NOTES
ACT-1	USG	ECLIPSE CLIMAPLUS 24X24 FL EDGE	CLASS A	WHITE	
ACT-1	USG	SUSPENSION SYSTEM: CENTRICITEE DXT 9/16" EXPOSED T SYTEM		WHITE	

Wall Base

CODE	BASIS OF DESIGN	MODEL	TYPE	COLOR	NOTES
RB-1	JOHNSONITE	4" STRAIGHT	RUBBER	BLACK	

Paint Color Codes

CODE	BASIS OF DESIGN	COLOR / FINISH	NOTES
CC-01	SHERWIN WILLIAMS	SW 6105 / EGGSHELL DIVINE WHITE	WALLS
CC-02	SHERWIN WILLIAMS	SW 6144 / SEMIGLOSS DAPPER TAN	INTERIOR DOOR FRAMES
CC-03	SHERWIN WILLIAMS	TBD	EXTERIOR DOOR AND FRAME

Fire Extinguisher Cabinet

CODE	BASIS OF DESIGN	MODEL	TYPE	COLOR	NOTES
FEC-1	AMBASSADOR	1016V	SEMI-RECESSED	WHITE	INCLUDE EXTINGUISHER MEETING WSU STANDARDS

Masonry

CODE	BASIS OF DESIGN	MODEL	SIZE	COLOR	NOTES
FACE BRICK	BELDEN BRICK	ARCHITECTURAL FACE BRICK	MODULAR	1/3 #661 SMOOTH 1/3 LANDMARK GRAY SMOOTH 1/3 LIGHTHOUSE GRAY SMOOTH	
MORTAR COLOR	SOLOMON SGS	CONCENTRATED MORTAR COLORS	NA	TO MATCH 2014 ADDITION	PROVIDE CURED SAMPLE FOR APPROVAL PRIOR FABRICATION

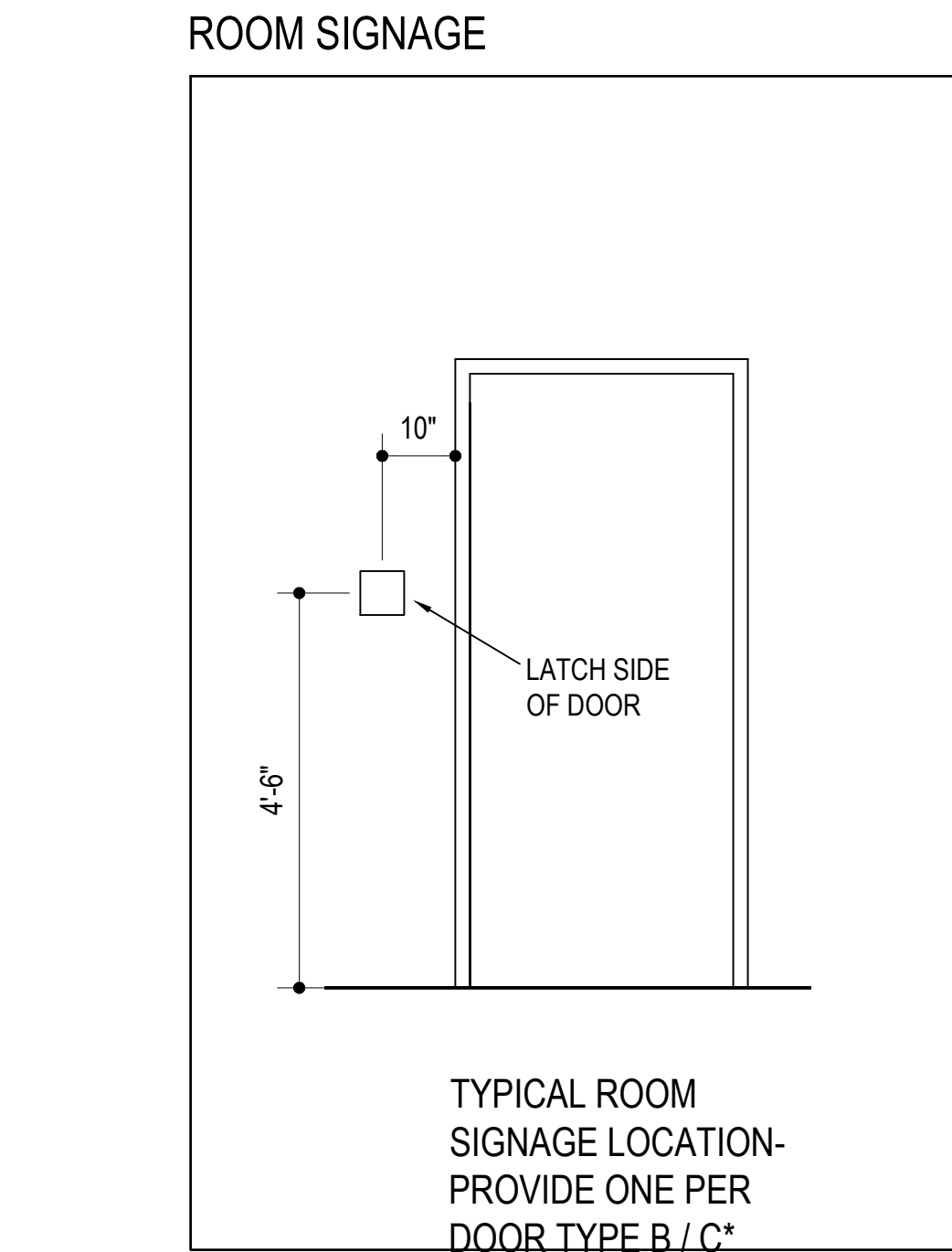
Resilient Flooring

CODE	BASIS OF DESIGN	MODEL	TYPE	COLOR	NOTES
RF-1	SHAW CONTRACT	UNCOMMON GROUND 4" PLANK	COMMERCIAL LUXURY VINYL	GALLERY MAPLE 02200	ASHLAR PATTERN RUN N/S

Roller Window Shade

CODE	BASIS OF DESIGN	MODEL	TYPE	COLOR	NOTES
RWS-1	HUNTER DOUGLASS	RB500	HD MANUAL ROLLER SHADE, 2" DIAMETER TUBE, CLUTCH, FASCIA FRONT COVER, BRACKET 55L W/COVERS,	FROM MFR FULL RANGE	1, 3
RWS-1			FABRIC: SHEER WEAVE 4400 3% OPEN, 20 OZ./YARD, .037 THICKNESS, .020" YARN DIAMETER.	FROM MFR FULL RANGE	2

1. FLAME RESISTANCE: NFPA 701
2. PROVIDE SAMPLE FABRIC AND COLOR RANGE
3. BASIS OF DESIGN



Door Schedule

CODE	ROOM	SIZE	TYPE	FIRE RATING	SMOKE SEALED	MATERIAL	THRESHOLD	HARDWARE	FINISH	DETAIL	NOTES
D00	CORRIDOR I	36" X 84"	A	90 MINUTE		HM DOOR HM FRAME	ALUMINUM ADA COMPLIANT	01	PAINT	5 / A.41	1, 3, 4
D01	CORRIDOR II	36" X 84"	A	NONE		HM DOOR HM FRAME	ALUMINUM ADA COMPLIANT	02	PAINT	1 / A.41 2 / A.41	1, 4, 5
D02	OFFICE	36" X 84"	B / C*	NONE	YES	SC WOOD DOOR HM FRAME		03	TRANSPARENT	3 / A.41 4 / A.41	1, 2, 4, 6
D03	OFFICE	36" X 84"	B / C*	NONE	YES	SC WOOD DOOR HM FRAME		03	TRANSPARENT	3 / A.41 4 / A.41	1, 2, 4, 6
D04	OFFICE	36" X 84"	B / C*	NONE	YES	SC WOOD DOOR HM FRAME		03	TRANSPARENT	3 / A.41 4 / A.41	1, 2, 4, 6
D05	OFFICE	36" X 84"	B / C*	NONE	YES	SC WOOD DOOR HM FRAME		03	TRANSPARENT	3 / A.41 4 / A.41	1, 2, 4, 6
D06	NOT USED										
D07	OFFICE	36" X 84"	B / C*	NONE	YES	SC WOOD DOOR HM FRAME		03	TRANSPARENT	3 / A.41 4 / A.41	1, 2, 4, 6
D08	OFFICE	36" X 84"	B / C*	NONE	YES	SC WOOD DOOR HM FRAME		03	TRANSPARENT	3 / A.41 4 / A.41	1, 2, 4, 6
D09	OFFICE	36" X 84"	B / C*	NONE	YES	SC WOOD DOOR HM FRAME		03	TRANSPARENT	3 / A.41 4 / A.41	1, 2, 4, 6
D10	OFFICE G	SALVAGE AND RELOCATE EXISTING DOOR AND FRAME- VIF									7

Room Finishes

NO.	ROOM NAME	FLOOR	BASE	CEILING	NORTH WALL	EAST WALL	SOUTH WALL	WEST WALL	NOTES
01	CORRIDOR II	RF	RB-1	ACT-1	GBP CC-1	GBP CC-1	GBP CC-1	GBP CC-1	
02	OFFICE A	RF	RB-1	ACT-1	GBP CC-1	GBP CC-1	GBP CC-1	GBP CC-1	
03	OFFICE B	RF	RB-1	ACT-1	GBP CC-1	GBP CC-1	GBP CC-1	GBP CC-1	
04	OFFICE C	RF	RB-1	ACT-1	GBP CC-1	GBP CC-1	GBP CC-1	GBP CC-1	
05	OFFICE D	RF	RB-1	ECP	GBP CC-1	GBP CC-1	GBP CC-1	GBP CC-1	
06	NOT USED	RF	RB-1	ACT-1	GBP CC-1	GBP CC-1	GBP CC-1	GBP CC-1	
07	MEETING ROOM	RF	RB-1	ACT-1	GBP CC-1	GBP CC-1	GBP CC-1	GBP CC-1	
08	OFFICE E	RF	RB-1	ACT-1	GBP CC-1	GBP CC-1	GBP CC-1	GBP CC-1	
09	OFFICE F	RF	RB-1	ACT-1	GBP CC-1	GBP CC-1	GBP CC-1	GBP CC-1	
10	OFFICE G	RF	RB-1	ACT-X	GBP CC-1	GBP CC-1	GBP CC-1	GBP CC-1	1, 3, 5
11	CORRIDOR I	EF	RB-X	ACT-X	GBP CC-X	GBP CC-X	GBP CC-X	GBP CC-X	1, 2, 3, 4
12	CORRIDOR III	RF	RB-1	ACT-1	GBP CC-1	GBP CC-1	GBP CC-1	GBP CC-1	

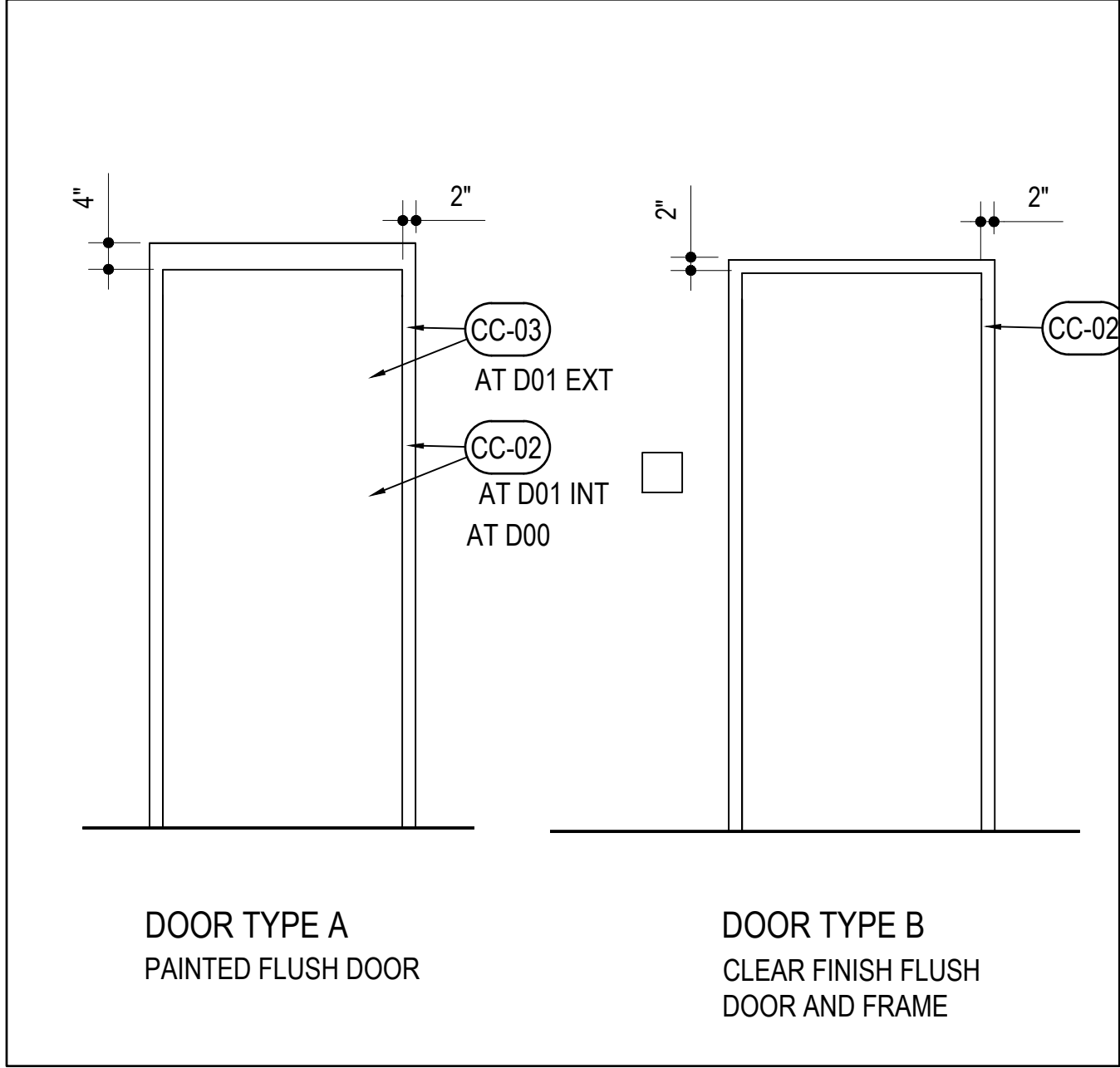
CODES:

GBP	GYP BD PAINTED
RB	RESILIENT BASE
ACT	ACOUSTICAL CEILING TILE
ECP	EXPOSED CONSTRUCTION PAINTED
EF	EXISTING FINISH
RF	RESILIENT FLOORING

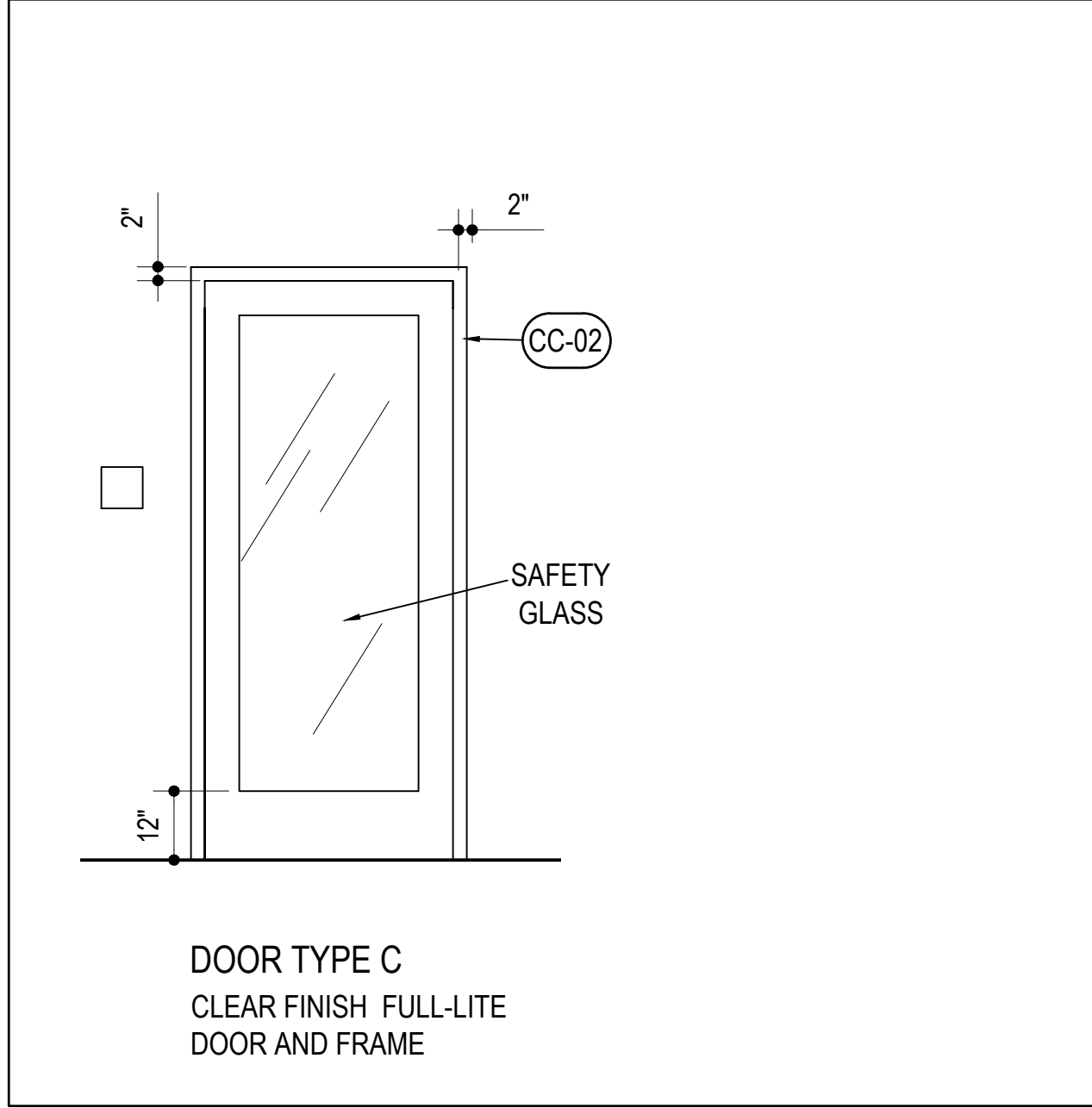
NOTES

1. PATCH, REPAIR AND PAINT FULL EXISTING
WALLS TO INSIDE OR OUTSIDE CORNER
2. MATCH EXISTING PAINT COLOR. PROVIDE
NEW MATCHING BASE AS NEEDED.
3. PROVIDE NEW CEILING SYSTEM TO
MATCH EXISTING SYSTEM- ALIGN CEILING
GRID WITH ADJACENT GRID
4. PROTECT EXISTING FLOORING
5. PROVIDE NEW FULL ROOM FLOORING.

DOOR TYPES



DOOR TYPES - ADD ALTERNATE 1



GENERAL NOTES

1. EXTERIOR BRICK, WALL PANELS, COPINGS AND GLAZING SYSTEM SHALL MATCH CORRESPONDING SYSTEMS AND FINISHES AT EXISTING ADJACENT 2014 ADDITION. REFER TO RELATED SPECIFICATION SECTIONS AND VERIFY IN FIELD. NOTIFY ARCHITECT OF ANY DISCREPANCY PRIOR TO FABRICATION.

2. COPINGS, WALL PANELS AND BRICK COURSING SHALL ALIGN HORIZONTALLY WITH CORRESPONDING ITEMS IN EXISTING ADJACENT 2014 ADDITION.

3. PROVIDE FIRESTOPPING AT ALL PENETRATIONS OF RATED WALL SYSTEMS. PROVIDE FIRESTOPPING AT ALL REQUIRED ELECTRICAL, MECHANICAL OR PLUMBING RUN PENETRATIONS OF CORRIDOR WALLS OR RATED CONSTRUCTION IN THE EXISTING MATTHAEI ATHLETIC COMPLEX.

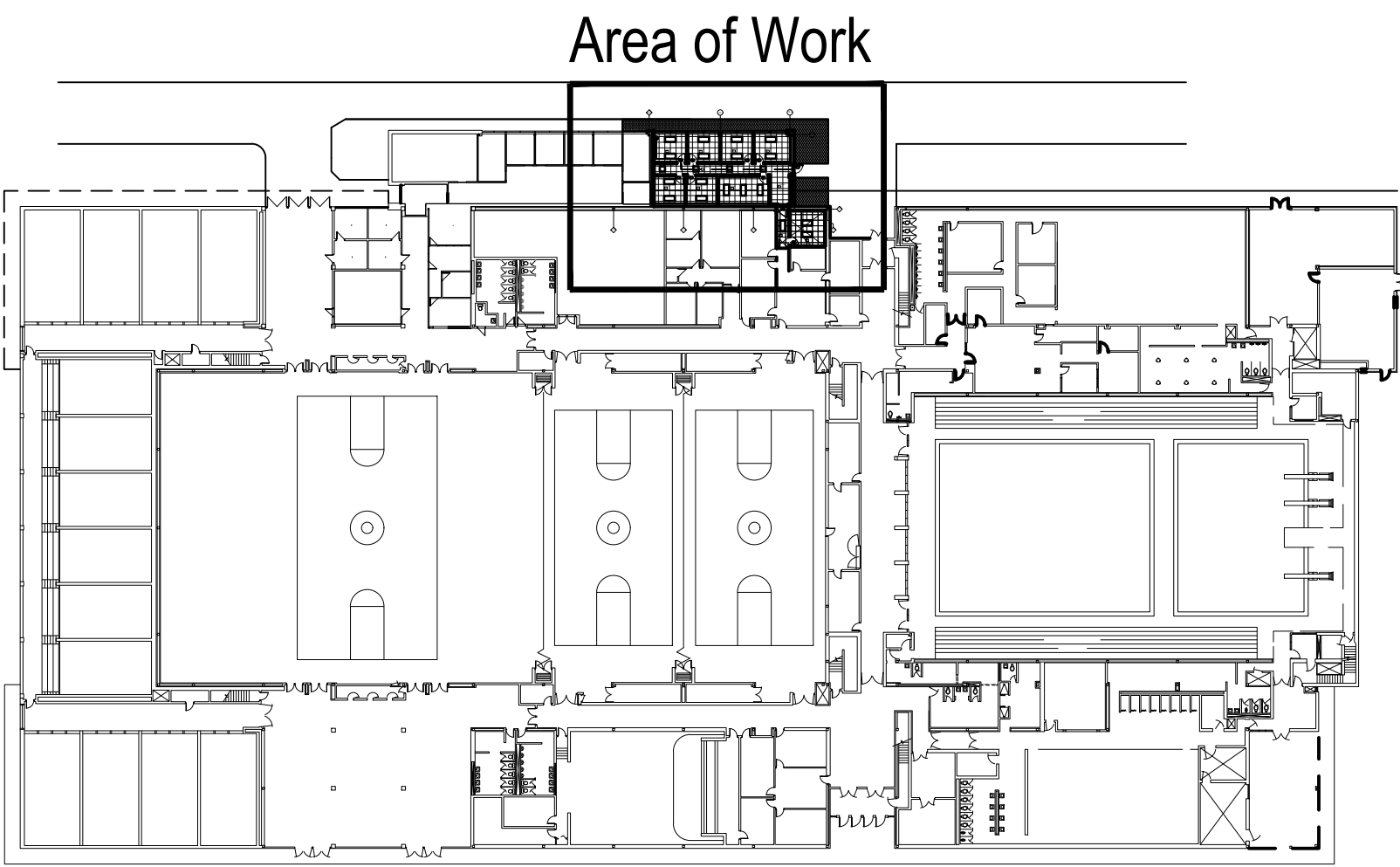
4. ALL WOOD BLOCKING SHALL BE FIRE-TREATED LUMBER.

5. DEMOLISH EXISTING CANOPY TO NEAREST CONSTRUCTION JOINT OR FRAMING POINT AS NEEDED TO MAKE WAY FOR NEW WORK. PROVIDE NEW CANOPY INFILL AS NEEDED USING SIMILAR FRAMING SYSTEM SECURED TO ADDITION. PROVIDE NEW CEMENTITIOUS FINISH PANELS MATCHING EXISTING SYSTEM. PROVIDE NEW ROOFING COMPATIBLE WITH EXISTING ROOFING SYSTEM. SLOPE ROOFING PER EXISTING DRAINAGE PATTERN. PROVIDE NEW COPING MATCHING EXISTING. PROVIDE PAINT AND SEALANT FLASHING FOR COMPLETE FINISHED CANOPY INFILL / REPAIR MATCHING EXISTING CONSTRUCTION. REFER TO ELEVATIONS AND VERIFY IN FIELD. REVIEW METHODS AND MATERIALS WITH ARCHITECT / OWNER REPRESENTATIVE PRIOR TO CONSTRUCTION.

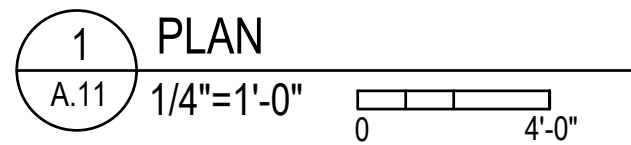
6. EXISTING FIRE HYDRANTS NORTH OF THE MATTHAEI ATHLETIC COMPLEX TO REMAIN OPERATIONAL DURING UTILITY RELOCATIONS. REFER TO CIVIL ENGINEERING DRAWINGS. NOTIFY OWNER REPRESENTATIVE IN ADVANCE OF ANY ANTICIPATED UTILITY INTERRUPTIONS PRIOR TO COMMENCING RELATED WORK.

7. COORDINATE FIBER LINE HAND HOLE LOCATION WITH OWNER REPRESENTATIVE ONCE LINE ROUTING IS DETERMINED IN THE FIELD. NOTIFY OWNER REPRESENTATIVE OF SCHEDULE FOR FIBER SERVICE INTERRUPTION PRIOR TO COMMENCING WORK. REFER TO CIVIL ENGINEERING AND AUDIO / VISUAL DRAWINGS.
1. LOCATE MASONRY OPENING FOR DOOR D00 DURING LAYOUT AND VERIFY LOCATION RELATED TO EXISTING CORRIDOR IN MATTHAEI ATHLETIC COMPLEX. REVIEW WITH OWNER REPRESENTATIVE IN THE FIELD DURING LAYOUT.

2. REPLACE ANY DAMAGED CEILING TILES AND CEILING GRID WITH MATCHING MATERIAL AT AREAS DAMAGED BY INSTALLATION OF ELECTRICAL RUNS IN EXISTING MATTHAEI ATHLETIC COMPLEX. PROVIDE (2) CEILING ACCESS PANELS AT HARD CEILING AREAS. 18"x18" NYSTROM ARCHITECTURAL ACCESS DOOR WITH LATCH OPERATION OR OWNER APPROVED EQUAL. COORDINATE LOCATIONS WITH OWNER REPRESENTATIVE AND ELECTRICAL ENGINEER. REFER TO ELECTRICAL DRAWING E0.3.



KEY PLAN Matthaei Center



KEY

- 01

CONCRETE PAVEMENT- REFER TO CIVIL
- 02

NEW LAWN OVER 4" TOPSOIL AT ALL DISTURBED AREAS
- 03

SUPPORTED SLAB- REFER TO STRUCTURAL

PARTITION OR FURRING TYPE

- P1

PARTITION TYPE- 5/8" GYP BD ON 3 5/8" METAL STUDS 16" OC SEALED AT TOP AND BOTTOM SOUND ATTENUATION INSULATION REFER TO SHEET A.41
- P2

PARTITION TYPE- 5/8" GYP BD ON 3 5/8" METAL STUDS 16" OC SOUND ATTENUATION INSULATION REFER TO SHEET A.41
- P3

PARTITION TYPE- 5/8" GYP BD ON 6" METAL STUDS 16" OC SOUND ATTENUATION INSULATION REFER TO SHEET A.41
- P4

FURRING TYPE- 5 /8" GYP BD ON 1 1/2" METAL FURRING CHANNEL
- P5

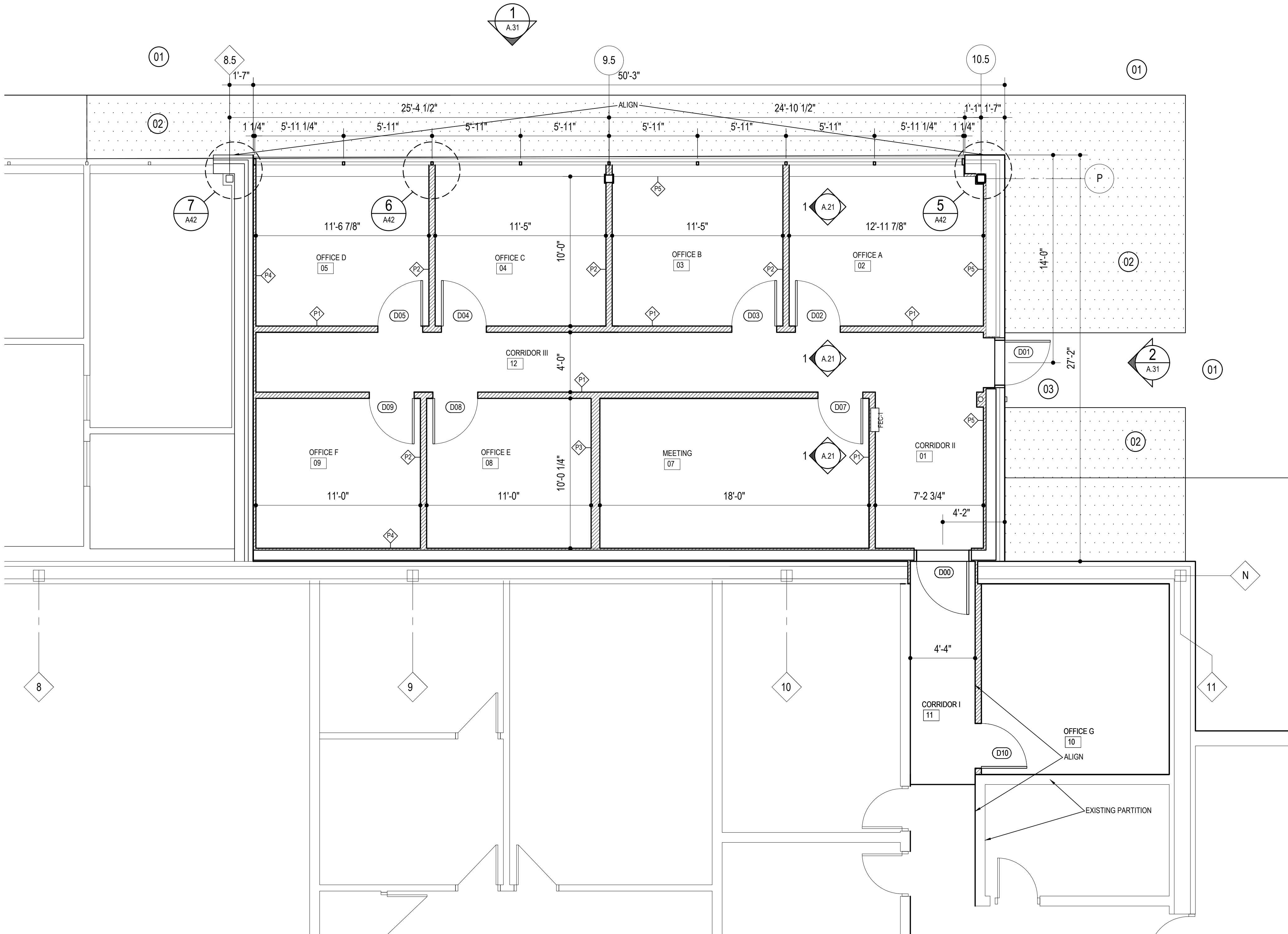
FURRING TYPE- 5/8" GYP BD ON 2" METAL FURRING CHANNEL WITH RIGID INSULATION

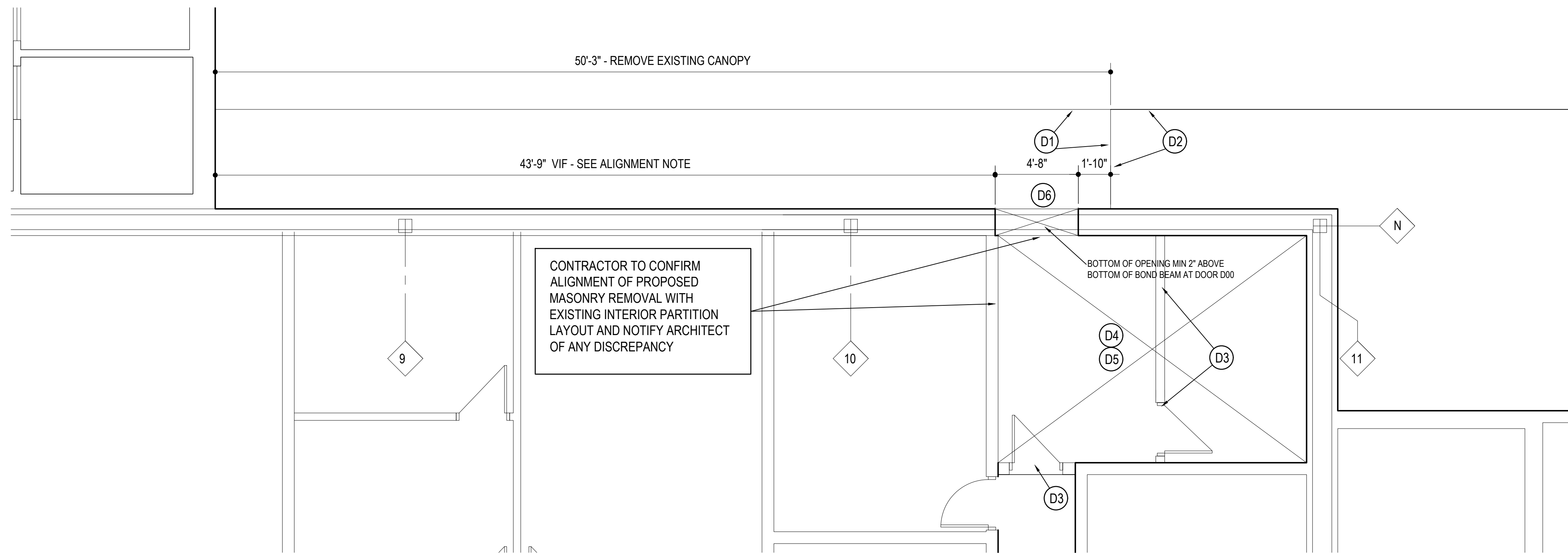
GRAPHIC KEY

- D0

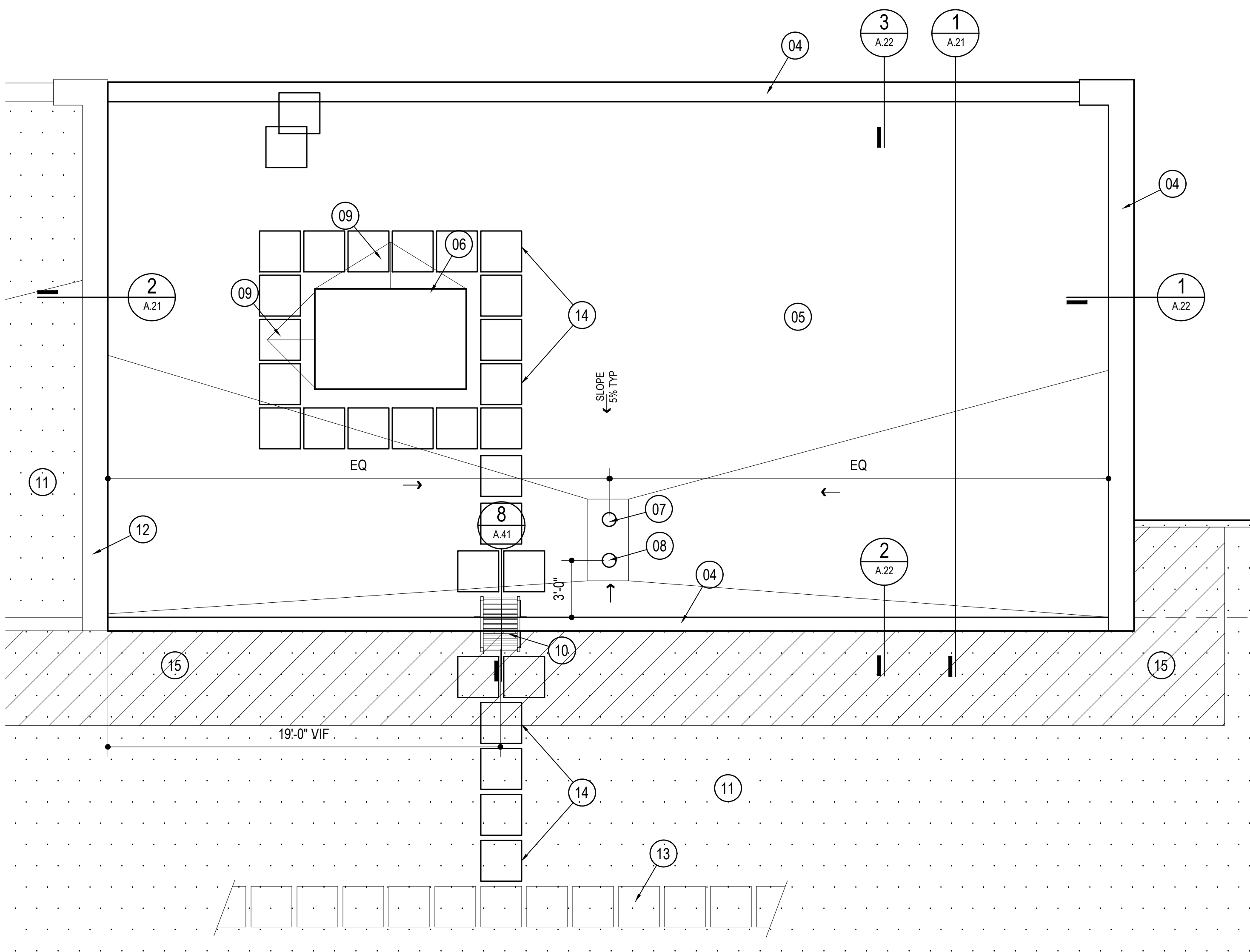
PARTITION OR FURRING TYPE- SEE KEY THIS SHEET
- ACT-1

FINISH CODE- REFER TO SHEET A.03

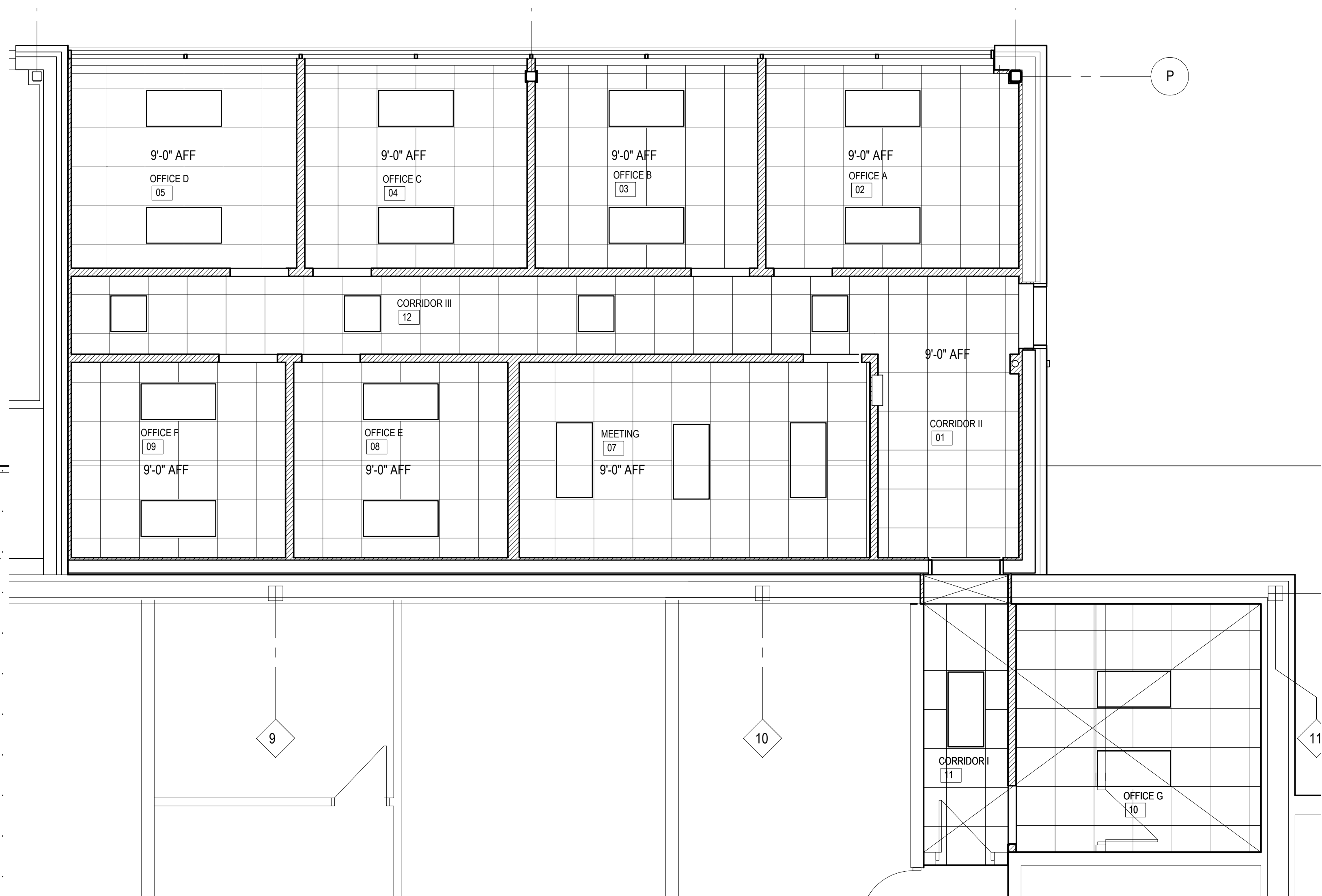




3 DEMOLITION PLAN
A.12 1/4"=1'-0" 0 4'-0"



2 ROOF PLAN
A.12 1/4"=1'-0" 0 4'-0"



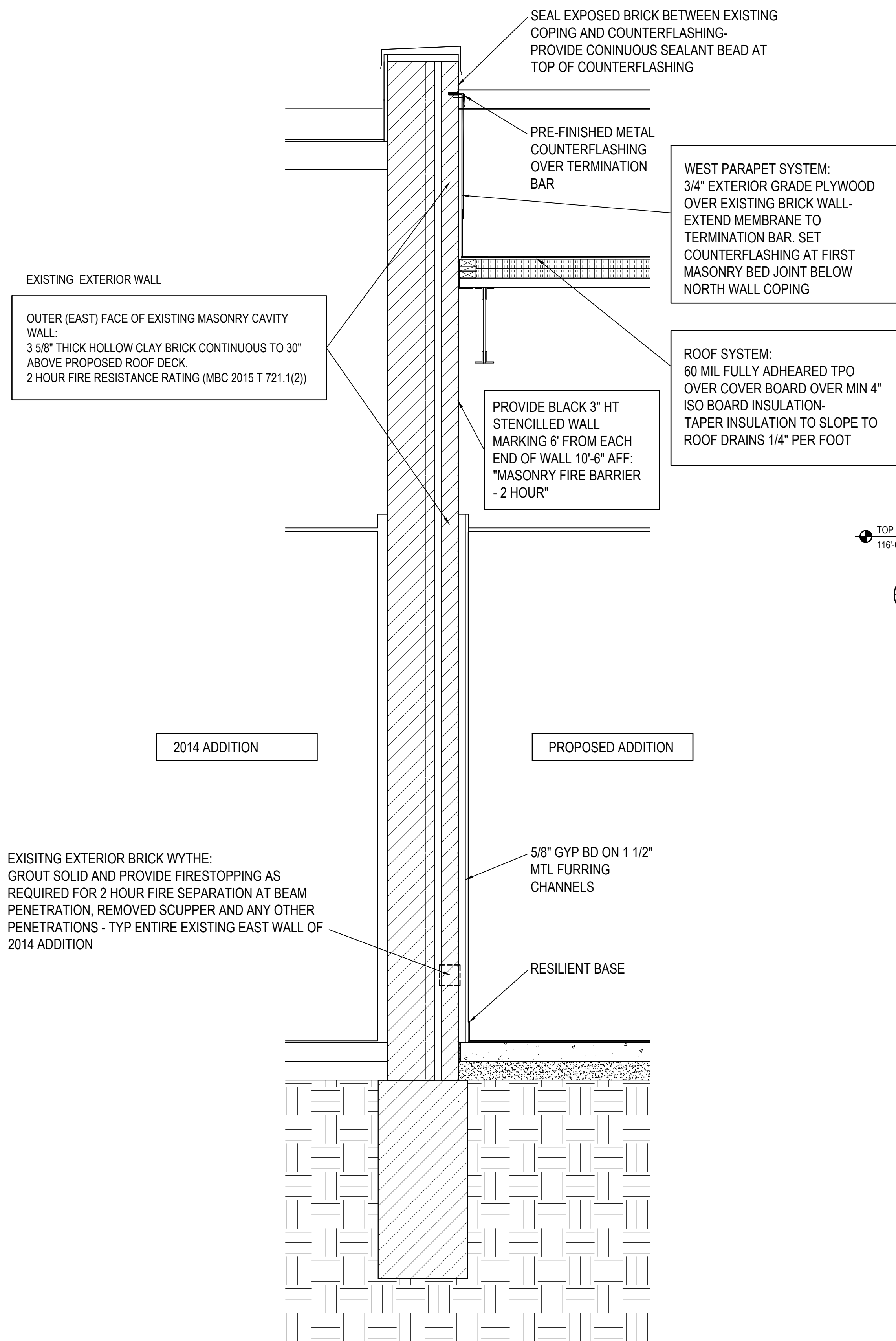
1 REFLECTED CEILING PLAN
A.12 1/4"=1'-0" 0 4'-0"

KEY

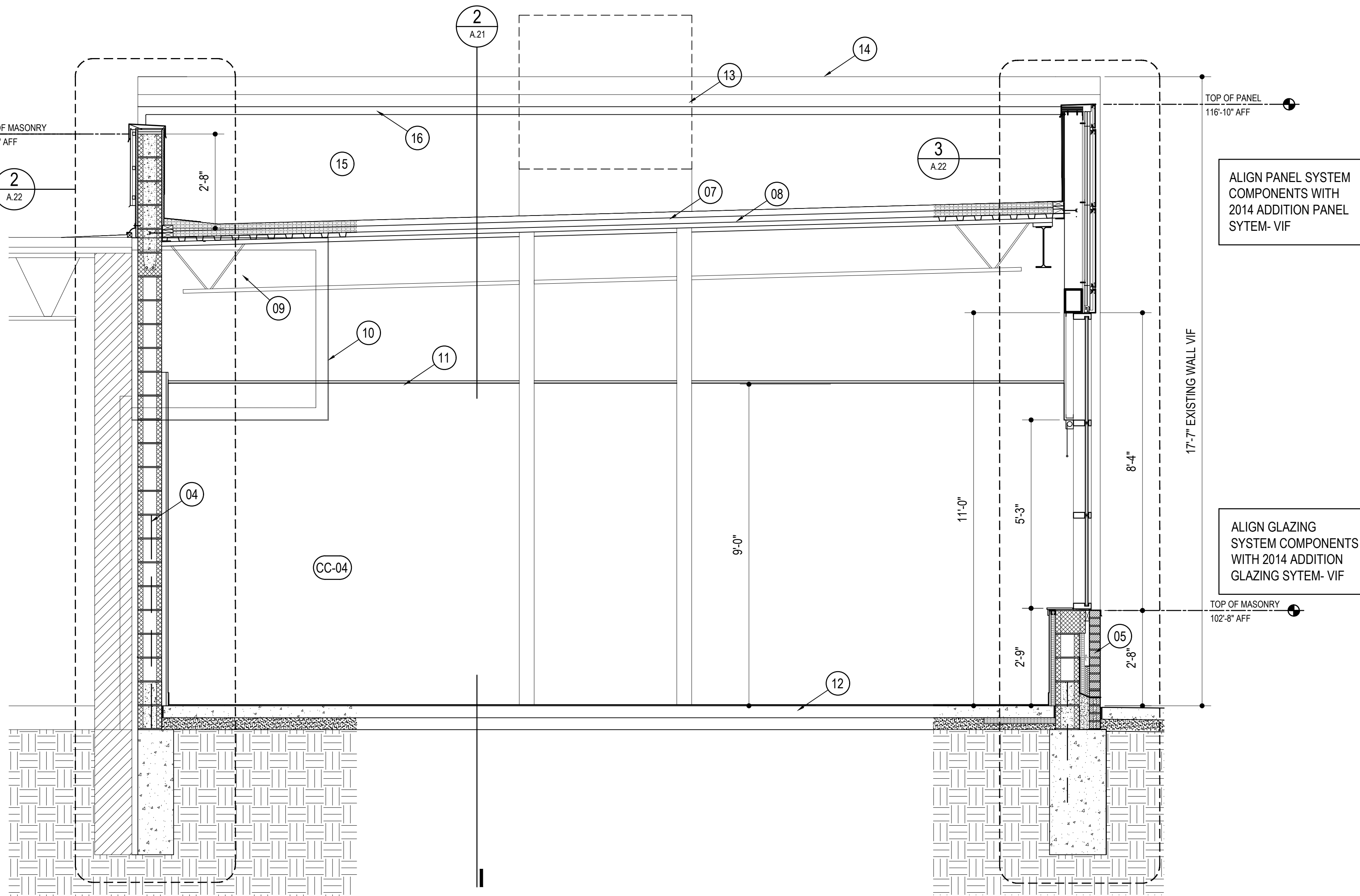
- 01 ACOUSTICAL CEILING TILE
- 02 GYPSUM BOARD PAINTED
- 03 RECESSED LIGHT FIXTURE- REFER TO ELECTRICAL
- 04 PAINTED METAL COPING
- 05 TPO MEMBRANE ROOF OVER TAPERED INSULATION
- 06 OUTLINE OF RTU
- 07 ROOF SUMP- SEE 9 / A4.1
- 08 EMERGENCY OVERFLOW DRAIN- SEE 9 / A4.1
- 09 TAPERED INSULATION SADDLE
- 10 ROOF LADDER
- 11 ADJACENT EXISTING MEMBRANE ROOF
- 12 EXISTING PARAPET AND COPING
- 13 EXISTING WALKWAY PAVERS- VIF
- 14 24 X 24 WALKWAY PAVERS ALL SIDES OF RTU AND EXTENDED TO EXISTING WALKWAY PAVER PATH
- 15 PATCH AND REPAIR EXISTING ROOF MEMBRANE AFFECTED BY NEW WORK AND FLASH TO WALLS. USE COMPATIBLE MATERIALS FOR EXISTING SYSTEM PER NRCA RECOMMENDATIONS.

DEMOLITION KEY

- D1 REMOVE EXISTING CANOPY SYSTEM
- D2 PROTECT EXISTING CANOPY SYSTEM TO REMAIN
- D3 REMOVE EXISTING PARTITION, DOOR AND FRAME
- D4 REMOVE SUSPENDED CEILING SYSTEM
- D5 REMOVE FINISH FLOORING
- D6 REMOVE EXISTING CMU / BRICK COMPOSITE WALL AND RELATED INTERIOR FINISH.

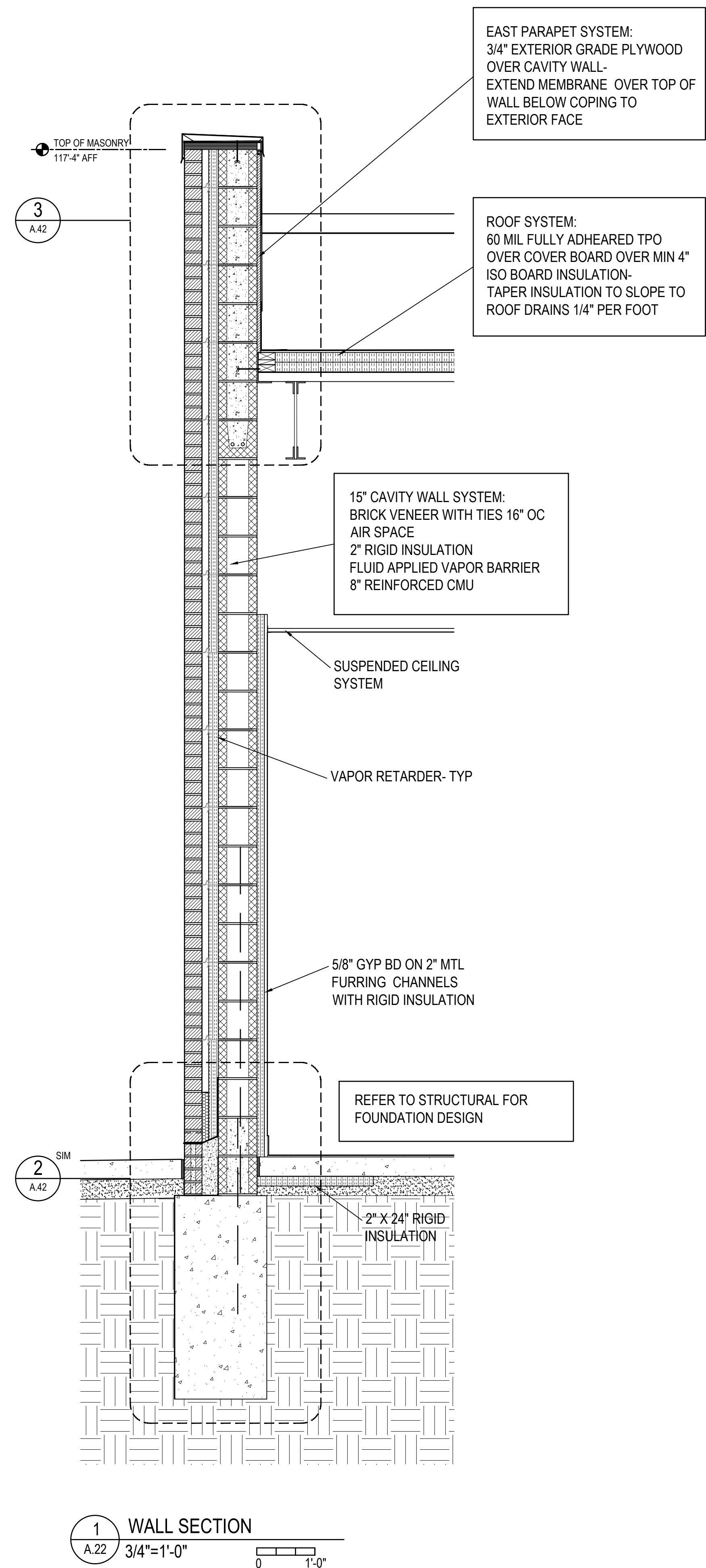
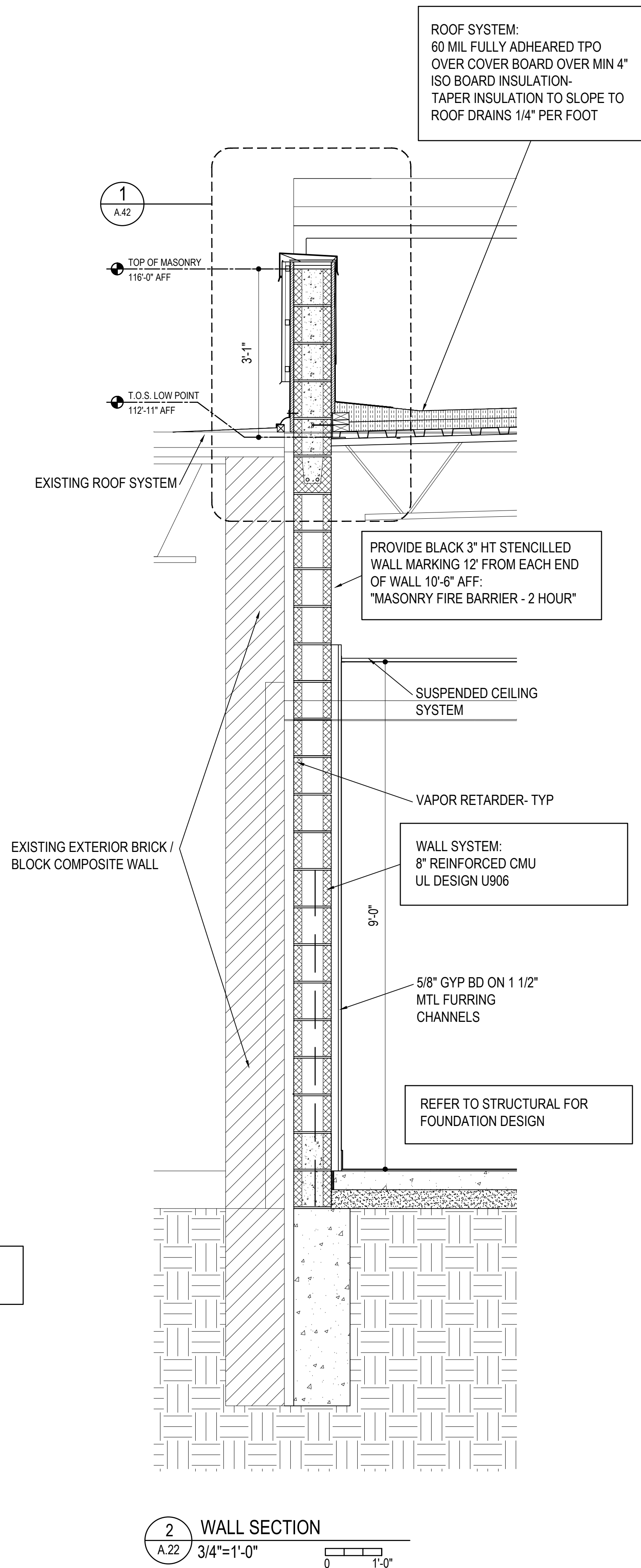
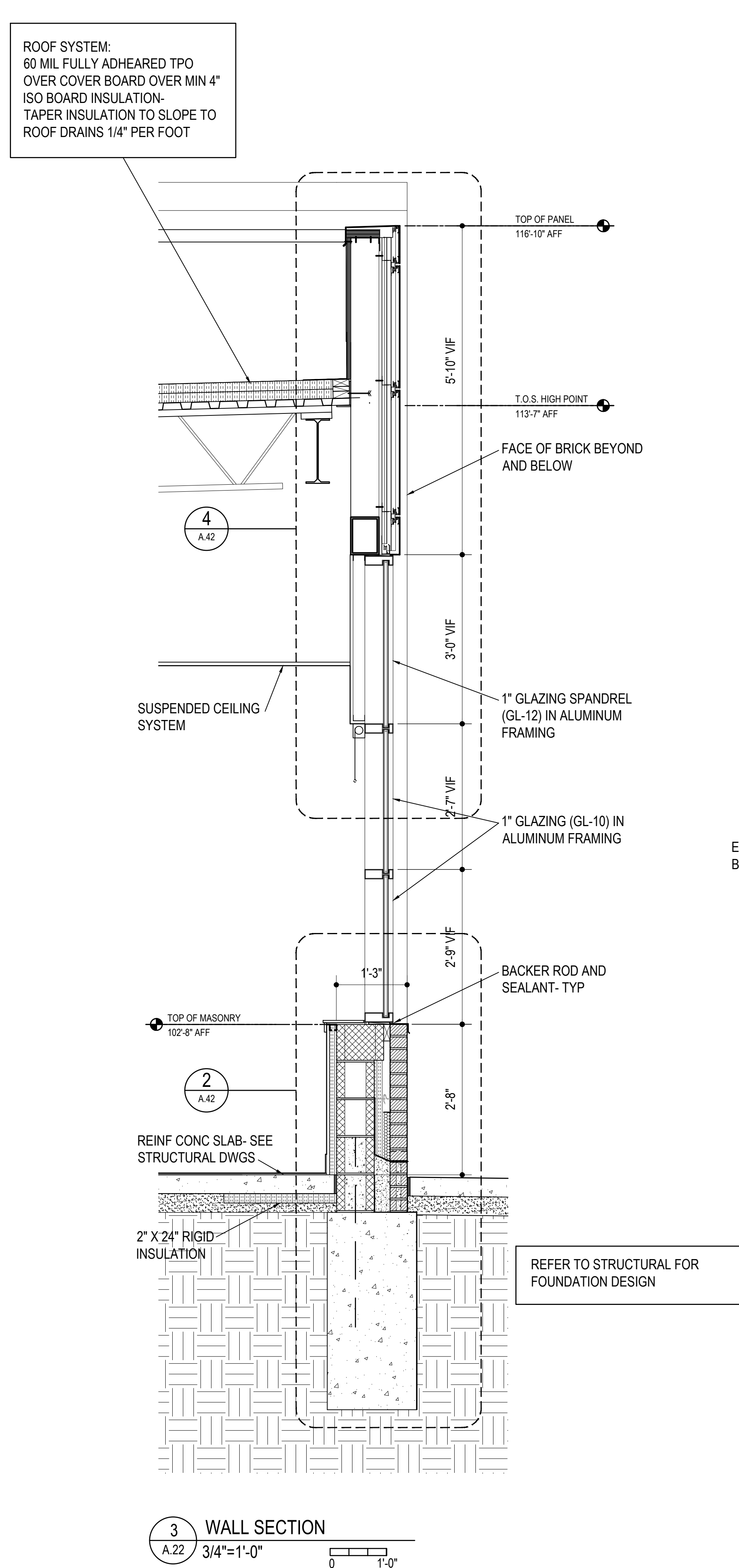


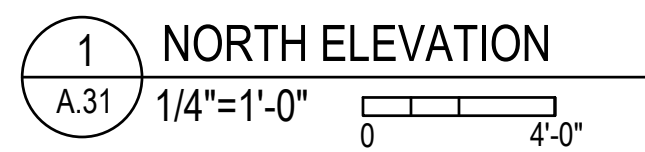
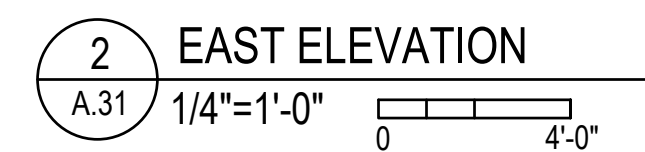
2 WALL SECTION
A.21 3/4"=1'-0"



1 SECTION
A.21 1/2"=1'-0"

- KEY
- 01 BRICK
 - 02 GLAZING
 - 03 METAL PANEL PAINTED
 - 04 METAL COPING PAINTED
 - 05 REINFORCED CMU BEARING WALL
 - 06 CMU CAVITY WALL
 - 07 MEMBRANE ROOF OVER STEEL DECK
 - 08 TAPERED INSULATION
 - 09 BAR JOISTS
 - 10 DEMOLISHED CANOPY
 - 11 SUSPENDED CEILING SYSTEM
 - 12 SLAB ON GRADE
 - 13 RTU LOCATION- REFER TO MECH DWGS
 - 14 EXISTING MASONRY WALL
 - 15 MEMBRANE FLASHING
 - 16 COUNTERFLASHING





- SILVERI ARCHITECTS**
650 LIVERNOIS
(248) 591-0360
FERNDAL, MICHIGAN 48220
silveri.com



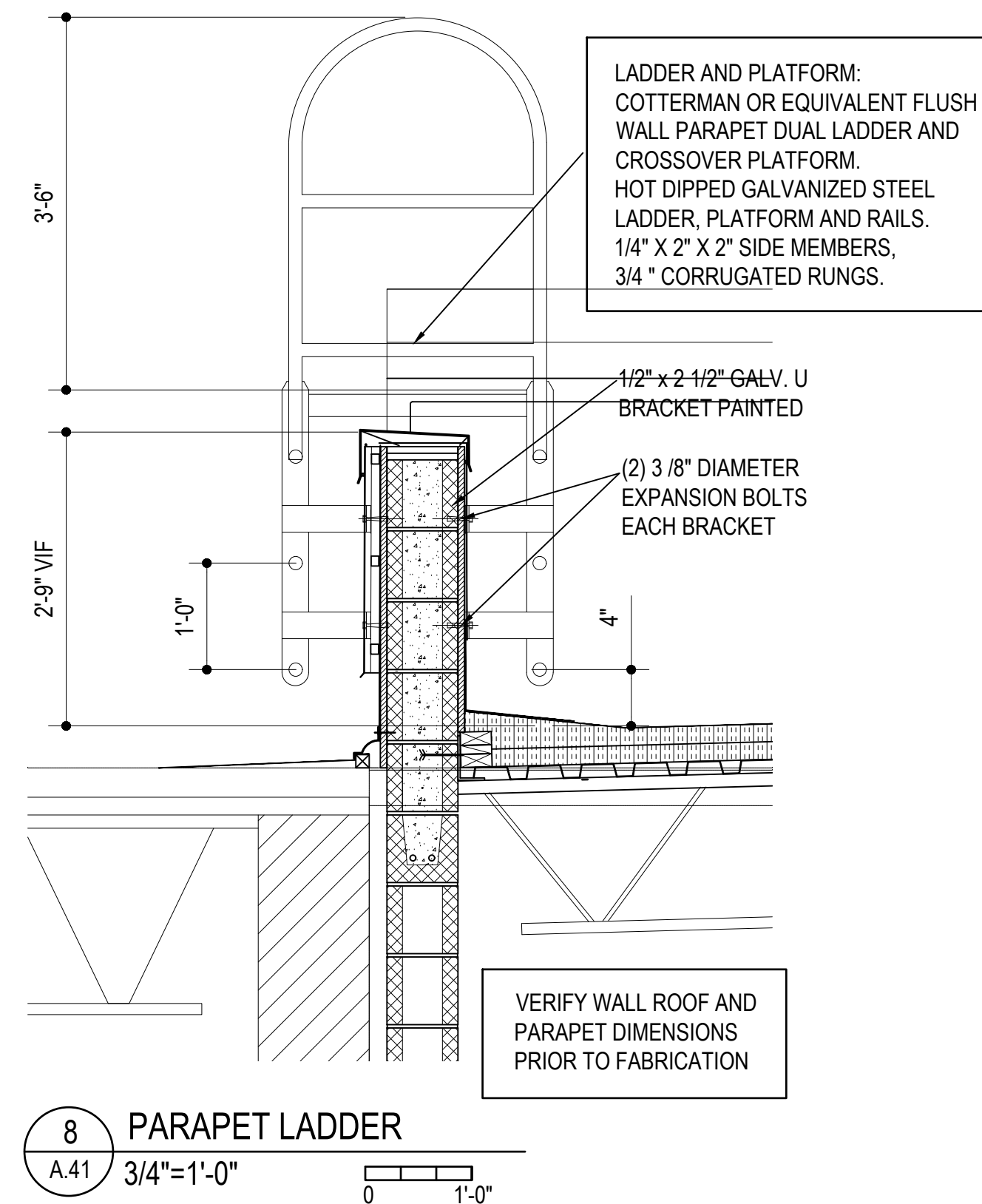
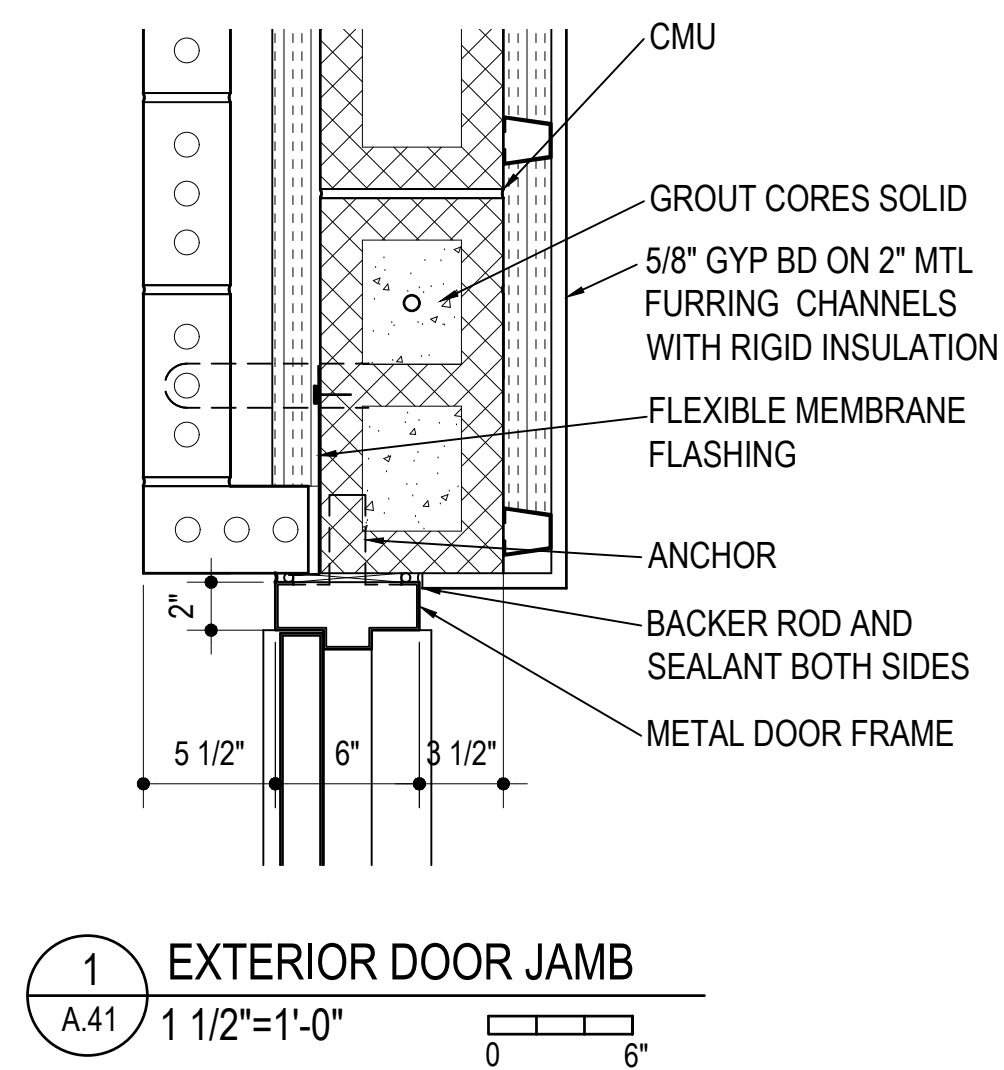
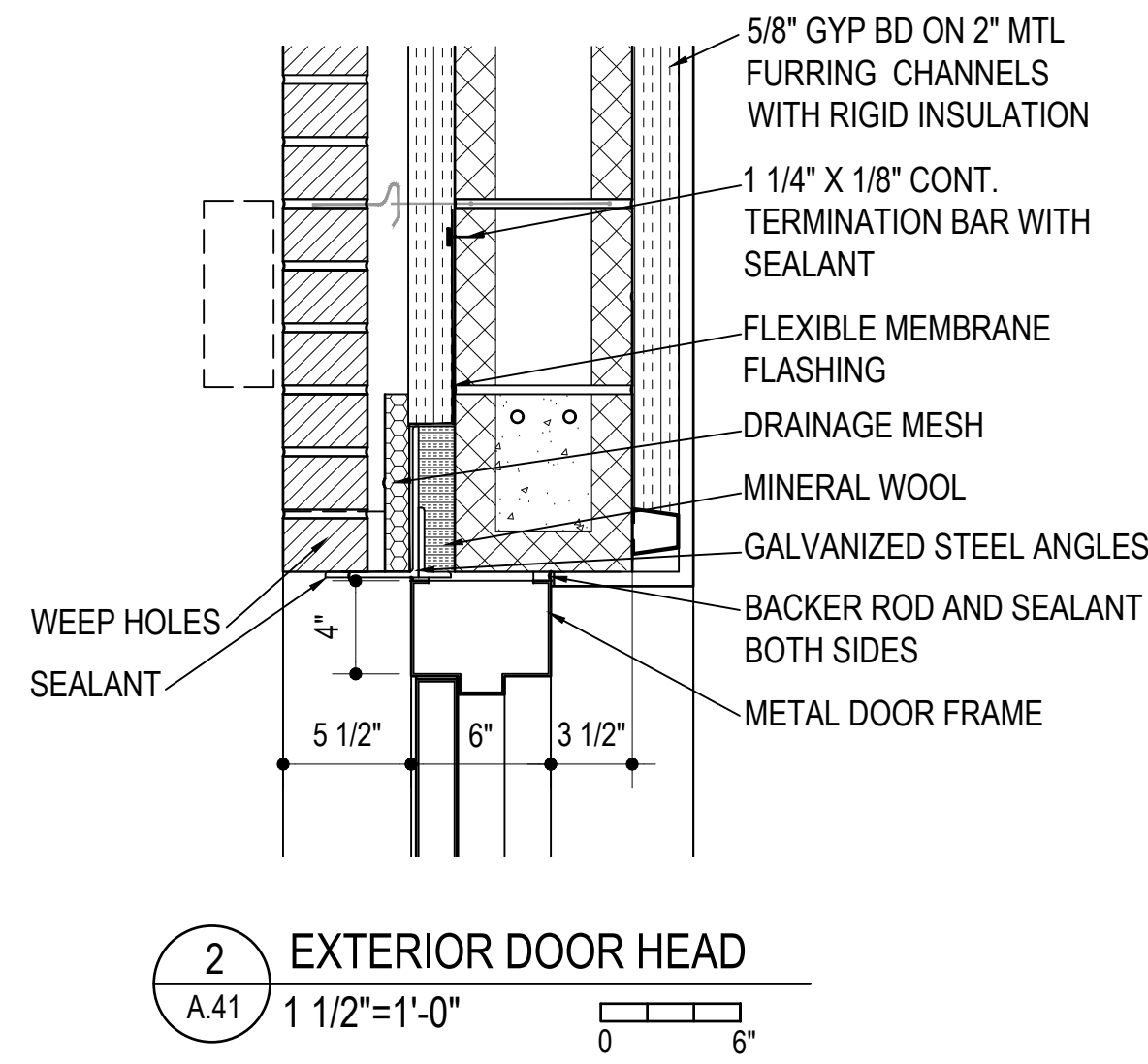
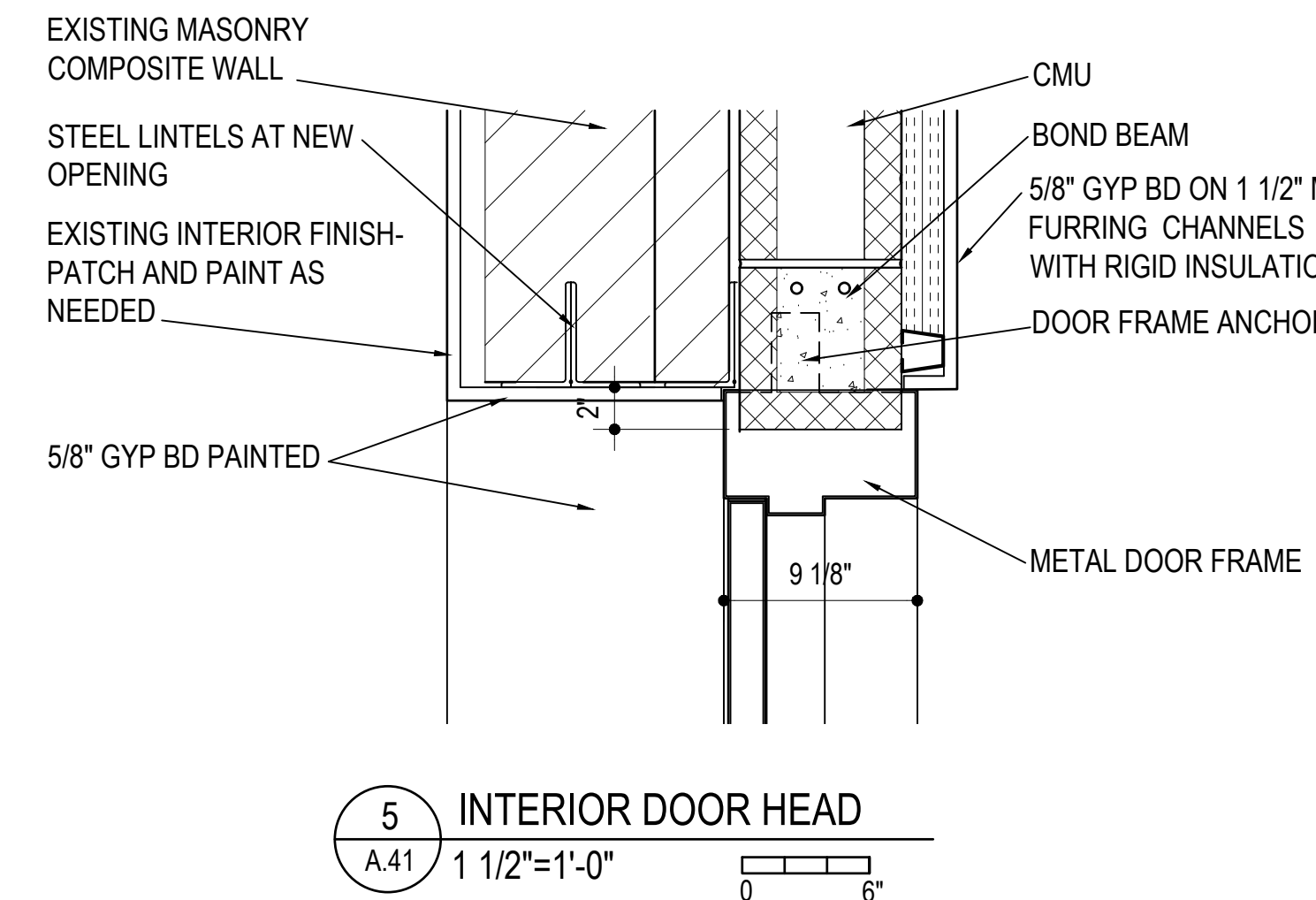
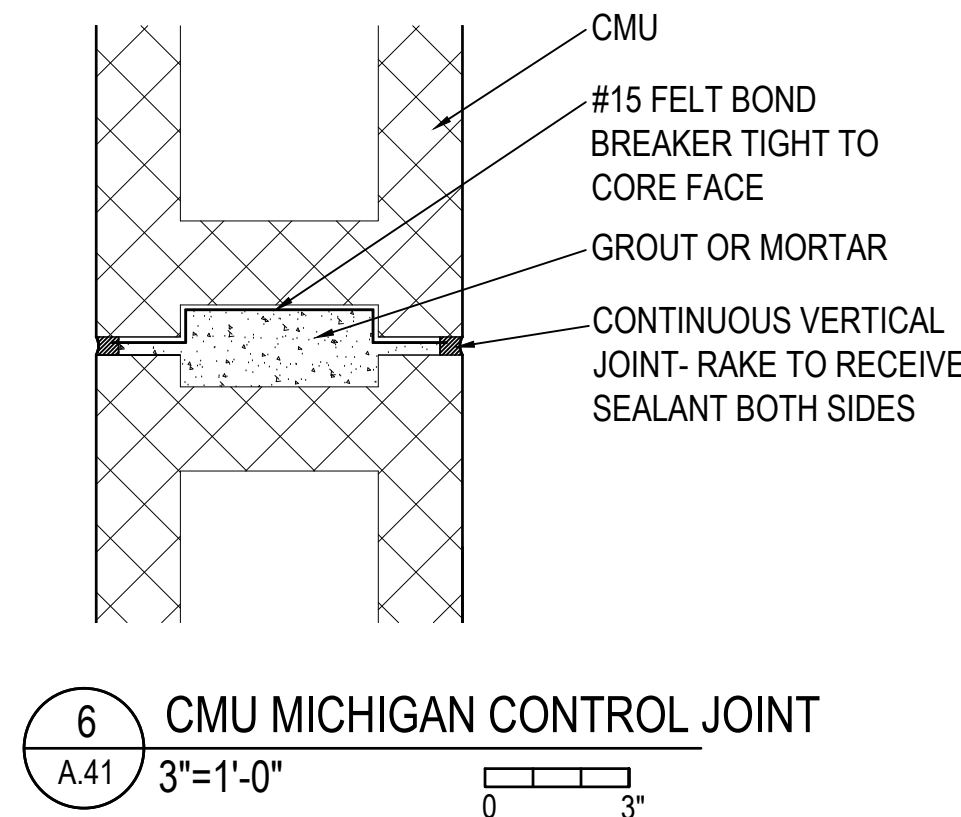
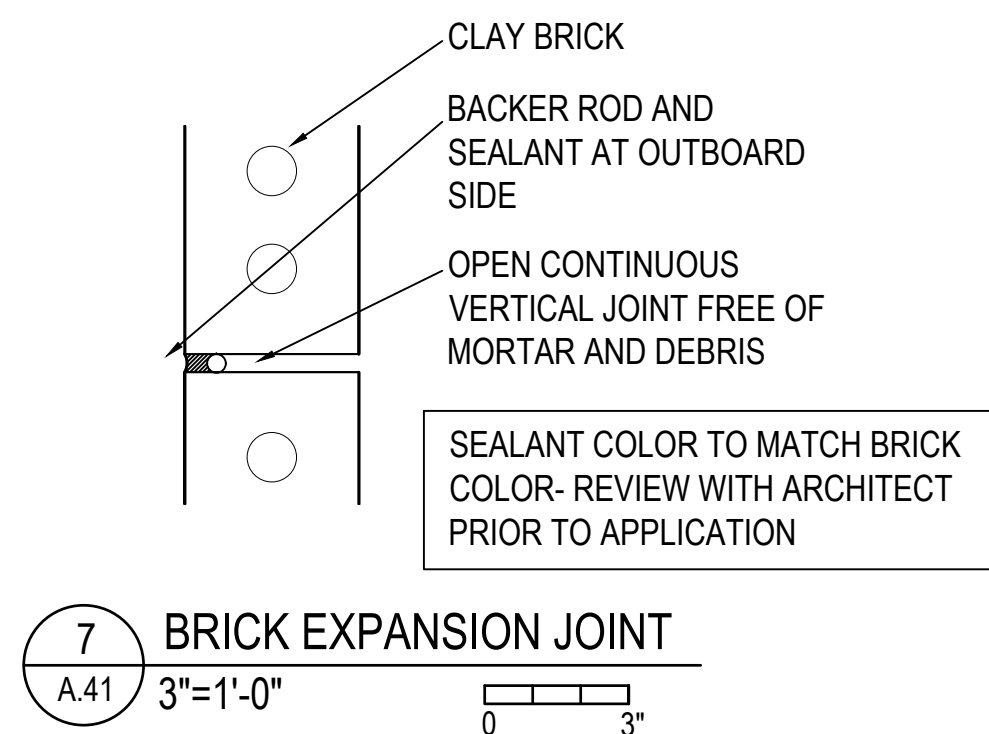
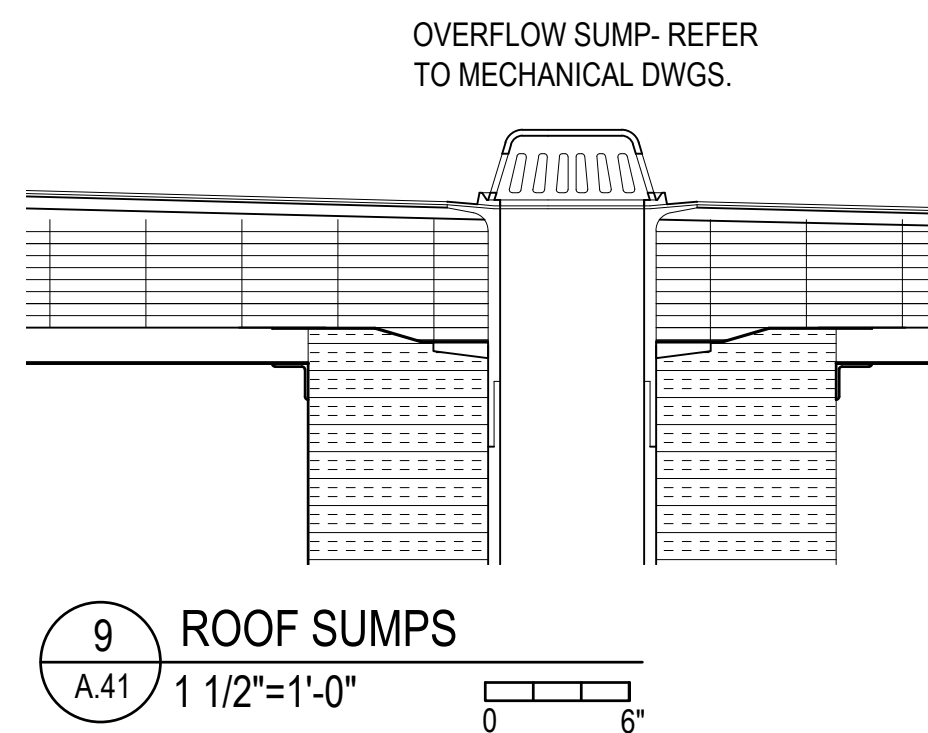
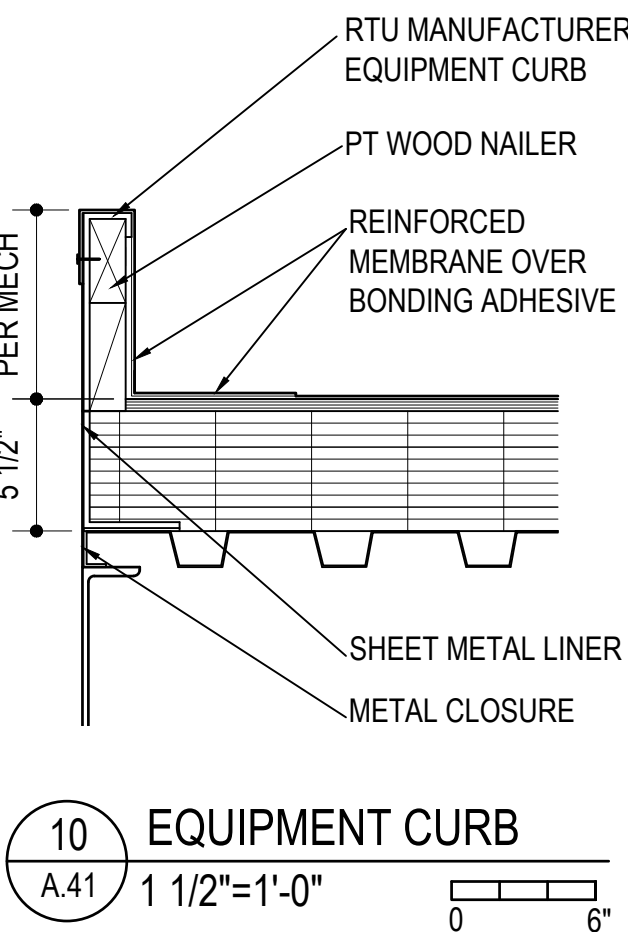
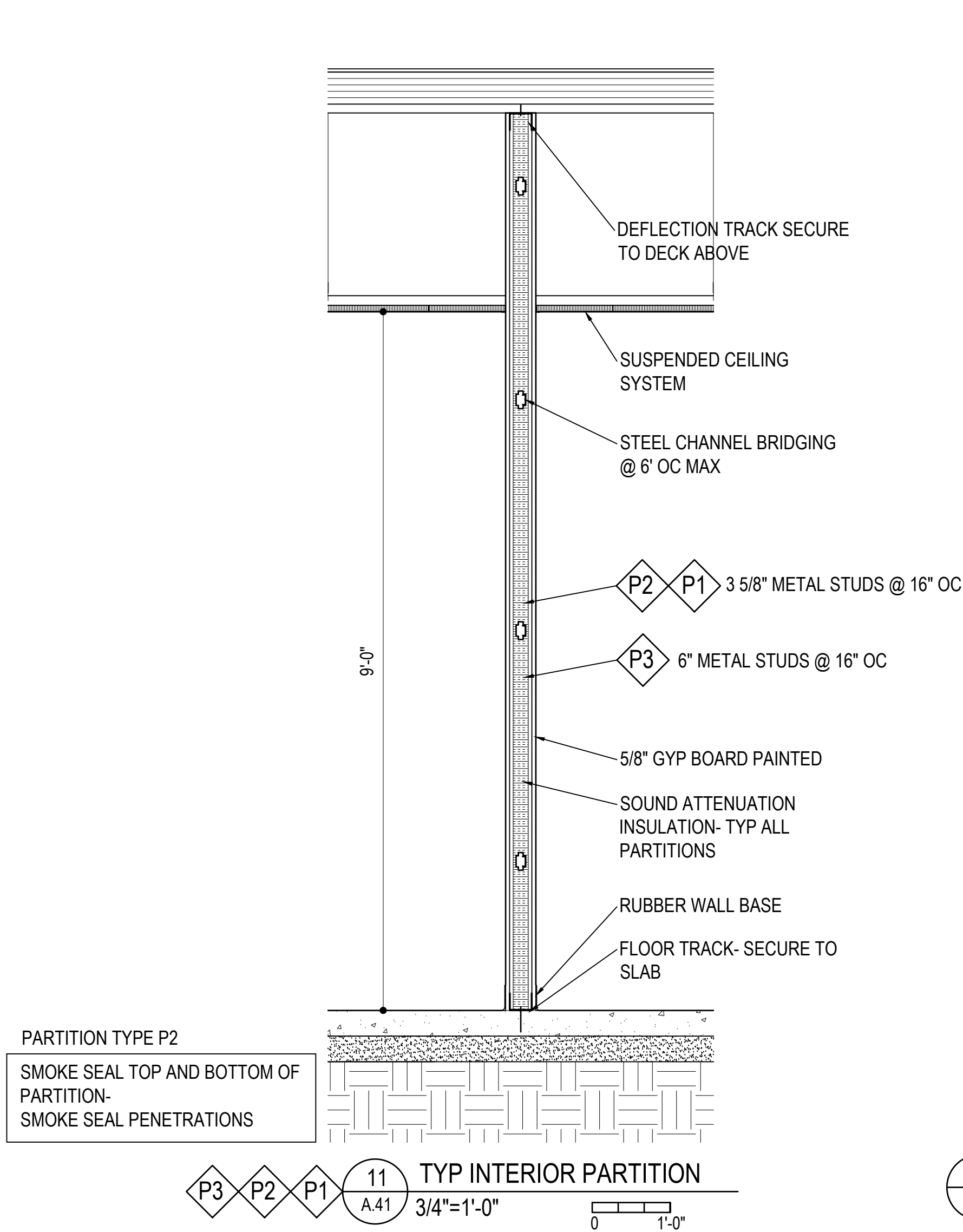
07-25-19

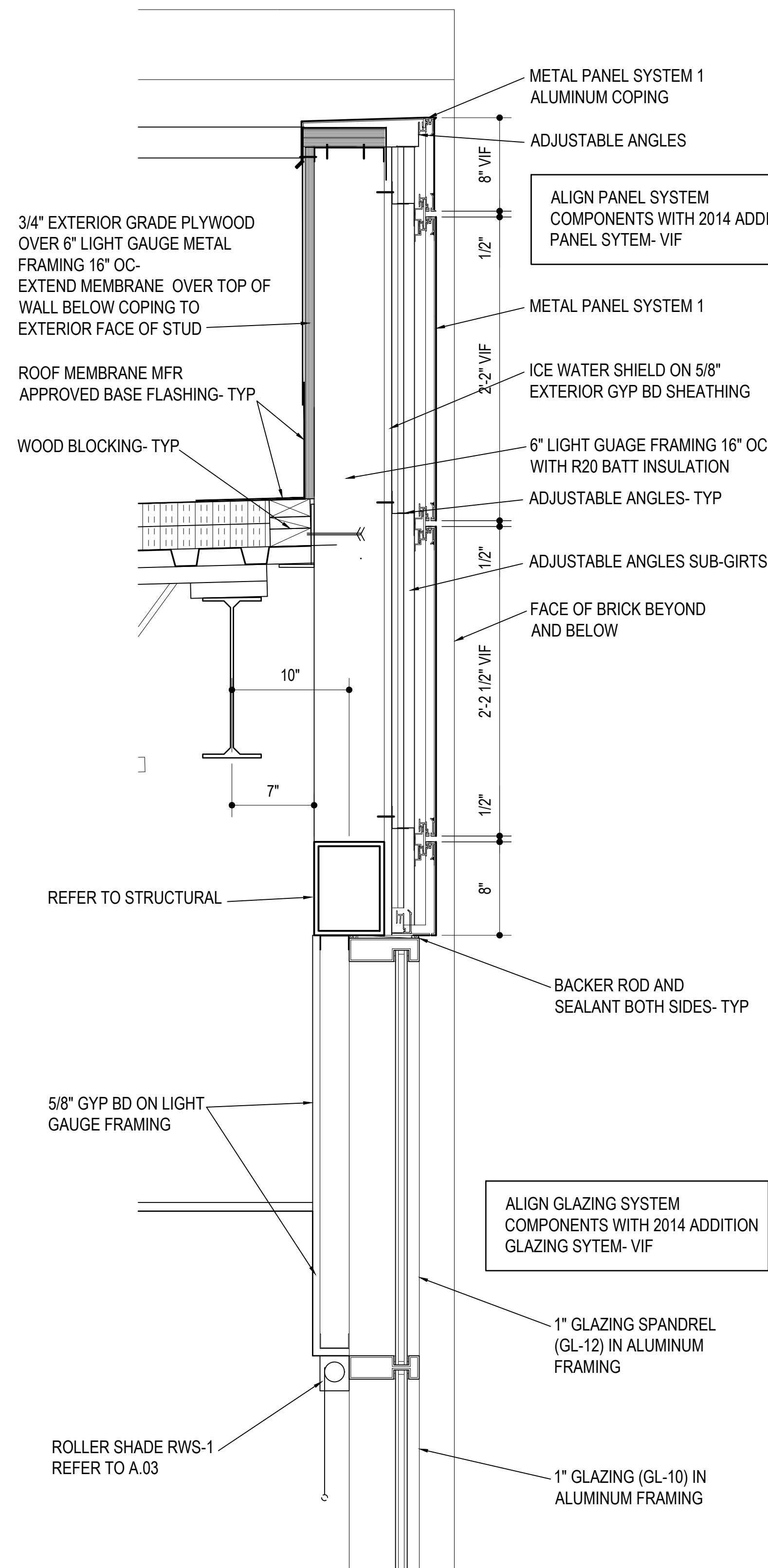
BIDS

Matthaei Office Addition
Wayne State University
Detroit, Michigan
080-325090

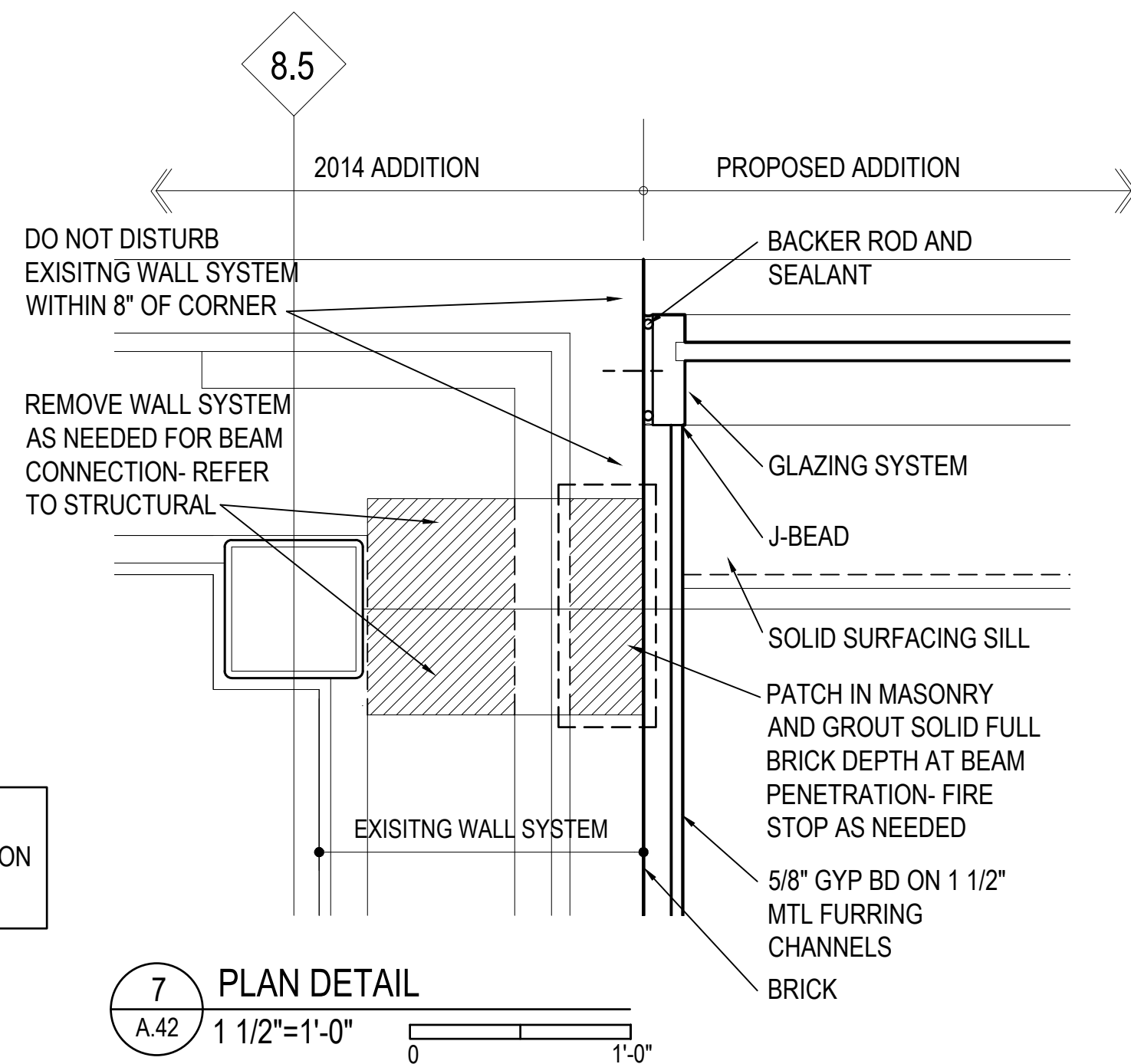
EXTERIOR ELEVATIONS

A.31

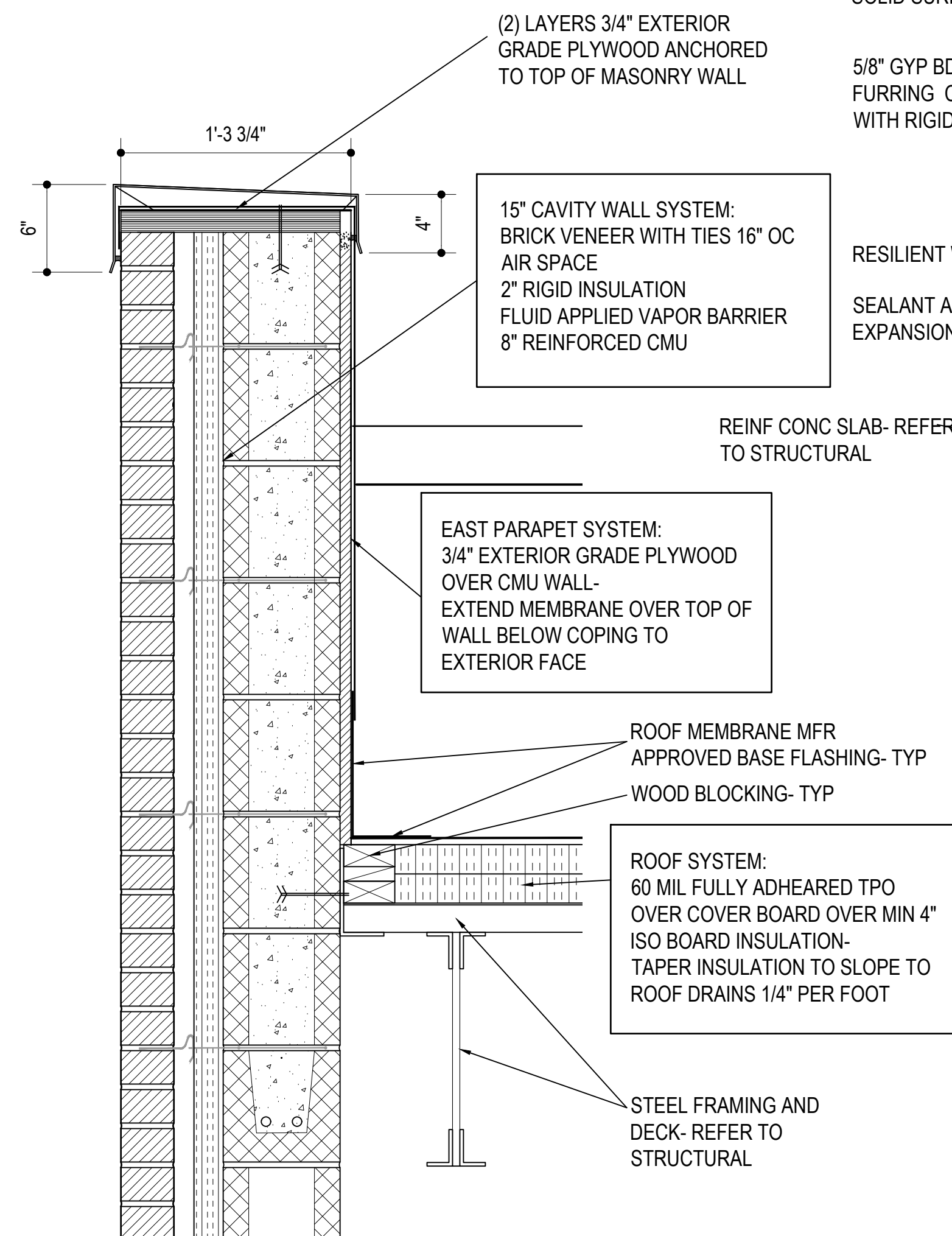




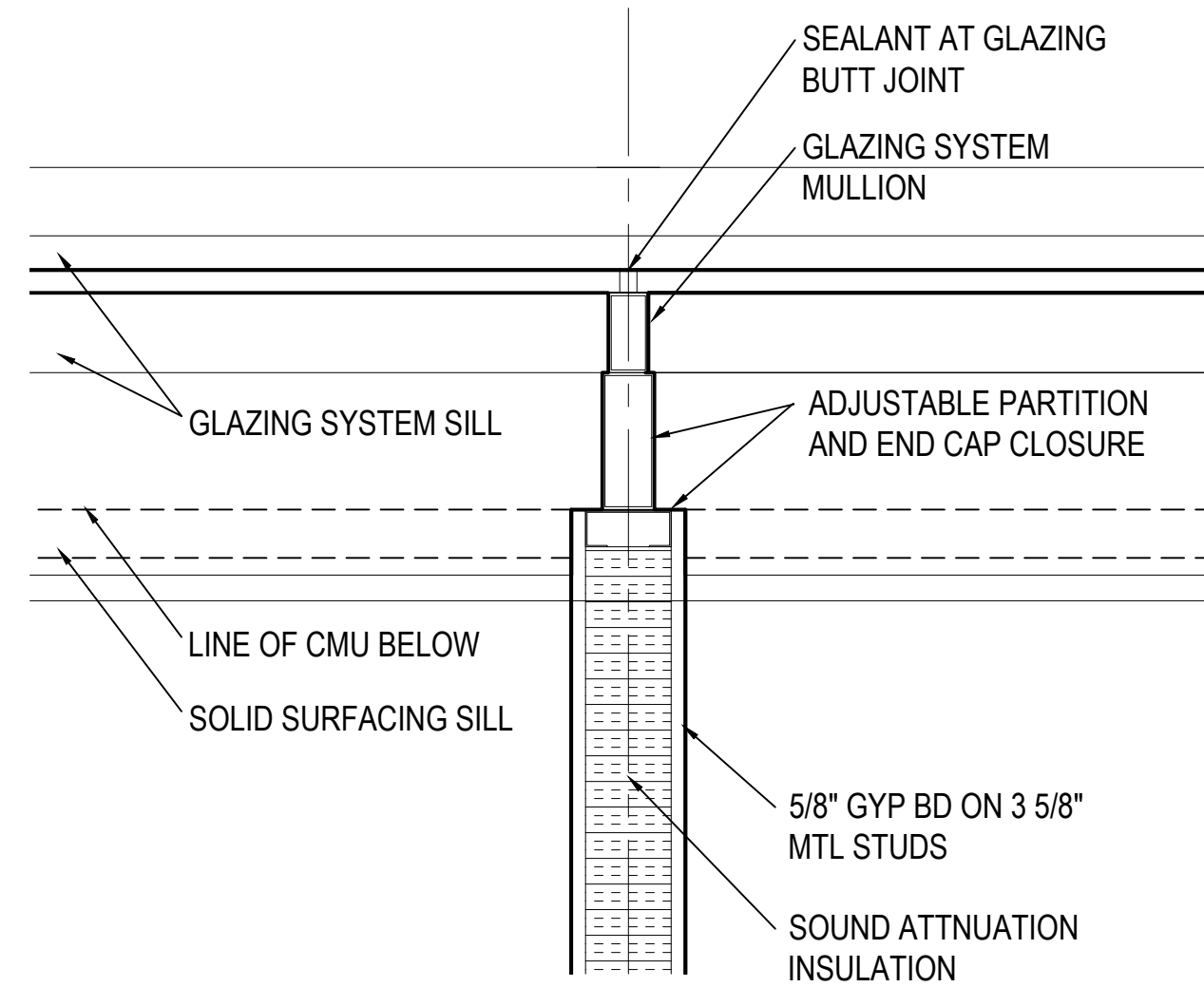
4 NORTH WALL
A.42 1 1/2"=1'-0" 0 1'-0"



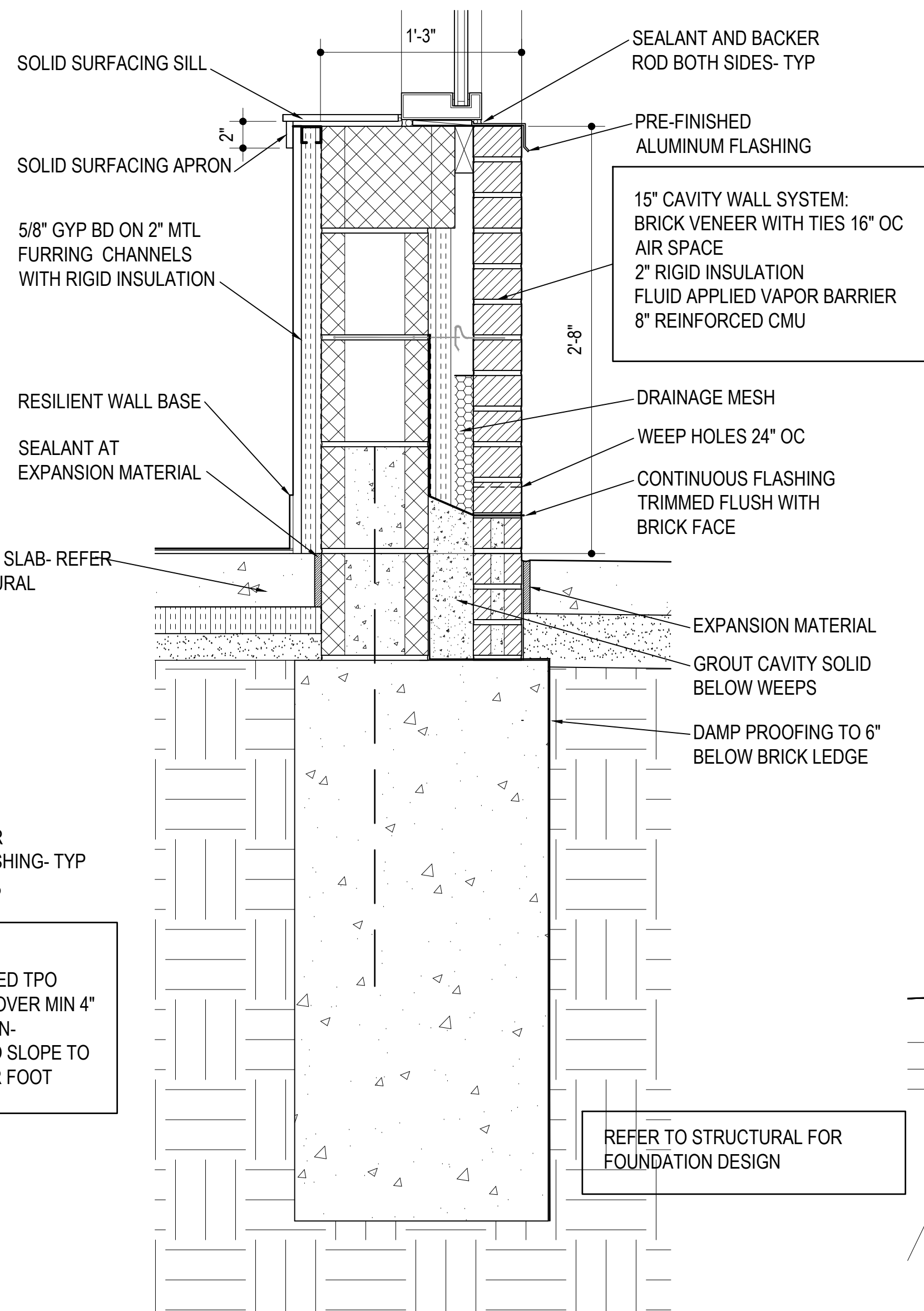
7 PLAN DETAIL
A.42 1 1/2"=1'-0" 0 1'-0"



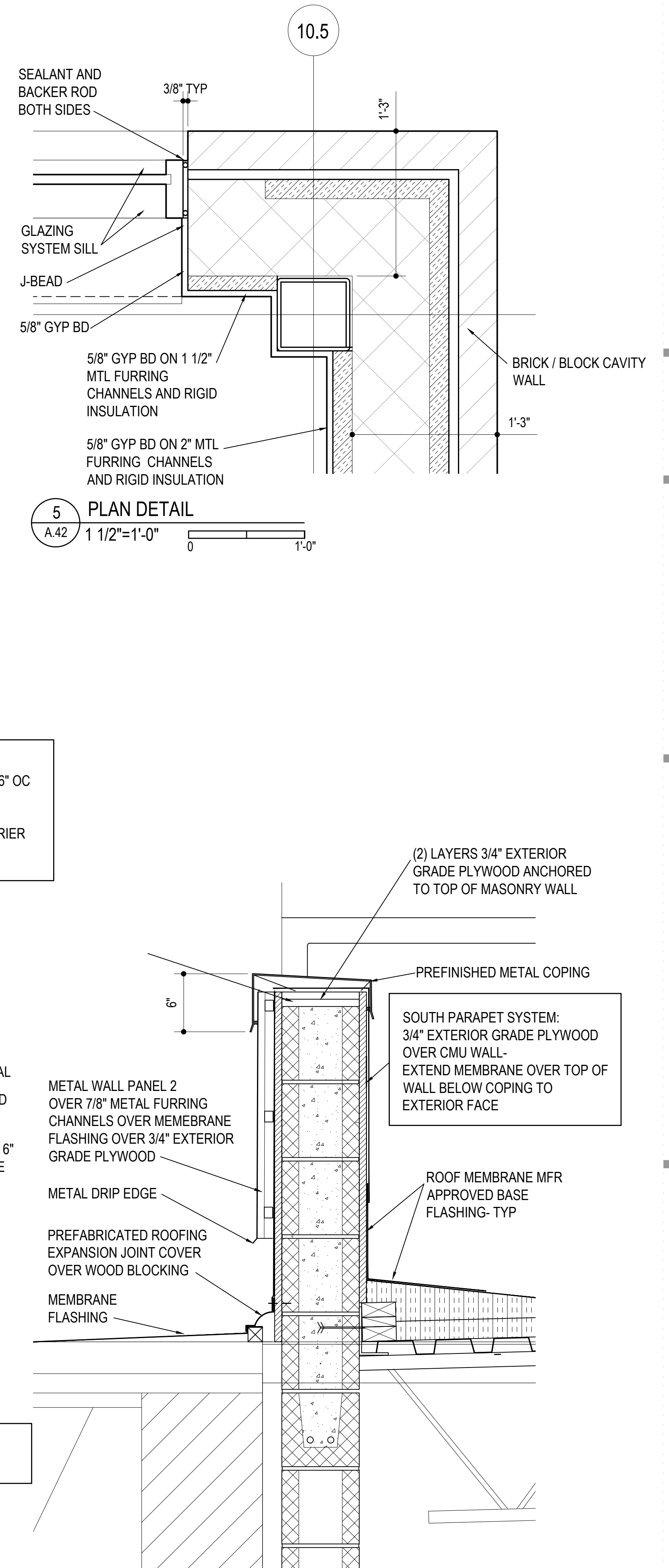
3 EAST CAVITY WALL
A.42 1 1/2"=1'-0" 0 1'-0"



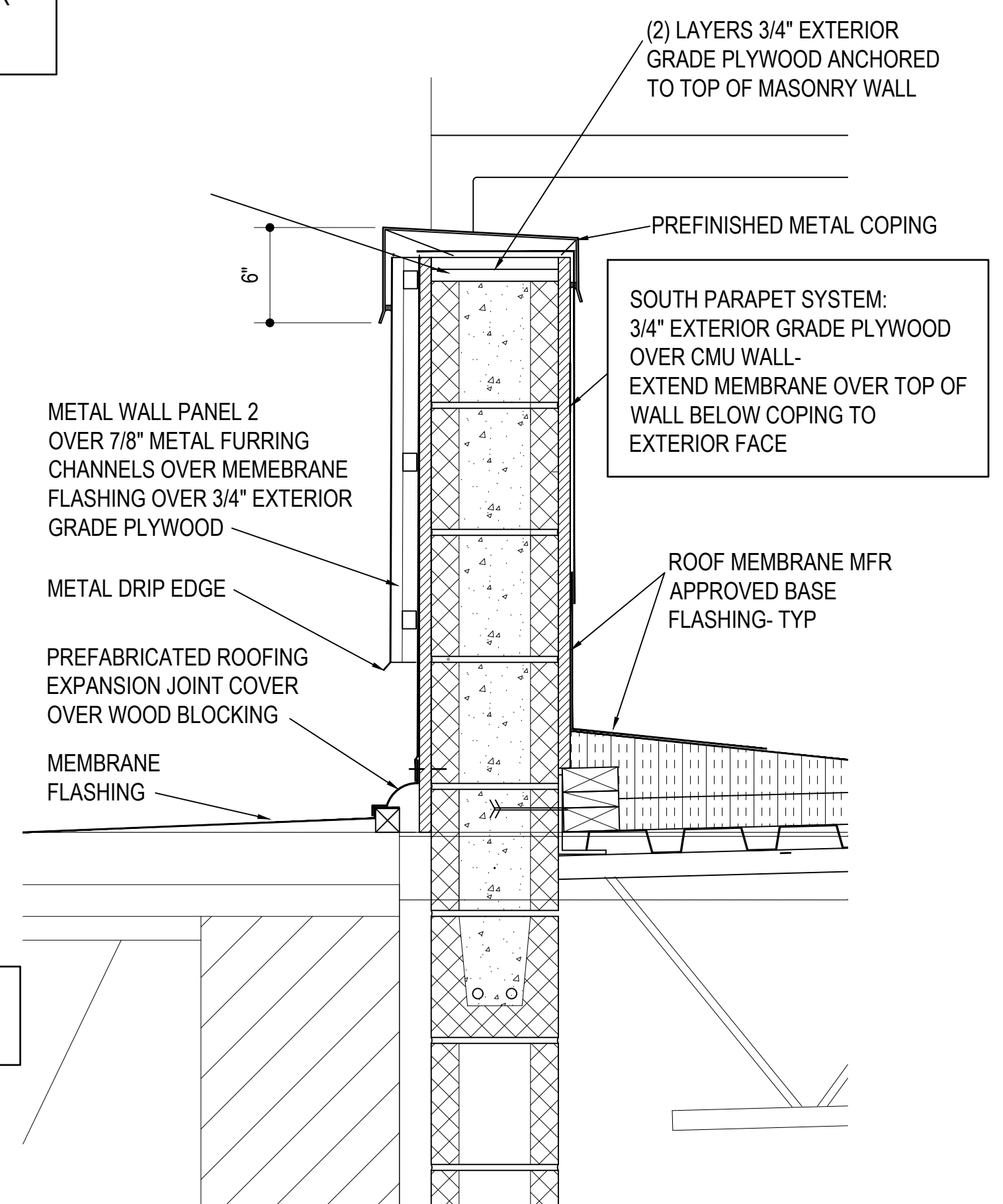
6 PLAN DETAIL
A.42 1 1/2"=1'-0" 0 1'-0"



2 NORTH CAVITY WALL
A.42 1 1/2"=1'-0" 0 1'-0"



5 PLAN DETAIL
A.42 1 1/2"=1'-0" 0 1'-0"

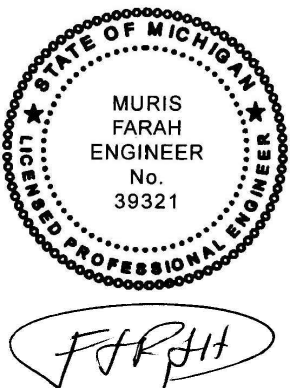


1 SOUTH PARAPET
A.42 1 1/2"=1'-0" 0 1'-0"

[illegible]

KEY PLAN

SEAL



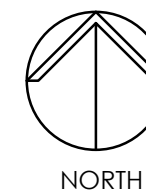
DRAWING TITLE

FOUNDATION PLAN &
ROOF FRAMING PLAN

DRAWING NUMBER

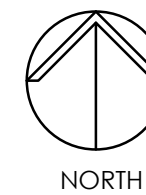
S.11

-
- Architectural floor plan of a building addition. The plan shows a rectangular structure with various annotations and dimensions.
- Dimensions and Spacing:**
- Horizontal dimensions: 7.7, 8.5, 9.5, 10.5.
 - Vertical dimensions: 7.7, 8, 8.5, 9, 9.5, 10, 10.5, 11, 11A.
 - Horizontal spacing: "4 EQUAL SPACES" (twice).
- Structural Elements and Annotations:**
- EX. C-1**: Existing concrete columns.
 - EX. HSS6x6x1/4 - LOW**: Existing high-strength steel beam.
 - HSS8x6x5/16 LOW**: New high-strength steel beam.
 - C-1**: New concrete column.
 - W14x22 - HI**: New wide-flange steel beam.
 - W14x22 - HI**: Existing wide-flange steel beam.
 - 18K4**: 18K4 SP (Steel Pipe).
 - BRIDGING AS REQUESTED PER S.J.I.**: Bridging as requested per S.J.I.
 - NEW RTU APPROX. WT = 2,800 LBS**: New rooftop unit.
 - 5x3 1/2x3/8 (LLV) UNDER RTU CURB AND OPNG'S VERIFY LOCATION W/ MECH.**: 5x3 1/2x3/8 (LLV) under RTU curb and openings verify location with mechanical.
 - L3x3x1/4 TYP.**: L3x3x1/4 typical.
 - ROOF SUMP & OVERFLOW**: Roof sump and overflow.
 - BEAR EXISTING C12 ON NEW MASONRY WALL**: Bear existing C12 on new masonry wall.
 - USE 1/2"x6"x6" BEARING PL. W/ 2-3/4" DIA. HEADED STUD, 4" LONG**: Use 1/2"x6"x6" bearing plate with 2-3/4" dia. headed stud, 4" long.
 - EX. C12x20.7 TO REMAIN**: Existing C12x20.7 to remain.
 - TOP/STL. EL. 113'-7" (HIGH POINT)**: Top of steel elevation 113'-7" (high point).
 - TOP/STL. EL. 112'-11" (LOW POINT)**: Top of steel elevation 112'-11" (low point).
 - EX. BUILDING TO REMAIN**: Existing building to remain.
 - EX. ROOF OVERHANG TO BE REMOVED**: Existing roof overhang to be removed.
 - EX. ROOF OVERHANG TO REMAIN**: Existing roof overhang to remain.
 - NEW OPNG. IN EX. WALL PROVIDE L3 1/2x3 1/2x3/8 FOR THE EX. BRICK AND 2-L3 1/2x3 1/2x3/8 FOR THE EX. CMU**: New opening in existing wall provide L3 1/2x3 1/2x3/8 for the ex. brick and 2-L3 1/2x3 1/2x3/8 for the ex. CMU.
- Other Annotations:**
- 2 S.31**: Section line 2 S.31.
 - 4 S.31**: Section line 4 S.31.
 - 5 S.31**: Section line 5 S.31.
 - BB**: Boundary line.
 - L4x4x1/4 CONT.**: L4x4x1/4 continuous.



2 ROOF FRAMING PLAN
S.11 SCALE: 1/8" = 1'-0"

- [illegible]



1 FOUNDATION PLAN
S.11 SCALE: 1/8" = 1'-0"

FOUNDATION SCHEDULE		
MARK	NEW F3	NEW F1
SIZE	5'-3"x5'-3"	3'-6"x3'-6"
THICKNESS	16"	16"
REINFORCING EACH WAY-BOTTOM	6 - #5	4 - #5

NOTE

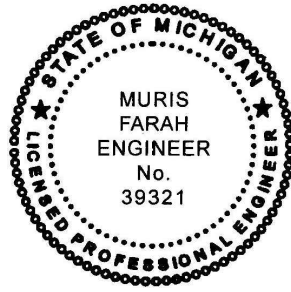
1. CONTRACTOR TO PROVIDE SHEETINGS, BRACING AND UNDERPINNING AS NECESSARY TO PREVENT ANY LATERAL OR VERTICAL MOVEMENTS OF EXISTING BUILDINGS, STREETS AND ANY EXISTING UTILITY LINES.
2. BRACING, SHEETING, SHORING, ETC., REQUIRED TO SUPPORT EXISTING BUILDINGS, SIDEWALKS, UTILITIES, ETC., SHALL BE DESIGNED BY A PROFESSIONAL ENGINEER ENGAGED BY THE CONTRACTOR AND DEVELOPED DETAILED DRAWINGS.

1. ALL WORK SHALL BE PERFORMED IN STRICT ACCORDANCE WITH THE REQUIREMENTS OF THE GOVERNING MUNICIPAL CODES AND SPECIFICATIONS FOR THIS CONSTRUCTION PROJECT.			1. ALL CONCRETE SHALL BE REINFORCED, DETAILED, AND ERECTED IN ACCORDANCE WITH THE LATEST EDITION OF THE BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE [ACI-318].			1. MASONRY SHALL BE IN ACCORDANCE WITH THE LATEST: -BUILDING CODE REQUIREMENTS FOR MASONRY STRUCTURES [ACI 530/ASCE 5/ TMS 402] -SPECIFICATIONS FOR MASONRY STRUCTURES [ACI 530.1/ASCE 6/ TMS 602].			1. SHOP DETAILS, FABRICATION AND ERECTION OF STRUCTURAL STEEL SHALL CONFORM TO THE LATEST AISC; -SPECIFICATIONS FOR STRUCTURAL STEEL BUILDINGS (AISC 360) -SEISMIC PROVISIONS FOR STRUCTURAL STEEL BUILDINGS INCLUDING SUPPLEMENT NO 1 (AISC 341).			1. DESIGN CODE			MBC 2015		
2. THE CONTRACTOR SHALL MAKE NO DEVIATION FROM DESIGN DRAWINGS WITHOUT WRITTEN APPROVAL FROM THE ARCHITECT.			2. ALL INTERIOR AND FOUNDATION CONCRETE (NORMAL CONCRETE) SHALL HAVE A MINIMUM COMPRESSIVE 28 DAY STRENGTH OF 3,500 PSI WITH 3 INCHES MAXIMUM SLUMP. EXTERIOR CONCRETE SHALL BE MINIMUM 4000 PSI WITH AIR ENTRAINMENT 4% TO 6%.			2. MORTAR SHALL BE PORTLAND CEMENT MORTAR IN ACCORDANCE WITH ASTM C 270, TYPE S.			2. STRUCTURAL STEEL SHALL CONFORM TO THE FOLLOWING:			2. ROOF DESIGN LOADS			DEAD LOAD 30 PSF		
3. WORK NOT INDICATED ON A PART OF THE DRAWINGS BUT REASONABLY IMPLIED TO BE SIMILAR TO THAT SHOWN AT CORRESPONDING PLACES, SHALL BE REPEATED.			3. REINFORCING STEEL SHALL BE A-615 GRADE 60 (60 KSI) DEFORMED HI-BOND AND CONFORM TO THE LATEST ASTM SPECIFICATIONS.			3. GROUT SHALL BE IN ACCORDANCE WITH ASTM C476. GROUT STRENGTH SHALL BE Fc = 2500 PSI MIN.			3. ALL BOLTED CONNECTIONS SHALL BE WITH ASTM A325 HIGH STRENGTH BOLTS.			PLUS RTU'S AS SHOWN ON ROOF PLANS PLUS SNOW DRIFT, SLIDING AND UNBALANCED LOADS AS APPLICABLE SNOW DRIFT, SLIDING AND UNBALANCED LOADS SHALL BE COMPUTED ON THE BASIS OF 2015 MBC			LIVE LOAD 30 PSF		
4. IN ANY CASE OF CONFLICT BETWEEN NOTES, DETAILS, AND SPECIFICATIONS, THE MOST DEMANDING REQUIREMENTS SHALL GOVERN.			4. WELDED WIRE FABRIC: [W.W.F.] ASTM A-185. WELDED WIRE FABRIC SHALL BE FURNISHED AND PLACED IN FLAT SHEETS. INSTALL IN AS LONG LENGTHS AS PRACTICABLE. LAP ADJOINING PIECES AT LEAST ONE FULL MESH AND LACE SPLICES WITH WIRE. OFFSET END LAPS IN ADJACENT WIDTHS TO PREVENT CONTINUOUS LAPS IN EITHER DIRECTION.			4. MINIMUM MASONRY STRENGTH SHALL BE F'm = 2000 PSI.			5. ALL WELDING SHALL BE DONE WITH APPROPRIATE E70 SERIES ELECTRODES COMPATIBLE WITH THE NEW STEEL AND SHALL CONFORM TO THE REQUIREMENTS OF THE "CODE FOR WELDING IN BUILDING CONSTRUCTION" OF THE AMERICAN WELDING SOCIETY.			5. DESIGN WIND LOAD: STRUCTURAL FRAME (ASCE 7-10)			-GROUND SNOW LOAD, "Pg" -SNOW EXPOSURE FACTOR, "Ce" -SNOW LOAD IMPORTANCE FACTOR, "I" -THERMAL FACTOR, "Ct" -BUILDING RISK CATEGORY		
5. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL WORK AND COORDINATION INVOLVED TO PROVIDE OPENINGS SHOWN ON THE ARCHITECTURAL, STRUCTURAL, MECHANICAL, ELECTRICAL, AND PLUMBING DRAWINGS.			5. RETAIN A TESTING AGENCY, ACCEPTABLE TO THE OWNER, WHO WILL PERFORM INSPECTION AND TESTING OF CONCRETE. THE TESTING AGENCY SHALL SUBMIT, IN A TIMELY MANNER, THE RESULTS OF THEIR INSPECTION AND TEST TO THE ARCHITECT FOR REVIEW.			5. REINFORCEMENT: ASTM A 615 GRADE 60.			6. HORIZONTAL BOND BEAM AND VERTICAL REINFORCEMENT SHALL BE CONTINUOUS U.O.N. BOND BEAM SHALL BE CONSTRUCTED IN A WAY TO ALLOW VERTICAL REINFORCING REBARS TO REMAIN CONTINUOUS THROUGH THE BOND BEAM.			6. SNOW LOADS (ASCE 7-10):			30 PSF 1.0 1.0 1.0 II		
6. CONTRACTOR SHALL VERIFY AND/OR ESTABLISH ALL EXISTING CONDITIONS AND DIMENSIONS AT THE SITE BEFORE ORDERING ANY MATERIAL AND COMMENCEMENT OF ANY WORK.			6. BEFORE PLACING ANY CONCRETE, SUBMIT MIX DESIGNS TO ARCHITECT FOR APPROVAL.			LAP SPLICE HORIZONTAL AND VERTICAL REINFORCEMENT PER SCHEDULE BELOW OR USE MECHANICAL SPLICES. STAGGER SPLICE LOCATIONS.			7. GAS CUTTING OF MAIN STRUCTURAL MEMBERS IN THE FIELD WILL NOT BE PERMITTED.			7. DESIGN WIND LOAD: STRUCTURAL FRAME (ASCE 7-10)			-BUILDING RISK CATEGORY -EXPOSURE -BASIC WIND SPEED-RISK CATEGORY II [AT 33 FT-EXPOSURE C] "V3s" -WIND DIRECTIONAL FACTOR "Kd" -TOPOGRAPHIC FACTOR "Kzt" -GUST EFFECT FACTOR "G" -INTERNAL PRESSURE COEFFICIENT "GCp"		
7. IF THE EXISTING FIELD CONDITIONS DO NOT PERMIT THE INSTALLATION OF THE WORK IN ACCORDANCE WITH THE DETAILS SHOWN, THE CONTRACTOR SHALL NOTIFY THE ARCHITECT IMMEDIATELY AND PROVIDE A SKETCH OF THE CONDITION WITH HIS PROPOSED MODIFICATION OF THE DETAILS GIVEN ON THE CONTRACT DOCUMENTS. THE FINAL INSTALLATION SHALL BE DONE AS REQUIRED BY THE ARCHITECT AT NO ADDITIONAL COST TO THE OWNER.			7. SHOP DRAWINGS SHOWING REINFORCING DETAILS INCLUDING BAR SIZES, SPACING AND PLACEMENT SHALL BE SUBMITTED AND REVIEWED PRIOR TO FABRICATION.			7. PROVIDE LADDER TYPE HORIZONTAL JOINT REINFORCEMENT WITH PERPENDICULAR WIRES AT A SPACING NO GREATER THAN 16" ON CENTER. REINFORCEMENT SHALL BE GALVANIZED CARBON STEEL WIRE OF 8 GAGE WIRE DIAMETER MINIMUM.			8. ALL STEEL SHALL BE FABRICATED AND ERECTED WITH NATURAL CAMBER UP UNLESS NOTED OTHERWISE.			8. SNOW LOADS (ASCE 7-10)			115 MPH 0.85 1.00 0.85 0.18 +/-		
8. CONTRACTOR SHALL PROVIDE FOR ANY DEWATERING AS REQUIRED DURING EXCAVATION AND CONSTRUCTION.			8. CONTRACTOR TO RECOGNIZE THE POTENTIAL PROBLEM OF CURLING AND SHRINKAGE CRACKING WHEN CASTING SLABS ON VAPOR BARRIER AND/OR WET SUBGRADE. EVERY EFFORT MUST BE MADE TO USE PROPER MIX, ADMIXTURES WITH LOW SHRINKAGE POTENTIAL AND SLUMP AS SPECIFIED. AFTER CASTING, MAINTAIN THE MOISTURE CONTENT OF THE SLAB AS UNIFORM AS POSSIBLE, AND DO NOT ALLOW THE TOP OF THE SLAB TO BECOME DRIER THAN THE BOTTOM. CURE SLABS AS SPECIFIED USING A HIGH QUALITY CURING COMPOUND OR BY MOIST CURING AS APPLICABLE.			9. USE FINE GROUT FOR FILLINGS OPENINGS OR CORE OPENINGS SMALLER THAN 4 INCHES IN LEAST DIMENSION. FINE GROUT SHALL CONSIST OF PORTLAND CEMENT, LIME OR LIME PUTTY AND FINE AGGREGATE, AND SHALL MEET SCHEDULED STRENGTH REQUIREMENTS.			9. SHOP AND ERECTION DRAWINGS MUST SHOW ALL SHOP AND FIELD WELDS.			9. MAPPED SPECTRAL ACCELERATIONS FOR SHORT PERIODS:			Ss = 0.096g Fa = 1.6 Sds = 0.102 g		
9. CONTRACTOR TO PROVIDE SHEETING, BRACING AND UNDERPINNING AS NECESSARY TO PREVENT ANY LATERAL OR VERTICAL MOVEMENTS OF EXISTING BUILDINGS, STREETS AND ANY EXISTING UTILITY LINES.			9. MINIMUM CONCRETE COVER SHALL BE (UNLESS OTHERWISE NOTED):			10. USE COARSE GROUT FOR FILLING OPENINGS OR CORES WHERE LEAST DIMENSION OF OPENING IS 4 INCHES OR MORE. COARSE GROUT SHALL CONSIST OF PORTLAND CEMENT, HYDRATED LIME OR LIME PUTTY, FINE AGGREGATE AND COARSE AGGREGATE, AND SHALL MEET SCHEDULED STRENGTH REQUIREMENTS.			10. CONTRACTOR SHALL USE RIGID TEMPLATE TO INSTALL ANCHOR BOLTS.			10. MAPPED SPECTRAL ACCELERATIONS FOR 1-SECOND PERIODS:			S1 = 0.047 g Fv = 2.4 Sd1 = 0.075 g		
10. BRACING, SHEETING, SHORING, ETC., REQUIRED TO SUPPORT EXISTING BUILDINGS, SIDEWALKS, UTILITIES, ETC., SHALL BE DESIGNED BY A PROFESSIONAL ENGINEER ENGAGED BY THE CONTRACTOR AND DEVELOP DETAILED DRAWINGS.			A. UNFORMED SURFACES IN CONTACT WITH GROUND (FOOTING BOTTOMS).			10. DIMENSION OF OPENING IS 4 INCHES OR MORE. COARSE GROUT SHALL CONSIST OF PORTLAND CEMENT, HYDRATED LIME OR LIME PUTTY, FINE AGGREGATE AND COARSE AGGREGATE, AND SHALL MEET SCHEDULED STRENGTH REQUIREMENTS.			11. ANCHOR BOLTS, BASE PLATES OR BEARING PLATES SHALL BE LOCATED AND BUILT INTO CONNECTING WORK. PRE-SET BY TEMPLATES OR SIMILAR METHOD. PLATES SHALL BE SET IN FULL BEDS OF NON-SHRINK MORTAR OR GROUT.			11. SITE CLASS			II		
11. SHOP DRAWINGS FOR ALL MATERIALS TO BE SUBMITTED AND REVIEWED PRIOR TO START OF FABRICATION.			B. SLABS ON GRADE			11. GROUT SOLID ALL CORES AND BOND BEAMS WITH REINFORCEMENT.			12. FRAMING CONNECTIONS: ALL PROVISIONS OF THE LATEST "SPECIFICATION FOR STRUCTURAL JOINTS USING ASTM A325 BOLTS", SHALL GOVERN. ALL CONNECTIONS SHALL BE "FRAMED BEAM CONNECTIONS" DESIGNED IN ACCORDANCE WITH PART 4 OF THE AISC MANUAL.			12. BUILDING RISK CATEGORY			B		
			C. FORMED SURFACES IN CONTACT WITH 2 INCHES GROUND OR EXPOSED TO THE WEATHER (GRADE BEAMS, WALLS, ETC.)			12. ALL CONCRETE BLOCKS BELOW GRADE SHALL HAVE ALL CELLS GROUTED SOLID.			13. THE CONNECTIONS SHALL BE DESIGNED FOR END REACTIONS AS INDICATED ON UNIFORM LOAD CONSTANTS FOR BEAMS LATERALLY SUPPORTED TABLES IN PART 2 OF THE AISC MANUAL. ALL CONNECTION CAPACITIES TO BE GREATER THAN 6 KIPS.			13. SEISMIC DESIGN CATEGORY "SDC"					
			D. IN ALL CASES, CLEARANCE NOT LESS THAN THE DIAMETER OF THE BARS.			13. REINFORCING, METAL TIES AND ANCHORS SHALL BE PROTECTED FROM CONTACT WITH SOIL AND BEFORE BEING PLACED SHALL BE FREE FROM LOOSE RUST AND OTHER COATINGS THAT WILL DESTROY OR REDUCE THE BOND.			14. THE CONTRACTOR IS RESPONSIBLE FOR THE ERECTION SAFETY OF ALL STEEL CONNECTIONS, INCLUDING BUT NOT LIMITED TO: CONFIGURATION, SEQUENCE, USE OF: BLOCKING, EXTENDED CLIP ANGLES, CLAMPS, ETC.			14. BASIC STRUCTURAL SYSTEM-					
						14. ALL MASONRY UNITS SHALL BE STEAM CURED, A MINIMUM OF 28 DAYS OLD AT THE TIME OF DELIVERY AND CONTINUOUSLY PROTECTED FROM EXPOSURE TO RAIN OR OTHER SOURCES OF WATER FROM TIME OF CASTING TO FINAL PLACEMENT IN WALL. ALL MASONRY UNITS SHALL BE DRY, FREE FROM SOIL, ICE AND FROST WHEN LAID IN WALL. SEE SPECIFICATIONS FOR COLD AND HOT WEATHER CONSTRUCTION AND WALL PROTECTION REQUIREMENTS.			15. SHOP DRAWING REVIEW IS ONLY TO VERIFY LOAD CARRYING CAPACITY.			15. ORDINARY REINFORCED MASONRY SHEAR WALLS					
						15. THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS SHOWING BEARING WALL ELEVATIONS INDICATING ALL MASONRY OPENINGS, LINTELS, AND REINFORCING.						16. SEISMIC OCCUPANCY IMPORTANCE FACTOR:			Ie = 1.0		
						16. MORTAR IN CMU WALLS SHALL CURE 24 HOURS BEFORE GROUTING.						17. RESPONSE MODIFICATION FACTOR:			R = 2.0		
						17. GROUT IN CMU WALLS SHALL CURE 48 HOURS BEFORE ERECTION OF FLOOR OR ROOF SYSTEM.						18. OVERSTRENGTH FACTOR			Qo = 2.5		
						18. PROVIDE COMPRESSIBLE FILLER BETWEEN TOP OF NON-LOAD BEARING MASONRY WALLS AND BOTTOM OF STRUCTURAL ELEMENTS.						19. REDUNDANCY FACTOR			p = 1.0		
						19. PROVIDE, INSTALL AND REMOVE TEMPORARY BRACING REQUIRED FOR THE STABILITY OF ANY WALLS TO INSURE STABILITY DURING CONSTRUCTION.						20. DEFLECTION AMPLIFICATION FACTOR			Cd = 1.75		
						20. PROVIDE TEMPORARY SHORING TO SUPPORT WALLS ABOVE LINTELS UNTIL:						21. ANALYSIS PROCEDURE - EQUIVALENT LATERAL FORCE PROCEDURE					
						21. QUALITY CONTROL AND ASSURANCE:						7. BUILDING IS NOT DESIGNED FOR FUTURE VERTICAL OR HORIZONTAL EXPANSION.					
						SIX WEEKS PRIOR TO DELIVERY OF MASONRY MATERIALS TO THE SITE, PERFORM THE FOLLOWING PRELIMINARY TESTS ON PROPOSED MATERIALS:											
						A. ONE TEST OF EACH TYPE OF MORTAR AND GROUT.											
						B. ONE TEST OF EACH TYPE AND STRENGTH OF CMU.											
						C. THREE PRISMS FOR EACH F 'M.											
						DURING CONSTRUCTION, A MINIMUM OF 3 PRISMS SHALL BE TESTED FOR EACH 5000 SQ. FT. OF BEARING WALL AREA OR EACH STORY, WHICHEVER IS MORE FREQUENT.											
						22. PROVIDE THE FOLLOWING LINTELS FOR EACH 4" WYTHE OF MASONRY UNLESS NOTED OTHERWISE:											
						L4x3 1/2x3/8 (LLV) WITH 6" BEARING EACH END TYPICAL FOR OPENINGS UP TO 4'-4"											
						L5x3 1/2x3/8 (LLV) WITH 6" BEARING EACH END TYPICAL FOR OPENINGS UP TO 6'-8"											
						L6x3 1/2x3/8 (LLV) WITH 8" BEARING EACH END TYPICAL FOR OPENINGS UP TO 8'-0"											

07-25-19	BID8
DATE	ISSUE

KEY PLAN

SEAL



Muris Farah

DRAWING TITLE
SPECIAL INSPECTION NOTES

DRAWING NUMBER

S.22

SPECIAL INSPECTION NOTES:		
1. SPECIAL INSPECTION SHALL BE PERFORMED IN ACCORDANCE WITH 2015 MICHIGAN (INTERNATIONAL) BUILDING CODE CHAPTER 17.		
2. CONTRACTOR MUST COORDINATE AND SCHEDULE ALL INSPECTION AND TESTING REQUIRED IN EACH SECTION OF THE SPECIFICATION AND SPECIAL INSPECTION NOTED BELOW. NOTIFY EACH INSPECTION OR TESTING AUTHORITY OR AGENCY 24 HOURS IN ADVANCE OF EACH INSPECTION OR TEST. SUBMIT ONE COPY OF EACH REPORT OR TEST AS IT IS MADE AVAILABLE TO THE ARCHITECT FOR THEIR REVIEW.		
3. THE OWNER MUST HIRE AND PAY A THIRD PARTY COMPANY TO COMPLETE ALL REQUIRED INSPECTIONS, TESTING AND SPECIAL INSPECTIONS. THE GENERAL CONTRACTOR MUST INFORM THE OWNER OF THIS REQUIREMENT WHEN SUBMITTING HIS BIDS		
4. CHECK IF THE CITY BUILDING DEPARTMENT WILL PERFORMED THEIR OWN INSPECTION AFTER THE SPECIAL INSPECTOR HAS REVIEWED AND APPROVED THE CONSTRUCTION.		
5. CHECK IF THE CITY BUILDING DEPARTMENT REQUIRES COPIES OF ALL SPECIAL INSPECTIONS REPORTS.		

SPECIAL INSPECTION	FREQUENCY	REFERENCED STANDARD
SOIL AND FOUNDATION:		
1. PRIOR TO THE PLACEMENT OF PREPARED FILLS, VERIFY THAT THE SITE HAS BEEN PREPARED IN ACCORDANCE WITH THE GEOTECHNICAL REPORT.	CONTINUOUS	GEOTECHNICAL ENGINEERING REPORT MBC 1705.6
2. DURING PLACEMENT AND COMPACTION OF THE FILL MATERIAL, VERIFY THAT THE MATERIAL BEING USED AND MAXIMUM LIFT THICKNESS COMPLY WITH THE GEOTECHNICAL REPORT.	CONTINUOUS	
3. VERIFY, AT THE FREQUENCY SPECIFIED IN THE GEOTECHNICAL REPORT, THAT THE IN-PLACE DRY DENSITY OF COMPACTED FILL COMPLIES WITH THE GEOTECHNICAL REPORT.	CONTINUOUS	
4. VERIFY ALLOWABLE SOIL BEARING CAPACITY.	CONTINUOUS	

SPECIAL INSPECTION	FREQUENCY	REFERENCED STANDARD
CONCRETE:		
1. INSPECTION OF REINFORCING STEEL, SIZE AND PLACEMENT	PERIODIC	ACI 318: 3.5, 7.1-7.7 MBC 1910.4
2. INSPECTION OF REINFORCING STEEL WELDING:		AWS D1.4 ACI 318: 3.5.2
a. VERIFICATION OF WELDABILITY OF REINFORCING STEEL OTHER THAN ASTM A706	PERIODIC	
b. SHEAR REINFORCEMENT	CONTINUOUS	
c. OTHER REINFORCING STEEL	PERIODIC	
3. INSPECT BOLTS TO BE INSTALLED IN CONCRETE, PRIOR TO AND DURING PLACEMENT OF CONCRETE.	PERIODIC	ACI 318: 8.1.3, 21.1.8 MBC 1908.5, 1909.1
4. VERIFYING USE OF REQUIRED DESIGN MIX	PERIODIC	ACI 318: Ch. 4, 5.2-5.4 MBC 1904.2, 1910.2-1910.3
5. AT THE TIME FRESH CONCRETE IS SAMPLED TO FABRICATE SPECIMENS FOR STRENGTH TESTS, PERFORM SLUMP AND AIR CONTENT TESTS, AND DETERMINE TEMPERATURE OF CONCRETE	CONTINUOUS	ASTM C 172, ASTM C 31 ACI 318: 5.6, 5.8 MBC 1910.10
6. INSPECTION OF CONCRETE PLACEMENT FOR PROPER APPLICATION TECHNIQUES	CONTINUOUS	ACI 318: 5.9, 5.10 MBC 1910.6, 1910.7, 1910.8
7. INSPECTION OF MAINTENANCE OF SPECIFIED CURING TEMPERATURE AND TECHNIQUES.	PERIODIC	ACI 318: 5.11-5.13 MBC 1910.9

SPECIAL INSPECTION	FREQUENCY	REFERENCED STANDARD
STEEL CONSTRUCTION:		
1. MATERIAL VERIFICATION OF HIGH-STRENGTH BOLTS, NUTS, AND WASHERS:		
a. IDENTIFICATION MARKINGS TO CONFORM TO ASTM STANDARDS SPECIFIED IN THE APPROVED CONSTRUCTION DOCUMENTS	PERIODIC	APPLICABLE ASTM MATERIAL SPECIFICATION
b. MANUFACTURER'S CERTIFICATE OF COMPLIANCE REQUIRED	PERIODIC	
2. INSPECTION OF HIGH-STRENGTH BOLTING FOR BEARING-TYPE AND SLIP-CRITICAL CONNECTIONS	CONTINUOUS	AISC 360 SECT. M2.5
3. MATERIAL VERIFICATION OF STRUCTURAL STEEL:		
a. IDENTIFICATION MARKINGS TO CONFORM TO ASTM STANDARDS SPECIFIED IN THE APPROVED CONSTRUCTION DOCUMENTS.	PERIODIC	APPLICABLE ASTM MATERIAL SPECIFICATION
b. MANUFACTURER'S CERTIFIED MILL TEST REPORTS	PERIODIC	
4. MATERIAL VERIFICATION OF WELD FILLER MATERIALS:		
a. IDENTIFICATION MARKINGS TO CONFORM TO AWS SPECIFICATION IN THE APPROVED CONSTRUCTION DOCUMENTS	PERIODIC	AISC 360 SECT. A3.5 APPLICABLE AWS A5 DOC
b. MANUFACTURER'S CERTIFICATE OF COMPLIANCE REQUIRED	PERIODIC	
5. INSPECTION OF WELDING:		
a. STRUCTURAL STEEL:		
1) COMPLETE AND PARTIAL PENETRATION GROOVE WELDS	CONTINUOUS	AWS D1.1
2) MULTI-PASS FILLET WELDS	CONTINUOUS	
3) SINGLE-PASS FILLET WELDS > 5/16 "	CONTINUOUS	
4) SINGLE-PASS FILLET WELDS <= 5/16 "	PERIODIC	
5) FLOOR AND ROOF DECK WELDS	PERIODIC	AWS D1.3
6. INSPECTION OF STEEL FRAME JOINT DETAILS FOR COMPLIANCE WITH APPROVED CONSTRUCTION DOCUMENTS:	PERIODIC	AISC 360
a. DETAILS SUCH AS BRACING AND STIFFENING		
b. MEMBER LOCATIONS		
c. APPLICATION OF JOINT DETAILS AT EACH CONNECTION		

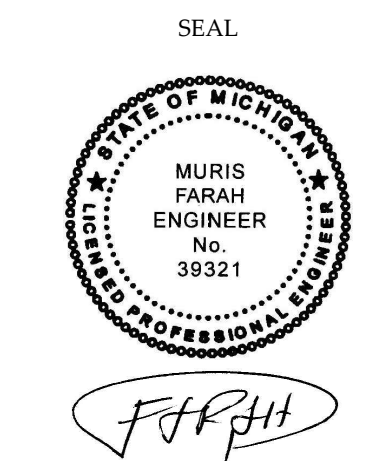
SPECIAL INSPECTION	FREQUENCY	REFERENCED STANDARD	
MASONRY CONSTRUCTION:		ACI 530 ASCE 5 TMS 402	ACI 530.1 ASCE 6 TMS 602
1. AS MASONRY CONSTRUCTION BEGINS, THE FOLLOWING SHALL BE VERIFIED TO ENSURE COMPLIANCE:			
a. PROPORTIONS OF SITE-PREPARED MORTAR.	PERIODIC		ART. 2.6A
b. CONSTRUCTION OF MORTAR JOINTS.	PERIODIC		ART. 3.3b
c. LOCATION OF REINFORCEMENT AND CONNECTORS.	PERIODIC		ART. 3.4,3.6A
2. THE INSPECTION PROGRAM SHALL VERIFY:			
a. SIZE AND LOCATIONS OF STRUCTURAL ELEMENTS.	PERIODIC		ART. 3.3G
b. TYPE, SIZE AND LOCATION OF ANCHORS, INCLUDING OTHER DETAILS OF ANCHORAGE OF MASONRY TO STRUCTURAL MEMBERS, FRAMES OR OTHER CONSTRUCTION.	PERIODIC	Sec.1.2,2(e) 2.1.4 3.1.6	
c. SPECIFIED SIZE, GRADE AND TYPE OF REINF.	PERIODIC	Sec. 1.12	ART. 2.4,3.4
d. WELDING OF REINFORCING BARS.	CONTINUOUS	Sec. 2.1.10,6.2 3.2.3.4(b)	
e. PROTECTION OF MASONRY DURING COLD WEATHER (TEMP. BELOW 40 DEGREES F.) OR HOT WEATHER (TEMP. ABOVE 90 DEGREES F.).	PERIODIC		ART. 1.8C,1.8D IBC Sec. 2104.3,2104.4
3. PRIOR TO GROUTING, THE FOLLOWING SHALL BE VERIFIED TO ENSURE COMPLIANCE:			
a. GROUT SPACE IS CLEAN.	PERIODIC		ART. 3.2D
b. PLACEMENT OF REINFORCEMENT AND CONNECTORS.	PERIODIC	Sec. 1.12	ART. 3.4
c. PROPORTIONS OF SITE PREPARED GROUT.	PERIODIC		ART. 2.6B
d. CONSTRUCTION OF MORTAR JOINTS.	PERIODIC		ART. 3.3b
4. GROUT PLACEMENT SHALL BE VERIFIED TO ENSURE COMPLIANCE WITH CODE AND CONSTRUCTION DOCUMENT PROVISIONS:	CONTINUOUS		ART. 3.5
5. PREPARATION OF GROUT SPECIMENS, MORTAR SPECIMENS AND/OR PRISMS SHALL BE OBSERVED.	CONTINUOUS		ART. 1.4 MBC Sec. 2105.2,2105.3
6. COMPLIANCE WITH REQUIRED INSPECTION PROVISIONS OF THE CONSTRUCTION DOCUMENTS AND THE APPROVED SUBMITTALS SHALL BE VERIFIED.	PERIODIC		ART. 1.5

SPECIAL INSPECTION	FREQUENCY	REFERENCED STANDARD
ADHESIVE ANCHORS/REINF.:		
1. DURING PLACEMENT OF ADHESIVE ANCHORS OR REINFORCEMENT EMBEDDED WITH ADHESIVE (AS SPECIFIED ON THE CONSTRUCTION DOCUMENTS) IN MASONRY AND CONCRETE:		
a. SIZE AND EMBEDMENT OF ANCHORS/REINF.	CONTINUOUS	MANUFACTURERS INSTALLATION INSTRUCTIONS
b. ANCHORS/REINF. INSTALLED PER MANUFACTURERS RECOMMENDATIONS.	CONTINUOUS	

SPECIAL INSPECTION	FREQUENCY	REFERENCED STANDARD
INSPECTION OF FABRICATOR(S):	PERIODIC	MBC 1704.2.5
1. APPLICABLE ELEMENT (FABRICATOR CERTIFICATION REQUIREMENTS):		
a. STRUCTURAL STEEL (AISC CERTIFIED FOR CONVENTIONAL STEEL BUILDING)		
b. STEEL JOISTS/JOIST GIRDERS (SJI MEMBER)		
c. STEEL ROOF DECK (SDI MEMBER)		
d. PRE-FAB WOOD TRUSSES		
2. WHEN SPECIAL INSPECTIONS ARE REQUIRED BY BUILDING OFFICIAL:		
a. FABRICATION AND IMPLEMENTATION PROCEDURES: THE SPECIAL INSPECTOR SHALL VERIFY THAT THE FABRICATOR MAINTAINS DETAILED FABRICATION AND QUALITY CONTROL PROCEDURES THAT PROVIDE A BASIS FOR INSPECTION, CONTROL OF THE WORKMANSHIP, AND THE FABRICATOR'S ABILITY TO CONFORM TO APPROVED CONSTRUCTION DOCUMENTS AND REFERENCED STANDARDS. THE SPECIAL INSPECTOR SHALL REVIEW THE PROCEDURES FOR COMPLETENESS AND ADEQUACY RELATIVE TO THE CODE REQUIREMENTS FOR THE FABRICATOR'S SCOPE OF WORK.		
3. WHEN SPECIAL INSPECTIONS ARE NOT REQUIRED BY THE BUILDING OFFICIAL:		
a. UPON COMPLETION OF FABRICATION, THE APPROVED FABRICATOR SHALL SUBMIT A CERTIFICATE OF COMPLIANCE TO THE BUILDING OFFICIAL STATING THAT THE WORK WAS PERFORMED IN ACCORDANCE WITH THE APPROVED CONSTRUCTION DOCUMENTS.		

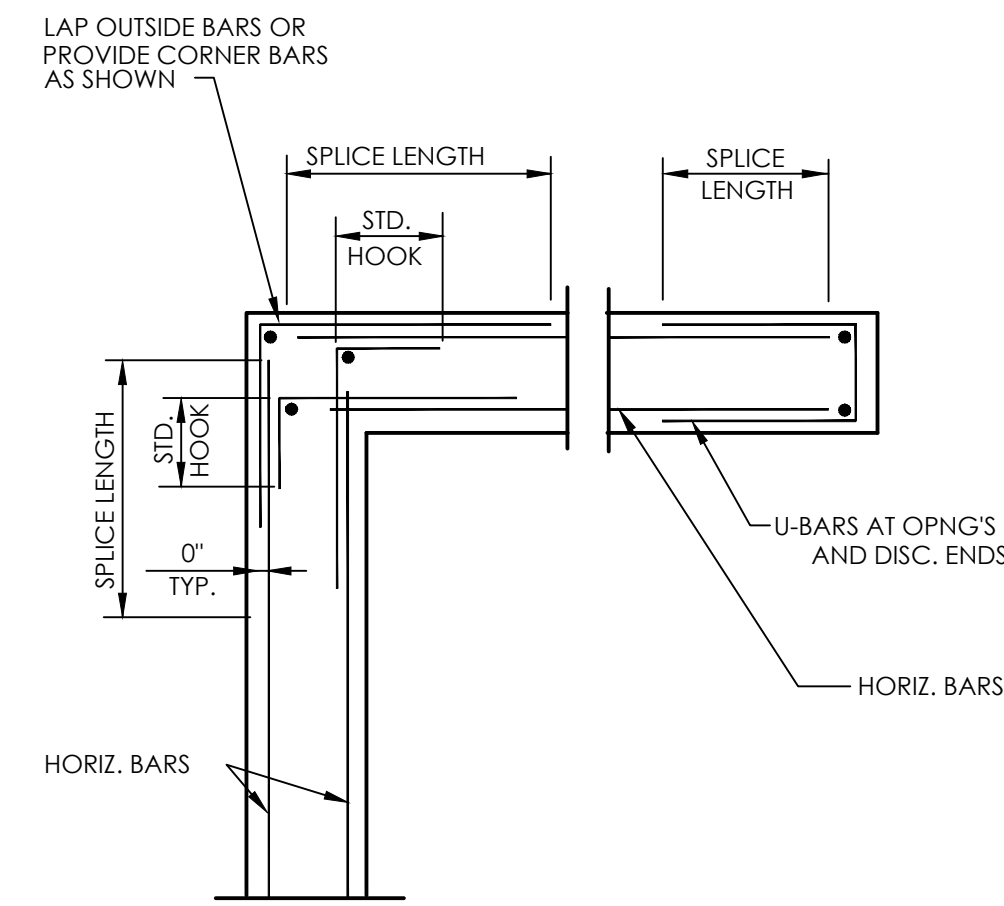
01-25-19	BID8
DATE	ISSUE

KEY PLAN

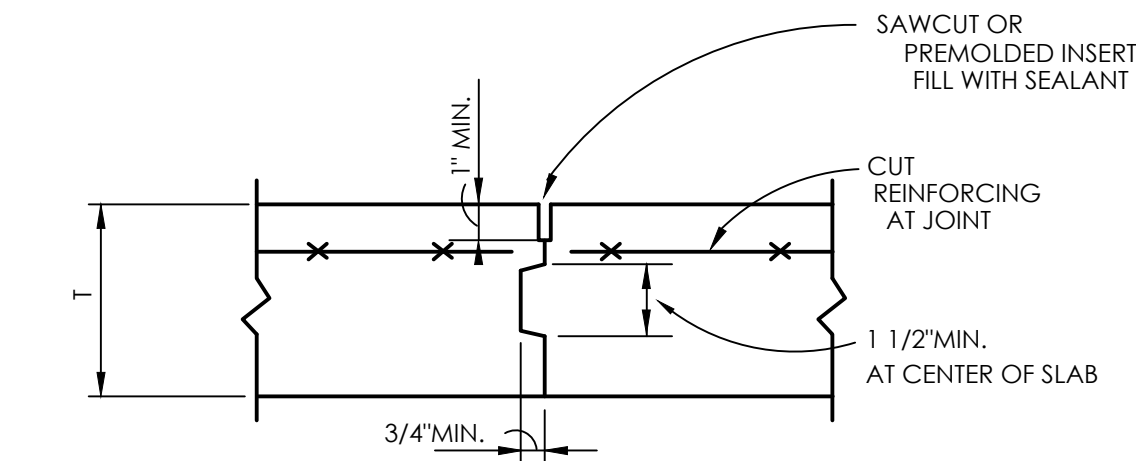


DRAWING TITLE
TYPICAL DETAILS

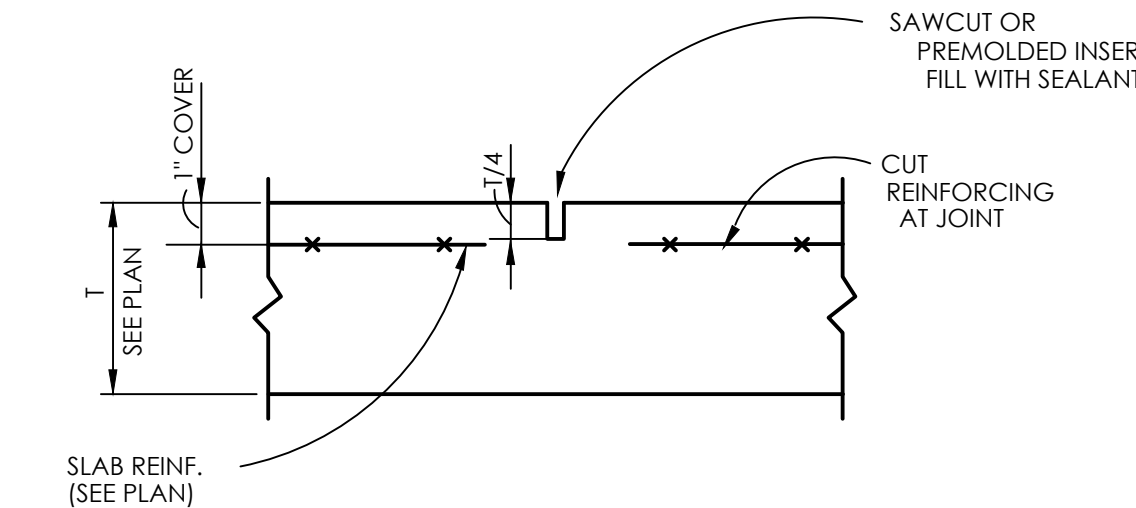
DRAWING NUMBER



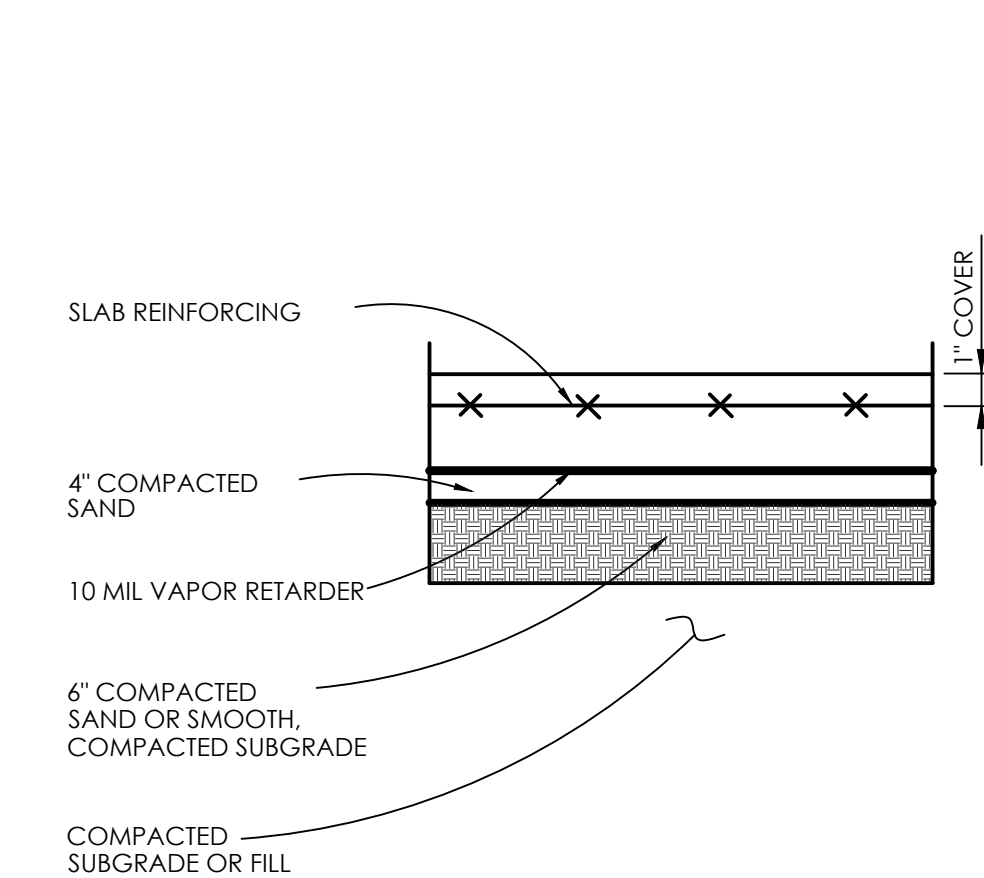
10
S.23 TYP. HORIZ. REINF. AT CORNERS
& ENDS OF CONCRETE WALLS



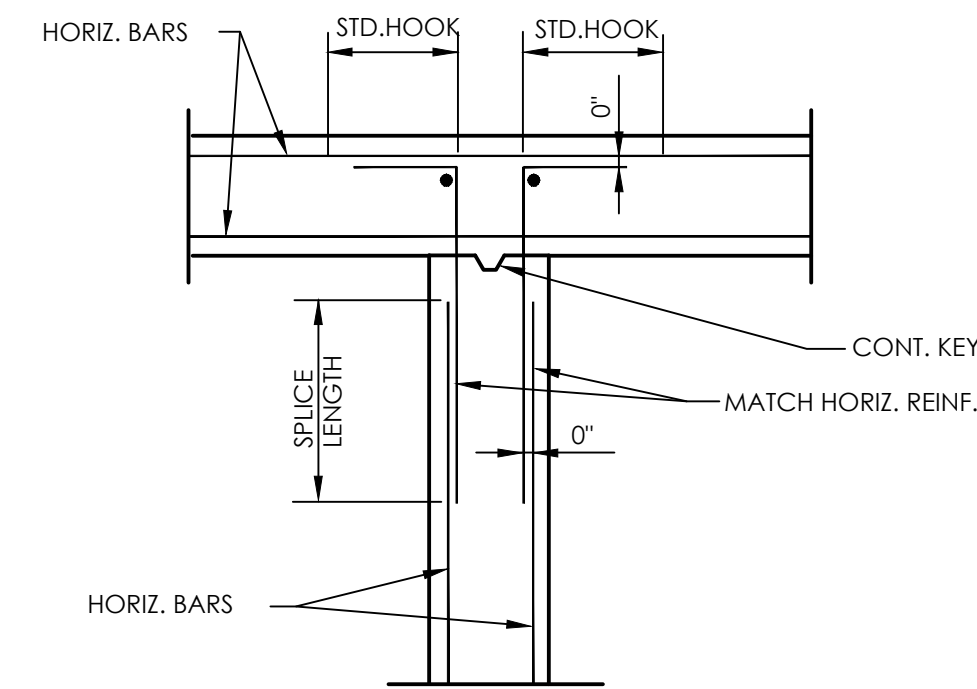
9
S2.3 TYPICAL CONSTRUCTION JOINT



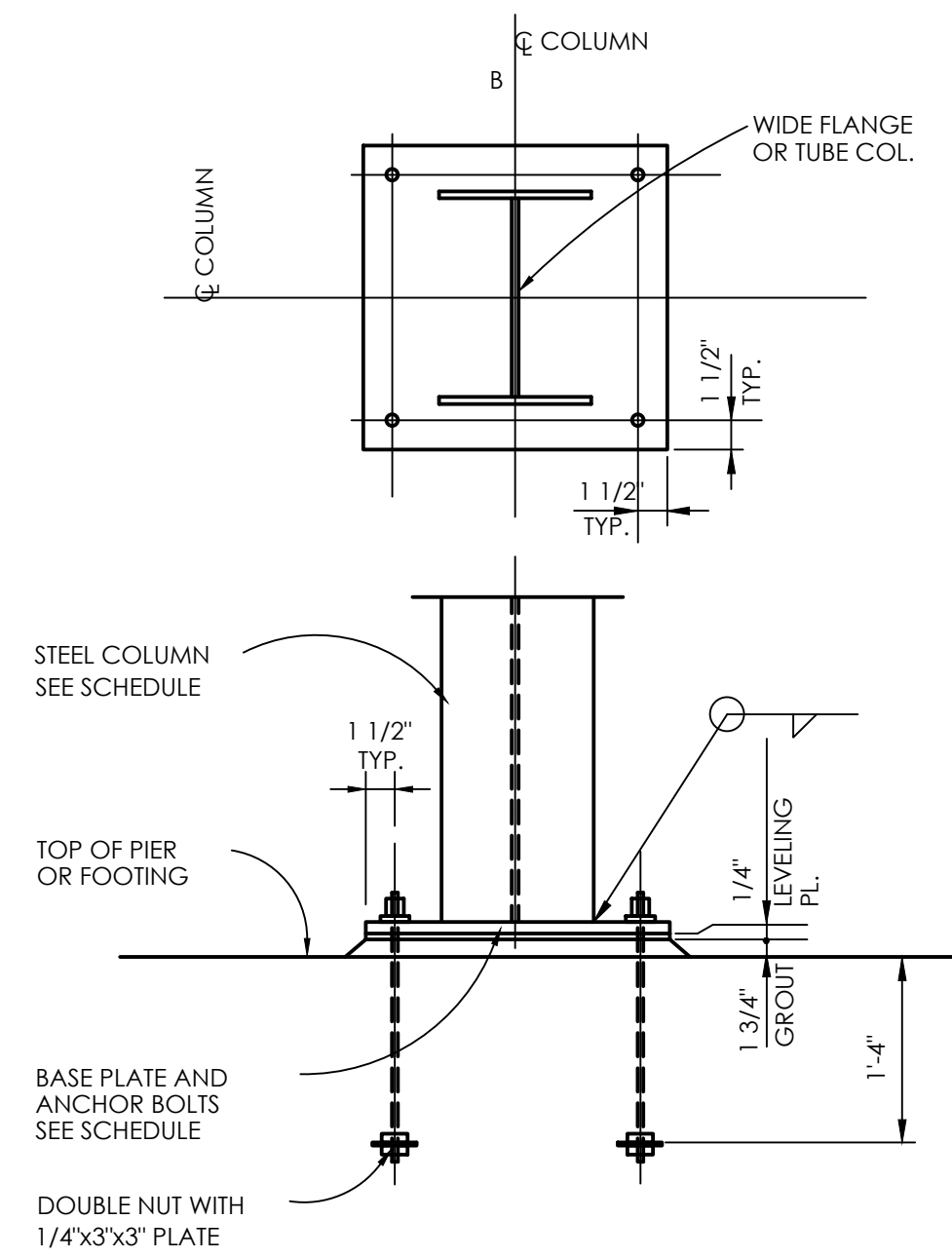
5
S.23 TYPICAL CONTROL JOINT



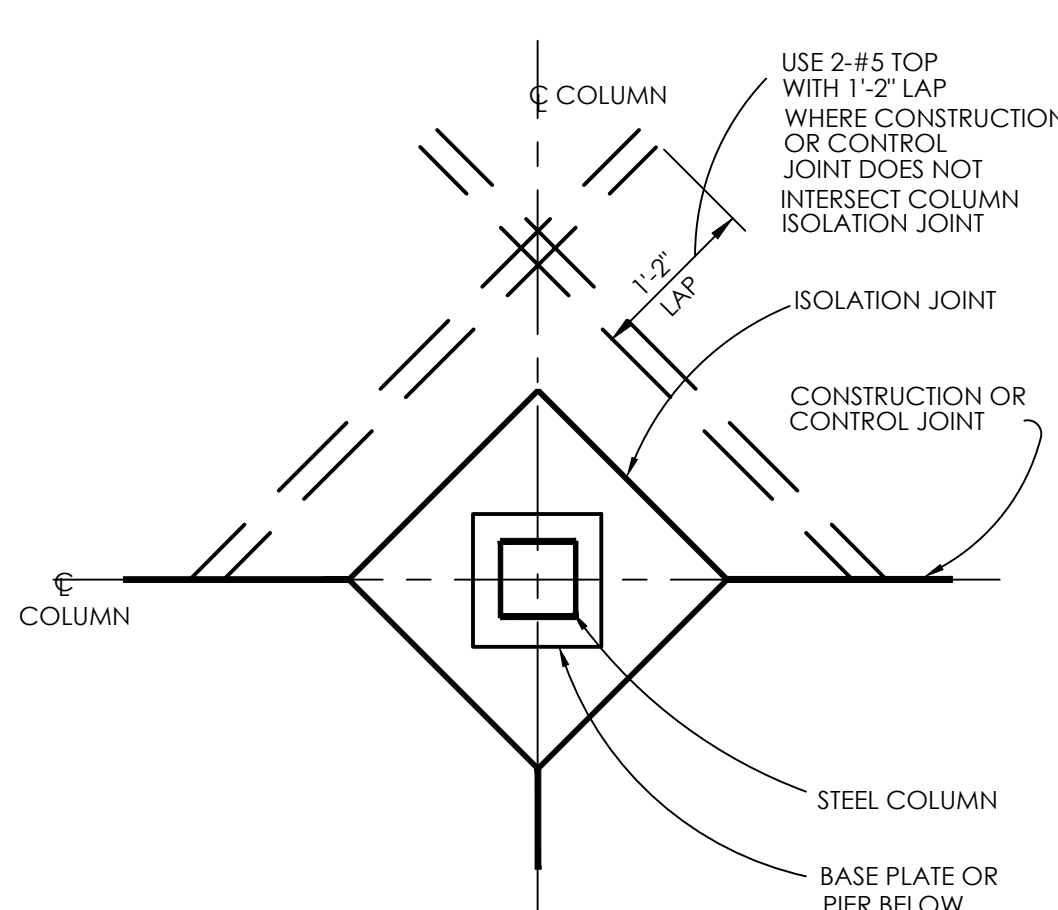
1
S.23 TYPICAL SLAB ON GRADE



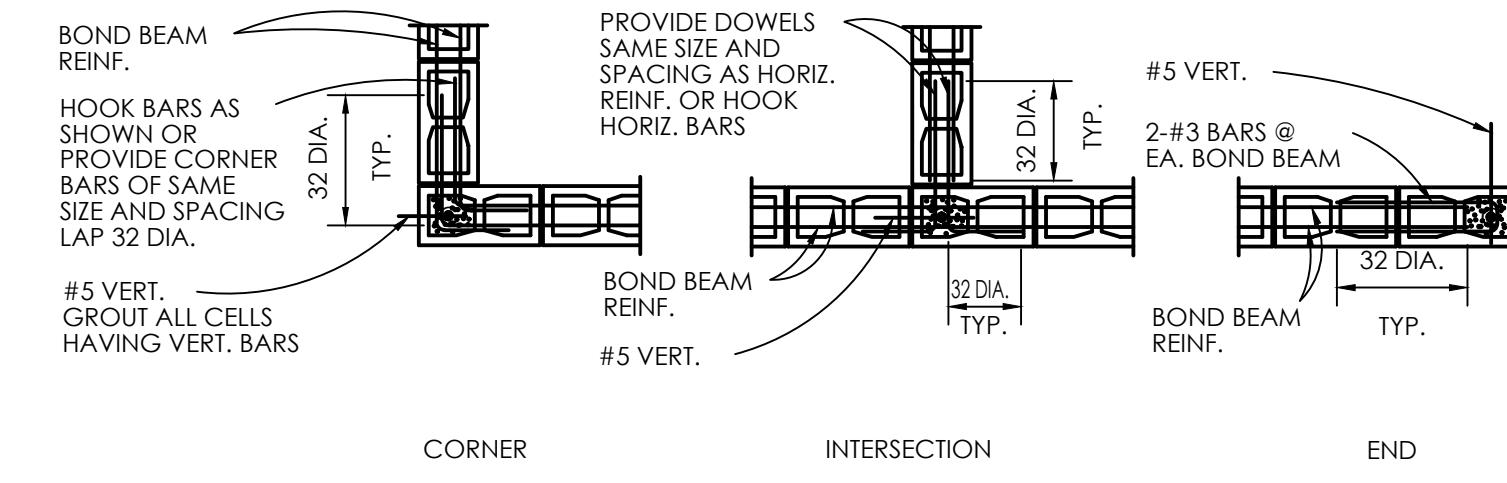
11
S.23 TYP. HORIZ. REINFORCING AT
INTERSECTING CONC. WALLS



6
S.23 TYPICAL COLUMN BASE PLATE DETAIL

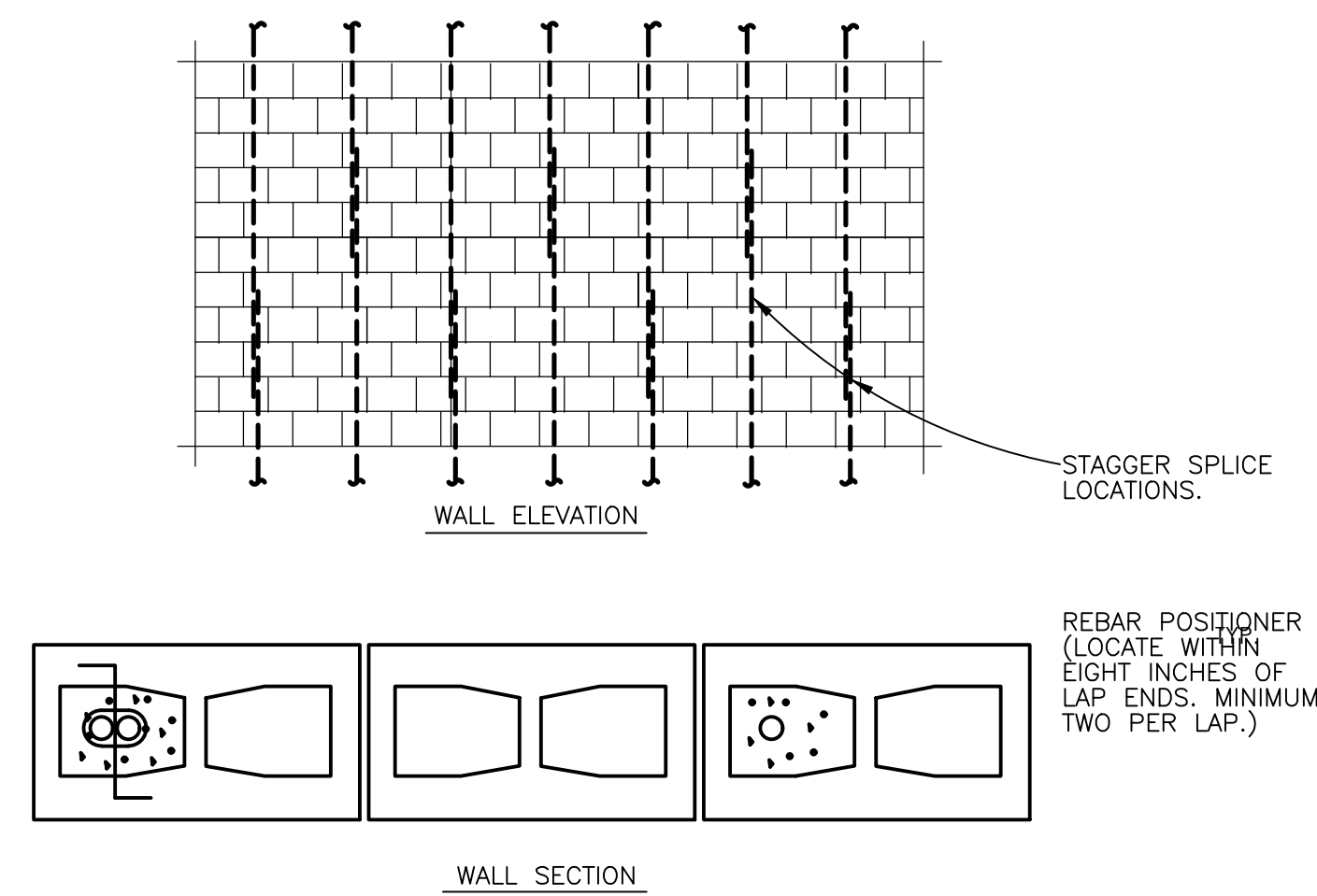


2
S.23 TYPICAL ISOLATION JOINT
AT STEEL COLUMN

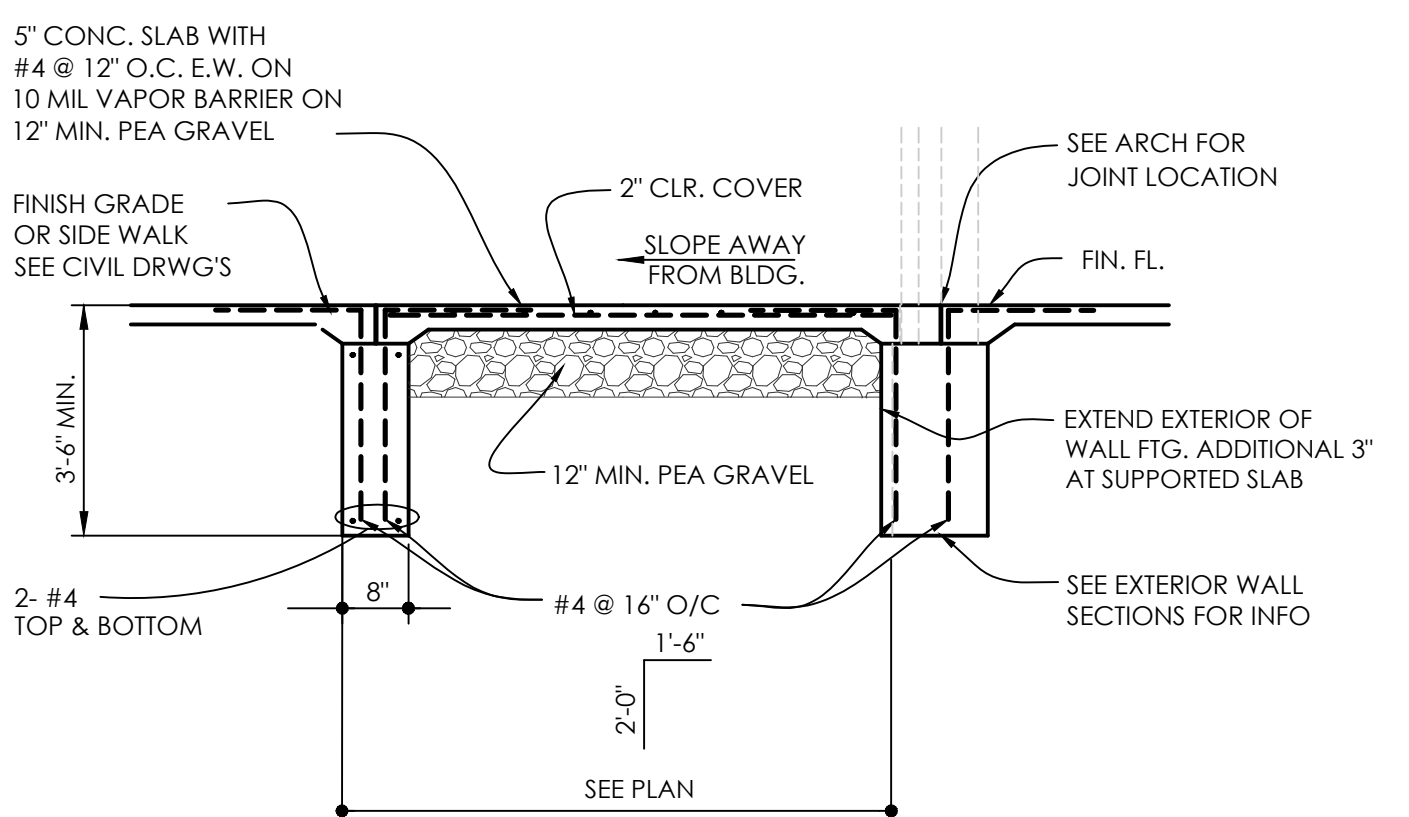


NOTES:
1. CORNER AND INTERSECTIONS UNLESS NOTED OTHERWISE NOTED OR SPECIFIED, AT POINTS WHERE CONCRETE MASONRY WALLS MEET OR INTERSECT, LAY 50% OF UNITS IN MASONRY BOND WITH ALTERNATE UNITS HAVING A BEARING ON NOT LESS THAN 4 INCH ON THE UNIT BELOW.
2. DOWELS UNLESS OTHERWISE NOTED OR SPECIFIED, PROVIDE DOWELS FROM CONCRETE FOOTING OR WALL BELOW WITH SAME SIZE AND SPACING AS VERTICAL BARS AT LEVEL BELOW. LAP 32 BAR DIAMETERS MINIMUM U.N.O.

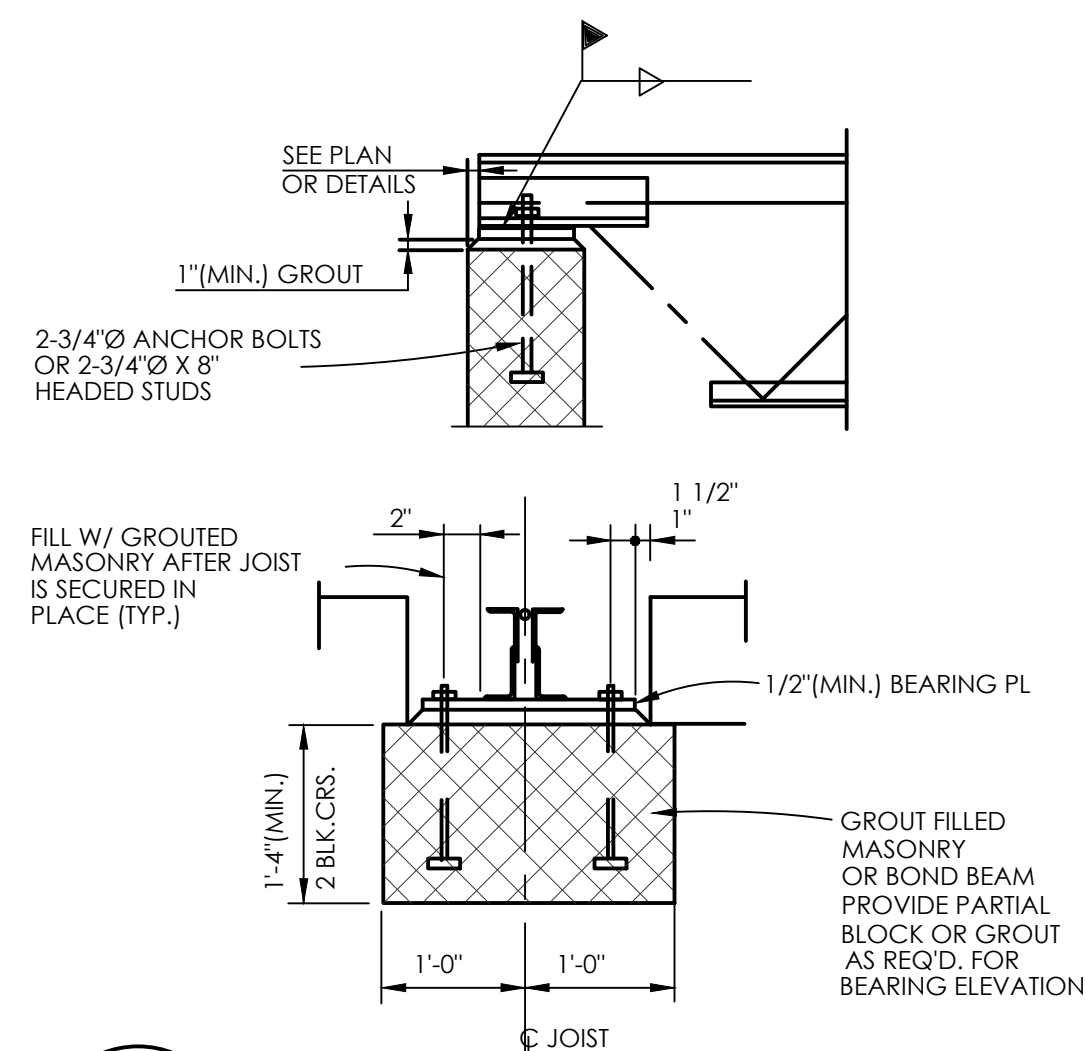
12
S.23 TYP. MASONRY WALL REINFORCEMENT DETAIL
(8" BLOCK)



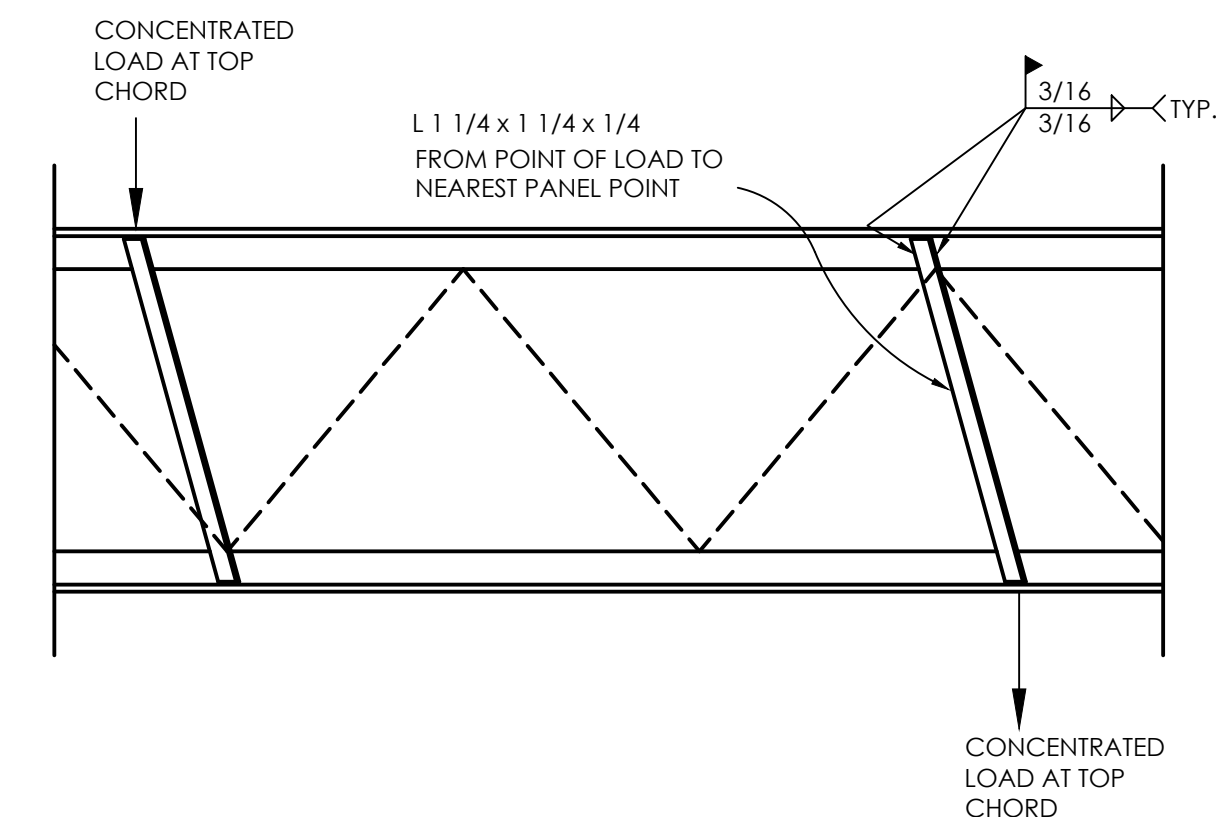
7
S.23 TYPICAL REINFORCED MASONRY
VERTICAL SPLICING DETAIL



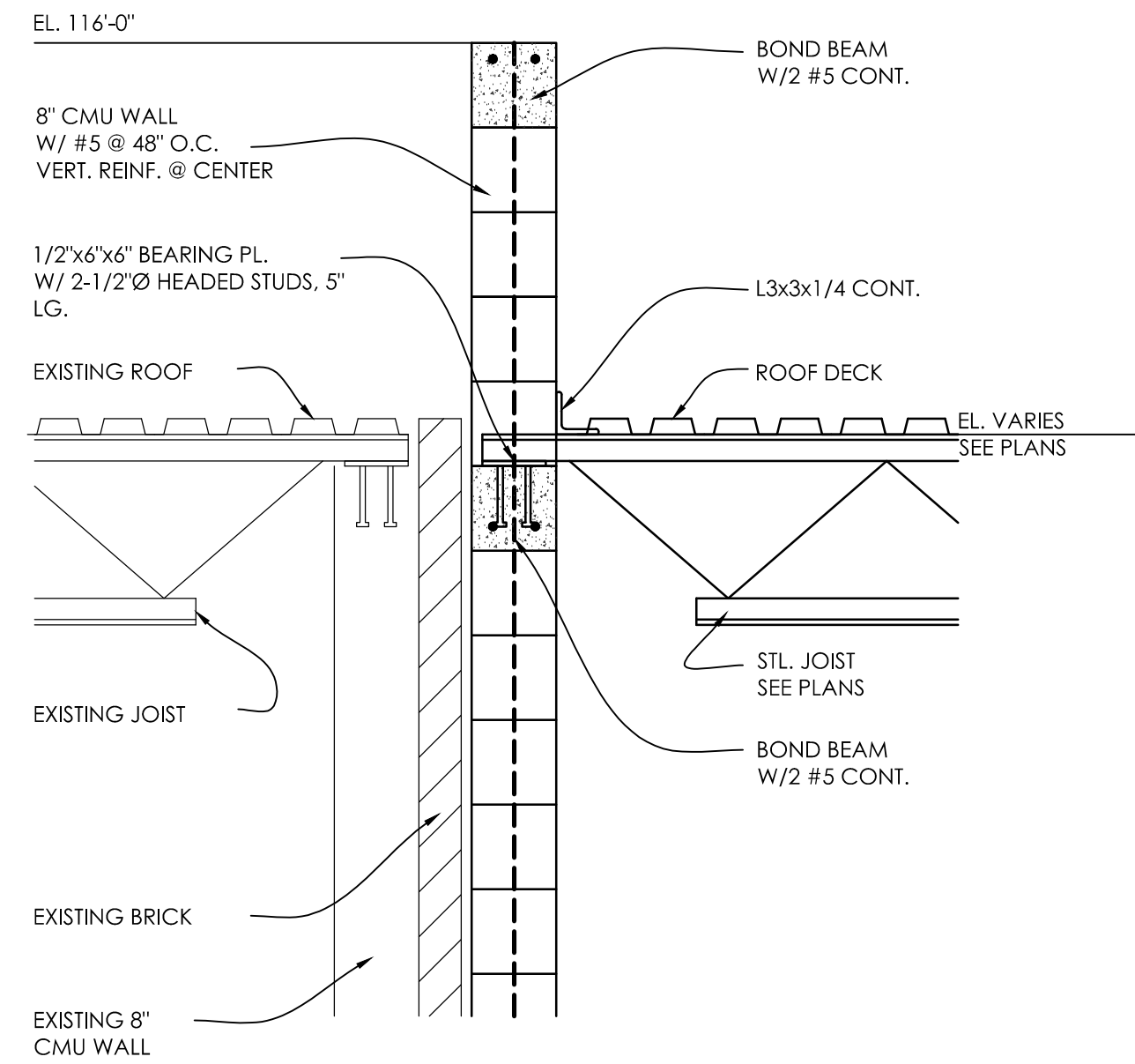
3
S.23 SUPPORTED SLAB DETAIL



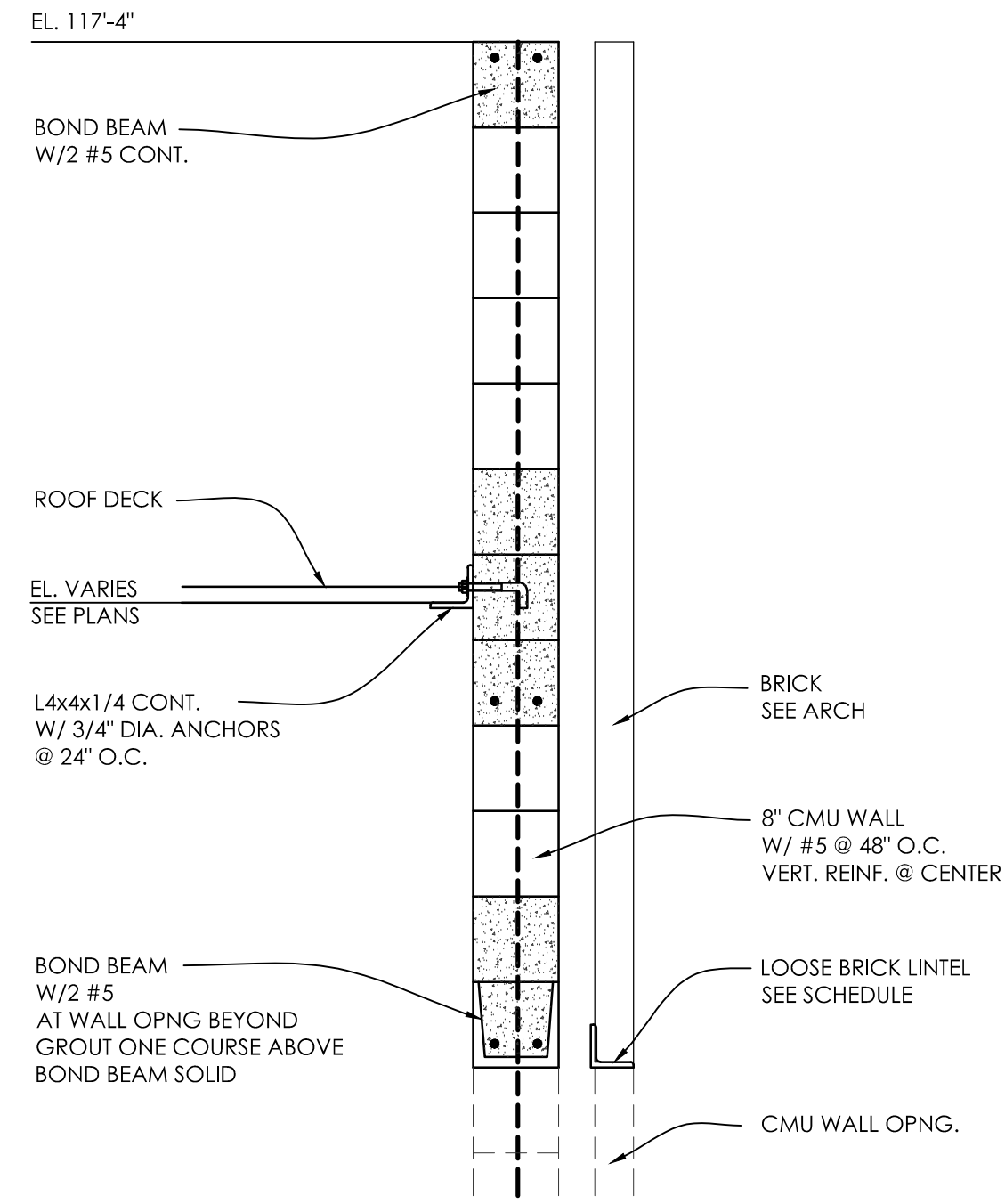
8
S.23 TYPICAL JOIST BEARING
ON MASONRY WALL



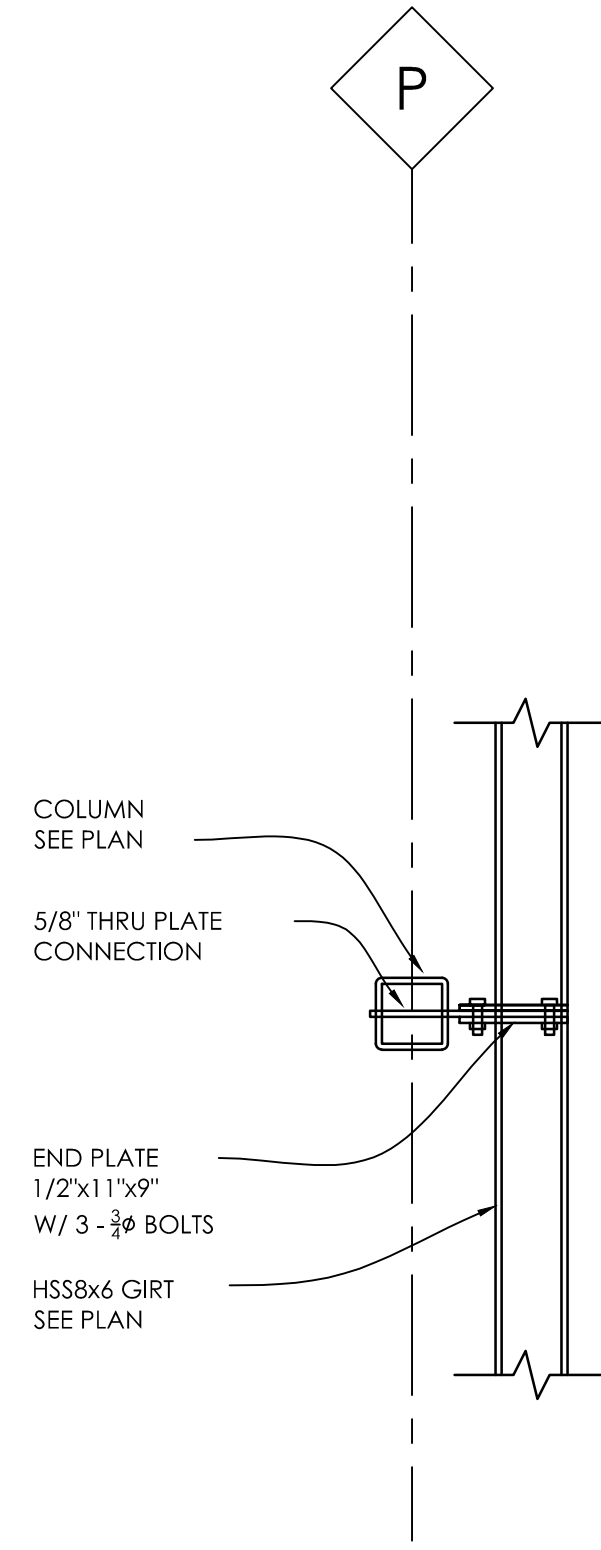
4
S.23 TYPICAL JOIST REINFORCEMENT
@ CONCENTRATED LOADS



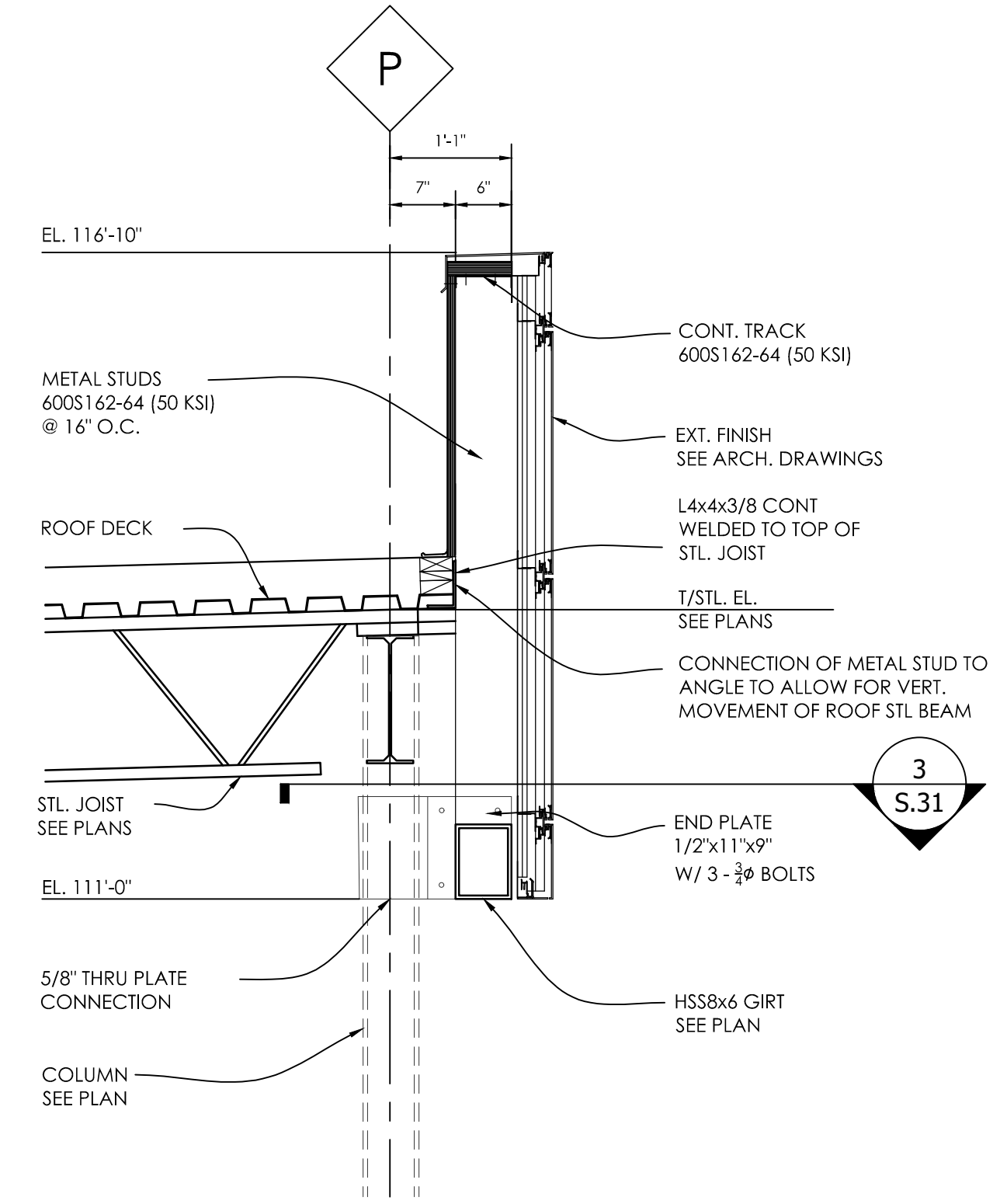
5 SECTION
S.31 SCALE: 3/4" = 1'-0"



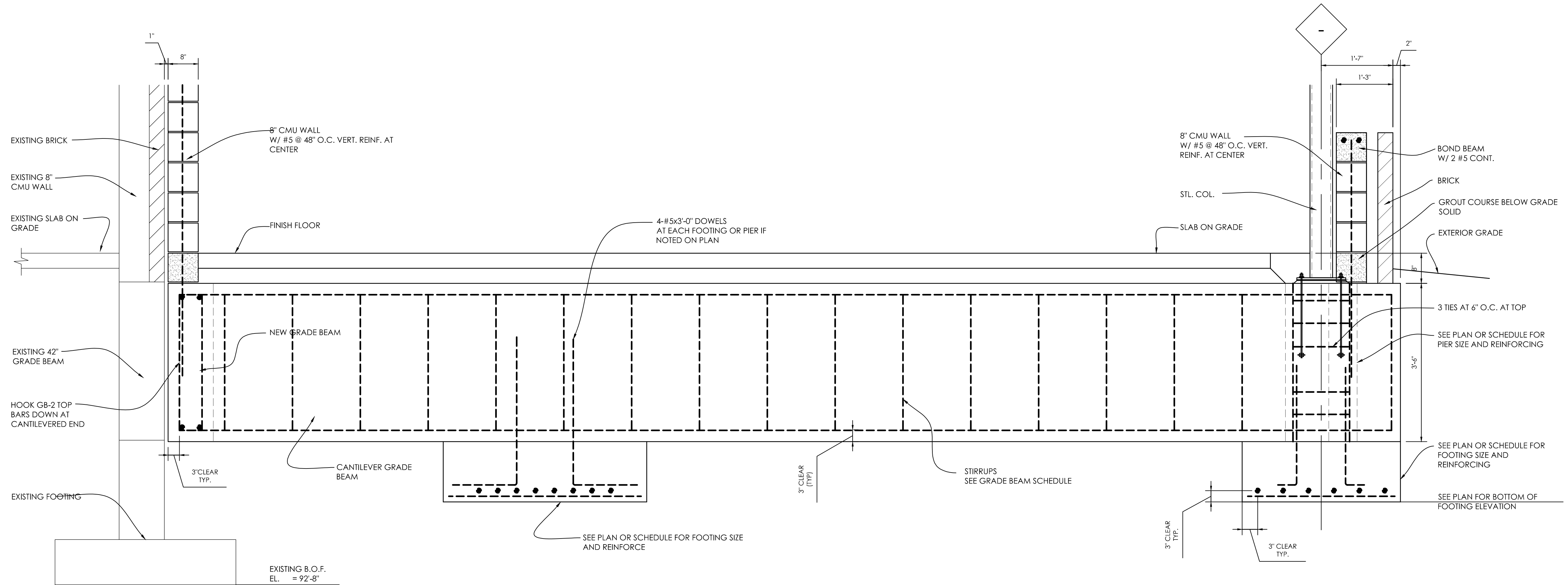
4 SECTION
S.31 SCALE: 3/4" = 1'-0"



3 SECTION
S.31 SCALE: 3/4" = 1'-0"



2 SECTION
S.31 SCALE: 3/4" = 1'-0"

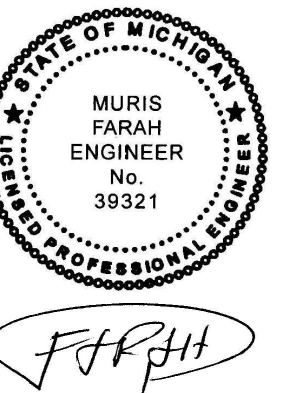


1 TYPICAL SECTION AT GB-2 CANTILEVER
S.31 SCALE: 3/4" = 1'-0"

01-25-19	BID8
DATE	ISSUE

KEY PLAN

SEAL



DRAWING TITLE
SECTIONS AND DETAILS

DRAWING NUMBER

S.31

g:\2019\2019-0109-00\CAD\2019-0109-MO-IND.dwg, MO.1, 7/24/2019 3:23:50 PM, Peter Basso Associates Inc.

MECHANICAL ABBREVIATION LIST

ABBREVIATION	DESCRIPTION	ABBREVIATION	DESCRIPTION	ABBREVIATION	DESCRIPTION
A	COMPRESSED AIR	FD	FLOOR DRAIN	PACU	PACKAGED AIR CONDITIONING UNIT
A (#)	COMPRESSED AIR (SPECIFIC PSIG)	FTD	FUNNEL FLOOR DRAIN	PBD	PARALLEL BLADE DAMPER
AUT	AUTOMATIC AIR VENT	PH	FIRE HOSE CABINET	PC	PUMPED CONDENSATE
ACC	AIR COOLED CONDENSER	PHC	FIRE HOSE RACK	PCW	PROCESS COOLING WATER
ACCU	AIR COOLED CONDENSING UNIT	PHR	FIRE HOSE VALVE	PCWR	PROCESS COOLING WATER RETURN
AD	AREA DRAIN	PV	FULL LOAD AMPS	PDS	PROCESS COOLING WATER SUPPLY
AE	AIR EXTRACTOR	FLR	FLOOR	PD	PRESSURE DROP (FEET OF WATER)
AFF	ADJACENT FINISHED FLOOR	FM	FLOW MEASURING STATION	PH	PERIMETER HEAT
AHU	AIR HANDLING UNIT	FMS	FLOW MEASURING STATION	PHR	PERIMETER HEAT RETURN
ALT	ALTERNATE	FTM	FEET PER MINUTE	PHS	PERIMETER HEAT SUPPLY
AMP	AMPERE	FP	FIRE PUMP	PHL	PANEL
APD	AIR PRESSURE DROP	FPTU	FAN POWERED (AIR) TERMINAL UNIT	PM	PARTS PER MILLION
AR	ARGON	FS	FLOOR SINK	PRESS	PRESSURE
ASHRAE	AMERICAN SOCIETY OF HEATING, REFRIGERATION AND AIR-CONDITIONING ENGINEERS	FSEC	FOOD SERVICE EQUIPMENT CONTRACTOR	PRV	PRESSURE REDUCING VALVE
ASR	AUTOMATIC SPRINKLER RISER	FT	FEET	PSAN	PUMPED SANITARY
AUX	AUXILIARY	FTR	FINNED TUBE RADIATION	PST	PUMPED STORM
AV	ACID VENT	FACE	FACE VELOCITY	PS	POUNDS PER SQUARE INCH
AVTR	ACID VENT THROUGH ROOF	CA	NATURAL GAS	PSA	POUNDS PER SQUARE INCH - ABSOLUTE
		GA	GAUGE	PSIG	POUNDS PER SQUARE INCH - GAUGE
		GAL	GALLON	PW	PURIFIED WATER
BAS	BUILDING AUTOMATION SYSTEM	GRH	GRAVITY RELIEF HOOD	PWS	PURIFIED WATER SUPPLY
BCU	BLOWER COIL UNIT	GPH	GALLONS PER HOUR		
BDD	BACKDRAFT DAMPER	GPM	GALLONS PER MINUTE	(R)	RELOCATED
BFF	BELOW FINISHED FLOOR	GSAN	GREASE SANITARY WASTE	RA	RETURN AIR
BHP	BRAKE HORSEPOWER	H	HYDROGEN	RA	RETURN AIR TEMPERATURE
BOD	BOTTOM OF DUCT	HB	HOSE BIBB	RC	RAIN CONDUCTOR
BOP	BOTTOM OF PIPE	HC	HEATING COIL	RCP	RADIANT CEILING PANEL
BTU	BRITISH THERMAL UNIT	HD	HOT DECK	RD	REQUIRED
BTUH	BRITISH THERMAL UNIT PER HOUR	HEPA	HIGH EFFICIENCY PARTICULATE ARRESTANCE	REF	RETURN FAN
BVC	BEVERAGE CONDUIT	HL	HIGH LIMIT	RH	RELATIVE HUMIDITY
BWV	BACKWATER VALVE	HOA	HAND/OFF/AUTO	RL	REFRIGERANT LIQUID
		HP	HORSEPOWER	RPM	REVOLUTIONS PER MINUTE
C	COMMON	HPCW	HIGH PRESSURE DOMESTIC COLD WATER	RPM	REDUCED PRESSURE BACKFLOW PREVENTION DETECTION ASSY
CAP	CAPACITY	HPCHW	HIGH PRESSURE DOMESTIC HOT WATER	RPZA	REDUCED PRESSURE BACKFLOW PREVENTION ZONE ASSY
CAV	CONSTANT AIR VOLUME	HPHWR	HIGH PRESSURE DOMESTIC HOT WATER RETURN	RS	REFRIGERANT SUCTION
CB	CATCH BASIN	HPL	HEAT PUMP LOOP	RTU	ROOFTOP UNIT
CC	COOLING COIL	HPLR	HEAT PUMP LOOP RETURN		
CD	COLD DECK	HPLS	HEAT PUMP LOOP SUPPLY	S	SUPPLY AIR DIFFUSER OR GRILLE
CDI	CONDENSATE DRAIN	HR	HOUR	SA	SOUND ATTENUATOR
CFM	CUBIC FEET PER HOUR	HRTG	HEATING	SA	SUPPLY AIR
CFM	CUBIC FEET PER MINUTE	HV	HEATING VENTILATING	SA	SANITARY WASTE
CH	CHILLER	HVAC	HEATING, VENTILATING, AIR CONDITIONING	SA	SUPPLY AIR TEMPERATURE
CHW	CHILLED WATER	HWH	HOT WATER HEATING	SECT	SECTION
CHWR	CHILLED WATER RETURN	HWMR	HOT WATER HEATING RETURN	SF	SUPPLY FAN
CHWS	CHILLED WATER SUPPLY	HWS	HOT WATER HEATING SUPPLY	SH	SHOWER
CIC	COOLING	HW	DOMESTIC HOT WATER	SK	SINK
CND	CONDENSATE	HW (#)	DOMESTIC HOT WATER (SPECIFIC TEMP °F)	SMR	SNOW MELT RETURN
CND (#)	CONDENSATE (SPECIFIC PSIG)	HWR	DOMESTIC HOT WATER RETURN	SMR	SNOW MELT SUPPLY
CO	COLD	HZ	HEAT EXCHANGER	SP	STATIC PRESSURE
CO2	CARBON DIOXIDE	HZ	HERTZ	SP	SPECIFICATION
CONT	CONTINUATION OR CONTINUED	IAQ	INDOOR AIR QUALITY	SQFT	SQUARE FOOT/ SQUARE FEET
CONTR	CONTRACTOR	ID	INSIDE DIAMETER	S/S	START/STOP
CONV	CONVECTOR	IE	INVERT ELEVATION	ST	STORM
COP	COEFFICIENT OF PERFORMANCE	IE	INVERT ELEVATION	ST	STANDARD
CP	CIRCULATING PUMP	IN	INCHES	STK	STACK
CRU	CONDENSATE RETURN UNIT	IN	INCHES	STM	STEAM
CSS	CHEMICAL SERVICE SINK	IR	INDIRECT HEATER	STEAM (#)	STEAM (SPECIFIC PSIG)
CT	COOLING TOWER	IW	INDIRECT WASTE	S/W	SUMMER/WINTER
CUH	CABINET UNIT HEATER	JC	JANITOR'S CLOSET	SW	SWITCH
CW	DOMESTIC COLD WATER	JP	JOCKEY PUMP		
CWF	DOMESTIC COLD WATER - FILTERED			T	TRANSFER GRILLE
CWR	CONDENSER WATER RETURN	KW	KILOWATT	TC	TEMPERATURE CONTROL
CWS	CONDENSER WATER SUPPLY	KWH	KILOWATT-HOUR	TC	TEMPERING COIL
		LAT	LEAVING AIR TEMPERATURE	TCP	TEMPERATURE CONTROL PANEL
D&T	DRIP AND TRAP	LAB	LABORATORY	TD	TRENCH DRAIN
DA	DISCHARGE AIR	LAV	LAVATORY	TEMP	TEMPERATURE
DAT	DISCHARGE AIR TEMPERATURE	LBS	POUNDS	TEMP	TEMPORARY
DB	DRY BULB	LDB	LEAVING DRY BULB	TH	TERMINAL HEATING
DDC	DIRECT DIGITAL CONTROL	LL	LOW LIMIT	THA	TOTAL HEAT ABSORBED
DEG	DEGREE	LPC	LOW PRESSURE CONDENSATE	THR	TERMINAL HEATING RETURN
DFU	DRAINAGE FIXTURE UNITS	LPS	LOW PRESSURE STEAM	THR	TOTAL HEAT REJECTED
DA	DAMPER	LRA	LOCKED ROTOR AMPS	THS	TERMINAL HEATING SUPPLY
D/N	DAY/NIGHT	LWB	LEAVING WET BULB	TSP	TOTAL STATIC PRESSURE
DN	DOWN	LWT	LEAVING WATER TEMPERATURE	(AIR) T	(AIR) TERMINAL UNIT
DNZ	DOWNSPOUT NOZZLE	MA	MIXED AIR	TV	TURNING VALVES
DS	DUCT SILENCER	MAT	MIXED AIR TEMPERATURE	TYP	TYPICAL
DT	DRAIN TILE	MAU	MAKE-UP AIR UNIT	UH	UNIT HEATER
DTC	DRAIN TILE CONNECTION	MAX	MAXIMUM	UL	UNDERWRITER'S LABORATORY
DWH	DOMESTIC WATER HEATER	MBH	THOUSAND BRITISH THERMAL UNITS PER HOUR	UN	UNLESS OTHERWISE NOTED
DWC	DRAINAGE	MCA	MEDICAL COMPRESSED AIR	UV	UNIT VENTILATOR
		MCA	MINIMUM CIRCUIT AMPACITY		
E	EXISTING	MCC	MOTOR CONTROL CENTER	V	VALVE
EA	EXHAUST AIR	MECH	MECHANICAL	V	VENT
EAT	ENTERING AIR TEMPERATURE	MEZZ	MEZZANINE	VAC	VACUUM
EC	EXPANSION COMPENSATOR	MFR	MANUFACTURER	VAV	VARIABLE AIR VOLUME
ECOH	ELECTRIC CABINET UNIT HEATER	MH	MANHOLE	VBB	VACUUM BREAKER
EDB	ENTERING DRY BULB	MIN	MINIMUM	VD	VOLUME DAMPER (MANUALLY ADJUSTABLE)
EER	ENERGY EFFICIENCY RATIO	MISC	MISCELLANEOUS	VOL	VOLUME
EES	EMERGENCY EYE WASH / SHOWER	MWH	MILLION BRITISH THERMAL UNITS PER HOUR	VFC	VARIABLE FREQUENCY CONTROLLER
EEW	EMERGENCY EYE WASH	M/S	MOTOR STARTER	VTR	VENT THROUGH ROOF
EFF	EFFICIENCY	MTD	MOUNTED	VTU	VENTURI TERMINAL UNIT
EHC	ELECTRIC HEATING COIL	MTR	MOTOR	VUV	VERTICAL UNIT VENTILATOR
EJ	EXPANSION JOINT	MV	MANUAL AIR VENT		
EL	ELEVATION	MVAC	MEDICAL VACUUM	W	WASTE
ELEC	ELECTRICAL	N	NITROGEN	W&V	WASTE AND VENT
EMS	ENERGY MANAGEMENT SYSTEM	N2O	NITROUS OXIDE	WAGD	WASTE ANESTHETIC GAS DISPOSAL
EN	ENERGY RECOVERY LOOP	NC	NORMALLY CLOSED	WB	WET BULB
ERLR	ENERGY RECOVERY LOOP RETURN	NC	NORMALLY CLOSED	WC	WATER CLOSET
ERLRS	ENERGY RECOVERY LOOP SUPPLY	NCTC	NORMALLY CLOSED TIMED CLOSED	WC	WATER COLUMN
ERU	ENERGY RECOVERY UNIT	NCTO	NORMALLY OPEN TIMED OPEN	WG	WATER GAUGE
ESH	EMERGENCY SHOWER	NFPA	NATIONAL FIRE PROTECTION ASSOCIATION	WH	WALL HYDRANT
EJH	EXTERNAL STATIC PRESSURE	NOTC	NORMALLY OPEN TIMED CLOSED	WMSD	WASHING MACHINE SUPPLY AND DRAIN BOX
EWB	ELECTRIC UNIT HEATER	NOTO	NORMALLY OPEN TIMED OPEN	WPD	WATER PRESSURE DROP
EWB	ENTERING WET BULB	NO	NOT IN CONTRACT	WT	WEIGHT
EWK	ELECTRIC WATER COOLER	NO	NORMALLY OPEN		
EWV	ENTERING WATER TEMPERATURE	NOM	NOMINAL	XMR	TRANSFORMER
EXH	EXHAUST	NPCW	NON POTABLE COLD WATER		
		O	OXYGEN		
F	FIRE PROTECTION	OA	OUTSIDE AIR		
F	DEGREES FAHRENHEIT	OAT	OUTSIDE AIR TEMPERATURE		
F&B	FACE AND BYPASS	OB	OUTLET BOX		
FA	FACE AREA	OBD	OPPOSED BLADE DAMPER		
FCU	FAN COIL UNIT	OC	ON CENTER/CENTER TO CENTER		
		OD	OUTSIDE DIAMETER		
		OED	OPEN ENDED DUCT		
		OFI	OWNER FURNISHED, CONTRACTOR INSTALLED		
		OFI	OWNER FURNISHED, OWNER INSTALLED		
		OL	OVERLOAD		
		ORC	OVERFLOW RAIN CONDUCTOR		
		ORD	OVERFLOW ROOF DRAIN		
		OS&Y	OUTSIDE SCREW AND YOKE		
		OY	OUTLET VELOCITY		
		OWS	OPERATOR WORKSTATION		

TEMPERATURE CONTROL - PARTIAL SYMBOLS LIST

SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
	CARBON DIOXIDE SENSOR		OCCUPANCY SENSOR
	CARBON MONOXIDE SENSOR		PRESSURE TRANSMITTER
	DIFFERENTIAL PRESSURE TRANSMITTER		STATIC PRESSURE SENSOR OR PROBE
	FLOW METER		VALVE - 2 WAY CONTROL VALVE
	GUARD FOR STAT OR SENSOR		VALVE - 3 WAY CONTROL VALVE
	HUMIDISTAT OR HUMIDITY SENSOR (AS DEFINED ON TC DRAWINGS)		THERMOSTAT OR TEMPERATURE SENSOR (AS DEFINED ON TC DRAWINGS)

NOTE: LIST OF ADDITIONAL SYMBOLS & ABBREVIATIONS ASSOCIATED WITH TEMPERATURE CONTROLS ARE IDENTIFIED ON TC DRAWINGS.

MECHANICAL SYMBOL LIST

SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
	AIR VENT - AUTOMATIC		AIR VENT - MANUAL
	AIR VENT - MANUAL		CATCH BASIN
	CATCH BASIN		CIRCULATING PUMP
	CLEAN OUT - IN FLOOR		CLEAN OUT - FLANGE
	CLEAN OUT - FLANGE		DIRECTION OF FLOW
	DIRECTION OF FLOW		DIRECTION OF PITCH - DOWN
	FINNED TUBE RADIATION		FIRE PROTECTION - SIAMESE CONNECTION - FREE STANDING
	FIRE PROTECTION - SIAMESE CONNECTION - WALL MOUNTED		FIRE PROTECTION - SPRINKLER HEAD, CONCEALED
	FIRE PROTECTION - SPRINKLER HEAD, PENDANT		FIRE PROTECTION - SPRINKLER HEAD, UPRIGHT
	FIRE PROTECTION - SPRINKLER HEAD, SIDEWALL		FLOOR DRAIN
	FLOOR DRAIN - ELEVATION		FLOOR DRAIN - FUNNEL
	FLOOR DRAIN - FUNNEL, ELEVATION		FLOW MEASURING DEVICE (FOR TEST AND BALANCING)
	FLOW METER		HOSE BIBB
	MANHOLE		OPEN SITE DRAIN
	PIPE - ANCHOR		PIPE - CAP OR PLUG
	PIPE - ELBOW DOWN		PIPE - ELBOW UP
	PIPE - EXPANSION JOINT OR COMPENSATOR		PIPE - FLANGE
	PIPE - HOSE AND BRAID FLEXIBLE CONNECTION		PIPE - RUBBER FLEXIBLE CONNECTION
	PIPE - GUIDE		TEE DOWN
	TEE UP		TEE UNION
	PRESSURE AND TEMPERATURE TEST PLUG		REDUCER - CONCENTRIC
	REDUCER - ECCENTRIC		ROOF/OVERFLOW DRAIN
	STEAM TRAP - FLOAT AND THERMOSTATIC		STEAM TRAP - BUCKET
	STRAINER		STRAINER WITH VALVE AND BLOW-OFF
	THERMOMETER		TRAP
	VALVE - ANGLE		VALVE - BALL
	VALVE - BUTTERFLY		VALVE - BALANCE (1/2 BALANCE VALVE TO 0.5 GPM)
	VALVE - COMBINATION BALANCE & FLOW MEASURING (1/2 BALANCE VALVE TO 0.5 GPM)		VALVE - CHECK
	VALVE - SPRING CHECK		VALVE - GAS (MANUAL)
	VALVE - GLOBE		VALVE - ISOLATION
	VALVE - NEEDLE		VALVE - OS&Y
	VALVE - PLUG		VALVE - PRESSURE REGULATING
	VALVE - PRESSURE REDUCING		VALVE - PRESSURE RELIEF
	VALVE - PRESSURE & TEMPERATURE RELIEF		VENT THROUGH ROOF
	WALL HYDRANT		

DOUBLE LINE PIPING SYMBOLS

SYMBOL	DESCRIPTION
	FLANGE
	FLEX CONNECTION
	STRAINER - BASKET
	STRAINER - Y TYPE
	VALVE - 2 WAY CONTROL
	VALVE - 3 WAY CONTROL
	VALVE - BUTTERFLY
	VALVE - CHECK
	VALVE - DETECTOR CHECK
	VALVE - OS&Y HORIZONTAL STEM
	VALVE - OS&Y VERTICAL STEM

DUCTWORK SYMBOLS

SYMBOL	DESCRIPTION
	AIR TERMINAL UNIT
	AIR TERMINAL UNIT WITH HEATING COIL
	VENTURI AIR TERMINAL UNIT
	VENTURI AIR TERMINAL UNIT WITH HEATING COIL
	DAMPER - HORIZONTAL FIRE (EXISTING, NEW)
	DAMPER - HORIZONTAL FIRE / SMOKE (EXISTING, NEW)
	DAMPER - VERTICAL FIRE (EXISTING, NEW)
	DAMPER - VERTICAL FIRE / SMOKE (EXISTING, NEW)
	DAMPER - BACK DRAFT
	DAMPER - MOTORIZED
	DAMPER - VOLUME (MANUALLY ADJUSTABLE)
	DIFFUSER - BLANK OFF
	DIFFUSER - LINEAR SLOT
	DIFFUSER - SQUARE OR RECTANGULAR
	DUCT CROSS SECTION - SUPPLY
	DUCT CROSS SECTION - RETURN
	DUCT CROSS SECTION - EXHAUST
	DUCT - FLEXIBLE CONNECTION
	DUCT - FLEXIBLE DUCT
	DUCT TAKE-OFF - ROUND CONICAL
	DUCT TAKE-OFF - RECTANGULAR WITH SHOE TAP
	ELBOW - RECTANGULAR WITH TURNING VANES
	ELBOW - RECTANGULAR/ ROUND SMOOTH RADIUS
	ELBOW DOWN - RECTANGULAR
	ELBOW DOWN - ROUND
	ELBOW UP - RECTANGULAR
	ELBOW UP - ROUND
	FAN - AXIAL
	FAN - CENTRIFUGAL (ELEVATION)
	HEATING COIL
	INCLINED DROP IN DIRECTION OF AIRFLOW
	INCLINED RISE IN DIRECTION OF AIRFLOW
	INTAKE OR RELIEF HOOD
	REGISTER - RETURN OR EXHAUST
	REGISTER - RETURN WITH BOOT
	REGISTER - TRANSFER GRILLE
	ROOF EXHAUST FAN
	TRANSITION - CONCENTRIC
	TRANSITION - ECCENTRIC
	UNIT HEATER - HORIZONTAL THROW
	UNIT HEATER - VERTICAL THROW
	SECTION OR PLAN NUMBER
	AREA OF ENLARGEMENT
	PLAN NUMBER
	SECTION OR PLAN NUMBER
	DUCT TAKE-OFF - ROUND CONICAL
	ELBOW - RECTANGULAR WITH TURNING VANES
	ELBOW - RECTANGULAR SHORT RADIUS WITH SPLITTER VANES
	ELBOW - ROUND
	ELBOW - RECTANGULAR SMOOTH RADIUS
	ELBOW DOWN - RECTANGULAR
	ELBOW DOWN - ROUND
	ELBOW UP - RECTANGULAR
	ELBOW UP - ROUND
	HEATING COIL
	INCLINED DROP IN DIRECTION OF AIRFLOW
	INCLINED RISE IN DIRECTION OF AIRFLOW
	TRANSITION - CONCENTRIC
	TRANSITION - ECCENTRIC

MECHANICAL DRAWING INDEX

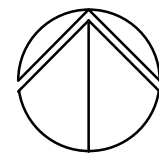
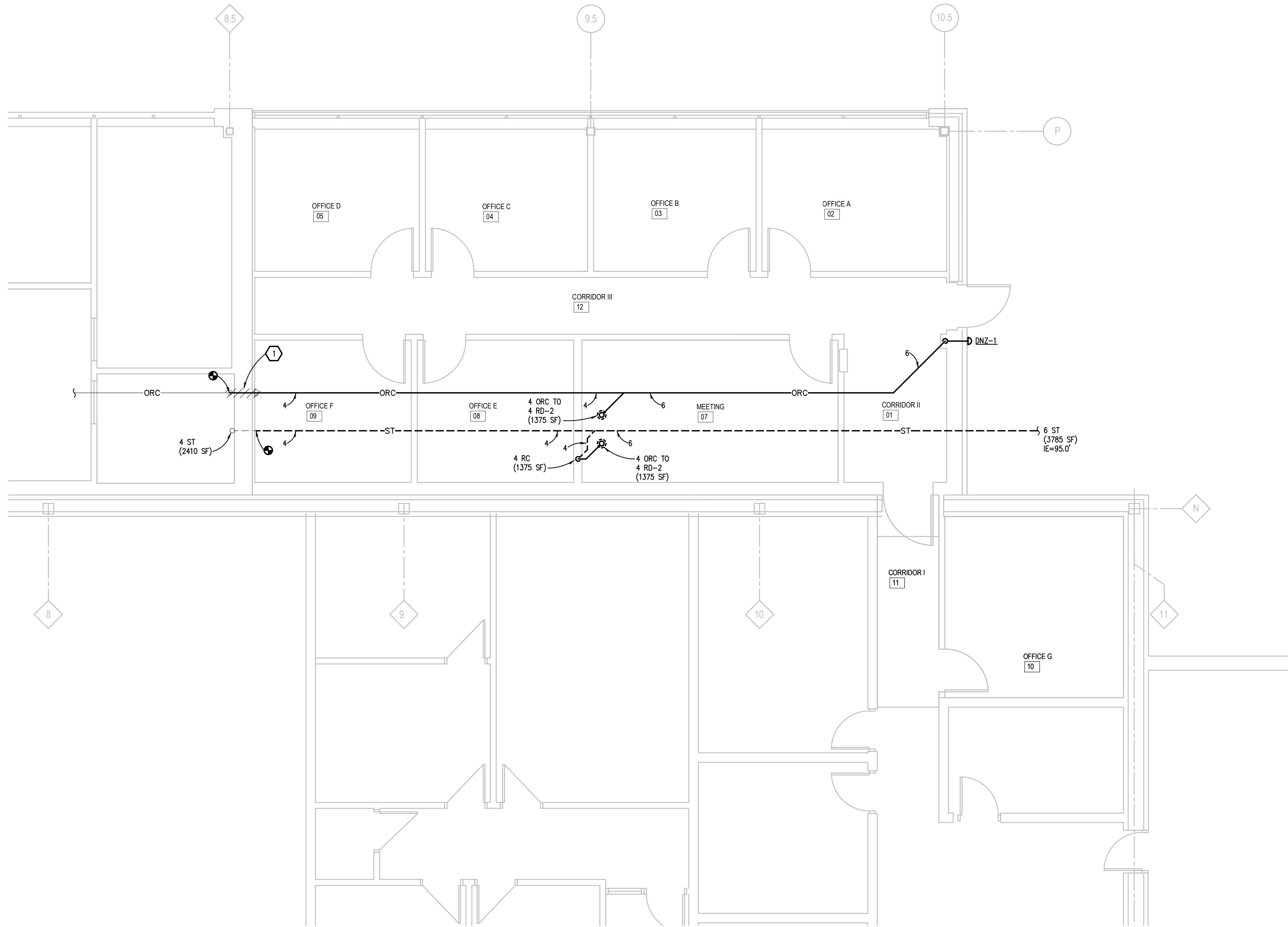
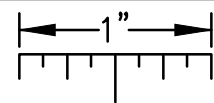
SHEET NO.	SHEET TITLE
M0.1	MECHANICAL STANDARDS AND DRAWING INDEX
M2.1	FIRST FLOOR PLUMBING
M4.1	FIRST FLOOR SHEET METAL PLAN
M4.2	ROOF MECHANICAL PLAN
M6.1	MECHANICAL DETAILS
M7.1	MECHANICAL SCHEDULES
M7.2	MECHANICAL SCHEDULES
M7.3	MECHANICAL SCHEDULES
M8.1	TEMPERATURE CONTROL STANDARDS AND GENERAL NOTES
M8.2	TEMPERATURE CONTROLS

STANDARD METHODS OF NOTATION

	S-1 10" 350-4	SUPPLY DIFFUSER WITH SCHEDULE TAG "1", 10" DIAMETER NECK SIZE, 350 CFM TYPICAL FOR 4
	R-1 22x22 640-2	RETURN REGISTER WITH SCHEDULE TAG "1", 22" x 22" NECK SIZE, 640 CFM TYPICAL FOR 2, EXHAUST REGISTER E DESIGNATION SIMILAR.
		AIR TERMINAL UNIT WITH HEATING COIL NO. 101 WITH SERVICE CLEARANCE SHOWN
		PIPE DIAMETER NOTATION ALL SIZES IN INCHES DUCT SIZE NOTATION SIZES IN INCHES
		CONSTRUCTION KEY NOTE (NUMBER) OR DEMOLITION KEY NOTE (LETTER)
		EQUIPMENT DESIGNATION, (I.E. EXHAUST FAN NUMBER 1) PI

g:\2019\2019-0199-00\CAD\2019-0199-M2-PL1.dwg, M2.1, 7/24/2019 3:24:01 PM, Dominic M. Quni, Peter Basso Associates Inc.

THE FOLLOWING DIMENSION EQUALS
ONE INCH WHEN PRINTED TO SCALE.



FIRST FLOOR PLUMBING
SCALE: 1/4" = 1' - 0"

PLUMBING GENERAL NOTES:

1. THESE DRAWINGS ARE DIAGRAMMATIC, AND REPRESENT THE GENERAL INTENT AND ARRANGEMENT OF SYSTEMS. THEY ARE NOT TO BE CONSIDERED FABRICATION/COORDINATION/SHOP DRAWINGS. COORDINATION WITH OTHER TRADES IS REQUIRED. PROVIDE THE ADDITIONAL FITTINGS AND OFFSETS THAT WILL BE REQUIRED TO COMPLETE EACH SYSTEM AND TO AVOID INTERFERENCES WITH ALL OTHER SYSTEMS INCLUDING THE STRUCTURE, SHEET METAL, OTHER PIPING SYSTEMS, ELECTRICAL CONDUITS, BUS DUCTS, CABLE TRAY, LIGHT FIXTURES, ETC. AND/OR OTHER SPACE CONSTRAINTS.
2. INSTALL SYSTEMS SUCH THAT REQUIRED CLEARANCE AND SERVICE ACCESS SPACE IS PROVIDED AROUND ALL MECHANICAL AND ELECTRICAL EQUIPMENT, AND AROUND ANY COMPONENTS WHICH REQUIRE SERVICE ACCESS.
3. PIPING SHALL NOT BE INSTALLED ABOVE ELECTRICAL TRANSFORMERS, SWITCHBOARDS, PANELBOARDS OR MOTOR CONTROL CENTERS.
4. PROVIDE SUPPLEMENTARY STEEL AS REQUIRED FOR THE PROPER SUPPORT OF ALL SYSTEMS.
5. PROVIDE CODE REQUIRED CLEARANCE FOR ALL CLEANOUTS INSTALLED IN SANITARY WASTE AND VENT PIPING.
6. MINIMUM UNDERGROUND PIPE SIZE SHALL BE 3".

CONSTRUCTION KEY NOTES:

1. REMOVE VERTICAL SECTION OF PIPING AND DOWNSPOUT NOZZLE, EXTEND ORC PIPING AS INDICATED TO NEW DOWNSPOUT NOZZLE LOCATION. ROUTE PIPING AS HIGH AS POSSIBLE.

SHEET

M2.1

TITLE

FIRST FLOOR PLUMBING

PROJECT

Matthaei Office Addition
Wayne State University
Detroit, Michigan
080-325090

ISSUE

BIDS

DATE

07-25-19



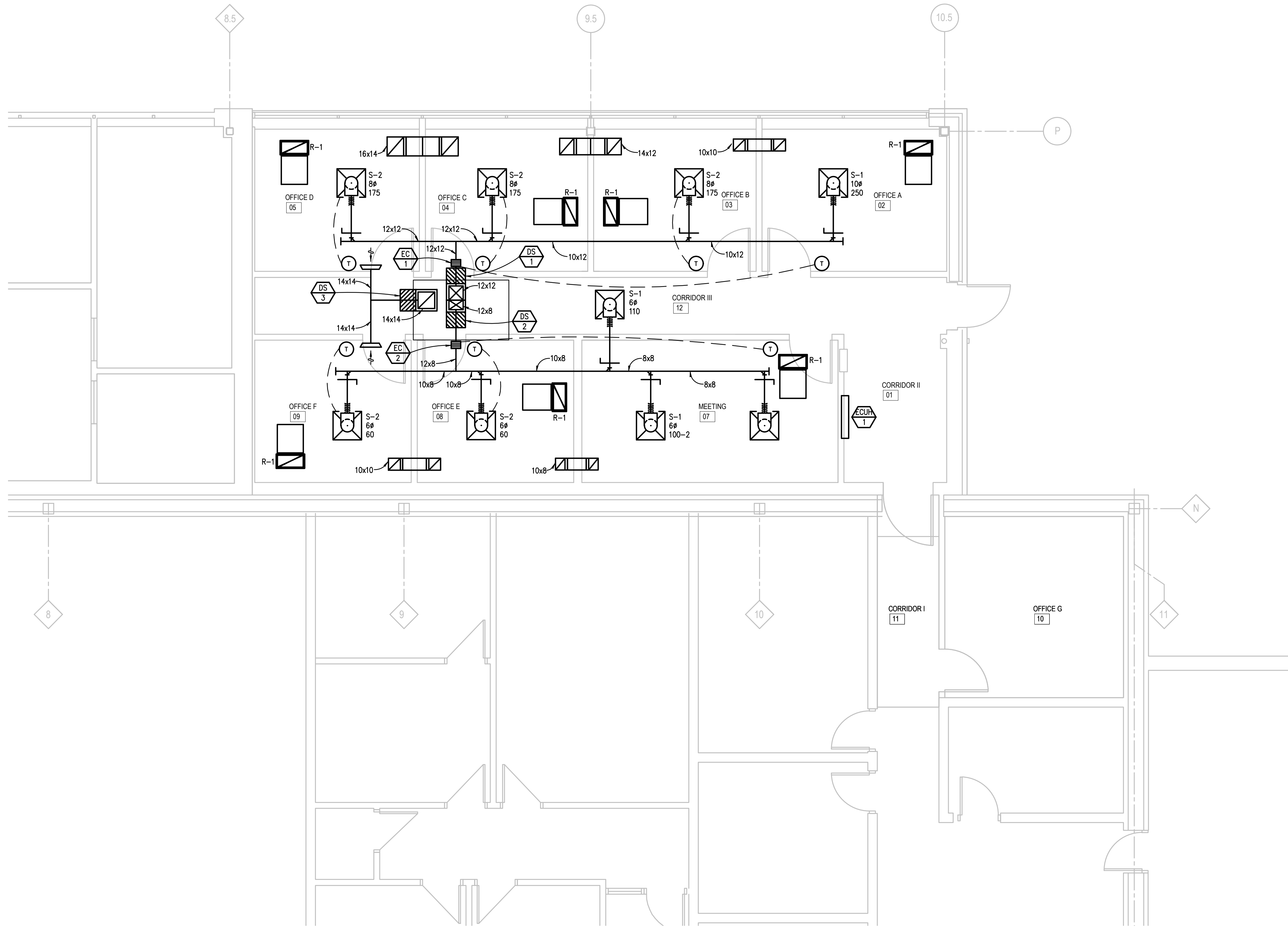
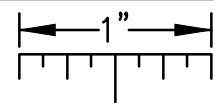
SILVERI ARCHITECTS
650 LIVERNOIS
(248) 591-0360
FERNDAL, MICHIGAN 48220
silveri.com



Peter Basso Associates Inc.
CONSULTING ENGINEERS
5445 Livernois, Suite 100
Troy, Michigan 48065-5025
Tel: 248-475-5565
Fax: 248-475-5007
www.PeterBassoAssociates.com
PSA-Project No. 2019-0199

g:\2019\2019-0199-00\CAD\2019-0199-M4-SM1.dwg, M4.1, 7/24/2019 3:24:09 PM, Dominic M. Quni, Peter Basso Associates Inc.

THE FOLLOWING DIMENSION EQUALS
ONE INCH WHEN PRINTED TO SCALE.



FIRST FLOOR SHEET METAL PLAN

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

SHEET METAL GENERAL NOTES:

1. THESE DRAWINGS ARE DIAGRAMMATIC, AND REPRESENT THE GENERAL INTENT AND ARRANGEMENT OF SYSTEMS. THEY ARE NOT TO BE CONSIDERED FABRICATION/COORDINATION/SHOP DRAWINGS. COORDINATION WITH OTHER TRADES IS REQUIRED. PROVIDE THE ADDITIONAL FITTINGS AND OFFSETS THAT WILL BE REQUIRED TO COMPLETE EACH SYSTEM AND TO AVOID INTERFERENCES WITH ALL OTHER SYSTEMS INCLUDING THE STRUCTURE, PIPING SYSTEMS, ELECTRICAL CONDUITS, BUS DUCTS, CABLE TRAY, LIGHT FIXTURES, ETC. AND/OR OTHER SPACE CONSTRAINTS.
2. INSTALL SYSTEMS SUCH THAT REQUIRED CLEARANCE AND SERVICE ACCESS SPACE IS PROVIDED AROUND ALL MECHANICAL AND ELECTRICAL EQUIPMENT, AND AROUND ANY COMPONENTS WHICH REQUIRE SERVICE ACCESS.
3. PIPING AND DUCTWORK SHALL NOT BE INSTALLED ABOVE ELECTRICAL TRANSFORMERS, SWITCHBOARDS, PANELBOARDS OR MOTOR CONTROL CENTERS.
4. COORDINATE AND PROVIDE ACCESS DOORS WITHIN INACCESSIBLE CEILING, SHAFT, AND CHASE AREAS FOR ALL COMPONENTS WHICH REQUIRE SERVICE ACCESS. REFER TO ARCHITECTURAL DRAWINGS FOR CEILING TYPES.
5. PROVIDE SUPPLEMENTARY STEEL AS REQUIRED FOR THE PROPER SUPPORT OF ALL SYSTEMS.
6. REFER TO ARCHITECTURAL REFLECTED CEILING PLANS FOR DIMENSIONED LOCATION OF GRILLES, REGISTERS, AND DIFFUSERS.

SHEET

M4.1

TITLE

FIRST FLOOR SHEET METAL PLAN

PROJECT

Matthaei Office Addition
Wayne State University
Detroit, Michigan
080-325090

ISSUE

BIDS

DATE
07-25-19

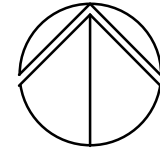
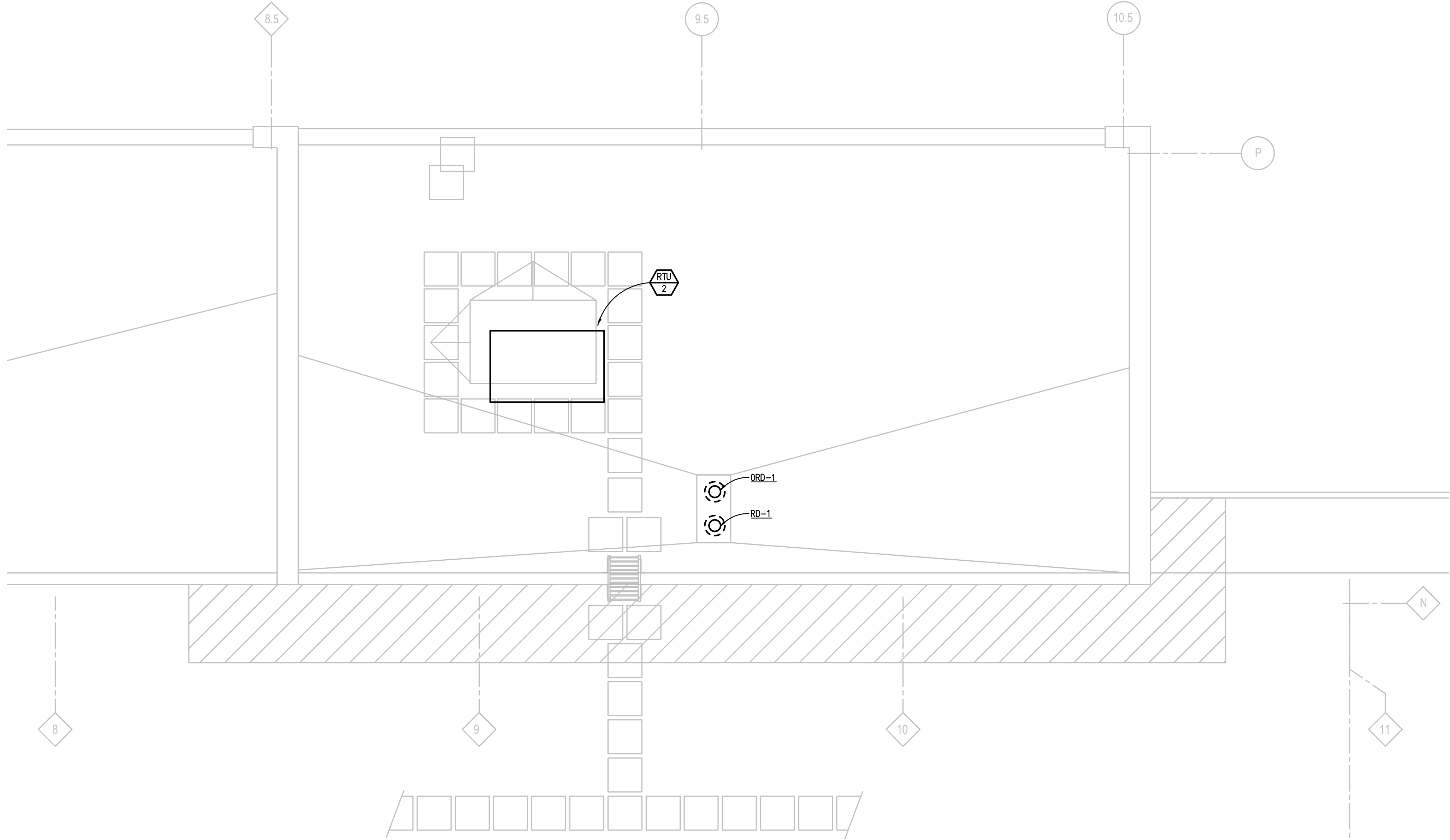
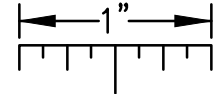


SILVERI ARCHITECTS
650 LIVERNOIS
(248) 591-0360
silveri.com

FERNDAL, MICHIGAN 48220

g:\2019\2019-0199-00\CAD\2019-0199-M4-SM2.dwg, M4.2, 7/24/2019 3:24:17 PM, Dominic M. Quni, Peter Basso Associates Inc.

THE FOLLOWING DIMENSION EQUALS
ONE INCH WHEN PRINTED TO SCALE.



ROOF MECHANICAL PLAN
SCALE: 1/4" = 1' - 0"

SHEET

M4.2

TITLE

ROOF MECHANICAL PLAN

PROJECT

Matthaei Office Addition
Wayne State University
Detroit, Michigan
080-325090

ISSUE

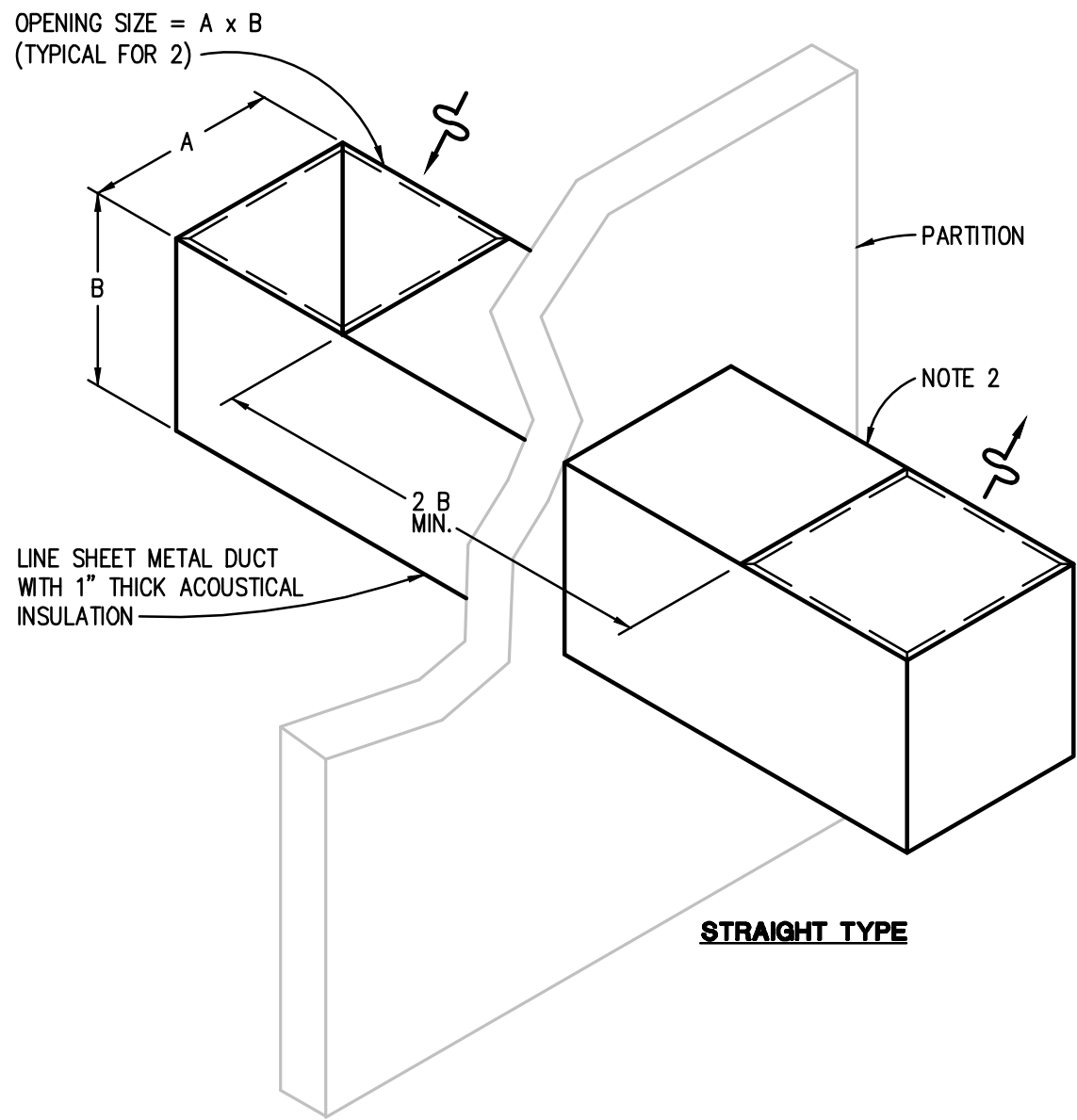
BIDS

DATE
07-25-19



SILVERI ARCHITECTS
650 LIVERNOIS FERNDALE, MICHIGAN 48220
(248) 591-0360 silveri.com

g:\2019\2019-0199-00\CAD\2019-0199-M6-DT.dwg, M6.1, 7/24/2019 3:24:24 PM, Dominic M. Quni, Peter Bosso Associates Inc.

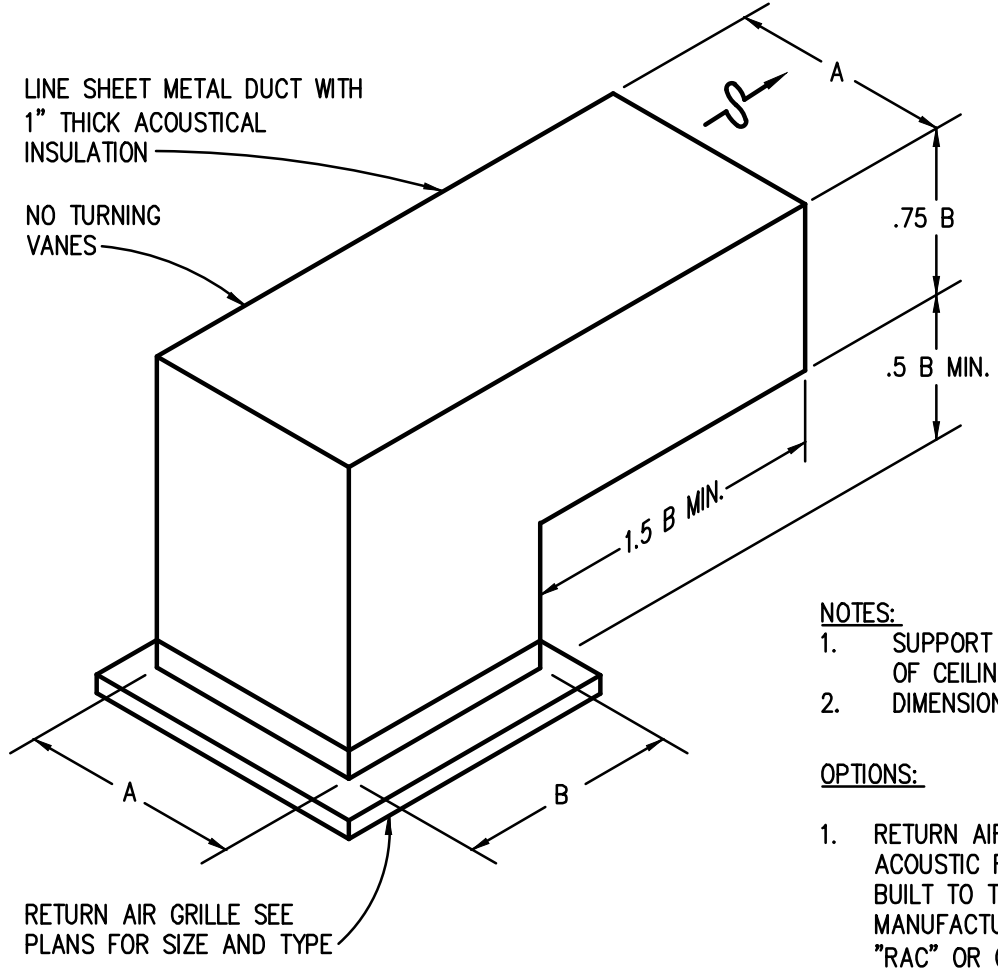


- NOTES:
- WHERE INDICATED ON DRAWING OR WHERE DISTANCE FROM TOP OF DUCT TO SLAB/DECK IS LESS THAN .5B INSTALL Z TYPE DETAIL.
 - SIZE DUCTS FOR 400 FPM MAX BASED ON CLEAR INSIDE DIMENSIONS AND 100% OF THE SUPPLY AIR TO THE SPACE UNLESS OTHERWISE NOTED.
 - ROTATE DETAILS 90° WHERE VERTICAL INSTALLATION IS INDICATED.
 - DIMENSIONS ARE INSIDE CLEAR.

- OPTIONS:
- RIGID FIBER BOARD MAY BE USED IN LIEU OF LINED SHEET METAL DUCT.

AIR TRANSFER DUCT DETAILS

NO SCALE



- NOTES:
- SUPPORT ELBOW INDEPENDENT OF CEILING GRID
 - DIMENSIONS ARE INSIDE CLEAR

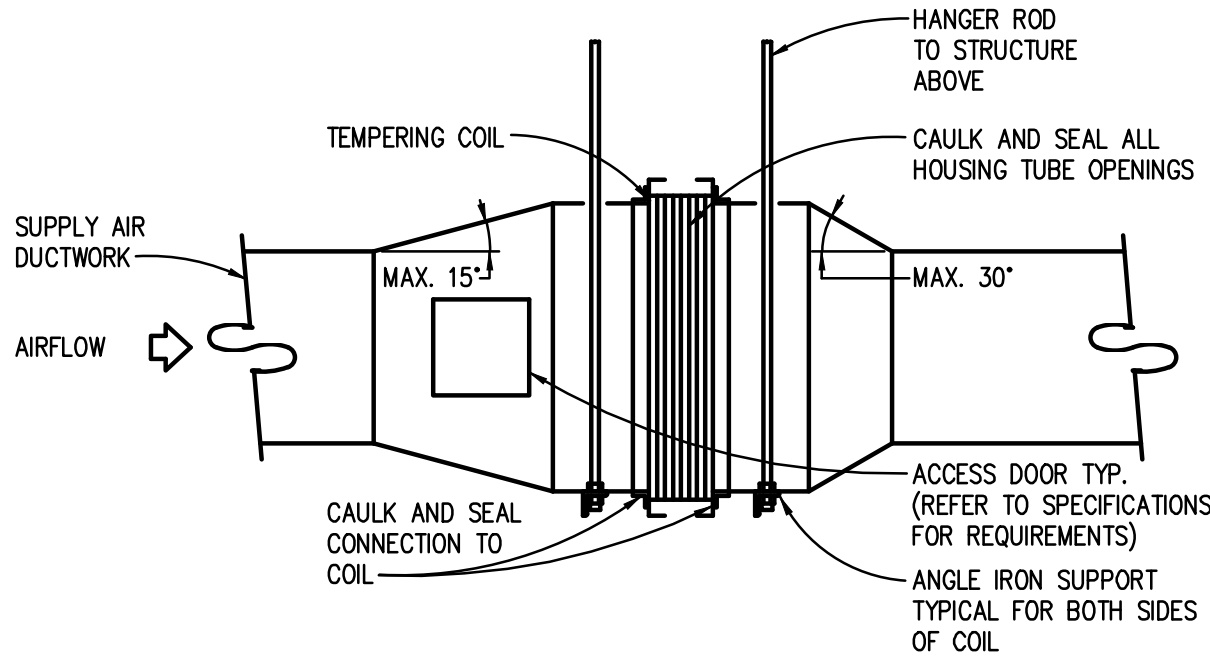
OPTIONS:

- RETURN AIR CANOPY, GALVANIZED STEEL WITH ACOUSTIC FIBERGLASS LINER, UNIT SHALL BE BUILT TO THE RETURN GRILLE SIZE, AS MANUFACTURED BY PRICE INDUSTRIES-MODEL "RAC" OR OTHER APPROVED.
- RIGID FIBER BOARD IN LIEU OF LINED SHEET METAL DUCT.

CEILING GRILLE TO/FROM PLENUM

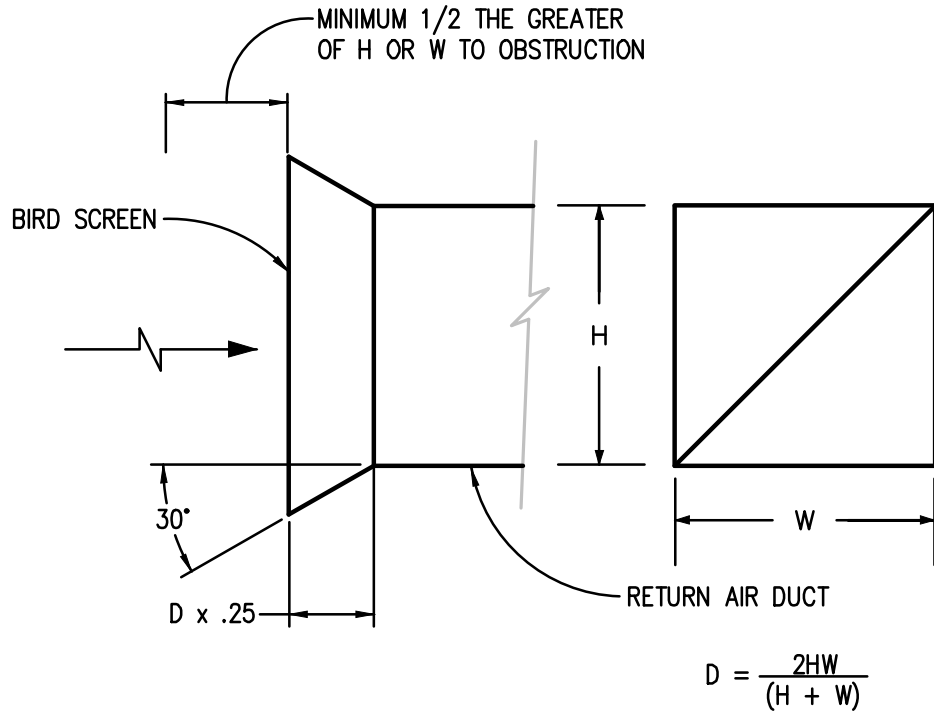
PLENUM RETURN AIR GRILLE DETAILS

NO SCALE



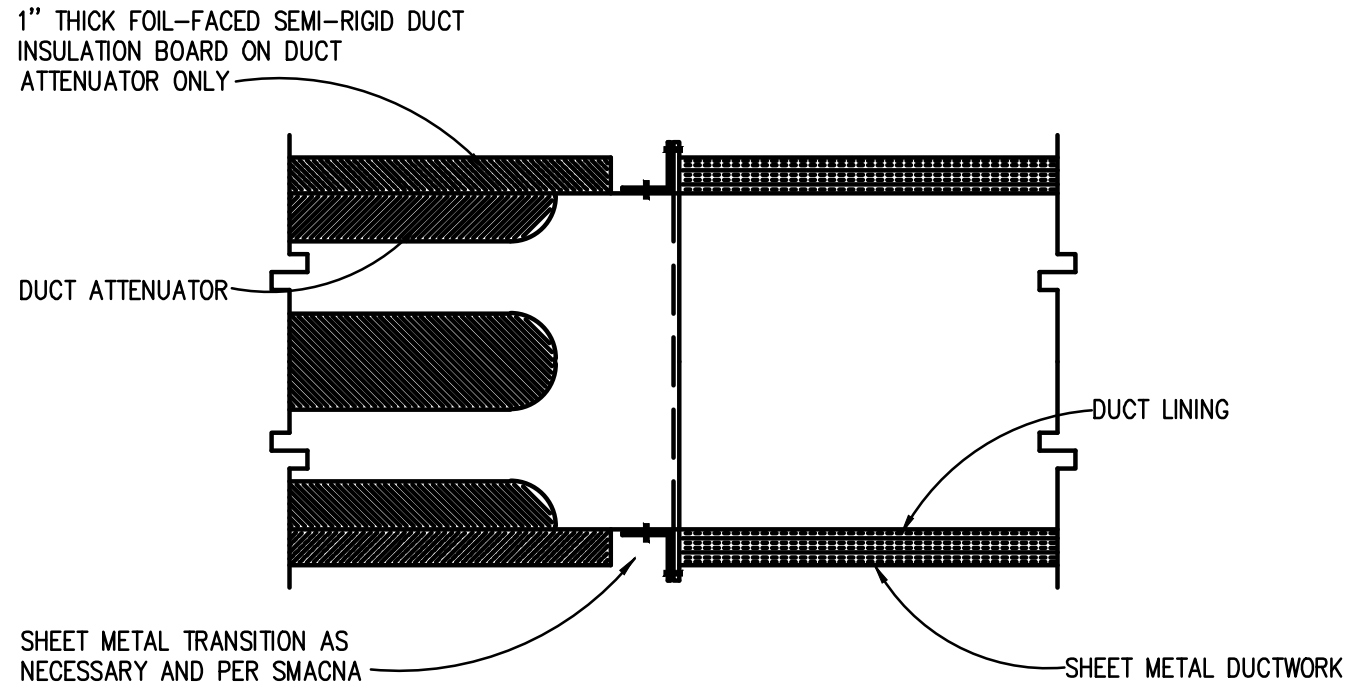
DUCT MOUNTED TEMPERING COIL INSTALLATION DETAIL

NO SCALE



BELLMOUTH DETAIL

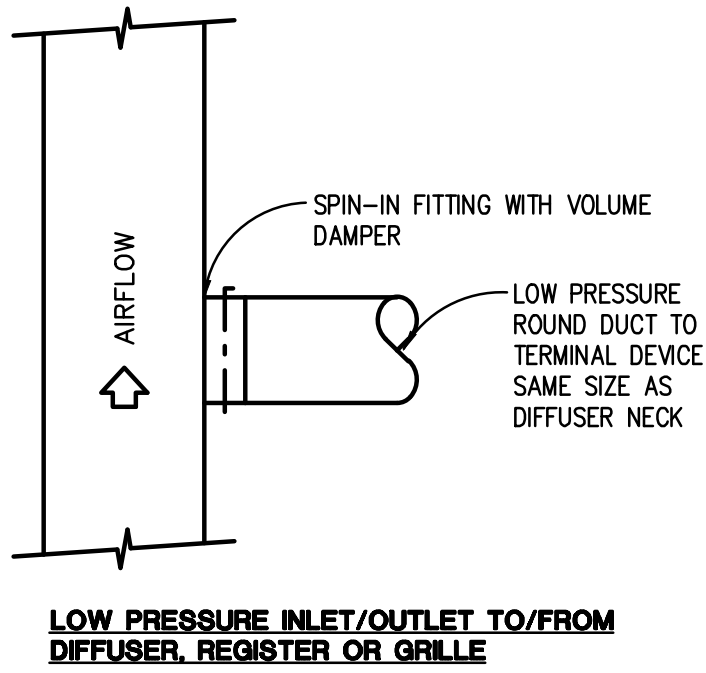
NO SCALE



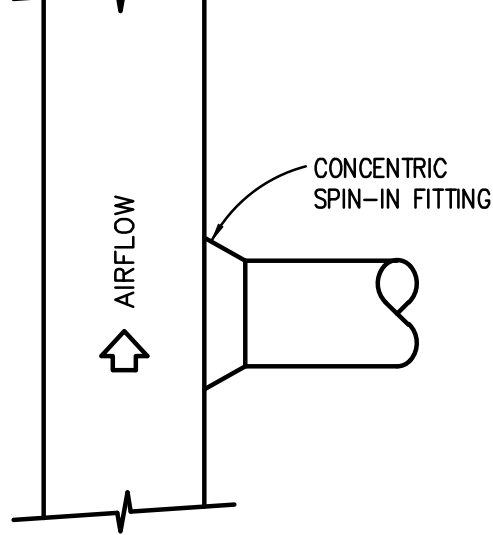
- NOTE:
- CONSTRUCT JUNCTION WITH INTERNAL DIMENSIONS OF LINING AND ATTENUATOR BEING EQUAL, TO CREATE SMOOTH AIRFLOW SURFACES WITH NO OBSTRUCTIONS AND NO EXPOSED EDGES OF LINING.

DUCT SILENCER JUNCTION DETAIL

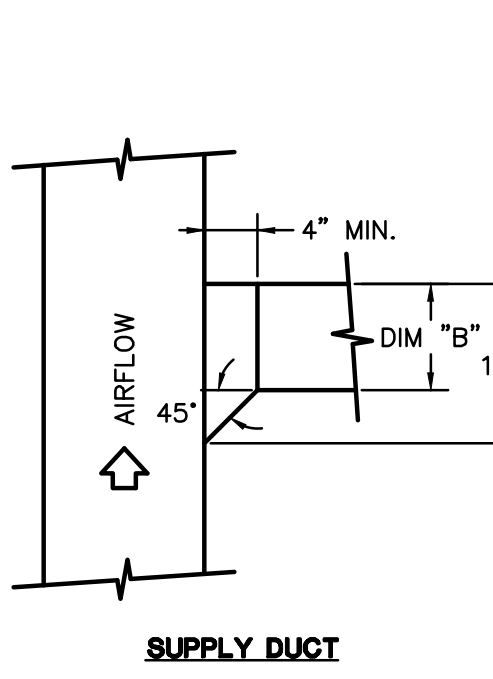
NO SCALE



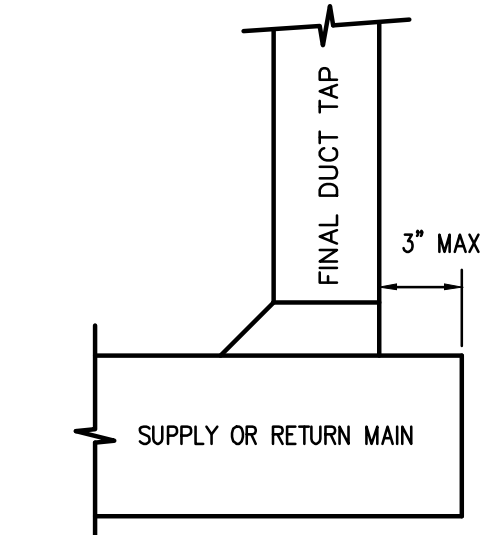
LOW PRESSURE INLET/OUTLET TO/FROM DIFFUSER, REGISTER OR GRILLE



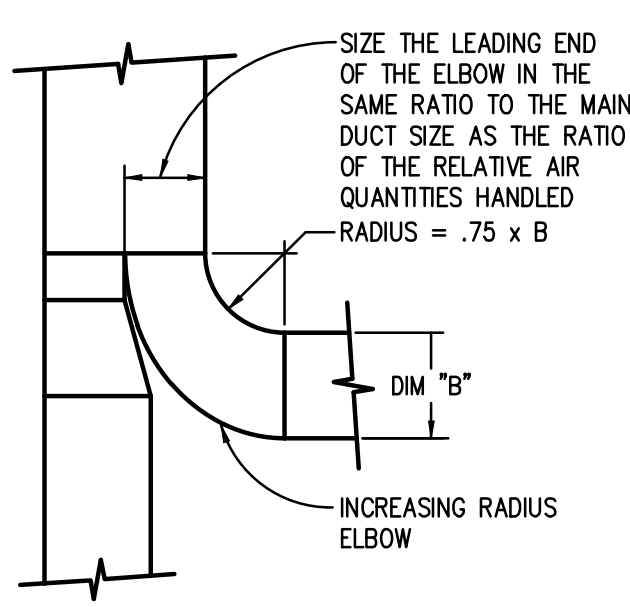
RECTANGULAR TO ROUND DUCT



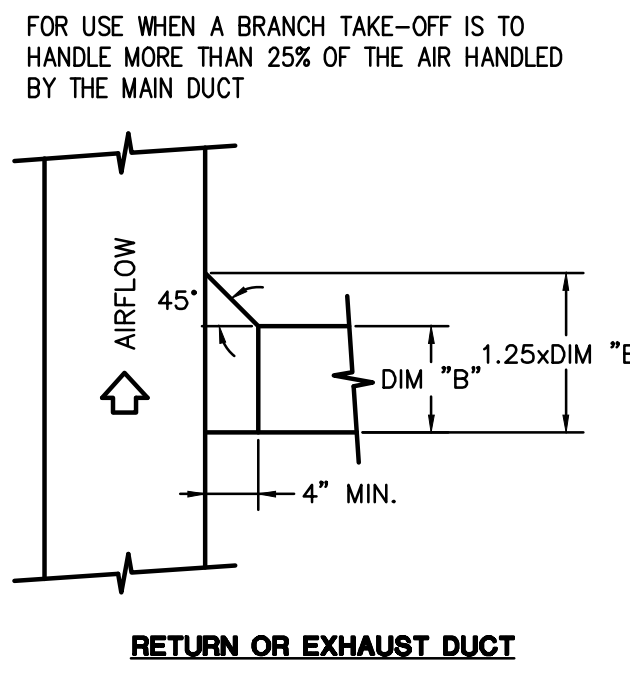
SUPPLY DUCT



LOW PRESSURE END OF RUN



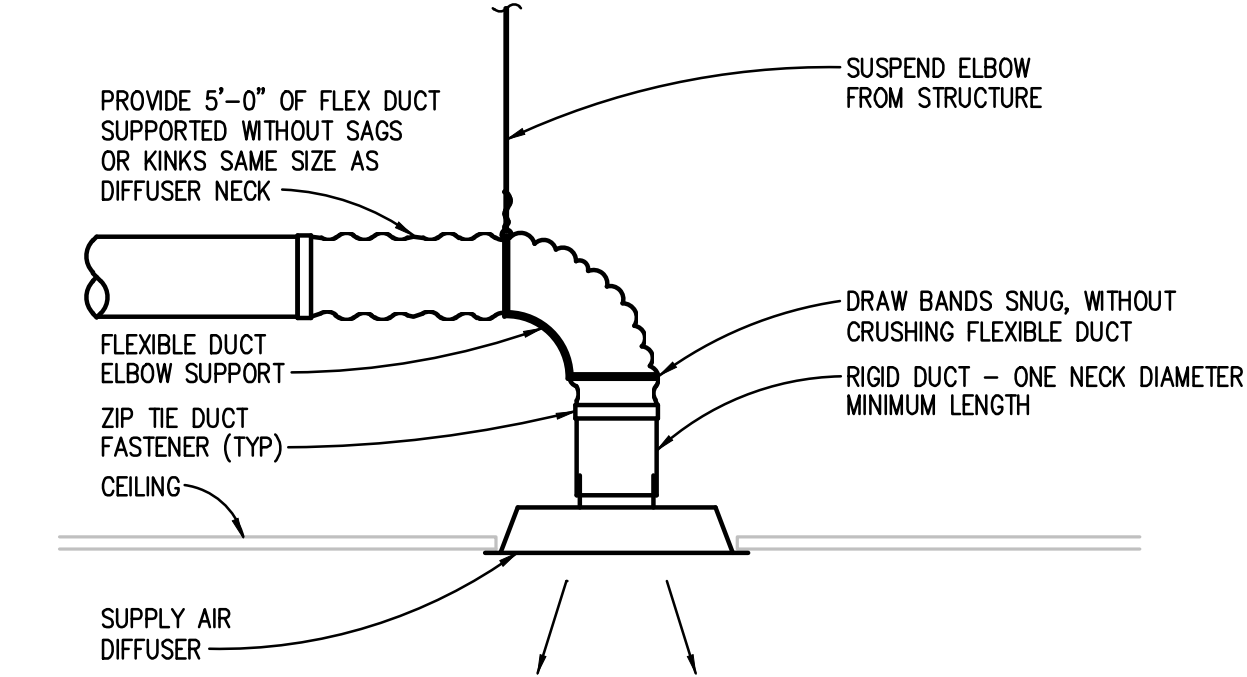
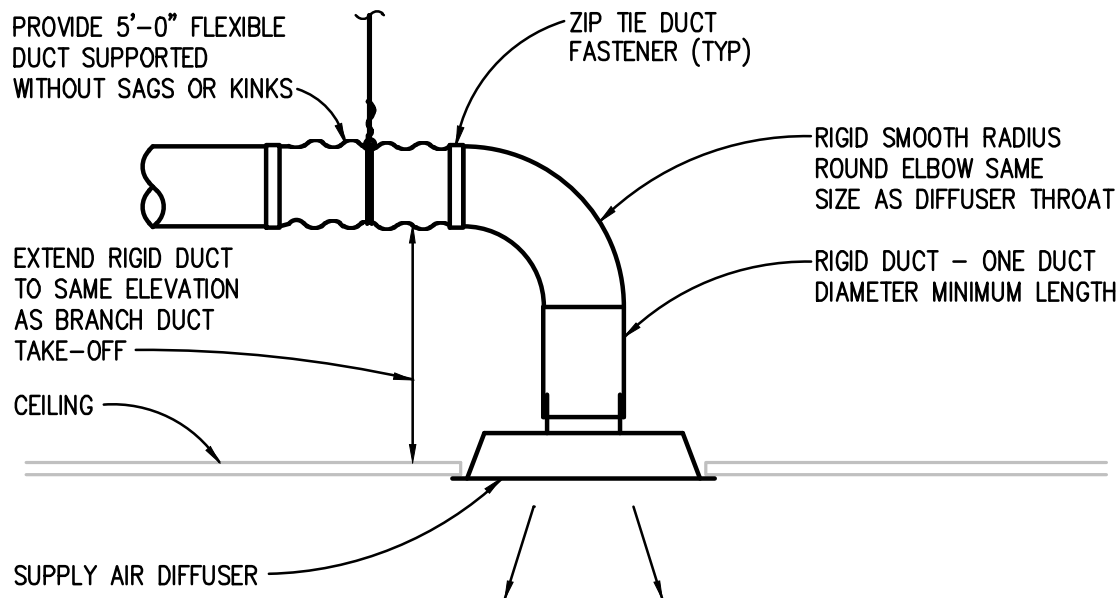
SUPPLY, RETURN OR EXHAUST DUCT



RETURN OR EXHAUST DUCT

RECTANGULAR DUCT BRANCH TAKE-OFF DETAILS

NO SCALE



ROUND NECK SUPPLY AIR DIFFUSER DETAIL

NO SCALE

DUCT SYSTEM APPLICATION SCHEDULE														
	DUCT MATERIAL													
	680 GALV. SHEET METAL	DOUBLE-WALL LINED 680 GALV. SHEET METAL (SOLID INNER WALL)	DOUBLE-WALL LINED 680 GALV. SHEET METAL (PERF. INNER WALL)	680 GALV. SHEET METAL WITH 1-INCH LINING	GALVANNEALD SHEET METAL	ALUMINUM	TYPE 304 STAINLESS STEEL	TYPE 316 STAINLESS STEEL	PVC COATED GALV. SHEET METAL (4x1)	PVC COATED GALV. SHEET METAL (1Y4)	PVC COATED GALV. SHEET METAL (4x4)	16 GA. CARBON STEEL	ZERO-CLEARANCE PREFABRICATED RANGE HOOD EXHAUST DUCT	FABRIC
AIR SYSTEMS														
SUPPLY AIR WITHOUT TERMINAL UNITS	X													+2
RETURN AIR WITHOUT TERMINAL UNITS	X													-2
AIR TRANSFER DUCT				X										+2
KEYED NOTES														
DESIGN PRESSURE CLASS (INCHES WG)														
SEAL CLASS														
MAX. ALLOWABLE LEAKAGE RATE (PERCENT)														
KEYED NOTES														

GENERAL NOTES

1. 'X' INDICATES ACCEPTABLE SELECTION. IF MORE THAN ONE SELECTION IS INDICATED FOR A DUCT SYSTEM, CONTRACTOR MAY SELECT FROM THOSE INDICATED SELECTIONS.
2. 4 X 1 PVC-COATED GALVANIZED STEEL: FACTORY-APPLIED PVC COATINGS SHALL BE 4 MILS (0.10 MM) THICK ON EXTERIOR SHEET METAL SURFACES OF DUCTS AND FITTINGS EXPOSED TO CORROSIVE CONDITIONS AND MINIMUM 1 MIL (0.025 MM) THICK ON INTERIOR SURFACES.
3. 1 X 4 (4 X 1 REVERSE COATED) PVC-COATED GALVANIZED STEEL: FACTORY-APPLIED PVC COATINGS SHALL BE 4 MILS (0.10 MM) THICK ON INTERIOR SHEET METAL SURFACES OF DUCTS AND FITTINGS EXPOSED TO CORROSIVE CONDITIONS AND MINIMUM 1 MIL (0.025 MM) THICK ON EXTERIOR SURFACES.
4. 4 X 4 PVC-COATED GALVANIZED STEEL: FACTORY-APPLIED PVC COATINGS SHALL BE 4 MILS (0.10 MM) THICK ON SHEET METAL SURFACES OF DUCTS AND FITTINGS EXPOSED TO CORROSIVE CONDITIONS AND 4 MILS (0.10 MM) THICK ON OPPOSITE SURFACES.

KEYED NOTES

- A. SCREWS, DAMPERS, OR PROJECTIONS OF ANY TYPE ON INTERIOR OF DUCT SURFACE ARE PROHIBITED.
- B. DUCT SHALL BE LINED WITHIN 25 FEET UPSTREAM OF FANS.
- C. ALL WELDED CONSTRUCTION.

PLUMBING PIPING & VALVE APPLICATION SCHEDULE														
	MATERIAL												GRAVITY DWV CONNECTIONS	
	SOFT COPPER TYPE K	HARD COPPER TYPE L	HARD COPPER TYPE M	CARBON STEEL (SCHED. 40)	CARBON STEEL (STD.)	GALV. STEEL (SCHED. 40)	PEX	PE PIPE	PE SHEATHED CARBON STEEL PIPE	CSST	NO-HUB CISP	PVC TYPE DWV	PP DRAINAGE PIPE	COPPER TYPE DWV
PIPE SIZE (INCHES)														
ABOVEGROUND STORM DRAINAGE - MIN. WORKING PRESS. 10-FOOT HEAD OF WATER														
3 TO 15											X			
UNDERGROUND STORM DRAINAGE - MIN. WORKING PRESS. 10-FOOT HEAD OF WATER														
3 TO 12											X			
KEYED NOTES														
GENERAL NOTES														
1. 'X' INDICATES ACCEPTABLE SELECTION. IF MORE THAN ONE SELECTION IS INDICATED FOR A PIPING SYSTEM, CONTRACTOR MAY SELECT FROM THOSE INDICATED SELECTIONS.														
2. DISSIMILAR-METAL PIPING JOINTS: CONSTRUCT JOINTS USING DIELECTRIC FITTINGS COMPATIBLE WITH BOTH PIPING MATERIALS.														
a. NPS 2 AND SMALLER: USE DIELECTRIC NIPPLE/WATERWAY.														
b. NPS 2-1/2 AND LARGER: USE DIELECTRIC FLANGE KITS.														
3. USE UNIONS OR FLANGES AT VALVE AND EQUIPMENT CONNECTIONS.														
4. PLUMBING EQUIPMENT DRAINS, VENTS, SAFETY VALVE PIPING, BLOWDOWN PIPING AND THE LIKE SHALL BE SAME PIPING MATERIAL AS ASSOCIATED PIPING SYSTEM.														
5. GROOVED END VALVES MAY BE USED WITH GROOVED PIPING.														

ABOVEGROUND PLUMBING PIPE & ACCESSORY INSULATION APPLICATION SCHEDULE														
	INSULATION MATERIAL & THICKNESS (INCHES)							FIELD-APPLIED JACKET MATERIAL						
	FLEXIBLE ELASTOMERIC	FIBERGLASS	MINERAL WOOL	POLYISOCYANURATE	PHENOLIC	CELLULAR GLASS	CALCIUM SILICATE	ALUMINUM	STAINLESS STEEL	PVC	PVDC (INDOOR)		PVDC (OUTDOOR)	
KEYED NOTES														
INDOOR PIPE SYSTEM AND SIZE (INCHES)														
STORM WATER & OVERFLOW	1	1												
ROOF DRAIN AND OVERFLOW DRAIN BODIES	1	1												

DUCT SYSTEM INSULATION APPLICATION SCHEDULE												
	INSULATION MATERIAL & THICKNESS (INCHES)							FIELD APPLIED JACKET MATERIAL				
	FIBERGLASS BLANKET 0.75 LB/CU FT	FIBERGLASS BLANKET 1.0 LB/CU FT	FIBERGLASS BOARD 2.25 LB/CU FT	FIBERGLASS BOARD 6.0 LB/CU FT	FLEXIBLE ELASTOMERIC	ASTM E2336 2-HOUR FIRE RATED BLANKET	2-HOUR FIRE RATED BLANKET	ALUMINUM	SELF-ADHESIVE (FOR OUTDOOR APPLICATIONS)			
											KEYED NOTES	
DUCT SYSTEMS LOCATED INDOORS												
SUPPLY AIR, EXCEPT AS NOTED BELOW		1.5									A, E	

PLENUMS, DUCTS, AND DUCT ACCESSORIES NOT REQUIRING INSULATION:

FIBROUS-GLASS DUCTS

DOUBLE-WALL METAL DUCTS WITH INSULATION OF SUFFICIENT THICKNESS TO COMPLY WITH ENERGY CODE AND ASHRAE/IESNA 90.1 – 2013

METAL DUCTS WITH DUCT LINER OF SUFFICIENT THICKNESS TO COMPLY WITH ENERGY CODE AND ASHRAE/IESNA 90.1 – 2013

FABRIC SUPPLY DUCTS

FACTORY-INSULATED FLEXIBLE DUCTS

FACTORY-INSULATED PLENUMS AND CASINGS

FLEXIBLE CONNECTORS

VIBRATION-CONTROL DEVICES

FACTORY-INSULATED ACCESS PANELS AND DOORS

GENERAL NOTES

1. 'X' OR THICKNESS IN INCHES INDICATE ACCEPTABLE SELECTION. IF MORE THAN ONE SELECTION IS INDICATED FOR A DUCT SYSTEM, CONTRACTOR MAY SELECT FROM THOSE INDICATED SELECTIONS.
2. REFER TO METAL DUCT SECTION OF SPECIFICATIONS FOR DUCT LINING AND DOUBLE-WALL INSULATED DUCT.
3. REFER TO HVAC CASINGS SECTION OF SPECIFICATIONS FOR DOUBLE-WALL INSULATED PLENUMS.

KEYED NOTES

- A. INCLUDE INSULATION AROUND DUCT MOUNTED COILS AND AIR TERMINAL UNIT COILS.
- B. NUMBER OF LAYERS AND TOTAL INSULATION THICKNESS AS RECOMMENDED BY SELECTED MANUFACTURER.
- C. DOES NOT APPLY TO PREFABRICATED, ZERO-CLEARANCE GREASE DUCT.
- D. PROVIDE MANUFACTURER'S RECOMMENDED PROTECTIVE COATING FOR FLEXIBLE ELASTOMERIC THERMAL DUCT INSULATION.
- E. EXPOSED SUPPLY DUCTWORK LOCATED IN CONDITIONED SPACE SERVED BY THAT SYSTEM IS NOT REQUIRED TO BE INSULATED.

VIBRATION ISOLATOR APPLICATION SCHEDULE									
EQUIPMENT TYPE	EQUIPMENT CATEGORY	HORSEPOWER AND OTHER	RPM	EQUIPMENT LOCATION					
				SLAB ON GRADE			UP TO 40 FT (12 M) FLOOR SPAN		
				BASE TYPE	ISOLATOR TYPE	MIN. DEFL., IN. (MM)	BASE TYPE	ISOLATOR TYPE	MIN. DEFL., IN. (MM)
PACKAGED ROOFTOP EQUIPMENT	ALL	≥10 TONS REFRIG. OR ≥10 HP FAN	ALL				D OR E	3	1.50 (38)
KEYED NOTES									
NOTES 1, 3, 4, 5									

1. THRUST RESTRAINTS: PROVIDE THRUST RESTRAINTS BETWEEN FAN DISCHARGE AND DUCT (IN PAIRS, LOCATED ON THE CENTERLINE OF THE DISCHARGE OUTLET OF THE FAN, BRIDGING THE FLEXIBLE DUCT CONNECTOR) FOR ALL FAN HEADS, FOR AXIAL AND CENTRIFUGAL FANS UNITS OPERATING AT 2 INCHES OR GREATER TOTAL STATIC PRESSURE AND AS SHOWN ON DRAWINGS. SPRING DEFLECTION SHALL BE SAME AS THE SUPPORT ISOLATORS.
2. PIPING RISER ISOLATION: PROVIDE PIPE RISER RESILIENT ANCHORS, SPRING MOUNTS AND RESILIENT PIPE GUIDES CAPABLE OF DISTRIBUTING THE LOADS WITHIN THE BUILDING DESIGN LIMITS AT THE SUPPORT POINTS.
3. HORIZONTAL PIPING VIBRATION ISOLATION: PROVIDE TYPE 8a OR 8b SPRING HANGERS FOR PIPING CONNECTED TO VIBRATION ISOLATED EQUIPMENT FOR ALL PIPING IN MECHANICAL ROOMS OR THE FOLLOWING MINIMUM HORIZONTAL DISTANCES FROM THE ISOLATED EQUIPMENT: UP TO 6" – 50 FEET (1 1/2" MINIMUM DEFLECTION), 6" AND LARGER – 100 FEET (2 1/2" MINIMUM DEFLECTION), WHICHEVER IS GREATER, AND AS SHOWN ON DRAWINGS. THE FIRST 4 HANGERS FROM THE ISOLATED EQUIPMENT SHALL BE TYPE 8b.
4. DUCTWORK VIBRATION ISOLATION: PROVIDE TYPE 8a OR 8b SPRING HANGERS FOR DUCTWORK WITH A CROSS SECTION OF 2 SQUARE FEET OR GREATER CONNECTED TO AIR HANDLING UNITS, RETURN OR RELIEF FANS, AND VIBRATION ISOLATED EQUIPMENT FOR ALL SUCH DUCTWORK IN MECHANICAL ROOMS OR FOR A MINIMUM HORIZONTAL DISTANCE OF 100 FEET FROM THE ISOLATED EQUIPMENT, WHICHEVER IS GREATER, AND AS SHOWN ON DRAWINGS (3/4" MINIMUM DEFLECTION).
5. IF SPAN DOES NOT EXCEED 20 FT, SPRING DEFLECTION MAY BE 1.0 IN AND TYPE D BASE MAY BE USED. FOR SPANS GREATER THAN 20 FT, USE SPRING DEFLECTION INDICATED AND TYPE E BASE.

BASE TYPES:

- BASE TYPE A – NO BASE, ISOLATORS ATTACHED DIRECTLY TO EQUIPMENT.
- BASE TYPE B – STRUCTURAL, STEEL RAILS OR BASE.
- BASE TYPE C – CONCRETE INERTIA BASE.
- BASE TYPE D – CURB – MOUNTED ALUMINUM BASE WITH 1" DEFL. SPRING ISOLATORS
- BASE TYPE E – CURB – MOUNTED STEEL BASE WITH ADJUSTABLE 1", 2" OR 3" DEFL. SPRING ISOLATORS

ISOLATOR TYPES:

- ISOLATOR TYPE 1a – ELASTOMERIC ISOLATION PAD.
- ISOLATOR TYPE 1b – ELASTOMERIC ISOLATION PAD WITH STEEL LOAD BEARING PLATE.
- ISOLATOR TYPE 2 – ELASTOMERIC FLOOR ISOLATOR.
- ISOLATOR TYPE 3 – FREE-STANDING SPRING FLOOR ISOLATOR.
- ISOLATOR TYPE 4 – RESTRAINED SPRING ISOLATOR.
- ISOLATOR TYPE 5 – THRUST RESTRAINT.
- ISOLATOR TYPE 6 – AIR SPRING.
- ISOLATOR TYPE 7 – ELASTOMERIC HANGERS.
- ISOLATOR TYPE 8a – SPRING HANGERS.
- ISOLATOR TYPE 8b – SPRING HANGERS WITH VERTICAL-LIMIT STOP.

SCHEDULES GENERAL NOTES:

TYPICAL FOR ALL SCHEDULE SHEETS:

1. REFER TO ELECTRICAL STANDARD SCHEDULES, ONE LINE DIAGRAM AND PANEL SCHEDULES FOR ADDITIONAL ELECTRICAL INFORMATION
2. PROVIDE THE FOLLOWING FACTORY-WIRED ELECTRICAL OPTIONS/ACCESSORIES WHERE INDICATED IN SCHEDULE:
 - A – NON-FUSED DISCONNECT SWITCH
 - B – UNIT SHALL BE SINGLE POINT ELECTRICAL CONNECTION WITH FACTORY INSTALLED DISCONNECTING MEANS AND ALL REQUIRED STARTERS AND CONTROLS
 - C – SERVICE RECEPTACLE
 - D – FUSED DISCONNECT SWITCH
 - E – COMBINATION STARTER
 - F – UNIT SHALL HAVE (2) SINGLE POINT CONNECTIONS WITH FACTORY INSTALLED DISCONNECTING MEANS AND ALL REQUIRED STARTERS AND CONTROLS. (1) CONNECTION SHALL BE FOR CONDENSING SECTION AND (1) CONNECTION SHALL BE FOR THE REMAINDER OF THE UNIT.
3. FOR MODULATION/CONTROL TYPE COLUMN, "VFC" INDICATES VARIABLE FREQUENCY CONTROLLERS, "AUTO" INDICATES AUTOMATIC OPERATION (CONTROLLED BY TEMPERATURE CONTROLS OR SELF CONTAINED CONTROLS), "MANUAL" INDICATES HAND OPERATION.
4. IF VARIABLE FREQUENCY CONTROLLERS ARE INDICATED TO BE PROVIDED AND ARE NOT INSTALLED INTEGRAL TO THE UNIT, VARIABLE FREQUENCY CONTROLLERS SHALL BE SUPPLIED BY THE MECHANICAL CONTRACTOR (UNLESS OTHERWISE NOTED) AND INSTALLED BY THE ELECTRICAL CONTRACTOR INCLUDING THE LINE SIDE AND LOAD SIDE WIRING TO THE MOTOR AND INCLUDING MISCELLANEOUS STEEL REQUIRED FOR THE SUPPORT AND MOUNTING OF THE VFC. REFER TO FLOOR PLANS FOR LOCATION.
5. WHERE EQUIPMENT IS INDICATED TO HAVE A SINGLE POINT ELECTRICAL CONNECTION, THAT EQUIPMENT SHALL COME COMPLETE WITH FACTORY INSTALLED STARTERS, MOTOR OVERLOAD PROTECTION, CONTACTORS, FUSING AND ALL NECESSARY INTERNAL WIRING AND CONTROLS. PROVIDE A FACTORY MOUNTED UNIT DISCONNECTING MEANS WHERE THE ELECTRICAL CONTRACTOR SHALL MAKE SINGLE POINT CONNECTION. INSTALL PACKAGED EQUIPMENT SUCH THAT THE ELECTRICAL CONNECTION AND CONTROLS ARE ACCESSIBLE AND HAVE CLEARANCES MEETING THE NATIONAL ELECTRICAL CODE.
6. WHERE PACKAGED EQUIPMENT IS PROVIDED, NAMEPLATE MUST INDICATE MAXIMUM OVERCURRENT PROTECTION BY HACR RATED CIRCUIT BREAKERS OR FUSES. IF FUSE PROTECTION ONLY IS INDICATED, PROVIDE A FUSIBLE DISCONNECT AND FUSES WITH THE UNIT.
7. WHERE EQUIPMENT IS DESIGNATED BY MANUFACTURER AND MODEL NUMBER, THIS IS THE BASIS OF DESIGN. IF THE CONTRACTOR ELECTS TO PROVIDE EQUIPMENT BY OTHER SPECIFIED MANUFACTURERS OR PROPOSED ALTERNATE EQUIPMENT BY THE BASIS OF DESIGN MANUFACTURER, THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY REVISIONS TO ELECTRICAL REQUIREMENTS, STRUCTURAL LOADING, OR ARCHITECTURAL APPURTENANCES AND SHALL INCLUDE THE COST OF SUCH REVISIONS IN HIS BID.
8. WHERE EQUIPMENT IS SCHEDULED TO INCLUDE A SERVICE RECEPTACLE, PROVIDE A FACTORY MOUNTED SERVICE RECEPTACLE WITH APPROPRIATE FUSES AND TRANSFORMERS CONNECTED ON THE LINE SIDE OF THE UNIT DISCONNECT. PROVIDE A NAMEPLATE ON THE DISCONNECT SWITCH INDICATING THE PRESENCE OF LIVE POWER TO THE SERVICE RECEPTACLE WHEN THE UNIT DISCONNECT IS IN THE OFF POSITION.
9. SIZE ALL EQUIPMENT FEEDERS BASED ON THE LISTED MOP (MAXIMUM OVERCURRENT PROTECTION). REFER TO THE FEEDER AND BRANCH CIRCUIT SIZING SCHEDULE ON THE ELECTRICAL STANDARD SCHEDULES SHEET.

g:\2019\2019-0199-00\CAD\2019-0199-M7-SH.dwg, M7.2, 7/24/2019 3:24:32 PM, Peter Basso Associates Inc.

UNITARY ROOFTOP AIR CONDITIONING UNIT SCHEDULE																																												
UNIT I.D.	AREA SERVED	SUPPLY FAN								EXHAUST/RELIEF FAN				COOLING SECTION – DX								INTEGRAL AIR–COOLED CONDENSING SECTION			FILTER SECTION			ROOF CURB			MAXIMUM UNIT DIMENSIONS			MAXIMUM UNIT OPERATING WEIGHT LBS. (WITH CURB)	TOTAL UNIT ELECTRICAL					MODEL NO.	KEYED NOTES			
		AIRFLOW CFM	MINIMUM OUTSIDE AIR FLOW CFM	E.S.P. IN. W.G.	FAN SUCTION OR DISCHARGE S.P. IN. W.G. AT COOLING COIL DRAIN PAN	T.S.P. IN. W.G.	FAN SPEED RPM	BHP	HP	AIRFLOW CFM	E.S.P. IN. W.G.	FAN SPEED RPM	BHP	HP	MIXED AIR		UNIT LEAVING AIR		NET UNIT CAPACITY		NUMBER OF CIRCUITS	REFRIG. TYPE	MAX. FACE VEL. F.P.M.	DESIGN AMBIENT TEMP. °F	MIN. AMBIENT TEMP. °F	NO. OF CAPACITY CONTROL STAGES	TYPE	MERV	AIR PRESS. DROP		TYPE		HEIGHT		LENGTH	HEIGHT (WITH CURB)	WIDTH							
															E.D.B. °F	E.W.B. °F	L.D.B. °F	L.W.B. °F	TOTAL MBH	SENSIBLE MBH									INITIAL IN. W.G.	FINAL IN. W.G.								STANDARD	VIBRATION ISOLATION SPRING CURB					
RTU–2	OFFICE ADDITION	1275	230	1.2	1.35	—	1024	0.82	1.5	1275	0.25	—	—	—	77.8	65.0	53.2	52.0	46.4	31.3	—	R–410A	—	95	0	—	PLEATED	13	—	1.0	YES	NO	18	89	56	59	1,065	460	3	20.8	25	B,C	JA4ZTC00R4D6FCA2A1	

- GENERAL NOTES:
- REFER TO SCHEDULES GENERAL NOTES.
 - MODEL NUMBERS ARE JOI UNLESS OTHERWISE NOTED.
 - DESIGN MINIMUM OUTSIDE AIRFLOW CFM (VENTILATION) LISTED IS BASED ON THE ESTIMATED MAXIMUM OCCUPANT LOAD. REFER TO TEMPERATURE CONTROL DRAWINGS FOR OUTSIDE AIR CONTROL SEQUENCE.
 - MERV DESIGNATES THE "MINIMUM EFFICIENCY REPORTING VALUE" AS EVALUATED UNDER ASHRAE STANDARD 52.2 1999.
 - AIR HANDLING UNIT TOTAL STATIC PRESSURE FOR VARIABLE AIR VOLUME SYSTEMS IS BASED ON THE FILTER DIRTY AIR PRESSURE DROP AND AVERAGE/MIDLIFE FILTER AIR PRESSURE DROP FOR CONSTANT VOLUME SYSTEMS UNLESS NOTED OTHERWISE.

MAXIMUM SOUND POWER LEVELS																
UNIT I.D.	UNIT INLET Lw BY OCTAVE BAND								UNIT DISCHARGE Lw BY OCTAVE BAND							
	63 HZ (DB)	125 HZ (DB)	250 HZ (DB)	500 HZ (DB)	1000 HZ (DB)	2000 HZ (DB)	4000 HZ (DB)	8000 HZ (DB)	63 HZ (DB)	125 HZ (DB)	250 HZ (DB)	500 HZ (DB)	1000 HZ (DB)	2000 HZ (DB)	4000 HZ (DB)	8000 HZ (DB)
RTU-2	81	74	66	64	61	56	51	47	83	81	75	72	72	65	66	60

NOTE: SEE NOTES UNDER PART "A"

GRILLE, REGISTER, AND DIFFUSER SCHEDULE									
UNIT IDENTIFICATION	TYPE	FACE SIZE	NECK SIZE	FRAME TYPE	ACCESSORY	CONSTRUCTION	FINISH	MODEL NUMBER	KEYED NOTES
S–1	DIFFUSER	24x24	SEE PLANS	NOTE 2	---	STEEL	WHITE	SPD	
S–2	DIFFUSER	24x24	SEE PLANS	NOTE 2	---	STEEL	WHITE	VPD–HC	
R–1	GRILLE	24x12	SEE PLANS	NOTE 2	---	STEEL	WHITE	PDDR	

- GENERAL NOTES:
- MODEL NUMBERS ARE PRICE UNLESS OTHERWISE NOTED.
 - COORDINATE FRAME TYPE WITH ARCHITECT.

ELECTRIC COIL SCHEDULE												
UNIT IDENTIFICATION	CAPACITY MBH	AIRFLOW CFM	DUCT SIZE (IN.)		HEATING ELEMENT KW	FINAL TEMPERATURE °F	MODULATION/ CONTROL TYPE	ELECTRICAL			MODEL NUMBER	KEYED NOTES
			WIDTH	HEIGHT				VOLTS	PHASE	OPTIONS/ ACCESSORIES		
EC-1	34.1	775	12	12	10	90	SCR.	480	3	D	ADH-010T	
EC-2	17.1	430	12	8	5	80	SCR.	480	3	D	ADH-005T	

- GENERAL NOTES:
- REFER TO SCHEDULES GENERAL NOTES.
 - MODEL NUMBERS ARE CHROMALOX UNLESS OTHERWISE NOTED.

ELECTRIC CENTRIFUGAL FAN CABINET UNIT HEATER SCHEDULE																						
UNIT IDENTIFICATION	CAPACITY MBH	AIR			FAN		HEATING ELEMENT		DIMENSIONS			RECESS DEPTH INCHES	FILTER		MODULATION/ CONTROL TYPE	ELECTRICAL					MODEL NUMBER	KEYED NOTES
		AIRFLOW CFM	E.D.B. °F	L.D.B. °F	H.P.	R.P.M.	1ST STAGE KW	TOTAL KW	LENGTH INCHES	HEIGHT INCHES	DEPTH INCHES		TYPE	AREA SQ. FT.		VOLTS	PHASE	FLA	MOP	OPTIONS/ ACCESSORIES		
ECUH-1	17.1	250	--	--	--	--	--	5	28	26	10	0	--	--	AUTO	480	3	7.4	10	A	922U05000U	

- GENERAL NOTES:
- REFER TO SCHEDULES GENERAL NOTES.
 - MODEL NUMBERS ARE INDEECO UNLESS OTHERWISE NOTED.

DUCT SILENCER SCHEDULE																							
UNIT IDENTIFICATION	SYSTEM SERVED	AIRFLOW CFM	A.P.D. IN. W.G.	MAX P.D. IN W.G.	VELOCITY AT DIL RATING FPM	DYNAMIC INSERTION LOSS (DIL) dB								DIMENSIONS			CONSTRUCTION					MODEL NUMBER	KEYED NOTES
						63	125	250	500	1K	2K	4K	8K	W INCHES	H INCHES	L INCHES	TYPE	OUTER CASING TYPE	FILL MATERIAL	LINER	CASING MATERIAL		
DS-1	SUPPLY	775	0.25	0.3	775	14	20	37	47	52	53	49	41	12	12	78	RE	STANDARD	FIBERGLASS	YES	22 GALV. STEEL	ERM78/1F	
DS-2	SUPPLY	430	0.11	0.3	645	12	19	27	36	72	38	32	27	12	8	72	RE	STANDARD	FIBERGLASS	YES	22 GALV. STEEL	ERM72/6E	
DS-3	RETURN	1275	0.1	0.3	-926	9	14	19	24	27	24	21	18	14	14	48	RE	STANDARD	FIBERGLASS	YES	22 GALV. STEEL	ERM48/8C	

- GENERAL NOTES:
- DUCT SILENCER MODEL NUMBERS ARE BASED ON PRICE UNLESS OTHERWISE NOTED.
 - LENGTH SHOWN FOR ELBOW SILENCERS IS CENTERLINE LENGTH.
 - VELOCITY SHOWN IS +(FORWARD FLOW) OR –(REVERSE FLOW) AS DEFINED BY ASTM E477–99.
 - PRESSURE DROP, DYNAMIC INSERTION LOSS AND SELF GENERATED NOISE PER ASTM E477–99.
 - MAXIMUM PRESSURE DROP WITH SYSTEM EFFECTS = SILENCER PRESSURE DROP PER ASTM E477–99 + SYSTEM EFFECTS FOR NEARBY DUCT ELEMENTS.
 - TYPE: RS = RECTANGULAR STRAIGHT; RE = RECTANGULAR ELBOW; REE = RECTANGULAR EXTENDED ELBOW; CS = CIRCULAR STRAIGHT; CE = CIRCULAR ELBOW.

SHEET

M7.2

TITLE

MECHANICAL SCHEDULES

PROJECT

Matthaei Office Addition
Wayne State University
Detroit, Michigan
080-325090

ISSUE
BIDS

DATE
07-25-19



SILVERI ARCHITECTS
650 LIVERNOIS
(248) 591-0360
FERNDAL E, MICHIGAN 48220
silvert.com

g:\2019\2019-0199-00\CAD\2019-0199-M8-CP.dwg, M8.1, 7/24/2019 3:24:40 PM, Peter Bosso Associates Inc.

SYMBOLS LIST

SCHEMATIC SYMBOLS	
SYMBOL	DESCRIPTION
	AIR FLOW CONTROLLER
	AQUASTAT, STRAP ON BULB
	CARBON DIOXIDE SENSOR – WALL MOUNTED
	CARBON DIOXIDE SENSOR – DUCT MOUNTED
	CURRENT SWITCH
	DAMPER – OPPOSED BLADE
	DAMPER – PARALLEL BLADE
	DAMPER MOTOR
	DIFFERENTIAL PRESSURE TRANSMITTER
	DIFFERENTIAL PRESSURE SWITCH
	FIRE ALARM SYSTEM, ADDRESSABLE CONTROL MODULE
	FIRE ALARM SYSTEM, ADDRESSABLE INTERFACE MODULE
	FLOW MEASURING STATION
	FLOW METER
	FLOW SWITCH
	FREEZESTAT
	GAUGE – FLOW
	GAUGE – PRESSURE
	GAUGE – TEMPERATURE
	GUARD FOR STAT OR SENSOR
	HUMIDIFIER
	HUMIDISTAT OR HUMIDITY SENSOR (AS DEFINED ON TC DRAWINGS)
	HUMIDITY SENSOR, DUCT MOUNTED
	LEVEL SWITCH OR TRANSMITTER
	LIMIT SWITCH
	LINE – ELECTRIC
	LINE – INSTRUMENT AIR
	MOTOR STARTER
	OCCUPANCY SENSOR
	PILOT LIGHT OR BEACON R – RED LENS A – AMBER LENS B – BLUE LENS G – GREEN LENS
	PRESSURE SWITCH
	PRESSURE TRANSMITTER
	RELAY, ELECTRIC
	SELECTOR SWITCH, (N=NUMBER OF POSITIONS)
	SIGNAL – DDC/BAS, ANALOG INPUT
	SIGNAL – DDC/BAS, ANALOG OUTPUT
	SIGNAL – DDC/BAS, DIGITAL INPUT
	SIGNAL – DDC/BAS, DIGITAL OUTPUT
	SIGNAL – PACKAGED EQUIPMENT, ANALOG INPUT
	SIGNAL – PACKAGED EQUIPMENT, ANALOG OUTPUT
	SIGNAL – PACKAGED EQUIPMENT, DIGITAL INPUT
	SIGNAL – PACKAGED EQUIPMENT, DIGITAL OUTPUT

SCHEMATIC SYMBOLS (CONT.)	
SYMBOL	DESCRIPTION
	SMOKE DETECTOR – DUCT MOUNTED
	SMOKE DETECTOR – SPACE MOUNTED
	START/STOP RELAY
	STATIC PRESSURE TRANSMITTER
	STATIC PRESSURE SENSOR OR PROBE
	SWITCH
	TEMPERATURE SENSOR – RIGID ELEMENT IN WELL
	TEMPERATURE SENSOR – STRAP ON BULB
	TEMPERATURE SENSOR – DUCT MOUNTED AVG ELEMENT
	TEMPERATURE SENSOR – DUCT MOUNTED RIGID ELEMENT
	THERMOSTAT OR TEMPERATURE SENSOR (AS DEFINED ON TC DRAWINGS)
	TRANSFORMER
	VALVE – 2 WAY CONTROL VALVE
	VALVE – 3 WAY CONTROL VALVE
	VARIABLE FREQUENCY CONTROLLER
	VELOCITY SENSOR
	VIBRATION SWITCH

WIRING SYMBOLS	
SYMBOL	DESCRIPTION
	AUDIBLE DEVICE (AS DEFINED ON TC DRAWINGS)
	COIL – MOTOR STARTER CONTACTOR
	COIL – RELAY
	COIL – TIME DELAY RELAY
	COIL – VARIABLE SPEED DRIVE CONTACTOR
	COIL – EP OR SOLENOID VALVE
	CONTACT – INSTANT OPERATING, NO
	CONTACT – INSTANT OPERATING, NC
	CONTACT – TIMED AFTER COIL IS ENERGIZED, NOTC
	CONTACT – TIMED AFTER COIL IS ENERGIZED, NCTO
	CONTACT – TIMED AFTER COIL IS DE-ENERGIZED, NOTO
	CONTACT – TIMED AFTER COIL IS DE-ENERGIZED, NCTC
	GROUND
	MOTOR, SINGLE PHASE
	PILOT LIGHT OR BEACON R – RED LENS A – AMBER LENS B – BLUE LENS G – GREEN LENS

	PILOT LIGHT, WITH PUSH-TO-TEST
	PUSH BUTTON – MOMENTARY CONTACT, NO
	PUSH BUTTON – MOMENTARY CONTACT, NC
	PUSH BUTTON – MOMENTARY CONTACT, NO & NC
	PUSH BUTTON – MOMENTARY, NO (MUSHROOM HEAD)
	PUSH BUTTON – MOMENTARY, NC (MUSHROOM HEAD)

WIRING SYMBOLS (CONT.)	
SYMBOL	DESCRIPTION
	SWITCH – 2 POSITION SELECTOR
	SWITCH – 3 POSITION SELECTOR HAND/OFF/AUTO
	SWITCH – FLOW (AIR, WATER, ETC.), NO
	SWITCH – FLOW (AIR, WATER, ETC.), NC
	SWITCH – LIMIT, NO
	SWITCH – LIMIT, NO, HELD CLOSED
	SWITCH – LIMIT, NC
	SWITCH – LIMIT, NC, HELD OPEN
	SWITCH – LIQUID LEVEL, NO
	SWITCH – LIQUID LEVEL, NC
	SWITCH – MANUAL SPST, NO
	SWITCH – MANUAL DPST, NO
	SWITCH – MANUAL SPST, NC
	SWITCH – MANUAL DPST, NC
	SWITCH – MANUAL SPDT
	SWITCH – MANUAL DPDT
	SWITCH – PRESSURE & VACUUM, NO
	SWITCH – PRESSURE & VACUUM, NC
	SWITCH – TEMPERATURE ACTUATED, NO
	SWITCH – TEMPERATURE ACTUATED, NC
	THERMAL OVERLOAD, SINGLE PHASE

	THERMAL OVERLOAD CONTACTS – 3 PHASE
	TRANSFORMER
	WIRE TERMINATION AT DEVICE
	WIRE TO WIRE TERMINATION
	WIRING NOT CONNECTED

ABBREVIATIONS	DESCRIPTION
BAS	BUILDING AUTOMATION SYSTEM
DDC	DIRECT DIGITAL CONTROL
TC	TEMPERATURE CONTROLS
NO	NORMALLY OPEN
NC	NORMALLY CLOSED
NOTO	NORMALLY OPEN TIMED OPEN
NOTC	NORMALLY OPEN TIMED CLOSED
NCTO	NORMALLY CLOSED TIMED OPEN
NCTC	NORMALLY CLOSED TIMED CLOSED
SPST	SINGLE POLE SINGLE THROW
SPDT	SINGLE POLE DOUBLE THROW
DPST	DOUBLE POLE SINGLE THROW
DPDT	DOUBLE POLE DOUBLE THROW

ABBREVIATION LIST

ABBREVIATION	DESCRIPTION
AAV	AUTOMATIC AIR VENT
ACC	AIR COOLED CONDENSER
ACCU	AIR COOLED CONDENSING UNIT
AD	ACCESS DOOR
AFF	ABOVE FINISHED FLOOR
AHU	AIR HANDLING UNIT
ALT	ALTERNATE
AMP	AMPERE
APD	AIR PRESSURE DROP
ASHRAE	AMERICAN SOCIETY OF HEATING, REFRIGERATION, AND AIR-CONDITIONING ENGINEERS
AUX	AUXILIARY
BAS	BUILDING AUTOMATION SYSTEM
C	COMMON
CFM	CUBIC FEET PER MINUTE
CH	CHILLER
CHWP	CHILLED WATER PUMP
CHWR	CHILLED WATER RETURN
CHWS	CHILLED WATER SUPPLY
CLG	COOLING
CLP	COMPUTER LOOP PUMP
CLR	COMPUTER LOOP RETURN
CLS	COMPUTER LOOP SUPPLY
CO2	CARBON DIOXIDE
COND	CONDENSATE
CONT	CONTINUATION OR CONTINUED
CONTR	CONTRACTOR
CONV	CONVECTOR
COS	CENTRAL OPERATOR STATION
CP	CIRCULATING PUMP
CT	COOLING TOWER
CUH	CABINET UNIT HEATER
CW	DOMESTIC COLD WATER
CWP	CONDENSER WATER PUMP
CWR	CONDENSER WATER RETURN
CWS	CONDENSER WATER SUPPLY
DA	DISCHARGE AIR
DAT	PRESSURE DROP (FEET OF WATER)
DB	DRY BULB TEMPERATURE
DDC	DIRECT DIGITAL CONTROL
DEG	DEGREES
DMPR	DAMPER
D/N	DAY/NIGHT
DN	DOWN
DPR	DAMPER
DWG	DRAWING
DWH	DOMESTIC WATER HEATER
DX	DIRECT EXPANSION
(E)	EXISTING
EA	EACH
EA	EXHAUST AIR
EAT	ENTERING AIR TEMPERATURE
ECUH	ELECTRIC CABINET UNIT HEATER
EDB	ENTERING DRY BULB
EF	EXHAUST FAN
EFF	EFFICIENCY
EHC	ELECTRIC HEATING COIL
ELEC	ELECTRICAL
ERCP	ELECTRIC RADIANT CEILING PANEL
ERU	ENERGY RECOVERY UNIT
EUH	ELECTRIC UNIT HEATER
EWB	ENTERING WET BULB
EWT	ENTERING WATER TEMPERATURE
EXH	EXHAUST
F	DEGREES FAHRENHEIT
F&B	FACE AND BYPASS DAMPER
FAS	FIRE ALARM SYSTEM
FCU	FAN COIL UNIT
FLR	FLOOR
FM	FLOW MEASURING DEVICE
FT	FEET
FTR	FINNED TUBE RADIATION
GP	GALLONS PER MINUTE
GRH	GRAVITY RELIEF HOOD
HOA	HAND/OFF/AUTO
HP	HEAT PUMP
HP	HORSEPOWER
HPLP	HEAT PUMP LOOP PUMP
HPLR	HEAT PUMP LOOP RETURN
HPLS	HEAT PUMP LOOP SUPPLY
HR	HOUR
HTG	HEATING
HV	HEATING VENTILATING
HVAC	HEATING, VENTILATING, AIR CONDITIONING
HWH	HOT WATER HEATING
HWHR	HOT WATER HEATING RETURN
HWSH	HOT WATER HEATING SUPPLY
HW	DOMESTIC HOT WATER
HWR	DOMESTIC HOT WATER RETURN
HX	HEAT EXCHANGER

ABBREVIATION	DESCRIPTION
IAQ	INDOOR AIR QUALITY
IN	INCHES
JC	JANITOR'S CLOSET
KW	KILOWATT
KWH	KILOWATT-HOUR
LBS/HR	POUNDS PER HOUR
MA	MIXED AIR
MAT	MIXED AIR TEMPERATURE
MAU	MAKE-UP AIR UNIT
MAX	MAXIMUM
MBH	THOUSAND BRITISH THERMAL UNITS PER HOUR
MCC	MOTOR CONTROL CENTER
MECH	MECHANICAL
MEZZ	MEZZANINE
MFR	MANUFACTURER
MIN	MINIMUM
MISC	MISCELLANEOUS
MMBH	MILLION BRITISH THERMAL UNITS PER HOUR
M/S	MOTOR STARTER
MTD	MOUNTED
MTR	MOTOR
MV	MANUAL AIR VENT
MZ	MULTI-ZONE
NC	NORMALLY CLOSED
NCTC	NORMALLY CLOSED TIMED CLOSED
NCTO	NORMALLY CLOSED TIMED OPEN
NIC	NOT IN CONTRACT
NPFA	NATIONAL FIRE PROTECTION AGENCY
NO	NORMALLY OPEN
NOTC	NORMALLY OPEN TIMED CLOSED
NOTO	NORMALLY OPEN TIMED OPEN
NSB	NET SETBACK
OA	OUTSIDE AIR
OAT	OUTSIDE AIR TEMPERATURE
PAQU	PACKAGED AIR CONDITIONING UNIT
PD	PRESSURE DROP (FEET OF WATER)
PHR	PERIMETER HEAT RETURN
PHS	PERIMETER HEAT SUPPLY
PNL	PANEL
PPM	PARTS PER MILLION
PRV	PRESSURE REDUCING VALVE
PSI	POUNDS PER SQUARE INCH
R	RETURN
RA	RETURN AIR
RAT	RETURN AIR TEMPERATURE
RCP	RADIANT CEILING PANEL
RELA	RELIEF AIR
REQD	REQUIRED
RF	RETURN FAN
RH	RELATIVE HUMIDITY
RTU	ROOF TOP UNIT
SA	SUPPLY AIR
SF	SUPPLY FAN
SP	STATIC PRESSURE
S/S	START/STOP
STD	STANDARD
STM	STEAM
SZ	SINGLE-ZONE
S/W	SUMMER/WINTER
SW	SWITCH
TC	TEMPERATURE CONTROL
TCP	TEMPERATURE CONTROL PANEL
TEMP	TEMPERATURE
THR	TERMINAL HEATING RETURN
THS	TERMINAL HEATING SUPPLY
TSP	TOTAL STATIC PRESSURE
TU	(AIR) TERMINAL UNIT
TYP	TYPICAL
UH	UNIT HEATER
UL	UNDERWRITER'S LABORATORY
UV	UNIT VENTILATOR
VAV	VARIABLE AIR VOLUME
VFC	VARIABLE FREQUENCY CONTROLLER
VUV	VERTICAL UNIT VENTILATOR
WC	WATER COLUMN
XFMR	TRANSFORMER

TC GENERAL NOTES

- THESE GENERAL NOTES SHALL BE APPLICABLE FOR ALL TEMPERATURE CONTROL (TC) DRAWINGS.
- "PROVIDE" IS DEFINED AS "FURNISH AND INSTALL".
- TEMPERATURE CONTROLS CONTRACTOR (TC CONTRACTOR) SHALL BE RESPONSIBLE TO COMPLY WITH ALL APPLICABLE CODES AND STANDARDS.
- FOR TEMPERATURE CONTROL DRAWINGS ONLY: ALL DETAILED INFORMATION IDENTIFIED WITH HEAVY LINE WEIGHT SHALL BE PROVIDED BY TC CONTRACTOR. ALL OTHER INFORMATION IDENTIFIED WITH LIGHT LINE WEIGHT SHALL BE PROVIDED BY OTHER TRADES.
- ALL CONTROL SCHEMATICS AND WIRING DIAGRAMS ARE FOR THE CLARIFICATION OF EQUIPMENT INTERLOCKING FUNCTIONS AND THE INTERFACE OF VARIOUS CONTRACTORS' WORK AND SHALL NOT BE MISTAKEN AS SHOP DRAWINGS FOR ACTUAL INSTALLATION.
- TC CONTRACTOR SHALL PROVIDE DDC CONTROLLERS AS REQUIRED TO MEET INTENT OF DESIGN DOCUMENTS. REFER TO THE PLANS FOR THE DDC FUNCTIONS THAT APPLY TO EACH MECHANICAL SYSTEM.
- ALL TC PROVIDED COMPONENTS AND ALL TC CONTRACTOR INSTALLED WIRING SHALL BE LABELED PER SPECIFICATIONS.
- ALL WIRING AND SYSTEM CONTROL VOLTAGES SHALL BE IN ACCORDANCE WITH THE EQUIPMENT MANUFACTURER'S RECOMMENDATION AND THE ELECTRICAL SPECIFICATIONS.
- VARIABLE FREQUENCY CONTROLLER, FAN AND PUMP MOTOR STARTERS, STARTER WIRING, CONTROL VOLTAGE TRANSFORMERS AND ASSOCIATED POWER WIRING SHALL BE PROVIDED BY OTHER TRADES.
- DUCT SMOKE DETECTORS SHALL BE FURNISHED, INSTALLED AND WIRED TO THE FIRE ALARM SYSTEM BY THE ELECTRICAL CONTRACTOR. ELECTRICAL SHALL PROVIDE FIRE ALARM SYSTEM CONTROL MODULES FOR REQUIRED SAFETIES TO MOTOR STARTERS OR VFC'S AS INDICATED. CONTROL MODULES SHALL BE LOCATED NEAR RESPECTIVE MOTOR STARTERS OR VFCs. TC CONTRACTOR SHALL PROVIDE INTERLOCK WIRING FROM CONTROL MODULES TO MOTOR STARTERS OR VFCs.
- ALL DDC AND CONTROL INTERLOCK WIRING SHALL BE BY TC CONTRACTOR UNLESS OTHERWISE NOTED. TC CONTRACTOR SHALL COORDINATE WITH VFC AND MOTOR STARTER SUPPLIERS TO DETERMINE EXACT WIRING REQUIREMENTS AND TERMINATION POINTS.
- ALL DDC AND CONTROL INTERLOCK WIRING BETWEEN COMPONENTS SHALL BE INSTALLED WITHOUT INTERMEDIATE STOPS. WIRE SPLICING AT INTERMEDIATE TERMINAL STRIPS IS NOT ACCEPTABLE.
- ALL ELECTRICAL WIRING AND RACEWAY SYSTEMS SHALL COMPLY WITH ELECTRICAL SPECIFICATION REQUIREMENTS. WHERE RACEWAY IS REQUIRED, TWO SEPARATE ELECTRICAL RACEWAY SYSTEMS SHALL BE PROVIDED: ONE FOR 120V WIRING AND THE OTHER FOR 24V WIRING.
- TC CONTRACTOR SHALL BE RESPONSIBLE FOR ALL POWER SUPPLIES REQUIRED FOR TC SYSTEM UNLESS OTHERWISE NOTED. REFER TO ELECTRICAL PANEL SCHEDULES FOR SPARE CIRCUITS OR CIRCUITS DEDICATED TO TEMPERATURE CONTROLS. COORDINATE CIRCUIT USE WITH ELECTRICAL CONTRACTOR.
- TC CONTRACTOR SHALL VERIFY EXACT LOCATION OF ALL FIELD MOUNTED COMPONENTS.
- THERMOSTATS AND SPACE TEMPERATURE SENSORS SHALL BE MOUNTED 4'-0" ABOVE FINISHED FLOOR UNLESS NOTED OTHERWISE. PROVIDE GUARDS FOR SPACE TEMP SENSORS LOCATED IN PUBLIC AREA.
- TC CONTRACTOR SHALL PROVIDE AUXILIARY PANELS FOR REQUIRED PANEL MOUNTED EQUIPMENT SUCH AS RELAYS, TRANSDUCERS, CONTROL TRANSFORMERS, ETC. AUXILIARY PANELS SHALL BE LOCATED NEXT TO ASSOCIATED DDC PANEL. DEPENDING ON WIRE QUANTITY OR COMPLEXITY, PROVIDE CONDUITS BETWEEN PANELS OR WIRING THROUGH WITH CONDUIT STUBS ABOVE ALL ASSOCIATED PANELS.
- REMOTELY MOUNTED FIELD DEVICES SUCH AS RELAYS, CONTROL TRANSFORMERS, ETC., SHALL BE HOUSED IN AN ENCLOSURE PROVIDED BY THE TC CONTRACTOR.
- CONTROL TRANSFORMERS WHEN REQUIRED SHALL BE SIZED FOR 150% OF ACTUAL LOAD.
- FREEZESTATS SHALL BE MOUNTED ON UPSTREAM FACE OF COOLING COILS. FREEZESTAT QUANTITY SHALL BE ONE PER 20 SQ. FT OF CROSS SECTIONAL AREA.
- CURRENT SWITCHES USED FOR OPERATIONAL STATUS SHALL HAVE CURRENT THRESHOLD SETPOINT ADJUSTED TO INDICATE BELT OR DRIVE FAILURE.
- ALL CONTROL VALVES, CONTROL DAMPERS AND ASSOCIATED CONTROL ACTUATORS IDENTIFIED ON TC DRAWINGS SHALL BE FURNISHED BY TC CONTRACTOR UNLESS OTHERWISE NOTED. DAMPER SIZE AND LOCATIONS ARE INDICATED ON MECHANICAL FLOOR PLAN DRAWINGS.
- ALL CONTROL VALVES AND DAMPERS FURNISHED BY THE TC CONTRACTOR SHALL BE INSTALLED BY THE MECHANICAL CONTRACTOR. ALL PIPE PENETRATIONS AND BASIC FITTINGS REQUIRED FOR SENSOR INSTALLATIONS SHALL BE PROVIDED BY MECHANICAL CONTRACTOR.
- DAMPER ACTUATORS SHALL BE INSTALLED BY TC CONTRACTOR WHEN FURNISHED BY TC CONTRACTOR.
- ALL INSTRUMENTATION TUBING REQUIRED FOR DPS AND DPT COMPONENT INSTALLATIONS SHALL BE PROVIDED BY TC CONTRACTOR.
- TC CONTRACTOR SHALL FIELD MOUNT ALL REQUIRED "SHIPPED LOOSE" PACKAGED CONTROL COMPONENTS FURNISHED BY EQUIPMENT SUPPLIERS WHERE INDICATED. ALL REQUIRED 24V AND 120V FIELD WIRING SHALL BE PROVIDED BY TC CONTRACTOR UNLESS NOTED OTHERWISE. TC CONTRACTOR SHALL COORDINATE SPECIFIC SYSTEM WIRING REQUIREMENTS WITH PACKAGED EQUIPMENT SUPPLIERS.

- NOTES:
- SOME SYMBOLS & ABBREVIATIONS SHOWN MAY NOT APPLY TO THIS PROJECT.
 - REFER TO MECHANICAL STANDARDS ON DRAWING M0.1 FOR ADDITIONAL SYMBOLS & ABBREVIATIONS THAT MAY BE USED ON TEMPERATURE CONTROL DRAWINGS.

g:\2019\2019-0199-00\CAD\2019-0199-M8-CP.dwg, M8.2, 7/24/2019 3:24:41 PM, Dominic M. Quni, Peter Bosso Associates Inc.

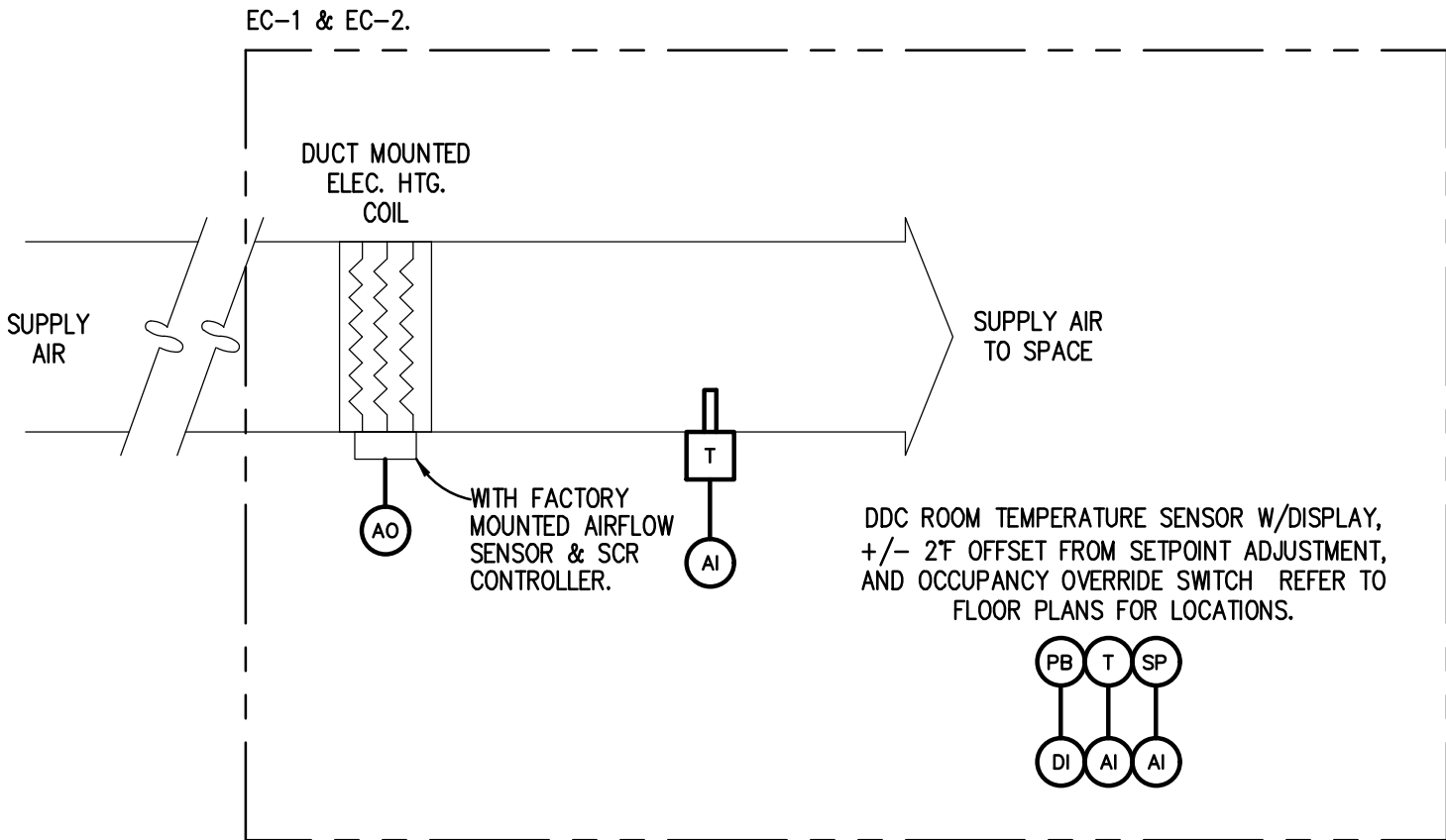
PACKAGED RTU-2 FIELD WIRING & CONTROL

- NOTES:
1. ROOFTOP UNIT SHALL BE PROVIDED WITH COMPLETE PACKAGED CONTROLS INCLUDING CONTROL DAMPERS, DAMPER ACTUATORS, REFRIGERANT SAFETIES, AND BACnet COMMUNICATION INTERFACE FOR BAS SCHEDULING, DISCHARGE AIR SETPOINT CONTROL/ADJUSTMENT, SUPPLY FAN & POWERED EXHAUST FAN CONTROL, DRY BULB ECONOMIZER, AND UNIT MONITORING.
 2. SINGLE POINT POWER SUPPLY CONNECTION SHALL BE PROVIDED BY ELECTRICAL CONTRACTOR.
 3. TC CONTRACTOR SHALL INSTALL SENSORS FURNISHED BY UNIT SUPPLIER WHEN SHIPPED LOOSE AND PROVIDE FIELD CONTROL WIRING FOR UNIT AS INDICATED PLUS ANY MISCELLANEOUS FIELD CONTROL WIRING THAT MAY BE REQUIRED FOR PACKAGED UNIT THAT IS NOT SHOWN.
 4. TC CONTRACTOR SHALL PROVIDE BACnet COMMUNICATION INTERFACE WIRING FROM DEHUMIDIFICATION UNIT CONTROL PANEL TO NEW BAS NETWORK SUPERVISORY CONTROLLER, COMMUNICATING BUT NOT LIMITED TO THE FOLLOWING POINTS AS AVAILABLE:
 - OCCUPANCY MODE SCHEDULER (FROM BAS)
 - EFFECTIVE OCCUPANCY MODE (TO BAS)
 - SUPPLY FAN RUN STATUS (TO BAS)
 - EXHAUST FAN RUN STATUS (TO BAS)
 - DISCHARGE AIR, RETURN AIR, AND OUTSIDE AIR TEMPERATURE (TO BAS)
 - ECONOMIZER ON/OFF MODE (TO BAS)
 - COOLING MODE STATUS (TO BAS)
 - COMPRESSOR ENABLE STATUS, EACH STAGE (TO BAS)
 - DIRTY FILTER STATUS (TO BAS)
 - MISC UNIT TEMPERATURE MONITORING (TO BAS)
 - TEMPERATURE SENSOR FAILURE ALARMS (TO BAS)
 - UNIT SAFETY CUTOUT ALARMS (TO BAS)
 - OTHER MISC. ALARMS (TO BAS)

- SEQUENCE OF OPERATION:
1. PACKAGED CONTROLLER SHALL PROVIDE:
 - 1.1. DISCHARGE AIR TEMPERATURE (DAT) SETPOINT CONTROL AND SHUTDOWN OF RTU IF DAT DECREASES BELOW 45F, OUTSIDE AIR MINIMUM OA POSITION, AND DRY BULB ECONOMIZER.
 - 1.2. MONITORING OF OTHER SENSORS AND DEVICES AS DESCRIBED ABOVE.
 - 1.3. DISCHARGE AIR TEMPERATURE SETPOINT SHALL BE BASED ON THE FOLLOWING OUTDOOR AIR TEMPERATURE RESET SCHEDULE:

DAT	DAT
≤ 30F	60F
≥ 55F	55F
 - 1.4. IN OCCUPIED MODE SF RUNS CONTINUOUSLY, IF RUNS WHEN IN ECONOMIZER. IN UNOCCUPIED, SF NIGHT CYCLES BY POLLING BACNET TEMPERATURE SENSORS IN THE SPACE (BY TC CONTRACTOR) WITH OA DAMPER CLOSED.
 2. BACnet PROTOCOL COMMUNICATIONS INTERFACE PROVIDED WITH PACKAGED CONTROLS SHALL ALLOW BAS TIME OF DAY SCHEDULING AND SETPOINT ADJUSTMENT, ROOFTOP UNIT STATUSES, TEMPERATURE SENSORS, SETPOINT ADJUSTMENTS (FROM BAS GRAPHICS), AND ADDITIONAL UNIT MONITORING AS AVAILABLE.
 3. BACnet PROTOCOL COMMUNICATIONS INTERFACE PROVIDED WITH PACKAGED CONTROLS SHALL ALLOW RTU CONTROLLER TO POLL SPACE TEMPERATURE SENSORS FOR UNOCCUPIED NIGHT CYCLE CONTROL OF THE UNIT. PACKAGED CONTROLS SHALL CYCLE THE UNIT ON BASED ON THE LOWEST READING SPACE TEMPERATURE SENSOR OR HIGHEST READING SPACE TEMPERATURE SENSOR. DDC CONTROL OF THE ELECTRIC REHEAT COILS SHALL PROVIDE SPACE TEMPERATURE CONTROL. PACKAGED CONTROLS SHALL CYCLE THE UNIT OFF BASED ON A 2F DEADBAND.
 - 3.1. UNOCCUPIED SPACE TEMPERATURE SETPOINTS SHALL BE AS FOLLOWS:

HEATING UNOCCUPIED SETPOINT = 62F
COOLING UNOCCUPIED SETPOINT = 82F



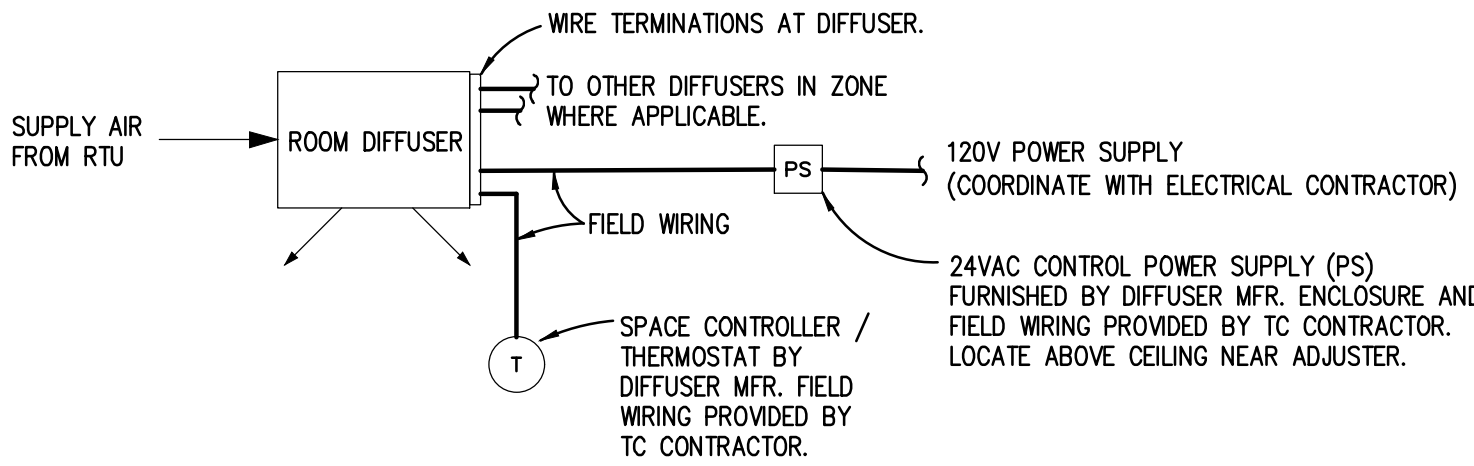
ELECTRIC HEATING COIL CONTROL

- TYPICAL
- NOTES:
1. HEATING COIL MANUFACTURER SHALL PROVIDE INTERFACE FOR DDC TO MODULATE THE SCR-CONTROLLED COIL AND AIRFLOW AND/OR HIGH TEMPERATURE LIMIT SAFETIES.

SEQUENCE OF OPERATION

- ELECTRIC HEATING COIL:
1. ALL SETPOINTS, RESET SETPOINTS, DELAYS, TIME INTERVALS, AND DEADBANDS DESCRIBED IN SEQUENCE SHALL BE ADJUSTABLE BY SYSTEM OPERATORS. APPROPRIATE DEADBANDS SHALL BE USED TO PREVENT SHORT CYCLING SITUATIONS.
 2. DDC SHALL HAVE OCCUPIED/UNOCCUPIED CONTROL CAPABILITY FOR EACH DUCT-MOUNTED ELECTRIC HEATING COIL AS SCHEDULED AND COMMANDED THRU THE BAS.
 3. DDC SHALL MODULATE THE DUCT-MOUNTED ELECTRIC HEATING COIL VIA SCR INTERFACE (BY MFR.) TO MAINTAIN SPACE TEMPERATURE SETPOINT. DDC SHALL PROVIDE HIGH LIMIT CONTROL OF ELECTRIC HEATING COIL DISCHARGE AIR TEMPERATURE AT 90F SETPOINT.
 4. IF BOTH OF THE ELECTRIC HEAT COILS' TEMPERATURE SENSORS REQUIRE HEATING FROM THE DUCT-MOUNTED ELECTRIC HEAT COILS, TC CONTRACTOR SHALL CREATE A BACNET STATEMENT TO TEMPORARILY OVERRIDE RTU-1 DAT SETPOINT TO 65F, THEN RELEASE THE SETPOINT BACK TO THE ORIGINAL SETPOINT WHEN ONE OR NO ELECTRIC HEAT COILS REQUIRE HEAT.
 5. SPACE TEMPERATURE SETPOINTS SHALL BE AS FOLLOWS:

HEATING UNOCCUPIED SETPOINT = 62F
HEATING OCCUPIED SETPOINT = 70F
COOLING OCCUPIED SETPOINT = 75F
COOLING UNOCCUPIED SETPOINT = 82F
 6. WHEN THE ASSOCIATED RTU IS OFF WHEN POLLED THROUGH BACNET STATUS POINT, DDC SHALL MODULATE THE ELECTRIC HEATING COIL TO "OFF".



VAV DIFFUSER FIELD WIRING

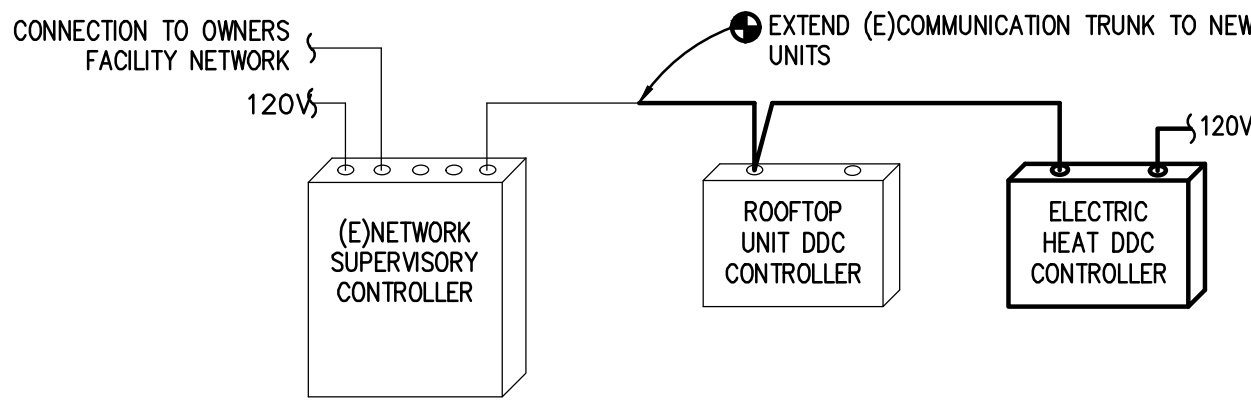
TYPICAL - REFER TO FLOOR PLANS FOR QUANTITY, LOCATIONS AND ZONES

- NOTES:
1. SPACE TEMPERATURE CONTROLLER/THERMOSTAT AND POWER SUPPLY FURNISHED BY DIFFUSER SUPPLIER.
 2. TC CONTRACTOR SHALL FIELD MOUNT SYSTEM COMPONENTS AND PROVIDE FIELD WIRING. COORDINATE EXACT FIELD WIRING AND TERMINATION REQUIREMENTS WITH DIFFUSER MANUFACTURER.
 3. REFER TO FLOOR PLANS FOR TEMPERATURE CONTROLLER/THERMOSTAT LOCATIONS.
 4. DIFFUSER MIN/MAX CFM SETTINGS SHALL BE PROVIDED BY TAB CONTRACTOR BASED ON MECHANICAL SCHEDULES.

SEQUENCE OF OPERATION

- VARIABLE AIR VOLUME DIFFUSER:
1. ALL SETPOINTS DESCRIBED IN SEQUENCE SHALL BE ADJUSTABLE AT THE TEMPERATURE CONTROLLER/THERMOSTAT.
 2. DIFFUSER SHALL PROVIDE VARIABLE AIR VOLUME CONTROL BASED ON TOOM TEMPERATURE SENSOR.
 3. WHEN ROOM TEMPERATURE INCREASES ABOVE THE COOLING SETPOINT, DIFFUSER SHALL VARY SUPPLY AIRFLOW TO ASO MUCH AS MAXIMUM CFM SETTING TO MAINTAIN ROOM TEMPERATURE SETPOINT.
 4. WHEN ROOM TEMPERATURE DECREASES BELOW THE COOLING SETPOINT, DIFFUSER SHALL VARY SUPPLY AIRFLOW BACK TO AS MUCH AS MINIMUM CFM SETTING TO MAINTAIN ROOM TEMPERATURE SETPOINT.
 5. SPACE TEMPERATURE SETPOINT SHALL BE AS FOLLOWS:

HEATING OCCUPIED SETPOINT = 70F
COOLING OCCUPIED SETPOINT = 75F



DDC SYSTEM ARCHITECTURE

- NO SCALE
- NOTES:
1. THE BUILDING AUTOMATION SYSTEM IS EXISTING. NEW DDC SYSTEM CONTROLLERS INCLUDING 3RD PARTY CONTROLLERS SHALL BE COMPATIBLE WITH AND CONNECTED TO THE EXISTING NETWORK. TC CONTRACTOR SHALL UPGRADE THE EXISTING NETWORK SUPERVISOR AND FRONT-END BAS HARDWARE/SOFTWARE AS NECESSARY TO ACCOMMODATE NEW WORK.
 2. REFER TO TEMPERATURE CONTROL SCHEMATICS FOR THE REQUIRED POINTS ASSOCIATED FOR EACH SYSTEM.
 3. TC CONTRACTOR SHALL PROVIDE REQUIRED POWER SUPPLIES FOR TEMPERATURE CONTROL SYSTEM COMPONENTS FROM EXISTING POWER PANELS. COORDINATE CIRCUIT BREAKER USE WITH THE ELECTRICAL CONTRACTOR.
 4. TC CONTRACTOR SHALL PROVIDE INTEGRATION OF NEW CONTROLLERS TO THE (E)BAS AND GRAPHICS FOR EACH MECHANICAL SYSTEM, OR WHEN REQUIRED, SUB-SYSTEM.

TC GENERAL NOTES

TC GENERAL NOTES ON DRAWING M8.1 APPLY TO THIS DRAWING.

g:\2019\2019-0199-00\CAD\2019-0199-EO-IND.dwg, EO.1, 7/24/2019 3:58:24 PM, Dominic M. Quni, Peter Bosso Associates Inc.

ELECTRICAL SYMBOL LIST

(NOTE: SOME SYMBOLS AND ABBREVIATIONS SHOWN MAY NOT APPLY TO THIS PROJECT)

SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
FX (NL)	FIXTURE TYPE (NL INDICATES NIGHT LIGHT)	TWC	TWO-WAY COMMUNICATION SYSTEM CALL STATION	CP	CONTROL PANEL
	LIGHTING FIXTURE	TWCD	TWO-WAY COMMUNICATION SYSTEM AUTO DIALER		MOTOR
	DIRECT/INDIRECT LIGHTING FIXTURE	TWCA	TWO-WAY COMMUNICATION SYSTEM ANNUNCIATOR & COMMUNICATION PANEL	VFC	VARIABLE FREQUENCY CONTROLLER.
	EMERGENCY FIXTURE	TWCP	TWO-WAY COMMUNICATION SYSTEM POWER SUPPLY WITH BATTERY BACK-UP		MANUAL CONTROLLER
	LIGHTING FIXTURE	TWCDP	TWO-WAY COMMUNICATION SYSTEM AUTO DIALER POWER SUPPLY WITH BATTERY BACK-UP		MAGNETIC CONTROLLER
	WALL MOUNTED LIGHTING FIXTURE	RGP	REMOTE GENERATOR ANNUNCIATOR PANEL		COMBINATION MAGNETIC CONTROLLER
	LIGHTING FIXTURE	ATS	AUTOMATIC TRANSFER SWITCH		NON-FUSIBLE DISCONNECT SWITCH
	DIRECTIONAL LIGHTING FIXTURE	UPS	UN-INTERRUPTIBLE POWER SUPPLY		FUSIBLE DISCONNECT SWITCH
	PENDANT LIGHTING FIXTURE	CSX	LOW VOLTAGE CONTROL STATION "X" INDICATES TYPE		ENCLOSED CIRCUIT BREAKER
	WALL SCONCE		SINGLE/DUPLEX RECEPTACLE		PUSH BUTTON STATION
	LIGHTING TRACK		SINGLE/DUPLEX RECEPTACLE CONTROLLED BY AUTOMATIC CONTROL DEVICE/SYSTEM		JUNCTION BOX
	TRACK LIGHTING FIXTURE		HARD WIRE POWER CONNECTION		AUTOMATIC DOOR CONTROLLER
	POLE MOUNTED LIGHTING FIXTURE		AUTOMATIC DOOR PUSH PAD OPERATOR		GROUND ROD
	POLE MOUNTED LIGHTING FIXTURE - POST TOP		GROUND CONNECTION		CONDUIT SLEEVE WITH BUSHINGS LENGTH AS REQUIRED
	BOLLARD LIGHTING FIXTURE		CONDUIT UP		CONDUIT DOWN
	EMERGENCY LIGHTING UNIT		EMPTY BOX FOR FUTURE TELECOMMUNICATION OUTLET		ABOVE COUNTER EMPTY BOX FOR FUTURE TELECOMMUNICATION OUTLET
	EXIT LIGHTING FIXTURE WITH DIRECTIONAL ARROWS (SHADED AREA INDICATES FACE)		EMPTY BOX FOR FUTURE CEILING MOUNTED TELECOMMUNICATION OUTLET		EMPTY BOX FOR FUTURE CEILING MOUNTED TELECOMMUNICATION OUTLET "X" INDICATES TYPE
	EXIT LIGHTING FIXTURE WITH DIRECTIONAL ARROWS (SHADED AREA INDICATES FACE)		ABOVE COUNTER TELECOMMUNICATION OUTLET "X" INDICATES TYPE		TELECOMMUNICATION CEILING MOUNTED OUTLET "X" INDICATES TYPE
	EXIT LIGHTING FIXTURE - WALL MOUNTED		TELECOMMUNICATION BACKBOARD		TELECOMMUNICATION BACKBOARD
	BRANCH CIRCUIT EMERGENCY LIGHTING TRANSFER SWITCH / EMERGENCY LOAD TRANSFER DEVICE		TELECOMMUNICATION GROUNDING BUS BAR		TELECOMMUNICATION MAIN GROUNDING BUS BAR
	AUTOMATIC LOAD CONTROL RELAY		INTERCOM OUTLET		SPEAKER
	LIGHTING CONTROL DEVICE - REFER TO LIGHTING CONTROL SCHEDULE		SPEAKER - WALL MOUNTED		MICROPHONE
	LIGHTING CONTROL SCHEDULE		MICROPHONE		VOLUME CONTROL/STATION SELECTOR
	SINGLE POLE TOGGLE SWITCH		SIGNALING BELL		SIGNALING BELL
	TWO POLE TOGGLE SWITCH		SINGLE FACE CLOCK - CEILING MOUNTED		SINGLE FACE CLOCK - CEILING MOUNTED
	3 WAY TOGGLE SWITCH		SINGLE FACE CLOCK - WALL MOUNTED		SINGLE FACE CLOCK - WALL MOUNTED
	4 WAY TOGGLE SWITCH		DOUBLE FACE CLOCK - CEILING MOUNTED		DOUBLE FACE CLOCK - CEILING MOUNTED
	KEY OPERATED SWITCH		DOUBLE FACE COMBINATION CLOCK/SPEAKER CEILING MOUNTED		DOUBLE FACE COMBINATION CLOCK/SPEAKER CEILING MOUNTED
	3 WAY KEY OPERATED SWITCH		DOUBLE FACE COMBINATION CLOCK/SPEAKER WALL MOUNTED		DOUBLE FACE COMBINATION CLOCK/SPEAKER WALL MOUNTED
	4 WAY KEY OPERATED SWITCH		TIME CLOCK		TIME CLOCK
	DIMMER SWITCH		CONTACTOR		CONTACTOR
	3 WAY DIMMER SWITCH		PHOTOCELL		PHOTOCELL
	DIMMER OCCUPANCY SENSOR SWITCH		TWIST TIMER		TWIST TIMER
	LOW VOLTAGE DIMMER SWITCH				
	PILOT SWITCH				

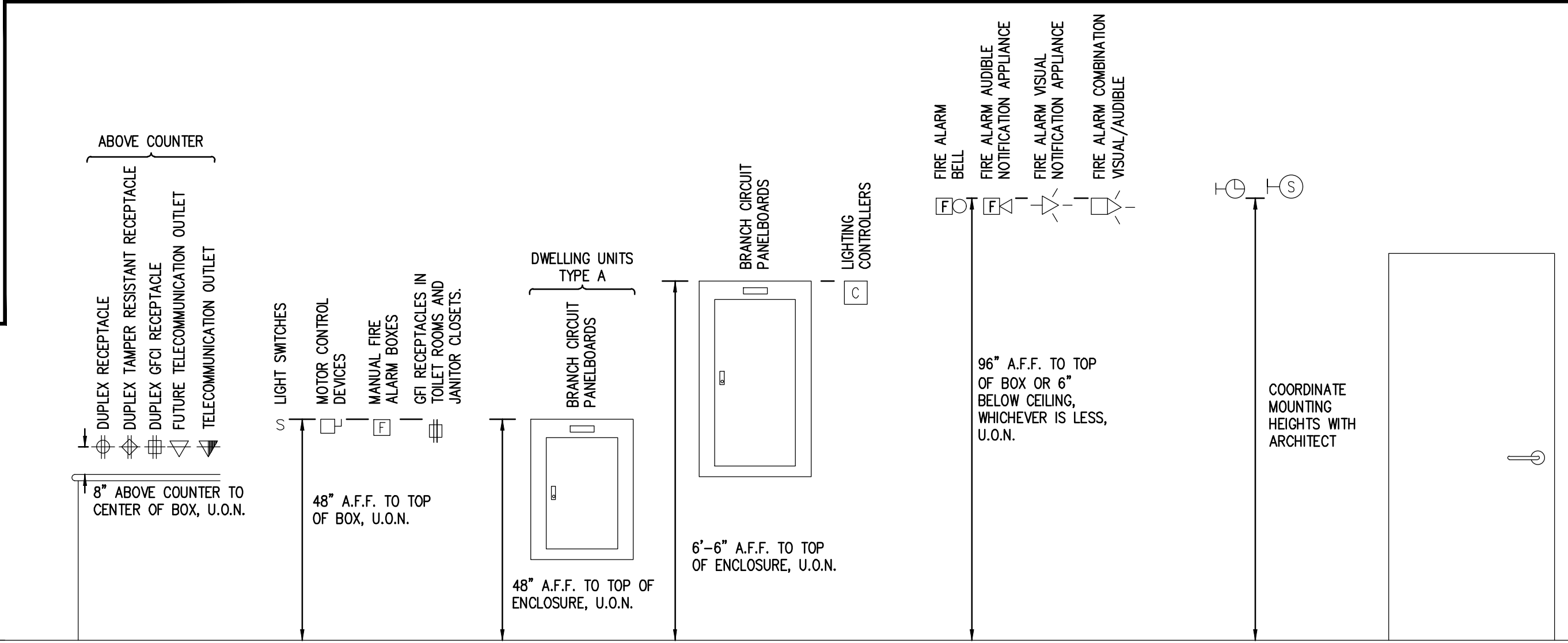
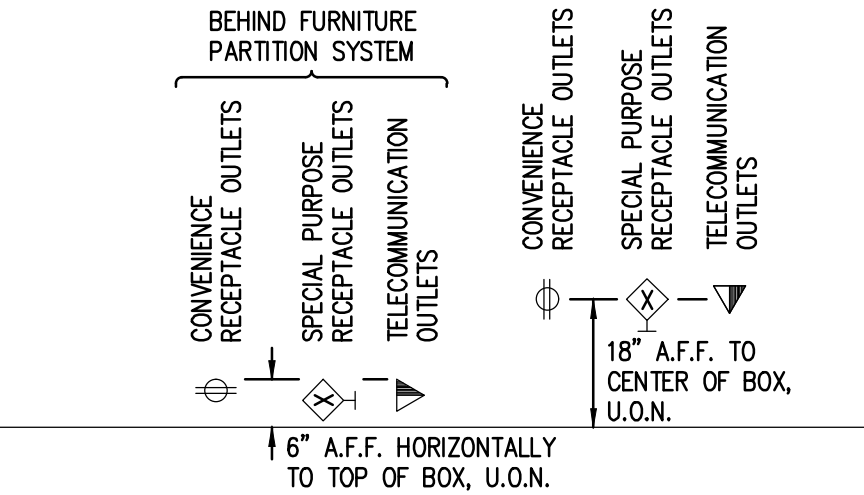
SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
	SECURITY CAMERA		LIGHTNING ARRESTOR
	MOTION DETECTOR		PANELBOARD "X" INDICATES PANELBOARD NAME
	SECURITY KEY SWITCH		GROUND
	DOOR CONTACT		STRESS CONE TERMINATION
	KEY PAD		SECURITY KEY INTERLOCK
	ACCESS CONTROL STATION		ENGINE GENERATOR
	DURESS PUSH BUTTON STATION		UTILITY METER
	DELAYED EGRESS		ELECTRONIC METERING UNIT
	REQUEST TO EXIT STATION		AMMETER
	CIRCUIT BREAKER		VOLTMETER
	DRAWOUT CIRCUIT BREAKER MANUALLY OPERATED		AMMETER SWITCH
	DRAWOUT CIRCUIT BREAKER ELECTRICALLY OPERATED		VOLTMETER SWITCH
	SWITCH		SURGE PROTECTIVE DEVICE
	AUTOMATIC OR MANUAL TRANSFER SWITCH		CONTROL RELAY
	FUSE		TIME DELAY RELAY
	TRANSFORMER		THERMAL OVERLOAD RELAY
	CURRENT TRANSFORMER		NORMALLY OPEN CONTACTS
	POTENTIAL TRANSFORMER		NORMALLY CLOSED CONTACTS
	LIGHTNING ARRESTOR		N.O. PUSH BUTTON SINGLE CIRCUIT
	PANELBOARD "X" INDICATES PANELBOARD NAME		N.C. PUSH BUTTON SINGLE CIRCUIT
	GROUND		CABLE VAULT "X-X" INDICATES TYPE
	STRESS CONE TERMINATION		BRANCH CIRCUIT PANELBOARD
	SECURITY KEY INTERLOCK		LOAD CENTER
	ENGINE GENERATOR		MOTOR CONTROL CENTER
	UTILITY METER		TRANSFORMER
	ELECTRONIC METERING UNIT		DISTRIBUTION PANEL
	AMMETER		GROUND BUS
	VOLTMETER		PLUG IN BUSWAY
	AMMETER SWITCH		FEEDER BUSWAY
	VOLTMETER SWITCH		
	SURGE PROTECTIVE DEVICE		
	CONTROL RELAY		
	TIME DELAY RELAY		
	THERMAL OVERLOAD RELAY		
	NORMALLY OPEN CONTACTS		
	NORMALLY CLOSED CONTACTS		
	N.O. PUSH BUTTON SINGLE CIRCUIT		
	N.C. PUSH BUTTON SINGLE CIRCUIT		
	CABLE VAULT "X-X" INDICATES TYPE		
	BRANCH CIRCUIT PANELBOARD		
	LOAD CENTER		
	MOTOR CONTROL CENTER		
	TRANSFORMER		
	DISTRIBUTION PANEL		
	GROUND BUS		
	PLUG IN BUSWAY		
	FEEDER BUSWAY		

SYMBOL	DESCRIPTION
	MANUAL FIRE ALARM BOX
	SMOKE DETECTOR
	DUCT SMOKE DETECTOR
	CARBON MONOXIDE DETECTOR
	REMOTE TEST STATION (FOR DUCT DETECTOR)
	THERMAL DETECTOR
	PROJECTED BEAM DETECTOR
	FIRE ALARM BELL
	FIRE ALARM AUDIBLE NOTIFICATION APPLIANCE
	FIRE ALARM VISUAL NOTIFICATION APPLIANCE "XX" INDICATES CANDELA RATING IF NO RATING SHOWN, APPLIANCE IS 15cd
	FIRE ALARM COMBINATION VISUAL/ AUDIBLE "XX" INDICATES CANDELA RATING IF NO RATING SHOWN, APPLIANCE IS 15cd
	FIRE ALARM COMBINATION VISUAL/ AUDIBLE NOTIFICATION APPLIANCE- CEILING MOUNTED "XX" INDICATES CANDELA RATING IF NO RATING SHOWN, APPLIANCE IS 15cd
	FIRE ALARM VISUAL NOTIFICATION APPLIANCE CEILING MOUNTED "XX" INDICATES CANDELA RATING IF NO RATING SHOWN, APPLIANCE IS 15cd
	FIRE ALARM AUDIBLE NOTIFICATION APPLIANCE - CEILING MOUNTED
	FIREFIGHTERS PHONE JACK
	FIRE ALARM CONTROL PANEL
	FIRE ALARM ANNUNCIATOR PANEL
	NOTIFICATION APPLIANCE CIRCUIT EXTENDER PANEL
	ADDRESSABLE MONITORING MODULE
	ADDRESSABLE CONTROL MODULE
	TAMPER SWITCH
	FLOW SWITCH
	MAGNETIC DOOR RELEASE

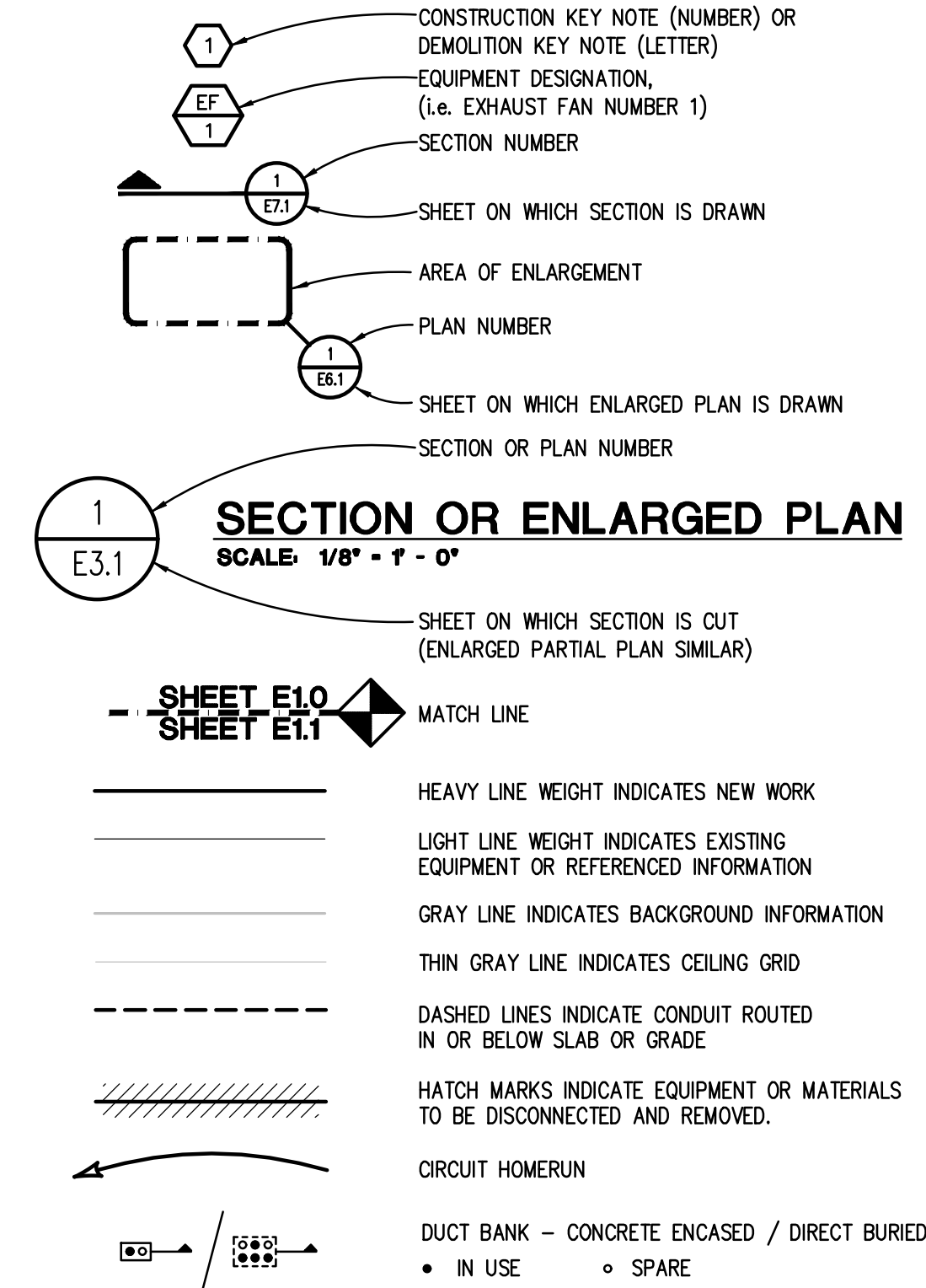
ELECTRICAL ABBREVIATION LIST

ABBREVIATION	DESCRIPTION	ABBREVIATION	DESCRIPTION	ABBREVIATION	DESCRIPTION
A	AMPERES	KV	KILOVOLT	P	POLE
AF	AMPERES FRAME (BREAKER RATING)	KVA	KILOVOLT - AMPERES	PB	PUSHBUTTON STATION
AFCI	ARC FAULT CIRCUIT INTERRUPTER	KW	KILOWATT	PH	PHASE
A.F.F.	ABOVE FINISH FLOOR	KWH	KILOWATT - HOURS	PT	POTENTIAL TRANSFORMER
AIC	AMPS INTERRUPTING CAPACITY	LA	LIGHTNING ARRESTOR	PDP	POWER DISTRIBUTION PANEL
AL	AUDIENCE LEFT	LP	LIGHTING PANEL	RECEPT.	RECEPTACLE
AR	AUDIENCE RIGHT	LDP	LIGHTING DISTRIBUTION PANEL	RDP	RECEPTACLE DISTRIBUTION PANEL
ATS	AMPERES TRIP (BREAKER SETTING)	MAX	MAXIMUM	RP	RECEPTACLE PANEL
AUX	AUTOMATIC TRANSFER SWITCH	MCC	MAIN CIRCUIT BREAKER	RSC	RIGID STEEL CONDUIT
BKR	BREAKER	MDP	MAIN DISTRIBUTION PANEL	SCHED	SCHEDULE
BPS	BOLTED PRESSURE SWITCH	MECH	MECHANICAL	SW	SWITCH
C	CONDUIT	MIN	MINIMUM	SWB	SWITCHBOARD
CB	CIRCUIT BREAKER	MISC.	MISCELLANEOUS	SWGR	SWITCHGEAR
CFCI	CONTRACTOR FURNISHED, CONTRACTOR INSTALLED	WLO	WIRE LUGS ONLY	TB	TERMINAL BOX
CKT	CIRCUIT	MTD	MOUNTED	TELECOM	TELECOMMUNICATIONS
CT	CURRENT TRANSFORMER	MTG	MOUNTING	TR	TAMPER RESISTANT
DEMO	DEMOLITION	MTR	MOTOR	TTY	TELEPHONE TERMINAL BACKBOARD
DIM	DIMENSION	N	NEUTRAL	U.O.N.	UNLESS OTHERWISE NOTED
DISC	DISCONNECT	NC	NORMALLY CLOSED	US	UPSTAGE
DP	DISTRIBUTION PANEL	NEC	NATIONAL ELECTRICAL CODE	V	VOLTS
DS	DOWNSTAGE	NF	NON-FUSIBLE	W	WIRE OR WATTS
DWG	DRAWING	NIC	NOT IN CONTRACT	WG	WIRE GUARD
EBU	EMERGENCY BATTERY UNIT	NL	NIGHT LIGHT	WP	WEATHERPROOF
EC	ELECTRICAL CONTRACTOR	NO	NORMALLY OPEN	XFMR	TRANSFORMER
ELEC	ELECTRICAL	NTS	NOT TO SCALE	XP	EXPLOSION PROOF
EM/ EMERG	EMERGENCY	OC	ON CENTER	(E)	EXISTING
EMT	ELECTRICAL METALLIC TUBING	OFCI	OWNER FURNISHED, CONTRACTOR INSTALLED	(R)	RELOCATED
EO	ELECTRICALLY OPERATED	OFOI	OWNER FURNISHED, CONTRACTOR INSTALLED, OWNER INSTALLED		
EPO	EMERGENCY POWER OFF				
EW	ELECTRIC WATER COOLER				
EXIST	EXISTING				
FA	FIRE ALARM				
FLA	FULL LOAD AMPS				
FLR	FLOOR				
FOH	FRONT OF HOUSE				
FSEC	FOOD SERVICE EQUIPMENT CONTRACTOR				
FU	FUSE				
G/GRD/EG	GROUND				
GFCI	GROUND FAULT CIRCUIT INTERRUPTER				
GFP	GROUND FAULT PROTECTION				
HOA	HAND-OFF-AUTO				
HP	HORSEPOWER				
HV	HIGH VOLTAGE				
HZ	HERTZ				
IG	ISOLATED GROUND				
JB	JUNCTION BOX				

STANDARD MOUNTING HEIGHTS



STANDARD METHODS OF NOTATION



ELECTRICAL DRAWING INDEX

SHEET NO.	SHEET TITLE
E0.1	ELECTRICAL STANDARDS AND DRAWING INDEX
E0.2	ELECTRICAL STANDARD SCHEDULES
E0.3	FIRST FLOOR ELECTRICAL COMPOSITE PLAN
ED1.1	FIRST FLOOR ELECTRICAL DEMOLITION PLAN
E2.1	FIRST FLOOR LIGHTING PLAN
E3.1	FIRST FLOOR POWER AND AUXILIARY SYSTEMS PLAN
E3.2	ROOF POWER AND AUXILIARY SYSTEMS PLAN
E5.1	PARTIAL ONE LINE DIAGRAM AND PANEL SCHEDULES
E7.1	ELECTRICAL DETAILS AND DIAGRAMS

SILVERI ARCHITECTS
650 LIVERNOIS
(248) 591-0360

WAYNE STATE UNIVERSITY

DATE: 07-25-19

ISSUE: BIDS

Peter Bosso Associates Inc.
CONSULTING ENGINEERS
5545 Livernois, Suite 100
Troy, Michigan 48065-5028
Tel: 248-475-5565
Fax: 248-475-5007
www.PeterBossoAssociates.com
PEA-Project No. 2019-0199

PROJECT: Matthaei Office Addition
Wayne State University
Detroit, Michigan
080-325090

ELECTRICAL STANDARDS AND DRAWING INDEX

TITLE

SHEET

E0.1

g:\2019\2019-0109-00\ CAD\2019-0109-EO-IND.dwg, EO.2, 7/24/2019 3:58:26 PM, Dominic M. Quni, Peter Bosso Associates Inc.

DRY TYPE DISTRIBUTION TRANSFORMER CIRCUIT SIZING SCHEDULE							
XFMR KVA	PRIMARY (480V) CIRCUIT BREAKER (NOTE 5)	CIRCUIT BREAKER	SECONDARY (208Y/120 VOL.T)				KEYED NOTES
			CONDUCTOR SIZE (AWG OR KCMIL)			GROUNDING ELECTRODE CONDUCTOR	
			PHASE & NEUTRAL	SUPPLY SIDE BONDING JUMPER	CONDUIT (4W + SSBJ)		
9	20A	30A	10	8	3/4"	8	
15	25A	60A	6	8	1"	8	1
30	45A	100A	3	8	1 1/4"	8	1
45	70A	175A	2/0	4	2"	4	
75	125A	300A/225A	350 / 4/0	2	3"	2	2
112 1/2	175A	400A	600	1/0	3 1/2"	1/0	
150	225A	600A	2-350	2-2	2-3"	2/0	
225	350A	800A	2-600	2-1/0	2-3 1/2"	3/0	
300	500A	1200A	3-600	3-1/0	3-3 1/2"	3/0	
500	800A	1600A	4-600	4-1/0	4-3 1/2"	3/0	

- GENERAL NOTES:
- TRANSFORMERS AND FEEDERS ARE BASED ON 480 VOLT, 3 PHASE, 3 WIRE PRIMARY AND 208Y/120 VOLT, 3 PHASE, 4 WIRE, SECONDARY.
 - ALUMINUM CONDUCTORS ARE PERMITTED ONLY IF INCLUDED IN FEEDER AND BRANCH CIRCUIT SIZING SCHEDULE.
 - PRIMARY OVERCURRENT PROTECTION IS SIZED AT 125% OF TRANSFORMER FULL LOAD CURRENT. PROVIDE PRIMARY OVERCURRENT DEVICE SELECTION TO ALLOW TRANSFORMER IN-RUSH CURRENT AND PROTECT BASED ON THE ANSI DAMAGE CURVE. IF MANUFACTURER REQUIRES PRIMARY OVERCURRENT GREATER THAN 125% (NOT TO EXCEED 250%) THEN PRIMARY FEEDER SHALL BE INCREASED ACCORDINGLY.
 - SECONDARY CONDUCTOR BASED ON TEN FOOT MAXIMUM LENGTH (NEC 240.21(C)(2)). IF CONDUCTORS ARE LONGER THAN TEN FOOT, REQUIREMENTS IN NEC 240.21(C)(6) MUST BE MET. IN NO CASE SHALL CONDUCTORS BE LONGER THAN TWENTY-FIVE FEET.

- KEYED NOTES:
- CONDUCTORS ARE BASED ON 90°C, 600V. INSULATED WIRE APPLIED AT 75°C FOR TERMINATION RATED 60/75°C OR 75°C.
 - THE SMALLER SIZE IS TO BE USED TO FEED 225A PANELBOARDS.

FLOOR SERVICE FITTING ASSEMBLY SCHEDULE							
TYPE	DESCRIPTION	MANUFACTURER (SEE NOTE #2)	DEVICE CONFIGURATION	FLANGE/COVER MATERIAL & COLOR	SERVICE PLATE TYPE	MINIMUM DEPTH	MAXIMUM CONDUIT
FB4A	MULTI FUNCTION FOUR GANG, MULTI SERVICE, STAMPED STEEL FOR ABOVE GRADE APPLICATIONS, RECESSED FLOOR BOX, 2 DUPLEX RECEPTACLES AND 2 TELECOM OUTLETS, CARPET/TILE INSERT COVER.	WIREMOLD RFB4E	2D / 2T	NK	F	3 1/2"	2"

- GENERAL NOTES:
- PROVIDE 1 1/4"C. FROM EACH TELECOM FLOOR BOX (GANG) TO ACCESSIBLE LOCATION IN CEILING.
 - OTHER ACCEPTABLE MANUFACTURERS ARE STEEL CITY, OR HUBBELL-RACO.
 - ALL PRODUCTS IN THIS SCHEDULE SHALL MEET AND EXCEED THE UL514A or UL514C SCRUB WATER EXCLUSION REQUIREMENT.
 - COORDINATE ALL TELECOM AND A/V OUTLETS WITH COMMUNICATIONS AND A/V CONTRACTORS.

ABBREVIATIONS:

PF = PARTITION FEED	BS = BRASS	FR = FLIP UD/RECTANGULAR
D = DUPLEX RECEPTACLE	AL = ALUMINUM	SL = SLIDES
T = 2 TELECOM OPENINGS	BK = BLACK	F = FLIP COVER
	GY = GRAY (CONCRETE)	
	BZ = BRONZE	
	NK = SATIN NICKEL	

FEEDER AND BRANCH CIRCUIT SIZING SCHEDULE - GENERAL PURPOSE							
OVERCURRENT DEVICE RATING (AMPERES)	COPPER CONDUCTORS						KEYED NOTES
	WIRE SIZE (AWG OR KCMIL)		CONDUIT SIZE				
	PHASE & NEUTRAL	GROUND	SINGLE PHASE 2 WIRE+G (1PH, 1N, 1G)	SINGLE PHASE 3 WIRE+G (2PH, 1N, 1G)	THREE PHASE 3 WIRE+G (3PH, 1G)	THREE PHASE & NEUTRAL 4 WIRE+G (3PH, 1N, 1G)	
15-20	12	12	3/4"	3/4"	3/4"	3/4"	
25-30	10	10	3/4"	3/4"	3/4"	3/4"	
35-40	8	10	3/4"	3/4"	3/4"	3/4"	
45-50	8 (6)	10	3/4"	3/4"	3/4"	3/4"	1
60	6 (4)	10	3/4" (1")	3/4" (1")	3/4" (1")	1" (1 1/4")	1
70	4	8	1"	1 1/4"	1 1/4"	1 1/4"	
80	4 (3)	8	1"	1 1/4"	1 1/4"	1 1/4"	1
90-100	3 (2)	8	1 1/4"	1 1/4"	1 1/4"	1 1/4"	1
110	2 (1)	6	-	1 1/4"	1 1/4"	1 1/4" (1 1/2")	1
125	1 (1/0)	6	-	1 1/4" (1 1/2")	1 1/4" (1 1/2")	1 1/2"	1
150	1/0	6	-	1 1/2"	1 1/2"	1 1/2"	
175	2/0	6	-	2"	2"	2"	
200	3/0	6	-	2"	2"	2 1/2"	
225	4/0	4	-	2"	2"	2 1/2"	
250	250	4	-	2 1/2"	2 1/2"	2 1/2"	
300	350	4	-	2 1/2"	2 1/2"	3"	
350	500	3	-	3"	3"	3"	
400	500	3	-	3"	3"	3"	

- GENERAL NOTES:
- CONTRACTOR TO SIZE FEEDERS AND BRANCH CIRCUITS BASED ON THIS SCHEDULE AND OVER CURRENT DEVICE SIZE, UNLESS NOTED OTHERWISE.
 - CONTRACTOR MAY COMBINE 20A CIRCUITS AS NOTED IN SPECIFICATION.
 - CONDUCTORS ARE BASED ON THHN/THWN UP TO AND INCLUDING #4/0. LARGER THAN #4/0 ARE BASED ON TYPE XHHW.
 - CONDUIT SIZES ARE VALID FOR EMT OR RGS. CONDUIT SIZES SHALL BE ADJUSTED AS REQUIRED FOR OTHER TYPES OF CONDUIT.
 - ELECTRICAL CONTRACTOR TO COORDINATE WITH MECHANICAL CONTRACTOR AND PROVIDE REQUIRED WIRE SIZES TO ACCOMMODATE MECHANICAL EQUIPMENT LUG SIZES.
 - SIZE OF DISCONNECT SWITCH LOCATED AT EQUIPMENT SHALL BE SIZED BASED UPON OVERCURRENT PROTECTION OF THAT DEVICE.
 - OBTAIN APPROVAL FROM ENGINEER PRIOR TO INSTALLING DIFFERENT SIZE/QUANTITY OF CONDUCTORS TO OBTAIN AN EQUIVALENT AMPACITY.
 - SPLICE FROM ALUMINUM TO COPPER PRIOR TO ENTERING EQUIPMENT LISTED FOR USE WITH COPPER CONDUCTORS ONLY OR USE COPPER CONDUCTORS FOR THE ENTIRE LENGTH OF FEEDER.

- KEYED NOTES:
- CONDUCTORS ARE BASED ON 90°C, 600V. INSULATED WIRE APPLIED AT 75°C FOR TERMINATION RATED 60/75°C OR 75°C. FOR TERMINATION RATED AT 60°C, USE CONDUCTORS AND CONDUIT SIZES INDICATED IN PARENTHESES.

MOTOR CIRCUIT SIZING SCHEDULE (480V, 3 PHASE)				
MOTOR HP	SWITCH/ FUSE	CIRCUIT BREAKER	STARTER SIZE/TYPE	MOTOR DISCONNECT (NOTE 3)
1/2	30/3A	15A	1	30A
3/4	30/3A	15A	1	30A
1	30/6A	15A	1	30A
1 1/2	30/6A	15A	1	30A
2	30/6A	15A	1	30A
3	30/10A	15A	1	30A
5	30/15A	15A	1	30A
7 1/2	30/20A	20A	1	30A
10	30/20A	25A	1	30A
15	30/30A	40A	2	30A
20	60/40A	60A	2	60A
25	60/50A	70A	2	60A
30	60/60A	80A	3	60A
40	100/80A	90A	3	100A
50	100/100A	100A	3	100A
60	200/125A	125A	4	200A
75	200/150A	150A	4	200A
100	200/200A	200A	4	200A
125	200/200A	225A	5	200A
150	400/250A	250A	5	400A
200	400/350A	350A	5	400A

- GENERAL NOTES:
- BASED ON MOTOR FULL LOAD AMPERES AS PROVIDED BY THE N.E.C.
 - BASED ON MOTOR RUNNING OVERLOAD PROTECTIONS PROVIDED BY THERMAL OVERLOAD RELAYS.
 - WHERE THE STARTER IS LOCATED REMOTE FROM THE MOTOR, PROVIDE DISCONNECT LOCATED AT THE MOTOR, SIZE AS INDICATED.

RACEWAY / CONDUCTOR / CABLE APPLICATION SCHEDULE						
	WIRE	RACEWAY	CABLE/ CORD			
BRANCH CIRCUITS - EXTERIOR	ROOFTOPS (WHEN APPROVED BY ENGINEER)	X		X	X	
BRANCH CIRCUITS - INTERIOR	EXPOSED, ABOVE 10' AFF UNFINISHED SPACES	X	X			
	CONCEALED, ACCESSIBLE CEILINGS (NOTE 2)	X	X			X
SPECIAL APPLICATIONS	CONCEALED, INACCESSIBLE CEILINGS	X	X			
	CONCEALED IN GYPSUM BOARD PARTITION WALLS	X	X		X	X
	CLASS 1 CONTROL CIRCUITS	X	X			
	CLASS 2 CONTROL CIRCUITS	X	X			

- GENERAL NOTES:
- PROVIDE RIGID STEEL SWEEPS WHERE CONDUITS PENETRATE WALLS, CONCRETE SLABS, AND CONCRETE BASES.
 - REFER TO SPECIFICATIONS FOR RESTRICTIONS ON MC CABLE INSTALLATION.
 - CONDUIT AND WIRE ALLOWED WHEN ENCASED IN MINIMUM 2" CONCRETE.

BRANCH CIRCUIT VOLTAGE DROP WIRING SCHEDULE FOR SINGLE PHASE CIRCUITS						
BRANCH CKT RATING (A)	WIRE SIZE (AWG)	MAXIMUM BRANCH CIRCUIT LENGTH (IN FEET)				
		120V	208V	240V	277V	480V
20A	12	83	143	165	191	331
	10	128	222	256	295	511
	8	201	348	402	464	804
	6	313	542	625	721	1250
30A	10	85	148	170	197	341
	8	134	232	268	309	536
	6	208	361	417	481	833
	4	313	542	625	721	1250

- GENERAL NOTES:
- THE ABOVE TABLE VALUES ARE BASED ON COPPER CONDUCTORS, IN STEEL CONDUIT, WITH A LOAD POWER FACTOR OF 0.85 PER NEC CHAPTER 9, TABLE 9.
 - PROVIDE BRANCH CIRCUIT CONDUCTORS AS INDICATED IN THE TABLE ABOVE FOR ALL LIGHTING AND RECEPTACLE BRANCH CIRCUITS. WHERE BRANCH CIRCUITS SERVE DEDICATED EQUIPMENT, THE CONTRACTOR MAY PERFORM VOLTAGE DROP CALCULATIONS BASED ON ACTUAL EQUIPMENT CONNECTED LOAD AND PROVIDE CONDUCTORS APPROPRIATELY SIZED TO LIMIT VOLTAGE DROP TO A MAXIMUM OF 3%.
 - CONDUCTOR SIZES ARE BASED ON MAXIMUM OF 9 CURRENT CARRYING CONDUCTORS IN A SINGLE CONDUIT.
 - LIMITS FOR CONDUCTOR LENGTHS SHOWN ARE BASED ON A MAXIMUM BRANCH CIRCUIT LOADING OF 64% OF THE BRANCH BREAKER RATING AND A MAXIMUM OF 3 PERCENT VOLTAGE DROP TO COMPLY WITH ASHRAE 90.1 AND THE NEC. FOR CIRCUITS LOADED GREATER THAN 64% OF BRANCH BREAKER RATING, THE CONTRACTOR SHALL PROVIDE CONDUCTORS APPROPRIATELY SIZED TO LIMIT VOLTAGE DROP TO 3%.

NOTE: SOME SYMBOLS AND ABBREVIATIONS SHOWN MAY NOT APPLY TO THIS PROJECT.

ISSUE
BIDS

DATE
07-25-19



SILVERI ARCHITECTS
650 LIVERNOIS
(248) 591-0360
FERNDAL E, MICHIGAN 48220
silveri.com

PROJECT
Matthaei Office Addition
Wayne State University
Detroit, Michigan
080-325090

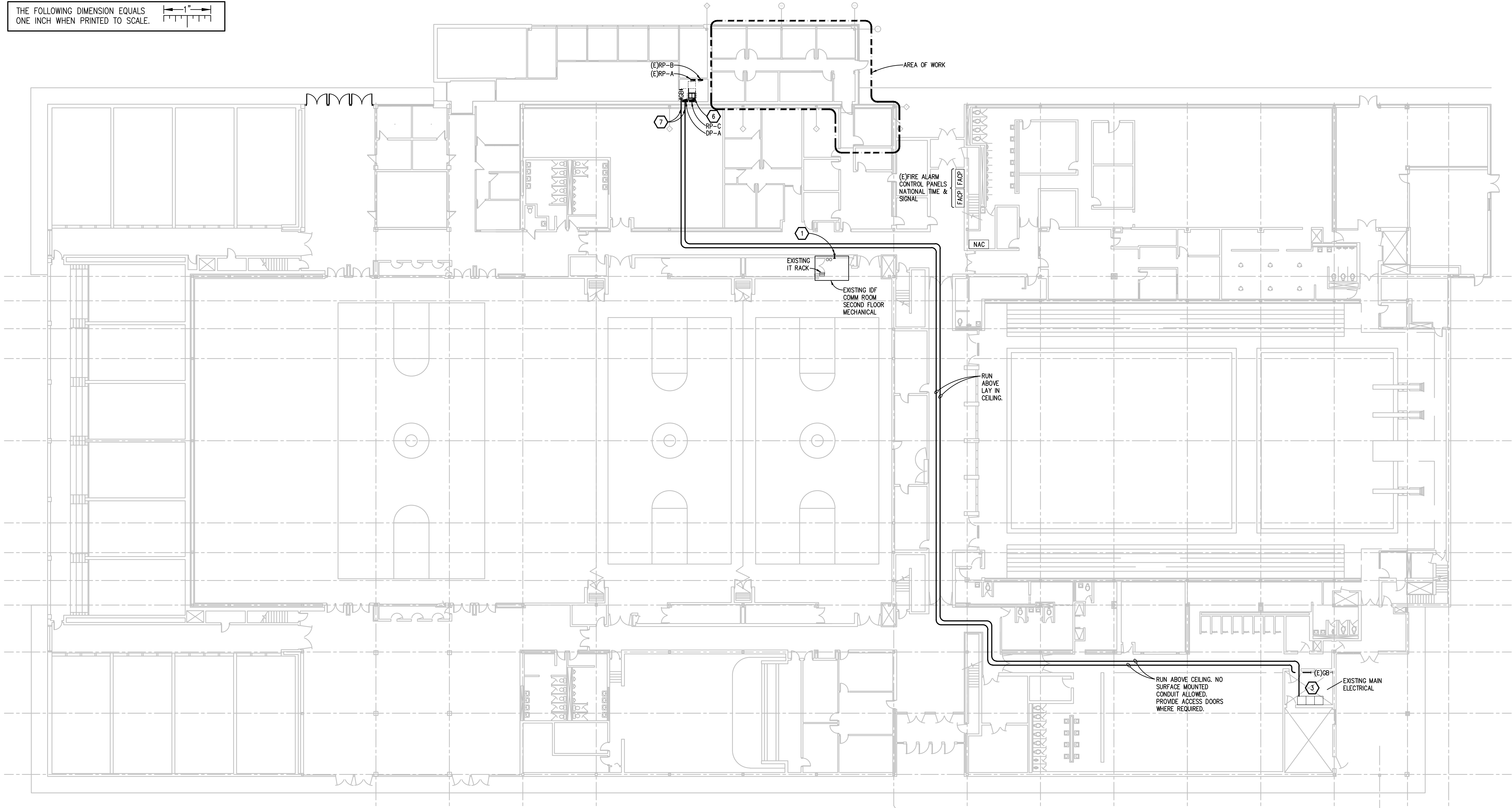
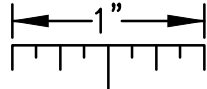
SHEET

E0.2

ELECTRICAL STANDARD SCHEDULES

g:\2019\2019-0199-00\CAD\2019-0199-E0-CMP.dwg, E0.3, 7/24/2019 3:58:33 PM, Dominic M. Quni, Peter Basso Associates Inc.

THE FOLLOWING DIMENSION EQUALS
ONE INCH WHEN PRINTED TO SCALE.



FIRST FLOOR ELECTRICAL COMPOSITE PLAN
SCALE: 1/16" = 1' - 0"

7 CONSTRUCTION KEY NOTES:

- (1)2" ABOVE DOOR FOR LOW VOLTAGE CABLING.
- REFER TO COMMTECH DRAWINGS FOR FSR BOX DETAIL.
- LOCATION OF EXISTING 480/277V 3PH, 4W 1200A MAIN SWITCHBOARD. CONTRACTOR SHALL COORDINATE ROUTING IN FIELD.
- CONCRETE ENCASED ELECTRODE. 20' BARE CONDUCTOR INSTALLED IN CONCRETE SLAB/FOUNDATION IN DIRECT CONTACT WITH EARTH. CONNECT TO CONCRETE REINFORCING BARS AS APPLICABLE.
- EXTEND EXISTING FIRE ALARM BRANCH CIRCUIT TO NEW FIRE ALARM.
- NEW TRANSFORMER T-RP-C. REFER TO WALL MOUNTED TRANSFORMER DETAIL ON SHEET E7.1.
- FIRE PROOF PENETRATION THROUGH TWO HOUR RATED WALL. COORDINATE WITH FIRE PROOFING SPECIFICATION.

SHEET

E0.3

TITLE

FIRST FLOOR ELECTRICAL
COMPOSITE PLAN

PROJECT

Matthaei Office Addition
Wayne State University
Detroit, Michigan
080-325090

ISSUE

BIDS

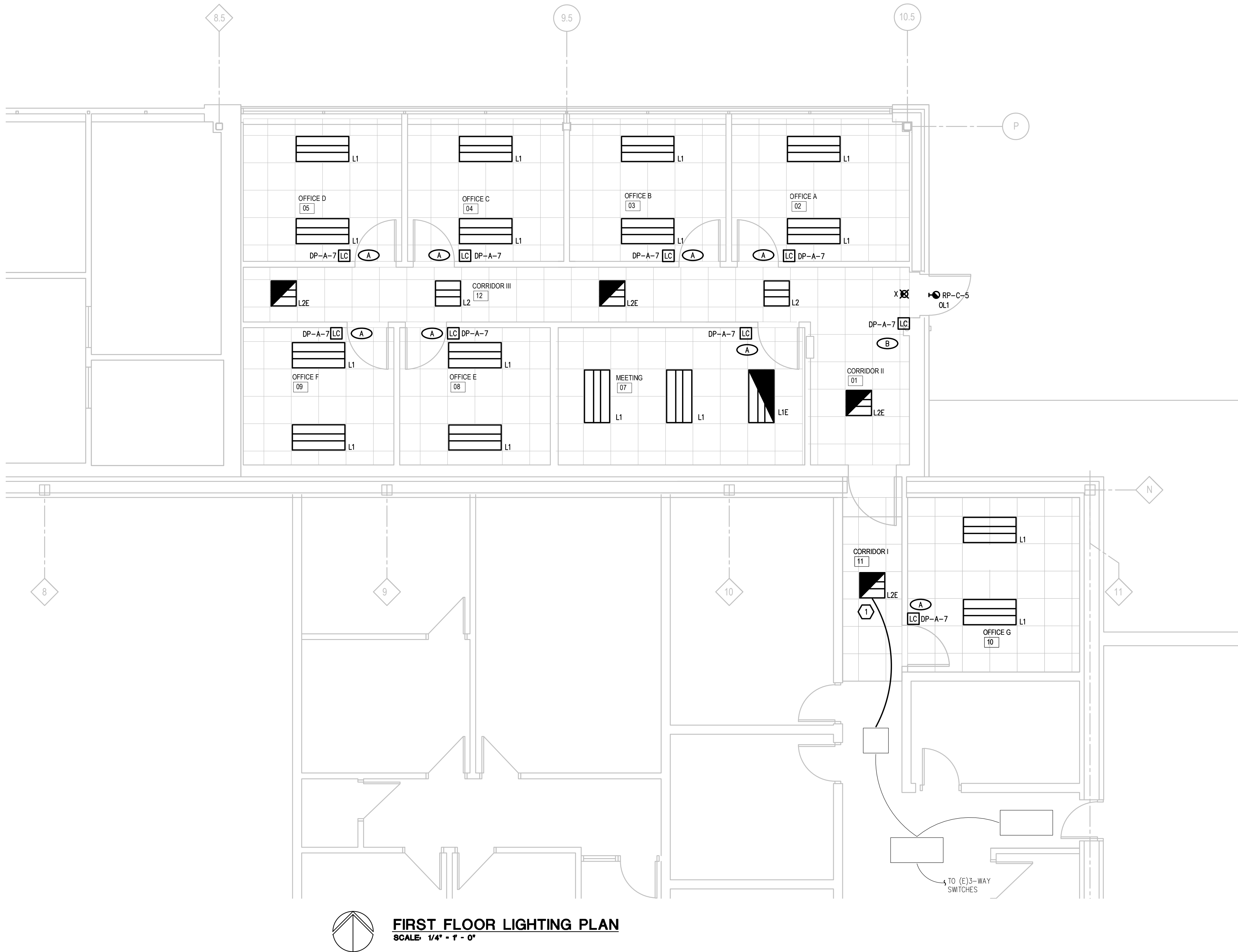
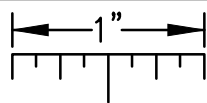
DATE
07-25-19



SILVERI ARCHITECTS
650 LIVERNOIS FERNDALE, MICHIGAN 48220
(248) 591-0360
silveri.com

g:\2019\2019-0199-00\CAD\2019-0199-E2-LP1.dwg, E2.1, 7/24/2019 3:58:49 PM, Dominic M. Quni, Peter Basso Associates Inc.

THE FOLLOWING DIMENSION EQUALS
ONE INCH WHEN PRINTED TO SCALE.



ELECTRICAL GENERAL NOTES:

1. THESE DRAWINGS REPRESENT THE GENERAL EXTENT AND ARRANGEMENT OF SYSTEMS, BUT ARE NOT TO BE CONSIDERED FABRICATION DRAWINGS. COORDINATE WITH OTHER TRADES, AND PROVIDE EACH SYSTEM COMPLETE, INCLUDING ALL NECESSARY COMPONENTS, FITTINGS, AND OFFSETS.
2. INSTALL SYSTEMS SUCH THAT REQUIRED CLEARANCE AND SERVICE ACCESS SPACE IS PROVIDED AROUND ALL MECHANICAL AND ELECTRICAL EQUIPMENT, AND AROUND ANY COMPONENTS WHICH REQUIRE SERVICE ACCESS.
3. COORDINATE AND PROVIDE ACCESS DOORS WITHIN INACCESSIBLE CEILING, SHAFT, AND CHASE AREAS FOR ALL COMPONENTS WHICH REQUIRE SERVICE ACCESS. REFER TO ARCHITECTURAL DRAWINGS FOR CEILING TYPES.
4. PROVIDE SUPPLEMENTARY STEEL AS REQUIRED FOR THE PROPER SUPPORT OF ALL SYSTEMS.
5. TRANSFORMER SECONDARY CONDUCTORS SHALL BE SIZED IN ACCORDANCE WITH TRANSFORMER CIRCUIT SIZING SCHEDULE SHOWN ON "ELECTRICAL STANDARD SCHEDULES DRAWING" UNLESS OTHERWISE NOTED.
6. MOTOR CIRCUIT PROTECTION SHALL BE SIZED IN ACCORDANCE WITH MOTOR CIRCUIT SIZING SCHEDULES SHOWN ON "ELECTRICAL STANDARD SCHEDULES DRAWING" UNLESS OTHERWISE NOTED.
7. COORDINATE THE MOUNTING HEIGHTS OF DEVICES WITH ARCHITECTURAL ELEVATIONS AND THE TRADES INSTALLING THE WORK.
8. COORDINATE EXACT LOCATIONS OF ALL FLOOR SERVICE FITTINGS AND POKE-THROUGH ASSEMBLIES WITH FINAL FURNITURE LAYOUT DRAWINGS.
9. REFER TO MECHANICAL SCHEDULE SHEETS FOR ELECTRICAL REQUIREMENTS FOR MECHANICAL EQUIPMENT. PROVIDE ALL CONNECTIONS, STARTERS, DISCONNECTS, ETC. AS REQUIRED BY SCHEDULES AND WHERE NOTED ELSEWHERE. VERIFY REQUIREMENTS OF ALL MECHANICAL EQUIPMENT WITH SHOP DRAWINGS SUBMITTALS. NOTIFY ENGINEER OF ANY CONFLICTS BETWEEN EQUIPMENT SUBMITTALS AND ELECTRICAL DRAWINGS. WHERE CIRCUIT SIZES ARE SHOWN ON THE ELECTRICAL DRAWINGS THAT DIFFER FROM WHAT IS INDICATED ON THE MECHANICAL SCHEDULES, PROVIDE THE CIRCUIT OF HIGHER AMPACITY.
10. REFER TO TEMPERATURE CONTROLS SHEETS FOR REQUIRED MOTOR CONTROLLERS. PROVIDE ALL ACCESSORIES INDICATED.
11. REFER TO LIGHTING CONTROL SCHEDULE FOR ROOM CONTROL AND EMERGENCY LIGHTING CIRCUIT CONTROL REQUIREMENTS. DESIGNATION FOR ROOM IS INDICATED AS A LETTERED OVAL SYMBOL.
12. RACEWAYS FOR LOW VOLTAGE SYSTEMS TO BE BY ELECTRICAL CONTRACTOR. PROVIDE ALL JUNCTION BOXES, CONDUIT AND FITTINGS AS REQUIRED FOR LOW VOLTAGE SYSTEMS REFER TO LOW VOLTAGE SYSTEM DRAWINGS FOR SIZES, LOCATIONS AND ADDITIONAL REQUIREMENTS.
13. ALL FIRE ALARM DEVICES SHALL BE COMPATIBLE WITH EXISTING NATIONAL TIME FIRE ALARM SYSTEM. PROVIDE NECESSARY COMPONENTS, MODULES, ETC. AS REQUIRED FOR A FULLY FUNCTIONAL SYSTEM. RE-TEST AND CERTIFY EXISTING FIRE ALARM SYSTEM AT COMPLETION OF PROJECT.
14. ALL EXIT SIGN LIGHTING SHALL BE CIRCUITED TO THE HOT LEG OF ADJACENT ALOR LIGHTING BRANCH CIRCUIT.
15. REFER TO COMMTECH DRAWINGS FOR RACEWAY REQUIREMENTS AND LOCATIONS FOR THE DATA OUTLETS.

CONSTRUCTION KEY NOTES:

1. EXTEND EXISTING LIGHT BRANCH CIRCUIT AS REQUIRED.

SHEET

E2.1

TITLE

FIRST FLOOR LIGHTING PLAN

PROJECT

Matthaei Office Addition
Wayne State University
Detroit, Michigan
080-325090

ISSUE
BIDS

DATE
07-25-19



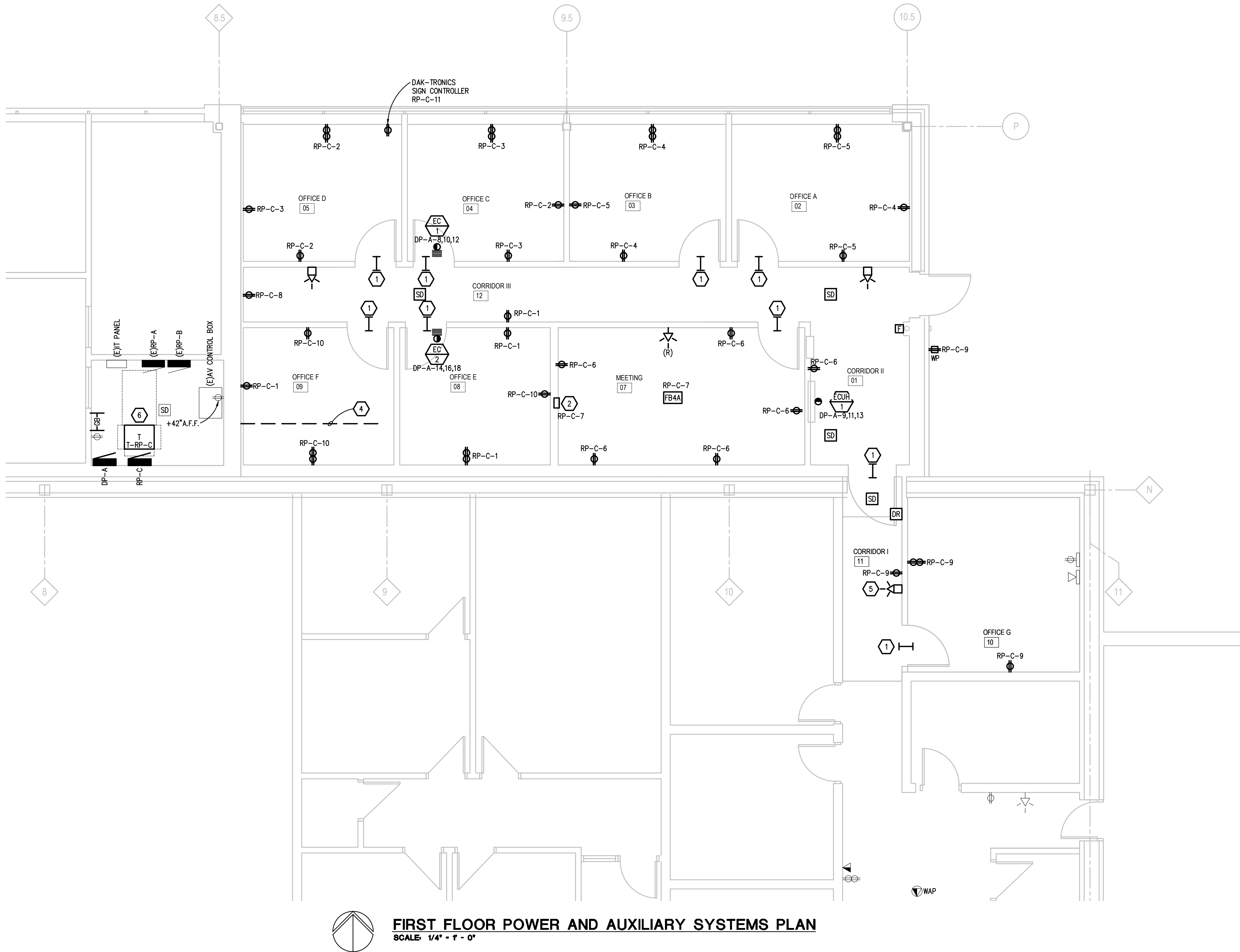
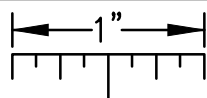
SILVERI ARCHITECTS
650 LIVERNOIS
(248) 591-0360
silveri.com



Peter Basso Associates Inc.
CONSULTING ENGINEERS
5845 Livernois, Suite 100
Troy, Michigan 48065-0203
Tel: 248-475-5565
Fax: 248-475-5007
www.PeterBassoAssociates.com
PSA-Project No. 2019-0199

g:\2019\2019-0199-00\CAD\2019-0199-E3-PP1.dwg, E3.1, 7/24/2019 3:58:58 PM, Dominic M. Quni, Peter Basso Associates Inc.

THE FOLLOWING DIMENSION EQUALS
ONE INCH WHEN PRINTED TO SCALE.



ELECTRICAL GENERAL NOTES:

1. THESE DRAWINGS REPRESENT THE GENERAL EXTENT AND ARRANGEMENT OF SYSTEMS, BUT ARE NOT TO BE CONSIDERED FABRICATION DRAWINGS. COORDINATE WITH OTHER TRADES, AND PROVIDE EACH SYSTEM COMPLETE, INCLUDING ALL NECESSARY COMPONENTS, FITTINGS, AND OFFSETS.
2. INSTALL SYSTEMS SUCH THAT REQUIRED CLEARANCE AND SERVICE ACCESS SPACE IS PROVIDED AROUND ALL MECHANICAL AND ELECTRICAL EQUIPMENT, AND AROUND ANY COMPONENTS WHICH REQUIRE SERVICE ACCESS.
3. COORDINATE AND PROVIDE ACCESS DOORS WITHIN INACCESSIBLE CEILING, SHAFT, AND CHASE AREAS FOR ALL COMPONENTS WHICH REQUIRE SERVICE ACCESS. REFER TO ARCHITECTURAL DRAWINGS FOR CEILING TYPES.
4. PROVIDE SUPPLEMENTARY STEEL AS REQUIRED FOR THE PROPER SUPPORT OF ALL SYSTEMS.
5. TRANSFORMER SECONDARY CONDUCTORS SHALL BE SIZED IN ACCORDANCE WITH TRANSFORMER CIRCUIT SIZING SCHEDULE SHOWN ON "ELECTRICAL STANDARD SCHEDULES DRAWING" UNLESS OTHERWISE NOTED.
6. MOTOR CIRCUIT PROTECTION SHALL BE SIZED IN ACCORDANCE WITH MOTOR CIRCUIT SIZING SCHEDULES SHOWN ON "ELECTRICAL STANDARD SCHEDULES DRAWING" UNLESS OTHERWISE NOTED.
7. COORDINATE THE MOUNTING HEIGHTS OF DEVICES WITH ARCHITECTURAL ELEVATIONS AND THE TRADES INSTALLING THE WORK.
8. COORDINATE EXACT LOCATIONS OF ALL FLOOR SERVICE FITTINGS AND POKE-THROUGH ASSEMBLIES WITH FINAL FURNITURE LAYOUT DRAWINGS.
9. REFER TO MECHANICAL SCHEDULE SHEETS FOR ELECTRICAL REQUIREMENTS FOR MECHANICAL EQUIPMENT. PROVIDE ALL CONNECTIONS, STARTERS, DISCONNECTS, ETC. AS REQUIRED BY SCHEDULES AND WHERE NOTED ELSEWHERE. VERIFY REQUIREMENTS OF ALL MECHANICAL EQUIPMENT WITH SHOP DRAWINGS SUBMITTALS. NOTIFY ENGINEER OF ANY CONFLICTS BETWEEN EQUIPMENT SUBMITTALS AND ELECTRICAL DRAWINGS. WHERE CIRCUIT SIZES ARE SHOWN ON THE ELECTRICAL DRAWINGS THAT DIFFER FROM WHAT IS INDICATED ON THE MECHANICAL SCHEDULES, PROVIDE THE CIRCUIT OF HIGHER AMPACITY.
10. REFER TO TEMPERATURE CONTROLS SHEETS FOR REQUIRED MOTOR CONTROLLERS. PROVIDE ALL ACCESSORIES INDICATED.
11. REFER TO LIGHTING CONTROL SCHEDULE FOR ROOM CONTROL AND EMERGENCY LIGHTING CIRCUIT CONTROL REQUIREMENTS. DESIGNATION FOR ROOM IS INDICATED AS A LETTERED OVAL SYMBOL.
12. RACEWAYS FOR LOW VOLTAGE SYSTEMS TO BE BY ELECTRICAL CONTRACTOR. PROVIDE ALL JUNCTION BOXES, CONDUIT AND FITTINGS AS REQUIRED FOR LOW VOLTAGE SYSTEMS REFER TO LOW VOLTAGE SYSTEM DRAWINGS FOR SIZES, LOCATIONS AND ADDITIONAL REQUIREMENTS.
13. ALL FIRE ALARM DEVICES SHALL BE COMPATIBLE WITH EXISTING NATIONAL TIME FIRE ALARM SYSTEM. PROVIDE NECESSARY COMPONENTS, MODULES, ETC. AS REQUIRED FOR A FULLY FUNCTIONAL SYSTEM. RE-TEST AND CERTIFY EXISTING FIRE ALARM SYSTEM AT COMPLETION OF PROJECT.
14. ALL EXIT SIGN LIGHTING SHALL BE CIRCUITED TO THE HOT LEG OF ADJACENT ALOR LIGHTING BRANCH CIRCUIT.
15. REFER TO COMMTECH DRAWINGS FOR RACEWAY REQUIREMENTS AND LOCATIONS FOR THE DATA OUTLETS.

CONSTRUCTION KEY NOTES:

1. (1)2"C ABOVE DOOR FOR LOW VOLTAGE CABLING.
2. REFER TO COMMTECH DRAWINGS FOR FSR BOX DETAIL.
3. LOCATION OF EXISTING 480/277V 3PH, 4W 1200A MAIN SWITCHBOARD. CONTRACTOR SHALL COORDINATE ROUTING IN FIELD.
4. CONCRETE ENCASED ELECTRODE. 20" BARE CONDUCTOR INSTALLED IN CONCRETE SLAB/FOUNDATION IN DIRECT CONTACT WITH EARTH. CONNECT TO CONCRETE REINFORCING BARS AS APPLICABLE.
5. EXTEND EXISTING FIRE ALARM BRANCH CIRCUIT TO NEW FIRE ALARM.
6. NEW TRANSFORMER T-RP-C. REFER TO WALL MOUNTED TRANSFORMER DETAIL ON SHEET E7.1.
7. FIRE PROOF PENETRATION THROUGH TWO HOUR RATED WALL. COORDINATE WITH FIRE PROOFING SPECIFICATION.

SHEET

E3.1

TITLE

FIRST FLOOR POWER AND
AUXILIARY SYSTEMS PLAN

PROJECT

Matthaei Office Addition
Wayne State University
Detroit, Michigan

080-325090

ISSUE

BIDS

DATE

07-25-19



SILVERI ARCHITECTS
650 LIVERNOIS
(248) 591-0360
silveri.com

FERNDAL, MICHIGAN 48220

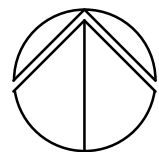
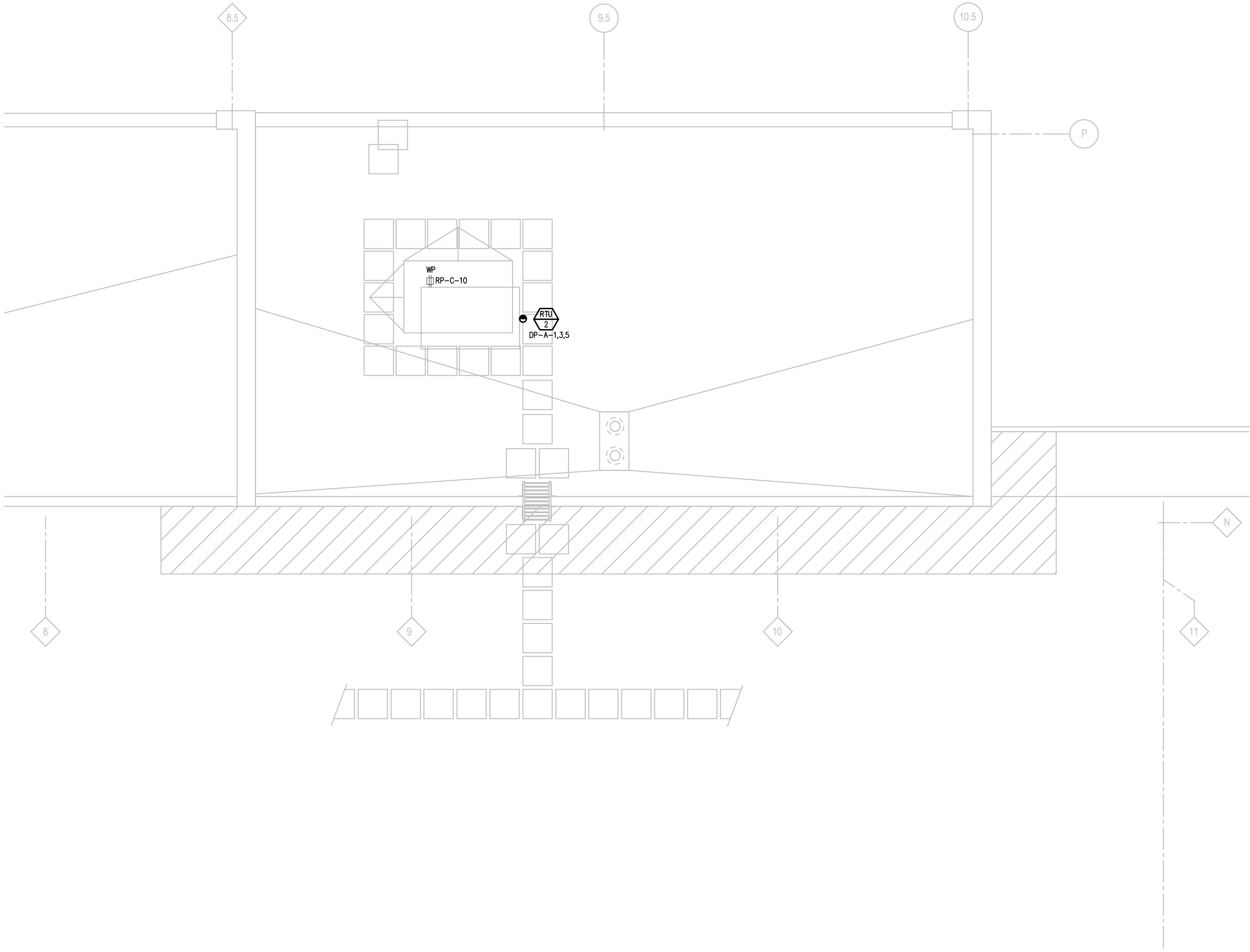


Peter Basso Associates Inc.
CONSULTING ENGINEERS
5845 Livernois, Suite 100
Livernois, Michigan 48150-2028
Tel: 248-475-5565
Fax: 248-475-5007
www.PeterBassoAssociates.com
PSA-Project No. 2019-0199

g:\2019\2019-0199-00\CAD\2019-0199-E3-PP2.dwg, E3.2, 7/24/2019 3:59:05 PM, Dominic M. Quni, Peter Basso Associates Inc.

THE FOLLOWING DIMENSION EQUALS
ONE INCH WHEN PRINTED TO SCALE.

1"



ROOF POWER AND AUXILIARY SYSTEMS PLAN
SCALE: 1/4" = 1' - 0"

ELECTRICAL GENERAL NOTES:

1. THESE DRAWINGS REPRESENT THE GENERAL EXTENT AND ARRANGEMENT OF SYSTEMS, BUT ARE NOT TO BE CONSIDERED FABRICATION DRAWINGS. COORDINATE WITH OTHER TRADES, AND PROVIDE EACH SYSTEM COMPLETE, INCLUDING ALL NECESSARY COMPONENTS, FITTINGS, AND OFFSETS.
2. INSTALL SYSTEMS SUCH THAT REQUIRED CLEARANCE AND SERVICE ACCESS SPACE IS PROVIDED AROUND ALL MECHANICAL AND ELECTRICAL EQUIPMENT, AND AROUND ANY COMPONENTS WHICH REQUIRE SERVICE ACCESS.
3. COORDINATE AND PROVIDE ACCESS DOORS WITHIN INACCESSIBLE CEILING, SHAFT, AND CHASE AREAS FOR ALL COMPONENTS WHICH REQUIRE SERVICE ACCESS. REFER TO ARCHITECTURAL DRAWINGS FOR CEILING TYPES.
4. PROVIDE SUPPLEMENTARY STEEL AS REQUIRED FOR THE PROPER SUPPORT OF ALL SYSTEMS.
5. TRANSFORMER SECONDARY CONDUCTORS SHALL BE SIZED IN ACCORDANCE WITH TRANSFORMER CIRCUIT SIZING SCHEDULE SHOWN ON "ELECTRICAL STANDARD SCHEDULES DRAWING" UNLESS OTHERWISE NOTED.
6. MOTOR CIRCUIT PROTECTION SHALL BE SIZED IN ACCORDANCE WITH MOTOR CIRCUIT SIZING SCHEDULES SHOWN ON "ELECTRICAL STANDARD SCHEDULES DRAWING" UNLESS OTHERWISE NOTED.
7. COORDINATE THE MOUNTING HEIGHTS OF DEVICES WITH ARCHITECTURAL ELEVATIONS AND THE TRADES INSTALLING THE WORK.
8. COORDINATE EXACT LOCATIONS OF ALL FLOOR SERVICE FITTINGS AND POKE-THROUGH ASSEMBLIES WITH FINAL FURNITURE LAYOUT DRAWINGS.
9. REFER TO MECHANICAL SCHEDULE SHEETS FOR ELECTRICAL REQUIREMENTS FOR MECHANICAL EQUIPMENT. PROVIDE ALL CONNECTIONS, STARTERS, DISCONNECTS, ETC. AS REQUIRED BY SCHEDULES AND WHERE NOTED ELSEWHERE. VERIFY REQUIREMENTS OF ALL MECHANICAL EQUIPMENT WITH SHOP DRAWINGS SUBMITTALS. NOTIFY ENGINEER OF ANY CONFLICTS BETWEEN EQUIPMENT SUBMITTALS AND ELECTRICAL DRAWINGS. WHERE CIRCUIT SIZES ARE SHOWN ON THE ELECTRICAL DRAWINGS THAT DIFFER FROM WHAT IS INDICATED ON THE MECHANICAL SCHEDULES, PROVIDE THE CIRCUIT OF HIGHER AMPACITY.
10. REFER TO TEMPERATURE CONTROLS SHEETS FOR REQUIRED MOTOR CONTROLLERS. PROVIDE ALL ACCESSORIES INDICATED.
11. REFER TO LIGHTING CONTROL SCHEDULE FOR ROOM CONTROL AND EMERGENCY LIGHTING CIRCUIT CONTROL REQUIREMENTS. DESIGNATION FOR ROOM IS INDICATED AS A LETTERED OVAL SYMBOL.
12. RACEWAYS FOR LOW VOLTAGE SYSTEMS TO BE BY ELECTRICAL CONTRACTOR. PROVIDE ALL JUNCTION BOXES, CONDUIT AND FITTINGS AS REQUIRED FOR LOW VOLTAGE SYSTEMS. REFER TO LOW VOLTAGE SYSTEM DRAWINGS FOR SIZES, LOCATIONS AND ADDITIONAL REQUIREMENTS.
13. ALL FIRE ALARM DEVICES SHALL BE COMPATIBLE WITH EXISTING NATIONAL TIME FIRE ALARM SYSTEM. PROVIDE NECESSARY COMPONENTS, MODULES, ETC. AS REQUIRED FOR A FULLY FUNCTIONAL SYSTEM. RE-TEST AND CERTIFY EXISTING FIRE ALARM SYSTEM AT COMPLETION OF PROJECT.
14. ALL EXIT SIGN LIGHTING SHALL BE CIRCUITED TO THE HOT LEG OF ADJACENT ALOR LIGHTING BRANCH CIRCUIT.
15. REFER TO COMMTECH DRAWINGS FOR RACEWAY REQUIREMENTS AND LOCATIONS FOR THE DATA OUTLETS.

CONSTRUCTION KEY NOTES:

1. (1)2"C ABOVE DOOR FOR LOW VOLTAGE CABLING.
2. REFER TO COMMTECH DRAWINGS FOR FSR BOX DETAIL.
3. LOCATION OF EXISTING 480/277V 3PH, 4W 1200A MAIN SWITCHBOARD. CONTRACTOR SHALL COORDINATE ROUTING IN FIELD.
4. CONCRETE ENCASED ELECTRODE, 20' BARE CONDUCTOR INSTALLED IN CONCRETE SLAB/FOUNDATION IN DIRECT CONTACT WITH EARTH. CONNECT TO CONCRETE REINFORCING BARS AS APPLICABLE.
5. EXTEND EXISTING FIRE ALARM BRANCH CIRCUIT TO NEW FIRE ALARM.
6. NEW TRANSFORMER T-RP-C. REFER TO WALL MOUNTED TRANSFORMER DETAIL ON SHEET E7.1.
7. FIRE PROOF PENETRATION THROUGH TWO HOUR RATED WALL. COORDINATE WITH FIRE PROOFING SPECIFICATION.

SHEET

E3.2

TITLE

ROOF POWER AND AUXILIARY
SYSTEMS PLAN

PROJECT

Matthaei Office Addition
Wayne State University
Detroit, Michigan
080-325090

ISSUE

BIDS

DATE
07-25-19



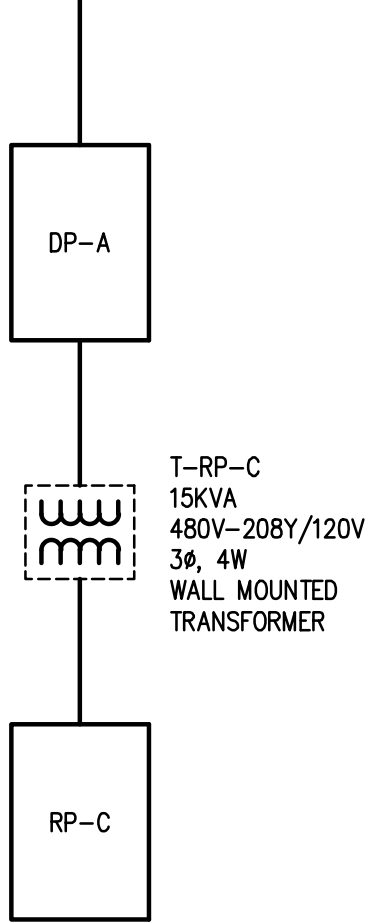
SILVERI ARCHITECTS
650 LIVERNOIS
(248) 591-0360
FERNDAL E, MICHIGAN 48220
silveri.com



(E)MAIN SWITCHBOARD 480Y/277V 3ø, 4W, 1200A

LOAD CALCULATION	
EQUIPMENT	LOAD (KVA)
MAXIMUM USED PRIOR TO OFFICE ADDITION	532
DP-A	46
TOTAL	578

PARTIAL ONE LINE DIAGRAM
NO SCALE



DP-A															
#	LOAD TYPE	DESCRIPTION	CB TYPE	CB	VA	ØA	ØB	ØC	VA	CB	CB TYPE	DESCRIPTION	LOAD TYPE	#	
1	NC	RTU-2		25	5232	8279			3047	60		RP-D	NC	2	
3	NC				5232		8279		3047				NC	4	
5	NC				5232			8279	3047				NC	6	
7	L	LIGHTING: OFFICE ADDITON		20	645	3979			3334				NC	8	
9	NC	ECUH-1		20	1667		5001		3334	30		EC-1	NC	10	
11	NC				1667		5001	3334			NC		12		
13	NC				1667	3334		1667			NC		14		
15		SPARE		20			1667		1667	20		EC-2	NC	16	
17		SPARE		20				1667	1667				NC	18	
19		SPARE		20						20		SPARE		20	
21		SPARE		20						20		SPARE		22	
23		SPARE		20						20		SPARE		24	
					15592	14947	14947								
					ØA	ØB	ØC								
PANELBOARD INFORMATION					BRANCH CIRCUIT CONNECTED LOAD				DEMAND FACTOR	CALCULATED DEMAND	FEEDER AND OVERCURRENT SIZING	NOTES:			
VOLTAGE: 480Y/277					CONTINUOUS LOAD (C)				100%		125%				
BUS AMPACITY: 60A					ELECTRIC HEAT (E)				100%		125%				
MAIN TYPE: 60A MCB					NON-CONTINUOUS LOAD (NC)				100%	44841	100%	44841			
MINIMUM A.I.C.: 25,000					KITCHEN LOAD (K)				100%		100%				
MOUNTING: SURFACE					RECEPTACLE BASE LOAD (R)				100%		100%				
<input type="checkbox"/> FEED-THROUGH LUGS					RECEPTACLE DEMAND LOAD (R)				50%		100%				
<input type="checkbox"/> DOUBLE LUGS									100%	645	125%	806			
<input type="checkbox"/> INTEGRAL SPD					ADDITIONAL TRACK LIGHTING LOAD				(150VA/2FT)		100%				
PANELBOARD LOCATION					MOTORS, HIGHEST LOAD (MH)				100%		125%				
					MOTORS, REMAINING LOAD (M)				100%		100%				
					NOTE: DEMAND AND SIZING INFORMATION IS CALCULATED FROM CONNECTED LOAD				TOTAL(KVA): 45.49						
									TOTAL (AMPS): 55	TOTAL (AMPS): 55					

© Copyright 2019 by Peter Bosso Associates, Inc

© Copyright 2019 by Peter Bosso Associates, Inc

RP-C														
#	LOAD TYPE	DESCRIPTION	CB TYPE	CB	VA	ØA	ØB	ØC	VA	CB	CB TYPE	DESCRIPTION	LOAD TYPE	#
1	R	RECPT: OFFICE 09, OFFICE 08, CORRIDOR 12		20	900	1620			720	20		RECPT: OFFICE 05, OFFICE 04	R	2
3	R	RECPT: OFFICE 05, OFFICE 04		20	720		1440		720	20		RECPT: OFFICE 03, OFFICE 02	R	4
5	R	RECPT: OFFICE 03, OFFICE 02, EXTERIOR		20	840			1920	1080	20		RECPT: MEETING 07, CORRIDOR 01	R	6
7	R	TV, FLOOR BOX: MEET 07		20	920	1862			942	20		PRINTER: CORRIDOR 12	NC	8
9	R	RECPT: OFFICE 10, CORRIDOR 11, EXTERIOR		20	900		1800		900	20		RECPT: OFFICE 09, OFFICE 08, ROOF	R	10
11	C	DAK-TRONICS CONTROLLER		20	500			500		20		SPARE		12
13		SPARE		20						20		SPARE		14
15		SPARE		20						20		SPARE		16
17		SPARE		20						20		SPARE		18
19		SPARE		20						20		SPARE		20
21		SPARE		20						20		SPARE		22
23		SPARE		20						20		SPARE		24
25		SPARE		20						20		SPARE		26
27		SPARE		20						20		SPARE		28
29		SPARE		20						20		SPARE		30
					3482	3240	2420							
					ØA	ØB	ØC							
PANELBOARD INFORMATION					BRANCH CIRCUIT CONNECTED LOAD			DEMAND FACTOR	CALCULATED DEMAND	FEEDER AND OVERCURRENT SIZING	NOTES:			
VOLTAGE: 208Y/120					CONTINUOUS LOAD (C)			100%	500	125%	625			
BUS AMPACITY: 100A					ELECTRIC HEAT (E)			100%		125%				
MAIN TYPE: 60A MCB					NON-CONTINUOUS LOAD (NC)			100%	942	100%	942			
MINIMUM A.I.C.: 10,000					KITCHEN LOAD (K)			100%		100%				
MOUNTING: SURFACE					RECEPTACLE BASE LOAD (R)			100%	7700	100%	7700			
<input type="checkbox"/> FEED-THROUGH LUGS					RECEPTACLE DEMAND LOAD (R)			50%		100%				
<input type="checkbox"/> DOUBLE LUGS					LIGHTING LOAD (L)			100%		125%				
<input type="checkbox"/> INTEGRAL SPD					ADDITIONAL TRACK LIGHTING LOAD			(150VA/2FT)		100%				
PANELBOARD LOCATION					MOTORS, HIGHEST LOAD (MH)			100%		125%				
					MOTORS, REMAINING LOAD (M)			100%		100%				
					TOTAL(KVA):			9.14						
					TOTAL (AMPS):			25	TOTAL (AMPS):	26				

©Copyright 2019 by Peter Bosso Associates, Inc

© Copyright 2019 by Peter Bosso Associates, Inc

PANEL SCHEDULES
NO SCALE

PANEL SCHEDULE INDEX		
		DP-A
		RP-C

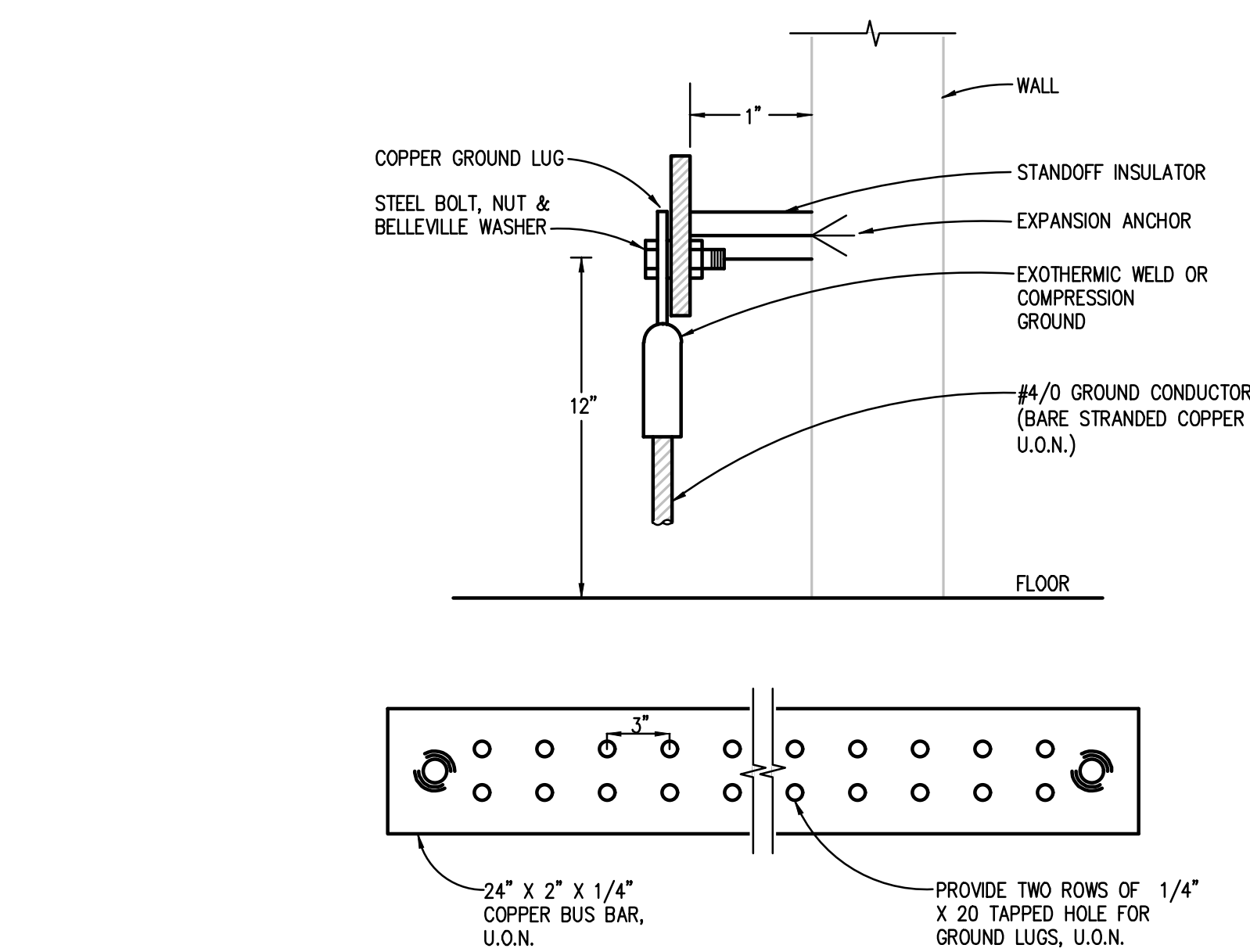
DIAGRAM GENERAL NOTES:

- THESE DRAWINGS REPRESENT THE GENERAL EXTENT AND ARRANGEMENT OF SYSTEMS, BUT ARE NOT TO BE CONSIDERED FABRICATION DRAWINGS. COORDINATE WITH OTHER TRADES, AND PROVIDE EACH SYSTEM COMPLETE, INCLUDING ALL NECESSARY COMPONENTS, FITTINGS, AND OFFSETS.
- FEEDER AND BRANCH CIRCUIT CONDUCTORS SHALL BE SIZED IN ACCORDANCE WITH THE "FEEDER AND BRANCH CIRCUIT SIZING SCHEDULE-GENERAL PURPOSE" ON THE "ELECTRICAL STANDARD SCHEDULES DRAWING" UNLESS SPECIFICALLY NOTED OTHERWISE.
- TRANSFORMER SECONDARY CONDUCTORS SHALL BE SIZED IN ACCORDANCE WITH THE "TRANSFORMER CIRCUIT SIZING SCHEDULE-GENERAL PURPOSE" ON THE "ELECTRICAL STANDARD SCHEDULES DRAWING" UNLESS SPECIFICALLY NOTED OTHERWISE.
- MOTOR CIRCUIT PROTECTION SHALL BE SIZED IN ACCORDANCE WITH THE MOTOR CIRCUIT SIZING SCHEDULES ON THE "ELECTRICAL STANDARD SCHEDULES DRAWING" UNLESS SPECIFICALLY NOTED OTHERWISE.
- BRANCH CIRCUIT CONDUCTORS, FEEDERS, AND BRANCH CIRCUIT OVERCURRENT PROTECTION ARE SIZED AT 125% OF THE TOTAL CONTINUOUS AND NON CONTINUOUS LOAD FOR LIGHTING AND MOTOR LOADS THAT RUN CONTINUOUSLY FOR THREE HOURS OR MORE (NEC 210.19(A), 210.20(A), AND 215.2(A)). DEMAND AND CONNECTED LOADS ARE CALCULATED PER NEC 220.
- VARIABLE FREQUENCY CONTROLLERS (VFC) FURNISHED BY MECHANICAL TRADES. ELECTRICAL CONTRACTOR SHALL INSTALL VFC, PROVIDE POWER FEEDER FROM DISTRIBUTION EQUIPMENT TO VFC AND PROVIDE POWER FEEDER FROM VFC TO MOTOR. REFER TO SPECIFICATIONS FOR APPLICATION OF VFC POWER CABLE FROM VFC TO MOTOR.

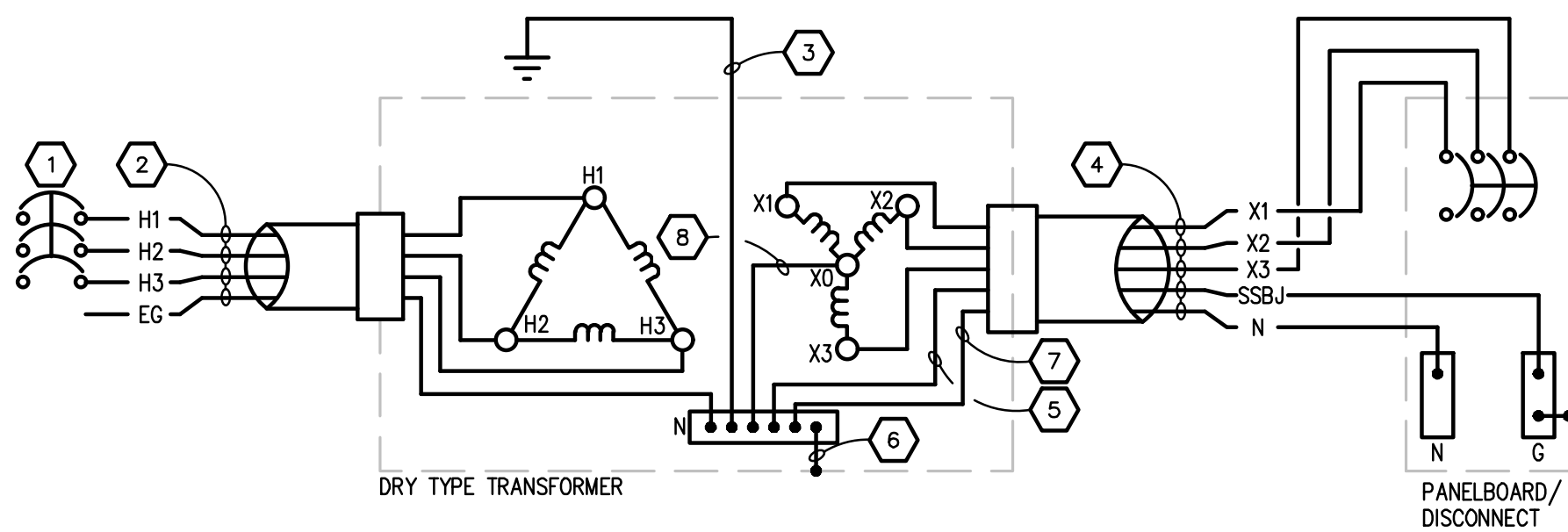
CONSTRUCTION KEY NOTES:

- EXERCISE, CLEAN, AND LUBRICATE EXISTING 60A SWITCH. PROVIDE NEW 60A FUSES IN EXISTING 60A SPARE SWITCH FOR FEED TO PANEL DP-A. REPLACE EXISTING TAG WITH NEW TAG LABELED "DP-A".

g:\2019\2019-0199-00\CAD\2019-0199-E7-DT.dwg, E7.1, 7/24/2019 3:59:23 PM, Dominic M. Quni, Peter Bosso Associates Inc.



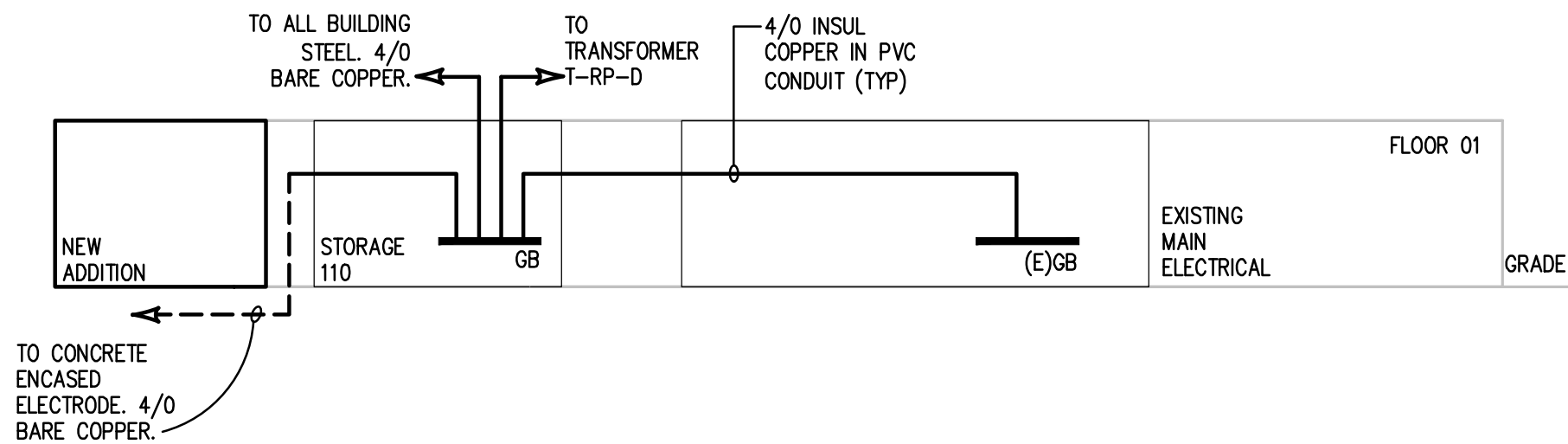
ELECTRICAL GROUND BUS DETAIL
NO SCALE



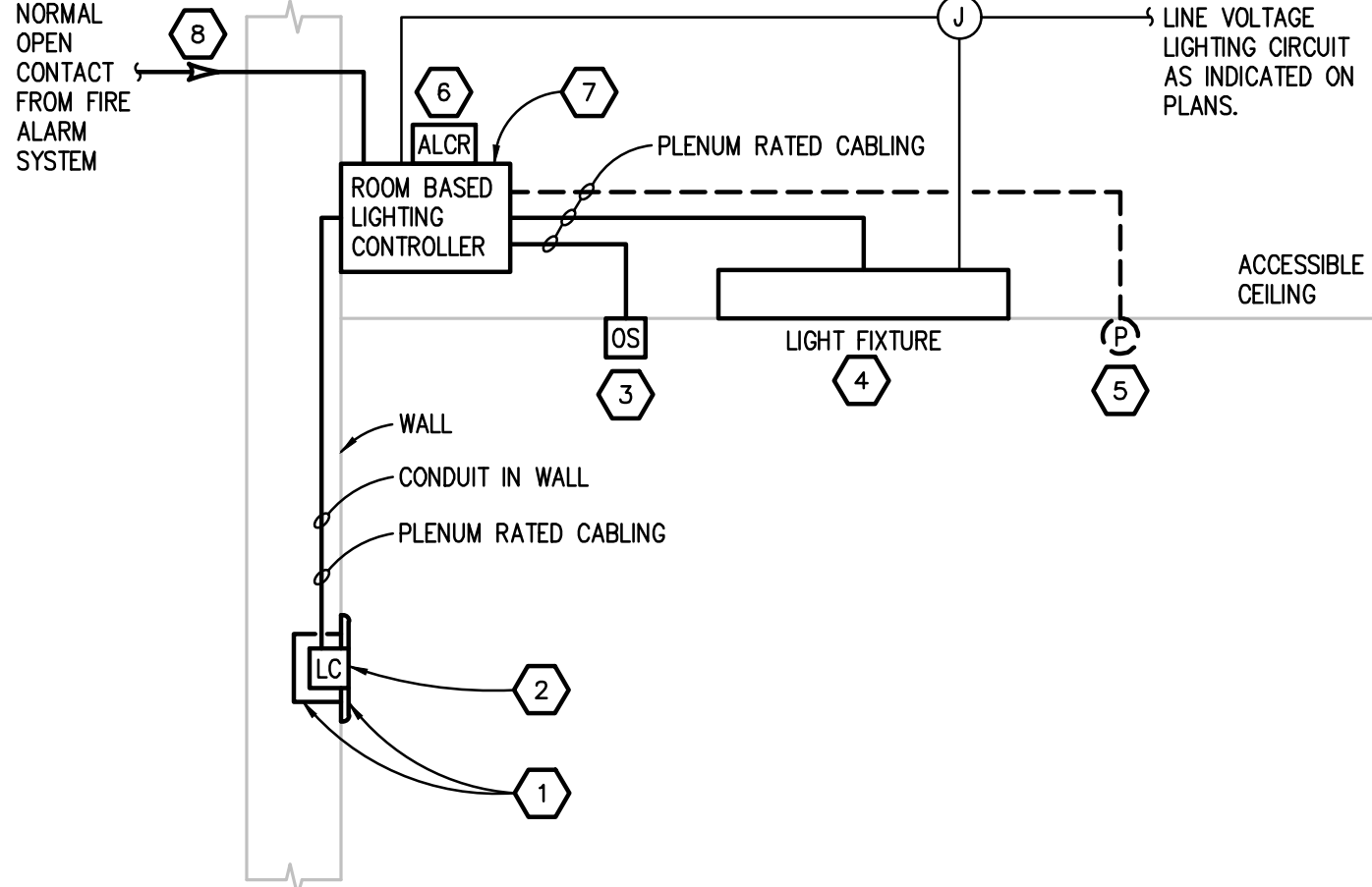
**DRY TYPE DISTRIBUTION TRANSFORMER
GROUNDING ARRANGEMENT**
NO SCALE

KEYED NOTES:

1. 480V, 3Ø PRIMARY CIRCUIT BREAKER BASED ON DRY TYPE DISTRIBUTION TRANSFORMER CIRCUIT SIZING SCHEDULE ON ELECTRICAL STANDARD SCHEDULE DRAWING UNLESS OTHERWISE NOTED.
2. PRIMARY FEEDER BASED ON FEEDER AND BRANCH CIRCUIT SIZING TABLE ON ELECTRICAL STANDARD SCHEDULE DRAWING UNLESS OTHERWISE NOTED.
3. GROUNDING ELECTRODE CONDUCTOR TO NEAREST GROUNDING ELECTRODE (GROUND BUS). SEE DRY TYPE DISTRIBUTION TRANSFORMER CIRCUIT SIZING SCHEDULE ON ELECTRICAL STANDARD SCHEDULE DRAWING FOR SIZE UNLESS OTHERWISE NOTED.
4. 208Y/120V, 3Ø, 4W SECONDARY FEEDER BASED ON DRY TYPE DISTRIBUTION TRANSFORMER CIRCUIT SIZING SCHEDULE ON ELECTRICAL STANDARD SCHEDULE DRAWING UNLESS OTHERWISE NOTED.
5. SUPPLY SIDE BONDING JUMPER.
6. SYSTEM BONDING JUMPER.
7. GROUNDED CONDUCTOR (NEUTRAL).
8. NEUTRAL CONDUCTOR PROVIDED WITH EQUIPMENT.



GROUNDING RISER DIAGRAM
NO SCALE



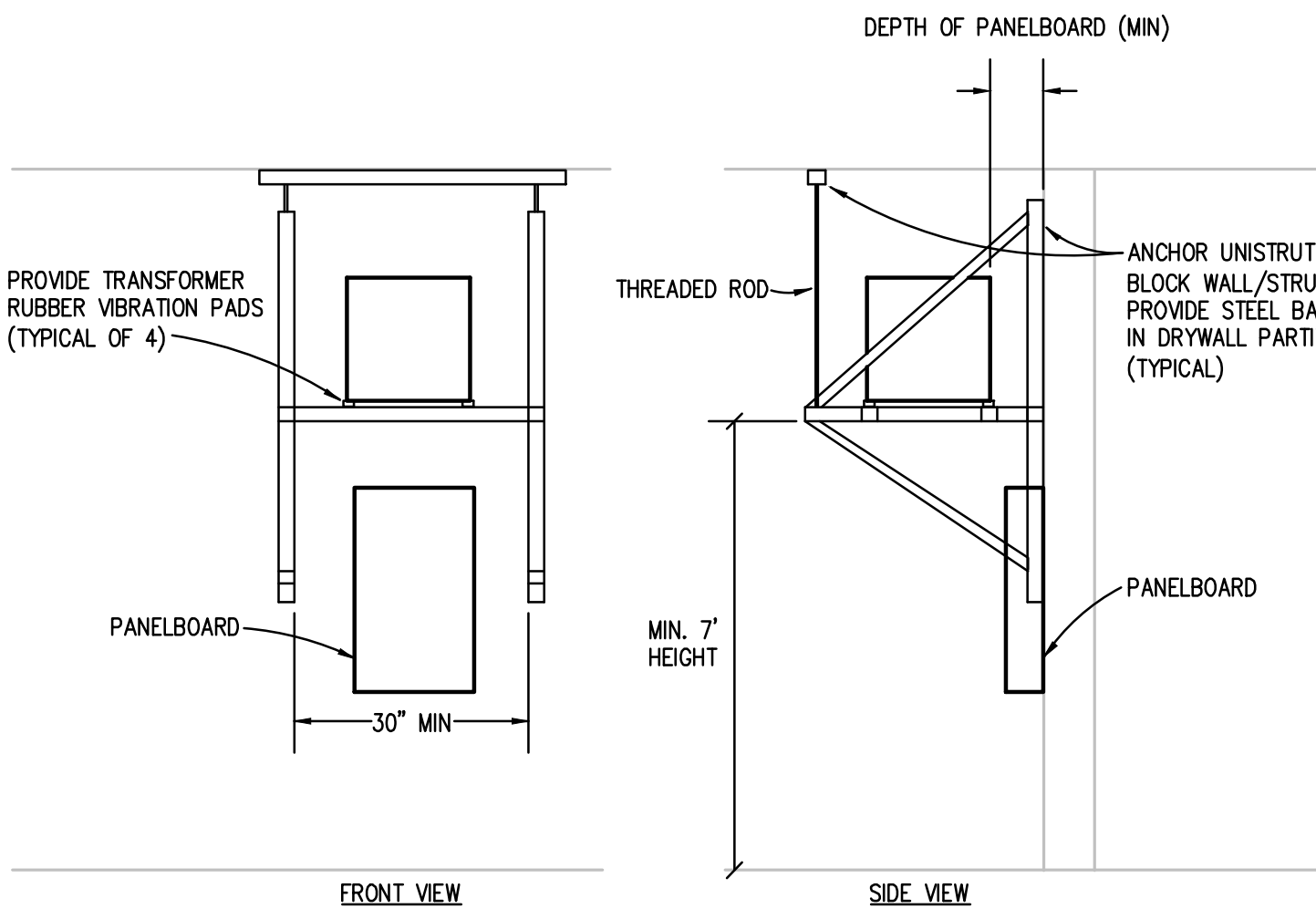
**ROOM BASED LIGHTING CONTROL
SYSTEM DIAGRAM
WIRED - LOW VOLTAGE**
NO SCALE

GENERAL NOTES:

1. REFER TO SPECIFICATIONS FOR ACCEPTED MANUFACTURERS.
2. PROVIDE QUANTITY OF ROOM BASED LIGHTING CONTROLLERS AS REQUIRED TO MEET FUNCTIONALITY INDICATED ON PLAN.
3. REFER TO MANUFACTURER'S INSTALLATION GUIDE FOR EXACT WIRING METHOD, WIRING METHOD AND CONFIGURATION TO BE PER MANUFACTURER'S RECOMMENDATIONS.
4. LOCATE SENSORS IN CENTER OF A FULL CEILING TILE, WHERE APPLICABLE.
5. MOUNTING LOCATION OF SENSORS PER MANUFACTURER'S RECOMMENDATION.
6. REFER TO INTERIOR LIGHTING CONTROL SCHEDULE FOR SYSTEM CONFIGURATIONS SETTINGS. SENSOR ADJUSTMENT: BEFORE MAKING ADJUSTMENTS, MAKE SURE ROOM FURNITURE IS INSTALLED, LIGHTING CIRCUITS ARE TURNED ON, AND THE HVAC SYSTEMS ARE IN THE ON POSITION. VAV SYSTEMS SHOULD BE SET TO THEIR HIGHEST AIRFLOW.

KEYED NOTES:

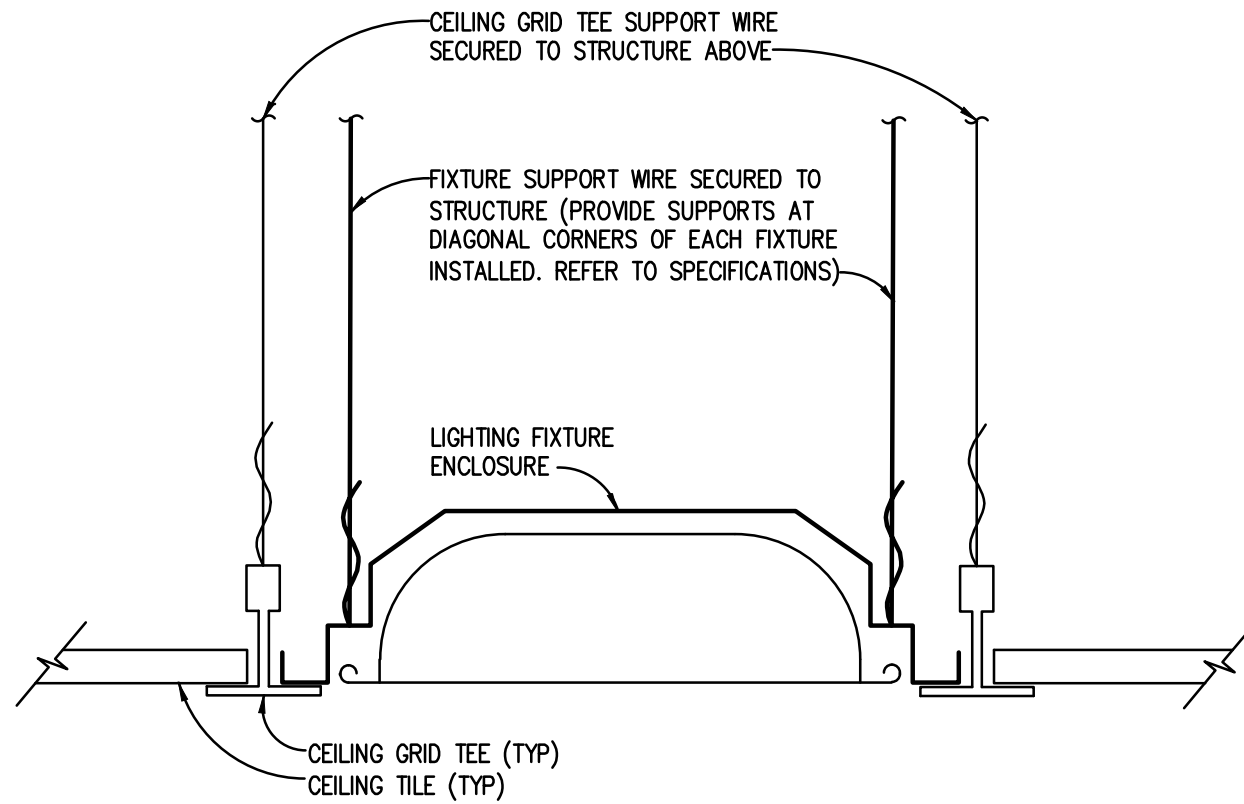
1. GANG LIGHTING CONTROL DEVICES IN COMMON GANGED BOX. PROVIDE SAME SIZE GANG COVER PLATE FROM THE SAME MANUFACTURER AS THE LIGHTING CONTROL DEVICE AS REQUIRED.
2. LIGHTING CONTROL DEVICE(SWITCH). REFER TO LIGHTING CONTROL DEVICE BUTTON LAYOUT DETAIL FOR ENGRAVING REQUIREMENTS AND PLANS FOR LOCATIONS.
3. CEILING MOUNTED SENSOR. REFER TO PLANS FOR LAYOUT AND QUANTITIES.
4. REFER TO LIGHTING FIXTURE SCHEDULE. REFER TO PLANS FOR LAYOUT AND QUANTITIES.
5. CEILING MOUNTED PHOTOCELL (AS REQUIRED). REFER TO PLANS FOR PRIMARY AND SECONDARY ZONE CONTROL.
6. PROVIDE ONE AUTOMATIC LOAD CONTROL RELAY PER SWITCHING CIRCUIT WHERE EMERGENCY LIGHTING FROM A GENERATOR OR LIGHTING INVERTER IS INDICATED ON PLANS. REFER TO AUTOMATIC LIGHTING RELAY CONTROL DETAIL.
7. ROOM BASED LIGHTING CONTROLLER TO BE LOCATED IN ACCESSIBLE CEILING ADJACENT TO DOOR DIRECTLY ABOVE LIGHTING CONTROL DEVICE. IF ACCESSIBLE CEILING SPACE IS NOT ACCESSIBLE, AN ACCESS HATCH SHALL BE PROVIDED.
8. REFER TO LIGHTING CONTROL SCHEDULE FOR WHERE EGRESS LIGHTING CONTROL IS REQUIRED. WHEN REQUIRED CONNECT ROOM BASED LIGHTING CONTROLLER BACK TO FIRE ALARM SYSTEM WITH A NORMALLY OPEN CONTRACT FOR FIRE ALARM INITIATION EVENTS.



WALL MOUNTED TRANSFORMER DETAIL
NO SCALE

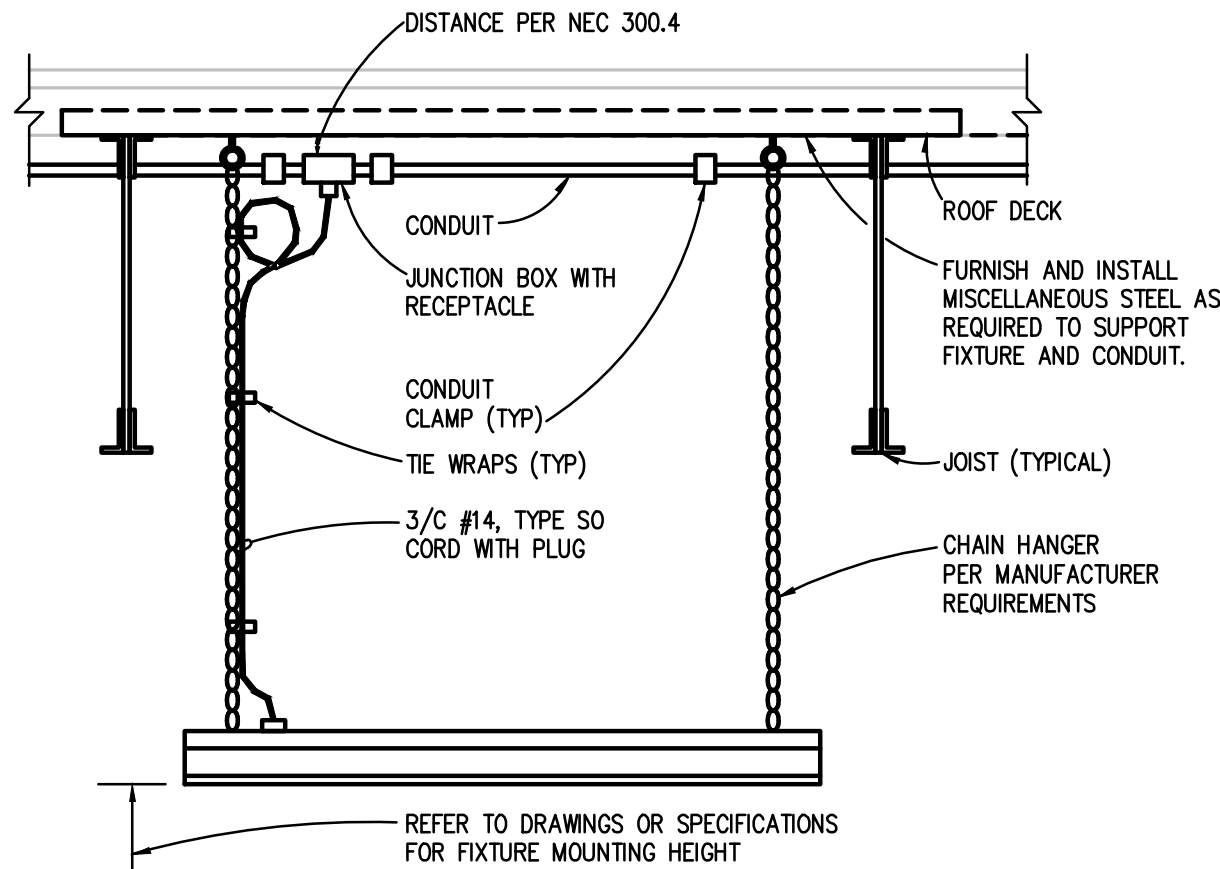
NOTE:

ELECTRICAL CONTRACTOR SHALL CONSTRUCT UNISTRUT SUPPORT STAND AND BRACING AS SHOWN. ALL UNISTRUT SHALL BE P10001 WITH ALL REQUIRED MISCELLANEOUS BRACKETS, FITTINGS, SPRING NUTS, BOLTS, CLAMPS, WASHERS, ETC. FOR A COMPLETE AND SAFE INSTALLATION.



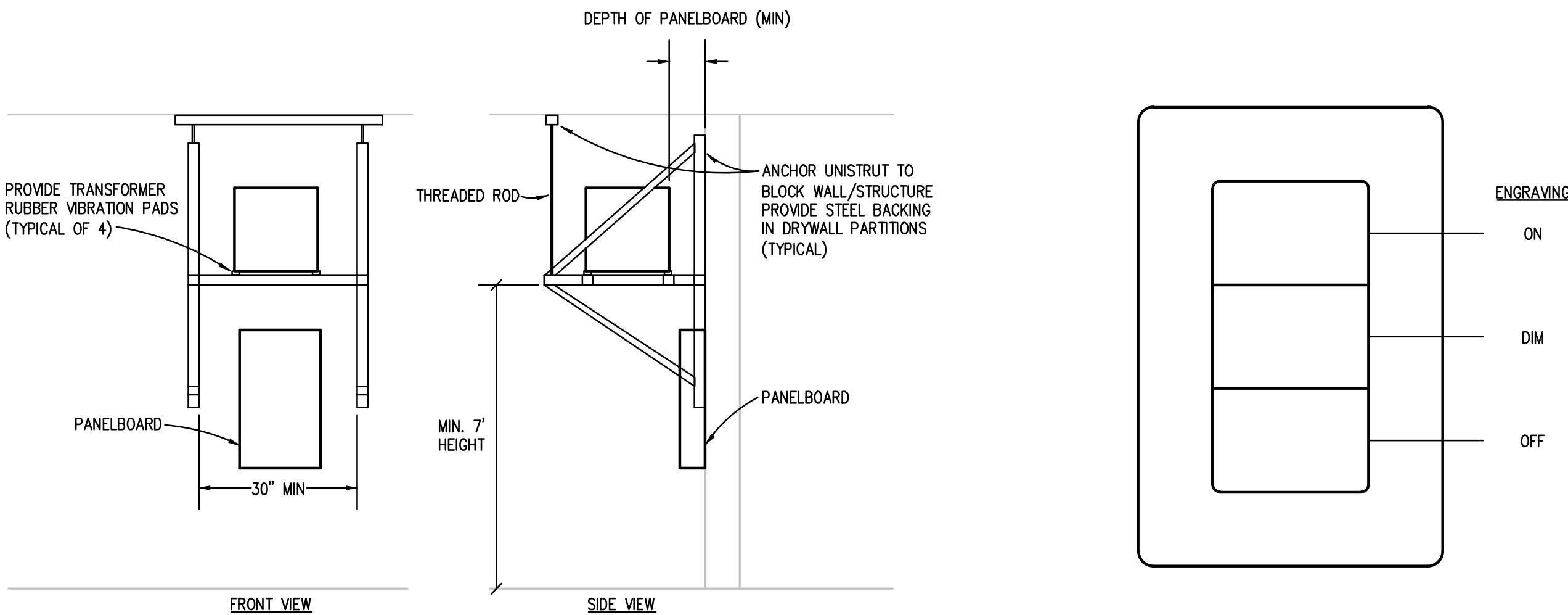
**RECESSED LIGHTING FIXTURE
INSTALLATION DETAIL**

NO SCALE



**TYPICAL MOUNTING DETAIL FOR CHAIN
HUNG LIGHTING FIXTURES**

NO SCALE

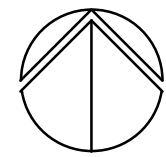
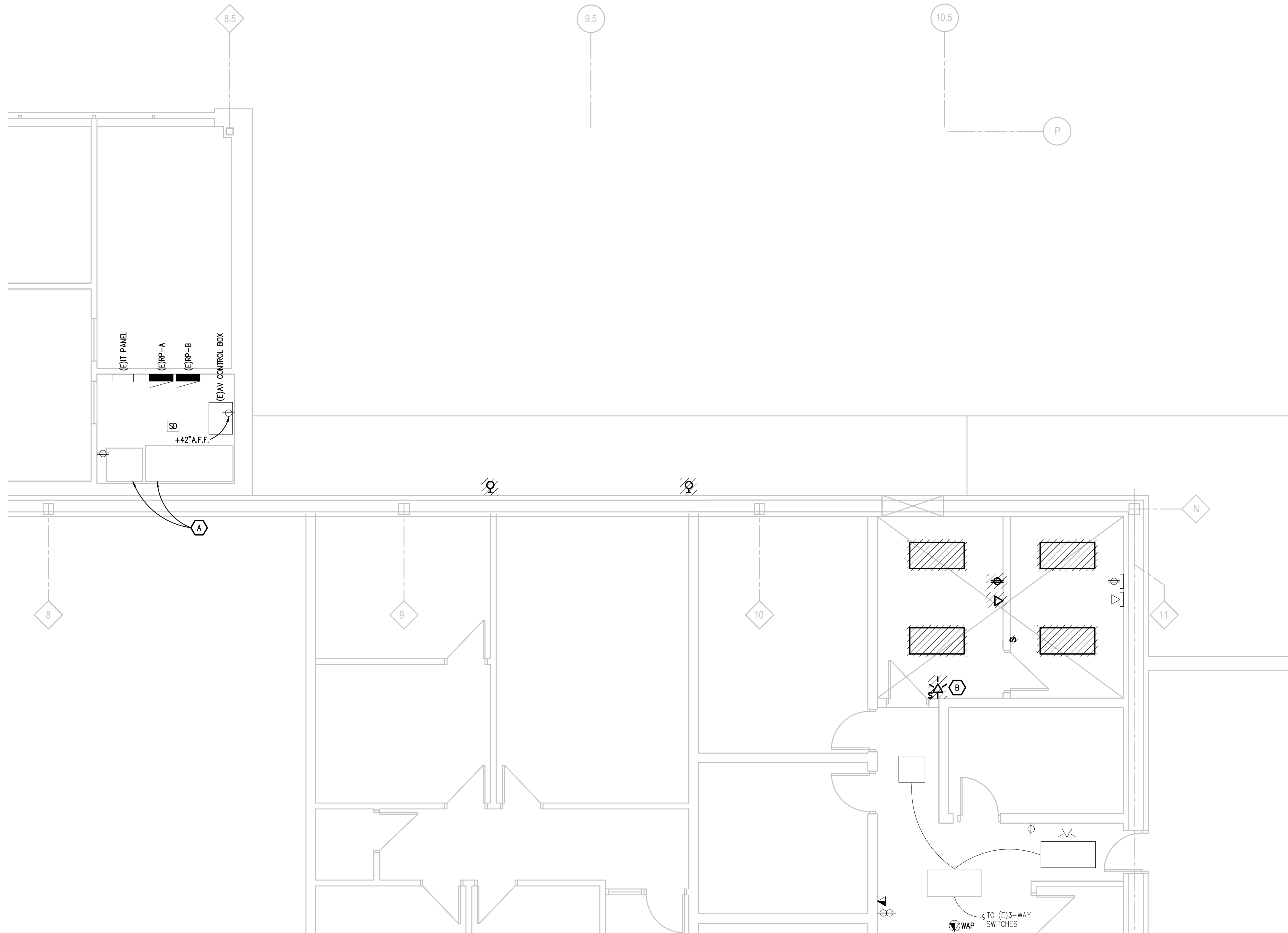
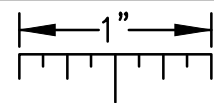


**LIGHTING CONTROL DEVICE BUTTON
LAYOUT AND ENGRAVING
REQUIREMENTS DETAIL**

NO SCALE

g:\2019\2019-0199-00\CAD\2019-0199-ED1-DP1.dwg, ED1.1, 7/24/2019 3:58:40 PM, Dominic M. Quni, Peter Basso Associates Inc.

THE FOLLOWING DIMENSION EQUALS
ONE INCH WHEN PRINTED TO SCALE.



FIRST FLOOR ELECTRICAL DEMOLITION PLAN
SCALE: 1/4" = 1' - 0"

ELECTRICAL DEMOLITION GENERAL NOTES:

1. VISIT THE SITE PRIOR TO SUBMISSION OF BID TO EXAMINE THE EXISTING CONDITIONS AND THE EXTENT OF DEMOLITION WORK.
2. EXAMINE THE DRAWINGS OF OTHER TRADES AND BE FAMILIAR WITH THE DEMOLITION REQUIRED BY OTHER TRADES. PERFORM ALL INCIDENTAL ELECTRICAL DEMOLITION AND/OR RELOCATION REQUIRED TO FACILITATE THE DEMOLITION WORK OF OTHER TRADES, WHETHER OR NOT SPECIFICALLY INDICATED.
3. REMOVE EQUIPMENT OR MATERIALS AS INDICATED ON PLAN WITH CROSS HATCHING. DEMOLITION SHALL INCLUDE, BUT NOT BE LIMITED TO, THOSE COMPONENTS SHOWN.
4. COORDINATE WITH NEW WORK PLANS, ONE LINE DIAGRAMS AND RISER DIAGRAM FOR EXTENT OF DEMOLITION WORK.
5. PROVIDE PROPER SUPPORT FOR EXISTING TO REMAIN CONDUITS AND BOXES WHERE EXISTING SUPPORT IS TO BE REMOVED. RE-ROUTE BRANCH CIRCUIT CONDUITS AND RELOCATE JUNCTION BOXES AS REQUIRED TO FACILITATE INSTALLATION OF NEW EQUIPMENT AND SYSTEMS IN CEILING SPACES.
6. REMOVE ALL CONDUIT AND WIRE BACK TO THE SOURCE OR NEAREST UPSTREAM DEVICE REMAINING IN SERVICE.
7. MAINTAIN ELECTRICAL SERVICE TO ALL LIGHTING FIXTURES, DEVICES AND EQUIPMENT THAT ARE TO REMAIN. EXTEND CONDUIT AND WIRE AS REQUIRED WHERE DEMOLITION WORK AFFECTS ELECTRICAL SERVICE TO DOWNSTREAM LOADS THAT ARE TO REMAIN.
8. DISPOSE OF ALL MATERIALS OFF SITE AND INCLUDE ALL COSTS FOR DISPOSAL IN BID. ALL MATERIALS SHALL BE DISPOSED OF IN ACCORDANCE WITH ALL FEDERAL, STATE, AND LOCAL REGULATIONS, INCLUDING TOLP TESTING, PROPER DISPOSAL AND/OR RECYCLING OF FLUORESCENT LAMPS.
9. PROVIDE BLANK COVER PLATES WHERE SWITCHES AND DEVICES ARE REMOVED BUT EXISTING WALLS REMAIN INTACT.
10. RING OUT AND TAG ALL CIRCUITS AFFECTED BY THIS ALTERATION AT BOTH ENDS. MARK ALL UNUSED CIRCUIT BREAKERS "SPARE".
11. PROVIDE UPDATED TYPED-IN DIRECTORIES FOR ALL PANELS AFFECTED BY THIS ALTERATION.
12. VERIFY ALL UNDERGROUND AND IN SLAB UTILITY LOCATIONS PRIOR TO SAW-CUTTING OR PENETRATING ANY FLOOR SLAB.
13. COORDINATE ANY SHUT DOWN OF EXISTING SERVICES AND EQUIPMENT THAT ARE REMAINING IN USE WITH THE OWNER'S REPRESENTATIVE. WHERE EXISTING BUILDING SERVICE IS REQUIRED TO BE SHUT DOWN, INCLUDE ALL ASSOCIATED OVERTIME COSTS TO PERFORM THIS WORK DURING WEEKENDS AND EVENINGS INCLUDE ALL COSTS FOR PROVIDING TEMPORARY POWER WHERE SHUT DOWNS MUST OCCUR FOR PERIODS LONGER THAN THESE HOURS. COORDINATE ELECTRICAL SHUT DOWNS WITH THE OWNER 72 HOURS PRIOR TO SHUT DOWN.

DEMOLITION KEY NOTES:

- A. REFRIGERATOR AND EQUIPMENT RACK TO BE REMOVED BY OWNER.
- B. REMOVE, STORE, AND PROTECT FIRE ALARM FOR REUSE IN NEW WORK. EXISTING BRANCH CIRCUIT TO REMAIN.

SHEET

ED1.1

TITLE

FIRST FLOOR ELECTRICAL
DEMOLITION PLAN

PROJECT

Matthaei Office Addition
Wayne State University
Detroit, Michigan
080-325090

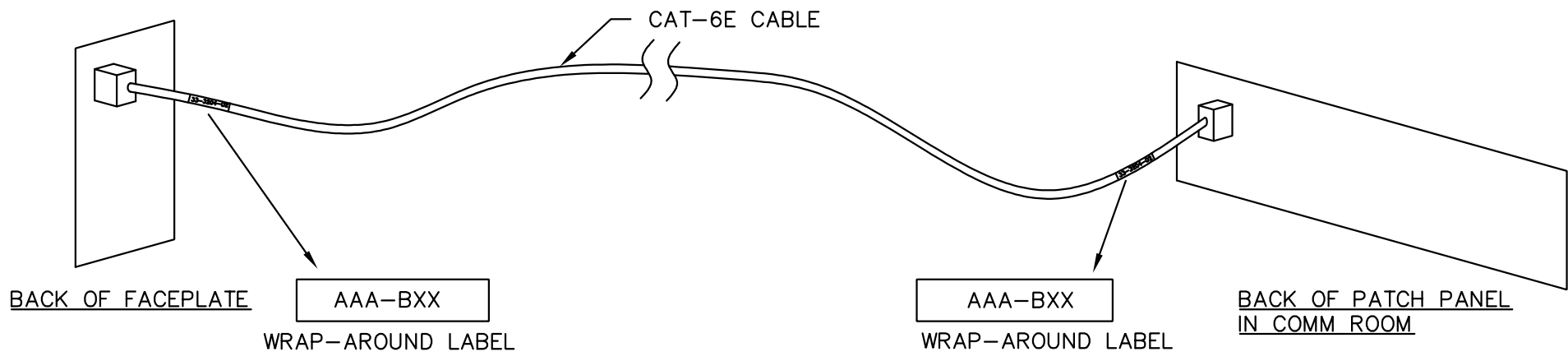
ISSUE

BIDS

DATE
07-25-19



SILVERI ARCHITECTS
650 LIVERNOIS
(248) 591-0360
FERNDAL, MICHIGAN 48220
silveri.com

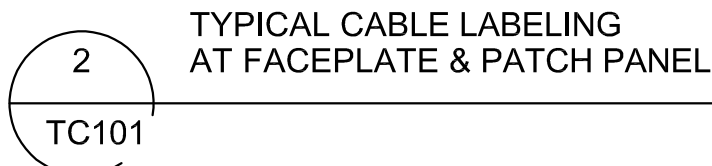


NOTES:

1. INSTALL A WRAP-AROUND LABEL AT EACH END OF EACH CABLE.
2. WRAP-AROUND LABELS SHALL BE LASER-PRINTED AND SHALL BE SELF-LAMINATING.

CABLE LABEL:

A = COMMUNICATIONS ROOM NUMBER. A, B OR C ETC.
Y = PATCH PANEL IN THAT COMMUNICATIONS ROOM
CC = PORT NUMBER ON PATCH PANEL 0-24.
DDD = CAMERA OR WAP NUMBER



COMMUNICATION SYMBOL LEGEND

SYMBOL	DESCRIPTION
	COMMUNICATIONS OUTLET INSTALLED THROUGH A SURFACE RACEWAY. PROVIDE RACEWAY & BACKBOX.
	DATA COMMUNICATIONS OUTLET. SEE TC1XX DETAILS FOR SPECIFIC REQUIREMENTS OF EACH CONNECTIVITY CODE.
	AUDIO/VIDEO CONNECTION POINT. SEE TC3XX DETAILS FOR SPECIFIC FACEPLATE AND CABLIN REQUIREMENTS. A=AUDIO/VIDEO CONNECTION. X IS THE PLATE IN THAT ROOM.
	EQUIPMENT SCHEDULE. SEE DETAILS AND EQUIPMENT SCHEDULES ON TC101 ETC.
	CABLE SCHEDULE. SEE COMMUNICATIONS CABLE SCHEDULE.
	SECURITY DEVICES/RACEWAYS. SEE DETAIL DRAWINGS.
	KEYNOTES. REFER TO NOTES ON THE SHEET FOR ADDITIONAL INFORMATION.
	LCD FLAT PANEL DISPLAY WHERE XX IS THE DIAGONAL MEASUREMENT. INCLUDE A MOUNT.
	SECURITY CAMERA, SEE SECURITY ONE-LINE DIAGRAM.

ABBREVIATIONS

ABBREV.	DESCRIPTION	ABBREV.	DESCRIPTION
2G	TWO-GANG BOX - PROVIDED BY EC	NIC	NOT IN CONTRACT
AC	ABOVE COUNTER - INSTALL BACKBOX SAME HEIGHT AS OTHER ELECTRICAL OUTLETS ABOVE THE COUNTER.	PBO	PROVIDED BY OTHERS
AFF	ABOVE FINISHED FLOOR	PCO-1	PATCH CORD ORGANIZER - 1 UNIT HIGH
AFG	ABOVE FINISHED GROUND	PCO-2	PATCH CORD ORGANIZER - 2 UNITS HIGH
AWG	AMERICAN WIRE GAUGE	PET	PROTECTED ENTRANCE TERMINAL
EMT	EMT TYPE CONDUIT	QTY	QUANTITY
EC	ELECTRICAL CONTRACTOR		

COMMUNICATION EQUIPMENT SCHEDULE

MARK	DESCRIPTION	MANUFACTURER	PART NO.
A	SINGLE RACK UNIT PATCH CORD ORGANIZER (PCO-1) WITH HINGED COVER.	HUBBELL	HC119ME3N/HC219C
B	PATCH PANEL-24 PORT, EQUIPPED WITH 8-PIN MODULAR JACKS TO MATCH THE CABLE COLOR AND CABLE TYPE BEING TERMINATED. PROVIDE ONE MODULAR JACK FOR EACH CABLE BEING TERMINATED. SEE SPEC AND DRAWINGS FOR COLORS. EQUIP WITH REAR CABLE ORGANIZER	HUBBELL	PANEL:HPJ24 ORGANIZER:ECMBR3

CABLE SCHEDULE

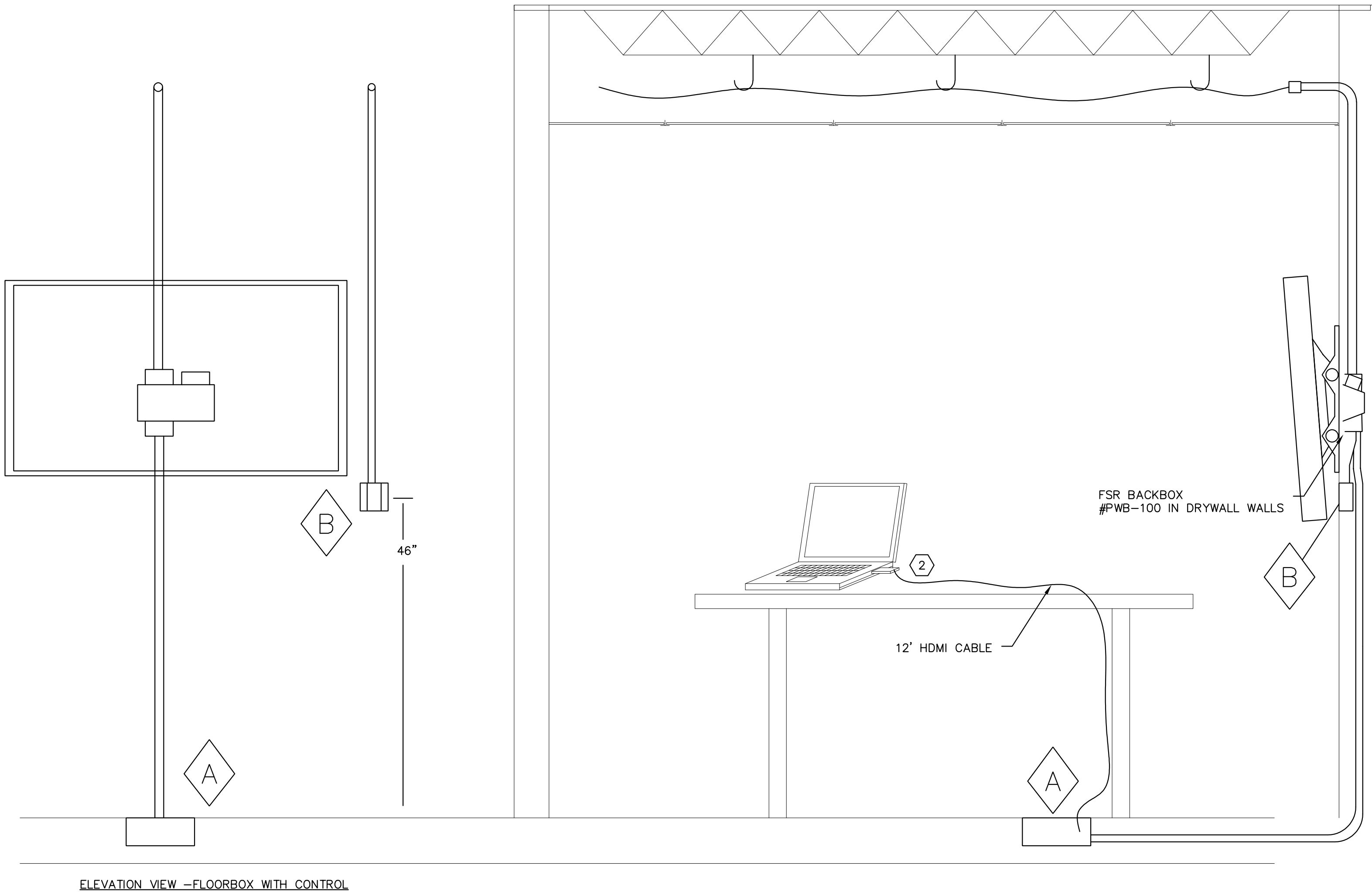
MARK	DESCRIPTION	MANUFACTURER	PART NO.
1	CAT-6 UTP CABLES FOR DATA SHALL BE GREEN IN COLOR, PLENUM RATED	HUBBELL	C6ESPGN
2	CAT-6 UTP CABLES FOR SECURITY CAMERAS SHALL BE PURPLE IN COLOR, PLENUM RATED	HUBBELL	C6ESPP
3	LIGHTNING ARRESTOR	ATLAN	AT-2210

VIDEO SECURITY EQUIPMENT SCHEDULE

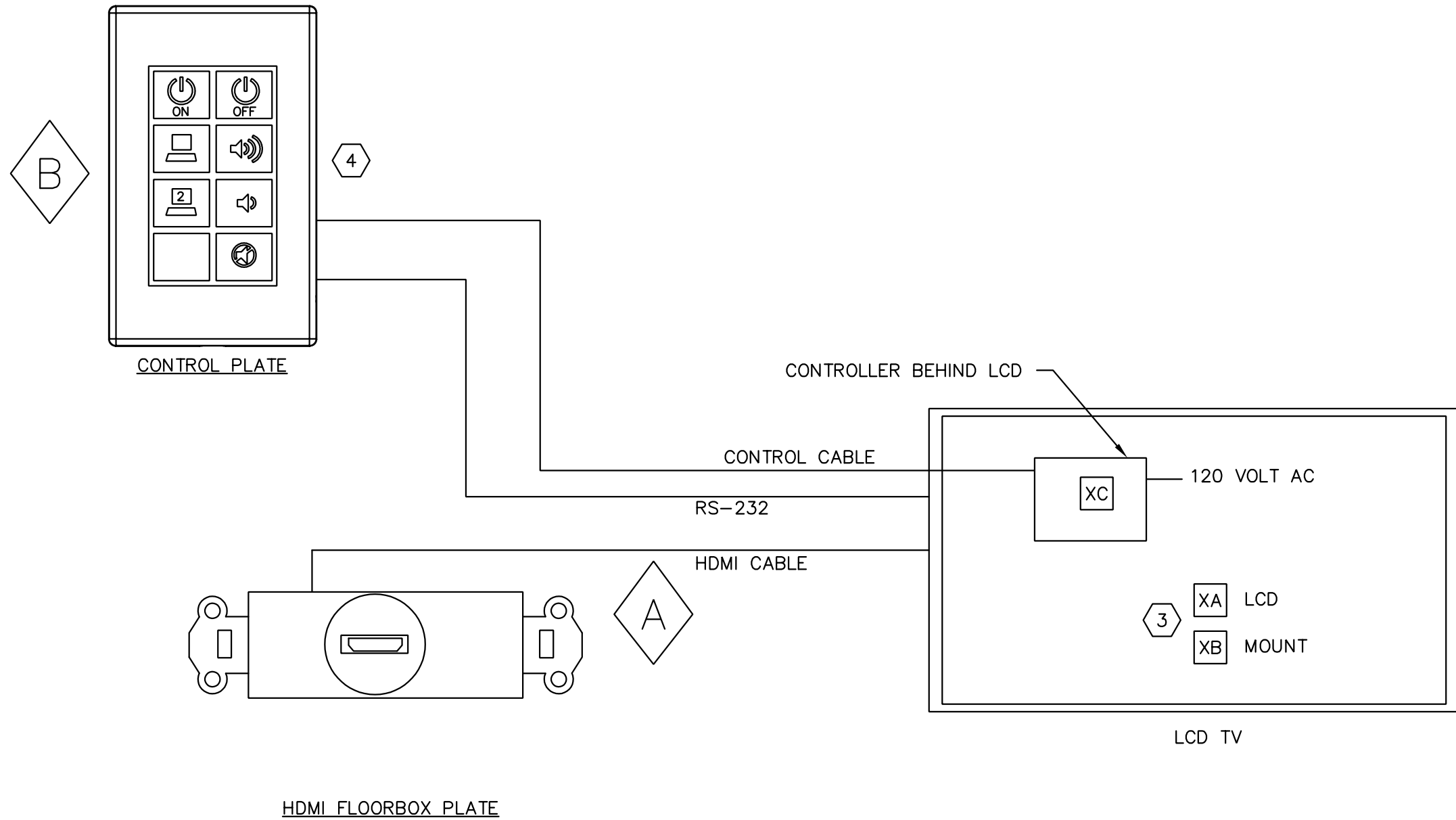
MARK	DESCRIPTION	MANUFACTURER	PART NO.
SA	EXTERIOR IP CAMERA. PROVIDE WITH DROP CEILING, WALL OR PENDANT MOUNT BASED ON THE INSTALLATION TYPE REQUIRED.	AXIS	P3046-V

LCD DISPLAY EQUIPMENT SCHEDULE

MARK	DESCRIPTION	MANUFACTURER	PART NO.
XA	65" LCD EQUIP WITH A MOUNT. VERIFY MOUNT PRIOR TO ORDERING.	NEC	V652
XB	TILT WALL MOUNT FOR LCD 48" AND LARGER"	CHIEF	LTM1U
XC	CONTROL PANEL. 8-BUTTON CONTROLLER WITH INTERFACE PLATE	CRESTRON	BPC-8



ELEVATION VIEW -FLOORBOX WITH CONTROL



GENERAL NOTES:

1. VERIFY BOXES AND CONDUITS DURING CONSTRUCTION.
2. INSTALL LCD TO THE WALL. ENSURE THE DISPLAY COVERS THE CABLING AND BACKBOX.
3. INSTALL CABLING THAT WILL TRANSMIT THE SIGNAL. FOR LONGER LOCATIONS THE CABLING MAY HAVE TO BE AN "ACTIVE" HDMI CABLE.
4. CONNECT AND TEST THE CONNECTION FROM PLATE TO THE DISPLAY.

KEYED NOTES:

1. INSTALL MOUNT TO COVER THE BACKBOX. COORDINATE WITH ELECTRICIAN PRIOR TO INSTALLATION
2. INSTALL AN HDMI CABLE FROM THE FLOORBOX OR WALLBOX TO CONNECT THE LAPTOP ON THE DESK TO THE WALLPLATE
3. CONFIGURE THE LCD TO ACCEPT THE HDMI INPUT AND ANY OTHER INPUTS.
4. INSTALL THE CONTROL PLATE AND ALL CABLING. CONFIGURE THE PLATE TO CONTROL LCD ON/OFF, VOLUME AND SWITCH BETWEEN INPUTS.

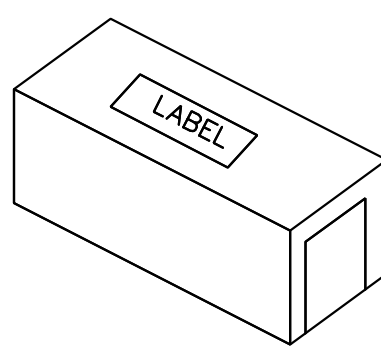
PARTS

QTY	DESCRIPTION	MANUFACTURER	PART #
1	HDMI F-F PASS-THRU PLATE	LIBERTY CABLE	WJ-DECHD1-WH
1	HDMI CABLE-LENGTH AS REQUIRED-PLENUM WHERE REQUIRED -WHERE THE HDMI CABLE WILL BE LONGER THAN 35' PROVIDE AN "ACTIVE" HDMI CABLE FOR USE UP TO 75'	CONTRACTOR	CONTRACTOR

PARTS

QTY	DESCRIPTION	MANUFACTURER	PART #
1	CONTROL PLATE	CRESTRON	BPC-8
1	RS-232 CABLE-PLENUM	CONTRACTOR	CONTRACTOR
1	CTRL CABLE-PLENUM	CRESTRON	CBL-PWR-CTRL-P-TL-50

1 LCD IN CONFERENCE ROOM
NEW CONSTRUCTION



INSTALLATION NOTES:

- ELECTRICIAN TO PROVIDE AND INSTALL THE BACKBOX AND CONDUITS SHOWN.
- COIL DATA CABLE AND MOUNT SURFACE MOUNT BOX TO SIDE OF THE FSR BACKBOX.

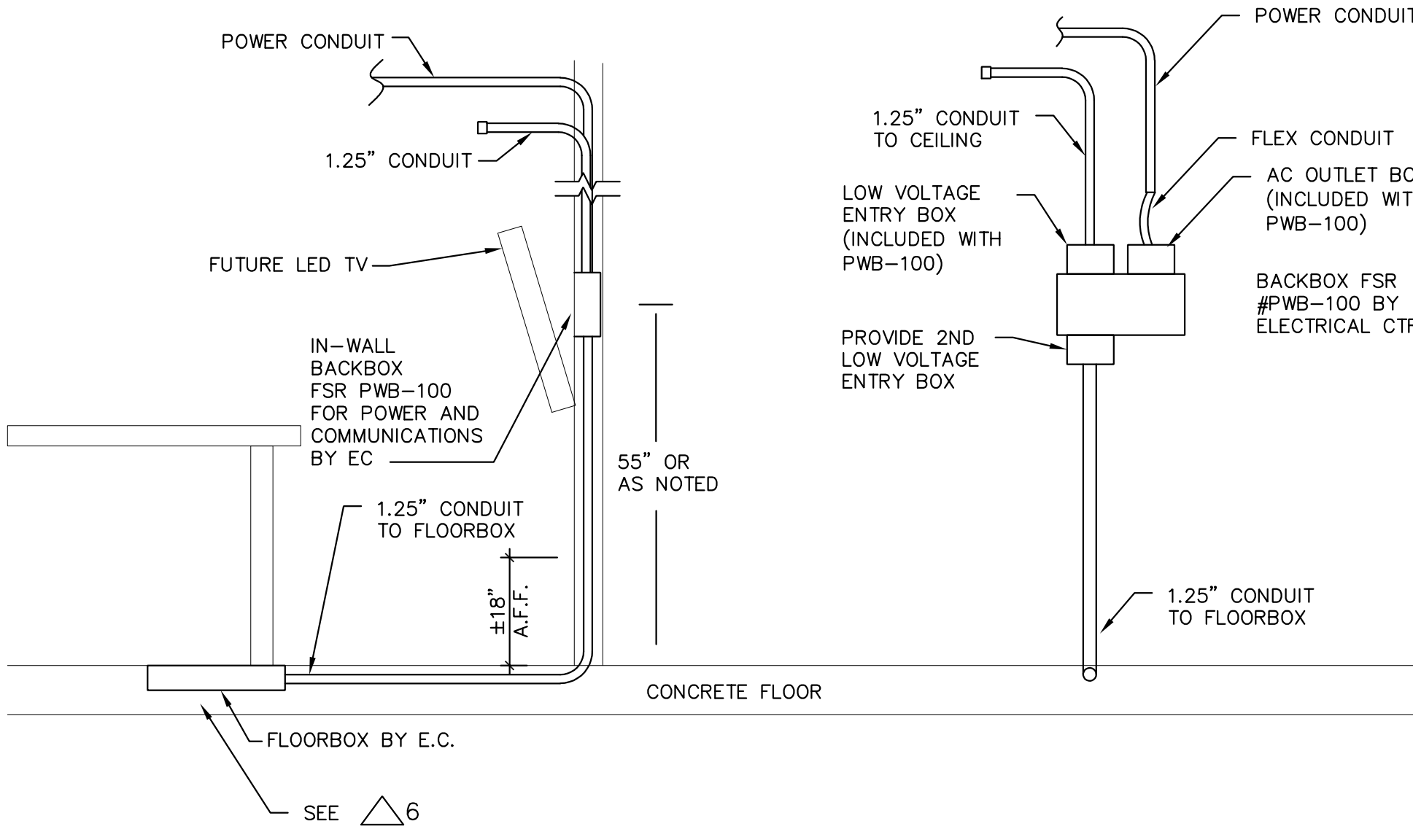
△ 7 RACEWAY CODE

PARTS		CONNECTIVITY CODE	
QTY	DESCRIPTION	MANUFACTURER	PART #
1	SURFACE BOX	HUBBELL	ISM10W
1	CAT-6 DATA CABLE	HUBBELL	C6ESPGN
1	CAT-6 DATA JACK	HUBBELL	HXJ60R

WORK BY ELECTRICAL CONTRACTOR

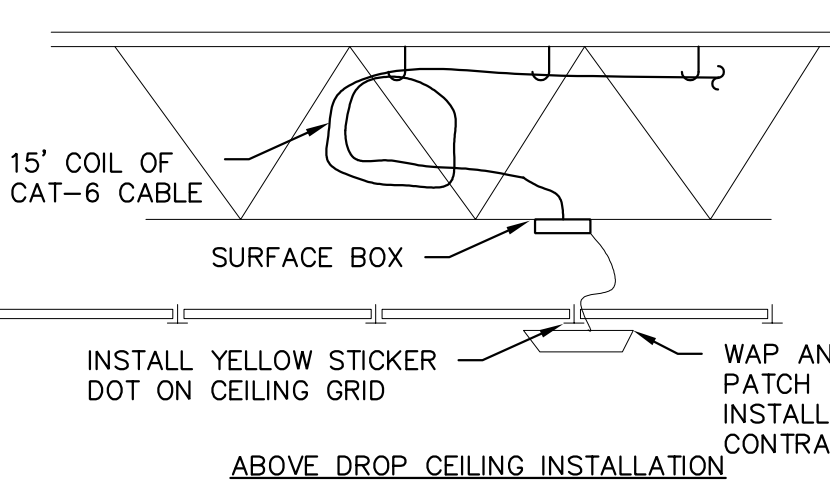
1	IN WALL BOX	FSR	PWB-100
1	COVER FOR BOX	FSR	COVER-WHT

INCLUDE SECOND LOW VOLTAGE ENTRY BOX AND AC OUTLET BOX. EC TO PROVIDE TWO (2) DUPLEX OUTLETS.



△ 7 CONNECTIVITY CODE

TC102

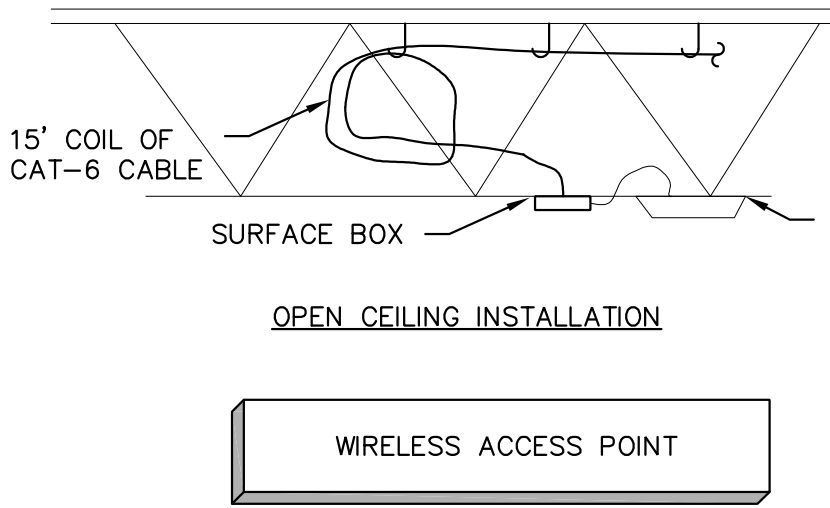


△ 4

CONNECTIVITY CODE

△ 4

CONNECTIVITY CODE



△ 5

CONNECTIVITY CODE

△ 5

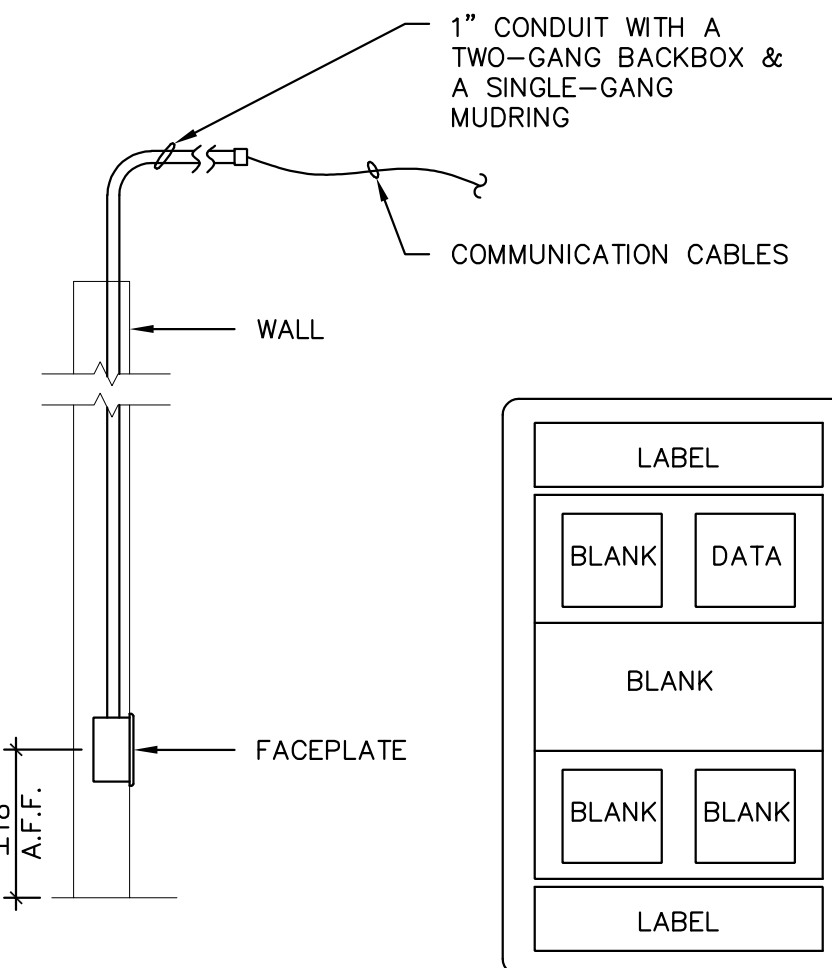
CONNECTIVITY CODE

INSTALLATION NOTES:

- REFER TO THESE NOTES FOR ALL CONNECTIVITY CODES. FOR SPECIALIZED NOTES SEE THE ACTUAL CONNECTIVITY CODE.
- ROUTE ALL USER CABLES FROM THE RACK OR CABINET, THROUGH THE CABLE TRAY IF SO PROVIDED. IF NO CABLE TRAY IS SHOWN INSTALL CABLES THROUGH "J" HOOKS. PROVIDE ALL "J" HOOKS.
- CABLES SHALL BE SUPPORTED NO LESS THAN EVERY 5 FEET.
- PROVIDE A SMALL LOOP OF CABLE ABOVE THE CEILING PRIOR TO INSTALLING THE CABLE INTO THE USER CONDUIT OR RACEWAY.
- ROUTE THE CABLE THROUGH THE CONDUIT OR RACEWAY AND TO THE WALLBOX, FLOORBOX OR SURFACE MOUNT BOX. PROVIDE ENOUGH EXTRA CABLE FOR TERMINATION AND MAINTENANCE.
- TERMINATE ALL CABLES WITH THE CORRECT CONNECTORS.
- ALL CONNECTORS SHALL BE INSERTED INTO THE KEYSTONE PLATES AND THEN THE KEYSTONE PLATES SHALL BE INSTALLED INTO THE FACEPLATES.
- INSTALL FACEPLATES TO THE BOXES OR DIRECTLY TO THE WALL OR FURNITURE IN THE CASE OF SURFACE MOUNT BOXES.

△ 1

CONNECTIVITY CODE

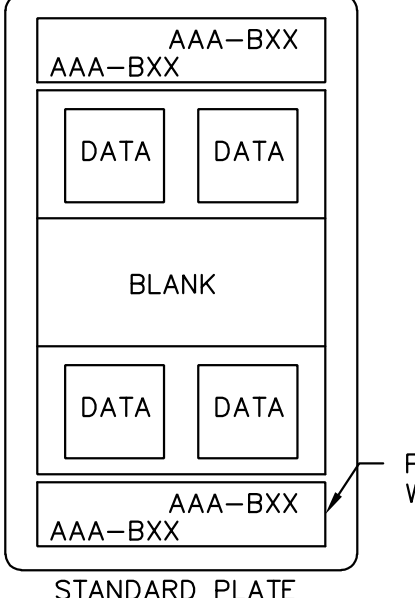


△ 1

CONNECTIVITY CODE

△ 1

CONNECTIVITY CODE

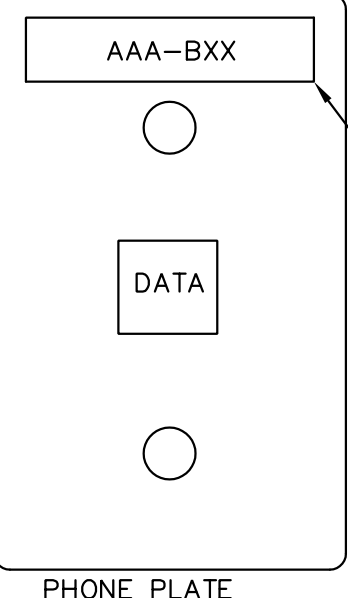


△ 8

TYPICAL FACEPLATE LABELING

△ 8

TYPICAL FACEPLATE LABELING

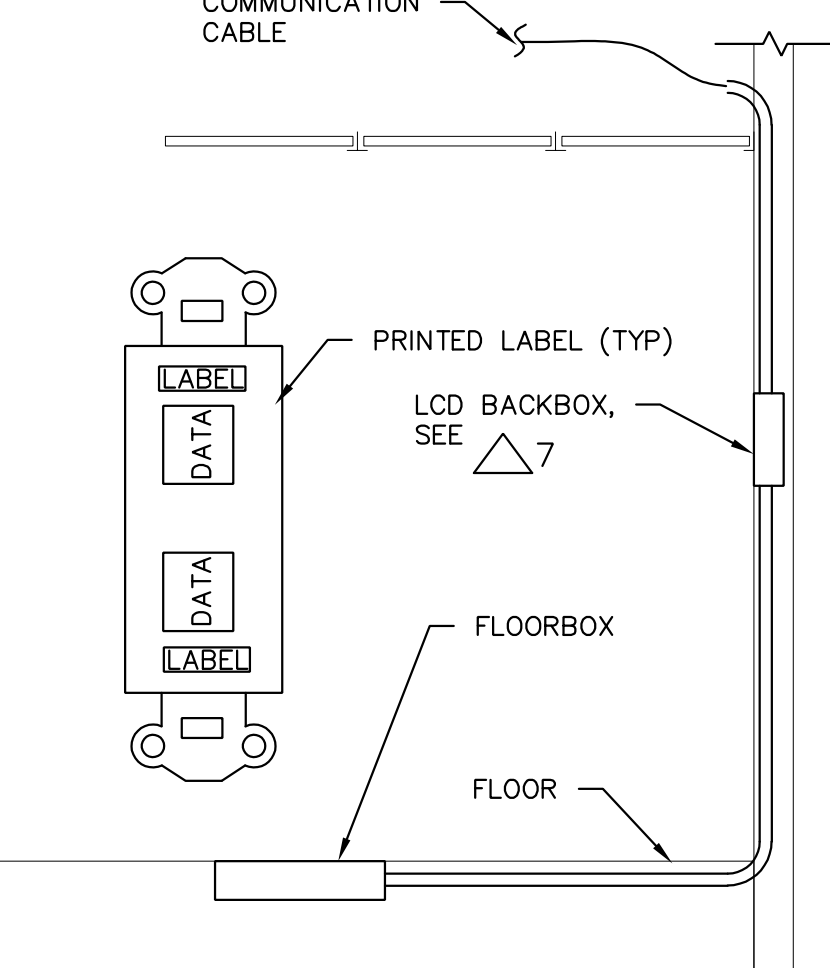


△ 8

TYPICAL FACEPLATE LABELING

△ 8

TYPICAL FACEPLATE LABELING

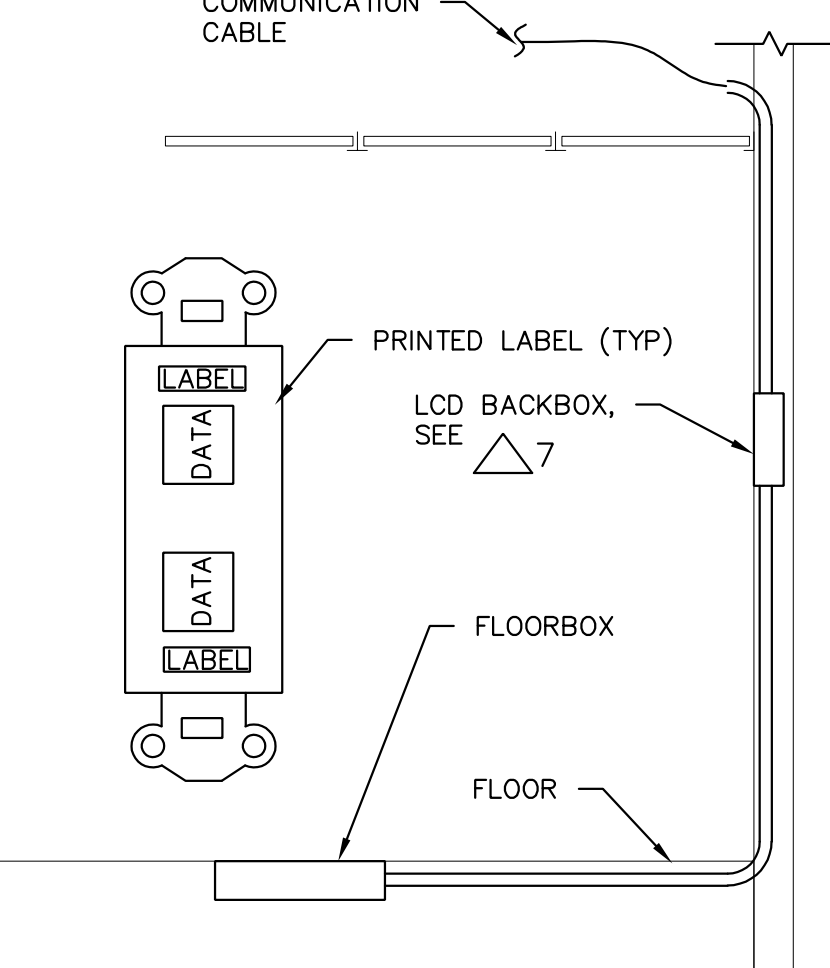


△ 6

CONNECTIVITY CODE

△ 6

CONNECTIVITY CODE

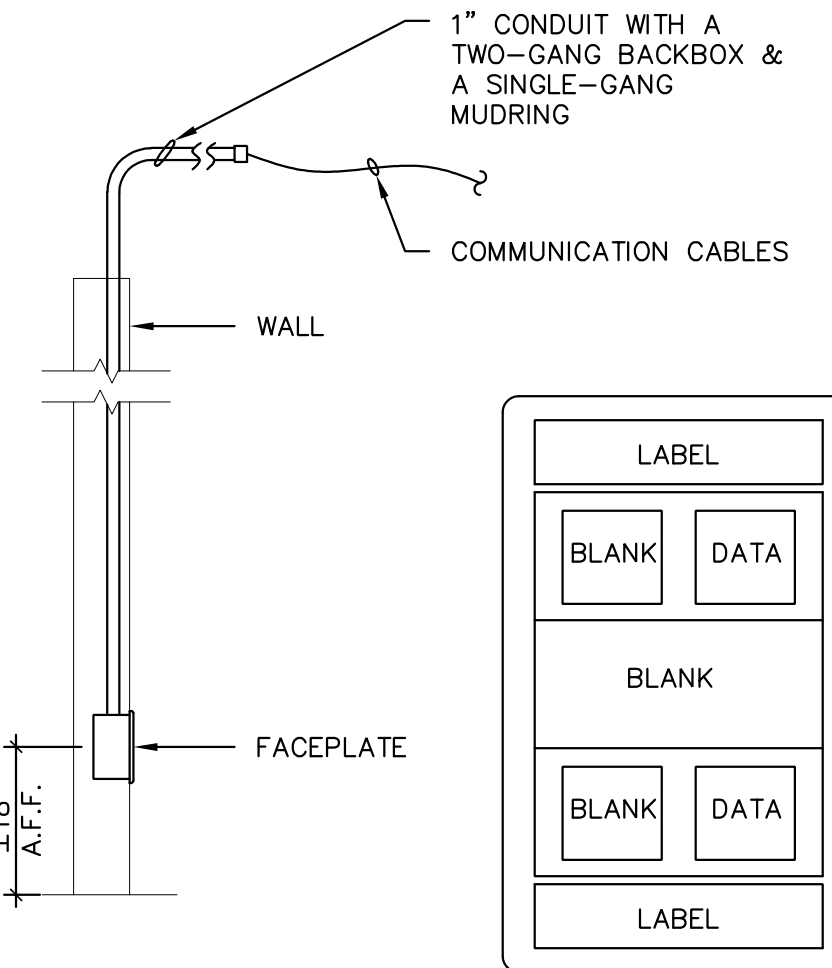


△ 6

CONNECTIVITY CODE

△ 6

CONNECTIVITY CODE

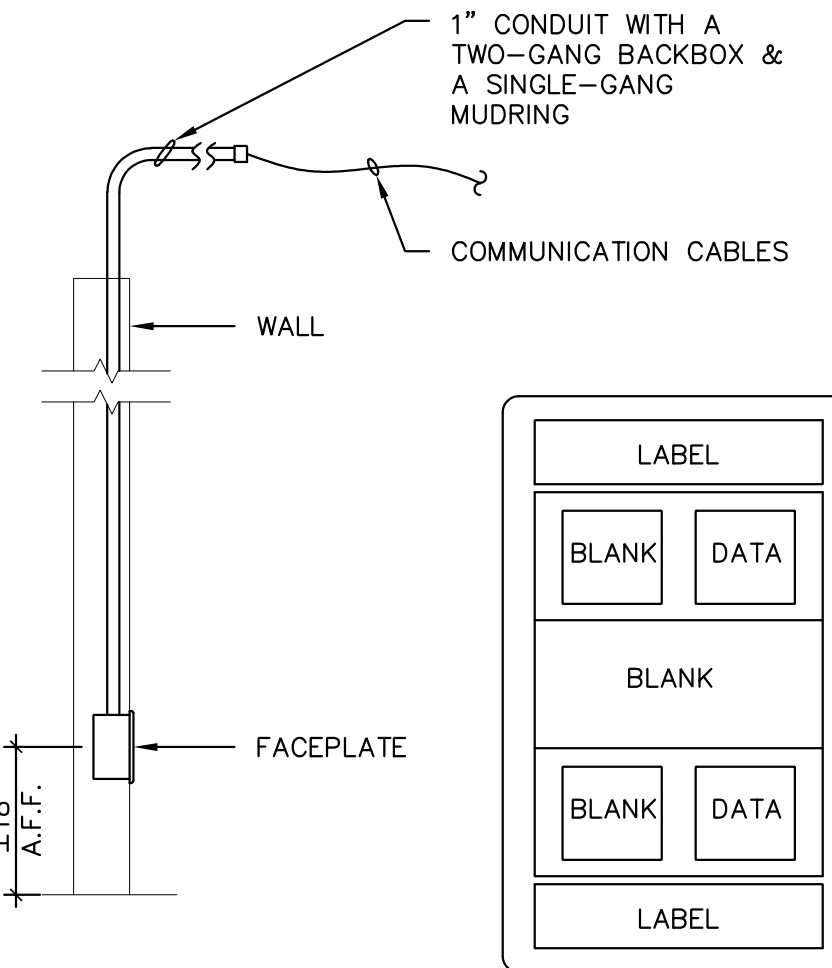


△ 2

CONNECTIVITY CODE

△ 2

CONNECTIVITY CODE

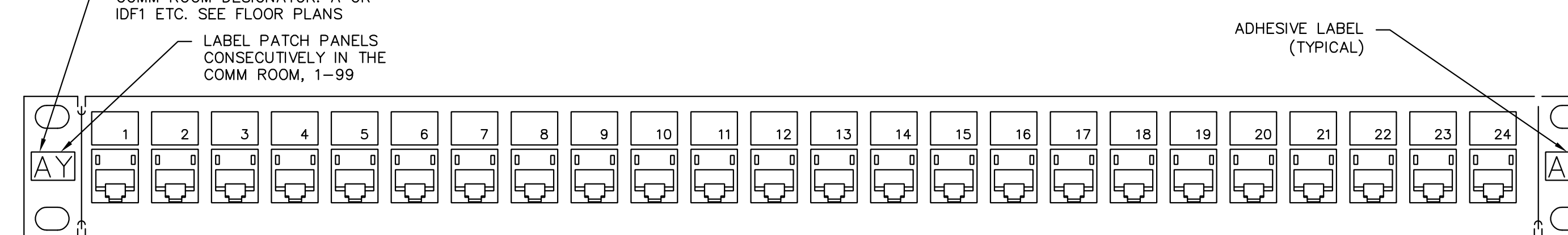


△ 2

CONNECTIVITY CODE

△ 2

CONNECTIVITY CODE

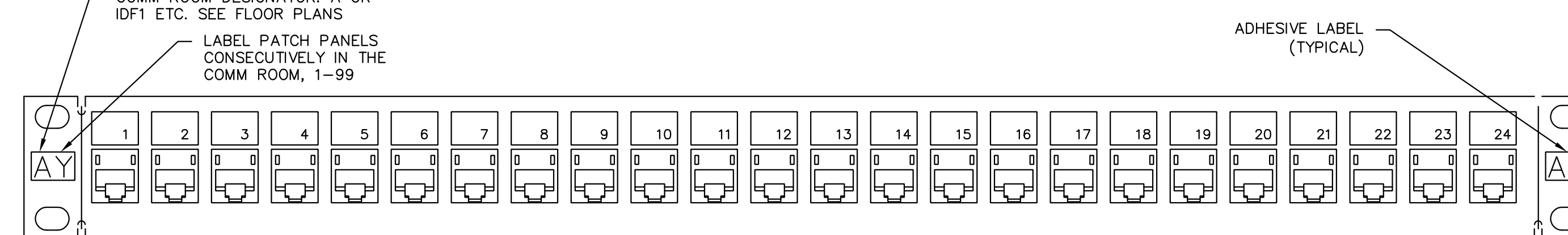


△ 3

CAT-6 DATA OR VOICE PANEL LABELING

△ 3

CAT-6 DATA OR VOICE PANEL LABELING



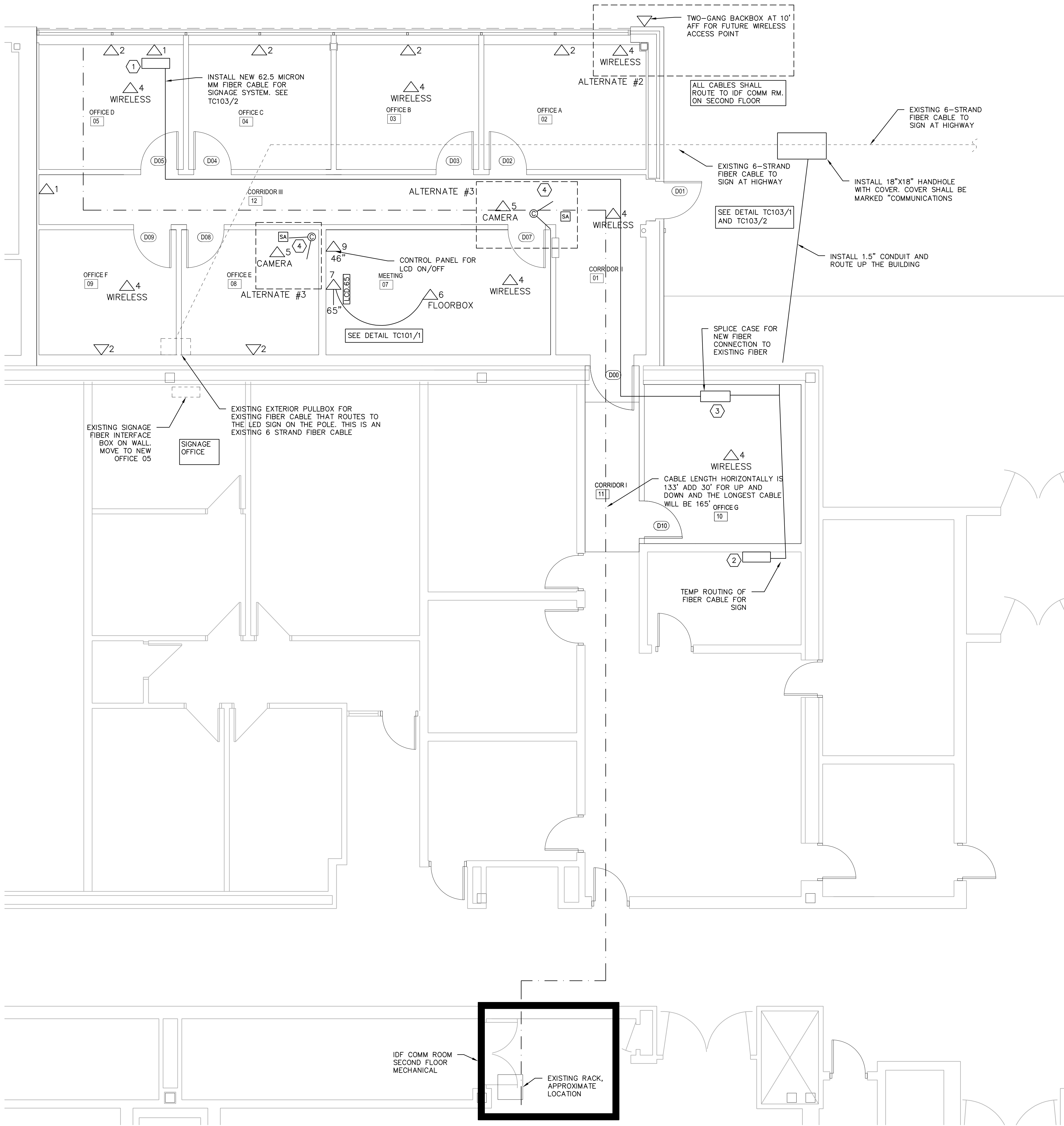
△ 3

CAT-6 DATA OR VOICE PANEL LABELING

△ 3

CAT-6 DATA OR VOICE PANEL LABELING

		<div><div><div><div><div>WAYNE STATE UNIVERSITY FOOTBALL SCHEDULE</div><div>EXISTING HIGHWAY SIGN FOR WSU ATHLETICS AT HIGHWAY</div></div><div><div>EXISTING UNDERGROUND FIBER CABLE, 6-STRAND MM 62.5 MICRON</div><div><div><div>EXISTING SIGNAGE FIBER INTERFACE BOX</div><div>SIGNAGE PC</div><div>SIGNAGE OFFICE</div></div></div></div></div><div><p>INSTALLATION NOTES:</p><ol style="list-style-type: none">THIS IS AN EXISTING FIBER BACKBONE BETWEEN THE SIGN AT THE HIGHWAY AND THE SIGNAGE OFFICE.CONTRACTOR SHALL BE RESPONSIBLE FOR MOVING AND RE-TERMINATING THIS FIBER CABLE TO THE NEW OFFICE LOCATION SHOWN ON THE FLOOR PLANS.</div><div><div>1</div><div>EXISTING SIGNAGE SYSTEM FIBER CONNECTIVITY</div></div></div></div>			
		<div><div><div><div><div>WAYNE STATE UNIVERSITY FOOTBALL SCHEDULE</div><div>EXISTING HIGHWAY SIGN FOR WSU ATHLETICS AT HIGHWAY</div></div><div><div>INSTALL A NEW HANDHOLE. EXTEND NEW CONDUIT TO THE BUILDING</div><div>NEW 1.5" CONDUIT</div><div><div>TEMP LOCATION OF FIBER INTERFACE BOX, SEE FLOORPLAN</div><div>INSTALL A NEW FIBER SPLICE CASE IN THE CEILING, SPLICE NEW CABLE TO EXISTING CABLE</div><div>INSTALL NEW 6-STRAND MM FIBER, 62.5 MICRON</div><div>SIGNAGE PC</div><div>RELOCATED SIGNAGE FIBER INTERFACE BOX</div><div>SIGNAGE OFFICE</div></div></div></div><div><p>INSTALLATION NOTES:</p><ol style="list-style-type: none">INSTALL A NEW HANDHOLE OVERTOP OF THE EXISTING FIBER CABLE THAT ROUTES TO THE HIGHWAY SIGN.BACKPULL FIBER TO THE HANDHOLE AND RE-INSTALL INTO THE BUILDING THROUGH A NEW CONDUIT.TEMPORARILY ROUTE THE FIBER TO THE LOCATION SHOWN TO KEEP THE SIGN CONNECTION DURING CONSTRUCTION.WHEN BUILDING ADDITION IS COMPLETE, RE-INSTALL THE FIBER AND SIGNAGE INTERFACE BOX TO ROOM 05.CONTRACTOR SHALL BE RESPONSIBLE FOR TEMPORARY AND FINAL CONNECTION OF THE FIBER AND DIGITAL SIGNAGE SYSTEM TO THE SIGNAGE PC.CONTRACTOR SHALL BE RESPONSIBLE FOR MOVING AND RE-TERMINATING THIS FIBER CABLE TO THE NEW OFFICE LOCATION SHOWN ON THE FLOOR PLANS.</div><div><div>2</div><div>SIGNAGE SYSTEM UPDATED FIBER CONNECTIVITY</div></div></div></div>			

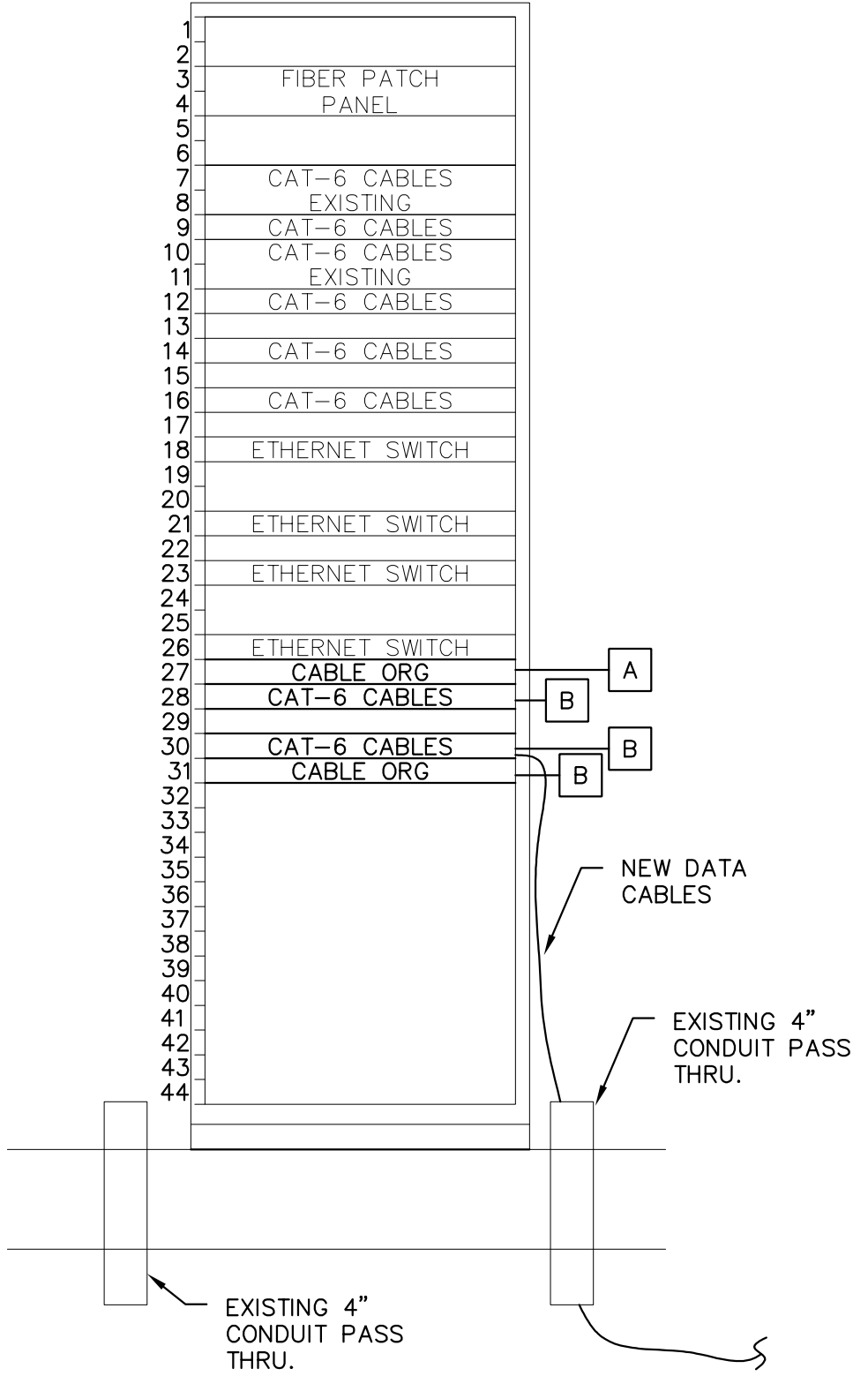


GENERAL TECH NOTES

- 1. COMMUNICATIONS CONTRACTOR SHALL INSTALL ANY PASS-THRU'S REQUIRED FOR ROUTING CABLES AROUND THE BUILDING. FIRESTOP ALL PASS-THRU'S TO MEET APPLICABLE CODES. INSTALL A PAPER LABEL AT EACH FIRESTOP CONDUIT DETAILING THE UL DESIGN DETAIL THAT HAS BEEN USED IN SEALING THE PENETRATION.
- 2. CONTRACTOR SHALL COMPLETE A WALK-THRU OF THE SITE DURING CONSTRUCTION AND SHALL VERIFY ALL CONDUITS AND PASS THRU'S ARE INSTALLED FOR CABLES.
- 3. ALL CABLES SHALL BE SUPPORTED ABOVE THE DROP CEILING BY J-HOOKS. HOOKS SHALL BE LOCATED NO LESS THAN EVERY 5 FEET.
- 4. CONTRACTOR SHALL REVIEW AND FOLLOW WSU C&IT STANDARDS FOR COMMUNICATIONS INFRASTRUCTURE

KEYED TECH NOTES

- 1 INSTALL THE SIGNAGE FIBER INTERFACE BOX AT THIS LOCATION. REMOVE FROM EXISTING LOCATION AND RELOCATE. ROUTE FIBER TO THIS BOX.
- 2 INSTALL THE SIGNAGE FIBER INTERFACE BOX AT THIS LOCATION TEMPORARILY DURING CONSTRUCTION.
- 3 INSTALL A FIBER OPTIC SPLICE IN THE CEILING. SPLICE EXISTING 62.5 FIBER CABLE TO A NEW PLENUM RATED CABLE. ROUTE TO THE NEW SIGNAGE LOCATION.
- 4 INSTALL A NEW SECURITY CAMERA. CONNECT TO THE CAT-6 CABLE. OWNER WILL PROVIDE CAMERA LICENSE AND CONFIGURE THE CAMERA IN THE SYSTEM.

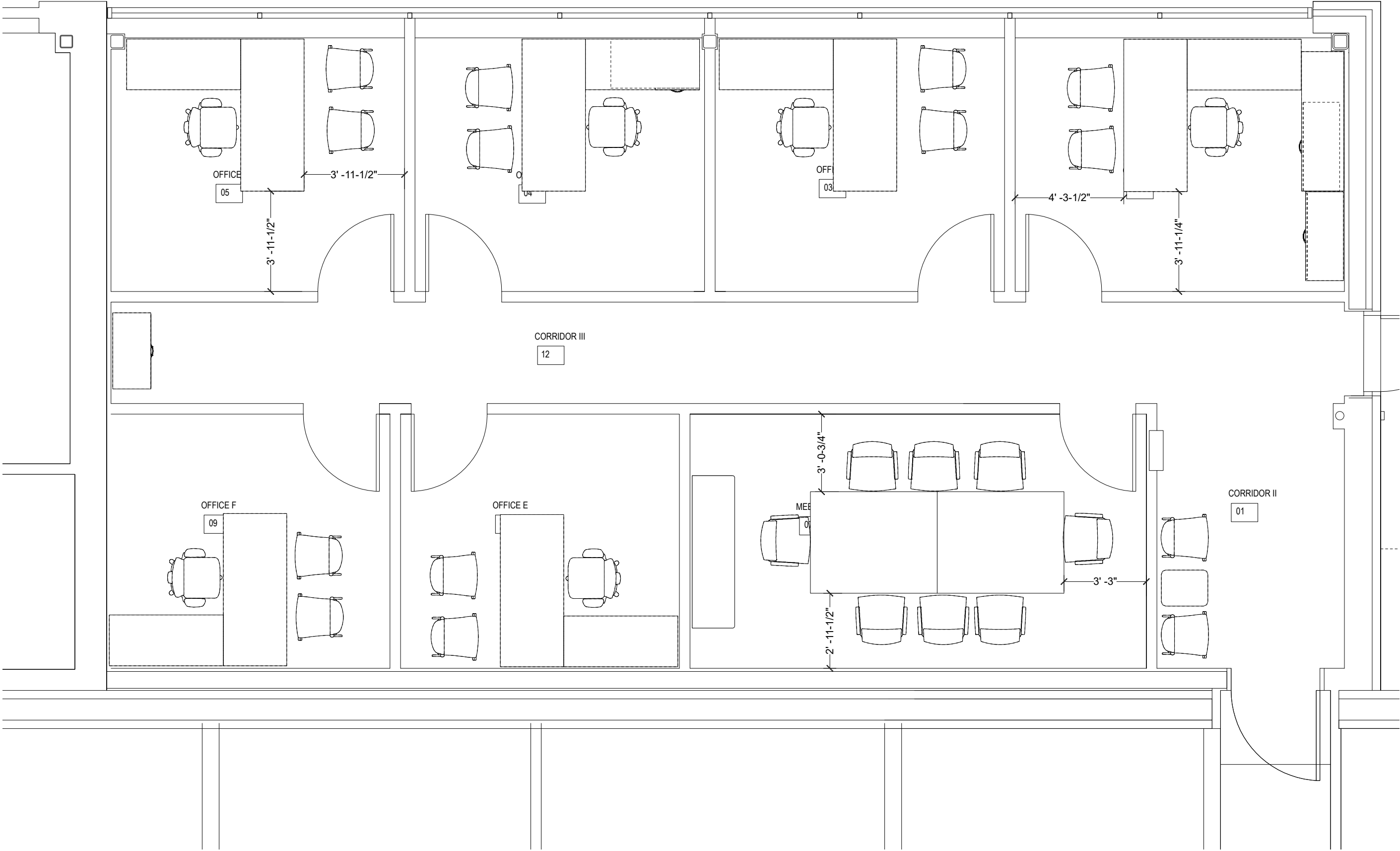


SECOND FLOOR EXISTING RACK IN MECHANICAL SPACE

2 EXISTING COMMUNICATIONS RACK SECOND FLOOR MECHANICAL SPACE TC201



1 CABLING FLOOR PLAN TC201 1/4"=1'-0" 0 1'



Drawing Name:
Drawing Name
Dwg #: F-1
Sales: RR
Design:AWM
Scale: As Noted
Date: 7/11/2019

Notes:
Drawing Notes
THESE DOCUMENTS HAVE BEEN RECEIVED AND CHECKED FOR ACCURACY REGARDING CONFIGURATION AND PLACEMENT OF FURNITURE.
☐ APPROVED FOR ORDER
☐ APPROVED AS NOTED FOR ORDER
☐ DISAPPROVED; REVISE & RESUBMIT

Wayne State University
Matthaei Addition
Preliminary Space Plan

interior.
environments
48700 Grand River Ave. Novi, MI 48374
248.213.3010