

INTERIOR & EXTERIOR RENOVATIONS FOR:



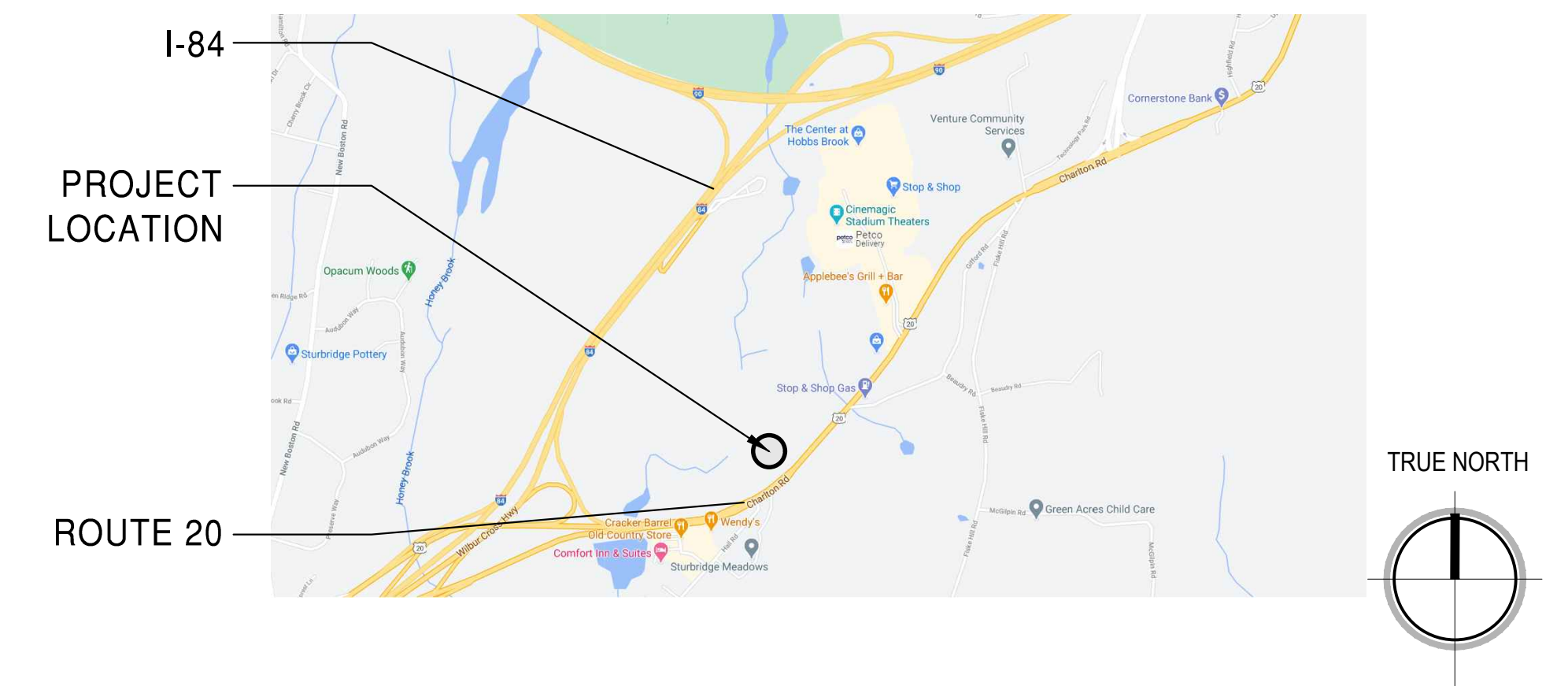
PROPOSED RENDERING - DO NOT REFERENCE

CONSTRUCTION DOCUMENTS

ISSUED FOR PERMIT: November 30th 2020

200 CHARLTON ROAD
STURBRIDGE, MA

LOCATION MAP:



67 Federal Rd, Building A,
Suite 201
Brookfield, CT 06804



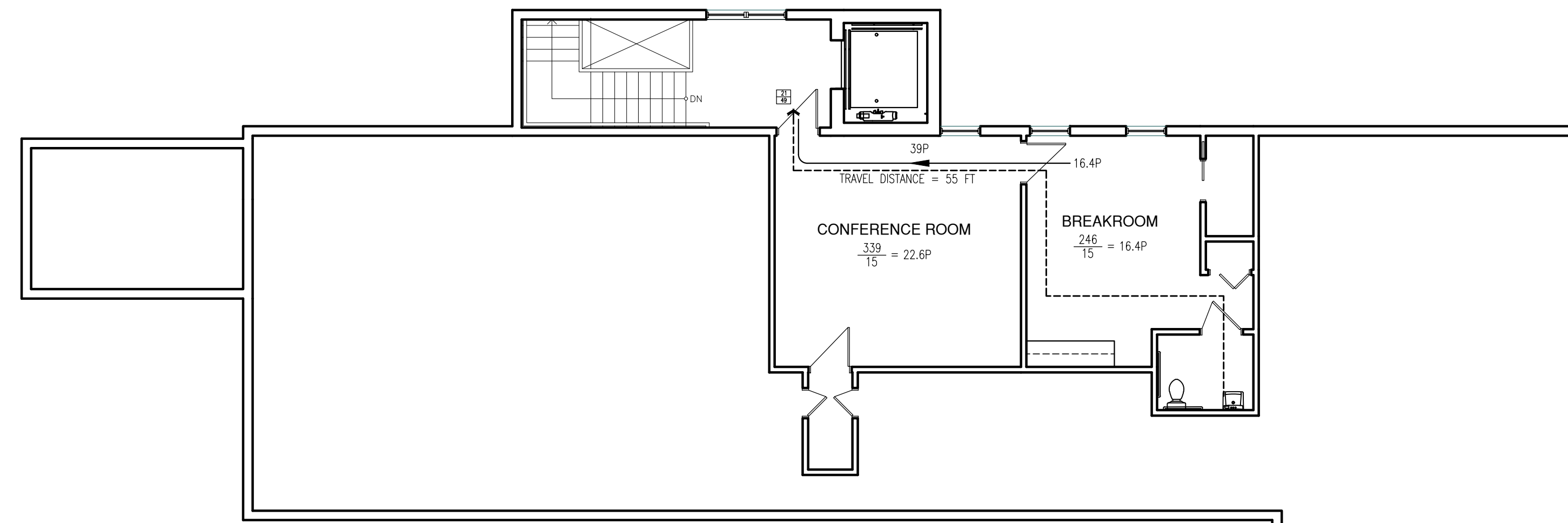
750 Old Main St.
Suite 202,
Rocky Hill, CT 06067



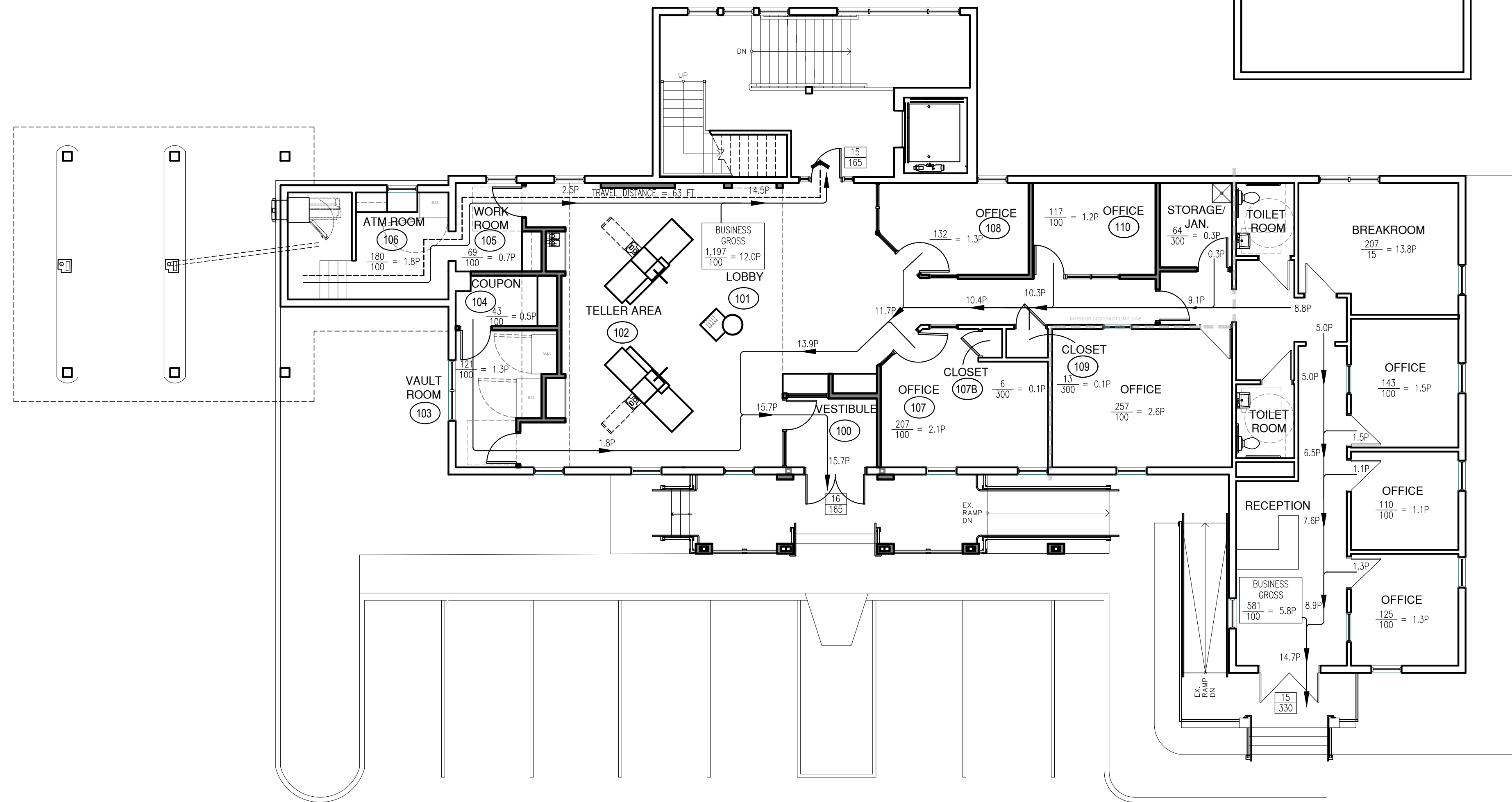
T (203) 725-6335
301 Highland Ave.
Waterbury, CT 06708



1450 Main Street East
Hartford, CT 06108



2 SECOND FLOOR CODE PLAN
SCALE: 1/8"=1'-0"



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

Code Reference Plan Legend	Building Information	7. ACCESSIBLE BUILDING	8. MINIMUM PLUMBING FIXTURE COUNT.	9. FIRE PROTECTION SYSTEMS	INTERNATIONAL BUILDING CODE 2015																					
<p>..... SMOKE RESISTANCE SEPARATION</p> <p>----- 1 HOUR FIRE RATING WALL (CONTINUOUS TO DECK ABOVE)</p> <p>← 45 MAXIMUM TRAVEL DISTANCE</p> <p>← 20P DIRECTION OF EGRESS PATH WITH ACCUMULATED OCCUPANCY</p> <p>185/185 ACTUAL DOOR/STAIR CAPACITY WITH ACCUMULATED OCCUPANCY</p> <p>2000/100 = 20P OCCUPANCY LOAD</p> <p>AREA IN SQUARE FEET / OCCUPANCY LOAD FACTOR = TOTAL CALCULATED OCCUPANTS</p> <p>DL = 2P ACTUAL OCCUPANTS WITHIN THE SPACE IF ANTICIPATED TO BE GREATER THAN CALCULATED</p> <p>♿ HANDICAP ACCESSIBLE ROUTE</p> <p>FE SEMI RECESSED FIRE EXTINGUISHER CABINET AND FIRE EXTINGUISHER</p>	<p>BUILDING: INTERIOR & EXTERIOR RENOVATION OF 2,100 SQFT (AREA OF WORK) BANK BRANCH</p> <p>TOTAL AREA OF BUILDING: 4,200 SQFT</p> <p>DATE OF PROPOSED CONSTRUCTION: JANUARY 2021</p> <p>1. USE GROUP CLASSIFICATION (301) BUSINESS (B) - NO CHANGE</p> <p>2. CONSTRUCTION TYPE (602) TYPE VB EXISTING</p> <p>3. BUILDING HEIGHT (503) STORIES / FEET 2/40</p> <p>ALLOWABLE HEIGHT 2/40</p> <p>ACTUAL HEIGHT 2/20.5</p> <p>4. BUILDING AREA (503) (INTERIOR FACE OF EXTERIOR WALLS AND OPEN SPACE AREA)</p> <p>ALLOWABLE AREA - USE GROUP (B) 9,000 SF</p> <p>ACTUAL AREA AREA OF WORK: 2,100 SF AREA OF LARGEST STORY: 3,600 - NO CHANGE</p> <p>5. FIRE RESISTANCE RATING REQUIREMENTS FOR BUILDING ELEMENTS (601)</p> <p>1. STRUCTURAL FRAME (INCLUDING COLUMNS, GIRDERS, TRUSSES) EXISTING NO CHANGE</p> <p>2. BEARING WALLS EXISTING NO CHANGE</p> <p>EXTERIOR EXISTING NO CHANGE</p> <p>INTERIOR EXISTING NO CHANGE</p>	<p>7. ACCESSIBLE BUILDING</p> <p><input checked="" type="checkbox"/> DESIGNATED <input type="checkbox"/> NON-DESIGNATED</p>	<p>8. MINIMUM PLUMBING FIXTURE COUNT.</p> <p>TOTAL FACILITY OCCUPANCY LOAD = 46 P (23 PER GENDER) - NO CHANGE IN USE - EXISTING FIXTURES TO REMAIN</p> <table border="1"> <thead> <tr> <th>FIXTURES</th> <th>REQUIREMENTS</th> <th>PROVIDED</th> </tr> </thead> <tbody> <tr> <td>WATER CLOSETS</td> <td>1 PER 25 MALE</td> <td>1</td> </tr> <tr> <td>WATER CLOSETS</td> <td>1 PER 20 FEMALE</td> <td>1</td> </tr> <tr> <td>WATER CLOSETS</td> <td></td> <td>+ 1 UNSEX</td> </tr> <tr> <td>LAVATORIES</td> <td>1 PER 50</td> <td>1</td> </tr> <tr> <td>DRINKING FOUNTAINS</td> <td>1 PER FLOOR (WATER STATION WITHOUT DRAIN)</td> <td>1</td> </tr> <tr> <td>SERVICE SINK</td> <td>1 PER FLOOR</td> <td>1</td> </tr> </tbody> </table>	FIXTURES	REQUIREMENTS	PROVIDED	WATER CLOSETS	1 PER 25 MALE	1	WATER CLOSETS	1 PER 20 FEMALE	1	WATER CLOSETS		+ 1 UNSEX	LAVATORIES	1 PER 50	1	DRINKING FOUNTAINS	1 PER FLOOR (WATER STATION WITHOUT DRAIN)	1	SERVICE SINK	1 PER FLOOR	1	<p>9. FIRE PROTECTION SYSTEMS</p> <p>FIRE SUPPRESSION ---</p> <p>FIRE DETECTION ---</p> <p>10. NUMBER OF EXITS - PROJECT AREA</p> <p>EXIT REQUIRED (SECTION 1015) 2</p> <p>EXIT PROVIDED 3</p> <p>11. TRAVEL DISTANCE</p> <p>MAXIMUM TRAVEL DISTANCE ALLOWED BUSINESS 200 FT</p> <p>ACTUAL TRAVEL DISTANCE AREA OF WORK 63 FT</p> <p>EGRESS WIDTH REQUIRED:</p> <p>CORRIDOR MIN. = 36" (IBC SECTION 1018.2)</p> <p>EGRESS WIDTH PROVIDED = 42"</p> <p>MAX. COMMON PATH OF TRAVEL 100 FT (IBC SECTION 1014.3)</p> <p>MAX. COMMON PATH OF TRAVEL PROVIDED 45 FT</p> <p>12. THRESHOLD BUILDING CONDITIONS YES <input type="checkbox"/> NO <input checked="" type="checkbox"/></p> <p>13. CODES TO WHICH THIS PROJECT WAS DESIGNED</p> <p>THE COMMONWEALTH OF MASSACHUSETTS CMR AND INCLUDING THE FOLLOWING SECTIONS</p> <p>THE COMMONWEALTH OF MASSACHUSETTS 248 CMR MA STATE PLUMBING CODE</p> <p>THE COMMONWEALTH OF MASSACHUSETTS 521 CMR ARCHITECTURAL ACCESS BOARD</p> <p>THE COMMONWEALTH OF MASSACHUSETTS 527 CMR FIRE SAFETY & ELECTRICAL CODE</p> <p>THE COMMONWEALTH OF MASSACHUSETTS 780 CMR BUILDING CODE NINTH EDITION</p>	<p>INTERNATIONAL BUILDING CODE 2015</p> <p>INTERNATIONAL EXISTING BUILDING CODE 2015</p> <p>INTERNATIONAL ENERGY CONSERVATION CODE 2015</p> <p>INTERNATIONAL MECHANICAL CODE 2015</p> <p>PORTIONS OF THE INTERNATIONAL FIRE CODE 2015</p> <p>THE AMERICANS WITH DISABILITIES ACT, TITLE II, INCLUDING THE AMERICANS WITH DISABILITIES ACT ACCESSIBILITY GUIDELINES (ADAAG) AND ADA REGULATIONS</p> <p>MIN. REQUIRED INTERIOR FINISH - CLASS C</p> <p>EXTINGUISHER REQUIREMENTS: (NFPA 10)</p> <p>LOW HAZARD USE MIN. TYPE 2-A MAX. 75 FEET, 11,250 SF</p> <p>FIRE ALARM REQUIREMENTS: (IBC SECTION 907)</p> <p>BUSINESS (B) USE: OCCUPANT LOAD < 500 NOT REQUIRED</p>
FIXTURES	REQUIREMENTS	PROVIDED																								
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Waterbury, CT 06795

The professional architects stamp & seal shall apply only to the portions of plans, specifications, surveys, reports, or other documents specifically identified or described in the architectural documents and is not an "overstamp" for all professional designs involved in the project. The architect shall not be responsible for any other associated documents prepared and sealed by other licensed professionals in this drawing set.



1450 Main Street
East Hartford, CT 06108



750 Old Main St.
Suite 202,
Rocky Hill, CT 06067



67 Federal Rd, Building A,
Suite 201
Brookfield, CT 06804



Issues:

Date: November 30th, 2020

Scale: AS NOTED

Project No. 2K20.015

Drawn by: RJD

A0.01
Code Plan

3 SECOND FLOOR FINISH PLAN

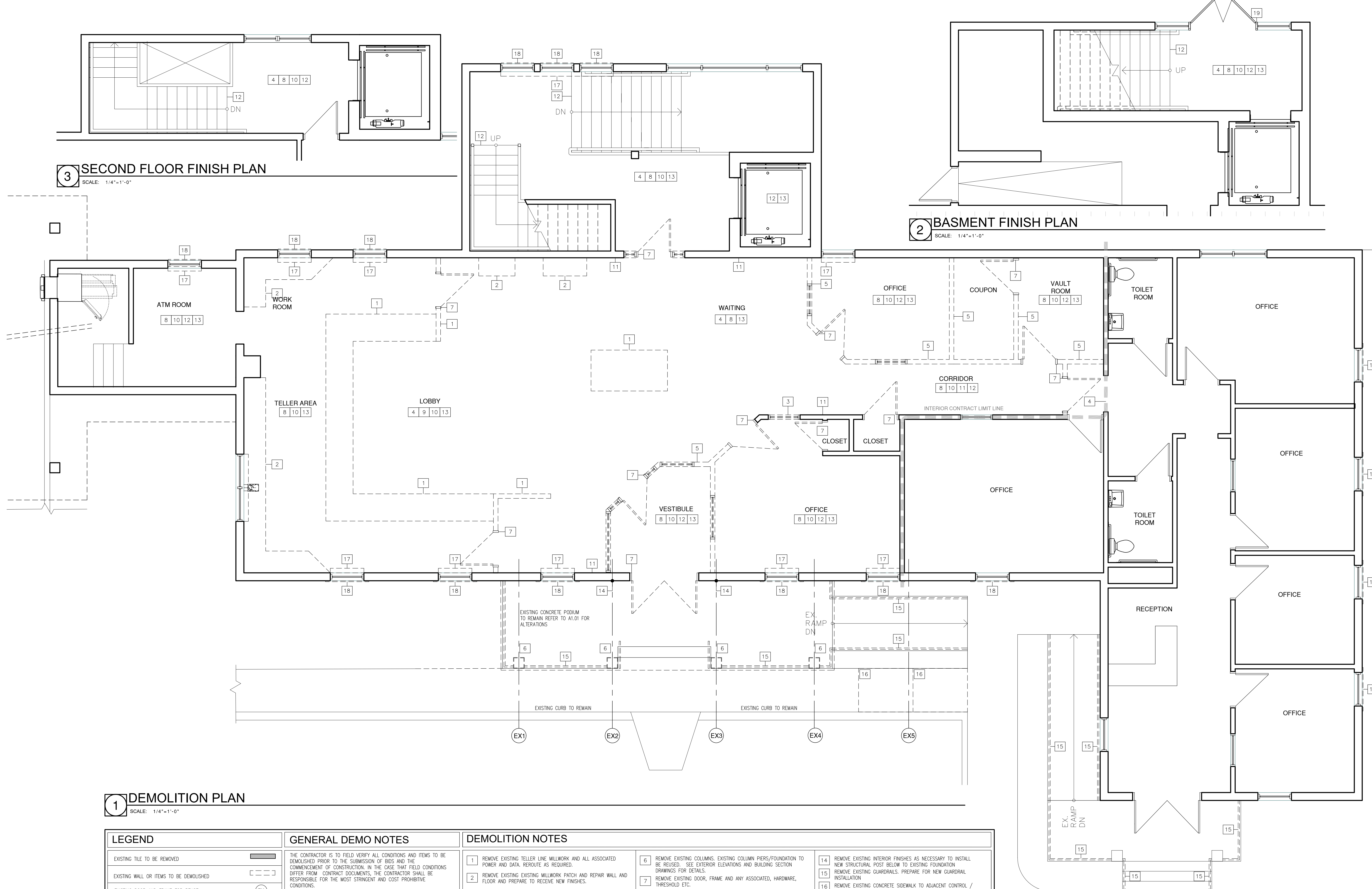
SCALE: 1/4"=1'-0"

2 BASMENT FINISH PLAN

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

1 DEMOLITION PLAN

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



LEGEND	
EXISTING TILE TO BE REMOVED	
EXISTING WALL OR ITEMS TO BE DEMOLISHED	
EXISTING DOOR AND FRAME FOR REUSE	
EXISTING DOOR AND FRAME TO REMAIN	
EXISTING DOOR AND FRAME TO BE REMOVED	

GENERAL DEMO NOTES

THE CONTRACTOR IS TO FIELD VERIFY ALL CONDITIONS AND ITEMS TO BE DEMOLISHED PRIOR TO THE SUBMISSION OF BIDS AND THE COMMENCEMENT OF CONSTRUCTION. IN THE CASE THAT FIELD CONDITIONS DIFFER FROM CONTRACT DOCUMENTS, THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE MOST STRINGENT AND COST PROHIBITIVE CONDITIONS.

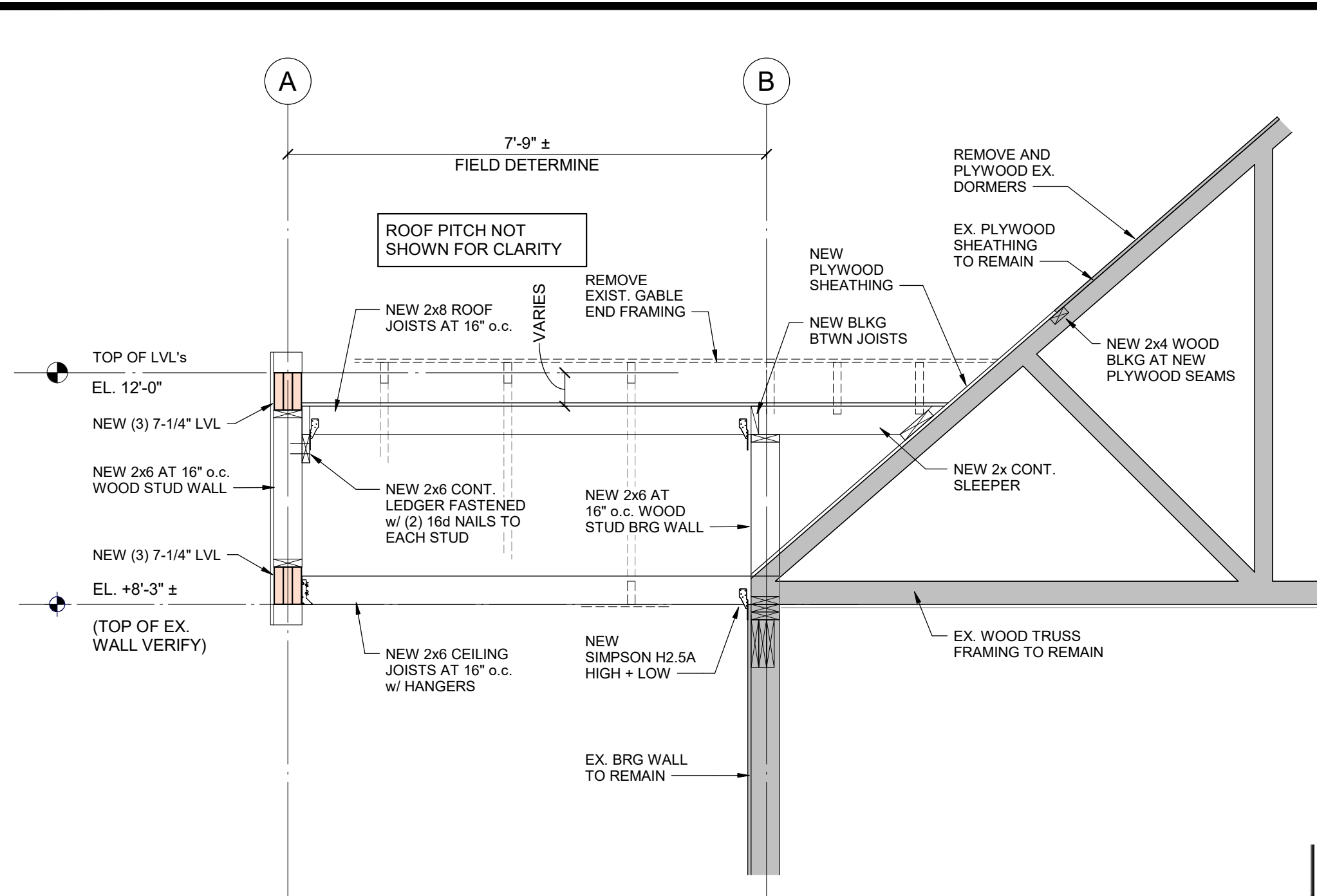
IT IS THE INTENT OF THESE SPECIFICATIONS AND DRAWINGS TO CALL FOR AN INSTALLATION THAT IS COMPLETE IN ALL ASPECTS. IT IS NOT THE INTENT TO DOCUMENT EACH AND ALL DETAILS ON THE DRAWINGS AND IN THE SPECIFICATION OF PROPOSED WORK OR PRODUCTS. IF AN ITEM OF WORK IS SHOWN ON THE DRAWINGS, IT SHALL BE CONSIDERED SUFFICIENT FOR INCLUSION IN THE CONTRACT. THE CONTRACTOR SHALL FURNISH AND INSTALL ALL MATERIAL AND EQUIPMENT TYPICALLY REQUIRED FOR A COMPLETE INSTALLATION, WHERE SPECIFICALLY NOTED OR OTHERWISE INTENDED.

HAZARDOUS MATERIAL IDENTIFICATION AND REMOVAL IS THE SOLE RESPONSIBILITY OF THE OWNER/ CONTRACTOR.

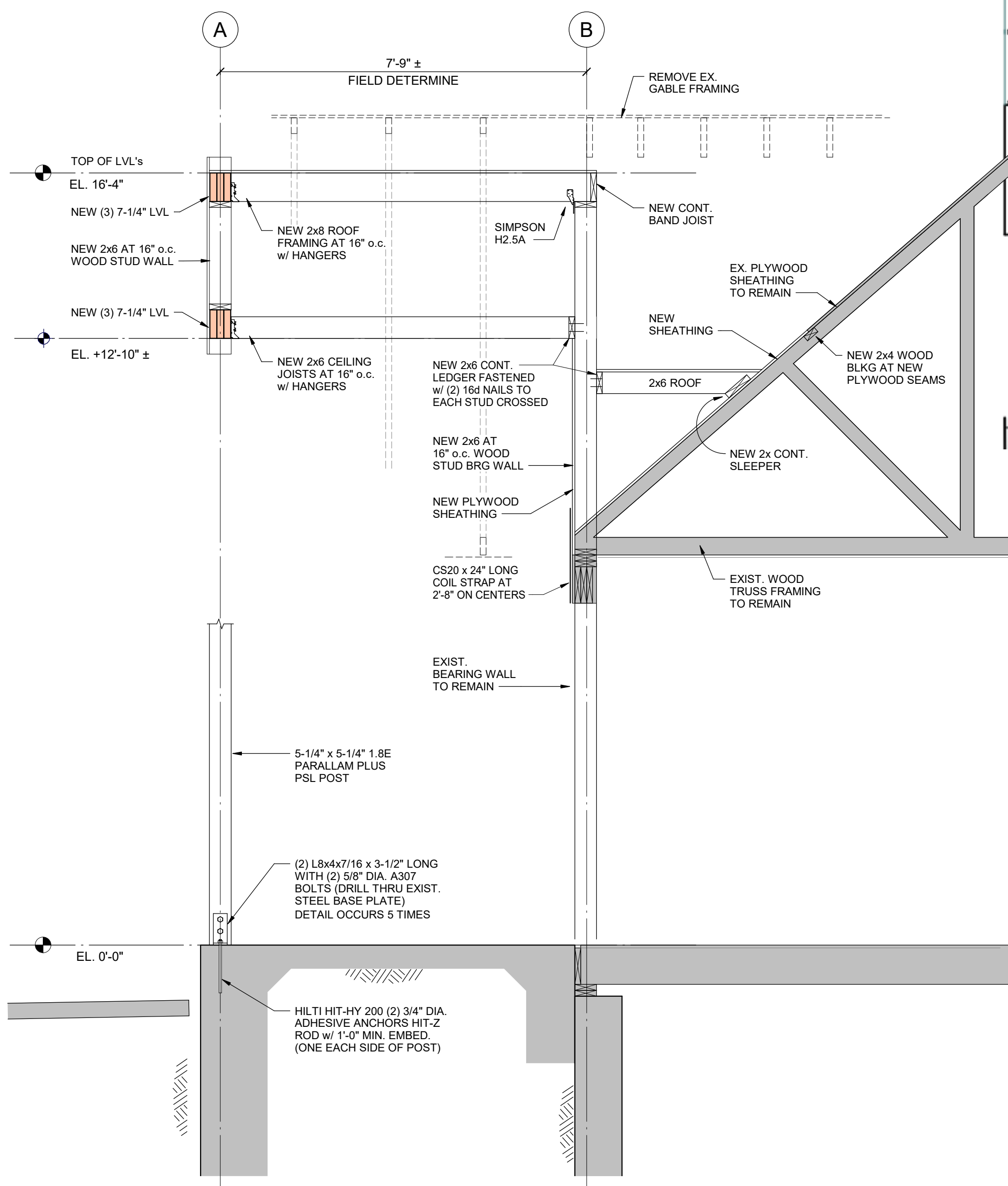
- DEMOLITION NOTES**
- REMOVE EXISTING TELLER LINE MILLWORK AND ALL ASSOCIATED POWER AND DATA. REROUTE AS REQUIRED.
 - REMOVE EXISTING EXISTING MILLWORK PATCH AND REPAIR WALL AND FLOOR AND PREPARE TO RECEIVE NEW FINISHES.
 - REMOVE EXISTING WOOD FRAMED BORROWED LIGHT, WOOD FRAMED BASE BELOW OPENING AND PREPARE FOR NEW DIRT FRAME DOWN TO FINISHED FLOOR.
 - REMOVE EXISTING CERAMIC FLOOR TILE ENTIRELY WITHIN INTERIOR CONTRACT LIMIT LINE. PREPARE FLOOR TO RECEIVE NEW FINISHES AND CREATE A FLUSH TRANSITION BETWEEN NEW FLOOR FINISHES. SEE FINISH PLAN AND CALL ARCHITECT WITH QUESTIONS.
 - REMOVE EXISTING WALL PATCH AND REPAIR WALLS AND FLOORS AS REQUIRED TO RECEIVE TO FINISHES. SEE A1.01 FOR NEW WALL LOCATIONS.
 - REMOVE EXISTING COLLUMNS. EXISTING COLUMN PIERS/FOUNDATION TO BE REUSED. SEE EXTERIOR ELEVATIONS AND BUILDING SECTION DRAWINGS FOR DETAILS.
 - REMOVE EXISTING DOOR, FRAME AND ANY ASSOCIATED, HARDWARE, THRESHOLD ETC.
 - REMOVE EXISTING SUSPENDED CEILING TILE, GRID, AND ANY ASSOCIATED LIGHTING AND CEILING MOUNTED FIXTURES.
 - REMOVE EXISTING PENDANT, RECESSED, AND SURFACE MOUNTED LIGHTING AND ASSOCIATED FIXTURES.
 - REMOVE ALL WALL COVERINGS ENTIRELY WITHIN INTERIOR CONTRACT LIMIT LINE.
 - REMOVE EXISTING CHAIR RAIL ENTIRELY WITHIN INTERIOR CONTRACT LIMIT LINE AND PATCH AND REPAIR EXISTING WALL. PREPARE FOR NEW FINISHES.
 - REMOVE ALL EXISTING CARPET FROM WITHIN INTERIOR CONTRACT LIMIT LINE. PREPARE FOR NEW FINISHES.
 - REMOVE EXISTING BASE ENTIRELY FROM WITHIN CONTRACT LIMIT LINE. PREPARE FOR NEW FINISHES.
 - REMOVE EXISTING INTERIOR FINISHES AS NECESSARY TO INSTALL NEW STRUCTURAL POST BELOW TO EXISTING FOUNDATION.
 - REMOVE EXISTING GUARDRAILS. PREPARE FOR NEW GUARDRAIL INSTALLATION.
 - REMOVE EXISTING SIDEWALK TO ADJACENT CONTROL / EXPANSION JOINT AS REQUIRED FOR INSTALLATION OF NEW FOOTING. PREPARE FOR REINSTALLATION.
 - REMOVE ALL EXISTING WINDOW TREATMENT AND PREPARE FOR NEW PAINT.
 - REMOVE ALL EXISTING EXTERIOR RAISED PANEL TRIM AND PREPARE FOR NEW PAINT.
 - REMOVE EXISTING THRESHOLD AND ASPHALT APRON AND PREPARE FOR NEW ADA COMPLIANT THRESHOLD AND CONCRETE APRON.

IT IS THE INTENT OF THESE SPECIFICATIONS AND DRAWINGS TO CALL FOR AN INSTALLATION THAT IS COMPLETE IN EVERY RESPECT. IT IS NOT THE INTENT TO GIVE EVERY DETAIL ON THE DRAWINGS AND IN THE SPECIFICATION. IF AN ITEM OF WORK IS SHOWN ON THE DRAWINGS, IT SHALL BE CONSIDERED SUFFICIENT FOR INCLUSION IN THE CONTRACT. THE CONTRACTOR SHALL FURNISH AND INSTALL ALL MATERIAL AND EQUIPMENT USUALLY FURNISHED OR NEEDED TO MAKE A COMPLETE INSTALLATION, WHERE SPECIFICALLY MENTIONED OR NOT.

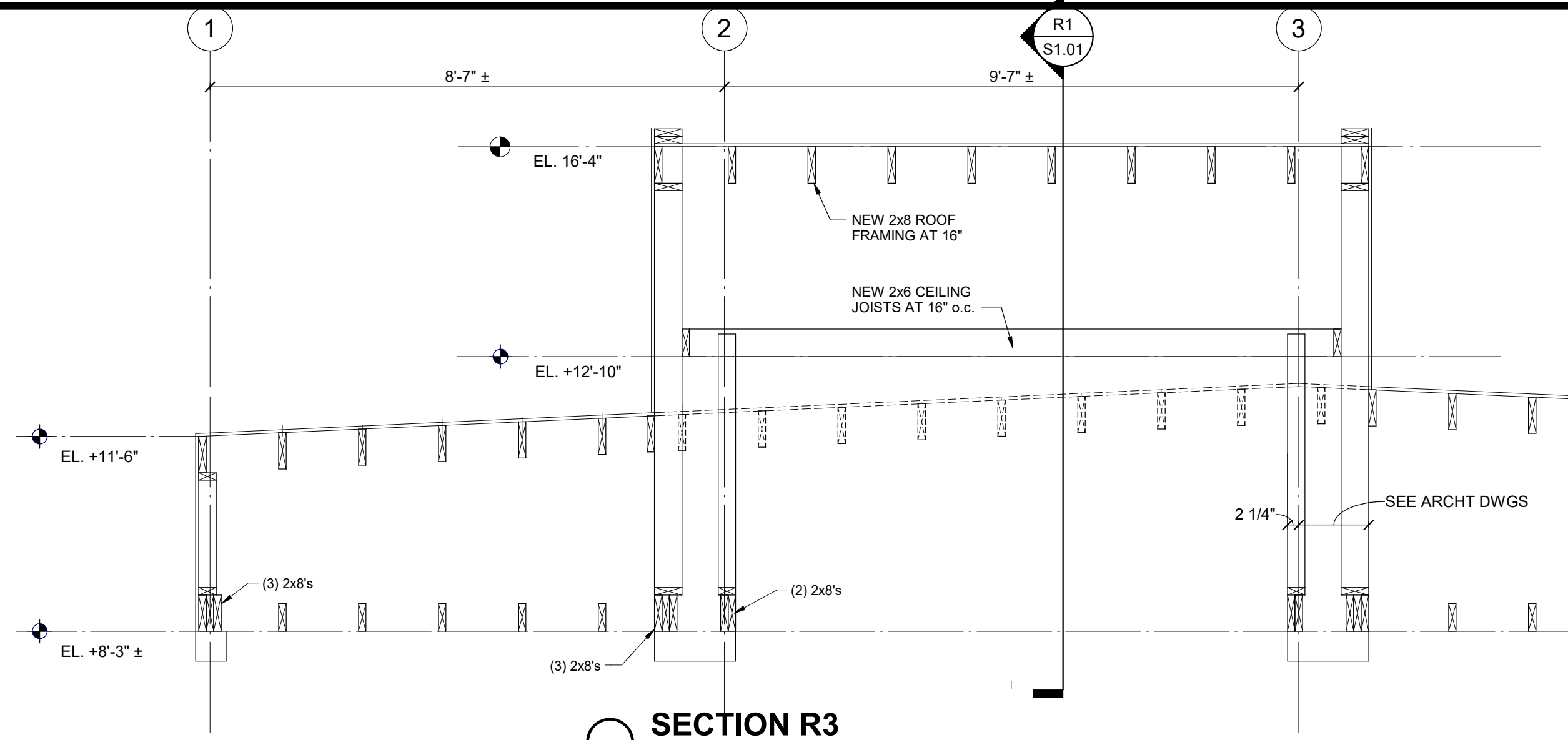
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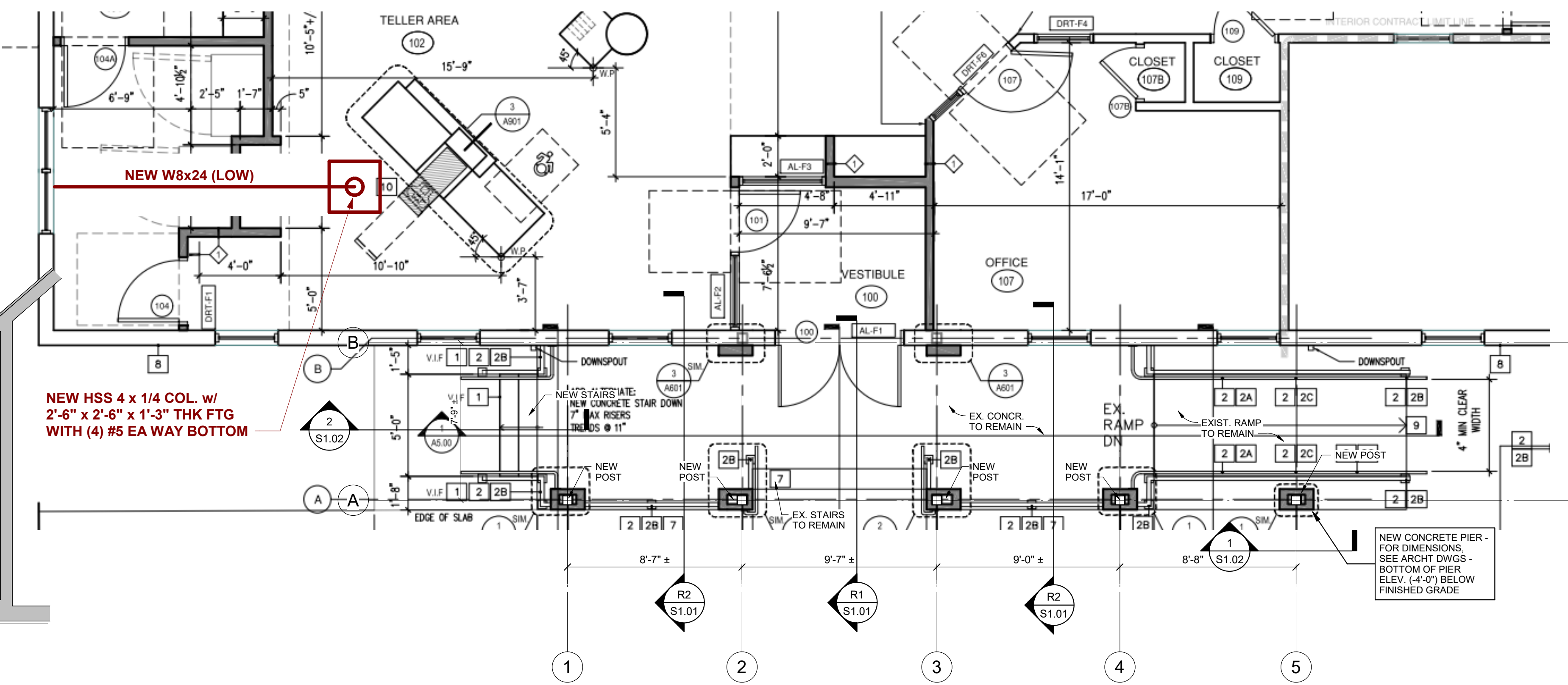
SECTION R2
SCALE: 1/2" = 1'-0"



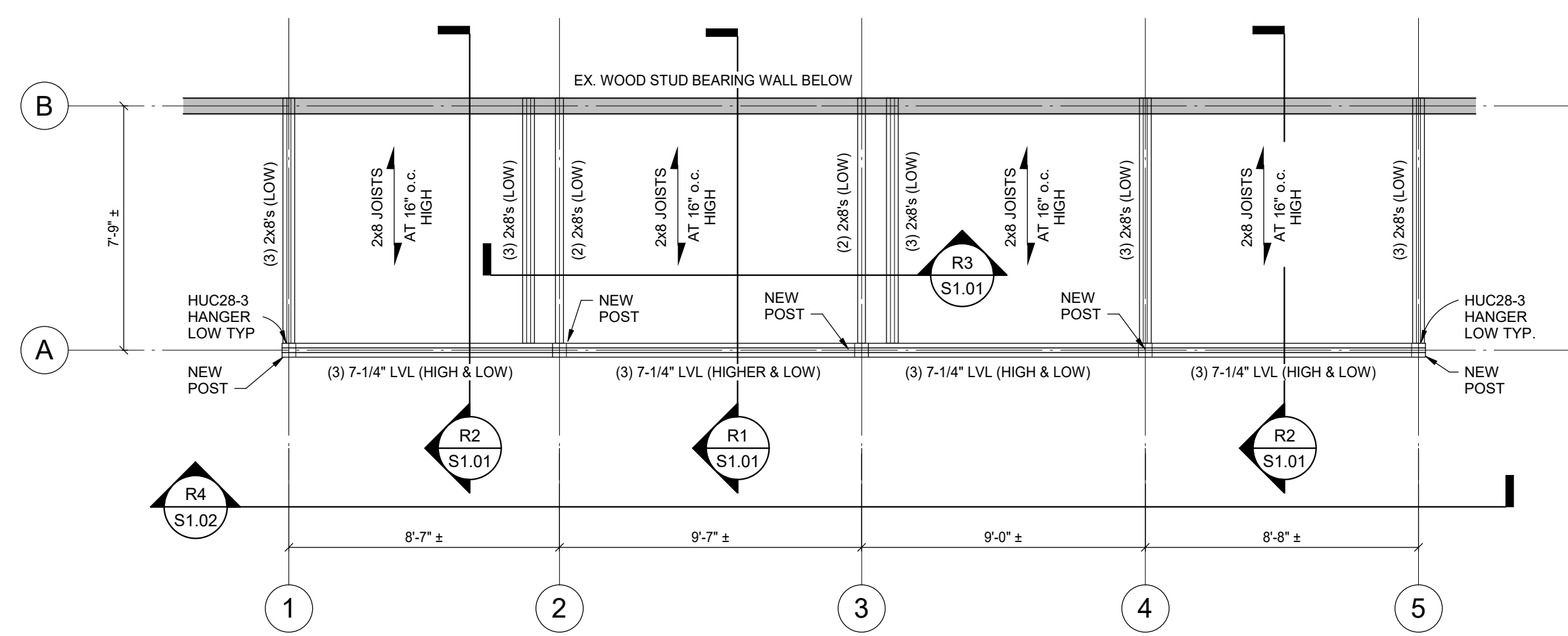
SECTION R1
SCALE: 1/2" = 1'-0"



SECTION R3
SCALE: 1/2" = 1'-0"



1 MAIN LEVEL FRAMING PLAN
SCALE: 1/4" = 1'-0"



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

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architecture
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Waterbury, CT 06795

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1450 Main Street
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Rocky Hill, CT 06067

LONG
CONSULTING
67 Federal Rd, Building A,
Suite 201
Brookfield, CT 06804

RENOVATIONS FOR:
Cornerstone Bank
Built on trust.
200 CHARLTON ROAD
STURBRIDGE, MA

Issues:

Date: November 30th, 2020
Scale: AS NOTED
Project No. 2K20.015
Drawn by:

S1.01
STRUCTURAL
FRAMING
PLANS

GENERAL NOTES

- ALL WORK SHALL COMPLY WITH THE NINTH EDITION OF THE MASSACHUSETTS STATE BUILDING CODE WHICH ADOPTS THE 2015 INTERNATIONAL BUILDING CODE (IBC) WITH AMENDMENTS.
 - THE CONTRACTOR SHALL VERIFY ALL DRAWINGS FOR COORDINATION BETWEEN TRADES, AND LOCATE SLOTS, SLEEVES AND TRENCHES AS REQUIRED FOR MECHANICAL TRADES, PROVIDE AND/OR INSTALL ANCHORS, INSERTS, HANGERS, ETC. AS REQUIRED FOR VARIOUS TRADES.
 - THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS OF CONCRETE REINFORCING STEEL AND STRUCTURAL STEEL FOR REVIEW, BEFORE PROCEEDING WITH THE WORK. THE CONTRACTOR SHALL CHECK ALL DIMENSIONS AND ACCEPT FULL RESPONSIBILITY FOR DIMENSIONAL CORRECTNESS. SHOP DRAWINGS SHALL BEAR THE REVIEW AND APPROVAL STAMP OF THE CONTRACTOR, IN ACCORDANCE WITH THE GENERAL CONDITIONS.
 - THE CONTRACTOR SHALL NOTIFY THE ARCHITECT IN WRITING OF ANY DISCREPANCIES BETWEEN ASSUMED CONDITIONS, ELEVATIONS, ETC. AND THOSE ACTUALLY ENCOUNTERED IN THE FIELD, AND SHALL WAIT FOR INSTRUCTIONS BEFORE PROCEEDING WITH THE WORK.
- THE CONTRACTOR SHALL PROVIDE ALL SHORING, BRACING, ETC. AS MAY BE NECESSARY TO PROTECT THE EXISTING BUILDING DURING THE CONSTRUCTION OF THE NEW WORK. FULL RESPONSIBILITY FOR SUCH PROTECTION, INCLUDING SAFETY, SHALL REMAIN WITH THE CONTRACTOR.
- FOR TYPES OF FINISHES ON FLOORS, WALLS, AND ROOFS, SEE ARCHITECTURAL DRAWINGS. DEPRESS OR SLOPE SLABS ON GRADE AS REQUIRED BY ARCHITECTURAL DRAWINGS.

FOUNDATION NOTES

- IN LIEU OF A GEOTECHNICAL EVALUATION FOR THE SHALLOW FOUNDATION SYSTEM, THE MINIMUM ALLOWABLE SOIL PRESSURE IS TAKEN FROM IBC TABLE 1806.2 BASED ON SOIL TYPES (SW, SP, SM, SC, GM AND GC). WHERE THE CLASSIFICATION STRENGTH OR COMPRESSIBILITY OF THE SOIL IS IN DOUBT, THE BUILDING OFFICIAL SHALL BE PERMITTED TO REQUIRE THAT A GEOTECHNICAL INVESTIGATION BE CONDUCTED BY THE OWNER OR OWNER'S BUILDER.
- ALL FOOTINGS SHALL BEAR ON UNDISTURBED NATURAL SOIL OR COMPACTED STRUCTURAL FILL HAVING A MINIMUM ALLOWABLE BEARING CAPACITY OF 3000 POUNDS PER SQUARE FOOT. THERE SHALL BE A MINIMUM OF 95% COMPACTION (ASTM D698 STANDARD PROCTOR DENSITY) OF ALL BACKFILL SOIL AROUND NEW FOUNDATIONS.
- FOUNDATIONS SHALL NOT BE PLACED IN WATER OR ON FROZEN GROUND. THE CONTRACTOR SHALL PROVIDE CONTINUOUS CONTROL OF SURFACE AND UNDERGROUND WATER AS REQUIRED DURING CONSTRUCTION SUCH THAT WORK IS DONE IN THE DRY.
- THE CONTRACTOR SHALL PROVIDE TEMPORARY SHORING, SHEETING, OR LAGGING OF EXCAVATIONS IN ORDER TO PROTECT ADJACENT STRUCTURES (IF ANY) FROM DAMAGE.
- ALL FOOTINGS SUSCEPTIBLE TO FROST SHALL EXTEND BELOW FINISHED GRADE TO A DEPTH ESTABLISHED BY THE STATE BUILDING CODE OR BY LOCAL JURISDICTION.
- WHERE FOUNDATION WALLS ARE TO HAVE FILL ON BOTH SIDES, EACH SIDE SHALL BE BACKFILLED CONCURRENTLY, MAINTAINING A BALANCED CONDITION.

CONCRETE NOTES

- ALL CONCRETE WORK SHALL BE IN ACCORDANCE WITH THE AMERICAN CONCRETE INSTITUTE BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE, ACI 318-14 AND 301, UNLESS OTHERWISE DETAILED, OR NOTED ON PLAN OR IN SPECIFICATION.
- ALL CONCRETE SHALL BE NORMAL WEIGHT WITH THE FOLLOWING PROPERTIES:
 - MINIMUM COMPRESSIVE STRENGTH = 3500 PSI AT 28 DAYS.
 - AIR-ENTRAINMENT 6% +/- 1%
 - MAXIMUM SLUMP 4" +/- 1"
- SUBMIT MIX DESIGN PROPORTIONS FOR REVIEW PRIOR TO PLACEMENT.
- ALL REINFORCING STEEL SHALL CONFORM TO ASTM A615 GRADE 60, UNLESS OTHERWISE NOTED. WHEN WELDING OF REINFORCING IS REQUIRED, REBAR SHALL CONFORM TO ASTM A706.
- WELDED WIRE FABRIC (WWF) SHALL CONFORM TO ASTM A185 AND BE FURNISHED IN FLAT SHEETS.
- REBARS SHALL HAVE A MINIMUM CONCRETE COVER AS FOLLOWS:
 - CONCRETE DEPOSITED AGAINST GROUND 3 IN.
 - CONCRETE EXPOSED TO WEATHER OR IN CONTACT WITH GROUND:
 - FOR #5 BARS OR LARGER 2 IN.
 - FOR #4 BARS OR SMALLER 1-1/2 IN.
 - CONCRETE NOT EXPOSED TO THE WEATHER OR THE GROUND:
 - SLABS AND WALLS 3/4 IN.
- REINFORCEMENT SHALL BE CONTINUOUS THROUGH ALL CONSTRUCTION JOINTS, UNLESS OTHERWISE NOTED ON DRAWINGS. REINFORCING STEEL MARKED CONTINUOUS (CONT.) SHALL RUN CONTINUOUSLY AROUND CORNERS AND BE LAPPED 50 X BAR DIAMETERS AT SPLICES, OR HOOKED AT NON-CONTINUOUS ENDS. ALL HOOKS SHALL BE STANDARD HOOKS, UNLESS OTHERWISE NOTED.
- DETAILING OF CONCRETE REINFORCING AND ACCESSORIES SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF ACI 315 "MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCED CONCRETE STRUCTURES".
- ALL REINFORCEMENT SHALL BE IN PLACE AND SECURED TO THE FORMWORK PRIOR TO CONCRETE PLACEMENT. "WET-SETTING" OF DOWELS INTO CONCRETE IS NOT PERMITTED EXCEPT WHERE SPECIFICALLY SHOWN ON PLAN OR APPROVED BY THE ARCHITECT.
- CONSTRUCTION JOINTS IN WALLS SHALL BE LOCATED AT THE CONVENIENCE OF THE CONTRACTOR MID-WAY BETWEEN BUTTRESSES, BUT NOT LESS THAN 4'-0" FROM ANY OPENING, EXCEPT WHERE SPECIFICALLY SHOWN ON PLAN OR APPROVED BY THE ARCHITECT. IN NO EVENT SHALL A STRAIGHT RUN LONGER THAN 80'-0" BE PLACED WITHOUT A CONSTRUCTION JOINT.
- NO HORIZONTAL CONSTRUCTION JOINTS ARE PERMITTED IN WALLS, OTHER THAN SHOWN IN DETAIL.
- ALL KEYWAYS SHALL BE NOMINAL 2" x 4" OR AS NOTED ON THE DRAWING SECURED TO THE FORMWORK PRIOR TO CONCRETE PLACEMENT, UNLESS OTHERWISE SHOWN ON THE DRAWINGS.
- DISCHARGE OF CONCRETE SHALL BE COMPLETED WITHIN 90 MINUTES AFTER THE INTRODUCTION OF MIXING WATER TO THE CEMENT. SEE SPECIFICATION FOR ADDITIONAL GUIDELINES.

WOOD FRAMING NOTES

- CONVENTIONAL FRAMING LUMBER SHALL BE DRY (19% MAXIMUM MOISTURE CONTENT) DOUGLAS FIR No. 2 GRADE OR BETTER WITH A BASE FLEXURAL STRESS VALUE (Fb) = 850 PSI.
- PROVIDE LAMINATED VENEER LUMBER (LVL) LUMBER HAVING THE FOLLOWING GRADE AND DESIGN VALUES: GRADE = 2.0E, FLEXURAL STRESS (Fb) = 2,800 psi, MODULUS OF ELASTICITY (E) = 2,000,000 psi. NAIL EACH LAYER OF MULTIPLE LVL MEMBERS TOGETHER WITH 3 ROWS OF 16d PNEUMATIC NAILS AT 12" o.c.
- PLYWOOD WALL SHEATHING SHALL NOT BE LESS THAN 1/2" THICK APA RATED EXPOSURE 1, OR BETTER, 5 PLY MIN.; ALL PLYWOOD SHALL BE NAILED WITH 9d FULL ROUND HEAD PNEUMATIC NAILS SPACED AT 4" o.c. AT ALL EDGES AND FIELD-NAILED AT 8" o.c. AT INTERMEDIATE SUPPORTS. DO NOT OVERDRIVE NAILS INTO SHEATHING. NAIL HEADS MAY BE OFFSET. INSTALL PLYWOOD IN EITHER THE HORIZONTAL OR VERTICAL POSITION, SO AS TO MINIMIZE HORIZONTAL SEAMS
- FABRICATE BUILT-UP MULTI-PLY 2x6 STUD POSTS AND JAMBS WITH 3 ROWS OF 16d PNEUMATIC NAILS AT 5" ON CENTERS STAGGERED. NAIL FROM BOTH SIDES AND NAIL SUCCESSIVE PLIES. FABRICATE CORNERS WITH A MINIMUM OF 3 STUDS SPIKED TOGETHER.
- DOUBLE TOP PLATES SPLICES SHALL OCCUR DIRECTLY OVER STUDS AND LAPPED 4'-0" MIN., AND CROSS LAPPED AT CORNERS AND INTERSECTIONS WITH OTHER WALLS.
- ALL METAL FRAMING CONNECTIONS SHALL BE INSTALLED AND FULLY NAILED AS PER MANUFACTURER'S RECOMMENDATIONS.
- ALL WOOD FRAMED CONNECTIONS SHALL BE NAILED IN ACCORDANCE WITH THE FASTENING SCHEDULE GIVEN IN THE 2015 IBC.

NOTE - RE: DEMOLITION

REFERENCES MADE ON THESE STRUCTURAL DRAWINGS TO DEMOLITION AND / OR REMOVAL OF EXISTING CONSTRUCTION ARE GIVEN FOR THE CONTRACTOR'S CONVENIENCE, AND MUST BE COORDINATED WITH SIMILAR INFORMATION CONTAINED ON THE ARCHITECT'S DEMOLITION DRAWINGS. SUCH REFERENCES ARE NOT INTENDED TO BE ALL-INCLUSIVE OF THE DEMOLITION WORK WHICH MUST BE PERFORMED.

DESIGN CRITERIA - STURBRIDGE, MA

MASSACHUSETTS NINTH EDITION BUILDING CODE BASED ON MODIFIED VERSION OF THE 2015 INTERNATIONAL BUILDING CODE.

MINIMUM UNIFORMLY DISTRIBUTED FLOOR LIVE LOADS :

MAIN FLOOR	100 psf
SECOND FLOOR OFFICES	50 psf

ROOF LOADING DATA

GROUND SNOW LOAD	Pg = 40 psf (TABLE 1604.11)
MIN. FLAT ROOF SNOW	Pf = 35 psf min. Pf = 0.7 Ce Ct I Pg
EXPOSURE CATEGORY	B
BUILDING RISK CATEGORY	II
EXPOSURE FACTOR	Ce = 1.0
IMPORTANCE FACTOR	I = 1.0
THERMAL FACTOR	Ct = 1.0

WIND DESIGN DATA

MWFRS, ASCE 7-10, Chapter 27, DIRECTIONAL PROCEDURE PART 1: ENCLOSED BUILDING OF ALL HEIGHTS

BASIC WIND SPEED FOR THE TOWN OF STURBRIDGE, MA RISK CATEGORY II (TABLE 1604.11)

V₁₀₀ = 124 mph (TABLE 1604.11)
 V₅₀ = 96 mph
 EXPOSURE CATEGORY B

COMPONENTS AND CLADDING (C&C)
 ASCE 7-10, Chapter 30, PART 1: LOW-RISE BUILDINGS

EARTHQUAKE DESIGN DATA

ASCE 7-10/IBC 2015 EQUIVALENT LATERAL FORCE PROCEDURE BUILDING RISK CATEGORY II

SEISMIC IMPORTANCE FACTOR I = 1.0
 SITE SOIL PROFILE CLASS D (IN ABSENCE OF GEOTECHNICAL) MAXIMUM CONSIDERED EARTHQUAKE (MCE) SPECTRAL RESPONSE ACCELERATION PARAMETERS (TABLE 1604.11)

S_s = 0.173 (AT SHORT PERIOD)
 S₁ = 0.064 (AT A PERIOD OF 1 s)
 F_a = 1.6 F_v = 2.4
 S_{M5} = 0.276 S_{M1} = 0.154
 S_{D5} = 0.184 S_{D1} = 0.103

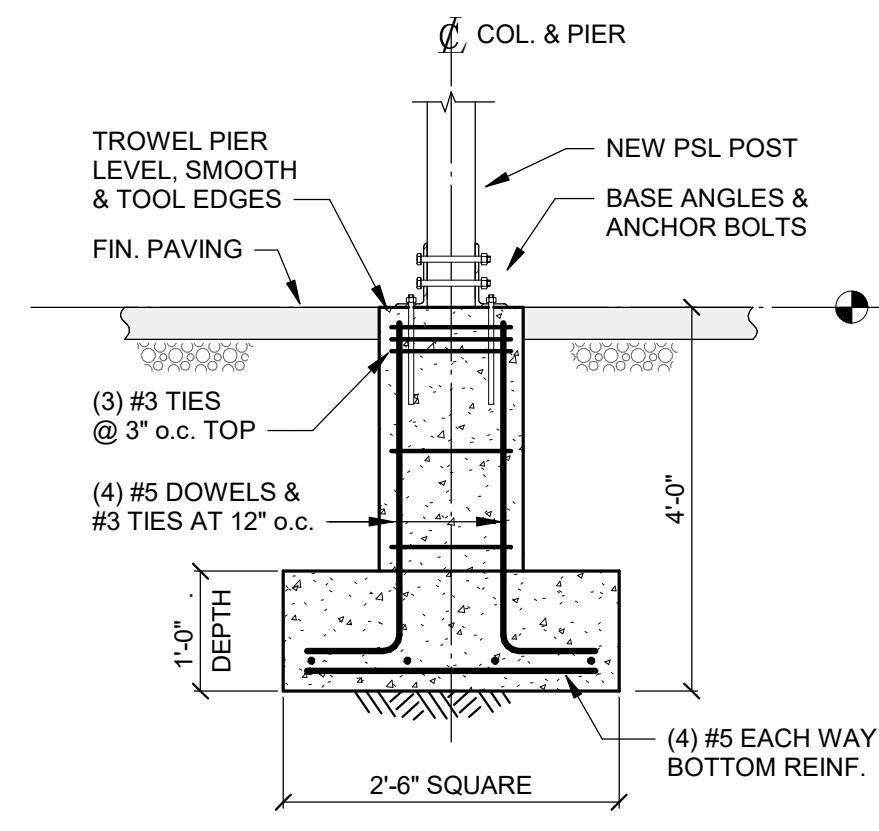
SEISMIC DESIGN CATEGORY = B 0.167 < S₀₅ < 0.33 (Short Period Response)
 0.067 ≤ S_{D1} < 0.133 (1-S Period Response)

RESPONSE MODIFICATION COEFFICIENT, R = 6 1/2
 SYSTEM OVER-STRENGTH FACTOR W_o = 3
 DEFLECTION AMPLIFICATION FACTOR Cd = 4

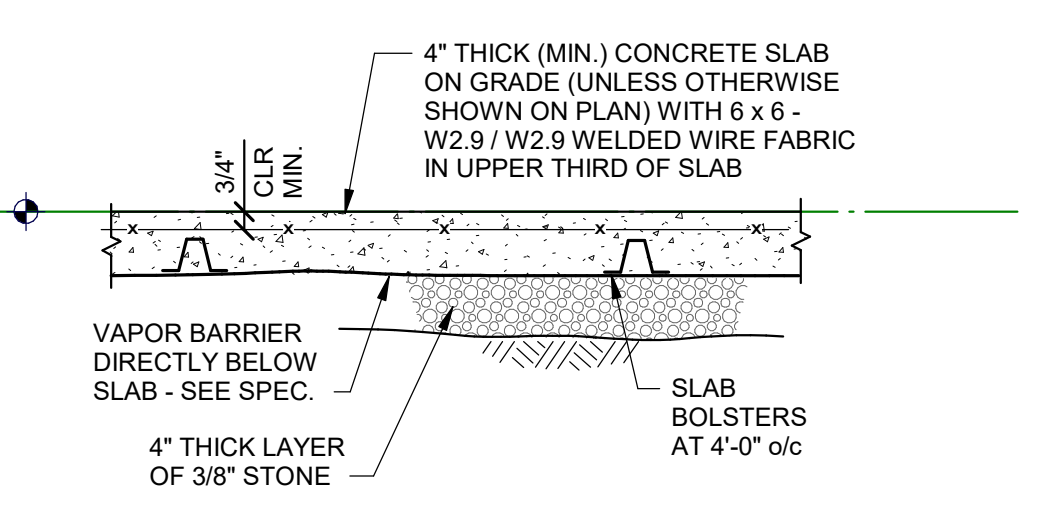
FACTORS BASED ON A LATERAL-FORCE-RESISTING SYSTEM CONSISTING OF LIGHT-FRAMED WOOD WALLS SHEATH WITH PLYWOOD.

ABBREVIATION LIST

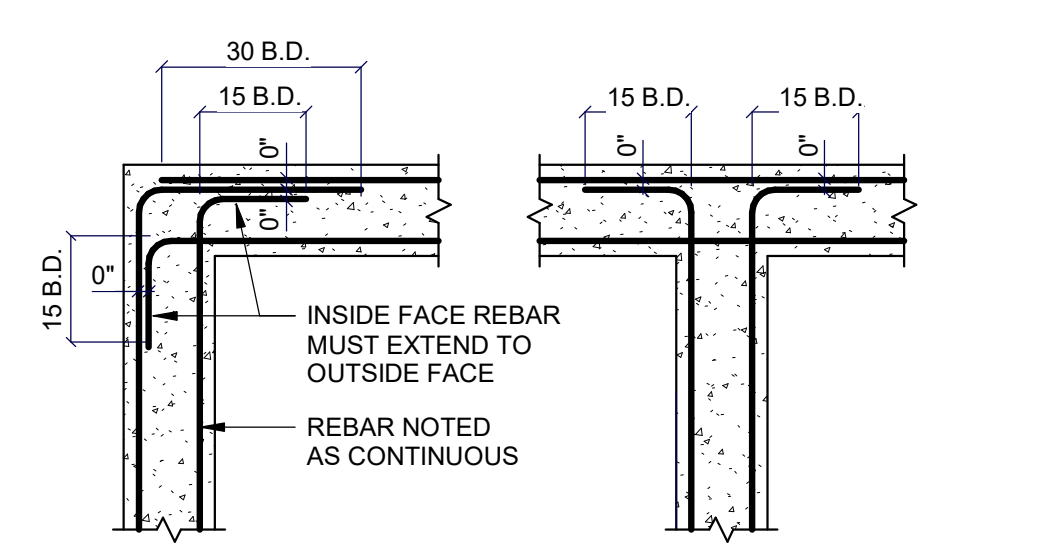
A.B.	ANCHOR BOLT	HORIZ	HORIZONTAL
ADJ	ADJACENT	H.S.	HIGH STRENGTH
ADJ. JUST.	ADJUSTABLE	HT	HEIGHT
AFF	ABOVE FIN. FLR	JT	JOINT
ANCH.	ANCHOR	KB	KNEE BRACE
ARCHT	ARCHITECT	LP	LOW POINT
B PL	BASE PLATE	LLV	LONG LEG VERT.
BLKG	BLOCKING	LH	LONG LEG HORIZ.
BLK	BLOCK	LOC.	LOCATION
BM	BEAM	MOM	MOMENT
BOTT.	BOTTOM	MANUF.	MANUFACTURER
BRG	BEARING	MAS	MASONRY
BRDG	BRIDGING	MAX	MAXIMUM
BRK	BRICK	MIN	MINIMUM
B.S.	BOTH SIDES	MECH.	MECHANICAL
BTWN	BETWEEN	NS	NEAR SIDE
BUTTR.	BUTTRESS	NTS	NOT TO SCALE
BYD	BEYOND	C.C.	ON CENTERS
CANT.	CANTILEVER	OPG	OPENING
CLG	CEILING	P/C, PC	PRECAST
CLR	CLEAR	PARTN	PARTITION
COL	COLUMN	PAV.	PAVING
CONN	CONNECTION	PERM.	PERMANENT
COORD	COORDINATE	PL	PLATE
CONC.	CONCRETE	PJF	PREMOLDED JOINT FILLER
CONSTR.	CONSTRUCTION	PKT	POCKET
CONT.	CONTINUOUS	PROJ.	PROJECTION
CMU	CONC. MAS UNIT	PT	POINT
DBL	DOUBLE	P.T.	PRESSURE TREATED
DEPR	DEPRESSION	REQ'D	REQUIRED
DET.	DETERMINE	RFR	RAFTER
DIR	DIRECTION	RTU	ROOF TOP UNIT
DN	DOWN	SCHED	SCHEDULE
DWL	DOWEL	SM.	SIMILAR
DWG	DRAWING	SL	SLOPE
DO	DITTO	SPEC	SPECIFICATION
EL / ELEV	ELEVATION	SDS	SELF DRILLING SCREW
ELEV.	ELEVATOR	STD	STANDARD
E.O.D.	EDGE OF DECK	STGR	STAGGER
E.O.S.	EDGE OF SLAB	STIFF	STIFFENER
EX	EXISTING	STRUCT	STRUCTURAL
EXP	EXPANSION	T&B	TOP AND BOTTOM
FIN	FINISH	TEMP	TEMPORARY
FLG	FLANGE	T.O.W	TOP OF WALL
FLR	FLOOR	T.O.S	TOP OF STEEL
FNDN	FOUNDATION	TYP	TYPICAL
FP	FIREPROOFING	U.O.N.	UNLESS OTHERWISE NOTED
FTG	FOOTING	U.O.S.	UNLESS OTHERWISE SHOWN
F.V.	FIELD VERIFY	VERT.	VERTICAL
GALV.	GALVANIZED	V.I.F.	VERIFY IN FIELD
GA.	GAUGE	U.O.N.	UNLESS OTHERWISE NOTED
H.P.	HIGH POINT	U.O.S.	UNLESS OTHERWISE SHOWN
HGR	HANGER	w/	WITH
		WF	WIDE FLANGE
		WP	WORKING POINT
		WT	WEIGHT



1 TYPICAL PIER DETAIL
SCALE: 1/2" = 1'-0"

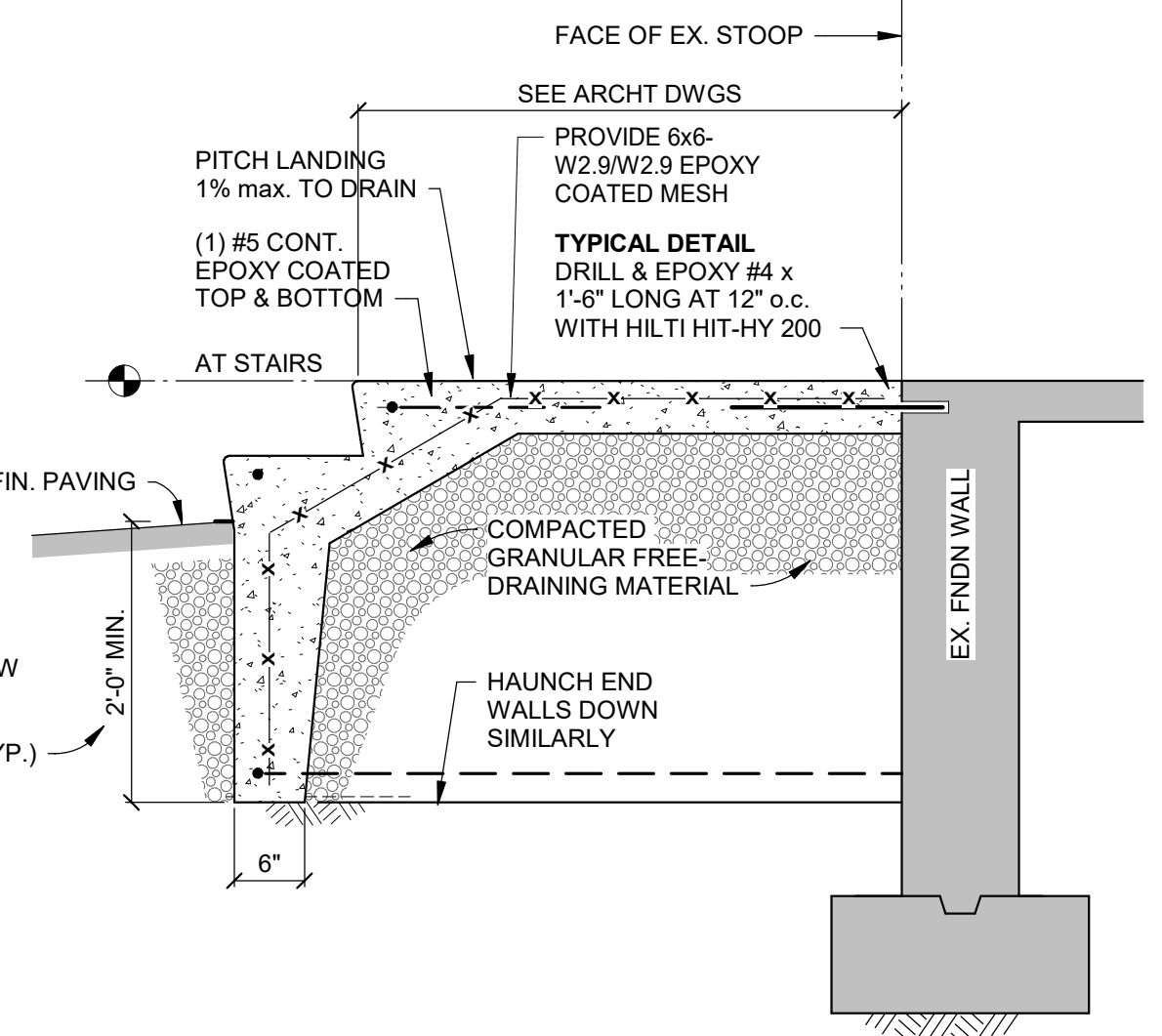


TYPICAL SLAB ON GRADE DETAILS

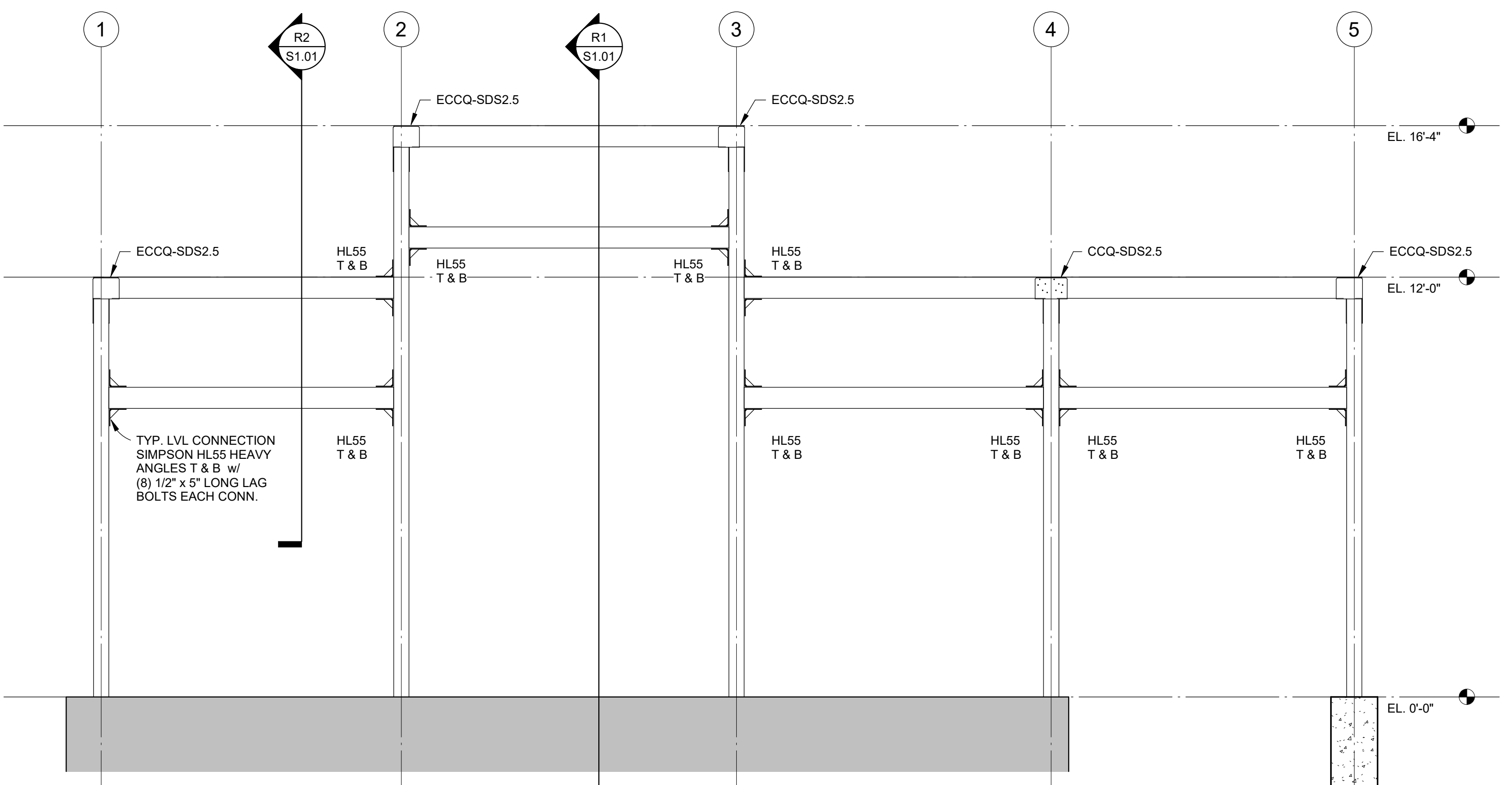


AT CORNERS AT INTERSECTIONS

TYPICAL CONTINUOUS REBAR DETAILS



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



SECTION R4
SCALE: 3/8" = 1'-0"

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 67 Federal Rd, Building A,
 Suite 201
 Brookfield, CT 06804

RENOVATIONS FOR:

Cornerstone Bank
 Built on trust.
 200 CHARLTON ROAD
 STURBRIDGE, MA

Issuances:

Date: November 30th, 2020
 Scale: AS NOTED
 Project No. 2K20.015
 Drawn by:

S2.01
 GENERAL NOTES

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750 Old Main St.
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67 Federal Rd, Building A,
 Suite 201
 Brookfield, CT 06804

Issuances:

Date: November 30th, 2020

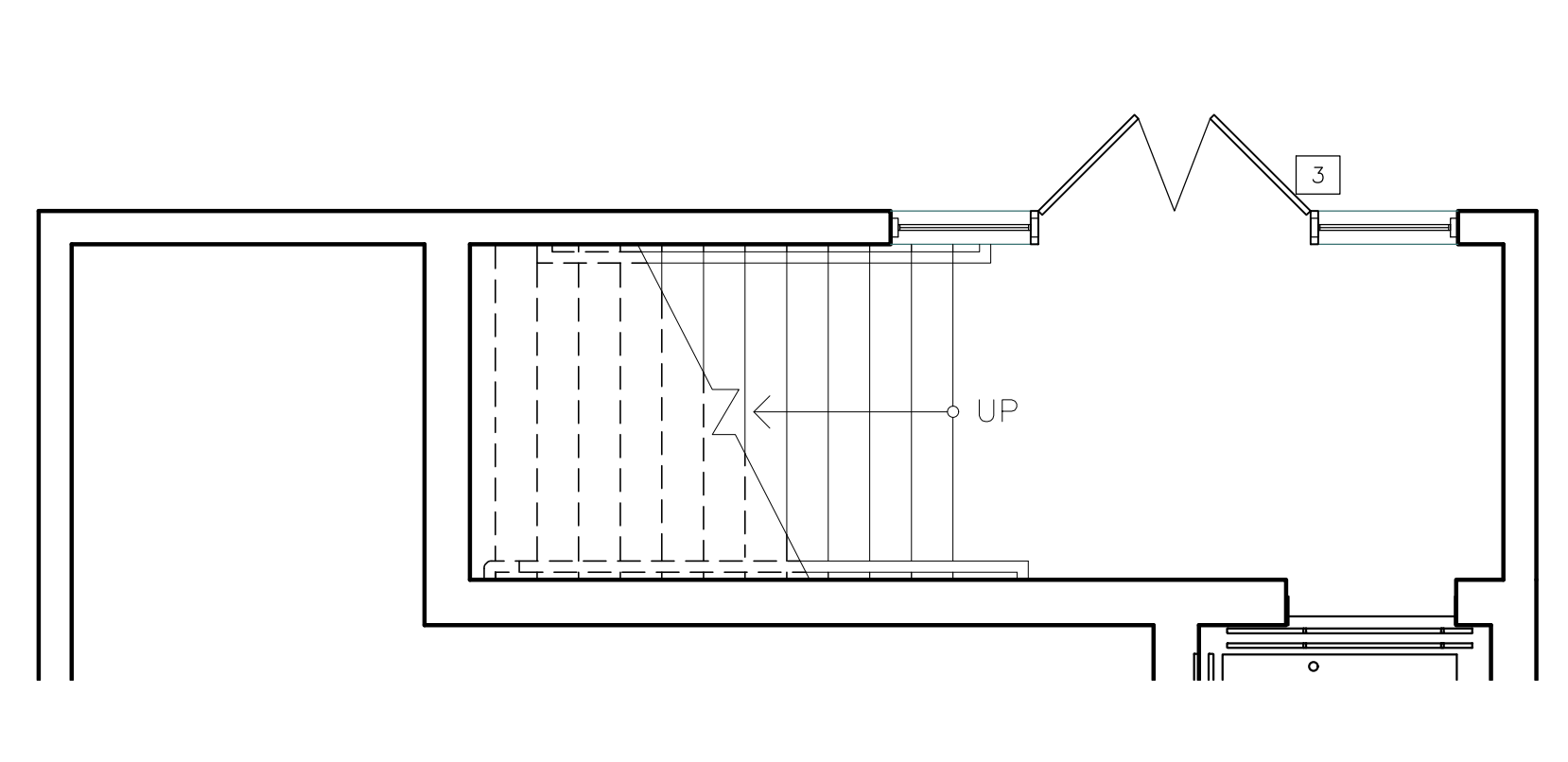
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Project No. 2K20.015 | Drawn by:

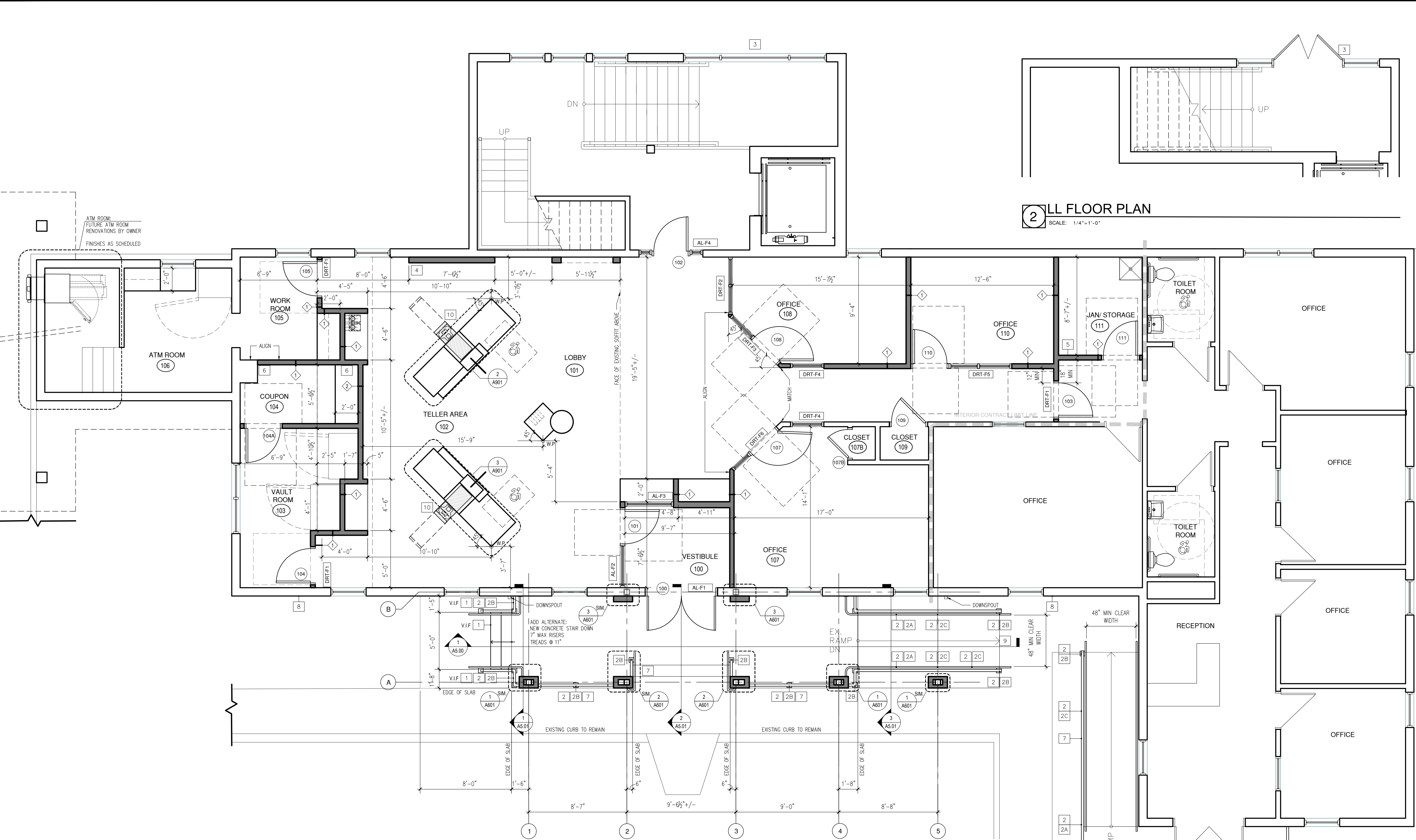
A1.01

Floor Plan

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



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



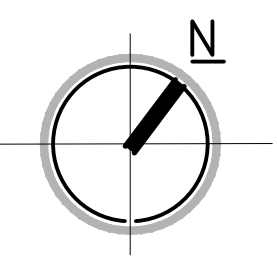
LEGEND	
PROPOSED WALL CONSTRUCTION	
WINDOW TYPE IDENTIFICATION	
WALL TYPE IDENTIFICATION	
DRTT WALL IDENTIFICATION	
DOOR IDENTIFICATION	
ALUMINUM FRAME IDENTIFICATION	

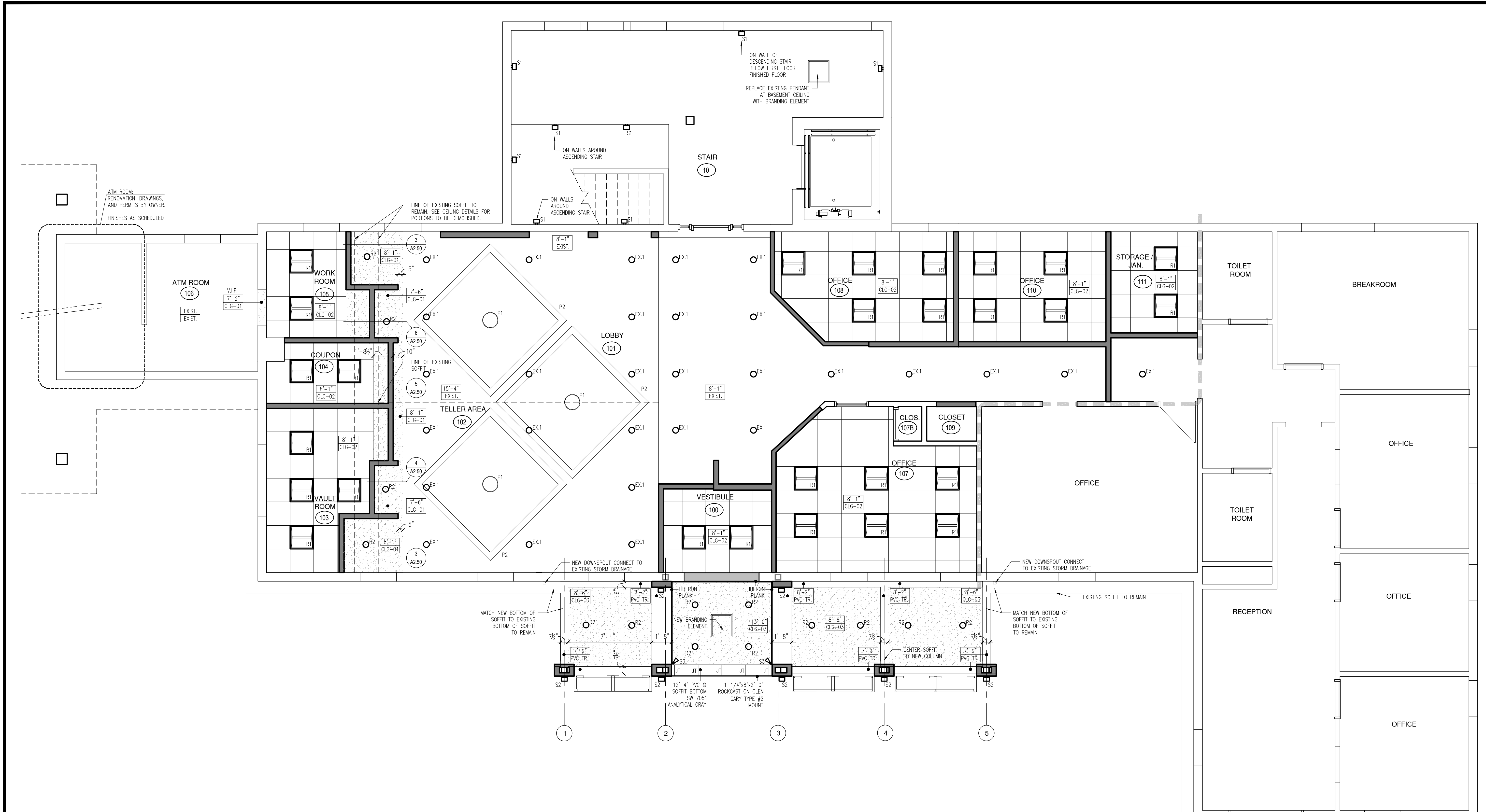
CONSTRUCTION NOTES	
1	ADD ALTERNATE: NEW CONCRETE STAIR. MATCH EXISTING RAMP WIDTHS. VERIFY DIMENSIONS IN FIELD.
2	FEENEY CABLE RAIL KIT: - METAL POST AND CAP RAIL - COMMERCIAL (2-3/8" HEAVY DUTY SQ POST) - 1/8" DIAMETER CABLE - POST AND CAP RAIL COLOR (TEXTURED BLACK) - 1-1/2" O.D ALUMINUM HAND RAILINGS (FINISHED IN BRUSHED ALUMINUM)
2A	FEENEY FASCIA MOUNT RAIL KIT SYSTEM W/ LAG BOLTS
2B	FEENEY BASE PLATE RAIL KIT SYSTEM
2C	FEENEY STANCHION MOUNT RAIL KIT SYSTEM
3	REPAIR ADA COMPLIANT ASPHALT APRON AND REPLACE ADA COMPLIANT EXTERIOR DOOR THRESHOLD
4	PROVIDE WOOD BLOCKING FOR WALL MOUNTED TV MONITOR. COORDINATE LOCATION WITH BRACKET PRIOR TO INSTALLATION.
5	PROVIDE RECESSED MOUNTED FIRE EXTINGUISHER CABINET.
6	COORDINATE WITH STRUCTURAL DRAWINGS FOR SUPPLEMENTARY SUPPORT SUPPLIED AT THESE LOCATIONS.
7	PREPARE AND REPAIR ALL LOCATIONS WITH SPALLING CONCRETE
8	PREPARE AND REPAIR WOOD TRIM AS REQUIRED
9	PREPARE AND REPAIR CRACKED AND SPALLING EXISTING CONTROL JOINT AT EXISTING RAMP
10	PROVIDE 3/4" STEEL PLATE ON FLOOR AT AREAS SHOWN HATCHED. FEATHER PERIMETER EDGE WITH EXISTING FLOOR USING LEVELING COMPOUND.

GENERAL CONSTRUCTION NOTES	
A.)	GENERAL CONTRACTOR TO NOTIFY ARCHITECT OF ANY INCONSISTENCIES IN THE DRAWINGS, EXISTING CONDITIONS OR THE PROPOSED CONSTRUCTION IMMEDIATELY.
B.)	GENERAL CONTRACTOR TO TAKE AND VERIFY ALL DIMENSIONS AND CONDITIONS ON THE JOB AND SHALL BE HELD RESPONSIBLE FOR THE SAME.
C.)	ALL DIMENSIONS ARE TO FACE OF MASONRY, FACE OF FINISH MATERIAL AND CENTERLINE OF STRUCTURAL STEEL COLUMNS UNLESS OTHERWISE NOTED.
D.)	ALL NOTES AND DIMENSIONS DESIGNATED AS "TYP." OR "TYPICAL" APPLY TO ALL LIKE OR SIMILAR CONDITIONS THROUGHOUT THE PROJECT.
E.)	FOR WALL TYPES REFER TO DRAWING A0.00
F.)	ALL DOORS SHALL BE LOCATED WITH HINGE SIDE OF FRAME 4" OFF FINISHED WALL (AT CORNER CONDITION), UNLESS OTHERWISE NOTED.
G.)	GENERAL CONTRACTOR TO COORDINATE AND VERIFY ALL BANK EQUIPMENT INCLUDING ROUGH OPENINGS, POWER AND DATA REQUIREMENTS, ETC WITH EQUIPMENT SUPPLIER AND MANUFACTURER'S SPECIFICATIONS.

IT IS THE INTENT OF THESE SPECIFICATIONS AND DRAWINGS TO CALL FOR AN INSTALLATION THAT IS COMPLETE IN EVERY RESPECT. IT IS NOT THE INTENT TO GIVE EVERY DETAIL ON THE DRAWINGS AND IN THE SPECIFICATION. IF AN ITEM OF WORK IS SHOWN ON THE DRAWINGS, IT SHALL BE CONSIDERED SUFFICIENT FOR INCLUSION IN THE CONTRACT. THE CONTRACTOR SHALL FURNISH AND INSTALL ALL MATERIAL AND EQUIPMENT USUALLY FURNISHED OR NEEDED TO MAKE A COMPLETE INSTALLATION, WHERE SPECIFICALLY MENTIONED OR NOT.

GENERAL CONTRACTOR TO SUBMIT HANDRAIL AND GUARD SHOP DRAWINGS PRIOR TO FABRICATION AND INSTALLATION. THE FABRICATOR IS RESPONSIBLE FOR FIELD VERIFICATION ON ALL HAND RAIL AND GUARD MOUNTINGS AND INSTALLATION CONDITIONS PRIOR TO SUBMISSION TO ARCHITECT. ARCHITECT REVIEW WILL BE FOR COMPLIANCE WITH ARCHITECTURAL INTENT AND BUILDING CODE

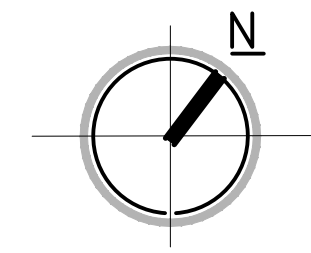




1 FIRST FLOOR REFLECTED CEILING PLAN

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

LEGEND	GENERAL NOTES	LIGHTING	CEILING TYPES
<p>GYPSUM SOFFIT: CLG-01 REFER TO CEILING PLAN FOR HEIGHTS</p> <p>2"x2" ACOUSTICAL CEILING TILE: CLG-02</p> <p>NEW 2X2 TROFFER LED LIGHT FIXTURE</p> <p>5" RECESSED CAN FIXTURES</p> <p>NEW PENDANT FIXTURE</p> <p>EXISTING CAN FIXTURE TO REMAIN. RETROFIT WITH LED.</p> <p>REPLACE EXISTING WALL SCONCES WITH NEW 5" LOCATION FIXTURES IN SAME LOCATIONS.</p>	<p>POSSIBLE PENDANT LIGHT FIXTURE ALTERNATE HANGING MILLWORK: TBD.</p> <p>HVAC SUPPLY</p> <p>HVAC RETURN</p> <p>EXIT SIGN</p> <p>EXISTING CEILING HEIGHT TO REMAIN</p> <p>EXISTING CEILING MATERIAL TO REMAIN</p> <p>CEILING HEIGHT</p> <p>CEILING TYPE</p>	<p>R1 AXIS AURA 22 LED 2X2 LUMINAIRE</p> <p>R2 PRESOLITE-LTR 4RD 5" RECESSED CAN LIGHT</p> <p>P1 SCOTT ARCHITECTURAL S2235 SERIES</p> <p>P2 AXIS BEAM 6 PENDENT LIGHT</p> <p>S1 MODERN FORMS I BEAM WS-94614</p> <p>S2 MODERN FORMS ELEVATION WS-W5222</p> <p>S3 MP LIGHTING L730</p>	<p>CLG-1 PAINTED GYPSUM BOARD CEILING. SOUND ATTENUATION BLANKET ABOVE.</p> <p>CLG-2 ARMSTRONG, DUNE 15/16" ANGLED REGULAR #1853. 24"x24"x5/8". GRID: 15/16" PRELUDE</p> <p>CLG-3 AMERICAN GYPSUM, 5/8TH INCH EXTERIOR GYPSUM SHEATHING BOARD</p>
<p>REFLECTED CEILING PLANS ARE INTENDED FOR COORDINATION PURPOSES FOR MECHANICAL, ELECTRICAL, AND ARCHITECTURAL ELEMENTS. REFER TO RESPECTIVE DRAWINGS FOR SPECIFIC REQUIREMENTS.</p> <p>LIGHT FIXTURE SYMBOLS ON REFLECTED CEILING PLANS ARE DIAGRAMMATIC FOR REFERENCE ONLY. REFER TO ELECTRICAL DRAWINGS FOR TYPE OF LIGHT FIXTURES. ELECTRICAL CONTRACTOR IS RESPONSIBLE FOR QUANTITY OF LIGHT FIXTURES AS INDICATED ON ELECTRICAL DRAWINGS.</p> <p>FOR REGISTER AND DIFFUSER SCHEDULES, REFER TO MECHANICAL DRAWINGS. PAINT ALL GYP CEILING SW SW7004 SNOWBOUND</p> <p>SECURITY INFO. BY OWNER.</p> <p>FOR DEDUCT ALTERNATE LISTING SEE DWG. A1.01.</p>			



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Issuances:

Date: November 30th, 2020

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

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Drawn by: SMN

A2.01

Reflected Ceiling Plan

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Issues:

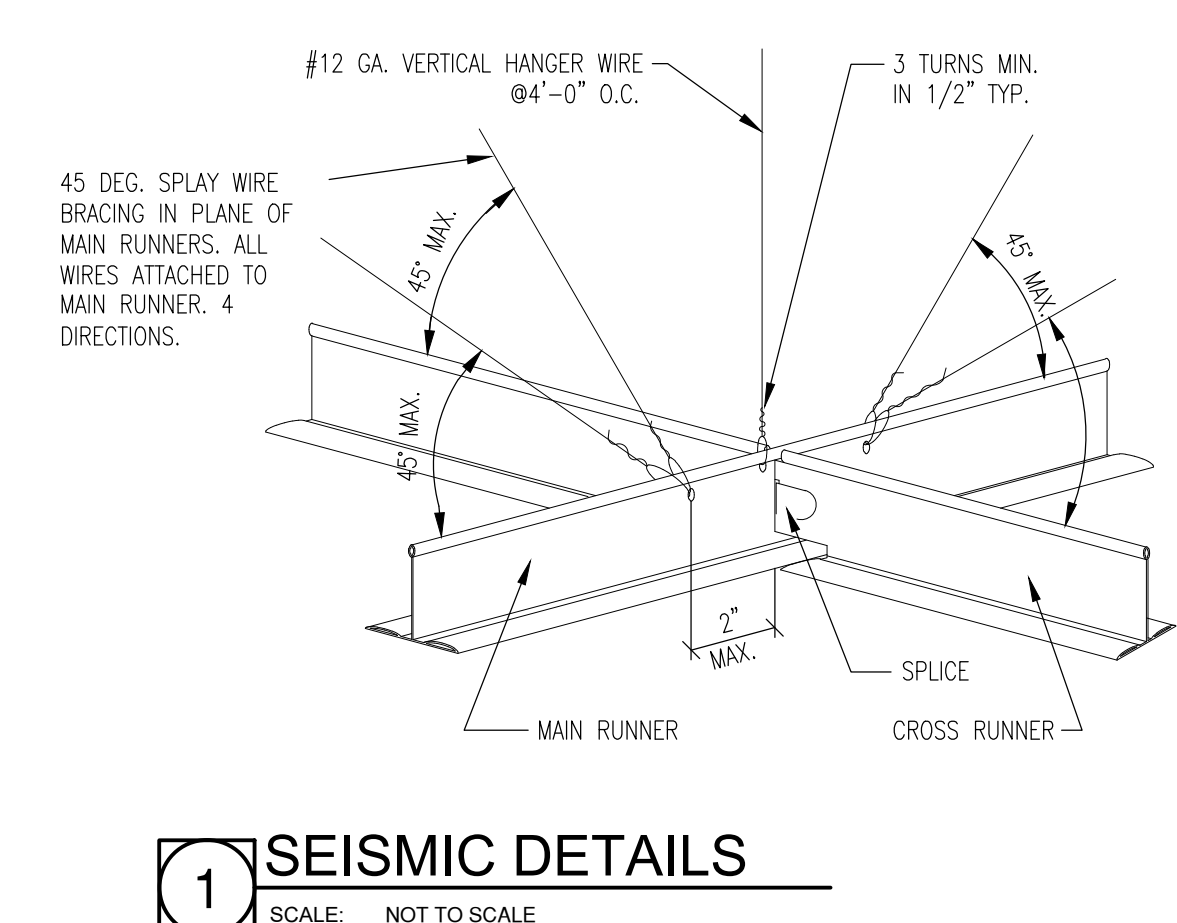
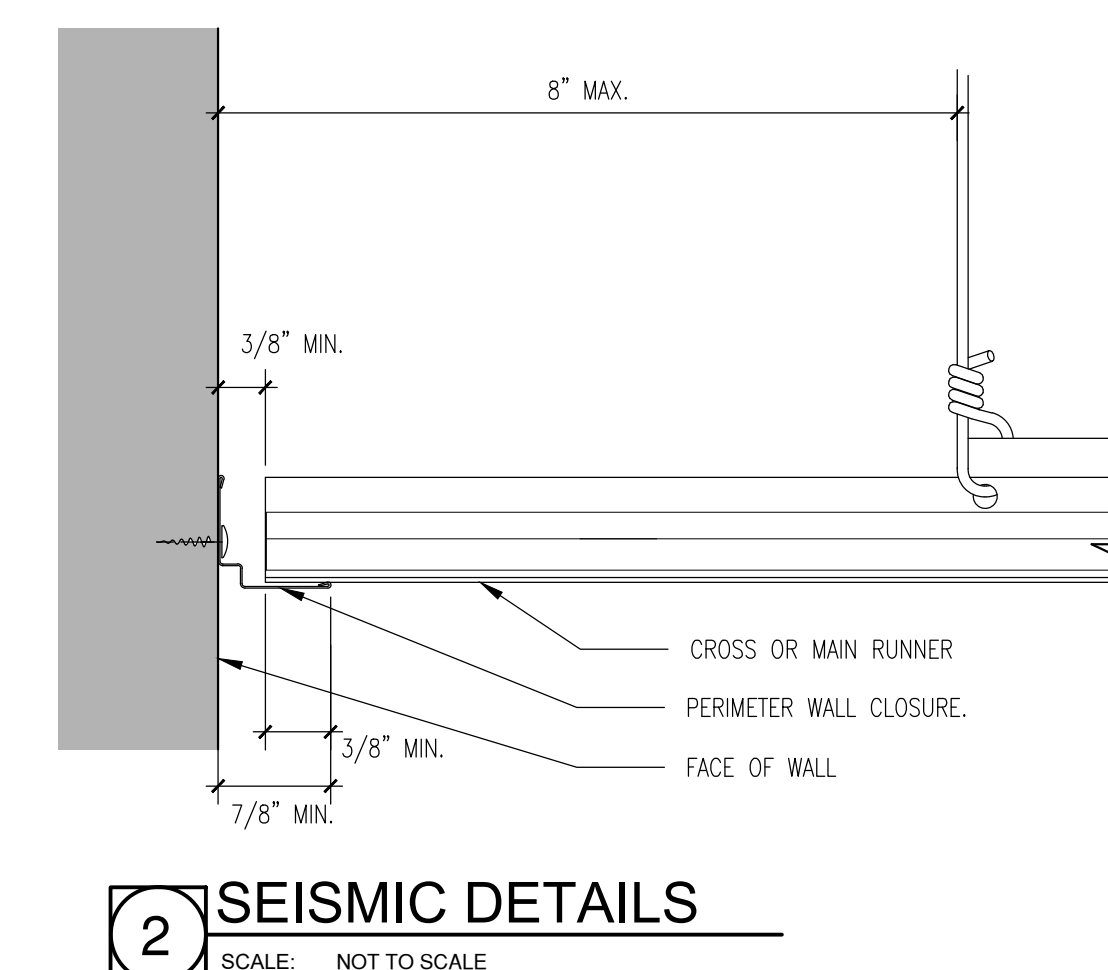
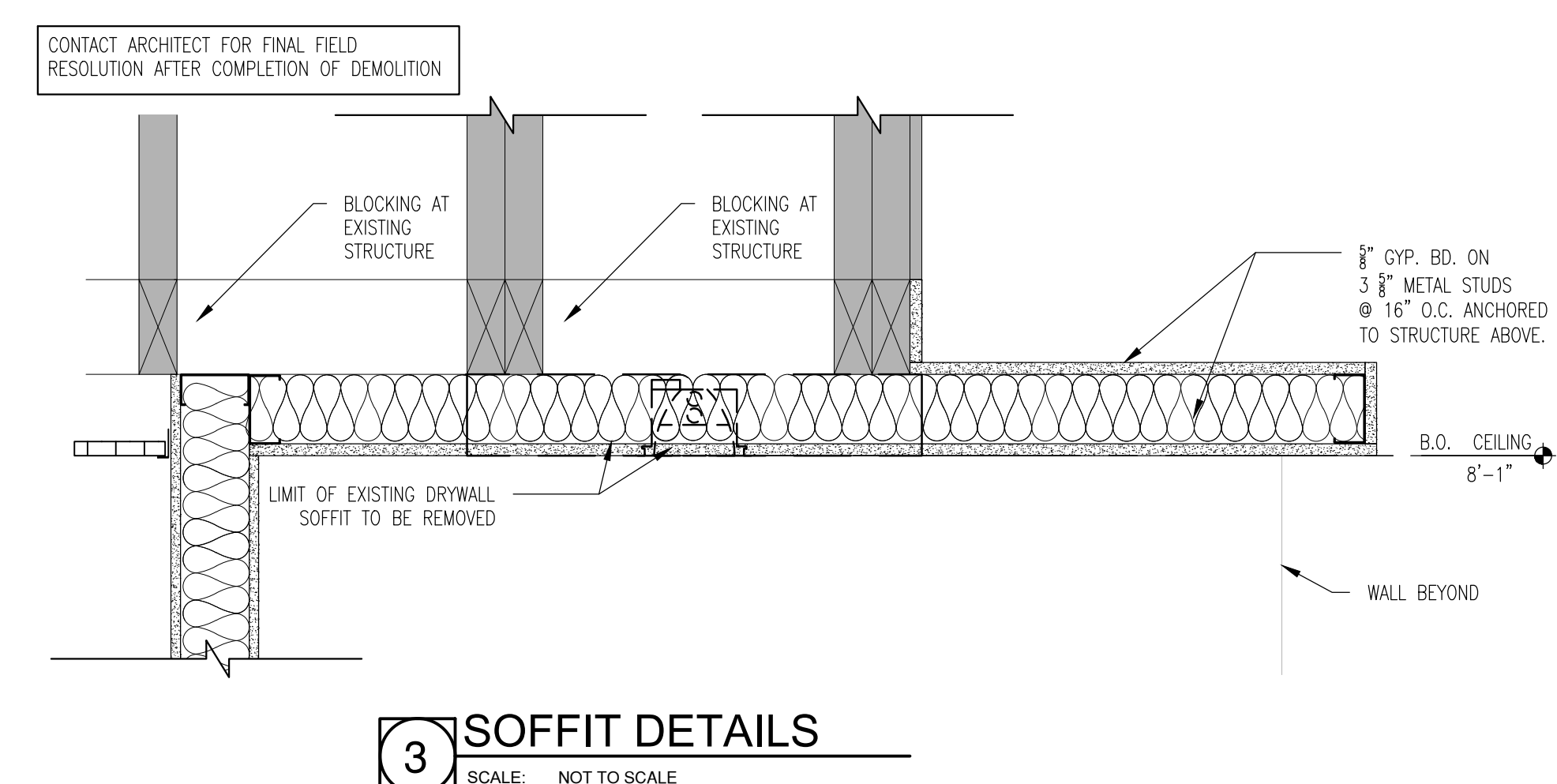
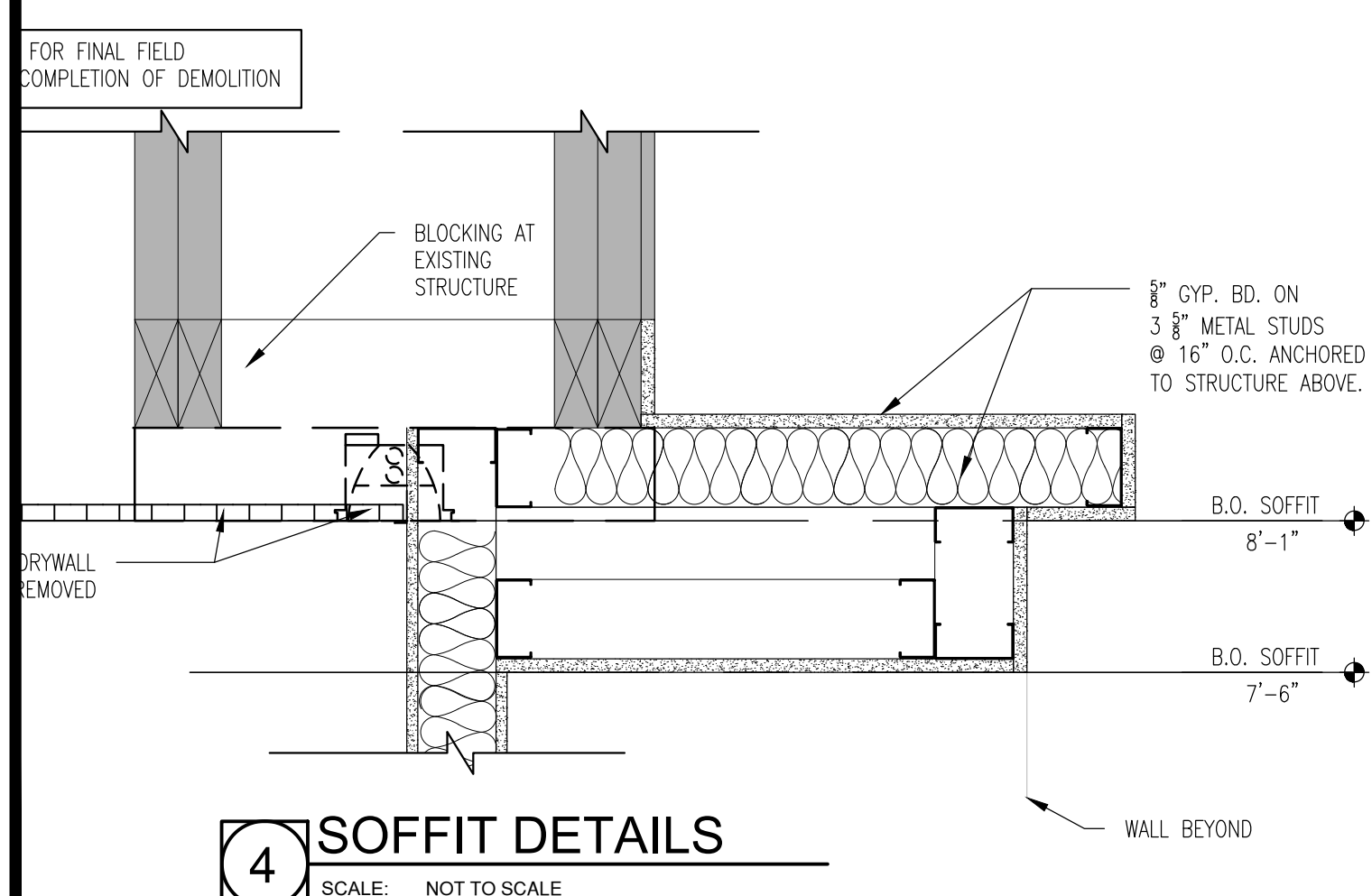
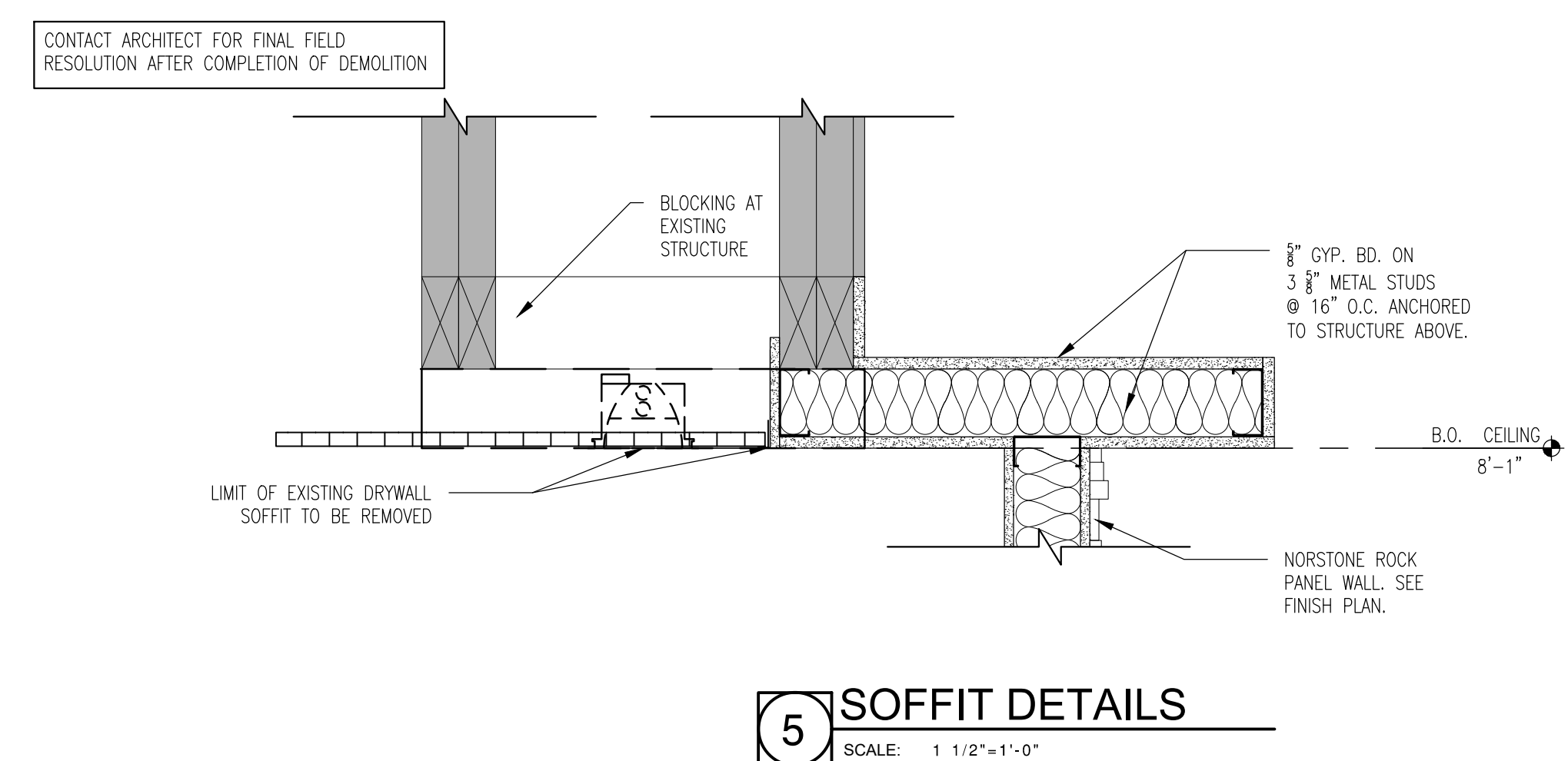
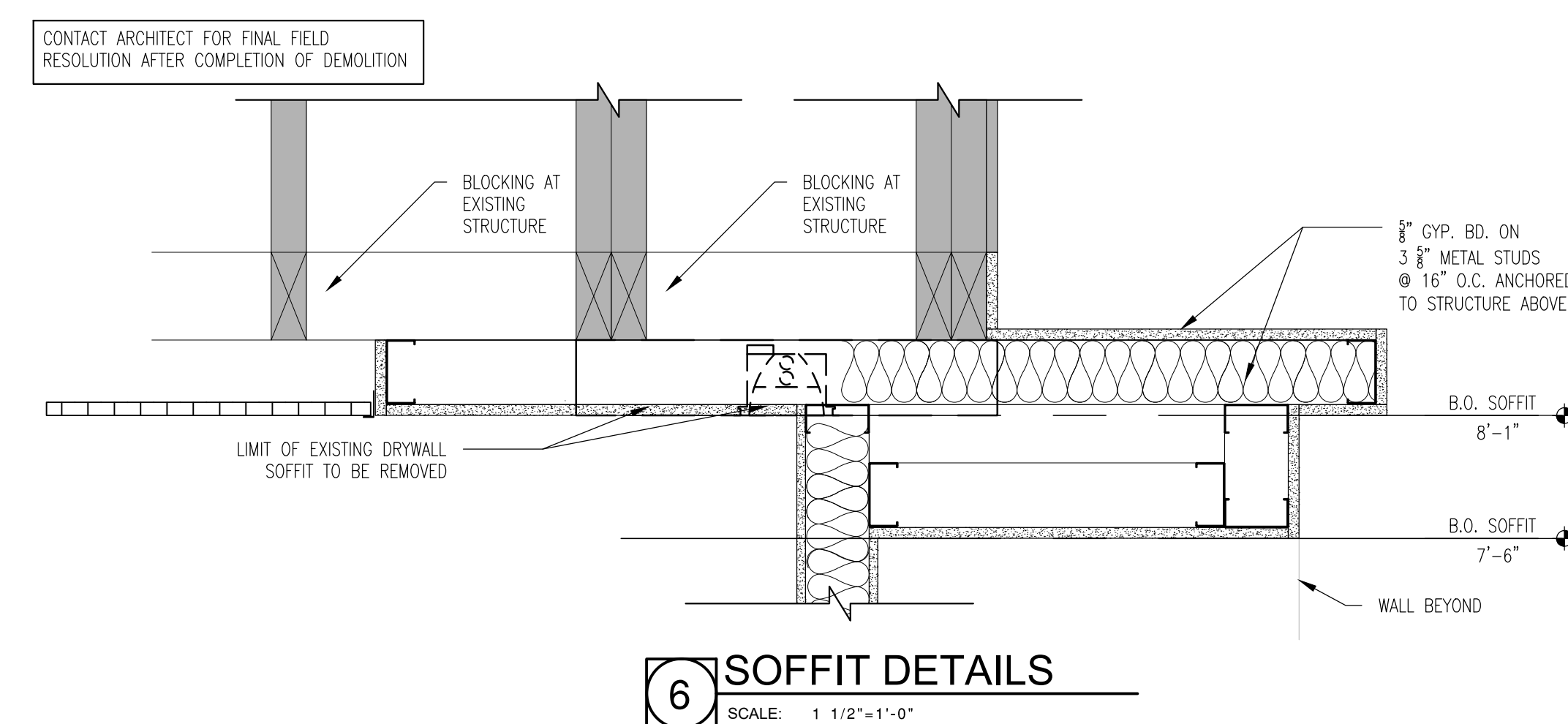
Date: November 30th, 2020

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

Project No. 2K20.015
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A2.50

CEILING DETAILS



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Issues:

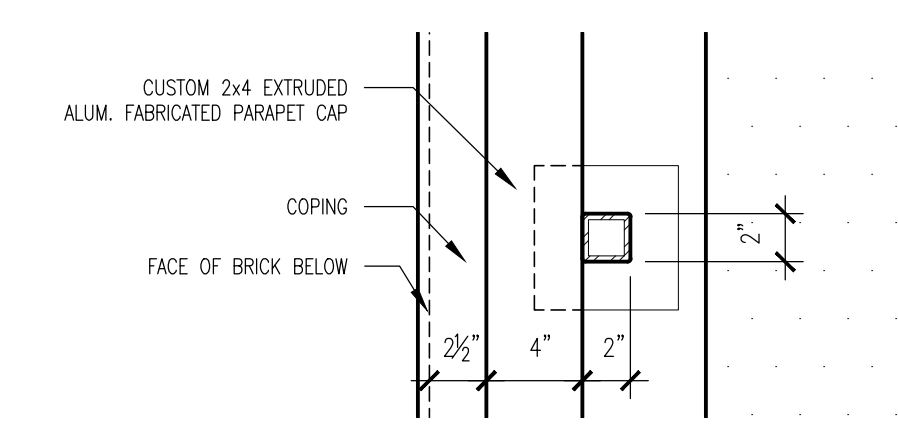
Date: November 30th, 2020

Scale: AS NOTED

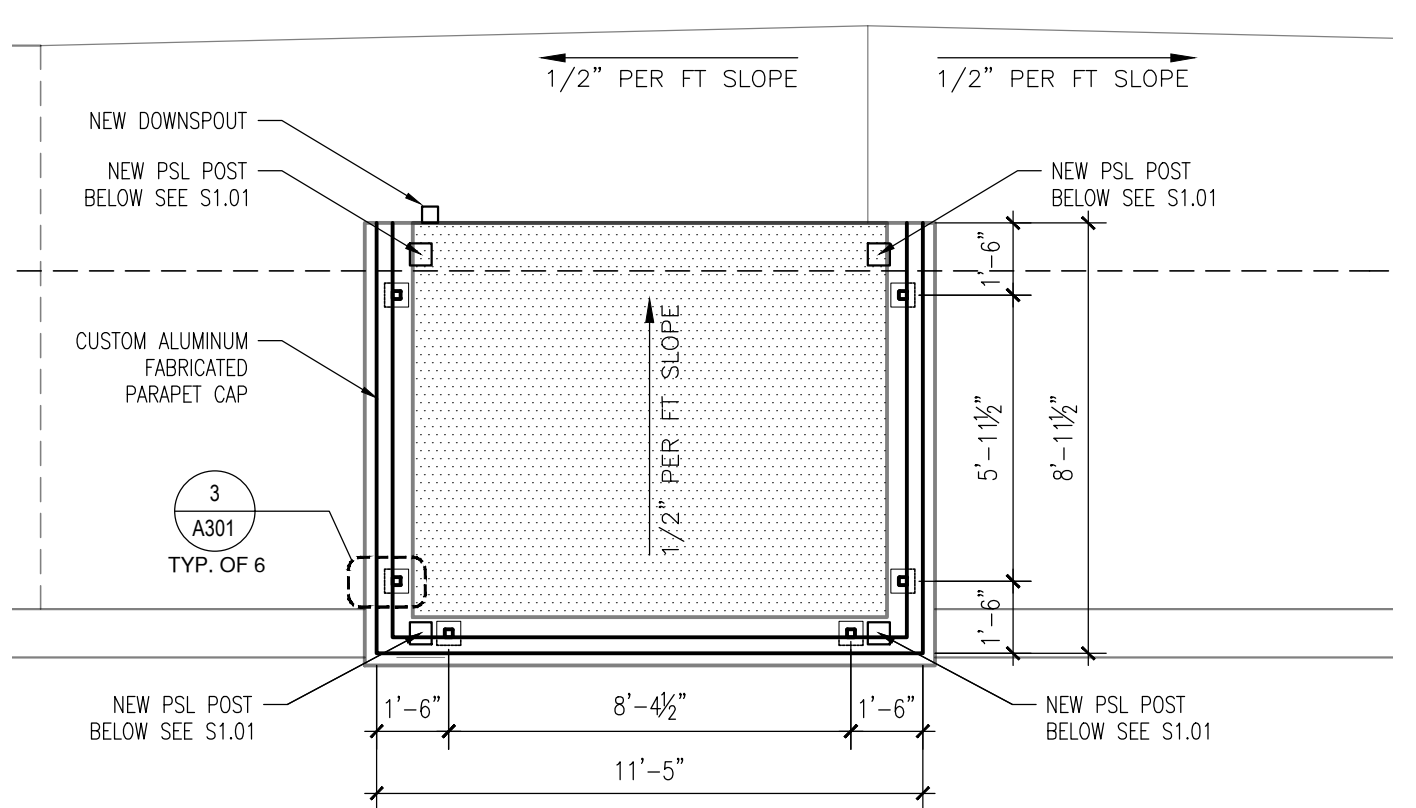
Project No. 2K20.015
Drawn by:

A3.01

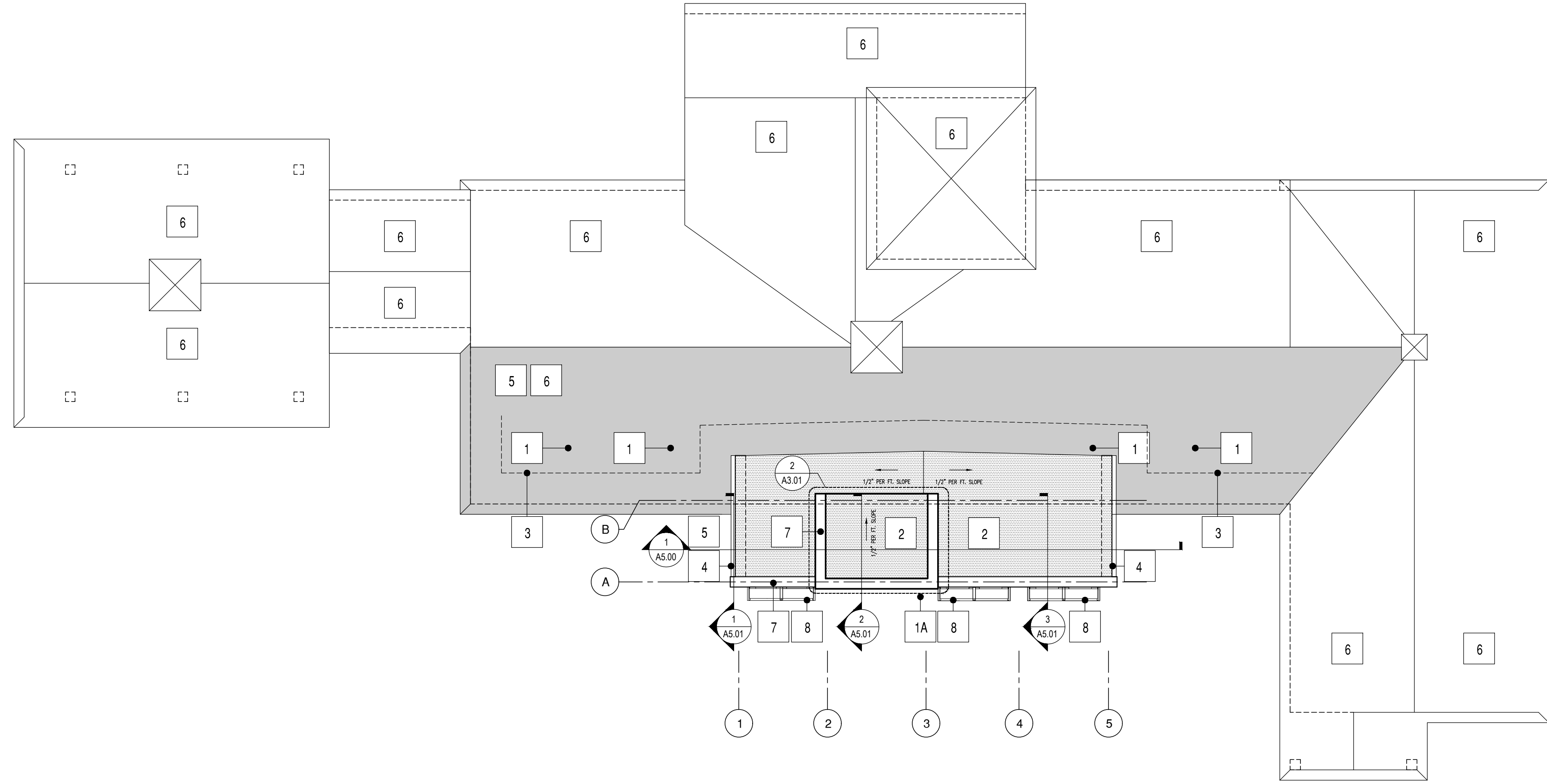
Roof Plan



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

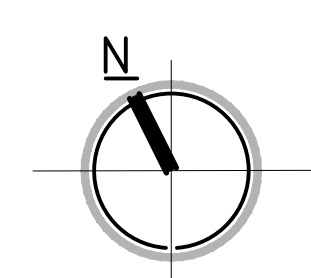


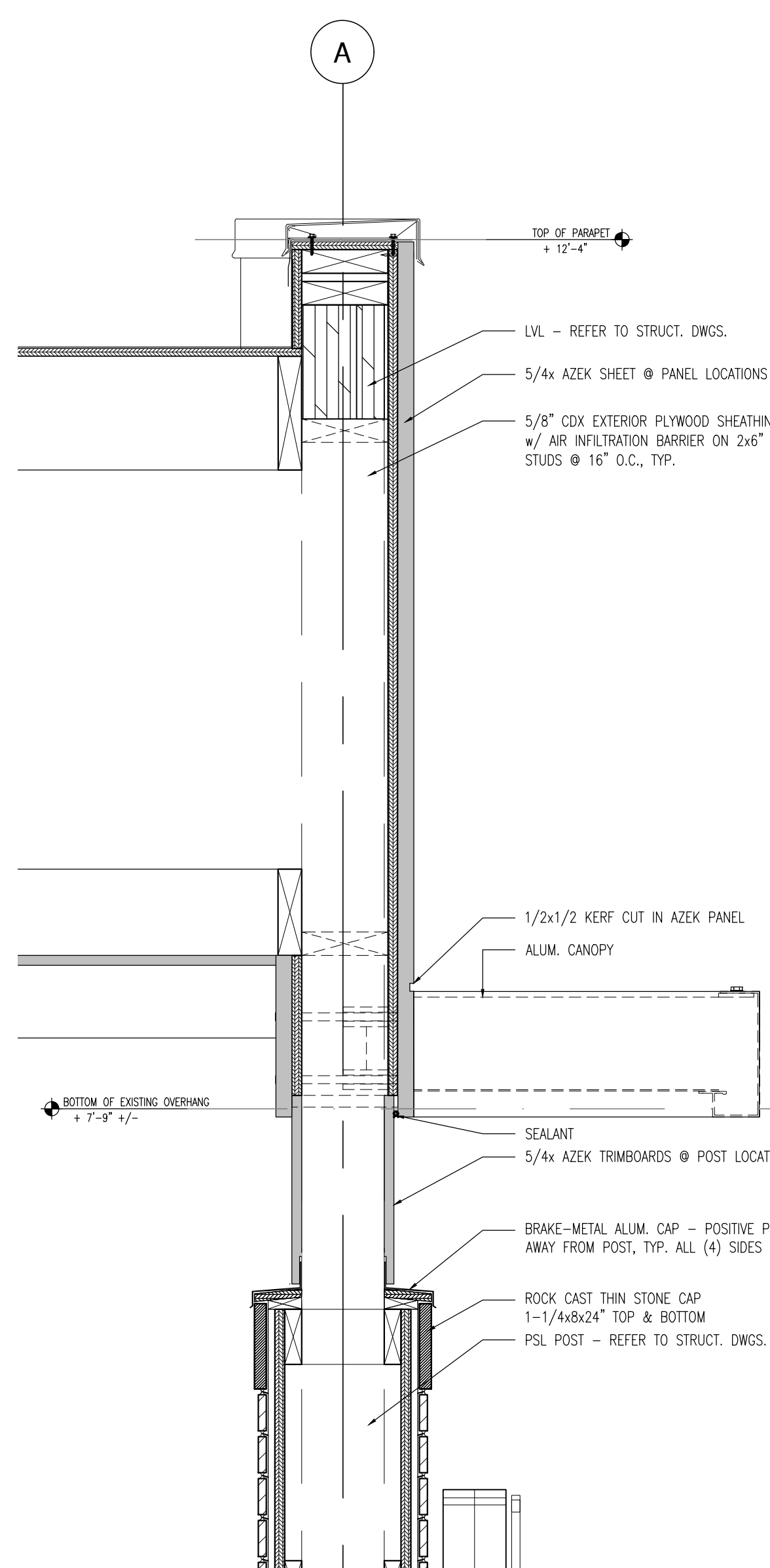
2 ROOF PLAN
SCALE: 1/4"=1'-0"



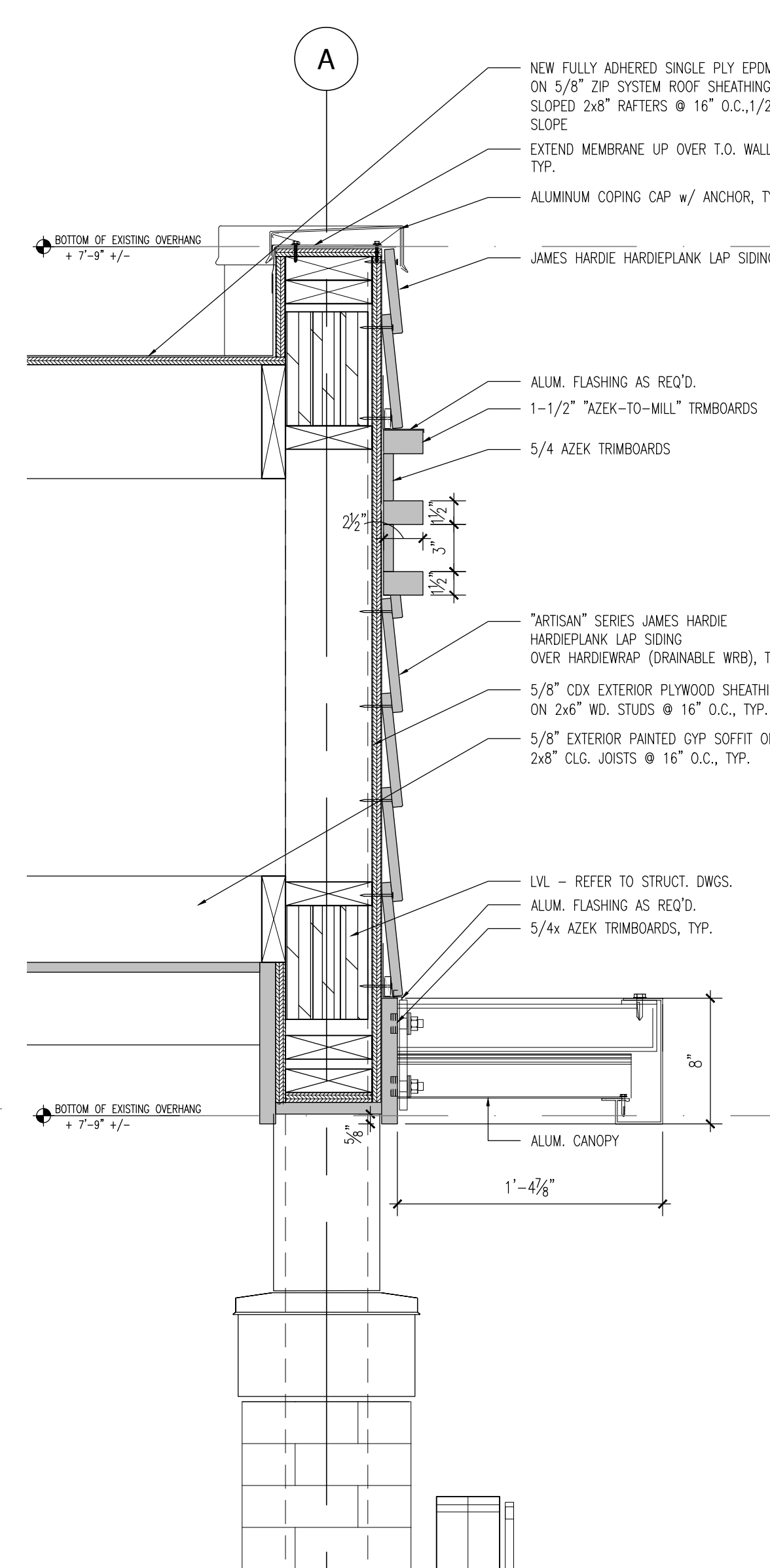
1 ROOF PLAN
SCALE: 1/8"=1'-0"

LEGEND		ROOFING TYPE LEGEND		ROOFING TYPE LEGEND		ROOFING NOTES		ROOFING PRODUCTS	
	RIGID INSULATION ON TAPERED CONSTRUCTION WITH PITCH TO DRAIN		SCUPPER WITH DOWNSPOUT		BASE BID: VALLEY TO VALLEY: CERTAINTEED: LAND MARK PRO COLOR: RESHAWN SHAKE	1.	ALUM. COPED AND EPDM PARAPET. INSTALL BLOCKING OVER STRUCTURE OR PARAPET TO ALLOW MINIMUM 8" VERT. FLASHING TO ROOF SURFACE.		BASE BID: VALLEY TO VALLEY: CERTAINTEED: LAND MARK PRO COLOR: RESHAWN SHAKE
	RIGID INSULATION ON SLOPED CONSTRUCTION		VENT STACK		ADD ALTERNATE: ENTIRE ROOF CERTAINTEED: LAND MARK PRO COLOR: MAX DEF FEWTERWOOD	2.	SEE MECHANICAL DRAWINGS FOR ALL ROOF EQUIPMENT AND ASSOCIATE PLUMBING.		ADD ALTERNATE: ENTIRE ROOF CERTAINTEED: LAND MARK PRO COLOR: MAX DEF FEWTERWOOD
	BASE BID ARCHITECTURAL SHINGLES		THRU WALL SCUPPER		NEW COPED PARAPET	3.	COORDINATE ROOF DRAIN'S LOCATIONS AND ASSOCIATED PIPINGS WITH THE STRUCTURAL STEEL BEAM AND WOOD RAFTERS HEIGHTS.		ALUMINUM CANOPY SYSTEM: MAPES: CANTILEVER SYSTEM COLOR: SIERRA TAN
	CRICKET WITH PITCH TO DRAIN		SPLASH BLOCK		REMOVE (4) EXISTING DORMER STRUCTURES. REPAIR EXISTING RAFTERS, PATCH AND MATCH EXISTING SHEATHING, AND PREPARE FOR NEW FINISHES.	4.	CONTRACTOR TO COORDINATE THE MOUNTING SYSTEM AND LOCATIONS OF ROOF MOUNTED FREE STANDING SIGNAGE WITH THE SIGNAGE VENDOR.		
					REMOVE EXISTING CABLE STRUCTURE "OVER BUILD" AND ASSOCIATED COLUMN SUPPORTS. REPAIR FRAMING TO REMAIN AND REPAIR, PATCH AND MATCH NEW SHEATHING TO EXISTING AND PREPARE FOR NEW ROOFING.				
					NEW EPDM ROOFING MEMBRANE				
					NEW 3'-0" CONTINUOUS UNDERLAYMENT: ICE AND WATER SHIELD AT ALL EAVES, RAKES, OVERHANGS AND VALLEYS				
					NEW ALUMINUM GUTTER. CONNECT DOWN SPOUT TO EXISTING STORM WATER SYSTEM				

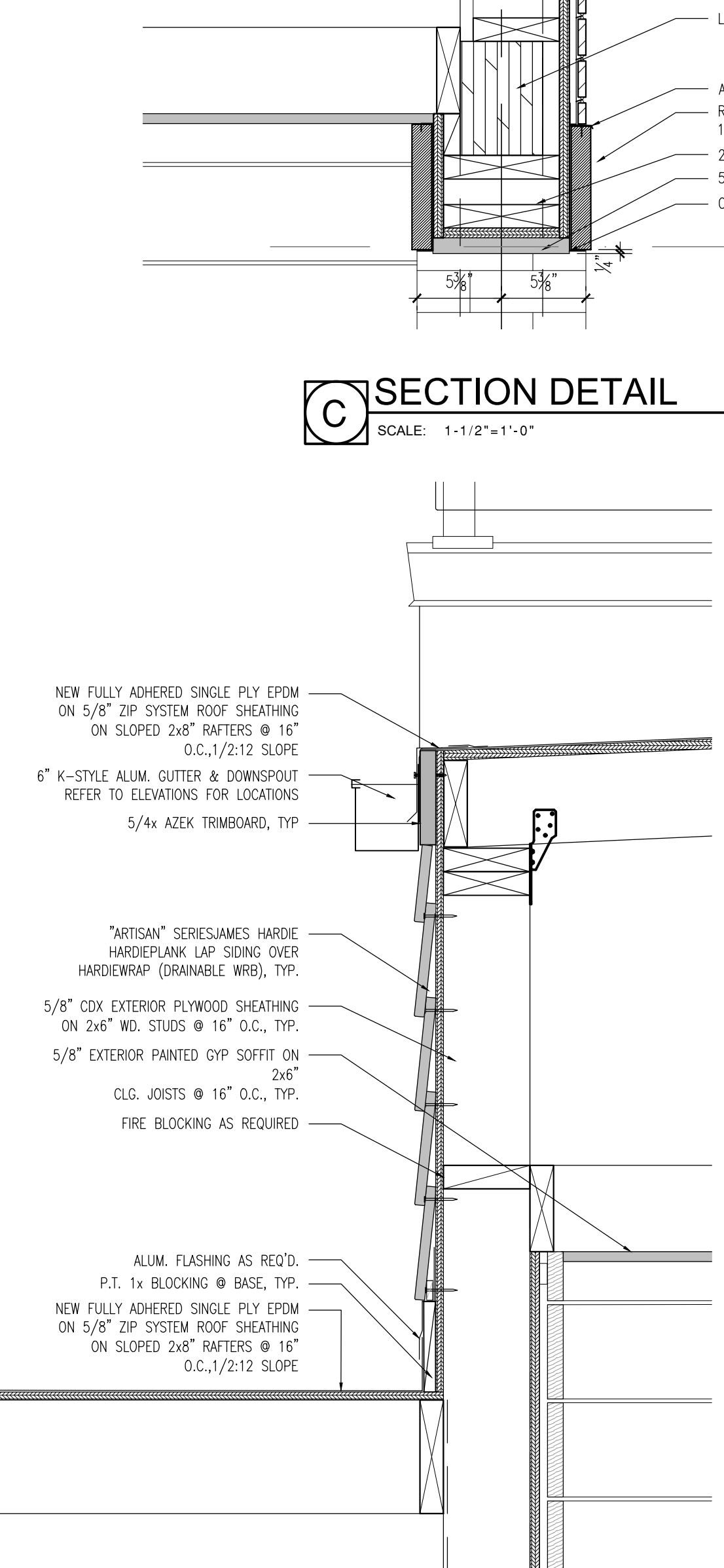




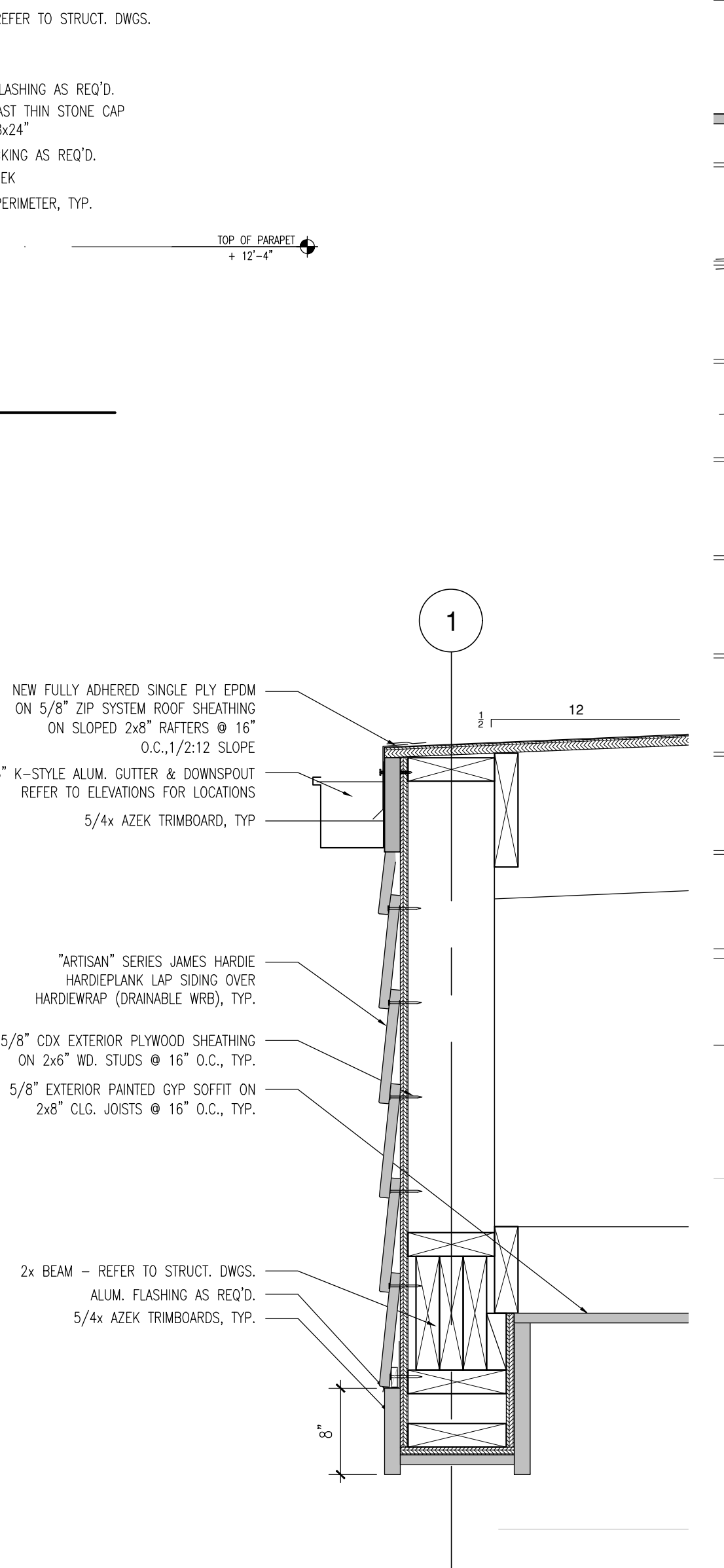
A SECTION DETAIL
SCALE: 1-1/2"=1'-0"



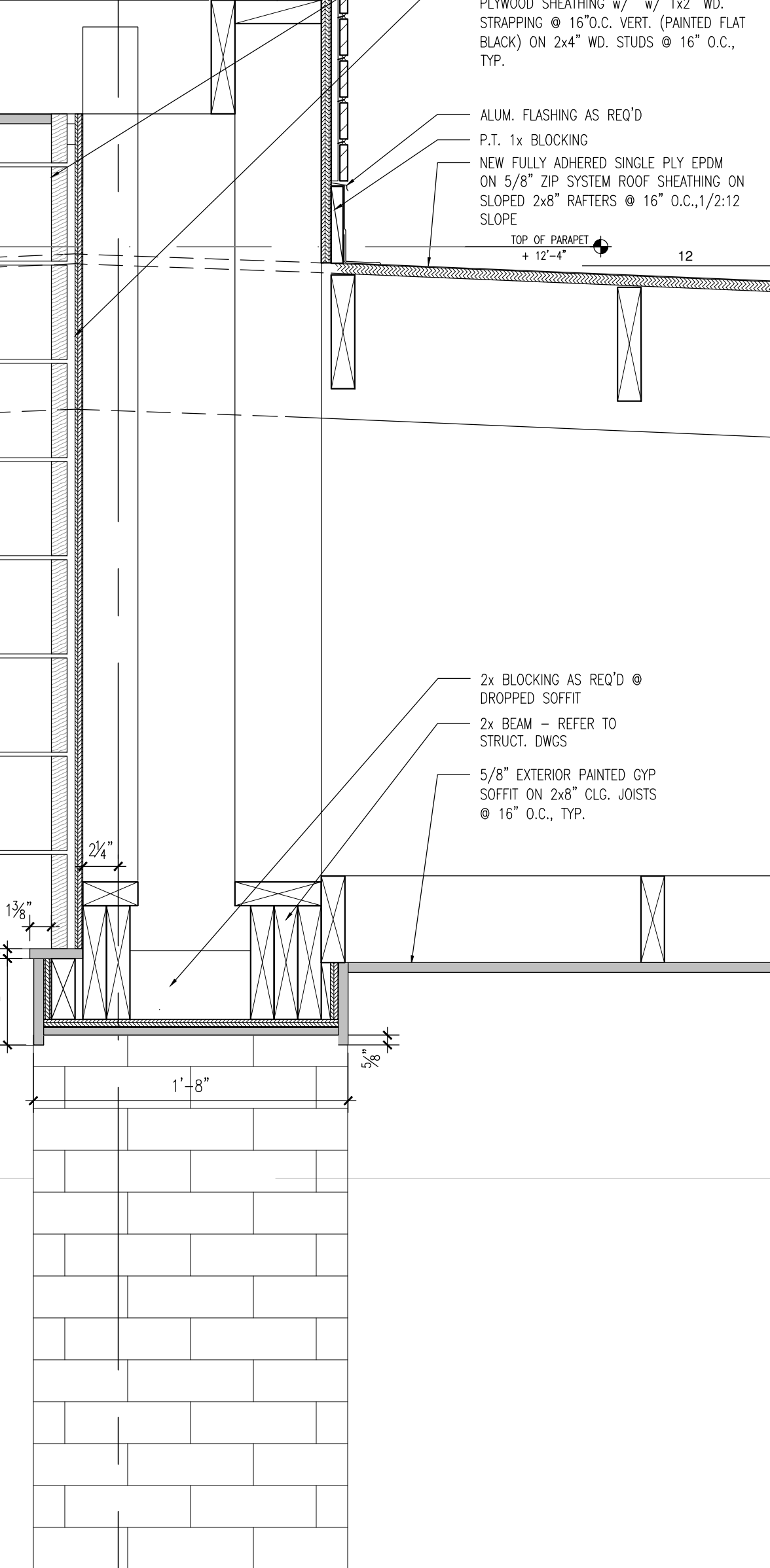
B SECTION DETAIL
SCALE: 1-1/2"=1'-0"



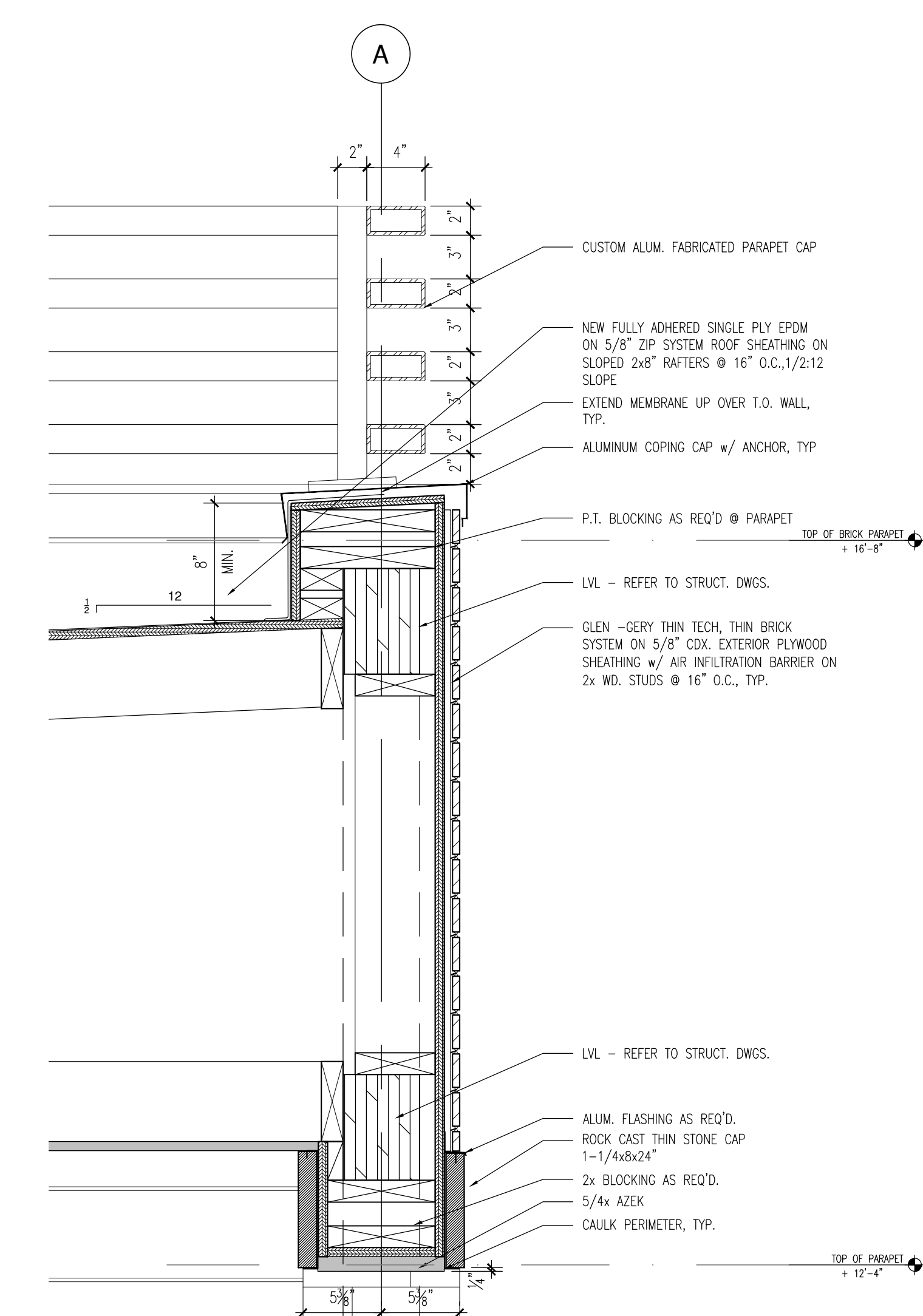
C SECTION DETAIL
SCALE: 1-1/2"=1'-0"



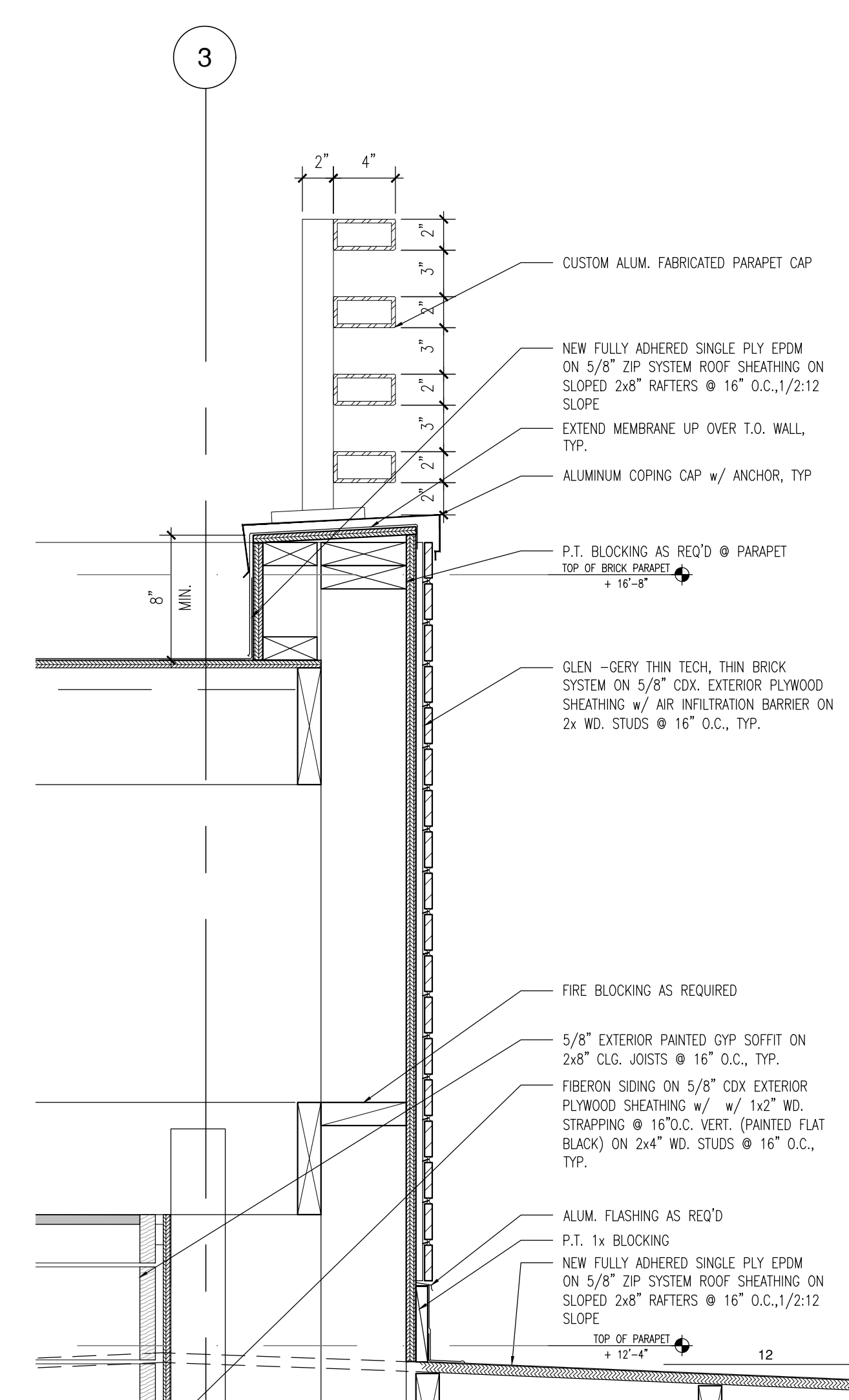
E SECTION DETAIL
SCALE: 1-1/2"=1'-0"



F SECTION DETAIL
SCALE: 1-1/2"=1'-0"



G SECTION DETAIL
SCALE: 1-1/2"=1'-0"



H SECTION DETAIL
SCALE: 1-1/2"=1'-0"

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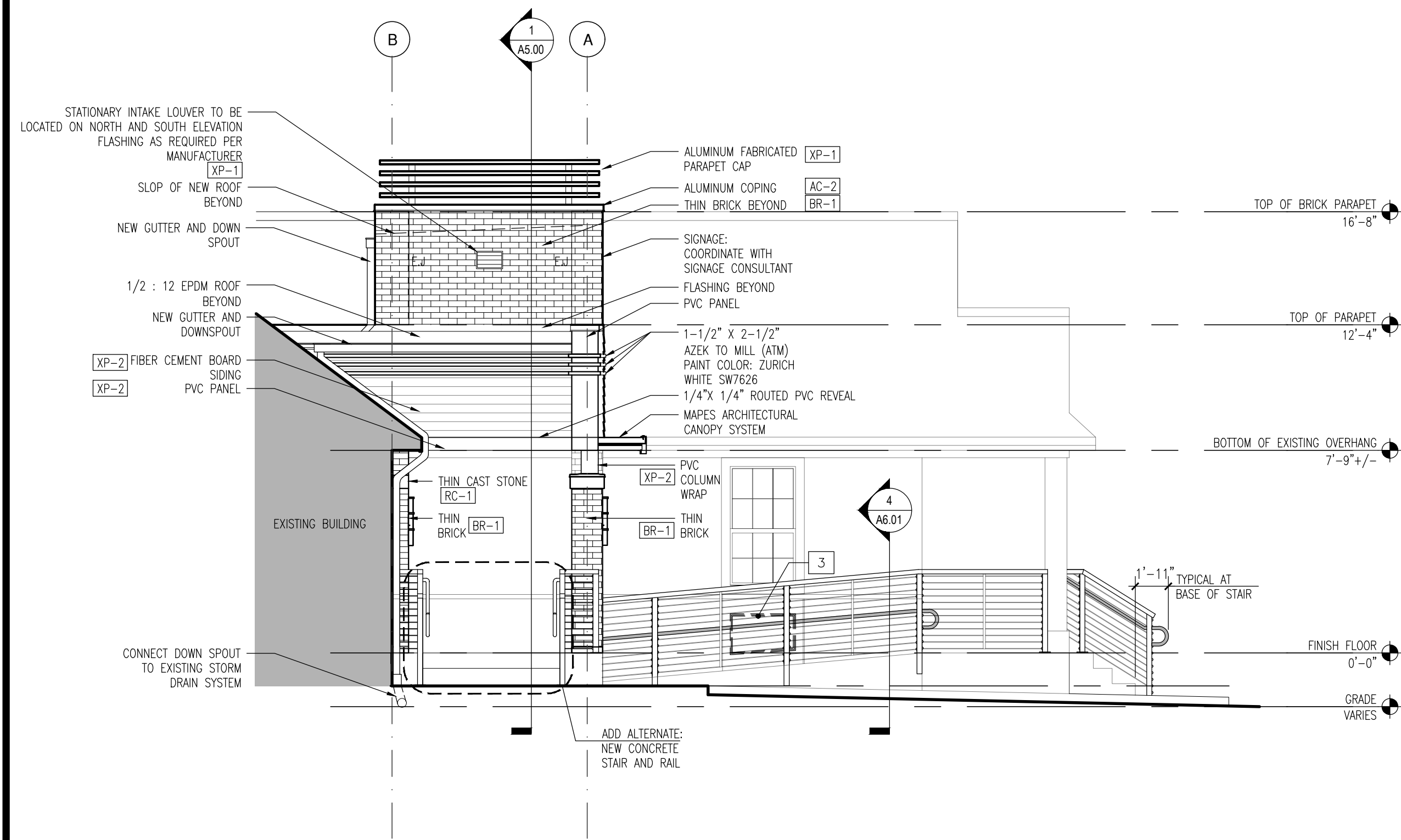
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Project No. 2K20.015

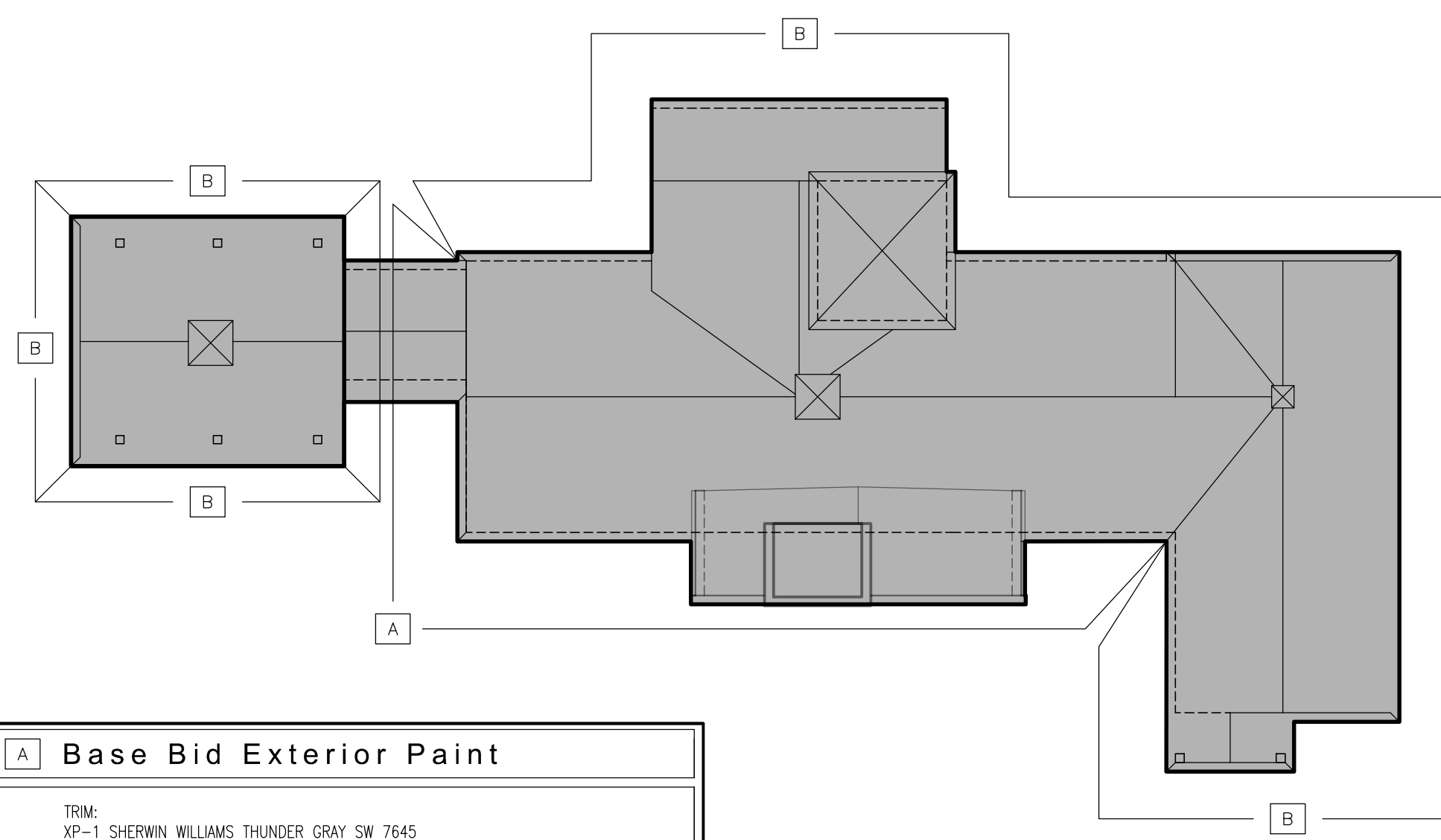
Drawn by: SAK

A3.02

SECTION DETAILS



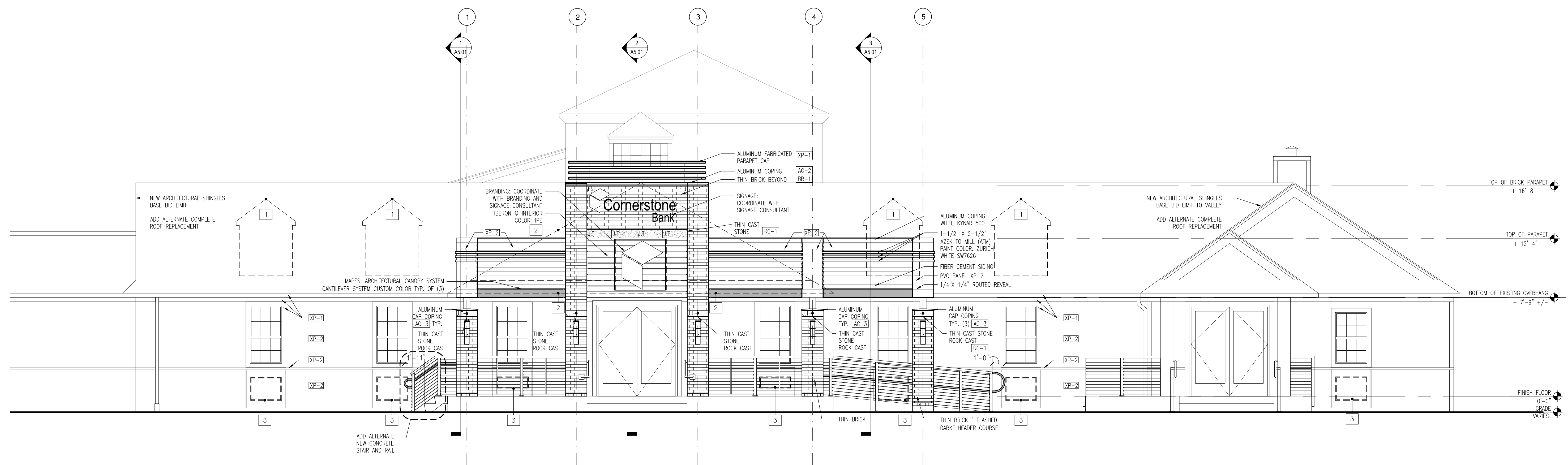
2 NORTH ELEVATION
SCALE: 1/4"=1'-0"



A Base Bid Exterior Paint
TRIM: XP-1 SHERWIN WILLIAMS THUNDER GRAY SW 7645 MAIN BODY AND CLIP BOARD: XP-2 SHERWIN WILLIAMS ZURICH WHITE SW 7626
B Add Alternate Exterior Paint
INCLUDE PAINTING THE ENTIRE BUILDING AND DRIVE UP CANOPY REPLACE ALL FLAT PANEL WITH PVC PRIOR TO PAINT

3 EXTERIOR PAINT SCOPE DIAGRAM
SCALE: 1/16"=1'-0"

Exterior Products	
THIN BRICK : GLEN GERY THIN BRICK -THIN TECH SYSTEM COLOR : RUSTIC BURGUNDY	
THIN CAST STONE : ROCKCAST 1 1/2" X 8" X 24" GLEN-GERY STANDARD CLIP TYPE #2 MOUNT COLOR : BUFFSTONE	RC-1
STORE FRONT : KAWNEER TRIFAB 601UT FRAMING SYSTEM 2" STOREFRONT THERMALLY IMPROVED SYSTEM COLOR : ANODIZED BRONZE	RC-1
EXTERIOR CANOPY CAN-1 : MAPES ARCHITECTURAL CANOPIES CANTILEVER COLOR: SIERRA TAN	
PVC SHEATHING, TRIM AND MOULDING: AZEK BUILDING PRODUCTS. VARIOUS SHAPES AND SIZES. PAINT COLOR : SHERWIN WILLIAMS SW7627 ZURICH WHITE	XP-2
PVC 2, TRIM AND MOULDING:(UNDER THIN CAST AT BRICK TOWER) AZEK BUILDING PRODUCTS. PAINT COLOR : SHERWIN WILLIAMS SW7051 ANALYTICAL GRAY	XP-3
ALUMINUM COPING: PAC-CLAD ALUMINUM; CONTINUOUS CLEAT COPING W/ SIDING COLOR : WHITE WITH KYNAR 500 FINISH W/ BRICK COLOR: GRAPHITE WITH KYNAR 500 FINISH @ COLUMN: COLOR: GRANITE STEEL KYNAR 500 FINISH	AC-1 AC-2 AC-3
FIBER CEMENT SIDING: JAMES HARDIE LAP SIDING COLOR: ARCTIC WHITE SIZE: 6" SIDING BOARD WITH MITERED CORNER COLOR: SHERWIN WILLIAMS ZURICH WHITE SW 7626	XP-2
FABRICATED ALUMINUM METAL WORK : COLOR MATCH SHERWIN WILLIAMS THUNDER GRAY SW: 7645	XP-1
ROOFING PRODUCTS : BASE BID: VALLEY TO VALLEY: CERTANTEED: LAND MARK PRO COLOR: RESHAWN SHAKE ADD ALTERNATE: ENTIRE ROOF CERTANTEED: LAND MARK PRO COLOR:MAX DEF PEWTERWOOD	
CLADDING PANELS :FIBRON COMPOSITE PANELS/ PLANKS/ CLADDING COLOR: IPE	
General Elevation Notes:	
1 REMOVE (4) EXISTING DORMER STRUCTURES. REPAIR EXISTING RAFTERS, PATCH AND MATCH EXISTING SHEATHING, AND PREPARE FOR NEW FINISHES	
2 REMOVE EXISTING CABLE STRUCTURE "OVER BUILD" AND ASSOCIATED COLUMN SUPPORTS. REPAIR FRAMING TO REMAIN AND REPAIR, PATCH AND MATCH NEW SHEATHING TO EXISTING AND PREPARE FOR NEW ROOFING.	
3 REMOVE EXISTING RAISED PANEL AND REPAIR EXISTING WITH PVC PANEL. REFER TO DEMO DRAWINGS FOR QUANTITIES. PAINT TO MATCH	



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



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East Hartford, CT 06108



750 Old Main St.
Suite 202,
Rocky Hill, CT 06067



67 Federal Rd, Building A,
Suite 201
Brookfield, CT 06804

RENOVATIONS FOR:

200 CHARLTON ROAD
STURBRIDGE, MA

Issues:

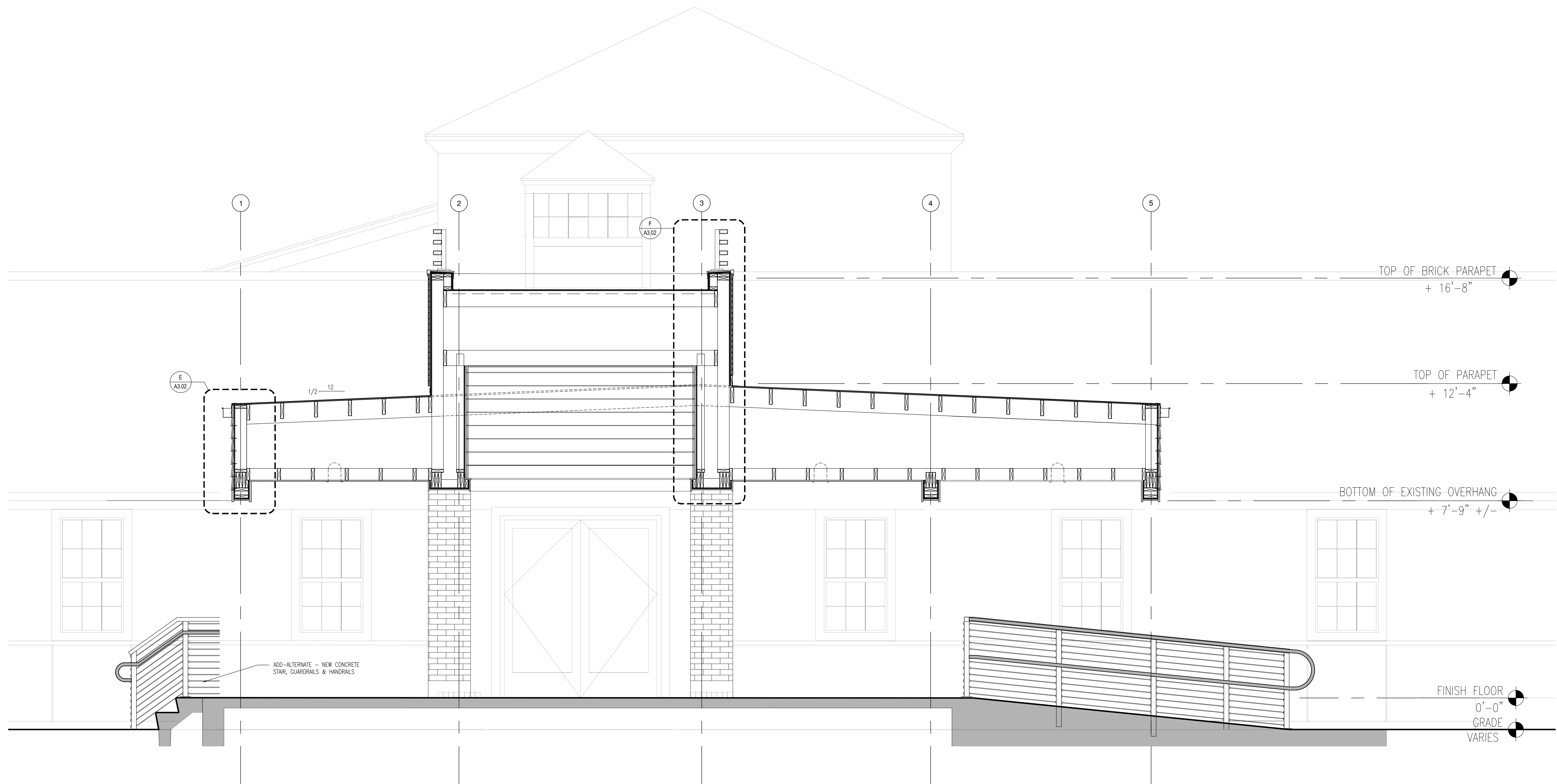
Date: November 30th, 2020

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

Project No. 2K20.015

Drawn by: SMN

A4.01
Exterior Elevations



1 BUILDING SECTION
SCALE: 1/2"=1'-0"



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RENOVATIONS FOR:

200 CHARLTON ROAD
STURBRIDGE, MA

Issuances:

Date: November 30th, 2020

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

Project No. 2K20.015
Drawn by: SA

A5.00
SECTION
DETAILS

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RENOVATIONS FOR:

Cornerstone Bank
 Built on trust.

STURBRIDGE, MA
 200 CHARLTON ROAD

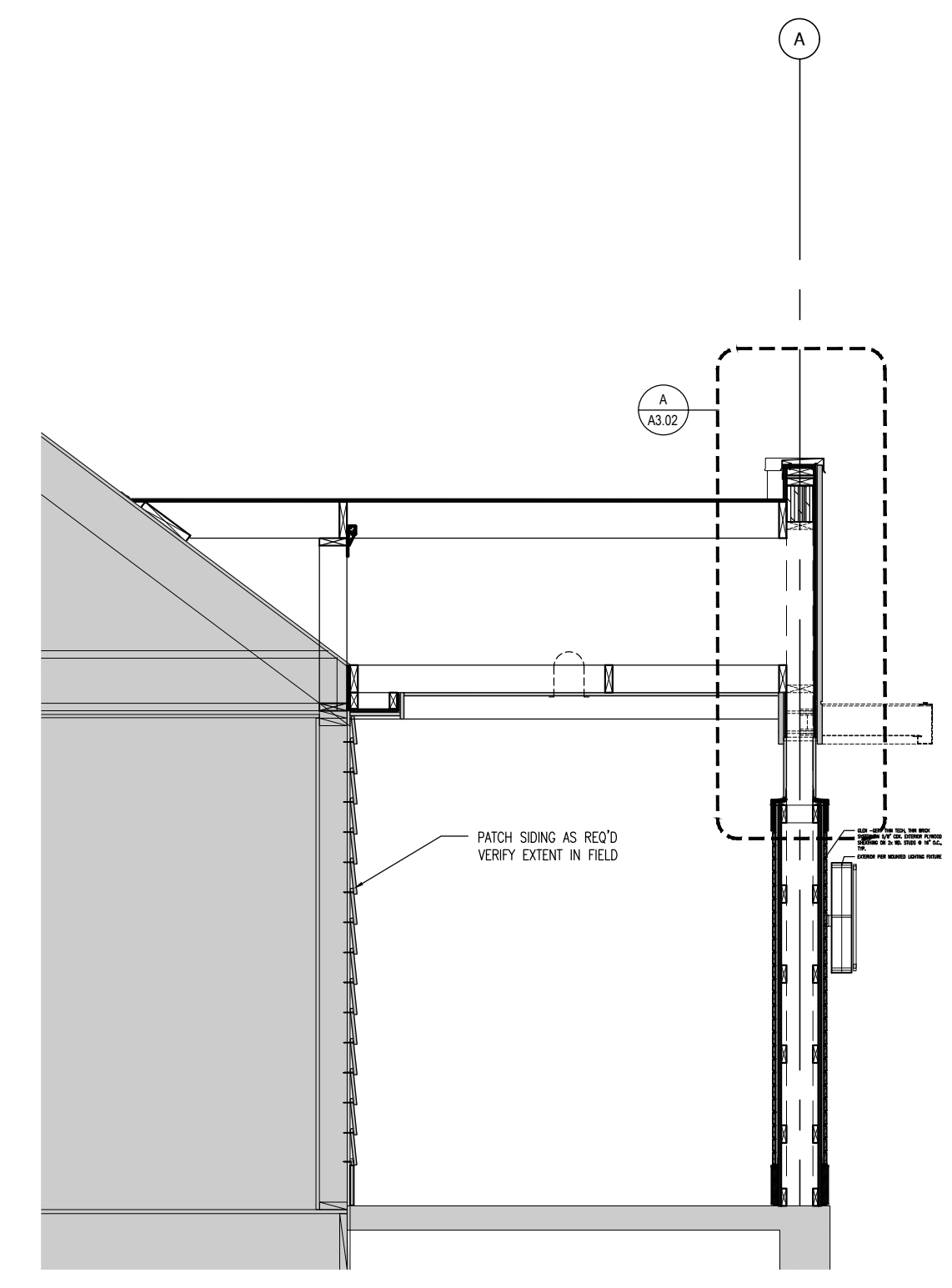
Issues:

Date: November 30th, 2020

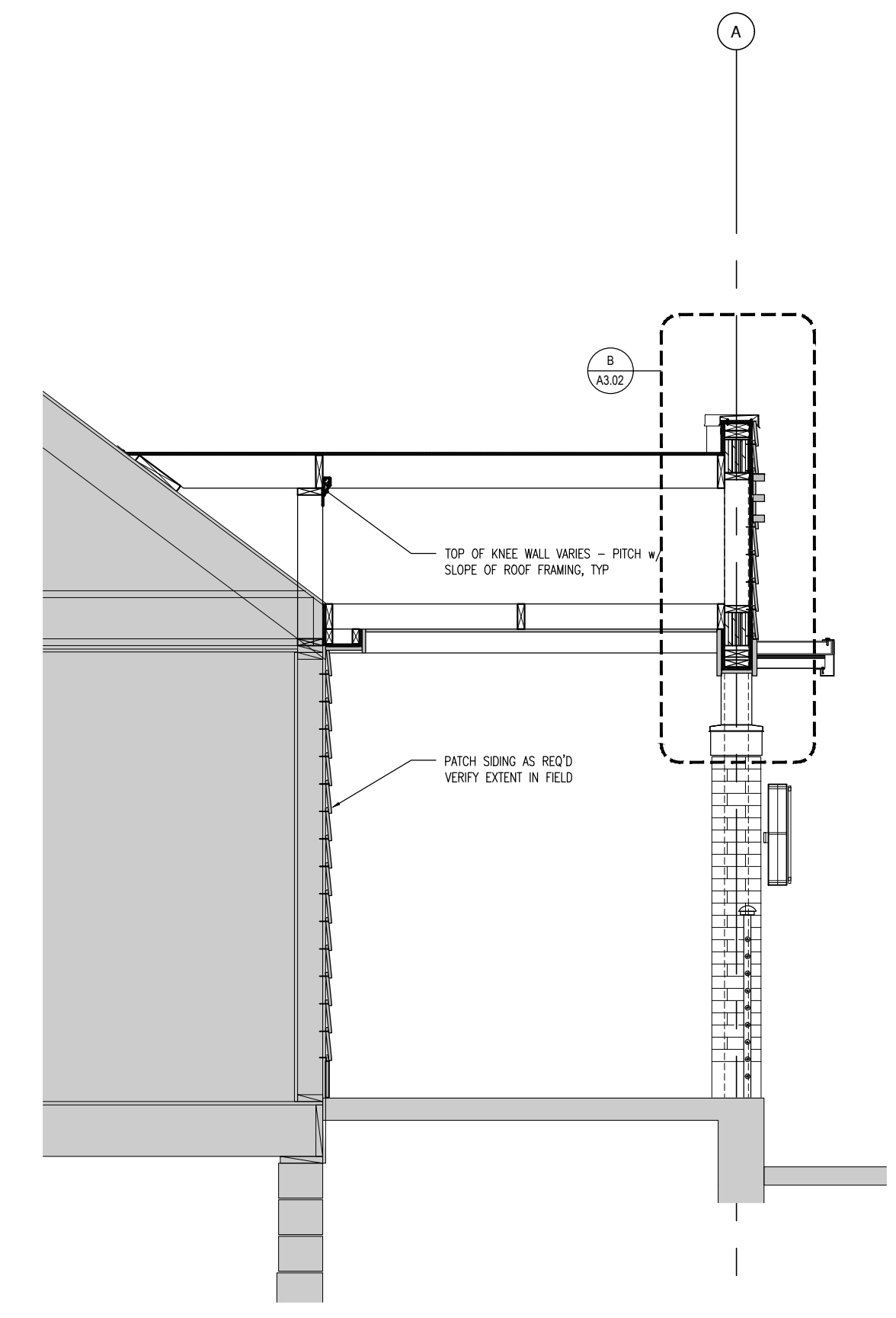
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Project No. 2K20.015 | Drawn by: SA

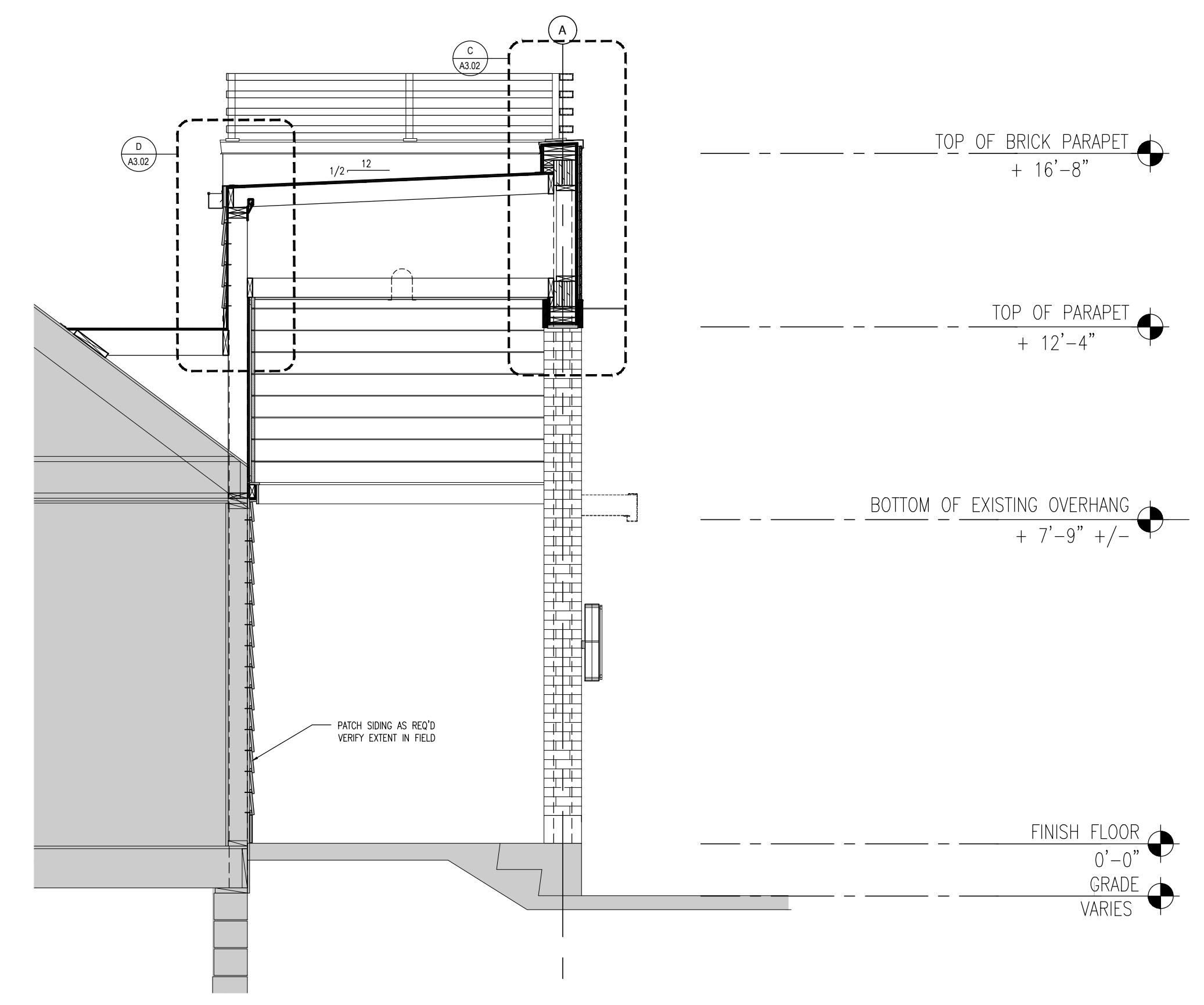
A5.01
 SECTION
 DETAILS



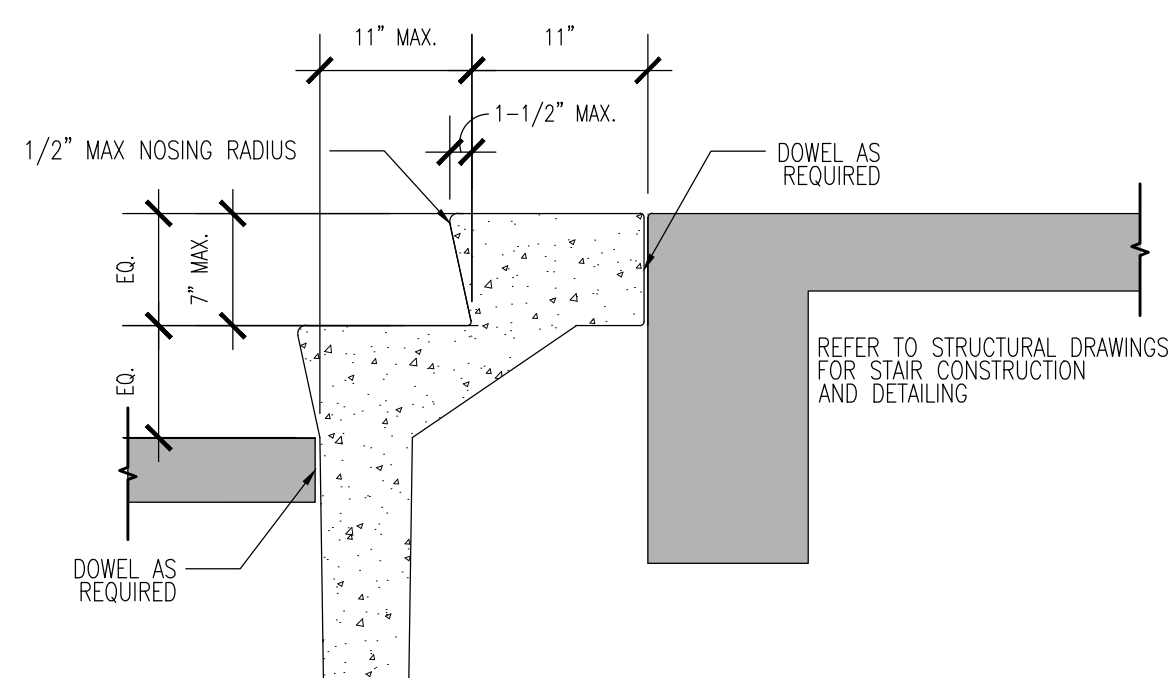
3 WALL SECTION
 SCALE: 3/4"=1'-0"



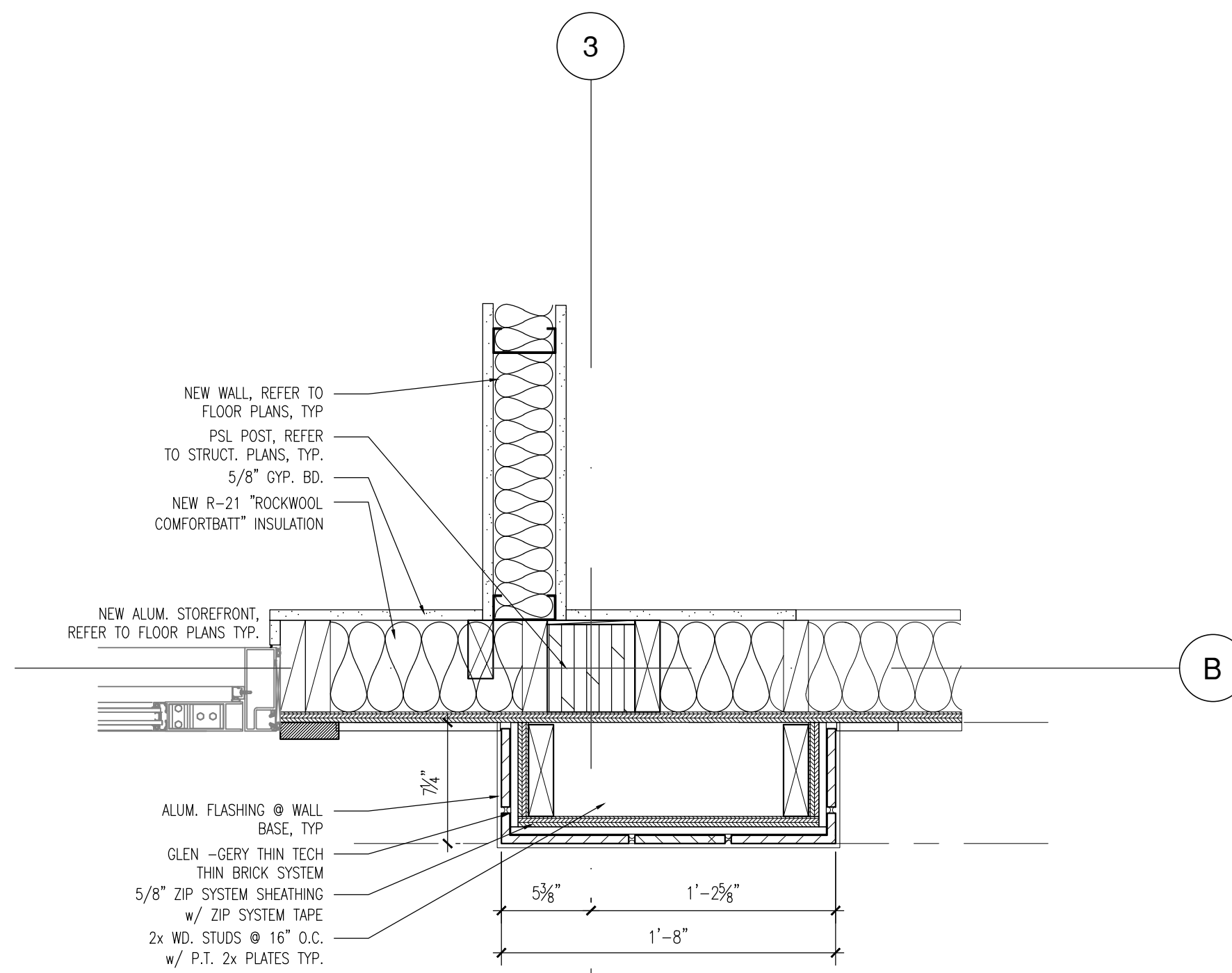
2 WALL SECTION
 SCALE: 3/4"=1'-0"



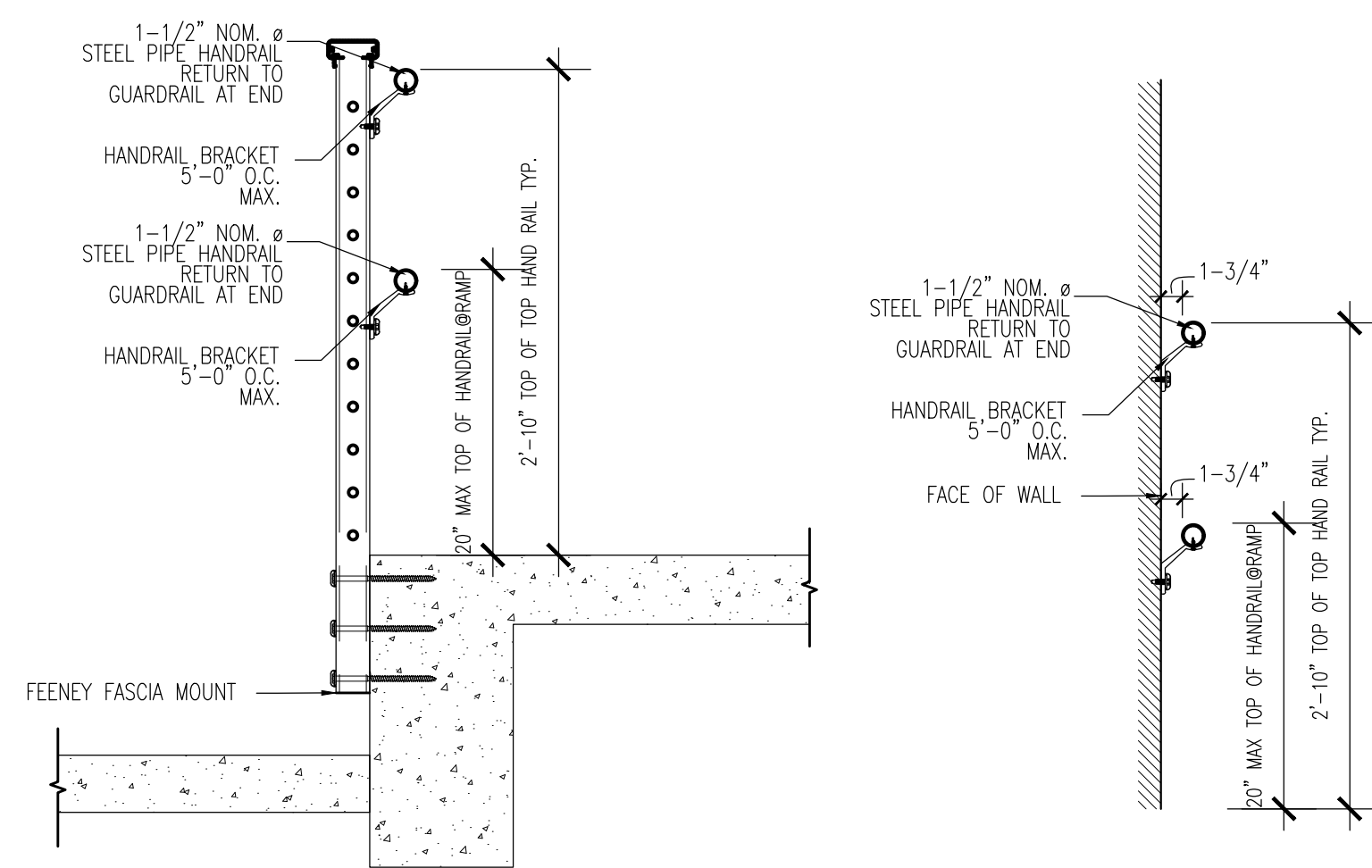
1 WALL SECTION
 SCALE: 3/4"=1'-0"



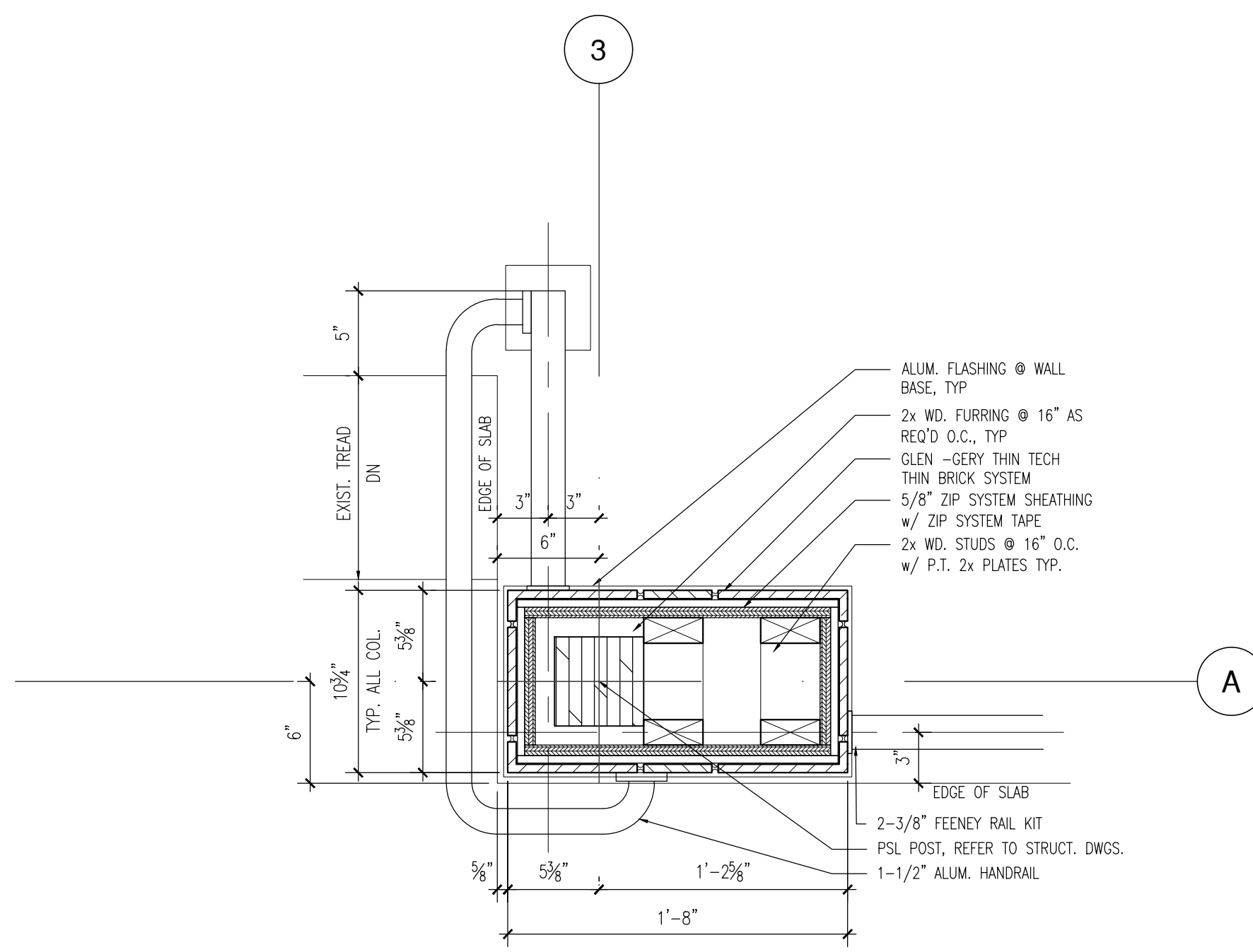
4 GENERIC STAIR AND NOSING DETAIL
SCALE: 1/2"=1'-0"



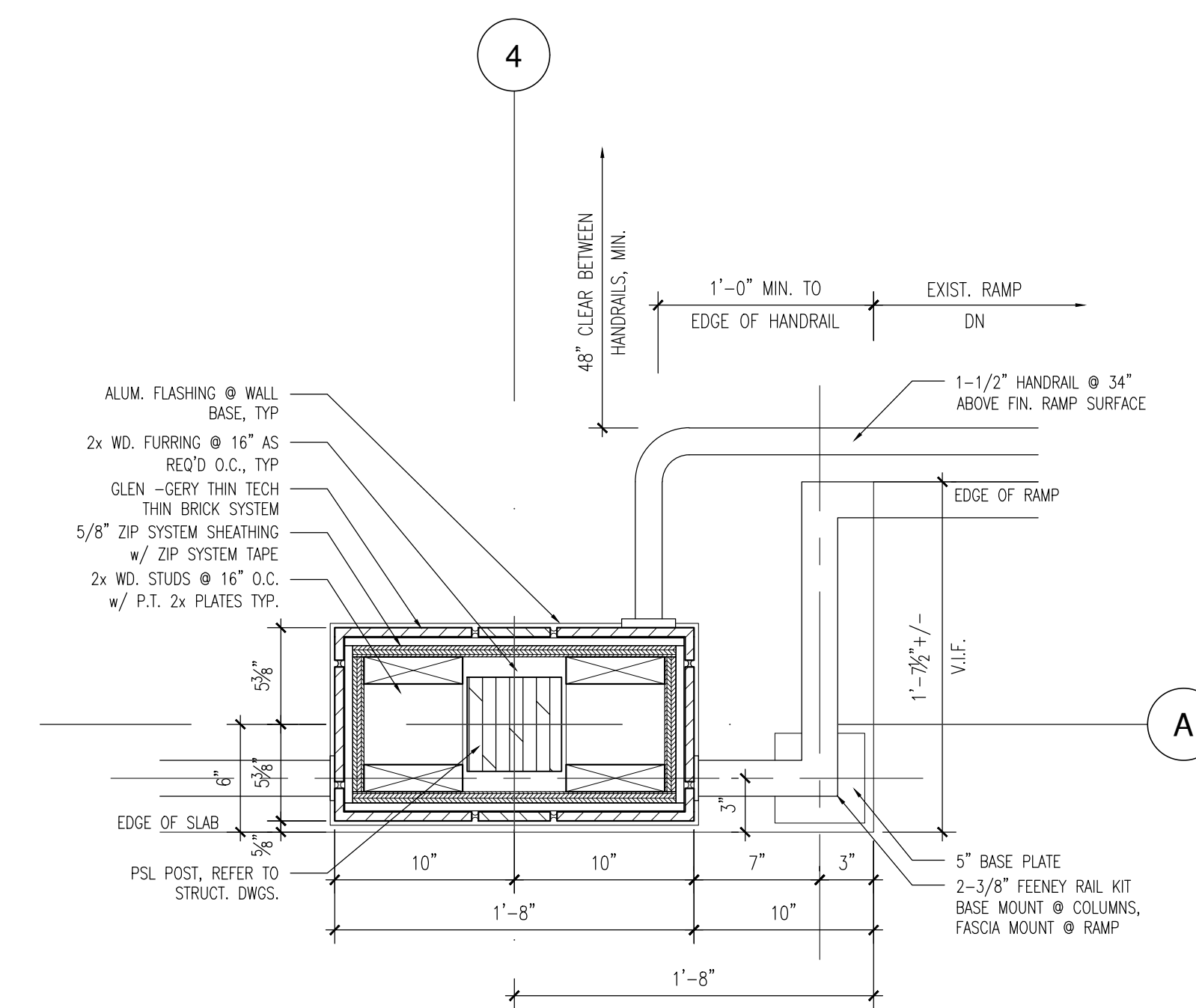
3 SECTION
SCALE: 1/2"=1'-0"



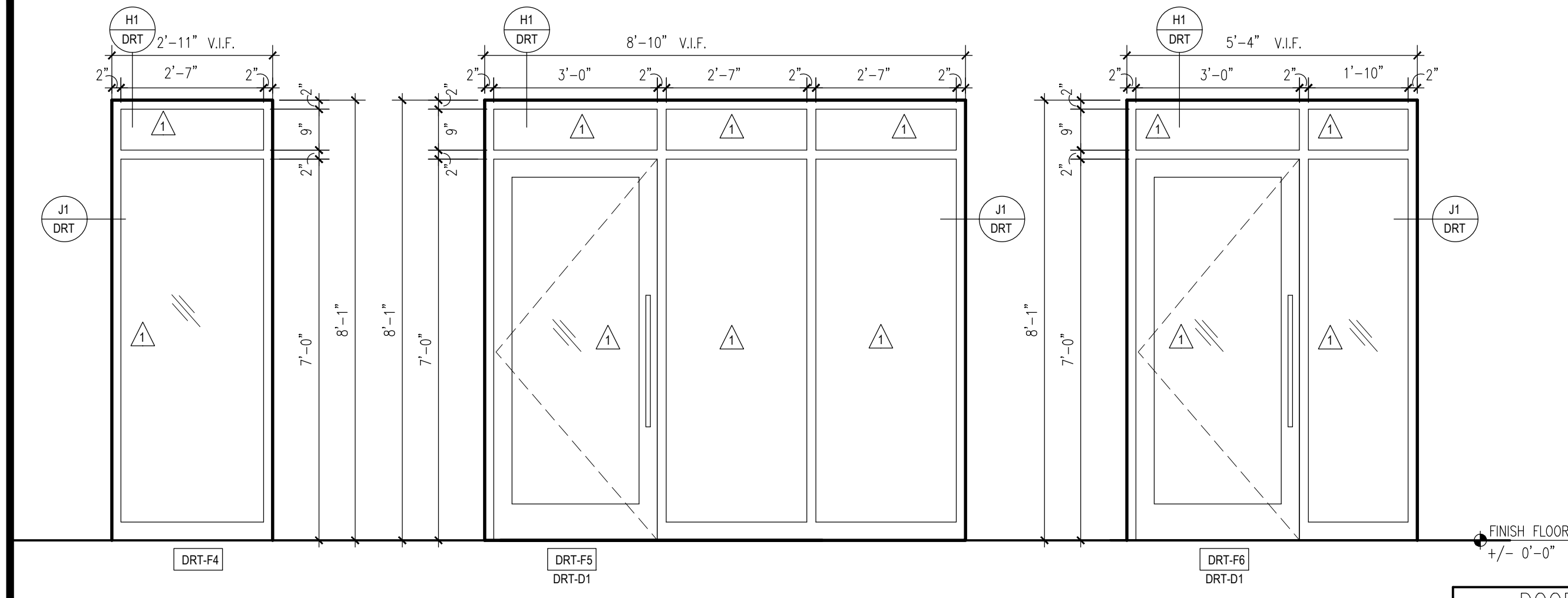
4 RAILING DETAIL AT THE RAMP & STAIR
SCALE: 1/2"=1'-0"



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

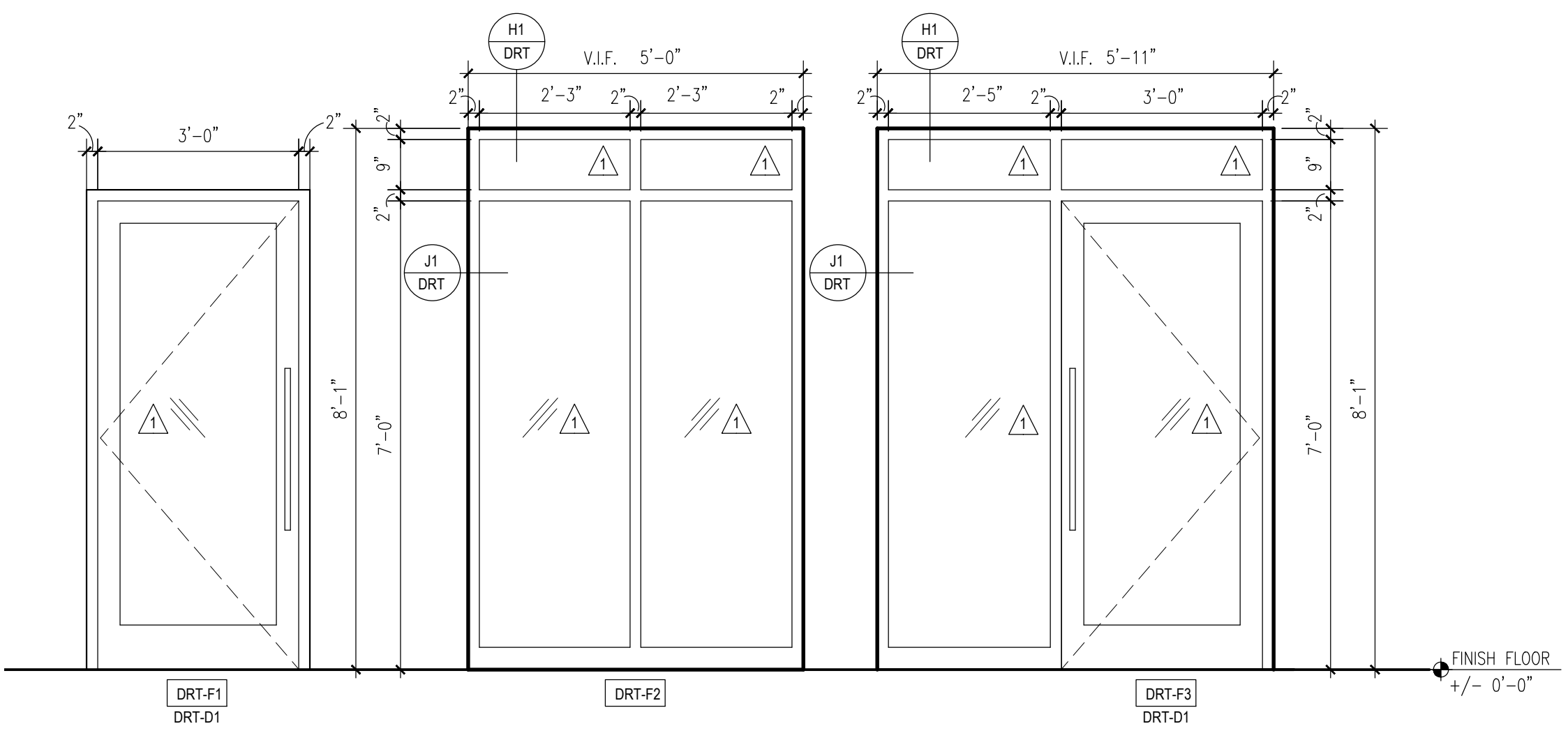


1 SECTION
SCALE: 1/2"=1'-0"



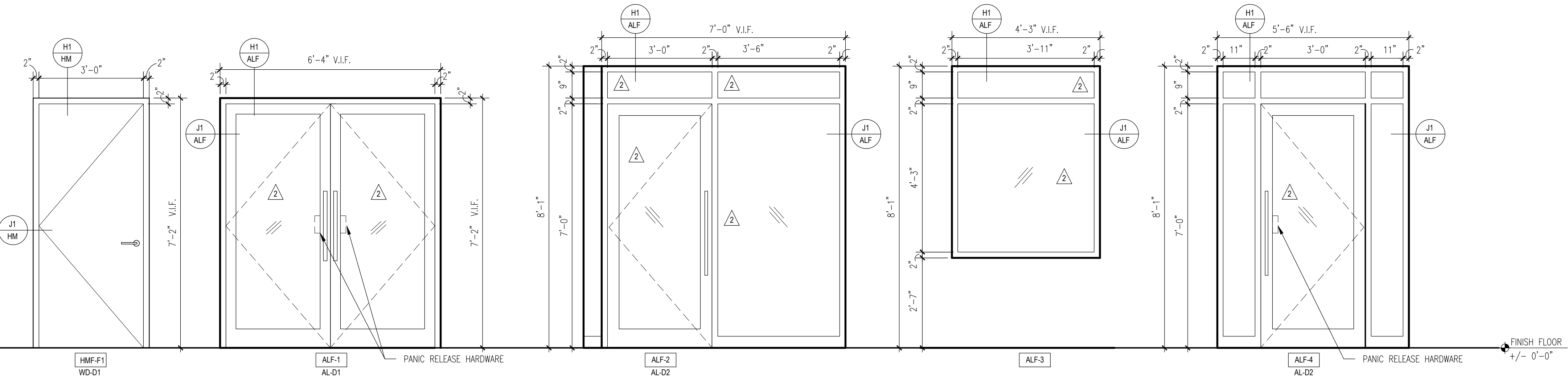
3 DOORS AND DOOR FRAMES ELEVATIONS

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



2 DOORS AND DOOR FRAMES ELEVATIONS

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



1 DOORS AND DOOR FRAMES ELEVATIONS

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

DOOR SCHEDULE		DOOR		FRAME			FIRE RATING	HARDWARE - SEE SPECIFICATIONS														REMARKS																						
DOOR ID	ROOM NAME	DOOR MATERIAL - TYPE	DOOR SIZE (WxH)	FRAME MATERIAL - TYPE	DETAIL NUMBER			MINUTE	MINUTES	MINUTES	NOT REQUIRED	PANIC RELEASE LATCH	POSITIVE LATCHING	AUTOMATIC CLOSER	ELECTRO-MECH. HOLD	DELAYED ACTION CLOSER	180° SWING	LEVER HANDLES	TACTILE WARNING	ACCESSIBLE THRESHOLD	KICK PLATE	PUSH PLATES	PRIVACY	PASSAGE	OFFICE	STORAGE	ENTRY	LEVER	LADDER STYLE PULLS (KEXED)	DEARBOLTS/PADLE PANIC RELEASE	FULL PERIMETER WEATHERSTRIPPING	STRIKE	SILENCERS	CLOSER	FLOOR STOP	WALL STOP	HOLD OPEN							
					HEAD DETAIL (A--)	JAMB DETAIL (A--)	SADDLE DETAIL																																FIRECODE REQ.	ACCESS. REQ.	LOCKSET	MISC. HARDWARE		
100	VESTIBULE	AL-D1	6'-0" x 7'-0"	AL-F1	--	--	--																																				DOUBLE DOOR	
101	VESTIBULE	AL-D2	3'-0" x 7'-0"	AL-F2	--	--	--																																					
102	ELEVATOR LOBBY	AL-D2	3'-0" x 7'-0"	AL-F4	--	--	--																																					
103	CORRIDOR	DRT-D1	3'-0" x 7'-0"	DRT-F1	--	--	--																																					HAND PRINT LOCK WIRED TO FIRE AND ALARM SYSTEM MUST OPEN FOR EMERGENCY EGRESS
104	VAULT ROOM	DRT-D1	3'-0" x 7'-0"	DRT-F1	--	--	--																																			HAND PRINT KEY PAD LOCK		
104A	COUPON BOOTH	WD-D1	3'-0" x 7'-0"	HMF-F1	--	--	--																																					
105	WORK ROOM	DRT-D1	3'-0" x 7'-0"	DRT-F1	--	--	--																																				HAND PRINT KEY PAD LOCK	
107	OFFICE	DRT-D3	3'-0" x 7'-0"	DRT-F6	--	--	--																																					DOOR KEYSET 1 W/MASTER
107B	CLOSET	WD-D1	2'-6" x 7'-0"	HMF-F1 SIM.	--	--	--																																					
108	OFFICE	DRT-D1	3'-0" x 7'-0"	DRT-F3	--	--	--																																					
109	CLOSET	WD-D1	3'-0" x 7'-0"	HMF-F1	--	--	--																																					
110	OFFICE	DRT-D2	3'-0" x 7'-0"	DRT-F5	--	--	--																																					
111	JAN/ STORAGE	WD-D1	3'-0" x 7'-0"	HMF-F1	--	--	--																																					

HARDWARE NOTES:
 NOTE 1. DOOR HARDWARE FINISH TO BE STAINLESS FINISH
 NOTE 2. ALL HARDWARE TO MEET ANSI A156.2 SERIES 400, GRADE 2 AND ANSI A117.1 ACCESSIBILITY CODE.
 CONTRACTOR TO COORDINATE AND VERIFY FINAL ALUMINUM AND HOLLOW METAL FRAME DIMENSIONS IN FIELD
 COORDINATE FINAL HARDWARE REQUIREMENTS WITH OWNER
 COORDINATE KEY FOB SPECS. WITH SECURITY CONTRACTOR

LEGEND

INTERIOR DOORS AND FRAMES (AS NOTED)

MANUFACTURER : CECD DOOR PRODUCTS.
 TYPE : HOLLOW METAL FRAME
 SERIES : DU-SERIES-SUP ON DRYWALL
 SIZES/TYPES : AS INDICATED ON A8.01
 FINISH : PAINT. TBD

MANUFACTURER : MASONITE ARCHITECTURAL WOOD DOORS.
 TYPE : WOOD DOORS
 SIZE : AS NOTED ON A8.01
 FINISH : PAINT. TBD

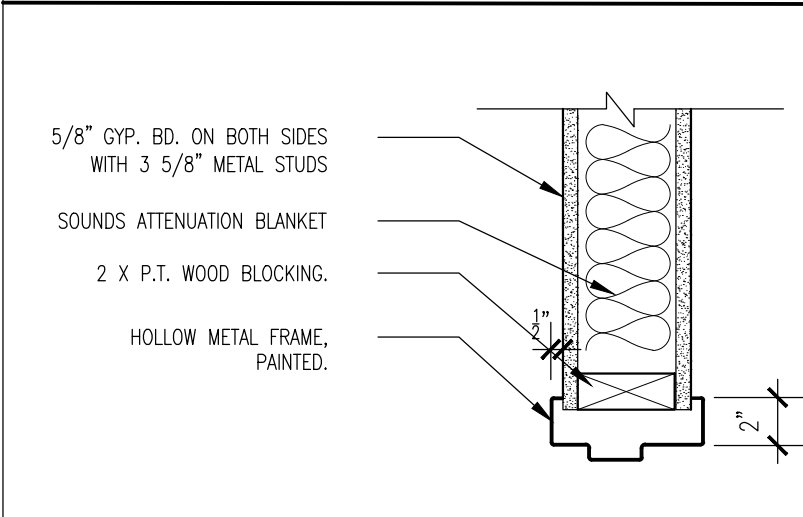
HM-D_ HOLLOW METAL DOOR, PAINTED PT-0X, SEMI-GLOSS FINISH
 HM-F_ HOLLOW METAL FRAME, PAINTED PT-1, SEMI-GLOSS FINISH
 WD-D_ SOLID CORE WOOD DOOR, MASONITE ARCHITECTURAL, COLOR P1
 DRT-F_ DRIT WALL PARTITION

GLAZING TYPES

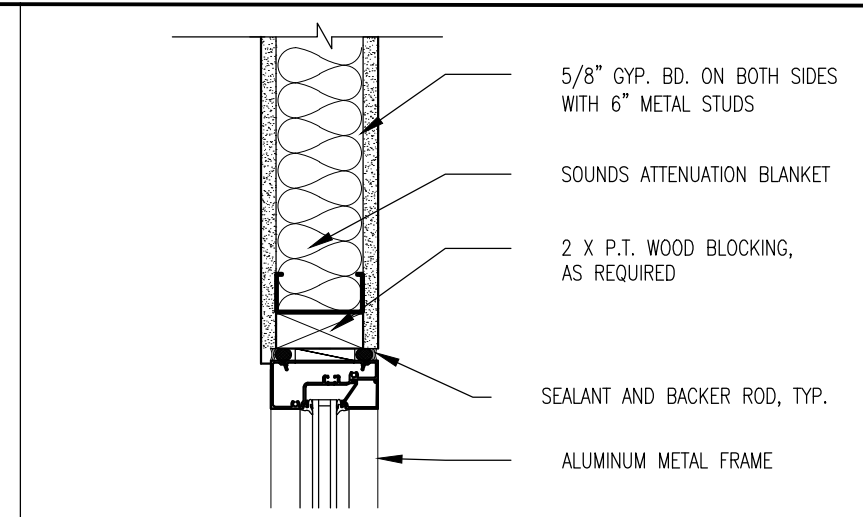
△ 1/2" CLEAR TEMPERED SAFETY GLAZING
 ▽ INSULATED TEMPERED SAFETY GLAZING

IT IS THE INTENT OF THESE SPECIFICATIONS AND DRAWINGS TO CALL FOR AN INSTALLATION THAT IS COMPLETE IN EVERY RESPECT. IT IS NOT THE INTENT TO GIVE EVERY DETAIL ON THE DRAWINGS AND IN THE SPECIFICATION. IF AN ITEM OF WORK IS SHOWN ON THE DRAWINGS, IT SHALL BE CONSIDERED SUFFICIENT FOR INCLUSION IN THE CONTRACT. THE CONTRACTOR SHALL FURNISH AND INSTALL ALL MATERIAL AND EQUIPMENT USUALLY FURNISHED OR NEEDED TO MAKE A COMPLETE INSTALLATION, WHERE SPECIFICALLY MENTIONED OR NOT.

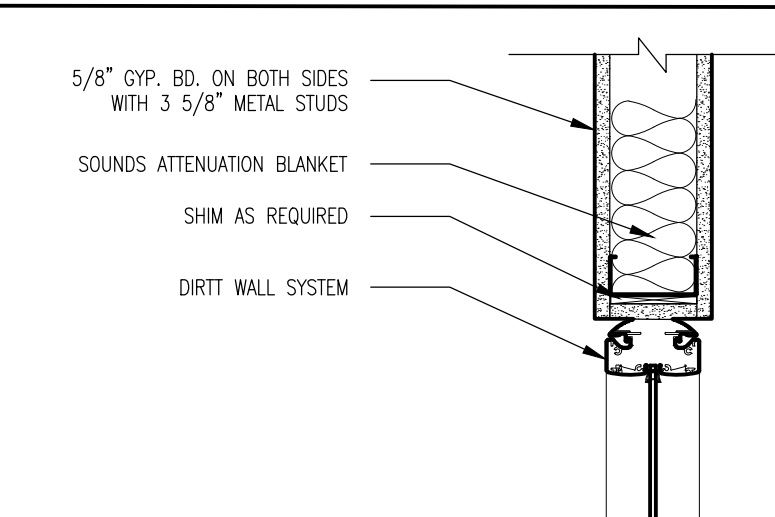
HEAD, JAMB, AND SILL DETAILS



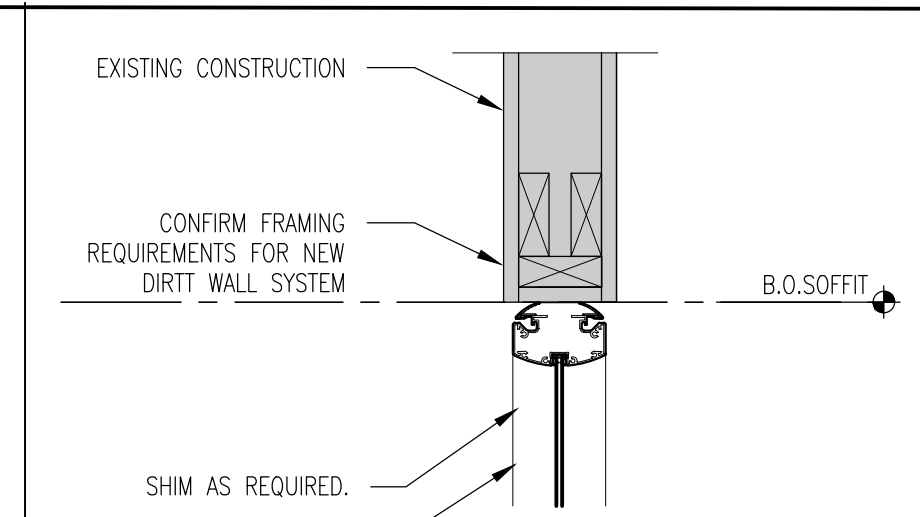
H1 HEAD DETAILS
HMF SCALE : 1 1/2" = 1'-0"



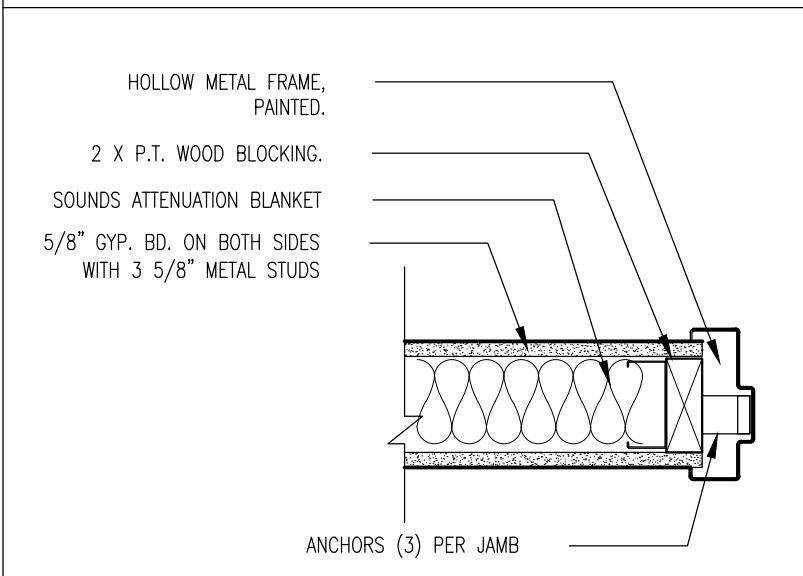
H1 HEAD DETAILS
ALF SCALE : 1 1/2" = 1'-0"



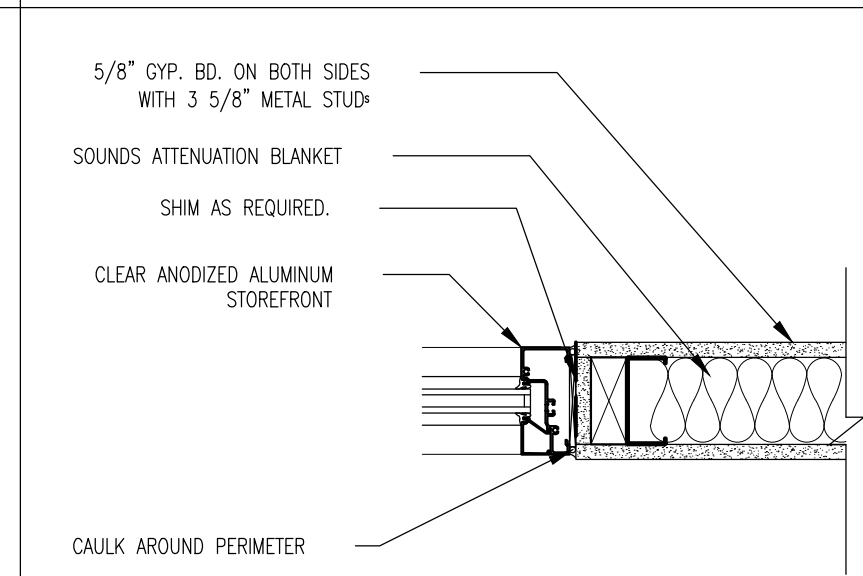
H1 HEAD DETAILS
DRT SCALE : 1 1/2" = 1'-0"



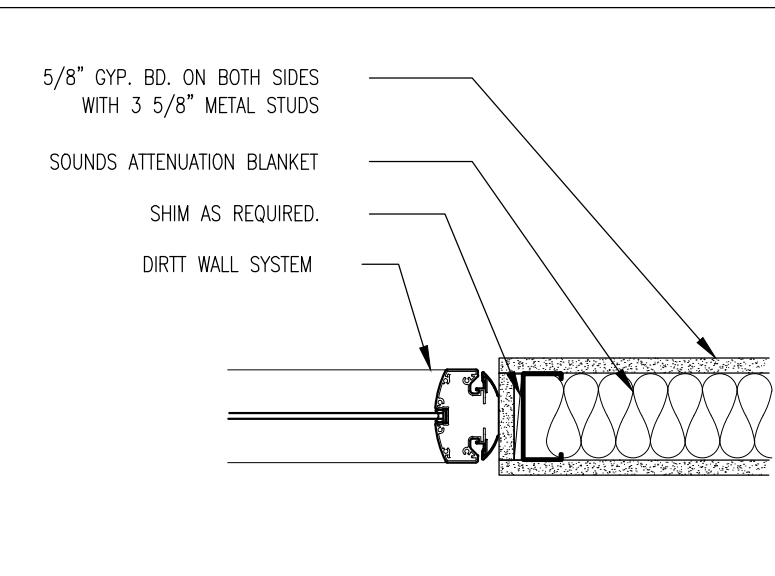
H2 HEAD DETAILS
DRT SCALE : 1 1/2" = 1'-0"



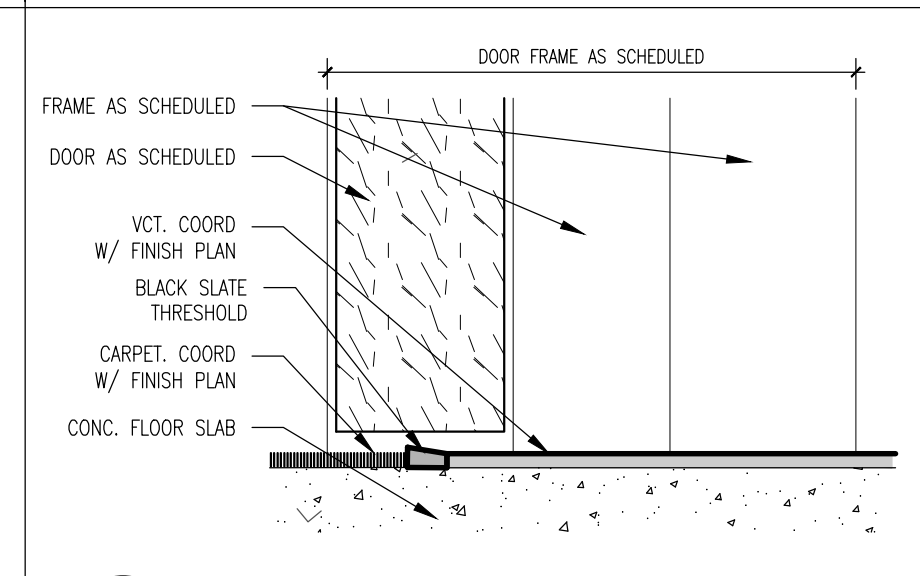
J1 JAMB DETAILS
HMF SCALE : 1 1/2" = 1'-0"



J1 JAMB DETAILS
ALF SCALE : 1 1/2" = 1'-0"



J1 HEAD DETAILS
DRT SCALE : 1 1/2" = 1'-0"



T1 TYP. INTERIOR TRANSITION DETAIL
SCALE : 6" = 1'-0"



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RENOVATIONS FOR:

200 CHARLTON ROAD
STURBRIDGE, MA

Issuances:

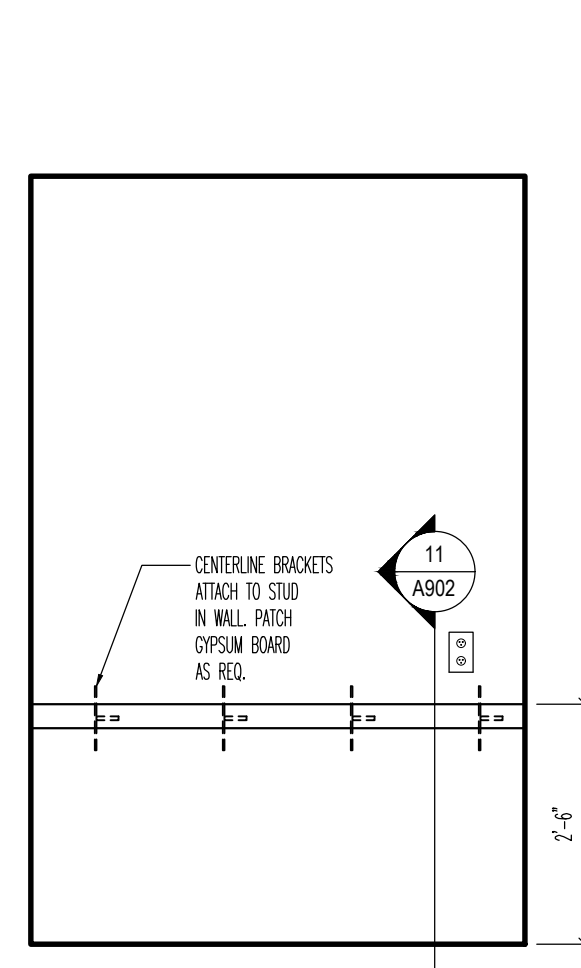
Date: November 30th, 2020

Scale: AS NOTED

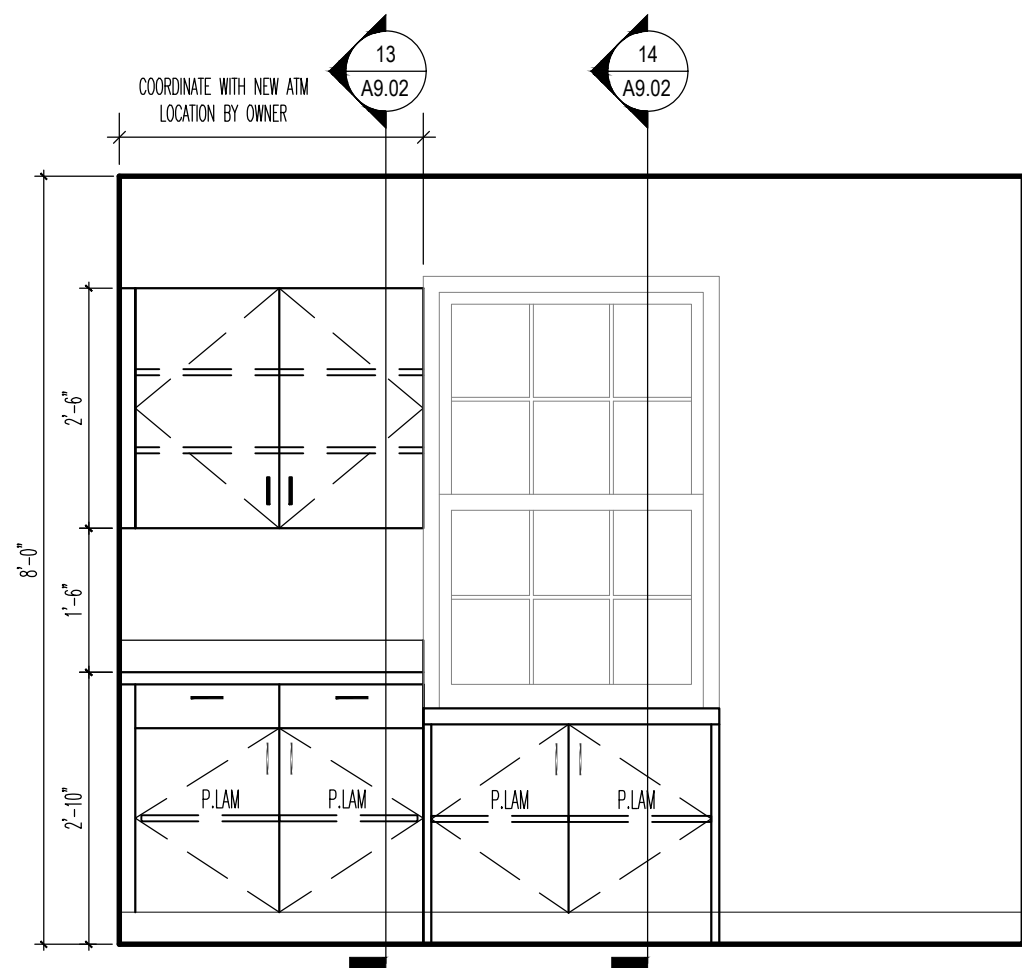
Project No. 2K20.015
Drawn by: SMN

A8.02

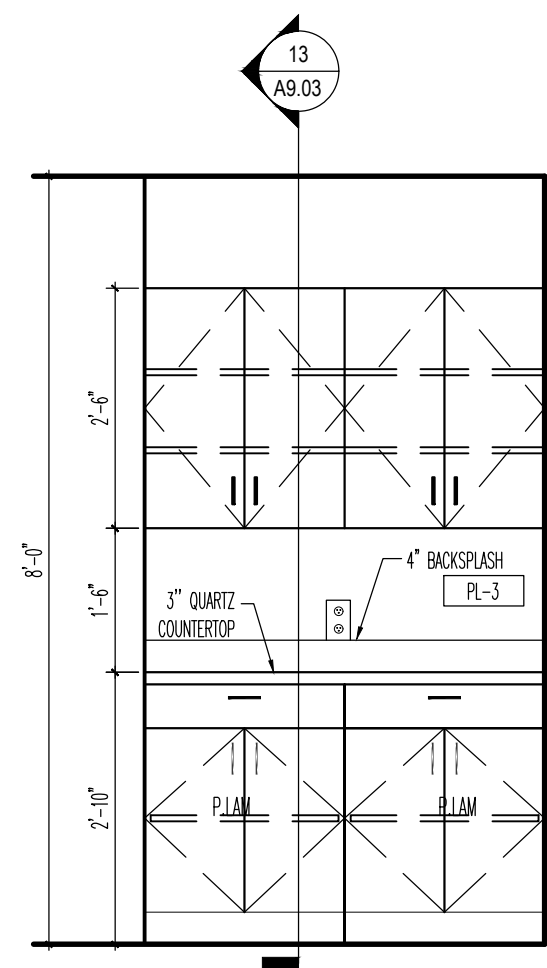
Door Schedule



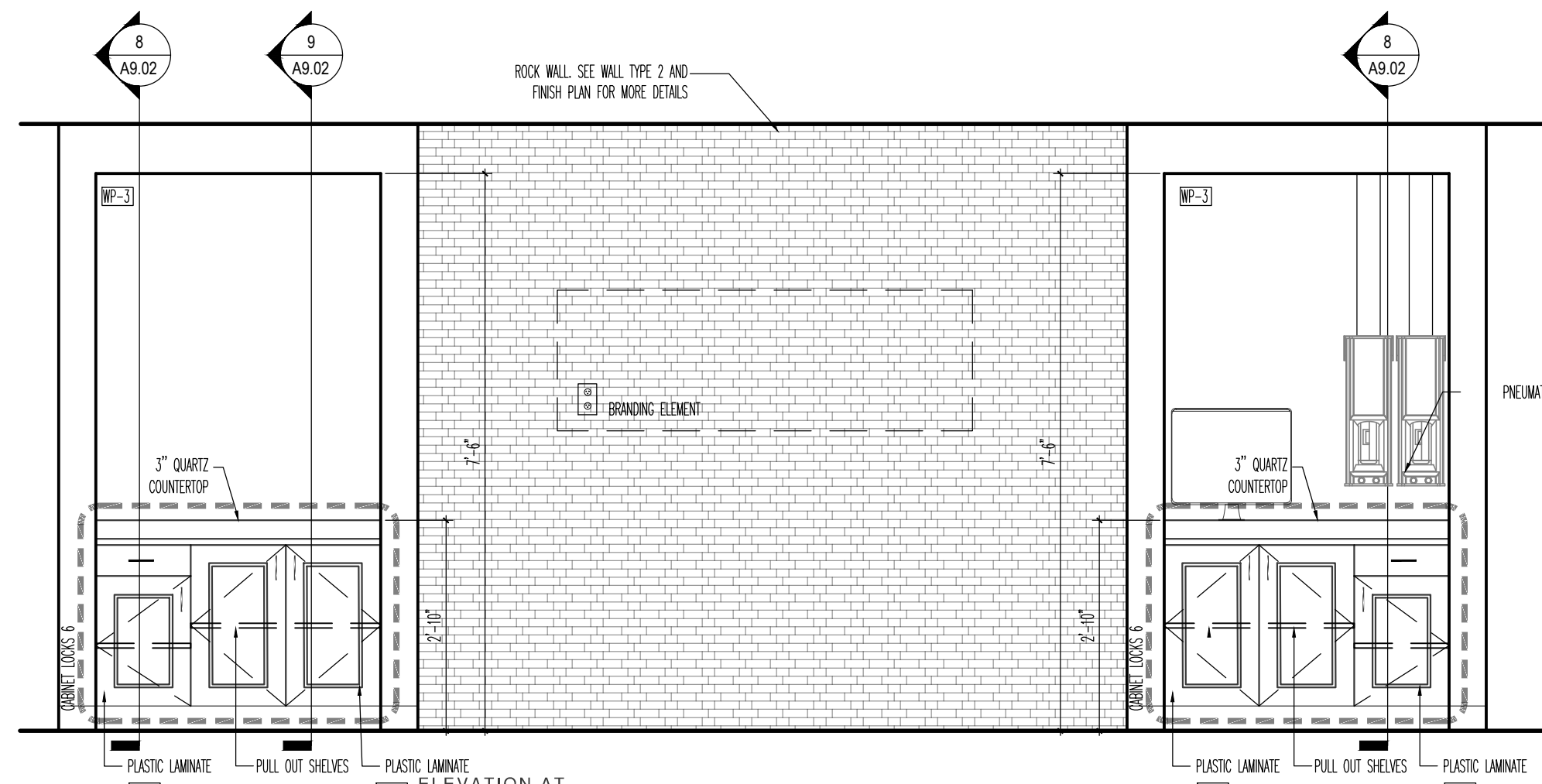
14 ELEVATION AT COUPON ROOM
SCALE: 1/2"=1'-0"



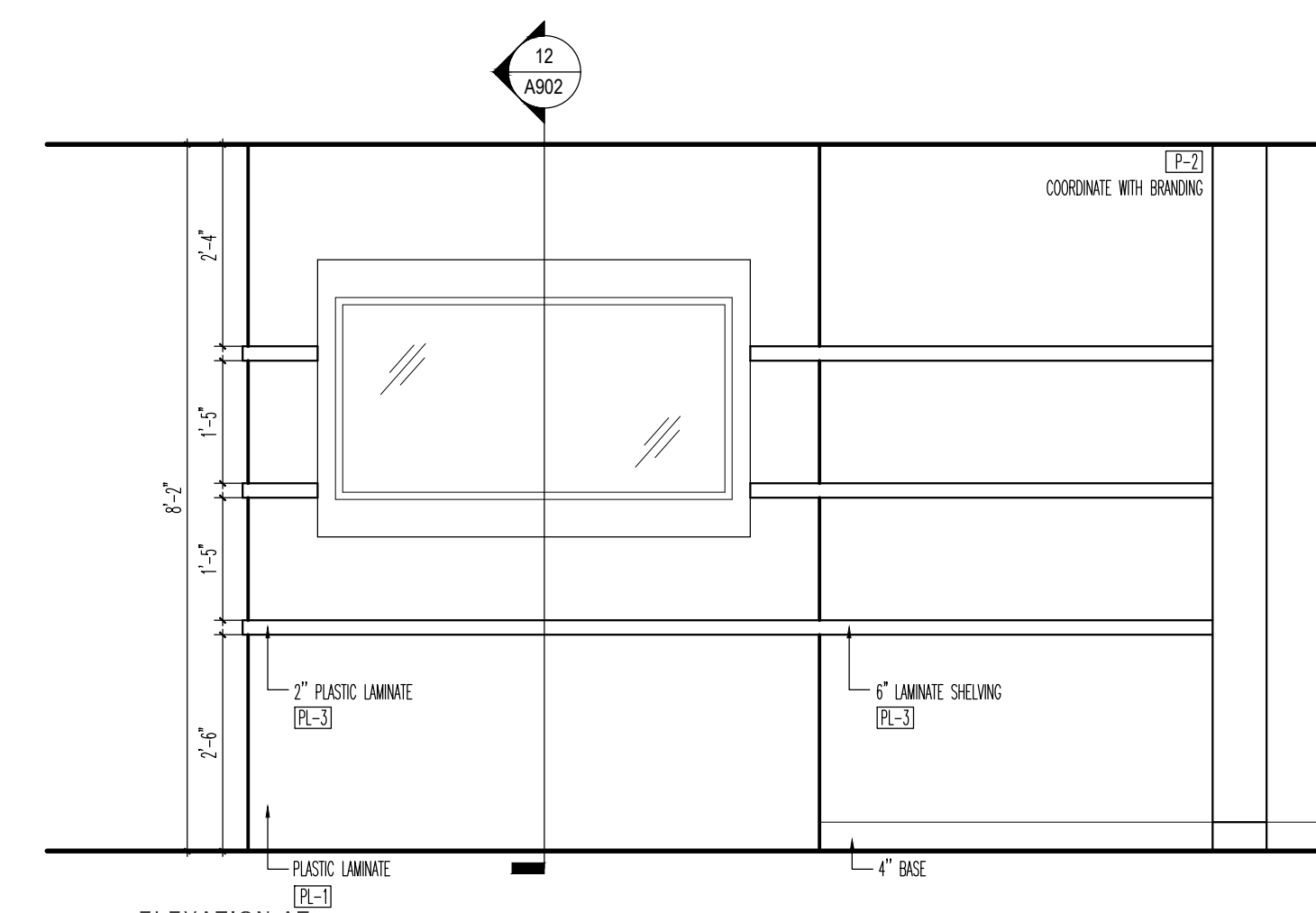
13 ELEVATION AT ATM ROOM
SCALE: 1/2"=1'-0"



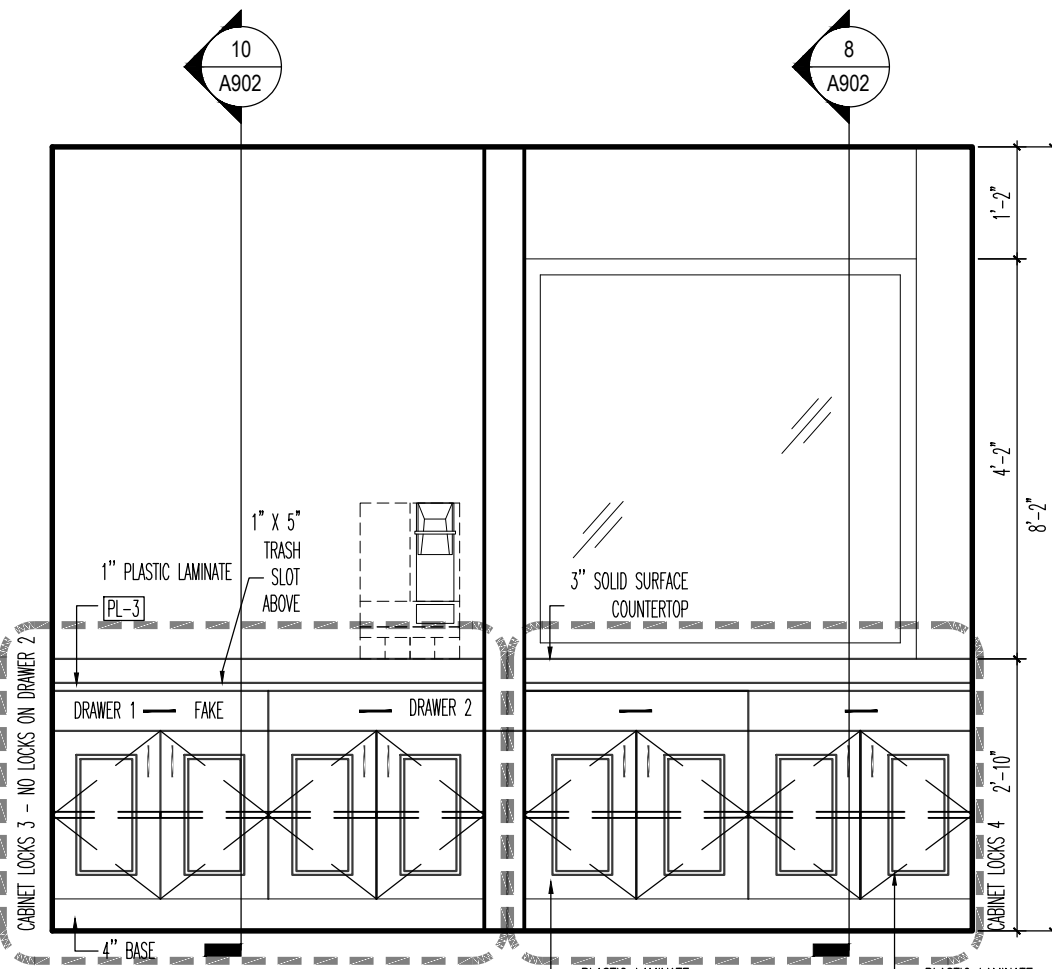
12 ELEVATION AT WORK ROOM
SCALE: 1/2"=1'-0"



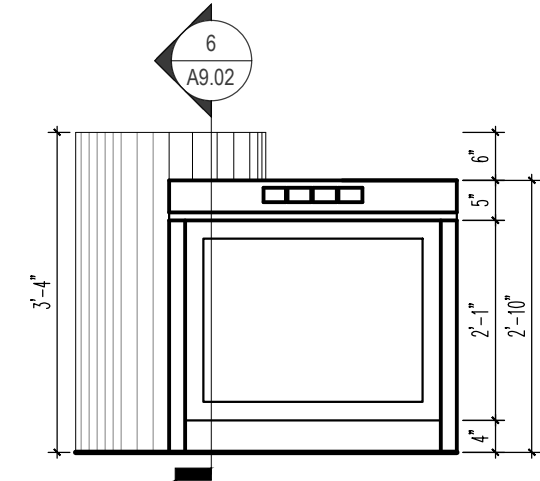
11 ELEVATION AT TELLER AREA
SCALE: 1/2"=1'-0"



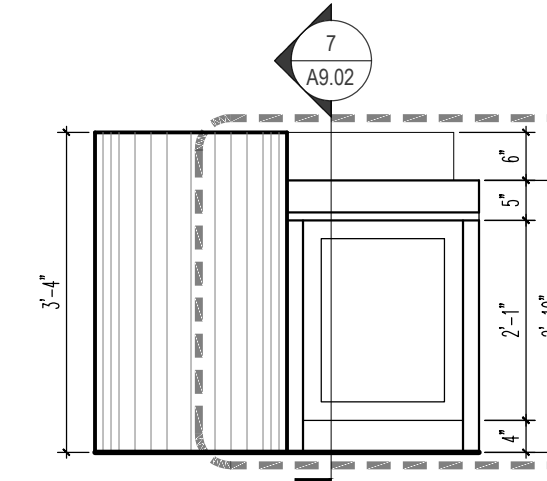
10 ELEVATION AT LOBBY
SCALE: 1/2"=1'-0"



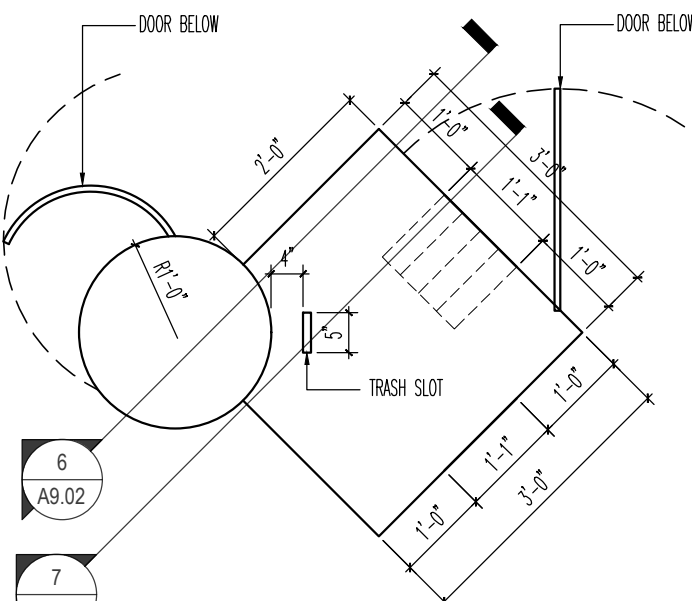
9 ELEVATION AT LOBBY
SCALE: 1/2"=1'-0"



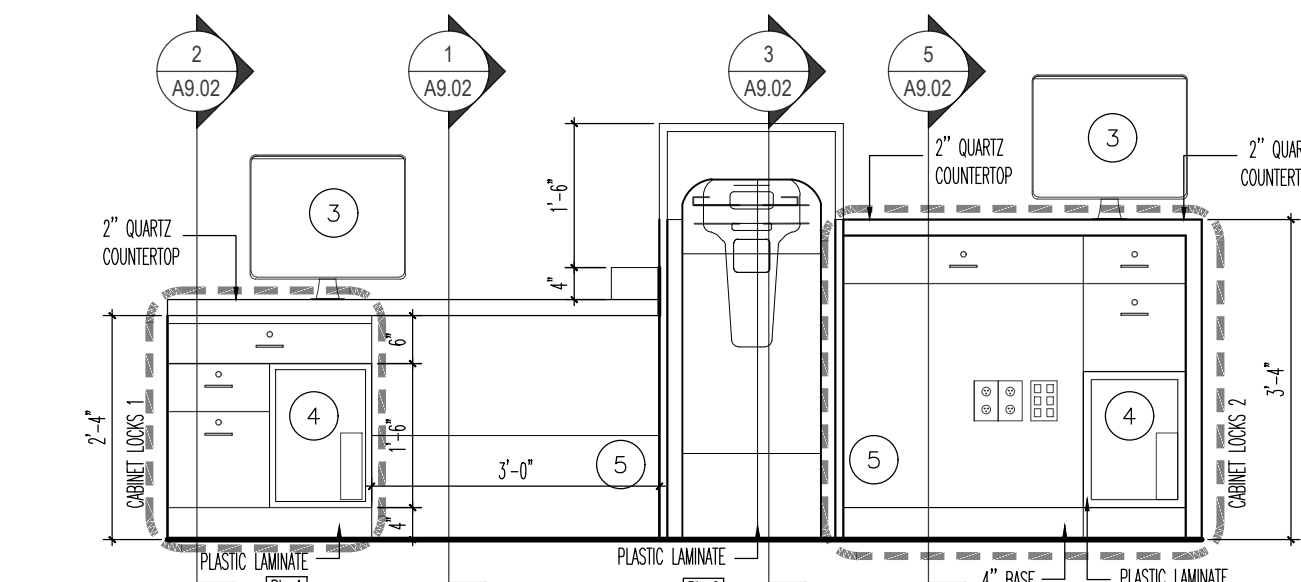
8 ELEVATION AT CHECK DESK
SCALE: 1/2"=1'-0"



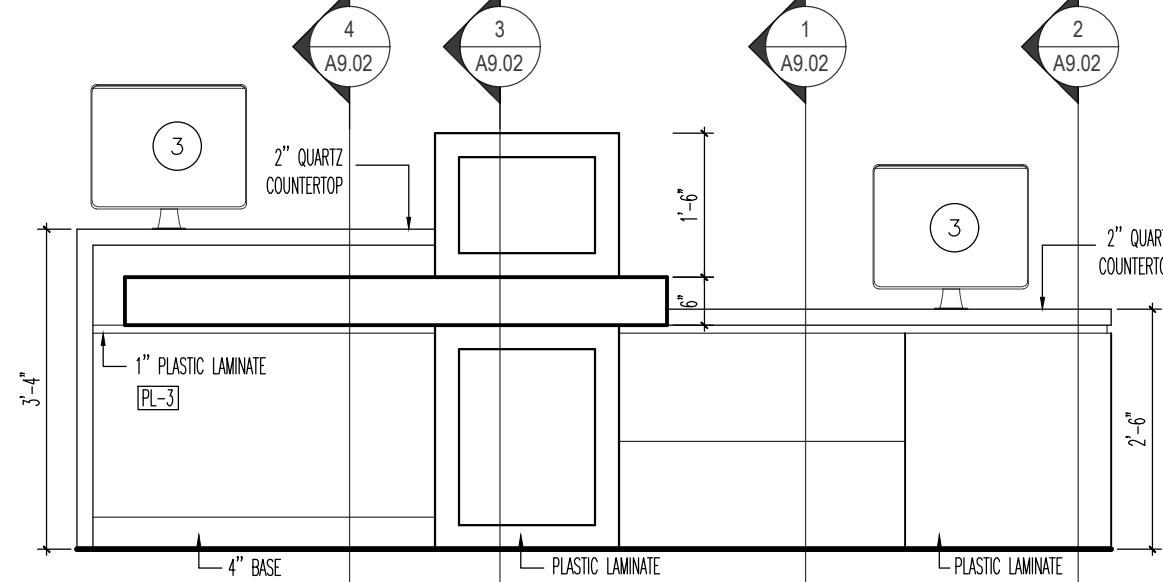
7 ELEVATION AT CHECK DESK
SCALE: 1/2"=1'-0"



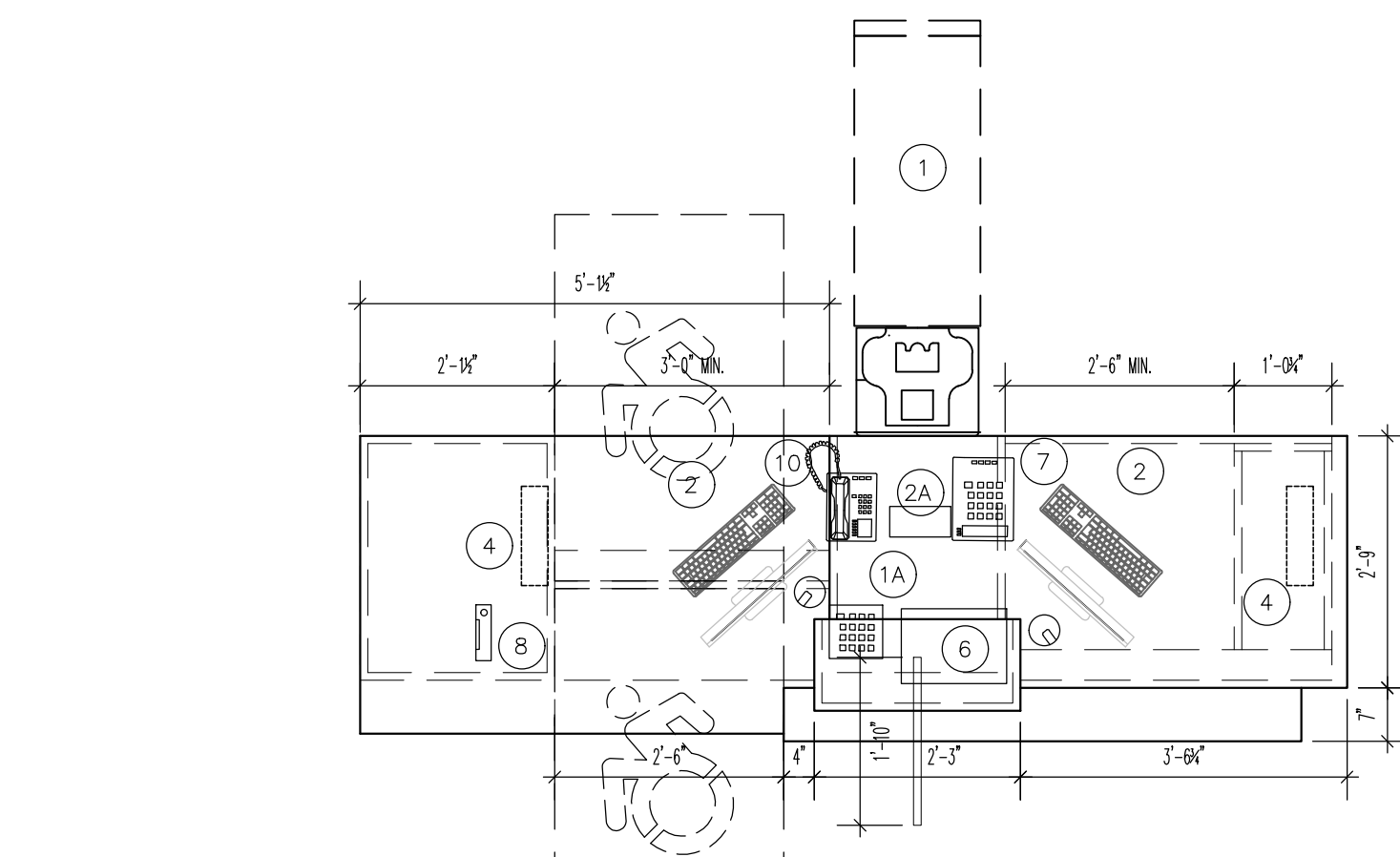
6 PLAN AT CHECK DESK
SCALE: 1/2"=1'-0"



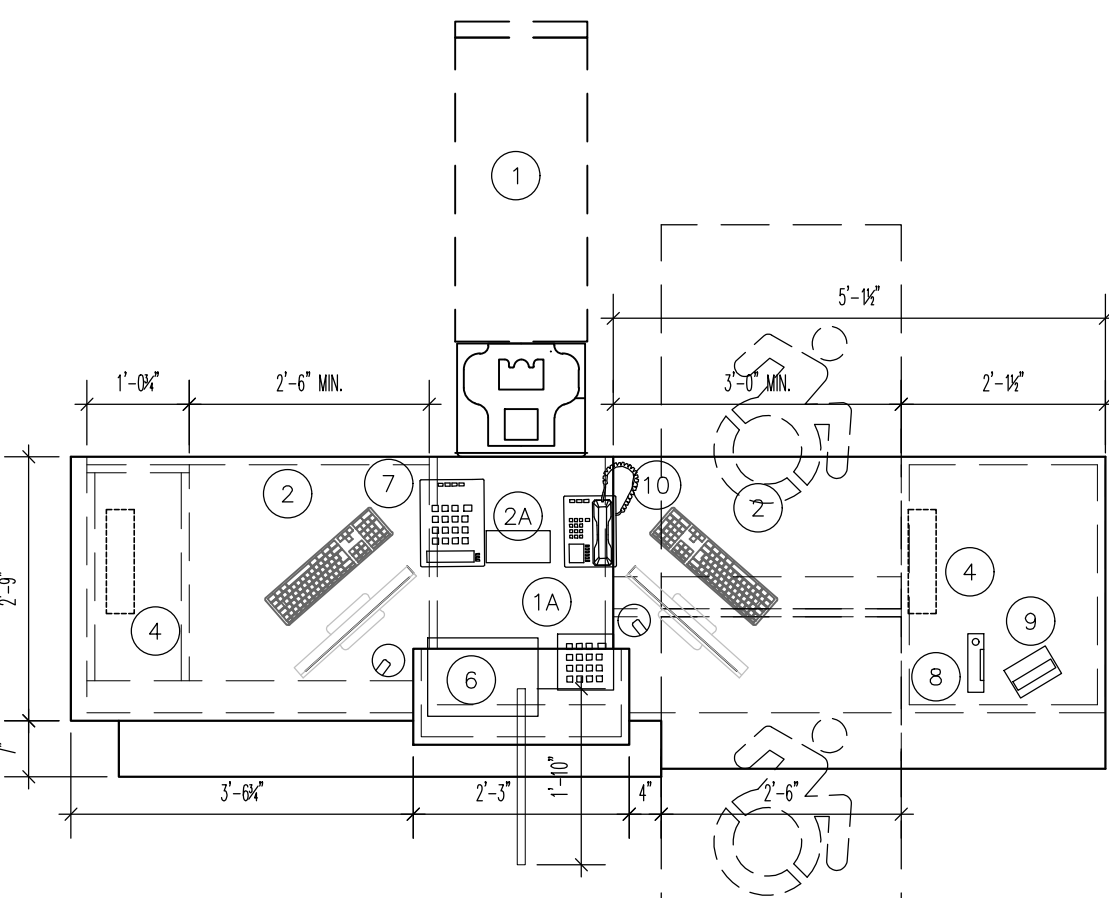
5 ELEVATION AT TELLER POD
SCALE: 1/2"=1'-0"



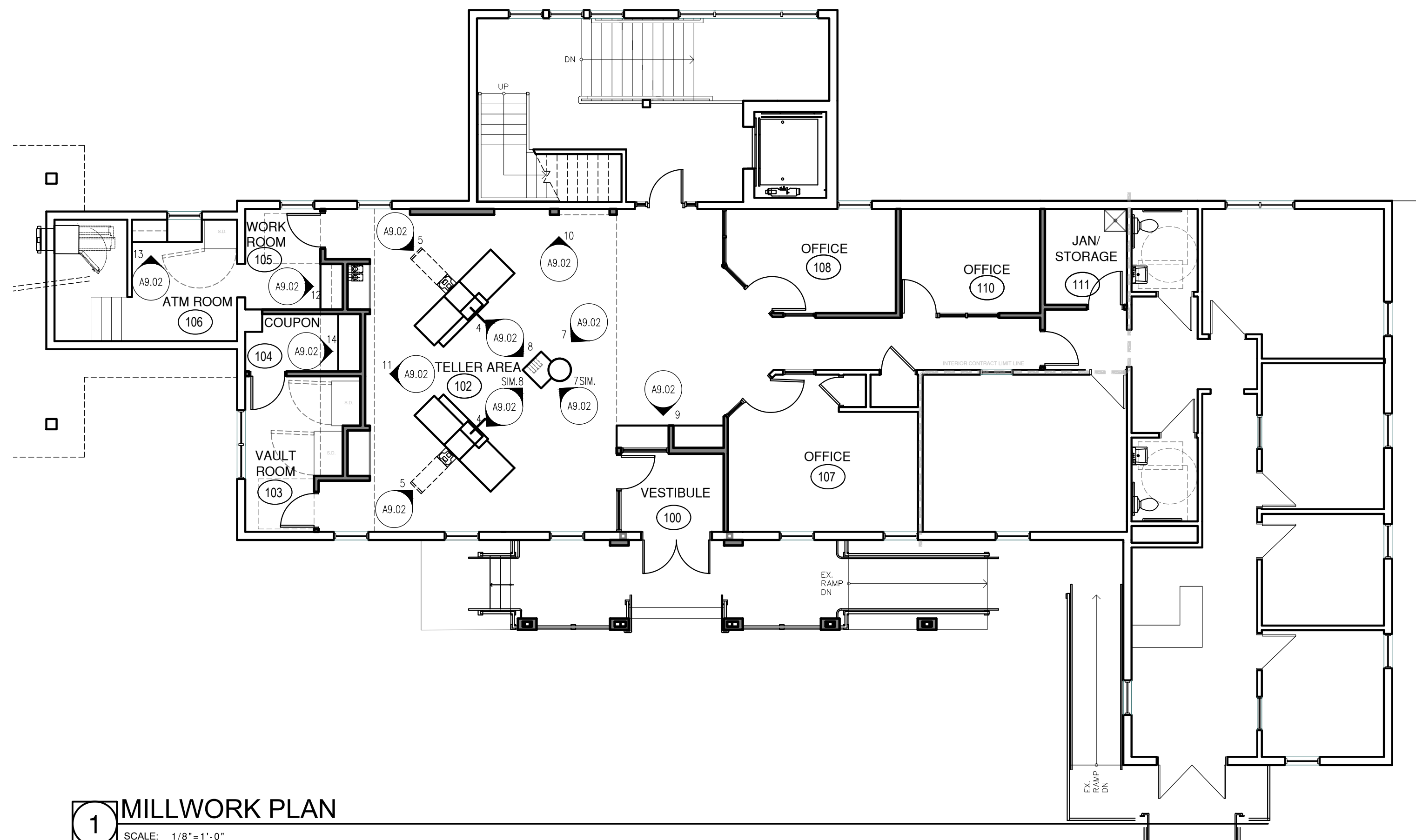
4 ELEVATION AT TELLER POD
SCALE: 1/2"=1'-0"



3 PLAN AT TELLER POD
SCALE: 1/2"=1'-0"



2 PLAN AT TELLER POD
SCALE: 1/2"=1'-0"

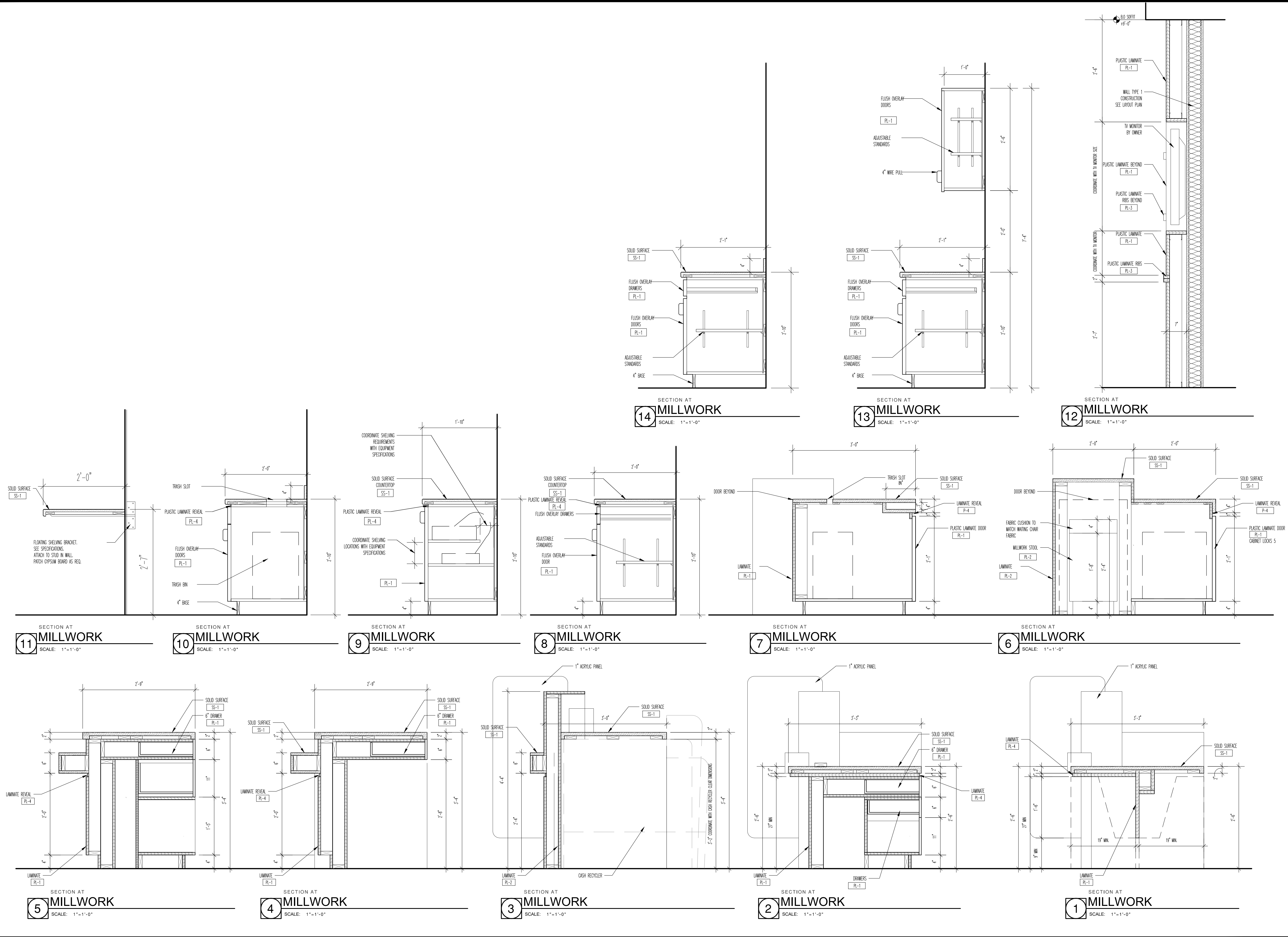


1 MILLWORK PLAN
SCALE: 1/8"=1'-0"

LEGEND					
1	CASH RECYCLER - 1 PER POD	1A	CASH RECYCLER KEYPAD - 1 PER POD	6	RECEIPT PRINTER - GRADEN OPS - 1 PER POD
2	CASH DRAWER BELOW - 1 PER TELLER	2A	SLIP HOLDER - 1 PER POD	7	CALCULATOR - 1 PER POD
3	COMPUTER MONITOR WITH TELLER ARM, KEYBOARD AND MOUSE - 1 PER TELLER (DUAL MONITORS AT OFFICES)	8	DRIVER'S LICENSE SCANNER - 1 PER POD	9	DEBIT CARD PIN PAD - 1 @ SIT DOWN
4	PC BELOW ON BRACKET MOUNTED TO MILLWORK - 1 PER TELLER	10	PHONE - 1 PER POD		
5	TRASH RECEPTACLE - UNDER PODS - 1 PER TELLER				

COORDINATE ALL EQUIPMENT WITH OWNER

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STUDIOS
Q
architecture
 DESIGN | PLANNING | INTERIORS

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 Waterbury, CT 06795

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SOLIDUS
 DESIGN - BUILD - BRAND

1450 Main Street
 East Hartford, CT 06108

RZ Design Associates, Inc.

750 Old Main St.
 Suite 202,
 Rocky Hill, CT 06067

LONG
 CONSULTING

67 Federal Rd, Building A,
 Suite 201
 Brookfield, CT 06804

RENOVATIONS FOR:

Cornerstone Bank
 Built on trust.

200 CHARLTON ROAD
 STURBRIDGE, MA

Issues:

Date: November 30th, 2020

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

Project No. 2K20.015 Drawn by:

A9.02
 Millwork
 Elevations



1 FURNITURE PLAN- REFERENCE ONLY
 SCALE: 1/4"=1'-0"

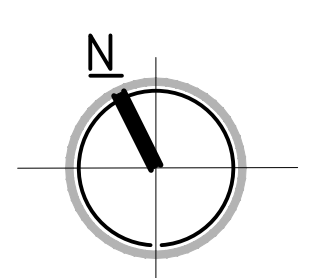
FURNITURE LEGEND	
1	WAITING ROOM CHAIR
2	OCCASIONAL TABLE
3	TASK CHAIR
4	DESK
5	OFFICE TASK CHAIR
6	36" FILE CABINETS
7	GUEST CHAIR
8	PULL-UP CHAIR
9	BREAK ROOM TABLE
10	BREAK ROOM CHAIR

EQUIPMENT LEGEND	
1	CASH RECYCLER (1A) CASH RECYCLER KEYPAD
2	CASH DRAWER BELOW (2A) SLIP HOLDER
3	COMPUTER MONITOR, KEYBOARD AND MOUSE
4	PC BELOW ON BRACKET MOUNTED TO MILLWORK
5	TRASH RECEPTACLE - UNDER PODS
6	RECEIPT PRINTER - CRADEN DP9
7	COIN DISPENSER - IN POD DRAWER
8	DRIVER'S LICENSE SCANNER
9	DEBIT CARD PIN PAD
10	PHONE
11	CHECK SCANNER
12	CHECK PRINTER
12A	COCC PRINTER
13	SAFE VAULT
14	SHRED BIN
15	COMPUTER WITH DUAL MONITORS
16	ALL IN ONE COPIER
17	NIGHT DROP DEPOSIT
18	TV MONITOR
19	LOCKERS
20	HOT & COLD WATER DISPENSER
21	PNEUMATIC TUBE
22	MICROWAVE
23	REFRIGERATOR
24	COFFEE RACK
25	COFFEE MACHINE
26	CUP DISPENSER

SEE MILLWORK PLAN DRAWINGS FOR ADDITIONAL LOCATIONS

POWER & DATA LEGEND	
⊕	GROUNDING SYMBOL
⊕	GROUNDING SYMBOL
⊕ _c	GROUNDING SYMBOL
▲	QUAD DATA DROP & PORT @ 18" A.F.F.
△ _{TV}	TV COAXIAL CABLE OUTLET @ 60" A.F.F. OR AS NOTED
\$M	SWITCHES WITH MOTION SENSOR
▲	MOUNTED TELEPHONE OUTLET @ 54" A.F.F.
T	THERMOSTAT

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LONG CONSULTING
 67 Federal Rd, Building A,
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RENOVATIONS FOR:

Cornerstone Bank
 Built on trust.
 200 CHARLTON ROAD
 STURBRIDGE, MA

ISSUANCES:

Date: November 30th, 2020

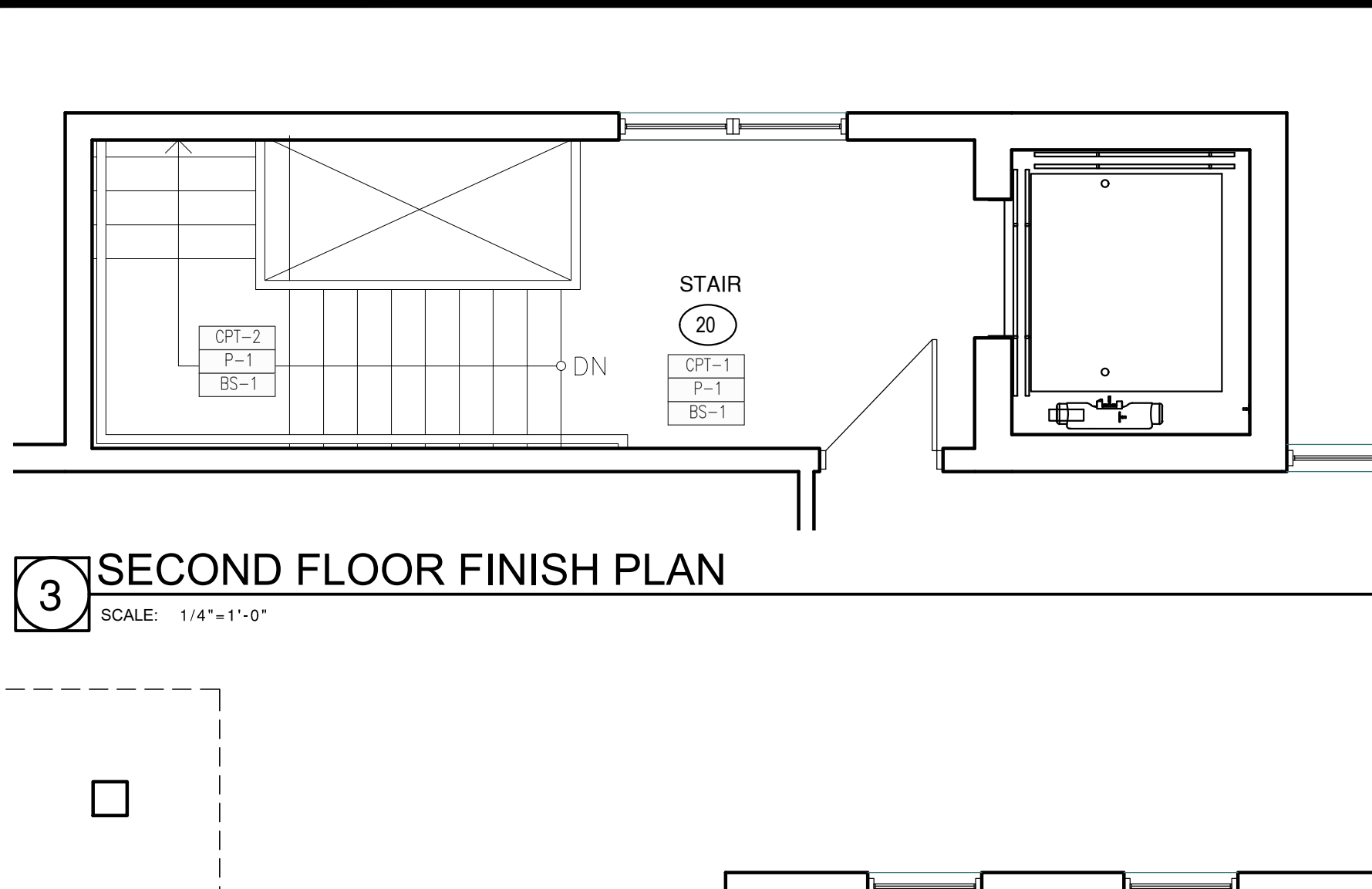
Scale: 1/4"= 1'-0"

Project No. 2K20.015 | Drawn by: SMN

A9.50
 Furniture

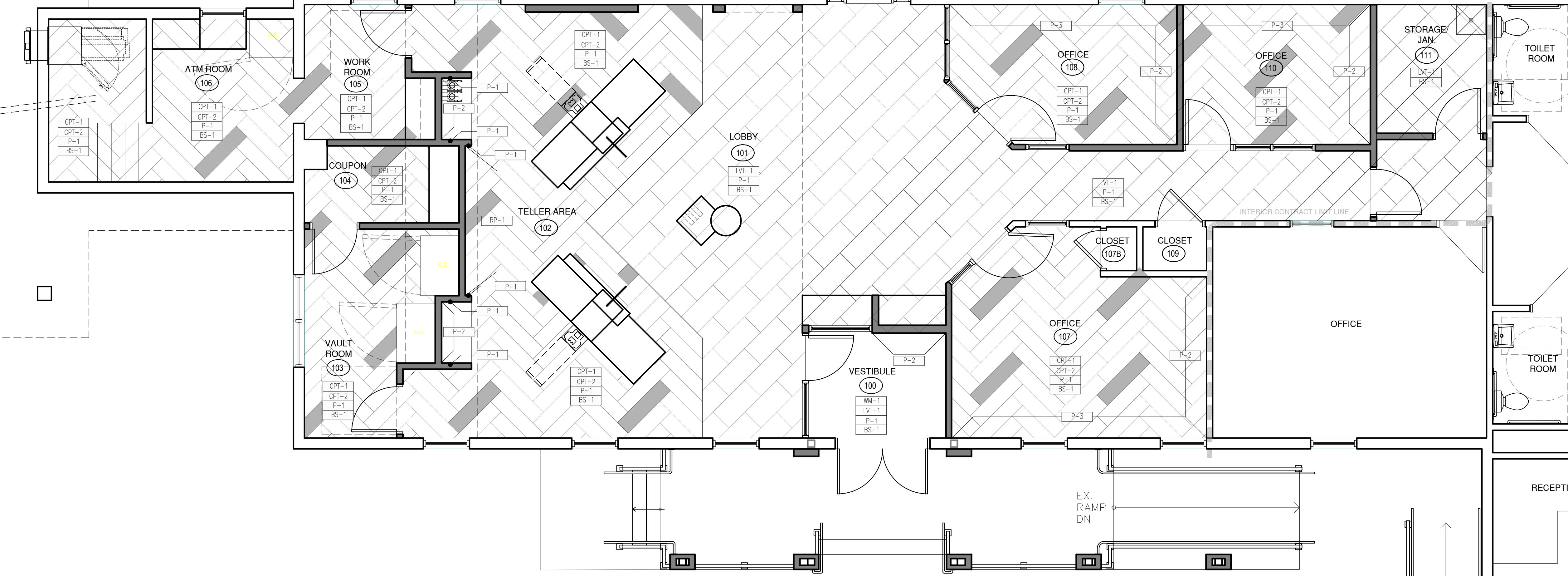
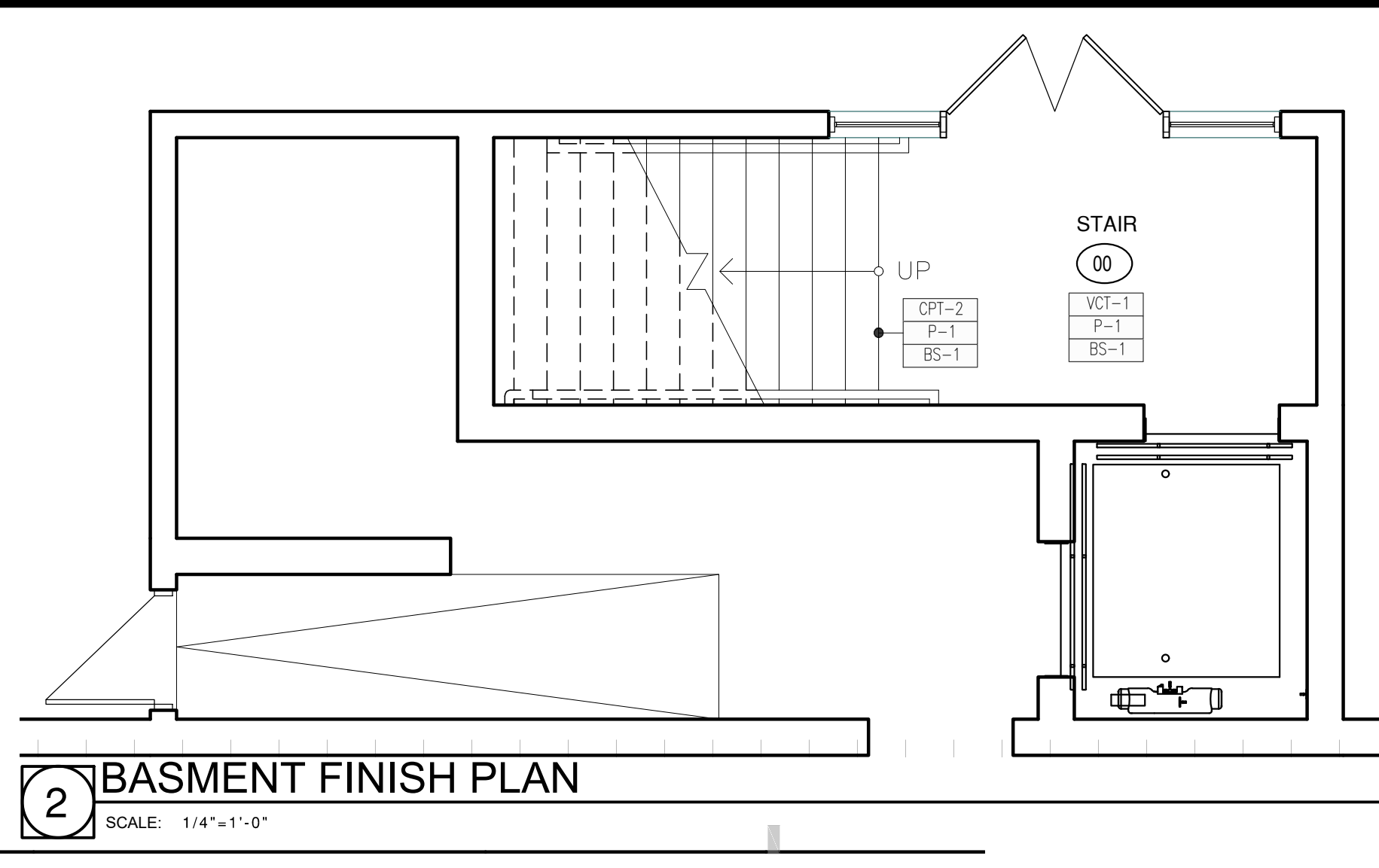
3 SECOND FLOOR FINISH PLAN

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



2 BASMENT FINISH PLAN

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



1 FIRST FLOOR FINISH PLAN

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

SYMBOL	MATERIAL	MANUFACTURER	STYLE/COLOR	REMARKS
BS-1	RUBBER BASE	JOHNSONITE	REVEAL/20 CHARCOAL WC	4" WALL BASE
CPT-1	CARPET TILE	J&J FLOORING GROUP	BOUCLE MODULAR 7081/STRUCTURE 2716	12"X48" CARPET PLANK, HERRINGBONE
CPT-2	CARPET TILE	J&J FLOORING GROUP	PROPEL II (1817)/PITCH 2371	12"X48" CARPET PLANK
LVT-1	LUXURY VINYL TILE	J&J FLOORING GROUP	LEGEND V5010/TALE 1057	18" X 36" LUXURY VINYL PLANK - TRANSITION STRIP NOT NEEDED
WM-1	WALK-OFF MAT	J&J FLOORING GROUP	INCOGNITO 7069/OPERATIVE 1837	24"X24" CARPET TILE, MONOLITHIC
P-1	PAINT	SHERWIN WILLIAMS	SNOWBOUND SW 7004	
P-2	PAINT	SHERWIN WILLIAMS	STOLEN KISS SW 7586	ACCENT WALL
P-3	PAINT	SHERWIN WILLIAMS	USEFUL GRAY SW 7050	
RP-1	ROCK PANEL	NORSTONE	IVORY QUARTZ	6"X24" FIELD UNIT, ACCENT WALL 102
PL-1	PLASTIC LAMINATE	WILSONART	LANDMARK WOOD 7981K-12	MILLWORK LOBBY 101, TELLER 102, WORKROOM 105, ATM 106
PL-2	PLASTIC LAMINATE	WILSONART	PORTICO TEAK 8210K-28	MILLWORK LOBBY 101, TELLER 102
PL-3	PLASTIC LAMINATE	WILSONART	BRITE BRUSHED NATURAL ALUMINUM #6256 (419)	DECORATIVE METALS
PL-4	PLASTIC LAMINATE	FORMICA	NEW BURGUNDY 7966-MATTE FINISH 58	MILLWORK LOBBY 101, TELLER 102
SS-1	SOLID SURFACE	WILSONART	GULFCOAST/923955	COUNTERTOPS LOBBY 101, TELLER 102

ROOM NO.	ROOM NAME	FLOOR	BASE	ALL	WALLS				CEILING	ACCESSORIES				FINISH NOTES
					NORTH	SOUTH	EAST	WEST		CABINET	COUNTER	PULLS	WINDOW	
100	VESTIBULE	WM-1	LVT-1	BS-1	P-1				P-2					
101	LOBBY	LVT-1	BS-1	P-1						PL-1	PL-2	PL-4	SS-1	
102	TELLER AREA	CPT-1	CPT-2	BS-1	P-1					PL-1	PL-2	PL-4	SS-1	
103	VAULT ROOM	CPT-1	CPT-2	BS-1	P-1									
104	COUPON ROOM	CPT-1	CPT-2	BS-1	P-1					PL-1				
105	WORKROOM	CPT-1	CPT-2	BS-1	P-1					PL-1				
106	ATM ROOM	CPT-1	CPT-2	BS-1	P-1					PL-1				
107	OFFICE	CPT-1	CPT-2	BS-1	P-1		P-3	P-2						
107B	CLOSET				P-1									
108	OFFICE	CPT-1	CPT-2	BS-1	P-1		P-3	P-2						
109	CLOSET				P-1									
110	OFFICE	CPT-1	CPT-2	BS-1	P-1		P-3	P-2						
111	IT	SDT-1	BS-1	P-1										

LEGEND

FLOORING PATTERN

CPT-1
LVT-1

MISCELLANEOUS FINISHES

WINDOWSILLS
ALL WINDOWSILLS ARE TO BE SS-1 AT LOBBY AND OFFICES, PL-4 AT WORKROOM/BREAKROOM.

CEILING
ALL GYP. CEILINGS TO BE P-1 UNLESS OTHERWISE NOTED.

WINDOW TREATMENT FASCIA
ALL FASCIAS FOR WINDOW SHADES ARE TBD WITH VENDOR

MILLWORK HARDWARE
ALL MILLWORK HARDWARE TO BE BRUSHED ALUMINUM BAR PULLS

FINISH NOTES

- ALL PAINTED WALLS TO BE A EGGSHELL UNLESS NOTED OTHERWISE.
- ALL HOLLOW METAL DOORS AND FRAMES TO BE PAINTED P-1, SEMI-GLOSS FINISH UNLESS NOTED OTHERWISE ON DOOR SCHEDULE, A8.01.
- ALL PAINTED CEILINGS TO BE A FLAT FINISH.
- SEE ELEVATIONS FOR ADDITIONAL FINISH LOCATION INFORMATION.
- ALL PLASTIC LAMINATE EXPOSED ENDS TO BE FINISHED.
- ALL ALUMINUM STOREFRONT TO BE ANODIZED BRONZE IN FINISH
- WHERE AWG-01 IS LOCATED, WALLS ARE TO BE A LEVEL 5 FINISH, TO RECEIVE GRAPHICS. COORDINATE ALL BRANDING LOCATIONS WITH BRANDING CONSULTANT PRIOR TO APPLYING FINISHES.
- SEE ELEVATIONS FOR ADDITIONAL FINISH INFORMATION / LOCATION.
- THRESHOLD - TRIM TILE TO FIT BETWEEN DOOR FRAME
- ALL DIRT DOORS AND FRAMES TO BE ANODIZED ALUMINUM - CURVILINEAR PROFILE

GENERAL NOTES

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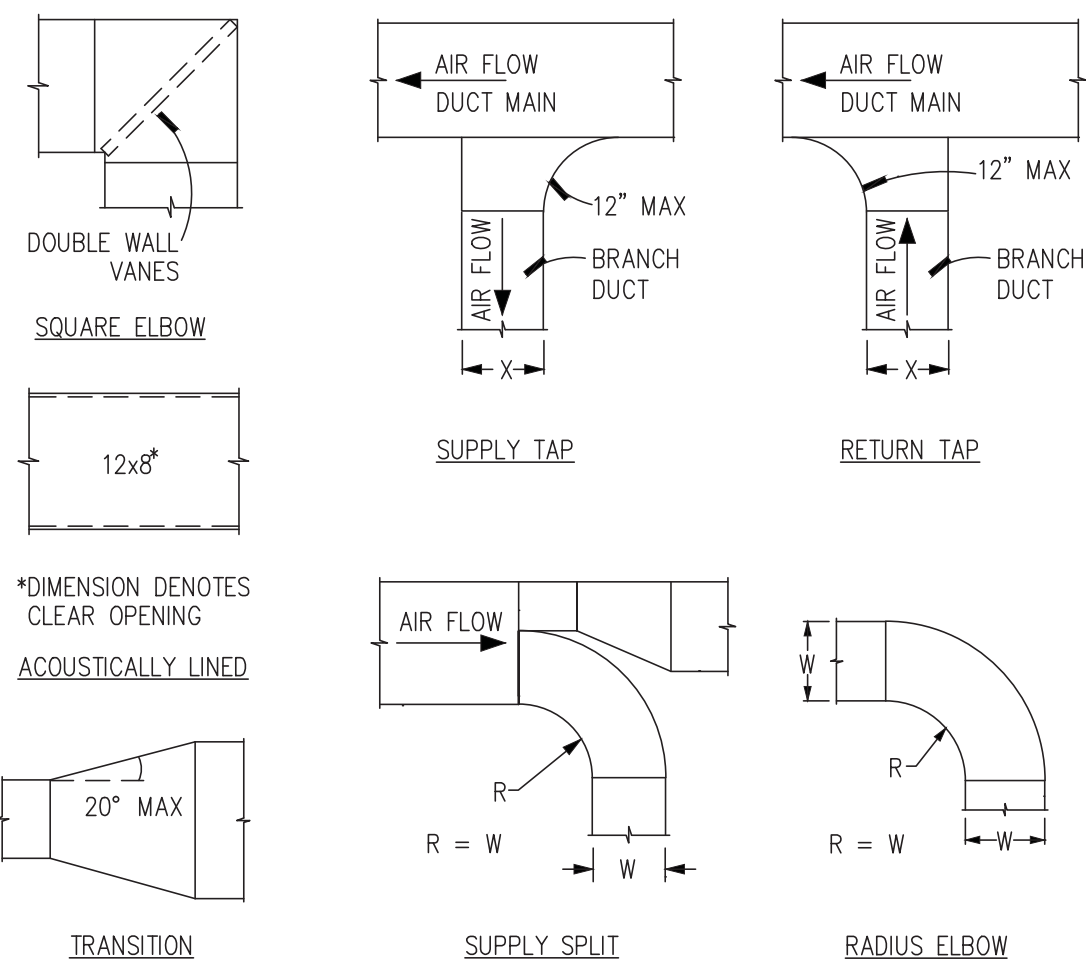
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A10.01

Finish Plan

DEMOLITION NOTES

- DEMOLITION NOTES, SYMBOL LIST AND DETAILS ARE APPLICABLE TO ALL HVAC/MECHANICAL DRAWINGS.
- ALL PIPING IN WALLS AND FLOORS NOT TO BE REUSED WILL BE PLUGGED OR CAPPED AND CUTTING AND PATCHING WILL BE PERFORMED TO RESTORE SURFACE TO ORIGINAL CONDITION BY THIS CONTRACTOR.
- AFTER REMOVING PIPING THROUGH FLOOR SLABS, PENETRATIONS SHALL BE PATCHED WITH APPROVED FIRE-RATED MATERIAL.
- THE CONTRACTOR SHALL INCLUDE IN HIS PRICE ALL COSTS ASSOCIATED WITH REMOVALS AND RELOCATIONS OF HVAC WORK AS DESCRIBED ON THE DRAWINGS AND IN THE SPECIFICATIONS WITH ALLOWANCES FOR EXPECTED OR UNFORESEEN DIFFICULTIES WHEN CONCEALED WORK HAS BEEN OPENED. NO CLAIMS FOR ADDITIONAL WORK ASSOCIATED WITH DEMOLITION WILL BE ACCEPTED, EXCEPT IN CERTAIN CASES CONSIDERED JUSTIFIABLE BY THE OWNER/ENGINEER.
- THE CONTRACTOR SHALL PERFORM DEMOLITION AND REMOVAL WORK WITH MINIMUM INTERFERENCE WITH FUNCTIONING HVAC SYSTEMS. ALL AFFECTED SYSTEMS SHALL BE RECONNECTED AND RESTORED.
- DEMOLITION AND REMOVAL WORK SHALL BE PERFORMED IN A NEAT AND WORKMANLIKE MANNER. THE CONTRACTOR SHALL PATCH, REPAIR OR OTHERWISE RESTORE ANY DAMAGED INTERIOR OR EXTERIOR BUILDING SURFACE TO ITS ORIGINAL CONDITION.
- THE CONTRACTOR SHALL REMOVE ALL DUCT & PIPING SUPPORTS, ECT. FROM PARTITIONS THAT ARE TO BE REMOVED. WHERE THE REMOVAL OF THESE ITEMS DISRUPTS EXISTING PIPING THAT IS TO REMAIN, THE CONTRACTOR SHALL INSTALL AND PROVIDE BYPASS CONNECTIONS NECESSARY.
- ALL PIPING WHICH BECOMES EXPOSED DURING THE ALTERNATION WORK SHALL BE REROUTED CONCEALED BEHIND FINISHED SURFACES.
- PORTIONS OF PIPING & DUCTWORK TO BE REMOVED OR ABANDONED AS A RESULT OF DEMOLITION WORK, BUT WHICH ARE REQUIRED TO REMAIN ACTIVE, SHALL BE CUT AT CONVENIENT LOCATIONS, REROUTED AND RECONNECTED.
- THE CONTRACTOR SHALL NOTIFY THE OWNER AT THE APPROPRIATE TIME OF THE PROJECTED DEMOLITION AND PHASING SCHEDULE SO THAT REMOVAL OR RELOCATION OF AFFECTED UTILITIES MAY BE CARRIED OUT IN COORDINATION WITH THE PROJECT REQUIREMENTS.
- ALL EXISTING MATERIAL AND EQUIPMENT IN USABLE CONDITION, WHICH IS TO BE REMOVED UNDER THIS CONTRACTOR, SHALL REMAIN THE PROPERTY OF THE OWNER OR SHALL BE DISPOSED OF BY THE HVAC CONTRACTOR, AS DIRECTED BY THE OWNER.
- ARRANGE TO WORK CONTINUOUSLY, INCLUDING OVER TIME, IF REQUIRED, TO ASSURE THAT SYSTEMS WILL BE SHUT DOWN ONLY DURING THE TIME ACTUALLY REQUIRED TO MAKE THE NECESSARY CONNECTIONS TO THE EXISTING SYSTEMS.
- THE SHUTDOWN OF EXISTING BUILDING HVAC SERVICES SHALL BE COORDINATED WITH THE OWNER. MAKE ARRANGEMENTS AT LEAST 5 BUSINESS DAYS PRIOR TO A SHUTDOWN.
- CONTRACTOR SHALL COMPLY WITH ALL FEDERAL, STATE & LOCAL REQUIREMENTS.



1 DUCT FITTING DETAIL
SCALE: NONE

EXHAUST FAN SCHEDULE													
FAN TAG	SERVICE LOCATION	CFM	S.P.	FAN TYPE	FAN RPM	DRIVE	WEIGHT	MOTOR DATA				MANUFACTURER MODEL	REMARKS
								HP	VOLTS	PH	AMPS		
EF-1	JAN/STORAGE CEILING	80	0.25	CENTRIFUGAL	1113	DIRECT	10	--	120	1	0.20	PANACOMIC FV-0511VK2	NOTE 1

NOTES:
1. EXHAUST FAN TO BE CONTROLLED BY TIMELOCK AND OPERATE CONTINUOUSLY ON BUILDING OCCUPANCY SCHEDULE.

GENERAL NOTES

- THESE DRAWINGS ARE GENERALLY DIAGRAMMATIC AND ARE INTENDED TO CONVEY THE SCOPE OF WORK AS WELL AS INDICATE GENERAL ARRANGEMENT OF EQUIPMENT, DUCTWORK AND PIPING. THE CONTRACTOR SHALL ADHERE TO THESE DRAWINGS AS CLOSELY AS POSSIBLE. HOWEVER, THE RIGHT IS RESERVED TO VARY THE RUNS OF DUCTWORK AND PIPING AND TO MAKE OFFSETS, WHERE NECESSARY, TO ACCOMMODATE CONDITIONS ARISING AT THE JOB SITE. THE CONTRACTOR SHALL PREPARE SHOP DRAWINGS TO BE SUBMITTED TO THE ENGINEER FOR APPROVAL. NO WORK SHALL BE PERFORMED PRIOR TO RECEIPT OF EQUIPMENT, DUCTWORK AND PIPING FABRICATION DRAWING APPROVAL.
- ANY MATERIAL, WORK OR INCIDENTAL ACCESSORIES OR MINOR DETAILS NOT SHOWN BUT NECESSARY TO MAKE THE WORK COMPLETE IN ALL RESPECTS AND READY FOR OPERATION, EVEN IF NOT PARTICULARLY SHOWN ON THE DRAWINGS, SHALL BE PROVIDED BY THE CONTRACTOR WITHOUT ADDITIONAL EXPENSE TO THE OWNER.
- DUCT SIZES SHOWN ON DRAWINGS ARE CLEAR INSIDE DIMENSIONS, WHERE ACOUSTICALLY LINED DUCT IS SPECIFIED. DUCT DIMENSIONS SHALL BE INCREASED TO ACCOMMODATE LINING.
- ALL LOW PRESSURE TERMINAL BRANCH DUCTWORK (SUPPLY AND RETURN) SHALL BE PROVIDED WITH VOLUME CONTROL DAMPERS. ALL BRANCH DUCT VOLUME DAMPERS SERVING DIFFUSERS IN GYPSUM BOARD CEILINGS (OTHERWISE INACCESSIBLE) SHALL BE REMOTELY (CORD OR CABLE) OPERABLE THROUGH THE FACE OF THE DIFFUSER.
- THERMOSTAT LOCATIONS SHALL BE COORDINATED WITH THE ARCHITECTURAL DRAWINGS, FINISHED PAINT COLOR TO BE SELECTED BY THE ARCHITECT. 48" ABOVE FINISHED FLOOR.
- WHERE PIPING CONNECTIONS FOR EQUIPMENT SUCH AS PUMPS, AC UNITS, COIL, ECT. DIFFER FROM THE LINE SIZE PIPING. IT SHALL BE THE RESPONSIBILITY OF THE MECHANICAL CONTRACTOR TO FURNISH AND INSTALL THE NECESSARY REDUCER/EXPANDER FITTINGS TO ENABLE CONNECTION BETWEEN THE PIPING SYSTEM AND THE EQUIPMENT.
- PROVIDE ONE THERMOSTAT FOR EACH FAN COIL UNIT, ATTIC VENT AIR FAN UNIT, VAV, FPB, CABINET UNIT HEATER AND ELECTRIC BASEBOARD RADIATION. THERMOSTAT LOCATIONS SHALL BE AS SHOWN ON PLANS AND/OR WHERE DIRECTED AND APPROVED BY THE ARCHITECTS AND ENGINEERS.
- ALL LINEAR DIFFUSERS ARE TO BE COORDINATED WITH ARCHITECTURAL PLANS FOR EXACT LENGTHS AND LOCATION. ACTIVE PLENUM SECTIONS SHALL BE OF THE SIZES AS SHOWN ON PLANS. EACH BRANCH TAP SERVING THE LINEAR DIFFUSER SHALL BE PROVIDED WITH A VOLUME DAMPER WHICH SHALL BE OPERABLE THROUGH THE DIFFUSER FACE. ACTIVE SUPPLY SECTION OF LINEAR DIFFUSER SHALL BE PROVIDED WITH PATTERN CONTROL DEVICES AND EQUALIZING GRIDS. ACTIVE OR INACTIVE RETURN SECTIONS SHALL NOT BE FURNISHED WITH PATTERN CONTROL OR EQUALIZING GRIDS.
- BORDER TYPES AND METHOD OF ATTACHMENT FOR ALL DIFFUSERS, GRILLES AND REGISTERS SHALL BE COORDINATED WITH THE ARCHITECTURAL CEILING DETAILS AND SPECIFICATIONS.
- REFER TO SPECIFICATIONS FOR ACOUSTIC LINING REQUIREMENTS NOT SHOWN ON THE DRAWINGS.
- ALL PIPING SHALL BE INSTALLED TIGHT TO THE BOTTOM OF STEEL AT ALL TIMES UNLESS OTHERWISE INDICATED OR REQUIRED BY FIELD CONDITIONS.
- ALL PIPING OF DISSIMILAR MATERIALS SHALL HAVE DIELECTRIC FITTINGS.
- ALL HVAC EQUIPMENT THAT CONTAINS A COILING COIL OR FUEL FIRED APPLIANCE WILL BE PROVIDED WITH A SECONDARY DRAIN PAN AND A MOISTURE SENSOR THAT WILL AUTOMATICALLY SHUT THE UNIT DOWN WHEN MOISTURE IS DETECTED.

MECHANICAL ABBREVIATIONS

AHU	AIR HANDLING UNIT
ATC	AUTOMATIC TEMPERATURE CONTROL
CD-A	DIFFUSER TYPE - REFER TO SCHEDULE
BMS	BUILDING MANAGEMENT SYSTEM
BTU	BRITISH THERMAL UNITS
CC	COOLING COIL
CD	CONDENSATE PIPING
CFM	CUBIC FEET PER MINUTE
CV	CONSTANT VOLUME
E	EXISTING
EAT	ENTERING AIR TEMPERATURE
EF	EXHAUST FAN
ER	EXISTING TO REMAIN
ETR	EXISTING TO BE RELOCATED
FC	FAN COIL
FLA	FULL LOAD AMPS
HZ	HERTZ
KW	KILOWATT
LAT	LEAVING AIR TEMPERATURE
MBH	THOUSAND BTU PER HOUR
MCA	MINIMUM CIRCUIT AMPS
MD	MOTORIZED DAMPER
OED	OPEN ENDED DUCT
PC	PUMPED CONDENSATE
PH	PHASE
PSI	POUNDS PER SQUARE INCH
SHC	SENSIBLE COOLING (IN MBH)
SD	SMOKE DETECTOR
TC	TOTAL COOLING (IN MBH)
TYP	TYPICAL
V	VOLTS
VAV	VARIABLE AIR VOLUME
VD	VOLUME DAMPER
VFD	VARIABLE FREQUENCY DRIVE
WMS	WIRE MESH SCREEN

MECHANICAL DUCTWORK SYMBOL LIST

—	NEW SUPPLY DUCT
---	EXISTING SUPPLY DUCT TO REMAIN
✕-✕-✕	EXISTING SUPPLY DUCT TO BE REMOVED
—	NEW RETURN DUCT
---	EXISTING RETURN DUCT TO REMAIN
✕-✕-✕	EXISTING RETURN DUCT TO BE REMOVED
====	ACOUSTICALLY LINED DUCT
□	NEW EQUIPMENT
✕-✕-✕	EXISTING EQUIPMENT TO BE REMOVED
□E	EXISTING EQUIPMENT TO REMAIN
□ETR	EXISTING EQUIPMENT TO BE RELOCATED
18x12	DUCT SIZE (FIRST FIGURE INDICATES HORIZONTAL SIZE)
18ø	ROUND DUCT DIAMETER
↔	TRANSITION FROM RECTANGULAR TO ROUND OR OVAL DUCT
~	FLEXIBLE CONNECTION
V.D.	VOLUME DAMPER
M	MOTORIZED DAMPER W/DUCT ACCESS DOOR
→	SUPPLY REGISTER
←	RETURN OR EXHAUST REGISTER OR GRILLE
⊠	SUPPLY CEILING DIFFUSER
⊠	RETURN CEILING GRILLE OR REGISTER
⊠	SUPPLY DUCT UP
⊠	SUPPLY DUCT DOWN
⊠	RETURN OR EXHAUST DUCT UP
⊠	RETURN OR EXHAUST DUCT DOWN
↔	ELBOW WITH TURNING VANES
↔	RADIUS ELBOW
↔	DUCT SPLIT OR BRANCH TAKEOFF
⊙	THERMOSTAT - WALL OR DUCT MOUNTED
⊙	TEMPERATURE SENSOR - WALL OR DUCT MOUNTED
⊙SD	DUCT MOUNTED SMOKE DETECTOR
⊙	MECHANICAL PLAN NOTE TAG
△	REVISION SYMBOL
⊙	POINT OF NEW CONNECTION TO EXISTING WORK
⊙	REMOVE AND SAFE OFF EXISTING WORK FOR RECONNECTION

CONDENSING UNIT

UNIT TAG	SERVICE LOCATION	QTY.	TOTAL COOLING	HEATING	OPERATING TEMP RANGE		#FANS #COMP	REFRIG	WEIGHT	ELECTRICAL DATA			MANUFACTURER MODEL	REMARKS
					COOLING	HEATING				MCA	VOLTS	PHASE		
CU-3	FC-1 GRADE	1	12.0 MBH	--	-40°F	-115°F	1	R-410A	92 LBS	11	208	1	MITSUBISHI PUY-A12NKA7	NOTES 1-4

NOTES:
1. PROVIDE WITH FACTORY WIRED NEMA 3R DISCONNECT SWITCH.
2. PROVIDE MANUFACTURER WIND BAFFLES FOR LOW AMBIENT COOLING.
3. MOUNT UNIT ON MANUFACTURER SUPPLIED 24" STAND FOR WINTER OPERATION.
4. SIZE REFRIGERANT PIPING IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.

INDOOR FAN COIL UNITS

UNIT TAG	LOCATION SERVICE	QTY.	NOM TONS	TOTAL COOLING	HEATING	CFM	SP	REFRIG	ELECTRICAL DATA			MANUFACTURER MODEL	REMARKS
									MCA	VOLTS	PHASE		
FC-1	WALL ATM	1	1.0	12.0 MBH	--	370	--	R-410A	1.00	208	1	MITSUBISHI MSZ-FA06NA	NOTES 1-2

NOTES:
1. PROVIDE WITH MANUFACTURER SIMPLE WALL MOUNTED THERMOSTAT.
2. PROVIDE UNIT WITH MODEL SI30-230 MINI CONDENSATE PUMP OR APPROVED EQUAL.

DIFFUSERS, REGISTERS, GRILLES

UNIT TAG	SERVICE	MATERIAL FINISH	MANUFACTURER MODEL	REMARKS	UNIT TAG	SERVICE	MATERIAL FINISH	MANUFACTURER MODEL	REMARKS
C	SUPPLY	STEEL WHITE	HART&COOLEY 210	EXISTING	D	RETURN	STEEL WHITE	HART&COOLEY 265	EXISTING

NOTES:
1. PROVIDE SIZE INDICATED IN DRAWINGS.

MECHANICAL DRAWING INDEX

DRAWING NO.	DRAWING TITLE
M0.01	MECHANICAL NOTES, LEGEND, SCHEDULES, AND DETAILS
M1.01	MECHANICAL BASEMENT DEMOLITION PLAN
M1.02	MECHANICAL FIRST FLOOR DEMOLITION PLAN
M2.01	MECHANICAL BASEMENT PLAN
M2.02	MECHANICAL FIRST FLOOR PLAN
M3.01	MECHANICAL SPECIFICATIONS (1 OF 2)
M3.02	MECHANICAL SPECIFICATIONS (2 OF 2)



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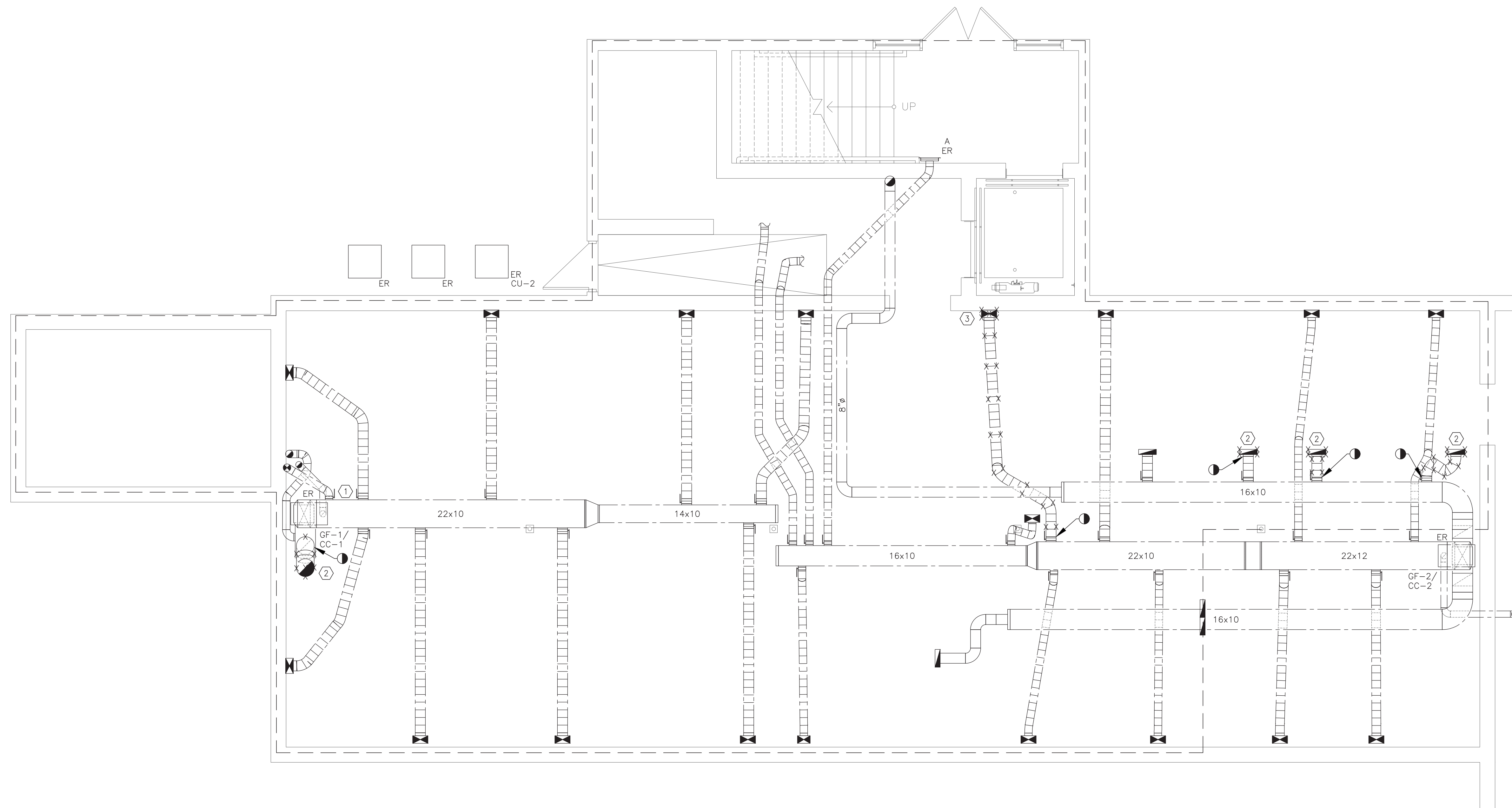
Drawn by: CH

M0.01

MECHANICAL NOTES & LEGEND

MECHANICAL DEMOLITION PLAN NOTES

- ① PERFORM PRE-CONSTRUCTION AIR BALANCING OF EXISTING SYSTEM. FULLY OPEN ALL DIFFUSERS TO DETERMINE EXACT AIRFLOW AVAILABLE.
- ② EXISTING RETURN ROUTED UP TO BE DEMOLISHED. PATCH AND SEAL CEILING PENETRATION.
- ③ EXISTING SUPPLY ROUTED UP TO BE DEMOLISHED. PATCH AND SEAL CEILING PENETRATION.



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



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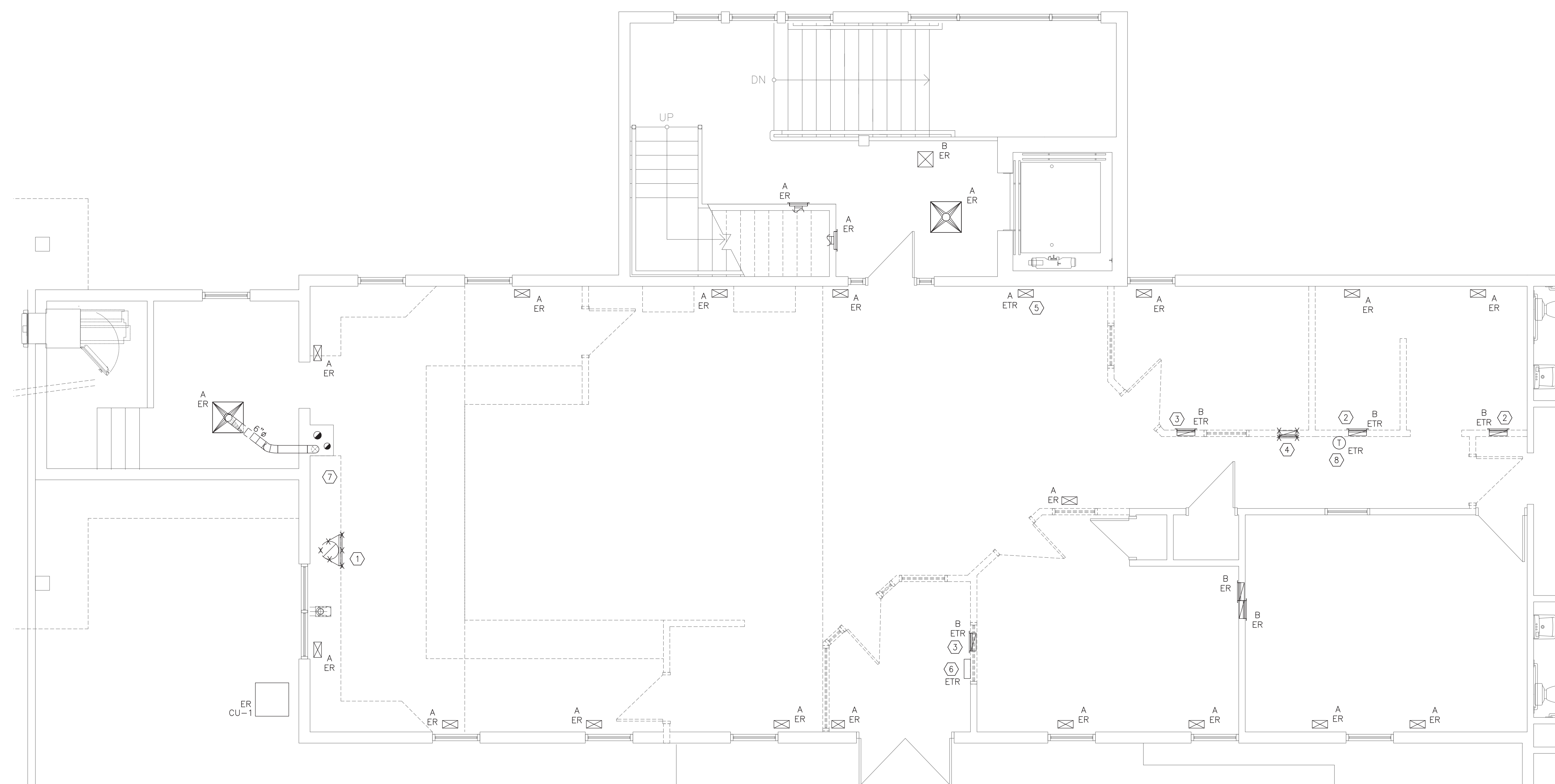
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M1.01
MECHANICAL BASEMENT
DEMOLITION PLAN

MECHANICAL DEMOLITION PLAN NOTES

- ① EXISTING BUILT-IN COUNTER RETURN TO BE DEMOLISHED.
- ② EXISTING RETURN GRILL TO BE RELOCATED. PATCH AND SEAL FLOOR PENETRATION.
- ③ EXISTING RETURN AND GRILL TO BE REMOVED FOR NEW WALL CONSTRUCTION AND REINSTALLED IN SAME PLACE.
- ④ EXISTING RETURN AND GRILL TO BE DEMOLISHED. PATCH AND SEAL FLOOR PENETRATION.
- ⑤ EXISTING FLOOR SUPPLY GRILL TO BE RELOCATED. PATCH AND SEAL FLOOR PENETRATION.
- ⑥ EXISTING WALL MOUNTED ELECTRIC UNIT HEATER TO BE REMOVED FOR NEW WALL CONSTRUCTION AND REINSTALLED IN SAME PLACE.
- ⑦ EXISTING THERMOSTAT BEHIND IN TELLER AREA SERVING GF-1 TO BE RELOCATED.
- ⑧ EXISTING THERMOSTAT SERVING GF-2 TO BE RELOCATED.



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



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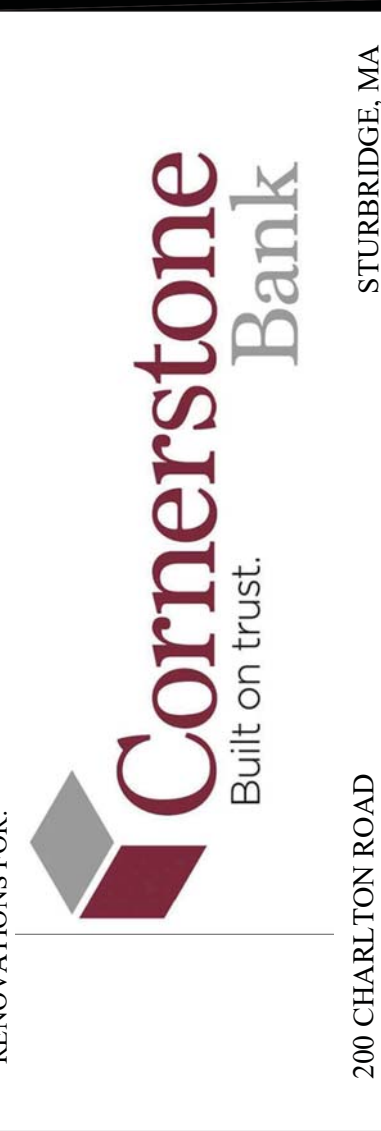
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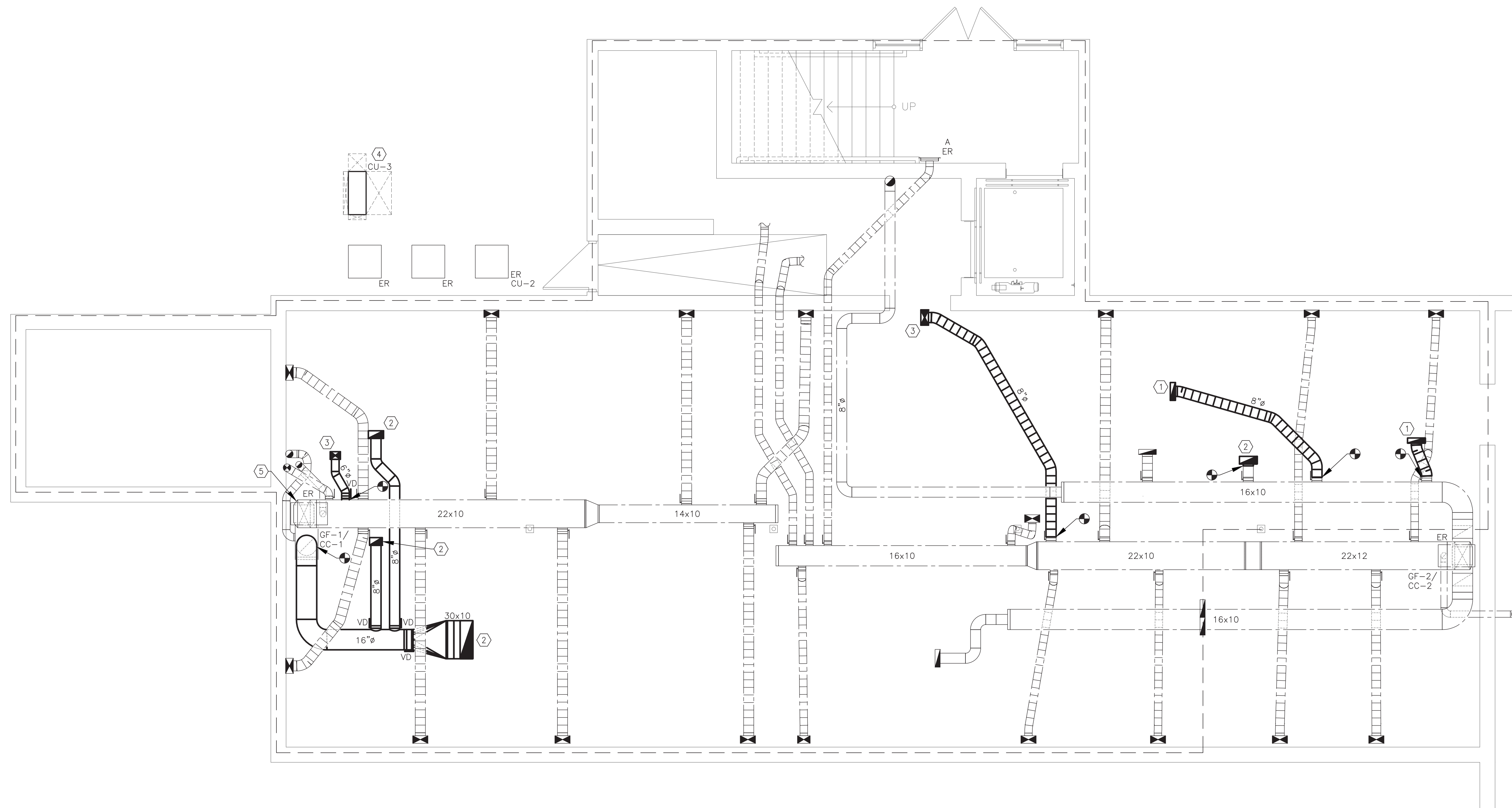
Scale: AS NOTED

Project No. 2K20.015 | Drawn by: CH

M1.02
MECHANICAL FIRST FLOOR DEMOLITION PLAN

MECHANICAL PLAN NOTES

- ① PROVIDE NEW RETURN ROUTED UP IN WALL ABOVE.
- ② PROVIDE NEW RETURN ROUTED UP TO FLOOR REGISTER.
- ③ PROVIDE NEW SUPPLY ROUTED UP TO FLOOR REGISTER.
- ④ PROVIDE NEW CONDENSER CU-3 AT GRADE TO SERVE FAN COIL FC-1. PROVIDE NEW CONCRETE EQUIPMENT PAD AND MOUNT CONDENSER ON 24" STAND FOR WINTER OPERATION. PROVIDE MANUFACTURER WIND BAFFLES FOR LOW AMBIENT COOLING. SIZE AND INSTALL REFRIGERANT PIPING PER MANUFACTURER'S INSTALLATION INSTRUCTIONS.
- ⑤ PROPORTIONALLY BALANCE SYSTEM PER PRE-CONSTRUCTION AIR BALANCE REPORT.



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



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301 Highland Ave.
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East Hartford, CT 06108



750 Old Main St.
Suite 202
Rocky Hill, CT 06067



67 Federal Rd, Building A,
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Brookfield, CT 06804



RENOVATIONS FOR:
200 CHARLTON ROAD
STURBRIDGE, MA

ISSUANCES:

Date: November 30th, 2020

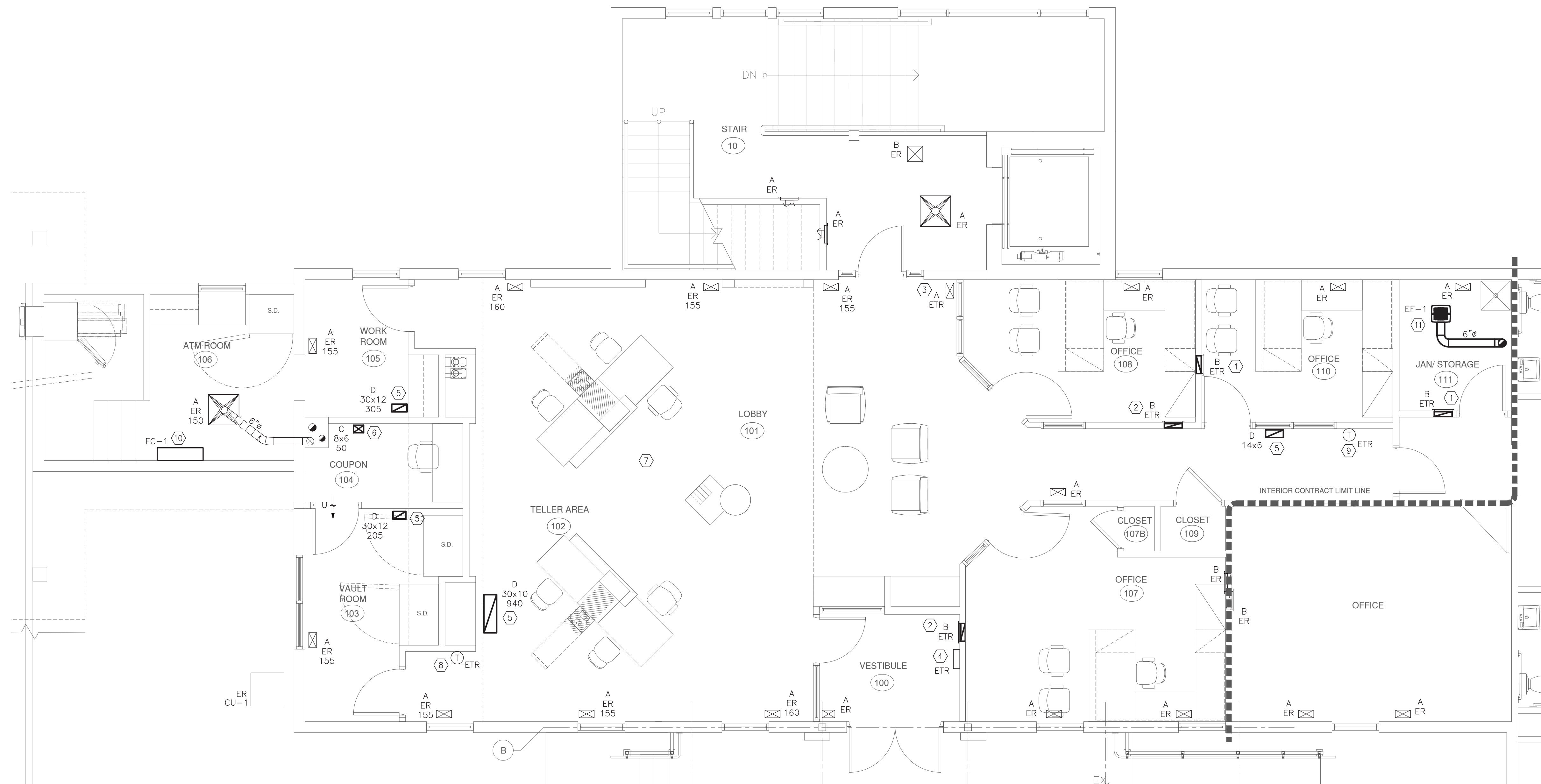
Scale: AS NOTED

Project No. 2K20.015 | Drawn by: CH

M2.01
MECHANICAL
BASEMENT PLAN

MECHANICAL PLAN NOTES

- ① EXISTING RETURN GRILL TO BE RELOCATED. PROVIDE NEW RETURN ROUTED DOWN IN WALL.
- ② EXISTING RETURN AND GRILL TO BE REINSTALLED IN NEW WALL.
- ③ EXISTING FLOOR SUPPLY GRILL TO BE RELOCATED.
- ④ EXISTING WALL MOUNTED ELECTRIC UNIT HEATER TO BE REINSTALLED ON NEW WALL.
- ⑤ PROVIDE NEW FLOOR RETURN GRILL.
- ⑥ PROVIDE NEW FLOOR SUPPLY REGISTER.
- ⑦ PROPORTIONALLY BALANCE SYSTEM PER PRE-CONSTRUCTION AIR BALANCE REPORT.
- ⑧ EXISTING THERMOSTAT SERVING GF-1 TO BE RELOCATED.
- ⑨ EXISTING THERMOSTAT SERVING GF-2 TO BE RELOCATED.
- ⑩ PROVIDE NEW DUCTLESS WALL MOUNTED FAN COIL FC-1. PROVIDE MANUFACTURER SIMPLE WALL MOUNTED THERMOSTAT AND MINI CONDENSATE PUMP. PROVIDE ASSOCIATED CONDENSER CU-3 OUTSIDE AT GRADE. SIZE AND INSTALL REFRIGERANT PIPING PER MANUFACTURER'S INSTALLATION INSTRUCTIONS.
- ⑪ PROVIDE NEW EXHAUST FAN EF-1 TO SERVE JAN/STORAGE. ROUTE EXHAUST TO ROOF AND TERMINATE WITH NEW ROOF CAP. EXHAUST FAN SHALL BE CONTROLLED BY TIMECLOCK AND PROVIDE CONTINUOUS OPERATION DURING BUILDING OPERATING HOURS.



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



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M2.02
MECHANICAL FIRST FLOOR PLAN

MECHANICAL SPECIFICATIONS

PART 1 - GENERAL

1.01 GENERAL REQUIREMENTS

- A. INSTALL ALL NEW WORK IN A NEAT WORKMANLIKE MANNER READILY ACCESSIBLE FOR OPERATION, MAINTENANCE AND REPAIR.
B. CODES, PERMITS AND INSPECTIONS:

1. ALL WORK SHALL COMPLY WITH REQUIREMENTS OF MASSACHUSETTS BUILDING CODE, STURBRIDGE BUILDING DEPARTMENT, BUILDING MANAGEMENT, AND ALL AUTHORITIES HAVING JURISDICTION AND APPLICABLE NATIONAL, STATE AND LOCAL CODES, LAWS AND REGULATIONS GOVERNING OR RELATING TO ANY PORTION OF THIS WORK...

2. THIS CONTRACTOR SHALL OBTAIN ALL EQUIPMENT APPROVALS AS REQUIRED BY STATE AND LOCAL AUTHORITIES. PERMITS SHALL BE TURNED OVER TO OWNER AT JOB COMPLETION.

C. SITE VERIFICATION:

1. PRIOR TO SUBMISSION OF THE BID, THIS CONTRACTOR SHALL VISIT THE JOB SITE TO ASCERTAIN THE ACTUAL FIELD CONDITIONS AS THEY RELATE TO THE WORK INDICATED ON THE DRAWINGS AND DESCRIBED HEREIN. DISCREPANCIES, IF ANY, SHALL BE BROUGHT TO THE ENGINEER'S ATTENTION PRIOR TO SUBMISSION OF THE BID...

D. CONTRACT DOCUMENTS:

1. PRIOR TO SUBMISSION OF A FORMAL BID, THIS CONTRACTOR SHALL REVIEW ALL DRAWINGS OF THE ENTIRE PROJECT INCLUDING GENERAL CONSTRUCTION, DEMOLITION, ARCHITECTURAL, MECHANICAL, ELECTRICAL, PLUMBING AND SPRINKLER AND SHALL INCLUDE ANY WORK REQUIRED IN THE BID WHICH IS INDICATED OR IMPLIED TO BE PERFORMED BY THIS TRADE IN OTHER SECTIONS OF THE WORK.

2. DRAWINGS ARE DIAGRAMMATIC AND INDICATE GENERAL ARRANGEMENT OF WORK AND APPROXIMATE LOCATION OF EQUIPMENT. REFER TO ARCHITECTURAL DRAWINGS FOR ALL DIMENSIONS AND COORDINATE FINAL LOCATIONS OF DIFFUSERS, GRILLES, REGISTERS, THERMOSTATS, SENSORS, SWITCHES AND ANY WALL MOUNTED DEVICES.

3. IF A CONFLICT OCCURS IN THE SPECIFICATIONS AND/OR ON THE DRAWINGS, THE MORE STRINGENT SITUATION SHALL APPLY.

E. GUARANTEE:

1. ALL MATERIALS AND WORKMANSHIP SHALL BE GUARANTEED FOR A PERIOD OF ONE YEAR FROM DATE OF FINAL ACCEPTANCE OF THIS WORK. FINAL ACCEPTANCE SHALL BE DEFINED AS THE TIME AT WHICH THE MECHANICAL WORK IS TAKEN OVER AND ACCEPTED BY THE OWNER...

2. THE CONTRACTOR SHALL GUARANTEE TO REPLACE OR REPAIR PROMPTLY AND ASSUME RESPONSIBILITY FOR ALL EXPENSES INCURRED FOR ANY WORKMANSHIP AND EQUIPMENT IN WHICH DEFECTS DEVELOP WITHIN THE GUARANTEE PERIOD.

3. THIS CONTRACTOR IS RESPONSIBLE FOR THE MAINTENANCE AND OPERATION OF ALL SYSTEMS UNTIL THE FINAL ACCEPTANCE OF THE WORK.

4. ALL AIR CONDITIONING UNIT COMPRESSORS AND REFRIGERATION COMPONENTS SHALL HAVE A 5-YEAR WARRANTY.

F. THE GENERAL CONDITIONS OF THE CONTRACT FOR CONSTRUCTION AIA DOCUMENT A201, LATEST EDITION, OR AS REQUIRED BY THE ARCHITECT'S DOCUMENTS, AND/OR THE STRUCTURAL ENGINEER'S DOCUMENTS, AS APPLICABLE, ARE PART OF THIS CONTRACT.

G. DEFINITIONS:

1. MECHANICAL CONTRACTOR, "THIS CONTRACTOR" - THE PARTY OR PARTIES HAVE BEEN DULY AWARDED THE CONTRACT FOR AND ARE THEREBY MADE RESPONSIBLE FOR THE MECHANICAL WORK AS DESCRIBED HEREIN.

2. "THIS CONTRACT", "THE CONTRACT" - THE AGREEMENT COVERING THE WORK TO BE PERFORMED BY THIS CONTRACTOR.

3. "APPROVED", "EQUAL", "SATISFACTORY", "ACCEPTED", "ACCEPTABLE", "EQUIVALENT" - SUITABLE FOR USE ON THE PROJECT, AS DETERMINED BY THE ENGINEER BASED ON DOCUMENTS PRESENTED FOR SUCH DETERMINATION.

4. "THESE SPECIFICATIONS", "THIS SECTION, PART, DIVISION" (OF THE SPECIFICATION) - THE DOCUMENT SPECIFYING THE WORK TO BE PERFORMED BY "THIS CONTRACTOR".

5. "THE MECHANICAL WORK", "THIS WORK" - ALL LABOR MATERIALS, EQUIPMENT, APPARATUS, CONTROLS, ACCESSORIES, AND OTHER ITEMS REQUIRED FOR A PROPER AND COMPLETE INSTALLATION BY THE MECHANICAL CONTRACTOR.

6. "ARCHITECT", "ENGINEER", "OWNER'S REPRESENTATIVE" - THE PARTY OR PARTIES RESPONSIBLE FOR INTERPRETING, ACCEPTING AND OTHERWISE RULING ON THE PERFORMANCE UNDER THIS CONTRACT.

7. "FURNISH" - PURCHASE AND DELIVER TO THE PROJECT SITE COMPLETE WITH EVERY NECESSARY APPURTENANCE AND SUPPORT, ALL AS PART OF THE MECHANICAL WORK.

8. "INSTALL" - UNLOAD AT THE DELIVERY POINT AT THE SITE AND PERFORM EVERY OPERATION NECESSARY TO ESTABLISH SECURE MOUNTING INSTALLATION AND CORRECT OPERATION AT THE PROPER LOCATION IN THE PROJECT, ALL AS PART OF THE MECHANICAL WORK.

9. "PROVIDE" - "FURNISH" AND "INSTALL".

10. "NEW" - MANUFACTURED WITHIN THE PAST TWO YEARS AND NEVER BEFORE USED.

11. "RELOCATE" - MOVE EXISTING EQUIPMENT AND ALL ACCESSORIES AS REQUIRED.

12. "REMOVE" - DISMANTLE AND CART AWAY FROM SITE INCLUDING ALL RELATED ACCESSORIES. ALL ITEMS SHALL BE LEGALLY DISPOSED OF. ALL OTHER EQUIPMENT AND OPERATIONS IN ANY WAY AFFECTED BY THE REMOVAL IS TO REMAIN IN FULL OPERATION. PROVIDE ALL NECESSARY COMPONENTS TO MAINTAIN SUCH OPERATION.

1.02 SCOPE OF WORK

A. PROVIDE ALL LABOR, MATERIALS, EQUIPMENT, AND CONTRACTOR'S SERVICES NECESSARY FOR COMPLETE, SAFE INSTALLATION OF ALL MECHANICAL WORK. THE SCOPE OF WORK SHALL INCLUDE BUT NOT BE LIMITED TO THE FOLLOWING:

- 1. DEMOLITION AND REMOVAL OF ITEMS AS REQUIRED.
2. DUCTWORK AND DUCTWORK ACCESSORIES.
3. INSULATION OF PIPING, EQUIPMENT AND DUCTWORK.
4. TESTING AND BALANCING.
5. CUTTING AND PATCHING.
6. SHOP DRAWINGS.
7. AS-BUILT DRAWINGS.
8. OPERATING AND MAINTENANCE MANUALS.
9. FULL COORDINATION WITH OTHER TRADES.

10. WARRANTY AND GUARANTY.

11. PHASING AS REQUIRED BY OWNER, CONSTRUCTION MANAGER, GENERAL CONTRACTOR OR BUILDING MANAGEMENT.

12. PREMIUM TIME FOR WORK TO BE PERFORMED AFTER-HOURS AS REQUIRED BY BUILDING MANAGEMENT AND/OR OWNER.

13. FILING, PERMITS, CONTROLLED INSPECTIONS.

14. FULL TESTING AND STARTUP OF ALL SYSTEMS.

B. SECURE CERTIFICATES, PAY ALL FEES AND CHARGES FOR ALL WORK INSTALLED, CERTIFYING COMPLIANCE WITH ALL AUTHORITIES. DELIVER CERTIFICATES TO OWNER FOR SIGNING BEFORE FILING

1.03 COORDINATION WITH BUILDING MANAGEMENT

A. THIS CONTRACTOR IS TO OBTAIN A COPY OF THE BUILDING RULES AND REGULATIONS PRIOR TO BID SUBMISSION TO DETERMINE THE REQUIREMENTS AND THE EXTENT OF PREMIUM TIME WORK REQUIRED BY THE BUILDING.

B. THIS CONTRACTOR IS RESPONSIBLE FOR ADHERING TO THE BUILDING OWNER'S RULES AND REGULATIONS. ANY DISCREPANCIES BETWEEN THE CONTRACT DOCUMENTS AND THE BUILDING RULES AND REGULATIONS SHALL BE SUBMITTED IN WRITING TO THE ARCHITECT/ENGINEER FOR REVIEW WITH BID SUBMISSION.

C. COORDINATE WITH BUILDING OWNER FOR ANY SERVICE INTERRUPTION OF EXISTING SYSTEMS AND GIVE NOTICE AS REQUIRED BY BUILDING RULES AND REGULATIONS, OR CONTRACTOR TO PROVIDE A MINIMUM OF TWO (2) DAYS NOTICE PRIOR TO ANY WORK BEING PERFORMED, WHICHEVER IS THE MORE STRINGENT. CONTRACTOR IS TO PERFORM WORK ON PREMIUM TIME, IF SO DIRECTED BY BUILDING OWNER, SO AS NOT TO DISTURB EXISTING TENANTS ON OTHER FLOORS.

1.04 SHOP DRAWINGS

A. SUBMIT SHOP DRAWINGS CERTIFIED BY ALL TRADES THAT COORDINATION HAS BEEN COMPLETED. SUBMIT ALL CERTIFIED EQUIPMENT CUTS WITH CONSTRUCTION WIRING DIAGRAMS AND AUTOMATIC TEMPERATURE CONTROL REQUIREMENTS. SHOP DRAWINGS SUBMISSION SHALL INCLUDE, BUT NOT BE LIMITED TO, THE FOLLOWING:

- 1. DUCTWORK - PROVIDE DUCT SHOP STANDARDS AND LEAKAGE TEST CERTIFICATION, AS REQUIRED, AND 1/4 SCALE DUCT LAYOUT.
2. PIPING LAYOUT AND APPURTENANCES - PROVIDE PIPING, VALVING, CHEMICAL TREATMENT, SHOP STANDARDS AND 1/4 SCALE PIPING LAYOUT WITH ALL VALVING.
3. INSULATION FOR DUCTWORK, PIPING AND EQUIPMENT.
4. EQUIPMENT CATALOG CUTS FOR ALL ITEMS TO BE UTILIZED ON PROJECT (FANS, PUMPS, AC UNITS, VARIABLE FREQUENCY DRIVES, VAV BOXES, ETC.).
5. AIR OUTLETS (DIFFUSERS, REGISTERS, GRILLES, ETC.).
6. AUTOMATIC TEMPERATURE CONTROL DIAGRAMS, DEVICES AND SEQUENCE OF OPERATION.
7. CERTIFIED AIR AND WATER BALANCING REPORT.
8. AS-BUILT DRAWINGS AT PROJECT COMPLETION OF THE INSTALLED CONDITION OF WORK.

B. THE QUANTITY OF SHOP DRAWINGS SHALL AS A MINIMUM BE FOUR (4) COPIES OF 8-1/2" X 11" SUBMISSIONS AND FIVE (5) PRINTS OF ALL DRAWINGS. SPECIFIC JOB REQUIREMENTS MAY BE MORE STRINGENT AND CONTRACTOR IS RESPONSIBLE TO OBTAIN REQUIREMENTS FROM OWNER, CONSTRUCTION MANAGER, GENERAL CONTRACTOR OR ARCHITECT.

1.05 MAINTENANCE MANUALS

A. SUBMIT FOUR (4) LOOSE-LEAF BOUND OPERATING AND MAINTENANCE MANUALS WITH INDEX AND INDEX TABS TO INCLUDE THE FOLLOWING:

- 1. OPERATING AND MAINTENANCE INSTRUCTIONS ON ALL SYSTEMS.
2. MANUFACTURERS= CATALOG CUTS ON ALL EQUIPMENT.
3. AUTOMATIC TEMPERATURE CONTROL SYSTEMS WITH SEQUENCE OF OPERATIONS, CATALOG CUTS OF ALL DEVICES AND POINT-TO-POINT WIRING DIAGRAMS.
4. CERTIFIED FINAL AIR AND WATER BALANCING REPORT.
5. DUCT AND PIPING AS-BUILT DRAWINGS WITH VALVE CHART AND KEY PLAN DRAWINGS INSERTED IN BINDER.
6. ALL ITEMS SUBMITTED FOR REVIEW IN SHOP DRAWING SECTION.

1.06 ACCESS DOORS IN GENERAL CONSTRUCTION

A. THIS CONTRACTOR SHALL SUBMIT TO THE ARCHITECT FOR APPROVAL A PLAN INDICATING THE SIZE AND LOCATION OF ALL ACCESS DOORS REQUIRED FOR OPERATION AND MAINTENANCE OF ALL CONCEALED EQUIPMENT, DEVICES, VALVES, DAMPERS AND CONTROLS. CONTRACTOR SHALL ARRANGE FOR FURNISHING AND INSTALLATION OF ALL ACCESS DOORS IN FINISHED CONSTRUCTION AND INCLUDE COSTS IN THE BID. ACCESS DOORS SHALL BE OF ADEQUATE SIZE TO PROVIDE ACCESS TO CONCEALED ITEMS FOR OPERATION AND MAINTENANCE, WITH A MINIMUM SIZE OF 18" X 18".

PART 2 - PRODUCTS/APPLICATIONS

2.01 DUCTWORK AND ACCESSORIES

A. ALL DUCTWORK SHALL BE FABRICATED AND INSTALLED IN ACCORDANCE WITH SMACNA HVAC DUCT CONSTRUCTION STANDARDS - METAL AND FLEXIBLE, LATEST EDITION, SMACNA HVAC AIR DUCT LEAKAGE TEST MANUAL, LATEST EDITION, NFPA 90A LATEST EDITION, AND MASSACHUSETTS MECHANICAL CODE. THE MORE STRINGENT REQUIREMENT OF ANY CODES SHALL APPLY.

B. PROVIDE ALL SUPPORTING AND HANGING DEVICES IN ACCORDANCE WITH CONNECTICUT BUILDING CODE AND SMACNA.

C. DUCTWORK LAYOUT AND ROUTING IS SCHEMATIC AND THE MECHANICAL CONTRACTOR IS RESPONSIBLE FOR ALL DUCT SIZE CHANGES AND RELOCATIONS TO ACCOMMODATE SPACE AND STRUCTURAL CONDITIONS. OFFSETS AND TRANSFORMATIONS SHALL PRESERVE THE FULL INSIDE CROSS-SECTIONAL AREA OF DUCTWORK SHOWN ON THE DRAWINGS.

D. DUCTWORK (NEW AND EXISTING TO BE REUSED) SHALL HAVE PRESSURE CLASSIFICATION, SEALING REQUIREMENTS AND LEAKAGE TESTING IN ACCORDANCE WITH SMACNA AND AS LISTED BELOW UNLESS OTHERWISE SPECIFIED OR SHOWN ON THE DRAWINGS.

- 1. 2" CLASS: ALL OTHER LOW PRESSURE DUCTWORK. SEAL CLASS C, LEAKAGE CLASS 24 (RECTANGULAR) OR CLASS 12 (ROUND).
2. LEAKAGE TESTING:

ALL TESTING SHALL BE DONE IN THE PRESENCE OF THE ENGINEER OR OWNER'S REPRESENTATIVE. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING ALL COLLARS, CAPS, ELECTRIC POWER, ETC. NECESSARY TO PERFORM THE TESTS. THE CONTRACTOR IS ALSO RESPONSIBLE FOR SCHEDULING THE TEST NO LESS THAN THREE (3) BUSINESS DAYS PRIOR TO ITS INTENDED OCCURRENCE. LOW PRESSURE DUCTWORK (2" CLASS) SHALL BE TESTED ON AN AS-NEEDED BASIS AT THE ENGINEER'S DIRECTION. LEAKAGE TEST PROCEDURES SHALL FOLLOW THE OUTLINES AND CLASSIFICATIONS IN THE SMACNA HVAC DUCT LEAKAGE TEST MANUAL. IF SPECIMEN FAILS TO MEET ALLOTTED LEAKAGE LEVEL, THE CONTRACTOR SHALL MODIFY TO BRING IT INTO COMPLIANCE AND SHALL RETEST IT UNTIL ACCEPTABLE LEAKAGE IS DEMONSTRATED. TESTS AND NECESSARY REPAIR SHALL BE COMPLETED PRIOR TO CONCEALMENT OF DUCTS.

E. MATERIALS:

- 1. SHEETMETAL: UNLESS OTHERWISE SPECIFIED OR INDICATED, DUCTS SHALL BE CONSTRUCTED OF HOT-DIPPED GALVANIZED SHEETMETAL WITH 60 COMMERCIAL COATING ACCORDING TO ASTM 653 AND A924.
2. FLEXIBLE CONNECTIONS AT FANS SHALL BE NEOPRENE COATED, FLAME RETARDANT GLASS FABRIC (COMPLYING WITH NFPA 90 AND 96), 30 OZ./SQ. YD. WITH SOWN AND CEMENTED SEAMS.

F. FABRICATION:

1. CONFORM TO SMACNA REQUIREMENTS FOR METAL THICKNESS, REINFORCING, JOINTS, AND SEALING FOR MAXIMUM STATIC PRESSURES INVOLVED. ALL SEAMS AND JOINTS SHALL BE SEALED AND TAPED.

G. VOLUME DAMPERS:

1. GALVANIZED STEEL OR SAME AS DUCT CONSTRUCTION. CONFORM TO SMACNA HVAC DUCT CONSTRUCTION STANDARDS, 1995 OR LATEST EDITION, OPPOSED BLADE TYPE. PROVIDE BEARING AT BOTH ENDS OF DAMPER ROD AND QUADRANT, WITH LEVER AND LOCKSCREW, AT ONE END. INSTALL WITH LEVERS ACCESSIBLE THROUGH INSULATION. SPLITTER DAMPER OR AIR EXTRACTORS SHALL NOT BE USED ON THIS PROJECT.

2. PROVIDE MANUAL BALANCING VOLUME DAMPERS AS REQUIRED TO PROPERLY BALANCE THE AIR DISTRIBUTION SYSTEM. IF THE LOCATION OF BALANCING DAMPERS ARE NOT DEFINED ON THE DRAWINGS, THE FOLLOWING MINIMUM STANDARDS SHALL GOVERN:

- A) LOW PRESSURE: ALL SUPPLY AIR MAIN BRANCHES FROM TRUNK, EACH SPLIT, AND ALL SUB-BRANCHES FROM MAINS SHALL BE PROVIDED WITH BALANCING DAMPERS.
B) LOW PRESSURE: ALL EXHAUST AND RETURN BRANCHES FROM TRUNK, EACH SPLIT AND ALL SUB-BRANCHES FROM MAINS SHALL BE PROVIDED WITH BALANCING DAMPERS.
C) MEDIUM PRESSURE: ALL BRANCHES AND TAKEOFFS DOWNSTREAM OF TERMINAL BOXES (VAV OR FAN POWERED) SHALL BE PROVIDED WITH BALANCING DAMPERS.
D) AS NOTED ON PLANS.

H. DUCT ACCESS DOORS:

1. CONFORM TO SMACNA WITH PIANO HINGES, TWO SASH LOCKS AND DOOR GASKETS. SCREWED ACCESS PANELS ARE NOT PERMITTED. PROVIDE REMOVABLE ACCESS DOORS WHERE DOOR SWING CANNOT BE ACCOMMODATED.

2. SIZE: MINIMUM 20"x14" EXCEPT DUCTS LESS THAN 16", ONE DIMENSION 20" AND THE OTHER DIMENSION, 2" LESS THAN THE DUCT WIDTH.

3. PROVIDE ACCESS DOORS: AT ENTERING AND LEAVING SIDES OF COILS IN DUCTS; AUTOMATIC DAMPERS ON LINKAGE SIDE, MANUAL VOLUME DAMPERS 2 SQ. FT. AND LARGER, FIRE DAMPERS, SMOKE DAMPERS, COMBINATION FIRE/SMOKE DAMPERS, SMOKE DETECTION HEADS, FAN BEARINGS ENCLOSED IN DUCTS, SUCTION AND DISCHARGE SIDES OF CEILING MOUNTED FANS, FILTERS, REHEAT COILS, AT ALL EQUIPMENT REQUIRING ACCESS AND AS INDICATED ON DRAWINGS.

I. FIRE DAMPERS:

1. FIRE DAMPERS SHALL BE FACTORY FABRICATED WITH FUSIBLE LINK SHUTTER TYPE MECHANISM OUT OF AIRSTREAM. THE HVAC CONTRACTOR SHALL PROVIDE AN ACCESS DOOR AT EACH DAMPER. DAMPER SHALL BE MANUFACTURED BY IMPERIAL, MODEL FD-150 (1-1/2 HR. RATED) OR MODEL FD-350 (3-HOUR RATED) OR APPROVED EQUAL.

J. COMBINATION FIRE/SMOKE DAMPERS:

1. COMBINATION FIRE/SMOKE DAMPERS SHALL BE CLASS 1 (ONE), DUAL OVERRIDE REMOTE RESETTABLE, OPPOSED MULTIBLADE TYPE WITH FUSIBLE MECHANICAL HEAT RESPONSIVE DEVICE, 120-VOLT OR PNEUMATIC ACTUATOR AS REQUIRED MOUNTED OUT OF THE AIR STREAM, WITH DAMPER OPERATOR AND BLADE POSITION INDICATOR SWITCHES. PROVIDE MOTOR MOUNT BRACKET STRENGTHENER FOR DAMPERS OVER 10" IN HEIGHT. PROVIDE A 10 GAUGE WELDED VERTICAL STIFFENER AT EACH CORNER TO PREVENT DAMPER MISALIGNMENT.

2. THE HVAC CONTRACTOR SHALL PROVIDE ALL DEVICES, RELAYS, END SWITCHES, E/P SWITCHES, CONTROL COMPONENTS, AIR PIPING, POWER WIRING, CONTROL WIRING AND INTERLOCK WIRING, AS REQUIRED TO ACCOMPLISH THE SEQUENCE OF OPERATION FOR THESE DAMPERS.

K. SEAL OPENINGS AROUND DUCTS THROUGH WALLS WITH MINERAL WOOL OR OTHER NON-COMBUSTIBLE MATERIAL. SEAL ALL DUCT PENETRATIONS THROUGH WALLS AIRTIGHT.

L. ALL DUCTS EXPOSE TO MOISTURE SHALL BE ALUMINUM, SLOPED AND DRAINED AND SHALL NOT BE INTERNALLY LINED.

M. EXISTING DUCTWORK TO BE REUSED:

1. THIS CONTRACTOR SHALL INSPECT, SEAL PER SMACNA REQUIREMENTS, LEAK TEST, AND INSULATE ALL EXISTING DUCTWORK TO BE REUSED. EXISTING DUCTWORK TO BE REUSED SHALL CONFORM TO SPECIFICATIONS FOR NEW DUCTWORK LISTED HEREIN. ALL REQUIRED WORK SHALL BE PART OF BID.

2.02 INSULATION

A. ALL INSULATION SHALL MEET THE REQUIREMENTS OF ASTM, NFPA, 2009 INTERNATIONAL ENERGY CONSERVATION CODE AND ALL AUTHORITIES HAVING JURISDICTION. ALL MECHANICAL INSULATION (JACKETING, COVERINGS, ADHESIVES, MASTICS, FACINGS, TAPES, ETC.), SHALL HAVE RATINGS NOT EXCEEDING A AFLAME SPREAD OF 25 OR LESS AND SMOKE DEVELOPED INDEX OF 50 OR LESS.

B. BEFORE APPLYING INSULATION, ALL PRESSURE AND LEAK TESTS SHALL BE COMPLETED AND APPROVED. FURNISH AND INSTALL AS PER MANUFACTURER'S REQUIREMENTS.

C. INSULATION FOR FITTINGS OR ACCESSORIES REQUIRING SERVICING OR INSPECTION SHALL HAVE INSULATION REMOVABLE AND REPLACEABLE WITHOUT DAMAGE.

D. DUCT INSULATION:

1. GENERAL

A) INSULATION SHALL BE APPLIED WITH MASTICS, ADHESIVES, COATINGS, WITH COVERS, WEATHER-PROTECTION AND OTHER WORK AS REQUIRED BY MANUFACTURER'S RECOMMENDATIONS. DO NOT INSULATE SOUND LINED DUCTWORK. MATERIALS SHALL MEET REQUIREMENTS OF ADHESIVE AND SEALANT COUNCIL STANDARDS AND SMACNA.

B) ALL SUPPLY AND RETURN DUCTS AND PLENUMS SHALL BE INSULATED WITH A MINIMUM OF R-5 INSULATION WHEN LOCATED IN UNCONDITIONED SPACES, A MINIMUM OF R-8 INSULATION SHALL BE INSTALLED WHEN LOCATED OUTSIDE OF THE BUILDING. WHEN A DUCT OR PLENUM IS LOCATED WITHIN THE BUILDING ENVELOPE ASSEMBLY, THE DUCT OR PLENUM SHALL BE SEPERATED FROM THE BUILDING EXTERIOR OR UNCONDITIONED SPACES BY A MINIMUM OF R-8 INSULATION.

2. CONCEALED DUCTWORK

A) INSULATE SUPPLY AND FRESH AIR DUCTS AND PLENUMS IN CONCEALED SPACES AND RETURN DUCT NOT IN CEILING PLENUM WITH AT LEAST 1-1/2" THICK FIBROUS GLASS DUCT WRAP, WITH A MINIMUM R VALUE OF R-5 AND FOIL-KRAFT FLAME RESISTANT VAPOR BARRIER.

3. EXPOSED DUCTWORK

A) INSULATE EXPOSED SUPPLY, RETURN AND FRESH AIR DUCTS AND EXPOSED PLENUM WITH 2" THICK, SEMI-RIGID FIBROUS GLASS BOARDS WITH A MINIMUM R VALUE OF R-8 AND A FACTORY APPLIED FIRE RETARDANT FOIL REINFORCED KRAFT VAPOR BARRIER FACING. PROVIDE WELD PINS AND VAPOR SEAL ALL JOINTS WITH TAPE.

2.03 TESTING AND BALANCING

A. GENERAL:

- 1. TESTING AND BALANCING WORK SHALL BE PERFORMED BY AN INDEPENDENT COMPANY (NOT ASSOCIATED WITH THE HVAC CONTRACTOR), ABC CERTIFIED OR AS APPROVED BY THE ENGINEER BEFORE COMMENCEMENT OF WORK. APPROVED COMPANIES INCLUDE MERENDINO ASSOCIATES, R.H. MCDERMOTT, INTERNATIONAL TESTING AND BALANCING OR AS APPROVED BY THE ENGINEER AND BUILDING MANAGEMENT.
2. AFTER ALL PROJECT HVAC WORK IS COMPLETE, TESTED, AND IN FULL WORKING ORDER, THE AGENCY SHALL PERFORM THE BALANCING AND TESTING OF THE PROJECT HEATING, VENTILATING AND AIR CONDITIONING SYSTEMS.
3. UPON THE COMPLETION OF THE AIR CONDITIONING SYSTEM, THE BALANCING AGENCY SHALL PERFORM TESTING AND BALANCING AND COMPILE ALL TEST DATA IN A CERTIFIED REPORT AND SUBMIT FOUR (4) COPIES FOR REVIEW AND APPROVAL TO THE ENGINEER.

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SOLIDUS DESIGN - BUILD - BRAND
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Cornerstone Bank
Built on trust.
200 CHARLTON ROAD
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Issuances:
Date: November 30th, 2020
Scale: AS NOTED

Project No. 2k20.015
Drawn by: CH

M3.01
MECHANICAL SPECIFICATIONS (1 OF 2)

4. THE REPORT SHALL INCLUDE DESIGN AND ACTUAL READINGS FOR ALL EQUIPMENT AND LOCATION PLAN INDICATING WHERE ALL WORK HAS BEEN PERFORMED, AND METHODS OF BALANCING AND DETAILS OF INSTRUMENTS USED.
5. IF DISCREPANCIES EXIST IN THE REPORT THAT REQUIRE FIELD VERIFICATION, THE TESTING AND BALANCING COMPANY IN THE PRESENCE OF THE ENGINEER SHALL VISIT THE JOBSITE FOR FIELD VERIFICATION OF THE REPORT.
6. AFTER SUBMISSION OF THE FIELD VERIFIED BALANCING REPORT, THE AIR BALANCING COMPANY SHALL RETURN TO THE JOB SITE TO PERFORM TWO (2) OCCUPANT COMFORT BALANCES AS DIRECTED BY THE OWNER OR ENGINEER.
7. THE FINAL REPORT AFTER THE COMFORT BALANCE IS TO BE INCLUDED IN PROJECT OPERATING AND MAINTENANCE MANUAL.
8. THE TESTING AND BALANCING AGENCY SHALL INCLUDE AS PART OF THEIR WORK AN EXTENDED WARRANTY OF 90 DAYS AFTER COMPLETION OF TEST AND BALANCE WORK. THE ENGINEER AT HIS DISCRETION DURING THE WARRANTY PERIOD MAY REQUEST A RECHECK OR RESETTING OF ANY EQUIPMENT. THE MECHANICAL CONTRACTOR AND THE BALANCING CONTRACTOR SHALL PROVIDE THE NECESSARY TECHNICIANS TO FACILITATE THIS WORK.
9. THE BALANCING AGENCY SHALL PERMANENTLY MARK ALL ADJUSTMENT DEVICES (VALVES, DAMPERS, ETC.) TO ENABLE THE SETTING TO BE RESTORED.

B. AIR BALANCING

1. PRE-CONSTRUCTION AIR TESTING:

MEASURE PRESSURE, TEMPERATURE, AND VOLUME OF AIR FROM THE EXISTING BASE BUILDING SYSTEM BEFORE STARTING WORK. TRAVERSE MAIN SUPPLY AND RETURN DUCTS BEFORE WORK TO OBTAIN TOTAL FLOW. SUBMIT REPORT TO THE ENGINEER IMMEDIATELY AFTER COMPLETION OF THE TEST.

2. HVAC CONTRACTOR SHALL ENSURE THAT A FIRST SET OF AIR FILTERS ARE IN PLACE, WHENEVER FANS ARE RUNNING AND REPLACED WITH A NEW CLEAN SET OF FILTERS BEFORE TESTING IS COMMENCED.

3. TEST, ADJUST, REPLACE SHEAVES, AND BALANCE ALL EQUIPMENT AND AIR DISTRIBUTION SYSTEMS TO PROVIDE AIR QUANTITIES INDICATED ON PLANS WITHIN PLUS OR MINUS 10 PERCENT.

4. TEST REPORT SHALL INCLUDE, BUT NOT BE LIMITED TO THE FOLLOWING:

- A) FLOW, LEAKAGE CLASS, TEMPERATURE, STATIC PRESSURE OF AIR AT ALL TRUNK DUCTS SERVING AREAS OF WORK.
- B) TEMPERATURE OF AIR LEAVING OUTLETS AT TWO (2) TYPICAL AIR OUTLETS.
- C) QUANTITY OF AIR AT EACH AIR INLET AND OUTLET AFTER BALANCING.
- D) PROVIDE FOR ALL FANS, FAN MOTOR HP, AMPS, VOLTS, FAN RPM, CFM, INLET AND DISCHARGE STATIC PRESSURE, SHEAVE POSITION.
- E) PROVIDE FOR ALL AIR CONDITIONING UNITS, SUPPLY CFM, OUTSIDE AIR CFM, RETURN AIR CFM, MIXED AIR CFM. PROVIDE OUTSIDE AIR, MIXED AIR AND SUPPLY AIR TEMPERATURES (DRY BULB - COOLING AND HEATING, WET-BULB-COOLING). INDICATE UNIT OPERATING MODE DURING TEST.
- F) CALIBRATE ALL NEW AND EXISTING TO BE REUSED TERMINAL BOXES (VAV, FAN POWERED OR DUAL DUCT)AS REQUIRED TO MEET SPECIFIED MINIMUM/MAXIMUM CFM.
- G) LISTING OF DESIGN AND ACTUAL READINGS AS WELL AS ALL MANUFACTURER'S DATA FOR EQUIPMENT.

2.04 EQUIPMENT

- A. PROVIDE ALL EQUIPMENT AND ACCESSORIES OF THE SIZES AND CAPACITIES AS SCHEDULED AND AS INDICATED ON THE DRAWINGS.
- B. INSTALL EQUIPMENT IN ACCORDANCE WITH APPROVED SHOP DRAWINGS, MANUFACTURER'S RECOMMENDATIONS, INSTRUCTIONS, AND ALL AUTHORITIES HAVING JURISDICTION.
- C. PROVIDE EQUIPMENT SUPPORTS AND/OR MOUNTINGS AS INDICATED ON THE DRAWING, IN VIBRATION SPECIFICATION AND AS FOLLOWS:
 1. CEILING MOUNTED EQUIPMENT - PROVIDE SUPPORTS WITH APPROVED SUITABLE ANCHORS SUSPENDED DIRECTLY FROM BUILDING STEEL STRUCTURE.
- D. EQUIPMENT SHALL BE INSTALLED WITH VIBRATION ISOLATION
- E. RE-USE OF EXISTING EQUIPMENT:
 1. EXISTING SYSTEM SURVEY
 - A) PRIOR TO START OF CONSTRUCTION, CONTRACTOR SHALL PERFORM EXISTING CONDITIONS SURVEY OF SYSTEMS TO BE RE-USED AND PREPARE COMPLETE REPORT INDICATING PHYSICAL CONDITION OF UNITS AND ACCESSORIES AND NOTE ANY REPAIRS REQUIRED BEYOND ITEMS INCLUDED IN DESIGN DOCUMENTS TO RESTORE EQUIPMENT TO A FULLY OPERATIONAL CONDITION. REPORT TO BE SUBMITTED TO THE ENGINEER FOR REVIEW AND ANY CORRECTIVE ACTION. COORDINATE THIS WORK WITH ANY NEW OR REFURBISHMENT WORK LISTED IN THE SPECIFICATIONS OR PLANS.
 - B) PROVIDE A UNIT PRICE LIST TO BE SUBMITTED WITH YOUR BID FOR THE REPAIR OF ALL INTERNAL COMPONENTS OF ALL EQUIPMENT TO BE RE-USED AS WELL AS ALL ACCESSORIES.
 - C) UPON COMPLETION OF THE PROJECT, THE CONTRACTOR SHALL WARRANTY ALL RE-USED EQUIPMENT FOR ONE (1) YEAR.
 2. REHABILITATION OF EXISTING PERIMETER INDUCTION UNITS
 - A) UPON COMPLETION OF CONSTRUCTION, CONTRACTOR TO PERFORM THE FOLLOWING ITEMS TO EACH INDUCTION UNIT AS PART OF HIS CONTRACT WORK:
 - 1) VACUUM CLEAN UNIT ENCLOSURE.
 - 2) CLEAN UNIT LINT SCREENS.
 - 3) STEAM OR NITROGEN CLEAN (CONTRACTOR'S OPTION) UNIT HEATING/COOLING UNIT.
 - 4) CLEAN UNIT PRIMARY AIR JET NOZZLES.
 - 5) RECALIBRATE EXISTING OR CALIBRATE NEW THERMOSTATS AND ASSOCIATED EXISTING AND NEW CONTROL VALVES.
 - B) REPLACE EXISTING UNIT THERMOSTATS AND CONTROL VALVES AS SHOWN ON PLAN. PROVIDE NEW THERMOSTATS, VALVES AND INSULATION TO MATCH BASE BUILDING STANDARD WHERE SHOWN ON PLAN.
- F. DIFFUSERS, GRILLES AND REGISTERS
 1. GENERAL
 - A) GRILLES, REGISTERS AND DIFFUSERS SHALL BE TESTED IN ACCORDANCE WITH ASHRAE STANDARD 70-1991 OR LATEST EDITION. THE MANUFACTURER SHALL PROVIDE PUBLISHED PERFORMANCE DATA FOR ALL AIR INLETS AND OUTLETS TO BE USED ON PROJECT AS PART OF THE SUBMISSION.
 - B) THE MECHANICAL CONTRACTOR TO COORDINATE THE LOCATION OF DIFFUSERS, GRILLES AND REGISTERS WITH OTHER TRADES AND WITH CEILING AND WALL CONSTRUCTION. THE MECHANICAL CONTRACTOR IS TO VERIFY THAT ALL DIFFUSERS, GRILLES AND REGISTERS ARE COMPATIBLE WITH CEILING CONSTRUCTION TO WHICH THEY ARE TO BE INSTALLED.
 - C) COORDINATE ALL WORK WITH THE GENERAL CONTRACTOR AND REFER TO THE ARCHITECTURAL DRAWINGS FOR THE EXACT LOCATION, LENGTHS AND FOR FRAMING AND MITERING ARRANGEMENTS THAT MAY DIFFER FROM THOSE SHOWN ON HVAC DRAWINGS. PROVIDE ALL REQUIRED GENERAL CONSTRUCTION: FRAMING, BLOCKING, PLASTERING AND SUPPORTS TO MATCH CEILING, SOFFIT OR WALL CONSTRUCTION AS PART OF THE PROJECT.
 - D) INLETS AND OUTLETS SHALL HANDLE AIR QUANTITIES INDICATED AT OPERATING VELOCITIES WITH SOUND PRESSURE LEVEL NOT TO EXCEED NC-30, UNLESS NOTED OTHERWISE.

- E) DIFFUSERS, GRILLES AND REGISTERS SHALL BE INSTALLED WITH FACES SET LEVEL AND PLUM AND MOUNTED TIGHTLY AGAINST MOUNTING SERVICE.
 - F) ALL AIR INLETS AND OUTLETS TO BE STEEL OR ALUMINUM IF EXPOSED TO MOISTURE UNLESS OTHERWISE INDICATED. FINISHES TO BE SELECTED BY THE ARCHITECT.
 - G) DIFFUSERS, GRILLES AND REGISTERS SHALL BE MANUFACTURED BY TITUS, ANEMOSTAT OR APPROVED EQUAL.
 - H) SUBMIT FOR APPROVAL A COMPLETE SCHEDULE OF ALL AIR INLETS AND OUTLETS TO BE USED ON PROJECT INCLUDING MANUFACTURER'S MODELS, SIZES, PERFORMANCES, ACCESSORIES, ACOUSTIC INFORMATION, FINISHES, ETC., BEFORE RELEASE FOR FABRICATION. NOTE ANY DEVIATIONS FROM SPECIFICATIONS AND SCHEDULES SHALL BE INDICATED ON SUBMITTAL.
2. AIR INLET AND OUTLET DEVICES:
- A) PROVIDE DIFFUSERS, GRILLES AND REGISTERS FOR SUPPLY, RETURN AND EXHAUST INLETS AND OUTLETS, OF THE SIZE, TYPE AND DESIGN INDICATED ON DRAWINGS.
 - B) ALL SUPPLY RETURN AND EXHAUST AIR INLETS AND OUTLETS SHALL BE PROVIDED WITH AN OPPOSED BLADE DAMPER AND GRID (ADJUSTABLE THROUGH THE FACE) FOR TRIM BALANCING.
 - C) SUPPLY REGISTERS SHALL HAVE TWO SETS OF DIRECTIONAL CONTROL BLADES.
 - D) ONLY 4-WAY DIFFUSERS SHALL BE USED. PROVIDE BLANK-OFF SHEETMETAL BAFFLE FOR ALL 1-WAY, 2-WAY AND 3-WAY DIFFUSERS.
 - E) ALL LINEAR DIFFUSERS SHALL BE PROVIDED WITH CABLE OPERATED OPPOSED BLADE DAMPER ADJUSTABLE THROUGH THE FACE OF THE DIFFUSER. DAMPERS AND PLENUM TAPS SHALL BE SPACED AT A MAXIMUM OF 4 FEET ON CENTER. PROVIDE DIFFUSERS WITH ADJUSTABLE AIR PATTERN CONTROL VALVES.

2.05 AUTOMATIC TEMPERATURE CONTROLS

A. GENERAL:

1. FURNISH AND INSTALL AS HEREIN SPECIFIED, A COMPLETE AUTOMATIC TEMPERATURE CONTROL SYSTEM AS REQUIRED FOR THE OPERATION OF ALL HVAC EQUIPMENT.
2. ALL TEMPERATURE CONTROL SYSTEMS AND COMPONENTS UNDER THIS SUBCONTRACT ARE TO BE FULLY MODULATING TYPE, EXCEPT WHERE NOTED OTHERWISE. THE SYSTEM SHALL BE COMPLETE IN ALL RESPECTS INCLUDING ALL ASSOCIATED CONTROL EQUIPMENT, THERMOSTATS, CONTROL VALVES, VALVE ACTUATORS, DAMPER OPERATORS, RELAYS, PILOT POSITIONERS, CONTROL WIRING, CONTROL AIR PIPING, SWITCHES, INTERLOCK WIRING, ELECTRICAL OR PNEUMATIC CONTROL COMPONENTS AND ASSOCIATED PIPING OR WIRING, APPURTENANCES, ETC., TO PROVIDE THE FUNCTIONS DESCRIBED IN THESE SPECIFICATIONS AND PLANS, REGARDLESS OF WHETHER OR NOT SAID DEVICE RELAY, ETC. IS SPECIFICALLY MENTIONED HEREAFTER.
3. THE SYSTEM SHALL BE SUPERVISED AND CHECKED OUT COMPLETELY IN ALL RESPECTS BY COMPETENT MECHANICS, REGULARLY EMPLOYED BY THE MANUFACTURER.
4. THE CONTROL SYSTEMS SHALL BE IN ACCORDANCE WITH THE FOLLOWING DESCRIPTION OF SYSTEM OPERATIONSAND/OR DETAIL INFORMATION SHOWN ON THE PLANS AND AS DESCRIBED HEREIN.
 - A) THE MANUFACTURER OF THE AUTOMATIC CONTROL EQUIPMENT SHALL SUBMIT THE FOLLOWING FOR APPROVAL: A SCHEMATIC DIAGRAM OF EACH CONTROL SYSTEM WHICH SHALL INDICATE THE PROPER SEQUENCE OF OPERATION AND RANGE OF THE CONTROLS FOR ALL CYCLES. A COMPLETE DESCRIPTION OF THE AUTOMATIC OPERATION OF EACH SYSTEM. THE DESCRIPTION SHOULD INCLUDE THE DUTY OF EACH THERMOSTAT, VALVE, SWITCH, ETC., INCORPORATED IN THE CONTROL SYSTEM WITH A SCHEDULE AND ILLUSTRATION OF ALL CONTROL INSTRUMENTS AND EQUIPMENT INCLUDING CONTROL PANELS AND DEVICES FOR EACH SYSTEM.

B. ELECTRIC WIRING:

1. ALL ELECTRICAL WORK (EXCEPT FOR MOTOR FEEDERS, WIRING BETWEEN MOTORS, MOTOR CONTROLLERS, FEEDER PANELS, FUSES, CIRCUIT BREAKERS AND BUS BARS) REQUIRED FOR THE AUTOMATIC TEMPERATURE CONTROL SYSTEM SHALL BE PROVIDED BY THIS CONTRACTOR. WORK SHALL INCLUDE BUT NOT BE LIMITED TO TIME SWITCHES, DAMPER MOTORS, DAMPER SWITCHES, ELECTRIC THERMOSTATS, ELECTRIC RELAYS, E/P SWITCHES, INTERLOCKING WIRING, WIRE, CONDUIT, ETC.
2. ALL 115 VOLT POWER REQUIRED FOR CONTROL PURPOSES SHALL BE PROVIDED BY THE CONTROL CONTRACTOR FROM A SOURCE ESTABLISHED BY THE ELECTRICAL CONTRACTOR.
3. THE CONTROL MANUFACTURER SHALL INCLUDE WIRING DIAGRAMS IN HIS SHOP DRAWINGS SUBMITTALS FULLY COORDINATED WITH THE ELECTRICAL CONTRACTOR'S WORK. IT SHALL BE THE AUTOMATIC TEMPERATURE CONTROL CONTRACTOR'S RESPONSIBILITY TO PROVIDE ALL WIRING AND CONDUIT AS REQUIRED TO ACHIEVE THE FUNCTION CALLED FOR IN THESE SPECIFICATIONS, CONFORMING WITH LOCAL CODES FOR MATERIAL AND INSTALLATION. THE ELECTRICAL SPECIFICATION FOR THE PROJECT'S ELECTRICAL WORK IS TO BE FOLLOWED.
4. FURNISH A CERTIFICATE INDICATING THE METHOD OF WIRING COMPLIANCE WITH LOCAL CODES AS PART OF THE FIRST SHOP DRAWING SUBMITTAL.

C. ROOM THERMOSTAT AND SWITCH LOCATIONS:

1. ALL ROOM THERMOSTATS AND SWITCH LOCATIONS (WHETHER SHOWN ON PLANS OR NOT) SHALL BE SELECTED AND SUBMITTED BY THE TEMPERATURE CONTROL MANUFACTURER FOR APPROVAL BY THE ARCHITECT AND ENGINEER PRIOR TO ACTUAL INSTALLATION.

D. AUTOMATIC DAMPERS:

1. PROVIDE CONTROLS FOR ALL THE AUTOMATIC DAMPERS, AS SPECIFIED IN THE DUCTWORK SECTION, AND SHOWN ON THE DRAWINGS.
2. CONTROL MOTORS OR ACTUATORS SHALL BE OF THE ELECTRONIC OR PNEUMATIC TYPE, UNLESS OTHERWISE NOTED, OR APPROPRIATE SIZE AND QUANTITIES TO PROVIDE TWO-POSITION OR PROPORTIONING CONTROL ACTION AS SPECIFIED. PROPORTIONING TYPE SHALL BE EQUIPPED WITH PILOT TYPE POSITIONERS. PILOT POSITIONERS SHALL BE SELECTED FOR VARIED SPRING RANGES AND ADJUSTABLE WITHOUT DISMANTLING POSITIONER AND CONTROL MOTOR.
3. AUTOMATIC DAMPERS EXPOSED TO THE ELEMENTS SHALL HAVE ELECTRIC ACTUATORS WITH ALL REQUIRED ACCESSORIES.

E. CONTROL PANELS:

1. FURNISH AND INSTALL IN THE MECHANICAL ROOM, AS HEREIN SPECIFIED, CONTROL PANELS OF STEEL, WITH WELDED ANGLE IRON BRACKETS, FOR WALL OR FLOOR MOUNTING.
2. THE BASIC BACKGROUND COLOR OF THE PANEL SHALL BE AS APPROVED BY THE ARCHITECT AND ENGINEER.
3. PANELS SHOULD BE FULLY ENCLOSED WITH HINGED LOCKING FRONT DOOR FOR EACH PANEL. THE PANEL SHALL CONTAIN ALL CONTROLLERS, RELAYS, SWITCHES, ETC. PROVIDE ENGRAVED NAMEPLATES TO LABEL THE CONTROLLED EQUIPMENT AND FOR EACH PANEL MOUNTED CONTROL DEVICE. PLASTIC LAMINATED CONTROL SCHEMATIC DRAWINGS FOR THE SYSTEM SHALL BE HUNG AT EACH LOCAL CONTROL PANEL.
4. DETAILS OF EACH OF THESE PANELS SHALL BE SUBMITTED FOR APPROVAL PRIOR TO FABRICATION. LOCATIONS OF EACH PANEL ARE TO BE CONVENIENT FOR ADJUSTMENT AND SERVICE AND ALL SUCH LOCATIONS ARE TO BE APPROVED PRIOR TO INSTALLATION.

F. SEQUENCE OF OPERATIONS:

1. ALL HVAC SYSTEMS SHALL BE CONTROLLED ACCORDING TO THE POINT LIST CONTAINED IN THE SECTION OF THE SPECIFICATIONS AND SHALL BE STAND-ALONE. ADDITIONAL POINTS OR SOFTWARE PROGRAMMING NOT LISTED IN THE POINT LIST BUT WHICH ARE REQUIRED TO MEET THE FOLLOWING SEQUENCES OF OPERATION SHALL BE PROVIDED.
 2. FAN COIL UNIT (FC-1):
 - A) FAN COIL UNIT SHALL BE CONTROLLED BY MANUFACTURER SIMPLE WALL MOUNTED THERMOSTAT.
 - B) THE INDOOR SPACE TEMPERATURE SHALL BE MAINTAINED AT SETPOINT WITHIN A RANGE OF +/- 1'F.
 - C) UNIT SHUTDOWN: SUPPLY FAN SHALL BE DENERGIZED AND DX-REFRIGERANT COIL CONTROL VALVE SHALL CLOSE.

D) TEMPERATURE CONTROL

- 1) COOLING MODE: WHEN THE SPACE RAISES ABOVE SETPOINT THE CONDENSER SHALL ENGAGE IN COOLING MODE. WHEN TEMPERATURE REACHES SETPOINT THE CONDENSER SHALL SHUTDOWN.

3. EXHAUST FAN (EF-1):

- A) EXHAUST FAN SHALL BE CONTROLLED BY TIMECLOCK AND PROVIDE CONTINUOUS OPERATION DURING BUILDING OPERATING HOURS.

PART 3 - EXECUTION

3.01 DEMOLITION, REMOVAL AND RELOCATION

- A. REMOVAL, TEMPORARY CONNECTIONS AND RELOCATION OF CERTAIN EXISTING WORK WILL BE NECESSARY FOR THE INSTALLATION OF THE NEW SYSTEMS. ALL EXISTING CONDITIONS ARE NOT TO BE COMPLETELY DETAILED ON THE DRAWINGS. THE CON-TRACTOR SHALL SURVEY THE SITE AND MAKE ALL NECESSARY CHANGES REQUIRED BASED ON EXISTING CONDITIONS FOR PROPER INSTALLATION OF NEW WORK.
- B. DISCONNECT, REMOVE AND/OR RELOCATE EXISTING MATERIAL, EQUIPMENT, AND OTHER WORK AS NOTED OR REQUIRED FOR PROPER INSTALLATION OF NEW SYSTEM.
- C. EQUIPMENT REQUIRED TO BE TEMPORARILY DISCONNECTED AND RELOCATED SHALL BE CAREFULLY REMOVED, STORED, CLEANED, REINSTALLED, RECONNECTED, AND MADE OPERATIONAL.
- D. ALL EXISTING WORK NOT INDICATED FOR DEMOLITION SHALL BE PROTECTED FROM DAMAGE. WHERE EXISTING WORK TO REMAIN IS DAMAGED OR DISTURBED, THE CONTRACTOR SHALL REPAIR OR REPLACE TO OWNER'S AND BUILDING MANAGER'S SATISFACTION AT NO COST TO THE OWNER OR BUILDING MANAGEMENT.
- E. GENERAL CONTRACTOR REMOVE ALL CEILING IN AREAS WHERE NEW DUCTWORK OR PIPING IS TO BE INSTALLED OR EXISTING IS ALTERED, AS PER ARCHITECT'S INSTRUCTIONS.
- F. ALL NECESSARY CUTTING AND PATCHING TO ACCOMMODATE THE NEW HVAC WORK SHALL BE PERFORMED BY THIS CONTRACTOR AND COORDINATED WITH BUILDING MANAGEMENT SO AS TO MINIMIZE DISRUPTION OF EXISTING TENANTS AND SERVICES. RESTORE ALL ITEMS TO MATCH EXISTING CONDITIONS.
- G. ALL EXISTING MATERIAL AND EQUIPMENT TO BE REMOVED UNDER THIS CONTRACT WILL REMAIN THE PROPERTY OF THE OWNER OR SHALL BE LEGALLY DISPOSED OF BY THIS CONTRACTOR AS DIRECTED BY THE ARCHITECT OR OWNER. REFRIGERATION CONTAINED IN EXISTING EQUIPMENT TO BE REMOVED SHALL BE RECLAIMED OR LEGALLY DISPOSED OF IN ACCORDANCE WITH EPA REQUIREMENTS AND ASHRAE.
- H. PROVIDE FOR LEGAL REMOVAL AND DISPOSAL OF ALL RUBBISH AND DEBRIS FROM THE BUILDING AND SITE. COORDINATE ALL DEMOLITION AND REMOVALS WITH BUILDING MANAGEMENT.

3.02 CONNECTION TO EXISTING WORK

- A. PLAN INSTALLATION OF NEW WORK AND CONNECTIONS TO EXISTING WORK TO INSURE MINIMUM INTERFERENCE WITH REGULAR OPERATION OF EXISTING FACILITIES. ALL SYSTEM SHUTDOWNS AFFECTING OTHER AREAS SHALL BE COORDINATED WITH BUILDING MANAGEMENT. INSTALL ISOLATION VALVES AT POINT OF CONNECTION TO THE EXISTING PIPING. INSTALL ISOLATION DAMPERS AT CONNECTION TO EXISTING DUCTWORK. PROVIDE TEMPORARY DUCTWORK AND PIPING CONNECTIONS AS REQUIRED TO MINIMIZE SHUTDOWN TIME.
- B. CONNECT NEW WORK TO EXISTING WORK IN A NEAT AND APPROVED MANNER. RESTORE EXISTING WORK DISTURBED WHILE INSTALLING NEW WORK TO ACCEPTABLE CONDITION AS DETERMINED BY ARCHITECT AND BUILDING MANAGER.
- C. MAINTAIN CONTINUOUS OPERATION OF EXISTING FACILITIES.



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1450 Main Street
East Hartford, CT 06108



750 Old Main St.
Suite 202,
Rocky Hill, CT 06067



67 Federal Rd, Building A,
Suite 201
Brookfield, CT 06804

RENOVATIONS FOR:

Cornerstone Bank
Built on trust.

200 CHARLTON ROAD
STURBRIDGE, MA

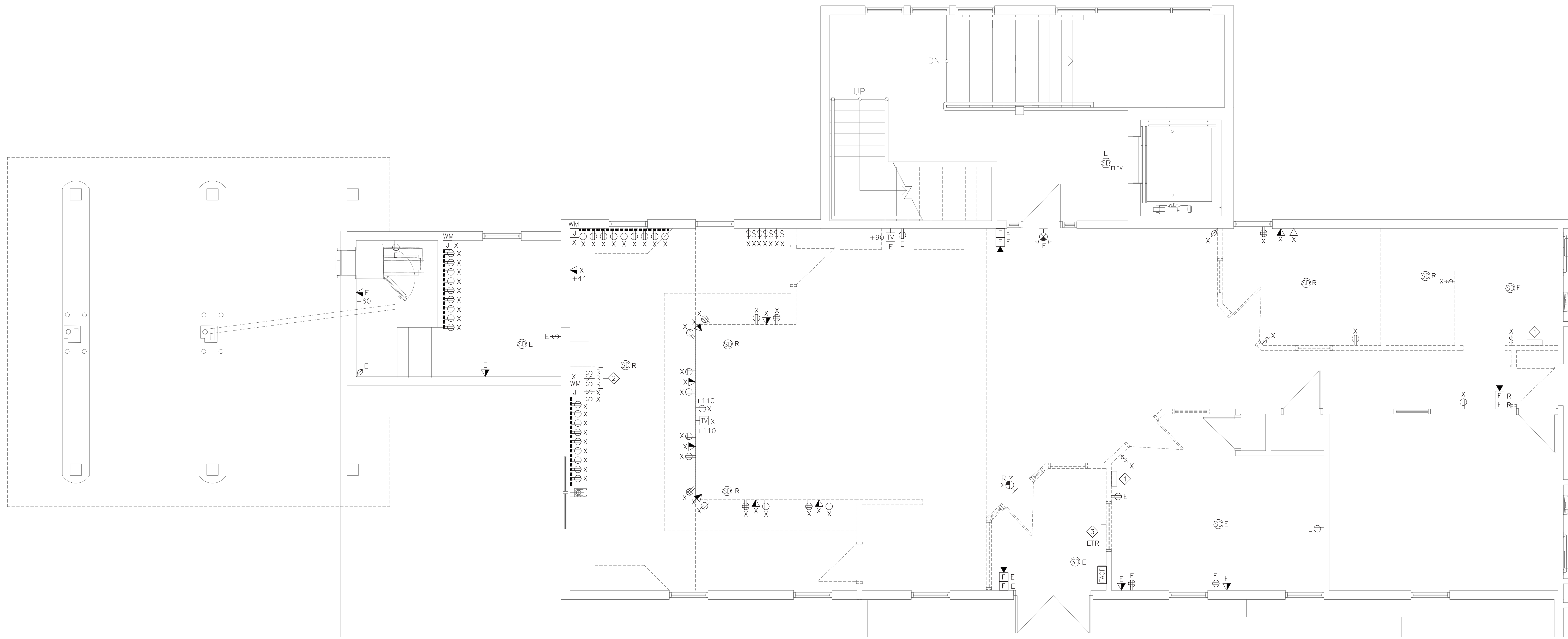
Issuances:

Date: November 30th, 2020

Scale: AS NOTED

Project No. 2K20.015 | Drawn by: CH

M3.02
MECHANICAL SPECIFICATIONS (2 OF 2)



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

ELECTRICAL DEMOLITION NOTES

1. THE CONTRACTOR SHALL INCLUDE IN HIS BID ALL COSTS ASSOCIATED WITH REMOVALS AND RELOCATIONS OF ELECTRICAL WORK AS DESCRIBED IN THE SPECIFICATIONS WITH ALLOWANCES FOR EXPECTED OR UNFORSEEN DIFFICULTIES WHEN CONCEALED WORK HAS BEEN OPENED. NO CLAIMS FOR ADDITIONAL WORK ASSOCIATED WITH DEMOLITION WILL BE ACCEPTED, EXCEPT WHERE CONSIDERED JUSTIFIABLE BY THE ENGINEER.
2. THE CONTRACTOR SHALL REMOVE AND/OR RELOCATE ALL EXISTING ELECTRICAL WORK WHICH INTERFERES WITH THE NEW ARCHITECTURAL AND ELECTRICAL LAYOUTS IN FULL COORDINATION WITH THE ENGINEER'S DEMOLITION PLANS. ALL SYSTEMS WHICH ARE NO LONGER REQUIRED TO FUNCTION SHALL BE DE-ENERGIZED AND DISCONNECTED AT THE SOURCE OF POWER SUPPLY.
3. THE CONTRACTOR SHALL PERFORM DEMOLITION AND REMOVAL WORK WITH MINIMUM INTERFERENCE WITH FUNCTIONING ELECTRICAL SYSTEMS. ALL AFFECTED SYSTEMS SHALL BE RECONNECTED AND RESTORED.
4. DEMOLITION AND REMOVAL WORK SHALL BE PERFORMED IN A NEAT AND WORKMANLIKE MANNER. THE CONTRACTOR SHALL PATCH, REPAIR OR OTHERWISE RESTORE ANY DAMAGED BUILDING SURFACE TO ITS ORIGINAL CONDITION.
5. THE CONTRACTOR SHALL REMOVE ALL ELECTRICAL LIGHTING, RECEPTACLES SWITCHES AND OTHER DEVICES, COMPLETE WITH ASSOCIATED WIRING, CONDUITS, ETC., FROM PARTITIONS OR CEILING THAT ARE TO BE REMOVED. WHERE THE REMOVAL OF THESE ITEMS DISRUPTS EXISTING WIRING THAT IS TO REMAIN, THE CONTRACTOR SHALL INSTALL JUNCTION BOXES AND OTHER DEVICES AND PROVIDE BYPASS CONNECTIONS NECESSARY TO MAKE CIRCUITS AFFECTED CONTINUOUS AND READY FOR OPERATION. OTHERWISE, WIRING SHALL BE REMOVED BACK TO THE NEAREST ELECTRICAL JUNCTION BOX THAT IS TO REMAIN OR TO PANELBOARD.
6. ALL REUSED RACEWAYS WHICH BECOME EXPOSED DURING THE ALTERATION WORK SHALL BE REMOVED AND REROUTED CONCEALED BEHIND FINISHED SURFACES.
7. ALL UNUSED CONCEALED OUTLET BOXES OR FLOOR OUTLETS SHALL BE PROVIDED WITH MATCHING BLANK COVERS.
8. EXISTING PANEL DIRECTORIES AFFECTED BY THE ALTERATION WORK SHALL BE MODIFIED TO REFLECT THE BRANCH CIRCUIT WIRING CHANGES.
9. PORTIONS OF FEEDER RUNS TO BE REMOVED AS A RESULT OF DEMOLITION WORK, BUT WHICH ARE REQUIRED TO REMAIN ENERGIZED, SHALL BE CUT AT CONVENIENT LOCATIONS, REROUTED AND RECONNECTED. NEW FEEDER EXTENSIONS SHALL MATCH EXISTING ONES IN ALL RESPECTS, CABLE TYPE, CONDUCTOR AMPACITY, CONDUIT SIZES, ETC.
10. THE CONTRACTOR SHALL NOTIFY THE OWNER AT THE APPROPRIATE TIME OF THE PROJECTED DEMOLITION AND PHASING SCHEDULE SO THAT REMOVAL OR RELOCATION OF AFFECTED UTILITIES MAY BE CARRIED OUT IN COORDINATION WITH THE PROJECT REQUIREMENTS. THE CONTRACTOR SHALL FOLLOW CLOSELY THE ENGINEER'S DEMOLITION AND PHASING SCHEDULE AND PROCEED IN THE SPECIFIED SEQUENCE.
11. ALL EXISTING MATERIAL AND EQUIPMENT IN USABLE CONDITION, WHICH IS TO BE REMOVED UNDER THIS CONTRACT, SHALL REMAIN THE PROPERTY OF THE OWNER OR SHALL BE DISPOSED OF BY THE ELECTRICAL CONTRACTOR, AS DIRECTED BY THE OWNER.
12. EXISTING CONDUITS ROUTED IN SLAB AND TURNING OUT OF SLAB SHALL BE CUT BACK TO 1" INTO SLAB AND OPENING PATCHED.
13. ALL EXISTING UNUSED WIRING SHALL BE DISCONNECTED AT EACH END AND REMOVED.
14. CONTRACTOR SHALL DISCONNECT POWER TO ALL MECHANICAL EQUIPMENT BEING TAKEN OUT OF OPERATION. COORDINATE WITH MECHANICAL CONTRACTOR PRIOR TO DEMOLITION.

ELECTRICAL DEMOLITION LEGEND

NOTES:
1. REFER TO DRAWING E0.01 FOR ELECTRICAL DEMOLITION NOTES.

	EXISTING WALL MOUNTED COMBINATION EXIT/EMERGENCY SIGN TO BE RELOCATED. EXTEND ALL ASSOCIATED WIRING TO NEW LOCATION. REFER TO DRAWING E1.03 FOR NEW LOCATION.		EXISTING WALL MOUNTED VOICE/DATA DEVICE TO BE REMOVED. REMOVE ALL WIRING BACK TO LOCAL HUB.
	EXISTING WALL MOUNTED COMBINATION EXIT/EMERGENCY SIGN TO REMAIN.		EXISTING WALL MOUNTED VOICE/DATA DEVICE TO REMAIN.
	EXISTING WALL SWITCH TO BE REMOVED. REMOVE ALL ASSOCIATED WIRING BACK TO SOURCE.		EXISTING WALL MOUNTED VOICE DEVICE TO BE REMOVED. REMOVE ALL WIRING BACK TO LOCAL HUB.
	EXISTING WALL SWITCH TO BE RELOCATED. EXTEND ALL ASSOCIATED WIRING TO NEW LOCATION. REFER TO DRAWING E1.02 FOR NEW LOCATION.		EXISTING COAX CABLE DEVICE TO BE REMOVED. REMOVE ALL ASSOCIATED WIRING BACK TO SOURCE.
	EXISTING WALL SWITCH TO REMAIN.		EXISTING COAX CABLE DEVICE TO REMAIN.
	EXISTING WALL MOUNTED OCCUPANCY SENSOR TO BE REMOVED. REMOVE ALL ASSOCIATED WIRING BACK TO SOURCE.		EXISTING FIRE ALARM CONTROL PANEL TO REMAIN.
	EXISTING WALL MOUNTED OCCUPANCY SENSOR TO REMAIN.		EXISTING FIRE ALARM PULL STATION TO BE REMOVED. REMOVE ALL ASSOCIATED WIRING BACK TO SOURCE.
	EXISTING WALL MOUNTED 20A, 120V DUPLEX RECEPTACLE TO BE REMOVED. REMOVE ALL ASSOCIATED WIRING BACK TO SOURCE.		EXISTING FIRE ALARM PULL STATION TO REMAIN.
	EXISTING WALL MOUNTED 20A, 120V DUPLEX RECEPTACLE TO REMAIN.		EXISTING FIRE ALARM HORN/STROBE DEVICE TO BE RELOCATED. EXTEND ALL ASSOCIATED WIRING TO NEW LOCATION. REFER TO DRAWING E1.03 FOR NEW LOCATION.
	EXISTING WALL MOUNTED 20A, 120V QUADRUPLEX RECEPTACLE TO BE REMOVED. REMOVE ALL ASSOCIATED WIRING BACK TO SOURCE.		EXISTING FIRE ALARM HORN/STROBE DEVICE TO REMAIN.
	EXISTING WALL MOUNTED 20A, 120V QUADRUPLEX RECEPTACLE TO REMAIN.		EXISTING SMOKE DETECTOR TO BE RELOCATED. EXTEND ALL ASSOCIATED WIRING TO NEW LOCATION. REFER TO DRAWING E1.03 FOR NEW LOCATION.
	EXISTING WIREMOLD RACEWAY TO BE REMOVED.		EXISTING SMOKE DETECTOR TO REMAIN.

ELECTRICAL POWER DEMOLITION KEYNOTES

- EXISTING ALARM PANEL SHALL BE RELOCATED. EXTEND ALL ASSOCIATED CONDUIT AND WIRING TO NEW LOCATION. REFER TO DRAWING E1.03 FOR NEW LOCATION.
- EXISTING LIGHTING SWITCHES FOR CANOPY LIGHTS TO BE RELOCATED. EXTEND ALL ASSOCIATED CONDUIT AND WIRING TO NEW LOCATION. REFER TO DRAWING E1.02 FOR NEW LOCATION.
- EXISTING WALL MOUNTED ELECTRIC UNIT HEATER TO BE REMOVED AND REINSTALLED ON NEW WALL. CONTRACTOR SHALL REUSE EXISTING ELECTRIC UNIT HEATER POWER CIRCUIT.

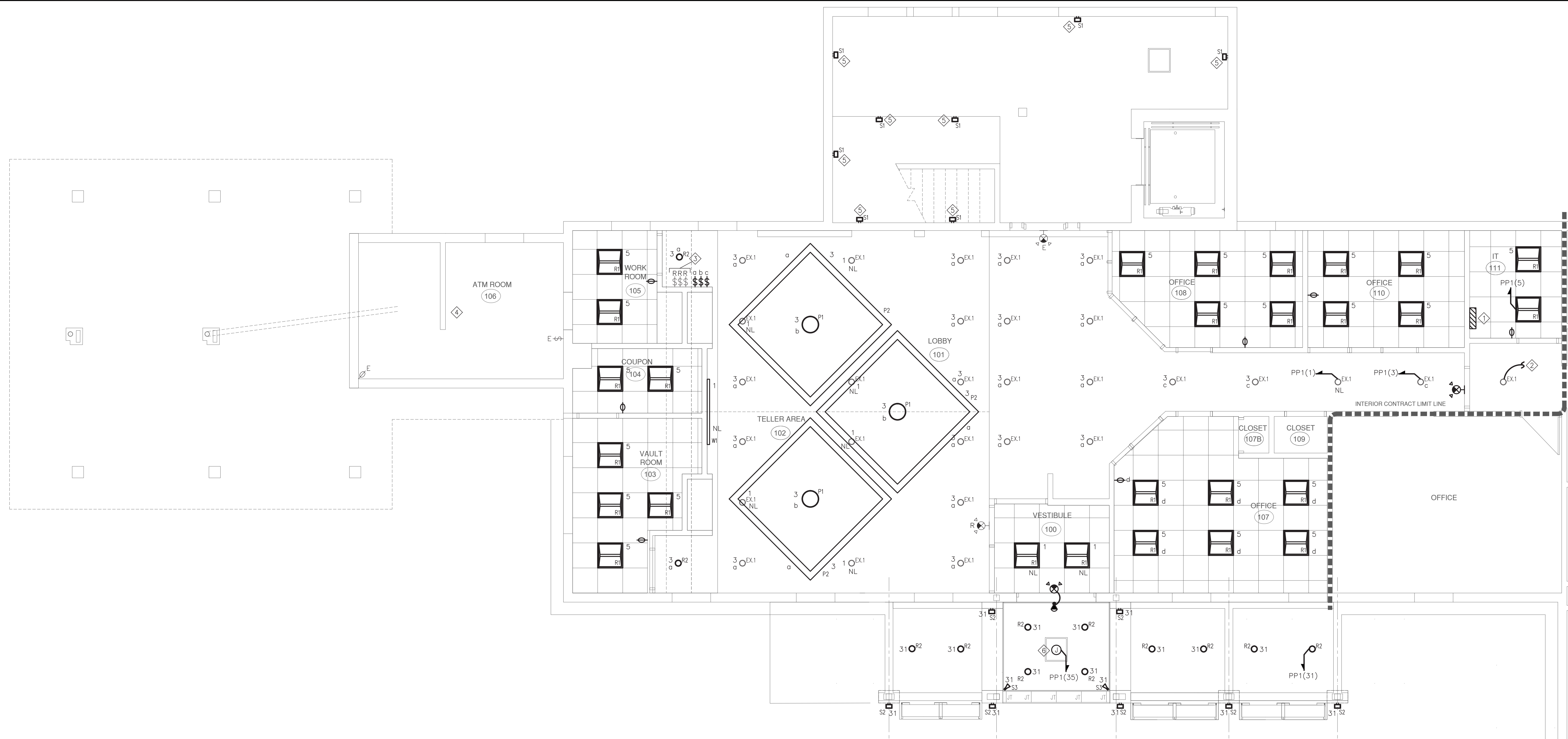
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ISSUANCES:

Date: November 30th, 2020

Scale: AS NOTED

Project No. 2K20.015
Drawn by: WH



1 ELECTRICAL LIGHTING PLAN
SCALE: 1/4" = 1'-0"

ELECTRICAL KEYNOTES	
①	NEW PANEL 'PP1' 100A, 120/208V, 3φ, 4W., 42-POLE.
②	CONTRACTOR SHALL CONNECT EXISTING LIGHTING FIXTURE TO EXISTING HALLWAY LIGHTING CIRCUIT AND SWITCHING IN THIS AREA.
③	RELOCATED LIGHTING SWITCHES FOR CANOPY LIGHTS.
④	EXISTING LIGHTING AND SWITCHING IN THIS AREA TO REMAIN AS IS.
⑤	NEW LIGHT FIXTURE TO REPLACE EXISTING LIGHT FIXTURE AT THIS LOCATION. REUSE EXISTING LIGHTING CIRCUIT AND SWITCHING.
⑥	NEW CEILING JUNCTION BOX FOR BRANDING SCULPTURE.

- ELECTRICAL LIGHTING NOTES**
- CONTRACTOR SHALL REFER TO DRAWING E0.01 FOR DEMOLITION NOTES. CONTRACTOR SHALL COORDINATE ALL DEMOLITION WORK WITH ARCHITECTURAL DRAWINGS.
 - CIRCUIT NUMBERS SHOWN ARE FOR REFERENCE ONLY.
 - CONTRACTOR SHALL CIRCUIT (2)#12+12 GRD. IN 3/4" C. TO PANEL AND CIRCUIT INDICATED, UNLESS OTHERWISE NOTED.
 - CONTRACTOR SHALL REUSE EXISTING 20A, 1 POLE CIRCUIT BREAKERS FREED BY DEMOLITION IN EXISTING PANELS. PROVIDE NEW CIRCUIT BREAKERS AS REQUIRED. NEW CIRCUIT BREAKERS TO BE BOLT-ON TYPE MATCHING EXISTING TYPE & KAIC RATING.
 - ALL LIGHTING FIXTURES OUTSIDE THE AREA OF WORK SHALL REMAIN AS IS, MAINTAIN CIRCUITS CONTINUITY AND FUNCTIONALITY.
 - ALL NEW WALL MOUNTED EMERGENCY LIGHTING UNITS, EXIT SIGNS AND COMBINATION EXIT/EM FIXTURES, SHALL BE CONNECTED TO THE "HOT" UNSWITCHED SIDE OF THE LIGHTING CIRCUIT IN THE AREA THE FIXTURE IS COVERING.
 - CONTRACTOR SHALL COORDINATE EXACT LOCATION AND FREQUENCY OF ALL CEILING MOUNTED AND WALL MOUNTED OCCUPANCY SENSORS WITH MANUFACTURER PRIOR TO INSTALLATION. LOCATION OF SENSORS ARE DIAGRAMMATIC. CONTRACTOR SHALL LOCATE AND AIM SENSOR IN LOCATION REQUIRED FOR COMPLETE AND PROPERLY FUNCTIONING COVERAGE WITHIN RANGE OF SENSOR. PROVIDE ALL POWER RACKS, WIRE CONTROL HARDWARE AND EQUIPMENT TO PROVIDE OCCUPANCY SENSOR LIGHTING CONTROL SYSTEM. TYPICAL FOR ALL SENSORS INDICATED.
 - CEILING MOUNTED OR WALL MOUNTED OCCUPANCY SENSORS SHALL CONTROL LIGHTING IN THE ENTIRE ROOM, UNLESS OTHERWISE NOTED.
 - COORDINATE ALL LIGHTING SWITCH LOCATIONS WITH ARCHITECT.
 - LIGHTING CIRCUIT PP1(3) SHALL BE CONTROLLED BY TIMECLOCK. REFER TO DRAWING E2.02 FOR 'TIMECLOCK WIRING DETAIL.' OVERRIDE SWITCH SHALL BE LOCATED BY LIGHTING SWITCHES IN TELLER AREA. TIMECLOCK SHALL BE LOCATED ADJACENT TO NEW PANEL 'PP1.'
 - ALL EXTERIOR LIGHT FIXTURES SHALL BE PROVIDED POWER FROM CIRCUIT PP1(31) AND SHALL BE CONTROLLED BY ASTRONOMICAL TIMECLOCK. REFER TO DRAWING E2.02 FOR 'EXTERIOR LIGHTING TIMECLOCK WITH PHOTOCCELL DETAIL.'

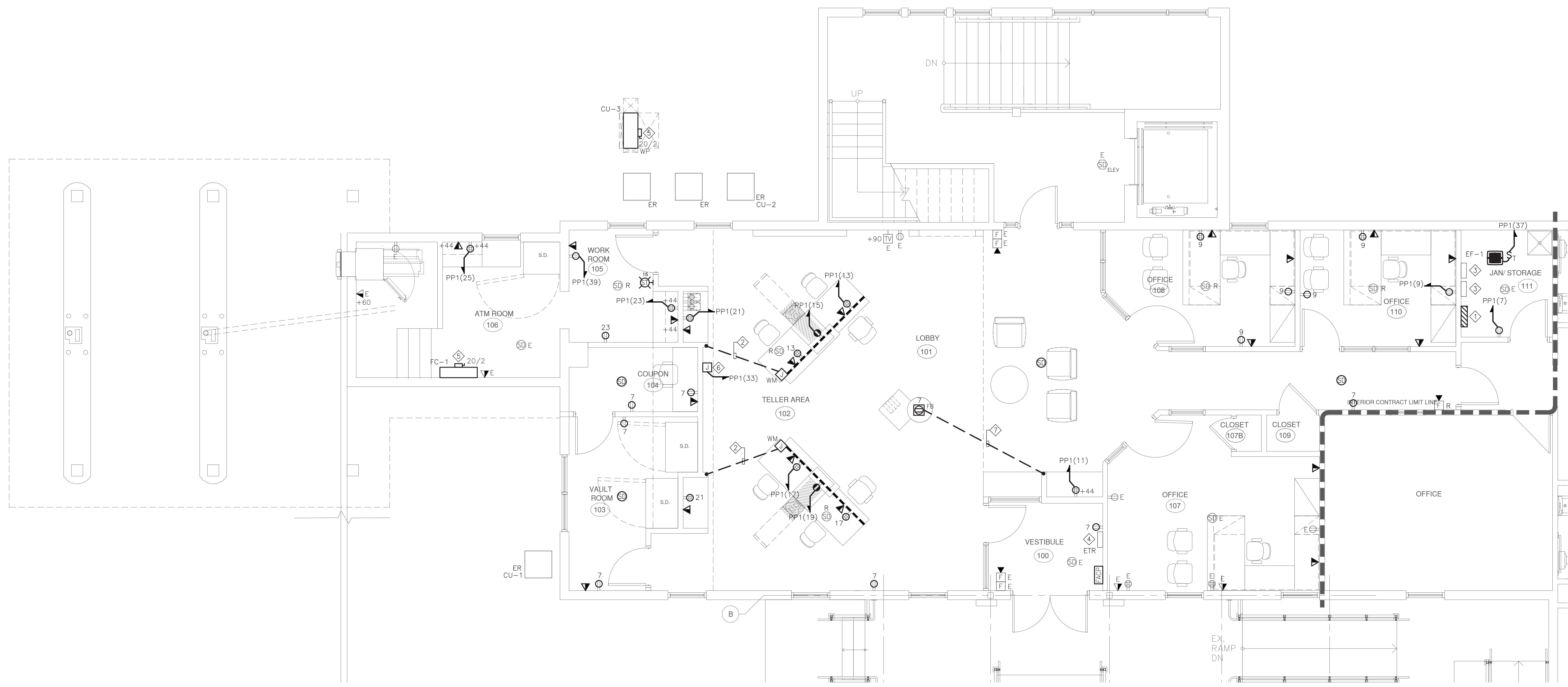
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Issuances:

Date: November 30th, 2020

Scale: AS NOTED

Project No. 2K20.015 | Drawn by: WH



1 ELECTRICAL POWER PLAN
SCALE: 1/4" = 1'-0"

ELECTRICAL KEYNOTES

- 1 NEW PANEL 'PP1' 100A, 120/208V, 3Ø, 4W., 42-POLE.
- 2 CONTRACTOR SHALL ROUTE A 3/4" C. FOR POWER AND A 1-1/4" C. FOR DATA UNDERSLAB FROM WALL TO FURNITURE SYSTEM TO FEED NEW WIREMOLD IN FURNITURE SYSTEM. CONDUIT FOR DATA SHALL BE STUBBED UP 6" ABOVE FINISHED CEILING WITH GROMMETTED END. COORDINATE ROUTING OF CONDUIT WITH FURNITURE VENDOR AND ARCHITECT.
- 3 RELOCATED ALARM PANEL.
- 4 EXISTING WALL MOUNTED ELECTRIC UNIT HEATER TO BE REMOVED AND REINSTALLED ON NEW WALL. CONTRACTOR SHALL REUSE EXISTING ELECTRIC UNIT HEATER POWER CIRCUIT.
- 5 CONTRACTOR SHALL PROVIDE POWER TO NEW FAN COIL UNIT 'FC-1' FROM CIRCUITS PP1(27,29) AND BE FED BY (3)#12+12 GRD. IN 3/4" C. NEW ASSOCIATED CONDENSING UNIT 'CU-1' SHALL BE PROVIDED POWER FROM CIRCUITS PP1(27,29) AND BE FED BY (3)#12+12 GRD. IN 3/4" C. COORDINATE ALL WORK AND REQUIREMENTS WITH MECHANICAL CONTRACTOR. REFER TO DRAWING E2.02 FOR 'SPLIT SYSTEM TYPE HVAC UNIT DETAIL'.
- 6 NEW JUNCTION BOX FOR POWER AT BRANDING WALL. COORDINATE EXACT ELECTRICAL REQUIREMENTS WITH MANUFACTURER'S SPECIFICATIONS.
- 7 CONTRACTOR TO TRENCH CONCRETE FLOOR TO BURY 3/4" C. FOR POWER TO CLOSEST WALL/COLUMN IN CONCRETE. COORDINATE EXACT LOCATION OF FLOOR BOX WITH FURNITURE VENDOR / ARCHITECT.

ELECTRICAL POWER NOTES

1. CONTRACTOR SHALL REFER TO DRAWING E0.01 FOR DEMOLITION NOTES. CONTRACTOR SHALL COORDINATE ALL DEMOLITION WORK WITH ARCHITECTURAL DRAWINGS.
2. CIRCUIT NUMBERS ARE FOR DIAGRAMMATIC PURPOSE ONLY.
3. ALL ELECTRICAL DEVICES SHALL BE MOUNTED 18" AFF, U.O.N.
4. CONTRACTOR SHALL CIRCUIT (2)#12+12 GRD. IN 3/4" C. TO PANEL AND CIRCUIT INDICATED, UNLESS OTHERWISE NOTED.
5. CONTRACTOR SHALL REUSE EXISTING 20A, 1 POLE CIRCUIT BREAKERS FREED BY DEMOLITION IN EXISTING PANELS. PROVIDE NEW CIRCUIT BREAKERS AS REQUIRED. NEW CIRCUIT BREAKERS TO BE BOLT-ON TYPE MATCHING EXISTING TYPE & KAIC RATING.
6. CONTRACTOR SHALL RUN 1" EMPTY CONDUIT TO NEAREST ACCESSIBLE HUNG CEILING WITH GROMMETTED END FITTING FOR TELEPHONE/DATA DEVICE LOCATION. PROVIDE DRAG LINES FOR EMPTY CONDUIT.
7. CONTRACTOR TO REFER TO MECHANICAL AND PLUMBING DRAWINGS FOR LOCATION AND EXACT REQUIREMENTS OF ALL MECHANICAL AND PLUMBING EQUIPMENT. CONTRACTOR TO COORDINATE ALL WORK WITH MECHANICAL AND PLUMBING CONTRACTORS.

FIRE ALARM NOTES

1. PROVIDE NEW FIRE ALARM DEVICES AND WIRING AS INDICATED ON FLOOR PLANS AND RISER. ALL FIRE ALARM WIRING SHALL BE #14 TWISTED FOR STROBES PANEL #16 TWISTED/SHIELDED FOR SPEAKERS. (PLENUM RATED.)
2. CONTRACTOR SHALL EXTEND FIRE ALARM WIRING AND CONDUIT TO NEW FIRE ALARM DEVICES. ALL NEW FIRE ALARM DEVICES SHALL BE ADA COMPLIANT. ALL FIRE ALARM DEVICES IN THE AREA OF WORK SHALL BE SYNCHRONIZED. WHERE EXISTING FIRE ALARM DEVICES DO NOT HAVE SYNCHRONIZING ABILITY THE FIRE ALARM DEVICE SHALL BE REPLACED WITH NEW.
3. THE NEW FIRE ALARM SYSTEMS SHALL BE AN EXTENSION OF THE EXISTING BASE BUILDING FIRE ALARM SYSTEM. ALL NEW FIRE ALARM DEVICES SHALL BE COMPATIBLE WITH THE BASE BUILDING FIRE ALARM SYSTEM. COORDINATE ALL WORK WITH THE BASE BUILDING FIRE ALARM VENDOR. ALL FIRE ALARM WIRING SHALL BE CONFIRMED WITH FIRE ALARM VENDOR PRIOR TO INSTALLATION.
4. CONTRACTOR IS RESPONSIBLE FOR PROGRAMING/MODIFYING, UPGRADING, CONTROL MODULES, ETC. AS REQUIRED TO PROVIDE A COMPLETE AND CODE COMPLIANT SYSTEM. ELECTRICAL CONTRACTOR SHALL HIRE BUILDING FIRE ALARM VENDOR TO DO FINAL FIRE ALARM CONNECTIONS. CONTRACTOR RESPONSIBLE TO INSTALL END OF LINE RESISTOR FOR NEW DEVICES. PROVIDE CONTROL PANEL PARTS AS REQUIRED.
5. CONTRACTOR IS RESPONSIBLE FOR ALL FIRE ALARM PERMIT AND INSPECTION COST.
6. PROVIDE A DOOR RELEASE CONNECTION SIGNAL FROM THE BASE BUILDING FIRE ALARM SYSTEM TO THE SECURITY DOOR SYSTEM CONTROL PANEL FOR FAIL SAFE DOOR RELEASE FOR ALL DOORS WITH SECURITY DEVICES (TYP.). COORDINATE WORK WITH THE SECURITY CONSULTANT.
7. CONTRACTOR TO CONFIRM THAT EXISTING FIRE ALARM PANEL IS ADEQUATE TO HANDLE NEW FIRE ALARM STROBES. IF INADEQUATE, CONTRACTOR SHALL PROVIDE AND INSTALL A NEW STROBE INTERFACE PANEL WITH (2) STROBE CIRCUITS TO ACCOMMODATE NEW FIRE ALARM STROBES.
8. BUILDING FIRE ALARM SYSTEM TO REMAIN ACTIVE DURING CONSTRUCTION. ELECTRICAL CONTRACTOR SHALL NOTIFY BUILDING OWNER IF CONSTRUCTION FLOORS ARE TAKEN OFF SYSTEM. ELECTRICAL CONTRACTOR TO PAY ANY COST ASSOCIATED WITH ANY FIRE WATCH REQUIRED BY LOCAL OFFICIALS DURING THE TIME THAT SYSTEM IS OFF LINE.
9. PROVIDE REMOTE ALARM INDICATOR OVER DOOR OF EACH LOCKED ROOM THAT CONTAINS A SMOKE OR HEAT DETECTOR WHETHER OR NOT SHOWN ON THE FLOOR PLANS: SUCH AS, ELEVATOR MACHINE ROOMS, ELECTRIC ROOMS, MECHANICAL ROOMS, IT ROOMS, ETC.

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Issuances:

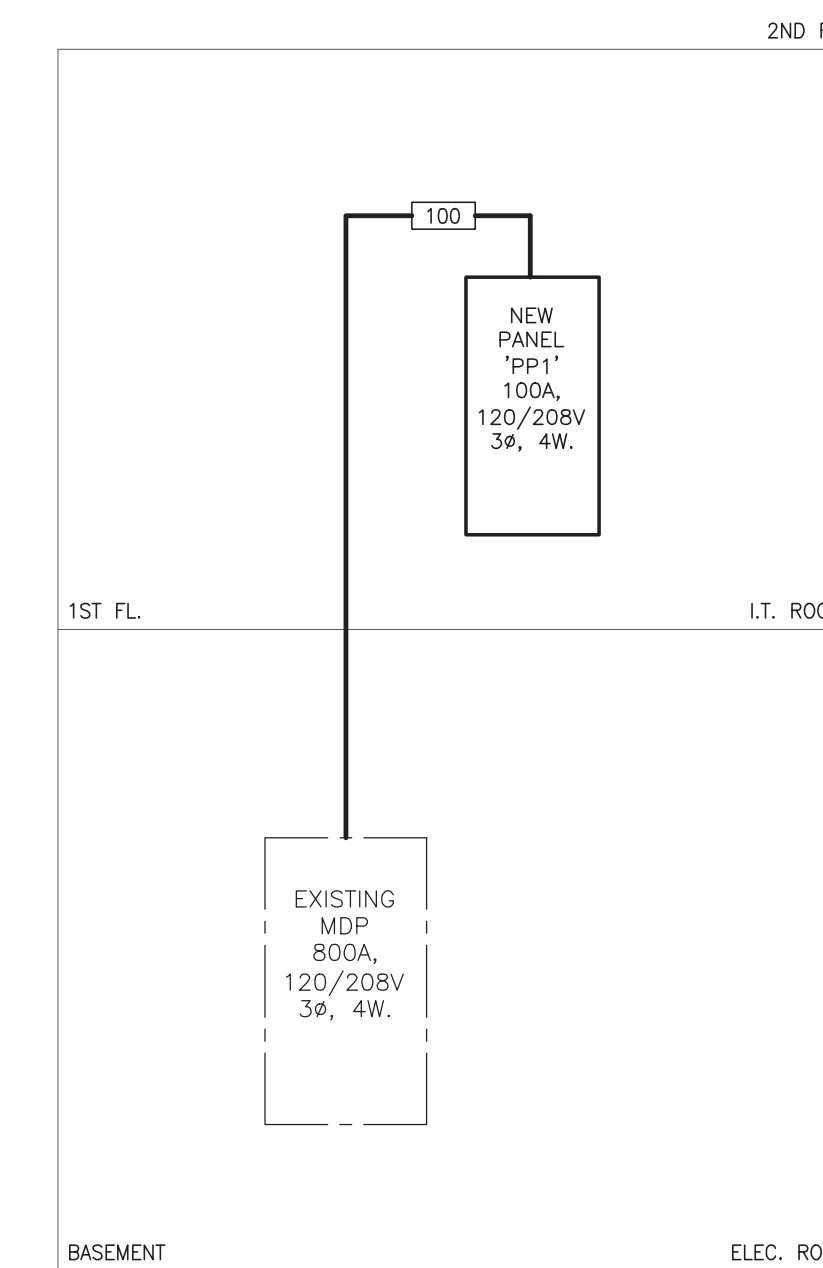
Date: November 30th, 2020
Scale: AS NOTED
Project No. 2K20.015
Drawn by: WH

PANEL: MDP (EXISTING)		120/208 VOLTS, 3 PHASE, 4 WIRE		MAIN BUS 800 AMPS						
LOCATION: BASEMENT		MOUNTING : <input checked="" type="checkbox"/> SURFACE <input type="checkbox"/> FLUSH		<input type="checkbox"/> MCB <input checked="" type="checkbox"/> MLO						
BUILDING: 901 ETHAN ALLEN HWY.				MAIN BRK ___ AMPS ___ P						
				KAIC RATING ___						
CKT. NO.	TRIP AMPS	DESCRIPTION OF LOAD	LOAD (KVA)	PER PHASE (KVA)			LOAD (KVA)	DESCRIPTION OF LOAD	TRIP AMPS	CKT. NO.
				A	B	C				
1	-	EXISTING	-	-	-	-	-	EXISTING	-	2
3	-	EXISTING	-	-	-	-	-	EXISTING	-	4
5	-	EXISTING	-	-	-	-	-	EXISTING	-	6
7	-	EXISTING	-	-	-	-	-	EXISTING	-	8
9	-	EXISTING	-	-	-	-	-	EXISTING	-	10
11	-	EXISTING	-	-	-	-	-	EXISTING	-	12
13	-	EXISTING	-	-	-	-	-	EXISTING	-	14
15	-	EXISTING	-	-	-	-	-	EXISTING	-	16
17	-	EXISTING	-	-	-	-	-	EXISTING	-	18
19	-	EXISTING	-	-	-	-	-	EXISTING	-	20
21	-	EXISTING	-	-	-	-	-	EXISTING	-	22
23	-	EXISTING	-	-	-	-	-	EXISTING	-	24
25	-	EXISTING	-	-	-	-	-	EXISTING	-	26
27	-	EXISTING	-	-	-	-	-	EXISTING	-	28
29	-	EXISTING	-	-	-	-	-	EXISTING	-	30
31	-	EXISTING	-	-	-	-	-	NEW PANEL 'PP1'	100	32
33	-	EXISTING	-	-	-	-	-		34	
35	-	EXISTING	-	-	-	-	-		3P	36
			-	-	-	-				
			-	-	-	-				

PANEL: PP1 (NEW)		120/208 VOLTS, 3 PHASE, 4 WIRE		MAIN BUS 100 AMPS						
LOCATION: IT ROOM		MOUNTING : <input checked="" type="checkbox"/> SURFACE <input type="checkbox"/> FLUSH		<input type="checkbox"/> MCB <input checked="" type="checkbox"/> MLO						
BUILDING: 901 ETHAN ALLEN HWY.				MAIN BRK ___ AMPS ___ P						
				KAIC RATING ___						
CKT. NO.	TRIP AMPS	DESCRIPTION OF LOAD	LOAD (KVA)	PER PHASE (KVA)			LOAD (KVA)	DESCRIPTION OF LOAD	TRIP AMPS	CKT. NO.
				A	B	C				
1	20	LIGHTING	-	-	-	-	-	SPACE	-	2
3	20	LIGHTING	-	-	-	-	-	SPACE	-	4
5	20	LIGHTING	-	-	-	-	-	SPACE	-	6
7	20	RECEPTACLES	-	-	-	-	-	SPACE	-	8
9	20	RECEPTACLES	-	-	-	-	-	SPACE	-	10
11	20	COFFEE MACHINE	-	-	-	-	-	SPACE	-	12
13	20	RECEPTACLES	-	-	-	-	-	SPACE	-	14
15	20	RECEPTACLES	-	-	-	-	-	SPACE	-	16
17	20	RECEPTACLES	-	-	-	-	-	SPACE	-	18
19	20	RECEPTACLES	-	-	-	-	-	SPACE	-	20
21	20	RECEPTACLES	-	-	-	-	-	SPACE	-	22
23	20	RECEPTACLES	-	-	-	-	-	SPACE	-	24
25	20	RECEPTACLES	-	-	-	-	-	SPACE	-	26
27	20	FC-1/CU-1	-	-	-	-	-	SPACE	-	28
29	3P		-	-	-	-	-	SPACE	-	30
31	20	EXTERIOR LIGHTING	-	-	-	-	-	SPACE	-	32
33	20	BRANDING WALL	-	-	-	-	-	SPACE	-	34
35	20	BRANDING SCULPTURE	-	-	-	-	-	SPACE	-	36
37	20	EF-1	-	-	-	-	-	SPACE	-	38
39	20	COPIER	-	-	-	-	-	SPACE	-	40
41	-	SPACE	-	-	-	-	-	SPACE	-	42
			-	-	-	-				
			-	-	-	-				

NOTES:

- * 1. LIGHTING CIRCUIT PP1(3) SHALL BE CONTROLLED BY TIMECLOCK. REFER TO DRAWING E2.02 FOR "TIMECLOCK WIRING DETAIL." OVERRIDE SWITCH SHALL BE LOCATED BY LIGHTING SWITCHES BEHIND TELLERS. TIMECLOCK SHALL BE LOCATED ADJACENT TO NEW PANEL 'PP1.'
- ** 2. ALL EXTERIOR LIGHT FIXTURES SHALL BE PROVIDED POWER FROM CIRCUIT PP1(31) AND SHALL BE CONTROLLED BY ASTRONOMICAL TIMECLOCK. REFER TO THIS DRAWING FOR 'EXTERIOR LIGHTING TIMECLOCK WITH PHOTOCELL DETAIL'.



1 ELECTRICAL RISER DIAGRAM
NOT TO SCALE

FEEDER LEGEND	
100	(4)#3 + #8 GRD. IN 1-1/4" C.
ALL WIRE SIZES ARE BASED ON COPPER FEEDERS UNLESS OTHERWISE SPECIFIED.	
UPGRADE FEEDERS AS NEEDED FOR NO MORE THAN 3% VOLTAGE DROP.	



T (203) 725-6335
301 Highland Ave.
Waterbury, CT 06795

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1450 Main Street
East Hartford, CT 06108



750 Old Main St.
Suite 202
Rocky Hill, CT 06067



67 Federal Rd, Building A,
Suite 201
Brookfield, CT 06804

RENOVATIONS FOR:

200 CHARLTON ROAD
STURBRIDGE, MA

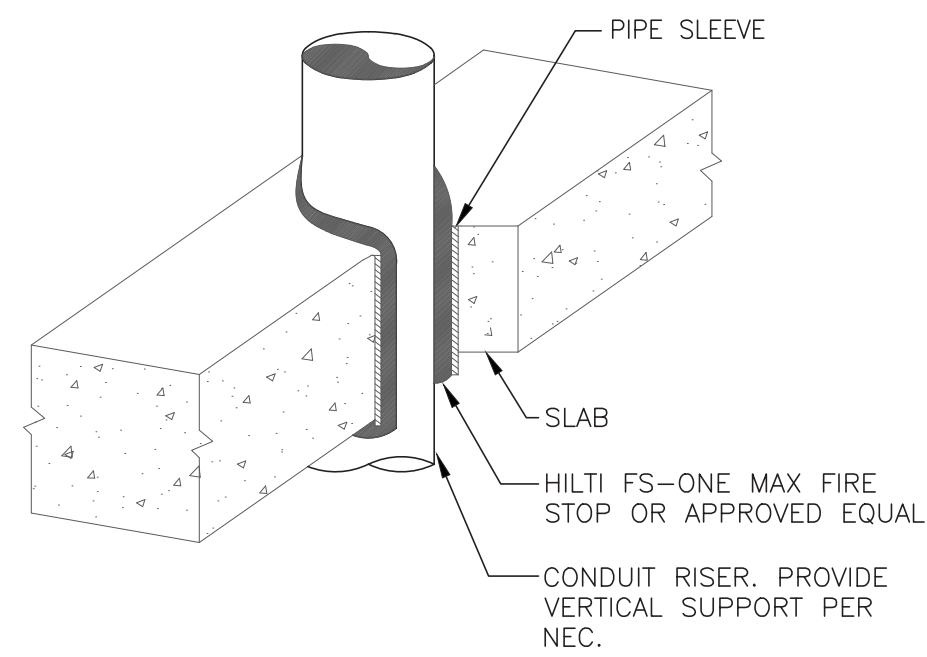
ISSUANCES:

Date: November 30th, 2020

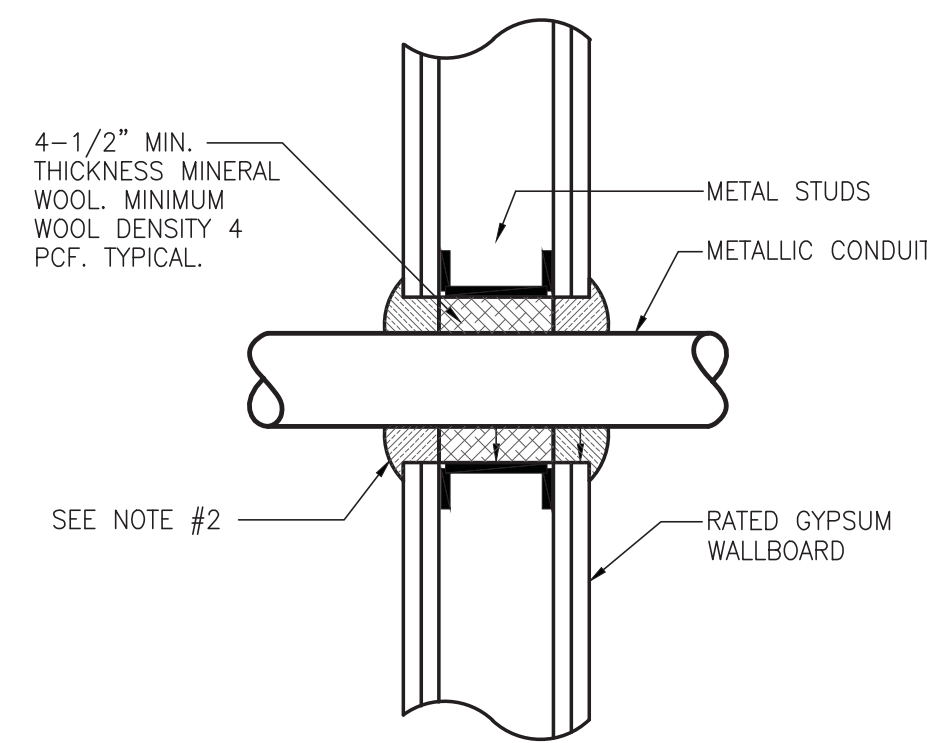
Scale: AS NOTED

Project No. 2K20.015 | Drawn by: WH

E2.01
ELECTRICAL
PANEL SCHEDULES
& RISER DIAGRAM

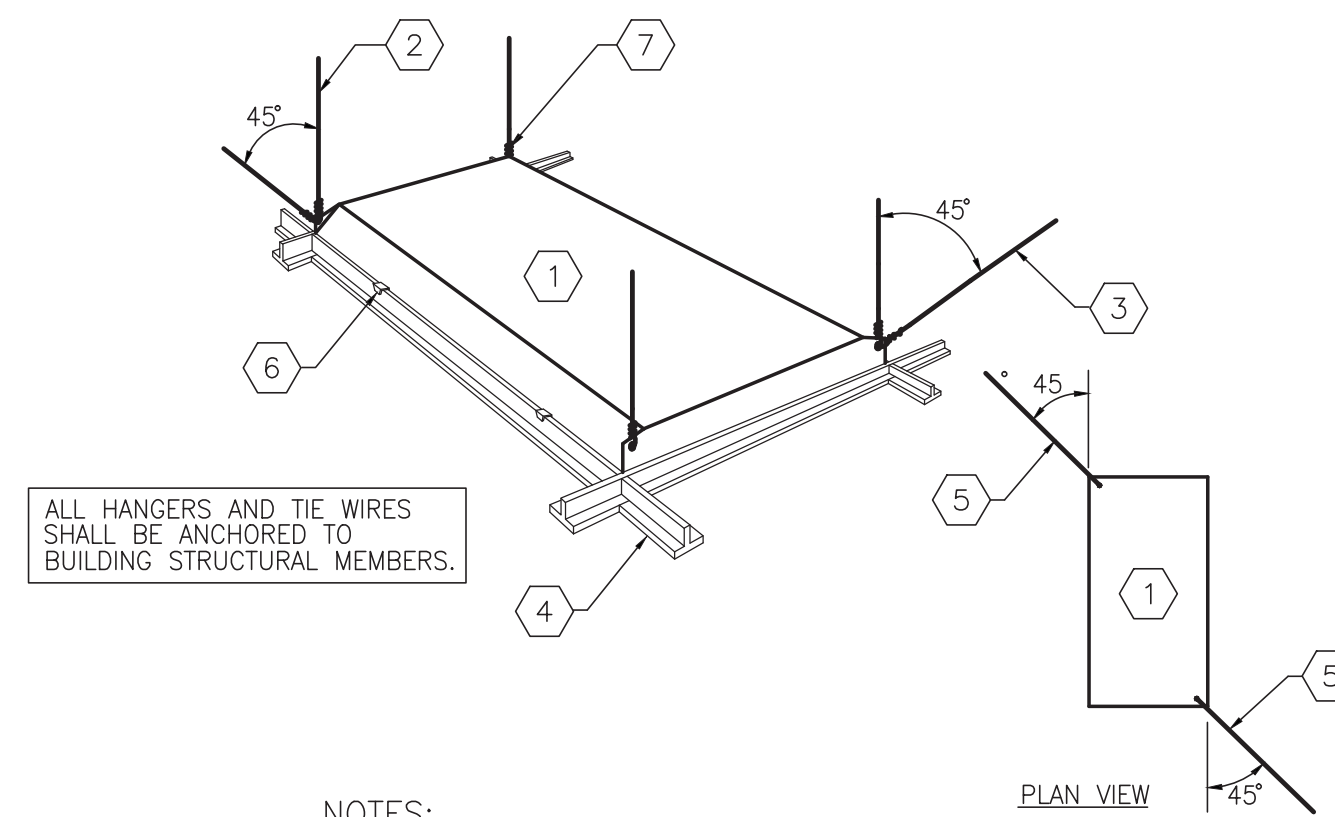


1 VERTICAL CONDUIT PENETRATION DETAIL
NOT TO SCALE



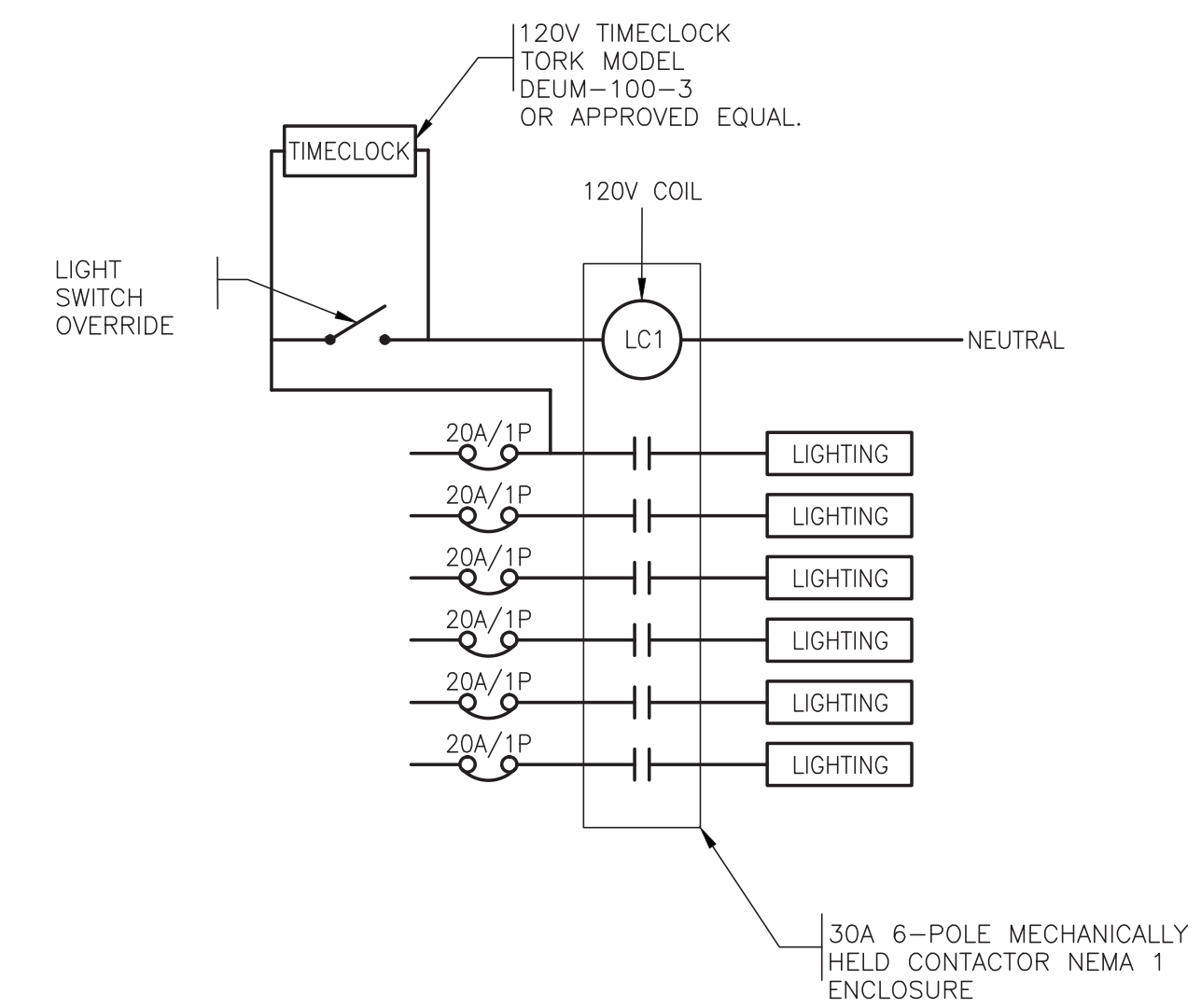
- NOTES:
- CONDUIT SHALL BE RIGIDLY SUPPORTED ON BOTH SIDES OF WALL ASSEMBLY. THE ANNULAR SPACE BETWEEN CONDUIT AND WALL OPENING SHALL BE 0" TO A MAXIMUM OF 1"
 - HILTI FS-ONE MAX FIRESTOP PUTTY OR APPROVED EQUAL. MIN. 5/8" THICKNESS OF FILL MATERIAL APPLIED WITHIN THE ANNULUS. FLUSH WITH BOTH SURFACES OF WALL. AT POINT CONTACT LOCATION BETWEEN PENETRANT AND WALL, A 1/4" CROWN OF FILL MATERIAL SHALL BE APPLIED AT THE CONDUIT/WALL INTERFACE ON BOTH SIDES OF THE ASSEMBLY, LAPPING 1/4" ON THE CONDUIT AND 1/4" BEYOND THE PERIPHERY OF THE OPENING.
 - ASSEMBLY SHALL BE INSTALLED TO COMPLY WITH UL FIRESTOP ASSEMBY WL1175.

2 TYPICAL CONDUIT GYPSUM WALL PENETRATION DETAIL
NOT TO SCALE



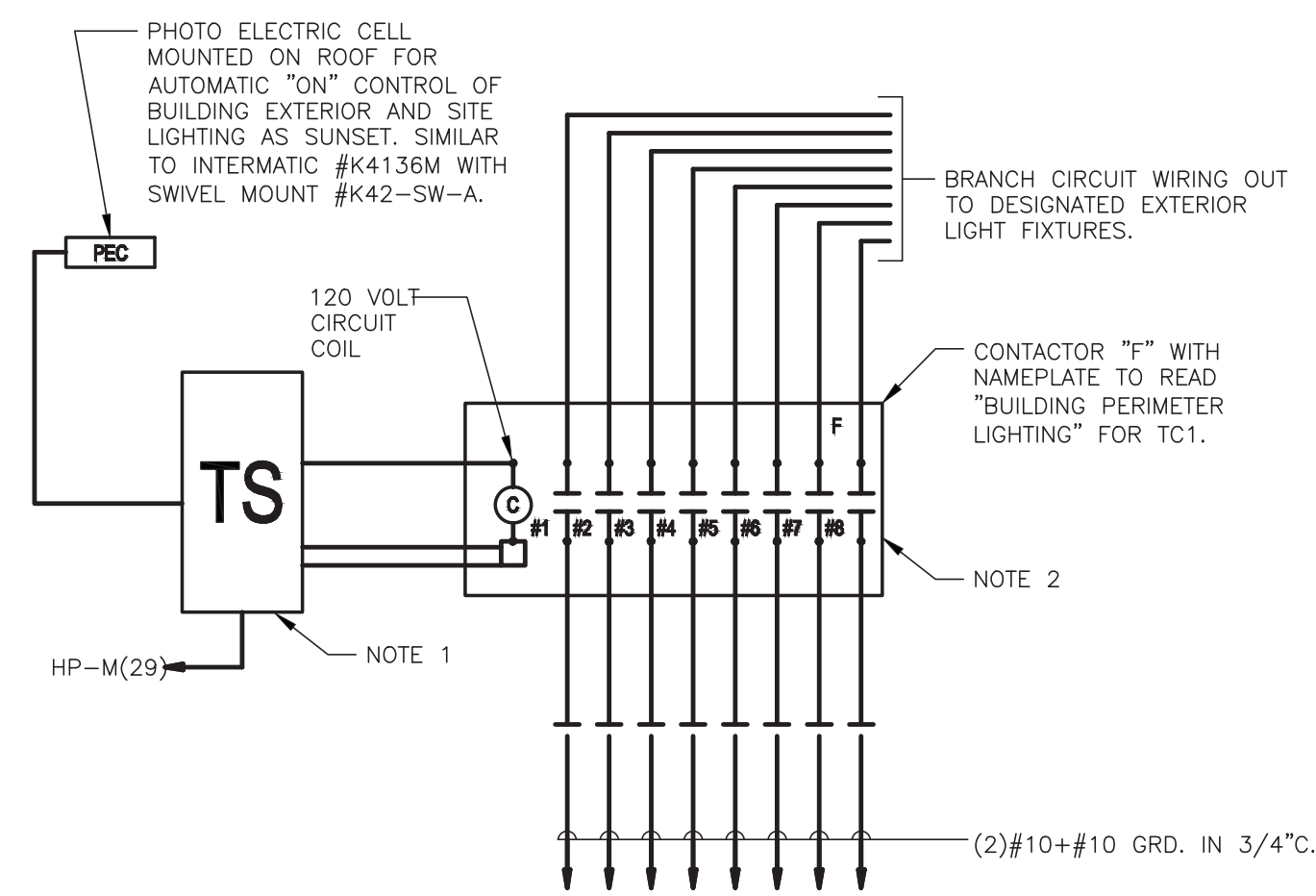
- NOTES:
- RECESSED FLUORESCENT LIGHT FIXTURE
 - #12 AWG HANGER WIRE (VERTICAL AT FOUR CORNERS)
 - #12 AWG TIE WIRE (45° DIAGONAL AT OPPOSITE CORNERS)
 - T-BAR GRID (TYPICAL)
 - TIE WIRE
 - CADDY T-BAR CLIP FOR SECURING FIXTURE TO T-BAR GRID (4/FIXT.)
 - MINIMUM 4 TURNS WITHIN FIRST 1-1/2" (VERTICAL)

3 RECESSED LAY-IN FIXTURE SEISMIC BRACING
NOT TO SCALE



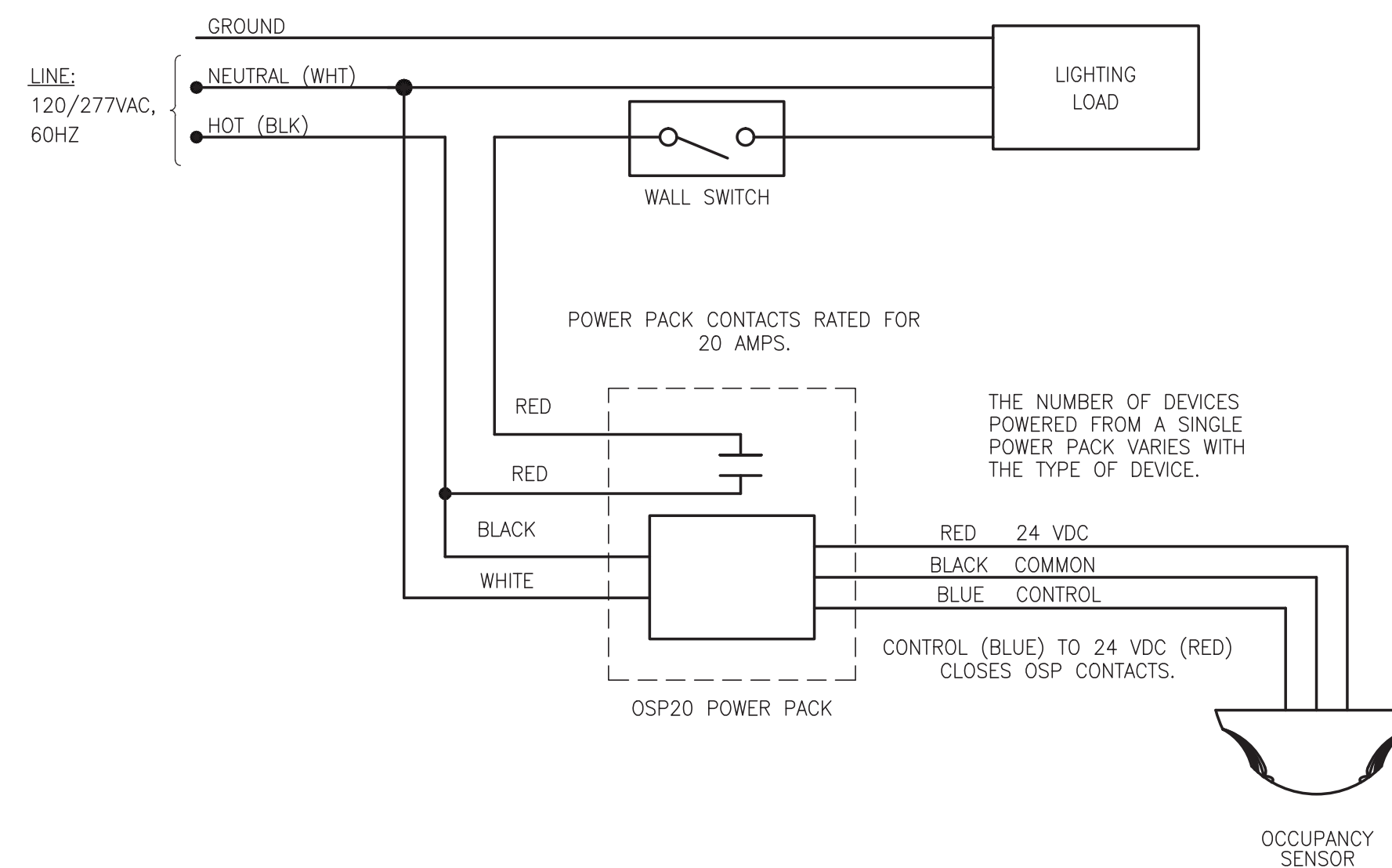
- NOTES:
- PROVIDE OVERRIDE SWITCH. COORDINATE EXACT LOCATION WITH BUILDING PERSONNEL.

4 TIMECLOCK WIRING DIAGRAM
NOT TO SCALE

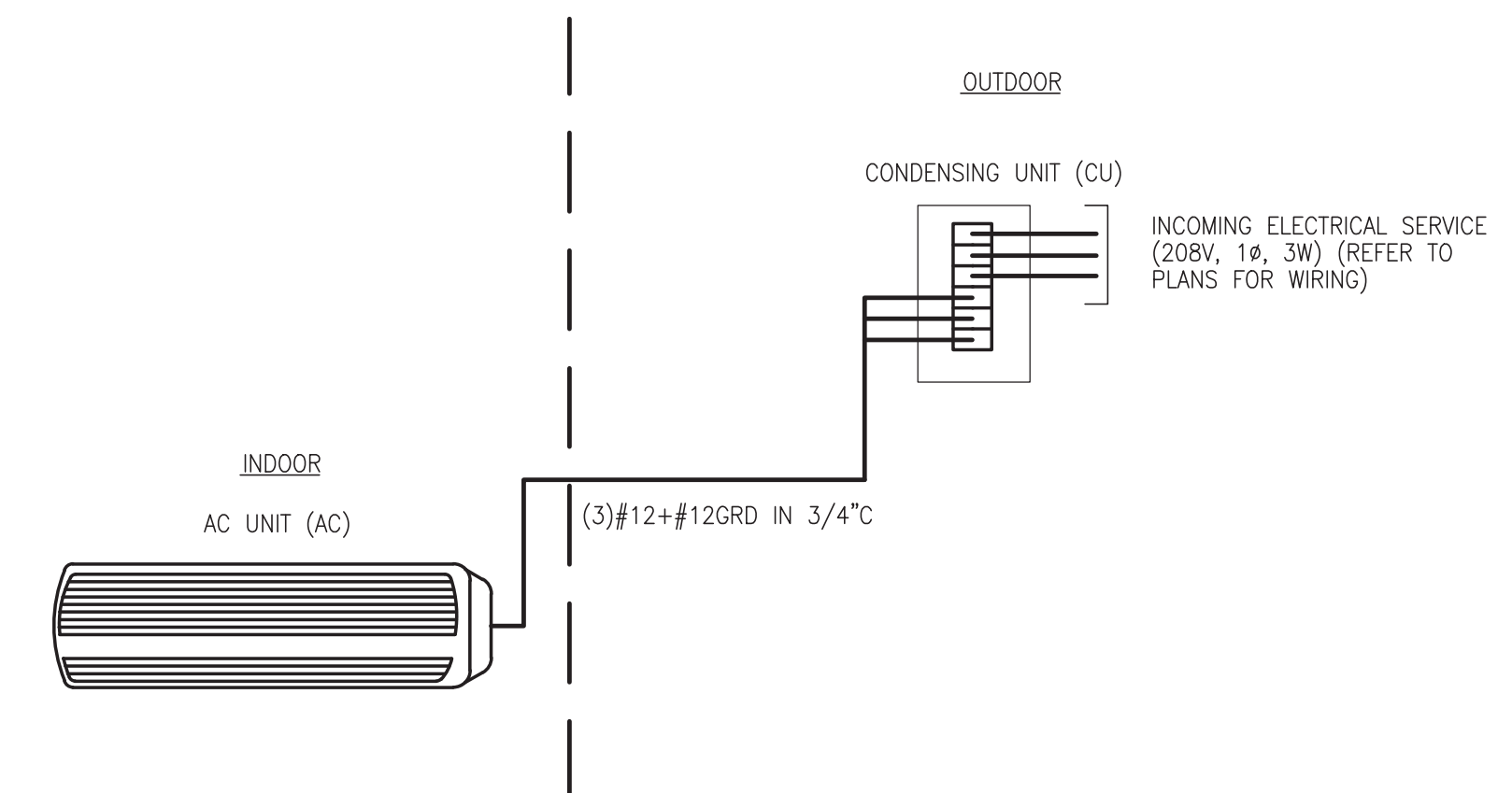


- NOTES:
- ELECTRONIC LIGHTING CONTROL TIME CLOCK WITH ASTRO DIAL TYPE COMPUTER PROGRAMMING 2-CHANNEL. TIME CLOCK SHALL OPERATE ON 277 VOLTS AND BE MOUNTED IN NEMA 1 ENCLOSURE. TIME CLOCK SHALL BE SIMILAR TO INTERMATIC NO. ET70815OR. PROVIDE WITH PHOTOCELL AND RELAY COIL FOR AUTOMATIC "ON" CONTROL OF PERIMETER LIGHTING DURING HOURS OF DARKNESS.
 - PROVIDE WITH OVERRIDE CAPABILITY OPTION #156ET9402A.
 - PROVIDE CONTACTOR RATED FOR 277 VOLT AND 120 VOLT LIGHTING.

5 EXTERIOR LIGHTING TIMECLOCK WITH PHOTOCELL DETAIL
NOT TO SCALE



6 OCCUPANCY SENSOR WIRING DIAGRAM
NOT TO SCALE



- NOTES:
- PROVIDE LOCAL MANUAL MOTOR STARTER WITH THERMAL OVERLOAD PROTECTION AT INDOOR UNIT.
 - REFER TO FLOOR PLANS AND MECHANICAL DRAWINGS FOR LOCATION OF EQUIPMENT.
 - ALL WIRING SHALL BE IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
 - RUN AN ADDITIONAL 3/4" FROM CONDENSING UNIT TO AC UNIT FOR CONTROL WIRING.

7 SPLIT SYSTEM TYPE HVAC UNIT DETAIL
NOT TO SCALE

ELECTRICAL SPECIFICATIONS

PART 1- GENERAL

1. GENERAL REQUIREMENTS:

- A. THE "GENERAL CONDITIONS OF THE CONTRACT FOR CONSTRUCTION," AIA DOCUMENT A201, LATEST EDITION, AND THESE SPECIFICATIONS AS APPLICABLE ARE PART OF THIS CONTRACT.
B. ALL APPLICABLE CODES, LAWS, AND REGULATIONS GOVERNING OR RELATING TO ANY PORTION OF THIS WORK ARE HEREBY INCORPORATED INTO AND MADE A PART OF THESE SPECIFICATIONS...
C. ITEMS AND SERVICES NOT SHOWN ON DRAWINGS BUT MENTIONED IN SPECIFICATIONS, OR VISE VERSA, OR ITEMS AND SERVICES NECESSARY TO RENDER THE WORK COMPLETE AND READY FOR OPERATION SHALL BE PROVIDED WITHOUT ADDITIONAL COST.
D. ALL WORK TO BE PERFORMED IN ACCORDANCE WITH THE EXISTING BASE BUILDING CONSTRUCTION STANDARDS.
E. PRIOR TO SUBMISSION OF BID THE CONTRACTOR SHALL VISIT THE JOB SITE AND ASCERTAIN THE ACTUAL FIELD CONDITIONS AS THEY RELATE TO THE WORK AS INDICATED ON THE DRAWINGS AND DESCRIBED HEREIN.
F. SUBMISSION OF A PROPOSAL SHALL BE CONSTRUED AS EVIDENCE THAT A CAREFUL EXAMINATION OF THE PORTIONS OF THE EXISTING BUILDING, EQUIPMENT, ETC., WHICH AFFECT THIS WORK, AND THE ACCESS TO SUCH SPACES, HAS BEEN MADE AND THAT THE CONTRACTOR IS FAMILIAR WITH EXISTING CONDITIONS AND DIFFICULTIES THAT WILL AFFECT THE EXECUTION OF THE WORK.
G. INVESTIGATE EACH SPACE THOROUGHLY TO DETERMINE WHICH EQUIPMENT MUST BE MOVED. WHERE NECESSARY, EQUIPMENT SHALL BE SHIPPED FROM THE MANUFACTURER IN SECTIONS IN SIZES SUITABLE FOR MOVING THROUGH AVAILABLE RESTRICTIVE SPACES.
H. DRAWINGS ARE DIAGRAMMATIC AND INDICATE GENERAL ARRANGEMENT OF SYSTEMS AND WORK CONDUIT ROUTING.
I. INSTALL WORK SO AS TO BE READILY ACCESSIBLE FOR OPERATION, MAINTENANCE AND REPAIR.
J. REMOVAL AND RELOCATION OF CERTAIN EXISTING WORK MAY BE NECESSARY FOR THE PERFORMANCE OF THE GENERAL WORK.
K. CONNECTIONS TO EXISTING WORK: INSTALL NEW WORK AND CONNECT TO EXISTING WORK WITH MINIMUM INTERFERENCE TO EXISTING FACILITIES.
L. DISCONNECT, REMOVE AND/OR RELOCATE EXISTING MATERIAL, EQUIPMENT AND OTHER ORK AS NOTED OR REQUIRED FOR PROPER INSTALLATION OF NEW WORK.
M. THE CONTRACTOR SHALL KEEP ALL EQUIPMENT AND MATERIALS, AND ALL PARTS OF THE BUILDING, EXTERIOR SPACES AND ADJACENT STREETS, SIDEWALKS AND PAVEMENTS, FREE FROM MATERIAL AND DEBRIS RESULTING FROM THE EXECUTION OF THIS WORK.
N. PROVIDE ALL NECESSARY FLASHING AND COUNTERFLASHING TO MAINTAIN THE WATERPROOFING INTEGRITY OF THE BUILDING AS REQUIRED BY THE INSTALLATION OR REMOVAL OF CONDUIT AND EQUIPMENT.
O. ALL EXISTING MATERIAL, EQUIPMENT AND CONSTRUCTION DEBRIS TO BE REMOVED UNDER THIS CONTRACT SHALL BECOME THE PROPERTY OF THE CONTRACTOR WITH THE EXCEPTION OF SPECIFIC EQUIPMENT AND APPARATUS REQUESTED BY THE BUILDING REPRESENTATIVE, ARCHITECT OR AS NOTED TO BE RELOCATED ON THE DRAWINGS.
P. THE CONTRACTOR'S PROPOSAL FOR ALL WORK SHALL BE PREDICATED ON THE PERFORMANCE OF THE WORK DURING REGULAR WORKING HOURS.
Q. UNLESS OTHERWISE SPECIFICALLY NOTED OR SPECIFIED, INCLUDE ALL CUTTING AND PATCHING OF EXISTING FLOORS, WALLS, PARTITIONS AND OTHER MATERIALS IN THE EXISTING BUILDING.
R. ALL MATERIAL AND EQUIPMENT SHALL BE NEW UNLESS OTHERWISE NOTED AND SHALL BE IN ACCORDANCE WITH BUILDING STANDARDS.
S. INSURANCE: IN ACCORDANCE WITH BUILDING REQUIREMENTS AND SHALL INCLUDE A HOLD HARMLESS CLAUSE FOR OWNER AND ENGINEER.
T. THE FINAL ACCEPTANCE SHALL BE MADE AFTER THE CONTRACTOR HAS ADJUSTED HIS EQUIPMENT, TESTED THE VARIOUS SYSTEMS, DEMONSTRATED THAT IT FULFILLS THE REQUIREMENTS OF THE DRAWINGS AND SPECIFICATIONS AND HAS FURNISHED ALL THE REQUIRED CERTIFICATES OF INSPECTION AND APPROVAL.
U. FINAL LOCATIONS AND MOUNTING ORIENTATIONS OF ALL SWITCHES, RECEPTACLES AND LIGHT FIXTURES SHALL BE VERIFIED WITH ARCHITECT.
V. ALL ACCESS DOOR LOCATIONS SHALL BE REVIEWED BY ARCHITECT PRIOR TO INSTALLATION.

2. SCOPE OF WORK:

- A. SCOPE OF WORK SHALL CONSIST OF PROVIDING LABOR, MATERIALS, EQUIPMENT, SERVICES AND FEES NECESSARY FOR COMPLETE AND SAFE INSTALLATION IN CONFORMITY WITH THE NATIONAL ELECTRICAL CODE (NEC) AND ALL OTHER APPLICABLE INDUSTRY, NATIONAL AND LOCAL CODES AND AUTHORITIES HAVING JURISDICTION, AS INDICATED ON DRAWINGS AND HEREIN SPECIFIED.
B. THE SCOPE OF WORK SHALL INCLUDE, BUT NOT BE LIMITED TO THE FOLLOWING:
1) DISCONNECTION AND REMOVAL OF ELECTRICAL EQUIPMENT AS REQUIRED FOR NEW INSTALLATION, INCLUDING ALL CONDUCTORS AND CONDUIT BACK TO THEIR SOURCE.
2) PROVIDING OF LIGHT FIXTURES AND LAMPS INCLUDING EXIT AND EMERGENCY LIGHTING AND ALL ASSOCIATED COMPONENTS AND BRANCH CIRCUITING.
3) PROVIDING FOR NEW RACEWAYS AND CONDUCTORS FOR LIGHTING AND POWER.
4) CUTTING, CHANNELING, AND CHASING REQUIRED TO ACCOMMODATE THE ELECTRICAL INSTALLATION AND ROUGH PATCHING.
5) ADDITIONS AND MODIFICATIONS TO EXISTING POWER DISTRIBUTION EQUIPMENT AND RELATED FEEDERS.
6) PROVIDING OF HVAC POWER AND WIRING AND FINAL CONNECTIONS TO HVAC EQUIPMENT.

- 7) PROVIDING OF ELECTRICAL CONDUIT, JUNCTION BOXES, PULL BOXES, ETC., REQUIRED FOR ALL ELECTRICAL AND MECHANICAL EQUIPMENT.
8) GROUNDING OF ALL EQUIPMENT AS REQUIRED BY THE NATIONAL ELECTRICAL CODE (NEC) AND AS SHOWN ON THE DRAWINGS.
9) MAINTAIN CONTINUITY OF EXISTING CIRCUITING TO ADJACENT AREAS NOT AFFECTED BY THE NEW WORK.
10) PROVIDING TELEPHONE/DATA AND SIGNAL EMPTY CONDUIT, JUNCTION BOXES, PULLBOXES, SLEEVES, AND FISHWIRE.
11) PROVIDING RECEPTACLES, LIGHT SWITCHES, DISCONNECT SWITCHES, FUSES, DIMMERS, OUTLET BOXES, CONTACTORS AND OTHER WIRING DEVICES INCLUDING RELATED BRANCH CIRCUIT WIRING.
12) PROVIDING TEMPORARY LIGHT AND POWER DURING CONSTRUCTION.
C. ALL DRAWINGS, PLANS, DETAILS, SPECIFICATIONS AND SPECIFICATION ADDENDA ARE MADE PART OF THIS CONTRACT AND SHALL APPLY TO ALL WORK UNDER THE CONTRACT UNLESS OTHERWISE AMENDED, MODIFIED, SUPPLEMENTED OR SPECIFIED HEREIN.
D. THE CONTRACTOR SHALL FURNISH A WRITTEN GUARANTEE TO REPLACE OR REPAIR PROMPTLY AND ASSUME RESPONSIBILITY FOR ALL EXPENSES INCURRED FOR ANY WORKMANSHIP AND EQUIPMENT IN WHICH DEFECTS DEVELOP WITHIN ONE YEAR FROM THE DATE OF FINAL CERTIFICATE FOR PAYMENT AND/OR FROM DATE OR ACTUAL USE OF EQUIPMENT OR OCCUPANCY OF SPACES BY OWNER INCLUDED UNDER THE VARIOUS PARTS OF THE WORK, WHICHEVER DATE IS EARLIER.
E. THE CONTRACTOR SHALL GIVE NECESSARY NOTICE, FILE DRAWINGS AND SPECIFICATIONS WITH ALL DEPARTMENTS HAVING JURISDICTION, OBTAIN PERMITS OR LICENSES NECESSARY TO CARRY OUT THIS WORK AND PAY ALL FEES THEREFOR.

3. SHOP DRAWINGS:

- A. PRIOR TO THE INSTALLATION OF ANY WORK AND PROCUREMENT OF EQUIPMENT, CONTRACTOR SHALL PROVIDE COMPLETE SETS OF COORDINATED SHOP DRAWINGS OF ALL NEW AND EXISTING EQUIPMENT, INDICATING CAPACITY, DIMENSIONS AND SEQUENCE OF OPERATION FOR WRITTEN APPROVAL BY THE ARCHITECT AND ENGINEER.
B. INDICATE ON EACH SHOP DRAWINGS SUBMITTED:
1) PROJECT NAME AND LOCATION
2) NAME OF ARCHITECT AND ENGINEER
3) ITEM IDENTIFICATION
4) APPROVAL STAMP OF PRIME CONTRACTOR
C. SUBMISSIONS:
1) SUBMISSIONS 11 IN. X 17 IN. OR SMALLER: IF THE SUBMISSION IS A CATALOG CUT, THEN THE CONTRACTOR SHALL SUBMIT ONE ORIGINAL AND TWO COPIES.
2) SUBMISSIONS LARGER THAN 11 IN. X 17 IN.: SUBMIT TWO PRINTS TO THE ARCHITECT.
3) SUBMISSIONS MAY BE SUBMITTED ELECTRONICALLY IN PDF FORMAT.
D. SUBMIT SHOP DRAWINGS FOR THE FOLLOWING ITEMS AND ASSOCIATED COMPONENTS:
1) PANELBOARDS (INCLUDING DIMENSIONS, SCHEDULES, AND CATALOG CUTS).
2) CIRCUIT BREAKERS
3) LIGHTING FIXTURES AND LAMPS
4) DISCONNECT SWITCHES AND FUSES
5) WALL SWITCHES
6) WIRING DEVICES

5. AS-BUILT DRAWINGS AND EQUIPMENT OPERATIONAL INSTRUCTIONS:

- A. UPON COMPLETION AND ACCEPTANCE OF WORK, CONTRACTOR SHALL FURNISH WRITTEN INSTRUCTIONS AND EQUIPMENT MANUALS AND DEMONSTRATE TO THE OWNER THE PROPER OPERATION AND MAINTENANCE OF ALL EQUIPMENT AND APPARATUS FURNISHED UNDER THIS CONTRACT.
B. THESE INSTRUCTIONS SHALL BE TYPED ON 8-1/2 IN. X 11 IN. PAPER AND BOUND IN THREE RING BINDERS WITH CLEAR ACETATE COVERS.
C. THE INSTRUCTION BOOKLET SHALL BEAR THE NAME, ADDRESS AND TELEPHONE NUMBER OF THE PROJECT, ARCHITECT AND ENGINEER.
D. REPRODUCIBLE "AS-BUILT" DRAWINGS SHALL BE PROVIDED INDICATING THE AS INSTALLED CONDITIONS OF THE WORK.

6. GENERAL PROVISIONS FOR ELECTRICAL WORK:

- A. SPECIFICATIONS ARE OF SIMPLIFIED FORM AND INCLUDE INCOMPLETE SENTENCES. WORDS OR PHRASES SUCH AS "THE CONTRACTOR SHALL," "SHALL BE," "FURNISH," "PROVIDE," "A," "THE," AND "ALL" HAVE BEEN OMITTED FOR BREVITY.
B. DEFINITIONS:
1) "ELECTRICAL CONTRACTOR", "THE CONTRACTOR": THE PARTY OR PARTIES THAT HAVE BEEN DULY AWARDED THE CONTRACT FOR AND ARE THEREBY MADE RESPONSIBLE FOR THE ELECTRICAL WORK AS DESCRIBED HEREIN.
2) "ARCHITECT", "ENGINEER", "OWNERS REPRESENTATIVE": THE PARTY OR PARTIES RESPONSIBLE FOR INTERPRETING, ACCEPTING, AND OTHERWISE RULING ON THE PERFORMANCE UNDER THIS CONTRACT.
3) "PROVIDE": TO SUPPLY, INSTALL AND CONNECT UP COMPLETE AND READY FOR SAFE AND REGULAR OPERATION THE PARTICULAR WORK REFERRED TO UNLESS SPECIFICALLY OTHERWISE NOTED.
4) "INSTALL": TO ERECT, MOUNT AND CONNECT COMPLETE WITH RELATED ACCESSORIES.
5) "FURNISH" OR "SUPPLY": TO PURCHASE, PROCURE, ACQUIRE AND DELIVER COMPLETE WITH RELATED ACCESSORIES.
6) "WORK": LABOR, MATERIALS, EQUIPMENT, APPARATUS, CONTROLS, ACCESSORIES AND OTHER ITEMS REQUIRED FOR PROPER AND COMPLETE INSTALLATION.
7) "WIRING": RACEWAY, FITTINGS, WIRE, BOXES AND RELATED ITEMS.
8) "CONCEALED": EMBEDDED IN MASONRY OR OTHER CONSTRUCTION, INSTALLED IN FURRED SPACES, WITHIN DOUBLE PARTITIONS OR HUNG CEILINGS, IN TRENCHES, IN CRAWL SPACES, OR IN ENCLOSURES.
9) "EXPOSED": NOT INSTALLED UNDERGROUND OR "CONCEALED" AS DEFINED ABOVE.

- 10) "SIMILAR" OR "EQUAL": EQUAL IN MATERIALS, WEIGHT, SIZE, DESIGN AND EFFICIENCY OF SPECIFIED PRODUCT.
C. TEMPORARY LIGHT AND POWER: PROVIDE TEMPORARY LIGHT AND POWER SYSTEMS AT EARLIEST POSSIBLE DATE WITHIN THE CONSTRUCTION AREAS FOR THE REQUIREMENTS OF ALL TRADES AS HEREIN DESCRIBED.
D. QUALITY ASSURANCE:
1) QUALITY AND GAUGE OF MATERIALS: NEW, BEST OF THEIR RESPECTIVE KINDS, FREE FROM DEFECTS AND LISTED BY UNDERWRITERS LABORATORIES, INC., OR OTHER NATIONALLY APPROVED TESTING AGENCY AND BEARING THEIR LABEL.
2) GUARANTEE: ALL MATERIALS AND WORKMANSHIP SHALL BE GUARANTEED AS DEFINED IN PART 1 PARAGRAPH 2.D.

PART 2- PRODUCTS/APPLICATION

- 1. LOW-VOLTAGE DISTRIBUTION EQUIPMENT:
A. PROVIDE COMPLETE EQUIPMENT INCLUDING: SWITCHES, FUSES, CIRCUIT BREAKERS, PANELS AND TRANSFORMERS.
B. ALL EQUIPMENT SHALL CONFORM TO NEMA, ANSI AND IEEE STANDARDS.
2. APPROVED MANUFACTURERS:
A. DISCONNECT SWITCHES: SQUARE D, GE, EATON
B. PANELBOARDS: SQUARE D, GE, EATON (MATCH BUILDING STANDARD)
C. CIRCUIT BREAKERS: SQUARE D, GE, EATON (MATCH BUILDING STANDARD)
D. RACEWAYS: NATIONAL WIRE PRODUCTS, TRIANGLE, REPUBLIC
E. WIRE/CABLE: ROME PHELPS DODGE, GENERAL CABLE, SIMPLEX, SOUTHWIRE
F. RECEPTACLES: HUBBELL, LEVITON
G. LIGHT SWITCHES: HUBBELL, LEVITON
H. DIMMER SWITCHES: LUTRON
I. OCCUPANCY SENSORS: HUBBELL, LUTRON
J. EXIT SIGNS: DUAL-LITE ATLITE, LIGHT ALARM (MATCH BUILDING STANDARD)
K. FLOOR BOXES: HUBBELL, WIREMOLD
L. TIME CLOCKS: TORK
3. WIRING DEVICES:
A. PROVIDE COMPLETE MATERIAL AND ACCESSORIES AS NOTED.
B. LOCAL WALL SWITCHES SHALL BE SPECIFICATION GRADE, TOGGLE, QUIET TYPE, RATED 20 AMP, 120/277 VOLT, AC.
C. DIMMERS SHALL BE RATED AT VOLTAGE COMPATIBLE WITH FIXTURE, WATTAGE SIZE AS REQUIRED.
D. INSERTION RECEPTACLES SHALL BE SPECIFICATION GRADE DUPLEX CONVENIENCE 125 VOLTS, 2 POLE, 3 WIRE, U GROUND SLOT.
E. DEVICE PLATES: SEE ARCHITECT FOR TYPE.
F. ALL SWITCHES AND RECEPTACLES TO BE WHITE UNLESS OTHERWISE SPECIFIED BY ARCHITECT.
G. MOUNTING ORIENTATION OF DEVICES (HORIZONTAL OR VERTICAL) TO BE COORDINATED WITH ARCHITECT.
H. MULTIPLE DEVICES AT A COMMON LOCATION SHALL BE INSTALLED IN A COMMON MULTI-GANG BOX WITH A SINGLE COMMON FACEPLATE.
4. RACEWAYS:
A. PROVIDE RACEWAYS ONLY AS HERE-IN SPECIFIED, EXCEPT AS NOTED.
B. PROVIDE RACEWAY SUPPORT UTILIZING CEILING TRAPEZE, STRAP HANGERS, OR WALL BRACKETS.
C. SECURE ALL RACEWAYS TO SUPPORTS WITH PIPE STRAPS OR U-BOLTS.
D. EXPOSED RACEWAYS SHALL BE RUN PARALLEL WITH OR AT RIGHT ANGLES TO WALLS.
E. MAINTAIN GROUNDING CONTINUITY OF INTERRUPTED METALLIC RACEWAYS WITH GROUND CONDUCTOR.
F. EMPTY RACEWAYS OVER 10 FT LONG: PROVIDE FISH OR PULL WIRE, GALVANIZED OR NYLON ROPE.
G. PROVIDE RACEWAYS COMPLETE WITH BOXES, FITTINGS, AND ACCESSORIES.
H. ALL WIRES TO BE RUN IN CONDUIT.
I. RIGID STEEL CONDUIT SHALL BE PERMITTED FOR FEEDERS AND BRANCH CIRCUITS.

- J. ELECTROMETALLIC TUBING (EMT) SHALL BE PERMITTED FOR BRANCH CIRCUITS ONLY IN DRY LOCATIONS, DRY WALLS, HUNG CEILINGS, HOLLOW BLOCK WALLS AND FURRED SPACES.
K. CUT CONDUIT ENDS SQUARE. REAM SMOOTH. PAINT MALE THREADS OF FIELD THREADED RACEWAYS WITH GRAPHITE BASE PIPE COMPOUND.
L. CONDUIT FOR INTERIOR BRANCH CIRCUITS SHALL BE THIN WALL TUBING (EMT), WITH COMPRESSION FITTINGS SIZED PER DRAWING, 3/4" MINIMUM.
M. ELECTROMETALLIC TUBING (EMT): THIN WALL PIPE, GALVANIZED, COMPRESSION TYPE, THREADLESS.
N. RIGID METAL CONDUIT: INDUSTRY STANDARD STEEL CONDUIT (3/4" MIN., 4" MAX.)
O. THREADED FITTINGS SHALL BE USED WITH RIGID CONDUIT.
P. FLEXIBLE STEEL CONDUIT: CONTINUOUS SINGLE STRIP, GALVANIZED, GROUNDING TYPE.
Q. FLEXIBLE STEEL CONDUIT MAY BE USED ONLY FOR:
1) SHORT CONNECTIONS WHERE RIGID CONDUIT IS IMPRACTICABLE.
2) FROM OUTLET BOX TO RECESSED LIGHTING FIXTURE; MINIMUM 4 FT LENGTHS, MAXIMUM 6 FT. LENGTHS.
3) FOR FINAL CONNECTION TO MOTOR TERMINAL BOX, TRANSFORMERS AND OTHER VIBRATING EQUIPMENT.
4) FOR EXPANSION JOINT CROSSINGS.
R. EXPANSION FITTINGS: INSTALL AT RIGHT ANGLES WITH CLIP CENTERED IN EXPANSION JOINT.
S. FLEXIBLE METALLIC CONDUIT: ANGLE WEDGE TYPE WITH INSULATED THROAT.
T. BUSHINGS: METALLIC INSULATED TYPE.
U. WIREWAYS: WIRE SHALL BE AS NOTED, MINIMUM NO. 16 GAUGE STEEL WITH GROUND CONTINUITY.
V. SURFACE METAL RACEWAY: SIZE AS NOTED.
W. RACEWAYS PASSING THROUGH FIRE-RATED CONSTRUCTION.
X. INSTALL ACCESSIBLE JUNCTION AND PULLBOXES CLEAR OF OTHER TRADES.
Y. PERFORM CONTINUITY TESTS OF RESISTANCE OF FEEDER CONDUITS FROM SERVICE TO POINT OF FINAL DISTRIBUTION USING ONE CONDUCTOR RETURN.
5. PULL BOXES, PANEL BOXES, AND OUTLET BOXES:
A. OUTLET BOXES: EXCEPT AS OTHERWISE REQUIRED BY CONSTRUCTION, DEVICES OR WIRING, BOXES SHALL BE STAMPED STEEL.
B. JUNCTION AND PULL BOXES: GALVANIZED SHEET STEEL WITH SCREW-ON COVERS.
C. ERECT WALL AND SWITCH OUTLETS IN ADVANCE OF FURRING AND FIREPROOFING.
D. PANEL, JUNCTION AND PULL BOXES SHALL BE LOCATED CLEAR OF OTHER TRADES.
E. PROVIDE PULL BOXES AND JUNCTION BOXES IN LONG STRAIGHT RUNS OF RACEWAY TO ASSURE THAT CABLES ARE NOT DAMAGED WHEN THEY ARE PULLED.
F. PULLBOXES AND JUNCTION BOXES SHALL BE SIZED SO THAT THE MINIMUM BENDING RADIUS CRITERIA SPECIFIED FOR THE WIRES AND CABLE ARE MAINTAINED.
G. USE WEATHERPROOF BOXES, JUNCTION BOXES AND DEVICES FOR ALL REQUIRED WEATHERPROOF INSTALLATION.
H. OUTLET BOXES SHALL BE PROVIDED FOR ALL LOW VOLTAGE DEVICES (I.E. TELEPHONE/DATA, SECURITY, FIRE ALARM, ETC.)
6. WIRES AND CABLES:
A. PROVIDE WIRE AND CABLE COMPLETE WITH ACCESSORIES.
B. CONDUCTORS SHALL BE COPPER, ASTM STANDARD SOLID (NO. 10 AND SMALLER) OR STRANDED (NO. 8 AND LARGER).
C. CONTROL AND ALARM CABLING, EXCEPT AS NOTED, SHALL BE NO. 14 MINIMUM.
D. OTHER VOLTAGES AND PHASES: ADJUST CABLE SIZING AS REQUIRED TO MAINTAIN VOLTAGE DROP.
E. INSULATION SHALL BE RUBBER AND THERMOPLASTIC MEETING ASTM AND IPCA STANDARDS.

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Date: November 30th, 2020
Scale: AS NOTED
Project No. 2K20.015
Drawn by: VH

E3.01 ELECTRICAL SPECIFICATIONS (1 OF 2)

ELECTRICAL SPECIFICATIONS (CONTD)

- F. METAL CLAD (TYPE MC) MAY BE USED FOR CONCEALED BRANCH CIRCUITRY IN TENANTS SPACE ONLY WHEN APPROVED BY BUILDING MANAGEMENT AND WHERE PERMITTED BY CODE. EMT SHALL BE USED OUTSIDE TENANT SPACE AND IN BUILDING CLOSETS. STATE IN PROPOSAL THAT PRICE IS BASED UPON THE USE OF MC.
- G. COLOR CODING SHALL BE AS FOLLOWS:
 - 1) 120/208 VOLT SYSTEM: BLACK FOR A PHASE, RED FOR B PHASE, BLUE FOR C PHASE.
 - 2) 277/480 VOLT SYSTEM: BROWN FOR A PHASE, ORANGE FOR B PHASE, YELLOW FOR C PHASE.
 - 3) NEUTRAL WIRE SHALL UTILIZE WHITE OUTER COVERING THROUGHOUT.
 - 4) EQUIPMENT GROUND WIRE SHALL UTILIZE GREEN OUTER COVERING THROUGHOUT.
 - 5) WHERE COLOR-CODED CABLE IS NOT AVAILABLE, CERTIFY IN WRITING AND REQUEST PERMISSION TO OVERLAP CONDUCTORS WITH 6 IN. COLOR TAPING IN ACCESSIBLE LOCATIONS.
- H. PROVIDE FLAMEPROOF LINEN OR FIBER TAGS IN ACCESSIBLE LOCATIONS FOR FEEDERS INDICATE FEEDER NUMBER, SIZE, PHASE AND POINTS OF ORIGIN AND TERMINATIONS. FOR CONTROL AND ALARM WIRING INDICATE TYPE (CONTROL OR ALARM), SIZE OF WIRE, AND POINTS OF ORIGIN AND TERMINATIONS.
- I. TERMINATIONS, SPLICES AND TAPS UNDER 600 VOLTS: COPPER CONDUCTORS NO. 10 AND SMALLER SHALL UTILIZE COMPRESSION-TYPE OF TWIST-ON SPRING-LOADED CONNECTORS AND CLEAR NYLON-INSULATED COVERING. COPPER CONDUCTORS NO. 8 AND LARGER SHALL UTILIZE MECHANICAL BOLTED PRESSURE OR HYDRAULIC COMPRESSION TYPE USING MANUFACTURER'S RECOMMENDED TOOLING. CABLE LUGS AND CONNECTORS SHALL UTILIZE COMPRESSION TYPE OF SAME METAL AS CONDUCTOR. PROVIDE TO MATCH CABLE, WITH MARKING INDICATING SIZE AND TYPE. COPPER LUG CONNECTIONS TO BUS BARS: USE ANTISEIZE COMPOUND ON TANG.
- J. NOT MORE THAN 3 LIGHTING OR CONVENIENCE OUTLET CIRCUITS SHALL BE INSTALLED IN ONE CONDUIT UNLESS OTHERWISE INDICATED. PULL NO THERMOPLASTIC WIRES AT TEMPERATURES LOWER THAN 32 DEG F. PROVIDE THERMOPLASTIC WIRES SHALL NOT BE INSTALLED IN COMPUTER AREA RAISED FLOORS.
- K. LEAVE WIRES WITH SUFFICIENT SLACK TO PERMIT MAKING FINAL CONNECTIONS.
- L. PERFORM CONTINUITY AND INSULATION TESTS. MEGGER TEST 100 PERCENT OF FEEDERS, 10 PERCENT OF BRANCH CIRCUITS AND ALL MOTOR CIRCUITS OVER 25 HP. PERFORM TESTS PRIOR TO CONNECTING EQUIPMENT AND IN PRESENCE OF AUTHORIZED REPRESENTATIVES. SUBMIT WRITTEN REPORT OF RESULTS. CORRECT OR REPLACE CABLE TESTING BELOW MANUFACTURER'S STANDARDS.
- M. PULL NO THERMOPLASTIC WIRES AT TEMPERATURES LOWER THAN 32°F (0C). PROVIDE CABLE SUPPORTS FOR WIRE IN RISER CONDUITS AS REQUIRED BY CODE.
- 7. **GROUNDING:**
 - A. THE ENTIRE ELECTRICAL INSTALLATION SHALL BE GROUNDED TO PROVIDE AN ELECTRICALLY GROUNDING PATH TO THE GROUNDING ELECTRODE IN A CODE APPROVED MANNER.
 - B. METAL RACEWAYS, METAL ENCLOSURES OF ELECTRICAL DEVICES AND EQUIPMENT, LIGHTING FIXTURES AND OTHER EQUIPMENT SHALL BE COMPLETELY GROUNDED.
 - C. PROPER HARDWARE REQUIRED FOR COMPLETE GROUNDING SYSTEM SHALL BE INSTALLED BY THE CONTRACTOR. USE EXOTHERMIC WELDING PROCESS FOR INACCESSIBLE CONNECTIONS.
 - D. USE AN INTERNAL BONDING CONDUCTOR WHERE FLEXIBLE METALLIC CONDUITS ARE INSTALLED.
 - E. GROUND MOTORS FROM GROUNDING BUSHING IN THE STARTER TO THE MOTOR FRAME.
 - F. GROUNDING CONDUCTOR SHALL BE RUN WITH THE CIRCUIT CONDUCTORS AND TERMINATED TO AN APPROVED GROUNDING TERMINAL.
 - G. PROVIDE SUPPLEMENTARY GROUND BONDING WHERE METALLIC CONDUITS TERMINATE AT METAL CLAD EQUIPMENT (OR AT THE METAL PULL BOX OF EQUIPMENT) FOR WHICH A GROUND BUS IS SPECIFIED WITH A BUSHING OF THE GROUNDING TYPE CONNECTED INDIVIDUALLY TO GROUND BUS.
 - H. ALL GROUND WIRES SHALL BE SUITABLY PROTECTED FROM MECHANICAL INJURY.
- 8. **LIGHTING FIXTURES:**
 - A. REFER TO ARCHITECTURAL DRAWINGS FOR ALL LIGHTING FIXTURE SPECIFICATIONS.
 - B. PROVIDE FIXTURES ("LUMINARIES"), COMPONENTS AND LAMPS. FIXTURES SHALL BE COMPLETELY FACTORY ASSEMBLED, WIRED AND EQUIPPED WITH ALL NECESSARY SOCKETS, BALLASTS, SUPPORTING HARDWARE, AND ACCESSORIES.
 - C. ALL LIGHTING FIXTURE MOUNTING HARDWARE SHALL MATCH AND BE COORDINATED WITH THE NEW CEILING SYSTEM TYPE. ALL FIXTURES SHALL BE EQUIPPED WITH "EARTHQUAKE" CLIPS. ALL LIGHTING FIXTURES SHALL BE INSTALLED WITH SEISMIC BRACING AS INDICATED ON ARCHITECTURAL CEILING DETAILS.
 - D. ALL FIXTURES SHALL BE FREE OF LIGHTING LEAKS BELOW CEILING.
 - E. FLUORESCENT BALLAST SHALL BE UL'S CLASS "P" AND SHALL CONFORM TO ANSI AND UL SPECIFICATIONS WITH LABELS OF APPROVAL BY UL AND CERTIFICATION BY C.B.M. BALLASTS SHALL COMPLY WITH THE STATE ENERGY CODE. BALLASTS FOR FLUORESCENT LAMPS SHALL BE OF THE ENERGY SAVING SUPER LOW HEAT DESIGN WITH HIGH POWER FACTOR (0.9 MINIMUM) AND A HIGH BALLAST FACTOR (0.95 MINIMUM). ALL BALLASTS SHALL BE SUPPLIED AS UNIVERSAL VOLTAGE, SUITABLE TO BE CONNECTED TO 120V OR 277V LIGHTING.
 - F. WHERE DIMMING OF FLUORESCENT FIXTURES IS REQUIRED, THE ELECTRONIC BALLAST INSTALLED MUST BE COMPATIBLE WITH THE DIMMING SPECIFIED.
 - G. WHERE DIMMING OF LOW VOLTAGE FIXTURES IS REQUIRED, THE STEP DOWN VOLTAGE TRANSFORMER SHALL BE ELECTRONIC (OR MAGNETIC) AS NOTED BY THE LIGHTING DESIGNER/ARCHITECT SCHEDULE. CONTRACTOR WILL BE RESPONSIBLE FOR REVIEWING FIXTURE SPECIFICATION AND ENSURING DIMMER SWITCH INSTALLED IS COORDINATED WITH FIXTURE TYPE.
 - H. ALL RECESSED FIXTURES SHALL BE SET FLUSH INTO ACOUSTIC TILE CEILINGS.
- 9. **OCCUPANCY SENSORS:**
 - A. CONTRACTOR'S WORK SHALL INCLUDE ALL LABOR, MATERIALS, TOOLS, APPLIANCES, CONTROL HARDWARE, SENSORS, WIRE, JUNCTION BOXES, AND EQUIPMENT NECESSARY FOR A COMPLETELY OPERATIONAL SENSOR CONTROL SYSTEM, AS DESCRIBED HEREIN.
 - B. ALL SENSORS SHALL BE EITHER SELF-CONTAINED OR INSTALLED AS OF OTHER SPECIFIED SYSTEMS OF THE DUAL TECHNOLOGY TYPE PROVIDING VOLUMETRIC COVERAGE WITH THE DETECTION AREA. SENSORS SHALL BE SOLID-STATE DESIGN AND BE DESIGNED FOR ENERGY CONSERVATION.
 - C. SENSORS LOCATED IN ADJACENT ROOMS OR SPACES, OR SENSORS CONTROLLING DIFFERENT LIGHTING FIXTURES OR ZONES WITHIN THE SAME ROOM, SHALL OPERATE AT DIFFERENT FREQUENCIES IN ORDER TO PREVENT INTERFERENCE (CROSS TALK) BETWEEN SENSORS.
 - D. SENSORS SHALL HAVE THE FOLLOWING FUNCTIONS:
 - 1) TIMED DELAY FOR TURNING LIGHTS OFF: ADJUSTABLE OVER A RANGE OF 1 TO 30 MINUTES.
 - 2) MANUAL OVERRIDE SWITCH: TURNS LIGHTS OFF MANUALLY REGARDLESS OF TIMED DELAY.
 - 3) ISOLATED RELAY CONTACT: OPERATES ON DETECTION OF OCCUPANCY OR VACANCY, AS INDICATED, TO ACTIVATE AN INDEPENDENT FUNCTION.
 - 4) AMBIENT LIGHT LEVEL SENSOR: ADJUSTABLE FOR SETTING A LEVEL OF AMBIENT ILLUMINATION ABOVE WHICH THE SENSOR WILL NOT TURN THE LIGHTS ON.
 - E. INFRARED SENSORS: DETECTS OCCUPANCY BY A COMBINATION OF HEAT AND MOVEMENT IN ZONE COVERAGE.

- F. ULTRASONIC SENSORS: EMITS A BEAM OF ULTRASONIC ENERGY AND DETECTS OCCUPANCY BY A SENSING A CHANGE IN PATTERN OF REFLECTED ULTRASONIC ENERGY.
- G. DUAL TECHNOLOGY SENSORS: USES A COMBINATION OF INFRARED AND ULTRASONIC DETECTION METHODS TO DISTINGUISH BETWEEN OCCUPIED AND UNOCCUPIED CONDITIONS FOR THE AREA COVERED.
- H. ALL OCCUPANCY SENSORS SHALL BE SET AT FULL SENSITIVITY AND MAXIMUM FOOT CANDLES. COVERAGE SHALL REMAIN CONSTANT AFTER SENSITIVITY CONTROL HAS BEEN SET. SENSOR TIME DELAY SHALL BE SET.
- I. FOR ADDITIONAL INFORMATION, INCLUDING MOUNTING REQUIREMENTS AND WIRING DIAGRAMS, REFER TO MANUFACTURER'S TECHNICAL LITERATURE AND DETAILS ON DRAWINGS.
- J. SENSORS TO BE PROVIDED WITH MASKING TAPE FOR INFRARED COMPONENTS TO PREVENT FALSE TRIPPING OUTSIDE THE COVERAGE AREA.
- K. BEFORE TENANT MOVE-IN DATE AND TURN OVER OF THE PROJECT, THE ELECTRICAL CONTRACTOR SHALL COORDINATE WITH SENSOR TECHNICAL REPRESENTATIVE TO FIELD ADJUST SENSOR SENSITIVITY AND LOCATION TO ENCOMPASS ENTIRE ROOM OR AREA WITHOUT NUISANCE TRIPPING FROM ADJACENT AREAS.
- L. OCCUPANCY SENSORS SHALL DERIVE POWER FROM LIGHTING CIRCUIT SERVING LIGHT FIXTURES IT CONTROLS.
- 10. **SELF-POWERED EXIT SIGNS:**
 - A. FURNISH AND INSTALL SELF-POWERED EXIT SIGNS COMPLETE WITH INTEGRAL BATTERY/CHARGER CAPABLE OF OPERATING THE SIGN FOR 90 MINUTES IN THE EVENT OF A POWER FAILURE.
 - B. UNIT TO HAVE SEALED NICKEL CADMIUM BATTERY, LED ILLUMINATORS, TEST BUTTON, AND INDICATING LIGHT.
 - C. BATTERY/CHARGER PACK SHALL BE MOUNTED ABOVE THE SIGN. CEILING MOUNTED SIGNS SHALL BE ARRANGED SO THAT THE PACK IS RECESSED ABOVE THE CEILING. WALL MOUNTED SIGNS SHALL HAVE CONCEALED BATTERY PACKS.
 - D. EXIT SIGNS SHALL MATCH BUILDING STANDARD OR BE MANUFACTURED BY DUAL-LITE, ATLITE, LIGHT ALARMS, OR APPROVED EQUAL.
- 11. **PANELBOARDS:**
 - A. DISTRIBUTION PANELS: SWITCHING UNITS SHALL BE 3 PHASE, 4 WIRE CIRCUIT-BREAKER TYPE UNLESS OTHERWISE NOTED ON PANEL SCHEDULES. BUS BARS SHALL BE HARD DRAWN COPPER, MINIMUM 95% CONDUCTIVITY, SILVER OR TIN-PLATED JOINTS. CABINETS SHALL BE GALVANIZED SHEET STEEL BACK BOX, WITH DOOR AND TRIM AND LAPPED AND WELDED CORNERS. HARDWARE SHALL BE CHROME-PLATED WITH FLUSH LOCK/LATCH HANDLE ASSEMBLY (UP TO 48 IN. HIGH DOORS) OR VAULT HANDLE, LOCK AND 3-POINT CATCH (LARGER THAN 48 IN. HIGH DOORS). HINGES SHALL BE SEMI-CONCEALED, 5-KNUCKLE STEEL WITH NONFERROUS PINS, 180-DEG OPENING, LOCATED A MAXIMUM 26 IN. ON CENTERS. MINIMUM GUTTER SPACES FOR LIGHTING PANELS SHALL BE 5-3/4 IN. SIDES, TOP AND BOTTOM. DIRECTORY HOLDER SHALL BE METAL FRAME WITH CLEAR PLASTIC, TRANSPARENT COVER. A TYPEWRITTEN LIST INDICATING FEEDER CABLE AND CONDUIT SIZE, CIRCUIT NUMBERS, OUTLETS SUPPLIED AND THEIR LOCATIONS SHALL BE PROVIDED.
 - B. PROVIDE CODE GAUGE STEEL DOORS FOR ALL PANELBOARD BOXES. FRONT COVER SHALL BE A "DOOR WITHIN A DOOR" TYPE. THE OUTER DOOR (TRIM) SHALL ALLOW ACCESS TO ENTIRE PANELBOARD BOX INCLUDING GUTTER SPACES. OUTER DOOR (TRIM) SHALL BE ATTACHED DIRECTLY TO BOX BY A FULL LENGTH PIANO HINGE. THE INNER DOOR SHALL ALLOW ACCESS TO CIRCUIT BREAKERS ONLY. PROVIDE LOCK AND SET OF KEYS FOR INNER DOOR PER PANELBOARD.
 - C. PROVIDE A COPPER EQUIPMENT GROUND BAR IN EACH PANEL, AND A COPPER ISOLATED GROUND BAR IN NOTED PANELS.
 - D. PANELS SHALL BE PROVIDED WITH NEUTRAL BARS SIZED AT 200% OF THE PHASE BUS BARS.
 - E. PHASE LEGS OF ALL PANELS SHALL BE BALANCED AT SUPPLY POINT TO WITHIN 10% AFTER ALL CIRCUITS ARE WIRED AND LOADS CONNECTED. ANY PANEL FOUND WITH UNBALANCED LOADS SHALL HAVE ITS CIRCUITS REARRANGED AS REQUIRED TO BALANCE PHASE LEGS.
 - F. PROVIDE MULTI-CABLE LUGS WHERE REQUIRED. DOUBLE LUGGING SHALL NOT BE PERMITTED.
 - G. MOUNTING HEIGHT SHALL BE A MAXIMUM OF 6 FT.-6 IN. FROM FLOOR TO TOP OF SWITCH UNIT.
 - H. UPDATE DIRECTORIES ON EXISTING PANELBOARDS WHERE CIRCUITING HAS CHANGED.
 - I. PANELS SHALL HAVE ENGRAVED WHITE CORE, BLACK LAMICOID NAMEPLATE AFFIXED WITH EPOXY CEMENT.
- 12. **CIRCUIT BREAKERS:**
 - A. CIRCUIT BREAKERS: MOLDED CASE BREAKERS SHALL BE THERMAL-MAGNETIC, QUICK-MAKE, QUICK-BREAK, BOLT-ON TYPE, MANUALLY OPERATED WITH TRIP-FREE HANDLE. MULTI-POLE TYPE BREAKERS SHALL CONTAIN INTERNAL TRIP BAR. TERMINALS SHALL BE SUITABLE FOR COPPER OR ALUMINUM CABLE. FURNISH AUXILIARY DEVICES WHERE REQUIRED FOR SHUNT-TRIPPING, OPEN AND CLOSE MOTOR OPERATOR AND ALARM INDICATION. ENCLOSURES SHALL BE DEAD FRONT, NEMA TYPE 1, EXCEPT AS NOTED. FRAMES, IC AND INTERCHANGEABLE TRIPS SHALL BE AS FOLLOWS:
 - 1) MINIMUM SHORT CIRCUIT RATING OF 10,000 AMPERES SYMMETRICAL FOR 120/208V PANELS OR HIGHER WHERE NOTED.
 - 2) MINIMUM SHORT CIRCUIT RATING OF 14,000 AMPERES SYMMETRICAL FOR 277/480V PANELS OR HIGHER WHERE NOTED.
 - B. FOR PANELBOARD APPLICATIONS, CIRCUIT BREAKERS SHALL BE BOLTED TO THE PANELBOARD BUS BARS. WHERE CIRCUIT BREAKERS ARE INSTALLED IN EXISTING PANELBOARDS, BREAKERS SHALL BE OF THE SAME MANUFACTURER AND INTERRUPTING RATING. BREAKERS SHALL BE COMPATIBLE WITH EXISTING PANELBOARD.
 - C. MULTIWIRE BRANCH CIRCUITS SUPPLYING POWER TO MORE THAN ONE DEVICE OR EQUIPMENT SHALL BE PROVIDED WITH A MEANS TO DISCONNECT SIMULTANEOUSLY ALL UNGROUNDED CONDUCTORS AT THE PANELBOARD WHERE THE BRANCH CIRCUIT ORIGINATES. COORDINATE WITH LOCAL AUTHORITY HAVING JURISDICTION THE MEANS REQUIRED TO MEET NEC SECTION 210.4(B).
 - D. TESTS: OPEN AND CLOSE LOAD BREAK SWITCHING DEVICES UNDER LOAD.
- 13. **DISCONNECT SWITCHES:**
 - A. DISCONNECT SWITCHES SHALL BE FUSED OR NONFUSED AS NOTED. VOLTAGE SHALL BE AS REQUIRED. SWITCHES SHALL BE HEAVY DUTY, EXCEPT AS NOTED, AND HORSEPOWER RATED FOR MOTOR LOADS. TOGGLE TYPE SWITCHES SHALL BE NONFUSED, LOAD BREAK, HAVING MAXIMUM RATINGS OF 20 AMP AT 600 VOLTS AND 30 AMP AT 240 VOLTS. KNIFE-BLADE TYPE SWITCHES SHALL BE LOAD BREAK, QUICK-MAKE QUICK-BREAK, UL CLASS R UP TO 600 AMP. MAXIMUM RATING EXCEPT AS NOTED SHALL BE 800 AMP. ARC QUENCHERS SHALL BE PROVIDED. SWITCHES SHALL BE SIMILAR TO GENERAL ELECTRIC QMR. ALL SWITCH ENCLOSURES SHALL BE DEAD FRONT, NEMA TYPE 1, EXCEPT AS NOTED.
 - B. OUTDOOR DISCONNECT SWITCHES SHALL BE SIMILAR TO INDOOR, EXCEPT LISTED FOR OUTDOOR APPLICATIONS (NEMA 3R OR 4, AS REQUIRED).
- 14. **MISCELLANEOUS INSTALLATION COMPONENTS:**
 - A. TIME SWITCH: SHALL BE DIGITAL WITH PROGRAMMABLE CONTROLLER IN AM/PM FORMAT, IN ONE MINUTE RESOLUTION, CAPABLE OF 99 SET POINTS, SEPARATE SCHEDULING FOR EACH DAY OF WEEK, DAYLIGHT SAVING AND STANDARD TIME, AUTOMATIC LEAP YEAR CORRECTION, 30 DAY BACK-UP FOR REAL TIME USING MANUAL OVERRIDE ON OR OFF TO THE NEXT SCHEDULED EVENT. LCD LOG DISPLAY IN NEMA 3 ENCLOSURE. TIME SWITCHES CONTROLLING LIGHTING IN INTERIOR OFFICE AREAS TO BE PROVIDED WITH A MANUAL OVERRIDE FEATURE THAT ALLOWS OCCUPANT TO OVERRIDE TIMECLOCK IN LINE OF SIGHT OF LIGHTING FIXTURES BEING CONTROLLED.

- 15. **TELEPHONE AND DATA EMPTY CONDUIT SYSTEM:**
 - A. PROVIDE LABOR, MATERIALS, AND SERVICES FOR A COMPLETE AND SAFE INSTALLATION IN ACCORDANCE WITH THE CONTRACT DOCUMENTS AND ALL APPLICABLE CODES AND AUTHORITIES HAVING JURISDICTION FOR THE SYSTEM INCLUDING THE FOLLOWING: CONDUIT, PULL BOXES, OUTLET BOXES, AND SLEEVES.
 - B. PROVIDE MINIMUM 2" DEEP 2 GANGED OUTLET BOXES. DEVICES BY OTHERS.
 - C. CONDUIT SHALL BE 3/4" IN. MINIMUM. FURNISH EMPTY CONDUIT FROM OUTLET TO NEAREST ACCESSIBLE HUNG CEILING.
 - D. ALL RACEWAYS SHALL BE EMT WITH BUSHED TERMINATIONS AT HUNG CEILING WITH (NYLON CORD).
 - E. EQUIPMENT TO CONFORM TO THE REQUIREMENTS OF TELEPHONE COMPANY.
- 16. **FIRE ALARM SYSTEM:**
 - A. CONTRACTOR SHALL PROVIDE A COMPLETE OPERATIONAL FIRE ALARM SYSTEM FOR THE WORK AREA(S), INCLUDING INERTIES TO THE EXISTING BUILDING FIRE ALARM SYSTEM, FOR ALL NEW FIRE ALARM WORK, INCLUDING:
 - 1) FIRE ALARM SPEAKER/STROBE OR HORN/STROBE DEVICES
 - 2) FIRE ALARM STROBE DEVICES
 - 3) FIRE ALARM PULL STATIONS
 - 4) SMOKE DETECTORS
 - 5) HEAT DETECTORS
 - B. CONTRACTOR SHALL ALSO INCLUDE ALL COMPONENTS TO UPGRADE THE EXISTING BASE BUILDING SYSTEM EXPANSION INCLUDING, BUT NOT LIMITED TO, RELAY CARDS, STROBE CONTROL PANELS, AMPLIFIERS, ETC.
 - C. CONTRACTOR TO OBTAIN THE SERVICES OF THE BASE BUILDING FIRE ALARM VENDOR TO DEVELOP AND DESIGN A CODE COMPLIANT, FULLY FUNCTIONAL FIRE ALARM SYSTEM. ALL WORK TO BE DONE IN COORDINATION WITH BASE BUILDING FIRE ALARM VENDOR AND BUILDING MANAGEMENT.
 - D. ALL EQUIPMENT SHALL MEET REQUIREMENTS OF NFPA 72, ALL APPLICABLE CODES, AND LOCAL LAWS, AND BE INSTALLED AND CONNECTED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS AND INSTRUCTIONS. ALL FINAL CONNECTIONS TO BE MADE BY THIS CONTRACTOR WITH THE APPROVAL AND SUPERVISION OF THE BUILDING OWNER AND FIRE ALARM SYSTEM VENDOR.
 - E. ALL COST ASSOCIATED WITH CONNECTIONS AND REPROGRAMMING OF THE EXISTING FIRE ALARM SYSTEM TO BE PAID BY THIS CONTRACTOR.
 - F. BUILDING FIRE ALARM SYSTEM INTEGRITY SHALL BE MAINTAINED AT ALL TIMES (BEFORE, DURING, AND AFTER DEMOLITION AND/OR CONSTRUCTION. IT IS THIS CONTRACTOR'S RESPONSIBILITY TO MAINTAIN OPERATION OF ALL EXISTING FIRE ALARM DEVICES AT ALL TIMES.
 - G. ELECTRICAL CONTRACTOR SHALL CONFIRM THAT ALL EXISTING WIRING ON TENANT FLOOR IS COMPLIANT WITH LATEST FIRE ALARM STANDARDS AND BUILDING REQUIREMENTS. IF WIRING DOES NOT MEET LATEST STANDARDS AND BUILDING REQUIREMENTS ALL WIRING SHALL BE REPLACED AS PART OF THIS PROJECT.
 - H. ALL FIRE ALARM DEVICES ARE TO BE FULLY COMPATIBLE WITH THE EXISTING BUILDING ADDRESSABLE FIRE ALARM SYSTEM.
 - I. INSTALLATION SHOULD BE THOROUGHLY TESTED WITH THE INSTALLER AND BUILDING PERSONNEL, BEFORE ANY FINAL INSPECTION IS SCHEDULED.
 - J. SUBMISSION OF BID ACKNOWLEDGES THAT CONTRACTOR HAS CONTACTED THE BASE BUILDING VENDOR AND HAS INCLUDED ALL COMPONENTS FOR A CODE COMPLIANT SYSTEM. ADDITIONAL CLAIMS FOR CHANGES IN VENDOR SCOPE OR ADDITIONAL DEVICES/COMPONENTS, UNLESS INITIATED BY TENANT, WILL NOT BE ACCEPTED.
 - K. ALL AUDIO VISUAL WALL MOUNTED FIRE ALARM DEVICES SHALL BE WHITE WITH WHITE FACE PLATE AND RED LETTERING UNLESS OTHERWISE DIRECTED BY ARCHITECT.
- 17. **SECURITY SYSTEM:**
 - A. CONTRACTOR SHALL FURNISH OUTLET BOXES AND EMPTY CONDUITS REQUIRED FOR INSTALLATION OF SECURITY SYSTEM HARDWARE AND CABLING.
 - B. CONTRACTOR SHALL REFER TO SECURITY DRAWINGS OR DETAILS ON THESE DRAWINGS FOR ALL REQUIREMENTS FOR SECURITY HARDWARE AND CABLING.

PART 3- EXECUTION

- 1. **GENERAL:**
 - A. PERFORM THE WORK AT SUCH TIME AND IN SUCH MANNER AS TO MINIMIZE INTERFERENCE WITH BUILDING'S NORMAL OPERATION. NOTIFY BUILDING MANAGEMENT REPRESENTATIVES IN ADVANCE EACH TIME A SERVICE OUTAGE OR INTERRUPTION WILL BE REQUIRED. SCHEDULE SUCH SERVICE OUTAGE OR INTERRUPTION ONLY AFTER HAVING RECEIVED APPROVAL OF DATE, HOUR, AND TIME INTERVAL REQUIRED THEREOF. SCHEDULE OF WORK AS DIRECTED SHALL BE FOLLOWED AS CLOSELY AS POSSIBLE.
 - B. COORDINATE WITH THE BUILDING OWNER FOR ANY SERVICE INTERRUPTION OF EXISTING SYSTEMS AND GIVE NOTICE AS REQUIRED BY BUILDING RULES AND REGULATIONS OR A MINIMUM OF FIVE (5) DAYS PRIOR TO ANY WORK, WHICHEVER IS MORE STRINGENT. CONTRACTOR IS TO PERFORM WORK ON PREMIUM TIME SO AS TO NOT DISTURB EXISTING TENANTS ON OTHER FLOORS.
 - C. OPENINGS AROUND ELECTRICAL PENETRATIONS THROUGH FIRE RESISTANCE RATED WALLS, PARTITIONS, FLOORS, OR CEILINGS SHALL BE FIRE STOPPED USING APPROVED METHODS. SEALANT SHALL BE RATED FOR 3 HOURS. TELECOMMUNICATION CONTRACTOR SHALL BE RESPONSIBLE FOR INSTALLING FIRE STOPPING IN "IT" CONDUITS/SLEEVES/PENETRATIONS AFTER "IT" WIRES ARE PULLED.
 - D. PROVIDE 277/480V DANGER LABELING AT ALL EQUIPMENT AND JUNCTION/PULL BOXES PER CODE.
 - E. MAINTAIN GROUND CONTINUITY THROUGHOUT ALL SYSTEMS.
 - F. MAINTAIN CONTINUITY AND PROTECT ALL EXISTING CIRCUITS TO REMAIN SERVING EQUIPMENT WITHIN THE BASE BUILDING CORE AREAS OR OTHER TENANT AREAS AFFECTED BY THE ALTERATION WORK, WHENEVER IT IS REQUIRED THAT AN EXISTING CIRCUIT BE MODIFIED, REVISED, DISCONNECTED, OR REMOVED IT SHALL BE UNDERSTOOD THAT THE CIRCUIT SHALL BE RECONNECTED AND SERVICE RE-ESTABLISHED IN THE REMAINING PORTION OF THE CIRCUIT AFFECTED BY THE ALTERATION.
 - G. PRIOR TO ANY CHASING, CHOPPING, OR CORE DRILLING BEING PERFORMED, THE CONTRACTOR SHALL FIELD INVESTIGATE CONDITIONS AND COORDINATE WITH ALL APPROPRIATE TRADES TO ENSURE THAT WORK WILL BE IN HARMONY WITH OTHER WORK AND NOT AFFECT ANY EXISTING BUILDING SYSTEMS. X-RAY SLABS IF REQUIRED. THIS WORK MUST BE APPROVED BY BUILDING MANAGEMENT PRIOR TO PROCEEDING. ALL CORING/CHASING SHALL BE DONE ON OVERTIME.
 - H. FOR TEMPORARY POWER, FURNISH AND INSTALL WIRING FOR ADEQUATE LIGHT AND SMALL TOOLS POWER FOR THE PROJECT. THIS SHALL INCLUDE STRINGERS, LAMPS, OUTLETS, BREAKERS, AND FUSING, AS IT IS NECESSARY. ALL TEMPORARY WIRING SHALL BE REMOVED FROM SPACE AT COMPLETION OF PROJECT.
 - I. WHEN USING TEMPORARY LIGHTING, THE CONTRACTOR SHALL CLEARLY LABEL PANELS AND BREAKERS USED FOR LIGHTING. LOCATION OF PANELS TO BE SHOWN ON FLOOR PLAN POSTED AT ENTRANCE TO WORK AREA. PROPER TEMPORARY LIGHTING AND POWER MUST BE INSTALLED AND MAINTAINED IN ALL WORK AREAS. CONNECTIONS TO EXISTING STAIRWELL AND EXIT LIGHT SYSTEMS ARE NOT PERMITTED. TEMPORARY LIGHT STREAMERS, WHERE SPLICED, ARE TO HAVE COMPRESSION FITTINGS OR BE SOLDERED.
 - J. THE CONTRACTOR SHALL CUT BACK TO THE FLOOR, WALL OR CEILING, REMOVE WIRING AND PLUG BOTH ENDS OF CONCEALED CONDUITS MADE OBSOLETE BY THIS ALTERATION. EXPOSED CONDUITS, WIREWAYS, OUTLET BOXES, PULL BOXES, HANGERS, ETC. MADE OBSOLETE BY THE ALTERATION WORK SHALL BE REMOVED, UNLESS OTHERWISE NOTED.

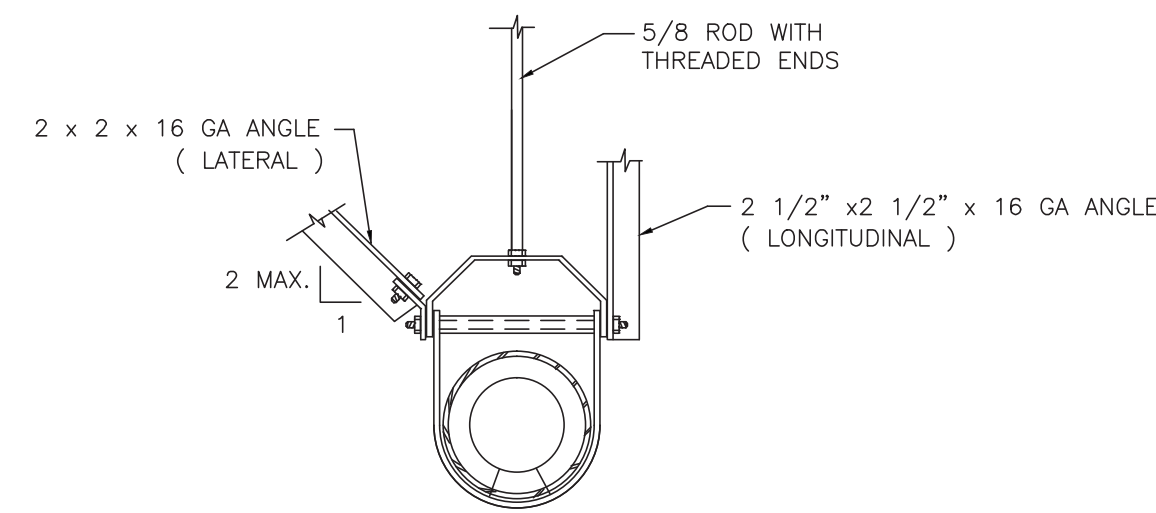
- K. IT IS POSSIBLE THAT THERE WILL BE CERTAIN REMOVALS AND RELOCATIONS OF THE EXISTING ELECTRICAL INSTALLATION NECESSARY FOR THE SATISFACTORY PERFORMANCE OF THE WORK. THESE CHANGES CANNOT BE COMPLETELY DETAILED ON THE DRAWINGS, BUT MUST BE CONSIDERED BY THE CONTRACTOR WHILE REVIEWING THE EXISTING CONDITIONS AT THE SITE AND PREPARING THE PROPOSAL.
- 2. **IDENTIFICATION AND LABELING:**
 - A. ALL PANELBOARDS, CONTROL PANELS, DISCONNECT SWITCHES, ENCLOSED CIRCUIT BREAKERS, TRANSFORMERS, CABINETS, ATS'S, UPS'S, AND THE LIKE SPECIFIED HEREIN SHALL BE CLEARLY IDENTIFIED WITH THE EQUIPMENT DESIGNATION AND VOLTAGE RATING. IDENTIFICATION SHALL BE BY ENGRAVED WHITE CORE, BLACK LAMICOID NAMEPLATE WITH 3/4 IN. LETTERING AFFIXED WITH EPOXY CEMENT.
 - B. JUNCTION BOXES, SPLICE BOXES, ETC., SHALL BE IDENTIFIED WITH PANEL AND CIRCUIT NUMBERS, FOR CIRCUITS CONTAINED THEREIN. FACEPLATE OF SWITCHES FOR EQUIPMENT SUCH AS MOTORIZED SCREENS, ETC., SHALL BE IDENTIFIED WITH THE NAME OF THE DEVICE CONTROLLED. IDENTIFICATION SHALL BE INDELIBLE MARKER IN CONCEALED LOCATIONS AND ADHESIVE ("P" TOUCH TYPE) LABELS IN EXPOSED LOCATIONS. EMERGENCY DEVICES SHALL BE IDENTIFIED IN RED.
 - C. EMPTY CONDUITS SHALL BE IDENTIFIED WITH TAGS AT BOTH ENDS INDICATING THE LOCATION OF THE TERMINATION OF THE OPPOSITE END.
 - D. FIRE ALARM SYSTEM JUNCTION BOXES SHALL BE PAINTED FIRE DEPARTMENT RED. APPROVED IDENTIFICATION CARDS SHALL BE FURNISHED ADJACENT TO ALL CONTROL PANELS AND MANUAL STATIONS.
 - E. CABLE TAGS: TAG EACH CONDUCTOR PASSING THROUGH SPLICE OR PULLBOX WITH A WHITE LINEN TAG, INDICATING POINT OF ORIGIN AND TERMINATION OF THE CIRCUIT.
 - F. PANELBOARDS AND ASSOCIATED EQUIPMENT THAT WILL REQUIRE ADJUSTMENT, SERVICING, INSPECTION, OR MAINTENANCE WHILE ENERGIZED SHALL BE FIELD MARKED INDICATING VOLTAGE AND WARNING QUALIFIED PERSONS OF POTENTIAL ELECTRIC ARC-FLASH HAZARDS PER NEC SECTION 110.16 AND NFPA 70E.
- 3. **PRODUCT DELIVERY, STORAGE AND HANDLING:**
 - A. MOVING OF EQUIPMENT: WHERE NECESSARY, SHIP IN CARTED SECTIONS OF SIZE TO PERMIT PASSING THROUGH AVAILABLE SPACES.
 - B. ACCESSIBILITY: FOR OPERATION, MAINTENANCE AND REPAIR. MINOR DEVIATIONS SHALL BE PERMITTED. CHANGES OF MAGNITUDE OR INVOLVING EXTRA COST ARE NOT PERMISSIBLE WITHOUT REVIEW. GROUP CONCEALED ELECTRICAL EQUIPMENT REQUIRING ACCESS WITH EQUIPMENT FREELY ACCESSIBLE THROUGH ACCESS DOORS.
- 4. **EXISTING EQUIPMENT REFURBISHMENT:**
 - A. WHERE PANELBOARDS, SWITCHES, CIRCUIT BREAKERS, TRANSFORMERS, ETC. ARE EXISTING TO BE REUSED THE CONTRACTOR SHALL CLEAN AND REFURBISH THE EQUIPMENT. THIS SHALL INCLUDE TIGHTENING ALL CONNECTIONS, REPLACING DEFECTIVE MECHANISMS, EXERCISING MECHANISMS AND PROVIDING ANY MISCELLANEOUS COMPONENTS SO THE EQUIPMENT IS IN FIRST CLASS WORKING ORDER.
 - B. ALL EXISTING LIGHTING FIXTURES TO REMAIN AND RELOCATED LIGHTING FIXTURES IN AREA OF WORK IS TO BE CLEANED AND RELAMPED.
- 5. **PROTECTION:**
 - A. CONTRACTOR SHALL BE RESPONSIBLE FOR WORK AND EQUIPMENT UNTIL FINALLY INSPECTED, TESTED, AND ACCEPTED. MATERIALS AND EQUIPMENT SHALL BE CAREFULLY STORED WHICH ARE NOT IMMEDIATELY INSTALLED AFTER DELIVERY TO SITE. CLOSE EXPOSED PARTS OF THE WORK WITH TEMPORARY COVERS OR PLUGS DURING CONSTRUCTION TO PREVENT ENTRY OF MOISTURE OR OBSTRUCTING MATERIALS.
 - B. PROTECT THE WORK AND MATERIAL OF OTHERS FROM DAMAGE INSTALLED AS PART OF THIS CONTRACT. RESTORE ANY WORK DAMAGED AND BE RESPONSIBLE FOR ALL CURRENT WORK AND ASSOCIATED COSTS.
 - C. BRUSH AND CLEAN WORK PRIOR TO CONCEALING, PAINTING AND ACCEPTANCE. PAINTED EXPOSED WORK SOILED OR DAMAGED; CLEAN AND REPAIR TO MATCH ADJOINING WORK BEFORE FINAL ACCEPTANCE. REMOVE DEBRIS FROM INSIDE AND OUTSIDE OF MATERIAL AND EQUIPMENT.



ISSUANCES:

Date:	November 30th, 2020
Scale:	AS NOTED
Project No.	2k20.015
Drawn by:	WH

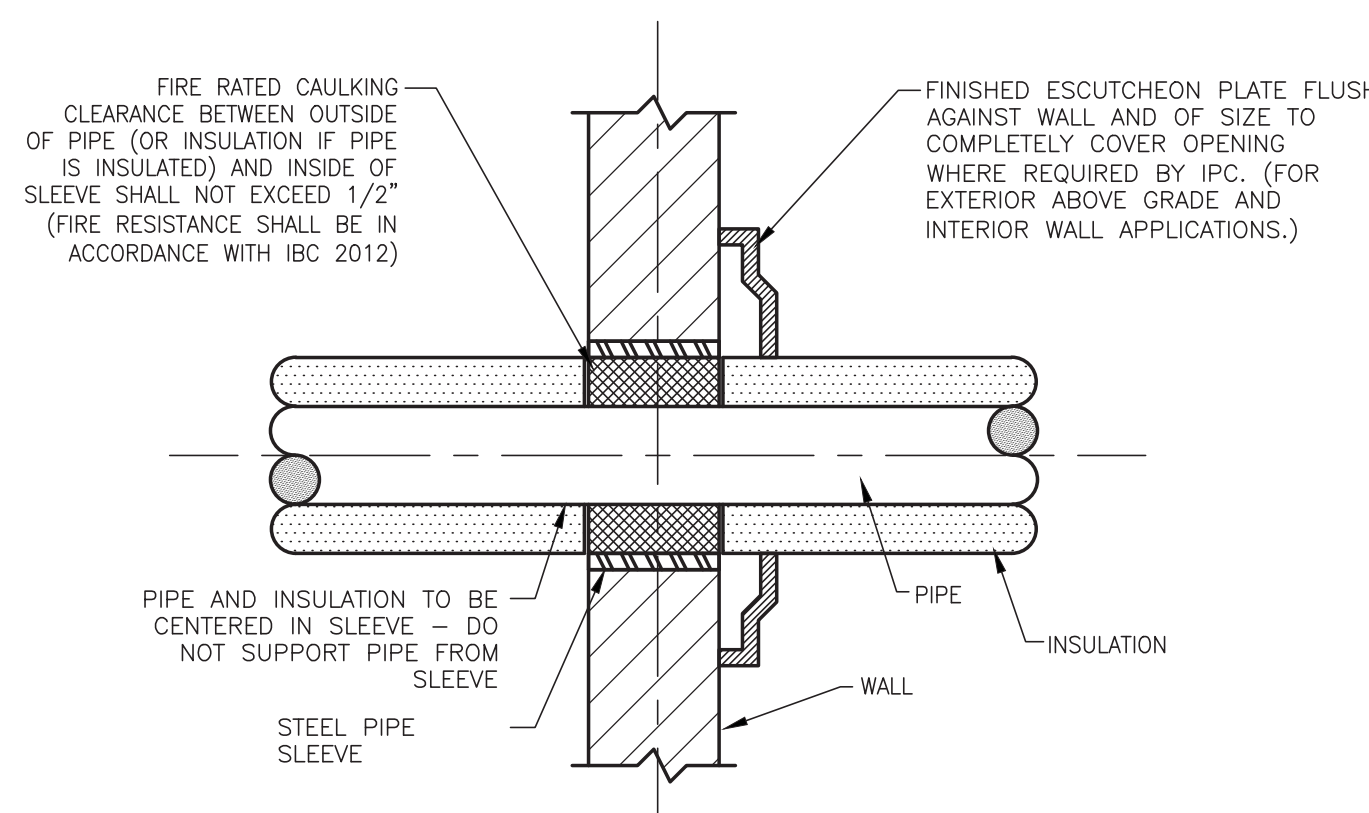
E3.02
ELECTRICAL SPECIFICATIONS (2 OF 2)



- PROVIDE LONGITUDINAL AND LATERAL BRACING ON PIPING 2 1/2" AND GREATER, GAS PIPING 1" I.D. AND GREATER AND PIPING IN BOILER AND MECHANICAL ROOMS 1 1/4" AND GREATER, WHERE SUSPENDED 12" OR MORE FROM SUPPORTING STRUCTURE.
- PROVIDE SIMILAR BRACING ON ALL DUCTWORK WITH CROSS-SECTIONAL AREA OF 8 SF OR GREATER OR DIAMETER OF 28 IN. OR GREATER WHERE SUSPENDED 12" OR MORE FROM SUPPORTING STRUCTURE.
- MAKE END CONNECTIONS TO EXISTING STRUCTURAL STEEL WITH 1/2" BOLTS OR TO CONCRETE DECK PER CONNECTION TO CONCRETE DETAIL ABOVE.

1 PIPE SUPPORT DETAIL

SCALE: NONE

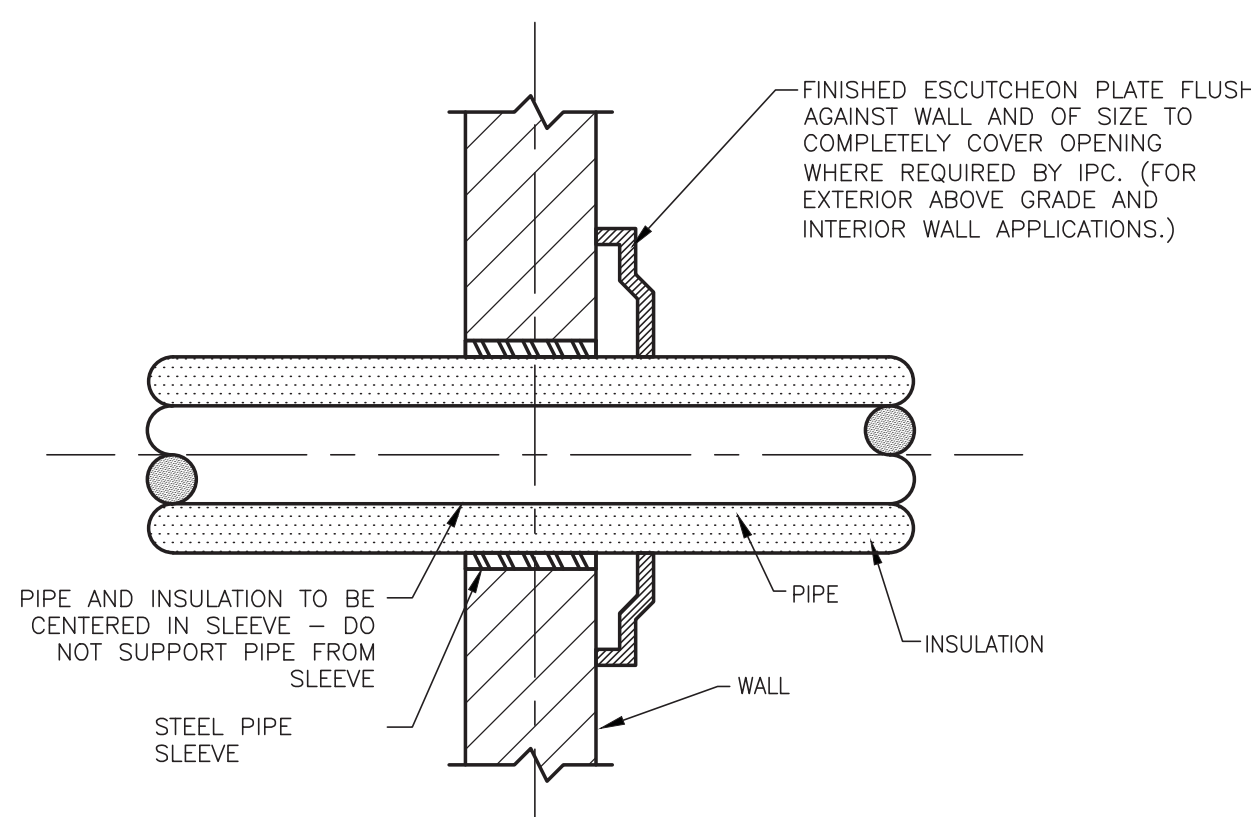


FIRE-RATED NOTES:

- THROUGH PENETRATIONS SHALL BE PROTECTED BY AN APPROVED THROUGH-PENETRATION FIRE STOP SYSTEM INSTALLED AND TESTED IN ACCORDANCE WITH ASTM E814 OR UL 1479, WITH A MINIMUM POSITIVE PRESSURE DIFFERENCE OF 0.01 INCH OF WATER.
- THE SYSTEM SHALL HAVE A F-RATING OF NOT LESS THAN ONE HOUR, BUT NOT LESS THAN THE REQUIRED RATING OF THE FLOOR PENETRATING.

2 FIRE RATED WALL PIPE PENETRATION DETAIL

SCALE: NONE



NON-RATED NOTES:

- NONFIRE-RESISTANCE-RATED ASSEMBLIES: - ANNULAR SPACE MUST BE FILLED TO RESIST FREE PASSAGE OF FLAME AND THE PRODUCTS OF COMBUSTION WITH AN APPROVED NONCOMBUSTIBLE MATERIAL OR WITH A FILL, VOID, OR CAVITY MATERIAL THAT IS TESTED AND CLASSIFIED FOR USE IN THROUGH-PENETRATION FIRESTOP SYSTEMS.

3 PIPE PENETRATION DETAIL NON-RATED WALL

SCALE: NONE

PLUMBING PIPING SYMBOL LIST

---	NEW COLD WATER PIPING
---	NEW HOT WATER PIPING
---	NEW HOT WATER RETURN PIPING
---	NEW SANITARY PIPING
---	NEW SANITARY VENT PIPING
—CD—	NEW CONDENSATE DRAIN PIPING
—G—	NATURAL GAS OR LIQUID PROPANE PIPING
---	PIPING BELOW GRADE
○	FLOOR CLEANOUT
—	CLEANOUT
○	P-TRAP
⊙	FLOOR DRAIN
⊙	FREEZE PROOF HOSE BIBB
⊙	ELBOW TURNED UP
⊙	ELBOW TURNED DOWN
⊙	BOTTOM PIPE CONNECTION
⊙	TOP PIPE CONNECTION
⊙	CAPPED PIPE
⊙	CAPPED AND VALVE CONNECTION
□	NEW EQUIPMENT
⊙	NEW PUMP
⊙	MECHANICAL PLAN NOTE TAG
⊙	REVISION SYMBOL
⊙	POINT OF NEW CONNECTION TO EXISTING WORK

PLUMBING ABBREVIATIONS

AC	AIR CONDITIONING UNIT
AHU	AIR HANDLING UNIT
BFP	BACKFLOW PREVENTOR
CD	CONDENSATE DRAIN
CO	CLEAN OUT
CP	CONDENSATE PUMP
CW	DOMESTIC COLD WATER PIPING
DN	DOWN (PENETRATES FLOOR SLAB)
FD	FLOOR DRAIN
FOG	FATS, OILS AND GREASE
FT	FEET
GC	GENERAL CONTRACTOR
GPM	GALLONS PER MINUTE
HB	HOSE BIBB
HW	HOT WATER PIPING
HWH	HOT WATER HEATER
HWR	HOT WATER RETURN PIPING
LAV	LAVATORY
NG	NATURAL GAS PIPING
NIC	NOT IN CONTRACT
NO	NORMALLY OPEN
NTS	NOT TO SCALE
MBH	THOUSAND BTU PER HOUR
MS	MOP SINK
PC	PUMPED CONDENSATE
PD	PUMPED DISCHARGE
PSI	POUNDS PER SQUARE INCH
PH	PHASE
SAN	SANITARY PIPING
SK	SINK
SQ FT	SQUARE FEET
TYP	TYPICAL
UR	URINAL
V	VENT PIPING
VTR	VENT THROUGH ROOF
WC	WATER CLOSET

GENERAL NOTES

- THESE DRAWINGS ARE GENERALLY DIAGRAMMATIC AND ARE INTENDED TO CONVEY THE SCOPE OF WORK AS WELL AS INDICATE GENERAL ARRANGEMENT OF EQUIPMENT, AND PIPING. THE CONTRACTOR SHALL ADHERE TO THESE DRAWINGS AS CLOSELY AS POSSIBLE. HOWEVER, THE RIGHT IS RESERVED TO VARY THE RUNS OF PIPING AND TO MAKE OFFSETS, WHERE NECESSARY, TO ACCOMMODATE CONDITIONS ARISING AT THE JOB SITE. THE CONTRACTOR SHALL PREPARE SHOP DRAWINGS TO BE SUBMITTED TO THE ENGINEER FOR APPROVAL. NO WORK SHALL BE PERFORMED PRIOR TO RECEIPT OF EQUIPMENT AND PIPING FABRICATION DRAWING APPROVAL.
- ANY MATERIAL, WORK OR INCIDENTAL ACCESSORIES OR MINOR DETAILS NOT SHOWN BUT NECESSARY TO MAKE THE WORK COMPLETE IN ALL RESPECTS AND READY FOR OPERATION, EVEN IF NOT PARTICULARLY SHOWN ON THE DRAWINGS, SHALL BE PROVIDED BY THE CONTRACTOR WITHOUT ADDITIONAL EXPENSE TO THE OWNER.
- IT IS NOT THE INTENT OF THE DRAWINGS TO SHOW INDIVIDUAL BRANCH PIPING TO EACH PLUMBING FIXTURE. ONLY BRANCH PIPING TO GROUPS OF FIXTURES IS INDICATED. EACH AND EVERY FIXTURE SHALL BE PROPERLY PIPED TO WATER, WASTE AND VENT PIPING SYSTEMS. FOR INDIVIDUAL PIPE SIZES TO EACH FIXTURE, REFER TO THE PLUMBING FIXTURE SCHEDULE.
- THE PLUMBING CONTRACTOR SHALL COORDINATE ALL PLUMBING WORK WITH ALL OTHER TRADES INCLUDING, BUT NOT LIMITED TO, ELECTRICAL, HVAC, SPRINKLER STRUCTURAL AND GENERAL ARCHITECTURAL.
- WHERE PIPING CONNECTIONS FOR EQUIPMENT DIFFER FROM THE LINE SIZE PIPING, IT SHALL BE THE RESPONSIBILITY OF THE PLUMBING CONTRACTOR TO FURNISH AND INSTALL THE NECESSARY REDUCER/EXPANDER FITTINGS TO ENABLE CONNECTION BETWEEN THE PIPING SYSTEM AND THE EQUIPMENT.
- ALL PIPING LOCATED ABOVE GRADE SHALL BE SUPPORTED BY THE BUILDING STRUCTURE AND SHALL NOT BE SUPPORTED BY THE CEILING TILES OR CEILING STRUCTURE.
- PROVIDE SHUTOFF VALVES ON ALL BRANCH PIPING AND ON ALL SUPPLIES TO INDIVIDUAL FIXTURES AND EQUIPMENT. PROVIDE BALL VALVES ON ALL WATER MAIN BRANCHES IN CORRIDORS AND WHERE INDICATED ON THE DRAWINGS. ALL VALVES SHALL BE ACCESSIBLE.
- PROVIDE CLEANOUTS IN SANITARY AND STORM DRAINAGE SYSTEMS AT ENDS OF RUNS, AT CHANGES IN DIRECTION, NEAR THE BASE OF STACKS, EVERY 50 FEET IN HORIZONTAL RUNS AND ELSEWHERE AS INDICATED. ALL CLEANOUTS SHALL BE FULL SIZE OF PIPE FOR PIPE 6 INCHES AND SMALLER AND SHALL BE 6 INCHES FOR PIPE SIZES LARGER THAN 6 INCHES
- COORDINATE MOUNTING HEIGHTS OF PLUMBING FIXTURES WITH ARCHITECTURAL DRAWINGS.
- ALL PIPING SHALL SLOPE TO LOW POINTS. PROVIDE HOSE AND DRAIN VALVES AT THE BOTTOM OF ALL RISERS AND LOW POINTS.
- ALL WATER PIPING RUNNING ABOVE ELECTRICAL SERVICES SHALL BE PROVIDED WITH DRAIN PAN UNDERNEATH. PIPING FROM DRAIN PAN SHALL EXTEND TO NEAREST FLOOR DRAIN.
- ALL OPENINGS THRU FIRE RATED WALLS OR FLOORS SHALL BE SEALED WITH AN APPROVED FIREPROOFING MATERIAL TO MAINTAIN THE INTEGRITY OF THE WALL OR FLOORS.
- PROVIDE TRAP PRIMER FOR EACH FLOOR DRAIN AND HUB DRAIN. CONNECT TRAP PRIMER TO NEAREST COLD WATER MAIN; PROVIDE ISOLATION VALVE AND EXTEND TO FLOOR DRAIN AS REQUIRED.
- PROVIDE CONDENSATE DRAINS FOR ALL COOLING COILS; PIPE BY GRAVITY TO INDIRECT WASTE.
- PROVIDE FLEXIBLE CONNECTIONS IN ALL PIPING SYSTEMS CONNECTED TO PUMPS AND OTHER EQUIPMENT WHICH REQUIRED VIBRATION ISOLATION, EXCEPT WATER COILS. FLEXIBLE CONNECTIONS SHALL BE PROVIDED AS CLOSE TO THE EQUIPMENT AS POSSIBLE.
- UNIONS AND/OR FLANGES SHALL BE INSTALLED AT EACH PIECE OF EQUIPMENT, IN BYPASSES AND IN LONG PIPING RUNS (100 FEET OR MORE) TO PERMIT DISASSEMBLY FOR ALTERATION AND REPAIRS.
- ALL PIPING SHALL BE INSTALLED TIGHT TO THE BOTTOM OF STEEL AT ALL TIMES UNLESS OTHERWISE INDICATED OR REQUIRED BY FIELD CONDITIONS.
- INSTALL WATER HAMMER ARRESTERS ON ALL PIPING SERVING QUICK CLOSING VALVES.
- PROVIDE GAUGE FITTINGS AND THERMOMETER WELLS AT HOT WATER SUPPLY AND RETURN BRANCHES AND AT PUMP INLETS AND OUTLETS.
- ALL PIPING OF DISSIMILAR MATERIALS SHALL HAVE DIELECTRIC FITTINGS.
- VERIFY ALL UTILITY POINTS OF CONNECTION WITH SITE/CIVIL PLANS.
- ALL PIPING SUBJECT TO FREEZING OR UNCONDITIONED SPACES SHALL BE INSULATED IN ACCORDANCE WITH LATEST PLUMBING CODE AND CT BUILDING CODE.

DEMOLITION NOTES

- DEMOLITION NOTES, SYMBOL LIST AND DETAILS ARE APPLICABLE TO ALL PLUMBING DRAWINGS.
- ALL PIPING IN WALLS AND FLOORS NOT TO BE REUSED WILL BE PLUGGED OR CAPPED AND CUTTING AND PATCHING WILL BE PERFORMED TO RESTORE SURFACE TO ORIGINAL CONDITION BY THIS CONTRACTOR.
- AFTER REMOVING PIPING THROUGH FLOOR SLABS, PENETRATIONS SHALL BE PATCHED WITH APPROVED FIRE-RATED MATERIAL.
- THE CONTRACTOR SHALL INCLUDE IN HIS PRICE ALL COSTS ASSOCIATED WITH REMOVALS AND RELOCATIONS OF PLUMBING WORK AS DESCRIBED ON THE DRAWINGS AND IN THE SPECIFICATIONS WITH ALLOWANCES FOR EXPECTED OR UNFORESEEN DIFFICULTIES WHEN CONCEALED WORK HAS BEEN OPENED. NO CLAIMS FOR ADDITIONAL WORK ASSOCIATED WITH DEMOLITION WILL BE ACCEPTED, EXCEPT IN CERTAIN CASES CONSIDERED JUSTIFIABLE BY THE OWNER/ENGINEER.
- THE CONTRACTOR SHALL PERFORM DEMOLITION AND REMOVAL WORK WITH MINIMUM INTERFERENCE WITH FUNCTIONING PLUMBING SYSTEMS. ALL AFFECTED SYSTEMS SHALL BE RECONNECTED AND RESTORED.
- DEMOLITION AND REMOVAL WORK SHALL BE PERFORMED IN A NEAT AND WORKMANLIKE MANNER. THE CONTRACTOR SHALL PATCH, REPAIR OR OTHERWISE RESTORE ANY DAMAGED INTERIOR OR EXTERIOR BUILDING SURFACE TO ITS ORIGINAL CONDITION.
- THE CONTRACTOR SHALL REMOVE ALL PIPING SUPPORTS, ECT. FROM PARTITIONS THAT ARE TO BE REMOVED. WHERE THE REMOVAL OF THESE ITEMS DISRUPTS EXISTING PIPING THAT IS TO REMAIN, THE CONTRACTOR SHALL INSTALL AND PROVIDE BYPASS CONNECTIONS NECESSARY.
- THE CONTRACTOR SHALL PROVIDE ADDITIONAL SUPPORTS FOR ALL EXISTING PIPING TO REMAIN THAT IS AFFECTED BY DEMOLITION OF THE EXISTING CEILING AND PARTITIONS.
- ALL PIPING WHICH BECOMES EXPOSED DURING THE ALTERNATION WORK SHALL BE REROUTED CONCEALED BEHIND FINISHED SURFACES.
- PORTIONS OF PIPING TO BE REMOVED OR ABANDONED AS A RESULT OF DEMOLITION WORK, BUT WHICH ARE REQUIRED TO REMAIN ACTIVE, SHALL BE CUT AT CONVENIENT LOCATIONS, REROUTED AND RECONNECTED.
- THE CONTRACTOR SHALL NOTIFY THE OWNER AT THE APPROPRIATE TIME OF THE PROJECTED DEMOLITION AND PHASING SCHEDULE SO THAT REMOVAL OR RELOCATION OF AFFECTED UTILITIES MAY BE CARRIED OUT IN COORDINATION WITH THE PROJECT REQUIREMENTS.
- ALL EXISTING MATERIAL AND EQUIPMENT IN USABLE CONDITION, WHICH IS TO BE REMOVED UNDER THIS CONTRACTOR, SHALL REMAIN THE PROPERTY OF THE OWNER OR SHALL BE DISPOSED OF BY THE PLUMBING CONTRACTOR, AS DIRECTED BY THE OWNER.
- ARRANGE TO WORK CONTINUOUSLY, INCLUDING OVER TIME, IF REQUIRED, TO ASSURE THAT SYSTEMS WILL BE SHUT DOWN ONLY DURING THE TIME ACTUALLY REQUIRED TO MAKE THE NECESSARY CONNECTIONS TO THE EXISTING SYSTEMS.
- THE SHUTDOWN OF EXISTING BUILDING PLUMBING SERVICES SHALL BE COORDINATED WITH THE OWNER. MAKE ARRANGEMENTS AT LEAST 5 BUSINESS DAYS PRIOR TO A SHUTDOWN.
- CONTRACTOR SHALL COMPLY WITH ALL FEDERAL, STATE & LOCAL REQUIREMENTS.

PIPING AND FITTINGS SCHEDULE

SYSTEM	PIPING	FITTINGS	REMARKS
DOMESTIC WATER	TYPE L HARD DRAWN COPPER TUBING	COPPER - CAST BRONZE OR COPPER SWEAT FITTINGS JOINED WITH TIN/ANTIMONY LEAD-FREE SOLDER	-
SANITARY, WASTE, AND VENT	SERVICE WEIGHT HUBLESS CAST IRON	SERVICE WEIGHT HUBLESS CAST IRON JOINED W/APPROVED STAINLESS MECHANICAL COUPLINGS W/NEOPRENE RESILIENT GASKETS	NO-HUB COUPLINGS SHALL BE 4-BAND EQUAL TO HUSKY SD-4000.

PIPE INSULATION SCHEDULE

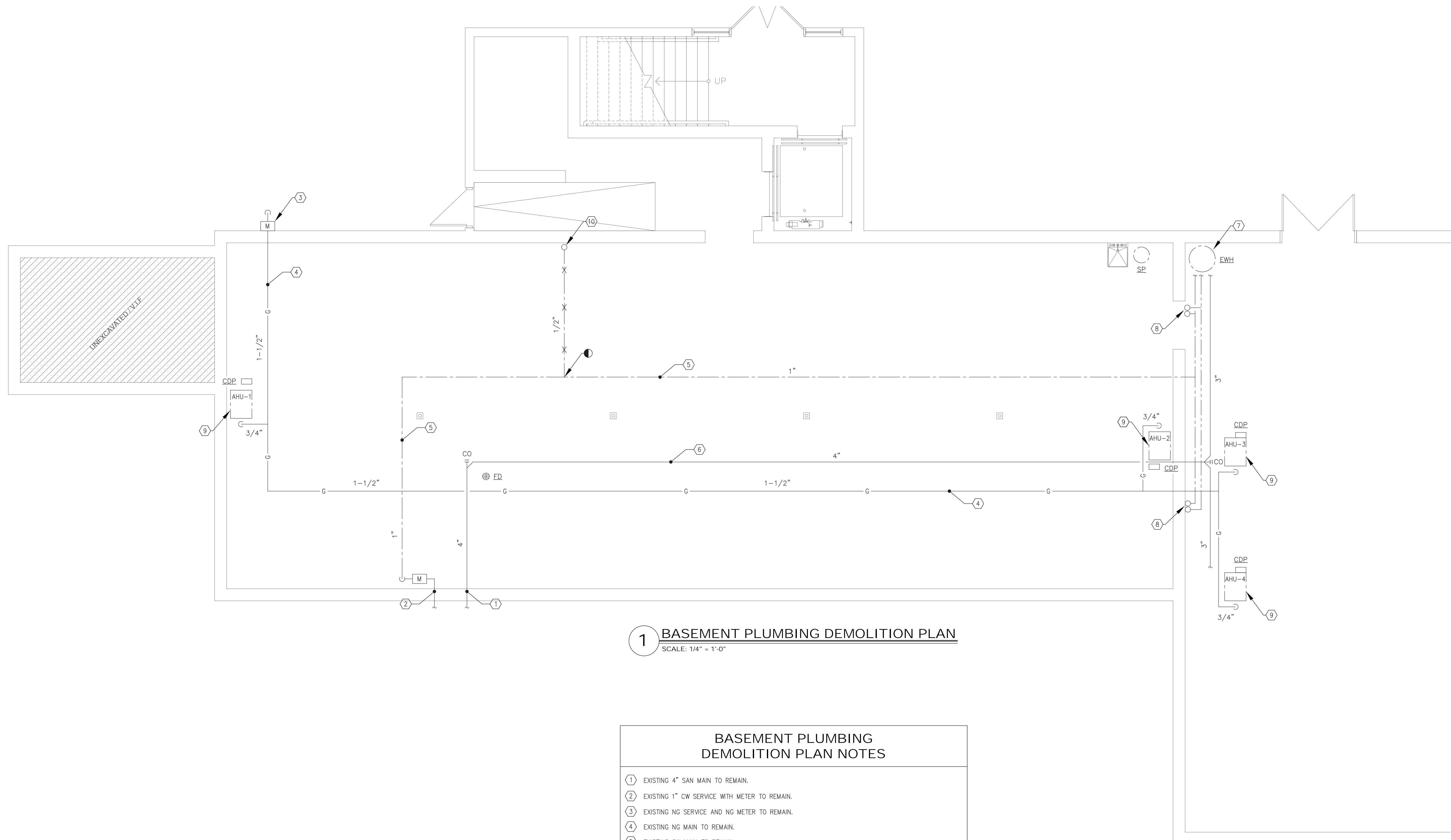
SYSTEM	PRODUCT MANUFACTURER	INSULATION THICKNESS	REMARKS
DOMESTIC COLD WATER PIPING, FITTINGS, AND VALVES (40°F - 60°F)	JOHN MANVILLE MICRO-LOK HP OR APPROVED EQUAL. PROVIDE PVC COVERS ON ALL EXPOSED PIPING	LESS THAN 1-1/4" - 1-1/2" TO 4" - 1-1/2"	ALTERNATE PRODUCTS SHALL HAVE A CONDUCTIVITY OF 0.21-0.28 BTU-IN/(H-F). PROVIDE ALL EXPOSED PIPING WITH PVC PIPE COVERS
DOMESTIC HOT WATER AND HOT WATER RECIRCULATION PIPING, FITTINGS AND VALVES (105°F - 140°F)	JOHN MANVILLE MICRO-LOK HP OR APPROVED EQUAL. PROVIDE PVC COVERS ON ALL EXPOSED PIPING	LESS THAN 1-1/4" - 1-1/2" TO 4" - 1"	ALTERNATE PRODUCTS SHALL HAVE A CONDUCTIVITY OF 0.21-0.27 BTU-IN/(H-F). PROVIDE ALL EXPOSED PIPING WITH PVC PIPE COVERS.

PLUMBING FIXTURE SCHEDULE

UNIT TAG	TYPE	MATERIAL COLOR	FAUCET DATA			TRIM/ELEC.	CONNECTION SIZES				REMARKS
			MODEL	MANUFACTURER	MODEL		CW	HW	SAN	TRAP	
A	MS	MOLDED STONE WHITE	FIAT MSBDTG2424	FIAT	830-AA	FIAT E-77-AA FIAT 832-AA	1/2"	1/2"	2"	2"	-

PLUMBING DRAWING INDEX

DRAWING NO.	DRAWING TITLE
P0.01	PLUMBING NOTES, LEGEND AND DETAILS
P1.01	BASEMENT PLUMBING DEMOLITION PLAN
P1.02	MAIN LEVEL PLUMBING DEMOLITION PLAN
P2.01	BASEMENT PLUMBING PLAN
P2.02	MAIN LEVEL PLUMBING PLAN
P3.01	PLUMBING SPECIFICATIONS



1 BASEMENT PLUMBING DEMOLITION PLAN
SCALE: 1/4" = 1'-0"

**BASEMENT PLUMBING
DEMOLITION PLAN NOTES**

- ① EXISTING 4" SAN MAIN TO REMAIN.
- ② EXISTING 1" CW SERVICE WITH METER TO REMAIN.
- ③ EXISTING NG SERVICE AND NG METER TO REMAIN.
- ④ EXISTING NG MAIN TO REMAIN.
- ⑤ EXISTING CW MAIN TO REMAIN.
- ⑥ EXISTING SAN MAIN TO REMAIN.
- ⑦ EXISTING EWH SERVING EXISTING FIXTURES TO REMAIN.
- ⑧ EXISTING 1/2" CW AND 1/2" HW SERVING FIXTURES TO REMAIN.
- ⑨ EXISTING MECHANICAL EQUIPMENT WITH CONDENSATE PUMP AND NG CONNECTION TO REMAIN.
- ⑩ EXISTING 1/2" CW ROUTED UP TO EXISTING COFFEE MAKER TO BE DEMOLISHED.



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East Hartford, CT 06108



750 Old Main St.
Suite 202
Rocky Hill, CT 06067



67 Federal Rd, Building A,
Suite 201
Brookfield, CT 06804

RENOVATIONS FOR:

200 CHARLTON ROAD
STURBRIDGE, MA

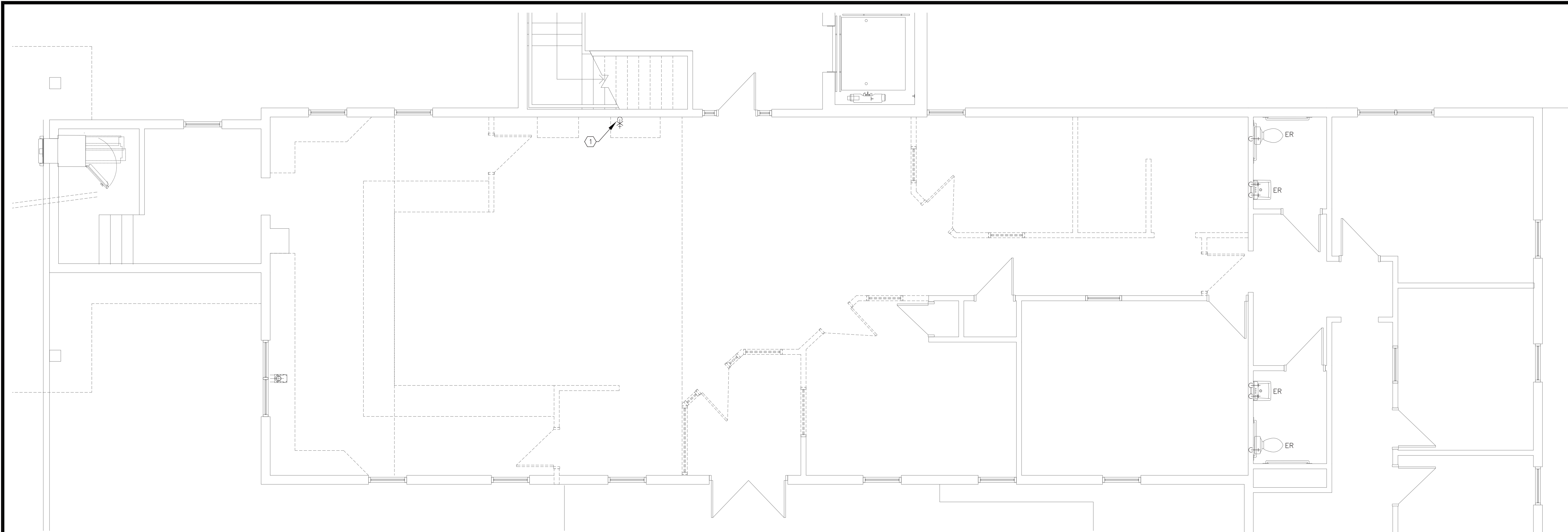
ISSUANCES:

Date: November 30th, 2020

Scale: AS NOTED

Project No. 2K20.015 | Drawn by: AG, LH

P1.01
BASEMENT
PLUMBING
DEMOLITION PLAN



1 MAIN LEVEL PLUMBING DEMOLITION PLAN
 SCALE: 1/4" = 1'-0"

**MAIN LEVEL PLUMBING
 DEMOLITION PLAN NOTES**

1 EXISTING 1/2" CW CONNECTION PROVIDED FOR EXISTING COFFEE MAKER TO BE DEMOLISHED.



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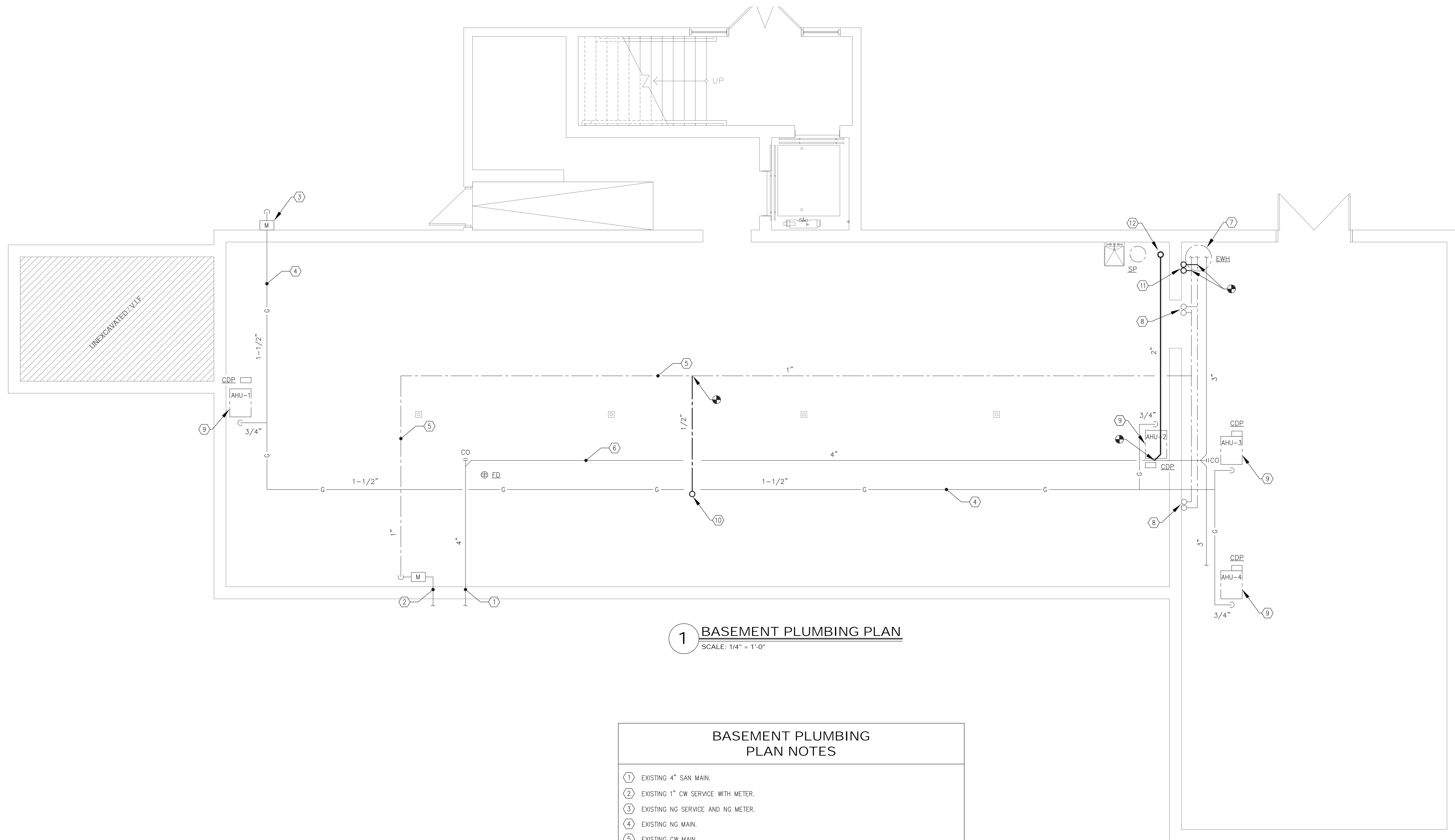
ISSUANCES:

Date: November 30th, 2020

Scale: AS NOTED

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P1.02
 MAIN LEVEL
 PLUMBING
 DEMOLITION PLAN



1 BASEMENT PLUMBING PLAN
SCALE: 1/4" = 1'-0"

BASEMENT PLUMBING PLAN NOTES

- ① EXISTING 4" SAN MAIN.
- ② EXISTING 1" CW SERVICE WITH METER.
- ③ EXISTING NG SERVICE AND NG METER.
- ④ EXISTING NG MAIN.
- ⑤ EXISTING CW MAIN.
- ⑥ EXISTING SAN MAIN.
- ⑦ EXISTING EWH SERVING EXISTING FIXTURES.
- ⑧ EXISTING 1/2" CW AND 1/2" HW SERVING FIXTURES.
- ⑨ EXISTING MECHANICAL EQUIPMENT WITH CONDENSATE PUMP AND NG CONNECTION.
- ⑩ NEW 1/2" CW ROUTED UP TO NEW COFFEE MAKER. COORDINATE EXACT LOCATION WITH END USER.
- ⑪ NEW 1/2" CW AND 1/2" HW ROUTED UP TO NEW MOP SINK.
- ⑫ NEW 2" SAN ROUTED UP TO NEW MOP SINK.



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RENOVATIONS FOR:

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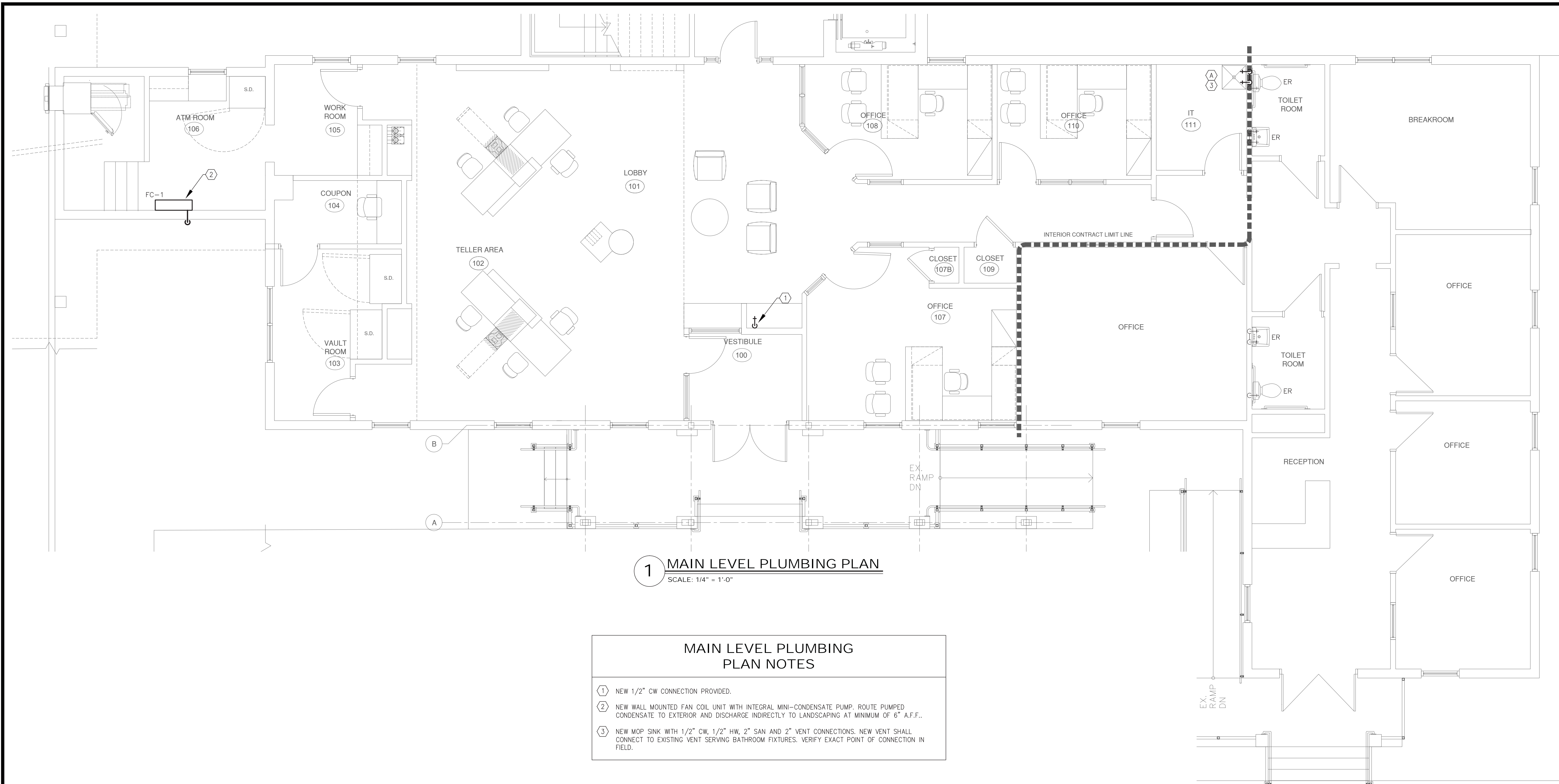
Issuances:

Date: November 30th, 2020

Scale: AS NOTED

Project No. 2K20.015 | Drawn by: AG, LH

P2.01
BASEMENT
PLUMBING
PLAN



1 MAIN LEVEL PLUMBING PLAN
SCALE: 1/4" = 1'-0"

MAIN LEVEL PLUMBING PLAN NOTES	
①	NEW 1/2" CW CONNECTION PROVIDED.
②	NEW WALL MOUNTED FAN COIL UNIT WITH INTEGRAL MINI-CONDENSATE PUMP. ROUTE PUMPED CONDENSATE TO EXTERIOR AND DISCHARGE INDIRECTLY TO LANDSCAPING AT MINIMUM OF 6" A.F.F..
③	NEW MOP SINK WITH 1/2" CW, 1/2" HW, 2" SAN AND 2" VENT CONNECTIONS. NEW VENT SHALL CONNECT TO EXISTING VENT SERVING BATHROOM FIXTURES. VERIFY EXACT POINT OF CONNECTION IN FIELD.

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PLUMBING SPECIFICATIONS

1. GENERAL REQUIREMENTS:

- A. PROVIDE ALL PLUMBING WORK SHOWN ON THE CONTRACT DOCUMENTS AND IN ACCORDANCE WITH THE LATEST LOCAL AND STATE CITY BUILDING.
- B. PATCH AND/OR REPLACE DAMAGED ARCHITECTURAL COMPONENTS AS A RESULT OF SYSTEM INSTALLATION. CLEAN UP THE CONSTRUCTION SITE DAILY DURING CONSTRUCTION SO AS NOT TO INTERFERE WITH THE WORK OF OTHER TRADES, AND AFTER THE COMPLETION OF INSTALLATION AND TESTING.
- C. THE CONTRACTOR SHALL EXAMINE THE PREMISES BEFORE SUBMITTING HIS BID, AND SHALL THOROUGHLY FAMILIARIZE HIMSELF WITH CONDITIONS WHICH AFFECT HIS WORK.
- D. REPORT ANY CONDITIONS WHICH WOULD PREVENT THE INSTALLATION OF THE WORK TO THE ARCHITECT PRIOR TO STARTING ANY WORK.
- E. THE CONTRACTOR SHALL USE EXTREME CAUTION WHEN INSTALLING PIPING IN FINISHED WALLS, PARTITIONS, AND HUNG CEILINGS.
- F. INTERRUPTION OF EXISTING BUILDING SERVICES IN ORDER TO CONNECT NEW PIPING TO EXISTING SHALL BE MADE AT SUCH TIME AS TO CAUSE THE LEAST INTERFERENCE WITH ESTABLISHED BUILDING OPERATING PROCEDURE. ALL EXISTING SERVICE SHUTDOWNS SHALL BE SUPERVISED AS DIRECTED BY BUILDING MANAGEMENT. THE CONTRACTOR SHALL GIVE NOTICE 48 HOURS PRIOR TO ANY SHUTDOWN.
- G. LOCATION OF EXISTING BUILDING SERVICES IN ORDER TO CONNECT NEW PIPING TO EXISTING SHALL BE MADE AT SUCH TIME AS TO CAUSE THE LEAST PLUMBING CONTRACTOR SHALL PAY ALL FEES, OBTAIN ALL PERMITS AND APPROVALS NECESSARY FOR THE COMPLETION OF ALL WORK SHOWN ON THE CONTRACT DRAWINGS.
- H. THE PLUMBING CONTRACTOR SHALL PAY ALL FEES, OBTAIN ALL PERMITS AND APPROVALS NECESSARY FOR THE COMPLETION AND NEW WORK SHOWN ON THE CONTRACT DRAWINGS.
- I. THE PLUMBING CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING HIS WORK WITH THE EXISTING CONDITIONS AND NEW WORK OF ALL THE OTHER TRADES.
- J. PROVIDE NEW PLUMBING FIXTURES, PIPING AND EQUIPMENT WHERE SHOWN ON THE CONTRACT DRAWINGS. CONNECT NEW PIPING TO EXISTING STACKS AND RISERS.
- K. PREPARE AS-BUILT DRAWINGS INDICATING ACTUAL LOCATIONS OF PLUMBING FIXTURES AND PIPING. AS-BUILT DRAWINGS SHALL BE SUBMITTED TO THE OWNER UPON COMPLETION OF INSTALLATION AND TESTING. SUBMIT THREE SETS OF PRINTS AND ONE SET OF REPRODUCIBLES. IN ADDITION PROVIDE ON DISK TO OWNER THE AS-BUILT CONDITIONS IN AUTOCAD 2004.

2. EXAMINATION OF CONTRACT DOCUMENTS:

- A. EXAMINE THE CONTRACT DOCUMENTS OF THIS TRADE AND ALL OTHER TRADES FOR THIS PROJECT. VERIFY ALL EXISTING CONDITIONS AT THE SITE, AND BECOME FULLY INFORMED AS TO THE EXTENT AND CHARACTER OF THE WORK IN THE BUILDING. SUBMITTAL OF A BID IS AN AGREEMENT THAT ALL REQUIREMENTS OF THE CONTRACT DOCUMENTS ARE FULLY UNDERSTOOD.
- B. THE CONTRACTOR SHALL PROVIDE ALL LABOR AND MATERIALS SPECIFIED, OR UNSPECIFIED, NECESSARY TO PROVIDE ALL WORK SHOWN ON THE CONTRACT DOCUMENTS IN ACCORDANCE WITH THE LOCAL BUILDING CODE.
- C. REPORT, IN WRITING, TO THE ARCHITECT ANY AND ALL CONDITIONS WHICH MAY INTERFERE WITH OR OTHERWISE AFFECT OR PREVENT THE PROPER EXECUTION AND COMPLETION OF THE WORK OF THIS SECTION. DO NOT COMMENCE WORK UNTIL ANY AND ALL SUCH CONDITIONS HAVE BEEN CORRECTED BY THE TRADE OR TRADES RESPONSIBLE.
- D. FAILURE TO NOTIFY THE ARCHITECT OF UNSATISFACTORY CONDITIONS WILL BE CONSIDERED AS AN ACCEPTANCE OF ALL CONDITIONS.
- E. THE EXECUTION OF THE WORK OF THIS SECTION CONSTITUTES ACCEPTANCE OF THE BASE OR ADJOINING WORK AND OTHER CONDITIONS AS BEING SATISFACTORY IN EVERY RESPECT AND LATER CLAIMS OF DEFECTS IN SUCH CASES WILL NOT BE ALLOWED.
- F. THE DRAWINGS INDICATE AND THE SPECIFICATIONS DESCRIBED THE GENERAL ARRANGEMENT AND THE APPROXIMATE LOCATION OF EQUIPMENT, FIXTURES, PIPING ETC. EXACT LOCATIONS MAY BE ADJUSTED IN THE FIELD TO SUIT EXISTING CONDITIONS.
- G. THE CONTRACTOR SHALL WITHOUT EXTRA COST TO THE OWNER, MAKE ALL REASONABLE MODIFICATIONS IN THE WORK AS MAY BE REQUIRED TO PREVENT CONFLICT WITH THE WORK OF OTHER TRADES, OR FOR THE PROPER INSTALLATION OF THE WORK.

3. QUALITY ASSURANCE:

- A. ALL PIPES SHALL BE MARKED TO INDICATE MANUFACTURER AND ASTM STANDARD. EACH FULL TYPE LENGTH SHALL HAVE THE MANUFACTURER'S NAME CAST, STAMPED OR ROLLED ON.
- B. EACH FIXTURE SHALL HAVE THE MANUFACTURER'S SYMBOL AND PRESSURE RATING CAST, STAMPED OR ROLLED ON.

4. SCOPE OF WORK:

- A. FURNISH AND INSTALL NEW PLUMBING FIXTURES, PIPING AND EQUIPMENT WHERE INDICATED ON THE CONTACT DRAWINGS. CONNECT TO EXISTING STACKS AND RISERS.
- B. PROVIDE AND INSTALL ALL NEW WORK IN ACCORDANCE WITH BUILDING CODE REQUIREMENTS.
- C. PROVIDE ROUGH CUTTING AND PATCHING FOR THE INSTALLATION OF NEW PIPING.

5. SUBMITTALS:

- A. SUBMIT THE FOLLOWING ITEMS FOR APPROVAL:
 1. PLUMBING FIXTURES, SUPPORTS AND TRIM
 2. PIPE MATERIAL
 3. FITTINGS
 4. HANGERS, ESCUTCHEONS AND SLEEVES
 5. INSULATION
 6. VALVES
 7. WATER HEATER
 8. FLOOR DRAIN
 9. VALVE TAGS & CHART

- B. PREPARE AND SUBMIT PIPING INSTALLATION DRAWINGS FOR REVIEW AND APPROVAL PRIOR TO FABRICATION. SUCH APPROVAL SHALL NOT RELIEVE CONTRACTOR OF INSTALLATION RESPONSIBILITIES.

6. PRODUCT DELIVERY, STORAGE AND HANDLING:

- A. THE PLUMBING CONTRACTOR SHALL BE RESPONSIBLE FOR THE ON-TIME DELIVERY OF HIS MATERIALS AND EQUIPMENT.
- B. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE SAFE STORAGE OF ALL EQUIPMENT, FIXTURES, PIPES, VALVES, ETC., EITHER AT THE JOB SITE WHERE DIRECTED BY THE OWNER'S REPRESENTATIVE OR IN HIS OWN WAREHOUSE.
- C. ANY EQUIPMENT, FIXTURES OR PIPING DAMAGED DURING HANDLING, STORAGE OR INSTALLATION SHALL BE REPLACED OR REPAIRED BY THE CONTRACTOR AT NO COST TO THE OWNER.

7. GUARANTEE:

- A. AS PART OF THIS CONTRACT, THE PLUMBING CONTRACTOR SHALL GUARANTEE AND CERTIFY THAT ALL WORK INCLUDED IN THESE CONTRACT DOCUMENTS IS FREE FROM DEFECTS FOR A PERIOD OF ONE YEAR FROM THE DATE OF THE OWNER'S FINAL ACCEPTANCE. THE PLUMBING CONTRACTOR SHALL REPAIR OR REPLACE ANY MATERIALS FOUND TO BE DEFECTIVE FOR THAT PERIOD OF TIME. OWNER'S FINAL ACCEPTANCE STARTS WHEN FINAL PAYMENT TO THE CONTRACTOR IS MADE.

8. PIPE AND FITTINGS:

- A. ALL MATERIALS SHALL BE NEW AND INSTALLED IN A FIRST CLASS MANNER.

- B. PIPE AND FITTINGS SHALL CONFORM TO THE LATEST ASA, ASTM, AND/OR FS STANDARD. IN ADDITION ALL CAST IRON SOIL PIPE AND FITTINGS SHALL BE MARKED WITH THE COLLECTIVE TRADEMARK OF THE CAST IRON SOIL PIPE INSTITUTE (CISPI) AND BE LISTED BY NSF INTERNATIONAL.

- C. REFER TO PIPING AND FITTINGS SCHEDULE ON DRAWING P0.01 FOR PIPING MATERIALS.

9. VALVES:

- A. ISOLATION CONTROL VALVES (2-1/2" AND SMALLER); BRONZE TWO-PIECE BALL TYPE 250 PSI WSP, THREADED ENDS, AND SOLDERED JOINT END SIMILAR TO CONBRACO, APOLLO 70-300 SERIES.
- B. CHECK VALVES: BRONZE SWING TYPE, 125 PSI, SIMILAR TO STOCKHAM NO. B-319.
- C. THROTTLING VALVES: GLOBE BRONZE, SOLDER ENDS, CLASS 125 SIMILAR TO STOCKHAM NO. B-14T.
- D. GAS VALVES:
 1. FOR GAS PIPING, 2" SIZE AND SMALLER, A TOP ENTRY VALVE, CRANE "ACCESSO" WITH BUENA "N" SEAT IN CARBON STEEL BODY AND FIXED HANDLE, SHALL BE USED.
 2. VALVES FOR GAS PIPING, 2-1/2" AND LARGER SHALL BE IRON, THREADED END CONSTRUCTION, LUBRICATED PLUG COCK WITH SQUARE HEAD OPERATING PLUG. VALVE SHALL BE RATED AT 2003 W.O.G. VALVE SHALL BE WALWORTH CO. NO. 1700F.

10. INSULATION (INDOORS):

- A. COLD, HOT WATER PIPING, HORIZONTAL STORM PIPING AND HORIZONTAL FLOOR DRAIN WASTE PIPING IN MECH. ROOMS.
 1. JOHN MANSVILLE MICRO-LR 850 FIBERGLASS PIPE INSULATION TYPE AP-T, 1 INCH THICK COMPOSITE INSULATION. FIRE AND SMOKE HAZARD RATING NOT TO EXCEED A FLAME SPREAD OF 25 OR SMOKE DEVELOPMENT OF 50.
- B. COLD, HOT WATER, HORIZONTAL STORM PIPING FITTINGS AND VALVES.
 1. JOHN MANSVILLE PRE-CUT, HI-LO TEMP INSULATION INSERTS AND ZESTON 25/50 RATING PVC INSULATED FITTING COVERS.

11. HANGERS:

- A. EXCEPT AS OTHERWISE INDICATED, PROVIDE FACTORY FABRICATED HANGERS, CLAMPS, RODS, BUILDING ATTACHMENTS, SADDLES AND SHIELDS COMPLYING WITH ANSI MSS-SP-58. CONTRACTOR SHALL SELECT AND APPLY HANGERS AND SUPPORTS IN ACCORDANCE WITH MSS-SP-69.
- B. ALL HANGER, ANCHORS AND SUPPORTS SHALL BE AS MANUFACTURED BY THE FEE AND MASON COMPANY OR APPROVED EQUAL AS FOLLOWS:
 1. ALL BARE HORIZONTAL CAST IRON PIPING SHALL BE HUNG WITH FIG. #239 ADJUSTABLE GALVANIZED STEEL HANGERS.
 2. ALL INSULATED HORIZONTAL PIPING SHALL BE HUNG WITH FIG. #239 ADJUSTABLE GALVANIZED STEEL CLEVIS HANGERS WITH FIG. #71 RIGID INSULATION SADDLE. SADDLE BA S 180' SECTION OF 1 INCH POLYURETHANE FOAM, ALUMINUM FACED, WATERPROOF JACK EXTENDING ALL AROUND A 180' SECTION OF GALVANIZED METAL SHIELD. SHIELD AND SECTION OF INSULATION SHALL BE FIBERGLASS AS SPECIFIED IN INSULATION SECTIONS OF THE SPECIFICATION.
 3. VERTICAL LINES SHALL BE SUPPORTED BY MEANS OF RISER CLAMPS. RISER CLAMPS SHALL FIT EXACT PIPE SIZE OR BARE PIPES. FOR CAST IRON PIPES USE FIG. #241. TWO BOLT, GALVANIZED BLACK STEEL CLAMPS OR FIG. #368 CARBON STEEL COPPER PLATED RISER CLAMP.
 4. RODS FOR PIPE HANGERS SHALL BE FIG. #263. CONTINUOUS THREADED ROD, GALVANIZED STEEL SIZED FOR THE LOAD REQUIRED.
- C. INSTALLATION
 1. ATTACH HANGER RODS TO THE BUILDING IN A MANNER APPROVED BY THE ARCHITECT.
 2. DO NOT HANG PIPING FROM DUCTWORK OR OTHER PIPING.
 3. THE CONTRACTOR MAY COORDINATE WITH THE OTHER WORK OR EXISTING PIPING TO USE A COMMON MEANS OF SUPPORT. SUBMIT FOR APPROVAL ALL PERTINENT DESIGN DATA RELATING TO THE SUPPORT AS WELL AS VERIFICATION OF THE RESPONSIBILITY FOR THE SUPPORT.
 4. HANGERS SHALL NOT PENETRATE INSULATION
- D. INTERVAL OF SUPPORTS
 1. HORIZONTAL PIPING SHALL BE SUPPORTED AT INTERVALS AS FOLLOWS:
 - a. CAST IRON PIPE SHALL BE SUPPORTED AT 5 FT. INTERVALS
 - b. COPPER TUBING SHALL BE SUPPORTED AT 6 FT. INTERVALS
 2. ADDITIONAL HANGERS TO PREVENT SAGGING WILL BE ADDED AS REQUIRED.

12. SLEEVES

- A. PROVIDE SLEEVES FOR ALL PIPES PASSING THROUGH FLOORS, WALLS AND PARTITIONS.
 1. SLEEVES THROUGH WALLS, AND WHERE SERVING EXPOSED PIP PENETRATING FLOORS SHALL BE SCHEDULE 40 STEEL PROVIDED WHERE NECESSARY.
 2. SLEEVES WITHIN FURRED OUT ENCLOSURE SHEET ROCK PARTITIONS AND BLOCK WALLS SHALL BE 18 GAUGE GALVANIZED SHEET METAL.
- B. PROVIDE OPENINGS WITH AN I.D. AT LEAST 1/2 INCH GREATER THAN THE OUTSIDE OF THE PIPE SERVED.
- C. DO NOT SUPPORT PIPES BY RESTING PIPE CLAMPS ON SLEEVES.

13. PLUMBING FIXTURES AND TRIM

- A. PLUMBING FIXTURES AND TRIM
 1. FURNISH AND INSTALL NEW PLUMBING FIXTURES AND TRIM WHERE SHOWN ON THE CONTRACT DRAWINGS. THE ARCHITECT'S INTERIOR FINISH DRAWINGS SHALL BE FOLLOWED FOR THE LOCATION OF ALL NEW FIXTURES.
 2. FIXTURES SHALL BE SET LEVEL AND SQUARE WITH RELATION TO FINISHED FLOOR AND WALL LINES.
 3. FAUCETS SHALL BE CHROME-PLATED BRASS, MONEL OR STAINLESS MATERIALS SHALL BE THOROUGHLY CLEANED AND POLISHED BEFORE PLATING. PLATE SHALL BE HEAVY, THOROUGHLY AND EVENLY APPLIED, AND GUARANTEED NOT TO STRIP OR PEEL. PLATED WORK SHALL BE HIGHLY BUFFED. FAUCETS SHALL HAVE METAL INDICES AND SHALL BE OF THE RENEWABLE SEAT TYPE.
 4. EACH FIXTURE SUPPLY CONNECTION SHALL BE PROVIDED WITH INDIVIDUAL SHUT-OFF OR STOP VALVES.
 5. ESCUTCHEONS SHALL BE ONE PIECE CAST BRASS CHROMIUM-PLATES AND SHALL BE PROVIDED WITH SET SCREWS TO PROPERLY HOLD ESCUTCHEON IN PLACE.
 6. BEFORE FINAL ACCEPTANCE, ADJUST FIXTURE STOPS FOR AN AMPLE NON-SPLASHING FLOW.
 7. WHERE WASTE, VENT OR WATER SUPPLY PIPING IS EXPOSED TO VIEW AT FIXTURES, THE PIPES ALL BE CHROMIUM-PLATED. NO COVER TUBING WILL BE PERMITTED.
 8. NECESSARY CARRIERS, BRACKETS, PLATES, CLEATS, BOLTS, ETC. SHALL BE FURNISHED FOR SECURING FIXTURES RIGIDLY IN PLACE.
 9. SPACES BETWEEN PLUMBING FIXTURES AND FLOORS, WALLS OR COUNTERS SHALL BE SEALED WITH A WATERPROOF SEALANT TO PREVENT WATER SEEPAGE.

10. PROVIDE VACUUM BREAKERS WHERE REQUIRED FOR SUBMERGED INLETS.

B. FIXTURE INSTALLATION

1. EACH FIXTURE SHALL BE INDIVIDUALLY CONTROLLED WITH INDIVIDUAL STOPS.
2. THE PLUMBING CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING ALL PLUMBING FIXTURES FROM DAMAGE.
3. UPON COMPLETION OF INSTALLATION AND TESTING, PLUMBING FIXTURES SHALL BE CLEANED AND LEFT IN FIRST CLASS CONDITION AND IN WORKING ORDER.

14. ESCUTCHEONS

- A. INSTALL ESCUTCHEONS ON BOTH SIDES OF CONSTRUCTION WHEREVER PIPES PASS THROUGH WALLS, FLOORS, PARTITIONS OR CEILINGS. ESCUTCHEONS SHALL BE HELD IN PLACE WITH SET SCREWS. TAKE SPECIAL CARE TO PROTECT ESCUTCHEONS DURING THE COURSE OF CONSTRUCTION.
- B. ESCUTCHEON APPLICATION SCHEDULE
 1. FINISHED SPACES SHALL BE POLISHED BRASS.
 2. UNFINISHED SPACES SHALL BE PLAIN BRASS OR CAST IRON.

15. VACUUM BREAKER

- A. VACUUM BREAKER (TYPE A) - CAST BRASS CHROME PIPE IS EXPOSED TO PUBLIC VIEW SIMILAR TO WATTS NO. 800MCO. (CONSTANT PRESSURE VACUUM BREAKER).
- B. VACUUM BREAKER (TYPE B) - CAST BRASS CHROME PIPE IF EXPOSED TO PUBLIC VIEW SIMILAR TO WATTS NO. 909-S.
- C. PROVIDE WHERE INDICATED ON THE DRAWINGS

16. DISINFECTION

- A. DISINFECTION INTERIOR POTABLE WATER DISTRIBUTION SYSTEM IN ACCORDANCE WITH REQUIREMENTS OF LOCAL BUILDING CODE.

17. DISSIMILAR METALS

- A. PROVIDE ISOLATION FLANGES FOR CONNECTIONS WITH ANY DISSIMILATION METALS.

18. INSTALLATION

- A. ALL DRAINAGE PIPING 3" AND LARGER SHALL RUN AT A UNIFORM GRADE OF AT LEAST 1/8" PER FOOT, UNLESS OTHERWISE INDICATED. ALL DRAINAGE PIPING AT 2" AND SMALLER PITCH AT 1/4" PER FOOT MINIMUM.
- B. ALL DRAINAGE PIPING SHALL BE RUN AS STRAIGHT AS POSSIBLE AND SHALL HAVE EASY BENDS WITH LONG TURN FITTINGS. DRAINAGE PIPING AT FIRST FLOOR CEILING SHALL BE RUN AS HIGH AS EXISTING CONDITIONS WILL PERMIT.
- C. ALL VENT PIPES SHALL BE GRADED TO FREE THEMSELVES OF ANY WATER OR CONDENSATION.
- D. ALL WATER PIPING SHALL RUN FREE OF TRAPS AND UNNECESSARY BENDS. ANY TRANSFORMED SHALL BE PROVIDED WITH VALVES TO COMPLETELY DRAIN THE SYSTEM. ALL HOT AND COLD WATER PIPING SHALL BE SEPERATED BY A MINIMUM OF 6" ON CENTER.
- E. ALL CONNECTIONS BETWEEN DISSIMILAR METALS SHALL BE MADE WITH DIELECTRIC UNIONS.
- F. ALL PIPING SHALL HAVE REDUCING FITTINGS. NO BUSHING WILL BE PERMITTED ON ANY PIPING.
- G. NO PIPING OR WORK OF ANY KIND SHALL BE CONCEALED OR COVERED UNTIL ALL REQUIRED TESTS HAVE BEEN SATISFACTORILY COMPLETED AND THE WORK HAS BEEN INSPECTED AND APPROVED BY THE OWNER'S REPRESENTATIVE AND ALL AUTHORITIES HAVING JURISDICTION.
- H. NO DEAD ENDS SHALL BE LEFT ON ANY DRAINAGE PIPE UPON COMPLETION OF THE WORK.

19. COORDINATION

- A. CERTAIN MATERIALS WILL BE FURNISHED, INSTALLED OR FURNISH INSTALLED, UNDER OTHER SECTIONS. EXAMINE THE CONTRACT DOCUMENTS TO ASCERTAIN THESE.
- B. TRANSMIT TO THE TRADES DOING THE WORK OF OTHER SECTIONS ALL THE INFORMATION REQUIRED FOR WORK TO BE PROVIDED UNDER THEIR RESPECTIVE SECTIONS IN AMPLE TIME FOR THEIR INSTALLATION.
- C. ALL NEW WORK SHALL BE COORDINATED WITH EXISTING CONDITIONS

20. TESTING AND BALANCING

- A. PROVIDE LABOR MATERIALS, INSTRUMENTS, POWER, ETC. AS REQUIRED FOR TESTING AND BALANCING. ALL PIPING AND EQUIPMENT SHALL BE TESTED AS REQUIRED BY THE LOCAL BUILDING CODE. TESTS SHALL BE PERFORMED IN THE PRESENCES OF THE OWNER'S REPRESENTATIVE AND SUCH OTHER PARTIES AS MAY HAVE LEGAL JURISDICTION.
- B. NOTIFY THE OWNER'S REPRESENTATIVE AT LEAST 48 HOURS IN ADVANCE OF MAKING THE REQUIRED TESTS, SO THAT ARRANGEMENTS MAY BE MADE FOR THEIR PRESENCE TO WITNESS THE TESTS.
- C. TESTS SHALL BE APPLIED TO COMPLETED OR PARTIALLY COMPLETED SYSTEMS. IN NO CASE SHALL PIPING AND EQUIPMENT BE SUBJECTED TO PRESSURES EXCEEDING THEIR RATING.
- D. ALL DEFECTIVE WORK SHALL BE PROMPTLY REPAIRED OR REPLACED AND THE TESTS SHALL BE REPEATED UNTIL THE PARTICULAR SYSTEM AND ALL COMPONENTS PARTS RECEIVE THE APPROVAL OF THE OWNER'S REPRESENTATIVE.
- E. ANY DAMAGES RESULTING FROM TESTS SHALL BE REPAIRED AND/OR DAMAGED MATERIALS REPLACED. ALL TO THE SATISFACTION OF THE OWNER. THE DURATION OF TESTS SHALL NE AS DETERMINED BY ALL AUTHORITIES HAVING JURISDICTION.

21. SUBSTITUTION OR SPECIFIC MATERIALS

- A. THE PRODUCTS AND/OR MATERIALS LISTED IN THESE SPECIFICATIONS REPRESENT DESIRED MATERIALS AND CONSTRUCTION STANDARDS FOR THE VARIOUS ITEMS OR WORK. MANUFACTURER NAMES AND MODEL NUMBERS ARE USED TO DESCRIBE, TYPES, STYLES AND QUALITY. MATERIALS SUBMITTED FOR APPROVAL OTHER THAN SPECIFIED HEREIN MUST OR EXCEED THESE STANDARDS.

22. VALVE TAGS AND CHART

- A. EACH VALVE, EXCEPT VALVES AT FIXTURES, WILL HAVE A 2" DIAMETER. BRASS TAG WITH 1" HIGH NUMERAL STAMPED THEREON, SECURED TO THE VALVE BY MEANS OF BRASS S HOOK OR BRASS CHAIN. EACH SYSTEM TO HAVE A LETTER DESIGNATION AS WELL.
- B. THE CONTRACTOR SHALL FURNISH AN APPROVED, NEATLY DRAWN VALVE CHART, PROPERLY FRAMED SHOWING THE USE AND LOCATION OF EACH VALVE THAT IS TAGGED.

23. SLEEVE FIRE STOPPING

- A. ALL SLEEVES THROUGH RATED WALLS OR PARTITIONS SHALL FORM A U.L. (UL 1479 & ASTM E814 ASTM TESTED) CLASSIFIED FIRESTOP CAPABLE OF RETURNING THE WALL PARTITION BACK TO ITS UNPENETRATED FIRE RESISTANCE.
- B. FIRESTOPPING CAULK SHALL BE SIMILAR TO 3M CP 25WB + CAULK.
- C. FIRESTOPPING WRAP SHALL BE SIMILAR TO 3M FS-195 + WRAP/STRIP.



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The professional architects stamp & seal shall apply only to the portions of plans, specifications, surveys, reports, or other documents specifically identified or described in the architectural documents and is not an "oversight" for all professional designs involved in the project. The architect shall not be responsible for any other associated documents prepared and sealed by other licensed professionals in this drawing set.



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Issuances:

Date: November 30th, 2020

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PLUMBING
SPECIFICATIONS