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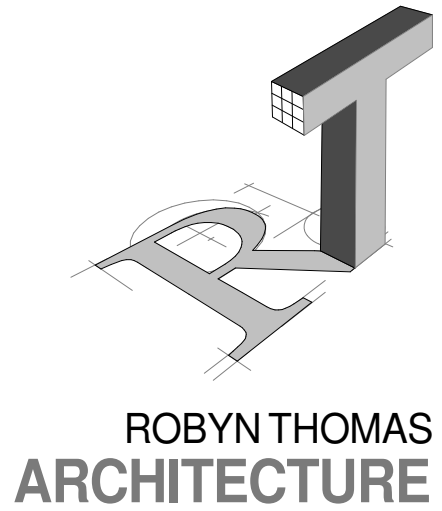
STARBUCKS SHELL BUILDING

SET ISSUE DATE:
DECEMBER 8, 2016

GENERAL NOTES	CODE COMPLIANCE	SCOPE OF WORK
1. GENERAL CONTRACTOR SHALL VISIT THE SITE, REVIEW THE BUILDING SHELL DRAWINGS AS SUBMITTED BY THE LANDLORD OR STARBUCKS SITE SURVEYOR, AND BECOME THOROUGHLY FAMILIAR WITH THE SITE CONDITIONS PRIOR TO BIDDING OR CONSTRUCTION. 2. GENERAL CONTRACTOR SHALL CONSULT WITH ARCHITECT & ENGINEERS. 3. ALL WORK SHALL BE PERFORMED IN STRICT COMPLIANCE WITH LOCAL, COUNTY, STATE, AND FEDERAL CODES AND ORDINANCES. 4. GENERAL CONTRACTOR SHALL VERIFY THE LOCATION OF ALL UTILITIES. 5. GENERAL CONTRACTOR TO VERIFY ALL DIMENSIONS, INCLUDING CLEARANCES REQUIRED BY OTHER TRADES, AND NOTIFY ARCHITECT & ENGENDERS OF ANY DISCREPANCIES PRIOR TO PROCEEDING WITH THE WORK. ALL DIMENSIONS ARE TO THE FACE OF THE FINISHED SURFACE UNLESS NOTED OTHERWISE. ALL DIMENSIONS TO BE TAKEN FROM DESIGNATED DATUM POINT. DO NOT SCALE DRAWINGS. 6. THE GENERAL CONTRACTOR IS RESPONSIBLE FOR OBTAINING PERMITS FOR FIRE PROTECTION, PLUMBING, MECHANICAL, AND ELECTRICAL SYSTEMS PRIOR TO INSTALLATION OF SUCH SYSTEMS. 7. GENERAL CONTRACTOR SHALL RETAIN ONE SET OF THE PLANS TO NOTE AND DOCUMENT ALL CHANGES DURING CONSTRUCTION. THIS SET SHALL BE PART OF THE GENERAL CONTRACTOR'S "STORE CLOSE-OUT PACKAGE" 8. FOR THE PURPOSE OF THE DOCUMENTS, TO "INSTALL", SHALL MEAN TO PROVIDE ALL FASTENERS, MISCELLANEOUS HARDWARE, BLOCKING, ELECTRICAL CONNECTIONS, PLUMBING CONNECTIONS, AND OTHER ITEMS REQUIRED FOR A COMPLETE AND OPERATION INSTALLATION, UNLESS OTHERWISE NOTED. 9. ALL ITEM SUBSTITUTIONS MUST BE APPROVED BY ARCHITECT & ENGINEERS.	RELEVANT CODES: VUSBC 2012 (IBC 2012, ICC/ ANSI - 2009) <u>HEIGHT AND AREA COMPUTATIONS</u> ZONING CLASSIFICATION C-2 - 21st STREET PCO DISTRICT USE GROUP CLASSIFICATION A-2 - RESTAURANT (NO-SMOKING) TYPE OF CONSTRUCTION 5B FIRE SUPPRESSION UNPROTECTED (NON-SPRINKLERED) <u>HEIGHT AND AREA LIMITATIONS</u> ALLOWABLE BUILDING HEIGHT (503) 2 STORY/ 9,500 S.F. ACTUAL BUILDING HEIGHT 1 STORY/ 1,853 S.F. <u>BUILDING AREA</u> 1,853 S.F. <u>MAXIMUM OCCUPANT LOAD</u> INDOOR SEATING 36 OUTDOOR SEATING 12 STAFF 4 TOTAL BUILDING OCCUPANT LOAD 52 <u>PLUMBING REQUIREMENTS (INTERNATIONAL PLUMBING CODE 2012)</u> NOTE: PLUMBING REQUIREMENTS / FIXTURES SHALL BE PROVIDED BY FUTURE TENANT BUILD-OUT	SHELL BUILDING FOR FUTURE TENANT BUILD-OUT.
		PROJECT CONTACTS OWNER REPRESENTATIVE: EMPIRE REAL ESTATE HUGH TIERNEY htierney@empiredevelopment.net 757.469.9023 CIVIL: VHB, Inc. JOSEPH BUSHEY JBushey@VHB.com 757.490.0132 ARCHITECT: ROBYN THOMAS ARCHITECTURE ROBYN THOMAS rthomas@robynthomasarchitect.com 757.622.7100 STRUCTURAL: SINCLAIR PRATT CAMERON, PC SHAWN MASLANEY sam@spc-eng.com 757.417.0565 ext:27 PLUMBING, MECHANICAL & ELECTRICAL : PACE COLLABORATIVE EDDIE ABRAMS eddie@pace-pme.com 757.499.7223

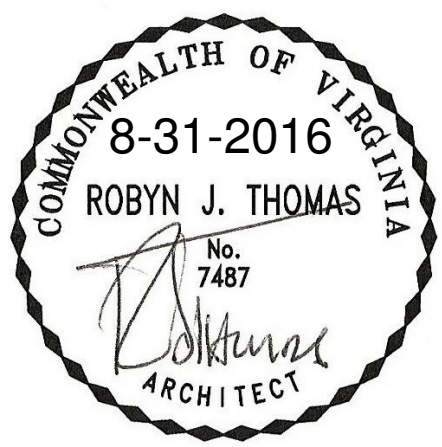


SCHEDULE OF DRAWINGS	
NUMBER	SHEET NAME
C.S	COVER SHEET
CIVIL (CIVIL DRAWINGS WERE SUBMITTED SEPARATELY)	
C0.0	CIVIL COVER SHEET
C1.00	LEGEND, ABBREVIATIONS, AND GENERAL NOTES
C1.01	EROSION AND SEDIMENT CONTROL NOTES
C1.02	CITY OF NORFOLK GENERAL NOTES
C2.00	DEMOLITION & EROSION AND SEDIMENT CONTROL PLAN
C3.00	LAYOUT & MATERIALS
C4.00	GRADING AND DRAINAGE PLAN
C5.00	UTILITY PLAN
C6.01	DETAILS
C6.02	DETAILS
C6.03	DETAILS
C6.04	DETAILS
C6.05	DETAILS
L2.01	PLANTING DETAILS
L1.01	PLANTING PLAN
L2.02	PLANTING DETAILS
Sv-1	EXISTING CONDITIONS TOPOGRAPHIC SURVEY
E1.0	CALCULATED LIGHTING LEVEL PLAN
STRUCTURAL	
S0.1	GENERAL NOTES
S0.2	GENERAL NOTES
S1.0	FOUNDATION PLAN
S1.1	ROOF FRAMING PLAN
S2.0	FOUNDATION DETAILS
S3.0	FOUNDATION SECTIONS
S4.0	FRAMING DETAILS
S4.1	FRAMING DETAILS
S5.0	FRAMING SECTIONS
S5.1	FRAMING SECTIONS
S6.0	RIGID FRAME ELEVATIONS
ARCHITECTURAL	
G-01	OUTLINE SPECIFICATIONS
G-02	OUTLINE SPECIFICATIONS
A1.1	FIRST FLOOR PLAN
A1.2	ROOF PLAN
A2.0	EXTERIOR ELEVATION
A2.1	EXTERIOR ELEVATIONS
A3.1	BUILDING SECTION
A3.2	WALL SECTIONS
A3.3	WALL SECTION
A4.1	BUILDING DETAILS
A4.2	BUILDING DETAILS
A5.1	STOREFRONT ELEVATIONS & SCHEDULES
PLUMBING	
P001	LEGEND, NPTES AND ABBREVIATIONS
P101	FIRST FLOOR PLAN
P102	ROOF PLAN
MECHANICAL	
M001	LEGEND, NOTES AND ABBREVIATIONS
M002	ZONING PLAN
M101	FIRST FLOOR PLAN
M102	ROOF PLAN
M501	DETAILS
M601	SCHEDULES
M801	SPECIFICATIONS
ELECTRICAL	
E001	LEGEND, NOTES AND ABBREVIATIONS
E002	SITE PLAN
E201	FIRST FLOOR POWER PLAN
E202	ROOF PLAN
E501	DETAILS
E601	PANELBOARD SCHEDULES AND DIAGRAMS
E701	SPECIFICATIONS
E702	SPECIFICATIONS



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RETAIL SPACE FOR STARBUCKS
STARBUCKS
CORNER SHOPS - 2000 COLONIAL AVE NORFOLK, VA

RTA NO: 15-012
DATE: 8/31/2016
DESIGN: RTA
DRAWN: NCL
REVIEW: RTA

REVISIONS

No.	Date	Description
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COVER SHEET

C.S

SHEET OF

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STRUCTURAL ABBREVIATIONS

A.B.	ANCHOR BOLT	LLH	LONG LEG HORIZONTAL
A.C.I.	AMERICAN CONCRETE INSTITUTE	LLV	LONG LEG VERTICAL
A.I.S.C.	AMERICAN INSTITUTE OF STEEL CONSTRUCTION	L.R.F.D.	LOAD & RESISTANCE FACTOR DESIGN
A.S.D.	ALLOWABLE STRESS DESIGN	M.O.S.	MIDDLE OF SLAB
A.S.T.M.	AMERICAN SOCIETY FOR TESTING AND MATERIALS	M.O.W.	MIDDLE OF WALL
ADJ.	ADJACENT	MANUF.	MANUFACTURER OR MANUFACTURER'S
ARCH.	ARCHITECT OR ARCHITECTURAL	MATL.	MATERIAL
		MAX.	MAXIMUM
		MECH.	MECHANICAL
		MIN.	MINIMUM
		MTL.	METAL
B.E.J.	BUILDING EXPANSION JOINT	N.T.S.	NOT TO SCALE
B.D.	BAR DIAMETER(S)		
BLDG.	BUILDING	O/C	ON CENTER
B.O.S.	BOTTOM OF STEEL	OPP.	OPPOSITE
BM.	BEAM	O.H.	OPPOSITE HAND
BRCG.	BRACING		
BRDG.	BRIDGING	P.C.	PRECAST
BRG.	BEARING	P.A.F.	POWDER ACTUATED FASTENER
BTWN.	BETWEEN		
		P.S.	PRESTRESSED
C.G.	CENTER OF GRAVITY	P.S.F.	POUNDS PER SQUARE FOOT
C.I.P.	CAST IN PLACE		
CANT.	CANTILEVER	P.S.I.	POUNDS PER SQUARE INCH
CL.	CLEAR		
CMU	CONCRETE MASONRY UNIT	Pc.	PIECE
		PROJ.	PROJECTION
COL.	COLUMN	P.T.	PRESSURE TREATED
CONC.	CONCRETE		
CONT.	CONTINUOUS	R.	RADIUS
COORD.	COORDINATE	REF.	REFERENCE
		REINF.	REINFORCING OR REINFORCED
		REQ'D.	REQUIRED
		REV.	REVISION
D.	DEPTH OR DEEP	S.O.G.	SLAB ON GRADE
DBL.	DOUBLE	S.F.	STEPPED FOOTING
DET.	DETAIL	SCHED.	SCHEDULE
DIA.	DIAMETER	SECT.	SECTION
DIAG.	DIAGONAL	SHT.	SHEET
DWG.	DRAWING	SIM.	SIMILAR
DWL.	DOWEL	SL.	SLOPE
		SPA.	SPACE
E.F.	EACH FACE	S.S.	STAINLESS STEEL
E.W.	EACH WAY	STD.	STANDARD
EA.	EACH	STIFF.	STIFFENER
EL.	ELEVATION	STIR.	STIRRUPS
ELEV.	ELEVATION	STL.	STEEL
EMB.	EMBEDMENT OR EMBED	STRUCT.	STRUCTURAL
ENG.	ENGINEER		
EQ.	EQUAL		
EXIST.	EXISTING		
EXP.	EXPANSION		
F.O.	FACE OF	T.O.S.	TOP OF STEEL
FIN.	FINISHED OR FINISH	TEMP.	TEMPERATURE
FLR.	FLOOR	TYP.	TYPICAL
FTG.	FOOTING		
G.C.	GENERAL CONTRACTOR	U.O.N.	UNLESS OTHERWISE NOTED
GA.	GAGE		
GALV.	GALVANIZED	O.W.T.	OPEN WEB TRUSS
H.C.	HOLLOW CORE	VERT.	VERTICAL
H.D.G.	HOT DIPPED GALVANIZED		
HK.	HOOK	W.	WIDTH OR WIDE
HORIZ.	HORIZONTAL	w/	WITH
H.S.	HIGH STRENGTH	W.P.	WORKING POINT
		W.W.F.	WELDED WIRE FABRIC
J.B.E.	JOIST BEARING		
	ELEVATION	⌀	CENTERLINE
JOINT	JOINT	°	DIAMETER
			DEGREES
K	KIPS	±	PLUS/MINUS
K.S.F.	KIPS PER SQUARE FOOT	PL	PLATE
K.S.I.	KIPS PER SQUARE INCH		

STRUCTURAL SYMBOL LEGEND			
	BEAM SPLICE	CBXXxxx	CONCRETE BEAM MARK
	WELD	(A)	PLAN NOTE
	SECTION		FOOTING ELEVATION
	PLAN DETAIL	(X)-	COLUMN GRID MARK
	ELEVATION	L-X	MASONRY LINTEL MARK
	SPOT ELEVATION	H-X	HEADER MARK
	SHEARWALL EXTENTS	H □ o	STRUCTURAL COLUMN
	SHEARWALL MARK (ABOVE)	Wxxx	STEEL BEAM MARK
	SHEARWALL MARK (BELOW)	■ BP	BEARING PLATE
	SHEARWALL HOLDOWN (ABOVE)		MOMENT CONNECTION
	SHEARWALL HOLDOWN (BELOW)	xxx	BEAM REACTION
CFX.X	COLUMN FOOTING MARK		SLAB STEP LOCATION
WFX.X	WALL FOOTING MARK		SLAB SLOPE LOCATION
GB-X	GRADE BEAM MARK		INDICATOR PILE
P-X	PILE CAP MARK		REVISION MARK

REINFORCED MASONRY NOTES

- ALL MASONRY AND GROUTING PROCEDURES SHALL BE IN COMPLIANCE WITH THE LATEST EDITION OF THE BUILDING CODE FOR MASONRY STRUCTURES, A.C.I. 530.
- ALL BLOCK MASONRY WALLS SHALL BE LAID WITH TYPE 'S' HIGH STRENGTH MORTAR (1800 PSI) BOUGHT PRE-MIXED BY THE BAG OR MIXED TO THE FOLLOWING PROPORTIONS:
1 BAG MASONRY CEMENT
1/2 BAG PORTLAND CEMENT
4 1/2 CUBIC FEET OF SAND BY VOLUME
- ALL HOLLOW CMU BLOCK MASONRY SHALL BE GRADE 'N' LOAD BEARING UNITS IN ACCORDANCE WITH ASTM C-90 SPECIFICATIONS (MINIMUM ULTIMATE NET CONCRETE STRENGTH = 2000 PSI).
- ALL GROUT FOR VERTICAL REINFORCING AND BOND BEAMS SHALL BE 2,000 PSI FINE GROUT, 8" - 10" SLUMP.
- ALL HORIZONTAL JOINT REINFORCING SHALL BE LADDER TYPE. SEE ARCHITECTURAL DRAWINGS FOR SIZE AND SPACING.
- THE CONTRACTOR SHALL SUBMIT HIS COLD WEATHER MASONRY PROCEDURES FOR APPROVAL IF THE AMBIENT TEMPERATURES ARE BELOW 40 DEGREES FAHRENHEIT.
- ALL VERTICAL REINFORCING STEEL SHALL LAP 48 BAR DIAMETERS UNLESS OTHERWISE NOTED ON PLANS, SECTIONS OR DETAILS.
- ALL REINFORCED HOLLOW UNIT MASONRY SHALL BE BUILT TO PRESERVE THE UNOBSTRUCTED VERTICAL CONTINUITY OF THE CELLS TO BE FILLED. WALLS AND CROSS WEBS FORMING SUCH CELLS TO BE FILLED SHALL BE FULL-BEDDED IN MORTAR TO PREVENT LEAKAGE OF GROUT. ALL HEAD (OR END) JOINTS SHALL BE SOLIDLY FILLED WITH MORTAR FOR A DISTANCE IN FROM THE FACE OF THE WALL OR UNIT NOT LESS THAN THE THICKNESS OF THE LONGITUDINAL FACE SHELLS. BOND SHALL BE PROVIDED BY LAPPING UNITS IN SUCCESSIVE VERTICAL COURSES OR BY EQUIVALENT MECHANICAL ANCHORAGE.
- VERTICAL CELLS TO BE FILLED SHALL HAVE VERTICAL ALIGNMENT SUFFICIENT TO MAINTAIN A CLEAR, UNOBSTRUCTED CONTINUOUS VERTICAL CELL MEASURING NOT LESS THAN 2 INCHES BY 3 INCHES. NO MORTAR PROJECTIONS INTO THE CELL MAY EXCEED 1/4".
- ALL CELLS CONTAINING REINFORCEMENT SHALL BE FILLED SOLIDLY WITH GROUT. GROUT SHALL BE PLACED IN LIFTS OF 5 FEET MAXIMUM HEIGHT. ALL GROUT SHALL BE CONSOLIDATED APPROXIMATELY 5 TO 10 MINUTES AFTER POURING; BY VIBRATING AND BEFORE PLASTICITY IS LOST. WHEN THE GROUTING IS STOPPED FOR ONE HOUR OR LONGER, HORIZONTAL CONSTRUCTION JOINTS SHALL BE FORMED BY STOPPING THE POUR OF GROUT NOT LESS THAN 1/2 INCH BELOW THE TOP OF THE UPPER-MOST UNIT GROUTED. HORIZONTAL STEEL SHALL BE FULLY EMBEDDED BY GROUT IN AN UNINTERRUPTED POUR.

TJI SERIES JOIST NOTES

- ALL TJI ROOF JOIST FRAMING SHALL BE 16" DEEP TJI 360 ROOF JOISTS DESIGNED AND MANUFACTURED TO SUPPORT THE LIVE AND DEAD LOADS AS FOLLOWS.
ROOF JOIST DESIGN LOADS:
TOP CHORD DEAD LOAD 10 PSF
BOTTOM CHORD DEAD LOAD 10 PSF
LIVE LOAD 20 PSF
- THE ROOF JOISTS SHALL BE DESIGNED WITH A MAXIMUM LIVE LOAD DEFLECTION OF L/360.
- NO HOLES SHALL BE CUT WITHIN 6" HORIZONTALLY OR VERTICALLY IN EITHER DIRECTION FROM SUPPORT EDGE. CONSULT THE ENGINEER OF RECORD IF HOLES GREATER THAN 1 1/2"ø ARE CUT AND/OR MULTIPLE HOLES THAT ARE GROUPED WITHIN AN AREA THAT EXCEEDS 1 1/2"ø.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROPER TJI JOIST HANDLING AND FOR TEMPORARY JOIST BRACING. ALL LATERAL BRIDGING SHALL BE PLACED IN ACCORDANCE WITH THE JOIST MANUFACTURER'S RECOMMENDATIONS.
- THE JOIST MANUFACTURER SHALL SUBMIT PAPER HARD-COPIES OF THE JOIST SHOP DRAWINGS FOR APPROVAL PRIOR TO FABRICATION OF THE JOISTS. THE SHOP DRAWINGS SHALL BE SEALED BY AN ENGINEER REGISTERED IN THE STATE OF VIRGINIA. THE SHOP DRAWINGS SHALL INCLUDE A PLAN SHOWING JOIST LOCATIONS AND INDIVIDUAL JOIST MARKS.
- CONTRACTOR AND ROOF JOIST FABRICATOR SHALL COORDINATE PLAN LAYOUT TO ENSURE THAT FLOOR JOISTS ARE SPACED TO AVOID CONFLICTS WITH PLUMBING LINES, CHASE OPENINGS, DUCTS, ETC.

DESIGN CRITERIA

- STRUCTURAL DESIGN IS IN ACCORDANCE WITH THE 2012 VIRGINIA UNIFORM STATEWIDE BUILDING CODE (VUSBC) & THE 2012 INTERNATIONAL BUILDING CODE (IBC).
- DESIGN LOADS ARE AS FOLLOWS:
LIVE LOADS (PER IBC):
ROOF LIVE LOAD 20 PSF
DEAD LOADS (PER IBC):
ROOF DEAD LOAD 20 PSF
CONCRETE SLABS ON GRADE (PER ACI):
4" THICK SLAB ON GRADE 100 PSF
SNOW LOADS (PER ASCE):
GROUND SNOW LOAD (Pg) 10 PSF
FLAT ROOF SNOW LOAD (Pf) 10 PSF
SNOW EXPOSURE FACTOR (Ce) 1.0
SNOW LOAD IMPORTANCE FACTOR (I) 1.0
ROOF THERMAL FACTOR (Ct) 1.0
WIND LOADS (PER ASCE):
NORMAL DESIGN WIND SPEED (Vasd) 120 MPH
ULTIMATE DESIGN WIND SPEED (VuIt) 93 MPH
WIND EXPOSURE II
RISK CATEGORY B
INTERNAL PRESSURE COEFFICIENT (GCpi) ±0.18
COMPONENTS & CLADDING: SEE TABLES
SEISMIC DESIGN DATA (PER IBC):
SEISMIC IMPORTANCE FACTOR (I) 1.0
SEISMIC OCCUPANCY CATEGORY II
SEISMIC DESIGN CATEGORY B
SEISMIC SITE CLASS D
MAPPED SPECTRAL RESPONSE ACCELERATION (SS) 0.095g
MAPPED SPECTRAL RESPONSE ACCELERATION (SI) 0.048g
SPECTRAL RESPONSE COEFFICIENT (SDS) 0.101g
SPECTRAL RESPONSE COEFFICIENT (SDI) 0.077g
DESIGN BASE SHEAR 6.9k
RESPONSE MODIFICATION FACTOR (R) 3.0
SEISMIC RESPONSE COEFFICIENT (CS) 0.034
BASIC SEISMIC FORCE RESISTING SYSTEM:
STEEL MOMENT FRAME AND METAL STUD BRACING
ANALYSIS PROCEDURE USED:
EQUIVALENT LATERAL FORCE METHOD
BUILDING DESIGNED TO BE FULLY ENCLOSED

FOUNDATION/CONCRETE NOTES

- ALL FOOTINGS, INCLUDING SLAB ON GRADE, SHALL BEAR ON UNDISTURBED SOIL OR COMPACTED STRUCTURAL FILL WITH AN ALLOWABLE BEARING CAPACITY OF 2000 PSF. THE CONTRACTOR SHALL EMPLOY THE SERVICES OF A GEOTECHNICAL ENGINEER TO VERIFY SOIL CONDITIONS PRIOR TO POURING CONCRETE. ALL PROCEDURES AND RECOMMENDATIONS OUTLINED IN THE SOILS REPORT SHALL BE FOLLOWED. GEOTECHNICAL ENGINEER SHALL MONITOR ALL SITE PREPARATION ACTIVITIES.
- ALL CONCRETE SHALL OBTAIN A 28-DAY COMPRESSIVE STRENGTH OF 3000 PSI.
- ALL REINFORCING STEEL SHALL BE IN ACCORDANCE WITH ASTM A615, GRADE 60.
- CONCRETE PROTECTION FOR REINFORCING AS WELL AS PLACING AND FABRICATION OF REINFORCING SHALL BE IN ACCORDANCE WITH THE "AMERICAN CONCRETE INSTITUTE BUILDING CODE REQUIREMENTS" (ACI 318).
- EARTH FORMED FOOTINGS SHALL CONFORM TO THE SHAPE, LINES AND DIMENSIONS AS SHOWN ON THE FOUNDATION PLAN. ALL WATER SHALL BE REMOVED PRIOR TO PLACING CONCRETE.
- BEFORE PLACING CONCRETE ALL EMBEDDED ITEMS SHALL BE PROPERLY LOCATED, ACCURATELY POSITIONED AND MAINTAINED SECURELY IN PLACE.
- ALL CONTINUOUS REINFORCING SHALL LAP 36 BAR DIAMETERS UNLESS OTHERWISE NOTED ON THE DRAWINGS.

WOOD FRAMING NOTES

- ALL STUD FRAMING MATERIAL SHALL BE SPF GRADE 2 OR BETTER. SPF STUD GRADE MATERIAL IS NOT ALLOWED, EXCEPT FOR NON-BEARING PARTITION WALLS.
- ALL FRAMING LUMBER SHALL BE SOUTHERN YELLOW PINE GRADE 2 OR BETTER.
- THE EXTERIOR OF THE BUILDING SHALL BE SHEATHED WITH 15/32" EXTERIOR RATED SHEATHING WITH A PANEL SPAN RATING OF 32/16, EXPOSURE 1. THE EXTERIOR SHEATHING SHALL BE FASTENED AT 4" O/C EDGE NAILING AND 12" O/C FIELD NAILING (#10-24 SCREWS).
- THE ROOF SHEATHING SHALL BE 19/32" EXTERIOR RATED SHEATHING WITH A PANEL SPAN RATING OF 40/20, EXPOSURE 1. THE ROOF SHEATHING SHALL BE NAILED AT 4" O/C EDGE NAILING AND 6" O/C FIELD NAILING (10d NAILS). SEE PLAN FOR AREAS OF ROOF THAT REQUIRE BLOCKING.
- LAMINATED BEAMS SHALL BE MICROLAM BEAMS AS MANUFACTURED BY ILEVEL OR AN APPROVED EQUAL. THE CONTRACTOR SHALL SUBMIT CATALOG DATA AND LOAD TABLES FOR ANY SUBSTITUTIONS.
- PROVIDE HURRICANE ANCHORS AT ALL ROOF MEMBER BEARING LOCATIONS. THE ROOF TRUSS CONNECTION SHALL BE PROVIDED PER THE ROOF TRUSS MANUFACTURER'S UPLIFT VALUES, TO INCLUDE JACKS, HIPS, VALLEYS, GIRDER TRUSSES AND COMMON TRUSSES, UNLESS OTHERWISE NOTED IN SECTIONS.

DESIGN WIND PRESSURES FOR ROOF COMPONENTS (PSF) (I)						
ROOF ZONE (2)	COMPONENT TRIBUTARY AREA (S.F.)					
	< 10	50	100	> 100	> 100	> 100
1	10.0	-15.5	10.0	-14.5	10.0	-14.25
2	10.0	-26.0	10.0	-19.5	10.0	-17.0
3	10.0	-39.25	10.0	-23.5	10.0	-17.0
OVERHANG						
2	-	-24.75	-	-23.75	-	-23.5
3	-	-39.25	-	-28.75	-	-13.0

DESIGN WIND PRESSURES FOR WALL COMPONENTS (PSF) (I)						
WALL ZONE (2)	COMPONENT TRIBUTARY AREA (S.F.)					
	< 10	50	100	> 500	> 500	> 500
4	14.25	-15.5	12.75	-14.0	12.0	-13.25
5	14.25	-19.0	12.75	-16.0	12.0	-14.75
					10.75	-11.75

- NOTES:
- PLUS AND MINUS SIGNS SIGNIFY PRESSURES ACTING TOWARD AND AWAY FROM THE SURFACES, RESPECTIVELY.
 - BUILDING ZONES ARE DEFINED IN A.S.C.E. 7.

DESIGN WIND PRESSURES FOR PARAPETS (PSF) (I)				
WALL ZONE (2)	STRENGTH	DEFLECTION		
4	33.75	-	25.0	-
5	40.25	-	24.0	-

- NOTES:
- STRENGTH DESIGN BASED ON 50-YEAR MEAN RECURRENCE INTERVAL.
 - DEFLECTION (SERVICEABILITY) DESIGN BASED ON 10-YEAR MEAN RECURRENCE INTERVAL.
 - DEFLECTION CRITERIA FOR STUDS IS H/600.

GENERAL NOTES

- UNDER NO CIRCUMSTANCES SHALL THE CONTRACT DRAWINGS BE REPRODUCED AND USED AS SHOP DRAWINGS.
- THE CONTRACTOR SHALL SUBMIT PAPER HARD-COPY SHOP DRAWINGS TO THE ARCHITECT IN SUITABLE QUANTITIES TO PERMIT ADEQUATE DISTRIBUTION FOR REVIEW.
- THE CONTRACTOR SHALL COORDINATE AND VERIFY ALL DIMENSIONS PRIOR TO STARTING CONSTRUCTION. ANY DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT.
- THE STRUCTURAL DRAWINGS SHALL BE USED IN CONJUNCTION WITH THE ARCHITECTURAL, MECHANICAL AND ELECTRICAL DRAWINGS. THE CONTRACTOR SHALL VERIFY THE REQUIREMENTS OF OTHER TRADES AS TO SLEEVES, CHASES, HANGERS, INSERTS, ANCHORS, HOLES, ETC., TO SET THE STRUCTURAL WORK.
- BACK CHARGES FOR CHANGE ORDERS, CORRECTIVE WORK OR REPLACED MATERIALS WILL NOT BE ACCEPTED UNLESS EXPRESSLY AUTHORIZED IN WRITING BY SINCLAIR PRATT CAMERON, P.C. BEFORE ANY SUCH COSTS ARE INCURRED.
- THE GENERAL CONTRACTOR SHALL CALL A PRECONSTRUCTION MEETING WITH ALL NECESSARY PARTIES PRIOR TO CONSTRUCTION. THIS MEETING SHALL ADDRESS THE RESPONSIBILITIES AND THE SCHEDULING OF ALL PARTICIPANTS INVOLVED IN INSPECTION SERVICES; INCLUDING THE "SCHEDULE OF SPECIAL INSPECTIONS," IF REQUIRED. THE GOVERNING MUNICIPALITY SHOULD BE INVITED TO JOIN THIS MEETING TO ESTABLISH THEIR REQUIREMENTS.
- THE CONTRACTOR SHALL REFER TO THE ARCHITECTURAL PLANS, SECTIONS AND DETAILS TO SET ALL STRUCTURAL WORK INCLUDING LOCATION OF ALL STUD BEARING WALLS, STRUCTURAL BEAMS, SUPPORT POSTS, ETC. WHERE DISCREPANCIES OCCUR BETWEEN THE ARCHITECTURAL AND STRUCTURAL DRAWINGS, BOTH THE ARCHITECT AND ENGINEER OF RECORD SHALL BE CONTACTED FOR DIRECTION.
- THE CONTRACTOR SHALL ENSURE THAT ALL STRUCTURAL BEAMS, SUPPORT POSTS, AND STUD BEARING WALLS HAVE ADEQUATE WOOD BLOCKING AS REQUIRED TO TRANSFER THE LOADS TO THE FOUNDATION WORK BELOW.
- THE CONTRACTOR SHALL PROVIDE ALL TEMPORARY SHORING OR BRACING AS REQUIRED TO HOLD THE STRUCTURAL WORK IN PROPER ALIGNMENT UNTIL ALL FRAMING AND/OR SHEATHING IS NAILED IN PLACE.

SINCLAIR PRATT CAMERON, P.C.
1630 DONNA DRIVE - SUITE 103
VIRGINIA BEACH, VA 23451-6188
757.417.0565 • 757.417.0568 (fax)
WWW.SPC-ENG.COM 16-0564
Designed: SAM BIM: SDM/BJB

ROBYN THOMAS
ARCHITECTURE

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RETAIL SPACE FOR STARBUCKS

STARBUCKS

CORNER SHOPS - 2000 COLONIAL AVE NORFOLK, VA

RTA NO: 15-012
DATE: 8/31/2016
DESIGN: Designer
DRAWN: Author
REVIEW: Checker

REVISIONS

No.	Date	Description
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GENERAL NOTES

S0.1

SHEET OF

10/27/2016 9:04:27 AM
C:\Users\steveminnich1\Documents\Starbucks Coffee 200 Colonial Avenue_Structural_v2015_steveminnich1.rvt

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5

LIGHT GAGE FRAMING NOTES

1.

ALL STRUCTURAL PROPERTIES OF COLD-FORMED METAL FRAMING SHALL BE COMPUTED IN ACCORDANCE WITH AISI "SPECIFICATIONS FOR THE DESIGN OF COLD FORMED STEEL STRUCTURAL MEMBERS" AND THE PROPERTIES SHALL BE PUBLISHED IN THE MANUFACTURERS CATALOG.
2.

WELDING SHALL BE PERFORMED ONLY BY QUALIFIED WELDERS USING PROPER EQUIPMENT FOR THE PARTICULAR TYPE OF WORK REQUIRED.
3.

ALL WELDS SHALL CONFORM TO AWS D1.3 SPECIFICATIONS FOR WELDING SHEET STEEL IN STRUCTURES. WELDING ELECTRODES SHALL BE IN ACCORDANCE WITH AWS A5.1, A5.5, OR A5.18 SERIES E60.
4.

ALL STRUCTURAL FRAMING MEMBERS 16 GAGE AND HEAVIER SHALL BE IN ACCORDANCE WITH ASTM A446, GRADE D, FY=50,000 PSI.
5.

ALL STRUCTURAL FRAMING MEMBERS 18 GAGE AND LIGHTER SHALL BE IN ACCORDANCE WITH ASTM A653, GRADE A, FY=33,000 PSI.
6.

ALL FRAMING MEMBERS SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A525. THE COATING SHALL BE GRADE 60.
7.

CUT ALL FRAMING COMPONENTS TO FIT SQUARELY AGAINST ABUTTING MEMBERS AND HOLD FIRMLY IN POSITION UNTIL PROPERLY FASTENED.
8.

ALL PANELS SHALL BE SQUARE AND BRACED AGAINST RACKING.
9.

WIRE TYING OF STRUCTURAL FRAMING COMPONENTS IS NOT PERMITTED.
10.

SPLICES IN STRUCTURAL FRAMING MEMBERS ARE NOT PERMITTED WITHOUT APPROVAL OF THE ENGINEER.
11.

CONTRACTOR SHALL NOT ALLOW AXIAL LOADS TO STUDS UNTIL ALL BRIDGING, CONNECTIONS, AND ATTACHMENT OF COLLATERAL MATERIALS ARE COMPLETE.
12.

ATTACH TRACK SECURELY TO THE FLOOR AND OVERHEAD STRUCTURE. SEAT STUDS SQUARELY TO THE FLOOR AND OVERHEAD TRACK AND ATTACH SECURELY.
13.

METAL STUD PROPERTIES SHALL BE AS FOLLOWS:
6" x 16 GAGE W/ 1 5/8" FLANGES.....(600S162-54) 50 KSI,
Ix=2.86 IN.4 Sx=0.95 IN.3

STRUCTURAL STEEL NOTES

1.

ALL STRUCTURAL STEEL WIDE FLANGE SHAPES SHALL BE IN ACCORDANCE WITH ASTM A992 SPECIFICATIONS (Fy = 50 KSI). ALL OTHER STRUCTURAL STEEL SHAPES SHALL BE IN ACCORDANCE WITH ASTM A36 SPECIFICATIONS (Fy = 36 KSI). HOLLOW STRUCTURAL SECTIONS SHALL BE IN ACCORDANCE WITH ASTM A500 GRADE B (Fy = 46 KSI).
2.

ALL STRUCTURAL STEEL WORK SHALL CONFORM TO THE LATEST EDITION OF THE "MANUAL OF STEEL CONSTRUCTION" OF THE "AMERICAN INSTITUTE OF STEEL CONSTRUCTION".
3.

ALL FIELD BOLTED SHEAR CONNECTIONS SHALL BE BEARING TYPE CONNECTIONS (THREADS INCLUDED IN THE SHEAR PLANE) WITH 3/4" DIAMETER ASTM A325 HIGH STRENGTH BOLTS UNLESS OTHERWISE NOTED ON THE DRAWINGS. LOADS SHOWN ON PLAN ARE UNFACTORED LOADS (ASD). IF LOADS ARE NOT CALLED OUT ON PLAN, ALL SHEAR CONNECTIONS SHALL BE DESIGNED TO SUPPORT HALF OF THE TOTAL UNIFORM LOAD CAPACITY SHOWN IN THE "TABLES OF ALLOWABLE LOADS ON BEAMS" OF THE LATEST EDITION OF THE A.I.S.C. "MANUAL OF STEEL CONSTRUCTION". THE LENGTH OF THE SPAN SHALL BE AS SHOWN ON THE DRAWINGS. THE ABOVE IS NOT REQUIRED IF THE REACTION IS SHOWN ON THE PLANS.
4.

ALL WELDED CONNECTIONS SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE "MANUAL OF STEEL CONSTRUCTION" OF THE "AMERICAN INSTITUTE OF STEEL CONSTRUCTION" AND THE LATEST EDITION OF THE "CODE FOR WELDING IN BUILDING CONSTRUCTION" OF THE AMERICAN WELDING SOCIETY. USE E70XX LOW HYDROGEN ELECTRODES.
5.

THE CONTRACTOR SHALL PROVIDE ALL TEMPORARY GUYING AND BRACING REQUIRED TO ERECT AND HOLD THE STEEL FRAME IN PROPER ALIGNMENT UNTIL ALL ROOF DECK, BRIDGING, BRACING, ETC. IS IN PLACE TO RESIST LATERAL MOVEMENT OF THE FRAME.

SPC

STRUCTURAL

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ROBYN THOMAS

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RETAIL SPACE FOR STARBUCKS
STARBUCKS
CORNER SHOPS - 2000 COLONIAL AVE NORFOLK, VA

RTA NO: 15-012
DATE: 8/31/2016
DESIGN: Designer
DRAWN: Author
REVIEW: Checker

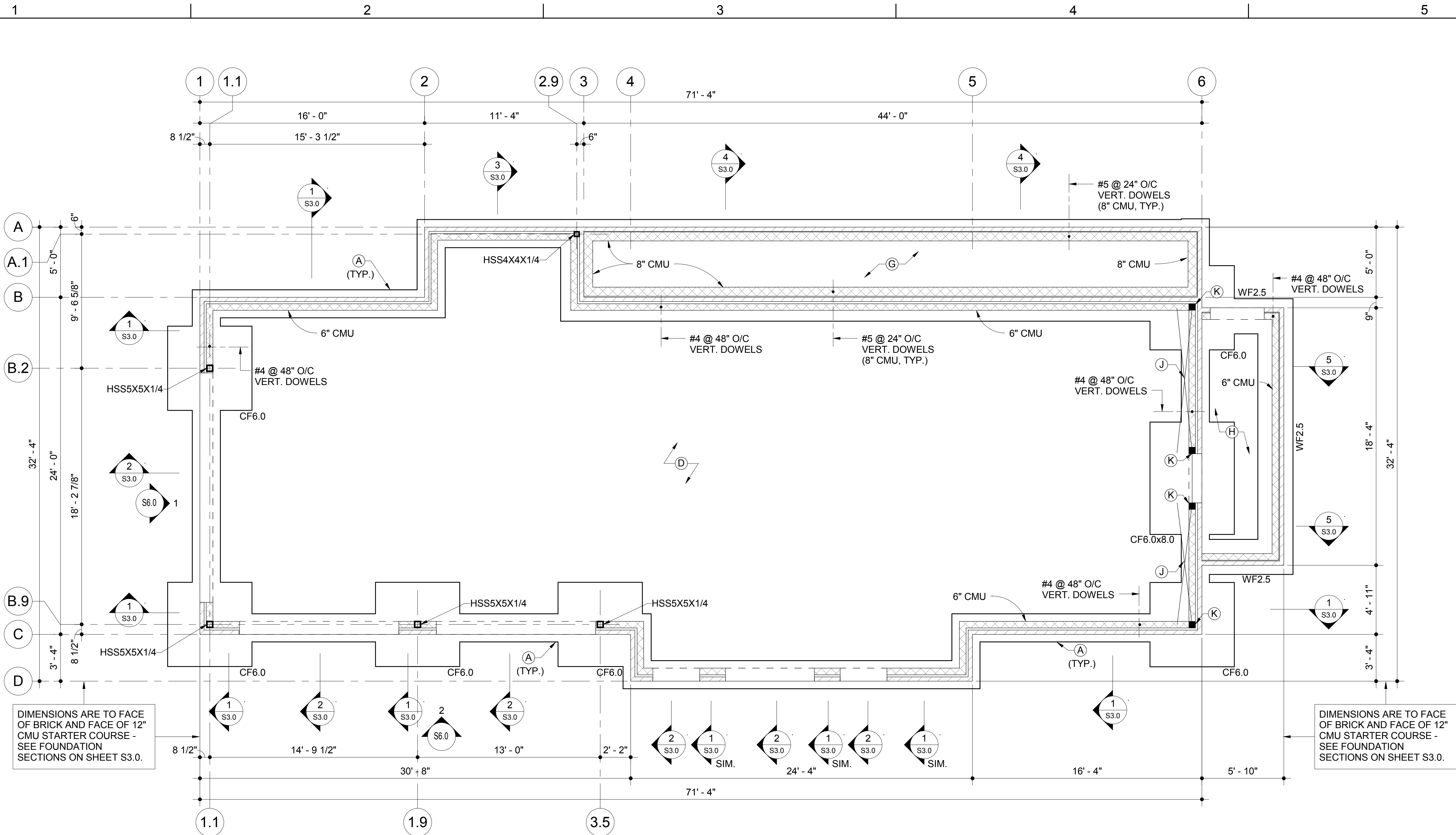
REVISIONS		
No.	Date	Description

GENERAL NOTES

S0.2

SHEET OF

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FOUNDATION PLAN

1/4" = 1'-0"

FOUNDATION PLAN NOTES

A	CONTINUOUS CONCRETE WALL FOOTINGS SHALL BE WF2.0 (SEE WALL FOOTING SCHEDULE) & CENTERED BENEATH FOUNDATION WALLS UNLESS OTHERWISE NOTED ON PLAN OR IN SECTIONS.
B	UNLESS OTHERWISE NOTED ON PLAN, TOP OF ALL EXTERIOR FOOTINGS SHALL BE AT ELEVATION -1'-4" FROM REFERENCE FINISH FLOOR ELEVATION 0'-0". ACTUAL ELEVATION 10.33'.
C	ALL FOOTING ELEVATIONS ARE MAXIMUM AND SHALL BE LOWERED AS NECESSARY TO OBTAIN THE DESIGN BEARING PRESSURE OR TO MAINTAIN ADEQUATE COVER OVER THE FOOTINGS.
D	SLAB ON GRADE TO BE DESIGNED BY OTHERS. CONTRACTOR TO COORDINATE WITH TENANT AND ARCHITECT.
E	PROVIDE SAWED JOINTS OR CONSTRUCTION JOINTS AT ALL COLUMN CENTERLINES. ADDITIONAL SAWED JOINTS SHALL BE PROVIDED SO THAT NO SLAB ON GRADE PANEL EXCEEDS 30 TIMES THE SLAB THICKNESS IN EITHER DIRECTION PER A.C.I. RECOMMENDATIONS. THE SAWED JOINTS SHALL BE CUT AS SOON AS POSSIBLE PER A.C.I. RECOMMENDATIONS.

FOUNDATION PLAN NOTES

F	SEE SHEET S2.0 FOR FOUNDATION & SLAB ON GRADE DETAILS.
G	12" THICK MAT FOUNDATION REINFORCED WITH #5 @ 16" O/C EACH WAY BOTTOM. PROJECT EDGE OF SLAB 6" BEYOND EDGE OF STRUCTURE ABOVE.
H	SLAB ON GRADE SHALL BE 4" THICK CONCRETE REINFORCED WITH 6x6-W1.4xW1.4 WELDED WIRE FABRIC 2" FROM THE TOP OF SLAB. THE SLAB SHALL BE PLACED ON 4" OF POROUS FILL.
J	METAL STUD 'X' BRACING. SEE DETAIL OF SHEET S4.0.
K	HOLDOWN - SEE DETAIL ON SHEET S4.0.

WALL FOOTING SCHEDULE

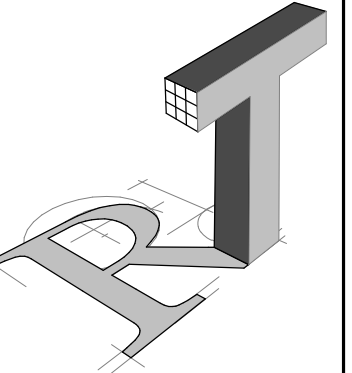
MARK	DIMENSIONS		REINFORCING				NOTES
	WIDTH	DEPTH	CONTINUOUS		SPACER BARS		
			QUANTITY	SIZE	SIZE	SPACING	
WF2.0	2' - 0"	1' - 0"	2	5	4	6' - 0"	
WF2.5	2' - 6"	1' - 0"	3	5	4	4' - 0"	

COLUMN FOOTING SCHEDULE

MARK	DIMENSIONS			REINFORCING				REMARKS
	WIDTH	LENGTH	DEPTH	A - BARS		B - BARS		
				QUANTITY	SIZE	QUANTITY	SIZE	
CF6.0	6' - 0"	6' - 0"	1' - 0"	6	5	6	5	
CF6.0x8.0	6' - 0"	8' - 0"	1' - 0"	6	5	8	5	



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RETAIL SPACE FOR STARBUCKS
STARBUCKS
CORNER SHOPS - 2000 COLONIAL AVE NORFOLK, VA

RTA NO: 15-012
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REVIEW: Checker

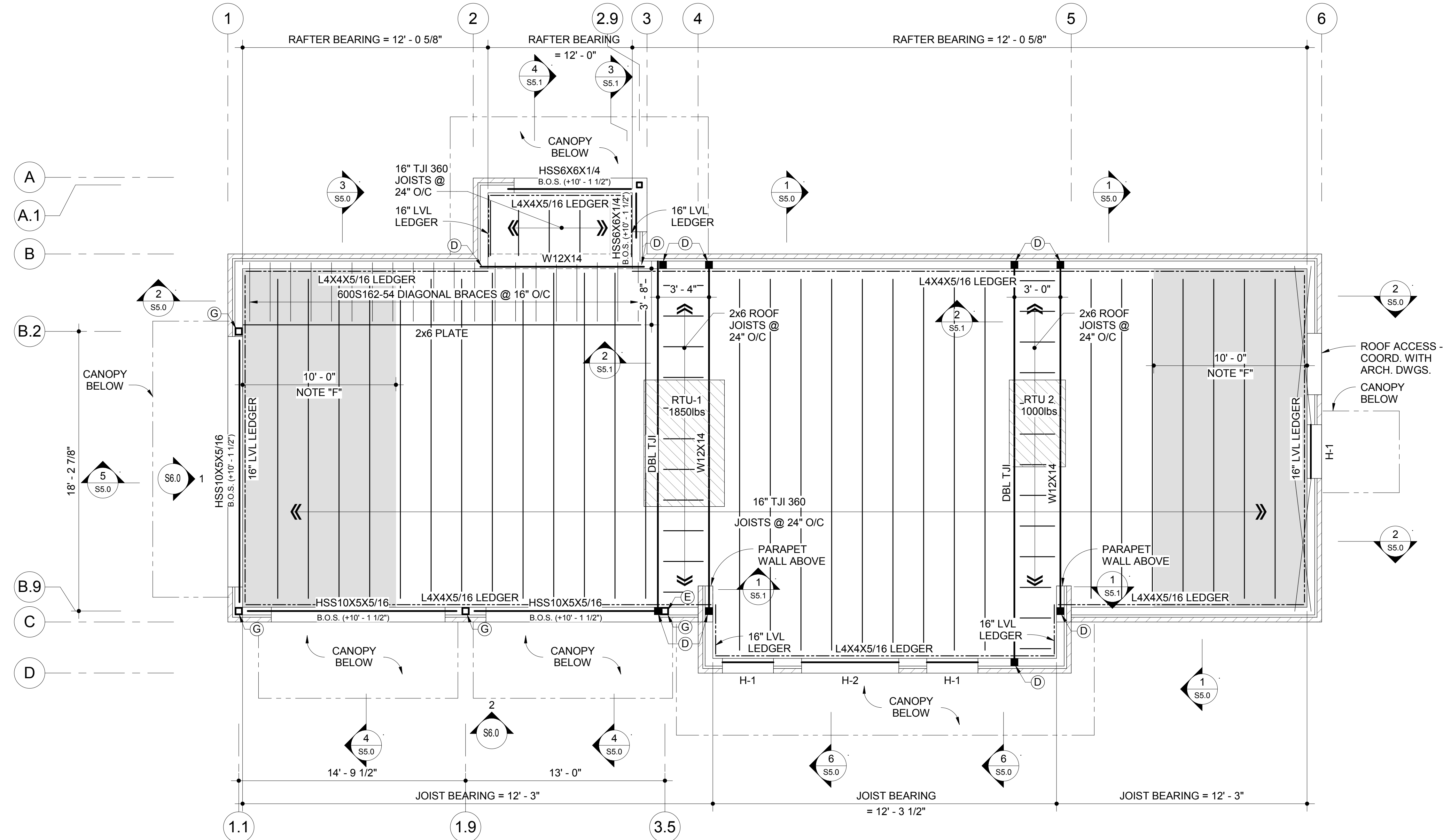
REVISIONS
No. Date Description

FOUNDATION
PLAN

S1.0

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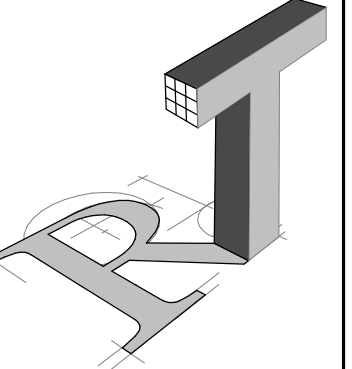


ROOF FRAMING PLAN

1/4" = 1'-0"

ROOF FRAMING PLAN NOTES

A	ALL ELEVATIONS SHOWN ON PLAN ARE MEASURED FROM REFERENCE FINISH FLOOR ELEVATION 0'-0".
B	SEE THE FOUNDATION PLAN FOR STRUCTURAL DIMENSIONS NOT SHOWN ON PLAN.
C	CONTRACTOR SHALL PROVIDE 3 GANG STUDS (G.S.) MINIMUM UNDER ALL BEAMS AND GIRDERS UNLESS OTHERWISE NOTED ON PLAN. ALL GANG STUDS (G.S.) NOTED ON THIS PLAN BEAR ON THE FLOOR BELOW.
D	BEAM SHALL SPAN PAST RIM BOARD AND BEAR ON 3 GANG STUDS.
E	COIL STRAP LOCATED AT COLUMN. SEE 'COIL STRAP AT COLUMN DETAIL' ON SHEET S4.1.
F	ALL ROOF SHEATHING EDGES THIS AREA SHALL BE BLOCKED AND FASTENED WITH 10d NAILS @ 4" O/C AND 12" O/C EDGE AND FIELD RESPECTIVELY.
G	FOR JOIST CONNECTION TO COLUMN SEE 'JOIST CONNECTION AT COLUMN DETAIL' ON SHEET S4.1.



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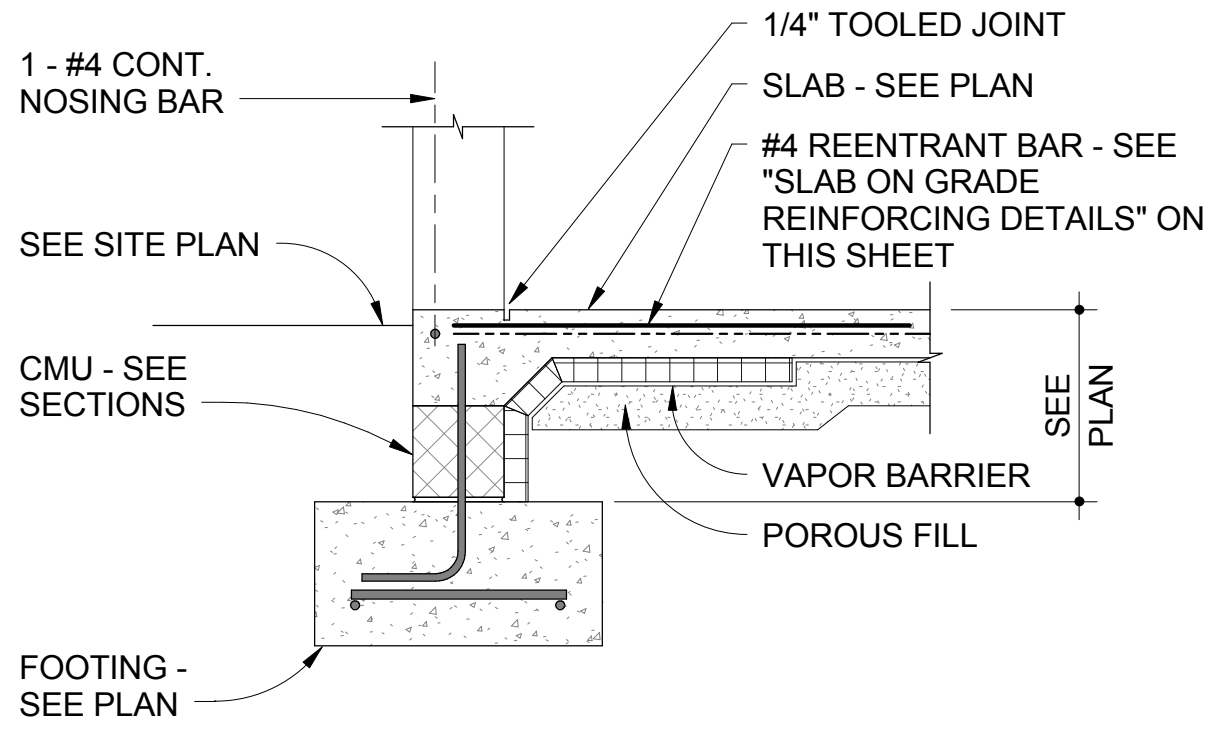
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ROOF FRAMING
PLAN

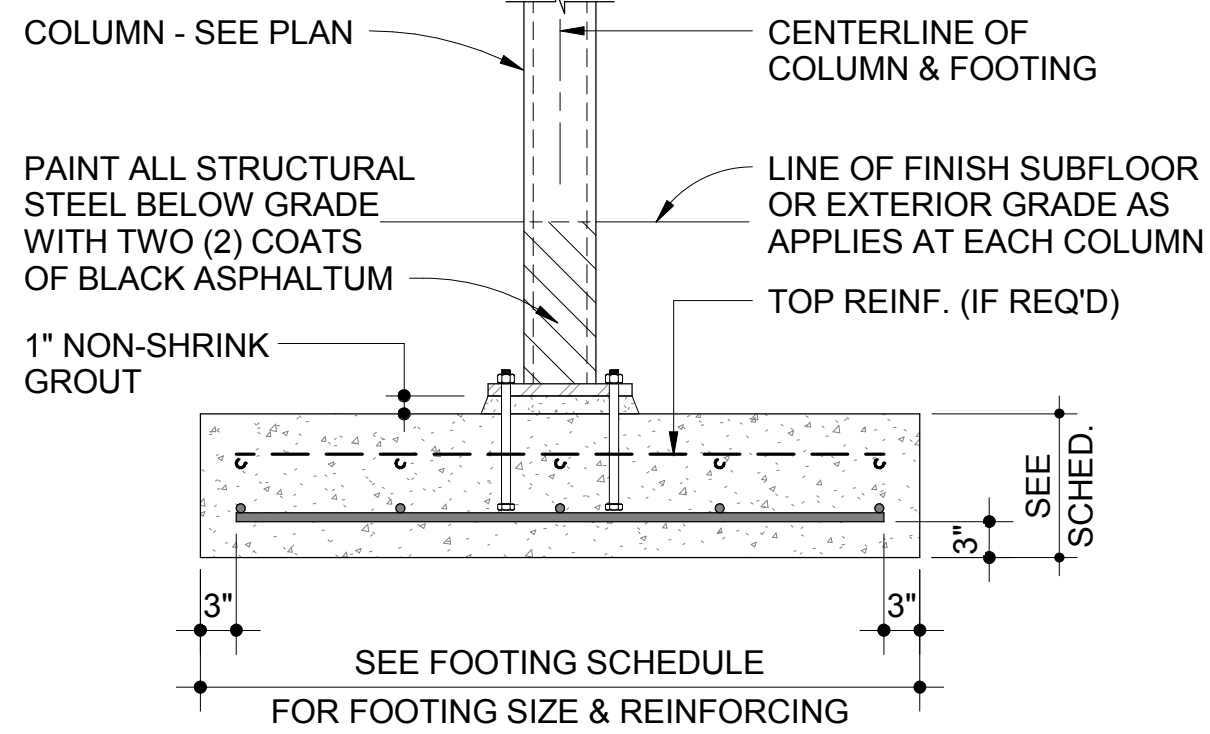
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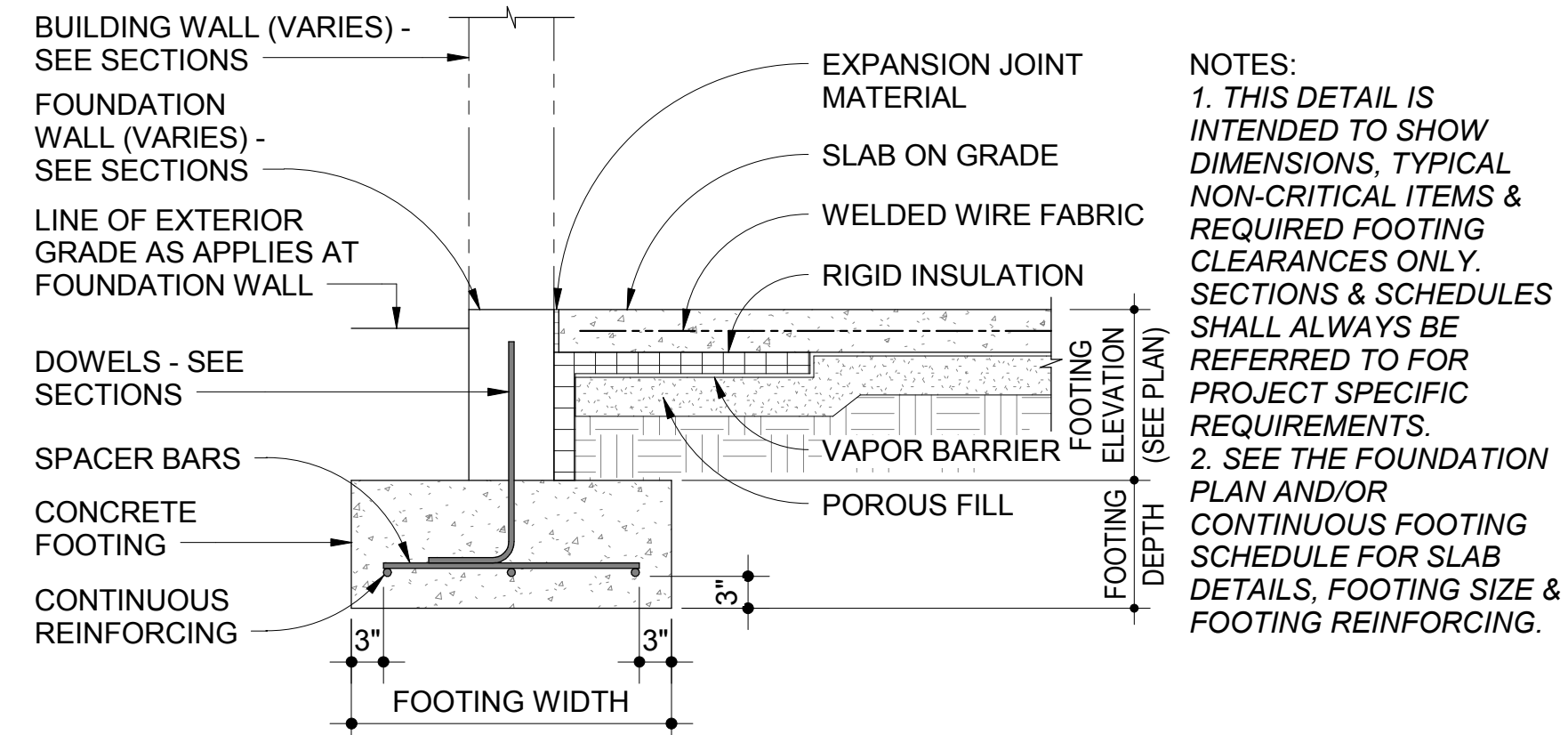
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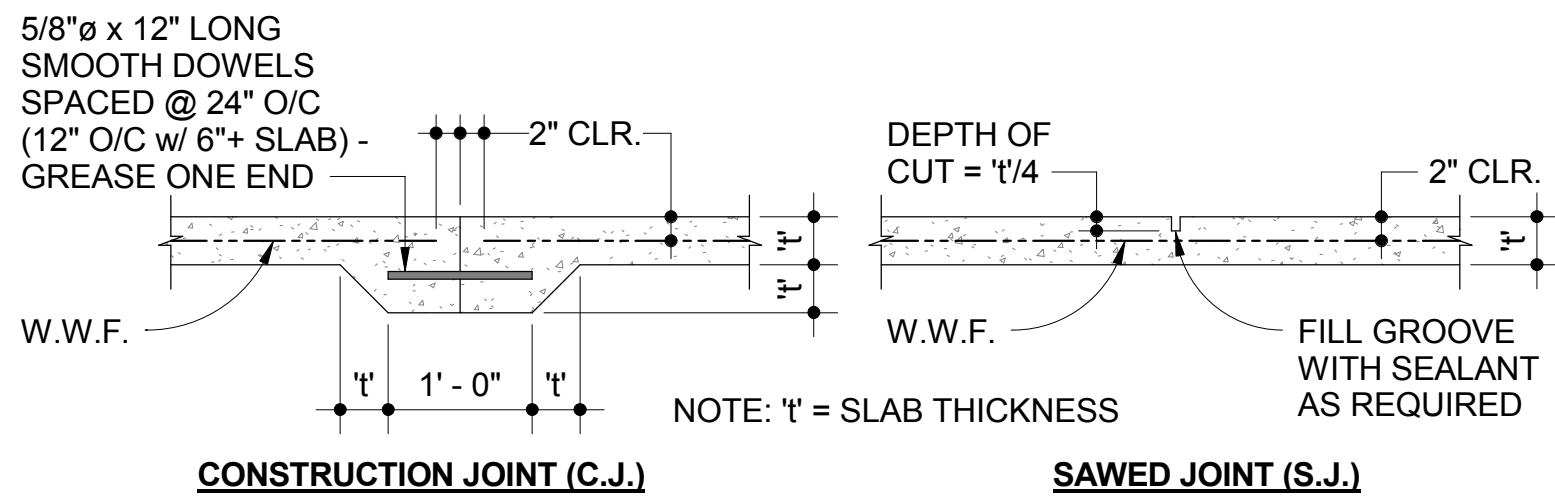
THRESHOLD DETAIL
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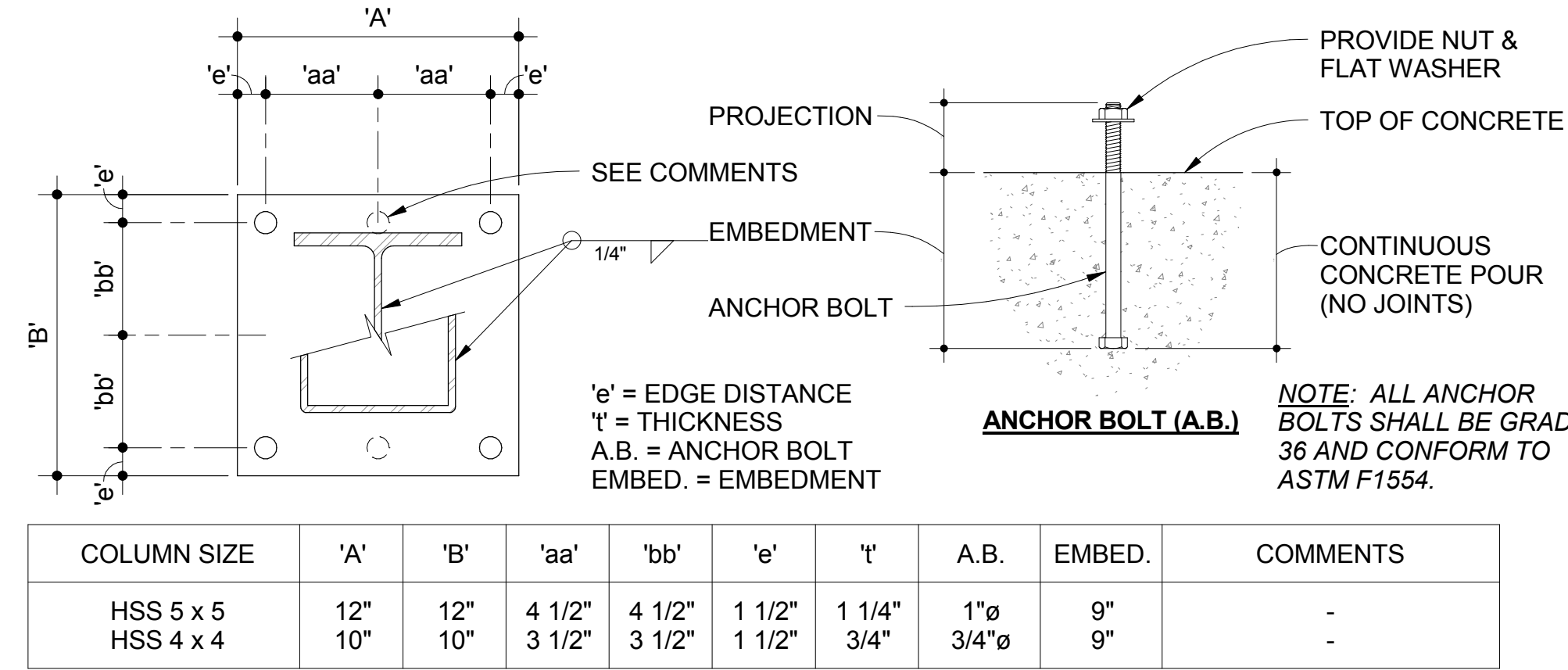
COLUMN FOOTING DETAIL
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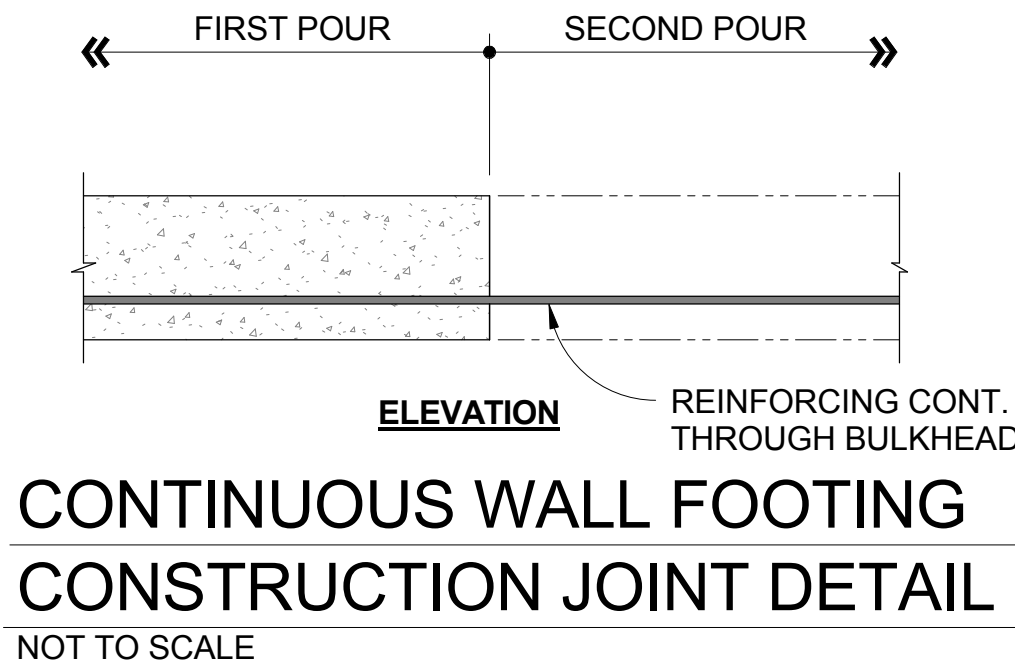
CONTINUOUS WALL FOOTING & SLAB DETAIL
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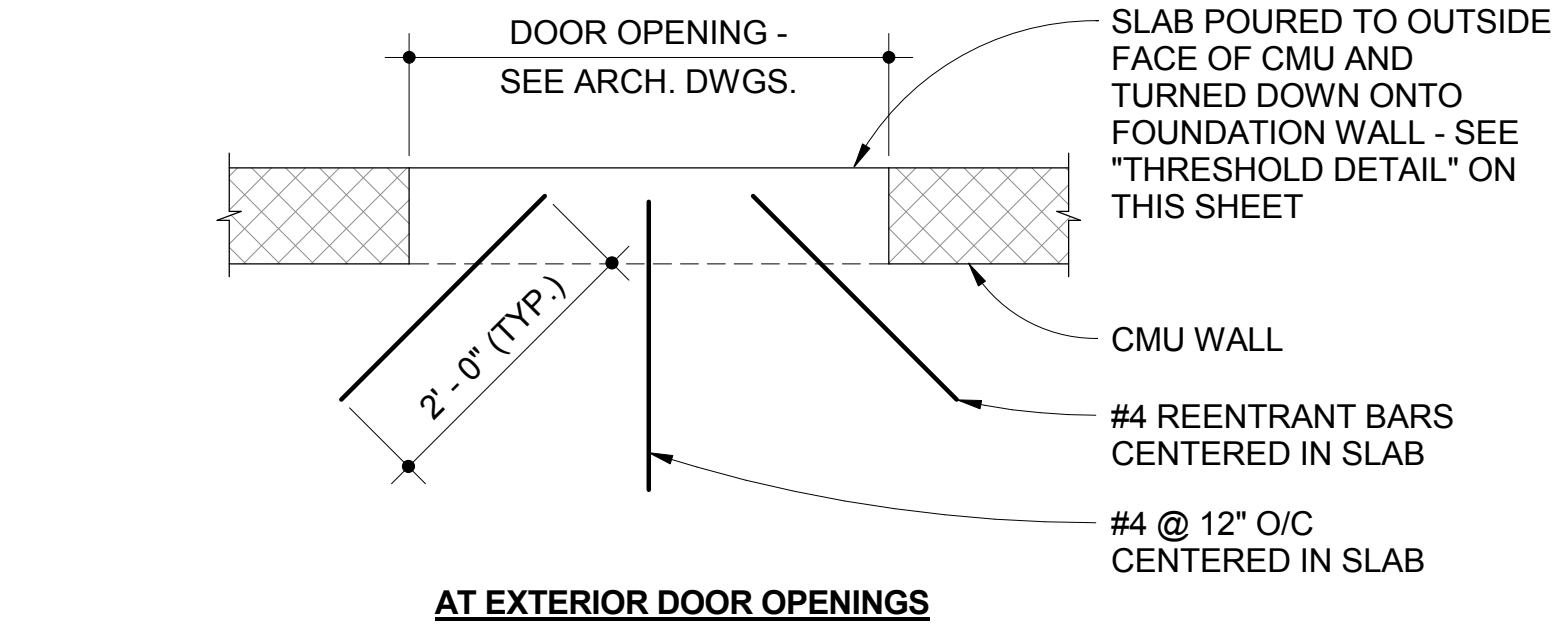
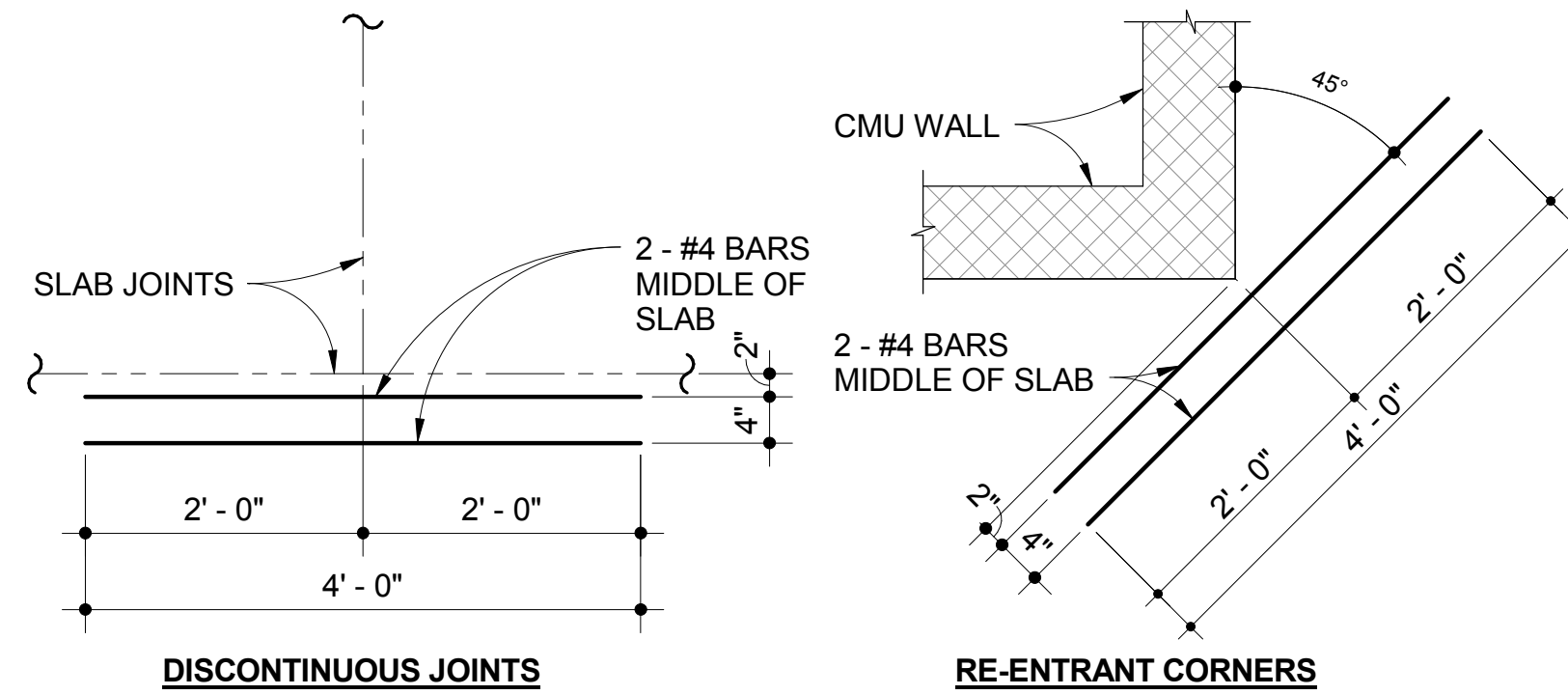
SLAB ON GRADE DETAILS
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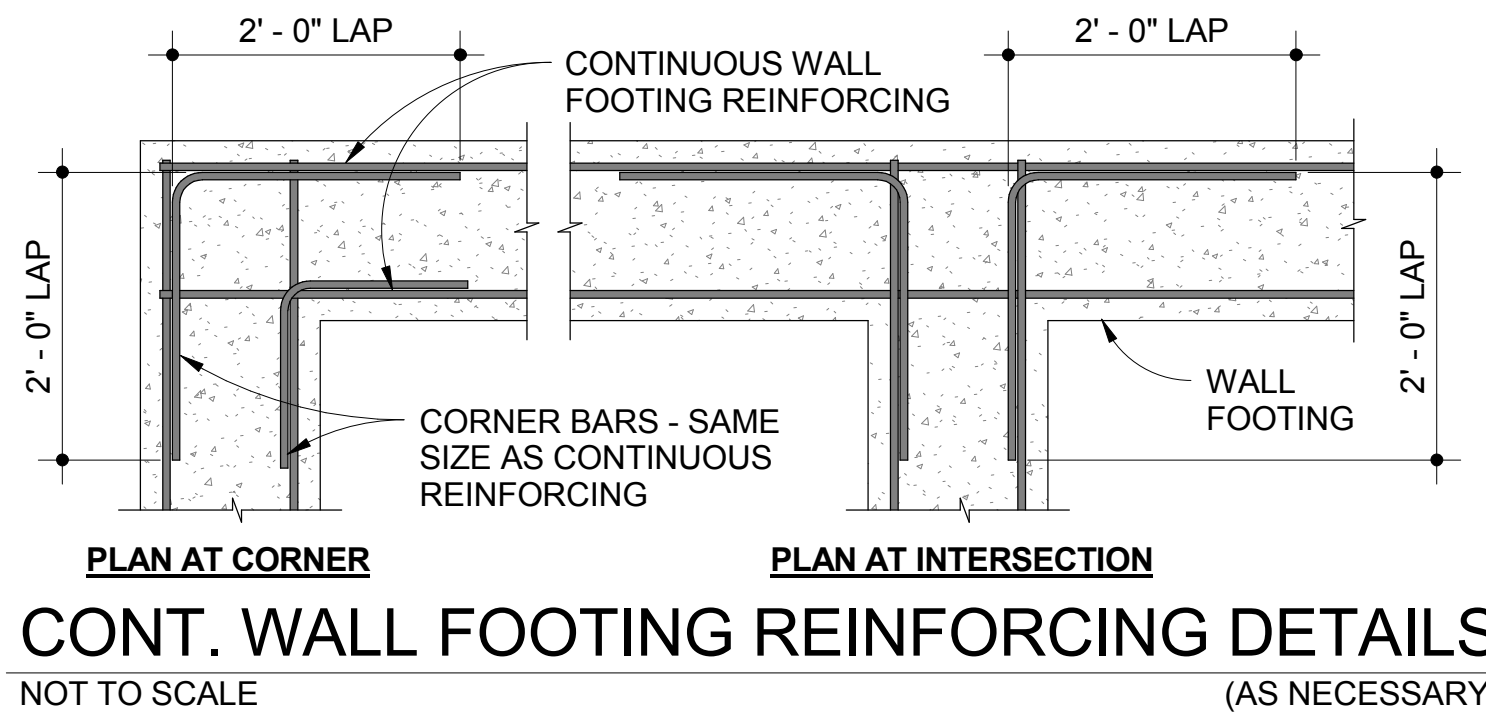
BASE PLATE & ANCHOR BOLT DETAIL
NOT TO SCALE



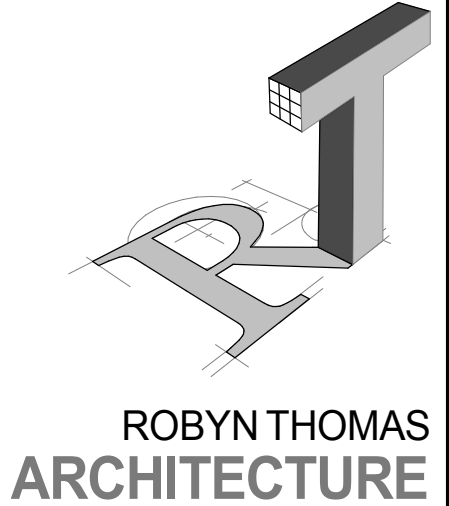
CONTINUOUS WALL FOOTING CONSTRUCTION JOINT DETAIL
NOT TO SCALE



SLAB ON GRADE REINFORCING DETAILS
NOT TO SCALE



CONT. WALL FOOTING REINFORCING DETAILS
NOT TO SCALE (AS NECESSARY)



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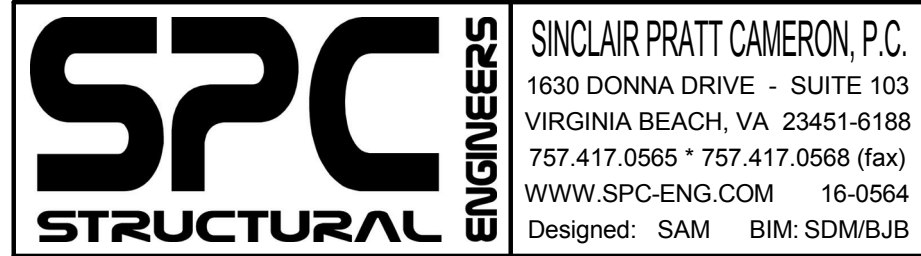
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REVIEW: Checker

REVISIONS
No. Date Description

FOUNDATION
DETAILS

S2.0

SHEET OF



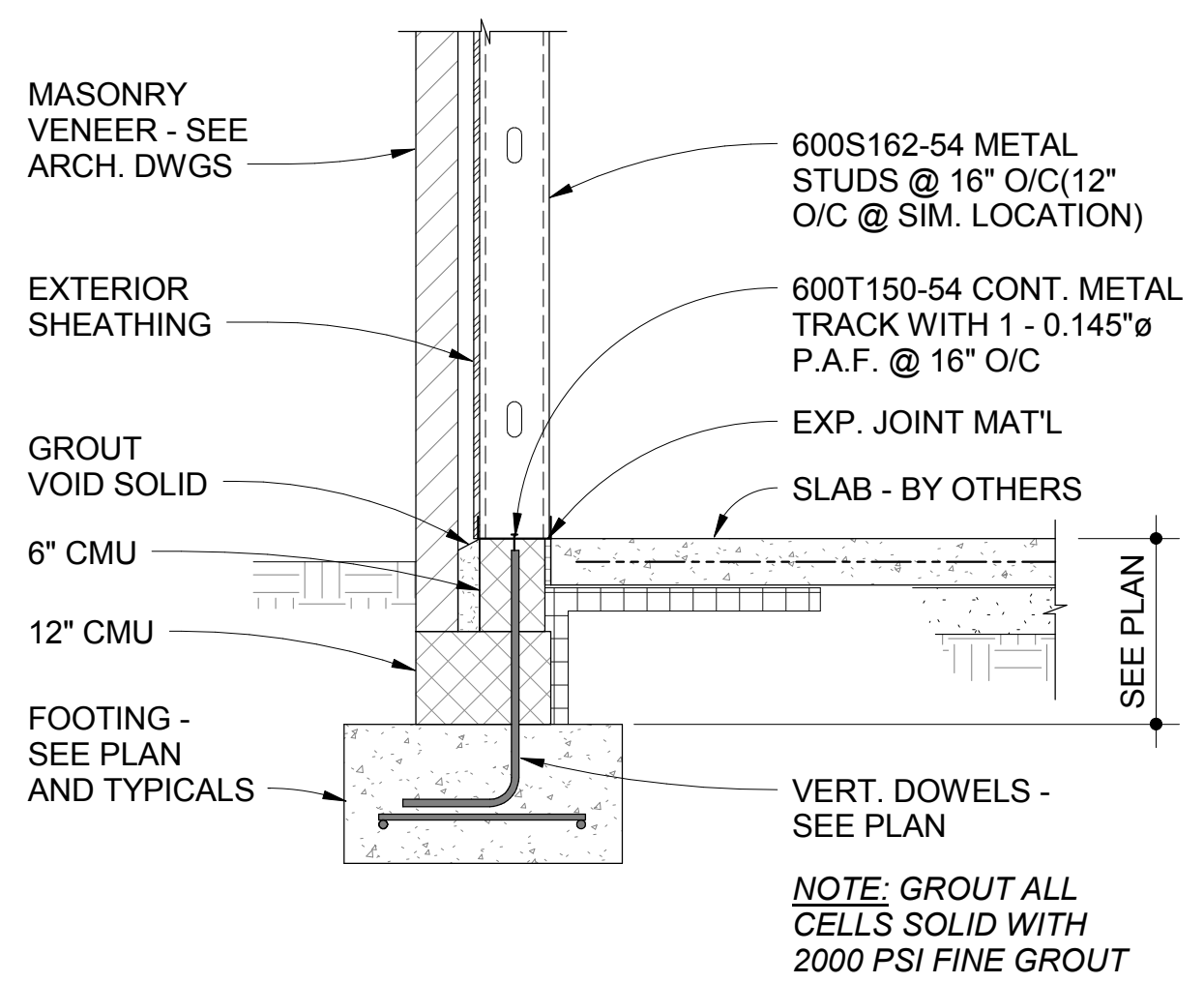
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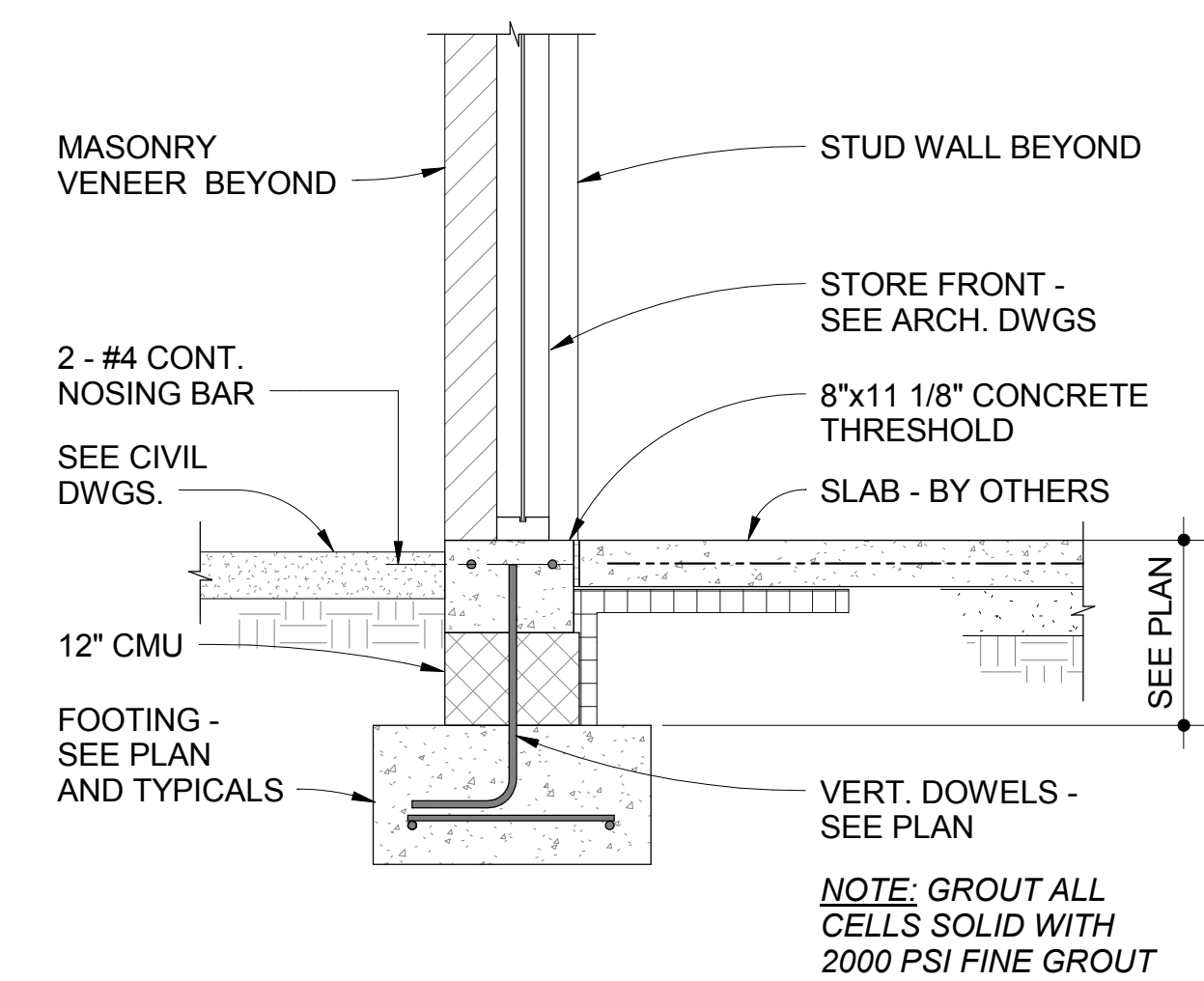
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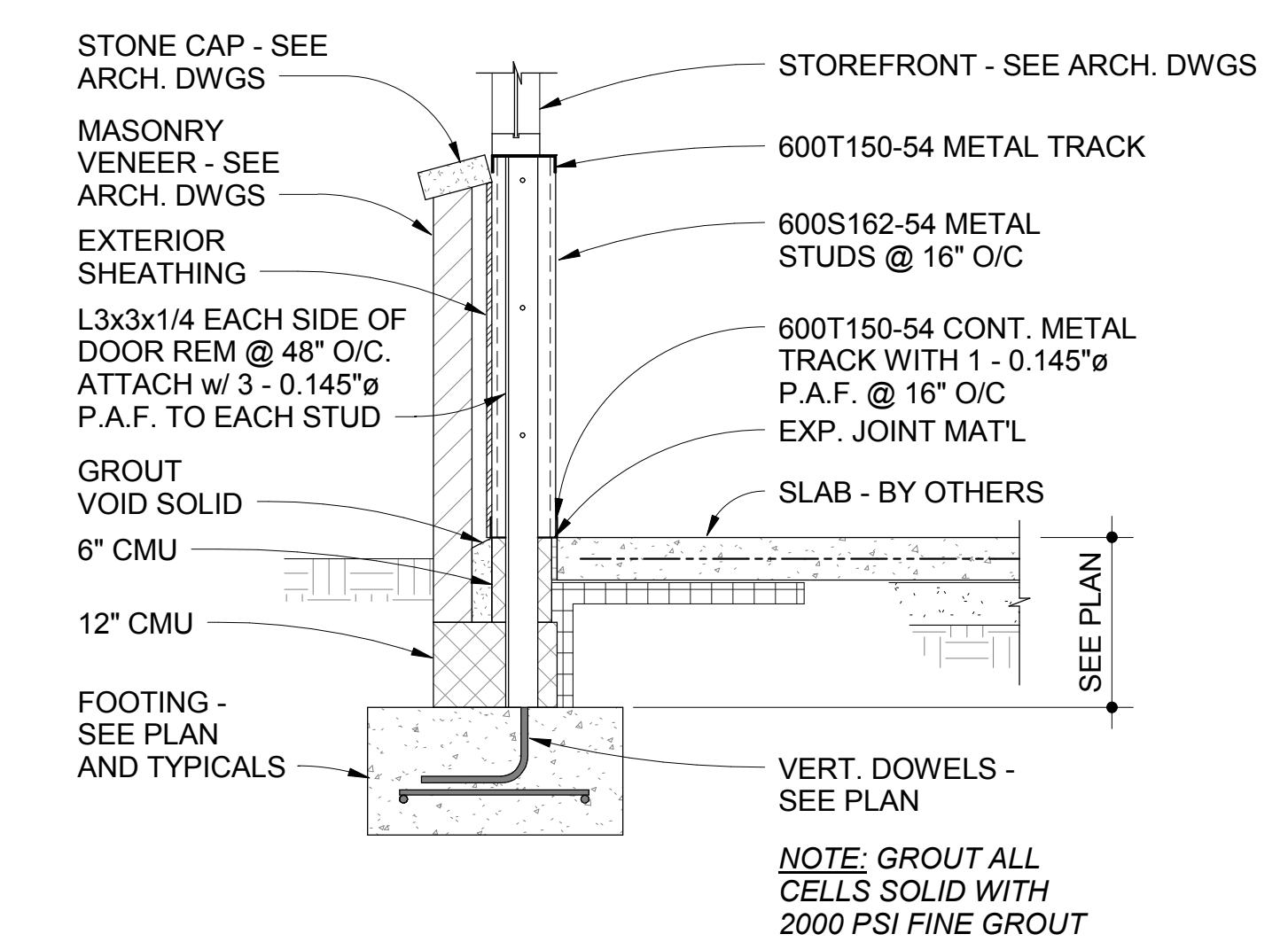
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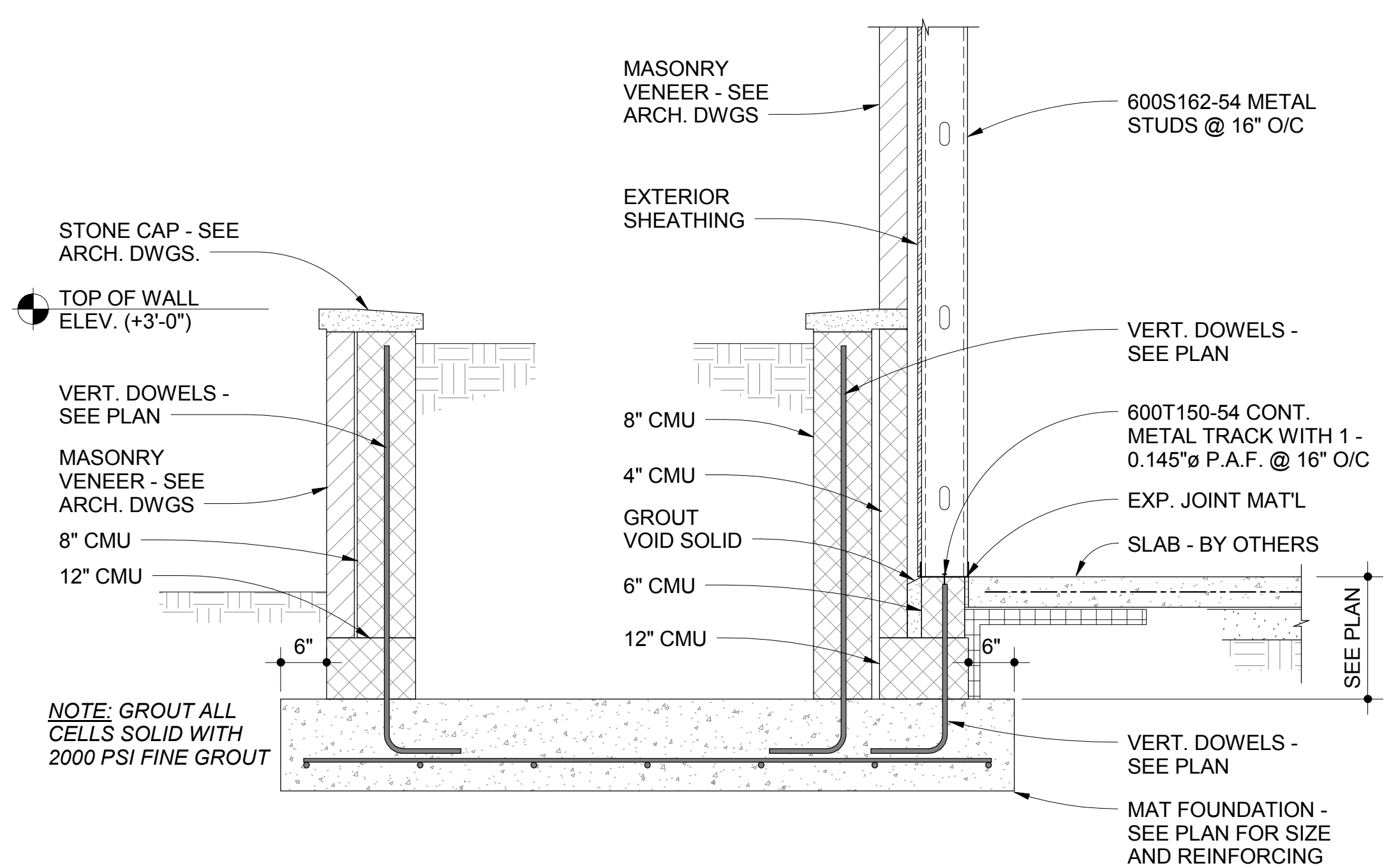
1 SECTION
S3.0 3/4" = 1'-0"



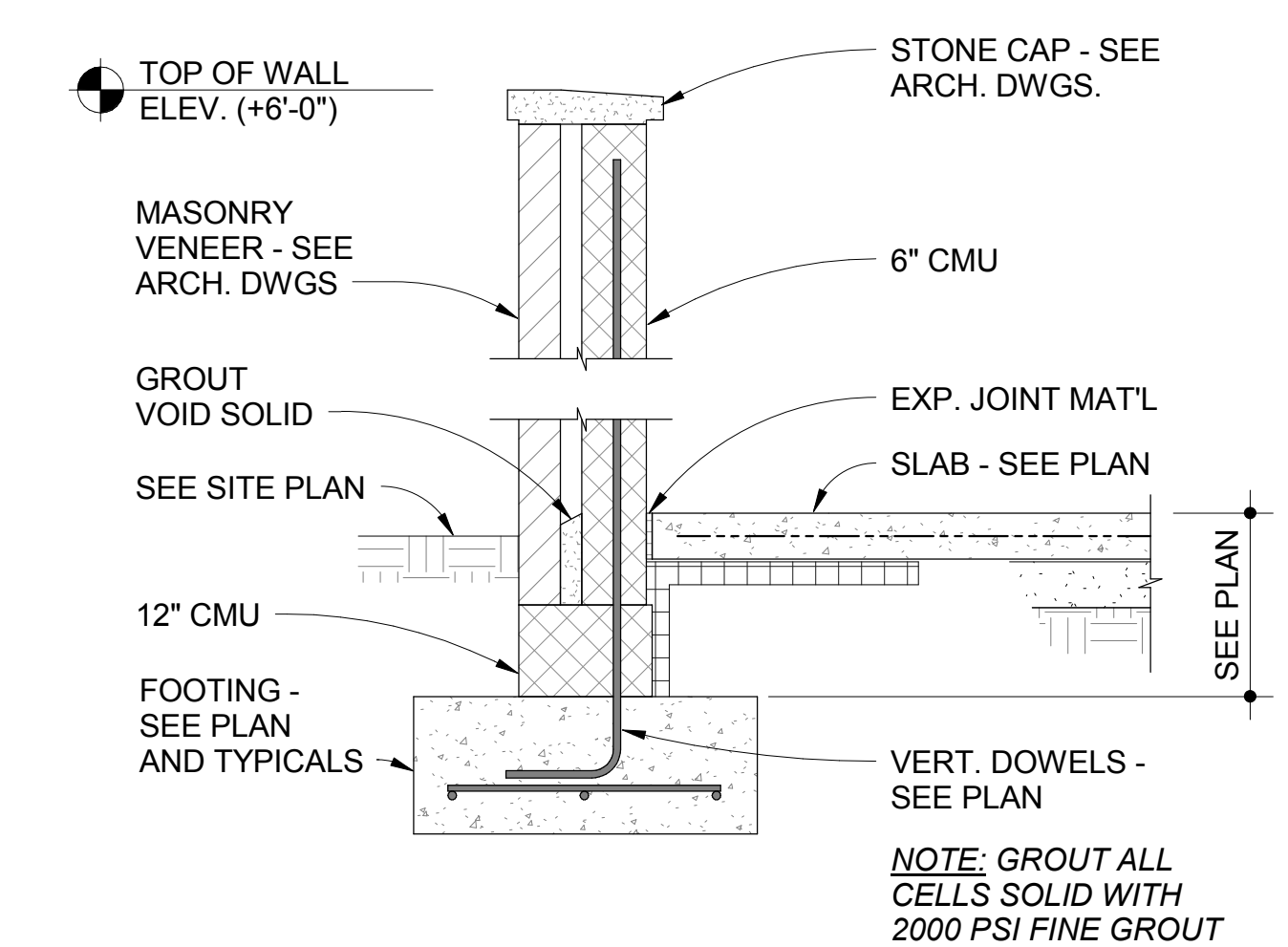
2 SECTION
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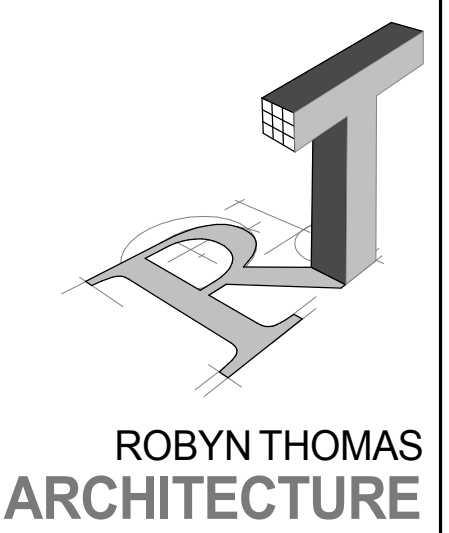
3 SECTION
S3.0 3/4" = 1'-0"



4 SECTION
S3.0 3/4" = 1'-0"



5 SECTION
S3.0 3/4" = 1'-0"



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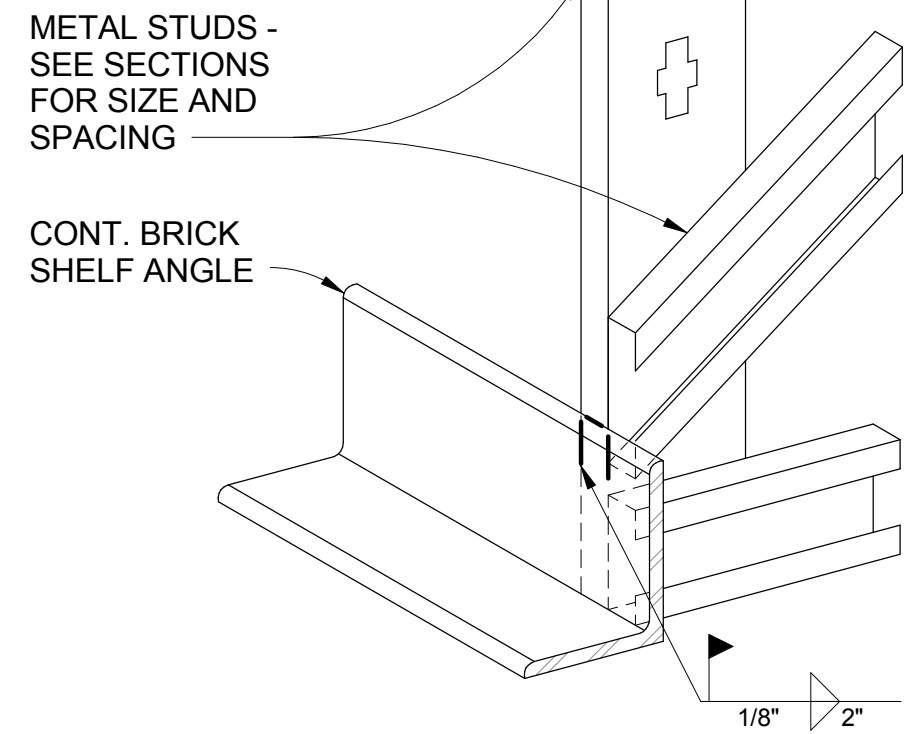
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FOUNDATION
SECTIONS

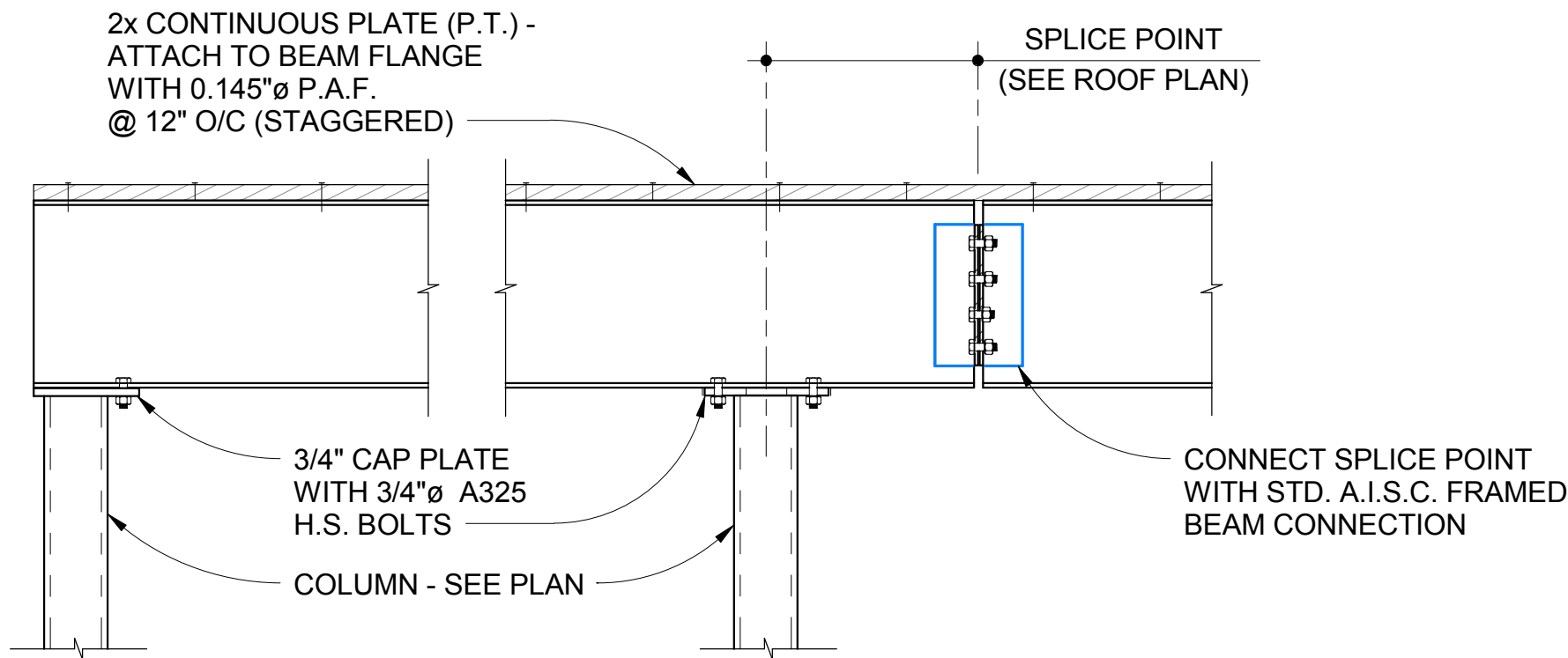
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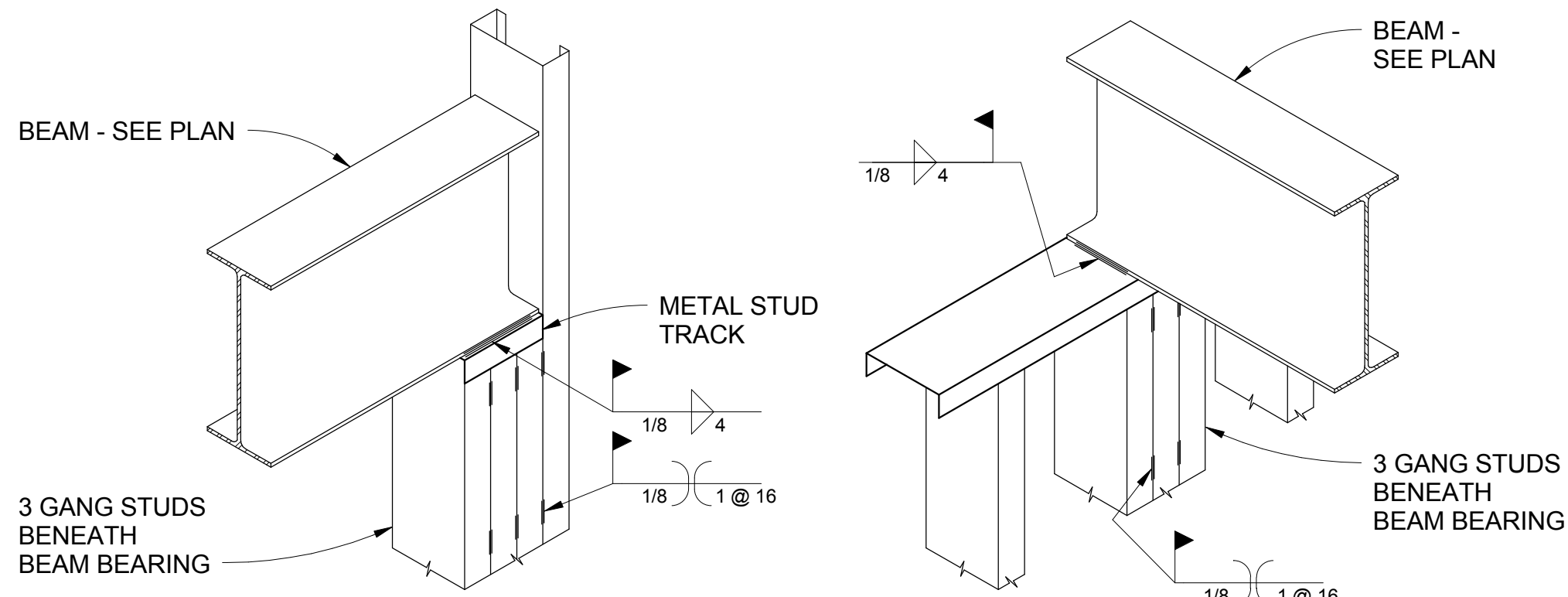
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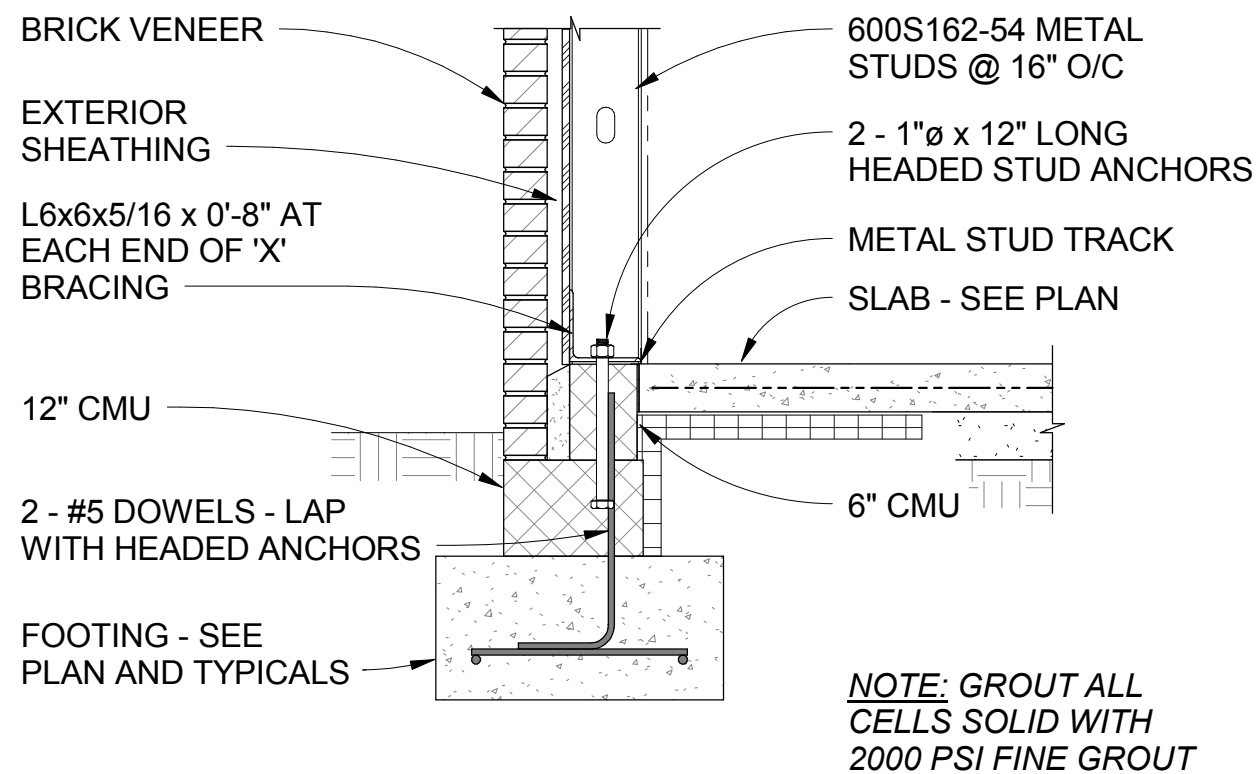
WELDING DETAIL AT BRICK
SHELF/LEDGER ANGLE
NOT TO SCALE



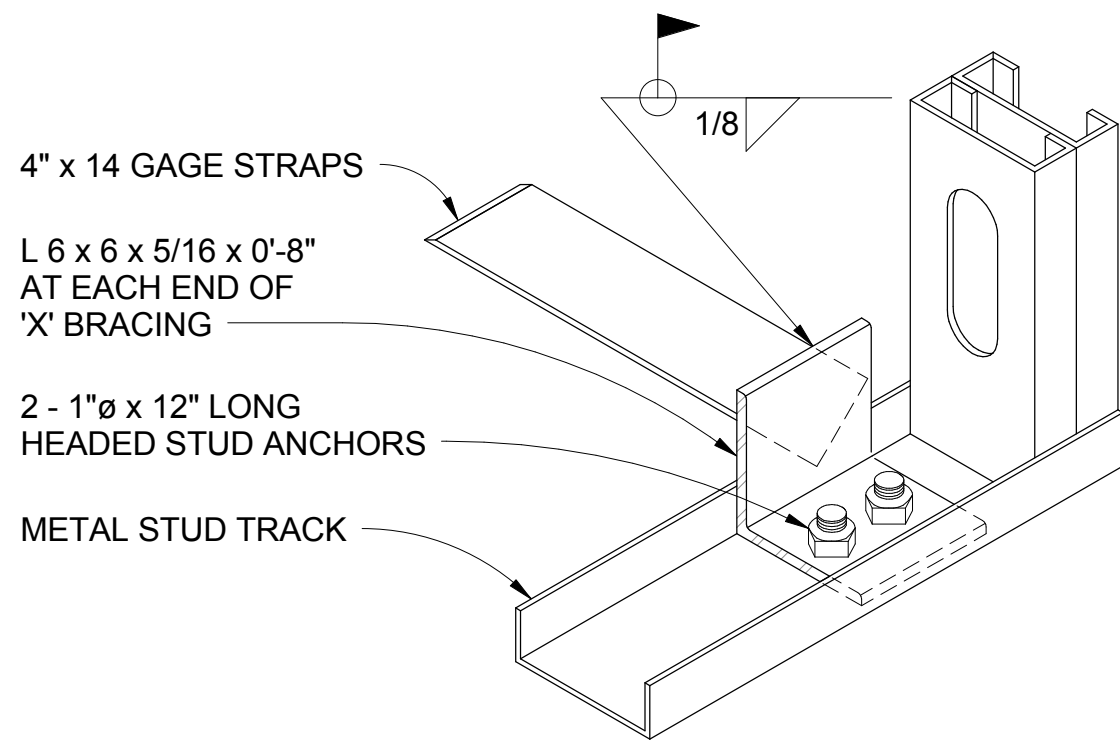
STEEL BEAM WITH WOOD PLATE FRAMING DETAIL
NOT TO SCALE



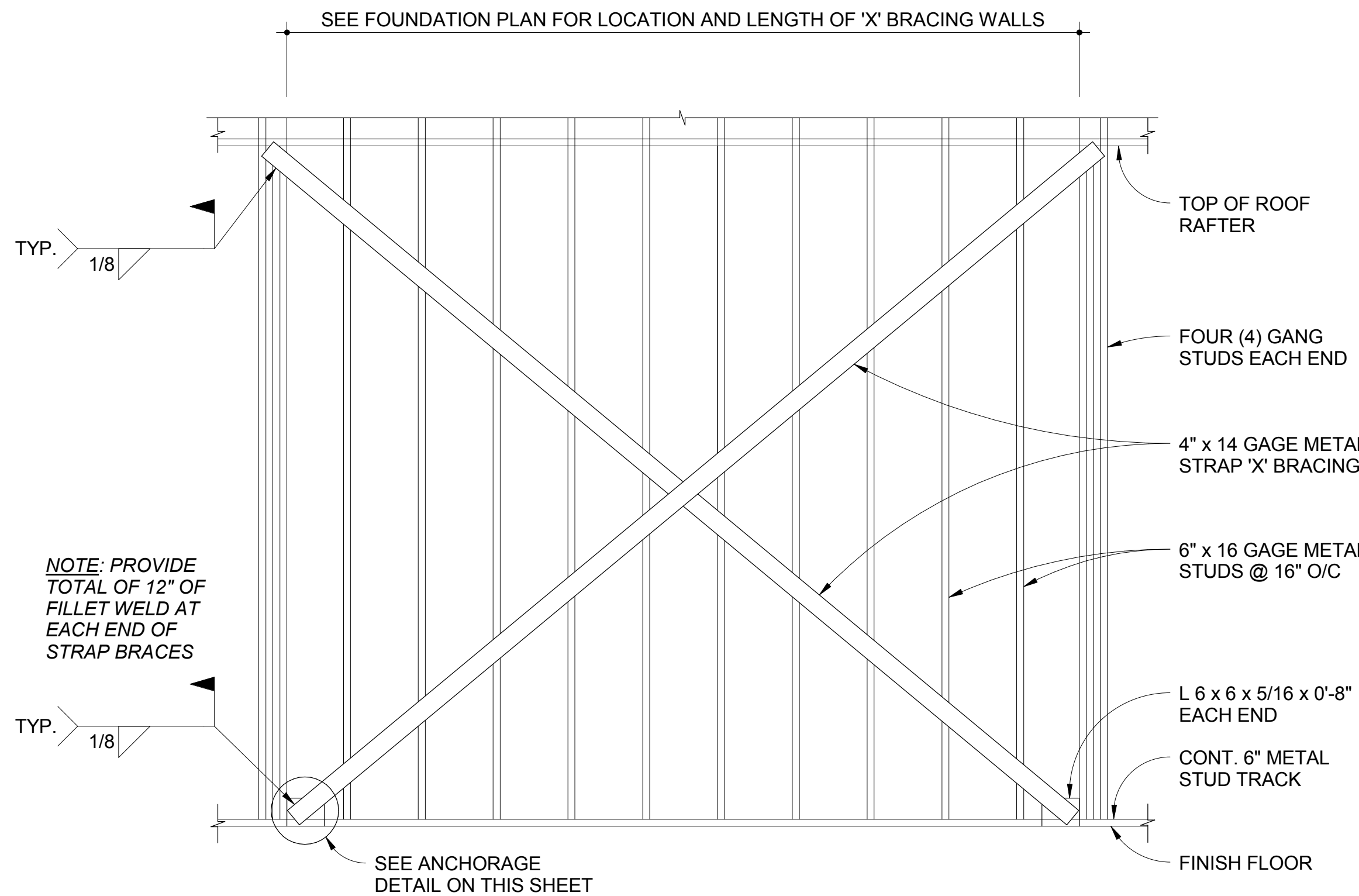
STEEL BEAM BEARING ON METAL STUD DETAIL
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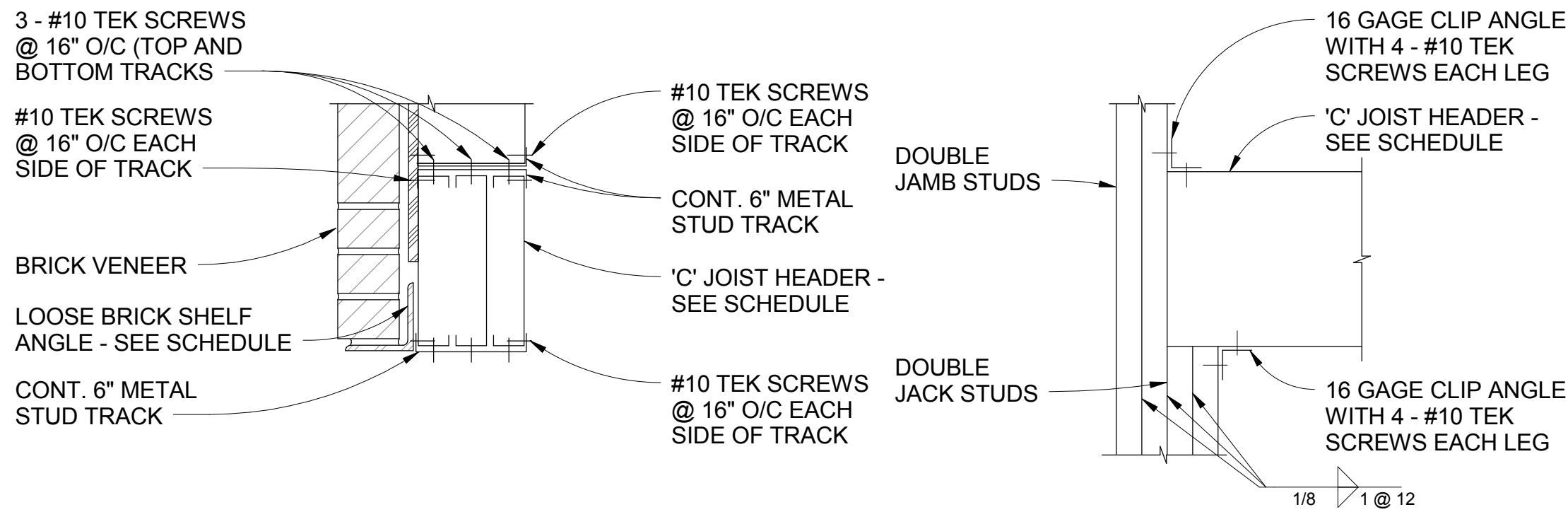
SECTION AT 'X' BRACING ANCHORAGE
NOT TO SCALE



'X' BRACING ANCHORAGE DETAIL
NOT TO SCALE



'X' BRACING ELEVATION
NOT TO SCALE



HEADER SECTION AND BEARING DETAIL
NOT TO SCALE

HEADER SCHEDULE			
MARK	TYPE	DESCRIPTION	REMARKS
H-1		3 - 600S162-54 JOISTS WITH L 3 1/2 x 3 1/2 x 1/4 BRICK SHELF(LOOSE)	BRICK SHELF ANGLE TO BEAR 8\"/>
H-2		3 - 600S162-54 JOISTS WITH L 5 x 3 1/2 x 1/4 (LLV) BRICK SHELF (LOOSE)	BRICK SHELF ANGLE TO BEAR 8\"/>

SPC
STRUCTURAL

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COMMONWEALTH OF VIRGINIA
31 AUGUST 2016
SHAWN A. MASLANEY
Lic. No. 49094
PROFESSIONAL ENGINEER

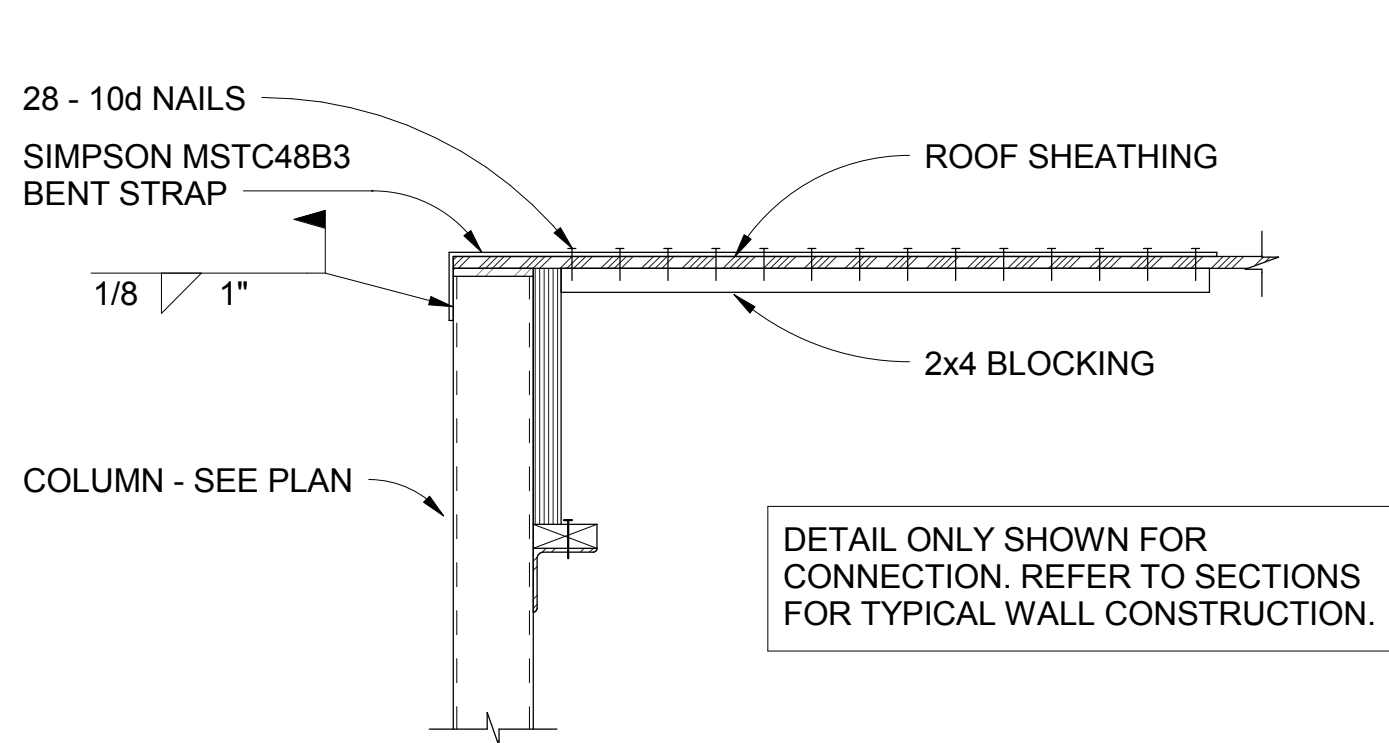
RETAIL SPACE FOR STARBUCKS
STARBUCKS
CORNER SHOPS - 2000 COLONIAL AVE NORFOLK, VA

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REVISIONS
No. Date Description

FRAMING
DETAILS
S4.0
SHEET OF

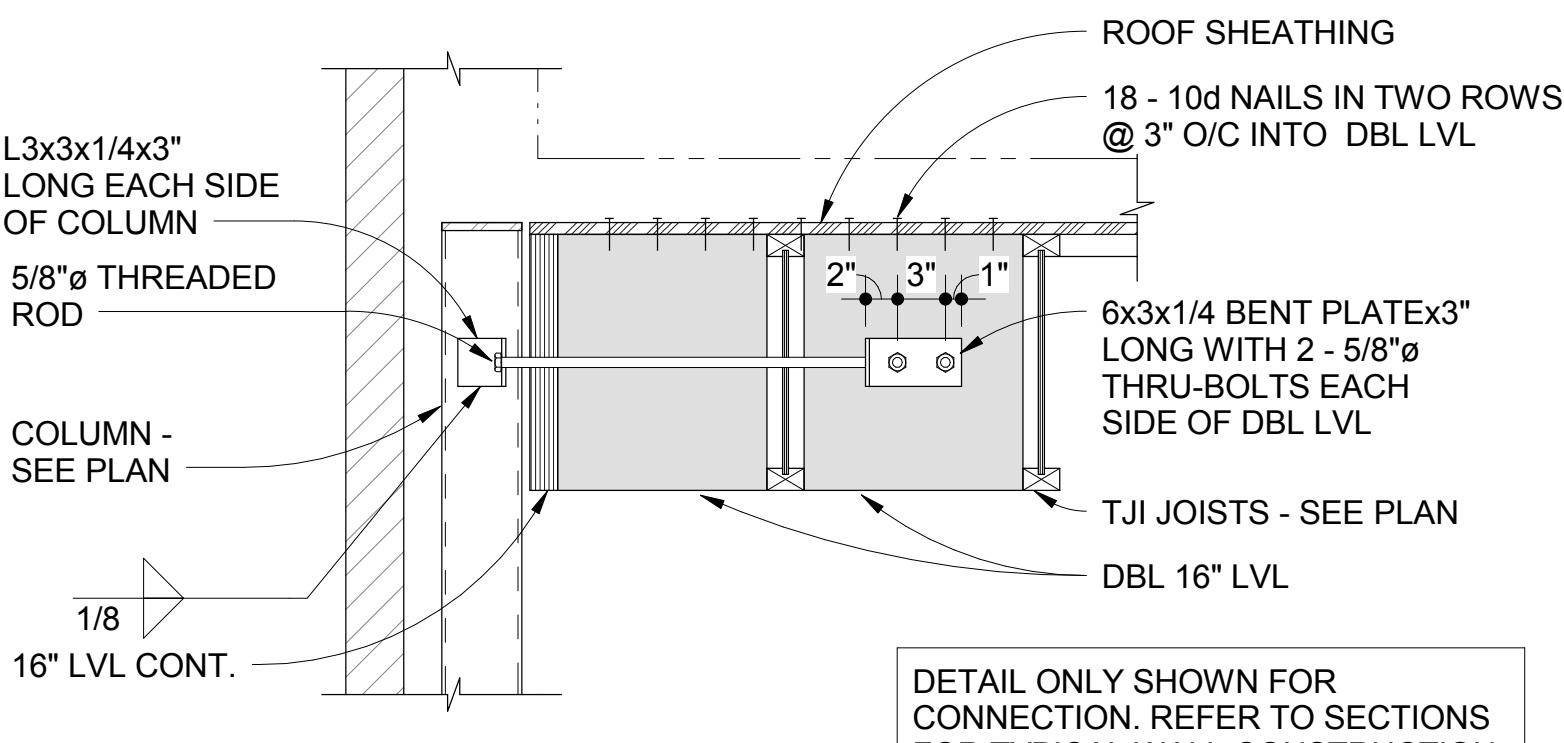
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D



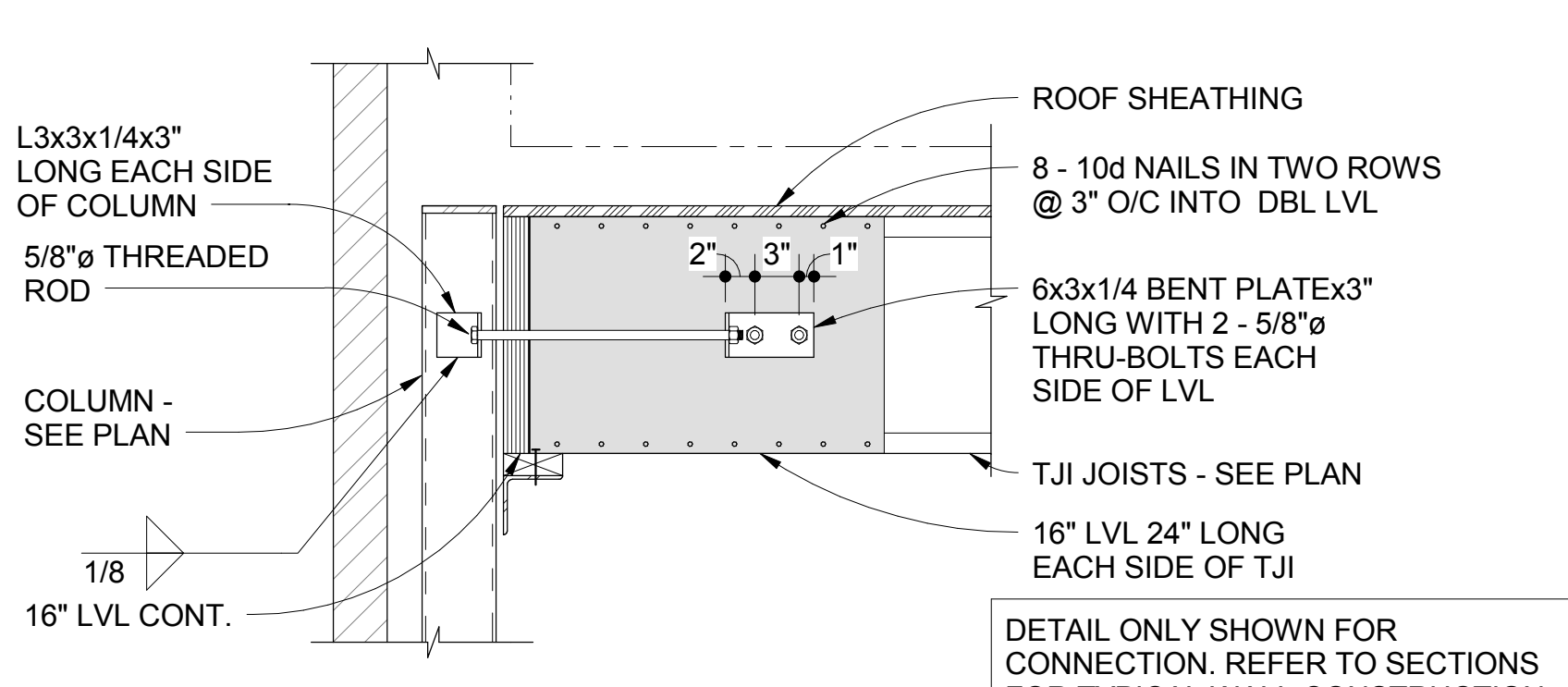
COIL STRAP AT COLUMN DETAIL

1" = 1'-0"



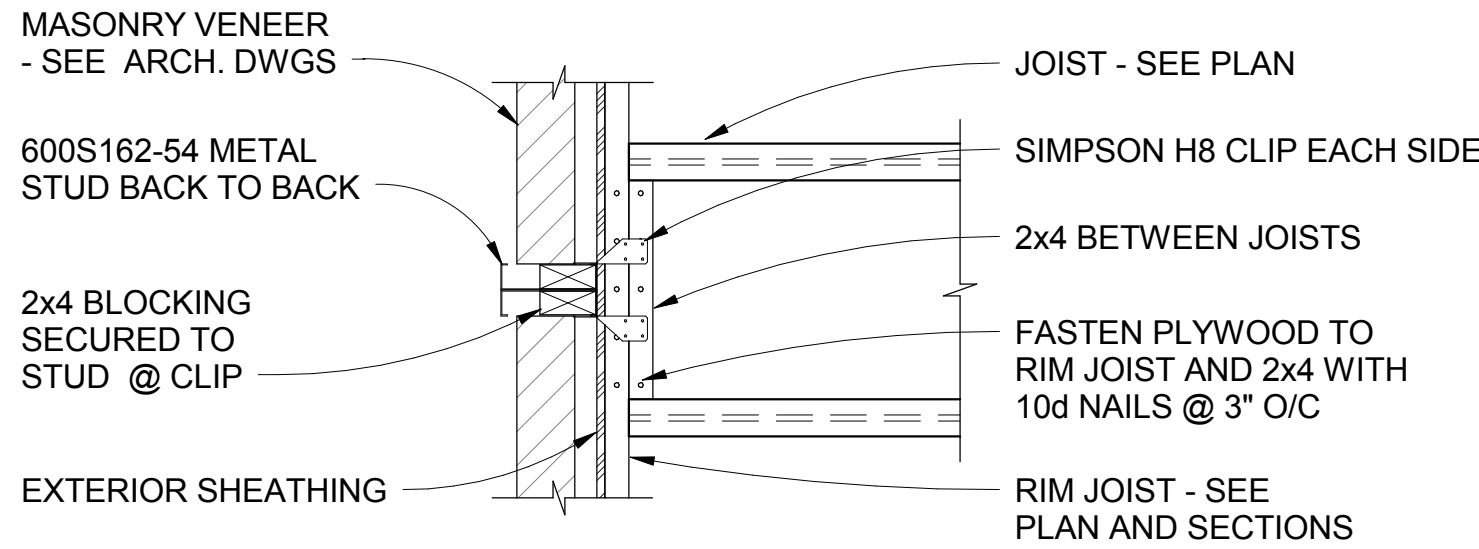
JOIST CONNECTION AT COLUMN DETAIL

1" = 1'-0"



PERPENDICULAR

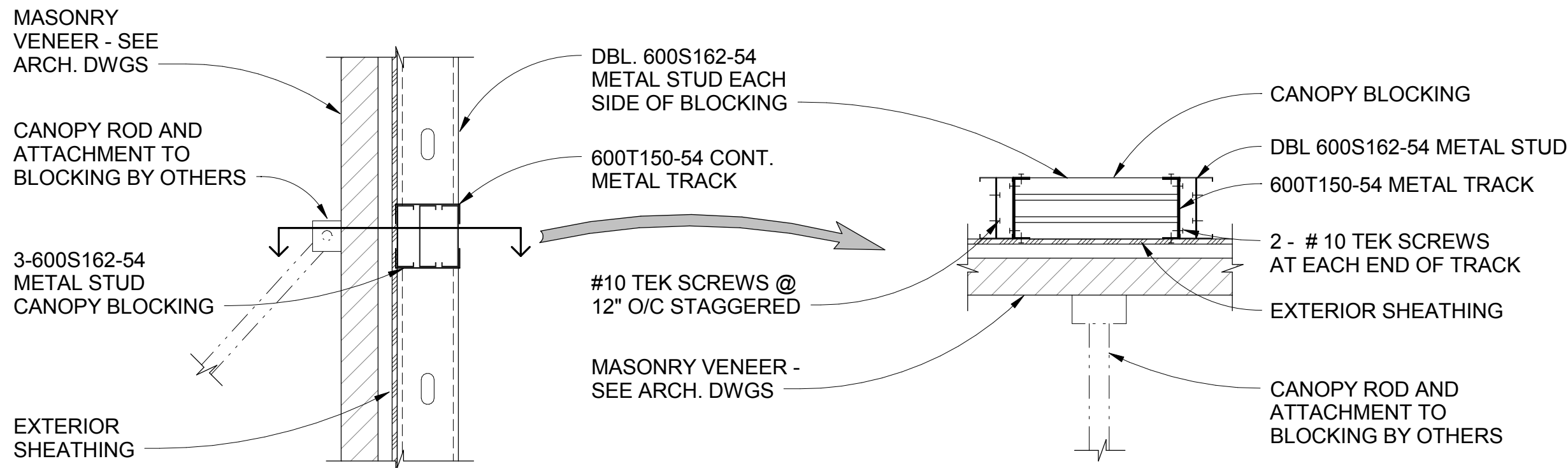
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PLAN VIEW

DBL CANOPY STUDS TO ROOF CONNECTION

1" = 1'-0"

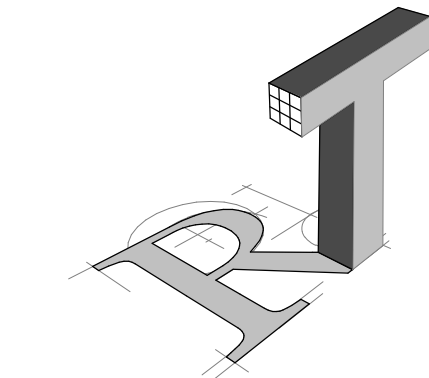


CANOPY BLOCKING DETAIL

1" = 1'-0"

B

A



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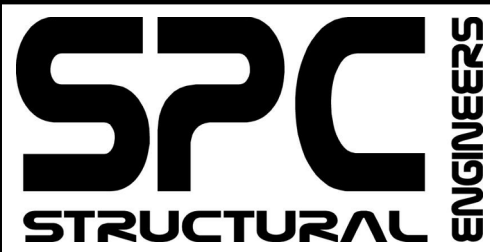
REVISIONS
No. Date Description

FRAMING
DETAILS

S4.1

SHEET

OF



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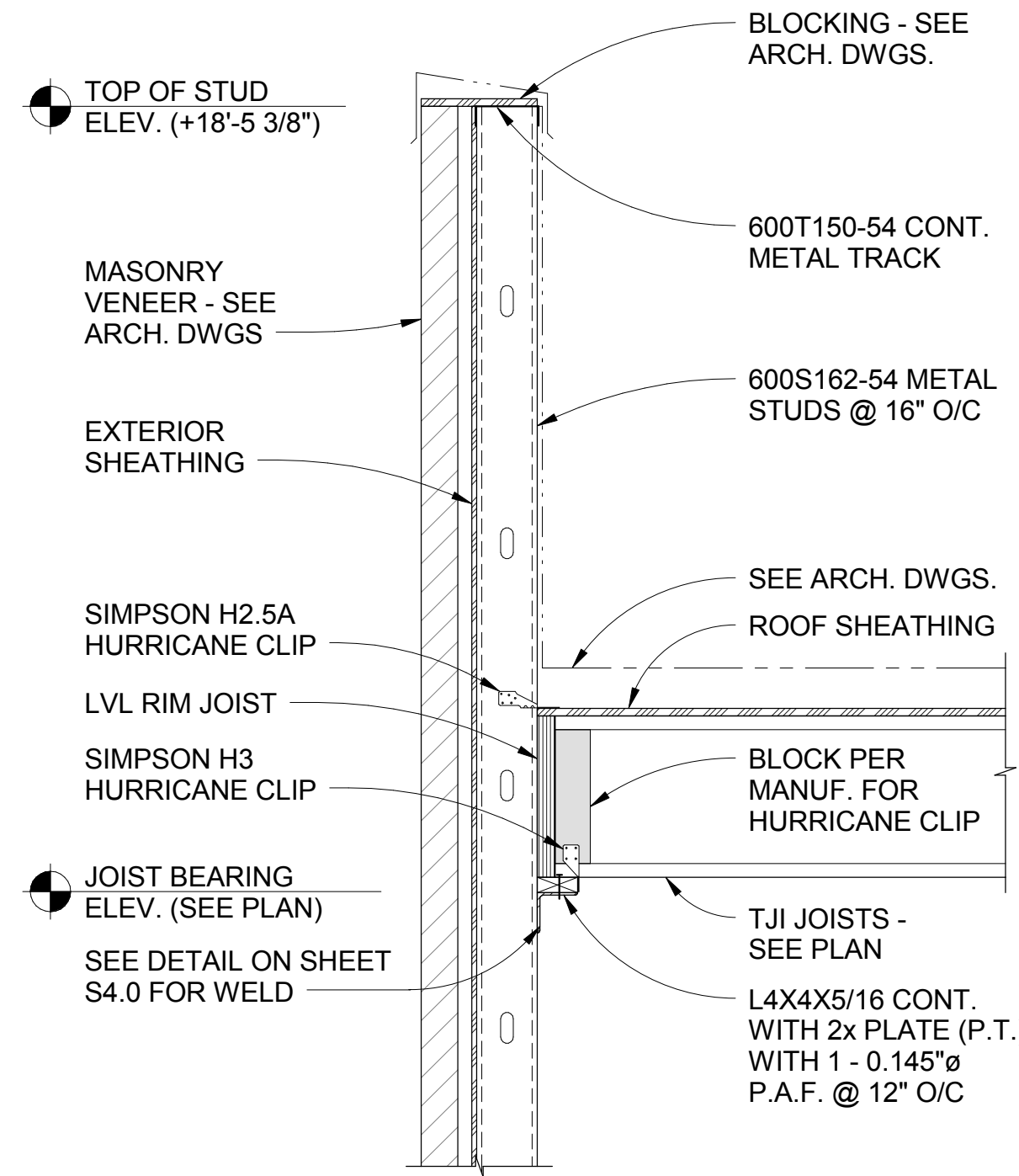
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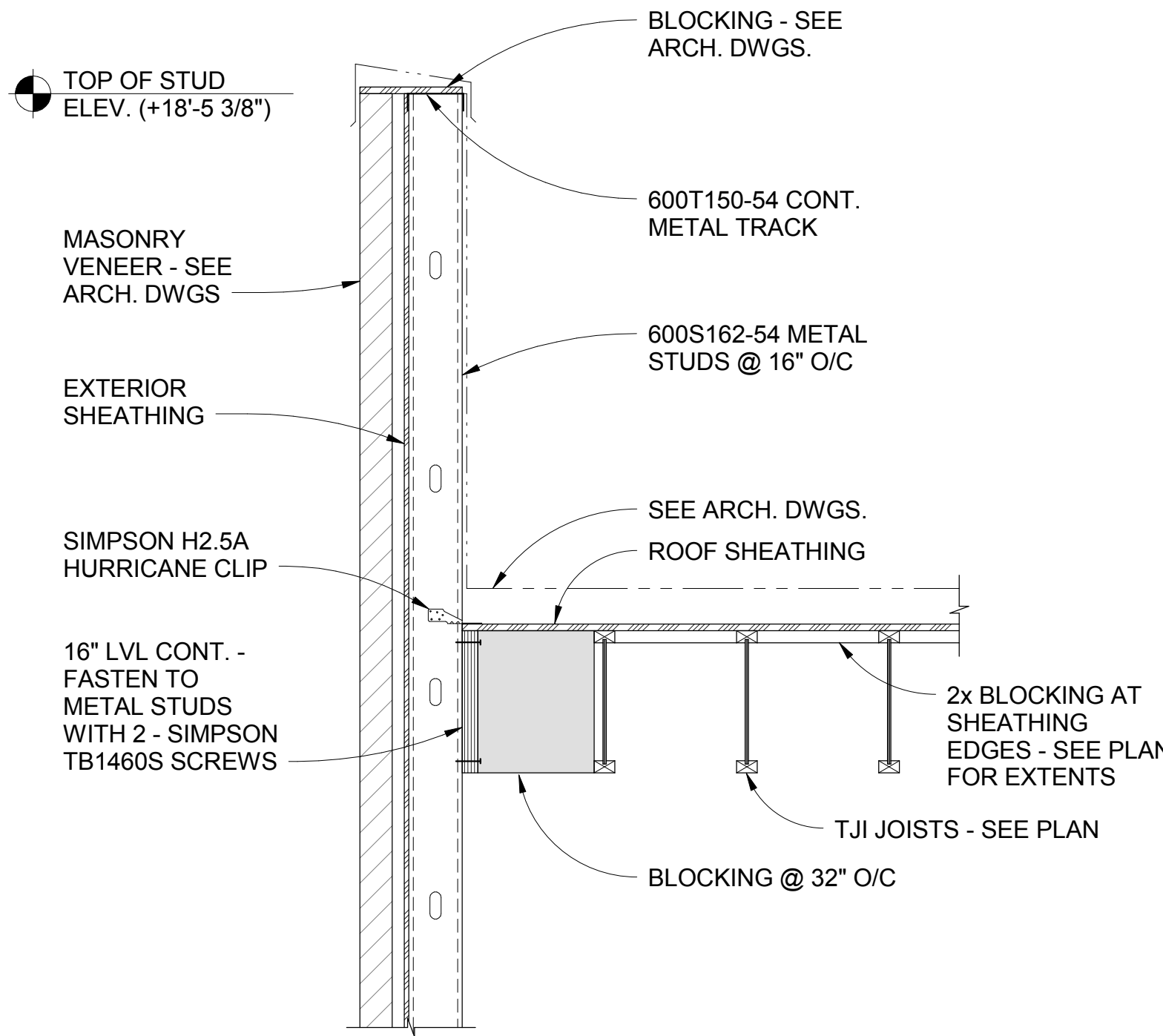
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4

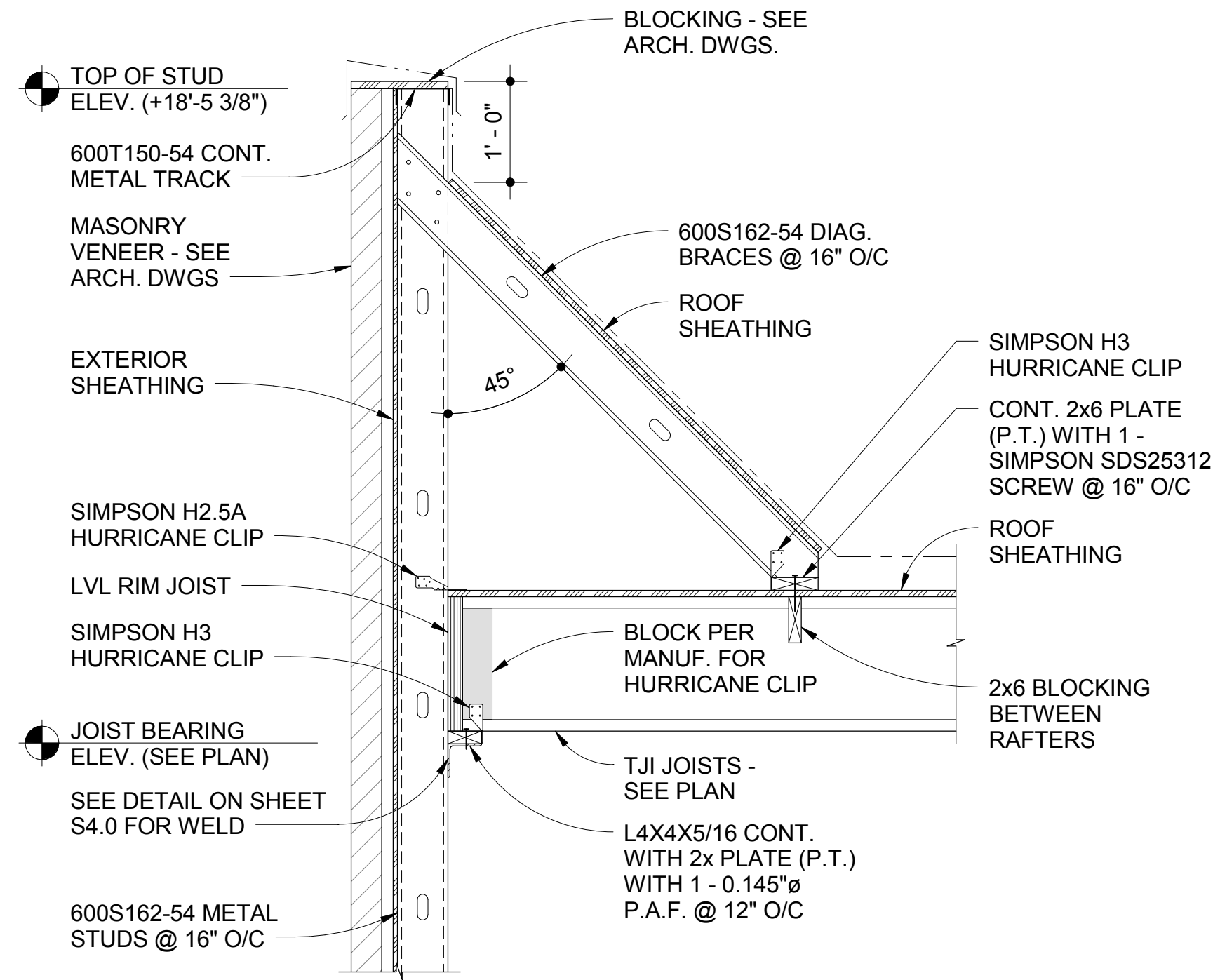
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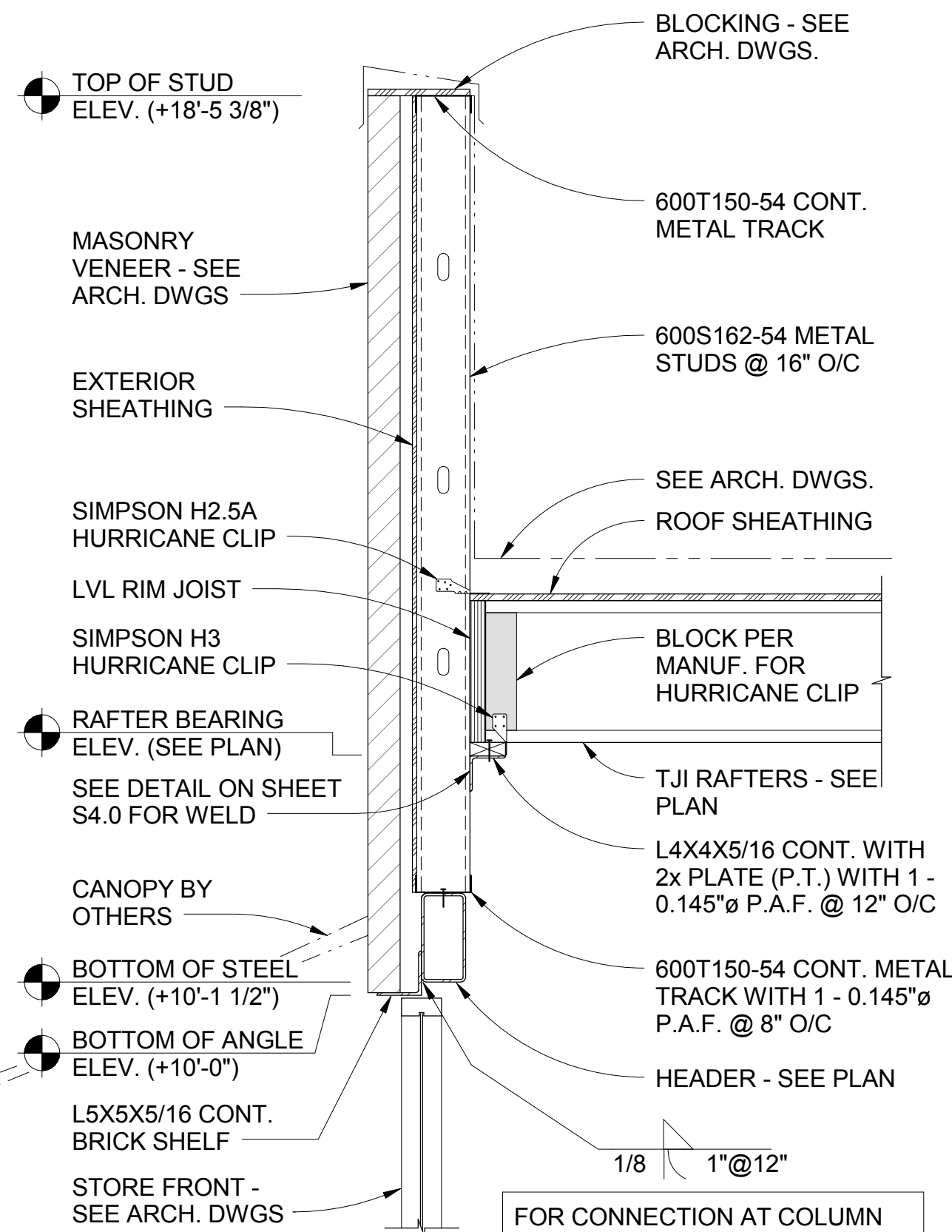
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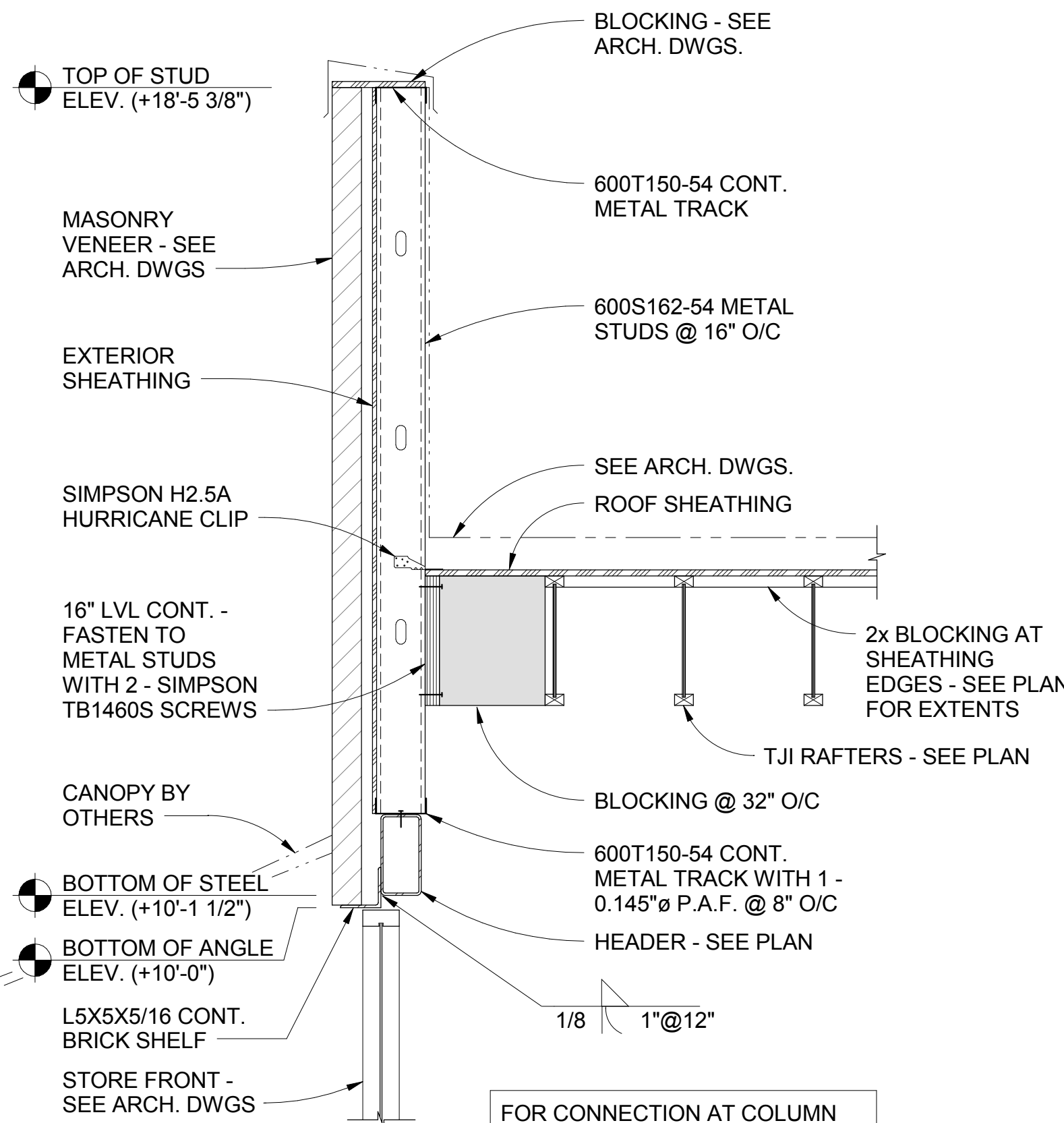
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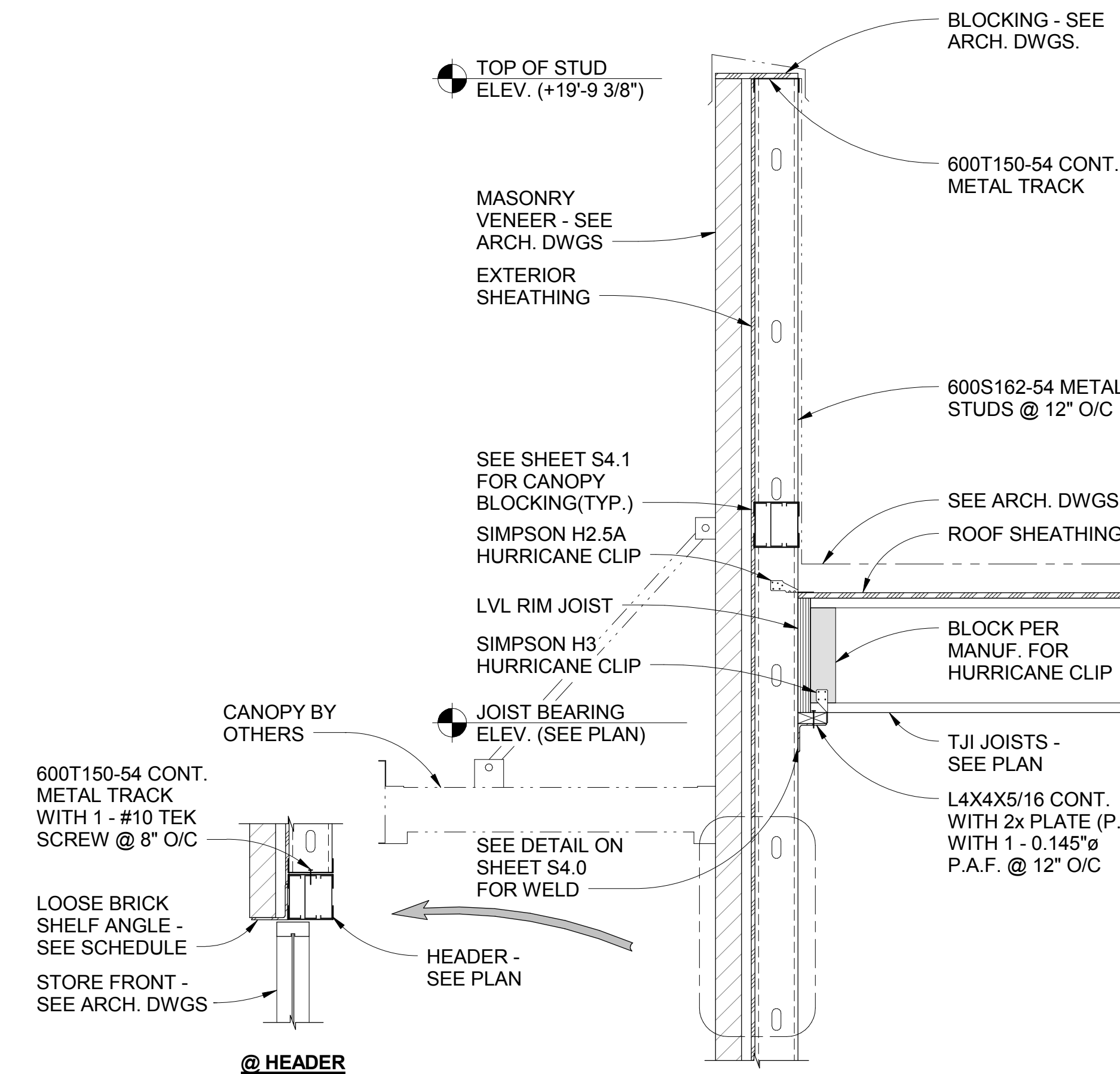
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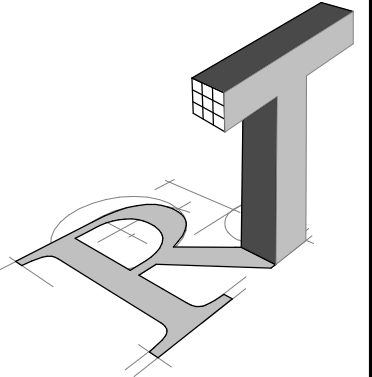
4 SECTION
S5.0 3/4" = 1'-0"



5 SECTION
S5.0 3/4" = 1'-0"



6 SECTION
S5.0 3/4" = 1'-0"



**ROBYN THOMAS
ARCHITECTURE**

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Fax: 757.640.1014



RETAIL SPACE FOR STARBUCKS
STARBUCKS
CORNER SHOPS - 2000 COLONIAL AVE NORFOLK, VA

RTA NO: 15-012
DATE: 8/31/2016
DESIGN: Designer
DRAWN: Author
REVIEW: Checker

REVISIONS
No. Date Description

**FRAMING
SECTIONS**

S5.0

SHEET OF



SINCLAIR PRATT CAMERON, P.C.
1630 DONNA DRIVE - SUITE 103
VIRGINIA BEACH, VA 23451-6188
757.417.0565 • 757.417.0568 (fax)
WWW.SPC-ENG.COM 16-0564
Designed: SAM BIM: SDM/BJB



RETAIL SPACE FOR STARBUCKS
STARBUCKS
CORNER SHOPS - 2000 COLONIAL AVE NORFOLK, VA

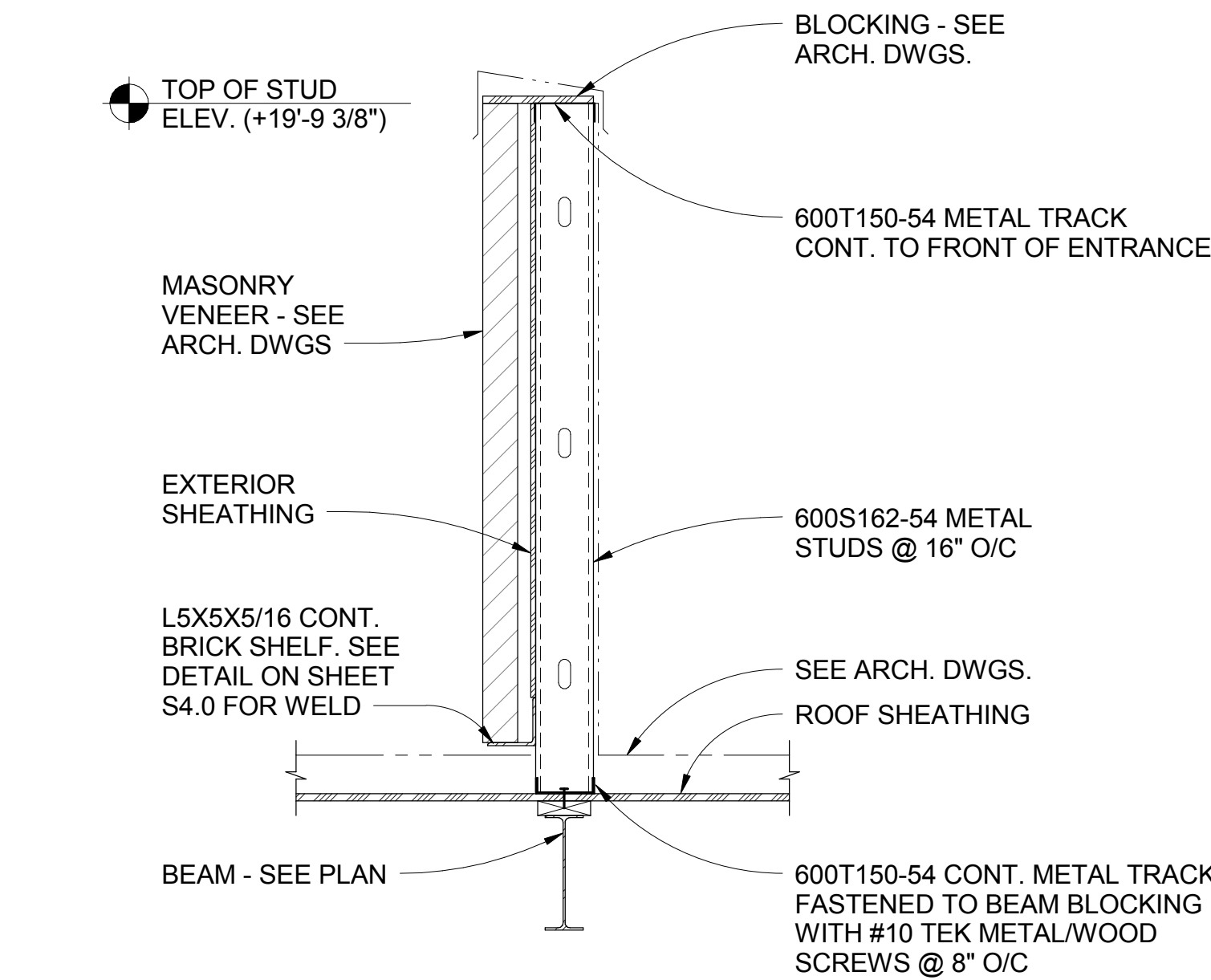
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DATE: 8/31/2016
DESIGN: Designer
DRAWN: Author
REVIEW: Checker

REVISIONS

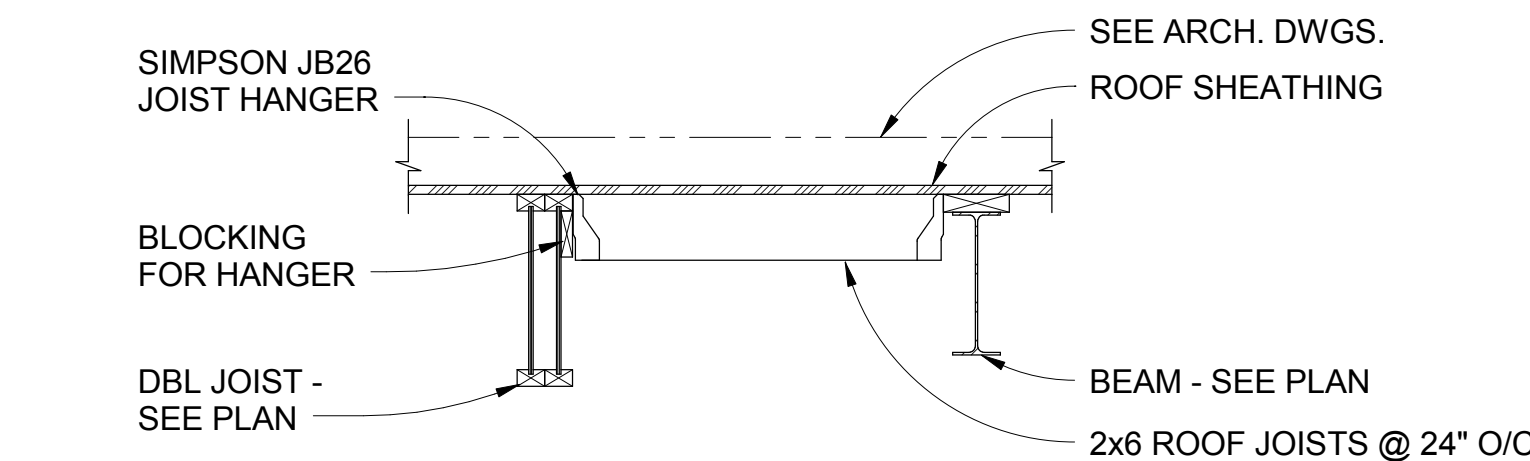
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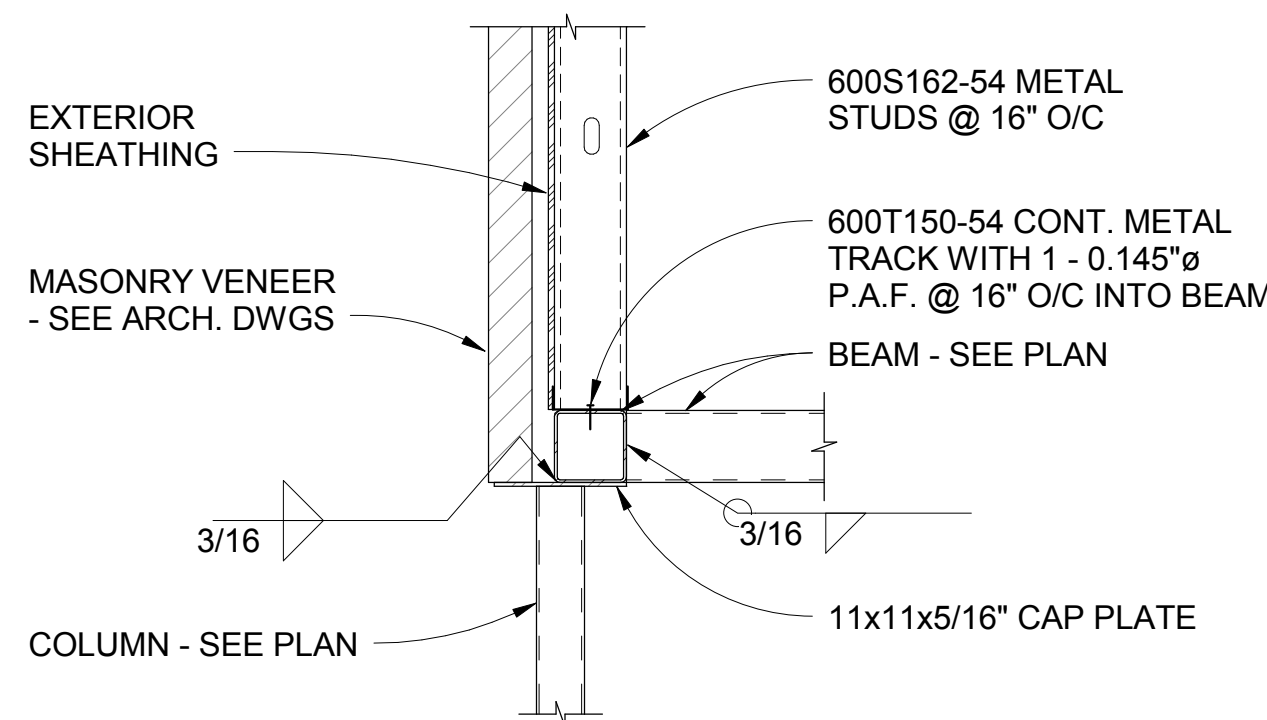
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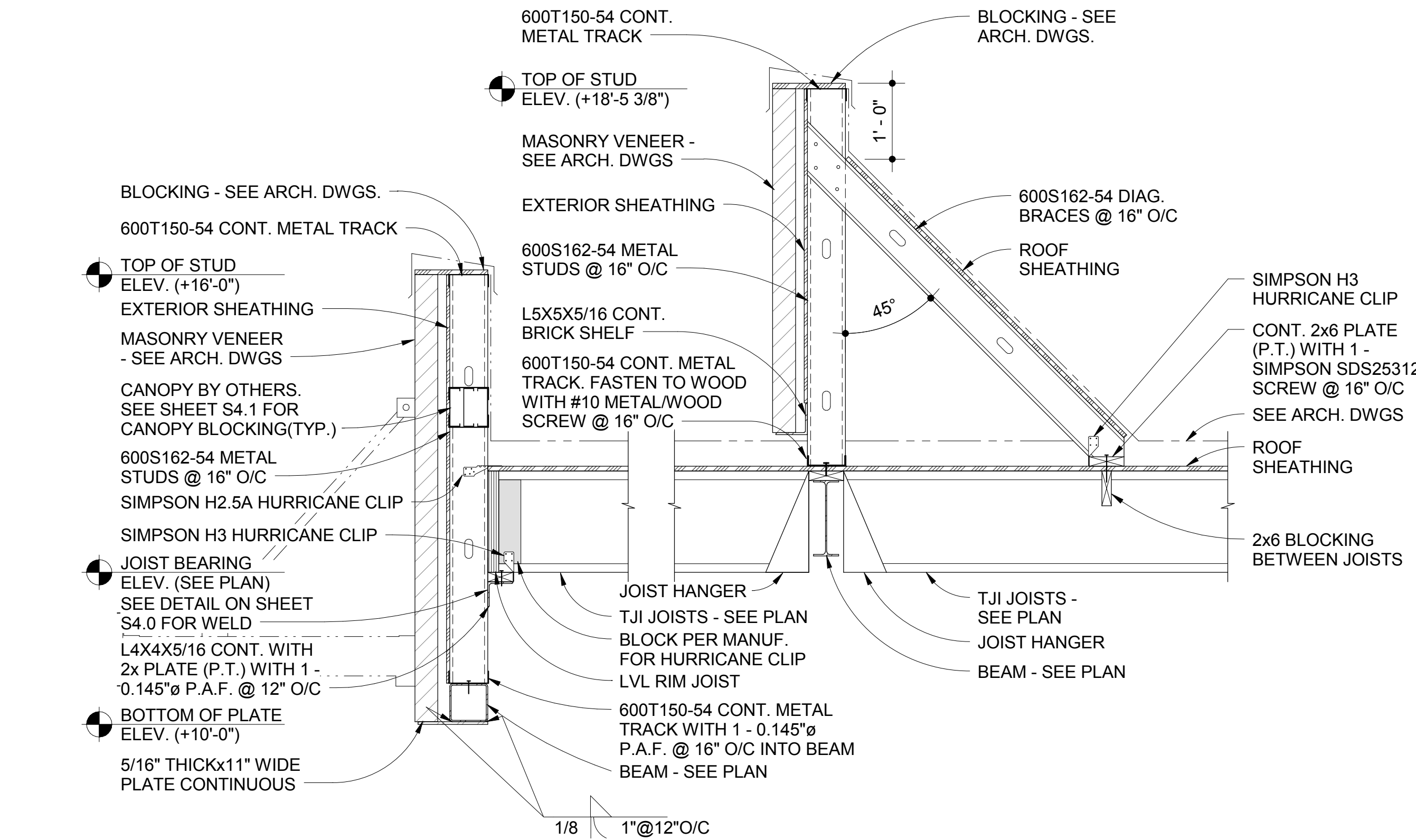
1 SECTION
S5.1 $3/4" = 1'-0"$



2 SECTION
S5.1 $3/4" = 1'-0"$



3 SECTION
S5.1 $3/4" = 1'-0"$



4 SECTION
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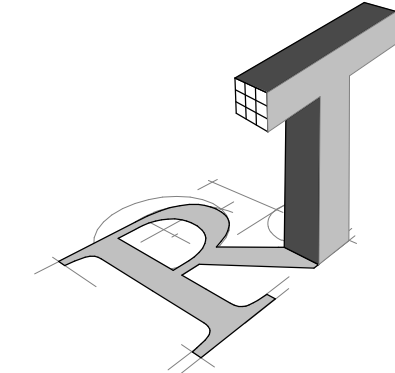
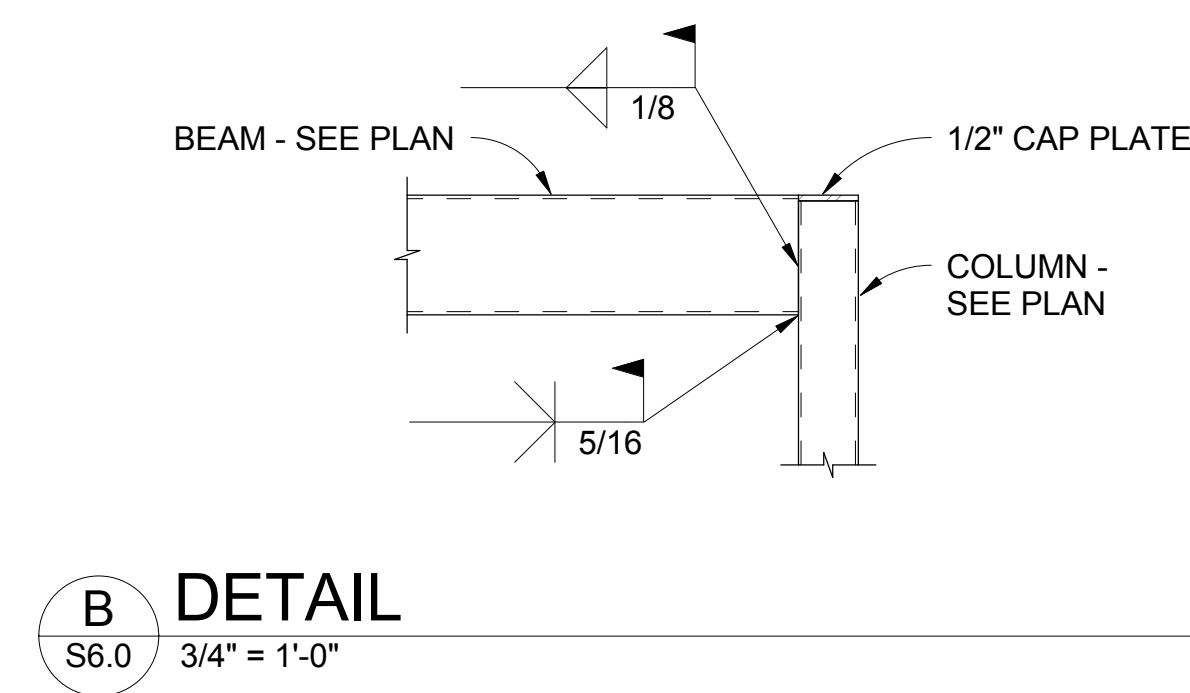
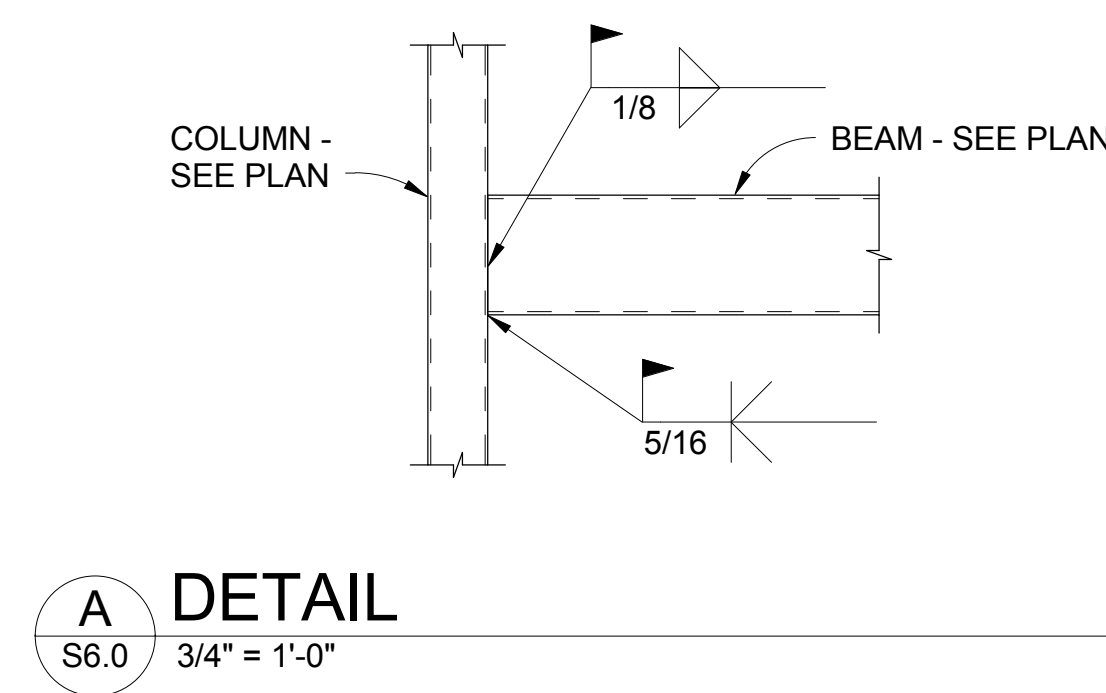
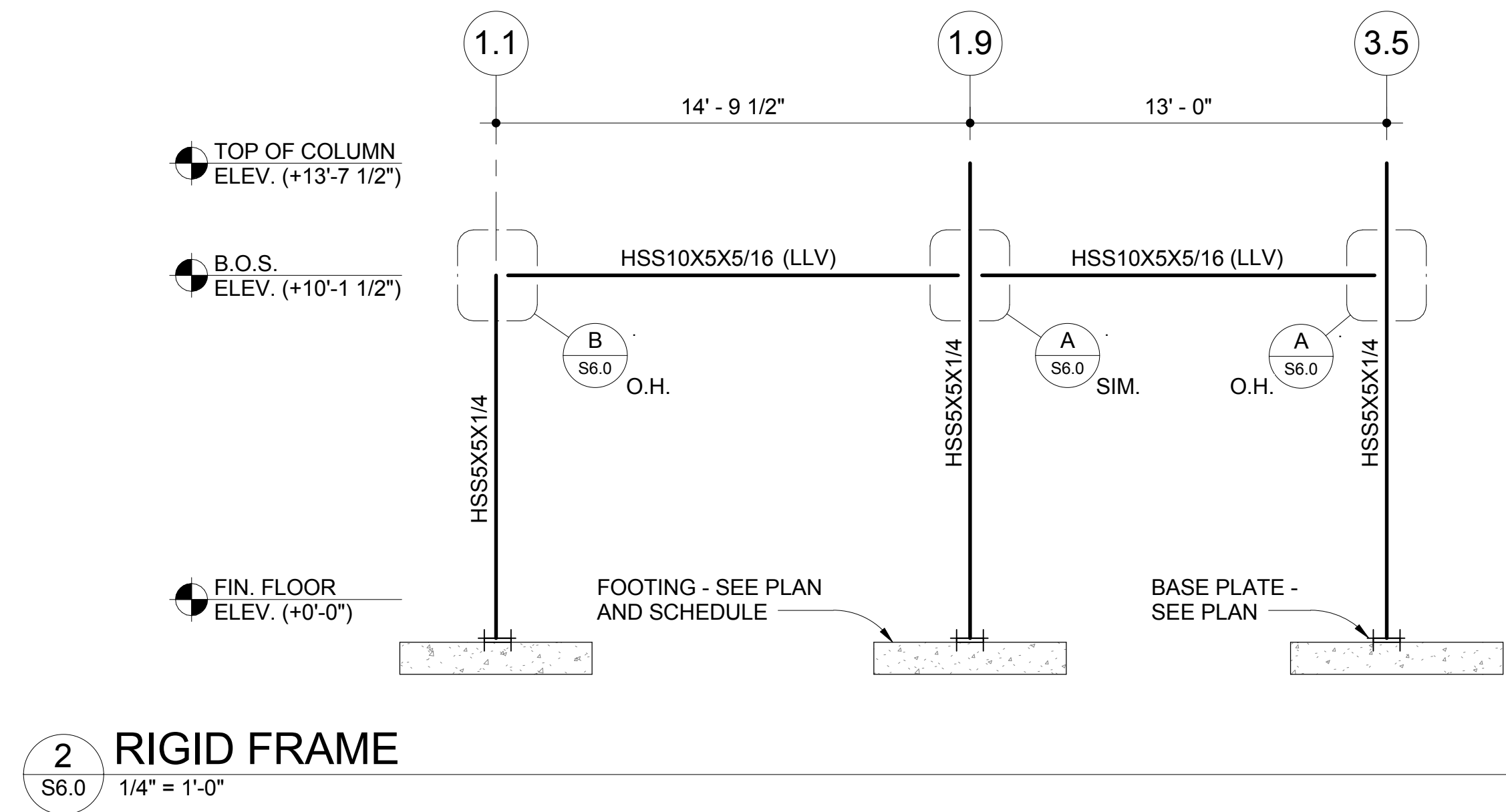
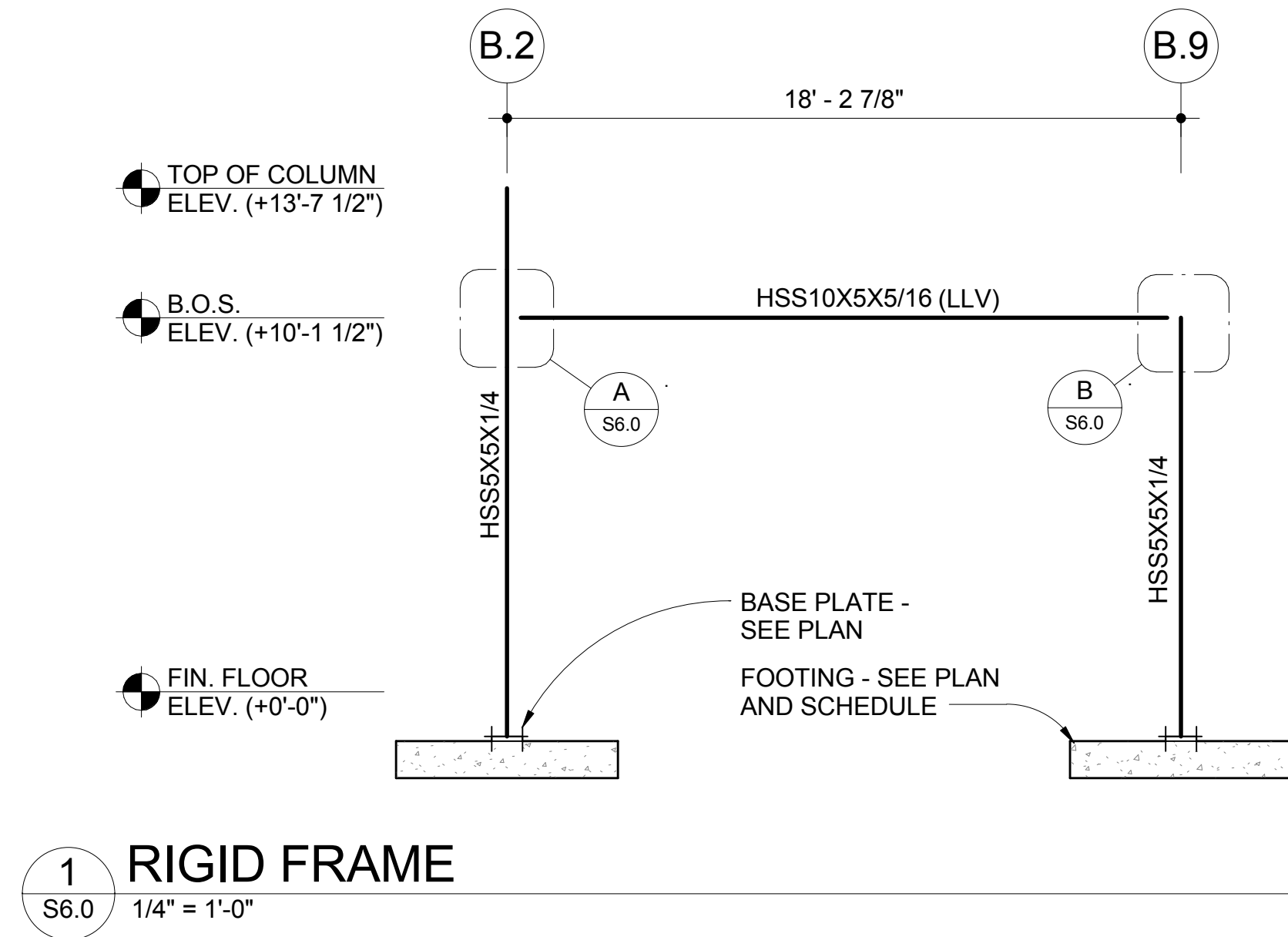
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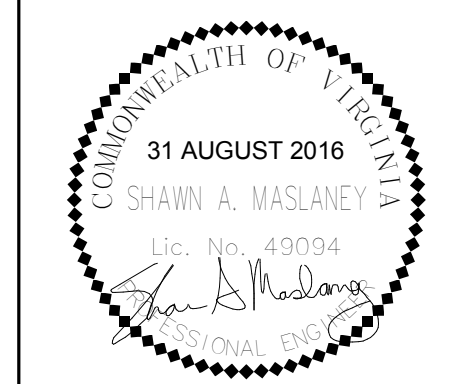
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RETAIL SPACE FOR STARBUCKS
STARBUCKS
CORNER SHOPS - 2000 COLONIAL AVE NORFOLK, VA

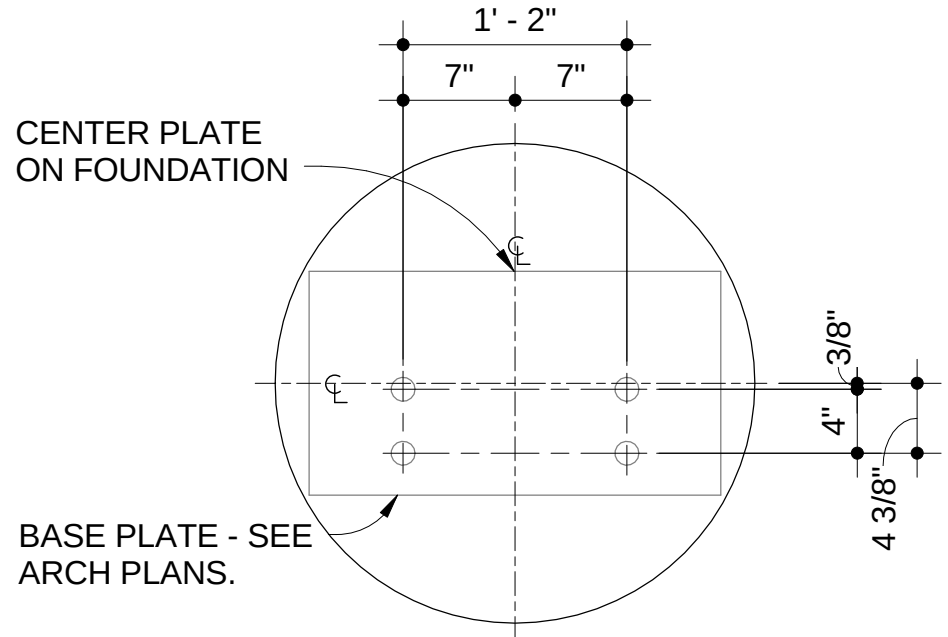
RTA NO: 15-012
DATE: 8/31/2016
DESIGN: Designer
DRAWN: Author
REVIEW: Checker

REVISIONS
No. Date Description

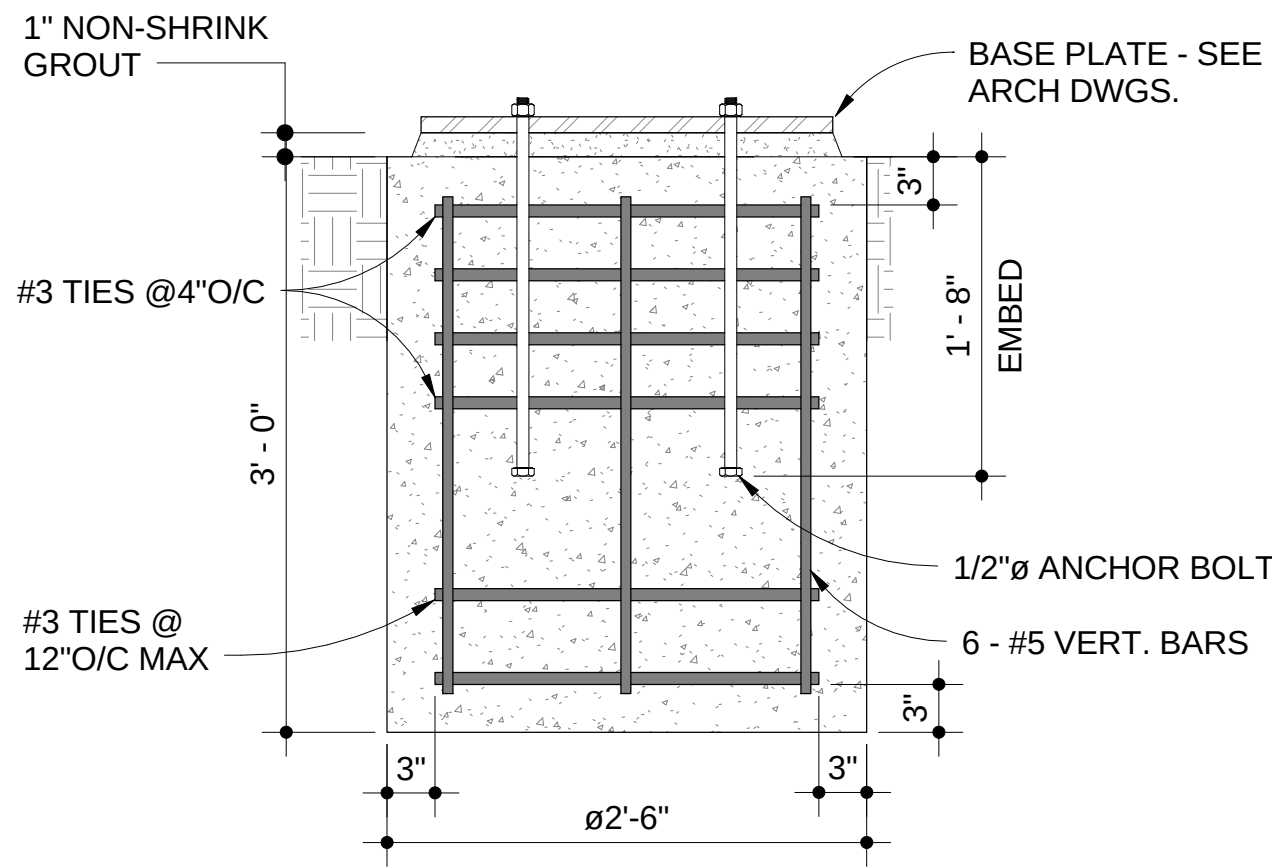
RIGID FRAME
ELEVATIONS

S6.0

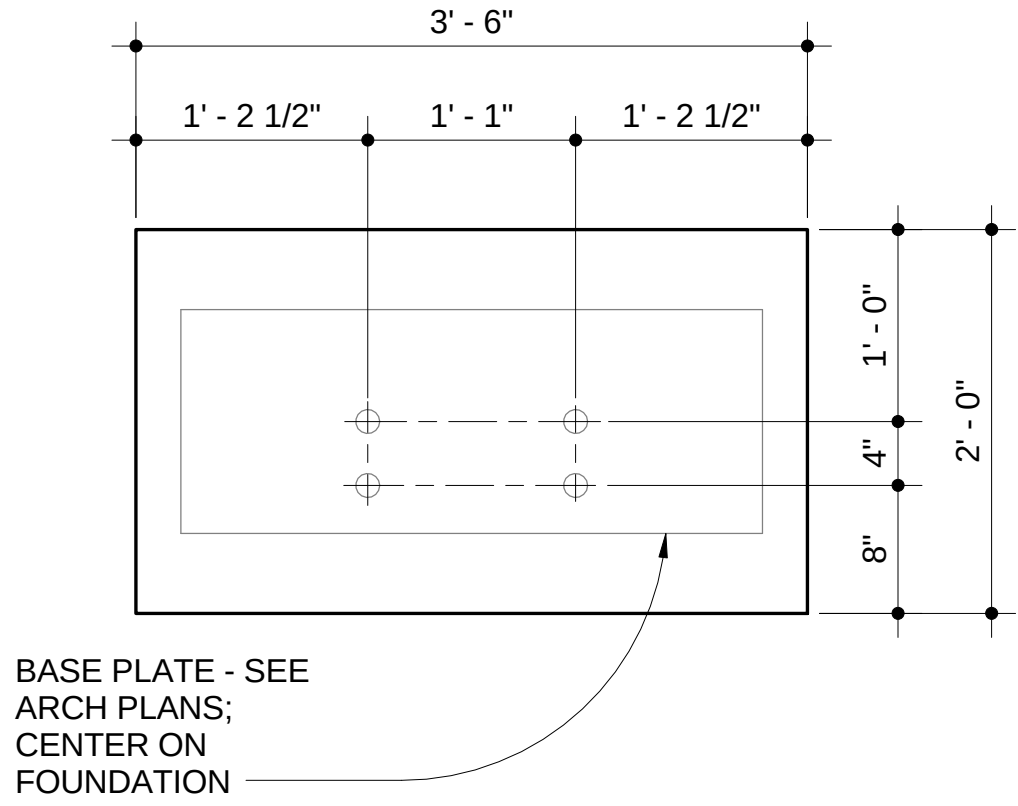
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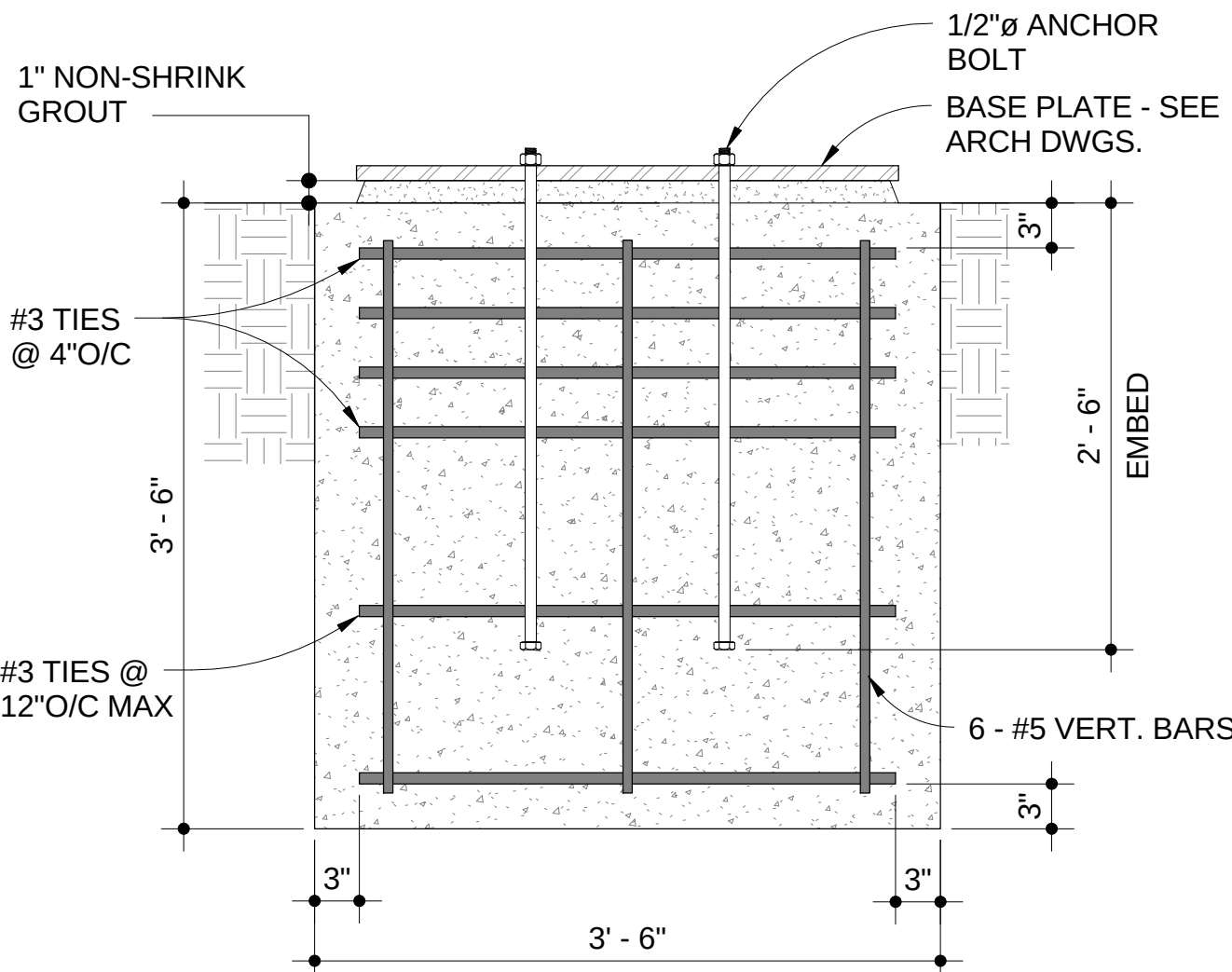
PRE-MENU FOUNDATION PLAN (G)
1" = 1'-0"



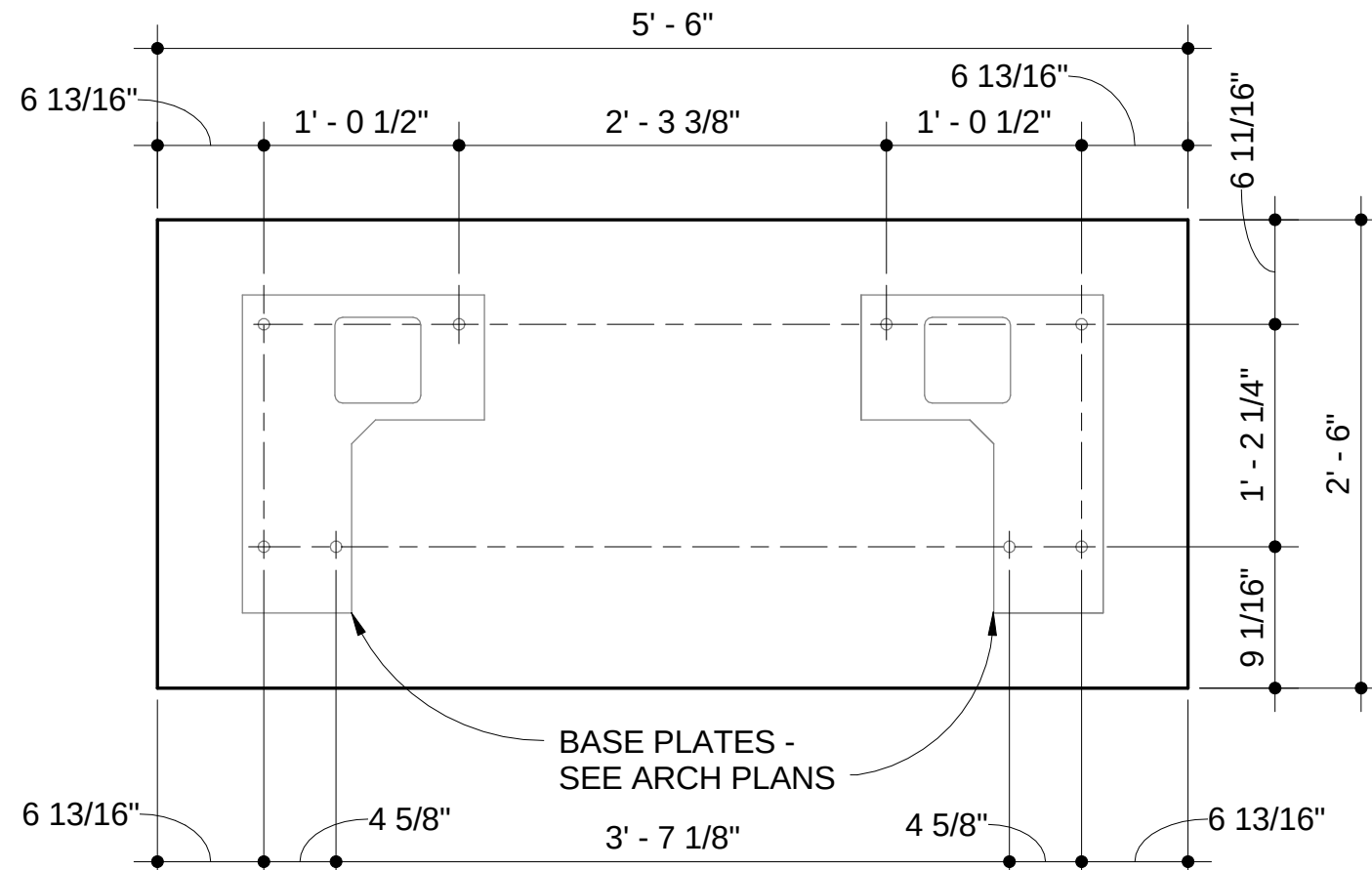
PRE-MENU FOUNDATION SECTION (G)
1" = 1'-0"



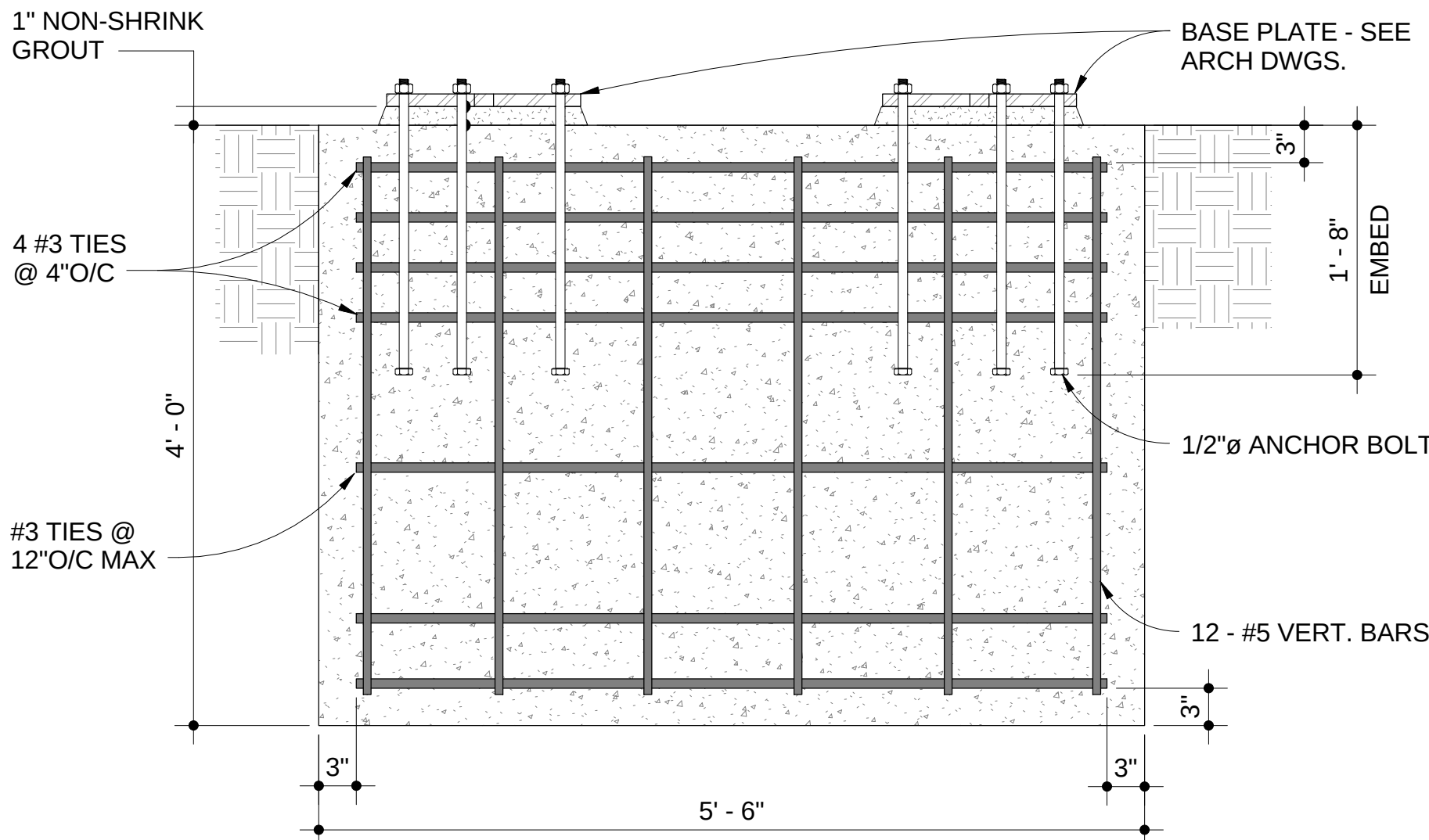
MENU FOUNDATION PLAN (I)
1" = 1'-0"



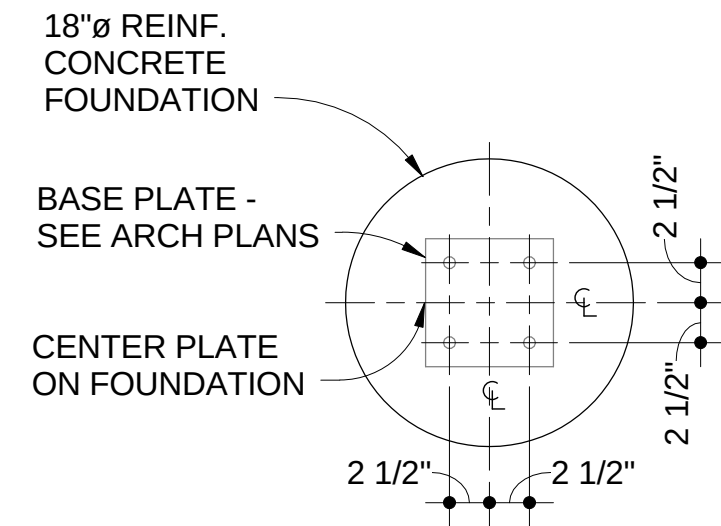
MENU FOUNDATION SECTION (I)
1" = 1'-0"



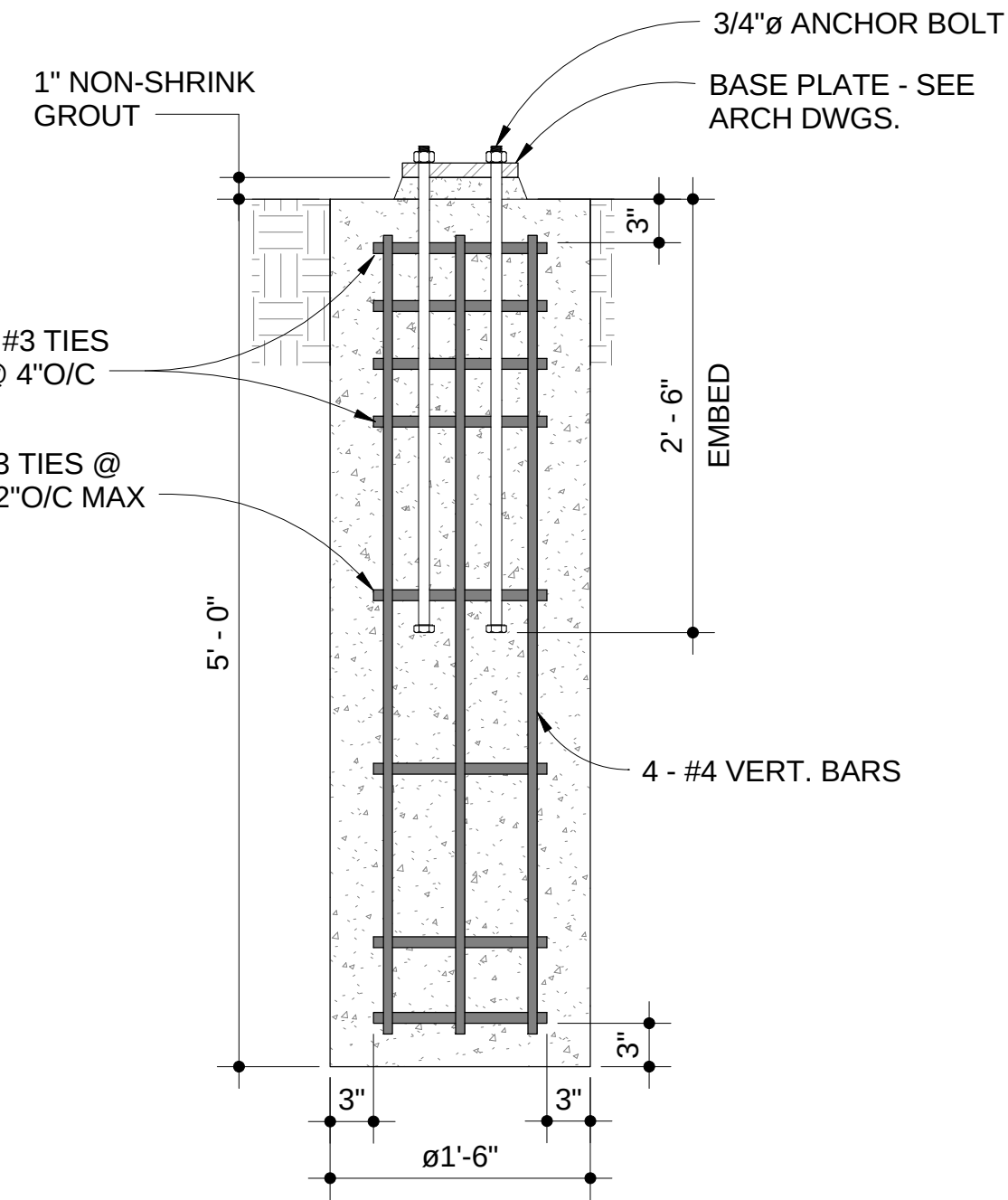
CANOPY FOUNDATION PLAN (H)
1" = 1'-0"



CANOPY FOUNDATION SECTION (H)
1" = 1'-0"



CLEARANCE BAR FOUNDATION PLAN (F)
1" = 1'-0"



CLEARANCE BAR FOUNDATION SECTION (F)
1" = 1'-0"

FOUNDATION NOTES

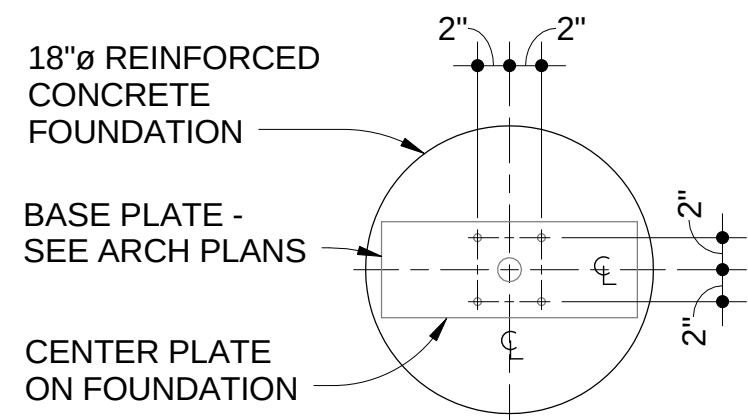
- ALL FOOTINGS, INCLUDING SLAB ON GRADE, SHALL BEAR ON UNDISTURBED SOIL OR COMPACTED STRUCTURAL FILL WITH AN ALLOWABLE BEARING CAPACITY OF ASSUMED 1500 PSF.
- ALL FOUNDATION CONCRETE SHALL OBTAIN A 28-DAY COMPRESSIVE STRENGTH OF 3000 PSI.
- ALL REINFORCING STEEL SHALL BE IN ACCORDANCE WITH ASTM A615, GRADE 60.
- CONCRETE PROTECTION FOR REINFORCING AS WELL AS PLACING AND FABRICATION OF REINFORCING SHALL BE IN ACCORDANCE WITH THE "AMERICAN CONCRETE INSTITUTE BUILDING CODE REQUIREMENTS" (ACI 318).
- EARTH FORMED FOOTINGS SHALL CONFORM TO THE SHAPE, LINES AND DIMENSIONS AS SHOWN ON THE FOUNDATION PLAN. ALL WATER SHALL BE REMOVED PRIOR TO PLACING CONCRETE.
- BEFORE PLACING CONCRETE ALL EMBEDDED ITEMS SHALL BE PROPERLY LOCATED, ACCURATELY POSITIONED AND MAINTAINED SECURELY IN PLACE.
- ALL CONTINUOUS REINFORCING SHALL LAP 36 BAR DIAMETERS UNLESS OTHERWISE NOTED ON THE DRAWINGS.

GENERAL NOTES

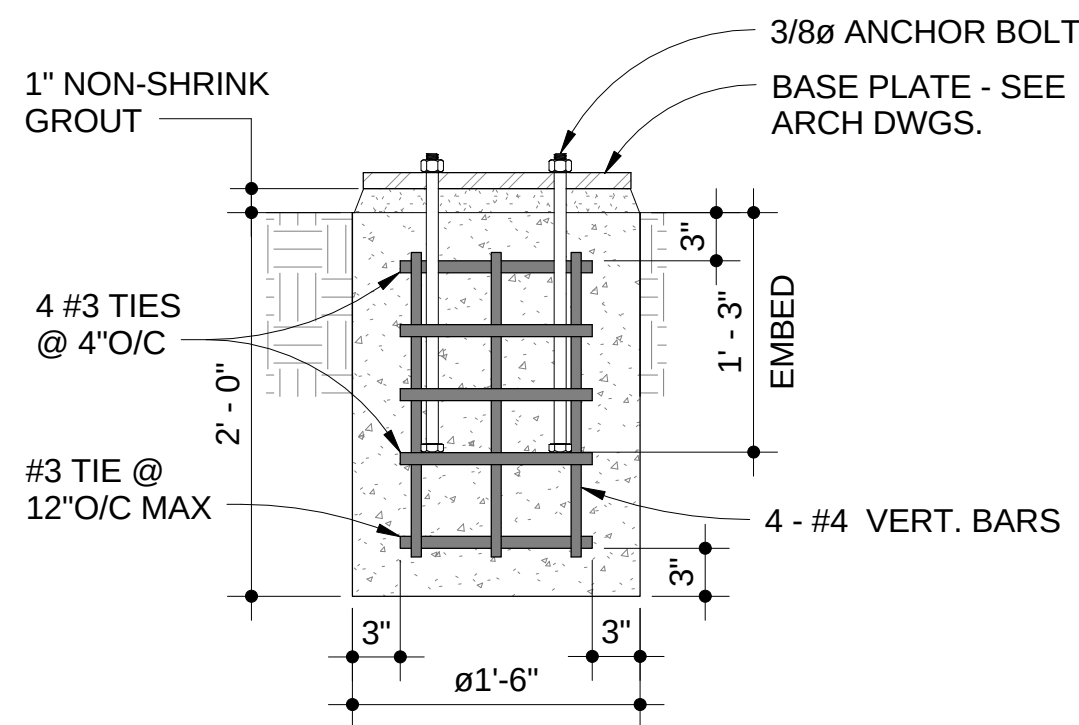
- UNDER NO CIRCUMSTANCES SHALL THE CONTRACT DRAWINGS BE REPRODUCED AND USED AS SHOP DRAWINGS.
- THE CONTRACTOR SHALL COORDINATE AND VERIFY ALL DIMENSIONS PRIOR TO STARTING CONSTRUCTION. ANY DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT.
- THE STRUCTURAL DRAWINGS SHALL BE USED IN CONJUNCTION WITH THE ARCHITECTURAL, MECHANICAL AND ELECTRICAL DRAWINGS. THE CONTRACTOR SHALL VERIFY THE REQUIREMENTS OF OTHER TRADES AS TO SLEEVES, CHASES, HANGERS, INSERTS, ANCHORS, HOLES, ETC., TO SET THE STRUCTURAL WORK.
- BACK CHARGES FOR CHANGE ORDERS, CORRECTIVE WORK OR REPLACED MATERIALS WILL NOT BE ACCEPTED UNLESS EXPRESSLY AUTHORIZED IN WRITING BY SINCLAIR PRATT CAMERON, P.C. BEFORE ANY SUCH COSTS ARE INCURRED.
- LETTERS TO CORRELATE TO LOCATIONS ON SITE PLAN.

DESIGN CRITERIA

- STRUCTURAL DESIGN IS IN ACCORDANCE WITH THE 2012 VIRGINIA UNIFORM STATEWIDE BUILDING CODE (VUSBC) & THE 2012 INTERNATIONAL BUILDING CODE (IBC).
- DESIGN LOADS ARE AS FOLLOWS:
WIND LOADS (PER ASCE):
NORMAL DESIGN WIND SPEED (Vasd) 93 MPH
ULTIMATE DESIGN WIND SPEED (VuIt) 120 MPH
WIND EXPOSURE C
RISK CATEGORY I



DIRECTIONAL FOUNDATION PLAN
(TYP. OF 3) (D & E)
1" = 1'-0"



DIRECTIONAL FOUNDATION SECTION (D & E)
1" = 1'-0"

REVISIONS		
#	DATE	COMMENTS

DATE	12-09-2016
JOB NUMBER	16-0606
DESIGNED BY	KLR
DRAWN BY	KEF
CHECKED BY	KLR

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A

GENERAL CONDITIONS

SECTION 014200 - REFERENCES
PART 1 - GENERAL

1.1 INDUSTRY STANDARDS

- A. APPLICABILITY OF STANDARDS: UNLESS THE CONTRACT DOCUMENTS INCLUDE MORE STRINGENT REQUIREMENTS, APPLICABLE CONSTRUCTION INDUSTRY STANDARDS HAVE THE SAME FORCE AND EFFECT AS IF BOUND OR COPIED DIRECTLY INTO THE CONTRACT DOCUMENTS TO THE EXTENT REFERENCED. SUCH STANDARDS ARE MADE A PART OF THE CONTRACT DOCUMENTS BY REFERENCE.
- B. PUBLICATION DATES: COMPLY WITH STANDARDS IN EFFECT AS OF DATE OF THE CONTRACT DOCUMENTS UNLESS OTHERWISE INDICATED.
- C. COPIES OF STANDARDS: EACH ENTITY ENGAGED IN CONSTRUCTION ON PROJECT SHOULD BE FAMILIAR WITH INDUSTRY STANDARDS APPLICABLE TO ITS CONSTRUCTION ACTIVITY. COPIES OF APPLICABLE STANDARDS ARE NOT BOUND WITH THE CONTRACT DOCUMENTS.
 - 1. WHERE COPIES OF STANDARDS ARE NEEDED TO PERFORM A REQUIRED CONSTRUCTION ACTIVITY, OBTAIN COPIES DIRECTLY FROM PUBLICATION SOURCE.

1.2 NOTE

- A. SEE STRUCTURAL, PLUMBING, MECHANICAL, AND ELECTRICAL PLANS FOR RELATED SPECIFICATIONS.

MASONRY

1.1 SUMMARY

- A. MASONRY CONSTRUCTION:
 - 1. MASONRY VENEER.
 - 2. PRECAST CONCRETE CAPS

1.2 SUBMITTALS

- A. PRODUCT DATA: FOR EACH TYPE OF PRODUCT INDICATED.
- B. SHOP DRAWINGS: FOR THE FOLLOWING:
 - 1. MASONRY UNITS: SHOW SIZES, PROFILES, COURSING, AND LOCATIONS OF SPECIAL SHAPES.
 - 2. FABRICATED FLASHING: DETAIL CORNER UNITS, END-DAM UNITS, AND OTHER SPECIAL APPLICATIONS.
- C. SAMPLES FOR VERIFICATION: FOR EACH TYPE AND COLOR OF THE FOLLOWING:
 - 1. FACE BRICK.
 - 2. PRECAST CONCRETE CAPS
 - 3. PIGMENTED AND COLORED-AGGREGATE MORTAR. MAKE SAMPLES USING SAME SAND AND MORTAR INGREDIENTS TO BE USED ON PROJECT. LABEL SAMPLES TO INDICATE TYPES AND AMOUNTS OF PIGMENTS USED.
 - 4. ACCESSORIES EMBEDDED IN MASONRY.
- D. MIX DESIGNS: FOR EACH TYPE OF MORTAR AND GROUT. INCLUDE DESCRIPTION OF TYPE AND PROPORTIONS OF INGREDIENTS.
 - 1. INCLUDE TEST REPORTS, PER ASTM C 780, FOR MORTAR MIXES REQUIRED TO COMPLY WITH PROPERTY SPECIFICATION.
 - 2. INCLUDE TEST REPORTS, PER ASTM C 1019, FOR GROUT MIXES REQUIRED TO COMPLY WITH COMPRESSIVE STRENGTH REQUIREMENT.
- E. COLD-WEATHER PROCEDURES: DETAILED DESCRIPTION OF METHODS, MATERIALS, AND EQUIPMENT TO BE USED TO COMPLY WITH COLD-WEATHER REQUIREMENTS.

1.3 QUALITY ASSURANCE

- A. PREINSTALLATION CONFERENCE: CONDUCT CONFERENCE AT PROJECT SITE TO COMPLY WITH REQUIREMENTS IN GENERAL CONDITIONS OF THE CONTRACT.

1.4 MATERIALS

- A. FACE BRICK: FACING BRICK COMPLYING WITH ASTM C 216.
 - 1. GRADE: MW OR SW.
 - 2. TYPE: FBS
 - 3. INITIAL RATE OF ABSORPTION: LESS THAN 30 G/30 SQ. IN. (30 G/194 SQ. CM) PER MINUTE WHEN TESTED PER ASTM C 67.
 - 4. SEE SHEET A2.0/A2.1 FOR ACTUAL BRICK SELECTION
- B. EFFLORESCENCE: PROVIDE BRICK THAT HAS BEEN TESTED ACCORDING TO ASTM C 67 AND IS RATED "NOT EFFLORESCED."
- C. MASONRY JOINT REINFORCEMENT:
 - 1. MASONRY JOINT REINFORCEMENT, GENERAL: ASTM A 951/A 951M.
 - 2. MASONRY JOINT REINFORCEMENT FOR VENEERS ANCHORED WITH SEISMIC MASONRY-VENEER ANCHORS: SINGLE 0.187-INCH- (4.76-MM-) DIAMETER, [HOT-DIP GALVANIZED, CARBON] [STAINLESS]-STEEL CONTINUOUS WIRE.
- D. TIES AND ANCHORS: HOT-DIPPED GALVANIZED OR STAINLESS STEEL.
 - 1. GENERAL: TIES AND ANCHORS SHALL EXTEND AT LEAST 1-1/2 INCHES (38 MM) INTO VENEER BUT WITH AT LEAST A 5/8-INCH (16-MM) COVER ON OUTSIDE FACE.
 - 2. ADJUSTABLE ANCHORS FOR CONNECTING TO CONCRETE: PROVIDE ANCHORS THAT ALLOW VERTICAL OR HORIZONTAL ADJUSTMENT BUT RESIST TENSION AND COMPRESSION FORCES PERPENDICULAR TO PLANE OF WALL.
 - 3. RIGID ANCHORS.
 - 4. ADJUSTABLE MASONRY-VENEER ANCHORS: PROVIDE ANCHORS THAT ALLOW VERTICAL ADJUSTMENT BUT RESIST A 100-LBF (445-N) LOAD IN BOTH TENSION AND COMPRESSION PERPENDICULAR TO PLANE OF WALL WITHOUT DEFORMING OR DEVELOPING PLAY IN EXCESS OF 1/16 INCH (1.5 MM).
- E. EMBEDDED FLASHING:
 - 1. ALL FLASHING: STAINLESS STEEL.
 - 2. PARTIALLY EXPOSED FLASHING: STAINLESS STEEL.
- F. MESH WEEP/VENT: FREE-DRAINING MESH; MADE FROM POLYETHYLENE STRANDS, FULL HEIGHT AND WIDTH OF HEAD JOINT AND DEPTH 1/8 INCH (3 MM) LESS THAN DEPTH OF OUTER WYTHE; IN COLOR SELECTED FROM MANUFACTURER'S STANDARD.
- G. CAVITY DRAINAGE MATERIAL: FREE-DRAINING MESH, MADE FROM POLYMER STRANDS THAT WILL NOT DEGRADE WITHIN THE WALL CAVITY.
- H. MORTAR:
 - 1. PORTLAND CEMENT-LIME MORTAR UNLESS OTHERWISE INDICATED.
 - a. ALKALI CONTENT SHALL NOT BE MORE THAN 0.1 PERCENT WHEN TESTED ACCORDING TO ASTM C 114.

1.5 SOURCE QUALITY CONTROL

- A. TESTING AGENCY: OWNER ENGAGED, WITH PAYMENT BY OWNER.

1.6 INSTALLATION

- A. BOND PATTERN: AS INDICATED.

1.7 FIELD QUALITY CONTROL

- A. TESTING AGENCY: OWNER ENGAGED.

END OF SECTION 04213

2

METALS - ARCHITECTURAL

1.1 SUMMARY

- A. STEEL FRAMING AND SUPPORTS FOR MECHANICAL AND ELECTRICAL EQUIPMENT.
- B. STEEL FRAMING AND SUPPORTS FOR APPLICATIONS WHERE FRAMING AND SUPPORTS ARE NOT SPECIFIED IN OTHER SECTIONS.
- C. SHELF ANGLES.
- D. METAL BOLLARDS.
- E. STAINLESS STEEL SHELF
- F. SIGN ELEMENT
- G. PATIO RAILING

1.2 SUBMITTALS

- A. PRODUCT DATA: FOR THE FOLLOWING:
 - 1. PAINT PRODUCTS.
 - 2. GROUT.
 - 3. ALL PREFABRICATED PRODUCTS.
- B. SHOP DRAWINGS: SHOW FABRICATION AND INSTALLATION DETAILS FOR METAL FABRICATIONS.
 - 1. INCLUDE PLANS, ELEVATIONS, SECTIONS, AND DETAILS OF METAL FABRICATIONS AND THEIR CONNECTIONS. SHOW ANCHORAGE AND ACCESSORY ITEMS.
 - 2. PROVIDE TEMPLATES FOR ANCHORS AND BOLTS SPECIFIED FOR INSTALLATION UNDER OTHER SECTIONS.
- C. WELDING CERTIFICATES.

1.3 PRODUCTS

- A. MATERIALS: STEEL PLATES, SHAPES, AND BARS, STEEL PIPE, SLOTTED CHANNEL FRAMING.
 - 1. LOW-EMITTING PRIMER: METAL PRIMER SHALL HAVE A VOC CONTENT OF 200 G/L OR LESS WHEN CALCULATED ACCORDING TO 40 CFR 59, SUBPART D (EPA METHOD 24).
- B. MISCELLANEOUS FRAMING AND SUPPORTS:
 - 1. STEEL FRAMING AND SUPPORTS FOR MECHANICAL AND ELECTRICAL EQUIPMENT, APPLICATIONS WHERE FRAMING AND SUPPORTS ARE NOT SPECIFIED IN OTHER SECTIONS.
 - 2. GALVANIZE WHERE INDICATED.
 - 3. PRIME WITH ZINC-RICH PRIMER WHERE INDICATED.
 - a. ZINC-RICH PRIMER SHALL HAVE A VOC CONTENT OF 340 G/L OR LESS WHEN CALCULATED ACCORDING TO 40 CFR 59, SUBPART D (EPA METHOD 24).
- C. LOOSE STEEL LINTELS, GALVANIZED AT EXTERIOR WALLS.
- D. SHELF ANGLES, GALVANIZED.
- E. STEEL WELD PLATES AND ANGLES NOT SPECIFIED IN OTHER SECTIONS, FOR CASTING INTO CONCRETE.
- F. METAL BOLLARDS: SCHEDULE 40 STEEL PIPE.
- G. FINISH GC TO PROVIDE OPTION TO POWDER COAT PATIO RAILING AND SIGN ELEMENT

END OF SECTION 055000

WOODS AND PLASTICS

1.1 MATERIALS

- A. WOOD-PRESERVATIVE-TREATED LUMBER:
 - 1. PRESERVATIVE TREATMENT: AWPA U1; USE CATEGORY UC2, BUT USE CATEGORY UC3B FOR EXTERIOR CONSTRUCTION AND USE CATEGORY UC4A FOR ITEMS IN CONTACT WITH THE GROUND.
 - a. PRESERVATIVE CHEMICALS: CONTAINING NO ARSENIC OR CHROMIUM. DO NOT USE INORGANIC BORON (SBX) FOR SILL PLATES.
 - 2. APPLICATION: ITEMS INDICATED AND AS FOLLOWS:
 - a. ITEMS IN CONTACT WITH ROOFING OR WATERPROOFING.
 - b. ITEMS IN CONTACT WITH CONCRETE OR MASONRY.
 - c. FRAMING LESS THAN 18 INCHES (460 MM) ABOVE GROUND IN CRAWLSPACES.
 - d. FLOOR PLATES INSTALLED OVER CONCRETE SLABS-ON-GRADE.
- B. DIMENSION LUMBER FRAMING:
 - 1. EXPOSED FRAMING: HAND-SELECTED FOR APPEARANCE AND FREEDOM FROM DECAY, HONEYCOMB, KNOT-HOLES, SHAKE, SPLITS, TORN GRAIN, AND WANE.
 - a. APPLICATION: EXPOSED EXTERIOR AND INTERIOR FRAMING INDICATED TO RECEIVE A STAINED OR NATURAL FINISH.
 - b. SPECIES AND GRADE: AS INDICATED FOR LOAD-BEARING CONSTRUCTION.
- C. ENGINEERED WOOD PRODUCTS, GENERAL: PRODUCTS LOCATED WITHIN THE BUILDING WEATHERPROOFING SYSTEM SHALL CONTAIN NO ADDED UREA FORMALDEHYDE.
- D. WOOD PANEL PRODUCT/ PRESERVATIVE - TREATED PLYWOOD
 - 1. WOOD PANEL PRODUCTS LOCATED WITHIN THE BUILDING WEATHERPROOFING SYSTEM SHALL CONTAIN NO ADDED UREA FORMALDEHYDE.
 - 2. PRESERVATIVE TREATMENT: AWPA U1; USE CATEGORY UC2, BUT USE CATEGORY UC3B FOR EXTERIOR CONSTRUCTION AND USE CATEGORY UC4A FOR ITEMS IN CONTACT WITH THE GROUND.
 - 3. PRESERVATIVE CHEMICALS: CONTAINING NO ARSENIC OR CHROMIUM.
 - 4. APPLICATION: TREAT PLYWOOD IN CONTACT WITH MASONRY OR CONCRETE OR USED WITH ROOFING, FLASHING, VAPOR BARRIERS, AND WATERPROOFING.
 - 5. SHEATHING:
 - a. NAIL OR STAPLE TO WOOD FRAMING.
 - b. SCREW TO COLD-FORMED METAL FRAMING.

- E. FASTENERS: STAINLESS STEEL WHERE EXPOSED TO WEATHER, IN GROUND CONTACT, IN CONTACT WITH TREATED WOOD, OR IN AREA OF HIGH RELATIVE HUMIDITY.

F. METAL FRAMING ANCHORS:

- 1. HOT-DIP GALVANIZED STEEL FOR INTERIOR LOCATIONS.
- 2. HOT-DIP, HEAVY-GALVANIZED STEEL FOR TREATED LUMBER AND WHERE INDICATED.
- 3. STAINLESS STEEL FOR EXTERIOR AND WHERE INDICATED.

G. MISCELLANEOUS MATERIALS:

- 1. SILL-SEALER GASKETS: [GLASS-FIBER INSULATION] [NEOPRENE FOAM].
- 2. ADHESIVES SHALL HAVE A VOC CONTENT OF 70 G/L OR LESS WHEN CALCULATED ACCORDING TO 40 CFR 59, SUBPART D (EPA METHOD 24).

END OF SECTION 061000

3

THERMAL AND MOISTURE PROTECTION - MASONRY

1.1 MATERIALS

- A. COLD-APPLIED, EMULSIFIED ASPHALT: VOC OF 250 G/L OR LESS.

1.2 INSTALLATION

- A. COLD-APPLIED, EMULSIFIED-ASPHALT DAMPROOFING:
 - 1. MASONRY BACKUP FOR BRICK VENEER ASSEMBLIES: PRIMER AND ONE BRUSH OR SPRAY COAT.
 - 2. EXTERIOR FACE OF INNER WYTHE OF CAVITY WALLS: PRIMER AND ONE BRUSH OR SPRAY COAT.

END OF SECTION 07111

THERMAL AND MOISTURE PROTECTION - WATERPROOFING

1.1 MATERIALS

- A. BUTYL RUBBER SHEET WATERPROOFING: 90 MILS (2.3 MM) THICK, UNREINFORCED.
- B. AUXILIARY MATERIALS:
 - 1. PRIMER: WATERBORNE.
 - 2. METAL TERMINATION BARS: ALUMINUM.
 - 3. PROTECTION COURSE: AS RECOMMENDED BY MANUFACTURER.

1.2 INSTALLATION

- A. RUBBER SHEET: FULLY ADHERED, CEMENT SPLICE SEAMS.

END OF SECTION 071300

THERMAL AND MOISTURE PROTECTION - INSULATION

1.1 SUMMARY

- A. APPLICATIONS:

- 1. CONCEALED BUILDING INSULATION.

1.2 PERFORMANCE REQUIREMENTS

- A. PLENUM RATING: GLASS SLAG-WOOL-FIBER/ROCK-WOOL-FIBER INSULATION RATED FOR RESISTANCE AGAINST EROSION AND MOLD GROWTH PER UL 181.

1.3 MATERIALS

- A. INSULATION:
 - 1. ALL INSULATION MATERIALS LOCATED WITHIN THE WATERPROOF MEMBRANE MUST BE CERTIFIED AS LOW EMITTING. CERTIFICATION MUST BE BASED UPON THE CALIFORNIA DEPARTMENT OF HEALTH SERVICES STANDARD PRACTICE FOR THE TESTING OF VOLATILE ORGANIC EMISSIONS FROM VARIOUS SOURCES USING SMALL-SCALE ENVIRONMENTAL CHAMBERS, INCLUDING 2004 ADDENDA OR A JURISDICTIONALLY RECOGNIZED STANDARD USING EQUIVALENT TESTING METHODOLOGIES AND VOC THRESHOLDS.

END OF SECTION 072100

THERMAL AND MOISTURE PROTECTION - BUILDING WRAP

1.1 MATERIALS

- A. [BUILDING PAPER: NO. 15 ASPHALT-SATURATED ORGANIC FELT, UNPERFORATED.] [BUILDING PAPER: WATER-VAPOR-PERMEABLE , ASPHALT-SATURATED KRAFT BUILDING PAPER.] [BUILDING WRAP: WITH FLAME-SPREAD AND SMOKEDEVELOPED INDEXES OF LESS THAN 25 AND 450, RESPECTIVELY, WHEN TESTED ACCORDING TO ASTM E 84; UV STABILIZED; AND ACCEPTABLE TO AUTHORITIES HAVING JURISDICTION.]
- B. BUILDING-WRAP TAPE: PRESSURE-SENSITIVE PLASTIC TAPE RECOMMENDED BY BUILDING-WRAP MANUFACTURER FOR SEALING JOINTS AND PENETRATIONS IN BUILDING WRAP.
- C. FLEXIBLE FLASHING: .
- D. GC OPTION TO USE SHEATING BOARD WITH INTEGRATED WATER RESISTANT AND AIR BARRIER - EQUAL TO SIP SYSTEMS

END OF SECTION 072500

4

THERMAL AND MOISTURE PROTECTION - ROOFING MEMBRANE

1.1 SUMMARY

- A. FULLY ADHERED MEMBRANE ROOFING SYSTEM.
- B. VAPOR RETARDER.
- C. ROOF INSULATION.

1.2 SUBMITTALS

- A. PRODUCT DATA: FOR EACH TYPE OF PRODUCT INDICATED.
- B. SHOP DRAWINGS: FOR ROOFING SYSTEM. INCLUDE PLANS, ELEVATIONS, SECTIONS, DETAILS, AND ATTACHMENTS TO OTHER WORK.
 - 1. BASE FLASHINGS AND MEMBRANE TERMINATIONS.
 - 2. TAPERED INSULATION, INCLUDING SLOPES.
 - 3. INSULATION FASTENING PATTERNS.
- C. INSTALLER CERTIFICATES: SIGNED BY ROOFING SYSTEM MANUFACTURER CERTIFYING THAT INSTALLER IS APPROVED, AUTHORIZED, OR LICENSED BY MANUFACTURER TO INSTALL ROOFING SYSTEM.
- D. MANUFACTURER CERTIFICATES: SIGNED BY ROOFING MANUFACTURER CERTIFYING THAT ROOFING SYSTEM COMPLIES WITH REQUIREMENTS SPECIFIED IN "PERFORMANCE REQUIREMENTS" ARTICLE.
 - 1. SUBMIT EVIDENCE OF MEETING PERFORMANCE REQUIREMENTS.
- E. QUALIFICATION DATA: FOR INSTALLER AND MANUFACTURER.
- F. PRODUCT TEST REPORTS: BASED ON EVALUATION OF COMPREHENSIVE TESTS PERFORMED BY MANUFACTURER AND WITNESSED BY A QUALIFIED TESTING AGENCY, FOR COMPONENTS OF ROOFING SYSTEM.
- G. WARRANTIES: SPECIAL WARRANTIES SPECIFIED IN THIS SECTION.

1.3 PERFORMANCE REQUIREMENTS

- A. ROOFING SYSTEM DESIGN: UPLIFT PRESSURES CALCULATED ACCORDING TO ASCE/SEI 7.
- B. SOLAR REFLECTANCE INDEX: NOT LESS THAN 78.

1.4 EXTERIOR FIRE-TEST EXPOSURE: CLASS A.

1.5 MATERIALS

- A. THERMOPLASTIC POLYOLEFIN ROOFING MEMBRANE: WHITE, FABRIC-REINFORCED THERMOPLASTIC SHEET, 60 MILS (1.5 MM) THICK.
- B. SHEET FLASHING: SAME AS TPO SHEET.
- C. ROOF INSULATION: PREFORMED ROOF INSULATION BOARDS MANUFACTURED OR APPROVED BY TPOOFING MANUFACTURER.
 - 1. TAPERED BOARDS: 1/8 INCH PER 12 INCHES

1.6 INSTALLATION

- A. ROOFING MEMBRANE: FULLY ADHERED

1.7 FIELD QUALITY CONTROL

- A. TESTING AGENCY: OWNER ENGAGED.

END OF SECTION 075423

THERMAL AND MOISTURE PROTECTION - SHEET METAL

1.1 MATERIALS

- A. SHEET METALS:
 - 1. STAINLESS-STEEL SHEET, TYPE 304: 4 (DIRECTIONAL SATIN) FINISH WITH SMOOTH, FLAT SURFACE.
 - 2. METALLIC-COATED STEEL SHEET: PROVIDE ZINC-COATED (GALVANIZED) STEEL SHEET ACCORDING TO ASTM A 653/A 653M, G90 (Z275) COATING DESIGNATION; PREPAINTED BY COIL-COATING PROCESS TO COMPLY WITH ASTM A 755/A 755M.
 - a. SURFACE: MANUFACTURER'S STANDARD CLEAR ACRYLIC COATING ON BOTH SIDES.
 - b. COIL-COATED FINISH: TWO-COAT FLUOROPOLYMER.
- B. UNDERLAYMENT: FELTS.

1.2 PRODUCTS

- A. FORMED LOW-SLOPE ROOF FABRICATIONS: INCLUDING COPINGS, ROOF EXPANSION-JOINT COVERS, COUNTERFLASHING, FLASHING RECEIVERS, ROOF-PENETRATION FLASHING AND ROOF-DRAIN FLASHING.
- B. FORMED WALL FABRICATIONS: INCLUDING THROUGH-WALL FLASHING, OPENING FLASHINGS IN FRAME CONSTRUCTION, AND WALL EXPANSION-JOINT COVER.
- C. MISCELLANEOUS FORMED FABRICATIONS: INCLUDING EQUIPMENT SUPPORT FLASHING.

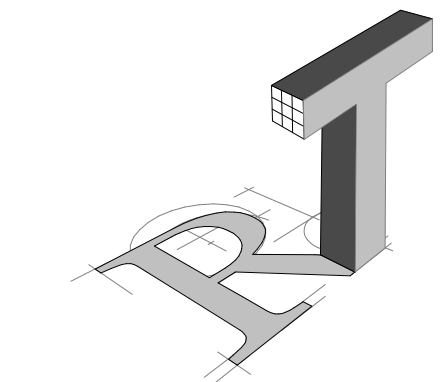
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THERMAL AND MOISTURE PROTECTION - ROOF CURBS

1.1 PRODUCTS

- A. ROOF CURBS: INSULATED.
 - 1. HEIGHT: MINIMUM 12 INCHES (300 MM) ABOVE ROOFING SURFACE UNLESS OTHERWISE INDICATED.
 - 2. NAILER: FACTORY-INSTALLED WOOD NAILER ALONG TOP FLANGE OF CURB, CONTINUOUS AROUND CURB PERIMETER.
- B. EQUIPMENT SUPPORTS: RAIL TYPE.
 - 1. HEIGHT: MINIMUM 12 INCHES (300 MM) ABOVE ROOFING SURFACE UNLESS OTHERWISE INDICATED.
- C. DUCT SUPPORTS: EXTRUDED ALUMINUM, URETHANE INSULATED.
- D. PIPE PORTALS: FLASHING TYPE, FORMED ALUMINUM WITH TPO CAPS.
- E. PREFORMED FLASHING SLEEVES: EXHAUST VENT FLASHING AND VENT STACK FLASHING FABRICATED FROM ALUMINUM SHEET.

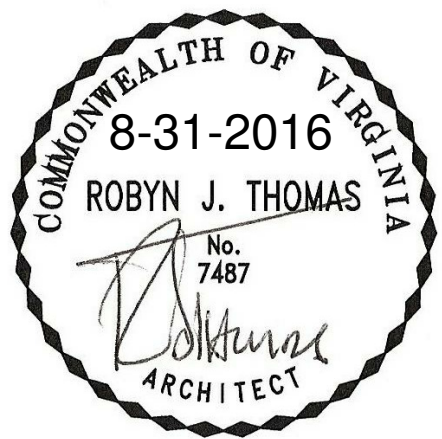
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RETAIL SPACE FOR STARBUCKS
STARBUCKS
CORNER SHOPS - 2000 COLONIAL AVE NORFOLK, VA

RTA NO: 15-012
DATE: 8/31/2016
DESIGN: Designer
DRAWN: Author
REVIEW: Checker

REVISIONS
No. Date Description

OUTLINE
SPECIFICATIONS

G-01

SHEET

OF

D

1

THERMAL AND MOISTURE PROTECTION- SEALANTS

- 1.1 MATERIALS**
- A. VOC CONTENT OF INTERIOR SEALANTS: PROVIDE INTERIOR SEALANTS AND SEALANT PRIMERS THAT COMPLY WITH THE FOLLOWING LIMITS FOR VOC CONTENT WHEN CALCULATED ACCORDING TO 40 CFR 59, SUBPART D (EPA METHOD 24):
1. SEALANTS: 250 G/L.
 2. SEALANT PRIMERS FOR NONPOROUS SUBSTRATES: 250 G/L.
 3. SEALANT PRIMERS FOR POROUS SUBSTRATES: 775 G/L.
- B. SUITABILITY FOR CONTACT WITH FOOD: WHERE SEALANTS ARE INDICATED FOR JOINTS THAT WILL COME IN REPEATED CONTACT WITH FOOD, PROVIDE PRODUCTS THAT COMPLY WITH 21 CFR 177.2600.
- C. ELASTOMERIC JOINT SEALANTS: LIQUID APPLIED, CHEMICALLY CURING; ASTM C 820:
1. MULTICOMPONENT NONSAG NEUTRAL-CURING SILICONE SEALANT ES-1.
 2. SINGLE-COMPONENT MILDEW-RESISTANT NEUTRAL-CURING SILICONE SEALANT ES-2.
 3. SINGLE-COMPONENT MILDEW-RESISTANT ACID-CURING SILICONE SEALANT ES-3.
 4. SINGLE-COMPONENT MILDEW-RESISTANT ACID-CURING RTV SILICONE SEALANT ES-4.
 5. MULTICOMPONENT NONSAG POLYUREA SEALANT ES-5.
 6. MULTICOMPONENT NONSAG POLYUREA FILLER ES-6.
- D. LATEX SEALANT LS-1: COMPLY WITH ASTM C 834, TYPE P, GRADE NF.
- E. JOINT-SEALANT BACKING:

- 1.2 JOINT-SEALANT SCHEDULE**
- A. JOINT-SEALANT APPLICATION JS-1: EXTERIOR HORIZONTAL NONTRAFFIC AND TRAFFIC ISOLATION AND CONTRACTION JOINTS IN CAST-IN-PLACE CONCRETE SLABS.
1. JOINT SEALANT: ES-5.
- B. JOINT-SEALANT APPLICATION JS-2: EXTERIOR PERIMETER JOINTS BETWEEN WALL AND FRAMES OF DOORS AND WINDOWS.
1. JOINT SEALANT: ES-1.
- C. JOINT-SEALANT APPLICATION JS-3: EXTERIOR CONTROL AND EXPANSION JOINTS IN HORIZONTAL TRAFFIC SURFACES OF BRICK PAVERS, CERAMIC TILE, STONE PAVING UNITS, CONCRETE TILE.
1. JOINT SEALANT: MULTICOMPONENT POURABLE POLYSULFIDE SEALANT.
 2. JOINT-SEALANT COLOR: AS SELECTED BY ARCHITECT FROM MANUFACTURER'S FULL RANGE.
- D. JOINT-SEALANT APPLICATION JS-4: INTERIOR PERIMETER JOINTS OF EXTERIOR OPENINGS.
1. JOINT SEALANT: ES-3.
- E. JOINT-SEALANT APPLICATION JS-5: INTERIOR CERAMIC TILE EXPANSION, CONTROL, CONTRACTION, AND ISOLATION JOINTS IN HORIZONTAL TRAFFIC SURFACES.
1. JOINT SEALANT: ES-3.
 2. JOINT-SEALANT COLOR: AS NOTED.
- F. JOINT-SEALANT APPLICATION JS-6: INTERIOR JOINTS BETWEEN PLUMBING FIXTURES AND ADJOINING WALLS, FLOORS, AND COUNTERS.
1. JOINT SEALANT: ES-3.
 2. JOINT-SEALANT COLOR: TRANSLUCENT.
- G. JOINT-SEALANT APPLICATION JS-7: VERTICAL JOINTS ON EXPOSED SURFACES OF INTERIOR PARTITIONS.
1. JOINT SEALANT: ES-3.
- H. JOINT-SEALANT APPLICATION JS-8: PERIMETER JOINTS BETWEEN INTERIOR WALL SURFACES AND FRAMES OF INTERIOR DOORS, WINDOWS.
1. JOINT SEALANT: ES-3.
- I. JOINT-SEALANT APPLICATION JS-9: HVAC JOINTS.
1. JOINT SEALANT: ES-2.
 2. JOINT-SEALANT COLOR: ALUMINUM.
- J. JOINT-SEALANT APPLICATION JS-10: NON-POROUS MATERIAL TO NON-POROUS MATERIAL.
1. JOINT SEALANT: ES-4.
 2. JOINT-SEALANT COLOR: CLEAR.

END OF SECTION 079200

STOREFRONT DOORS AND WINDOWS

- 1.1 PERFORMANCE REQUIREMENTS**
- A. DELEGATED DESIGN: CONTRACTOR TO DESIGN ALUMINUM-FRAMED SYSTEMS.
- B. DEFLECTION OF FRAMING MEMBERS:
1. DEFLECTION NORMAL TO WALL PLANE: LIMITED TO L/175.
 2. DEFLECTION PARALLEL TO GLAZING PLANE: LIMITED TO L/360 OR 1/8 INCH (3.2 MM), WHICHEVER IS SMALLER.
- C. AIR INFILTRATION:
1. FIXED FRAMING AND GLASS AREA: MAXIMUM AIR LEAKAGE OF 0.06 CFM/SQ. FT. (0.30 L/S PER SQ. M) AT A STATIC-AIR-PRESSURE DIFFERENTIAL OF 1.57 LBF/SQ. FT. (75 PA).
 2. ENTRANCE DOORS:
- A. PAIR OF DOORS: MAXIMUM AIR LEAKAGE OF 1.0 CFM/SQ. FT. (5.08 L/S PER SQ. M) AT A STATIC-AIR-PRESSURE DIFFERENTIAL OF 1.57 LBF/SQ. FT. (75 PA).
- B. SINGLE DOORS: MAXIMUM AIR LEAKAGE OF 0.5 CFM/SQ. FT. (2.54 L/S PER SQ. M) AT A STATIC-AIR-PRESSURE DIFFERENTIAL OF 1.57 LBF/SQ. FT. (75 PA).

- 1.2 SUBMITTALS**
- A. PRODUCT DATA: FOR EACH TYPE OF PRODUCT.
- B. SHOP DRAWINGS: INCLUDE PLANS, ELEVATIONS, SECTIONS, FULL-SIZE DETAILS, AND ATTACHMENTS TO OTHER WORK.
1. SHOW CONNECTION TO AND CONTINUITY WITH ADJACENT THERMAL, WEATHER, AIR, AND VAPOR BARRIERS.
- C. SAMPLES: FOR EACH EXPOSED FINISH REQUIRED.
- D. ENERGY PERFORMANCE CERTIFICATES.

- 1.3 MATERIALS**
- A. ALUMINUM: ALLOY AND TEMPER RECOMMENDED BY MANUFACTURER.
- B. STEEL REINFORCEMENT.

- 1.4 SYSTEM COMPONENTS**
- A. FRAMING MEMBERS:
1. CONSTRUCTION: THERMALLY BROKEN.
 2. GLAZING SYSTEM: GASKETS ON FOUR SIDES.
 3. GLAZING PLANE: FRONT.
- B. GLAZING: SECTION 088000 "GLAZING."
- C. ENTRANCE DOORS:
1. DOOR CONSTRUCTION: 1-3/4-INCH (44.5-MM) OVERALL THICKNESS.
 2. DOOR DESIGN: AS INDICATED.
- D. ENTRANCE DOOR HARDWARE: AS SCHEDULED.

END OF SECTION 084113

2

DOORS AND WINDOWS - STEEL DOORS AND HARDWARE

- 1.1 SUMMARY**
- A. COMMERCIAL DOOR HARDWARE FOR SWINGING DOORS.
- B. OTHER DOORS TO THE EXTENT INDICATED.
- C. CYLINDERS FOR DOORS SPECIFIED IN OTHER SECTIONS.
- 1.2 SUBMITTALS**
- A. PRODUCT DATA: INCLUDE CONSTRUCTION AND INSTALLATION DETAILS, MATERIAL DESCRIPTIONS, DIMENSIONS OF INDIVIDUAL COMPONENTS AND PROFILES, AND FINISHES.
- 1.3 WARRANTY**
- A. WARRANTY PERIOD: ONE YEAR FROM DATE OF SUBSTANTIAL COMPLETION, EXCEPT AS FOLLOWS:
1. MANUAL CLOSERS: 25 YEARS FROM DATE OF INVOICE.
 2. CYLINDRICAL LOCKSETS: TWO YEARS FROM DATE OF INVOICE.
 3. EXIT DEVICES: FIVE YEARS FROM DATE OF INVOICE.
- 1.4 MAINTENANCE SERVICE**
- A. FULL-MAINTENANCE SERVICE: SIX MONTHS.
- 1.5 PRODUCTS**
- A. CYLINDERS AND KEYING:
1. CONSTRUCTION KEYING: CONSTRUCTION MASTER KEYS.
 2. KEYING SYSTEM:
 - a. GRAND MASTER KEY.
 - b. LOCKS MASTER KEYED OR GRAND MASTER KEYED TO EXISTING SYSTEM.
 - c. ALL CYLINDERS KEYED ALIKE.
 - d. KEYS: NICKEL SILVER.
- 1) STAMPING: PERMANENTLY INSCRIBE EACH KEY WITH A LOCKNET KEY CONTROL NUMBER, STATE CODE, AND INCLUDE THE FOLLOWING NOTATION:
- a) NOTATION: "DO NOT DUPLICATE."
- 2) QUANTITY: IN ADDITION TO ONE EXTRA KEY BLANK FOR EACH LOCK, PROVIDE THE FOLLOWING:
- a) CYLINDER CHANGE KEYS: TWO.
 - b) CONSTRUCTION KEYS: FOUR.
 - c) MASTER KEYS: FOUR.
 - d) GRAND MASTER KEYS: TWO.

- 1.6 FIELD QUALITY CONTROL**
- A. INDEPENDENT ARCHITECTURAL HARDWARE CONSULTANT: OWNER ENGAGED TO PERFORM INSPECTIONS.
- B. OCCUPANCY ADJUSTMENT: THREE MONTHS.

END OF SECTION 087100

DOORS AND WINDOWS - GLAZING

- 1.1 SUMMARY**
- A. GLASS FOR WINDOWS, DOORS AND STOREFRONT FRAMING.

- 1.2 SUBMITTALS**
- A. PRODUCT DATA: FOR EACH PRODUCT.
- B. PRODUCT CERTIFICATES: FOR GLASS.

- 1.3 MATERIALS**
- A. SILICONE GLAZING SEALANTS: NEUTRAL OR BASIC CURING, CLASS 100/50, VOC LESS THAN 250 G/L.
- B. GLAZING TAPES: EXPANDED-CELLULAR TYPE.
- C. GLAZING GASKETS: DENSE COMPRESSION.

- 1.4 MONOLITHIC GLASS SCHEDULE**
- A. GLASS TYPE GL-<1>: LOW-E-COATED, CLEAR INSULATING GLASS.
1. OUTDOOR LITE: ANNEALED FLOAT GLASS.
 2. INDOOR LITE: ANNEALED FLOAT GLASS.
- B. GLASS TYPE GL-<2>: LOW-E-COATED, CLEAR INSULATING GLASS.
1. OUTDOOR LITE: FULLY TEMPERED FLOAT GLASS.
 2. INDOOR LITE: FULLY TEMPERED FLOAT GLASS.

END OF SECTION 088000

3

FINISHES

- 1.1 SUMMARY**
- A. INTERIOR GYPSUM BOARD.
- B. COORDINATE THE INSTALLATION OF DRYWALL WITH TENANT WALL ROUGH IN.

- 1.2 SUBMITTALS**
- A. PRODUCT DATA: FOR EACH TYPE OF PRODUCT INDICATED.
- B. SAMPLES: FOR THE FOLLOWING PRODUCTS:
1. TEXTURED FINISHES: MANUFACTURER'S STANDARD SIZE FOR EACH TEXTURED FINISH INDICATED AND ON SAME BACKING INDICATED FOR WORK.

- 1.3 MATERIALS**
- A. INTERIOR GYPSUM BOARD:
1. GENERAL: COMPLYING WITH ASTM C 36/C 36M OR ASTM C 1396/C 1396M, AS APPLICABLE TO TYPE OF GYPSUM BOARD INDICATED AND WHICHEVER IS MORE STRINGENT.
 - a. MUST BE CERTIFIED AS LOW EMITTING. CERTIFICATION MUST BE BASED UPON THE CALIFORNIA DEPARTMENT OF HEALTH SERVICES STANDARD PRACTICE FOR THE TESTING OF VOLATILE ORGANIC EMISSIONS FROM VARIOUS SOURCES USING SMALL-SCALE ENVIRONMENTAL CHAMBERS, INCLUDING 2004 ADDENDA OR A JURISDICTIONALLY RECOGNIZED STANDARD USING EQUIVALENT TESTING METHODOLOGIES AND VOC THRESHOLDS.
 2. TYPE - INSTALLATION
 - a. THICKNESS: 5/8 INCH (15.9 MM).
 - b. LONG EDGES: TAPERED.
 - c. GYP BOARD TO BE FINISH, TAPED AND SPACKLED READY FOR TENANT FINISHES
- B. TILE-BACKING PANELS:
1. CEMENTITIOUS BACKER UNITS: ANSI A118.9 AND ASTM C 1288 OR 1325, WITH MANUFACTURER'S STANDARD EDGES.
 - a. THICKNESS: 5/8".
 - b. MOLD RESISTANCE: ASTM D 3273, SCORE OF 10 AS RATED ACCORDING TO ASTM D 3274.
 - c. INSTALL 4" HIGH CEMENT BOARD AT BASE OF ALL EXTERIOR WALLS.
- C. TRIM ACCESSORIES:
- a. INTERIOR: CORNERBEAD.

END OF SECTION 092900

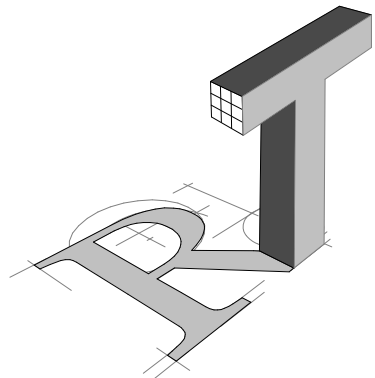
FINISHES - PAINT

- 1.1 SUMMARY**
- A. SURFACE PREPARATION AND THE APPLICATION OF PAINT SYSTEMS ON EXTERIOR SUBSTRATES.
- 1.2 SUBMITTALS**
- A. SAMPLES FOR VERIFICATION:
1. FOR EACH NON-STANDARD LATEX TOPCOAT COLOR AND GLOSS INDICATED.
 2. FOR EACH TYPE OF NON-STANDARD PAINT SYSTEM AND IN EACH COLOR. AND GLOSS OF TOPCOAT INDICATED.

- 1.3 EXTERIOR PAINTING SCHEDULE**
- A. CONCRETE SUBSTRATES, NONTRAFFIC SURFACES:
1. LATEX SYSTEM:
 - a. PRIME COAT: LATEX, EXTERIOR, MATCHING TOPCOAT.
 - b. TOPCOAT: LATEX, EXTERIOR (GLOSS LEVEL AS INDICATED IN PAINT SCHEDULE).
- B. CMU SUBSTRATES:
1. LATEX SYSTEM:
 - a. PRIME COAT: BLOCK FILLER, LATEX, INTERIOR/EXTERIOR.
 - b. TOPCOAT: LATEX, EXTERIOR (GLOSS LEVEL AS INDICATED IN PAINT SCHEDULE).
- C. STEEL SUBSTRATES:
1. WATER-BASED LIGHT INDUSTRIAL COATING SYSTEM:
 - a. PRIME COAT: PRIMER, ALKYD, ANTI-CORROSIVE FOR METAL.
 - b. TOPCOAT: LIGHT INDUSTRIAL COATING, EXTERIOR, WATER BASED (GLOSS LEVEL AS INDICATED IN PAINT SCHEDULE).
- D. GALVANIZED-METAL SUBSTRATES:
1. LATEX SYSTEM:
 - a. PRIME COAT: PRIMER, GALVANIZED, WATER BASED.
 - b. TOPCOAT: LATEX, EXTERIOR (GLOSS LEVEL AS INDICATED IN PAINT SCHEDULE).
- E. ALUMINUM SUBSTRATES:
1. LATEX SYSTEM:
 - a. PRIME COAT: PRIMER, QUICK DRY, FOR ALUMINUM.
 - b. TOPCOAT: LATEX, EXTERIOR (GLOSS LEVEL AS INDICATED IN PAINT SCHEDULE).
- F. WOOD, NONTRAFFIC SURFACES:
1. LATEX SYSTEM:
 - a. PRIME COAT: PRIMER, LATEX FOR EXTERIOR WOOD.
 - b. TOPCOAT: LATEX, EXTERIOR (GLOSS LEVEL AS INDICATED IN PAINT SCHEDULE).

END OF SECTION 099113

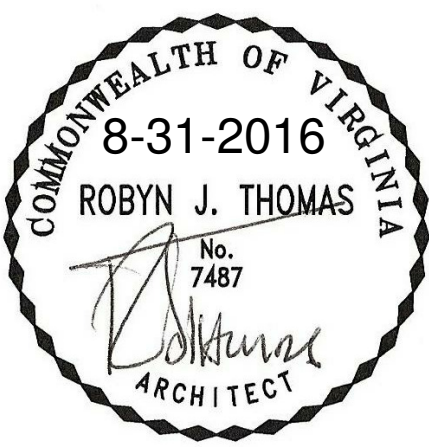
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RETAIL SPACE FOR STARBUCKS
STARBUCKS
CORNER SHOPS - 2000 COLONIAL AVE NORFOLK, VA

RTA NO: 15-012
DATE: 8/31/2016
DESIGN: Designer
DRAWN: Author
REVIEW: Checker

REVISIONS
No. Date Description

OUTLINE
SPECIFICATIONS

G-02

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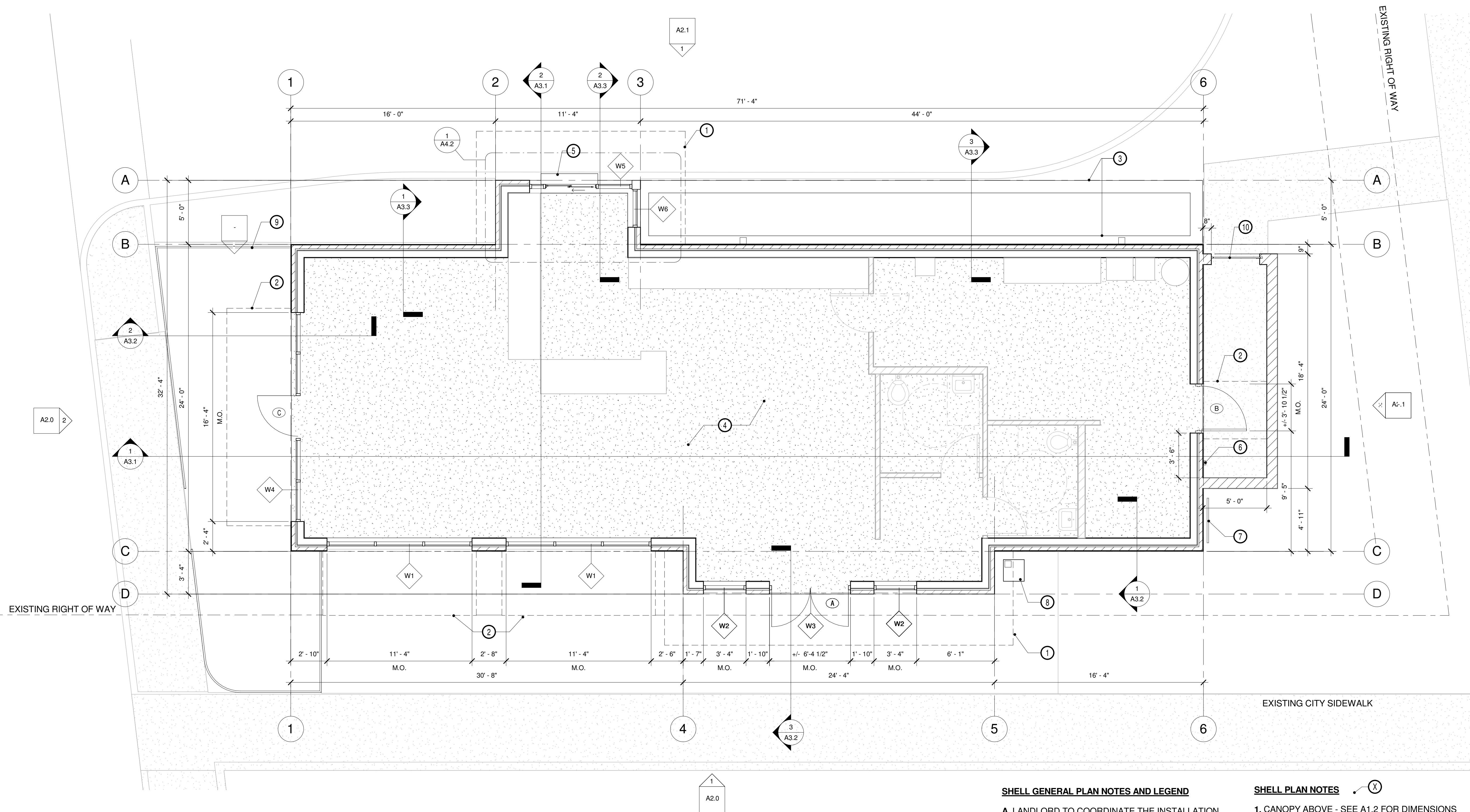
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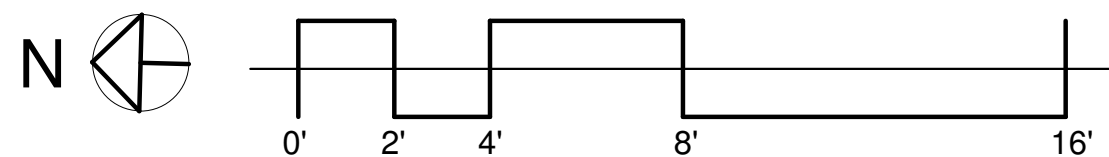
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5



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



SHELL GENERAL PLAN NOTES AND LEGEND

A. LANDLORD TO COORDINATE THE INSTALLATION OF DRYWALL WITH TENANT WALL ROUGH IN

B. INTERIOR LAYOUT SHOWN FOR REFERENCE ONLY

X STORFRONT DESIGNATION - SEE SHEET A5.1

X DOOR DESIGNATION - SEE SHEET A5.1

X GRID LINE - EDGE OF BUILDING & COLUMNS

X GRID LINE - EDGE OF BUILDING & COLUMNS

SHELL PLAN NOTES

1. CANOPY ABOVE - SEE A1.2 FOR DIMENSIONS

2. FABRIC & MTL AWNING ABOVE -- SEE A1.2 FOR DIMENSIONS

3. FILTER PLANTER WALL WITH PRECAST CAP

4. COMPONENTS FILL READY FOR CONCRETE SLAB BY TENANT

5. DRIVE WINDOW BY READY ACCESS

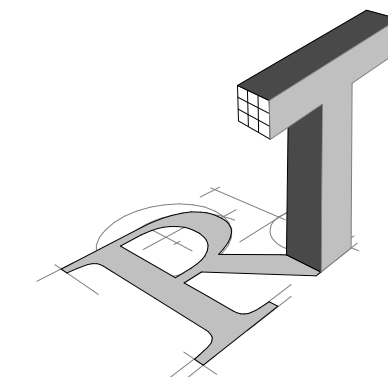
6. KEY FROST FREE RECESSED EXTERIOR HOSE BIB - SEE PLUMBING PLAN

7. METAL ELEMENT - SEE SHEET A5.1

8. ECO DOG FOUNTAIN BY OWNER - FED BY DOWNSPOUT FROM CANOPY

9. PATIO RAILING - SEE SHEET A5.1

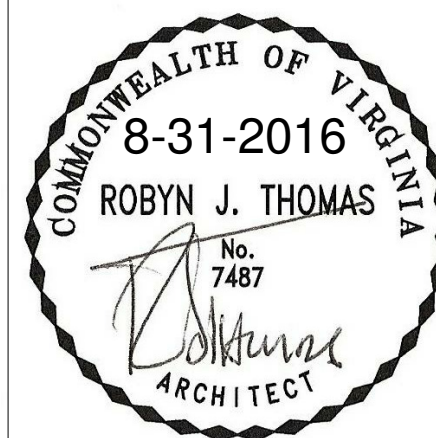
10. MTL GATE WITH DECORATIVE PANEL



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RETAIL SPACE FOR STARBUCKS
STARBUCKS
CORNER SHOPS - 2000 COLONIAL AVE NORFOLK, VA

RTA NO: 15-012
DATE: 8/31/2016
DESIGN: RTA
DRAWN: NCL
REVIEW: RTA

REVISIONS
No. Date Description

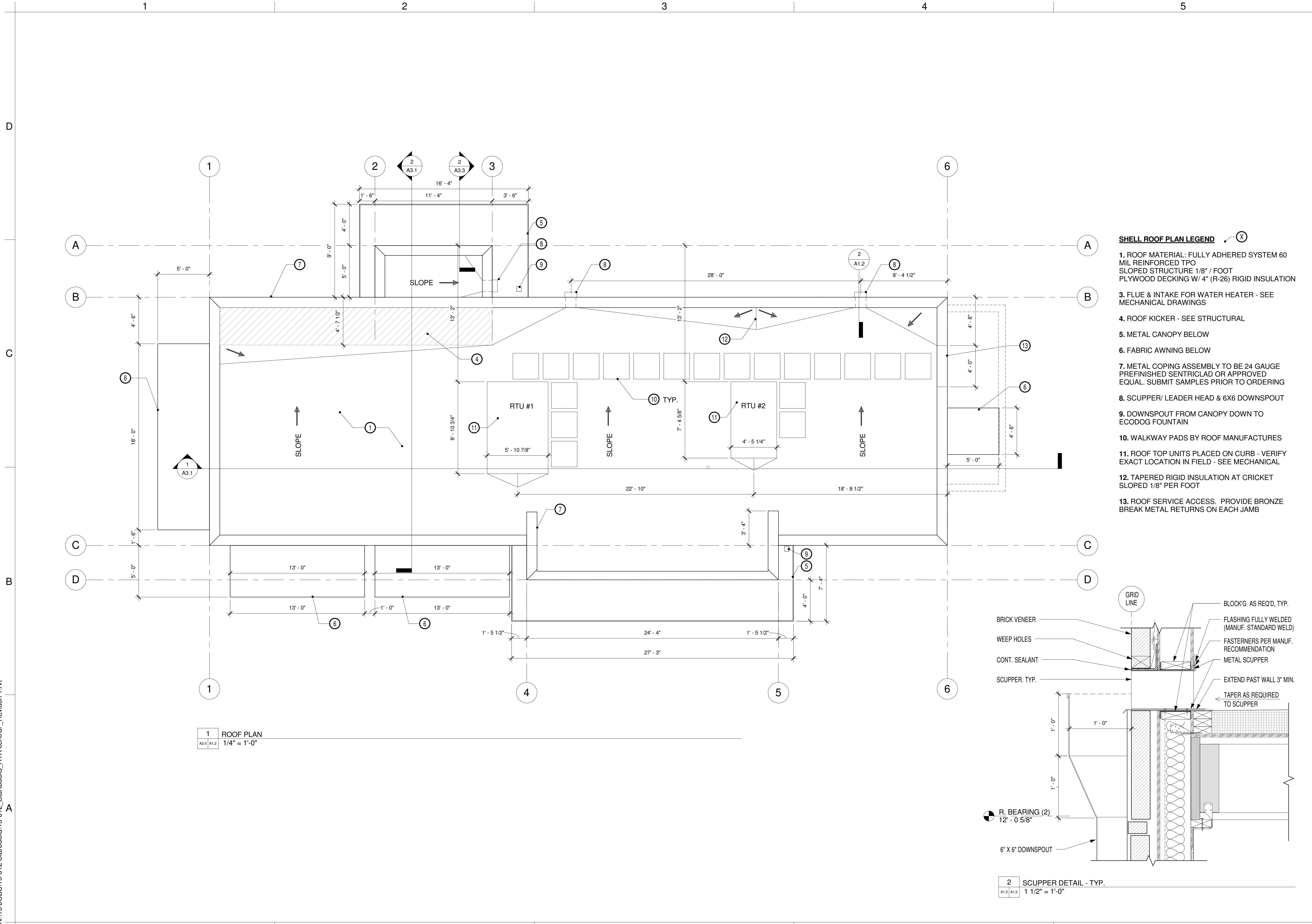
FIRST FLOOR
PLAN

A1.1

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COMMONWEALTH OF VIRGINIA
8-31-2016
ROBYN J. THOMAS
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RETAIL SPACE FOR STARBUCKS
STARBUCKS
CORNER SHOPS - 2000 COLONIAL AVE NORFOLK, VA

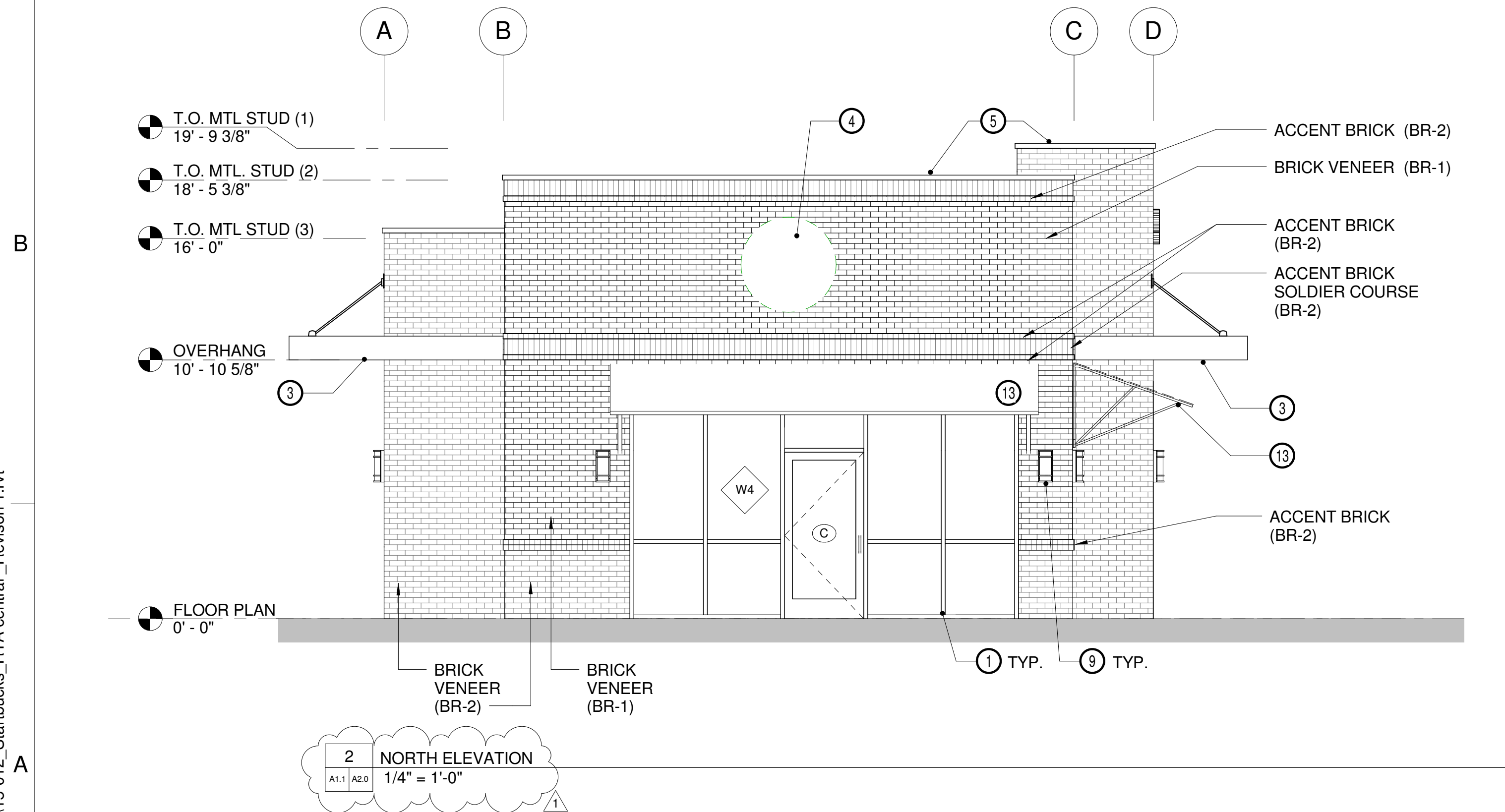
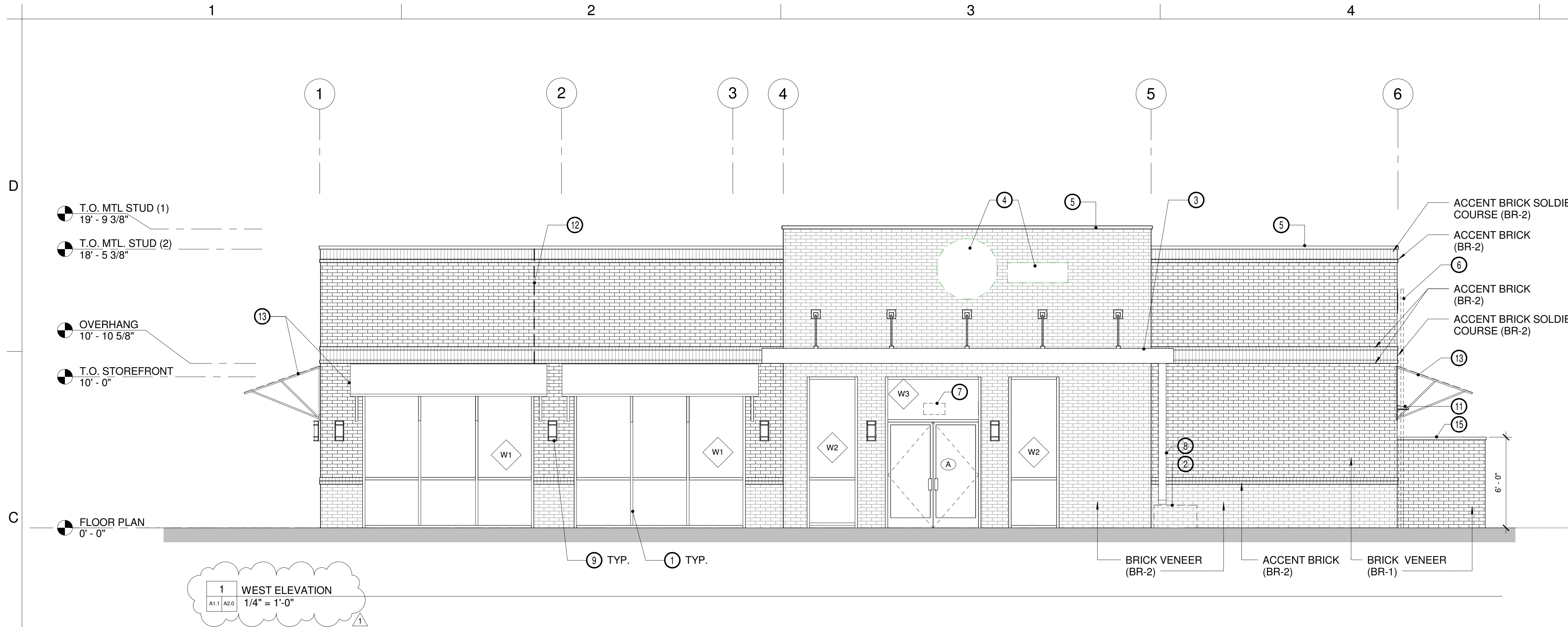
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ROOF PLAN
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MASONRY SCHEDULE			
MASONRY	MANUF.	COLOR	DESCRIPTION
BR-1	BELDEN	MODULAR COLONY RED RANGE A # 07-09	FIELD BRICK
BR-2	TAYLOR	MODULAR - SMOOTH # 123 GRAY	ACCENT BRICK

MORTAR
WORKRITE BY YORK PRODUCTS, MASONRY CEMENT #WR-2410 TYPE N
G.C. TO PROVIDE A FILED PANEL FOR FINAL DECISION ON MOTAR COLOR.

EXTERIOR ELEVATION GENERAL NOTES:

A. GENERAL CONTRACTOR TO COORDINATE AND SCHEDULE SIGNAGE INSTALLATION WITH THE SIGNAGE CONTRACTOR PROVIDING A MINIMUM SCHEDULING NOTICE OF 4 WEEKS AND 1 WEEK PRIOR TO SCHEDULED DATE OF INSTALLATION. STARBUCKS CONSTRUCTION MANAGER TO PROVIDE GENERAL CONTRACTOR WITH SIGNAGE CONTRACTOR CONTACT INFORMATION.

B. GENERAL CONTRACTOR SHALL COORDINATE WITH ELECTRICAL CONTRACTOR TO FURNISH AND INSTALL ELECTRICAL CIRCUITS INCLUDING ALL CONDUIT, WIRE, CONNECTIONS, AND BREAKER AT PANEL BOARD NECESSARY TO SERVE SIGNAGE.

C. GENERAL CONTRACTOR TO PROVIDE WOOD STUD BLOCKING, OR EQUIVALENT TO SUPPORT SIGNAGE.

D. SIGNAGE CONTRACTOR SHALL VERIFY SIZE AND LOCATION OF ANY AND ALL ALLOWABLE MONUMENT OR POLE SIGNAGE WITH LANDLORD AND PROVIDE SHOP DRAWING(S) PRIOR TO FABRICATION TO STARBUCKS DESIGNER FOR APPROVAL.

E. ALL SEALANTS TO BE COLOR MATCHED TO ADJACENT MATERIALS. SUBMIT MFR'S FULL RANGE OF COLORS TO ARCHITECT TO REVIEW.

F. SUBMIT ALL MATERIALS AND COLORS TO ARCHITECT FOR FINAL APPROVAL. NO SUBSTITUTIONS WITHOUT PRIOR APPROVAL.

EXTERIOR ELEVATION NOTES: (X)

1. ANODIZED ALUMINUM STOREFRONT SYSTEM WITH 1" CLEAR INSULATED GLASS BY KAWNEER OR EQUAL. FRAME COLOR SHALL BE DARK BRONZE - SEE A/5.1 FOR MORE INFORMATION

2. ECODOG FOUNTAIN BY OWNER

3. METAL CANOPY BY MAPES ARCHITECTURAL CANOPIES OR EQUAL. COLOR SHALL BE DARK BRONZE

4. SIGN N.I.C. - EXACT LOCATION AND SIZE TO BE DETERMINED BY TENANT. C.G. TO COORDINATE BLOCKING AS REQUIRED.

5. PREFINISHED METAL COPING. COLOR TO BE DARK BRONZE

6. METAL ELEMENT - SEE A5.1

7. OWNER TO PROVIDE G.C. TO INSTALL 3" HIGH BLACK ACRYLIC STORE ADDRESS ON GLAZING.

8. DOWNSPOUT FROM CANOPY.

9. BUILDING MOUNTED DECORATIVE SCENCE AT 5'-0" A.F.F. - SEE ELECTRICAL.

10. READY ACCESS DRIVE THRU WINDOW

11. INSTALL SECURITY LIGHT CENTERED ABOVE REAR WORKROOM EXIT AS INDICATED.

12. CONTROL JOINT IN BRICK VENEER

13. FABRIC & MTL AWNING. SEE A/5.1 FOR MORE INFORMATION

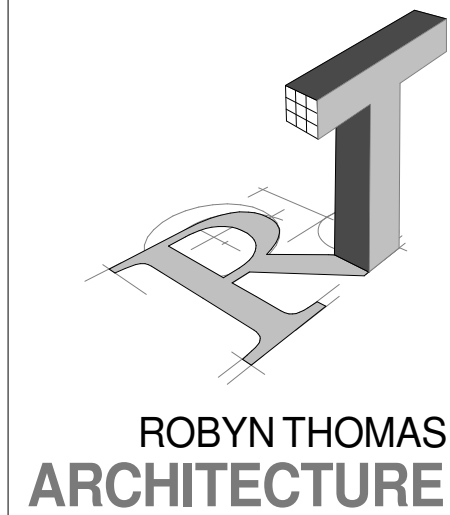
14. MTL GATE - SEE A5.1

15. PRECAST CAP

16. SCUPPER/ LEADER HEAD AND DOWN SPOUT. FINISH TO BE DARK BRONZE

17. BIO RETENTION STRUCTURE

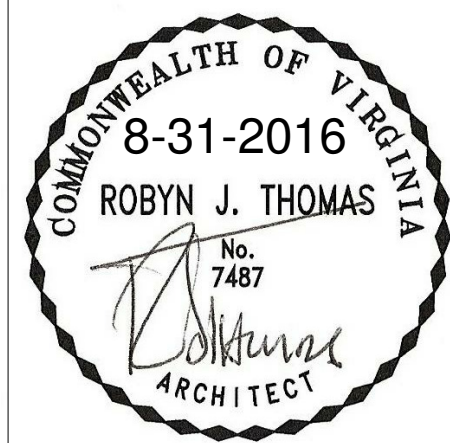
18. MANSONRY SCREEN WALL



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RETAIL SPACE FOR STARBUCKS
STARBUCKS
CORNER SHOPS - 2000 COLONIAL AVE NORFOLK, VA

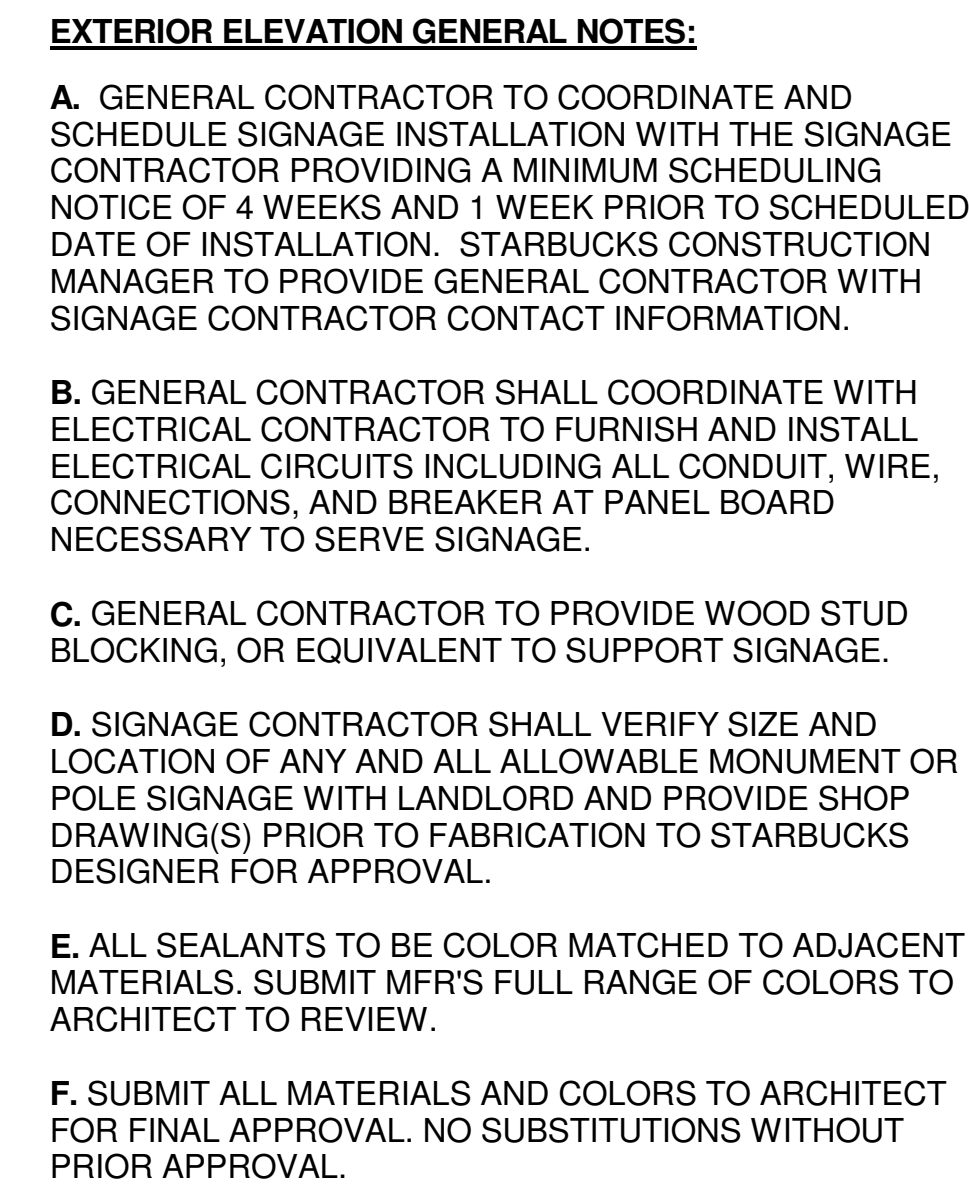
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DATE: 8/31/2016
DESIGN: RTA
DRAWN: NCL
REVIEW: RTA

REVISIONS	No.	Date	Description
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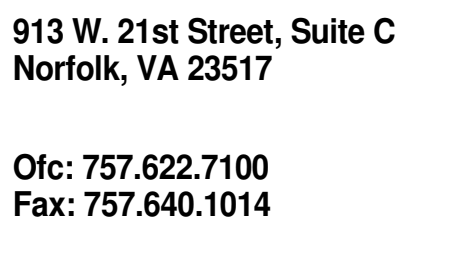
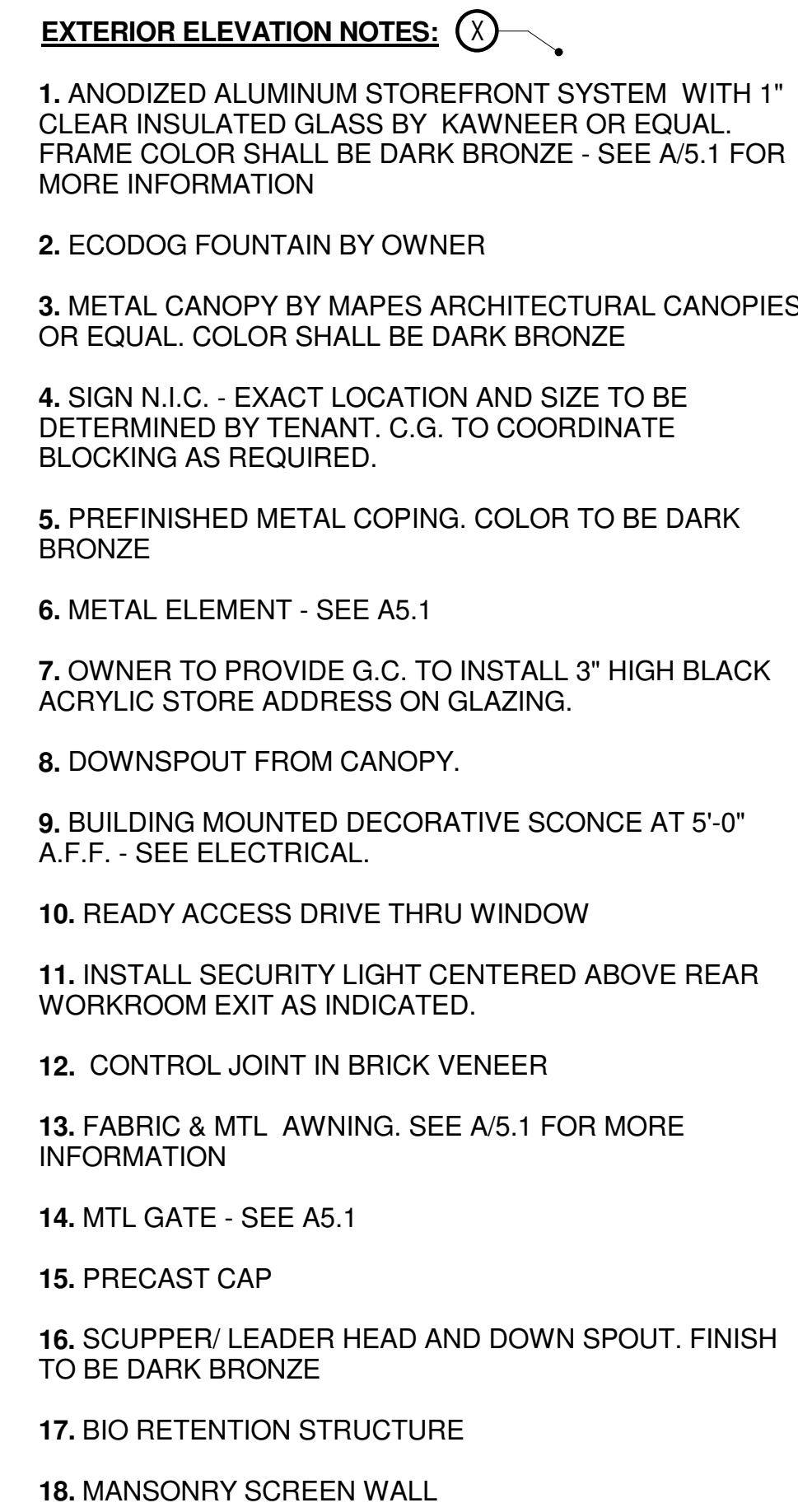
EXTERIOR
ELEVATION

A2.0

SHEET OF



MORTAR
WORKRITE BY YORK PRODUCTS, MASONRY CEMENT #WR-2410 TYPE N
G.C. TO PROVIDE A FILED PANEL FOR FINAL DECISION ON MOTAR COLOR.



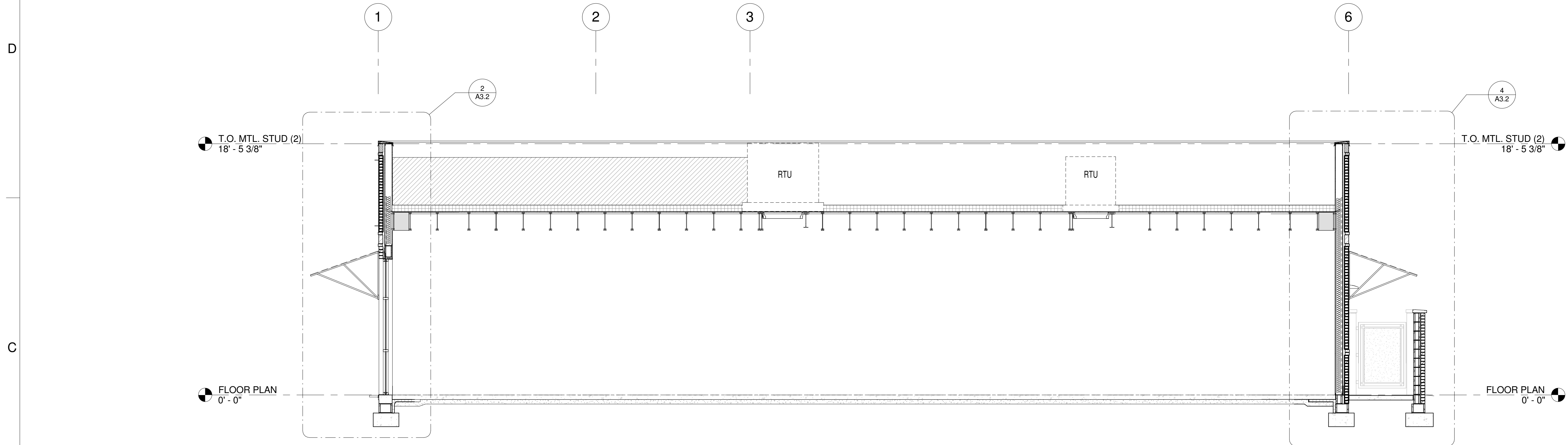
EXTERIOR
ELEVATIONS

A2.1

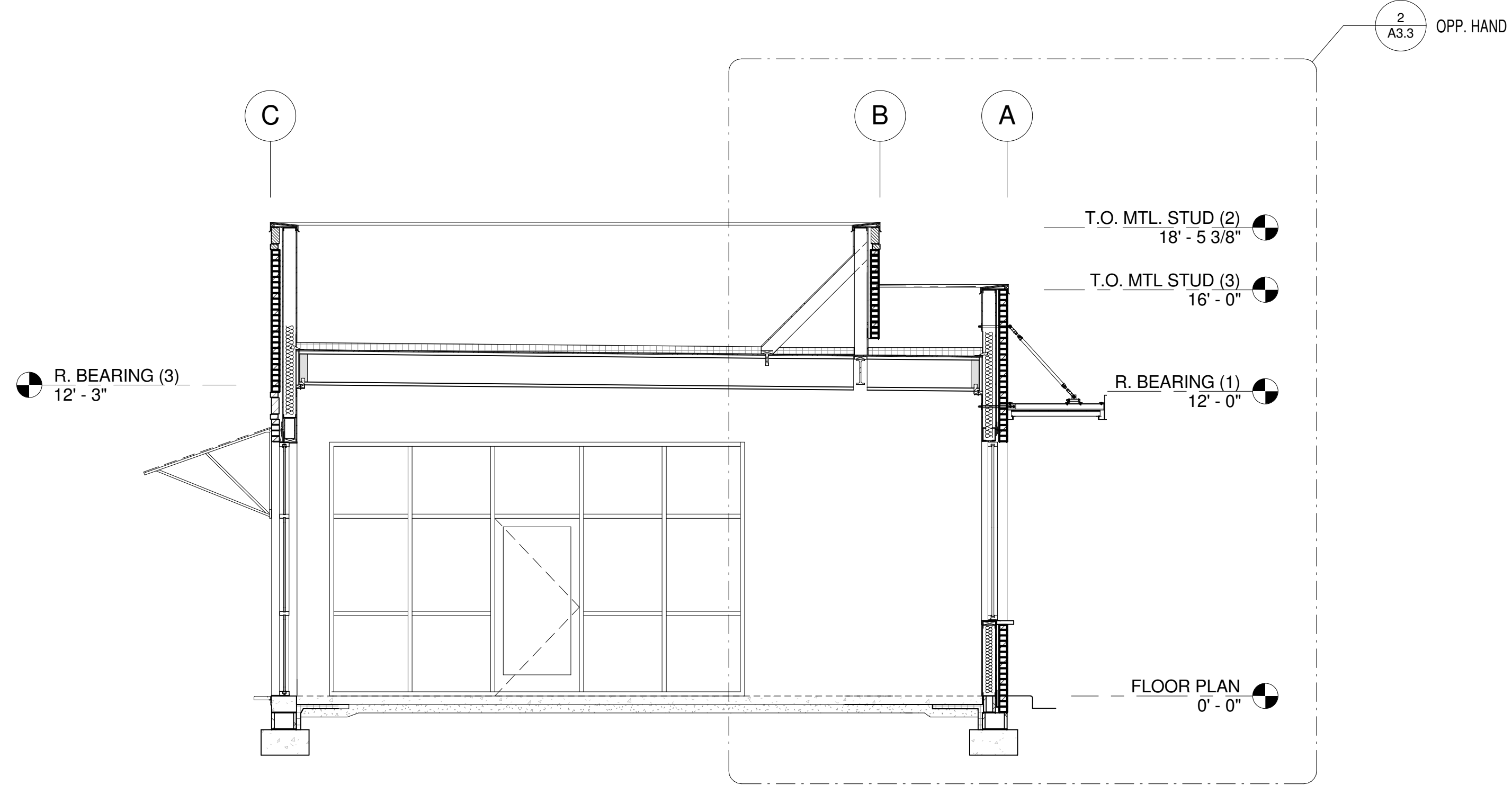
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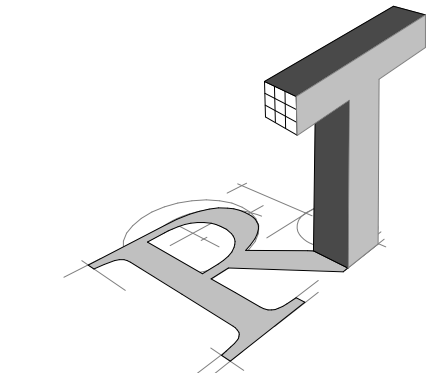
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1 LONGITUDINAL SECTION
1/4" = 1'-0"



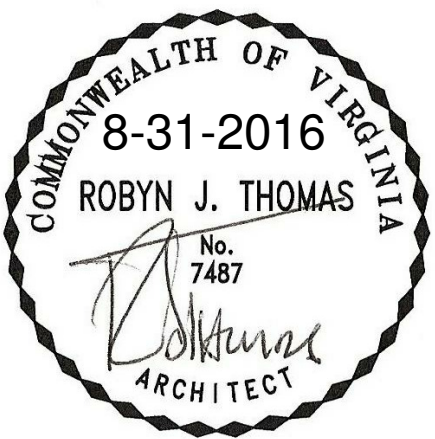
2 CROSS SECTION
1/4" = 1'-0"



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RETAIL SPACE FOR STARBUCKS
STARBUCKS
CORNER SHOPS - 2000 COLONIAL AVE NORFOLK, VA

RTA NO: 15-012
DATE: 8/31/2016
DESIGN: RL
DRAWN: NL
REVIEW: RL
REVISIONS
No. Date Description

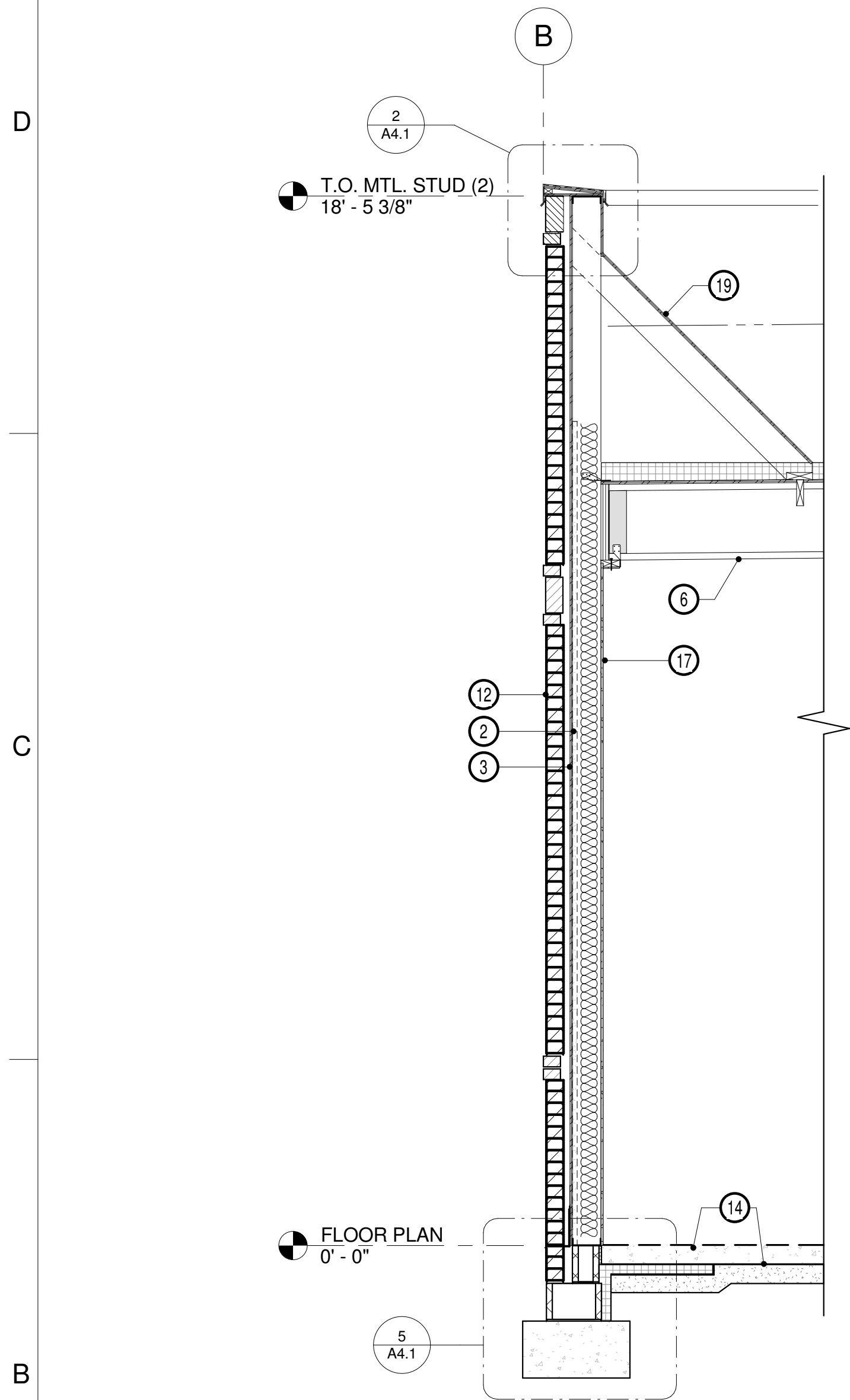
BUILDING
SECTION

A3.1

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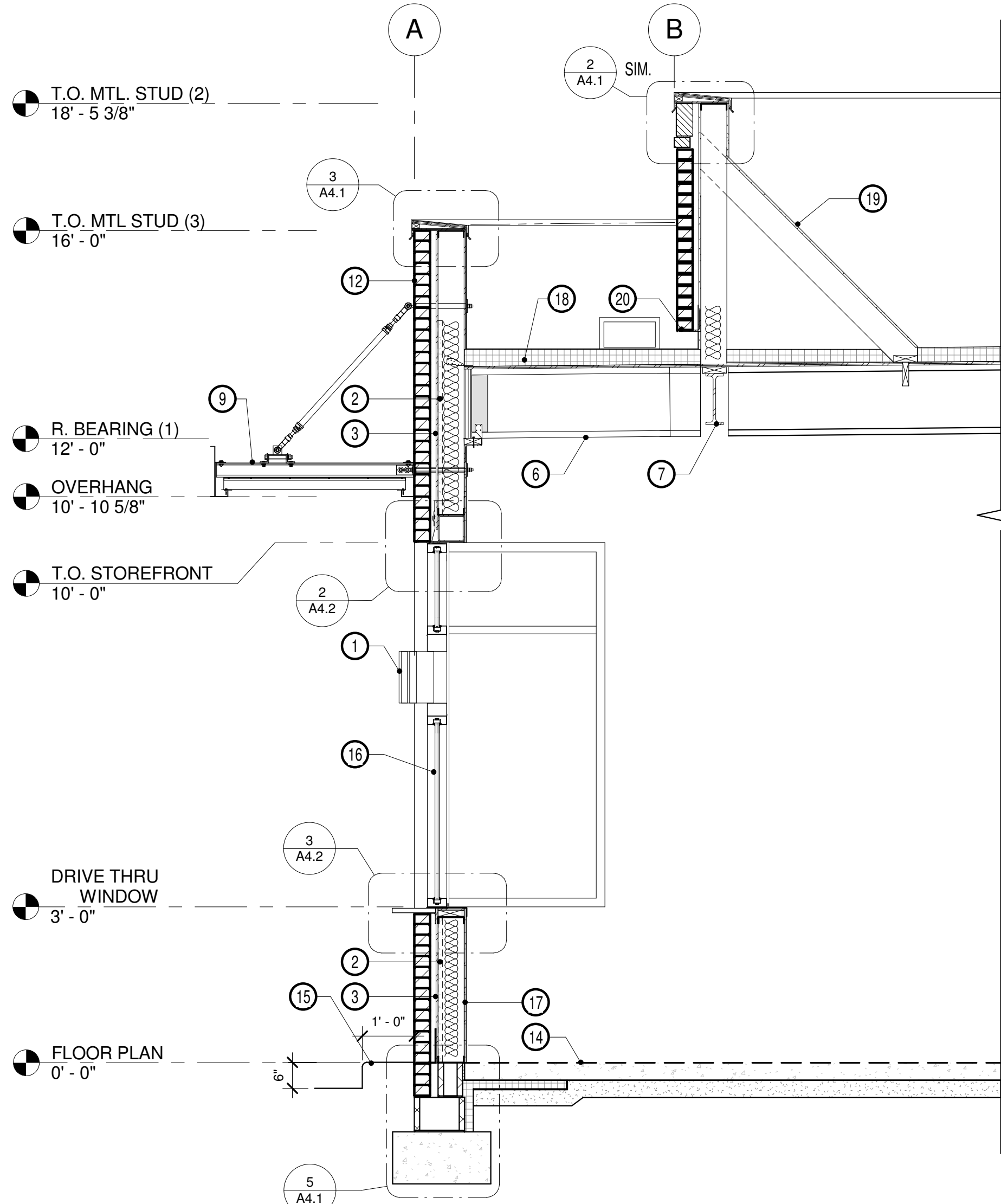


1 TYPICAL WALL SECTION
A1.1 A3.3 1/2" = 1'-0"

WALL SECTION NOTES

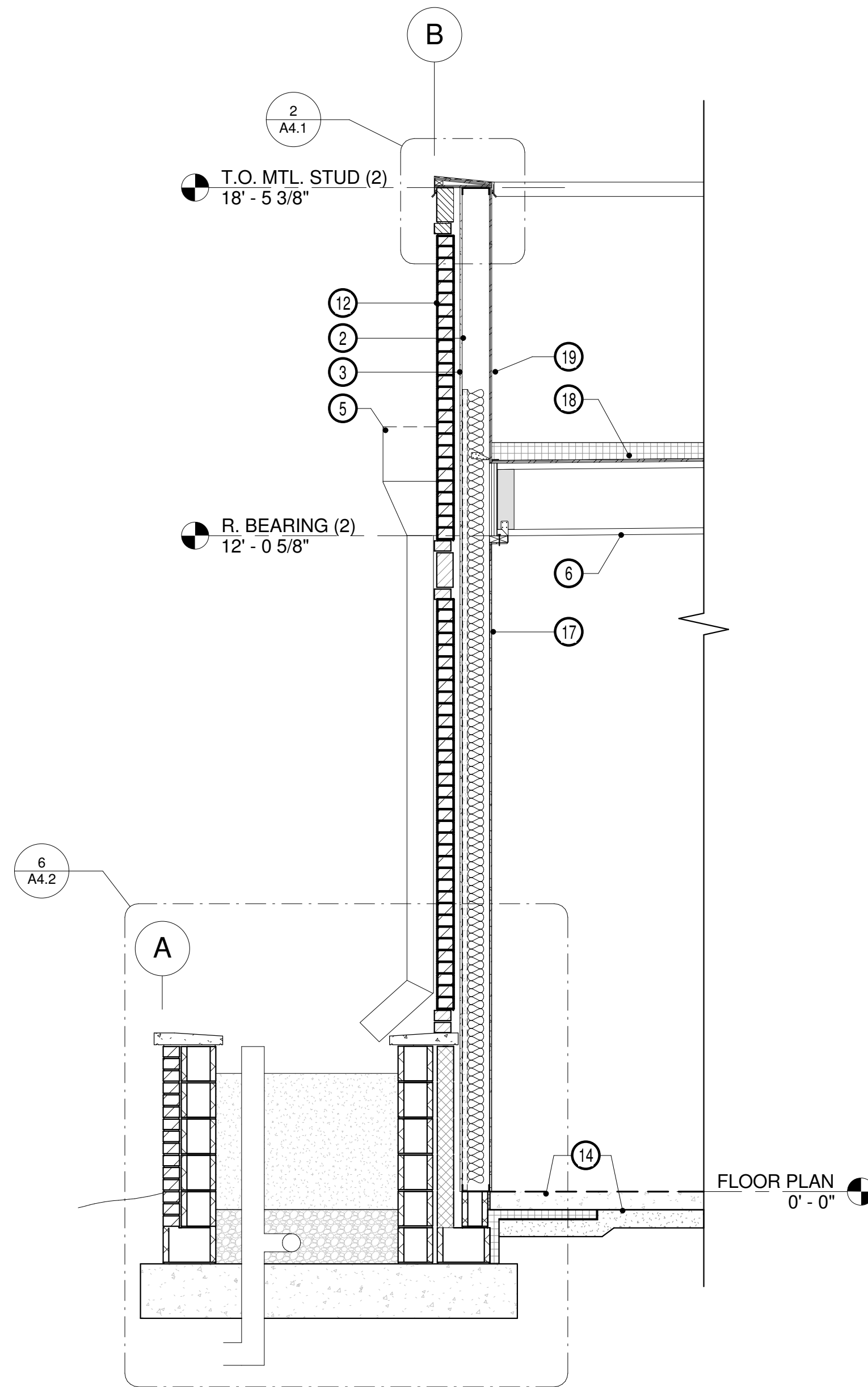
1. ELECTRICALLY HEATED LOW PROFILE AIR CURTAIN - SEE MECH. DWG'S
2. 1" FLASH AND R-19 FIBERGLASS BATT INSULATION METHOD
3. 1/2" PLYWOOD SHEATHING W/ BUILT-IN BARRIER EQUAL TO ZIP SYSTEMS OVER 6" METAL STUD @ 16 O/C
4. PRECAST CONCRETE CAP
5. SCUPPER/ LEADER HEAD AND DOWN SPOUT (BEYOND)
6. ROOF RAFTER (16" TJI) - SEE STRUCTURAL
7. STEEL BEAM - SEE STRUCTURAL

8. SIGN NIC - EXACT LOCATIONS AND SIZES TO BE DETERMINED BY TENANT. GC TO COORDINATE BLOCKING AND ROUGH-INS WITH TENANT AS REQUIRED.
9. MAPES ARCHITECTURAL CANOPIES WITH 12" FASCIA EXTENDER - SEE ROOF PLAN FOR DIMENSIONS. SEE STRUCTURAL DWG'S FOR CANOPY BLOCKING DETAILS
10. FABRIC AND METAL AWNING
11. CONCRETE SLAB - SEE STRUCTURAL
12. BRICK VENEER WITH BRICK WALL TIES @ 24" O.C. HORIZONTAL WITH STAGGERED CENTERS AND 16" O.C. VERTICAL



2 WALL SECTION AT DRIVE THRU
A1.1 A3.3 1/2" = 1'-0"

13. ALUMINUM STOREFRONT WITH CONTINUOUS SILL PAN FLASHING WITH HEMMED EDGE AND END DAMS @ JAMBS
14. COMPACT POROUS FILL - SEE STRUCTURAL CONCRETE SLABS/ VAPOR BARRIER/ PERIMETER INSULATION BY TENANT
15. CONCRETE CURB - SEE CIVIL
16. DRIVE THRU WINDOW SEE A5.1
17. 5/8" GYPSUM WALL BOARD. INSTALL 4" HIGH CEMENT BOARD AT BASE OF ALL EXTERIOR WALLS.
18. PLYWOOD DECKING WITH 4" (R-26) INSULATION
19. ROOF SHEATHING. SINGLE PLY ROOFING MEMBRANE LAP OVER TOP OF PARAPET AND RIDGE. NOTE: ON BRACKET SECTION OF ROOF PROVIDE ROOF SHEATHING + 1" INSULATION BOARD
20. STEEL LINTEL - SEE STRCUTURAL



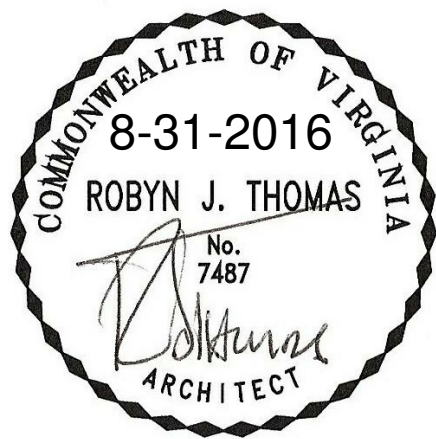
3 WALL SECT.- FILTER PLANTER
A1.1 A3.3 1/2" = 1'-0"



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RETAIL SPACE FOR STARBUCKS
STARBUCKS
CORNER SHOPS - 2000 COLONIAL AVE NORFOLK, VA

RTA NO: 15-012
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DESIGN: RTA
DRAWN: NCL
REVIEW: RTA
REVISIONS
No. Date Description

WALL SECTION

A3.3

SHEET OF

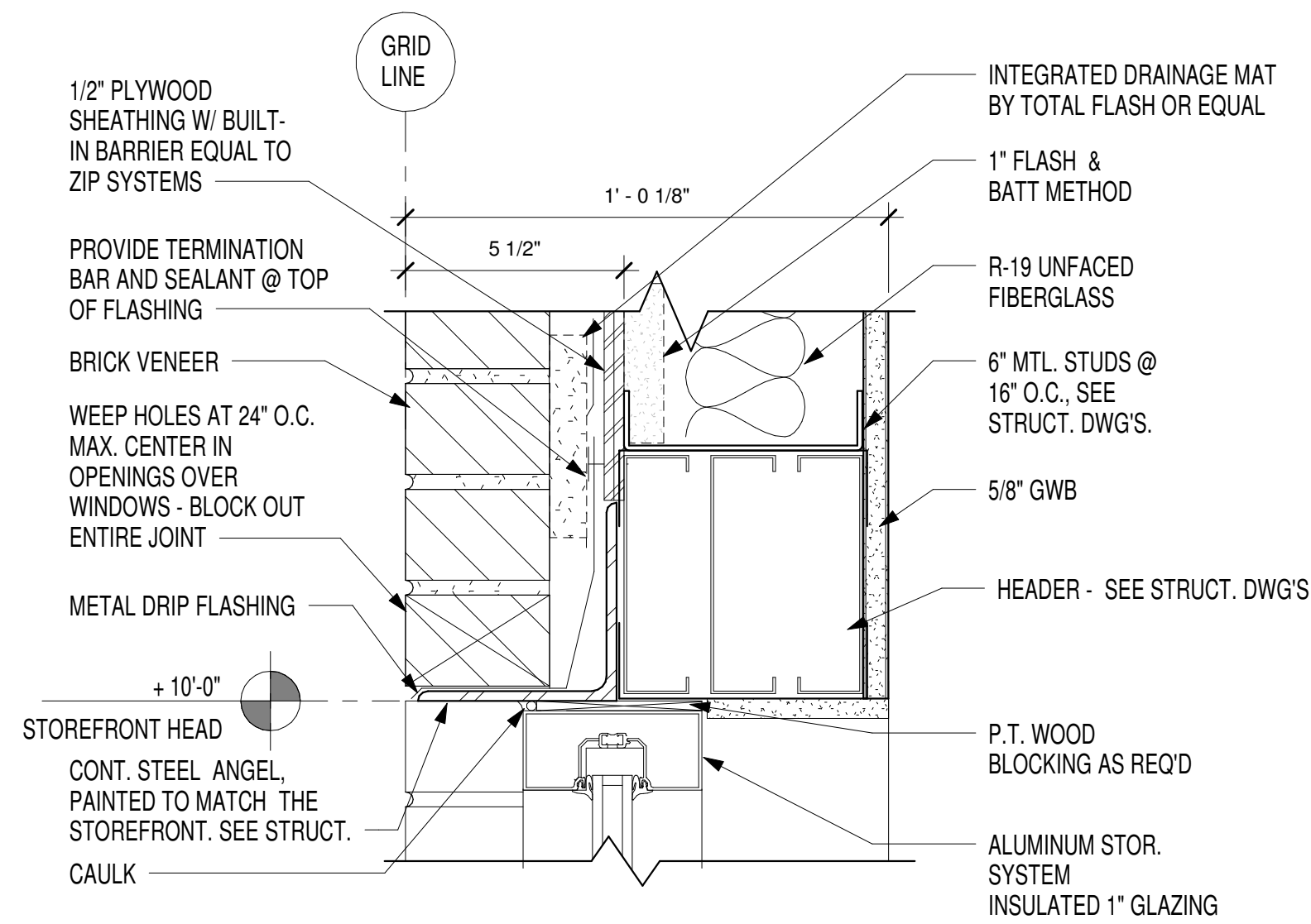
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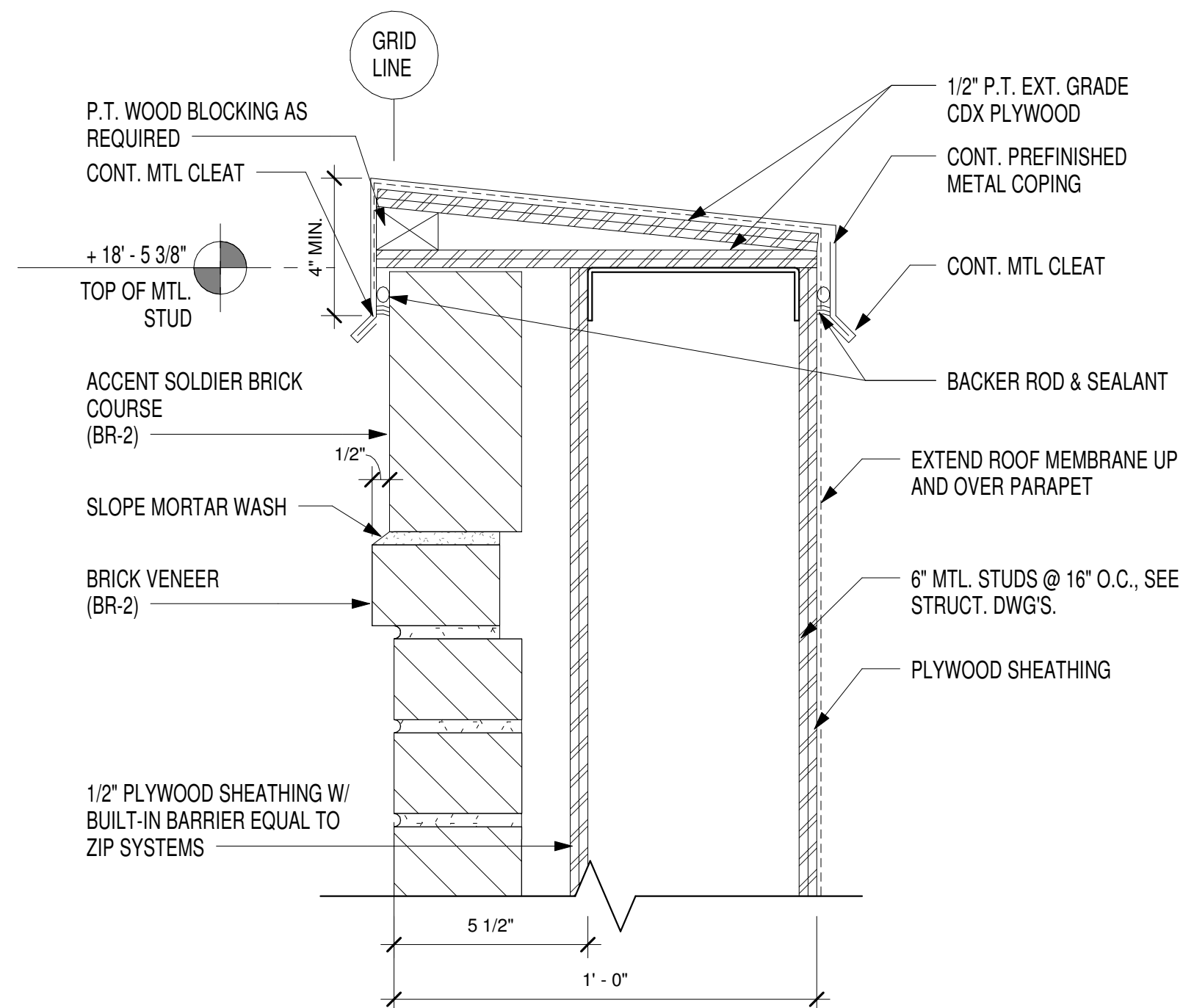
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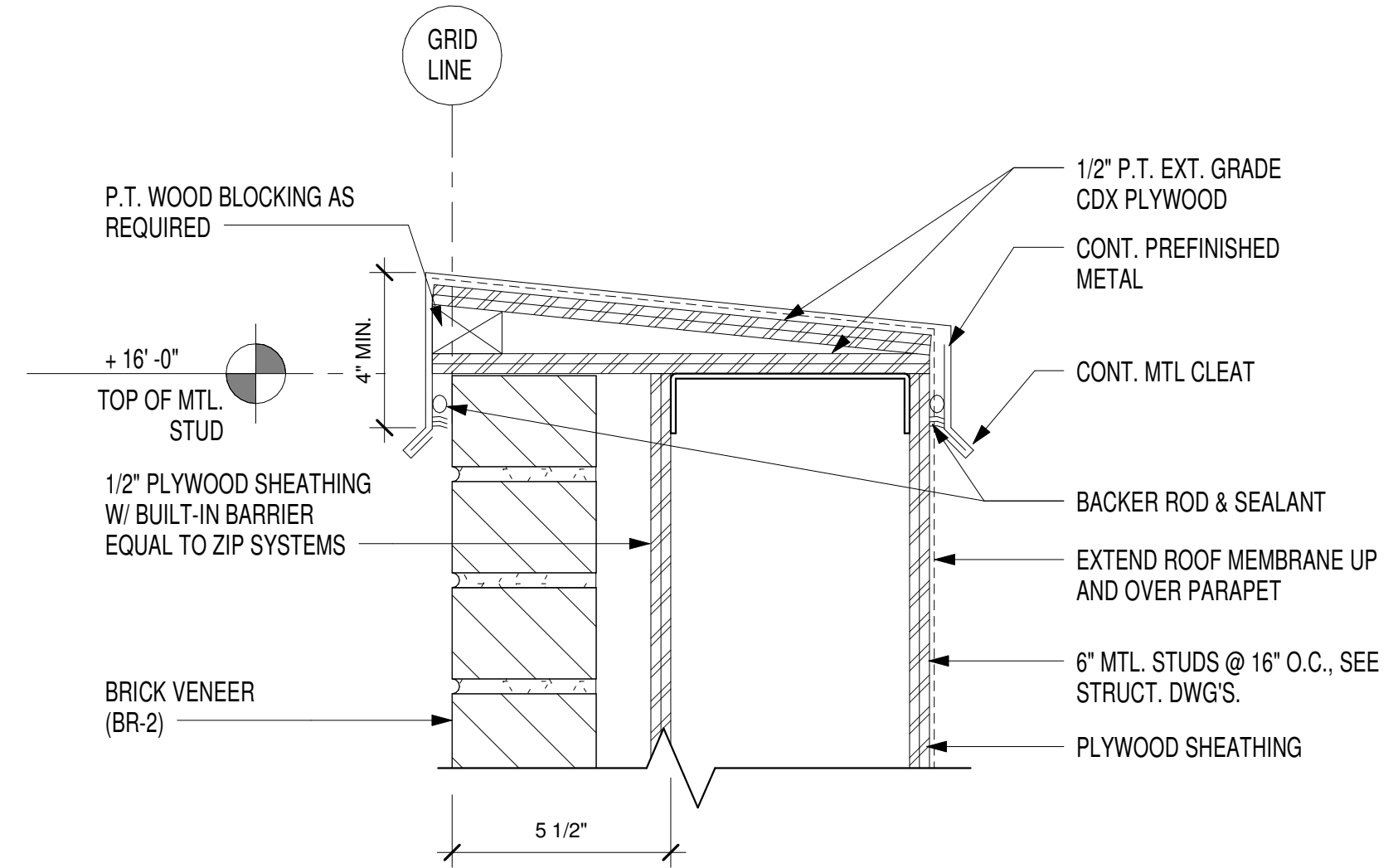
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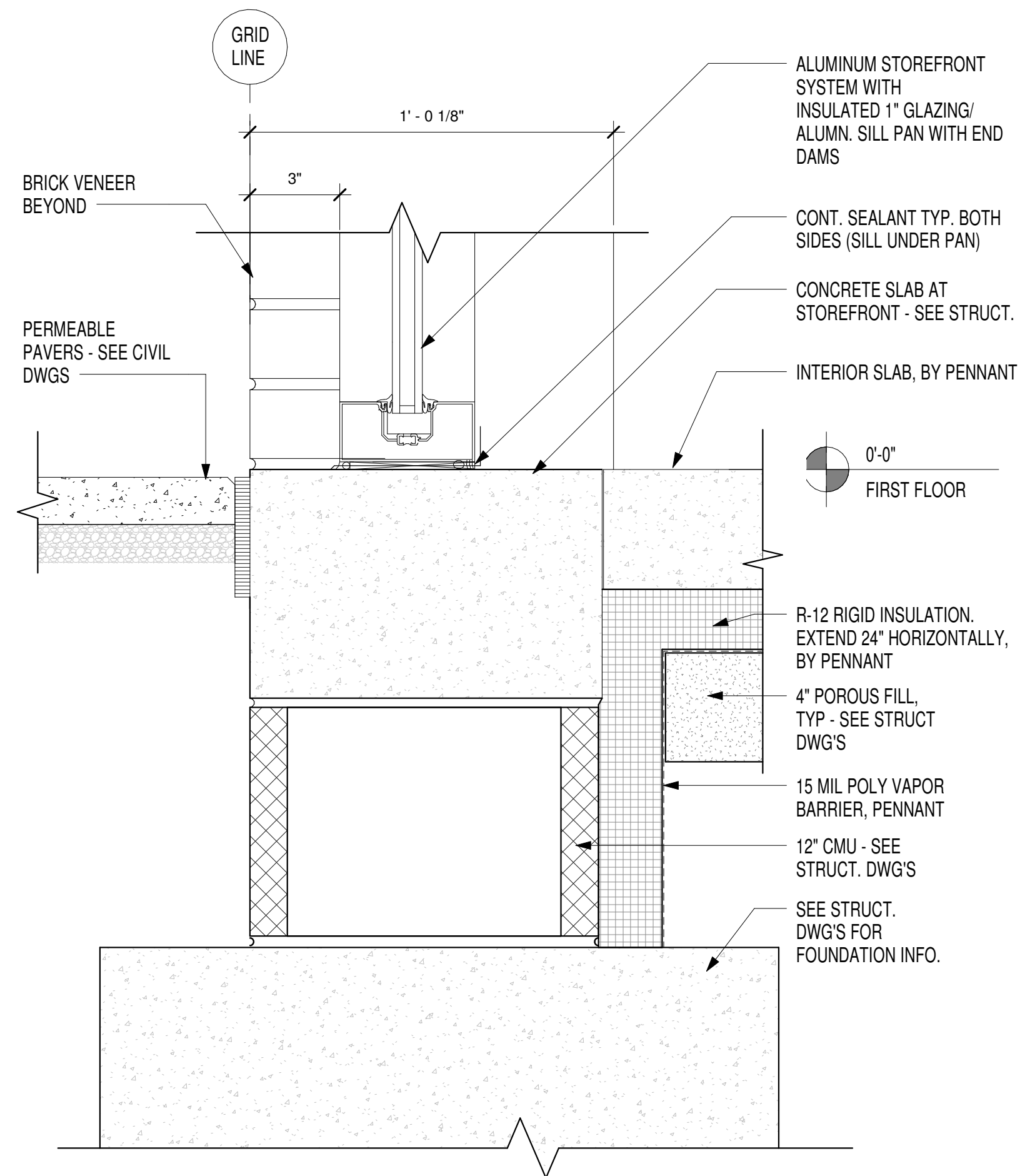
1 STOREFRONT HEAD DETAIL
A3.2 A4.1 3" = 1'-0"



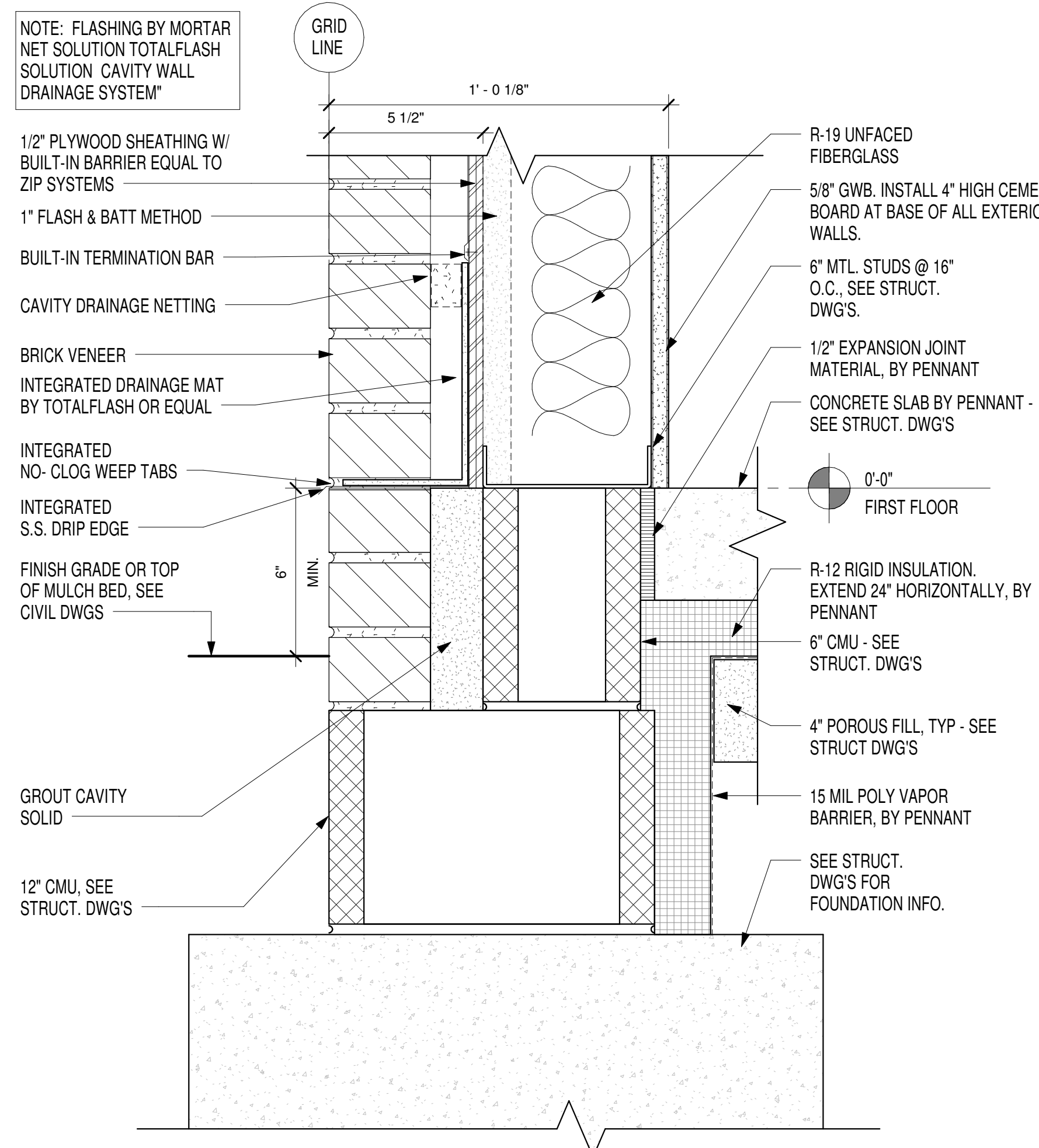
2 METAL COPING DETAIL
A3.2 A4.1 3" = 1'-0"



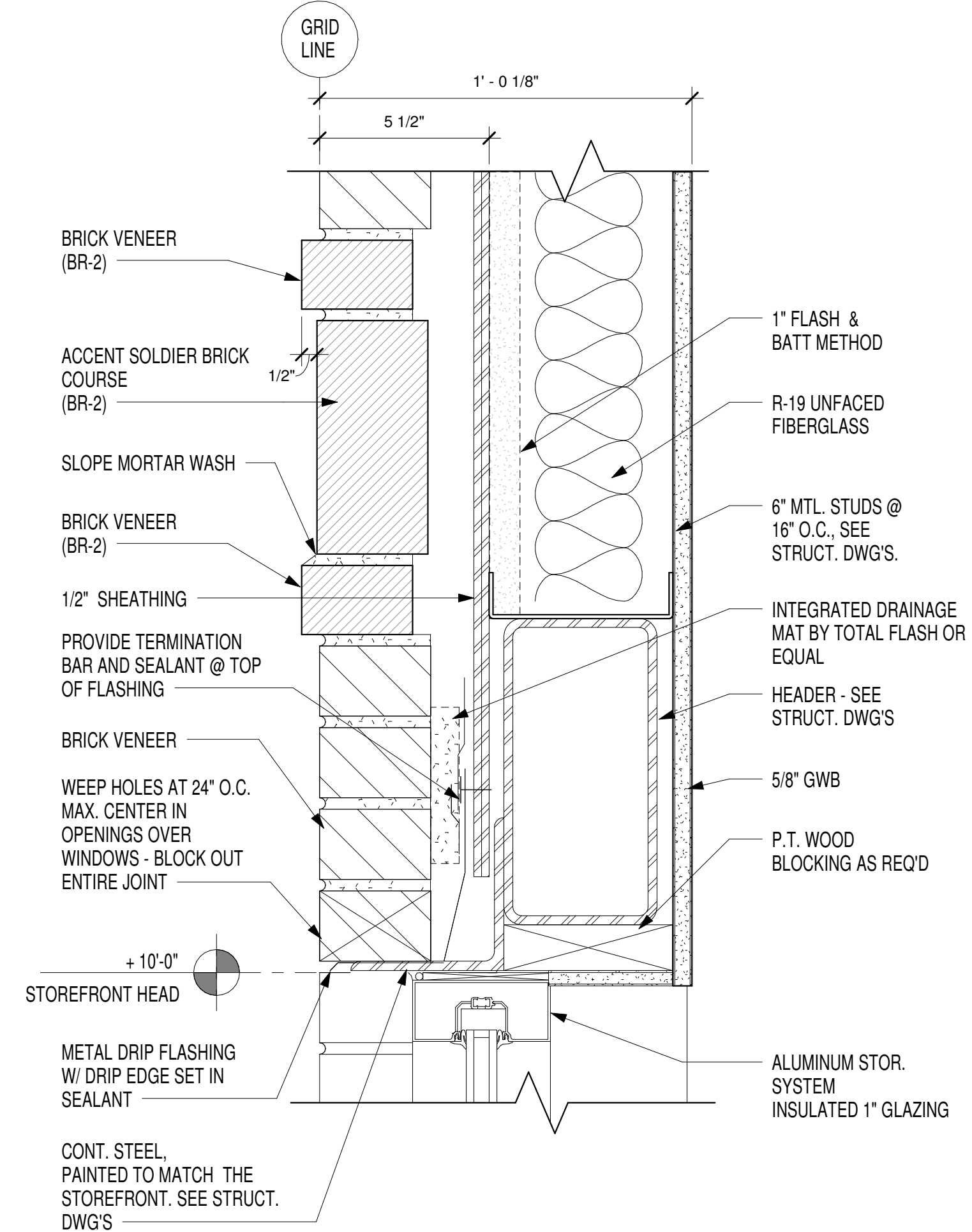
3 METAL COPING DETAIL
A3.2 A4.1 3" = 1'-0"



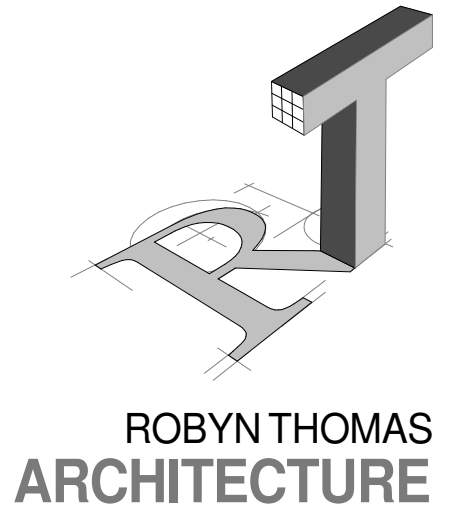
4 STOREFRONT SILL DETAIL
A3.2 A4.1 3" = 1'-0"



5 MASONRY FOUNDATION DETAIL
A3.2 A4.1 3" = 1'-0"

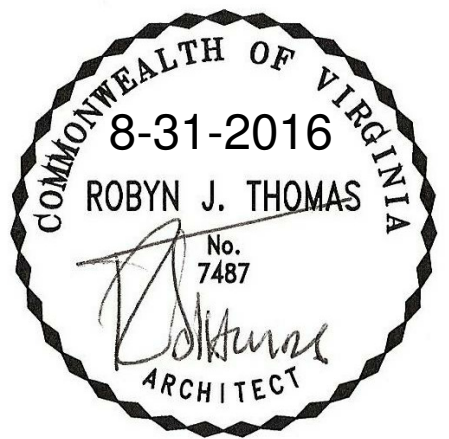


6 STOREFRONT HEAD DETAIL
A3.2 A4.1 3" = 1'-0"



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RETAIL SPACE FOR STARBUCKS
STARBUCKS
CORNER SHOPS - 2000 COLONIAL AVE NORFOLK, VA

RTA NO: 15-012
DATE: 8/31/2016
DESIGN: RTA
DRAWN: NCL
REVIEW: RTA
REVISIONS
No. Date Description

BUILDING
DETAILS
A4.1
SHEET OF

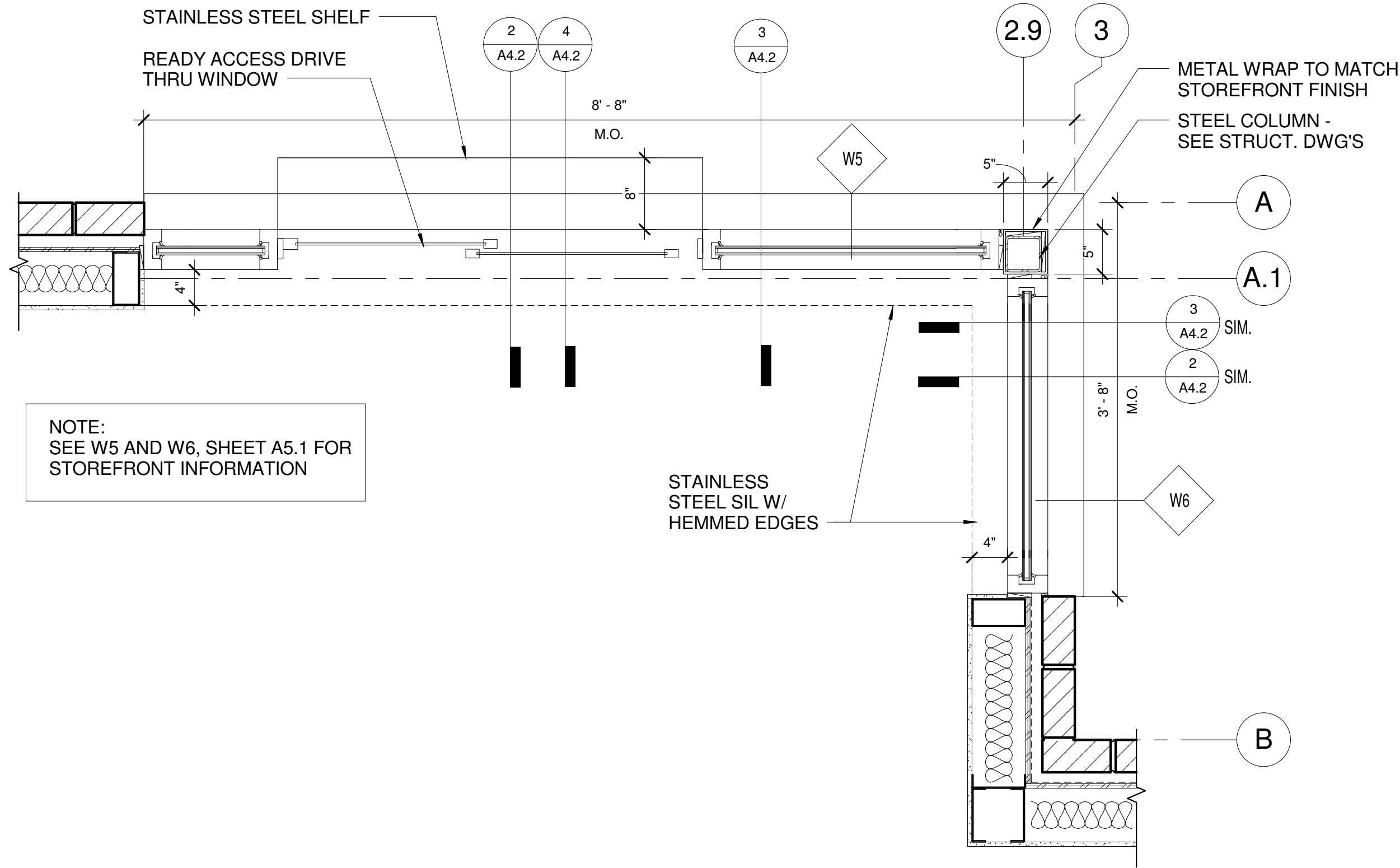
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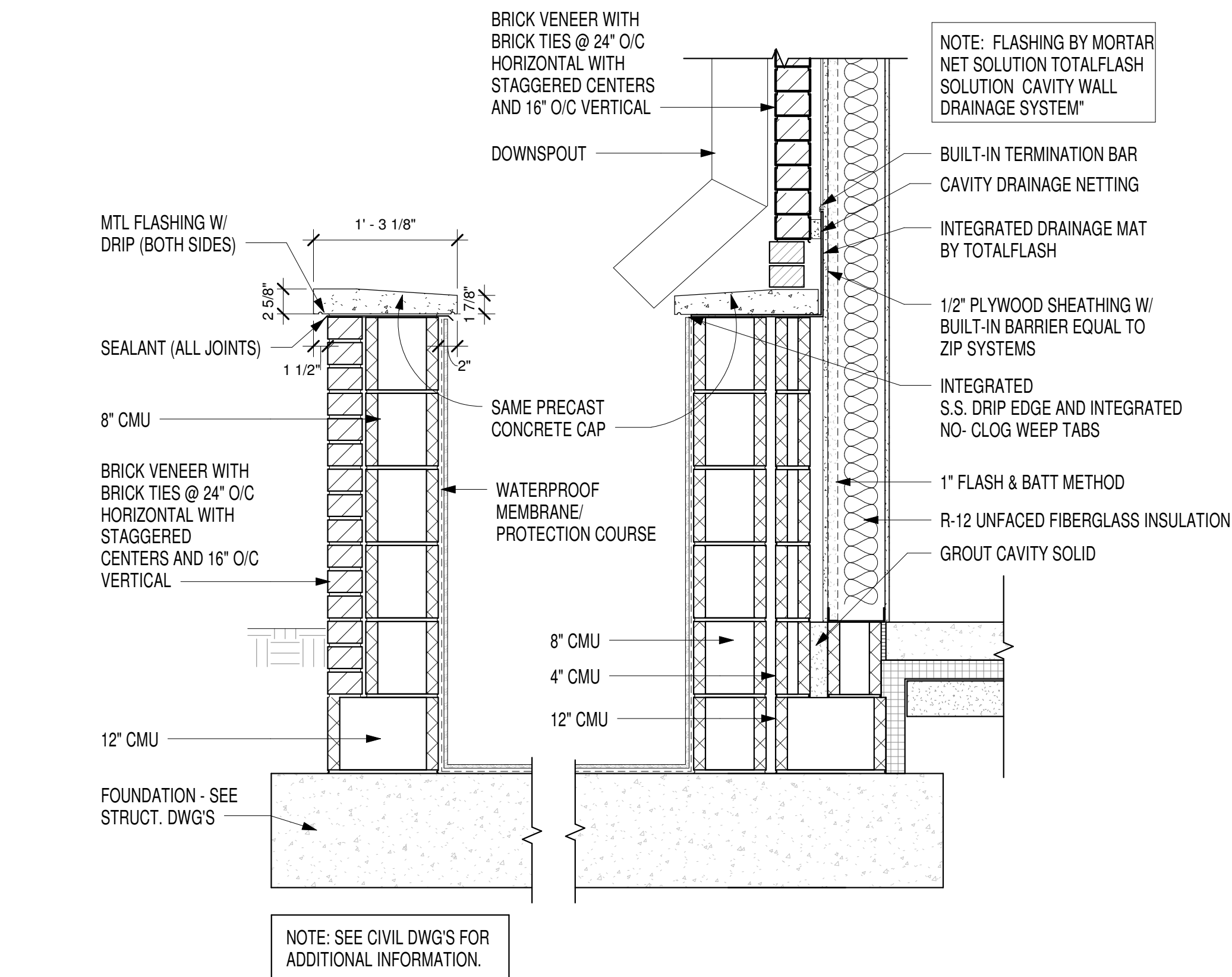
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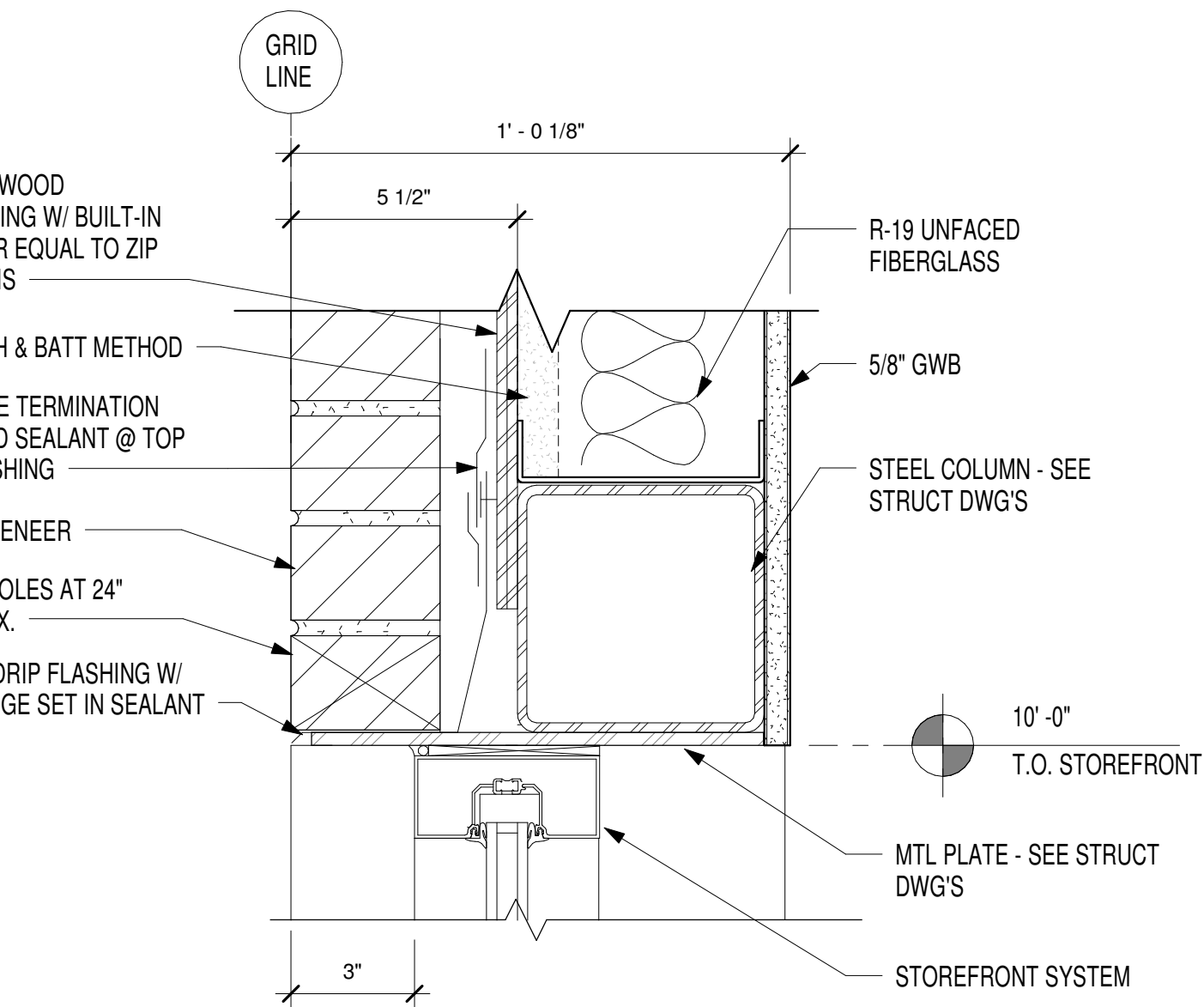
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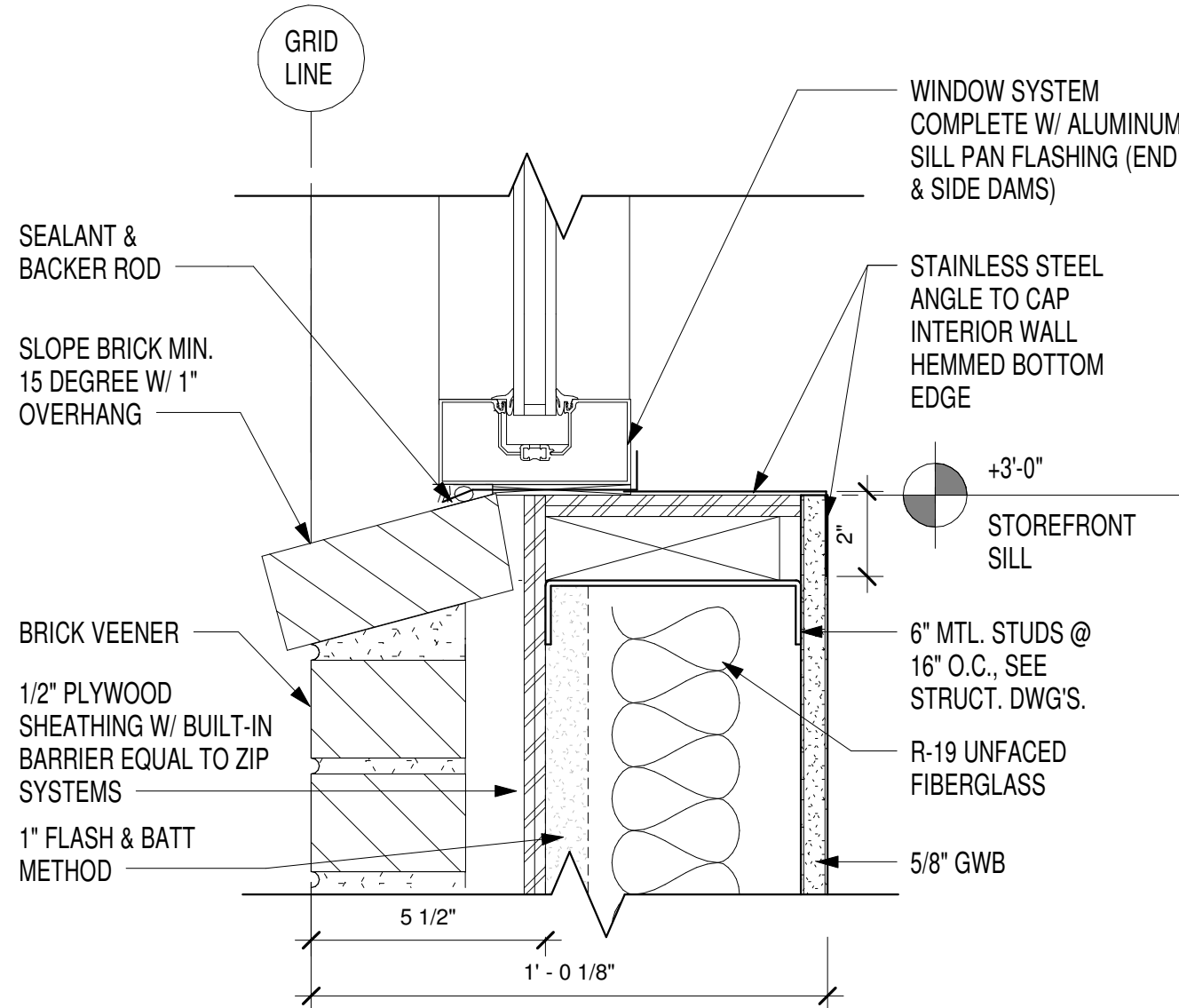
1 FLOOR PLAN AT DRIVE THRU
A1.1 A4.2 1" = 1'-0"



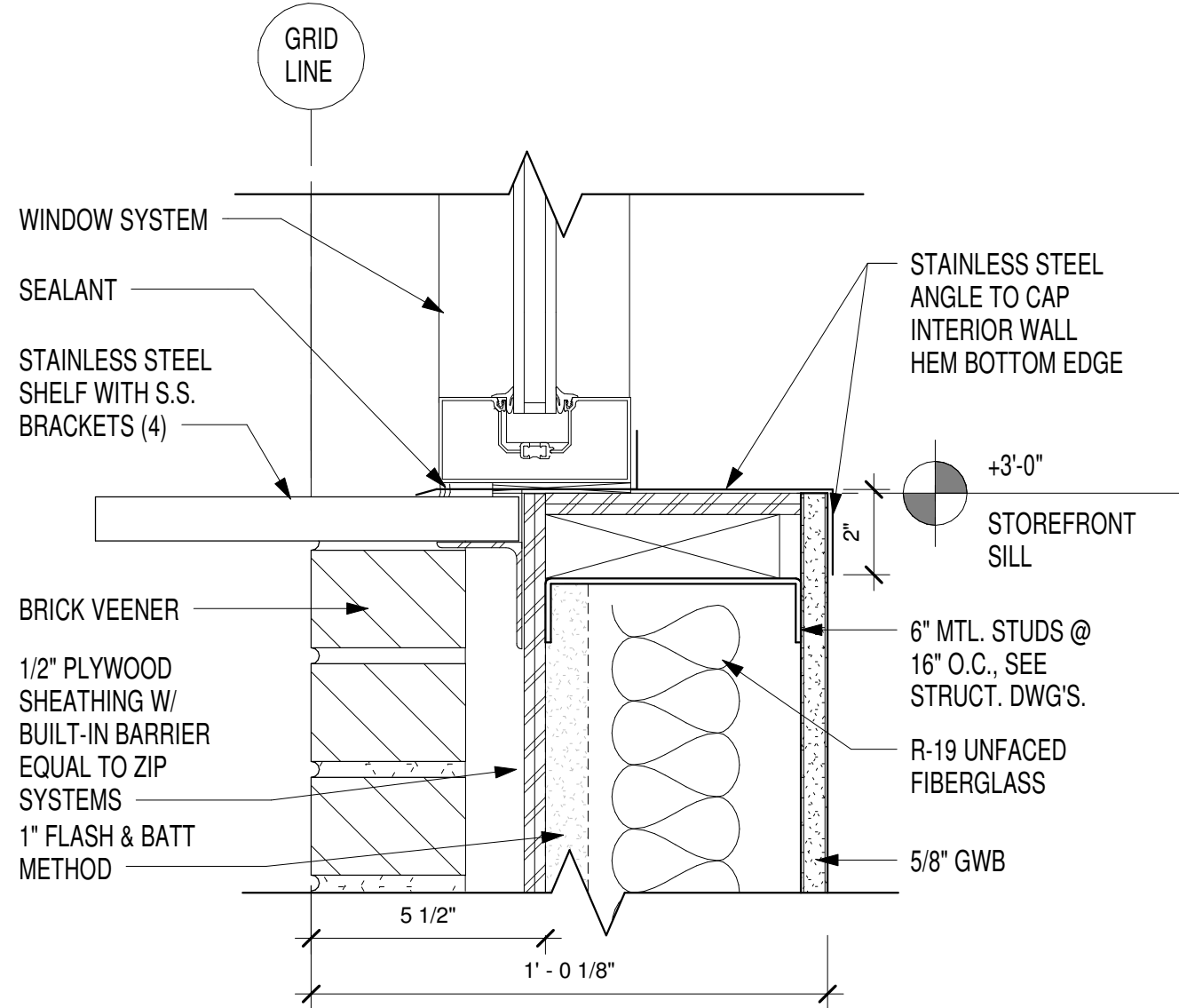
6 WALL DETAIL @ FILTER
A3.3 A4.2 1" = 1'-0"



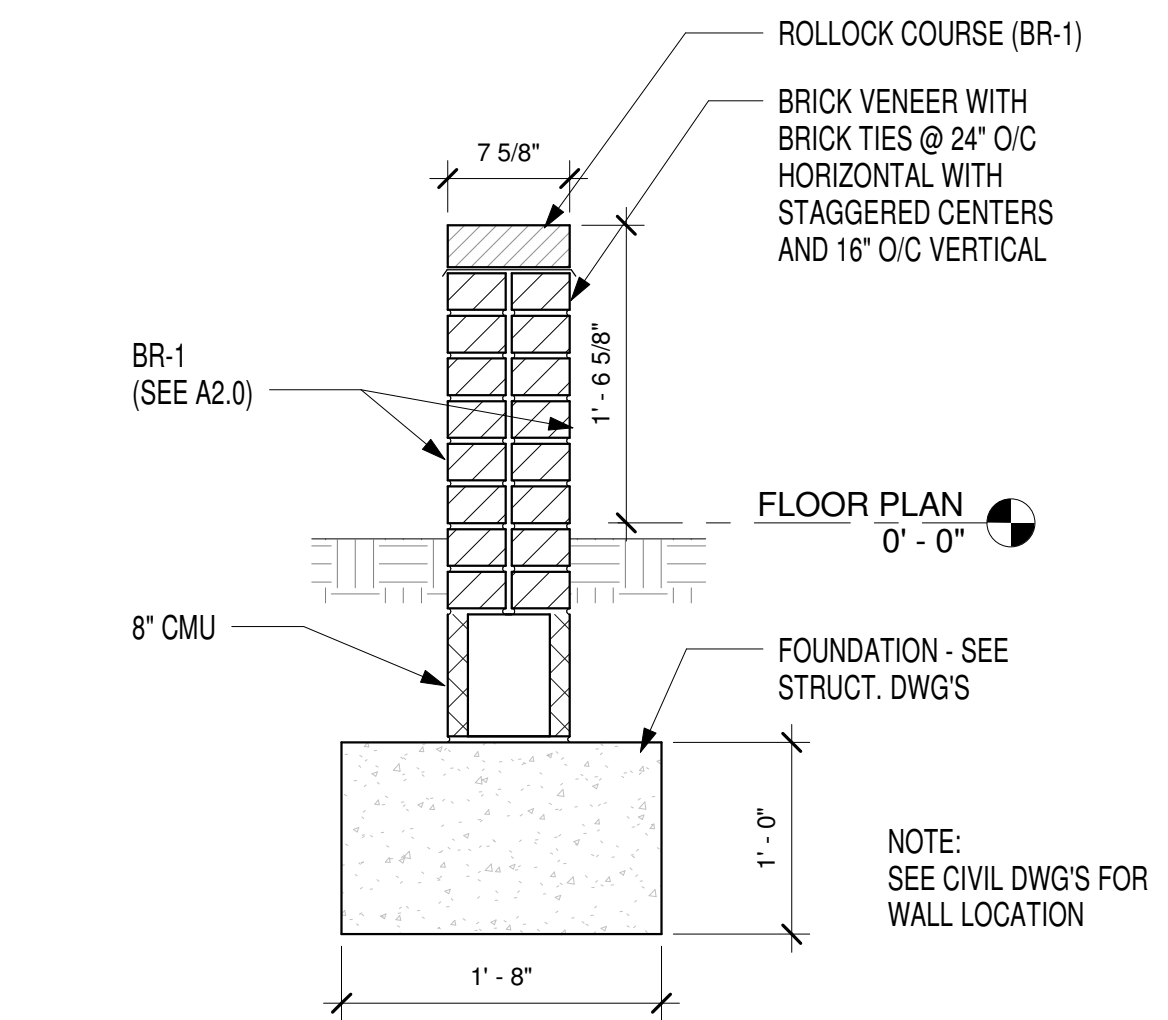
2 STOR. HEAD AT DRIVE THRU
A3.3 A4.2 3" = 1'-0"



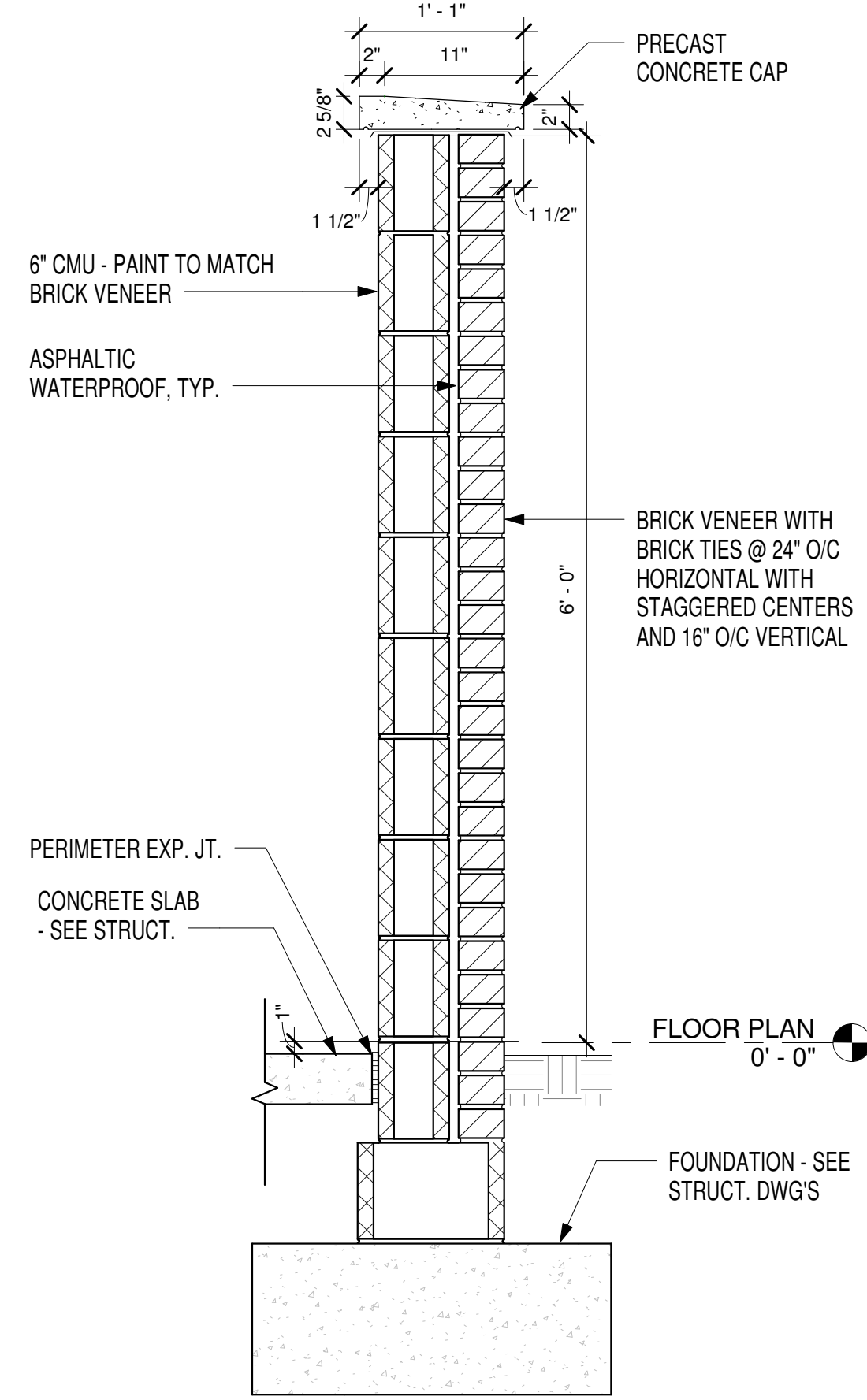
3 STOR. SILL @ DRIVE THRU
A3.3 A4.2 3" = 1'-0"



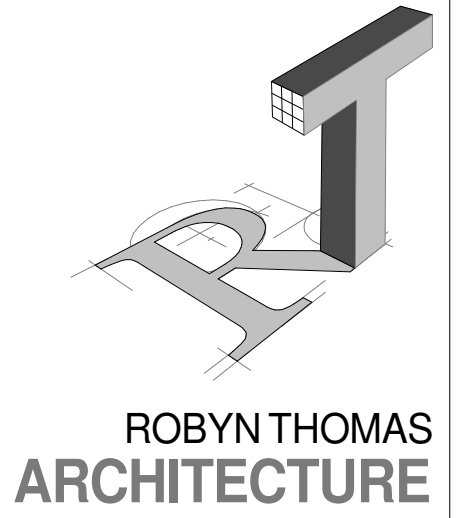
4 STOR. SILL @ DRIVE THRU
A4.2 A4.2 3" = 1'-0"



5 18" HIGH SCREEN WALL
A4.2 1" = 1'-0"



7 CONCRETE CAP DETAIL
A3.2 A4.2 1" = 1'-0"



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RETAIL SPACE FOR STARBUCKS
STARBUCKS
CORNER SHOPS - 2000 COLONIAL AVE NORFOLK, VA

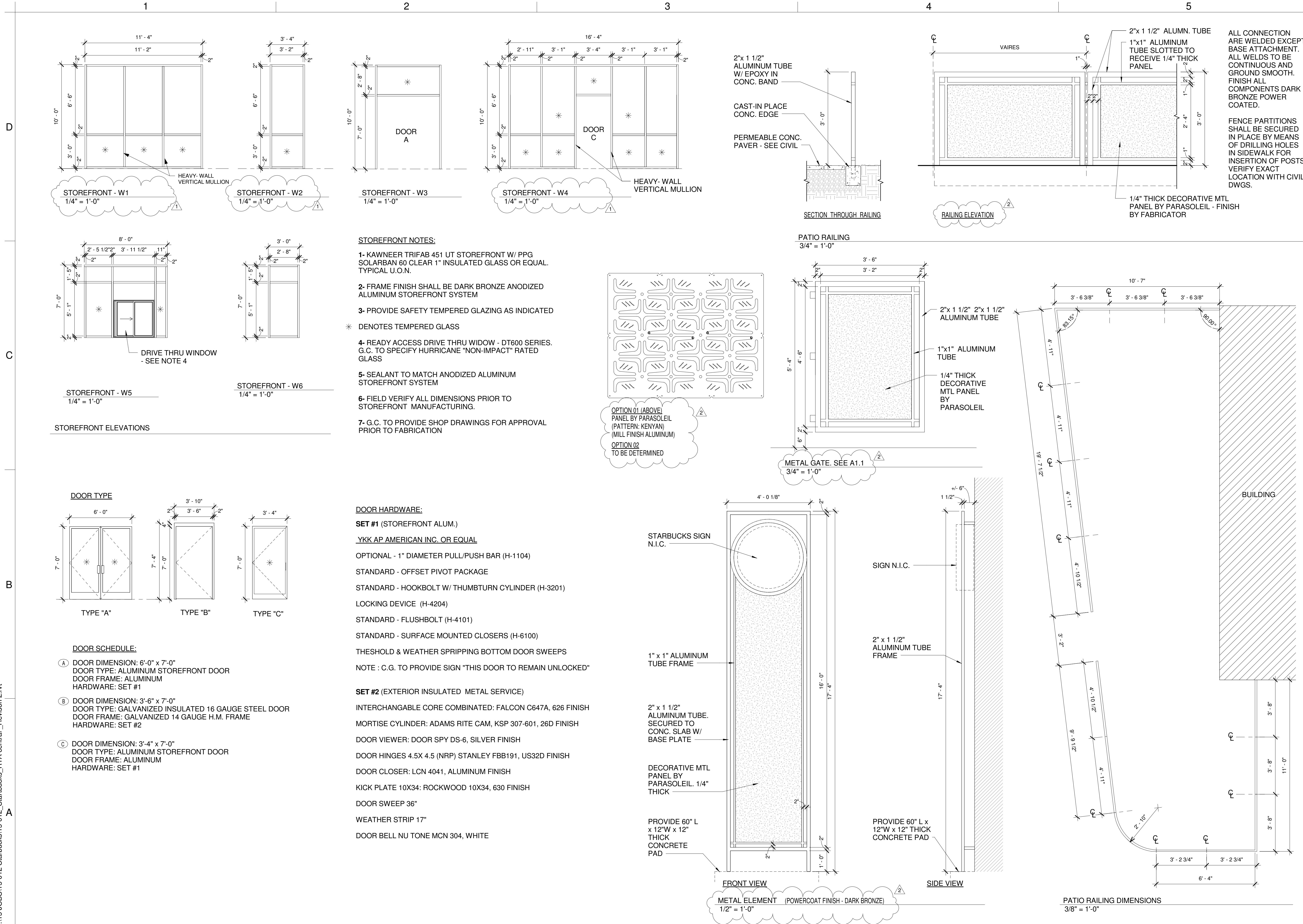
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DATE: 8/31/2016
DESIGN: RTA
DRAWN: NCL
REVIEW: RTA

REVISIONS
No. Date Description

BUILDING
DETAILS

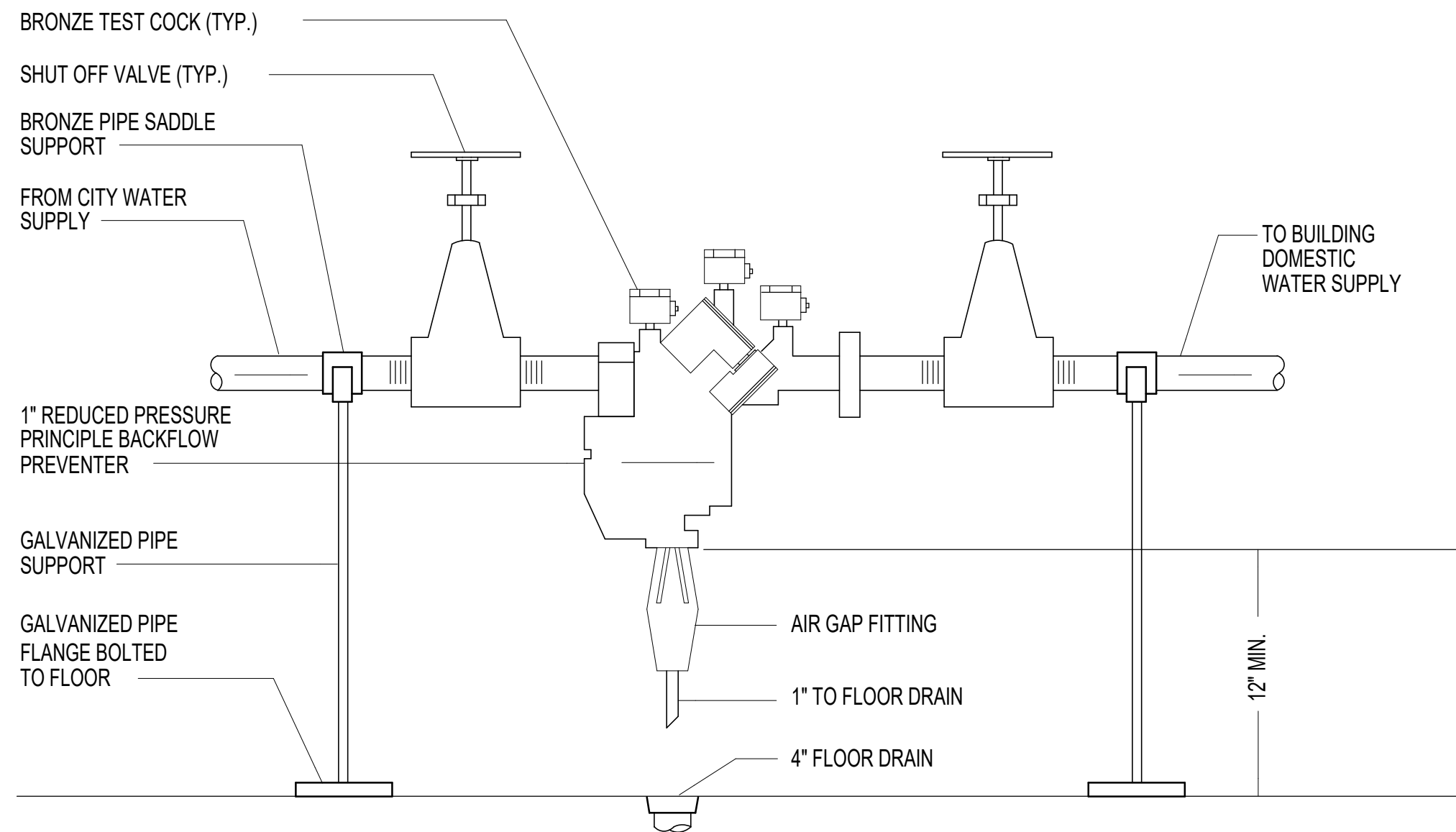
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DETAIL BASED ON "WOODFORD", MODEL 65

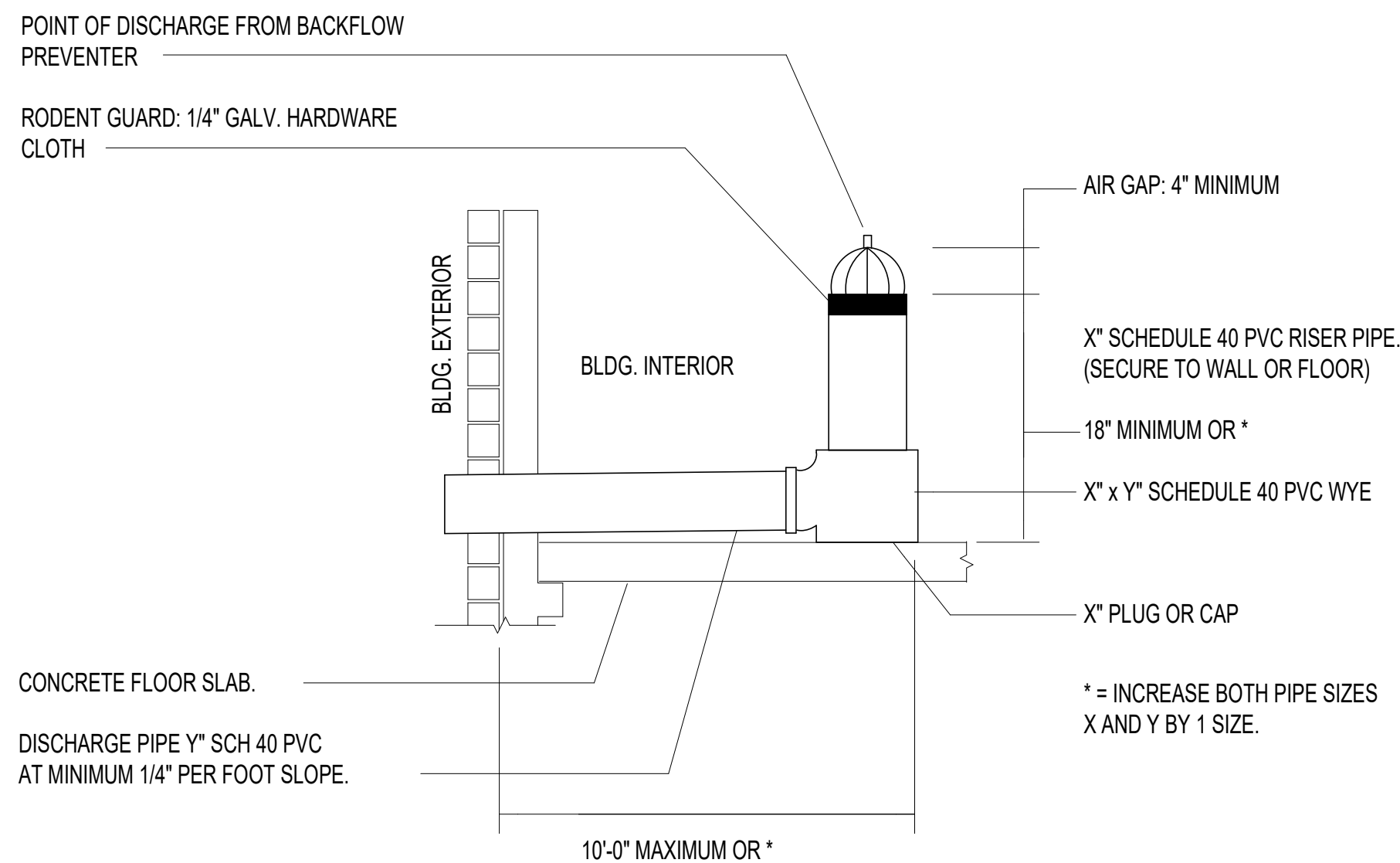
NO SCALE



NO DEVICES, VALVES, BRANCH LINES, ETC. SHALL BE INSTALLED BETWEEN BACKFLOW PREVENTER ASSEMBLY AND THE CITY WATER METER.

NO SCALE

BACKFLOW PREVENTER SIZE, INCHES	DESIGN DISCHARGE RATE, GPM	RISER PIPE "X" SIZE, INCHES	RISER PIPE "Y" SIZE, INCHES
3/4"	30	4"	2"
1"	50	6"	3"
1 1/2"	100	8"	4"
2"	160	8"	4"
3"	320	10"	6"

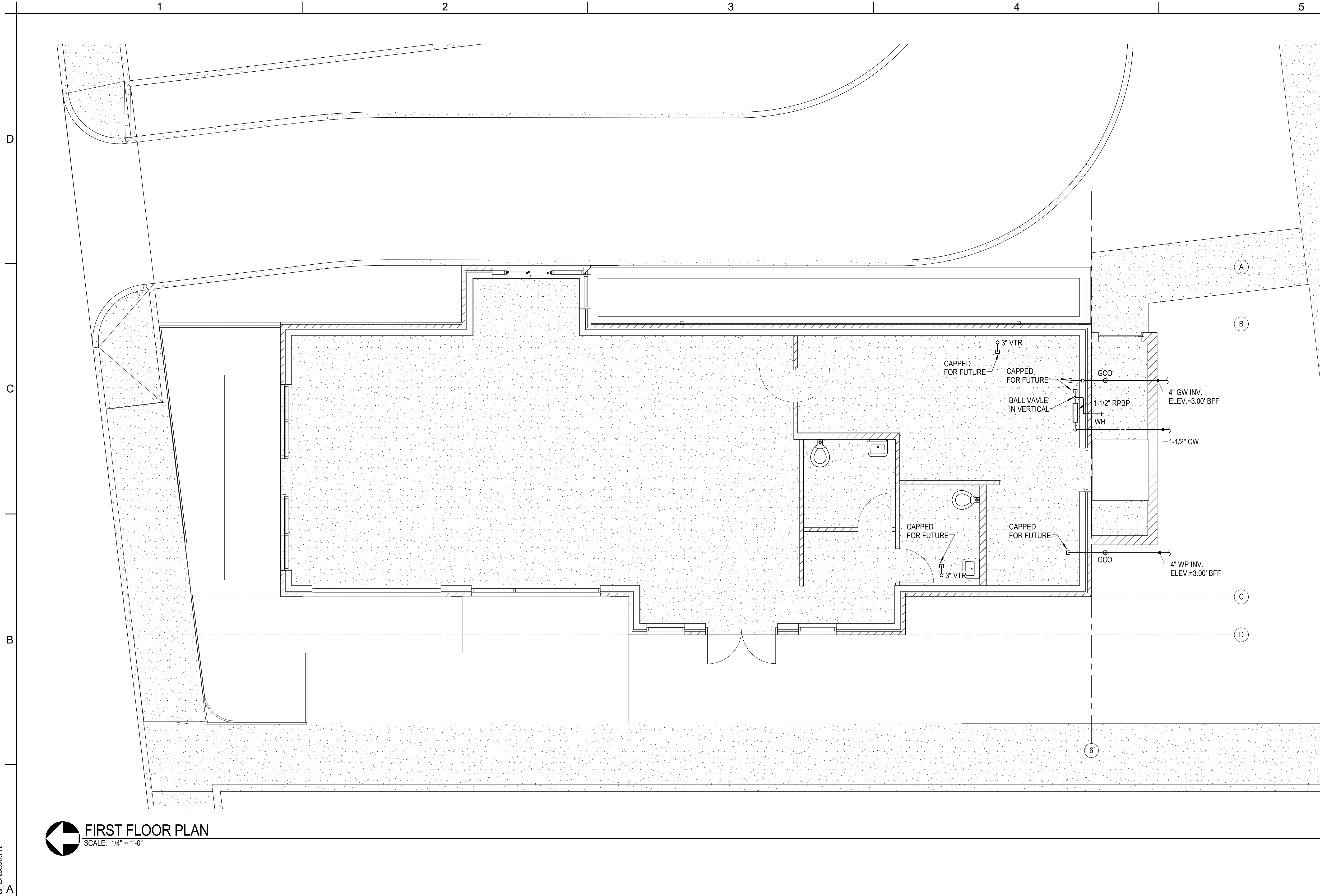


NO SCALE

SANITARY WASTE PIPE SERVING KITCHEN AREAS THAT RECEIVES 140°F OR ABOVE DISCHARGE WATER FROM KITCHEN EQUIPMENT SHALL BE CAST IRON.

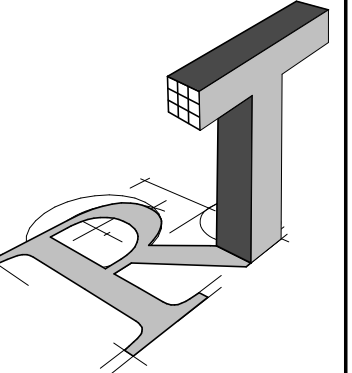
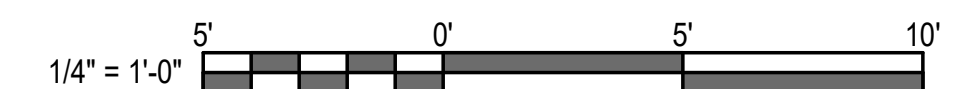


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FIRST FLOOR PLAN
SCALE: 1/4" = 1'-0"

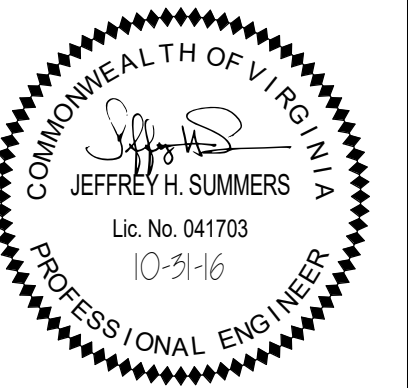
GRAPHIC SCALE:



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RETAIL SPACE FOR STARBUCKS
STARBUCKS
CORNER SHOPS - 2000 COLONIAL AVE NORFOLK, VA

RTA NO:
DATE: 08-31-2016
DESIGN: BKR
DRAWN: BKR
REVIEW: JS

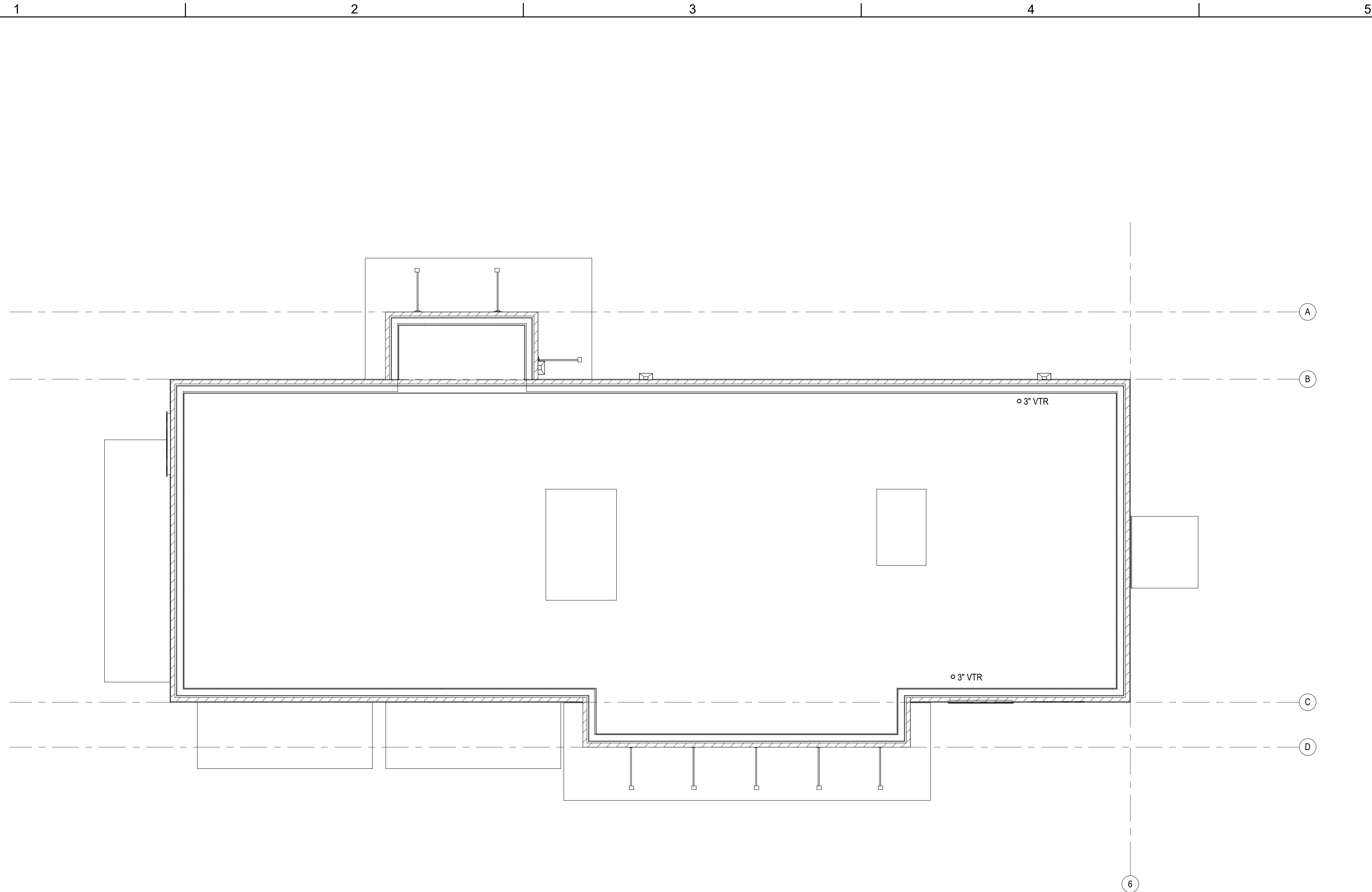
REVISIONS
No. Date Description

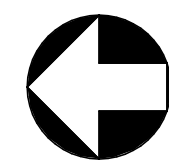
FIRST FLOOR
PLAN

P101

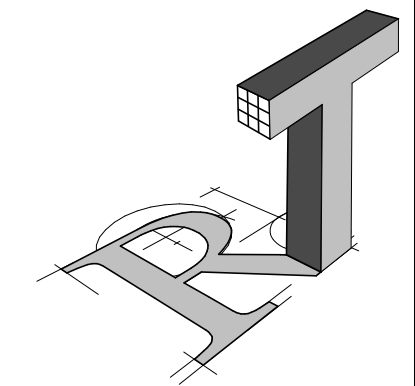
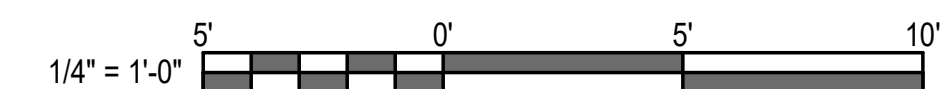
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 **ROOF PLAN**
SCALE: 1/4" = 1'-0"

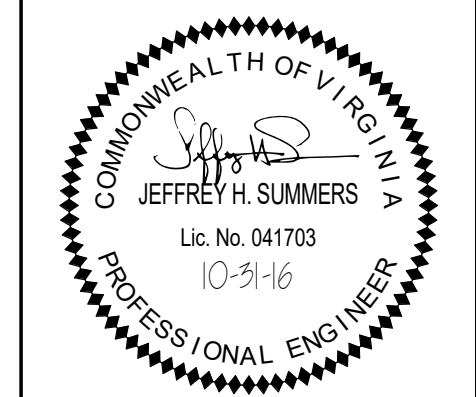
GRAPHIC SCALE:



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RETAIL SPACE FOR STARBUCKS
STARBUCKS
CORNER SHOPS - 2000 COLONIAL AVE NORFOLK, VA

RTA NO:
DATE: 08-31-2016
DESIGN: BKR
DRAWN: BKR
REVIEW: JS

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No. Date Description

ROOF PLAN

P102

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B

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NOTES THIS SHEET

PART 1 - GENERAL

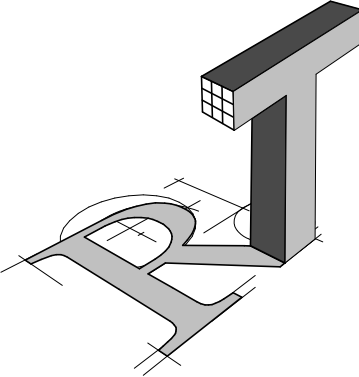
- 1.1 All work shall be done in strict accordance with applicable codes and ordinances.
- A. American National Standards Institute (ANSI)
- B. Applicable local codes
- C. Underwriter's Laboratories, Inc. (UL)
- D. National Fire Protection Association (NFPA)
- E. International Mechanical Code (IMC)
- F. Virginia Uniform Statewide Building Code (VUSBC)
- G. Virginia Plumbing Code
- 1.2 The scope of the work includes furnishing and installing a first class working system, tested ready for operation, complete with labor, materials, apparatus, transportation and tools required for the installation in conformance with the drawings and these specifications.
- 1.3 The contractor shall give all notices, obtain all permits, arrange all inspection, and pay all fees.
- 1.4 The contractor shall visit the site prior to bid to determine the extent of the work. Lack of knowledge of existing conditions will not be considered a basis for change orders. Prior to ordering equipment, certify, in writing, that equipment to be provided under this contract is acceptable and appropriate. Expense incurred by the contractor, which in the engineer's opinion could have been avoided by this step, shall not be a basis for change orders.
- 1.5 Submit six complete copies of material and equipment shop drawings, bearing the contractor's stamp of approval, proposed for installation.
- 1.6 The contractor shall deliver the plumbing materials and equipment covered by the plans and specifications to the owner complete and in first class condition in every respect. He shall guarantee that the materials, equipment and workmanship provided by him shall be entirely free from defects, and that he will repair or replace at his own expense as may be directed by the owner, any material, equipment or workmanship in which defects may develop. Provide a written warranty for a period of 12 months against defective workmanship and material after final acceptance at no additional cost to the owner.
- 1.7 Additionally, plumbing work shall comply with requirements of the tenant / landlord agreement.

PART 2 - PRODUCTS

- 2.1 Interior water piping (above grade) shall be type "L" hard copper tubing, ASTM B88.
- 2.2 Exterior piping and piping below grade shall be type "K" hard copper tubing, ASTM B88.
- 2.3 Copper tubing shall be assembled with cast or wrought copper solder joint fittings.
- 2.4 Dielectric fittings shall be used where copper piping is connected to dissimilar metal.
- 2.5 Joints shall be made with a non-corrosive flux with solder composed of 95 percent tin and 5 percent antimony, or grade SN 96 tin-silver solder and flux containing not more than 0.2 percent lead.
- 2.6 Soil, waste, storm drain, and vent piping buried in the ground shall be service weight cast iron soil pipe and fittings, bell and spigot with rubber compression gasket joints, or caulked and leaded joints, or CISPI 301 hubless pipe with coupling joints. PVC, schedule 40, ASTM D2665 or ABS sewer pipe, ASTM D2661 may be installed as permitted by code.
- 2.7 Soil, waste, storm drain, and vent piping above ground shall be CISPI 301 hubless pipe and fittings with coupling joints, or ASTM A74, hub and spigot pipe and fittings with rubber compression gasket joints. PVC, schedule 40, ASTM D2665, or ABS sewer pipe, ASTM D2661 may be installed as permitted by code.
- 2.8 Provide valves of one manufacturer, non-rising stem 125 psi SWP, bronze body, bronze bonnet, bronze wedge, threaded or soldered end, as manufactured by nibco, or approved equal.
- 2.9 Insulation shall be per ASTM C534. Insulation products shall be fire resistant per ASTM E84. Insulate all valves and fittings. All domestic hot and cold water piping shall be insulated with one piece fiberglass insulation, with high density, white kraft bonded to aluminum foil, fiberglass reinforced all purpose jacket. Joints shall be sealed and protective finish applied to insulation installed on exposed piping and piping above ceilings. Thickness as recommended by manufacturer. Insulation shall be provided at all roof drain sumps and horizontal runs of rain leader piping.

PART 3 - EXECUTION

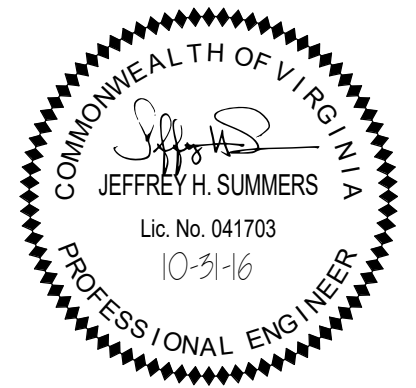
- 3.1 Coordinate work closely with all other trades.
- 3.2 Valves shall be installed as detailed on the drawings with stem upright of horizontal. When valves are not shown in detail on the plans, it shall be understood that the plumbing contractor shall provide all valves and fittings necessary for the control and operation of all equipment. Gate valves shall be installed in service requiring the valve to be fully opened or tightly closed.
- 3.3 Install insulation after testing is complete.
- 3.4 The exact location of pipes will be determined by the contractor after the working plans are made to avoid interference with new ducts, lighting fixtures and piping and new ductwork, piping, and lighting fixtures.
- 3.5 The contractor shall be held responsible for, and be required to make good at his own expense, any and all damages to any work or materials in place on the premises, or included in this contract, during the execution of his contract.
- 3.6 The contractor shall schedule his work to coincide with the progress of alteration work in this area, and at such time when connection to existing sprinkler main is scheduled, suitable standby measures shall be provided for fire protection.
- 3.7 Provide all materials, tools, labor, and other related items to complete all work, including rough-in for, and make plumbing connections to all new equipment in accordance with the International Plumbing Code.
- 3.8 All water piping shall be sterilized in accordance with the American Water Works Association, AWWA C651, and as required by the local health board.
- 3.9 Before final acceptance of the work, test each system as in service to demonstrate compliance with testing as specified in the International Plumbing Code.



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RETAIL SPACE FOR STARBUCKS
STARBUCKS
CORNER SHOPS - 2000 COLONIAL AVE NORFOLK, VA

RTA NO:
DATE: 08-31-2016
DESIGN: BKR
DRAWN: BKR
REVIEW: JS

REVISIONS
No. Date Description

SPECIFICATIONS

P601

SHEET OF

D

C

B

A

GENERAL NOTES

GENERAL ITEMS

GENERAL NOTES ON THIS DRAWING ARE APPLICABLE TO EACH HVAC DRAWING OF THIS SET. SEE EACH DRAWING FOR SPECIFIC NOTES APPLICABLE TO THAT DRAWING.

COORDINATE THAT OUTSIDE AIR INTAKE OPENINGS FOR VENTILATION AIR ARE LOCATED AT LEAST 10 FEET MEASURED IN ANY DIRECTION FROM ANY HAZARDOUS OR NOXIOUS CONTAMINANT SOURCE SUCH AS FLUES, VENTS, CHIMNEYS, GAS METERS, GAS REGULATORS, PLUMBING VENTS, ETC., UNLESS TOP OF SUCH INTAKE OPENING IS 3 FEET OR GREATER BELOW ANY OF THE LISTED ITEMS.

OVERHEAD DUCTWORK IN SPACES WITH CEILINGS SHALL BE CONCEALED UNLESS OTHERWISE NOTED.

EXERCISE DUE CAUTION IN INSTALLING RUNOUTS AND BRANCH PIPING FROM MAINS FOR EXPANSION MOVEMENT.

COORDINATE LOCATION OF GRILLES, REGISTERS, DIFFUSERS, THERMOSTATS AND OTHER WALL OR CEILING MOUNTED HVAC ACCESSORIES WITH LIGHTING FIXTURE LAYOUT AND ACCESSORIES INSTALLED BY OTHER TRADES SO AS TO PRESENT A NEAT AND ATTRACTIVE INSTALLATION THROUGHOUT THE ENTIRE BUILDING. IT IS THE INTENT FOR GRILLES, REGISTERS AND DIFFUSERS TO BE INSTALLED IN THE CENTER OF CEILING PANELS.

THE DIAMETER OF THE SUPPLY PIPE AT ANY GAS FIRED EQUIPMENT SHALL NOT BE OF A SMALLER SIZE THAN THE INLET CONNECTION TO THE EQUIPMENT.

ARRANGE PIPING AND DUCTWORK, PARTICULARLY ABOVE CEILING AS REQUIRED TO CLEAR STRUCTURE, DUCTS, CONDUITS, ETC. ALLOWING SPACE FOR PIPE HANGERS, EXPANSION LOOPS AND ACCESS TO VALVES, FILTERS, AND MAINTENANCE OF EQUIPMENT.

COORDINATE LOCATION AND INSTALLATION OF EQUIPMENT WITH OTHER TRADES.

DO NOT SCALE DRAWINGS. SEE ARCHITECTURAL DRAWINGS FOR EXACT LOCATIONS OF DOORS, WINDOWS, ETC.

THERMOSTATS AND/OR TEMPERATURE SENSORS SHALL BE LOCATED IN THE ROOMS INDICATED. INSTALL AT APPROX. 48" ABOVE FINISH FLOOR TO MATCH THE HEIGHT OF WALL SWITCHES OR OTHER WALL MOUNTED DEVICES.

PIPING, DUCTWORK, VENTS, ETC., EXTENDING THROUGH EXTERIOR WALLS AND ROOF SHALL BE FLASHED AND COUNTER FLASHED IN A WEATHERPROOF MANNER.

VALVES AND SPECIALTIES SHALL BE LINE SIZE EXCEPT FOR CONTROL VALVES OR UNLESS NOTED OTHERWISE.

EXTEND DRAIN LINES TO NEAREST FLOOR DRAIN OR AS INDICATED. ROUTING SHALL NOT INTERFERE WITH PASSAGEWAYS AND MAINTENANCE. DRAINS FROM AIR CONDITIONING CONDENSATE DRAIN PANS SHALL BE TRAPPED. SLOPE CONDENSATE DRAIN PIPING AT 1/4" PER FOOT. VERIFY INVERT IS ESTABLISHED AFTER AIR HANDLING UNIT IS INSTALLED BUT PRIOR TO DUCTWORK INSTALLATION.

ROOFTOP UNITS CONTAINING AIR CONDITIONING COILS WHICH DO NOT HAVE A SECONDARY DRAIN OR AUXILIARY DRAIN PAN SHALL BE FITTED WITH A WATER LEVEL SENSOR IN THE PRIMARY DRAIN PAN. THE SENSOR SHALL BE WIRED TO DE-ENERGIZE THE EQUIPMENT IF WATER RISES ABOVE THE DRAIN OUTLET.

PIPING AND DUCTWORK INSULATION SHALL BE RUN CONTINUOUSLY THROUGH NON-RATED FLOORS, WALLS, ROOF AND PARTITIONS, UNLESS OTHERWISE INDICATED.

NO PIPING SHALL BE SMALLER THAN 3/4" UNLESS OTHERWISE NOTED.

RUNOUTS SHALL PITCH DOWN IN DIRECTION OF FLOW A MINIMUM OF 1" IN 3'.

PROVIDE UNION OR FLANGED CONNECTIONS AT EACH PIECE OF EQUIPMENT AND ON BOTH SIDES ON CONTROL VALVES AND PRESSURE REGULATING VALVES. PROVIDE SHUT-OFF VALVES ON BOTH SIDES OF AUTOMATIC VALVES.

PIPING SHALL BE SUPPORTED IN ACCORDANCE WITH THE SPECIFICATIONS. ADDITIONAL SUPPORTS OR HANGERS SHALL BE ADJACENT TO ELBOWS, TO PREVENT WEIGHT OF PIPING BEING PLACED ON THE EQUIPMENT.

CORRECT SETTING ON BALANCING FITTINGS SHALL BE PERMANENTLY MARKED.

FOR LOCATION OF MOTOR STARTERS, SEE ELECTRICAL DRAWINGS.

LOCATE AND SIZE CURBS FOR MECHANICAL EQUIPMENT IN ACCORDANCE WITH ACTUAL EQUIPMENT PURCHASED.

THROUGH-PENETRATION FIRESTOP ASSEMBLIES

PROVIDE UL LISTED THROUGH-PENETRATION ASSEMBLIES FOR FIREWALLS AND FLOORS. REVIEW ARCHITECTURAL DRAWINGS FOR FIRE PARTITION LOCATIONS AND UL LISTINGS.

SHEET METAL

PROVIDE INTERNAL SOUND ABSORPTIVE DUCT LINING FOR EXTENT NOTED. DUCT DIMENSIONS ARE CLEAR INSIDE DUCT LINING DIMENSIONS.

INSTALL CEILING REGISTERS A MINIMUM OF 4" FROM EXTERIOR WALL.

PROVIDE A MINIMUM OF THREE TIMES THE FAN DIAMETER OF STRAIGHT DUCTWORK OFF THE SUPPLY AIR FAN DISCHARGE BEFORE ANY TAKEOFFS OR ELBOWS.

DUCTWORK SHALL BE CONSTRUCTED TO THE SMACNA STATIC PRESSURE CLASSIFICATION OF 2 IN. WG AND SEAL CLASS "A".

PROVIDE EXTENDED VOLUME DAMPER CONTROL RODS SO THAT HANDLES ARE WELL CLEAR OF DUCT INSULATION.

MAINTENANCE

EQUIPMENT WITH FILTERS SHALL BE INSTALLED SO THAT FILTERS CAN BE EASILY REMOVED AND REPLACED.

EQUIPMENT INSTALLED ABOVE CEILINGS SHALL BE MOUNTED APPROX. 12" ABOVE CEILING (UON) FOR MAINTENANCE ACCESS.

PROVIDE ACCESS TO ANY INSPECTION OR MAINTAINABLE DEVICE, EQUIPMENT, ETC. - ACCESS OR ACCESS DOOR SHALL BE OF ADEQUATE SIZE TO WORK ON DEVICE.

EXAMINE MANUFACTURER'S LITERATURE TO DETERMINE RECOMMENDED CLEARANCES. THESE CLEARANCES SHALL BE ESTABLISHED AND MAINTAINED. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING THESE REQUIREMENTS WITH ALL OTHER TRADES.

LEGENDS & ABBREVIATIONS

	NEW WORK NOTE DESIGNATION	A.F.F.	ABOVE FINISHED FLOOR
	EXHAUST FAN DESIGNATION	APD	AIR PRESSURE DROP
	AIR CURTAIN DESIGNATION	APPROX.	APPROXIMATELY
	ROOFTOP UNIT DESIGNATION	CALC.	CALCULATED
	WALL THERMOSTAT	CFM	CUBIC FEET PER MINUTE
	VOLUME DAMPER	DB	DRY BULB TEMPERATURE
	GRILLE, REGISTER, OR DIFFUSER MARK (CFM AS INDICATED)	E.A.	EXHAUST AIR
	SUPPLY AIR/OUTSIDE AIR DUCT SECTION	EAT	ENTERING AIR TEMPERATURE
	RETURN AIR AIR DUCT SECTION	ESP	EXTERNAL STATIC PRESSURE
	EXHAUST AIR DUCT SECTION	FLA	FULL LOAD AMPS
	SUPPLY AIR/OUTSIDE AIR DUCT SECTION THROUGH ROOF	FPM	FEET PER MINUTE
	RETURN AIR DUCT SECTION THROUGH ROOF	FT	FEET
	EXHAUST AIR DUCT SECTION THROUGH ROOF	HP	HORSEPOWER
	DUCT TURNING UP	IN	INCH
	DUCT TURNING DOWN	LAT	LEAVING AIR TEMPERATURE
	RETURN REGISTER WITH DUCTWORK	MAX	MAXIMUM
	EXHAUST GRILLE WITH DUCTWORK	MBH	1000 BRITISH THERMAL UNITS PER HOUR
	MITERED ELBOW WITH TURNING VANES	MCA	MINIMUM CIRCUIT AMPS
	FLEXIBLE DUCT CONNECTOR	MIN	MINIMUM
	ISOLATION VALVE	MOCP	MAXIMUM OVERCURRENT PROTECTION
	UNION	NC	NOISE CRITERIA
	PIPE TURNING UP	O.A.	OUTSIDE AIR
	PIPE TURNING DOWN	OBD	OPPOSED BLADE DAMPER
	CONDENSATE DRAIN PIPING	P.D.	PRESSURE DROP
	NATURAL GAS PIPING	R.A.	RETURN AIR
		RPM	REVOLUTIONS PER MINUTE
		S.A.	SUPPLY AIR
		SEER	SEASONAL ENERGY EFFICIENCY RATING
		SENS.	SENSIBLE
		(TYP.)	TYPICAL
		U.O.N.	UNLESS OTHERWISE NOTED
		V	VOLTS
		WB	WET BULB TEMPERATURE
		WG	WATER GAUGE
		°F	DEGREE FAHRENHEIT
		Ø	PHASE/DIAMETER

SEQUENCE OF OPERATIONS

EF-1:

FAN SHALL BE CONTROLLED BY A TIME CLOCK. FAN SHALL OPERATE DURING OCCUPIED HOURS.

RTU-1 AND RTU-2:

A 24 HOUR, SEVEN DAY WALL MOUNTED PROGRAMMABLE THERMOSTAT SHALL BE USED TO INITIATE RTU "OCCUPIED" AND "UNOCCUPIED" MODE AS DEFINED BY THE USER. MANUFACTURER'S SYSTEM SHALL BE CAPABLE OF BEING MANUALLY INDEXED FROM UNOCCUPIED TO OCCUPIED MODE THRU AN OVERRIDE BUTTON INTEGRAL TO THE SPACE TEMPERATURE SENSOR.

COOLING, OCCUPIED: WHEN PROGRAMMABLE THERMOSTAT IS INDEXED TO "OCCUPIED" MODE, SUPPLY AIR FAN SHALL BE ENERGIZED AND RUN CONTINUOUSLY. SPACE THERMOSTAT SHALL CYCLE RTU COOLING COMPRESSOR(S) TO MAINTAIN "OCCUPIED" SPACE TEMPERATURE SETPOINT (75°F) ADJUSTABLE.

COOLING-OCCUPIED (ECONOMIZER): SUPPLY AIR FAN SHALL BE ENERGIZED AND RUN CONTINUOUSLY. WHEN SPACE CALLS FOR COOLING AND OA DRY BULB CONDITIONS PERMIT, THE OUTSIDE AIR DAMPER SHALL MODULATE OPEN AND THE RETURN AIR DAMPER SHALL MODULATE CLOSED.

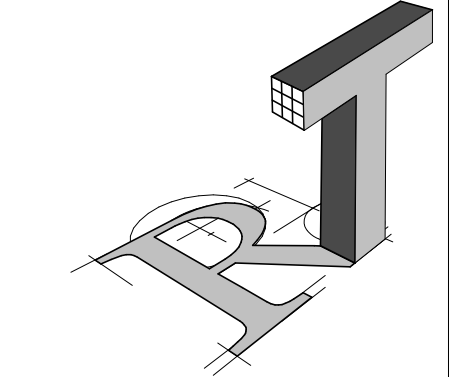
COOLING, UNOCCUPIED: PROGRAMMABLE THERMOSTAT SHALL CYCLE UNIT SUPPLY FAN AND COOLING COMPRESSOR TO MAINTAIN SETBACK SETPOINT (85°F) ADJUSTABLE. OUTSIDE AIR DAMPER SHALL CLOSE DURING UNOCCUPIED MODE.

AUTOMATIC OFF: PROVIDE A CONDENSATE HIGH LEVEL SWITCH IN PRIMARY DRAIN PAN IN ACCORDANCE WITH THE 2012 VA MECHANICAL CODE. SWITCH SHALL DISABLE UNIT UPON SENSING HIGH WATER LEVEL IN PAN.

HEATING, OCCUPIED: WHEN PROGRAMMABLE THERMOSTAT IS INDEXED "OCCUPIED", SUPPLY AIR FAN SHALL BE ENERGIZED AND RUN CONTINUOUSLY. SPACE THERMOSTAT SHALL ENERGIZE AND MODULATE THE GAS HEAT TO MAINTAIN 55°F LEAVING AIR TEMPERATURE. THE COOLING SECTION SHALL BE DE-ENERGIZED.

HEATING, UNOCCUPIED: PROGRAMMABLE THERMOSTAT SHALL CYCLE UNIT SUPPLY AIR FAN AND ENERGIZE/ DE-ENERGIZE THE GAS HEAT TO MAINTAIN SPACE SETBACK SETPOINT (55°F). OUTSIDE AIR DAMPER SHALL CLOSE DURING UNOCCUPIED MODE.

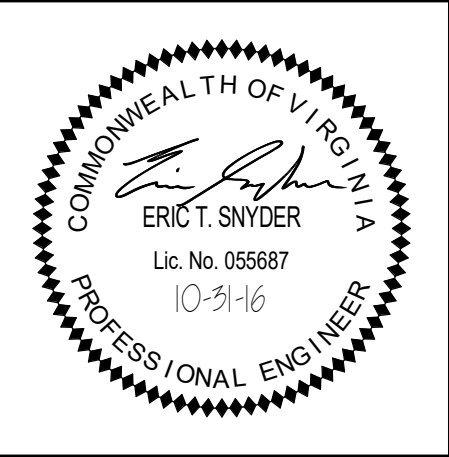
OPTIMUM START: SYSTEM START TIME SHALL BE AUTOMATICALLY ADJUSTED IN ORDER TO BRING SPACE TO DESIRED SETPOINT IMMEDIATELY PRIOR TO SCHEDULED OCCUPANCY.



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RETAIL SPACE FOR STARBUCKS
STARBUCKS
CORNER SHOPS - 2000 COLONIAL AVE NORFOLK, VA

RTA NO:
DATE: 10/31/16
DESIGN: HMP
DRAWN: HMP
REVIEW: ETS

REVISIONS
No. Date Description

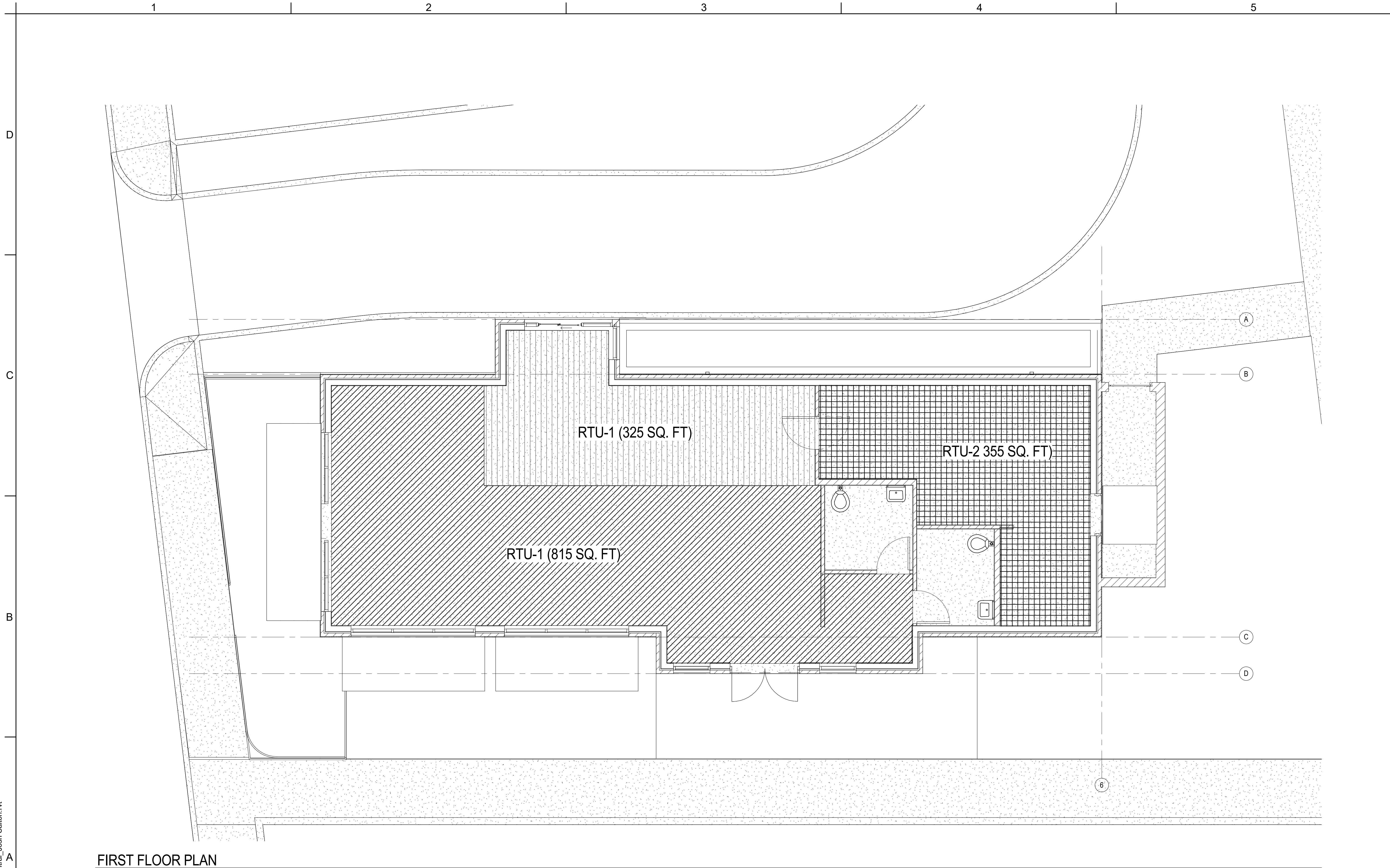
LEGEND, NOTES
AND
ABBREVIATIONS

M001

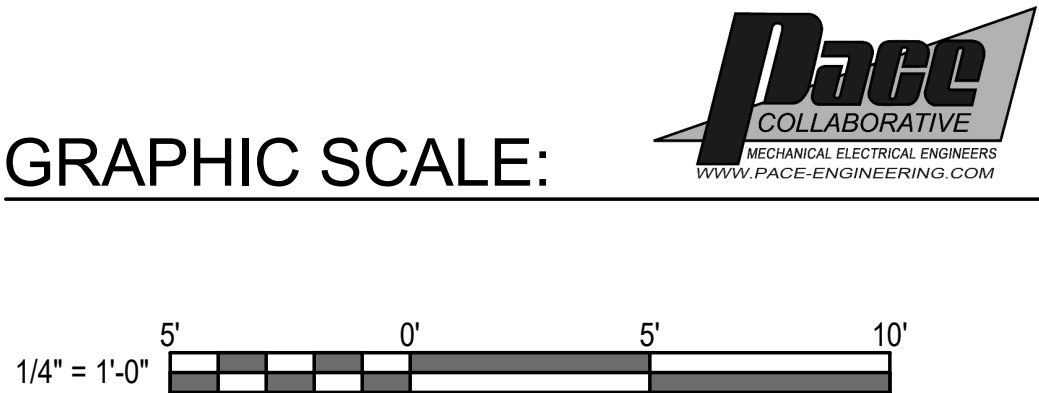
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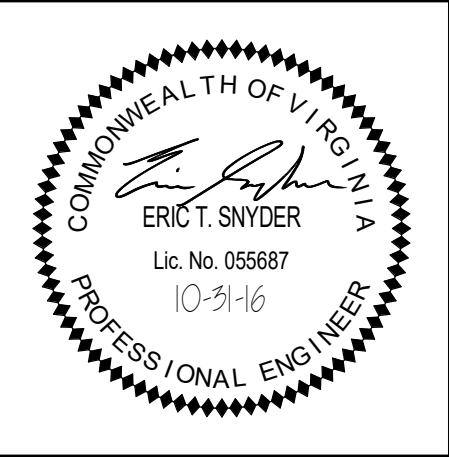
FIRST FLOOR PLAN
SCALE: 1/4" = 1'-0"



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RETAIL SPACE FOR STARBUCKS
STARBUCKS
CORNER SHOPS - 2000 COLONIAL AVE NORFOLK, VA

RTA NO:
DATE: 10/31/16
DESIGN: Designer
DRAWN: Author
REVIEW: Checker

REVISIONS

No.	Date	Description
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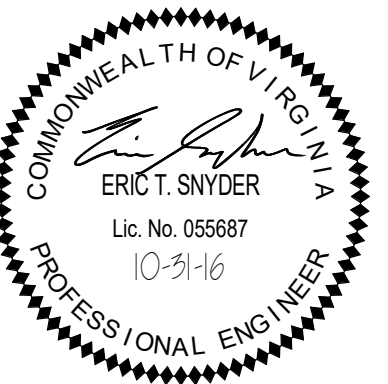
ZONING PLAN

M002

SHEET OF

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RETAIL SPACE FOR STARBUCKS
STARBUCKS
CORNER SHOPS - 2000 COLONIAL AVE NORFOLK, VA

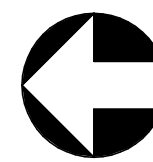
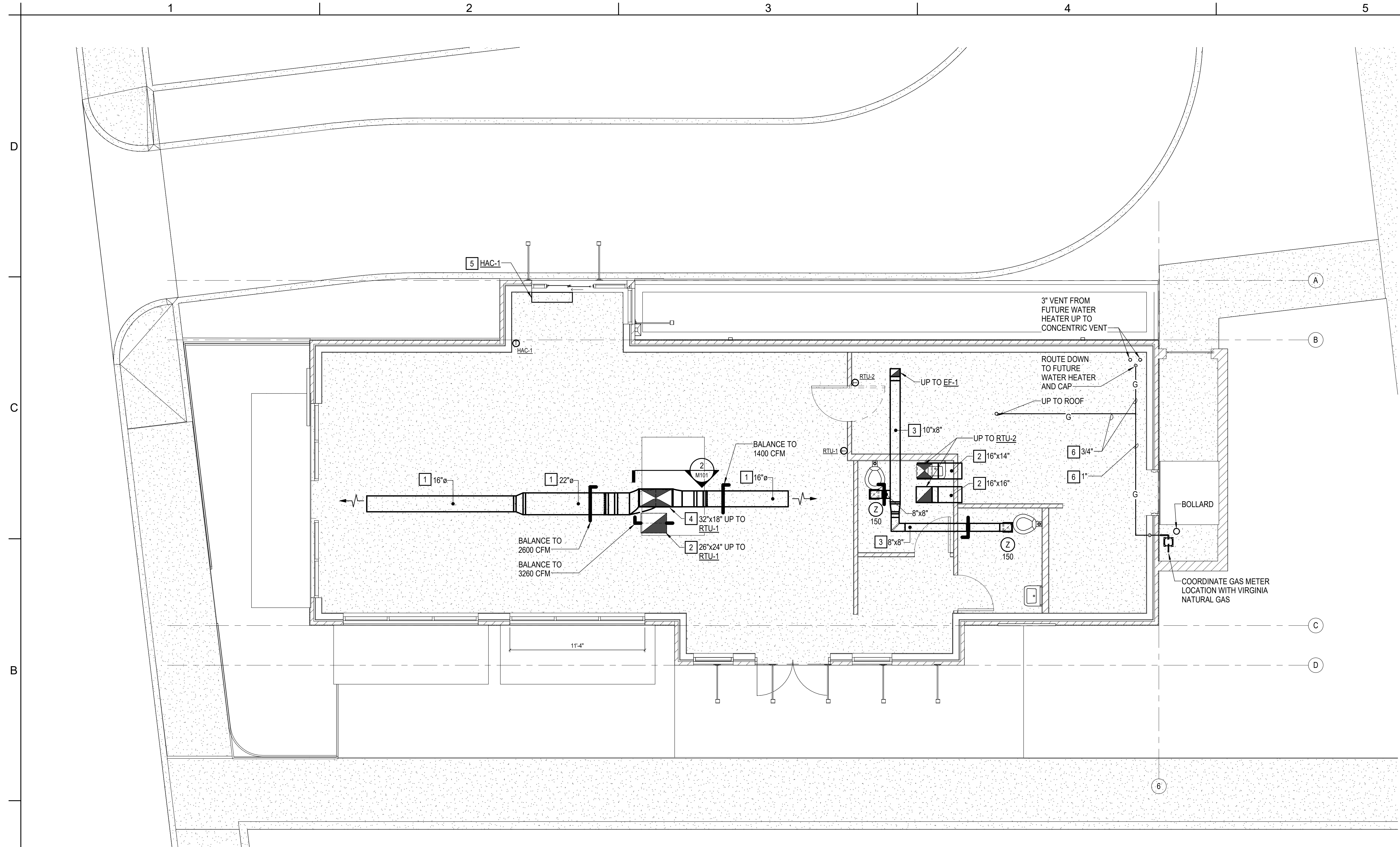
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REVIEW: ETS

REVISIONS

FIRST FLOOR
PLAN

M101

SHEET OF

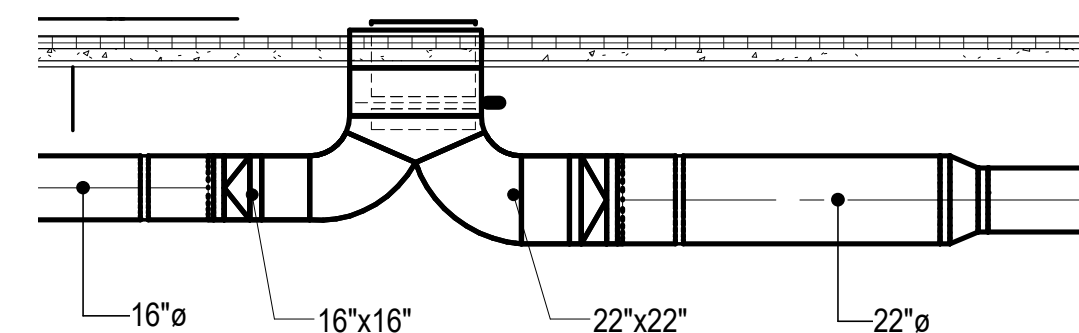


FIRST FLOOR PLAN

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

NOTES THIS SHEET

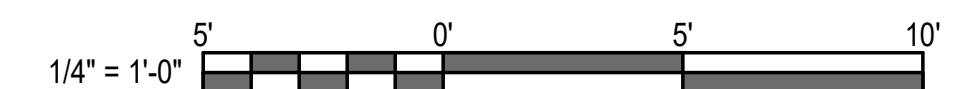
- | | |
|---|---|
| 1 | PROVIDE DOUBLE WALL DUCTWORK, INSULATION, HANGERS, AND SUPPORTS COMPLETE. SEE SPECIFICATION FOR REQUIREMENTS. |
| 2 | PROVIDE DUCTWORK, INSULATION, HANGERS, AND SUPPORTS COMPLETE. |
| 3 | PROVIDE EXHAUST DUCTWORK, HANGERS, AND SUPPORTS COMPLETE. |
| 4 | PROVIDE PANTS FITTING, INSULATION, HANGERS, AND SUPPORTS COMPLETE. SEE SECTION VIEW. |
| 5 | PROVIDE AIR CURTAIN, HANGERS, SUPPORTS, AND ASSOCIATED APPURTENANCES COMPLETE. |
| 6 | PROVIDE NATURAL GAS PIPE, HANGERS, AND SUPPORTS COMPLETE. |



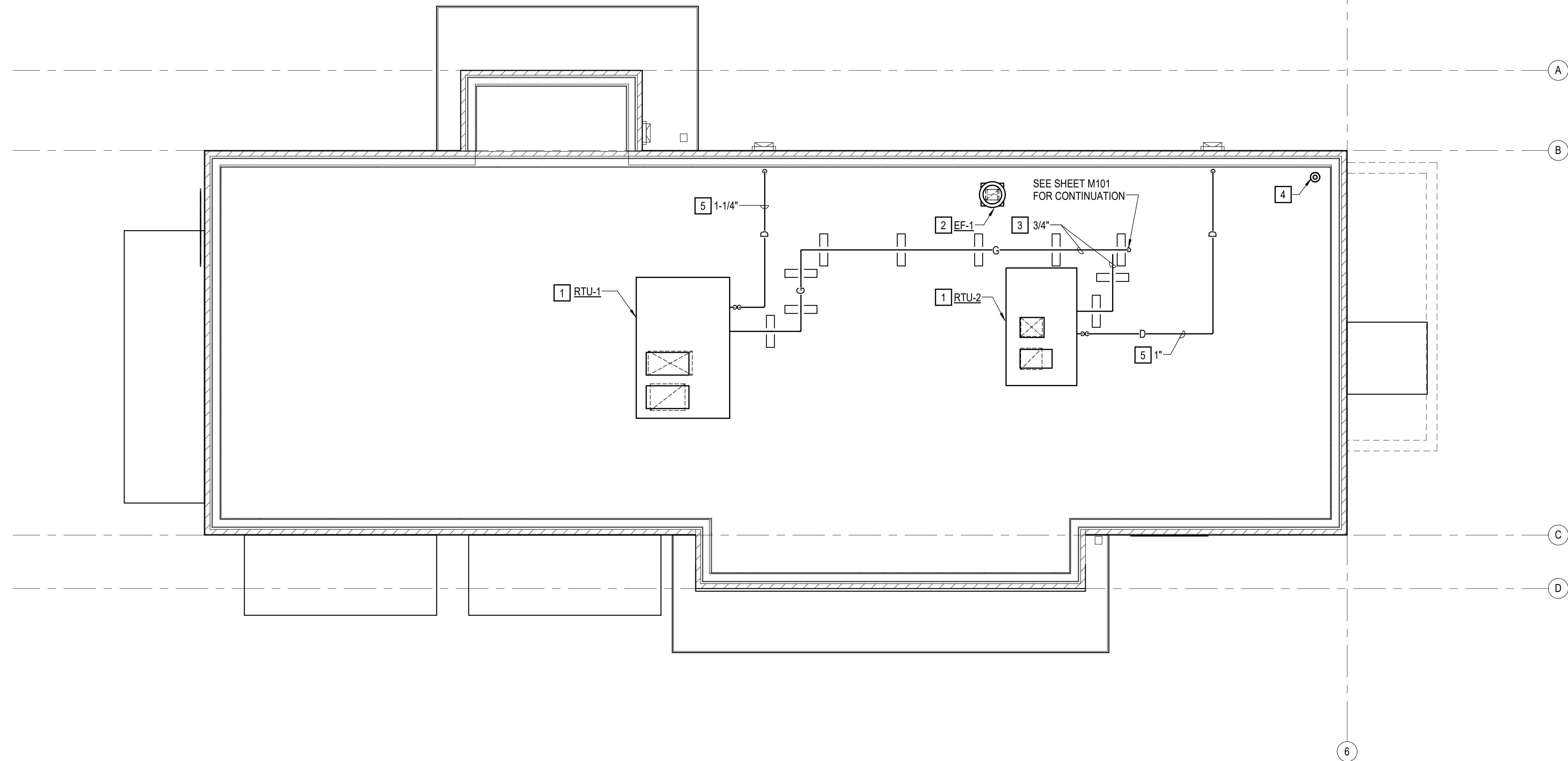
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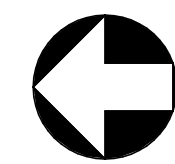
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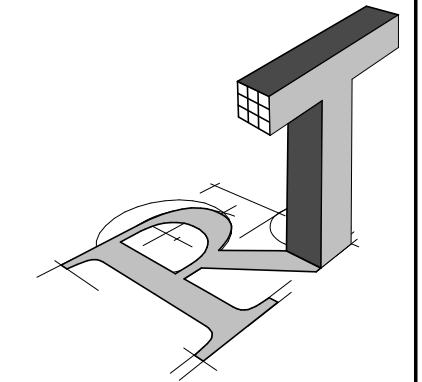
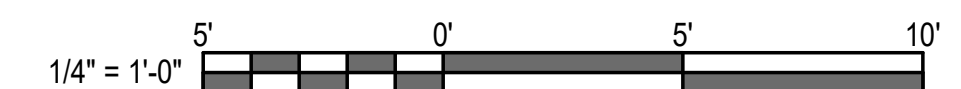


 **ROOF PLAN**
SCALE: 1/4" = 1'-0"

NOTES THIS SHEET

- 1 PROVIDE PACKAGED ROOFTOP AIR CONDITIONING UNIT (DX COOLING/ GAS HEAT).
MOUNT ON MANUFACTURER'S ROOF CURB.
- 2 PROVIDE ROOF MOUNTED EXHAUST FAN ON MANUFACTURER'S ROOF CURB.
- 3 PROVIDE GAS PIPING AND SUPPORTS COMPLETE.
- 4 PROVIDE CONCENTRIC VENT IN ACCORDANCE WITH GAS WATER HEATER
MANUFACTURER'S INSTALLATION INSTRUCTIONS.
- 5 PROVIDE CONDENSATE DRAIN PIPING AND SUPPORTS COMPLETE.

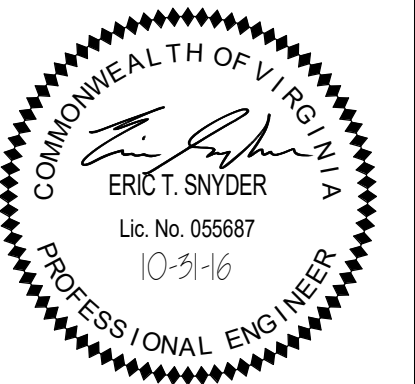
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STARBUCKS
CORNER SHOPS - 2000 COLONIAL AVE NORFOLK, VA

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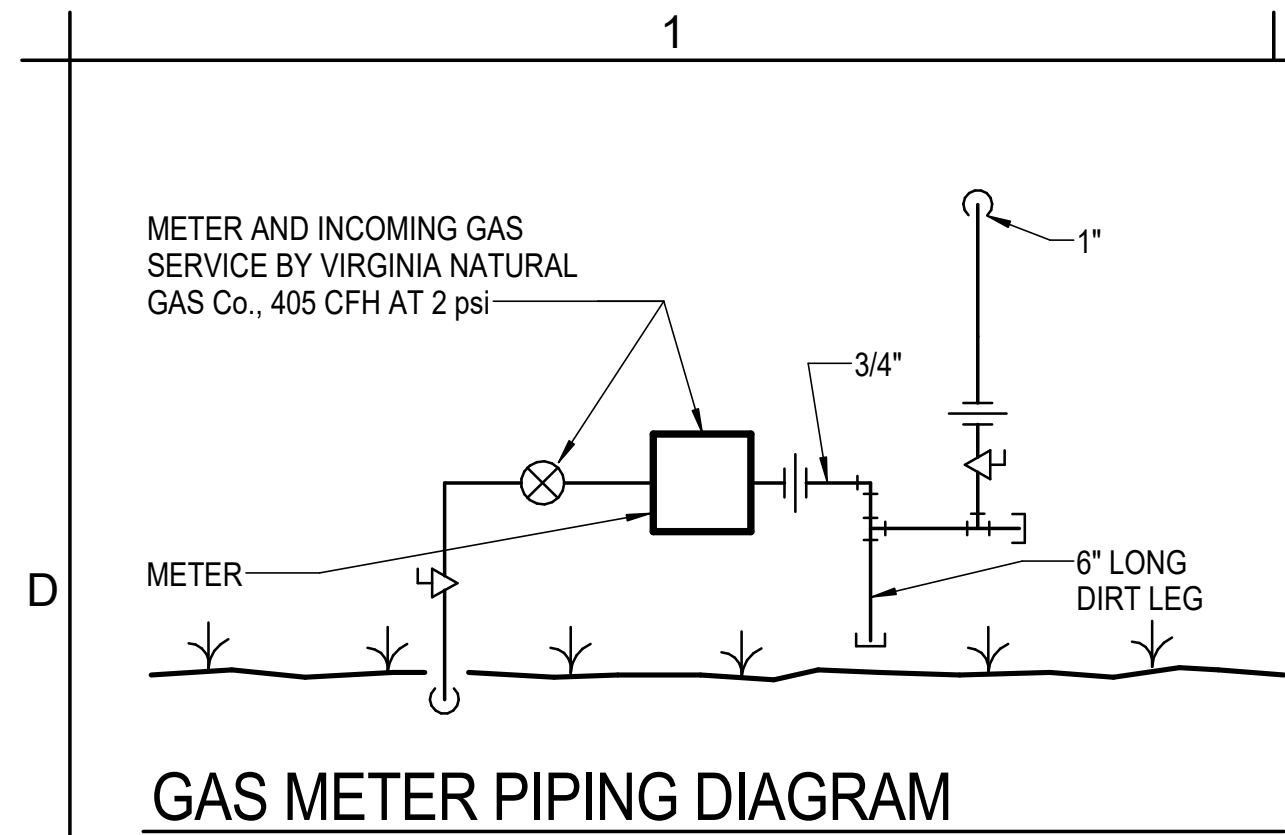
REVISIONS
No. Date Description

ROOF PLAN

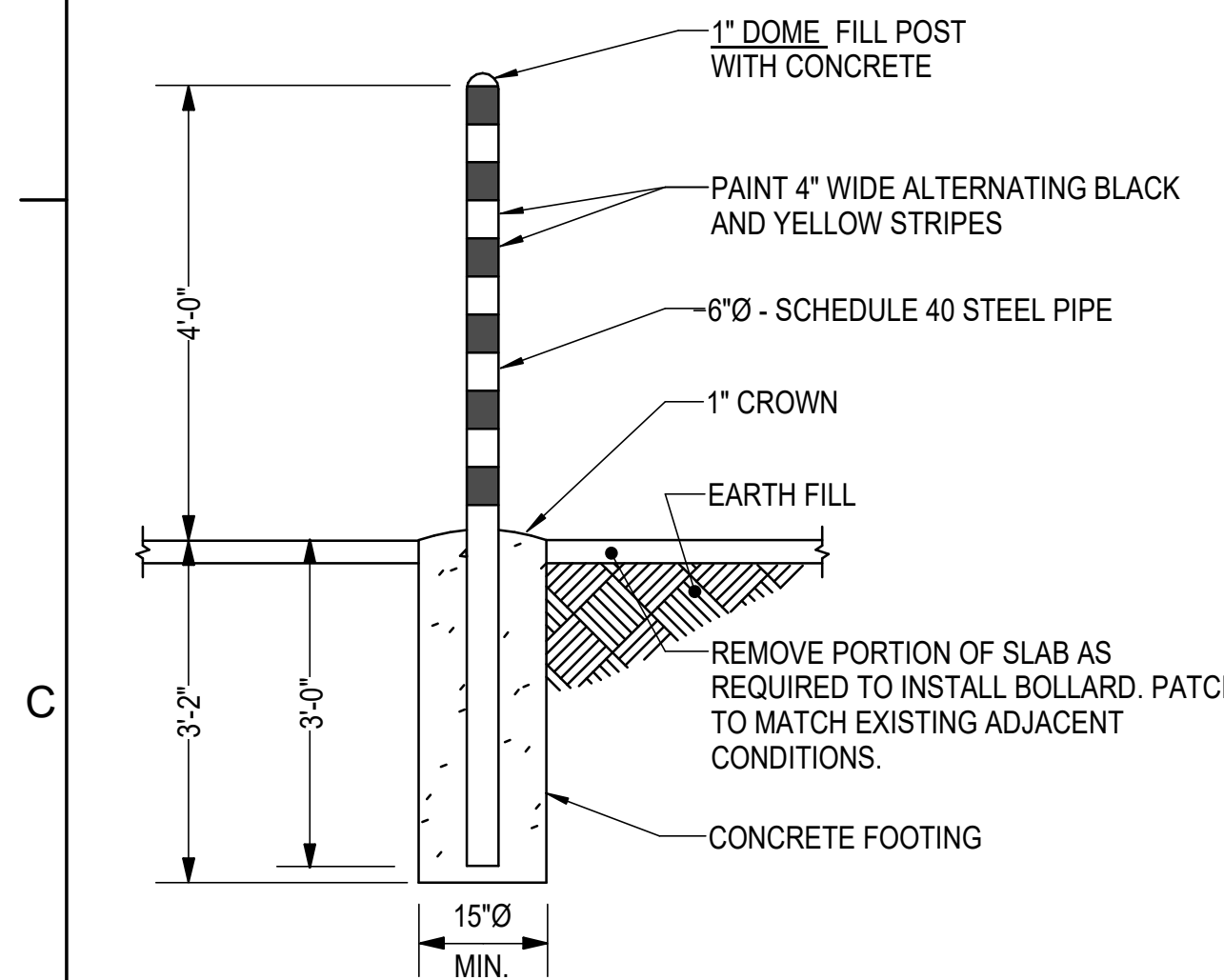
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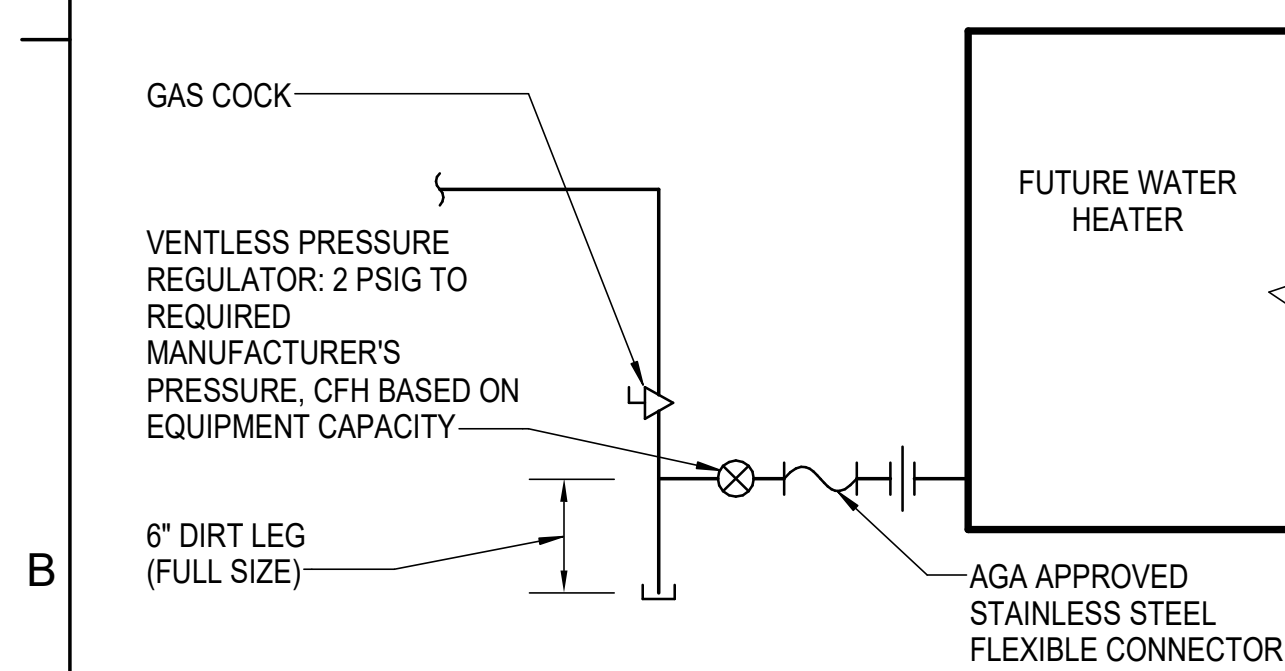
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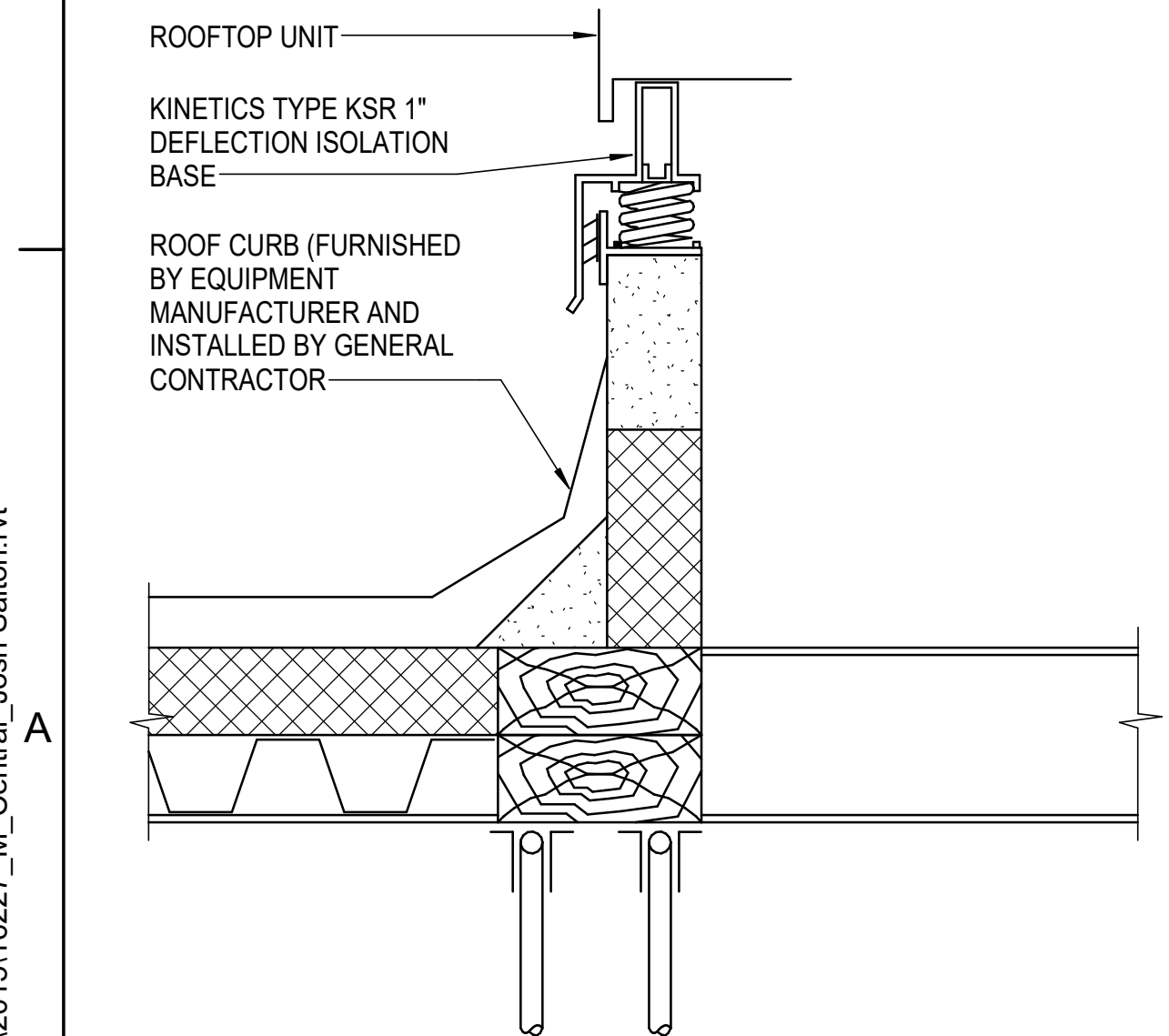
GAS METER PIPING DIAGRAM



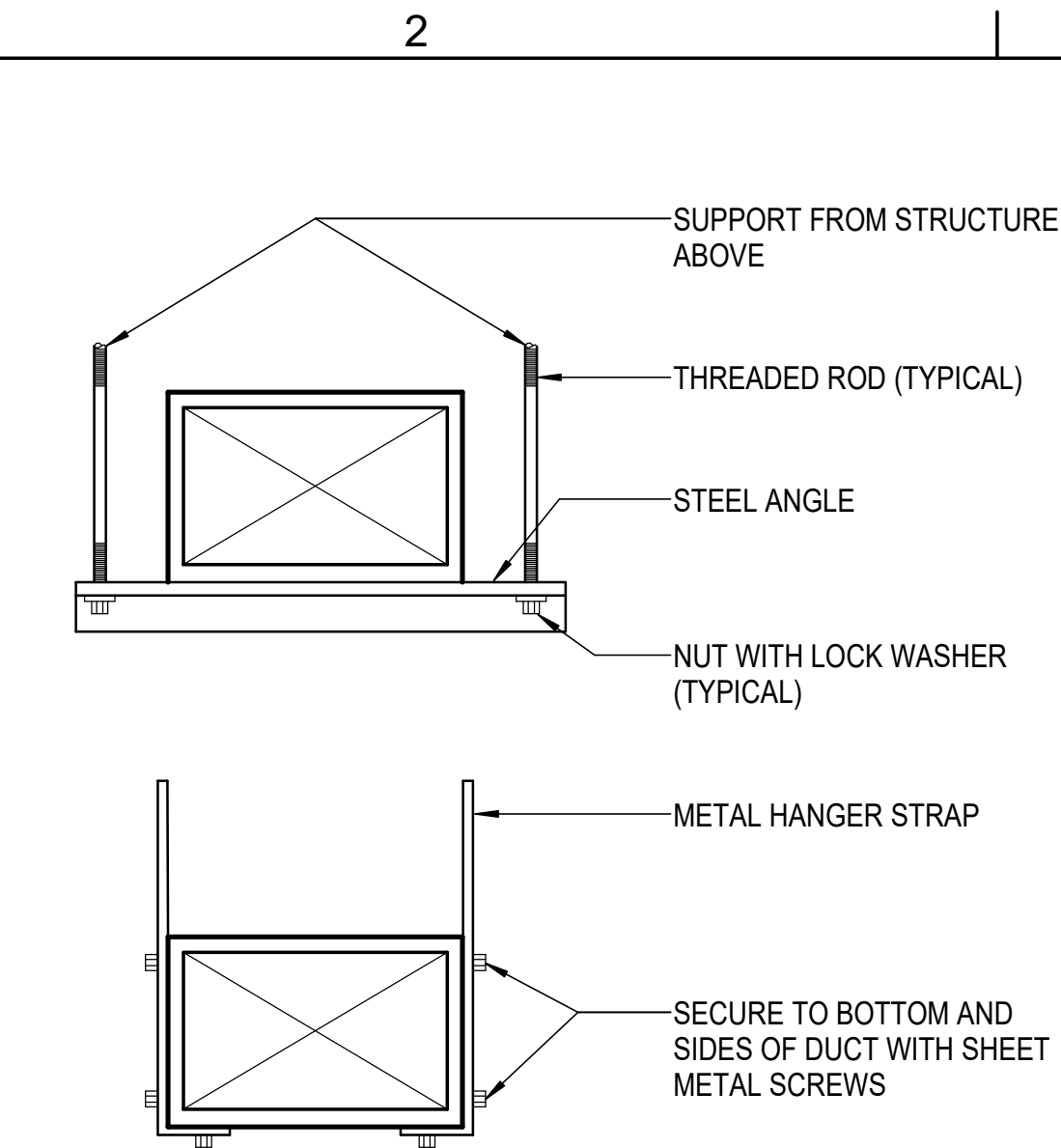
CONCRETE BOLLARD DETAIL



INDOOR GAS PIPING CONNECTION DETAIL

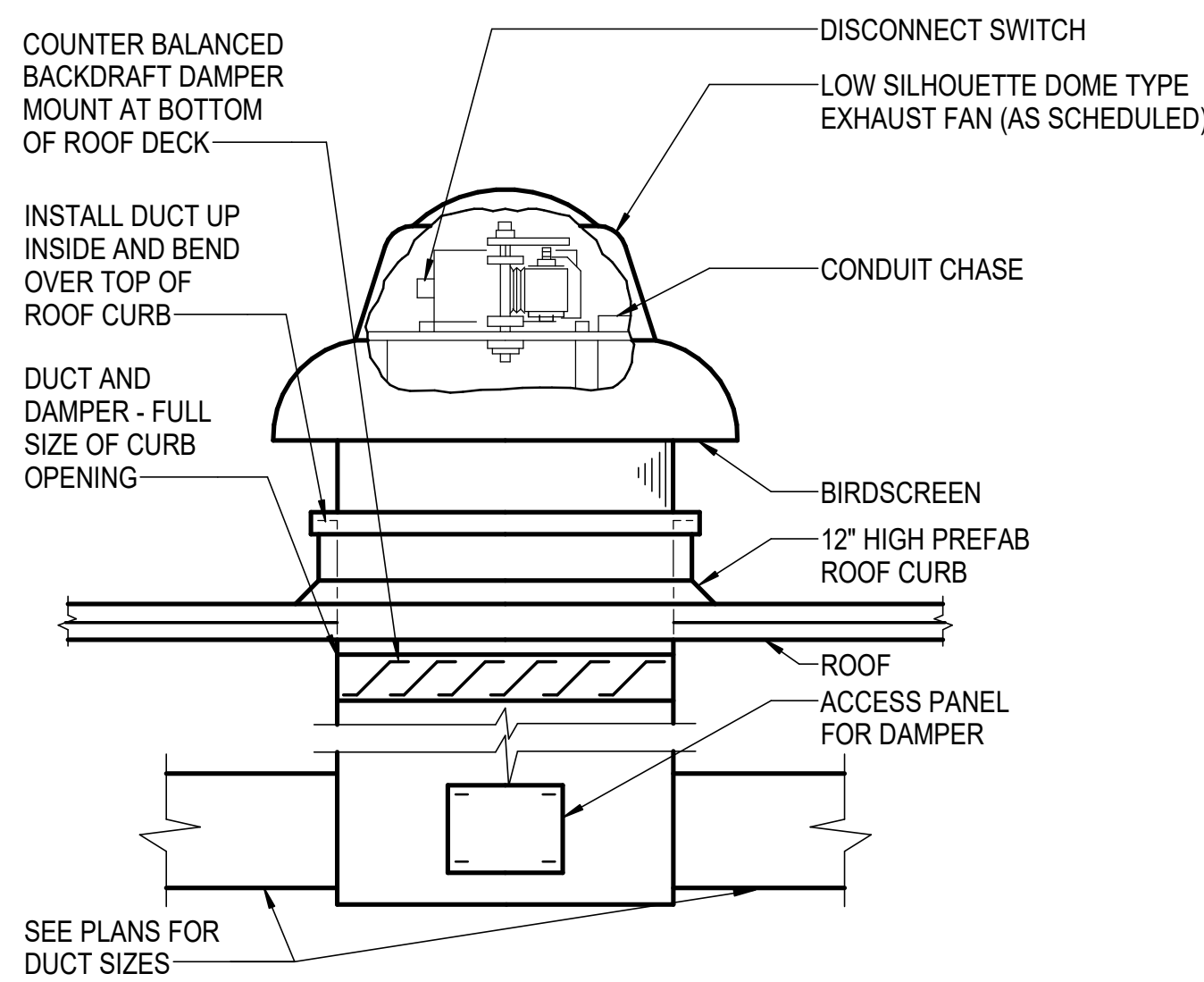


ROOFTOP UNIT ACOUSTICAL CURB DETAIL

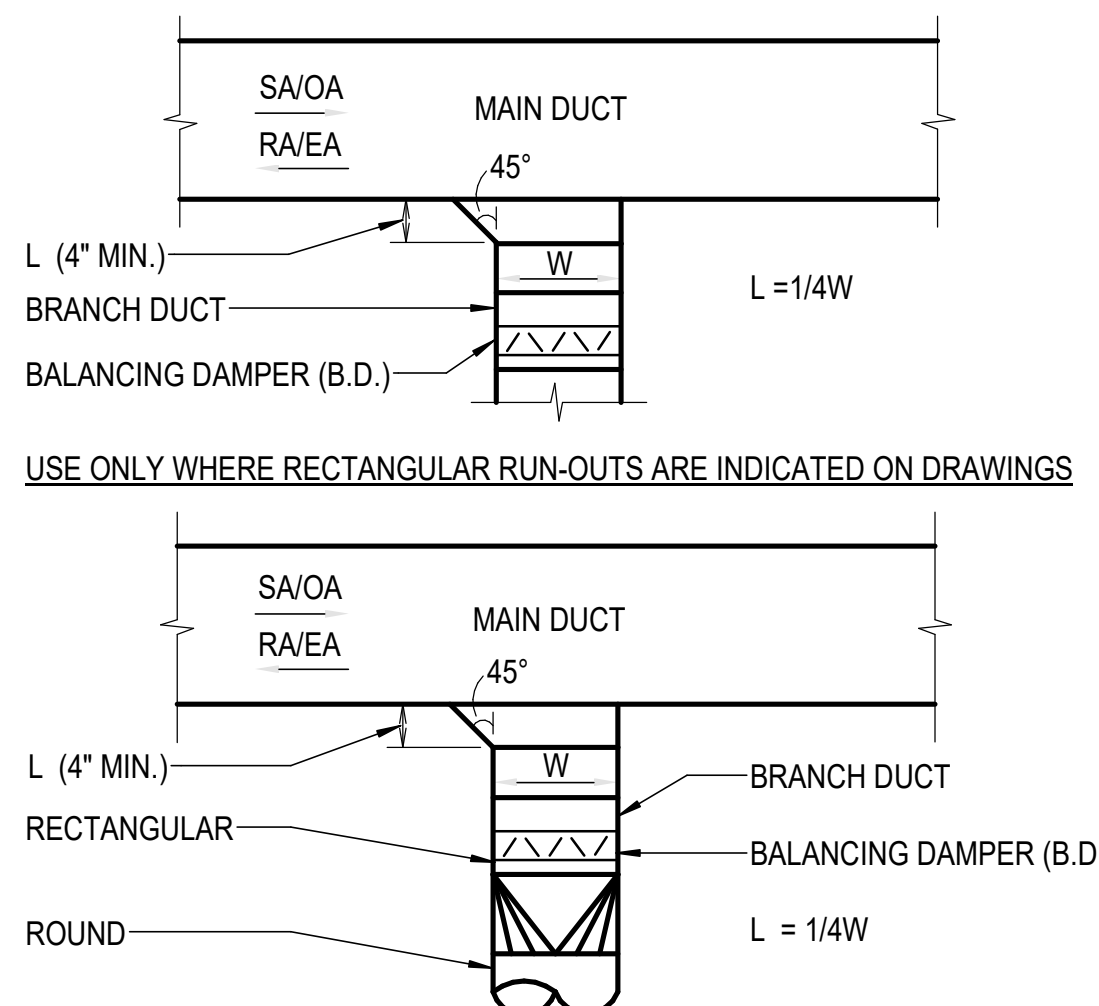


NOTE: FOR ANGLE SIZE AND HANGER STRAP GAUGE, SEE SMACNA LOW PRESSURE DUCT CONSTRUCTION STANDARDS.

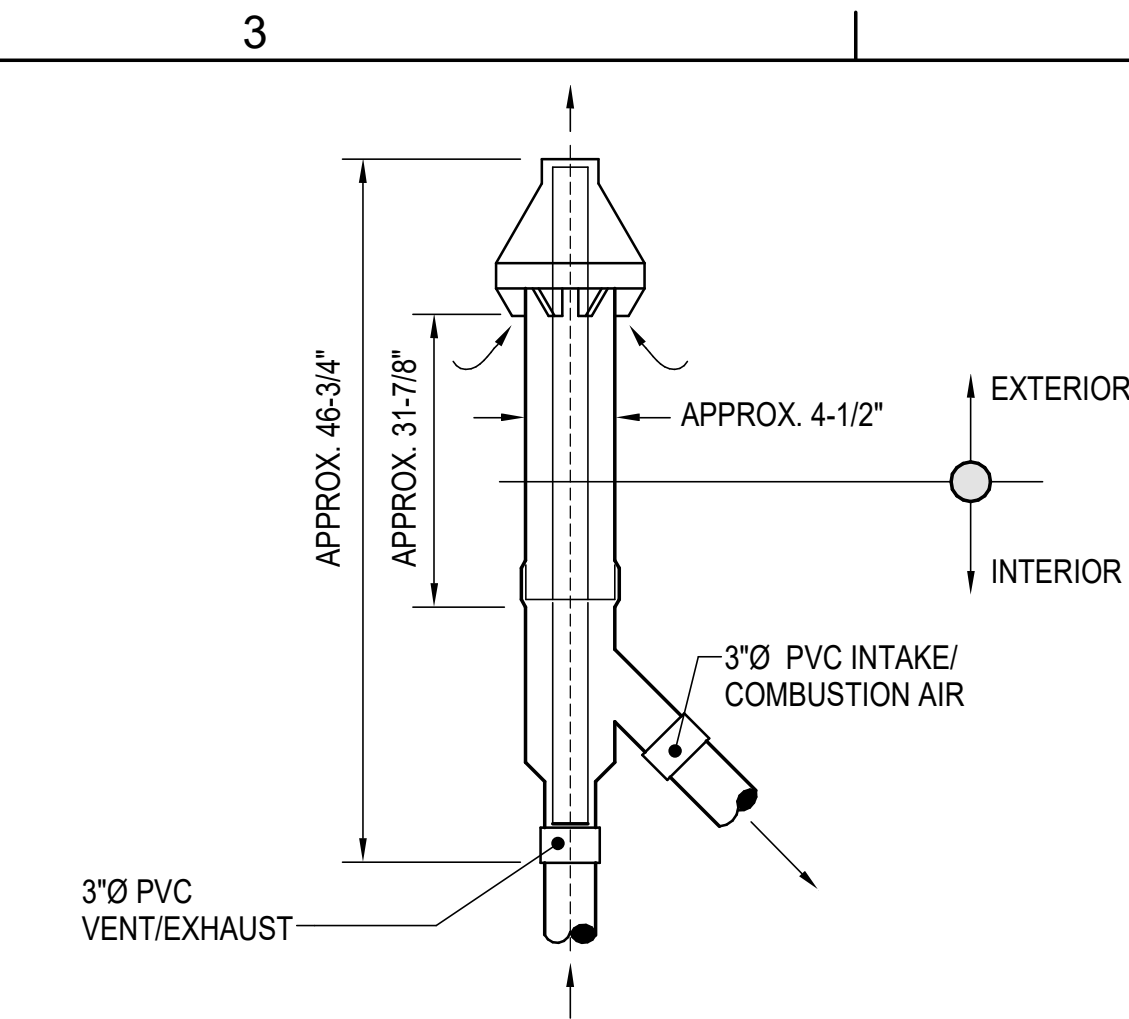
DUCT SUPPORT DETAIL



ROOF EXHAUST FAN DETAIL (W/ DUCTWORK)

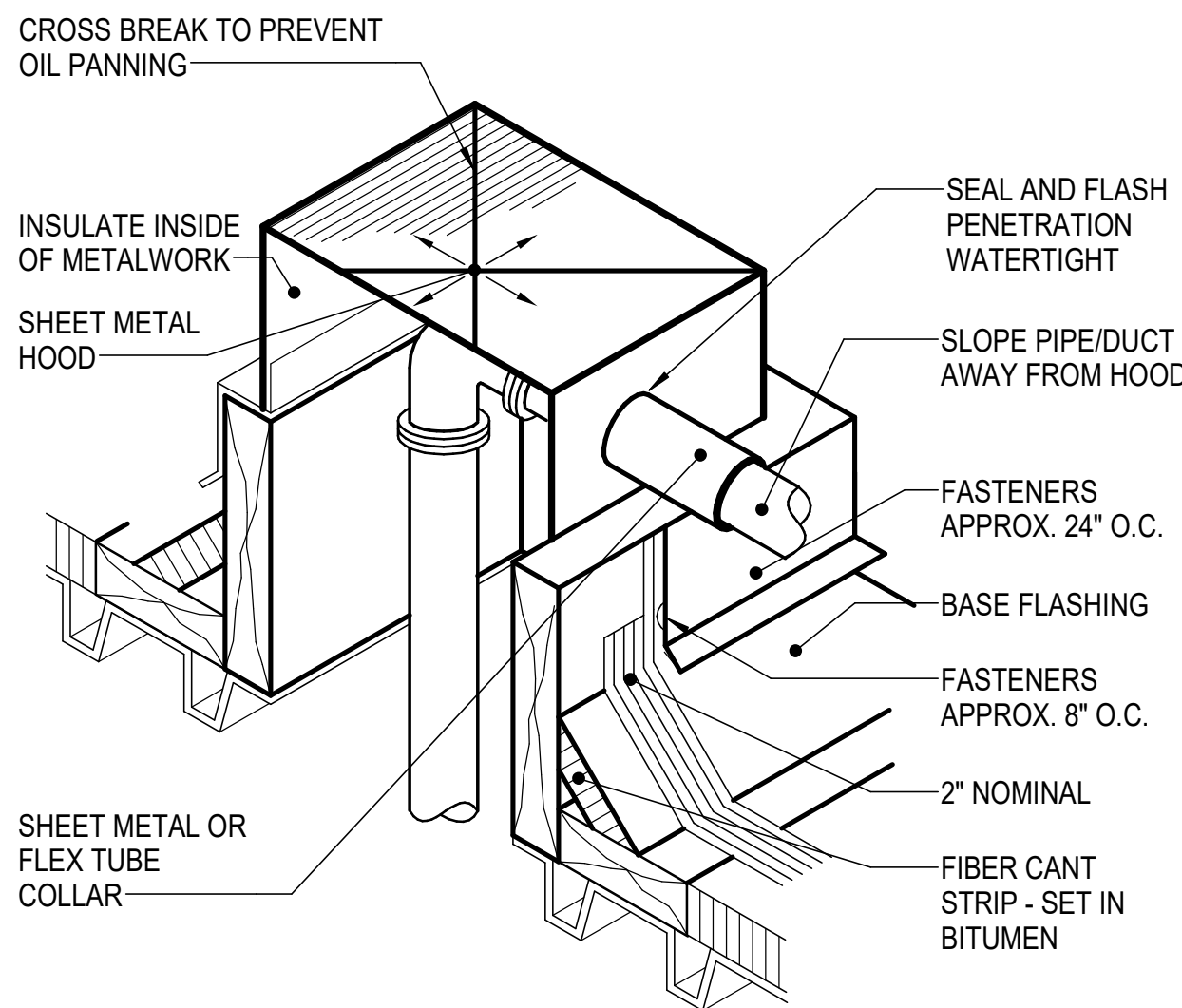


TYPICAL BRANCH CONNECTION DETAIL

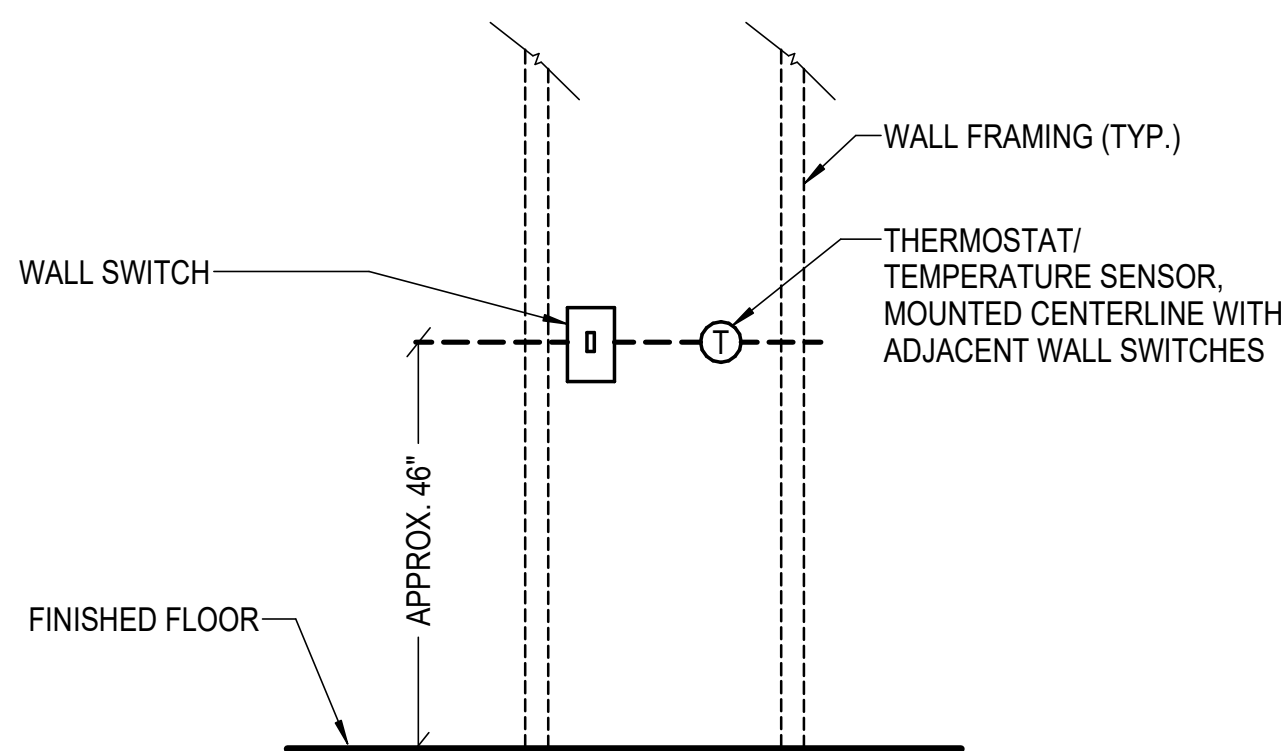


NOTE: FOR ROOF PENETRATION DETAILS SEE ARCHITECTURAL SHEETS.

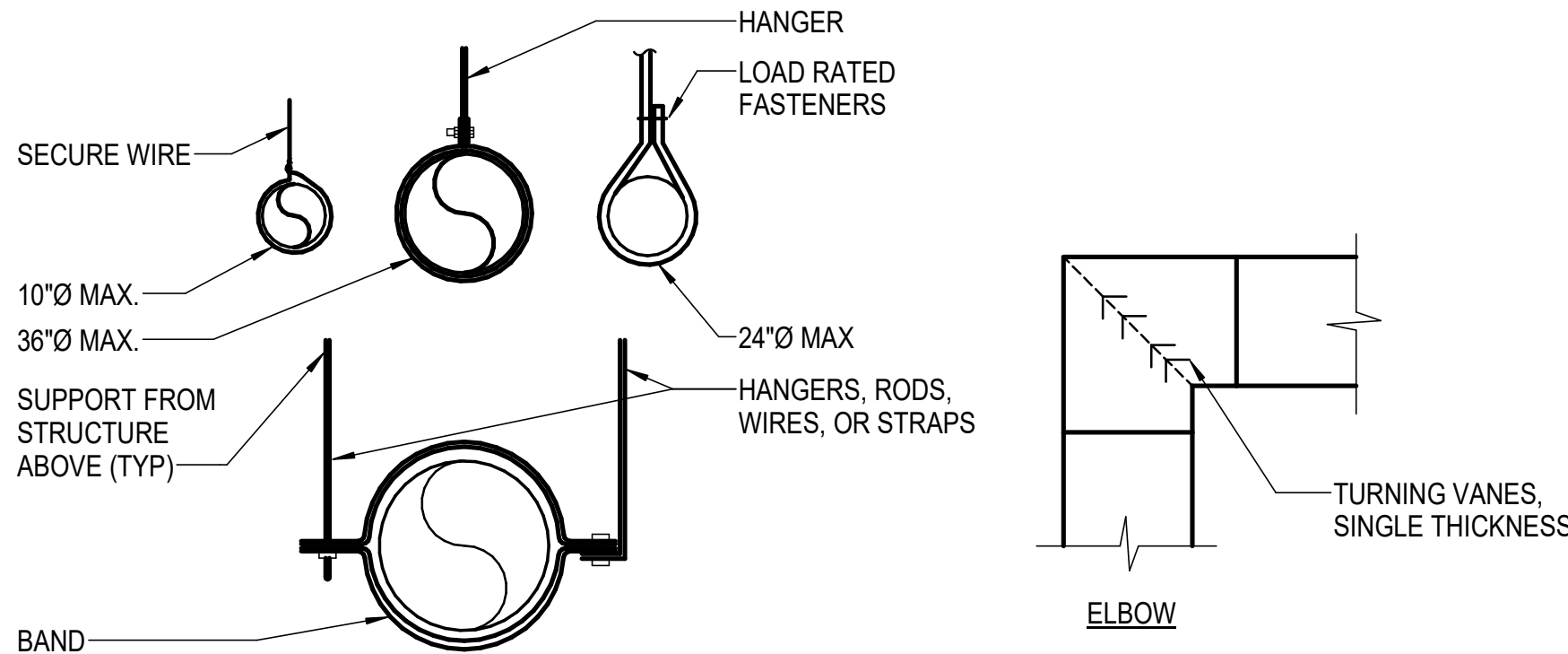
GAS FIRED FURNACE CONCENTRIC VENT DETAIL



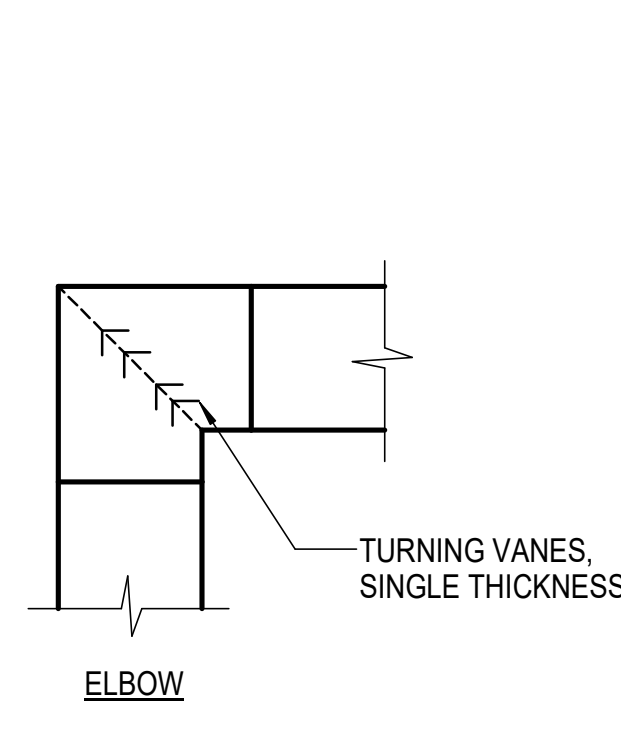
PIPE ROOF PENETRATION DETAIL



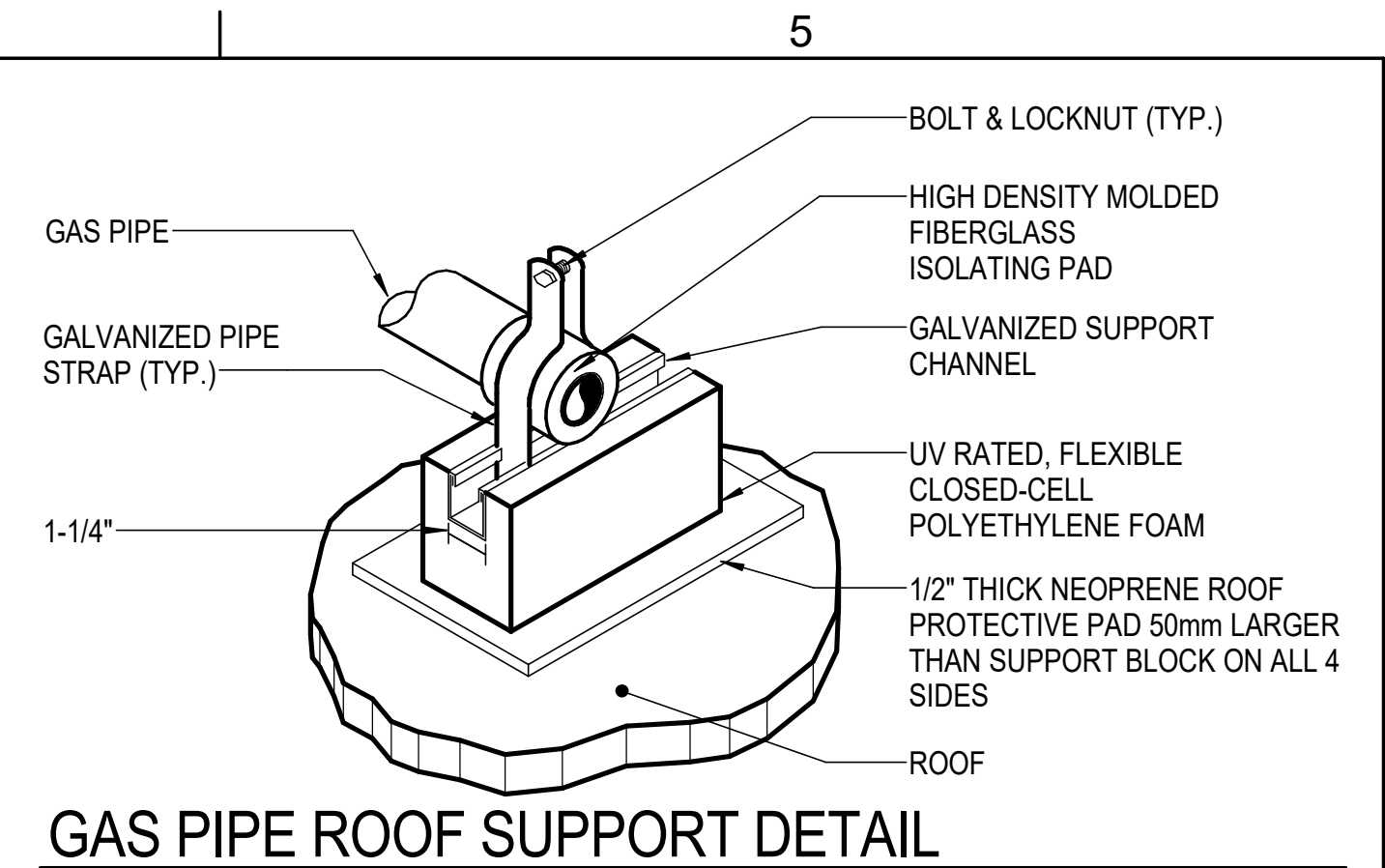
SWITCH/THERMOSTAT MOUNTING HEIGHT DETAIL



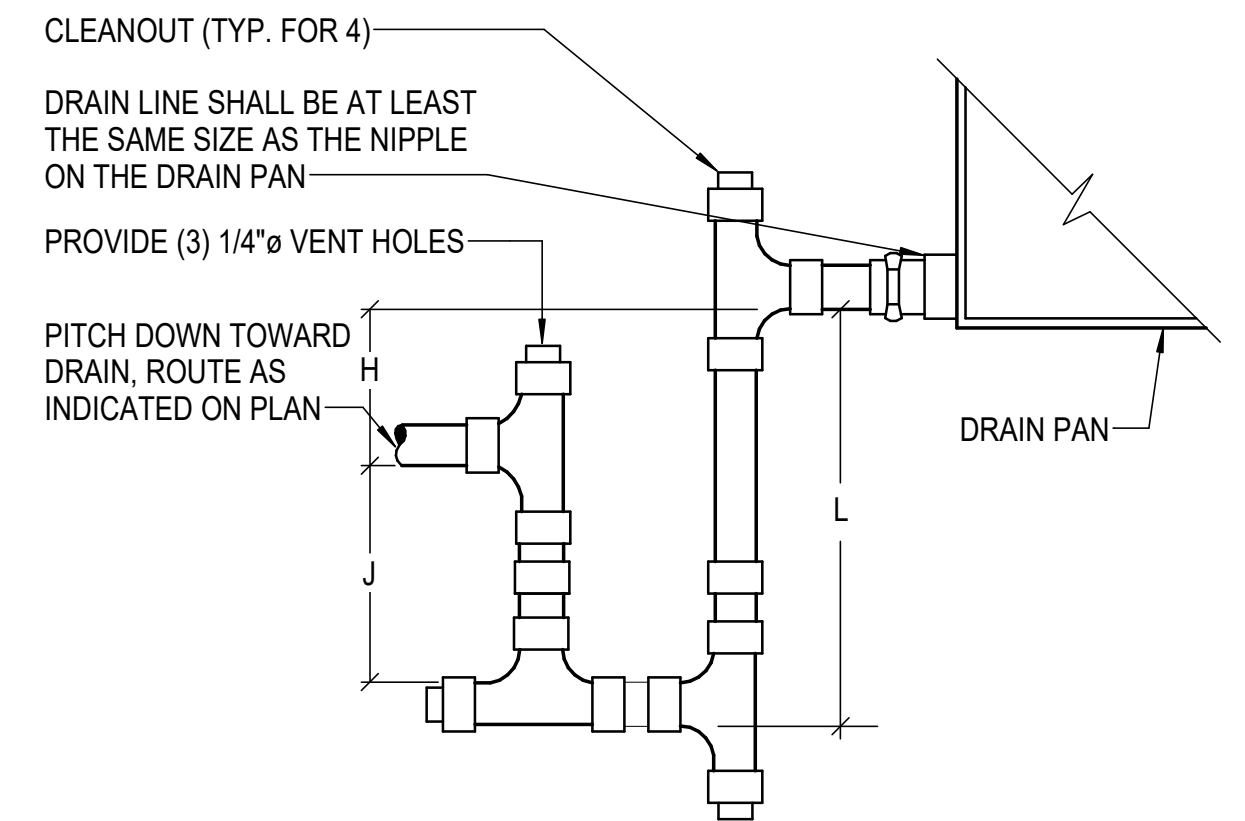
ROUND DUCT SUPPORT DETAIL



DUCTWORK DETAIL



GAS PIPE ROOF SUPPORT DETAIL



DRAIN PAN TRAPPING FOR SECTION UNDER NEGATIVE PRESSURE:

L = H + J + PIPE DIAMETER WHERE:

H = 1 INCH FOR EACH INCH OF NEGATIVE PRESSURE PLUS 1 INCH

J = 1/2 H

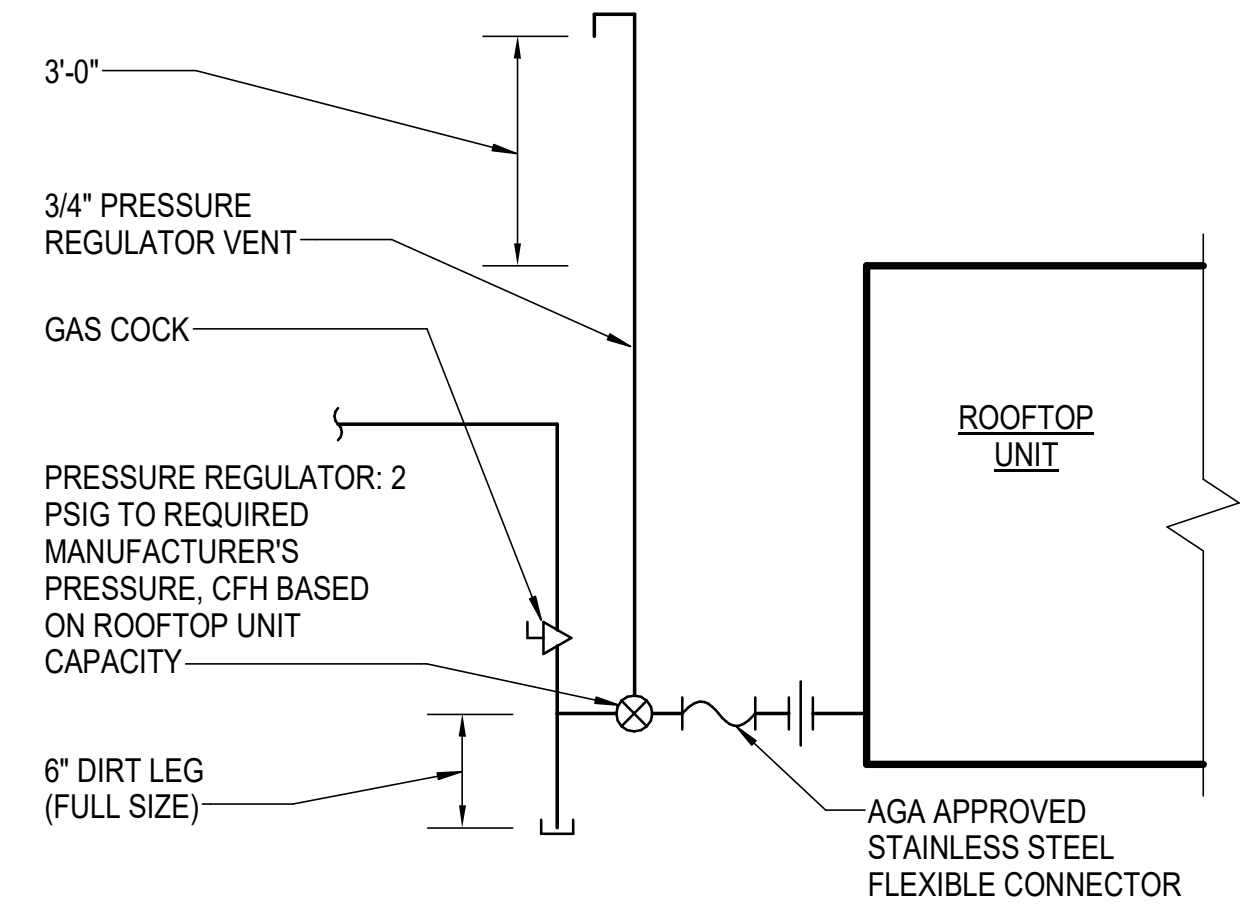
DRAIN PAN TRAPPING FOR SECTION UNDER POSITIVE PRESSURE:

L = H + J + PIPE DIAMETER WHERE:

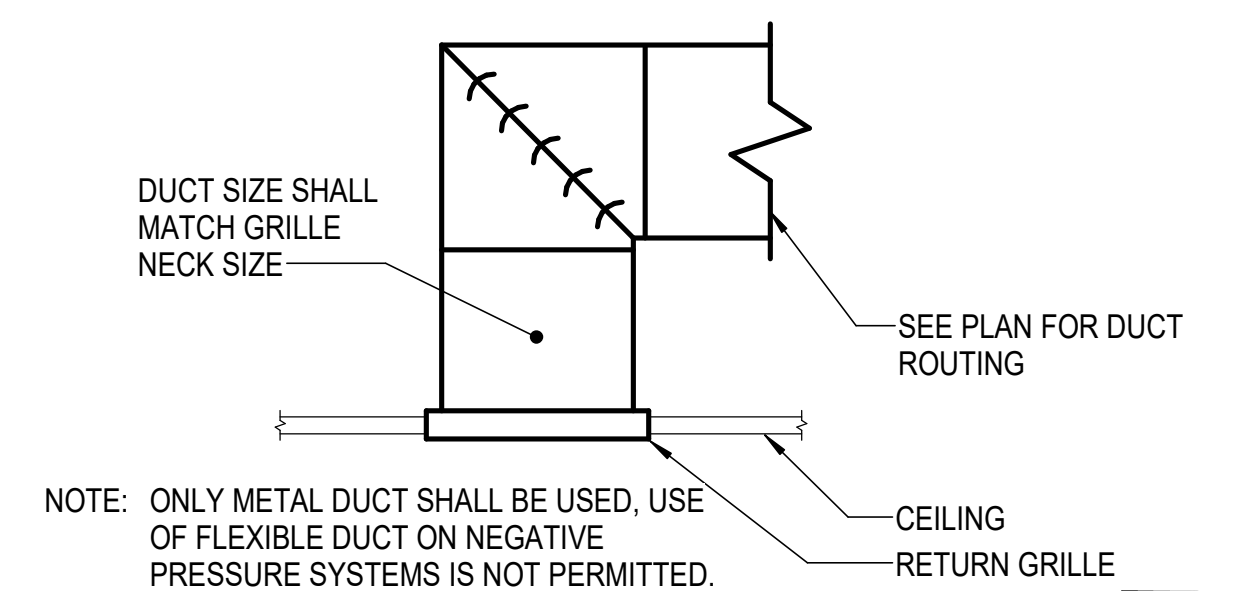
H = 1/2 INCH (MINIMUM)

J = 1/2 INCH PLUS THE UNIT POSITIVE STATIC PRESSURE AT COIL DISCHARGE (LOADED FILTERS)

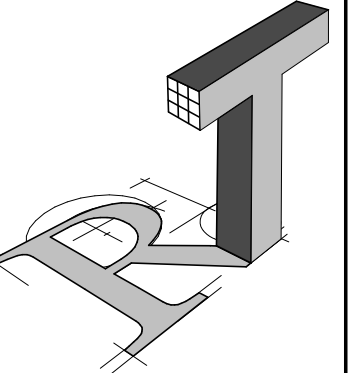
TYPICAL CONDENSATE DRAIN TRAP



RTU GAS PIPING CONNECTION DETAIL



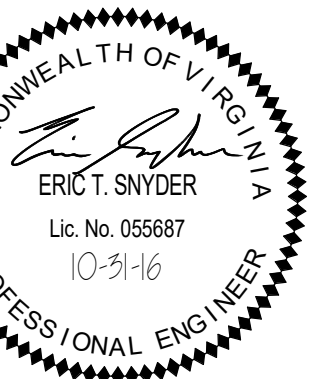
RETURN/EXHAUST GRILLE DETAIL



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RETAIL SPACE FOR STARBUCKS
STARBUCKS
CORNER SHOPS - 2000 COLONIAL AVE NORFOLK, VA

RTA NO:
DATE: 10/31/16
DESIGN: HMP
DRAWN: HMP
REVIEW: ETS

REVISIONS
No. Date Description
1 10/26/16 Tenant Comments

DETAILS

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D

C

B

A

AIR CURTAIN SCHEDULE														
TAG	BASIS OF DESIGN		MODEL	AIRFLOW RATE AT NOZZLE (CFM)	AVG. OUTLET VELOCITY (FPM) ON HIGH	OUTLET VELOCITY UNIFORMITY (%)	MOTOR (QUANTITY/HP)	DOOR WIDTH	HEATING CAPACITY (KW)	SUPPLY VOLTAGE (V/Ph/Hz)	HEAT RISE (°F) ON HIGH	MOTOR VOLTAGE (V/Ph/Hz)	SOUND LEVEL ON HIGH (dBA)	REMARKS
	MANUFACTURER													
HAC-1	POWERED AIRE		MP-1-36E	1178	2192	95%	0.5	37"	8	208/3/60	22°F	208/1/60	53	SEE NOTES
THE FOLLOWING NOTES ARE TYPICAL UNLESS OTHERWISE NOTED: 1. SOUND LEVEL OF MOTOR IS MEASURE 10 FEET FROM THE AIR CURTAIN IN A FREE FIELD BASED ON A ONE MOTOR UNIT. 2. THE SPECIFICATION REQUIREMENT FOR THESE ACCESSORIES ARE AS INDICATED IN THE AIR CURTAIN SECTION OF THE SPECIFICATION SECTION OF THESE CONTRACT DOCUMENTS. PROVIDE THE FOLLOWING ACCESSORIES FOR THIS UNIT: AUTOMATIC MAGNETIC DOOR SWITCH GRI 10242, ADJUSTABLE TUNE DELAY, UNIT MOUNTED VARIABLE SPEED SWITCH, REMOTE MOUNTED THERMOSTAT.														

ROOFTOP UNIT (GAS HEATING/ELECTRIC COOLING) SCHEDULE																
TAG	SUPPLY FAN DATA			DX COOLING DATA				NUMBER OF COMPRESSORS	GAS HEATING DATA			ELECTRICAL DATA				REMARKS
	S.A.	O.A.	E.S.P.	TOTAL CAPACITY	SENS. CAPACITY	E.D.B.	E.W.B.		INPUT	OUTPUT	NUMBER OF STAGES	M.C.A.	M.O.C.P.	VOLTS	PHASE	
	C.F.M.	C.F.M.		M.B.H.	M.B.H.	(°F)	(°F)		M.B.H.	M.B.H.						
RTU-1	4000	740	0.6"	135.61	99.25	76.7	64.7	1	250	200	2	64.0	80.0	208	3	SEE NOTES
RTU-2	1280	90	0.6"	44.05	32.34	76.6	63.0	2	80	64	1	27.2	40.0	208	3	SEE NOTES
NOTES:																
1. SELECTION BASED ON TRANE.																
2. CONDENSER ENTERING AIR: 95°F.																
3. EXTERNAL STATIC PRESSURE INCLUDES SUPPLY AND RETURN DUCT SYSTEM ONLY.																
4. PROVIDE UNITS WITH 2" THICK FILTER, 8" TALL ROOF CURB WITH VIBRATION ISOLATION RAILS, DRY BULB ECONOMIZER CONTROL, AND PHASE FAILURE/PHASE REVERSAL RELAY. PROVIDE A MEANS OF DISCONNECT.																

FAN SCHEDULE										
TAG	LOCATION	FAN TYPE	C.F.M.	E.S.P. (IN. WG.)	DRIVE	ELECTRICAL DATA			MODEL NO.	REMARKS
						H.P.	VOLTS	PHASE		
EF-1	ROOF	DOWNBLAST	300	0.40	DIRECT	1/15	115	1	G	SEE NOTES
NOTES: 1. SELECTIONS BASED ON GREENHECK. 2. PROVIDE DIRECT DRIVE FANS WITH ELECTRONIC SPEED CONTROLLER. 3. PROVIDE ROOF TOP CENTRIFUGAL FANS WITH CHATTERPROOF BACKDRAFT DAMPER, INTREGAL ELECTRICAL DISCONNECT, ALUMINUM CONSTRUCTION, REMOVABLE DOME, BIRDSCREEN AND MANUFACTURER'S ROOF CURB.										

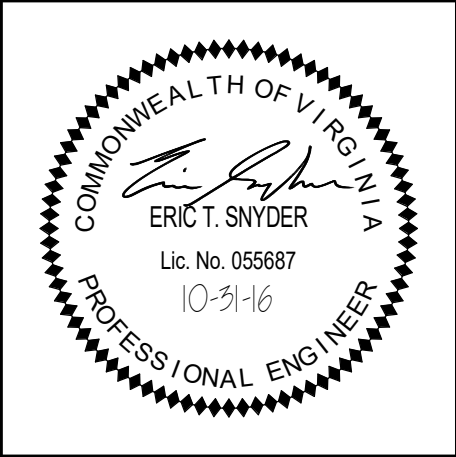
GRILLE, REGISTER & DIFFUSER SCHEDULE							
TAG	TYPE	SERVICE	C.F.M. RANGE	NECK SIZE	MAX. P.D.	MODEL NO.	REMARKS
Z	REGISTER	EXHAUST	150	8x8	0.1	350FL	SEE NOTES
THE FOLLOWING NOTES ARE TYPICAL UNLESS OTHERWISE NOTED: 1. SELECTIONS BASED ON TITUS. 2. PROVIDE ALUMINUM DIFFUSERS AND REGISTERS WITH OPPOSED BLADE VOLUME DAMPERS, BAKED STANDARD WHITE ENAMEL FINISH (INCLUDING HEAD OF SCREWS), MAXIMUM NC=25 AT HIGHEST CFM AND PROVIDE SQUARE TO ROUND TRANSITION AS REQUIRED. 3. PROVIDE 4-WAY PATTERN CEILING DIFFUSERS, U.O.N. ON PLANS OR SCHEDULE. 4. MAXIMUM PRESSURE DROP SHALL INCLUDE VOLUME DAMPER WHERE DAMPER IS PROVIDED.							



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CORNER SHOPS - 2000 COLONIAL AVE NORFOLK, VA

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1	10/26/16	Tenant Comments

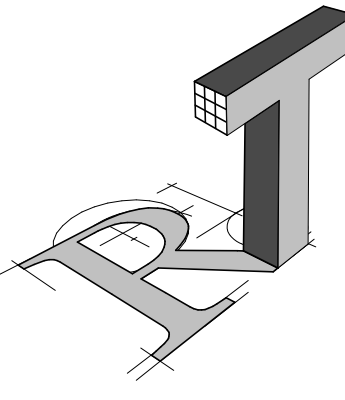
SCHEDULES

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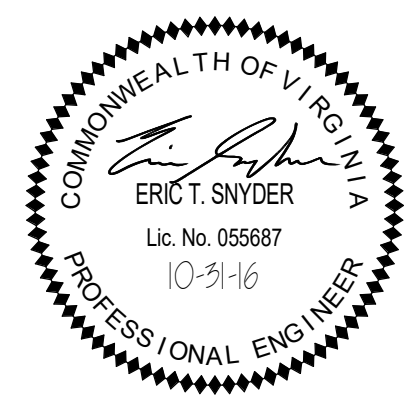
	1	2	3	4	5
	MECHANICAL SPECIFICATIONS				
D	PART 1 - GENERAL 1.1 Codes and Standards: The latest effective publications of all applicable standards, codes, etc., as they apply, form part of these specifications as if were written fully herein and constitute minimum requirements. The following will be referred to throughout in abbreviated forms. A. National Electrical Code, (NFPA 70) (NEC). B. American Society of Heating, Refrigeration and Air Conditioning Engineers (ASHRAE). C. Rules and regulations of local gas utility company. D. National Electrical Manufacturer's Association (NEMA). E. American National Standards Institute (ANSI). F. Applicable local codes. G. Underwriter's Laboratories, Inc. (UL). H. National Fire Protection Association (NFPA). I. Virginia Mechanical Code (2012 VMC) 1.2 Scope of Work: Provide all work required for this division including all labor, materials, equipment, appurtenances and services to provide complete mechanical systems as shown on the drawings and specified in this division of the specifications. The word "provide" shall mean "furnish and install complete and ready for use". 1.3 Site Review: The contractor shall visit the site prior to bid to determine the extent of the work. Lack of knowledge of existing conditions will not be considered a basis for change orders. Prior to ordering equipment, verify that equipment to be provided under this contract is acceptable, can fit into building and room. Expense incurred by the contractor, which in the engineer's opinion could have been avoided by this step, shall not be a basis for change orders. 1.4 Drawings and Specifications: The drawings are diagrammatic and indicate the general extent, character and arrangement of equipment, fixtures and piping systems. It is the intention of these specifications and drawings to fully cover all work and materials for a complete, first-class mechanical installation, and any devices usually employed in this class of work, though not specifically mentioned or shown on the drawings or in this specification, but which may be necessary for the satisfactory completion of the work, shall be furnished and installed by the contractor as a part of his total work under this division. Consult the specifications and drawings of all other trades and perform all mechanical work required therein. Cooperate with all other contractors or subcontractors to furnish complete workable systems. 1.5 Warranty: Provide a written warranty for a period of 12 months against defective workmanship and material after final acceptance at no additional cost to the owner. 1.6 As-Builts: During construction, keep an accurate record of all deviations between the work as shown on the contract drawings and that which is actually installed on a set of blue line prints of the mechanical drawings, and note changes thereon with red marks, in a neat and accurate manner. When all revisions have been shown on these prints to indicate the work as finally installed, the prints shall be delivered to the engineer, before final payment. 1.7 Tests: The right is reserved to inspect and test any portion of the installation/equipment during the progress of its installation. This contractor shall test the entire HVAC system for a period of 72 hours prior to occupancy. Test, adjust and balance systems as required and recommended by manufacturers. 1.8 Permits and Inspections: Secure and pay for all required permits and inspections. Inspection certificates from local authorities having jurisdiction shall be delivered to the owner before final payment. 1.9 Submittals: Submit shop drawings, product data and samples within thirty (30) days of award of contract and in accordance with the general conditions and supplementary conditions. Submittals are required for all items provided under this specification. Review of submittals by the engineer and any associated action taken by the engineer does not relieve the contractor of any requirements set forth by the contract documents. Incomplete submittals shall not be reviewed. A. Shop Drawings and Product Data: Obtain approved shop drawings showing equipment, capacity, manufacturer's recommendations and hookup details, from other involved contractors for all equipment and comply therewith. B. Tests and Reports: Prior to substantial completion, submit testing, adjusting and balancing report for review. An approved TAB report must be returned from the engineer prior to substantial completion. 1.10 Schedule of Work: The schedule of the mechanical work shall be arranged to suit the progress of work by the other trades and shall in no way retard progress of construction of the project. See architectural sheets for phasing plan. 1.11 Storage and Material: Space will be assigned to the contractor by the owner for the storage of materials. This contractor will be responsible for the protection and safekeeping of materials, tools, and equipment. All materials and equipment shall be kept in its assigned place until the time of its installation. Excess materials, dirt and refuse shall be promptly removed from the work site. 1.12 Provide all materials, tools, labor, and other related items to complete all work, including connections to all equipment in accordance with the local basic mechanical codes. 1.13 Labeling of Equipment: All HVAC equipment shall be identified by machine engraved laminated plastic designation plates permanently attached thereto with self-tapping screws or rivets. All parts of each item of equipment or device shall bear the manufacturer's nameplate, giving name of manufacturer, description, size, type, serial and model number and electrical characteristics in order to facilitate maintenance or replacement. 1.14 The contractor shall be held responsible for, and be required to make good at his own expense, any and all damages to any work or materials in place on the premises, or included in this contract, during the execution of his contract. Contractor shall be responsible for clean-up of occupied space at the completion of each work period, completing clean-up in time to not cause interference with normal operations.	1.15 Operations and Maintenance Manuals: Provide to owner in 3-ring binder at project completion: Manufacturer's operation and maintenance manuals, warranties (equipment), warranty (Contractor), TAB Report, record drawings. Indicate date of installation, names and phone numbers of general contractor, installing contractor, local manufacturer's representative, and contact for service. PART 2 - PRODUCTS 2.1 Manufacturing Standards: Materials shall be new and approved and labeled by ASME, ASHRAE, UL, etc. wherever standards have been established by that agency. Defective equipment or equipment damaged in the course of installation or test shall be replaced or repaired in a manner meeting the approval of the owner. All items of the same type shall be identical. 2.2 Trade Names: Unless specifically identified otherwise, manufacturers' names and catalog numbers indicated herein and on the drawings are not intended to be proprietary designations. They are to indicate general type and quality of materials and equipment required. Equipment and materials by other manufacturers which in the opinion of the engineer are of equal quality and which will produce the same results will be considered acceptable. 2.3 Duct Insulation: A. Faced flexible glass fiber duct insulation shall have a fire retardant, reinforced foil/kraft vapor barrier facing and shall be equal to Owens' Coming Fiberglass Faced Duct Wrap SOFTR Series Type 100. Insulation shall have a nominal thickness of 2 inches and a thermal conductivity of approximately 0.27 at 75 degrees F. 2.4 Flexible Ductwork: UL-181, Class I and NFPA 90A, factory applied insulation, vapor barrier and end connections. Flame spread = 25, smoke developed = 50, secure with adhesives and metal clamp. Inner core shall be helically corrugated. 2.5 Ductwork: Supply and return ductwork shall be galvanized steel constructed and as recommended by SMACNA. Sheet metal gauges shall be in accordance with local mechanical code. Provide flexible glass fiber duct insulation for concealed locations and rigid glass fiber duct insulation for exposed areas. 2.6 Valves and Piping Specialties: A. Acceptable Manufacturers 1. Gate, Globe, Angle, Check, Drain and Ball Valves a. Stockham b. Lunkenheimer c. Crane d. Nilco e. Milwaukee Valve Co., Inc. f. Hammond Co. B. Valve Connections 1. Provide valves suitable to connect to adjoining piping as specified for pipe joints. Use pipe size valves. 2. Thread or sweat pipe sizes 2 inches and smaller. Thread pipe sizes 2-1/2 and 3 inches. C. Gate Valves 1. Bronze, non-rising stem, inside screw, double wedge or disc, screwed ends. 2. Iron body, bronze trim, rising stem, O.S. & Y., solid wedge flanged ends. D. Globe or Angle Valves 1. Bronze, rising stem, inside screw, renewable composition disc, screwed ends. 2. Iron body, bronze trim, rising stem O.S. & Y., renewable composition disc, flanged ends. E. Ball Valves 1. Brass body, brass or stainless steel ball and stem. 2. Ball valves combined with strainers, balancing, or flow control valves to have unions to permit removal of all components without removing valve body. F. Flexible Pipe Connections 1. For steel piping construct with stainless steel inner hose and braided exterior sleeve. 2. For copper piping construct with bronze inner hose and braided exterior sleeve. 3. Use connectors suitable for minimum 125 psi WSP and 450 degree F and 200 psi WOG and 250 degrees F. G. Pressure Ratings 1. Unless otherwise indicated, use valves suitable for 200 psig and 250 degrees F. (water, oil, gas). 2. Valve pressure rating to match pipe in which it is installed. H. Valve Operators 1. Provide suitable handwheels for gate, globe or angle, radiation and drain valves. 2.7 Packaged Rooftop Unit: Provide single package unit factory assembled, designed, tested, and rated in accordance with ARI 210/240 or ARI 340. Unit shall be ARI certified or rated in ARI UD. Provide guards to protect condenser fins. Unit shall be listed in UL EAUED or ETL DLP. Filter section: Provide UL listed throwaway one inch thick fiberglass filters, standard dust-holding capacity, 350 fpm maximum face velocity. Provide gasketed hinged access panel with quick opening half-twist latches at end of filter rack. Filter rack shall accept 2 inch thick filters. Safety controls: Provide low refrigerant pressure protection and pressure relief device. Provide compressor motor with thermal and overload protection, 5 minute anti-recycle timer, and start capacitor kit. Provide compressor with electrical crankcase heater and internal high pressure protection. The above safety controls are not required when scroll compressors are provided.	Gas heating section: The heating section shall have a progressive tubular heat exchanger design using galvanized aluminum burners and heat exchanger. An induced draft combustion blower shall be used to pull the combustion products through the firing tubes. The heater shall use a direct spark ignition (DSI) system. After three unsuccessful ignition attempts, the entire heating system shall be locked out until manually reset at the thermostat/zone sensor. Units shall be suitable for use with natural gas. Space temperature controls: provide digital electronic controls including adjustable programmable thermostats with cool-off-heat system switch and auto-on fan switch. Thermostats shall be provided by unit manufacturer. Provide relays, transformers, contactors, and control wiring between thermostats and unit. Weatherproof casing: provide removable gasketed panels designed to exclude driving rain for access to fans, coils, filters, compressors, motors, and controls. Provide weatherproof outside air intake louvers or weatherproof hoods with moisture eliminators. 2.8 Exhaust Fans: AMCA 210 with AMCA seal. Provide centrifugal type exhaust fans with aluminum housing, fan wheel, and bird screen. Provide exhaust opening and gravity closing type automatic backdraft dampers. Leakage Rating: Gravity (nonmotorized) dampers shall have a maximum leakage rate of 20 cfm/sf at 1.0 inch water gauge (w.g.) when tested in accordance with AMCA 500D unless more stringent criteria is required by the Energy Conservation Code. 2.9 Flexible Duct Connectors: Provide airtight flexible duct connectors at duct connections to each air-handling unit, exhaust fan, and ventilating fan. Support connectors at each end with metal angle frame bands, securely bolt in place. Provide not less than 20-ounce glass fabric duct connectors coated on both sides with neoprene. 2.10 Turning Vanes: Provide fabricated tees and square elbows in accordance with SMACNA DCS for vaned elbows. 2.11 Dampers: Provide opposed blade adjustable manual dampers where indicated. Provide damper shafts with 2-inch standoffs to clear 2 inches of duct insulation with bearings at both ends of the shafts. Provide adjustment quadrant with indicator and locking devices. Provide galvanized steel dampers one gage heavier than duct in which dampers are installed. 2.12 Diffusers, Registers, and Grilles: Provide factory-fabricated metal units with edges rolled or rounded where exposed to view, and factory primed with white enamel finish. Provide each diffuser and register with factory-fabricated, group-operated, adjustable, opposed-blade, air-volume-control dampers, key or screwdriver operated from the face of unit. Provide each unit with rubber or plastic installation gaskets. 2.15 Fuel Gas Piping: Black steel, (or galvanized to exterior applications), ASTM A53 or A120, Schedule 40, threaded ends for sizes 2 inches and smaller, otherwise beveled ends for butt welding. Threaded Fittings: ANSI B16.3 black malleable iron. Butt-Welding Fittings: ANSI B16.9. Unions: ANSI B16.39. Pipe supports shall be in accordance with MSS SP 69. A. Pressure regulator: Spring-loaded diaphragm pressure regulation, vented or non-vented as indicated, pressure operating range as required for the pressure reduction indicated, volume capacity not less than indicated, and threaded ends for sizes 2 inches and smaller, otherwise flanged. B. Gas Equipment Connectors Flexible Connectors: ANSI Z21.45. Quick Disconnect Couplings: ANSI Z21.41. Semi-Rigid Tubing and Fittings: ANSI Z21.69. 2.16 Electrical Requirements: A. Wiring and electrical equipment from source up to and including junction box or circuit breaker shall be by electrical contractor. B. Except as otherwise detailed or specified, all interconnecting power wiring required to operate electrical devices and equipment furnished in this Division will be provided under Division 26. C. All controllers, motors, starters, and individual component fusible protection for all accessory equipment in accordance with NEC, etc. shall be as specified under Division 26 of the specifications and furnished with equipment under this division. Starters and controllers that are not mounted on the equipment shall be turned over to the Electrical Contractor for installation. D. Disconnect switches shall be provided under Division 26 unless specified in the Mechanical and Plumbing specifications as integral with equipment. E. Requirements for electrical apparatus, devices, controls, etc. furnished in this Division shall conform to Division 26. F. Control and interlock, wiring and conduit required for electrical devices and equipment furnished in this Division will be provided under this division. 2.17 Vibration Isolator: A. Type 1: Spring Type Mount: Spring type isolators shall be free standing and laterally stable without any housing and complete with 1/4" neoprene acoustical friction pads between the baseplate and the support. All mountings shall have leveling bolts that must be rigidly bolted to the equipment. Spring diameters shall be no less than 0.8 of the compressed height of the spring at rated load. Springs shall have a minimum additional travel to solid equal to 50% of the rated deflection. Based on Mason Model 5LF.	2.18 Double-Wall Round Ducts and Fittings shall be employed for exposed areas: A. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following: 1. Lindab Inc. 2. McGill AirFlow LLC. 3. SEMCO Incorporated. 4. Sheet Metal Connectors, Inc. B. Outer Duct: Comply with SMACNA's "HVAC Duct Construction Standards - Metal and Flexible," Chapter 3, "Round, Oval, and Flexible Duct," based on static-pressure class unless otherwise indicated. 1. Transverse Joints: Select joint types and fabricate according to SMACNA's "HVAC Duct Construction Standards - Metal and Flexible," Figure 3-1, "Round Duct Transverse Joints," for static-pressure class, applicable sealing requirements, materials involved, duct-support intervals, and other provisions in SMACNA's "HVAC Duct Construction Standards - Metal and Flexible." 2. Longitudinal Seams: Select seam types and fabricate according to SMACNA's "HVAC Duct Construction Standards - Metal and Flexible," Figure 3-2, "Round Duct Longitudinal Seams," for static-pressure class, applicable sealing requirements, materials involved, duct-support intervals, and other provisions in SMACNA's "HVAC Duct Construction Standards - Metal and Flexible." 3. Tees and Laterals: Select types and fabricate according to SMACNA's "HVAC Duct Construction Standards - Metal and Flexible," Figure 3-5, "90 Degree Tees and Laterals," and Figure 3-6, "Conical Tees," for static-pressure class, applicable sealing requirements, materials involved, duct-support intervals, and other provisions in SMACNA's "HVAC Duct Construction Standards - Metal and Flexible." C. Inner Duct: Minimum 0.028-inch perforated sheet steel. D. Interstitial Insulation: Flexible elastomeric duct liner complying with ASTM C 534, Type II for sheet materials, and with NFPA 90A or NFPA 90B. 1. Maximum Thermal Conductivity: 0.25 Btu x in./h x sq. ft. x deg F at 75 deg F mean temperature. E. Supply Air Ducts: 1 inch thick. PART 3 – EXECUTION 3.1 Field Inspection and Tests A. Pressure Tests: Test pressure shall be 1 ½ times maximum working pressure, but in no case less than 50 psig. Do not test until every joint has set and cooled at least 8 hours at temperatures above 50 degrees F. Do all testing before backfilling; however, place sufficient backfill material between fittings to hold pipe in place during tests. Test system gas-tight per ANSI B31.2 or B31.8. Use clean dry air or inert gas (e.g. nitrogen or carbon dioxide) for testing. Systems which may be contaminated by gas shall first be purged as specified herein. Make tests on entire system or on sections that can be isolated by valves. After pressurization, isolate entire piping system from all sources of air during test period. Maintain test pressure for at least 8 hours between times of first and last reading of pressure and temperature. Take first reading at least one hour after test pressure has been applied. Do not take test readings during rapid weather changes. Temperature shall be same as actual trench conditions. There shall be no reduction in the applied test pressure other than that due to a change in ambient temperature. Allow for ambient temperature change in accordance with the relationship PF + 14.7 = (P1 + 14.7) (T2 + 460) / (Ta + 460), in which T and PF represent Fahrenheit temperature and gauge pressure, respectively, subscripts 1 and 2 denote initial and final readings, and "PF" is the calculated final pressure. If "PF" exceeds the measured final pressure (final gauge reading) by 1/2 psi or more, isolate sections of the piping system, retest each section individually, and apply a solution of warm soapy water to all joints of each section for which a reduction in pressure occurs after allowing for ambient temperature change. Repair leaking joints and repeat test until no reduction in pressure occurs. A test gauge calibrated in 1 psi increments and readable to 1/2 psi shall be used in performing the tests. B. System Purging: After pressure tests, and before testing a gas contaminated line, purge line with nitrogen at junction with main line to remove all air or gas. Clear completed line by attaching a test pilot fixture at capped stub-in line at building location and let gas flow until test pilot ignites. All procedures shall conform with ANSI B31.2 and B31.8. -CAUTION- Failure to purge may result in explosion within line when air-to-gas is at correct mixture. C. Manufacturer's Field Service: Engage a factory-authorized service representative to inspect components, assemblies, and equipment installations, including connections, and to assist in testing. For all mechanical equipment, the owner shall be provided with equipment specifications, operation manual, testing and balancing documentation, serial number and warranties.	3.2 Scheduling: Work under this division shall proceed in advance of the work of others whenever possible, eliminating all cutting and patching. When such procedure is impossible, cutting and patching shall be done in an approved manner. Cutting shall not endanger structural integrity in any way. Patching shall exactly match contiguous work. Actual work of cutting and patching of existing surfaces shall be performed by the subcontractor who originally prepared these surfaces, e.g., cutting and patching of masonry wall will be performed by the masonry subcontractor. Costs of such cutting and patching shall be borne by the mechanical subcontractor. Cutting shall be carefully done and damage to building, piping, wiring or equipment as a result of cutting shall be repaired by skilled mechanics of trade involved. 3.3 Coordination: Cooperate and coordinate efforts with all contractors on the project. This is especially important in determining exact locations of all diffusers, registers, grilles, ductwork and fans. Arrange air inlets and outlets in accordance with the architectural reflected ceiling plans unless otherwise indicated. Coordinate lighting fixture locations with grilles, diffusers, access panels, etc. Verify ceiling and wall construction and material prior to ordering equipment or other devices to ensure proper device is furnished to match construction. This verification must be executed regardless of information placed on the drawings. Any cost incurred which in the opinion of the owner, could have been avoided by this step shall be the responsibility of the mechanical contractor. 3.4 Guarantee of Work: Contractor guarantees by his acceptance of the contract that all work installed is free from any and all defects in workmanship and/or materials, and that the apparatus will develop capacities and characteristics specified, and that if, during the period of one year or as otherwise specified, from date of certificate of completion and acceptance of the work any such defects in workmanship material or performance appear, he will, without cost to the owner, remedy such defects within a reasonable time to be specified in notice. In default thereof, the owner may have such work done and charge cost to contractor. Equipment guarantees from date of "start-up" will not be recognized. 3.5 Insulation: Install duct insulation after testing is complete. 3.6 Field Coordination: The exact location of pipes will be determined by the contractor after the working plans are made to avoid interference with ducts, lighting fixtures and piping. 3.7 Performance Testing: Before final acceptance of the work, test each system as in service to demonstrate compliance with these drawings and testing as specified in the local mechanical code. 3.8 Code Installation: Equipment which is required by code or is specified to have UL or similar listing, shall be installed as required to meet that listing. 3.9 TAB: Balance air side systems related to scope of work. Certified balance reports shall be furnished to the engineer for review and approval. Report format and procedure shall be in accordance with AABC or NEBB requirements by an AABC or NEBB Certified Professional. 3.10 Roof Penetrations: (and equipment installations) Shall be in accordance with roofing manufacturer so as not to void roof warranty. 3.11 Smoke Detectors: Provide smoke detectors at air handling units as required by local mechanical codes. 3.12 Condensate Traps: Provide trapped condensate drains on air handling units. 3.13 Conceal Installations: Run pipes and ductwork above ceilings in rooms with ceilings. Run exposed pipes as high as possible, in straight lines parallel or perpendicular to structure and/or walls. 3.14 Vibration Isolation: Installation of all vibration isolation materials and supplemental equipment bases specified in this specification shall be accomplished following the manufacturers written instructions. On completion of installation of all isolation materials and before start up of isolated equipment all debris shall be cleared from areas surrounding and from beneath all isolated equipment, leaving equipment free to move on the isolation supports. No rigid connections between equipment and building structure shall be made that degrades the noise and vibration isolation system herein specified. Electrical conduit connections to isolated equipment shall be looped to allow free motion of isolated equipment. 3.15 Pipe Hangers and Supports A. Install hangers for steel piping with the following maximum spacing and minimum rod sizes: 1. NPS 3/4: Maximum span, 7 feet; minimum rod size, 1/4 inch. 2. NPS 1: Maximum span, 7 feet; minimum rod size, 1/4 inch. 3. NPS 1-1/2: Maximum span, 9 feet; minimum rod size, 3/8 inch. 4. NPS 2: Maximum span, 10 feet; minimum rod size, 3/8 inch. 5. NPS 2-1/2: Maximum span, 11 feet; minimum rod size, 3/8 inch. 6. NPS 3: Maximum span, 12 feet; minimum rod size, 3/8 inch. 7. NPS 4: Maximum span, 14 feet; minimum rod size, 1/2 inch. B. Install hangers for drawn-temper copper piping with the following maximum spacing and minimum rod sizes: 1. NPS 3/4: Maximum span, 5 feet; minimum rod size, 1/4 inch. 2. NPS 1: Maximum span, 6 feet; minimum rod size, 1/4 inch. 3. NPS 1-1/2: Maximum span, 8 feet; minimum rod size, 3/8 inch. 4. NPS 2: Maximum span, 8 feet; minimum rod size, 3/8 inch. 5. NPS 2-1/2: Maximum span, 9 feet; minimum rod size, 3/8 inch. 6. NPS 3: Maximum span, 10 feet; minimum rod size, 3/8 inch. C. Plastic Piping Hanger Spacing: Space hangers according to pipe manufacturer's written instructions for service conditions. Avoid point loading. Space and install hangers with the fewest practical rigid anchor points. D. Support vertical runs at roof, at each floor, and at 10-foot intervals between floors.
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RETAIL SPACE FOR STARBUCKS

STARBUCKS

CORNER SHOPS - 2000 COLONIAL AVE NORFOLK, VA

RTA NO:
DATE: 10/31/16
DESIGN: HMP
DRAWN: HMP
REVIEW: ETS

REVISIONS

No.	Date	Description
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SPECIFICATIONS

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GENERAL ELECTRICAL NOTES

GENERAL: UNLESS SPECIFICALLY INDICATED OTHERWISE, ALL WORK SHOWN ON ELECTRICAL DRAWINGS IS NEW WORK TO BE PROVIDED UNDER THIS CONTRACT.

COORDINATION: COORDINATE AND COOPERATE WITH ALL TRADES ON THE PROJECT. THE CONTRACTOR SHALL REVIEW ALL CONTRACT DOCUMENTS INCLUDING CIVIL, STRUCTURAL, ARCHITECTURAL, MECHANICAL & PLUMBING DRAWINGS AND SPECIFICATIONS. CONTRACTOR SHALL COORDINATE AND ADJUST ACCORDINGLY AS DIRECTED BY THE ENGINEER.

AS-BUILT DRAWINGS: SECURE AN EXTRA SET OF ELECTRICAL DRAWINGS TO BE KEPT ON SITE AND MARK, DAILY, THE DRAWINGS IN RED AS THE PROJECT PROGRESSES IN ORDER TO KEEP AN ACCURATE RECORD OF ALL DEVIATIONS BETWEEN THE WORK SHOWN ON THE DRAWINGS AND THE WORK WHICH IS ACTUALLY INSTALLED. THESE MARKED DRAWINGS SHALL REFLECT ANY AND ALL CHANGES AND REVISIONS TO THE ORIGINAL DESIGN WHICH EXISTS IN THE COMPLETED WORK. DELIVER THE MARKED DRAWINGS TO THE ENGINEER AT PROJECT CLOSE-OUT.

TESTS: TEST ALL WIRING FOR CONTINUITY AND GROUNDS BEFORE CONNECTING ANY FIXTURES OR DEVICES. PERFORM INSULATION RESISTANCE TESTS ON ALL WIRING #6 OR LARGER TO INSURE THAT ALL PORTIONS ARE FREE FROM SHORT-CIRCUITS AND GROUNDS.

INSPECTIONS: ARRANGE ALL NECESSARY INSPECTIONS. DELIVER ALL REQUIRED INSPECTION CERTIFICATES TO THE OWNER.

ELECTRICAL SERVICE: PROVIDE THE ELECTRICAL SERVICE. COMMUNICATE WITH THE LOCAL POWER COMPANY, VERIFY ALL REQUIREMENTS, AND COORDINATE ALL EFFORTS.

GROUNDING: PROVIDE GROUNDING IN ACCORDANCE WITH THE NEC FOR THE ENTIRE ELECTRICAL SYSTEM INCLUDING EQUIPMENT FRAMES, CONDUITS, SWITCHES, CONTROLLERS, WIRE-WAYS, NEUTRAL CONDUCTORS, AND OTHER EQUIPMENT. PROVIDE A GROUNDING CONDUCTOR IN ALL POWER CONDUITS.

LABELS: PROVIDE LABELS FOR ALL PANELBOARDS, SAFETY SWITCHES, MOTOR-DISCONNECT SWITCHES. LABELS SHALL BE MACHINE ENGRAVED, LAMINATED PLASTIC, PERMANENTLY ATTACHED WITH SELF-TAPPING SCREWS OR RIVETS. DO NOT USE SELF-ADHESIVE LABELS. LABEL SHALL INDICATE EQUIPMENT DESIGNATION AND ASSOCIATED PANEL AND CIRCUIT THAT SERVES IT.

J-BOX LABELING: LABEL ALL JUNCTION BOXES WITH PERMANENT MARKER IDENTIFYING CIRCUIT NUMBER AND PANELBOARD OF CIRCUITS WITHIN.

WIRING DEVICES: LABEL ALL WIRING DEVICES WITH PANELBOARD AND CIRCUIT DESIGNATION PERMANENTLY ATTACHED WITH BLACK TYPED DESIGNATION ON CLEAR TAPE.

PANEL DIRECTORY: PROVIDE TYPEWRITTEN PANELBOARD DIRECTORY CARD IN EACH PANELBOARD WITH CIRCUIT LOAD INFORMATION AND ROOM NUMBER CLEARLY IDENTIFIED. USE ACTUAL ROOM NUMBERS IN THE BUILDING, NOT THE ROOM NUMBERS SHOWN ON THE CONTRACT DRAWINGS, AS THEY ARE OFTEN DIFFERENT.

CONDUCTORS: IN SITUATIONS WHERE CONDUCTOR SIZES AND/OR QUANTITIES OF PARALLEL SETS HAVE BEEN INCREASED DUE TO VOLTAGE DROP OR FOR OTHER REASONS, CONTRACTOR SHALL PROVIDE THE APPROPRIATE LUG SIZES/QUANTITIES WITHIN THE EQUIPMENT CONNECTED (PANELBOARD, DISCONNECT SWITCH, ETC.) TO PERMIT SATISFACTORY CONNECTION OF THE INDICATED CONDUCTORS. WHERE SUFFICIENT LUG SIZES AND/OR QUANTITIES CANNOT BE PROVIDED TO ACCOMMODATE THE CONDUCTORS INDICATED, THEN PROVIDE REDUCING ADAPTERS, PIN TERMINALS, OR A JUNCTION BOX TO SPLICE LARGER CONDUCTORS TO APPROPRIATELY SIZED SMALLER CONDUCTORS TO FIT INTO THE LUGS PROVIDED. ALL CONDUCTORS SHALL BE SIZED IN ACCORDANCE WITH THE NEC.

MOTOR COORDINATION: MOTORS, MOTOR STARTERS, INTEGRAL DISCONNECT SWITCHES, AND CONTACTORS SHALL BE PROVIDED WITH THEIR RESPECTIVE PIECES OF EQUIPMENT BY THE EQUIPMENT SUPPLIER. COMMUNICATE WITH THE TRADES PROVIDING THE EQUIPMENT, VERIFYING ALL REQUIREMENTS, PROVIDE ALL ELECTRICAL CONNECTIONS REQUIRED THEREIN, AND INSTALL MOTOR STARTERS.

MOTOR DISCONNECTS: ALL MOTORS SHALL HAVE DISCONNECTING MEANS.

MOTOR CONTROLLERS: ALL 3-PHASE MOTORS SHALL HAVE MAGNETIC MOTOR CONTROLLERS WITH SOLID STATE OVERLOAD RELAY PROTECTION. THE SOLID STATE OVERLOAD RELAY SHALL HAVE PHASE LOSS AND PHASE OVERCURRENT PROTECTION WITH AUTOMATIC RESET UPON RETURN OF NORMAL POWER.

MOTOR FUSE PROTECTION: WHERE FUSE PROTECTION IS SPECIFICALLY REQUIRED BY THE EQUIPMENT MANUFACTURER, PROVIDE FUSED SWITCHES IN LIEU OF NON-FUSED SWITCHES OR IN LIEU OF ENCLOSED CIRCUIT BREAKERS, OR OTHER DEVICES INDICATED.

CONNECTION DETAILS: SECURE APPROVED SHOP DRAWINGS SHOWING WIRING DIAGRAMS, ROUGH-IN AND HOOK UP DETAILS FROM OTHER INVOLVED CONTRACTORS FOR EQUIPMENT WHICH MUST BE CONNECTED ELECTRICALLY.

COORDINATION DETAILS: MECHANICAL EQUIPMENT WILL BE FURNISHED AND INSTALLED BY THE MECHANICAL CONTRACTOR. THE LOCATIONS SHOWN ON THE ELECTRICAL DRAWINGS ARE APPROXIMATE. COORDINATE WITH THE MECHANICAL CONTRACTOR TO DETERMINE THE EXACT LOCATION OF EACH PIECE OF EQUIPMENT AND DETERMINE THE EXACT ROUGH-IN AND CONNECTION REQUIREMENTS.

WORKING CLEARANCE: COORDINATE FINAL LOCATIONS OF ELECTRICAL EQUIPMENT WITH MECHANICAL DUCTWORK, PIPING ETC. AND ASSURE WORKING CLEARANCE REQUIRED BY NEC WILL BE MET. SUFFICIENT ACCESS AND WORKING SPACE SHALL BE PROVIDED AND MAINTAINED AROUND ELECTRICAL EQUIPMENT AS REQUIRED BY THE NATIONAL ELECTRICAL CODE. CONTRACTOR SHALL COORDINATE FINAL LOCATION OF EQUIPMENT PROVIDED AND INSTALLED BY OTHER TRADES.

STARTER MOUNTING: WHERE AN INDIVIDUALLY MOUNTED SAFETY SWITCH, STARTER OR CIRCUIT BREAKER IS SHOWN ADJACENT TO ITS RESPECTIVE LOAD AND NOT MOUNTED ON A WALL, PROVIDE ALL SUPPORTS, BRACKETS, ANCHORING, ETC. NECESSARY TO PROPERLY SUPPORT THE DEVICE.

MATERIAL COORDINATION: VERIFY CEILING AND WALL CONSTRUCTION AND MATERIAL PRIOR TO ORDERING LIGHT FIXTURES OR OTHER DEVICES TO INSURE PROPER FIXTURE OR DEVICE IS FURNISHED TO MATCH CONSTRUCTION.

MOUNTING HEIGHTS: MOUNTING HEIGHTS INDICATED ARE FROM THE FINISHED FLOOR TO THE CENTERLINE OF THE WIRING DEVICE UNLESS OTHERWISE NOTED. MOUNTING HEIGHTS OF LIGHTING FIXTURES ARE TO THE BOTTOM OF THE FIXTURE UNLESS OTHERWISE NOTED.

DEVICE COORDINATION: THOROUGHLY REVIEW AND COORDINATE ALL CASEWORK AND CABINET DRAWINGS AND ARCHITECTURAL ELEVATIONS WITH DEVICE LOCATIONS PRIOR TO ROUGH-IN OF OUTLET BOXES.

BARRIERS: WHERE A MULTIPLE-GANG BOX HAS CIRCUITS OF DIFFERENT VOLTAGES OR SYSTEMS WHICH ARE REQUIRED TO BE SEPARATED, PROVIDE THE CODE-REQUIRED SEPARATION USING A FULL HEIGHT AND DEPTH BARRIER PLATE.

FIRE STOPPING: FOR ANY WALL OR FLOOR PENETRATIONS THROUGH FIRE-RATED STRUCTURES PROVIDE FIRE-STOPPING TO SEAL ALL THE PENETRATIONS AFTER THE CONDUIT HAS BEEN INSTALLED. FIRE STOPPING FOR PENETRATIONS SHALL BE UL APPROVED PER THE PENETRATION MADE IN ORDER TO MAINTAIN FIRE-RATED INTEGRITY OF THE STRUCTURE.

CLEAN UP: ON PROJECT CLOSE-OUT CLEAN ALL ELECTRICAL DEVICES, LIGHTING FIXTURES, LAMPS AND LENSES, AND REMOVE ALL PAINT SPATTERS FROM DEVICES, FIXTURES AND PLATES. REPLACE ALL INOPERATIVE LAMPS.

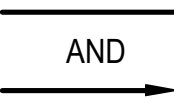
HVAC DAMPERS, ETC: CONTRACTORS SHALL COORDINATE WITH THE EQUIPMENT AND SYSTEM BEING PROVIDED AND PROVIDE POWER CONNECTIONS ACCORDINGLY. THESE CONNECTIONS SHALL BE FOR FIRE/SMOKE DAMPERS, DDC CONTROL DEVICES, ETC. CONTRACTOR SHALL COORDINATE THE VOLTAGE REQUIREMENTS AND PROVIDE ALL NECESSARY CONNECTIONS, COMPONENTS, ETC. THIS INCLUDES TRANSFORMERS, BOXES, ETC.

OWNER STANDARDS: ALL WORK SHALL COMPLY WITH THE OWNER'S PUBLISHED STANDARDS WHICH ARE AVAILABLE DIRECTLY FROM THE OWNER.

ELECTRICAL LEGEND

LIGHTING	
	WALL MOUNTED LIGHTING FIXTURE. SUBSCRIPT "E" DENOTES EMERGENCY BATTERY OPTION REQUIRED.
	EXISTING POLE AND FIXTURE
	DOWN LIGHT FIXTURE
	LIGHTING FIXTURE TYPE SYMBOL. SEE LIGHTING FIXTURE DETAILS.
	LIGHTING CONTACTOR
	TIME CLOCK
	PHOTOCELL, 1500W, 120V SPST, MOUNT ON ROOF, AIM NORTH

POWER	
THE FOLLOWING SUBSCRIPTS SHALL APPLY TO RECEPTACLES WHERE USED:	
• GFI:	GROUND FAULT INTERRUPTING TYPE RECEPTACLE
• WP: COVER.	WEATHER RESISTANT GFI RECEPTACLE WITH WEATHERPROOF WHILE-IN-USE
	DUPLEX CONVENIENCE RECEPTACLE 20A, 120V, 18" AFF, UON
	TWO DUPLEX RECEPTACLES IN COMMON BOX, EACH 20A, 120V, 18" AFF, UON
	EQUIPMENT CONNECTION
	SAFETY SWITCH, 60A-3P, FU @ 30A, 3R
SWITCH RATING - NUMBER OF POLES - FUSE RATING (NF INDICATES NON-FUSED) - NEMA ENCLOSURE IF OTHER THAN NEMA 1	

POWER (CONT.)	
	ELECTRICAL PANELBOARD
	ELECTRICAL CIRCUIT RUN IN CONDUIT AND CIRCUIT HOMERUN TO PANELBOARD (PANEL AND CIRCUIT DESIGNATION AS INDICATED). AS A MINIMUM CONDITION, EACH SINGLE PHASE CIRCUIT SHALL HAVE 1 #12 PHASE CONDUCTOR, 1 #12 NEUTRAL CONDUCTOR AND 1 #12 GROUNDING CONDUCTOR PLUS 1 #12 INSULATED, ISOLATED GROUNDING CONDUCTOR WHEN SERVING ISOLATED GROUND TYPE DEVICES IN 3/4" CONDUIT. PROVIDE ADDITIONAL PHASE CONDUCTORS AS REQUIRED FOR "MULTIPLE PHASED" ELECTRICAL LOADS. PROVIDE NEUTRAL CONDUCTOR TO ALL WALL SWITCH OUTLET BOXES WHETHER REQUIRED OR NOT. PROVIDE ADDITIONAL "SWITCH LEG" CONDUCTORS TO PROVIDE THE LIGHT FIXTURE CONTROL INDICATED. MULTIPLE SINGLE PHASE CONDUCTORS MAY BE GROUPED TOGETHER IN A COMMON CONDUIT IN ACCORDANCE WITH THE NEC AND AT THE CONTRACTOR'S DISCRETION. GROUNDING CONDUCTORS MAY BE SHARED AS ALLOWED BY THE NEC. NEUTRAL CONDUCTORS SHALL NOT BE SHARED. MULTI-POLE BREAKERS SHALL BE PROVIDED IN ACCORDANCE WITH THE NEC SHOULD MULTI-WIRE BRANCH CIRCUITS BE INSTALLED. CONDUIT LARGER THAN 3/4" AND CONDUCTORS LARGER THAN #12 SHALL BE AS INDICATED.

TELECOMMUNICATIONS	
	TELECOMMUNICATIONS BACKBOARD - 1'W x 1'H x 3/4"THICK
	MAIN GROUND BUS BAR

GENERAL	
	NEW WORK NOTE SYMBOL

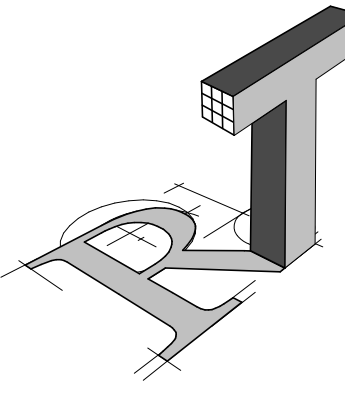
ABBREVIATIONS

A	AMPERE
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AIC	AMPERE INTERRUPTING CAPACITY
BFG	BELOW FINISHED GRADE
C	CONDUIT
CKT	CIRCUIT
CB	CIRCUIT BREAKER
DVP	DOMINION VIRGINIA POWER
EBU	EMERGENCY BATTERY UNIT
EC	EMPTY CONDUIT
ECB	ENCLOSED CIRCUIT BREAKER
EF	EXHAUST FAN
ERU	ENERGY RECOVERY UNIT
EQUIP	EQUIPMENT
ETR	EXISTING TO REMAIN
EXIST	EXISTING
FHP	FRACTIONAL AC HORSEPOWER
FLA	FULL LOAD AMPS
GFI	GROUND FAULT INTERRUPTER
GND	GROUND
HP	HORSE POWER/HEAT PUMP
KAIC	THOUSAND AMPERE INTERRUPTING CAPACITY
KVA	KILO-VOLT-AMPERES
KW	KILO-WATTS
LTG	LIGHTING
MCA	MINIMUM CIRCUIT AMPS
MCB	MAIN CIRCUIT BREAKER
MFR	MANUFACTURER
MLO	MAIN LUGS ONLY
MTD	MOUNTED
NEC	NATIONAL ELECTRICAL CODE
NF	NON-FUSED
NIC	NOT IN CONTRACT
NTS	NOT TO SCALE
OC	ON CENTER
OFCI	OWNER FURNISHED, CONTRACTOR INSTALLED
P	POLE
PL	PROPERTY LINE
PNL	PANEL
PNLBD	PANELBOARD
Ø	PHASE
PRI	PRIMARY
RECEPT	RECEPTACLE
REQ'D	REQUIRED
RTU	ROOF TOP UNIT
SE	SERVICE ENTRANCE
SEC	SECONDARY
TBB	TELEPHONE BACKBOARD
TYP	TYPICAL
UON	UNLESS OTHERWISE NOTED
V	VOLT(S)
W	WATTS/WIRE
WP	WEATHERPROOF

ENERGY CODE COMPLIANCE PATH

- ☐ ASHRAE 90.1
- ☒ VECC CHAPTER 4 - PRESCRIPTIVE
- ☐ VECC CHAPTER 4 - PERFORMANCE

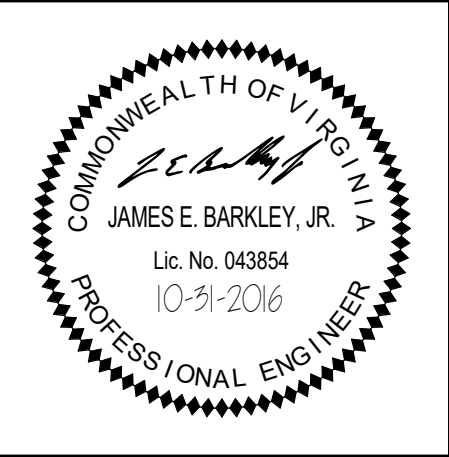




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RETAIL SPACE FOR STARBUCKS

STARBUCKS

CORNER SHOPS - 2000 COLONIAL AVE NORFOLK, VA

RTA NO:
DATE: 08/31/16
DESIGN: GKH
DRAWN: GKH
REVIEW: JEB

REVISIONS

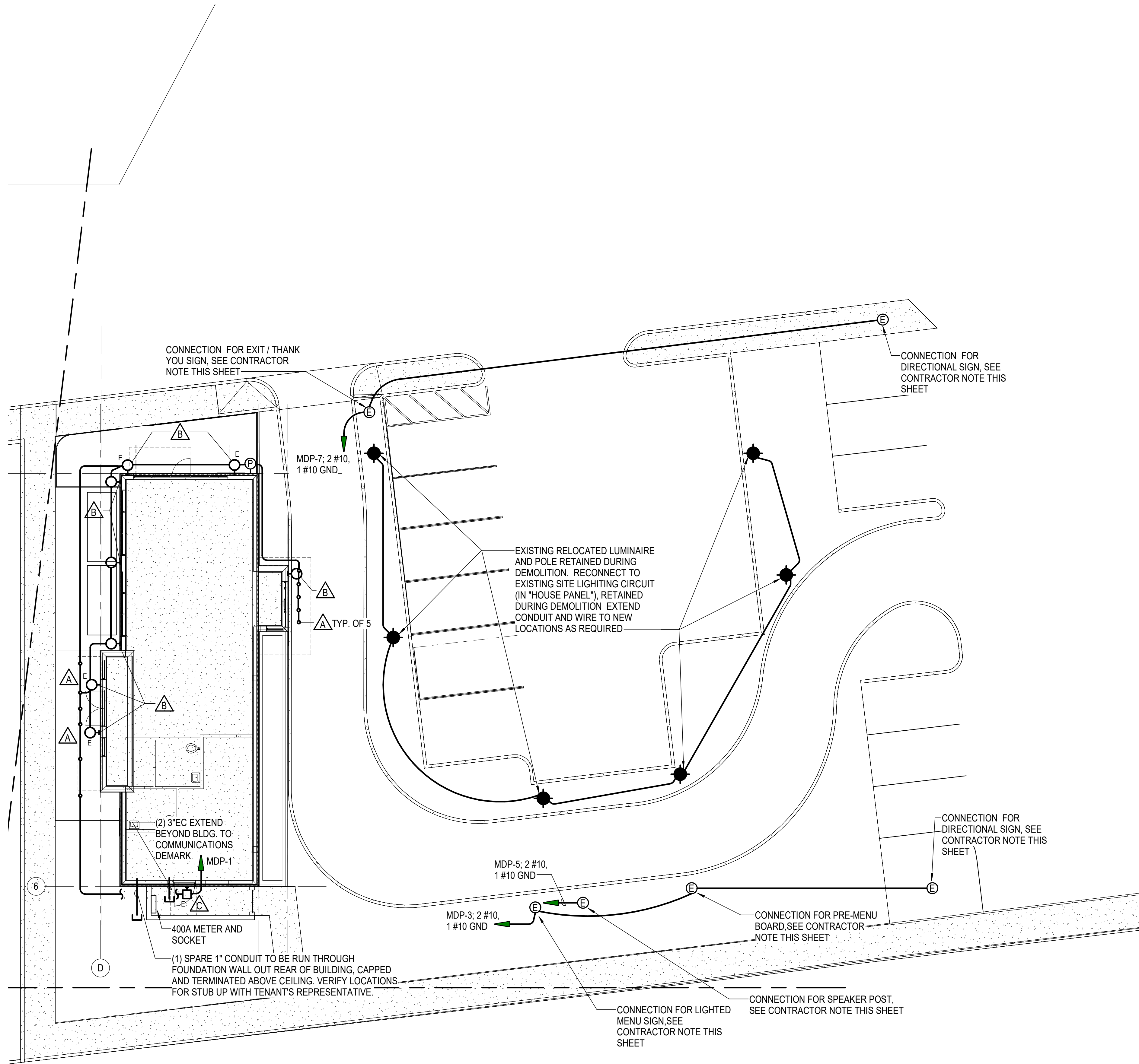
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LEGEND, NOTES AND ABBREVIATIONS

E001

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SITE PLAN
SCALE: 1" = 10'-0"

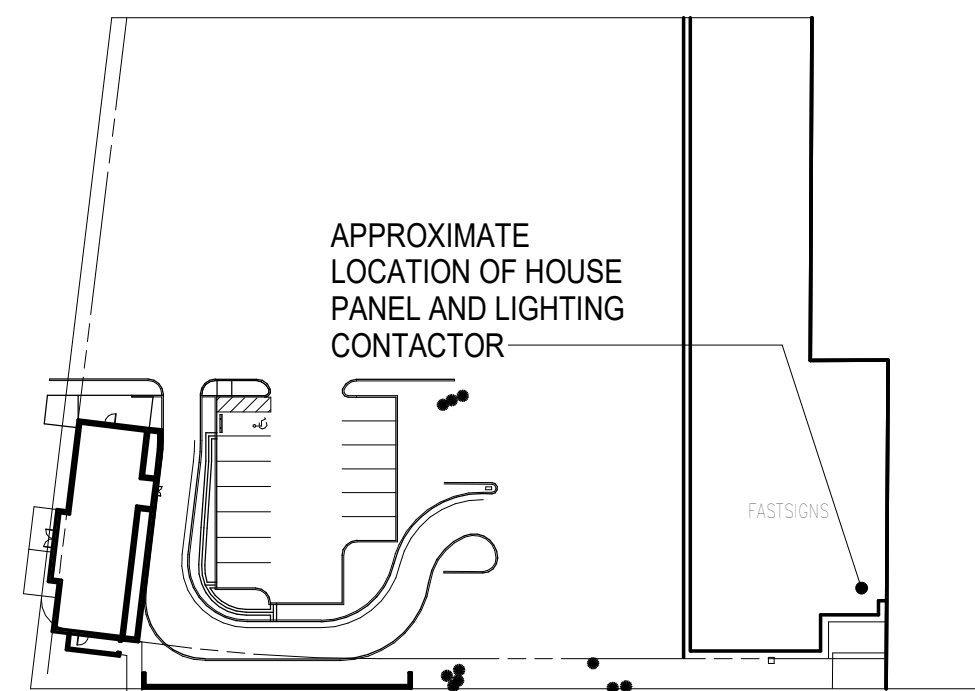
CONTRACTOR NOTE

FURNISH AND INSTALL ALL UNDERGROUND CONDUITS, LABELED WITH PULL STRINGS FROM THE ELECTRICAL PANELS TO THE FOLLOWING EXTERIOR DRIVE-THRU EQUIPMENT AS NOTED ON THE LANDLORD APPROVED PLANS. LOCATIONS TO BE COORDINATED WITH TENANT. THIS IS CRITICAL FOR TENANT'S DRIVE THROUGH OPERATIONS.

- 1) ONE (1) 1" CONDUIT TO PRE-ORDER MENU BOARD TO ELECTRICAL PANELS.
- 2) ONE (1) 1" CONDUIT TO PRE-MENU/MENU BOARD FOR FUTURE.
- 3) ONE (1) 1" CONDUIT FROM THE MENU BOARD TO ELECTRICAL PANELS.
- 4) TWO (2) 1" CONDUIT FROM OCS/SPEAKER POST TO DRIVE THRU WINDOW.
- 5) ONE (1) 1" CONDUIT FROM OCS SPEAKER POST TO ELECTRICAL PANELS.
- 6) ONE (1) 1" CONDUIT FROM ALL DIRECTIONAL SIGNS TO ELECTRICAL PANELS.

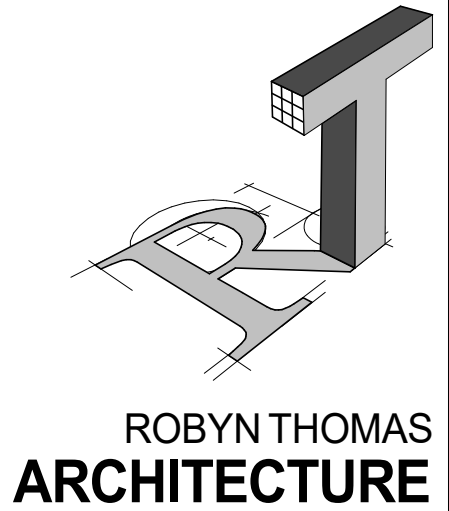
NOTE 1: UP TO 3 DIRECTIONAL SIGNS CAN BE SERVED BY A SINGLE CIRCUIT. ADDITIONAL SIGNS REQUIRE A NEW DEDICATED CIRCUIT AND CONDUIT.

NOTE 2: ALL EXTERIOR LIGHTING FIXTURES AND ILLUMINATED SIGNS SHOWN ON PLAN ARE CONTROLLED VIA LIGHTING CONTACTOR, SEE DIAGRAM ON SHEET E601.



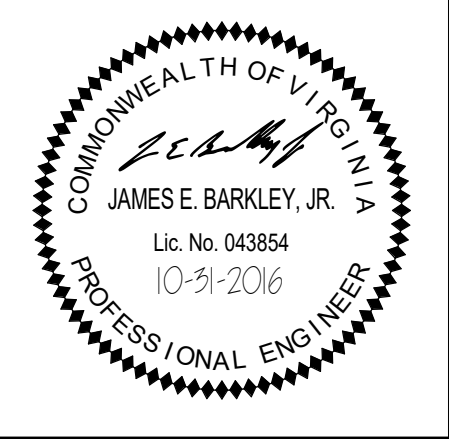
KEY PLAN
NO SCALE

GRAPHIC SCALE:



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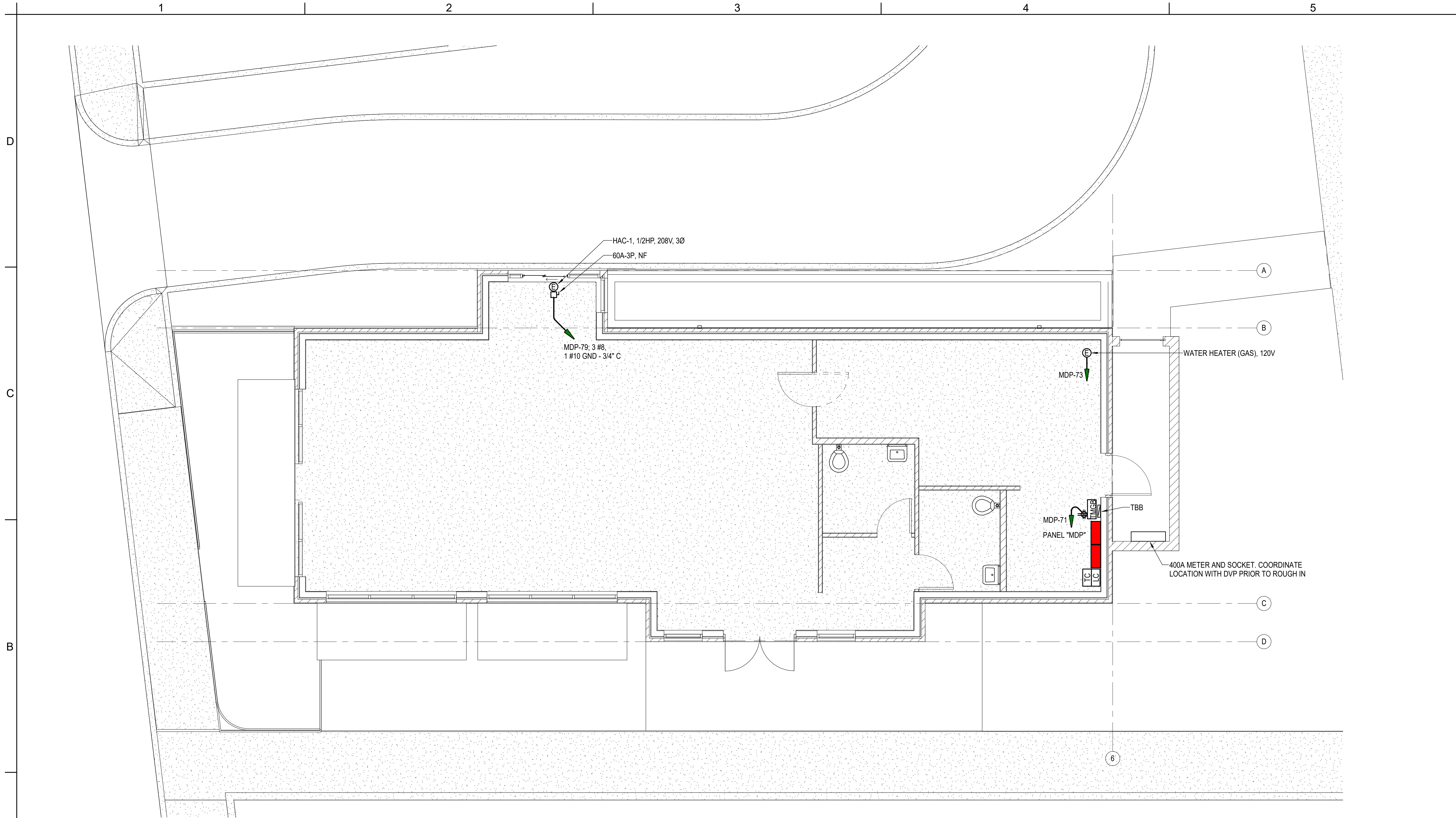
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1	10/26/16	Tenant Comments

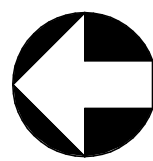
SITE PLAN

E002

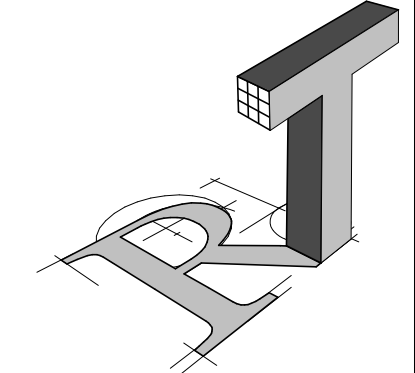
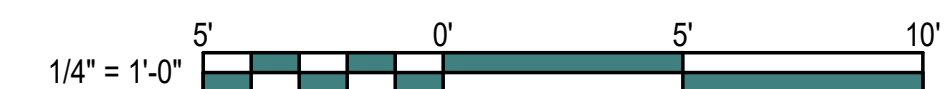
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 **FIRST FLOOR PLAN**
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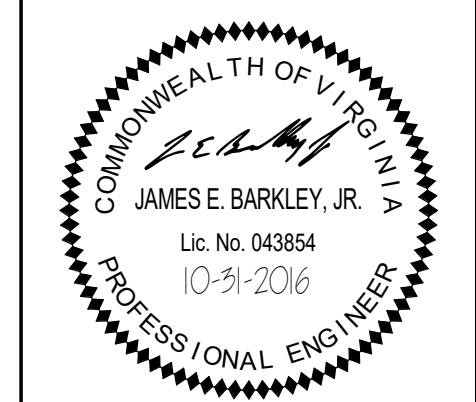
GRAPHIC SCALE:



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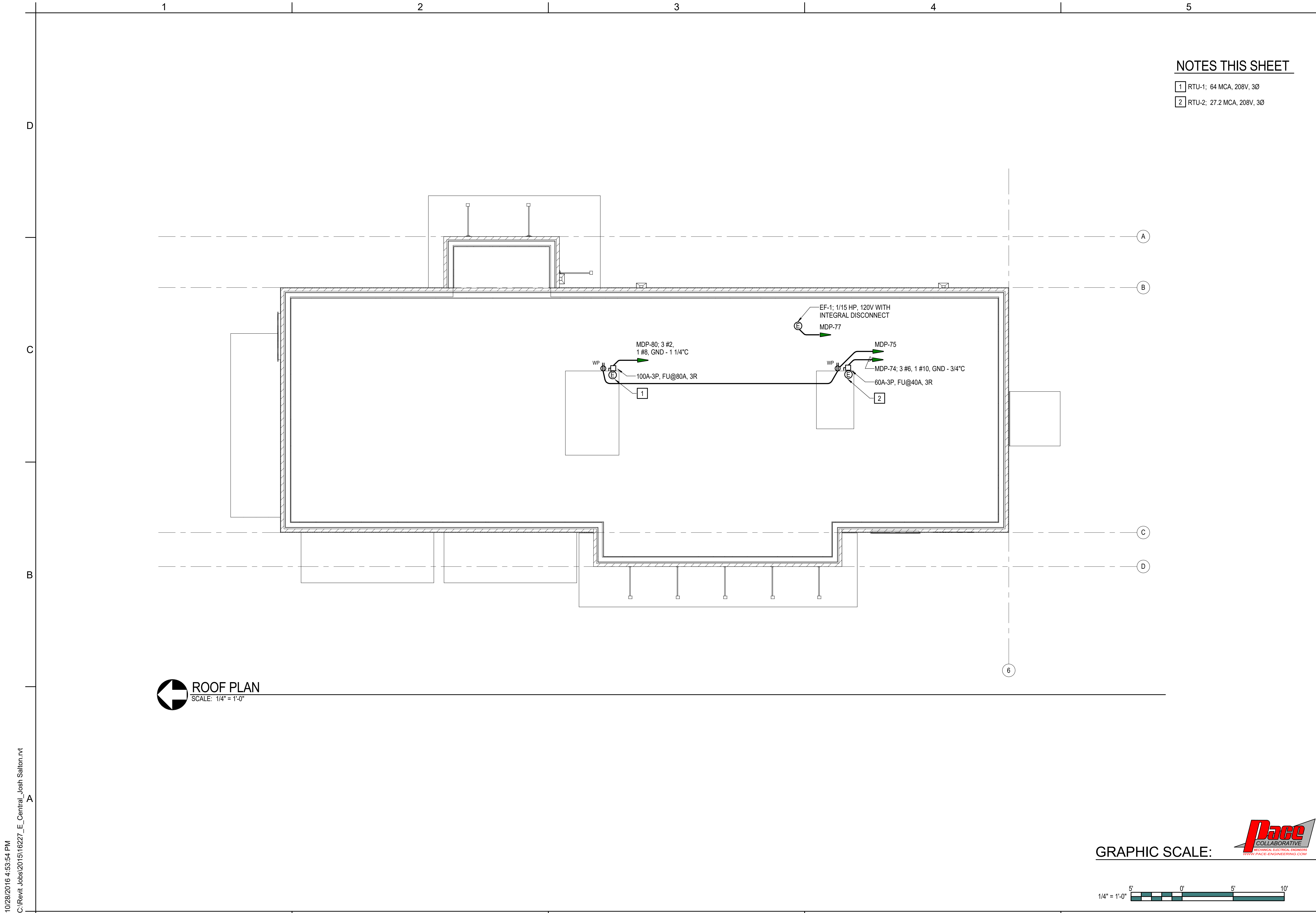
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No. Date Description

FIRST FLOOR
PLAN

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NOTES THIS SHEET

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- 2 RTU-2; 27.2 MCA, 208V, 3Ø

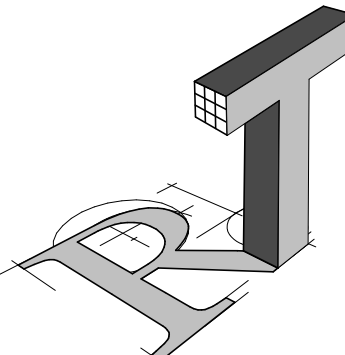
ROOF PLAN
SCALE: 1/4" = 1'-0"

GRAPHIC SCALE:

1/4" = 1'-0"

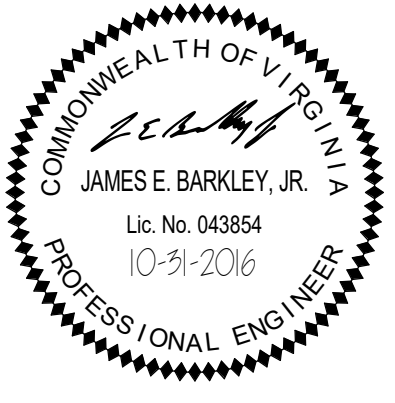
5' 0' 5' 10'

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JAMES E. BARKLEY, JR.
Lic. No. 043854
10-31-2016
PROFESSIONAL ENGINEER

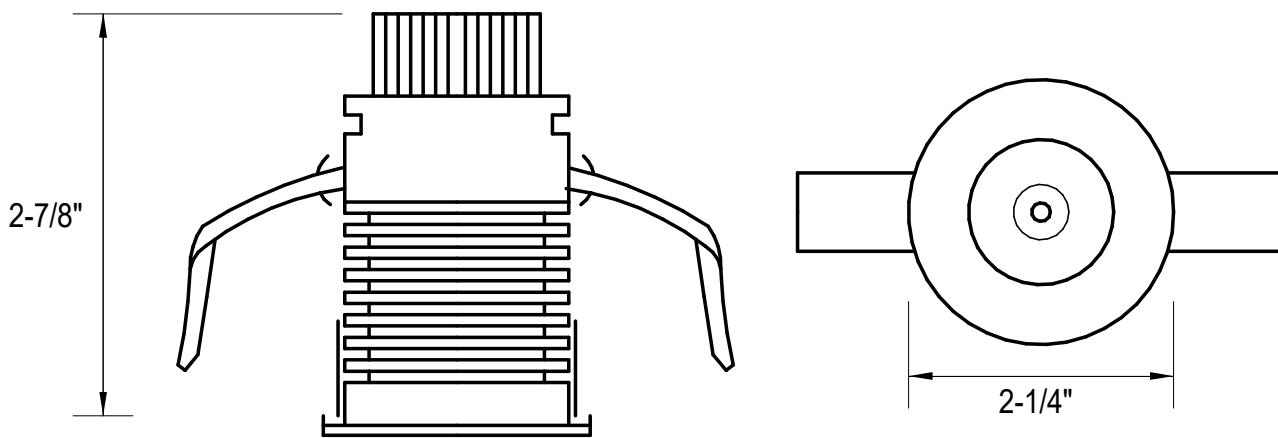
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1 10/26/16 Tenant Comments

ROOF PLAN
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SHEET OF

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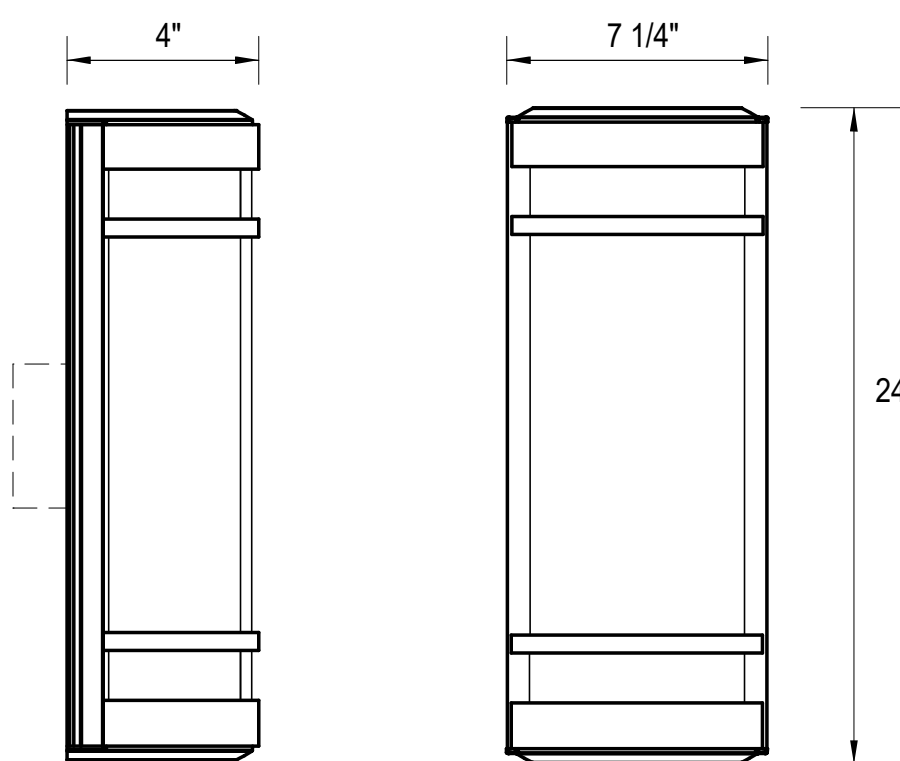
LUMINAIRE DESCRIPTION:

- HIGH OUTPUT LED - 50,000 HOURS.
- DIE-CAST ALUMINUM HOUSING.
- BLACK FINISH.
- 35° FLOOD LENS.
- PROVIDE CONSTANT CURRENT ELECTRONIC DRIVER AND REMOTE TRANSFORMER AS REQUIRED.
- UL LISTED FOR WET LOCATIONS AND TESTED IN ACCORDANCE WITH IESNA LM-79 AND LM-80 STANDARDS.

DETAIL BASED ON JUNO LIGHTING, "MD1LW" SERIES

TYPE	LUMENS	LAMP	INPUT WATTS	VOLTAGE	MOUNTING
	190	3500K LED	5W	120/277	RECESSED, CEILING

RECESSED 2" LED MINI DOWNLIGHT



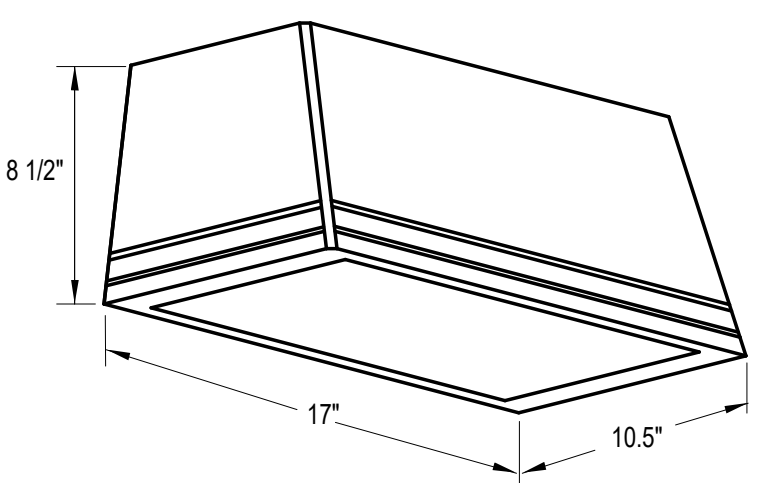
LUMINAIRE REQUIREMENTS

- HOUSING SHALL BE HARD ANODIZED EXTRUDED ALUMINUM WITH FINS FOR PROPER HEAT MANAGEMENT. ENDS CAPS SHALL BE DIE CAST ALUMINUM.
- FIXTURE SHALL HAVE WATERPROOF CONNECTION FOR POWER.
- PROVIDE 120V LED DRIVER.
- COLOR SHALL BE SELECTED BY ARCHITECT/OWNER.
- UL LISTED FOR WET LOCATION AND TESTED IN ACCORDANCE WITH IESNA LM-79 AND LM-80 STANDARDS.
- PROVIDE BATTERY OPTION FOR THE FIXTURES DENOTED WITH SUBSCRIPT "E" . REMOTE MOUNT BATTERY INSIDE AND ABOVE ACCESSIBLE CEILING.

DETAIL BASED ON FC LIGHTING, "FCWS7170" SERIES

TYPE	LUMENS	LAMP TYPE	INPUT WATTS	VOLTAGE	MOUNTING
	2000	3500K LED	18W	120	SURFACE, WALL. COORDINATE MOUNTING HEIGHT WITH ARCHITECTURAL PLANS/OWNER PRIOR TO ROUGH IN

WALL MOUNT SCONCE



LUMINAIRE REQUIREMENTS:

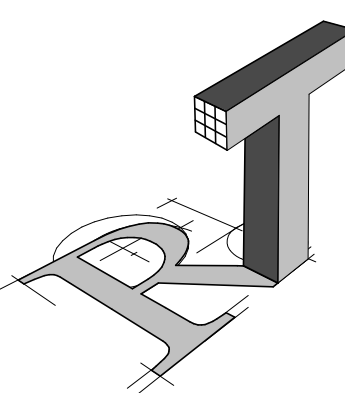
- HOUSING - DIE CAST ALUMINUM HOUSING
- FINISH - POLYESTER POWDER FINISH, IMPACT, CORROSION AND UV RESISTANCE.
- LENS - DIFFUSEDTEMPERED GLASS LENS.
- PROVIDE WITH 120V LED DRIVER.
- COLOR SHALL BE SELECTED BY ARCHITECT/OWNER.
- CERTIFICATION - UL LISTED AND LABELED FOR WET LOCATIONS.
- PROVIDE WITH EMERGENCY BATTERY BACK UP - COLD 20W OPTION.

DETAIL BASED ON LITHONIA LIGHTING, "WST LED P3 VW PBE E20WC" SERIES

TYPE	LUMENS	LAMP TYPE	INPUT WATTS	VOLTAGE	MOUNTING
	6000	4000K LED	50W	120	SURFACE, WALL @ 10'-0" AFF. COORDINATE MOUNTING HEIGHT WITH ARCHITECTURAL PLANS PRIOR TO ROUGH IN

LED WALL PACK

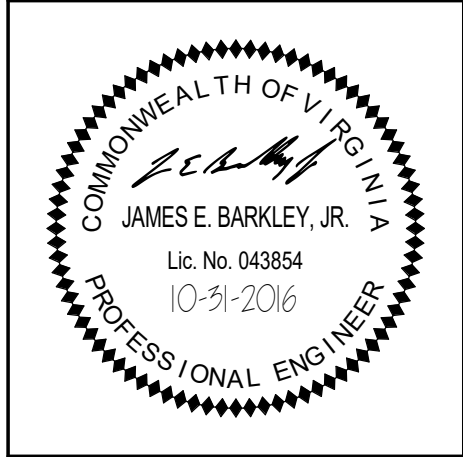




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DETAILS

E501

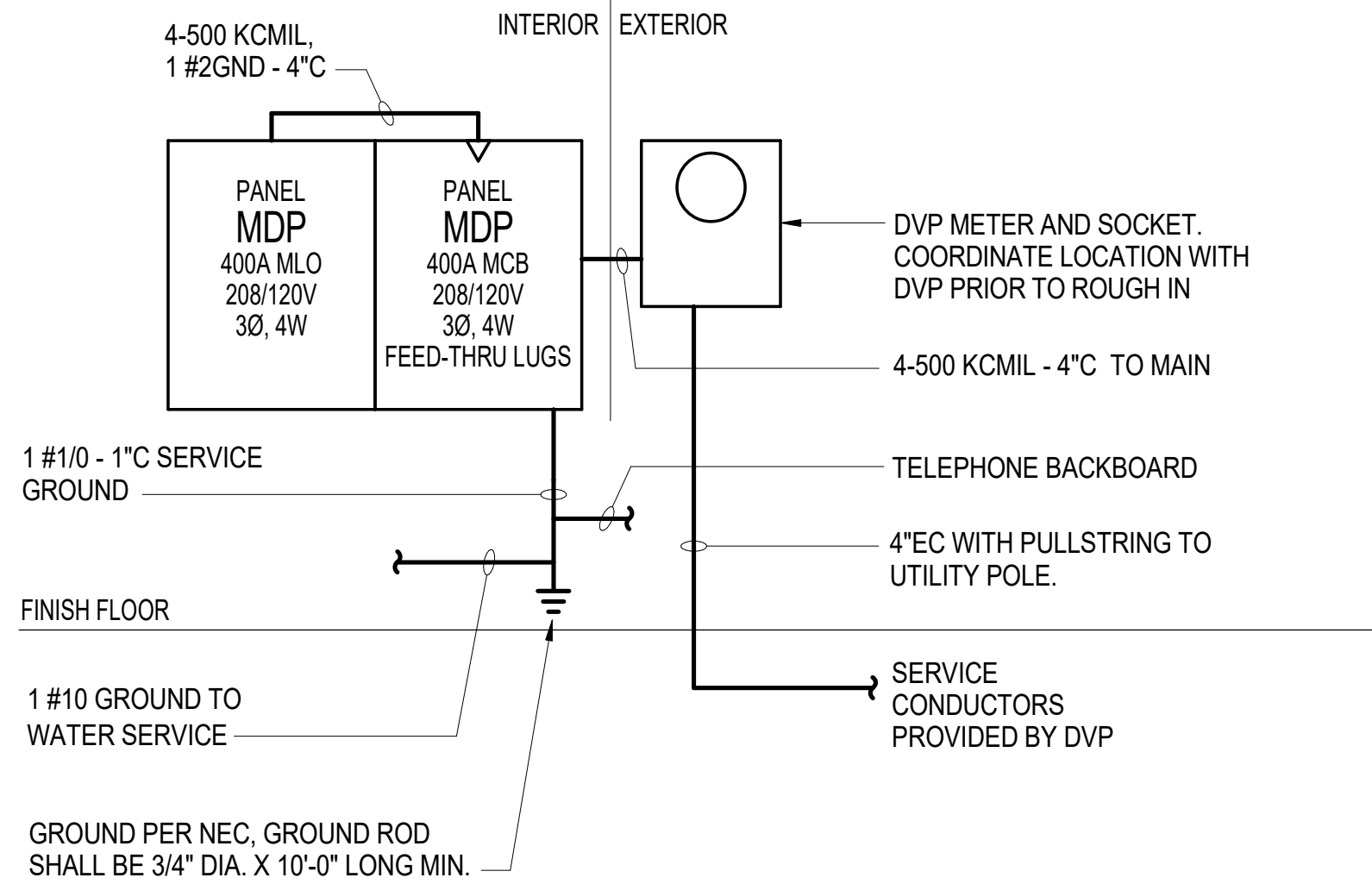
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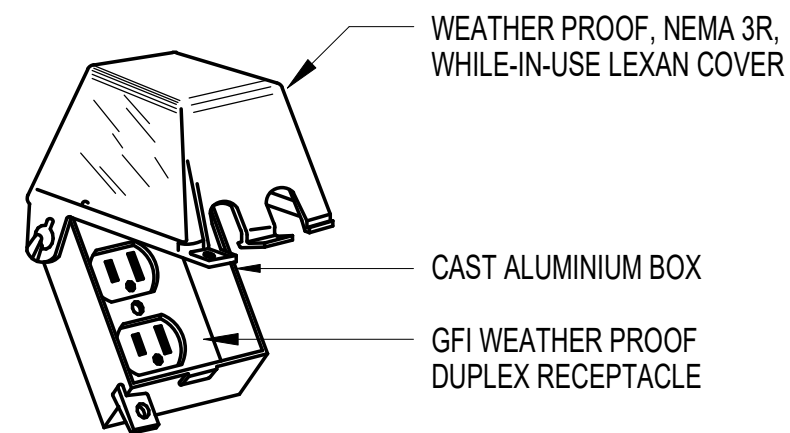


POWER RISER DIAGRAM

NO SCALE

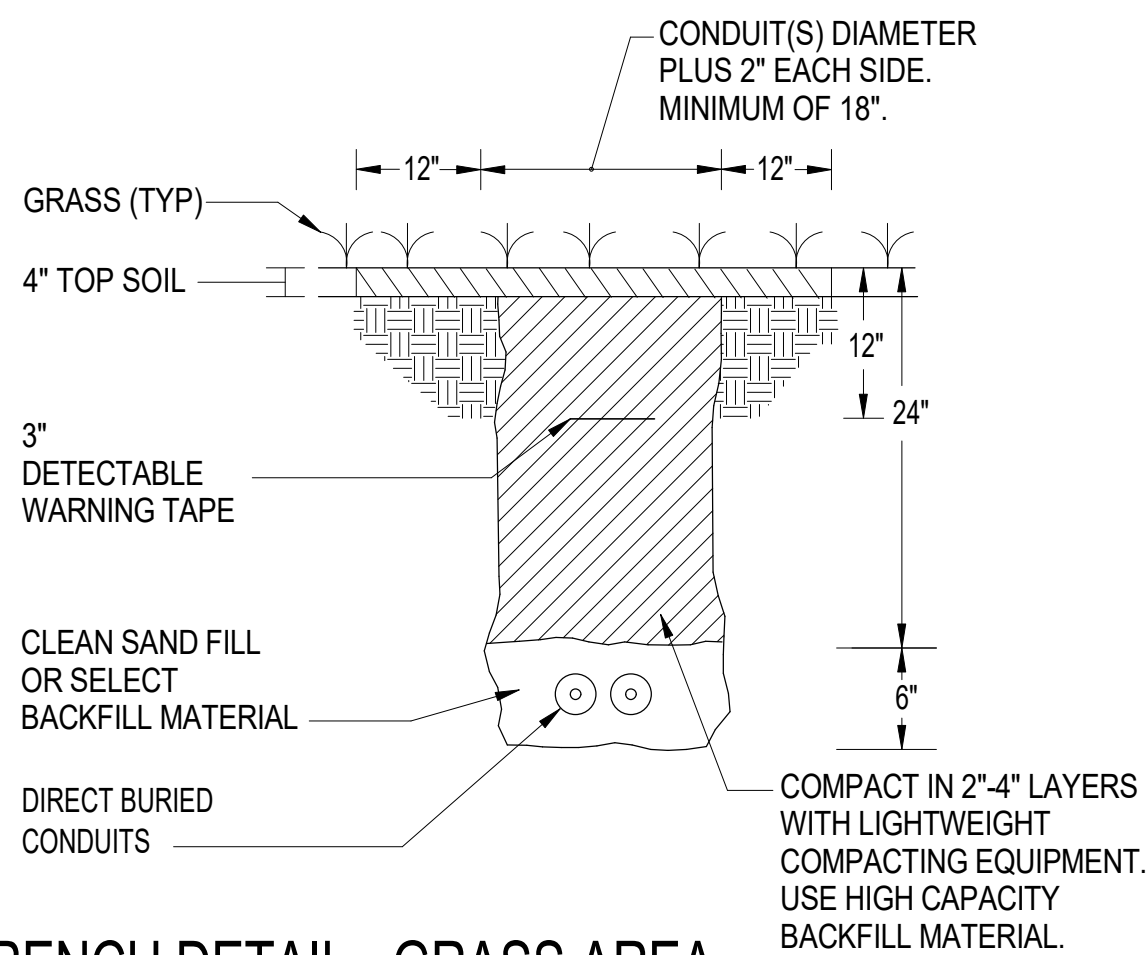
FAULT CURRENT

PROVIDE ALL 120/208V PANELS WITH A SHORT CIRCUIT RATING OF 22 KAIC. UL LISTED SERIES RATINGS MAY BE APPLIED WHERE APPROPRIATE. CONTACT THE LOCAL POWER COMPANY PRIOR TO SUBMITTING SHOP DRAWINGS AND IF THE AVAILABLE FAULT CURRENT IS LESS THAN OR MORE THAN THIS AMOUNT, THEN NOTIFY THE OWNER IN WRITING & PROVIDE APPROPRIATE POWER EQUIPMENT.



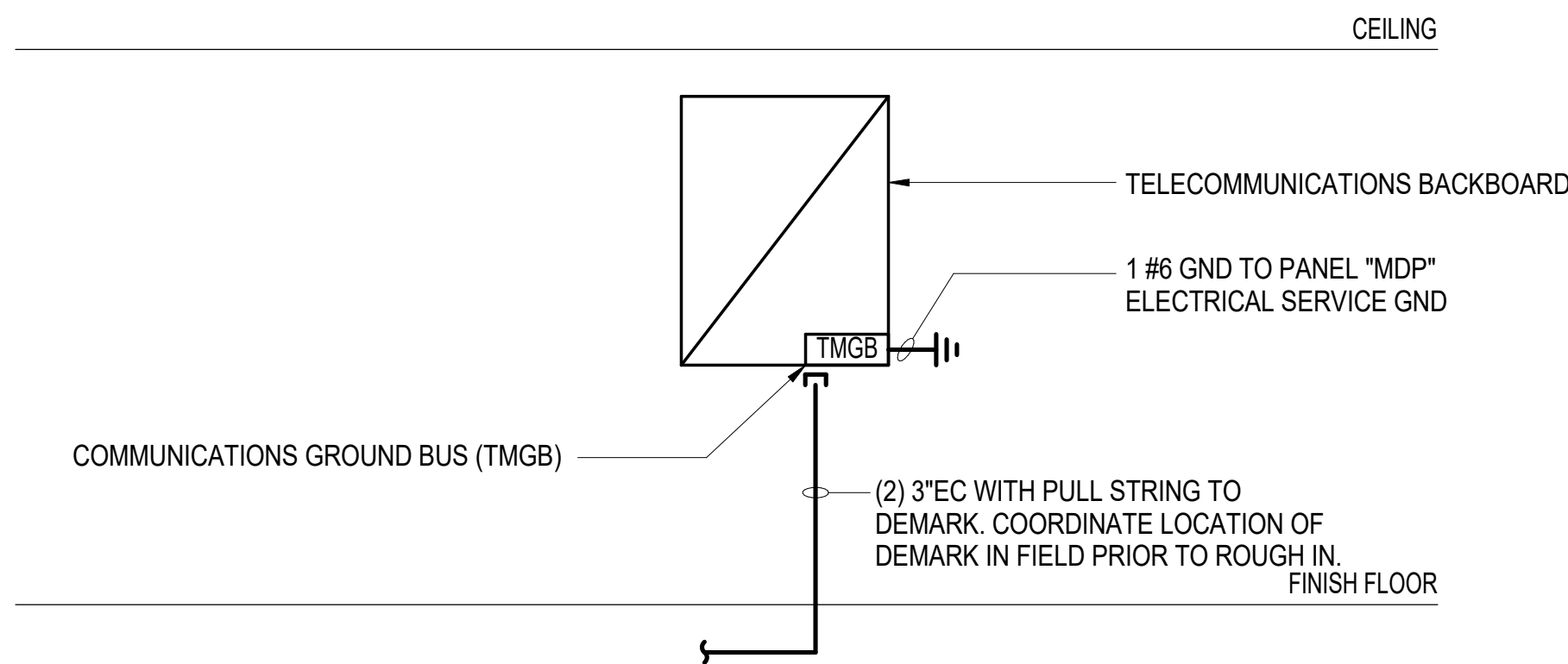
WEATHERPROOF RECEPTACLE DETAIL (Φ^{WP})

NO SCALE



TRENCH DETAIL - GRASS AREA

NO SCALE

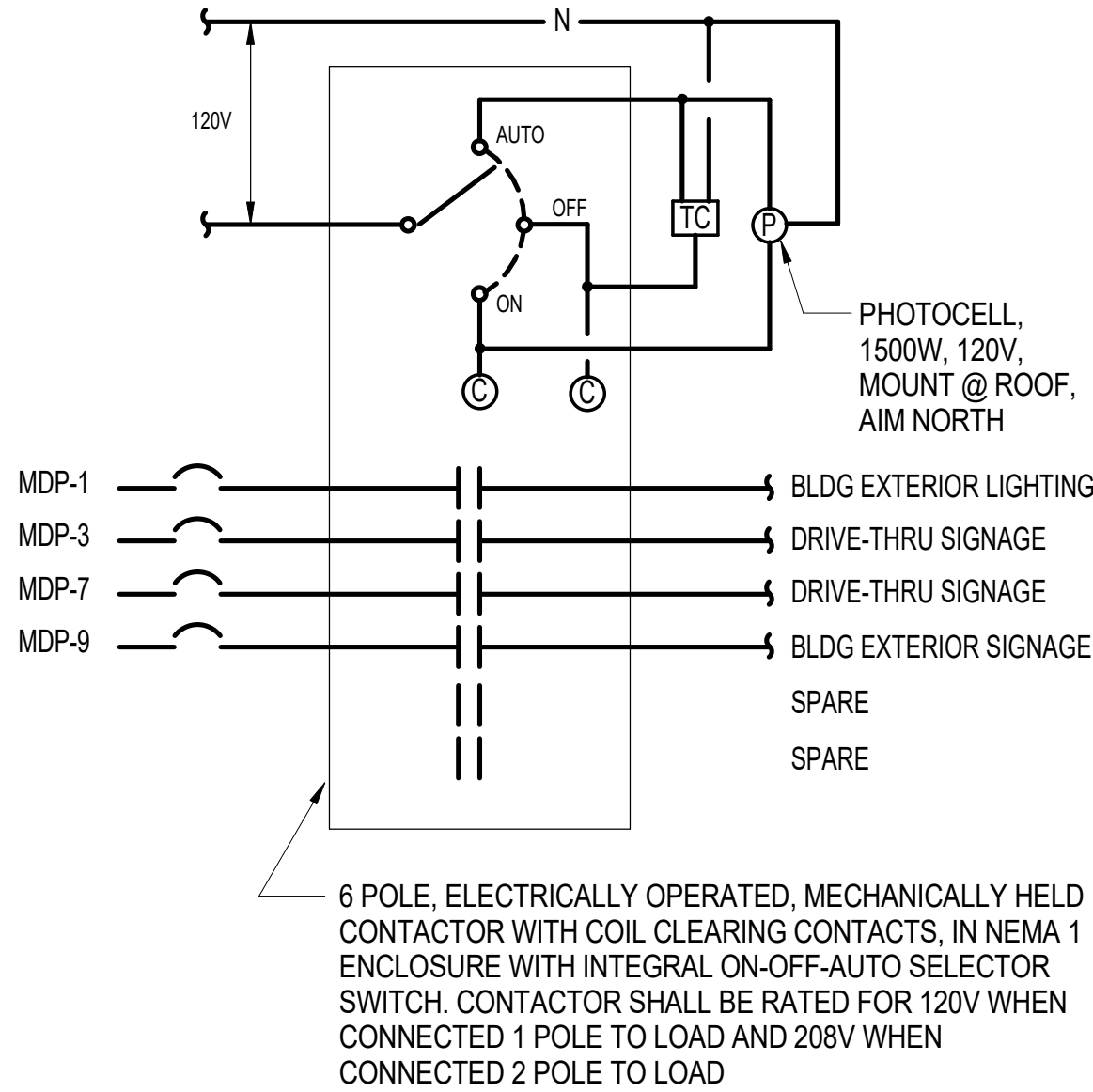


NOTES:

1. THE BUILDING SHALL BE PRE-WIRED FOR COMMUNICATIONS DURING CONSTRUCTION BY THE OWNER'S COMMUNICATIONS VENDOR.
2. PROVIDE BUSHINGS FOR CABLES THAT PASS THROUGH METAL CONSTRUCTION.

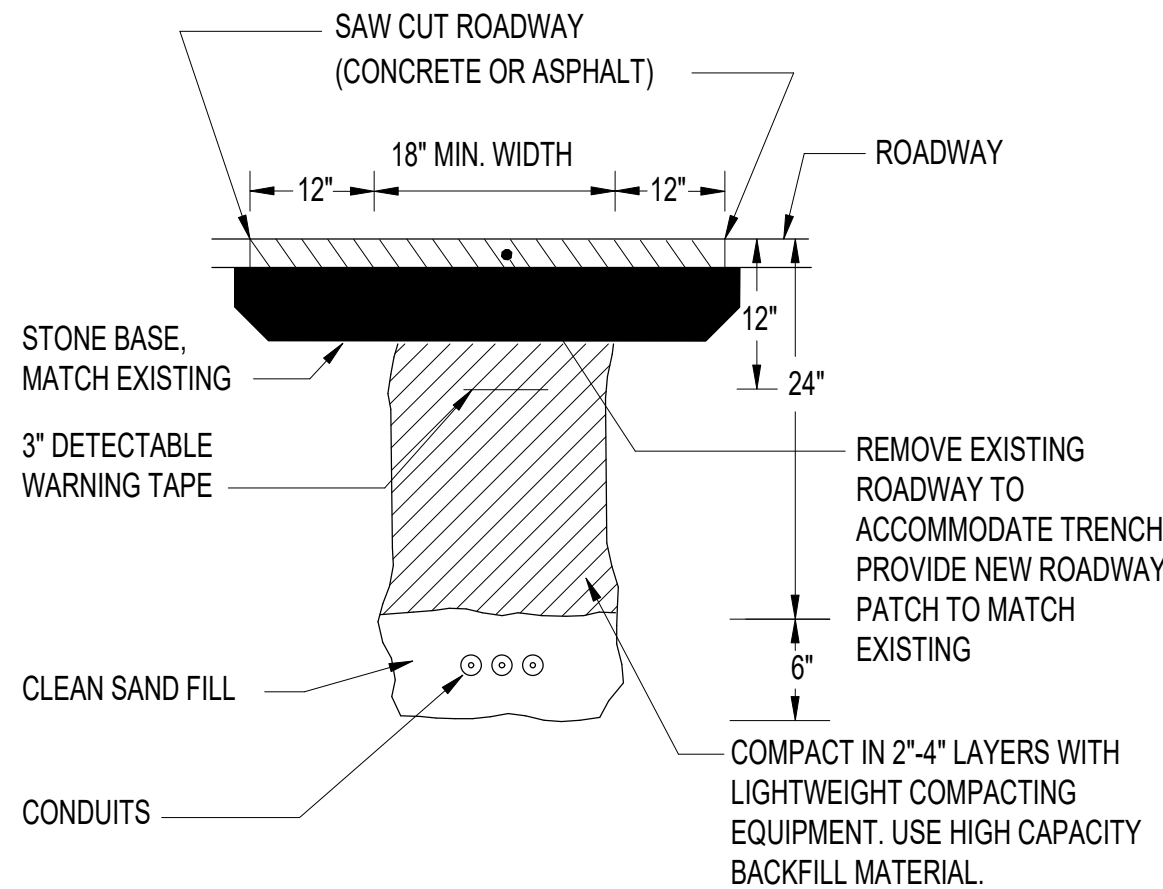
COMMUNICATIONS RISER DIAGRAM

NO SCALE



LIGHTING CONTACTOR "LC"

NO SCALE



TRENCH DETAIL - AT ROADWAY

NO SCALE

PANELBOARD MDP SCHEDULE														
SEE POWER RISER DIAGRAM FOR RATINGS														
LOAD SERVED	LOAD (AMPS)			BKR TRIP	CKT NO.	PHASE			CKT NO.	BKR TRIP	LOAD (AMPS)			LOAD SERVED
	A	B	C			A	B	C			A	B	C	
EXTR LIGHTING	2.0			20/1P	1				2	20/1P				SPARE
EXTR MENU/SIGNS		6.0		20/1P	3				4	20/1P				SPARE
EXTR SPEAKER			6.0	20/1P	5				6	20/1P				SPARE
EXTR SIGNS	6.0			20/1P	7				8	20/1P				SPARE
SPARE				20/1P	9				10	20/1P				SPARE
SPARE				20/1P	11				12	20/1P				SPARE
SPARE				20/1P	13				14	20/1P				SPARE
SPARE				20/1P	15				16	20/1P				SPARE
SPARE				20/1P	17				18	20/1P				SPARE
SPARE				20/1P	19				20	20/1P				SPARE
SPARE				20/1P	21				22	20/1P				SPARE
SPARE				20/1P	23				24	20/1P				SPARE
SPARE				20/1P	25				26	20/1P				SPARE
SPARE				30/2P	27				28	20/2P				SPARE
SPARE				30/2P	31				32	20/2P				SPARE
SPARE				30/2P	35				36	50/2P				SPARE
SPARE				50/2P	39				40	60/2P				SPARE
TOTAL	8.0	14.0	6.0								0.0	0.0	0.0	TOTAL
TOTAL CONNECTED AMPS FOR SECTIONS 1 & 2 A: 111.1 B: 114.1 C: 108.6														

PANELBOARD MDP SCHEDULE														
SEE POWER RISER DIAGRAM FOR RATINGS														
LOAD SERVED	LOAD (AMPS)			BKR TRIP	CKT NO.	PHASE			CKT NO.	BKR TRIP	LOAD (AMPS)			LOAD SERVED
	A	B	C			A	B	C			A	B	C	
SPARE				20/1P	43				44	20/1P				SPARE
SPARE				20/1P	45				46	20/1P				SPARE
SPARE				20/1P	47				48	20/1P				SPARE
SPARE				20/1P	49				50	20/1P				SPARE
SPARE				20/1P	51				52	20/1P				SPARE
SPARE				20/1P	53				54	20/1P				SPARE
SPARE				20/1P	55				56	20/1P				SPARE
SPARE				20/1P	57				58	20/1P				SPARE
SPARE				20/3P	59				60	20/1P				SPARE
									62	30/3P				SPARE
SPARE				50/3P	65									
									68	60/3P				SPARE
TBB RECEPT.			3.0	20/1P	71									
WATER HEATER (GAS)	6.0			20/1P	73				74	40/3P	21.7			RTU-2
ROOFTOP RECEPTS		3.0		20/1P	75						21.7			
EXHAUST FAN			2.5	20/2P	77							21.7		
AIR CURTAIN	24.2			35/3P	79				80	80/3P	51.2			RTU-1
		24.2									51.2			
			24.2									51.2		
TOTAL	30.2	27.2	29.7								72.9	72.9	72.9	TOTAL
TOTAL CONNECTED AMPS FOR SECTION 2 A: 103.1 B: 100.1 C: 102.6														

ELECTRICAL LOAD SUMMARY			
LOAD DESCRIPTION	CONNECTED LOAD	DEMAND FACTOR	DEMAND LOAD
LIGHTING	0.0 KVA	100%	0.0 KVA
EXTERIOR LIGHTING	3.4 KVA	100%	3.4 KVA
RECEPTACLES	0.7 KVA	NOTE - 1	0.7 KVA
AIR CONDITIONING	8.7 KVA	100%	8.7 KVA
HEAT PUMP	26.2 KVA	100%	26.2 KVA
VENTILATION	0.3 KVA	100%	0.3 KVA
WATER HEATER	0.7 KVA	100%	0.7 KVA
TOTAL	40.1 KVA		40.1 KVA
NOTES: 1. 1st 10 KVA @ 100%, REMAINDER @ 50%			

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ELECTRICAL SPECIFICATIONS

SECTION 260500 - GENERAL PROVISIONS

PART 1 - GENERAL

1.1 CODES AND STANDARDS - THE LATEST EFFECTIVE PUBLICATIONS OF ALL APPLICABLE STANDARDS, CODES, ETC., AS THEY APPLY, FORM PART OF THESE SPECIFICATIONS AS IF WERE WRITTEN FULLY HEREIN AND CONSTITUTE MINIMUM REQUIREMENTS. THE FOLLOWING WILL BE REFERRED TO THROUGHOUT IN ABBREVIATED FORMS.

- A. NATIONAL ELECTRICAL CODE, (NFPA 70) (NEC).
- B. INSTITUTE OF ELECTRICAL AND ELECTRONIC ENGINEERS (IEEE).
- C. RULES AND REGULATIONS OF LOCAL ELECTRIC UTILITY COMPANY.
- D. NATIONAL ELECTRICAL MANUFACTURER'S ASSOCIATION (NEMA).
- E. AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI).
- F. APPLICABLE LOCAL CODES.
- G. UNDERWRITER'S LABORATORIES, INC. (UL).
- H. NATIONAL FIRE PROTECTION ASSOCIATION (NFPA).
- I. VIRGINIA UNIFORM STATEWIDE BUILDING CODE

1.2 SCOPE OF WORK - PROVIDE ALL WORK REQUIRED FOR THIS DIVISION INCLUDING ALL LABOR, MATERIALS, EQUIPMENT, APPURTENANCES AND SERVICES TO PROVIDE COMPLETE ELECTRICAL SYSTEMS AS SHOWN ON THE DRAWINGS AND SPECIFIED IN THIS DIVISION OF THE SPECIFICATIONS. THE WORD "PROVIDE" SHALL MEAN "FURNISH AND INSTALL COMPLETE AND READY FOR USE".

1.3 THE CONTRACTOR SHALL VISIT THE SITE PRIOR TO BID TO DETERMINE THE EXTENT OF THE WORK. LACK OF KNOWLEDGE OF EXISTING CONDITIONS WILL NOT BE CONSIDERED A BASIS FOR CHANGE ORDERS. PRIOR TO ORDERING EQUIPMENT, VERIFY THAT EQUIPMENT TO BE PROVIDED UNDER THIS CONTRACT IS ACCEPTABLE AND CAN FIT INTO BLDG. AND ROOM. EXPENSE INCURRED BY THE CONTRACTOR, WHICH IN THE ENGINEER'S OPINION COULD HAVE BEEN AVOIDED BY THIS STEP, SHALL NOT BE A BASIS FOR CHANGE ORDERS.

1.4 DRAWINGS AND SPECIFICATIONS - THE DRAWINGS ARE DIAGRAMMATIC AND INDICATE THE GENERAL EXTENT, CHARACTER AND ARRANGEMENT OF EQUIPMENT, FIXTURES AND CONDUIT AND WIRING SYSTEMS. IT IS THE INTENTION OF THESE SPECIFICATIONS AND DRAWINGS TO FULLY COVER ALL WORK AND MATERIALS FOR A COMPLETE, FIRST-CLASS ELECTRICAL INSTALLATION, AND ANY DEVICES SUCH AS PULL BOXES AND DISCONNECT SWITCHES, USUALLY EMPLOYED IN THIS CLASS OF WORK, THOUGH NOT SPECIFICALLY MENTIONED OR SHOWN ON THE DRAWINGS OR IN THIS SPECIFICATION, BUT WHICH MAY BE NECESSARY FOR THE SATISFACTORY COMPLETION OF THE WORK, SHALL BE FURNISHED AND INSTALLED BY THE CONTRACTOR AS A PART OF HIS TOTAL WORK UNDER THIS DIVISION. CONSULT THE SPECIFICATIONS AND DRAWINGS OF ALL OTHER TRADES AND PERFORM ALL ELECTRICAL WORK REQUIRED THEREIN. COOPERATE WITH ALL OTHER CONTRACTORS OR SUBCONTRACTORS TO FURNISH COMPLETE WORKABLE SYSTEMS.

1.5 DURING CONSTRUCTION, KEEP AN ACCURATE RECORD OF ALL DEVIATIONS BETWEEN THE WORK AS SHOWN ON THE CONTRACT DRAWINGS AND THAT WHICH IS ACTUALLY INSTALLED ON A SET OF BLUE LINE PRINTS OF THE ELECTRICAL DRAWINGS, AND NOTE CHANGES THEREON WITH RED MARKS, IN A NEAT AND ACCURATE MANNER. WHEN ALL REVISIONS HAVE BEEN SHOWN ON THESE PRINTS TO INDICATE THE WORK AS FINALLY INSTALLED, THE PRINTS SHALL BE DELIVERED TO THE ENGINEER, BEFORE FINAL PAYMENT.

1.6 PERMITS, INSPECTION AND TESTS - THE RIGHT IS RESERVED TO INSPECT AND TEST ANY PORTION OF THE INSTALLATION/EQUIPMENT DURING THE PROGRESS OF ITS INSTALLATION. THIS CONTRACTOR SHALL TEST ALL WIRING FOR CONTINUITY AND GROUNDS BEFORE CONNECTING ANY FIXTURES OR DEVICES. THIS CONTRACTOR SHALL TEST THE ENTIRE SYSTEM WHEN THE WORK IS FINALLY COMPLETED TO INSURE THAT ALL PORTIONS ARE FREE FROM SHORT CIRCUITS AND GROUNDS.

1.7 SECURE AND PAY FOR ALL REQUIRED PERMITS AND INSPECTIONS. INSPECTION CERTIFICATES FROM LOCAL AUTHORITIES HAVING JURISDICTION SHALL BE DELIVERED TO THE OWNER BEFORE FINAL PAYMENT.

1.8 SUBMITTALS - SUBMIT SHOP DRAWINGS, PRODUCT DATA AND SAMPLES WITHIN THIRTY (30) DAYS OF AWARD OF CONTRACT AND IN ACCORDANCE WITH THE GENERAL CONDITIONS AND SUPPLEMENTARY CONDITIONS. SUBMITTALS ARE REQUIRED FOR ALL ITEMS PROVIDED UNDER THIS SPECIFICATION. REVIEW OF SUBMITTALS BY THE ENGINEER AND ANY ASSOCIATED ACTION TAKEN BY THE ENGINEER DOES NOT RELIEVE THE CONTRACTOR OF ANY REQUIREMENTS SET FORTH BY THE CONTRACT DOCUMENTS.

PART 2 - PRODUCTS

2.1 MANUFACTURING STANDARDS - MATERIALS SHALL BE NEW AND APPROVED AND LABELED BY UL WHEREVER STANDARDS HAVE BEEN ESTABLISHED BY THAT AGENCY. DEFECTIVE EQUIPMENT OR EQUIPMENT DAMAGED IN THE COURSE OF INSTALLATION OR TEST SHALL BE REPLACED OR REPAIRED IN A MANNER MEETING THE APPROVAL OF THE OWNER. ALL ITEMS OF THE SAME TYPE AND RATING SHALL BE IDENTICAL.

2.2 TRADE NAMES - UNLESS SPECIFICALLY IDENTIFIED OTHERWISE, MANUFACTURERS' NAMES AND CATALOG NUMBERS INDICATED HEREIN AND ON THE DRAWINGS ARE NOT INTENDED TO BE PROPRIETARY DESIGNATIONS. THEY ARE TO INDICATE GENERAL TYPE AND QUALITY OF MATERIALS AND EQUIPMENT REQUIRED. EQUIPMENT AND MATERIALS BY OTHER MANUFACTURERS WHICH IN THE OPINION OF THE ENGINEER ARE OF EQUAL QUALITY AND WHICH WILL PRODUCE THE SAME RESULTS WILL BE CONSIDERED ACCEPTABLE.

2.3 MOTORS - MOTORS SHALL HAVE DISCONNECTING MEANS AND CONTROLLERS. CONTROLLERS SHALL HAVE SOLID STATE OVERLOAD PROTECTION WITH PHASE OUTAGE AND PHASE REVERSAL PROTECTION.

2.4 DISCONNECT SWITCHES AND POWER WIRING UP TO AND INCLUDING MOTOR CONNECTIONS FOR ALL EQUIPMENT PROVIDED UNDER OTHER DIVISIONS OF THIS SPECIFICATION SHALL BE INCLUDED IN THIS DIVISION. WHERE MANUAL MOTOR CONTROL SWITCHES FOR SINGLE PHASE MOTORS ARE INDICATED, THEY SHALL BE PROVIDED AND WIRED COMPLETE UNDER THIS DIVISION. MOTOR CONTROLLERS AND MOTOR STARTERS FURNISHED UNDER OTHER DIVISIONS SHALL BE SET IN PLACE AND CONNECTED TO SOURCE AND LOAD UNDER THIS DIVISION. IN GENERAL, MOTORS WILL BE PROVIDED WITH THE EQUIPMENT THEY

DRIVE AND ARE NOT PART OF THIS WORK UNDER THIS DIVISION, EXCEPT THAT THEY SHALL BE CONNECTED HEREUNDER.

2.5 OBTAIN APPROVED SHOP DRAWINGS SHOWING WIRING DIAGRAMS, CONNECTION DIAGRAMS, ROUGHING-IN AND HOOKUP DETAILS, FROM OTHER INVOLVED CONTRACTORS FOR ALL EQUIPMENT AND COMPLY THEREWITH.

2.6 CONTROL, INTERLOCK, AND INTERNAL EQUIPMENT WIRING REGARDLESS OF VOLTAGE WILL BE PROVIDED UNDER THE RESPECTIVE DIVISION WHERE THE EQUIPMENT IS SHOWN UNLESS SPECIFICALLY SHOWN HERE.

2.7 ELECTRICAL SERVICE - NEW BUILDING ELECTRICAL SERVICE SHALL BE PROVIDED AS INDICATED AND IN ACCORDANCE WITH THE LATEST REQUIREMENTS OF THE POWER COMPANY. PROVIDE THE ELECTRICAL SERVICE AS INDICATED. ALL ARRANGEMENTS SHALL BE AS INDICATED WITH PROPER EXTENSION, TERMINATIONS, PROVISIONS AND NECESSARY MATERIALS FOR FINAL CONNECTIONS BY THE LOCAL POWER COMPANY. SERVICE AND ALL METERING SHALL BE PROVIDED IN ACCORDANCE WITH THE LATEST REGULATIONS OF THE LOCAL POWER COMPANY. THE LOCAL POWER COMPANY MAY PROVIDE THE METER AND CURRENT TRANSFORMERS AND MAY PARTICIPATE IN THE COST OF SUPPLYING SERVICE TO THE BUILDING. CONSULT THE LOCAL POWER COMPANY AND DETERMINE LIMIT OF THIS PARTICIPATION. THE BID ON ELECTRICAL WORK SHALL REFLECT THIS PARTICIPATION EXCEPT THAT ANY CHARGES WHICH THE LOCAL POWER COMPANY PROPOSES TO MAKE FOR SUPPLYING SERVICE WILL BE PAID DIRECTLY BY OWNER AND WILL NOT BE PART OF THIS CONTRACT.

SHORT CIRCUIT RATINGS FOR ALL PANELBOARDS, MAIN DISCONNECT SWITCHES, ETC. SHALL BE SUITABLE TO ACCOMMODATE THE POWER COMPANY 'S AVAILABLE FAULT CURRENT. CONTRACTOR SHALL PROVIDE LABEL ON SERVICE EQUIPMENT STATING AVAILABLE FAULT CURRENT AND THE DATE IT WAS CALCULATED.

2.8 TEMPORARY ELECTRICAL SERVICE - TEMPORARY ELECTRICAL SERVICE WITH GROUND FAULT INTERRUPTER WITH SOLIDLY GROUNDED NEUTRAL SHALL BE PROVIDED. PROVIDE ALL NECESSARY TEMPORARY LIGHTING AND RECEPTACLES. GENERAL CONTRACTOR WILL PAY ALL CHARGES, WHICH MAY BE MADE BY THE POWER COMPANY FOR TEMPORARY SERVICE.

2.9 GROUNDING - THE ENTIRE ELECTRICAL SYSTEM, INCLUDING EQUIPMENT FRAMES, CONDUIT, SWITCHES, CONTROLLERS, WIREWAYS, NEUTRAL CONDUCTORS, AND ALL OTHER SUCH EQUIPMENT SHALL BE PERMANENTLY AND EFFECTIVELY GROUNDED IN ACCORDANCE WITH THE NEC. GROUND RODS SHALL BE COPPER CLAD STEEL, 3/4" DIAMETER BY 10'-0" LONG. PROVIDE A SEPARATE GROUND CONDUCTOR IN ALL BRANCH CIRCUIT CONDUITS SIZED IN ACCORDANCE WITH THE NEC.

2.10 SCHEDULE OF WORK - THE SCHEDULE OF THE ELECTRICAL WORK SHALL BE ARRANGED TO SUIT THE PROGRESS OF WORK BY THE OTHER TRADES AND SHALL IN NO WAY RETARD PROGRESS OF CONSTRUCTION OF THE PROJECT.

2.11 WORK UNDER THIS DIVISION SHALL PROCEED IN ADVANCE OF THE WORK OF OTHERS WHENEVER POSSIBLE, ELIMINATING ALL CUTTING AND PATCHING. WHEN SUCH PROCEDURE IS IMPOSSIBLE, CUTTING AND PATCHING SHALL BE DONE IN AN APPROVED MANNER. CUTTING SHALL NOT ENDANGER STRUCTURAL INTEGRITY IN ANY WAY. PATCHING SHALL EXACTLY MATCH CONTIGUOUS WORK. ACTUAL WORK OF CUTTING AND PATCHING OF EXISTING SURFACES SHALL BE PERFORMED BY THE SUBCONTRACTOR WHO ORIGINALLY PREPARED THESE SURFACES, E.G., CUTTING AND PATCHING OF MASONRY WALL WILL BE PERFORMED BY THE MASONRY SUBCONTRACTOR. COSTS OF SUCH CUTTING AND PATCHING SHALL BE BORNE BY THE ELECTRICAL SUBCONTRACTOR. CUTTING SHALL BE CAREFULLY DONE AND DAMAGE TO BUILDING, PIPING, WIRING OR EQUIPMENT AS A RESULT OF CUTTING SHALL BE REPAIRED BY SKILLED MECHANICS OF TRADE INVOLVED.

2.12 STORAGE AND MATERIALS - SPACE WILL BE ASSIGNED TO THE CONTRACTOR BY THE OWNER FOR THE STORAGE OF MATERIALS. THIS CONTRACTOR WILL BE RESPONSIBLE FOR THE PROTECTION AND SAFEKEEPING OF MATERIALS, TOOLS, AND EQUIPMENT. ALL MATERIALS AND EQUIPMENT SHALL BE KEPT IN ITS ASSIGNED PLACE UNTIL THE TIME OF ITS INSTALLATION. EXCESS MATERIALS, DIRT AND REFUSE SHALL BE PROMPTLY REMOVED FROM THE WORK SITE.

2.13 LABELING OF EQUIPMENT

A. ALL PANELBOARDS, SAFETY SWITCHES, MOTOR DISCONNECT SWITCHES, AND MOTOR CONTROLLERS SHALL BE IDENTIFIED BY MACHINE ENGRAVED LAMINATED PLASTIC DESIGNATION PLATES PERMANENTLY ATTACHED THERETO WITH SELF-TAPPING SCREWS OR RIVETS. ALL COMPONENT PARTS OF EACH ITEM OF EQUIPMENT OR DEVICE SHALL BEAR THE MANUFACTURER'S NAMEPLATE, GIVING NAME OF MANUFACTURER, DESCRIPTION, SIZE, TYPE, SERIAL AND MODEL NUMBER AND ELECTRICAL CHARACTERISTICS IN ORDER TO FACILITATE MAINTENANCE OR REPLACEMENT.

B. ALL PANELBOARDS SHALL BE FIELD MARKED TO WARN PERSONNEL OF THE POTENTIAL FOR ARC FLASH. LABELS SHALL STATE "WARNING - ARC FLASH AND SHOCK HAZARD APPROPRIATE PPE REQUIRED".

2.14 COORDINATION - COOPERATE AND COORDINATE EFFORTS WITH ALL CONTRACTORS ON THE PROJECT. THIS IS ESPECIALLY IMPORTANT IN DETERMINING EXACT LOCATIONS OF ALL SWITCHES, RECEPTACLES AND LIGHTING FIXTURES. ARRANGE LIGHTING FIXTURES IN ACCORDANCE WITH THE ARCHITECTURAL REFLECTED CEILING PLANS UNLESS OTHERWISE INDICATED. COORDINATE LIGHTING FIXTURE LOCATIONS WITH GRILLES, DIFFUSERS, ACCESS PANELS, ETC. VERIFY CEILING AND WALL CONSTRUCTION AND MATERIAL PRIOR TO ORDERING LIGHTING FIXTURES OR OTHER DEVICES TO ENSURE PROPER FIXTURE OR DEVICE IS FURNISHED TO MATCH CONSTRUCTION. THIS VERIFICATION MUST BE EXECUTED REGARDLESS OF INFORMATION PLACED ON THE DRAWINGS. ANY COST INCURRED WHICH IN THE OPINION OF THE OWNER, COULD HAVE BEEN AVOIDED BY THIS STEP SHALL BE THE RESPONSIBILITY OF THE ELECTRICAL CONTRACTOR.

2.15 GUARANTEE OF WORK - CONTRACTOR GUARANTEES BY HIS ACCEPTANCE OF THE CONTRACT THAT ALL WORK INSTALLED IS FREE FROM ANY AND ALL DEFECTS IN WORKMANSHIP AND/OR MATERIALS, AND THAT THE APPARATUS WILL DEVELOP CAPACITIES AND CHARACTERISTICS SPECIFIED, AND THAT IF, DURING THE PERIOD OF ONE YEAR OR AS OTHERWISE SPECIFIED, FROM DATE OF CERTIFICATE OF COMPLETION AND ACCEPTANCE OF THE WORK ANY SUCH DEFECTS IN WORKMANSHIP, MATERIAL OR PERFORMANCE APPEAR, HE WILL, WITHOUT COST TO THE OWNER, REMEDY SUCH DEFECTS WITHIN A REASONABLE TIME TO BE SPECIFIED IN NOTICE. IN DEFAULT THEREOF, THE OWNER MAY HAVE SUCH WORK DONE AND CHARGE COST TO CONTRACTOR. EQUIPMENT GUARANTEES FROM DATE OF "START-UP" WILL NOT BE RECOGNIZED.

PART 3 - EXECUTION

3.1 THE INSTALLATION SHALL BE COMPLETE INCLUDING BUT NOT LIMITED TO THE REQUIREMENTS INDICATED ON THE DRAWINGS AND IN THESE SPECIFICATIONS.

3.2 CONTRACTOR SHALL THOROUGHLY COORDINATE AND COMPLY WITH THE MANUFACTURERS REQUIREMENTS. COORDINATION SHALL BE ACCOMPLISHED PRIOR TO COMMENCING WORK.

3.3 ALL WORK SHALL BE ACCOMPLISHED IN A NEAT AND WORKMANLIKE MANNER CONSISTENT WITH COMMERCIAL CONSTRUCTION PRACTICES, CODE REQUIREMENTS AND THE LOCAL AUTHORITY HAVING JURISDICTION.

SECTION 260519 - CONDUCTORS

A. CONDUCTORS AND INSULATION - WIRE AND CABLE SHALL BE SOFT DRAWN, ANNEALED COPPER WITH 600 VOLT COLOR CODED INSULATION. MINIMUM WIRE SIZE SHALL BE #12 AWG. INSULATION FOR BRANCH CIRCUITS AND FEEDERS SHALL BE TYPE THHN-2-THWN-2 OR XHHW-2. CONDUCTORS NO. 8 AWG AND LARGER DIAMETER SHALL BE STRANDED. CONDUCTORS NO. 10 AWG AND SMALLER DIAMETER SHALL BE SOLID, EXCEPT THAT CONDUCTORS FOR REMOTE-CONTROL AND SIGNAL CIRCUITS, CLASSES 1, 2, AND 3, MAY BE STRANDED.

B. PROVIDE A SEPARATE GROUND CONDUCTOR IN ALL RACEWAYS SIZED IN ACCORDANCE WITH THE NEC.

C. JOINTS AND TERMINATIONS - FOR CONDUCTORS #12 AND #10 ALL FIXTURE AND BRANCH CIRCUITS JOINTS IN JUNCTION AND OUTLET BOXES SHALL BE MADE WITH UL LISTED PRESSURE TYPE CONNECTORS RATED AT 600 VOLTS AND 105 DEGREES C. CONNECTORS SHALL BE IDEAL INDUSTRIES "WING-NUT" OR BUCHANNAN "B-CAP", 3M "SCOTCH-LOK" CONNECTORS OR EQUAL. WIRE #8 AND LARGER SHALL BE JOINED OR TERMINATED WITH SOLDERLESS PRESSURE CONNECTORS PROPERLY TAPED IN LAYERS TO FORM A MOISTURE-TIGHT JOINT.

SECTION 260533 - RACEWAY, FITTINGS AND BOXES

A. RACEWAYS - CONDUIT SHALL BE HOT-DIPPED, ZINC COATED OR SHERARDIZED RIGID STEEL (RS), INTERMEDIATE METAL CONDUIT (IMC), ELECTRICAL METALLIC TUBING (EMT), OR SCHEDULE 40 POLYVINYL CHLORIDE (PVC). MINIMUM SIZE RACEWAY SHALL BE 3/4".

B. FLEXIBLE CONDUIT SHALL BE GALVANIZED, CONTINUOUS SPIRAL, SINGLE STRIP TYPE. FLEXIBLE CONDUIT SHALL BE COVERED WITH PVC JACKET IN WET OR DAMP LOCATIONS. PROVIDE SUITABLE FITTINGS WITH GROUND CONNECTOR.

C. TYPE MC CABLE SHALL BE ALLOWED FOR BRANCH CIRCUITS #6 AWG AND SMALLER WHEN INSTALLED IN ACCORDANCE WITH THE NEC.

D. FITTINGS - ALL CONDUIT ENTERING OR LEAVING OUTLET, JUNCTION OR PULL BOXES, AND CABINETS AND ALL CONDUIT STUBS SHALL HAVE BUSHINGS. PROVIDE INSULATING BUSHINGS WHERE REQUIRED BY NEC. PROVIDE EXPANSION FITTINGS WITH BONDING JUMPER WHERE CONDUITS CROSS EXPANSION JOINTS.

1. FITTINGS FOR RS AND IMC SHALL BE THREADED TYPE.

2. FITTINGS FOR EMT SHALL BE THREADLESS, APPROVED FOR THE CONDITIONS ENCOUNTERED AND MAY BE CAST SETSCREW TYPE OR COMPRESSION TYPE.

E. FITTINGS FOR PVC SHALL BE PVC, PRIMED AND GLUED.

F. OUTLET BOXES AND JUNCTION BOXES - OUTLET BOXES SHALL BE PRESSED STEEL, ELECTRO-GALVANIZED OR CADMIUM PLATED WITH CLEAN CUT, EASILY REMOVABLE KNOCKOUTS. EXCEPT AS NOTED HEREINAFTER MINIMUM SIZE OUTLET BOX SHALL BE 4" SQUARE, 1 1/2" DEEP, AND SHALL BE INCREASED IN DIMENSIONS TO ACCOMMODATE CONDUCTORS, CONDUITS, AND DEVICES AS REQUIRED BY THE NEC. SHALLOWER BOXES MAY BE USED WHERE REQUIRED BY STRUCTURAL CONDITIONS. PROVIDE SUITABLE PLASTER-RINGS TO MATCH WALL CONSTRUCTION AND DEVICE. CEILING AND BRACKET OUTLET BOXES SHALL BE NOT LESS THAN 4" OCTAGONAL, 1 1/2" DEEP EXCEPT THAT SMALLER BOXES MAY BE USED WHERE REQUIRED BY PARTICULAR FIXTURE TO BE INSTALLED.

G. NON METALLIC OUTLET BOXES MAY BE PROVIDED IN PVC RACEWAY SYSTEMS. OUTLET BOXES IN WET OR DAMP LOCATIONS SHALL BE CAST-METAL, THREADED HUB-TYPE WITH GASKETS.

H. JUNCTION OR PULL BOXES NOT OVER 100 CUBIC INCHES IN VOLUME SHALL BE STANDARD OUTLET BOXES. JUNCTION BOXES OVER 100 CUBIC INCHES IN VOLUME SHALL BE CONSTRUCTED OF CODE GAGE, GALVANIZED SHEET STEEL. JUNCTION BOXES SHALL HAVE REMOVABLE COVERS AND SHALL BE ACCESSIBLE AFTER COMPLETION OF WORK.

I. RACEWAY AND FITTING INSTALLATION - RUN CONDUITS CONCEALED WITHIN FINISHED WALLS, CEILINGS AND FLOORS. CONDUITS MAY BE RUN EXPOSED IN MECHANICAL ROOMS AND SPACES WITH EXPOSED CONSTRUCTION. CONDUIT SHALL BE SUPPORTED AT INTERVALS OF NOT MORE THAN 8'. RUN EXPOSED CONDUIT PARALLEL OR PERPENDICULAR TO WALLS, STRUCTURAL MEMBERS, OR INTERSECTIONS OF VERTICAL PLANES AND CEILING. CONDUIT LARGER THAN 1" NOMINAL DIAMETER SHOWN IN FLOOR SLAB SHALL BE RUN UNDER THE SLAB. CONDUIT 1" AND SMALLER MAY BE RUN IN THE FLOOR SLAB WHERE PRACTICABLE.

J. SUPPORT CONDUITS BY PIPE STRAPS, WALL BRACKETS, STRAP HANGERS, OR CEILING TRAPEZE.

K. CONDUIT RUN OUTSIDE OF BUILDING SHALL BE BURIED A MINIMUM OF 24" BELOW FINISHED GRADE.

L. DO NOT INSTALL EMT OUTDOORS, OR UNDERGROUND, OR ENCASED IN CONCRETE, OR IN HAZARDOUS AREAS, OR IN AREAS SUBJECT TO SEVERE PHYSICAL DAMAGE.

M. DO NOT INSTALL PVC IN OR THROUGH FIRE RATED ASSEMBLIES, IN OR THROUGH ANY WALLS, IN OR THROUGH ANY CEILINGS, IN HAZARDOUS AREAS, IN AREAS SUBJECT TO SEVERE PHYSICAL DAMAGE, OR EXPOSED ANYWHERE IN THE PROJECT.

N. CONDUIT RUN UNDERGROUND, UNDER SLAB, OR WITHIN CONCRETE ENCASEMENT MAY BE POLYVINYL CHLORIDE (PVC) OR RS OR IMC CONDUIT PROTECTED WITH 2 COATS OF BITUMASTIC PAINT. CONVERT PVC TO RS OR IMC BEFORE RISING THROUGH FLOOR SLAB OR RISING OUT OF SOIL. CONDUIT RUN BENEATH SLAB SHALL BE PROPERLY SUSPENDED FROM SLAB SUCH THAT SUB-SLAB SETTLEMENT WILL NOT ADVERSELY AFFECT ELECTRICAL SYSTEM.

O. SERVICE ENTRANCE CONDUITS SHALL BE DIRECT BURIED RS OR IMC, AS NOTED.

P. SLEEVES - ALL ELECTRICAL SYSTEM CONDUIT SHALL HAVE SLEEVES WHERE CONDUIT PASSES THROUGH CONCRETE SLABS EXCEPT CONCRETE SLABS IN CONTACT WITH GRADE. ALL CONDUIT 1 1/4 INCH AND LARGER RUNNING CONCEALED ABOVE CEILING SHALL HAVE SLEEVES WHERE THE CONDUIT PASSES THROUGH MASONRY, TILE AND GYPSUM WALL CONSTRUCTION. SLEEVES SHALL BE CONSTRUCTED OF GALVANIZED STEEL PIPE, SCHEDULE 40. PROVIDE ESCUTCHEON PLATES FOR ALL EXPOSED CONDUIT PASSING THROUGH WALLS, FLOORS AND CEILINGS. WHERE PLATES ARE PROVIDED FOR CONDUITS PASSING THROUGH SLEEVES, WHICH EXTEND ABOVE THE FLOOR SURFACE, PROVIDE DEEP RECESSED PLATES TO CONCEAL THE SLEEVES. TERMINATE SLEEVES FLUSH WITH WALL, PARTITIONS AND CEILINGS. IN AREAS WHERE CONDUITS ARE CONCEALED, AS IN CHASES, TERMINATE SLEEVES FLUSH WITH FLOOR. IN FINISHED AREAS, WHERE CONDUITS ARE EXPOSED, EXTEND SLEEVES 1/2 INCH ABOVE FINISHED FLOOR, EXCEPT IN ROOMS HAVING FLOOR DRAINS EXTEND SLEEVES 1 INCH ABOVE FLOOR. FASTEN SLEEVES SECURELY IN FLOORS, WALLS, SO THAT THEY WILL NOT BECOME DISPLACED WHEN CONCRETE IS POURED OR WHEN OTHER CONSTRUCTION IS BUILT AROUND THEM. WHERE SLEEVES PASS THROUGH FLOORS OR FIRE RATED WALLS PROVIDE PROPER SEALANT AROUND CONDUIT TO MAINTAIN FIRE RATING.

SECTION 262416 - PANELBOARDS

A. PANELBOARDS - PANELBOARDS SHALL BE DEAD-FRONT, CIRCUIT BREAKER EQUIPPED WITH TRIP RATINGS AND FRAME SIZES AS SHOWN ON THE DRAWINGS. ALL CURRENT-CARRYING PARTS OF THE BUS ASSEMBLY SHALL BE PLATED.

B. EACH PANELBOARD SHALL BE PROVIDED WITH A HINGED COVER WITH A FLUSH LATCH AND LOCK WITH TWO KEYS AND KEYED THE SAME AS ALL OTHER PANELBOARDS. ENTIRE FRONT TRIM SHALL BE HINGED TO BOX WITH STANDARD DOOR WITHIN HINGED TRIM COVER. EACH PANEL SHALL BE EQUIPPED WITH TYPEWRITTEN DIRECTORY CARD, CARD HOLDER, TRANSPARENT PROTECTION AND COMPLETE IDENTIFYING DATA ON INSIDE OF DOOR. CONTRACTOR SHALL UPDATE EXISTING PANEL'S DIRECTORY CARD REFLECTING ANY CHANGES MADE UNDER THIS CONTRACT.

C. EACH PANEL SHALL BE EQUIPPED WITH TYPEWRITTEN DIRECTORY CARD, CARD HOLDER, TRANSPARENT PROTECTION AND COMPLETE IDENTIFYING DATA ON INSIDE OF DOOR.

CONTRACTOR SHALL UPDATE EXISTING PANEL'S DIRECTORY CARD REFLECTING ANY CHANGES MADE UNDER THIS CONTRACT.

D. PANELBOARDS SHALL BE EQUAL TO SQUARE-D, TYPE NQDD, NF, OR I-LINE (HCN, HCM, HCP, HCW, HCWM, HCP-SU, HCR-U), OR EQUAL PRODUCTS BY CUTLER HAMMER, SIEMENS, OR G.E.

E. CIRCUIT BREAKERS SHALL BE PROVIDED AS INDICATED ON DRAWINGS AND BE FULLY COMPATIBLE WITH PANELBOARDS. CIRCUIT BREAKERS SHALL CONFORM TO LATEST UL AND NEMA STANDARDS AND SHALL BEAR UL LABELS.

1. CIRCUIT BREAKERS SHALL BE SINGLE, DOUBLE POLE, OR THREE POLE THERMALMAGNETIC QUICK-MAKE, QUICK-BREAK TRIP-FREE ON OVERLOAD OR SHORT CIRCUIT ALTERNATING CURRENT CIRCUIT BREAKERS WITH TRIP RATINGS AND FRAME SIZE AS SHOWN ON THE DRAWINGS. BRANCH CIRCUIT BREAKERS SHALL PROVIDE INVERSE TIME DELAYED TRIPPING ON OVERLOADS AND INSTANTANEOUS TRIPPING ON SHORT CIRCUITS. TRIP INDICATION SHALL BE CLEARLY SHOWN BY THE BREAKER HANDLE TAKING POSITION BETWEEN ON AND OFF WHEN THE BREAKER IS TRIPPED. DOUBLE AND THREE-POLE BREAKERS SHALL BE COMMON TRIP TYPE. SUB-FEED BREAKERS ARE NOT ACCEPTABLE.

2. HACR TYPE CIRCUIT BREAKERS SHALL BE PROVIDED FOR ALL CIRCUITS SERVING MECHANICAL EQUIPMENT.

3. CIRCUIT BREAKERS SHALL BE FULLY RATED FOR THE AVAILABLE FAULT CURRENT, SERIES RATINGS ARE NOT ACCEPTABLE, UNLESS STATED OTHERWISE ON DRAWINGS.

4. CIRCUIT BREAKERS SHALL BE INSTALLED IN CONFORMANCE WITH PANELBOARD MANUFACTURER'S RECOMMENDATIONS.

SECTION 262726 - WIRING DEVICES

A. WIRING DEVICES SHALL BE "SPECIFICATION GRADE" AS MANUFACTURED BY GENERAL ELECTRIC, SLATER (MEDALIST), ARROW-HART, BRYANT, HUBBELL OR PASS & SEYMOUR.

B. DUPLEX CONVENIENCE RECEPTACLES SHALL BE IVORY PLASTIC, 20 AMPERE, 125 VOLTS, 2 POLE, 3 WIRE NEMA AND ASA STANDARD, GROUNDING TYPE.

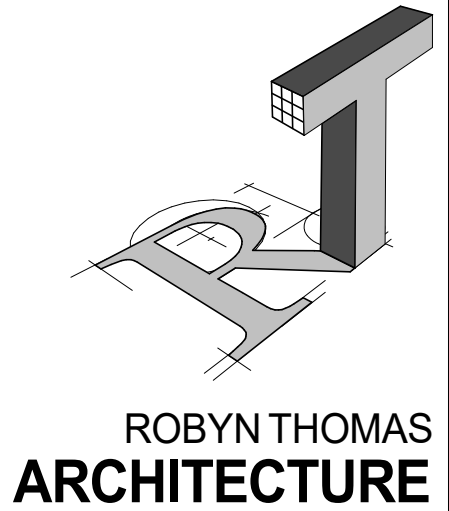
C. WEATHERPROOF RECEPTACLES SHALL BE IN CAST METAL BOX WITH GASKETED, WEATHERPROOF, CAST-METAL COVER PLATE AND GASKETED "WHILE IN USE" COVER.

D. GROUND FAULT CIRCUIT INTERRUPTING RECEPTACLES SHALL CONFORM TO NEC, SHALL BE UL LISTED, IVORY PLASTIC, SHALL HAVE A "PUSH-TO-TEST" BUTTON AND VISIBLE INDICATION OF A TRIPPED CONDITION.

E. DEVICE PLATES ON UNFINISHED WALLS AND ON FITTINGS, SHALL BE ZINC-COATED SHEET STEEL HAVING ROUNDED OR BEVELED EDGES. ON FINISHED WALLS, PLATES SHALL BE TYPE 302 STAINLESS STEEL WITH BEVELED EDGES.

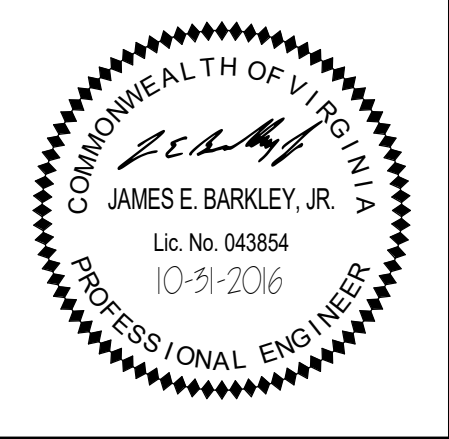
F. TIME SWITCHES SHALL BE TORK, INTERMATIC, SANGAMO OR EQUAL WITH CONTACT ARRANGEMENT AS INDICATED OR AS NECESSARY TO OPERATE DEVICES INDICATED INCLUDING ELECTRICALLY HELD OR MECHANICALLY HELD DEVICES. PROVIDE ASTRONOMICAL DIAL AND OMITTING DEVICE.

G. CONTACTORS SHALL BE ELECTRICALLY OPERATED AND ELECTRICALLY-HELD OR MECHANICALLY-HELD IF INDICATED, OF NEMA SIZE AND OTHER CHARACTERISTICS AS SHOWN; IN ENCLOSURE WITH HAND-OFF-AUTOMATIC SWITCH IN COVER. MECHANICALLY HELD CONTACTORS SHALL HAVE INTEGRAL COIL CLEARING CONTACTS.



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RETAIL SPACE FOR STARBUCKS
STARBUCKS
CORNER SHOPS - 2000 COLONIAL AVE NORFOLK, VA

RTA NO:
DATE: 08/31/16
DESIGN: GKH
DRAWN: GKH
REVIEW: JEB

REVISIONS
No. Date Description

SPECIFICATIONS

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ELECTRICAL SPECIFICATIONS

H. PHOTOCELL SWITCH SHALL BE HERMETICALLY SEALED CADMIUM-SULFIDE CELL WITH SINGLE POLE DOUBLE-THROW (SPDT) CONTACTS FOR CONTROL OF MECHANICALLY HELD CONTACTORS RATED 1000 WATTS AND 120 VOLTS. PROVIDE SWITCH IN A HIGH-IMPACT-RESISTANT NONCORRODING AND NONCONDUCTIVE MOLDED PLASTIC HOUSING WITH A LOCKING-TYPE RECEPTACLE. A TIME DELAY SHALL PREVENT ACCIDENTAL SWITCHING FROM TRANSIENT LIGHT SOURCES. PROVIDE A DIRECTIONAL LENS IN FRONT OF THE CELL TO PREVENT FIXED LIGHT SOURCES FROM CREATING A TURNOFF CONDITION. AIM SWITCH ACCORDING TO MANUFACTURER'S RECOMMENDATIONS.

SECTION 262900 - MOTORS AND MOTOR CONTROL

- A MOTORS: MOTORS SHALL COMPLY WITH ALL APPLICABLE NEMA AND UL REQUIREMENTS. DETERMINE SPECIFIC MOTOR CHARACTERISTICS AND PROVIDE CORRECTLY SIZED STARTERS AND OVERLOAD HEATERS.
- B. MOTOR SIZES: PROVIDE SIZE FOR DUTY TO BE PERFORMED, NOT EXCEEDING THE FULL-LOAD NAMEPLATE CURRENT RATING WHEN DRIVEN EQUIPMENT IS OPERATED AT SPECIFIED CAPACITY UNDER MOST SEVERE CONDITIONS LIKELY TO BE ENCOUNTERED. WHEN MOTOR SIZE PROVIDED DIFFERS FROM SIZE INDICATED OR SPECIFIED, MAKE ADJUSTMENTS TO WIRING, DISCONNECT DEVICES, AND BRANCH CIRCUIT PROTECTION TO ACCOMMODATE EQUIPMENT ACTUALLY PROVIDED.
- C. MOTOR CONTROLLERS: MOTOR CONTROLLERS SHALL COMPLY WITH ALL APPLICABLE UL AND NEMA STANDARDS. CONTROLLERS SHALL HAVE SOLID STATE OVERLOAD PROTECTION IN EACH PHASE WITH PHASE OUTAGE AND PHASE REVERSAL PROTECTION. MOTOR CONTROLLERS SHALL HAVE UNDERVOLTAGE PROTECTION. CONNECTIONS TO HAND-OFF-AUTO SELECTOR SWITCH SHALL BE SUCH THAT ONLY NORMAL AUTOMATIC REGULATORY CONTROL DEVICES ARE BYPASSED WHEN SWITCH IS IN "HAND" POSITION. SAFETY CONTROL DEVICES, SUCH AS LOW AND HIGH PRESSURE CUTOUTS, HIGH TEMPERATURE CUTOUTS, AND MOTOR OVERLOAD PROTECTIVE DEVICES, SHALL BE CONNECTED IN MOTOR CONTROL CIRCUIT IN "HAND" AND "AUTOMATIC" POSITIONS. CONTROL CIRCUIT CONNECTIONS TO HAND/OFF/AUTOMATIC SELECTOR SWITCH OR TO MORE THAN ONE AUTOMATIC REGULATORY CONTROL DEVICE SHALL BE MADE IN ACCORDANCE WITH INDICATED OR MANUFACTURER 'S APPROVED WIRING DIAGRAM.
- D. MANUAL MOTOR STARTERS AND MOTOR RATED SWITCHES: PROVIDE NUMBER OF POLES INDICATED. PROVIDE MOTOR OVERLOAD PROTECTION WHEN SPECIFICALLY INDICATED ON THE DRAWINGS OR WHERE REQUIRED BY THE NEC AND IN CONJUNCTION WITH THE ACTUAL MOTOR TYPE PROVIDED. VOLTAGE AND AMPERAGE RATINGS SHALL BE COORDINATED WITH THE ACTUAL ELECTRICAL SYSTEMS AND MOTOR LOADS CONNECTED.

SECTION 265100 - LIGHTING FIXTURES

- A. FIXTURES - FIXTURES SHALL BE AS INDICATED IN SCHEDULE.
- B. LED DRIVERS
1. LED ELECTRONIC DRIVERS SHALL BE UL APPROVED AND SHALL HAVE THE FOLLOWING CHARACTERISTICS:
- a. ELECTRONIC WITH INPUT VOLTAGE RANGE AS SHOWN ON THE DRAWINGS ±10%, 50/60 HZ, WITH PRIMARY FUSING.
 - b. OUTPUT DRIVE CURRENT SHALL BE 350MA MAXIMUM, +/- 5%.
 - c. POWER FACTOR SHALL BE >90% AT FULL LOAD WITH THD <20% AT FULL LOAD
 - d. LOAD REGULATION SHALL BE +/- 1% FROM NO LOAD TO FULL LOAD
 - e. OUTPUT SHALL BE ISOLATED
 - f. CASE TEMPERATURE SHALL BE RATED FOR -40°C THROUGH +80°C AND PROVIDED WITH THERMAL PROTECTION AND SELF-LIMITED SHORT CIRCUIT AND OVERLOAD PROTECTION.
 - g. DRIVER LIFE RATING SHALL HAVE LESS THAN 0.5% FAILURE RATE AT THE LED MODULE 'S MAXIMUM L70 RATED LIFE.
 - h. DIMMING RANGE: 100 TO 5 PERCENT OF RATED LAMP LUMENS.
2. DRIVER MANUFACTURER

DRIVERS SHALL BE CONSIDERED ACCEPTABLE FOR APPROVAL AS MANUFACTURED BY THE FOLLOWING LED DRIVER MANUFACTURERS.

- a. ADVANCE TRANSFORMER CO.
- b. MAGTECH
- c. THOMAS RESEARCH PRODUCTS (TRP)
- d. OSRAM/SYLVANIA

F. LED FIXTURES

1. LIFE RATING (L70) - PROVIDE L70 DOCUMENTATION, DEFINED AS TIME OF OPERATION (IN HOURS) TO 30% LUMEN DEPRECIATION (70% LUMEN MAINTENANCE), DERIVED FROM TEMPERATURE MEASUREMENT TESTING UNDER UL1598 ENVIRONMENTS AND DIRECTLY CORRELATED TO LED PACKAGE MANUFACTURERS IESNA LM-80-08 DATA.
2. MECHANICAL - HOUSING SHALL BE DESIGNED SPECIFICALLY FOR USE WITH LED COMPONENTS AND INCORPORATE HIGH PERFORMANCE THERMAL MANAGEMENT METHODS, I.E. HEAT SINK(S). NO ACTIVE THERMAL MANAGEMENT/COOLING FEATURES (I.E. FANS), ETC. WILL BE ALLOWED. LUMINAIRE CONFIGURATION SHALL ALLOW FOR MODULAR REPLACEMENT AND/OR FIELD REPAIR OF ALL ELECTRICAL COMPONENTS (I.E. LED MODULES, DRIVERS, ETC.).

3. LED MODULE MANUFACTURERS

LED MODULES CONSIDERED ACCEPTABLE FOR APPROVAL ARE AS MANUFACTURED BY THE FOLLOWING LED COMPONENT (CHIP) MANUFACTURERS.

- a. NICHIA CORPORATION.
- b. CREE, INC
- c. PHILIPS LUMILED
- d. OSRAM OPTO SEMICONDUCTORS

G. BALLASTS WHICH ARE NOT QUIET AND HUM-FREE WILL BE REJECTED AND SHALL BE REPLACED.

H. BALLASTS IN UNCONDITIONED SPACES OR OUTDOORS SHALL BE RATED FOR OPERATION IN HIGH OR LOW TEMPERATURE ENVIRONMENTS.

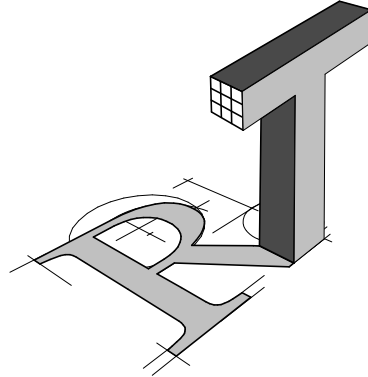
I. NO FIXTURES SHALL BE HUNG WITH ZIP-CLIPS.

J. LIGHTING FIXTURE SUPPORT

ALL RECESSED LIGHTING FIXTURES SHALL BE INDEPENDENTLY SUPPORTED FROM THE CEILING GRID OR FRAMING SYSTEM. EACH FIXTURE SHALL HAVE A MINIMUM OF TWO #12 AWG WIRES SUPPORTING OPPOSITE CORNERS OF THE FIXTURE AND ATTACHED TO THE STRUCTURE ABOVE.

SECTION 271000 - TELECOMMUNICATIONS CONDUIT SYSTEMS

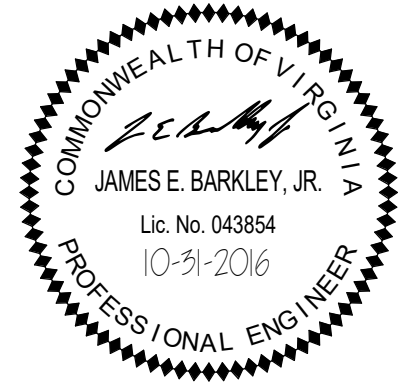
A. PROVIDE COMPLETE SYSTEM OF EMPTY CONDUIT, OUTLETS, FITTINGS, APPURTENANCES, EQUIPMENT BACKBOARDS AND EQUIPMENT CABINETS FOR INSTALLATION OF THE TELEPHONE AND OTHER COMMUNICATION SYSTEMS. PROVIDE OUTLETS, FITTINGS AND MINIMUM 1" CONDUIT IN ALL RUNS IN ACCORDANCE WITH SECTION ENTITLED "RACEWAY AND FITTINGS". PROVIDE 3/4" THICK PLYWOOD BACKBOARDS SECURED TO WALLS WHERE SHOWN FOR MOUNTING OF TELEPHONE TERMINALS AND EQUIPMENT. PROVIDE NYLON PULL STRING IN EACH CONDUIT RUN. INSTALL TELEPHONE CONDUITS, OUTLET BOXES, CABINETS AND BACKBOARDS, INCLUDING POINT OF SERVICE IN ACCORDANCE WITH REQUIREMENTS OF LOCAL TELEPHONE COMPANY AND/OR OWNER'S INFORMATION TECHNOLOGY DEPARTMENT.



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