

# 4842 AGGIE INNOVATION SPACE ec1 addition

1025 Stewart St.  
Las Cruces, New Mexico

## CONSTRUCTION DOCUMENTS

date 04.11.24  
project no. 23.16

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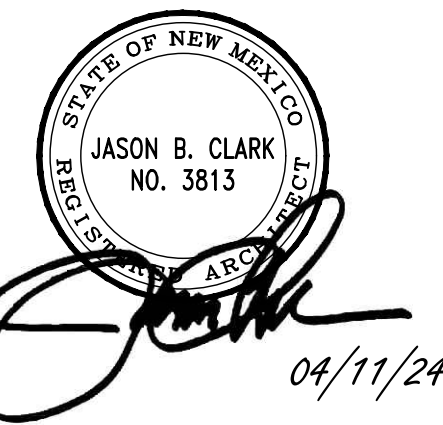
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ADDITION

4842 AGGIE  
INNOVATION  
SPACE EC1

1025 Stewart St.  
Las Cruces, NM

REVISION	DATE

Project no:	23.16
Date:	April 2024
Sheet:	

ITEM	CODE REQUIREMENT	PROVIDED
BUILDING OCCUPANCY	B	B
CONSTRUCTION TYPE	EXISTING: TYPE 1 NEW: TYPE 2-B	E.T.R. TYPE 2-B
ALLOWABLE AREA	23,000 S.F.	5,810 S.F. (NEW)
MAX. HEIGHT / STORIES	E.T.R.	E.T.R.
PUBLIC OCCUPANT LOAD	SEE BELOW	-
NO. OF EXITS (NEW ADDITION)	2	2
EXIT WIDTH (NEW ADDITION)	36" (34" CLR.)	1 @ 36"; 1 @ 72" (108" TOTAL)
MIN. CORRIDOR WIDTH (NEW ADDITION)	44"	76"

REGULATING CODES	2021
INTERNATIONAL BUILDING CODE	2021
UNIFORM MECHANICAL CODE	2021
NEW MEXICO MECHANICAL CODE	2021
UNIFORM PLUMBING CODE	2021
NEW MEXICO PLUMBING CODE	2021
INTERNATIONAL FIRE CODE	2021
NATIONAL ELECTRIC CODE	2020
NEW MEXICO ELECTRICAL CODE	2020
AMERICAN NATIONAL STANDARDS INSTITUTE A117	2009
NEW MEXICO COMMERCIAL BUILDING CODE	2021
CITY OF LAS CRUCES ZONING CODE	

ABBREVIATIONS	
ACT	ACOUSTICAL TILE
ACU	AIR HANDLER UNIT
ADA	AMERICANS WITH DISABILITIES ACT
AFB	ABOVE FINISHED FLOOR
ALUM	ALUMINUM
ASPH	ASPHALT
B.O.F.	BOTTOM OF FOOTING
C&G	CURB & GUTTER
C.J.	CONTROL JOINT
CL	CENTER LINE
CMU	CONCRETE MASONRY UNIT
C.O.L.C.	CITY OF LAS CRUCES
CONC	CONCRETE
DEG	DEGREES
DEMOL	DEMOLISH, DEMOLITION
DET	DETAIL
DG	DOOR GRILLE
DS	DOWNSPOUT
DUMP	DUMPSTER
EL & ELEC	ELECTRICAL COMPONENT
EXIST	EXISTING
E.J.	EXPANSION JOINT
FD	FIRE DAMPER
FE	FIRE EXTINGUISHER
F.F.	FINISH FLOOR
FP	FLAG POLE
F.O.B.	FACE OF BRICK
F.O.S.	FACE OF STUD/ FACE OF SLAB
GA	GAUGE
GALV	GALVANIZED
GS	GAS METER
GYP BD	GYPSONUM BOARD
HIC	HANDICAPPED
HDW	HARDWARE
H.M.	HOLLOW METAL
HT	HEIGHT
L.F.	LIGHT POLE
MATL	MATERIAL
MAX	MAXIMUM
MD	MOTION DETECTOR
MH	MANHOLE
MIN	MINIMUM
MTL	METAL
N.I.C.	NOT IN CONTRACT
NO	NUMBER
OC	ON CENTER
P	PAINT AND COLOR NO.
PL	PLASTIC LAMINATE AND COLOR NO.
PT	PRESSURE TREATED
PVC	POLY VINYL CHLORIDE
RAD	RADIUS
REINF	REINFORCING
RET	RETAINING
SCWD	SOLID CORE WOOD
SIM	SIMILAR
SHT	SHEET
SQ	SQUARE
STL	STEEL
THK	THICK
T.J.	TOOLED JOINT
T.O.B.	TOP OF BRICK
T.O.C.	TOP OF CURB
T.O.C.W.	TOP OF CONCRETE WALK
T.O.P.	TOP OF PARAPET
T.O.W.	TOP OF WALL STRUCTURE
TRNS	TRANSFORMER
T.S.	TUBE STEEL
TYP	TYPICAL
U.N.O.	UNLESS NOTED OTHERWISE
USPS	UNITED STATES POSTAL SERVICE
UW	UTILITY WELL
VCT	VINYL COMPOSITION TILE
W.C.O.	WALL CLEAN OUT
WD	WOOD
WH	WALL HYDRANT
WL	WELL
WP	WATER PIPE
WM	WATER METER
WT	WATER
WWF	WELDED WIRE FABRIC
WWM	WOVEN WIRE MESH

SYMBOLS / REFERENCE TAGS	
	DETAIL SHEET
	ELEVATION SHEET
	WINDOW I.D.
	DOOR I.D.
	CONTROL POINT ELEVATION

### SITE REQUIREMENTS

ALL SITE REQUIREMENTS ARE EXISTING TO REMAIN

### OCCUPANCY LOAD

USE	AREA S.F.	LOAD FACTOR	# OCCUPANTS
FIRST FLOOR- EXISTING	33,350	1/150	262 (NO CHANGE)
FIRST FLOOR- NEW	5,810	1/150	39
SECOND FLOOR- EXISTING			
BUSINESS SPACES	10,680	1/150	72 (NO CHANGE)
STORAGE	6,670	1/300	23 (NO CHANGE)
TOTAL OCCUPANTS			396 (39 NEW)

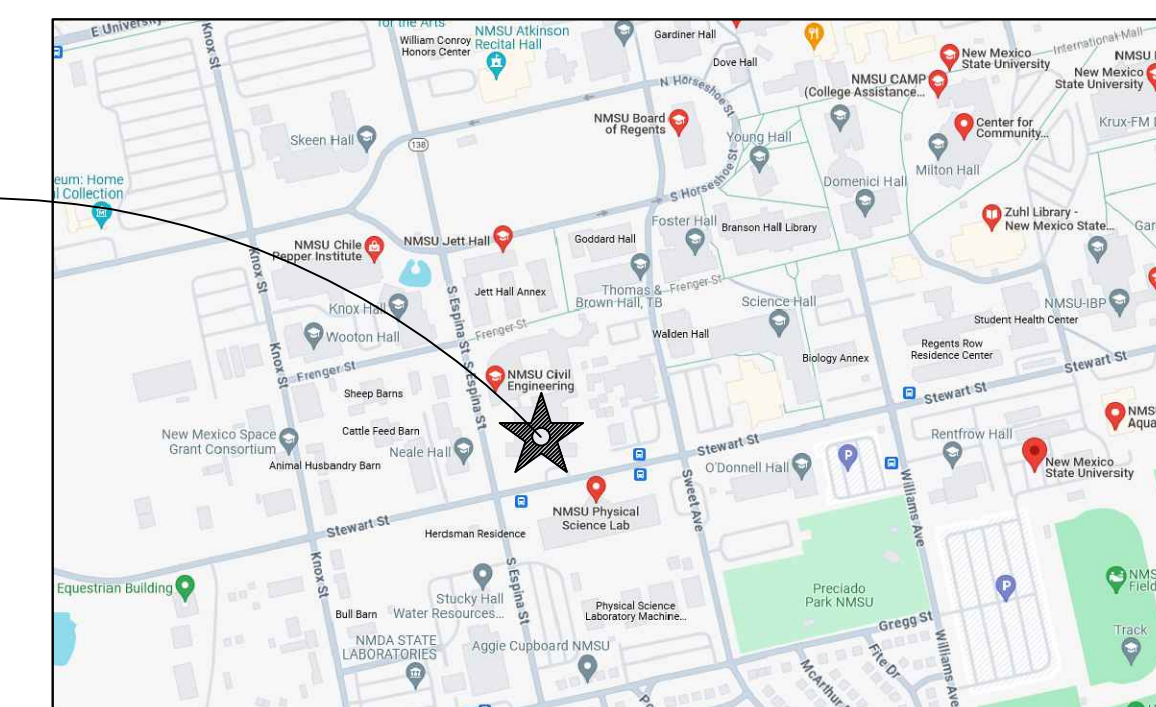
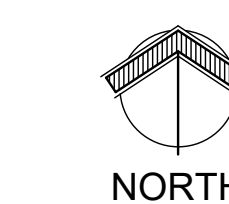
### PLUMBING FIXTURE REQUIREMENTS

FIRST FLOOR	131 EXISTING + 18 NEW
WOMEN	131 EXISTING + 20 NEW
MEN	
SECOND FLOOR	47 EXISTING
WOMEN	48 EXISTING
MEN	

FIRST FLOOR (EXISTING + NEW)	WATER CLOSETS		URINALS	LAVATORIES	
	REQUIRED	PROVIDED	PROVIDED	REQUIRED	PROVIDED
MALE	4	5	6	3	8
FEMALE	4	9	-	3	7
DRINKING FOUNTAINS	1	3			
SERVICE SINK	1	1			

SECOND FLOOR (EXISTING)	WATER CLOSETS		URINALS	LAVATORIES	
	REQUIRED	PROVIDED	PROVIDED	REQUIRED	PROVIDED
MALE	2	2	3	2	4
FEMALE	2	4	-	2	3
DRINKING FOUNTAINS	1	1			
SERVICE SINK	1	1			

### PROJECT LOCATION



VICINITY MAP

**GENERAL**

- 04-1 ALL DETAILS ARE TYPICAL AND SHALL APPLY TO SIMILAR CONDITIONS UNLESS NOTED OTHERWISE.
- 04-2 THE CONTRACTOR SHALL COORDINATE THE SIZE AND LOCATION OF ALL HOLES AND SLEEVES THROUGH WALLS AND SLABS WITH ARCHITECTURAL, MECHANICAL, PLUMBING, ELECTRICAL, AND CIVIL DRAWINGS. ALL FINISHING AND MECHANICAL PENETRATIONS THROUGH WALLS AND SLABS SHALL BE PROPERLY SEALED. PENETRATING FOOTINGS, BEAMS, JOISTS, OR COLUMNS IS PROHIBITED. FINISHING AND CONCRETS SHALL NOT BE INSTALLED BELOW FOOTINGS WITHOUT WRITTEN APPROVAL FROM STUBBS ENGINEERING, INC.
- 04-3 THE STRUCTURE AS SHOWN IN THESE DRAWINGS IS STABLE UNDER THE FINAL CONDITION. THE STRUCTURE IS DESIGNED FOR THE IN-SERVICE LOADS ONLY. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO ENSURE THE STRUCTURAL STABILITY DURING CONSTRUCTION. SEQUENCE OF CONSTRUCTION, SHORING, AND METHODS SHALL BE DETERMINED BY THE CONTRACTOR.
- 04-4 NON-LOAD BEARING ELEMENTS SHALL BE CONNECTED TO THE STRUCTURE BY METHODS THAT ALLOW VERTICAL DEFLECTION OF THE STRUCTURE. ALLOWABLE DEFLECTIONS OF THE STRUCTURE SHALL BE WITHIN THE WIDTH OF EITHER A HALF INCH OR THE STRUCTURAL SPAN DEPEND ON THE.
- 04-5 NOTHING, CUTTING OR MODIFYING STRUCTURAL ELEMENTS IN THE FIELD IS PROHIBITED.
- 04-6 THE CONTRACTOR SHALL VERIFY FIELD CONDITIONS AND REPORT ANY DISCREPANCIES TO THE ENGINEER.
- 04-7 THE ATTACHMENT OF ROOF TOP EQUIPMENT TO THE STRUCTURE SHALL BE INSTALLED PER DESIGNS PROVIDED BY THE MANUFACTURER. THE MANUFACTURER SHALL CERTIFY THAT THE ATTACHMENTS HAVE BEEN DESIGN TO WITHSTAND LOADS BASED ON THE DESIGN CRITERIA LISTED BELOW.

**DESIGN CRITERIA**

- 04-1 THE STRUCTURAL DESIGN WAS COMPLETED IN ACCORDANCE WITH THE FOLLOWING CODES:
  - IBC 2018
  - ASCE 7-16
  - ACI 318-14
  - AISC 360 - MANUAL OF STEEL CONSTRUCTION 14TH EDITION
  - ASCE 310-10 - SEISMIC DESIGN MANUAL
  - ANSI NORTH AMERICAN SPECIFICATION FOR THE DESIGN OF COIL-FORMED STEEL STRUCTURAL MEMBERS, 2012 EDITION
  - ANSI 3.1 AMERICAN WELDING SOCIETY - STRUCTURAL WELDING CODE STEEL 2004 EDITION
- 04-2 DEAD LOAD ARE CALCULATED IN ACCORDANCE WITH CHAPTER 3 OF THE ASCE 7-16.
- 04-3 LIVE LOADS ARE CALCULATED IN ACCORDANCE WITH CHAPTER 4 OF THE ASCE 7-16 AS FOLLOWS:

OCCUPANCY OR USE	UNIFORM (psf)	CONCENTRATED (k)
ROOF	20	300
TYPICAL FLOOR	100	2,000
WALKWAYS AND CANDELS	100	N/A

WIND PRESSURES SHALL BE CALCULATED IN ACCORDANCE WITH CHAPTER 26-31 OF THE ASCE 7-16 AS FOLLOWS:	II
RISK CATEGORY	II
WIND VELOCITY	105 MPH
DIRECTIONAL FACTORS (Kd)	0.85 WIND
TOPOGRAPHIC FACTOR (Kzt)	1.00
WIND EXPOSURE	B
INTERNAL PRESSURE COEFFICIENT	±0.18

04-5 SNOW LOADS SHALL BE CALCULATED IN ACCORDANCE WITH CHAPTER 7 OF THE ASCE 7-16 AS FOLLOWS:

LOADING CATEGORY	II
GROUND SNOW (ps)	9 PSF
EXPOSURE FACTOR (Ce)	0.80
THERMAL FACTOR (Ct)	1.0
WINDWAVE FACTOR	1.00

04-6 SEISMIC LOADS SHALL BE CALCULATED IN ACCORDANCE WITH CHAPTER 11 AND 12 OF THE ASCE 7-16 AS FOLLOWS:

RISK CATEGORY	II
WAPPED MCE	II
SPECTRAL RESPONSE COEFFICIENT	0.50-0.25 0.50-0.140
SITE CLASSIFICATION	D
IMPORTANCE FACTOR	1.0
SEISMIC DESIGN CATEGORY	C
ANALYSIS PROCEDURE	EQUIVALENT FORCE METHOD
WINDBORNE RESISTING SYSTEM	A1.9
RESPONSE MODIFICATION FACTOR (R)	4
SYSTEM OVERSTRENGTH FACTOR (Ω)	2
DEFLECTION AMPLIFICATION FACTOR (α)	3.5
SEISMIC RESPONSE COEFFICIENT (C <sub>s</sub> )	0.0235

**SHOP DRAWINGS**

- 04-1 THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS TO THE ARCHITECT/ENGINEER PRIOR TO FABRICATION AS REQUIRED BY THE SPECIFICATIONS AND SHALL INCLUDE AT A MINIMUM THE FOLLOWING SUBMITTALS:
  - STRUCTURAL FILL AND EARTHWORK
  - STRUCTURAL STEEL
  - REINFORCING STEEL
  - CONCRETE W/ DESIGNS
  - METAL DECK
  - STEEL JOISTS & JOIST GIRDERS
  - WELDING PROCEDURES AND WELDING CERTIFICATIONS
  - LIGHT GAGE FRAMING PRODUCT DATA
  - PRODUCT DATA FOR CONCRETE EXPANSION JOINTS
  - PRODUCT DATA FOR POWER ACTUATED FASTENERS
  - PRODUCT DATA FOR CONCRETE ANCHORS
- 04-2 REVIEWS BY THE ARCHITECT/ENGINEER SHALL BE FOR GENERAL COMPLIANCE TO THE PLANS AND SPECIFICATIONS ONLY. MODIFICATIONS, COMMENTS AND INFORMATION PROVIDED BY THE ARCHITECT/ENGINEER ON THE SHOP DRAWINGS DOES NOT RELIEVE THE CONTRACTOR FROM THE REQUIREMENTS OF THE PLANS AND SPECIFICATIONS.
- 04-3 THE CONTRACTOR IS RESPONSIBLE FOR FIELD VERIFYING DIMENSIONS AT THE JOB SITE AND COORDINATING THEM WITH THE PLANS AND SPECIFICATIONS. ANY DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT / ENGINEER.
- 04-4 THE FABRICATION AND CONSTRUCTION PROCESS, MEANS AND METHODS OF CONSTRUCTION, AND COORDINATING ALL TRADES FOR PERFORMING THE WORK IN A SAFE AND SATISFACTORY MANNER SHALL REMAIN THE RESPONSIBILITY OF THE CONTRACTOR.
- 04-5 REPRODUCTION OF CONSTRUCTION DOCUMENTS AS PART OF THE SHOP DRAWINGS IS PROHIBITED. THE SHOP DRAWINGS SHALL BE INDEPENDENTLY PRODUCED DRAWINGS BASED IN THE CONSTRUCTION DOCUMENTS. USE OF ELECTRONIC FILES PRODUCED BY STUBBS ENGINEERING, INC. TO GENERATE SHOP DRAWINGS IS PROHIBITED WITHOUT PRIOR WRITTEN APPROVAL FROM STUBBS ENGINEERING, INC. IF ELECTRONIC DRAWINGS PRODUCED BY THE STUBBS ENGINEERING, INC. ARE USED IN THE PRODUCTION OF THE SHOP DRAWINGS, ALL COMPANY LOGOS, TITLE BLOCKS AND SEALS SHALL BE REMOVED FROM THE SUBMITTAL.

- 04-6 THE CONTRACTOR SHALL BE RESPONSIBLE FOR DELAYS DUE TO REJECTION OF INADEQUATE OR INCOMPLETE SHOP DRAWINGS.
- 04-7 SHOP DRAWINGS SUBMITTED WITHOUT PRIOR REVIEW BY THE GENERAL CONTRACTOR SHALL NOT BE REVIEWED BY THE ENGINEER.
- 04-8 REQUESTS FOR SUBSTITUTION SHALL BE CLEARLY SHOWN ON SHOP DRAWINGS. SUBSTITUTIONS SHALL NOT BE MADE UNLESS UNLESS SPECIFICALLY APPROVED IN WRITING BY THE ARCHITECT/ENGINEER.

**FOUNDATION**

- FN0-1 THE CONTRACTOR SHALL REVIEW AND BECOME FAMILIAR WITH THE SOIL, WATER AND SITE CONDITIONS DESCRIBED IN THE SOILS REPORT PRIOR TO BIDDING THE PROJECT. SOILS BEHINDING AND CONDITIONS DESCRIBED IN THE SOILS REPORT ARE FOR GENERAL INFORMATION PURPOSES ONLY. THE ACTUAL CONDITIONS MAY VARY AT THE SITE.
- FN0-2 ALL EARTHWORK AND SITE PREPARATION SHALL BE IN COMPLIANCE WITH THE GEOLOGICAL REPORT PROVIDED BY GSC ENGINEERING, L.L.C. DATED SEPTEMBER 2, 2024. THE GEOLOGICAL ENGINEER'S PROJECT NUMBER IS 422320. ADDITIONAL INFORMATION IS CONTAINED IN THE GEOLOGICAL REPORT.
- FN0-3 THE SITE SHALL BE PREPARED IN ACCORDANCE WITH THE GEOLOGICAL REPORT TO PROVIDE A MINIMUM ALLOWABLE BEARING PRESSURE OF 2,000 PSF.
- FN0-4 REMOVE ALL BRUSH, RUBBER, AND VEGETATION MATERIAL FROM THE BUILDING PAD PRIOR TO EXCAVATION.
- FN0-5 THE SITE SHALL BE OVEREXCAVATED TO ALLOW FOR A MINIMUM OF 4 FEET OF STRUCTURAL FILL BELOW ALL FOOTINGS AND A MINIMUM OF 2 FEET OF STRUCTURAL FILL BELOW ALL SLABS ON GRADE. OVEREXCAVATION SHALL EXCEED A MINIMUM OF 5 FEET BEYOND THE EXTENT OF THE BUILDING PAD. REFERENCE DETAIL 4 / S1.1 FOR TYPICAL SUBGRADE PREPARATION.
- FN0-6 NATIVE SOILS BELOW STRUCTURAL FILL SHALL BE SEARCHED TO A DEPTH OF 18 INCHES. THE NATIVE SOILS SHALL BE COMPACTED TO A MINIMUM DRY DENSITY OF 95% PER THE MODIFIED PROCTOR (ASTM D1557) AT A MOISTURE CONTENT OF +/- 2% OPTIMUM. MEAN OR COMPRESSIBLE NATIVE SOILS IDENTIFIED DURING EARTHWORK SHALL BE REMOVED AND REPLACED WITH STRUCTURAL FILL PER THE REQUIREMENTS FOR STRUCTURAL FILL.

**STRUCTURAL NOTES**

- FOUNDATION**
- FN0-1 STRUCTURAL FILL SHALL BE FREE OF ROOTS, BOYS, VEGETABLE MATTER, CLAY CLUMPS OR ROCKS GREATER THAN 3 INCHES IN ANY DIMENSION. STRUCTURAL FILL SHALL MEET THE FOLLOWING REQUIREMENTS:
    - NO EXISTING MATERIAL.
    - MAXIMUM PLASTICITY INDEX (ASTM 4418): 20
    - GRADATION (ASTM 4422):
 

SIEVE SIZE	PERCENT PASSING
4-INCH	100%
3/4-INCH	70-100%
NO. 4	50-100%
NO. 200	50% MAX
  - FN0-2 PLACE ALL STRUCTURAL FILL TO 18 INCH MAXIMUM LOOSE LIMITS. MOISTEN TO A MOISTURE CONTENT OF +/- 2% OPTIMUM MOISTURE CONTENT AND COMPACT TO A MINIMUM DENSITY OF 95% MODIFIED PROCTOR (ASTM 1557) MAXIMUM RYD DENSITY.
  - FN0-3 ALL EARTHWORK SHALL BE INSPECTED BY A LICENSED GEOLOGICAL ENGINEER TO ENSURE ALLOWABLE BEARING PRESSURE IS MET. THERE IS A LIME CEMENTITY PORTLAND AND THE PRESENCE OF COAGULANT MATERIAL. TESTING SHALL BE PERFORMED AT THE FOLLOWING MINIMUM RATES:
    - ONE SIEVE ANALYSIS AND PLASTICITY INDEX PER MATERIAL USED IN ACCORDANCE WITH ASTM 4420 & ASTM 4428.
    - ONE FIELD DENSITY TEST IN ACCORDANCE WITH ASTM D1557 OR D1556, PER EACH 2,500 SQUARE FEET OF COMPACTED LIFT MATERIAL, PROVIDE A MINIMUM OF TWO TESTS.
    - EACH HORIZONTAL LIFT OF STRUCTURAL FILL SHALL BE TESTED WITH ONE FIELD DENSITY TEST, IN ACCORDANCE WITH ASTM D1557 OR D1556, PER EACH 2,500 SQUARE FEET AND 100 FEET OF CONTIGUOUS FOOTING WITH A MINIMUM OF THREE TESTS.
  - FN0-4 VAPOR BARRIERS SHALL BE PLACED DIRECTLY BELOW ALL SLABS ON GRADE BETWEEN THE SLAB AND THE SUBGRADE. THE VAPOR BARRIER SHALL HAVE A MINIMUM THICKNESS OF 10 MILS AND SHALL MEET THE REQUIREMENTS OF ASTM F419 WITH A WATER VAPOR PENETRANCE LESS THAN 0.025 PERCENT. CONTRACTOR SHALL LAP AND SEAL ALL EDGES. PROTECTORS AND PROTECTORS SHALL BE SEALED AND REPAIR FOR THE MANUFACTURER'S RECOMMENDATIONS.
  - FN0-11 CONSTRUCTION JOINTS IN FOOTINGS AND STEEL WALL CAN BE PLACED AT CONTRACTOR'S OPTION. FOOTINGS AND STEEL WALL CONSTRUCTION JOINTS SHALL BE INSTALLED IN ACCORDANCE WITH DETAIL 4 / S1.0.
  - FN0-12 SAW CUT CONTROL JOINTS AS INDICATED ON PLANS WITH 12 HOURS OF PLACING CONCRETE.

**CONCRETE**

- 04-1 ALL CONCRETE SHALL BE PROPORTIONED, CONTROLLED AND CONFORM TO THE SPECIFICATION OF ACI 301-16. CONCRETE DESIGN SHALL CONFORM TO ACI 318-14.
- 04-2 PORTLAND CEMENT SHALL CONFORM TO ASTM C-150, TYPE I OR II CONCRETE IN CONTACT WITH SOIL SHALL BE TYPE II CEMENT.
- 04-3 FLY ASH SHALL NOT BE USED IN ARCHITECTURALLY EXPOSED CONCRETE, TELLWALLS OR SLABS ON GRADE. FLY ASH IS ALLOWED IN ALL OTHER NON-ARCHITECTURALLY EXPOSED CONCRETE, UP TO A MAXIMUM OF 20% OF THE CEMENT CONTENT. THE USE OF FLY ASH SHALL NOT ADVERSELY EFFECT THE PERFORMANCE OF OTHER PRODUCTS AND MATERIALS THAT WILL BE IN CONTACT WITH THE CONCRETE.
- 04-4 CONCRETE SHALL BE PROPORTIONED TO THE FOLLOWING REQUIREMENTS:
 

LOCATION	F'c AT 28 DAYS	W/A SIZE & AGGREGATE	SUMP	AIR CONTENT	CONCRETE TYPE	MAXIMUM WATER TO CEMENT RATIO
FOOTINGS	3,000 PSI	1" - 1/2" - 3" - 5" INCH	0 - 5%	NORMAL	W/REIN	0.55
TURNOVERS & SLABS ON GRADE	4,000 PSI	3/4" - 1/2" - 4" - 6" INCH	NONE	NORMAL	W/REIN	0.55
- CONCRETE SHALL BE PROPORTIONED TO EXCEED 75% OF THE 28-DAY STRENGTH IN 7 DAYS.
- 04-5 CONCRETE REINFORCING STEEL AND EMBEDS SHALL HAVE THE FOLLOWING PROPERTIES:
 

TYPE	DESIGNATION OR PLAN	ASTM	YIELD STRENGTH	NOTES
FOR CONCRETE				
REBAR	#4	A615	60 KSI	NOT WELDABLE
WELDED WIRE REIN.	#4	A108	60 KSI	FLAT SHEETS ONLY
HEADED ANCHOR STUDS	#4S	A108, B	70 KSI	
- CONCRETE SHALL BE PROPORTIONED TO EXCEED 75% OF THE 28-DAY STRENGTH IN 7 DAYS.
- 04-6 CONCRETE REINFORCING STEEL AND EMBEDS SHALL HAVE THE FOLLOWING PROPERTIES:
 

CONDITION	CLEAR DISTANCE	NOTES
CONCRETE CAST AGAINST EARTH OR WATER	3" - 1/2"	EXCLUDES SLABS ON GRADE
CONCRETE CAST TO FORMS EXPOSED TO EXTERIOR WATER OR WEATHER	2" - 1/2"	NO. 5 BAR AND LARGER
	2" - 1/2"	FROM BOTTOM SURFACE
SLABS ON GRADE	1 1/2" - 1/2"	FROM TRUNKED SURFACE
	3/4" - 1/2"	FROM SCREED SURFACE
- 04-7 REINFORCING RETAINING AND PLACEMENT SHALL BE IN COMPLIANCE WITH ACI 318-16.
- 04-8 ALL REBAR SHALL BE SPLICED IN ACCORDANCE WITH DETAIL 1 / S1.1. STANDARD HOOK SHALL BE PROVIDED PER DETAIL 2 / S1.1. WESH REINFORCING SHALL BE SPLICED IN ACCORDANCE WITH DETAIL 3 / S1.1.
- 04-9 ALL REBAR AND REINFORCING WESH SHALL BE CHAINED TO PROVIDE REQUIRED COVER AND SUPPORT THE REINFORCING ADEQUATELY TO PREVENT ACCIDENTAL DISPLACEMENT. CHAINS FOR SLABS ON GRADE SHALL BE SPECIFICALLY DESIGNED FOR USE. ON SOIL CHAINS FOR SLABS ON METAL DECK SHALL BE SPECIFICALLY DESIGNED FOR USE ON METAL DECK.
- 04-10 ALL CONCRETE SHALL BE CONSOLIDATED BY VIBRATORY MEANS. CONSOLIDATIONS SHALL BE OBSERVED BY INSPECTOR AGENT.
- 04-11 COMPLETE DIMENSIONS SHOWN ON DRAWINGS ARE ACTUAL DIMENSIONS UNLESS INDICATED OTHERWISE.
- 04-12 ALL CONTINUOUS REINFORCING IN FOOTINGS AND STEEL WALLS EITHER BE CONTINUOUS AROUND CORNERS OR HAVE BENT CORNERS. BARS OF THE SAME SIZE AND SPACING AS THE HORIZONTAL BARS.
- 04-13 FROM TIES SHALL BE EITHER OF THE THROUGH OR SNAP OFF TYPE. NO EXPOSED METAL SHALL BE ALLOWED WITHIN ONE INCH OF THE SURFACE. ALL RECESSES SHALL BE POINTED WITH MORTAR.
- 04-14 ALL DOMES, CURVES AND REINFORCING BARS SHALL BE SECURELY TIED TO PLACING CONCRETE. INSTALLATION OF TIES INTO WET CONCRETE WILL NOT BE ALLOWED.
- 04-15 ALL EXPOSED CONCRETE CORNERS SHALL HAVE A 3/4" CHAMFER.

**STRUCTURAL STEEL**

- SS-1 THE DESIGN, FABRICATION AND DETECTION OF STRUCTURAL STEEL SHALL BE IN ACCORDANCE WITH "AISC SPECIFICATIONS FOR STRUCTURAL STEEL BUILDINGS" AND "STEEL CONSTRUCTION MANUAL" 15TH EDITION.
- SS-2 CONNECTIONS HAVE BEEN DESIGNED IN ACCORDANCE WITH THE AISC CODE OF STANDARD PRACTICE SECTION 3.1.2, OPTION (2). THE STEEL DETAILER SHALL SELECT AND CONCEPT CONNECTIONS BASED ON INFORMATION IN THE CONSTRUCTION DOCUMENTS. THE FABRICATOR IS NOT REQUIRED TO HIRE A PROFESSIONAL ENGINEER FOR CONNECTION DESIGN.
- SS-3 ALL STRUCTURAL STEEL SHALL CONFORM TO THE FOLLOWING SPECIFICATIONS:
 

ASTM	YIELD STRENGTH	
WIDE FLANGE AND WT SECTIONS	A572	50 KSI
CHANNELS AND ANGLES	A36	36 KSI
STRUCTURAL PLATE AND BARS	A572	36 KSI
SQUARE & RECTANGULAR TUBE	A500 OR B	48 KSI
- \* UNLESS NOTED OTHERWISE.
- SS-4 ALL HIGH STRENGTH BOLTS, WASHERS AND NUTS SHALL MEET THE SPECIFICATIONS FOR STRUCTURAL JOINTS USING ASTM A325 OR A490 BOLTS\* AND THE FOLLOWINGS:
 

AS SHOWN ON PLANS	TENSILE	NOTES
A255	SHAG TIGHT	THREADS INCLUDED IN PLATE
A255	SHAG TIGHT	THREADS INCLUDED IN PLATE
ANCHOR BOLT	SHAG TIGHT	ASTM F1554 OR 36
- SS-5 ALL WELDING SHALL BE PERFORMED IN ACCORDANCE WITH AMERICAN WELDING SOCIETY CODE AWS D11.1, LATEST EDITION.
- SS-6 WELDING SHALL BE PERFORMED WITH EXCEL LOW HYDROGEN ELECTRODES USING EITHER SHAW, TEAK, OR SHAW PROCESSES IN ACCORDANCE WITH AWS D11.1.
- SS-7 ALL GROUT BELOW BASE PLATES SHALL BE NON-SHRINK, NON-METAL WITH A MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 3,000 PSI.
- SS-8 ANCHOR BOLTS, ANCHOR BOLT HOLES AND PLATE WASHERS SHALL BE PROVIDED IN ACCORDANCE WITH TABLE 2-1 OF THE AISC MANUAL OF STEEL CONSTRUCTION.
- SS-9 ALL WELDS NOT SPECIFIED SHALL BE A MINIMUM 1/4" FILLET WELDS OR MEET THE SPECIFICATIONS OF TABLE 2-14 OF THE AISC MANUAL OF STEEL CONSTRUCTION FOR MINIMUM SIZE FILLET WELDS, WHICHEVER IS GREATER.
- SS-10 WELD ACCESS HOLE CONFIGURATIONS FOR MOMENT CONNECTIONS SHALL COMPLY WITH TABLE 1-1 AND TABLE 1-2 OF AISC "DESIGN MANUAL".
- SS-11 ALL PERIMETER ANGLES AND POOR STOPS SHALL BE SPLICED PER DETAIL 14 / S1.0.
- SS-12 ALL STEEL PERMANENTLY EXPOSED TO WEATHER SHALL BE GALVANIZED PER ASTM A152 TO G-90 UNLESS NOTED OTHERWISE.

**STEEL JOISTS**

- SS-1 STEEL JOISTS, AND BRACING SHALL BE FABRICATED AND ERECTED BY A MEMBER OF SJI IN ACCORDANCE WITH SJI'S "STANDARD SPECIFICATION FOR OPEN WEB STEEL JOISTS AND JOIST GIRDERS", 2005 EDITION.
- SS-2 WHERE BEARING LENGTHS ARE NOT SHOWN ON THE DRAWINGS, THE FOLLOWING MINIMUMS SHALL BE PROVIDED:
 

JOIST DESIGNATION	MATERIAL	BEARING LENGTH
K SERIES	STEEL	2 1/2" / 2"
	CONCRETE OR MASONRY	4" - ON BEARING PLATE
- SS-3 WHERE END ANCHORAGE FOR JOISTS ARE NOT SHOWN ON THE DRAWINGS, THE FOLLOWING MINIMUMS SHALL BE PROVIDED:
 

JOIST DESIGNATION	CONDITION	BEARING LENGTH
K SERIES	TYPICAL BEARING	2-1/2"(SJI) FILLET WELDS
	COISA COLUMN @ COLUMN	3-1/2" / DET. 307
- SS-4 BRACING FOR STEEL JOISTS SHALL BE AS SHOWN ON THE DRAWINGS AND MEET THE MINIMUM REQUIREMENTS OF THE SJI SPECIFICATIONS.
- SS-5 EXTEND BOTTOM CHORD OF JOISTS TO ALLOW FOR TEMPORARY STRUCTURAL FRAME STABILITY DURING ERECTION PER SJI'S DRAWINGS.
- SS-6 HANGERS AND OTHER SUPPORTS FOR MECHANICAL, ELECTRICAL OR PLUMBING SHALL NOT EXCEED 200 LBS WITHOUT PRIOR WRITTEN APPROVAL FROM ENGINEER. HANGER LOCATIONS SHALL BE AT INTERSECTION OF WEB AND CHORD MEMBER OR THE JOIST SHALL BE REINFORCED PER DETAIL 5 / S1.0.
- SS-7 PROVIDE BOTTOM CHORD JOIST EXTENSION WHERE REQUIRED BY THE ARCHITECTURAL DRAWINGS.
- SS-8 JOISTS SHALL BE DESIGN FOR THE NET UPSET (AS SHOWN IN 2 / S1.2). INCREASE JOIST AND JOIST GIRDER SIZES AS REQUIRED. PROVIDE UPSET BRACING PER SJI REQUIREMENTS.
- SS-9 ALL JOISTS SHALL MEET A DEFLECTION CRITERIA OF L/240 FOR LIVE LOADS AND L/180 FOR TOTAL LOADS.
- SS-10 JOIST CHAMFER SHALL BE SPECIFIED PER SJI.

**METAL DECK**

- MD-1 METAL DECK SHALL BE DETAILD AND FABRICATED BY A MEMBER OF SJI AND IN ACCORDANCE WITH SJI SPECIFICATIONS.
- MD-2 ALL METAL DECK SHALL BE CONTINUOUS OVER A MINIMUM OF THREE SPANS UNLESS APPROVED BY ENGINEER OR SPECIFICALLY SHOWN ON THE DRAWINGS.
- MD-3 METAL DECK AS DESIGNED ON THE PLANS SHALL MEET THE FOLLOWING PROPERTIES:
 

DESIGNATION OR PLANS	THICKNESS IN 8 FINCH	B IN	FY KSI	ATTACHMENTS
1-1/2" 22ga B DECK	0.0255	0.192	33	NO. 12 TIE SCREWS @ 36/5 TO SUPPORTS PERPENDICULAR TO RISER, NO. 12 TIE SCREWS @ 12" O.C. TO SUPPORTS PARALLEL TO RISER, & NO. 12 TIE SCREWS @ 12" O.C. @ SEALS
- MD-4 ALTERNATE FASTENERS TYPES MAY BE USED WITH PRIOR APPROVAL OF THE ENGINEER.
- MD-5 PROVIDE A MINIMUM OF 1-1/2" BEARING FOR ALL STEEL DECK.
- MD-6 DECK SHALL BE SPLICED WITH A MINIMUM OF 2" LAP. SPLICES SHALL BE LOCATED AT SUPPORTS.

**LIGHT GAGE FRAMING (18ga AND HEAVIER)**

- LG-1 STRUCTURAL LIGHT GAGE FRAMING SHALL BE DESIGNED AND CONSTRUCTED IN ACCORDANCE WITH THE AISC "SPECIFICATIONS FOR COIL-FORMED STEEL STRUCTURAL MEMBERS", 7TH EDITION.
- LG-2 LIGHT GAGE FRAMING MEMBERS SHALL COMPLY WITH THE STEEL STRUCTURAL MANUFACTURERS ASSOCIATION DESIGNATION CALL OUTS.
 

MEMBER SHAPE	S - STUD OR JOIST SECTION	W - THICKNESS	FLANGE WIDTH	MEMBER DEPTH
1 = TRACK SECTION	1 = CHANNEL SECTION	1 = FURRING CHANNEL SECTION		
- LG-3 EXTERIOR AND LOAD BEARING LIGHT GAGE STUD WALLS SHALL HAVE BRACING AT A MINIMUM SPACING OF 4'-0" O.C. BRACING SHALL BE PER MANUFACTURER'S RECOMMENDATIONS & MEET THE REQUIREMENTS OF DETAIL 16 / S1.0.
- LG-4 SECURE ALL STUDS TO TOP AND BOTTOM TRACKS WITH A MINIMUM OF 1-NO. 8 SCREW EACH SIDE.
- LG-5 ALL WELDING OF MATERIAL LESS THAN 3/16" IN THICKNESS SHALL BE MADE IN ACCORDANCE WITH THE AWS D11.3. WELDERS AND WELDING PROCEDURES SHALL BE SHALL BE QUALIFIED BY AWS D11.3.
- LG-6 SPLICING STRUCTURAL LIGHT GAGE MEMBERS SHALL NOT BE ALLOWED.
- LG-7 LIGHT GAGE STUDS SHALL MATCH THE WIDTH AND THICKNESS SHOWN ON PLANS. STRIPS SHALL HAVE A MINIMUM YIELD STRENGTH (Fy) OF 50 KSI. STRIPS SHALL BE GALVANIZED WITH A MINIMUM G90 FINISH.
- LG-8 NON LOAD BEARING EXTERIOR STUDS SHALL BE ATTACHED TO PERIMETER ANGLE WITH A SLURF CLIP PER DETAIL 9 / S1.0.
- LG-9 ALL LIGHT GAGE STUDS AND TRACKS SHALL HAVE A G90 FINISH.

**POST INSTALLED ANCHORS**

- PA-1 ALL CONCRETE EXPANSION ANCHORS TO BE USED SHALL HAVE AN ICC-ES REPORT AND MEET THE REQUIREMENTS OF ACI 308 APPROVED FOR CONCRETE & UNCRACKED CONCRETE. ANCHORS SHALL BE APPROVED FOR SEISMIC LOADS AND SHAKES CONCRETE. PRODUCT DATA SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL. ANCHORS SHALL BE INSTALLED PER THE ICC-ES REPORT AND MANUFACTURER'S RECOMMENDATIONS. CONCRETE ANCHORS SHALL BE GALVANIZED CARBON STEEL. CONCRETE EXPANSION ANCHORS SHALL MEET THE FOLLOWING MINIMUM REQUIREMENTS UNLESS NOTED OTHERWISE:
 

DESIGNATION ON PLAN	MINIMUM EMBEDMENT	ULTIMATE NON-SEISMIC TENSILE LOAD	ULTIMATE NON-SEISMIC SHEAR LOAD
3/8" Ø CSA	2"	2,070 LBS	3,000 LBS
1/2" Ø CSA	3-1/4"	4,514 LBS	13,440 LBS
3/4" Ø CSA	4-3/4"	8,780 LBS	22,600 LBS
- PA-2 ALL POWER ACTUATED FASTENERS TO BE USED, SHALL HAVE AN ICC-ES REPORT IN ACCORDANCE WITH THE PROVISIONS OF ICC-ES ESR-2269. FASTENERS SHALL BE APPROVED FOR SEISMIC LOADS. PRODUCT DATA SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL. FASTENERS SHALL BE INSTALLED PER THE ICC-ES REPORT AND MANUFACTURER'S RECOMMENDATIONS. POWER ACTUATED FASTENERS SHALL MEET THE FOLLOWING MINIMUM REQUIREMENTS UNLESS NOTED OTHERWISE:
 

DESIGNATION ON PLAN	MINIMUM EMBEDMENT	ALLOWABLE TENSILE LOAD	ALLOWABLE SHEAR LOAD
0.153 Ø PAF	0.157"	1"	170 LBS
0.153 Ø 1-1/2" PAF	0.157"	1-1/2"	225 LBS

**POWER ACTUATED FASTENERS IN CONCRETE**

- PA-3 ALL MASONRY EXPANSION ANCHORS TO BE USED SHALL HAVE AN ICC-ES REPORT AND MEET THE REQUIREMENTS OF ACI 308. ANCHORS SHALL BE APPROVED FOR SEISMIC LOADS FOR FULLY COVERED CELLS. PRODUCT DATA SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL. ANCHORS SHALL BE INSTALLED PER THE ICC-ES REPORT AND MANUFACTURER'S RECOMMENDATIONS. MASONRY EXPANSION ANCHORS SHALL BE GALVANIZED CARBON STEEL. MASONRY EXPANSION ANCHORS SHALL MEET THE FOLLOWING MINIMUM REQUIREMENTS UNLESS NOTED OTHERWISE:
 

DESIGNATION ON PLAN	MINIMUM EMBEDMENT	ULTIMATE TENSILE LOAD	ULTIMATE SHEAR LOAD
3/8" Ø MEA	2-1/2"	3,220 LBS	4,040 LBS
1/2" Ø MEA	3-1/2"	3,820 LBS	4,320 LBS
3/4" Ø MEA	4-3/4"	6,820 LBS	3,300 LBS
- ALL ALLOWABLE LOADS ARE PROVIDED FOR 1/2" THICK ASTM A86 STEEL.

**QUALITY ASSURANCE**

- STRUCTURAL INSPECTION AND TESTING**
- 1. STRUCTURAL INSPECTIONS SHALL BE PROVIDED IN ACCORDANCE WITH CHAPTER 17 OF THE 2015 IBC.
  - 2. IT IS THE GENERAL CONTRACTOR'S RESPONSIBILITY TO SCHEDULE AND COORDINATE THE PERFORMANCE OF INSPECTIONS AND TESTING IN ACCORDANCE WITH THE SPECIFICATIONS, BEHIND CODE AND THE SPECIAL INSPECTION SCHEDULES.
  - 3. SPECIAL INSPECTION AND TESTING SHALL BE PERFORMED BY A QUALIFIED PERSON OR AGENCY THAT IS APPROVED BY THE BUILDING OFFICIAL. INSPECTIONS PROVIDED FOR LOCAL BUILDING OFFICIALS SHALL NOT BE CONSIDERED A SUBSTITUTION FOR SPECIAL INSPECTIONS OR TESTING REQUIREMENTS.
  - 4. DUTIES AND RESPONSIBILITIES OF THE SPECIAL INSPECTOR:
    - A. THE SPECIAL INSPECTOR SHALL INSPECT THE WORK AS REQUIRED BY THE SPECIAL INSPECTION SCHEDULES TO ENSURE THAT THE WORK IS IN ACCORDANCE WITH THE APPLICABLE PLANS AND SPECIFICATIONS.
    - B. ALL DISCREPANCIES SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE GENERAL CONTRACTOR. THE GENERAL CONTRACTOR SHALL DEVELOPE A TRACE PLAN TO CORRECT ANY DISCREPANCIES. IN THE EVENT THE DISCREPANCIES ARE NOT CORRECTED, THE ENGINEER, ARCHITECTS AND BUILDING OFFICIALS SHALL BE NOTIFIED.
    - C. THE SPECIAL INSPECTOR SHALL PROVIDE INSPECTION REPORTS TO THE GENERAL CONTRACTOR, ARCHITECT, ENGINEER AND THE BUILDING OFFICIAL IN A TIMELY MANNER.

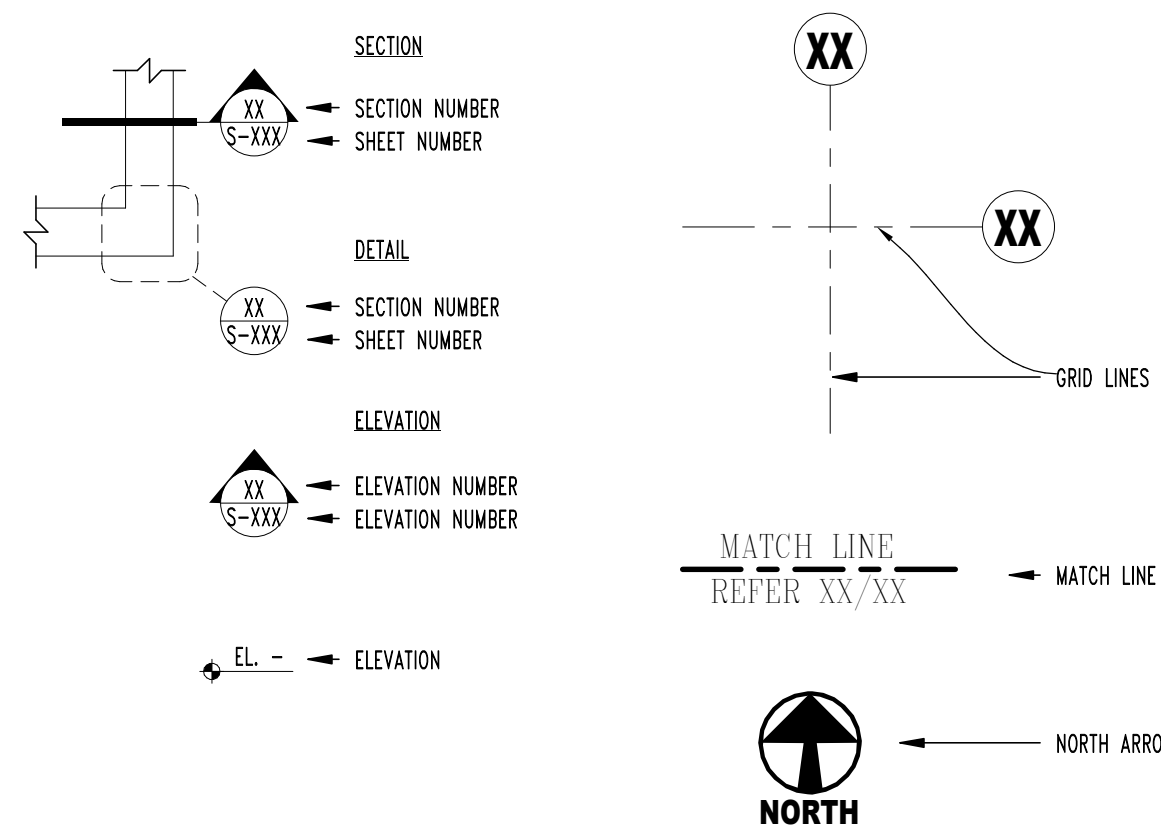
**REQUIRED SPECIAL INSPECTION AND TESTS OF SOILS**

VERIFICATION AND INSPECTION TASK	CONTINUOUS DURING TASK LISTED	PERIODICALLY DURING TASK LISTED	IBC SECTION	REFERENCE STANDARD
1. VERIFY MATERIALS BELOW SHALLOW FOUNDATION ARE ADEQUATE TO ACHIEVE THE DESIGN BEARING CAPACITY		X	1705.6	
2. VERIFY EXCAVATIONS ARE EXTENDED TO PROPER DEPTH AND HAVE REACHED PROPER MATERIAL		X	1705.6	
3. PERFORM CLASSIFICATION AND TESTING OF CONTROLLED FILL MATERIALS		X	1705.6	
4. VERIFY USE OF PROPER MATERIALS, DENSITIES AND LIFT THICKNESS DURING PLACEMENT AND COMPACTON OF COMPACTED FILL	X		1705.6	
5. VERIFY USE OF CONTROLLED FILL MATERIALS		X	1705.6	

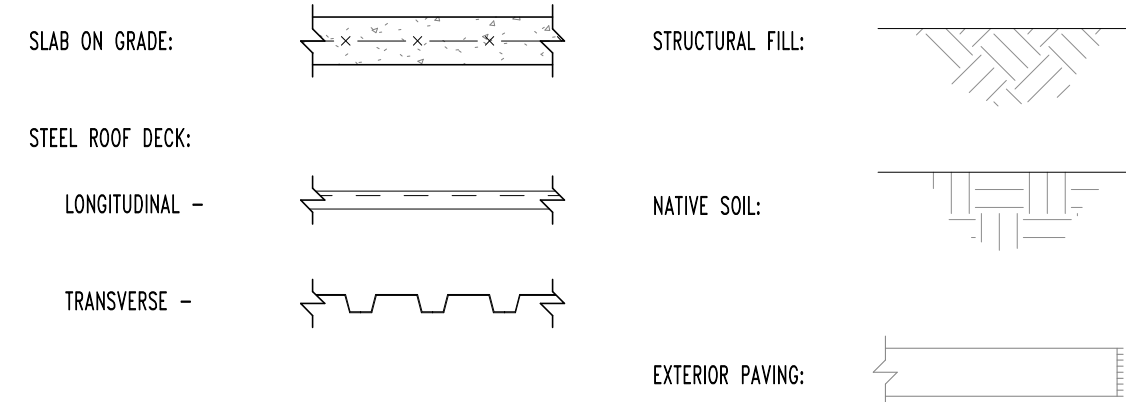
**REQUIRED SPECIAL INSPECTION AND TESTS OF CONCRETE CONSTRUCTION**

VERIFICATION AND INSPECTION TASK	CONTINUOUS DURING TASK LISTED	PERIODICALLY DURING TASK LISTED	IBC SECTION	REFERENCE STANDARD
1. INSPECTION OF REINFORCING STEEL INCLUDING PRESSURING TENDONS AND PLACEMENT		X	1903.4	ACI 318CA 20, 25.2.2.3, 26.4.1-26.4.3
2. INSPECT ANCHORS CAST IN CONCRETE		X	ACI 318-17:8.2	
3. INSPECTION OF ANCHORS POST-INSTALLED IN HARDENED CONCRETE MEMBERS		X	ACI 318-17: 8.2	
4. ADHESIVE ANCHORS INSTALLED IN HORIZONTALLY OR UNDESIRABLY ORIENTATIONS TO RESET SUSTAINED TENSION LOADS	X			ACI 318-17: 8.2
5. MECHANICAL ANCHORS AND ADHESIVE ANCHORS		X		
4. VERIFY USE OF REQUIRED DESIGN MIX		X	1904.1, 1904.2, 1908.2, 1908.3	AC308: 04.10, 26.4.3, 26.4.4
5. PRIOR TO CONCRETE PLACEMENT, FABRICATE SPECIMENS FOR STRENGTH TESTS, PERFORM SLUMP AND AIR CONTENT TESTS, AND RECORD THE TEMPERATURE OF THE CONCRETE.	X		1908.10	ASTM C172, AC308: 04.10, 26.4, 26.12
6. INSPECTION OF CONCRETE AND SHOTCRETE PLACEMENT FOR PROPER APPLICATION TECHNIQUES	X		1908.4, 1908.7, 1908.8	ACI 318-17:

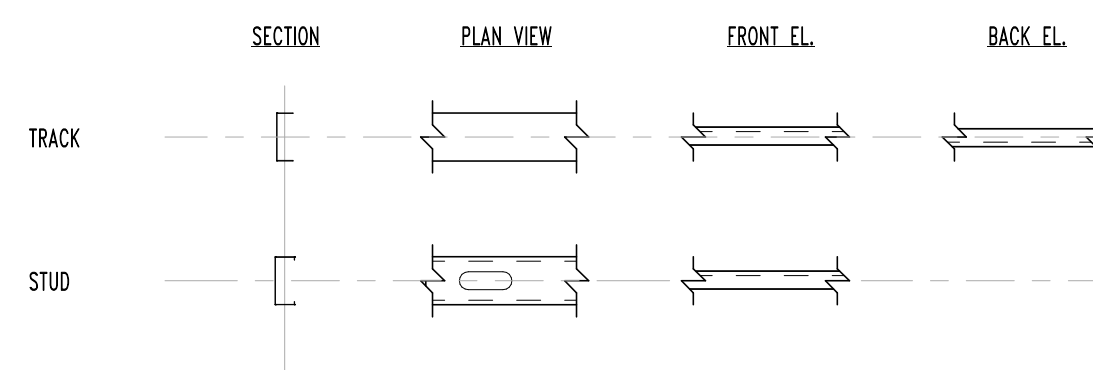
MISCELLANEOUS SYMBOLS



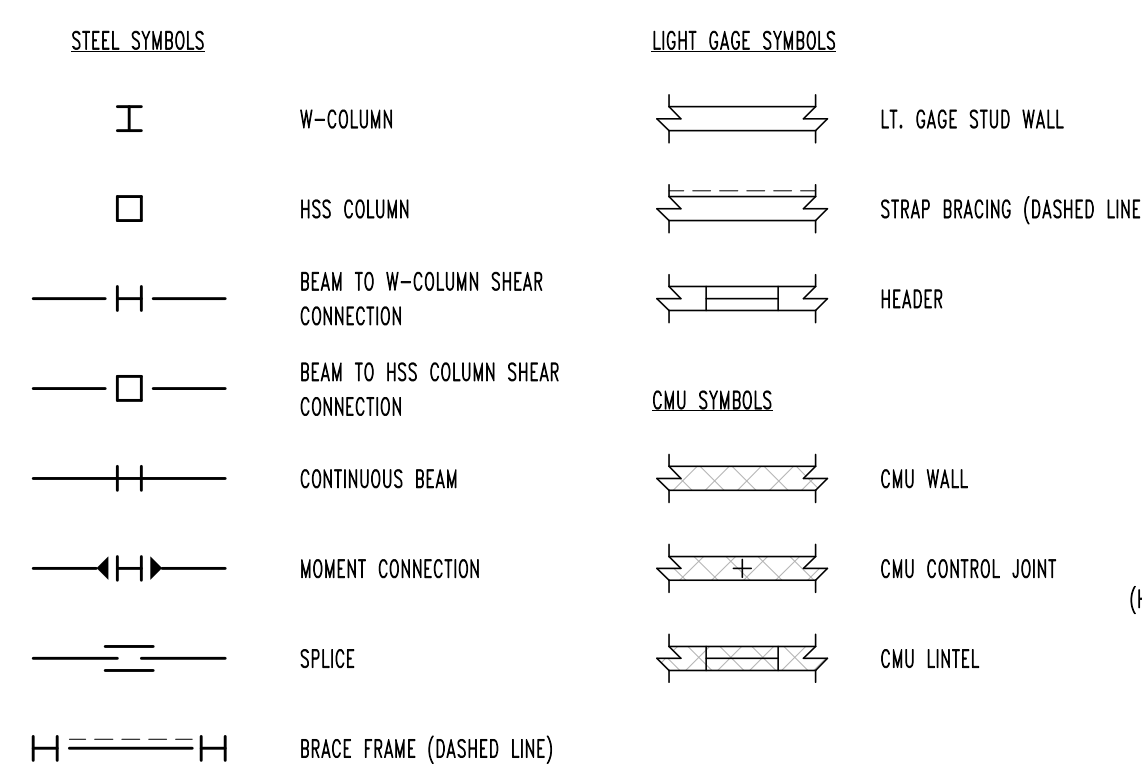
DETAIL LEGEND



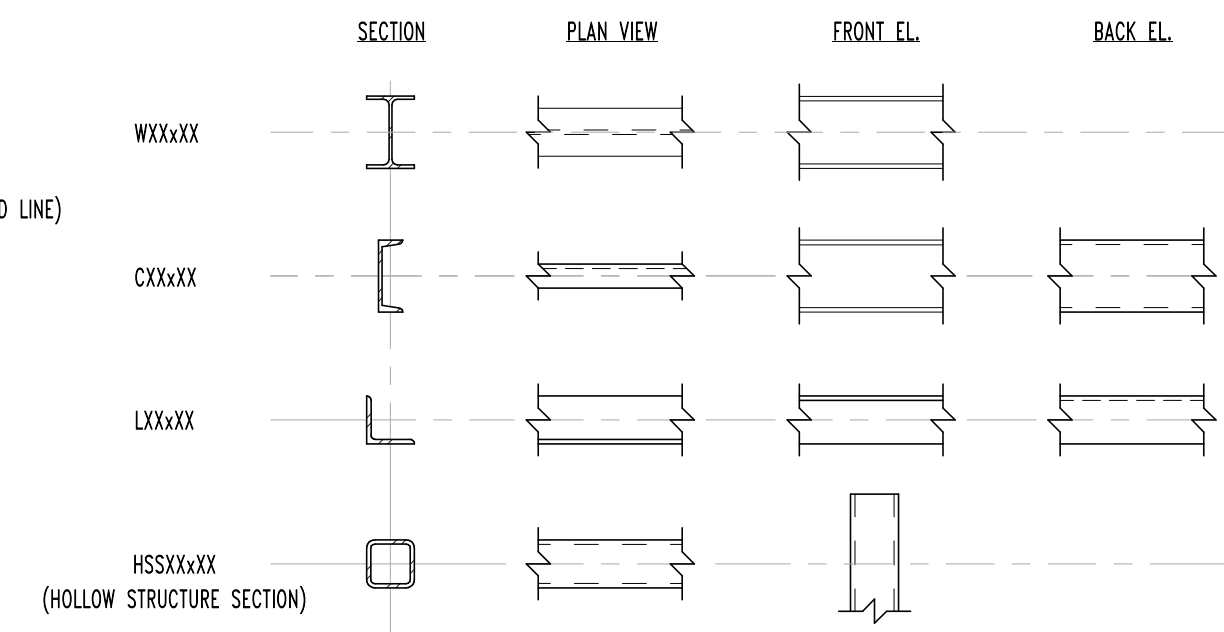
DETAIL LIGHT GAGE MEMBERS



PLAN SYMBOLS



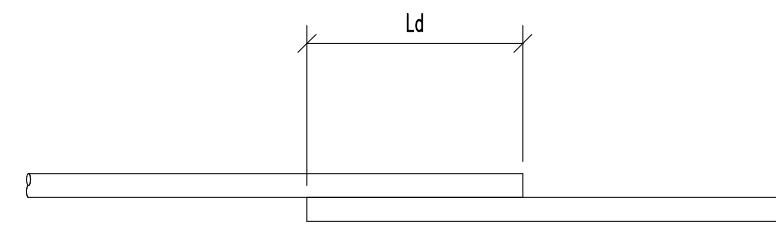
DETAIL STEEL MEMBERS



CONCRETE REINFORCING SPLICE SCHEDULE

F'c (PSI)	SPLICE TYPE	BAR SIZE									
		#3	#4	#5	#6	#7	#8	#9	#10		
3,000	TOP BARS	28	37	47	56	61	93	105	118		
	OTHER BARS	22	29	36	43	63	72	81	91		
4,000	TOP BARS	24	32	40	48	70	80	91	102		
	OTHER BARS	19	25	31	37	54	62	70	79		
5,000	TOP BARS	22	29	36	43	63	72	81	91		
	OTHER BARS	17	22	28	33	49	55	63	70		
6,000	TOP BARS	20	26	33	40	58	66	74	83		
	OTHER BARS	15	20	25	31	44	51	57	64		

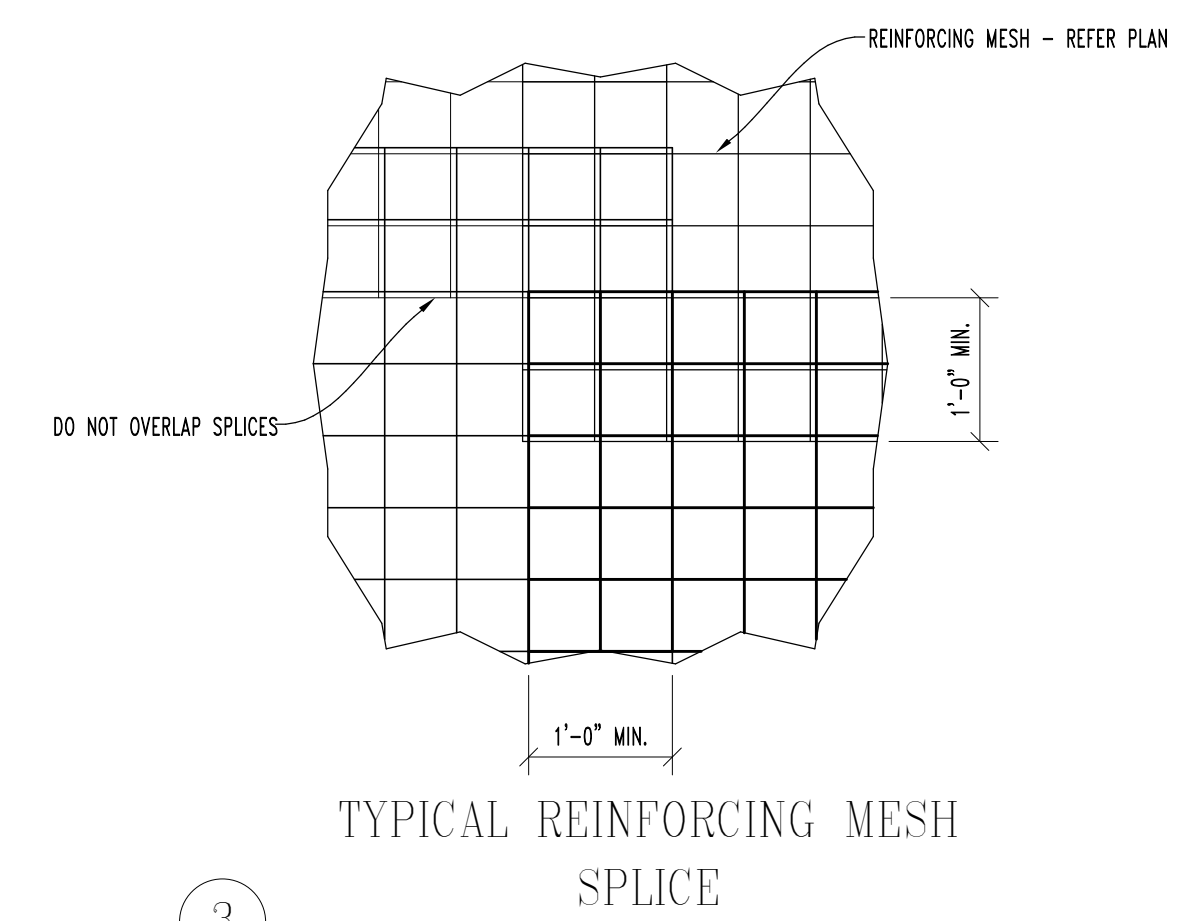
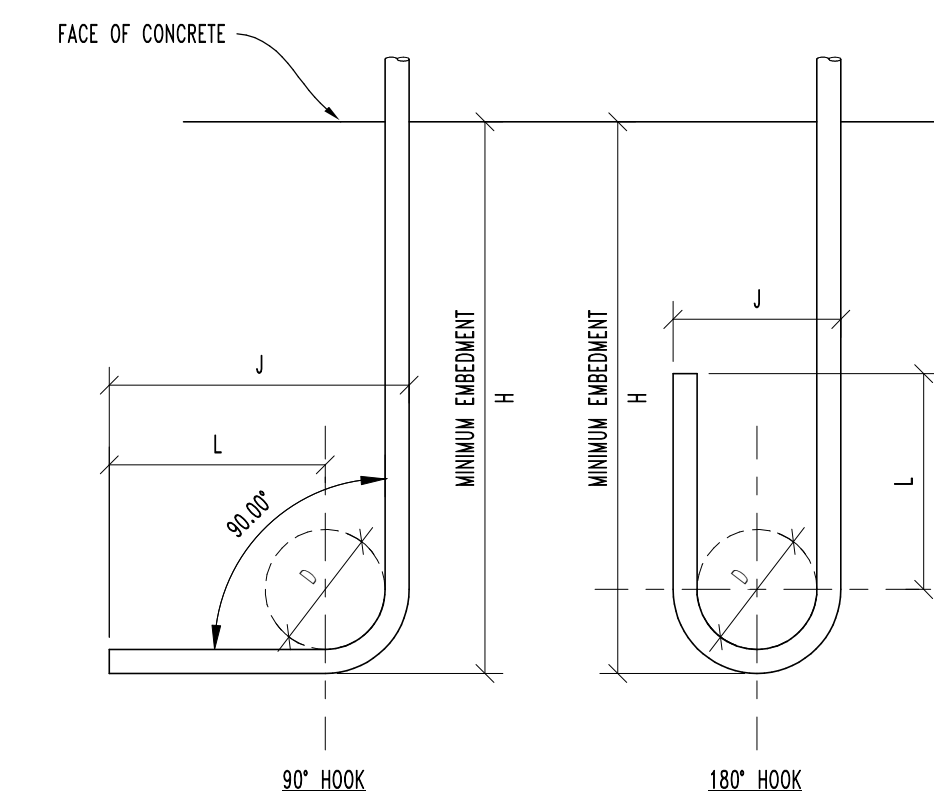
- NOTES:
1. ALL REBAR SPLICE LENGTHS (Ld) PROVIDED ARE IN INCHES.
  2. TOP BARS ARE DEFINED AS HORIZONTAL REINFORCEMENT PLACED SO THAT MORE THAN 12 INCHES OF CONCRETE IS CAST IN THE MEMBER BELOW THE BAR.
  3. THE SPLICE LENGTHS GIVEN SHALL BE USED FOR BEAMS, JOISTS, COLUMNS WALLS, SLABS AND FOOTINGS.
  4. WHEN THE CLEAR SPACING BETWEEN BARS IS LESS THAN 2 BAR DIAMETERS AND/OR THE CLEAR COVER IS LESS THAN 1 BAR DIAMETER, MULTIPLY THE SPLICE LENGTH IN THE TABLE BY 1.50.
  5. WHEN SPLICING BARS OF DIFFERENT SIZE, USE THE SPLICE LENGTH OF THE LARGER BAR.



REBAR STANDARD HOOKS

REBAR SIZE	D (IN.)	90° HOOK			180° HOOK				
		J (IN.)	L (IN.)	H (IN.)	J (IN.)	L (IN.)	H (IN.)		
#3	2 1/4	6	4 1/2	Fc' = 3000PSI	9	3	1 1/2	Fc' = 3000PSI	6
				Fc' = 4000PSI	7			Fc' = 4000PSI	6
#4	3	8	6	Fc' = 3000PSI	11	4	2	Fc' = 3000PSI	7
				Fc' = 4000PSI	10			Fc' = 4000PSI	7
#5	3 3/4	10	7 1/2	Fc' = 3000PSI	14	5	2 1/2	Fc' = 3000PSI	7
				Fc' = 4000PSI	12			Fc' = 4000PSI	7
#6	4 1/2	12	9	Fc' = 3000PSI	17	6	3	Fc' = 3000PSI	8
				Fc' = 4000PSI	15			Fc' = 4000PSI	8
#7	5 1/4	14	10 1/2	Fc' = 3000PSI	19	7	3 1/2	Fc' = 3000PSI	9
				Fc' = 4000PSI	17			Fc' = 4000PSI	9
#8	6	16	12	Fc' = 3000PSI	22	8	4	Fc' = 3000PSI	10
				Fc' = 4000PSI	19			Fc' = 4000PSI	10
#9	9 1/2	19	13 1/2	Fc' = 3000PSI	25	11 1/4	4 1/2	Fc' = 3000PSI	12
				Fc' = 4000PSI	22			Fc' = 4000PSI	12
#10	10 1/4	22	15 1/4	Fc' = 3000PSI	28	13 3/4	5 1/4	Fc' = 3000PSI	14
				Fc' = 4000PSI	24			Fc' = 4000PSI	14

- NOTES:
1. THE HOOK DIMENSIONS GIVEN SHALL BE USED FOR BEAMS, JOISTS, COLUMNS, WALLS, SLABS AND FOOTINGS.
  2. HOOKS SHALL BE ROTATED TO FIT IN SPACE AND MAINTAIN ADEQUATE COVER, NO NOT CUT HOOK WITHOUT WRITTEN PERMISSION FROM THE ENGINEER.



CONCRETE REINFORCING SPLICE SCHEDULE

SCALE: N.T.S.

REBAR STANDARD HOOKS

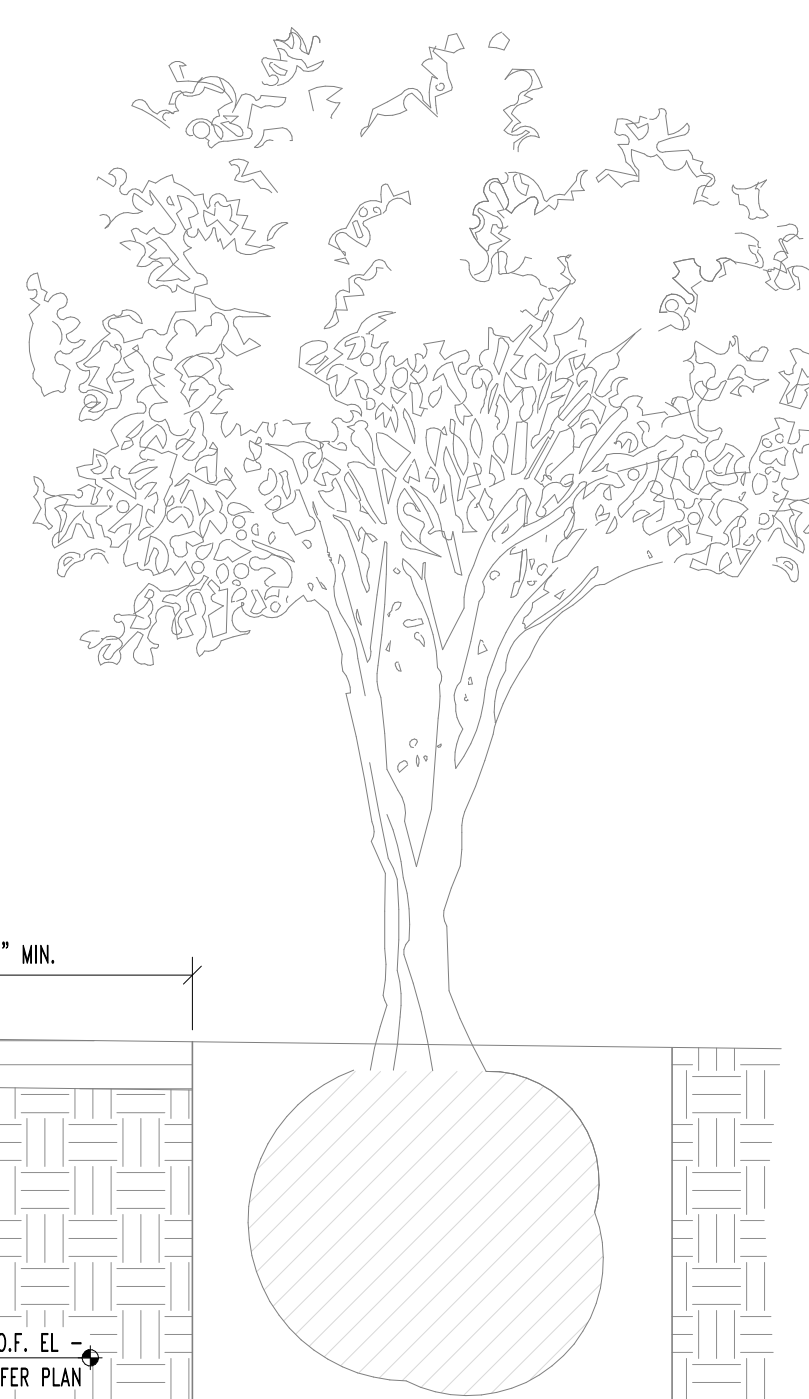
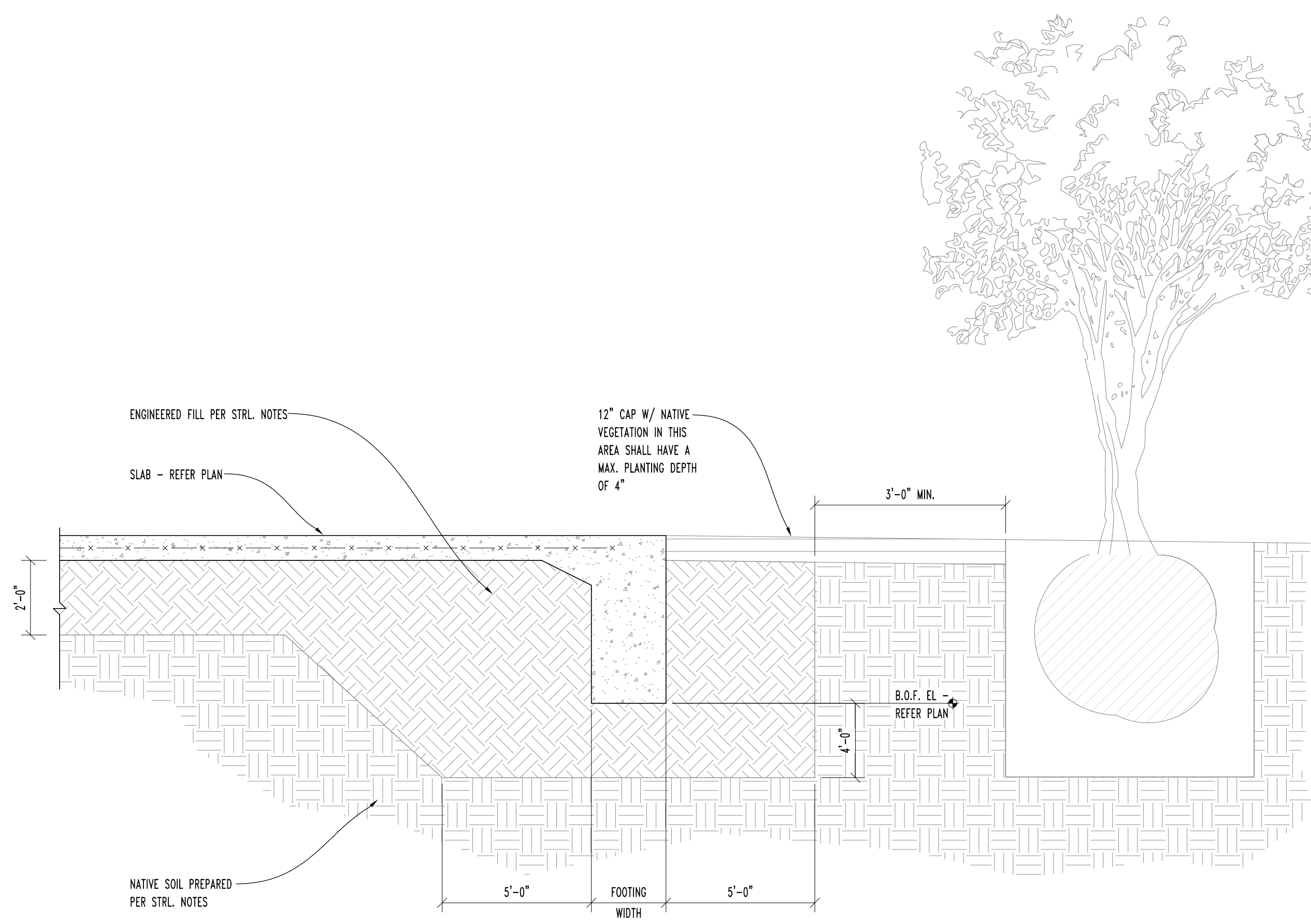
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TYPICAL REINFORCING MESH SPLICE

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

OVER EXCAVATION EXTENTS

SCALE: N.T.S.



4872 AGGIE INNOVATION SPACE EC1

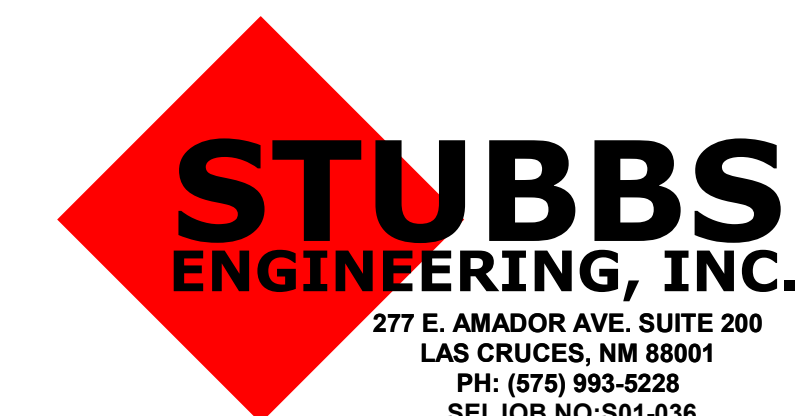
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Date: 2024-04-11  
Sheet:

STRUCTURAL DETAILS

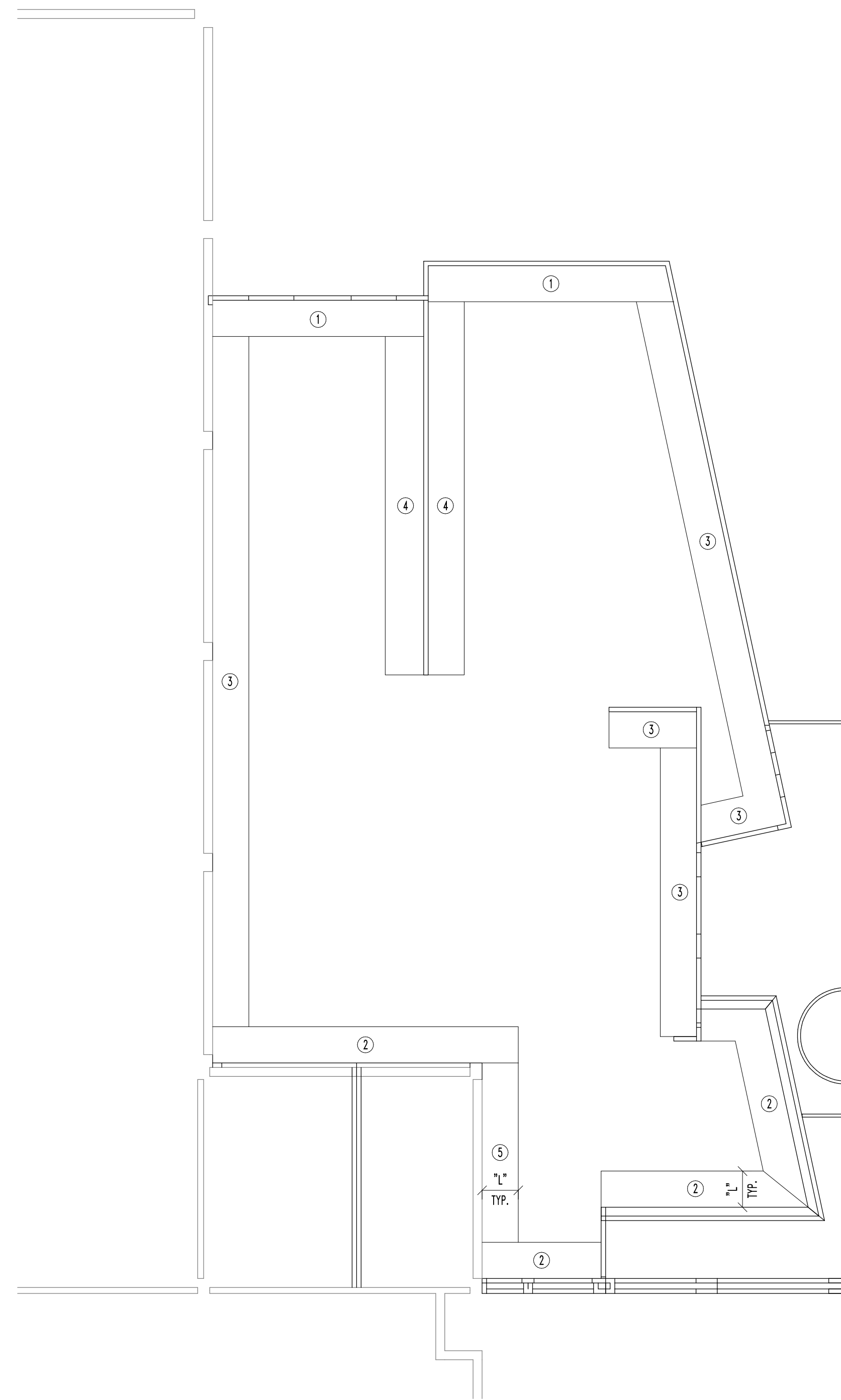
S1.1





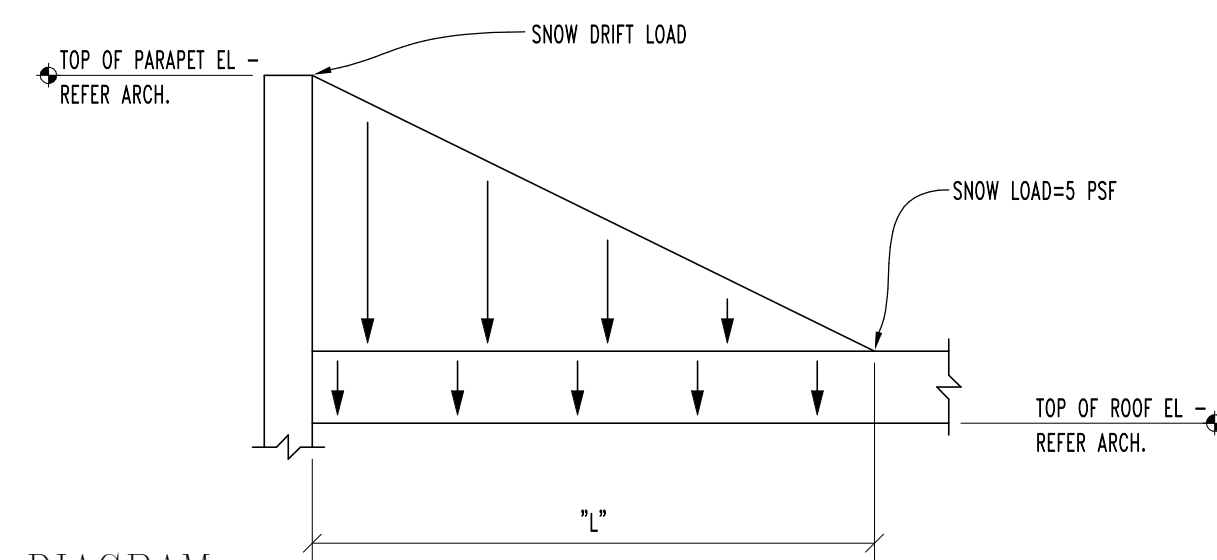
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INNOVATION  
SPACE EC1

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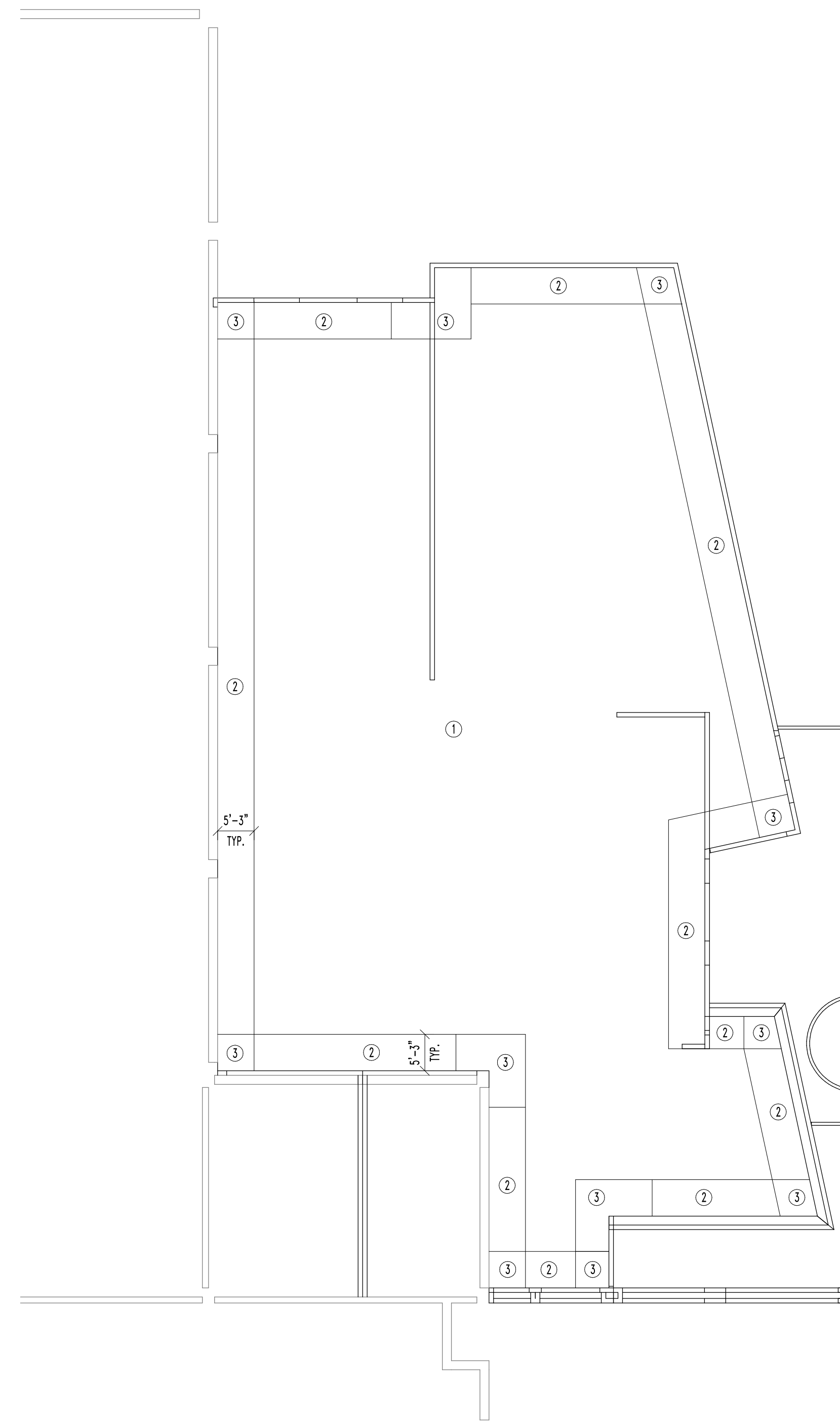


ZONE	SNOW DRIFT LOAD	HORIZONTAL DIMENSION OF DRIFT (L)
①	33.5 PSF	7'-9"
②	30 PSF	6'-10"
③	25.6 PSF	5'-8"
④	15 PSF	2'-3"
⑤	20.3 PSF	4'-2"

NOTE: LOADS SHOWN ARE FOR INFORMATIONAL PURPOSES ONLY JOIST & DECK HAVE BEEN DESIGNED FOR THE SNOW DRIFT LOADS SHOWN



1 SNOW DRIFT DIAGRAM  
SCALE: N.T.S.



ZONE	NET ALLOWABLE UPLIFT PRESSURE
①	13.1 PSF
②	15.5 PSF
③	28.8 PSF

\* WIND UPLIFT PRESSURES SHOWN ARE ACTUAL ALLOWABLE PRESSURES NEGLECTING ROOF DEAD LOAD. FOR A NET WIND UPLIFT PRESSURE UTILIZE A ROOF DEAD LOAD (DL) OF 15 PSF WITH A LOAD COMBINATION OF 0.6DL+WL.

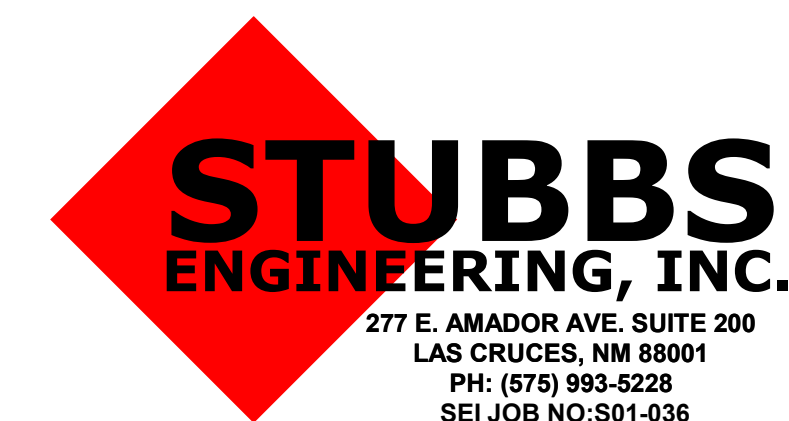
2 WIND UPLIFT DIAGRAM  
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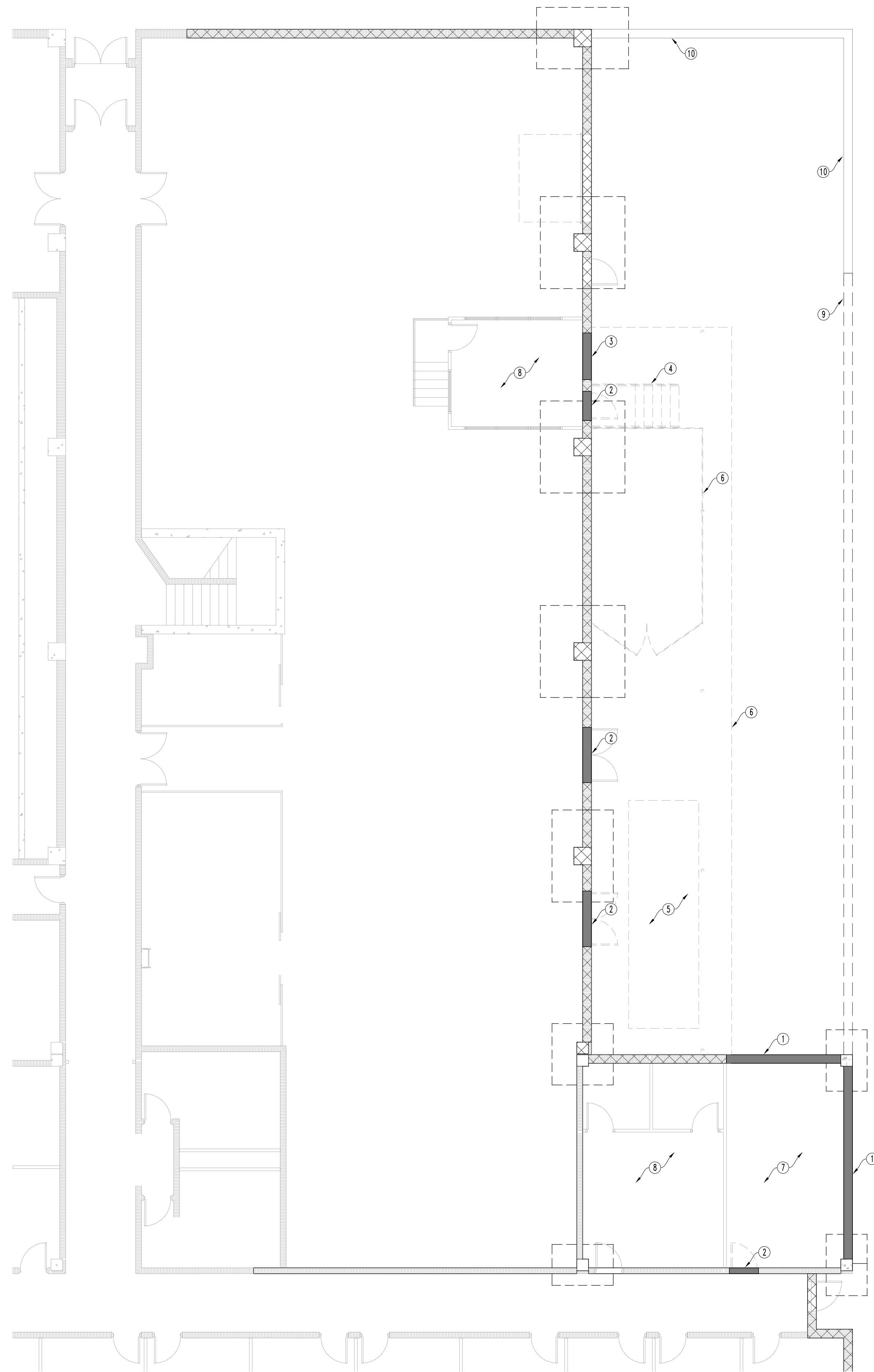
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STRUCTURAL  
DIAGRAMS

S1.2





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



PLAN NOTES

EXISTING CONSTRUCTION SHOWN IS PER AVAILABLE INFORMATION.  
CONTRACTOR SHALL NOTIFY ENGINEER OF ANY DISCREPANCIES.

○ KEY NOTES

- 1 . NEW OPENING IN EXISTING CMU WALL. REFERENCE DETAIL 12/SS.1.
- 2 . EXISTING DOOR TO BE DEMOLISHED - FIELD VERIFY.
- 3 . EXISTING WINDOW TO BE DEMOLISHED - FIELD VERIFY.
- 4 . EXISTING STAIRS TO BE DEMOLISHED - FIELD VERIFY.
- 5 . EXISTING SAND PIT TO BE DEMOLISHED - FIELD VERIFY.
- 6 . EXISTING STORAGE FENCE TO BE REMOVED. SALVAGE TO OWNER - FIELD VERIFY.
- 7 . EXISTING FLOORING TO BE DEMOLISHED - FIELD VERIFY.
- 8 . EXISTING TO REMAIN.
- 9 . EXISTING GRADE BEAM TO BE DEMOLISHED - FIELD VERIFY.
- 10 . EXISTING GRADE BEAM TO REMAIN



4872 AGGIE  
INNOVATION  
SPACE EC1

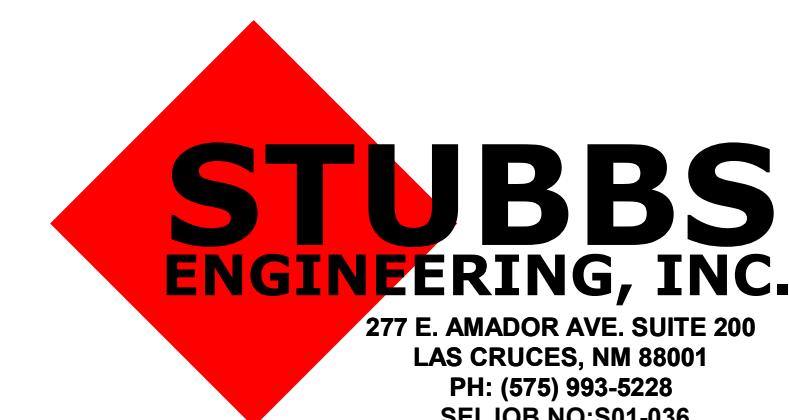
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DEMOLITION  
PLAN

S2.0





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INNOVATION  
SPACE EC1

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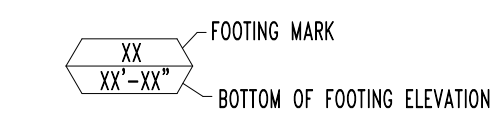
PLAN NOTES

- ALL DIMENSIONS ARE TO FACE OF CONCRETE UNLESS NOTED OTHERWISE.
- CJ INDICATES A SLAB CONSTRUCTION JOINT. REFERENCE DETAIL 1 / S4.0.
- SW2 INDICATES STRAP WALL TYPE. REFERENCE STRAP WALL SCHEDULE.
- EXISTING CONSTRUCTION SHOWN IS PER AVAILABLE INFORMATION.  
CONTRACTOR SHALL NOTIFY ENGINEER OF ANY DISCREPANCIES.

KEY NOTES

- 4" CONCRETE SLAB WITH WWF6x6x-W1.4xW1.4 MESH IN CENTER OF SLAB OVER 10 MIL VAPOR BARRIER, AND PREPARED SUBGRADE. REFERENCE STRUCTURAL NOTES
- 2-#4x4-0" CENTERED IN SLAB
- INFILL EXISTING DOOR OPENING - REFERENCE DETAIL 14/SS.1.
- INFILL EXISTING WINDOW OPENING - REFERENCE DETAIL 15/SS.1.
- STRAP WALL TO BE NOTE IS FOR INSIDE VERTICAL WALL AT THIS LOCATION.
- FLOOR DRAIN. COORDINATE WITH PLUMBING AND ARCHITECTURAL. SLOPE SLAB IN 12-INCH RADIUS AROUND DRAIN 1/8"=12"

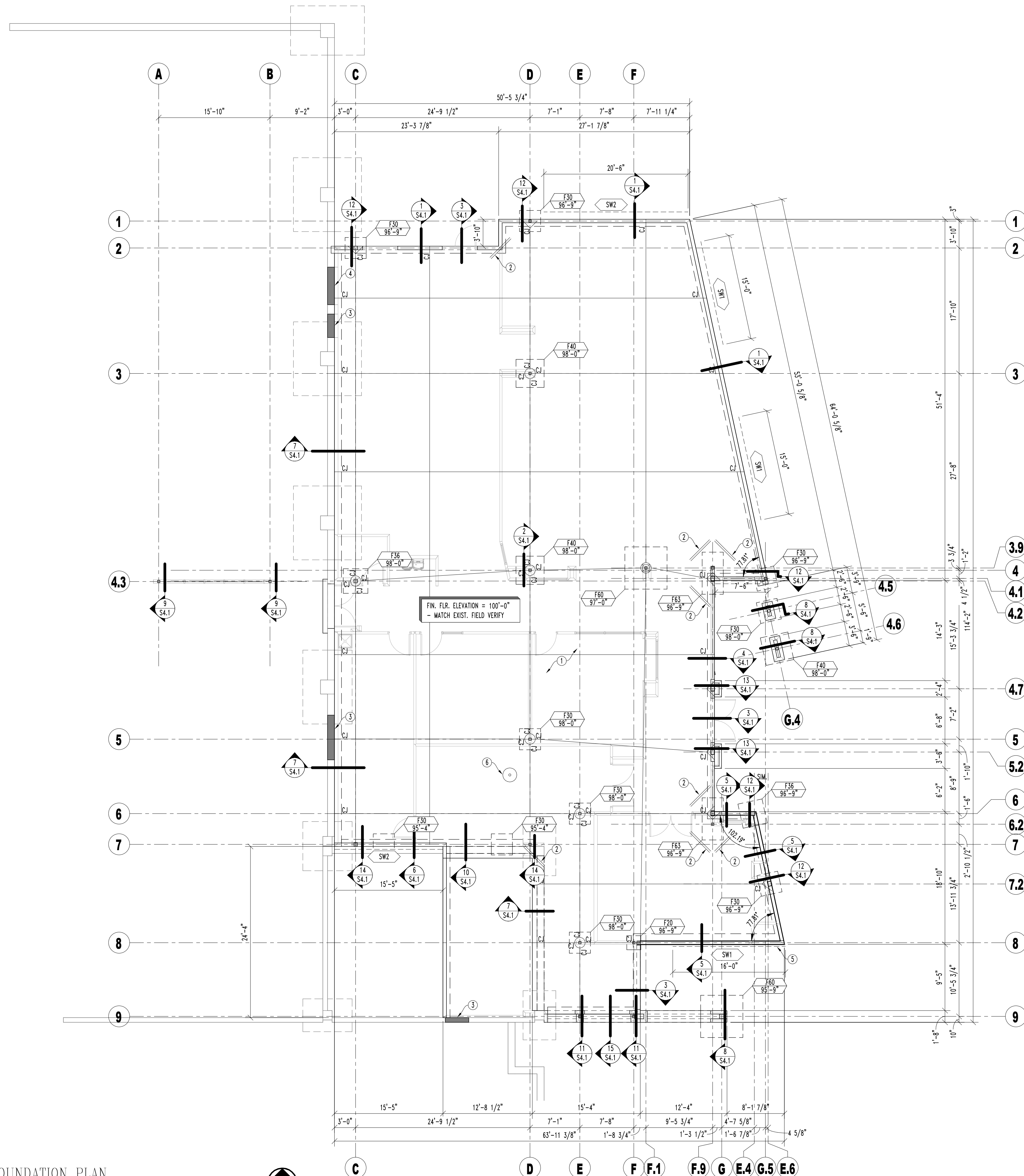
FOOTING SCHEDULE



FOOTING MARK	LONGITUDINAL WIDTH	TRANSVERSE WIDTH	DEPTH	LONGITUDINAL REINFORCEMENT	TRANSVERSE REINFORCEMENT
F20	2'-0"	2'-0"	1'-0"	3-#4	3-#4
F30	3'-0"	3'-0"	1'-0"	4-#4	4-#4
F36	3'-6"	3'-6"	1'-0"	4-#4	4-#4
F40	4'-0"	4'-0"	1'-0"	6-#4	6-#4
F60	6'-0"	6'-0"	2'-0"	8-#6	8-#6
F63	6'-0"	3'-0"	1'-0"	4-#4	8-#4

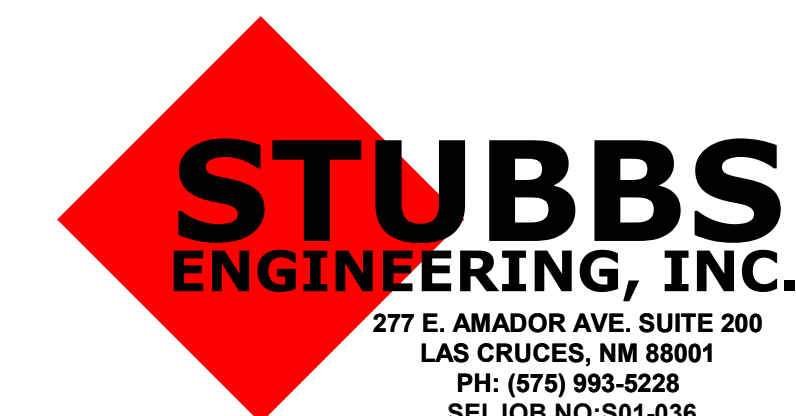
STRAP WALL SCHEDULE

STRAP WALL MARK	STRAP BRACING	VERTICAL/AXIAL STUDS	ANGLE "X" & ANCHOR BOLTS	SPLICE SCREWS	LENGTH OF STRAP WELD	GUSSETT PL "A"	BENT PLATE "B"	SCREW "A"	SCREW "B"
SW1	(1)16ga x3"	(2)800S162-43	L6x6x3/8 W/ 3-3/4" x12"	8-#10 SCREWS	4"	16ga	1/4"x10"-6"x10" -9"x1"-2"	3-#10 SCREWS	4-#10 SCREWS
SW2	(1)16ga x3"	(2)800S162-43	L6x6x3/8 W/ 3-3/4" x12"	10-#10 SCREWS	5"	16ga	1/4"x10"-6"x10" -9"x1"-2"	3 ROWS OF 3-#10 SCREWS	4-#10 SCREWS



FOUNDATION PLAN

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



REVISION \_\_\_\_\_ DATE \_\_\_\_\_

Project no: \_\_\_\_\_  
Date: 2024-04-11  
Sheet: \_\_\_\_\_

FOUNDATION  
PLAN

S2.1



4872 AGGIE  
INNOVATION  
SPACE EC1

1025 Stewart St.  
Las Cruces, NM

REVISION \_\_\_\_\_ DATE \_\_\_\_\_

Project no: \_\_\_\_\_  
Date: 2024-04-11  
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FRAMING PLAN

S3.0

STRAP WALL SCHEDULE

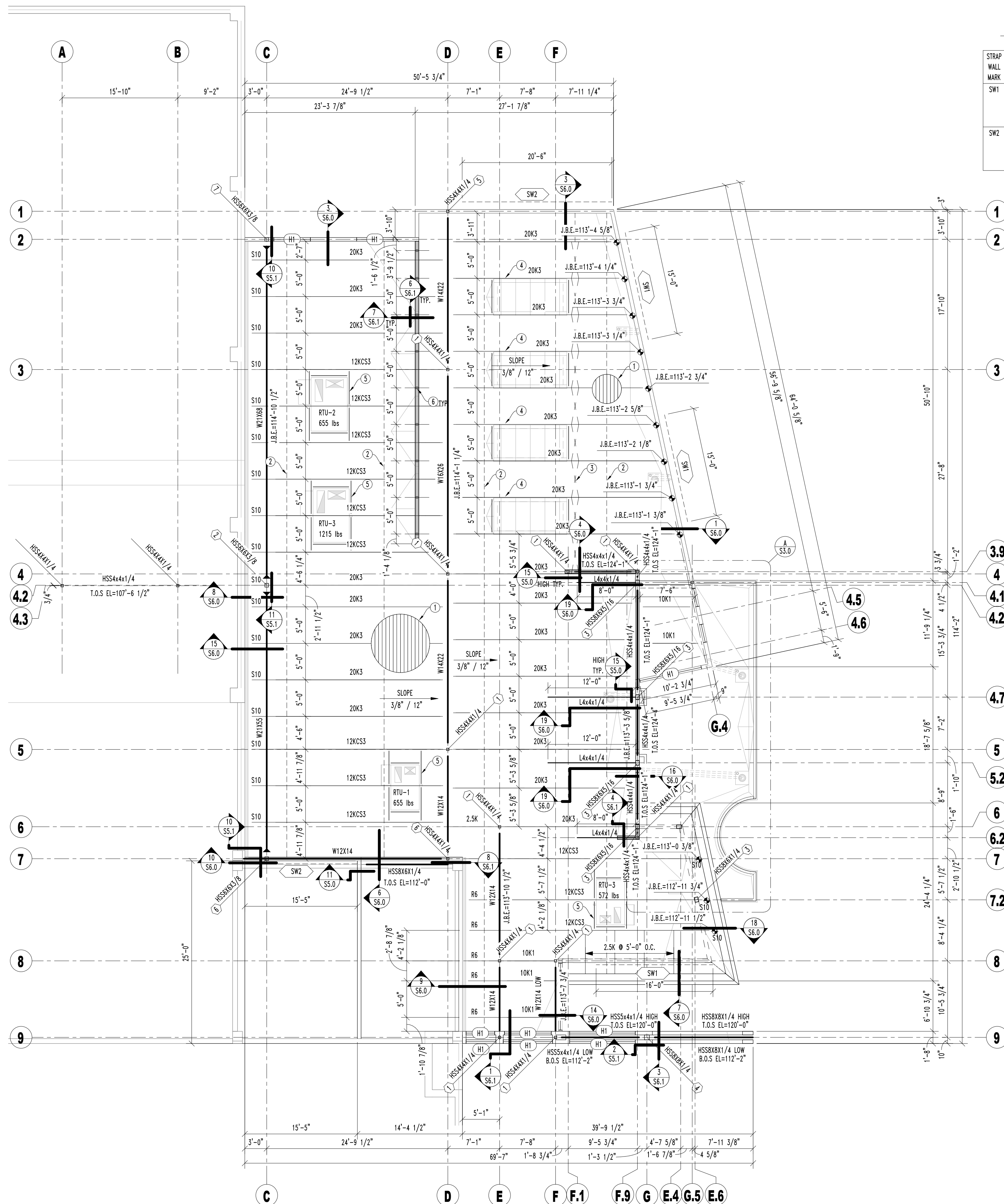
STRAP WALL MARK	STRAP BRACING	VERTICAL/AXIAL STUDS	ANGLE "X" & ANCHOR BOLTS	SPLICE SCREWS	LENGTH OF STRAP WELD	GUSSET PL "x"	BENT PLATE "x"	SCREW "x"	SCREW "y"
SW1	(1) 18ga x3" STRAP BRACING	(2) 600S162-43	L6x6x3/8 W/ 3-3/4" x12"	8-#10 SCREWS	4"	16ga	1/4"x0"-6"x0"-9"x1"-2"	3-#10 SCREWS	4-#10 SCREWS
SW2	(1) 18ga x3" STRAP BRACING	(2) 600S162-43	L6x6x3/8 W/ 3-3/4" x12"	18-#10 SCREWS	5"	16ga	1/4"x0"-6"x0"-9"x1"-2"	9-#10 SCREWS	3 ROWS OF 4-#10 SCREWS

PLAN NOTES

- ALL DIMENSIONS ARE TO FACE OF STUD UNLESS NOTED OTHERWISE.
- ⊙ INDICATES BASE PLATE TYPE. REFERENCE DETAIL 1 / S5.0 FOR BASE PLATE SCHEDULE.
- ▶ INDICATES MOMENT CONNECTION. REFERENCE DETAIL - / ---.
- ⊙HX INDICATES LIGHT GAGE HEADER. REFERENCE DETAIL 7 / S5.0 FOR HEADER SCHEDULE.
- ◁SWX INDICATES STRAP WALL TYPE. REFERENCE STRAP WALL SCHEDULE.
- JOISTS SHALL BE EQUALLY SPACED UNLESS NOTED OTHERWISE.
- J/B ELEVATION INDICATES ELEVATION AT BOTTOM OF JOIST SEAT.
- REFERENCE DETAIL 2 / S5.0 FOR TYPICAL JOIST TO BEAM CONNECTION.
- REFERENCE DETAIL 3 / S5.0 FOR TYPICAL JOIST TO COLUMN CONNECTION.
- REFERENCE DETAILS - / --- & - / --- FOR TYPICAL BEAM TO COLUMN CONNECTION.
- REFERENCE DETAIL 6 / S5.0 FOR TYPICAL ROOF FRAME DETAIL.
- EXISTING CONSTRUCTION SHOWN IS PER AVAILABLE INFORMATION. CONTRACTOR SHALL NOTIFY ENGINEER OF ANY DISCREPANCIES.
- JOIST SEATS ARE 3" UNLESS NOTED OTHERWISE.

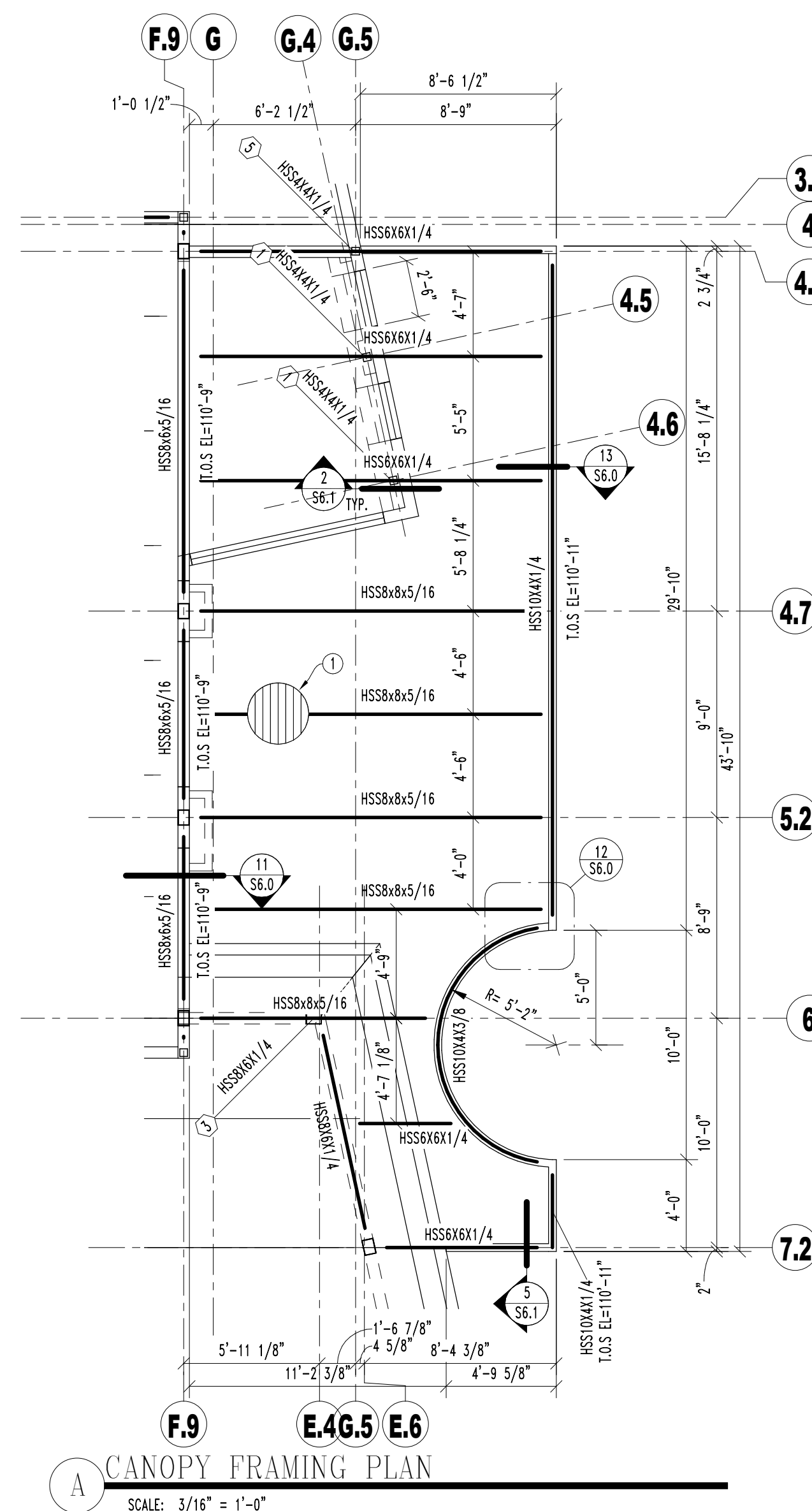
KEY NOTES

1. 1-1/2" 22ga B DECK - REFERENCE STRUCTURAL NOTES
2. JOIST BRIDGING PER SJI SPECIFICATIONS
3. JOIST X-BRIDGING PER SJI SPECIFICATIONS
4. 5x10 SKYLIGHT - REFER ARCH. REFERENCE DETAIL 6/S5.0.
5. ROOF TOP UNIT FRAME - REFERENCE DETAIL 6/S5.0.
6. HSS3x3x1/4 PARAPET SUPPORT POST.



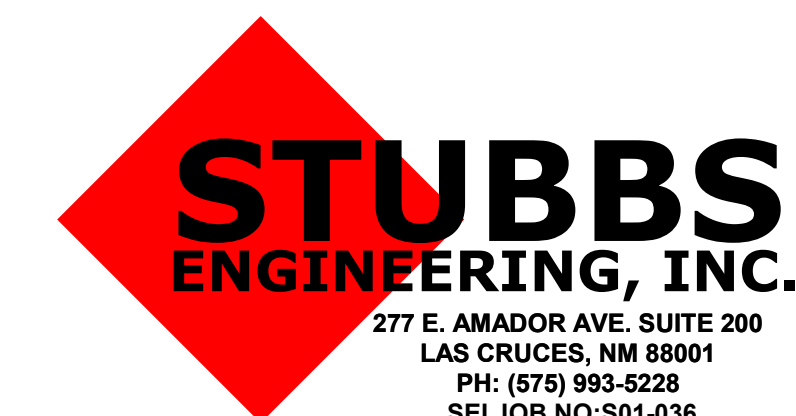
ROOF FRAMING PLAN

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

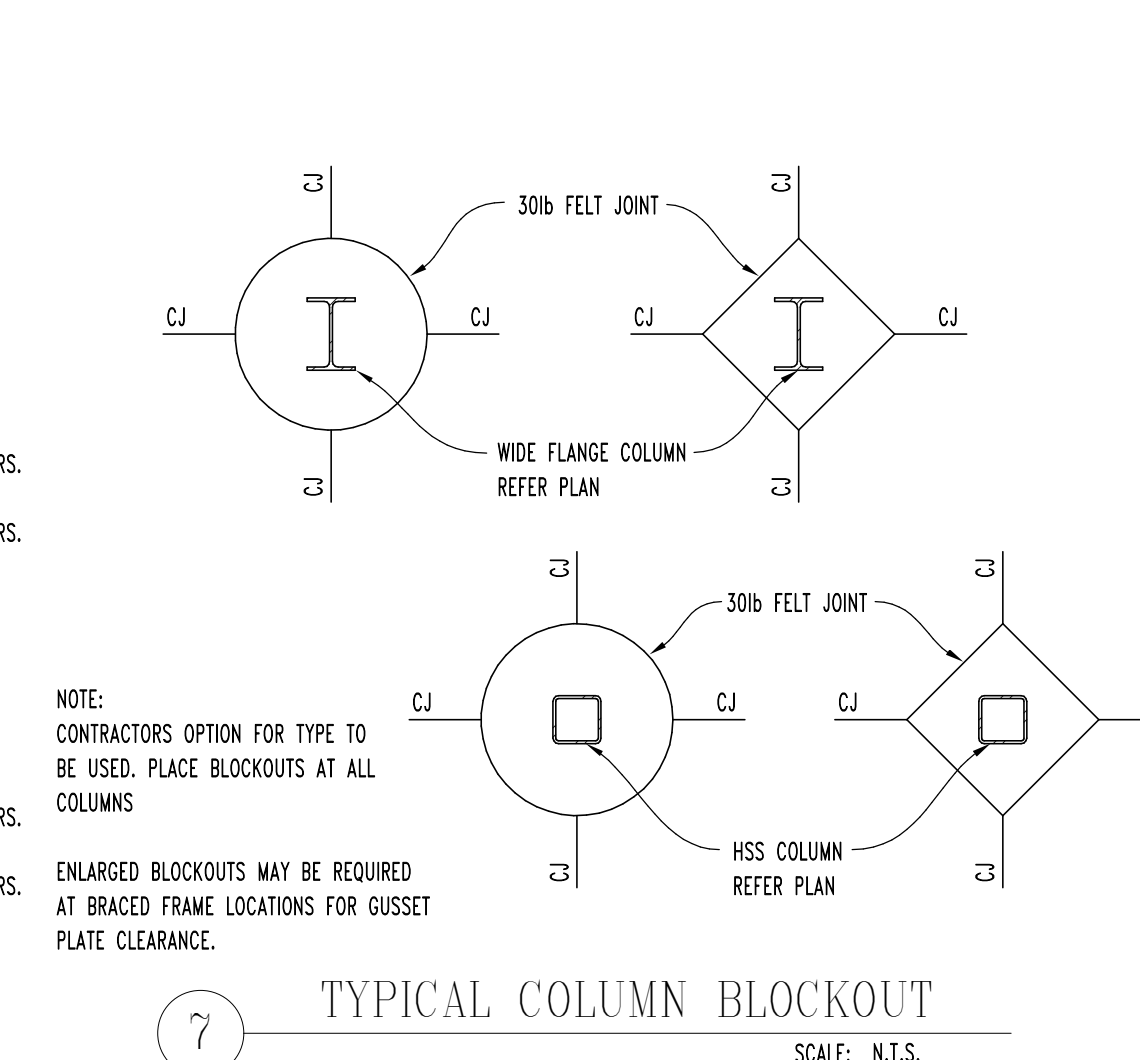
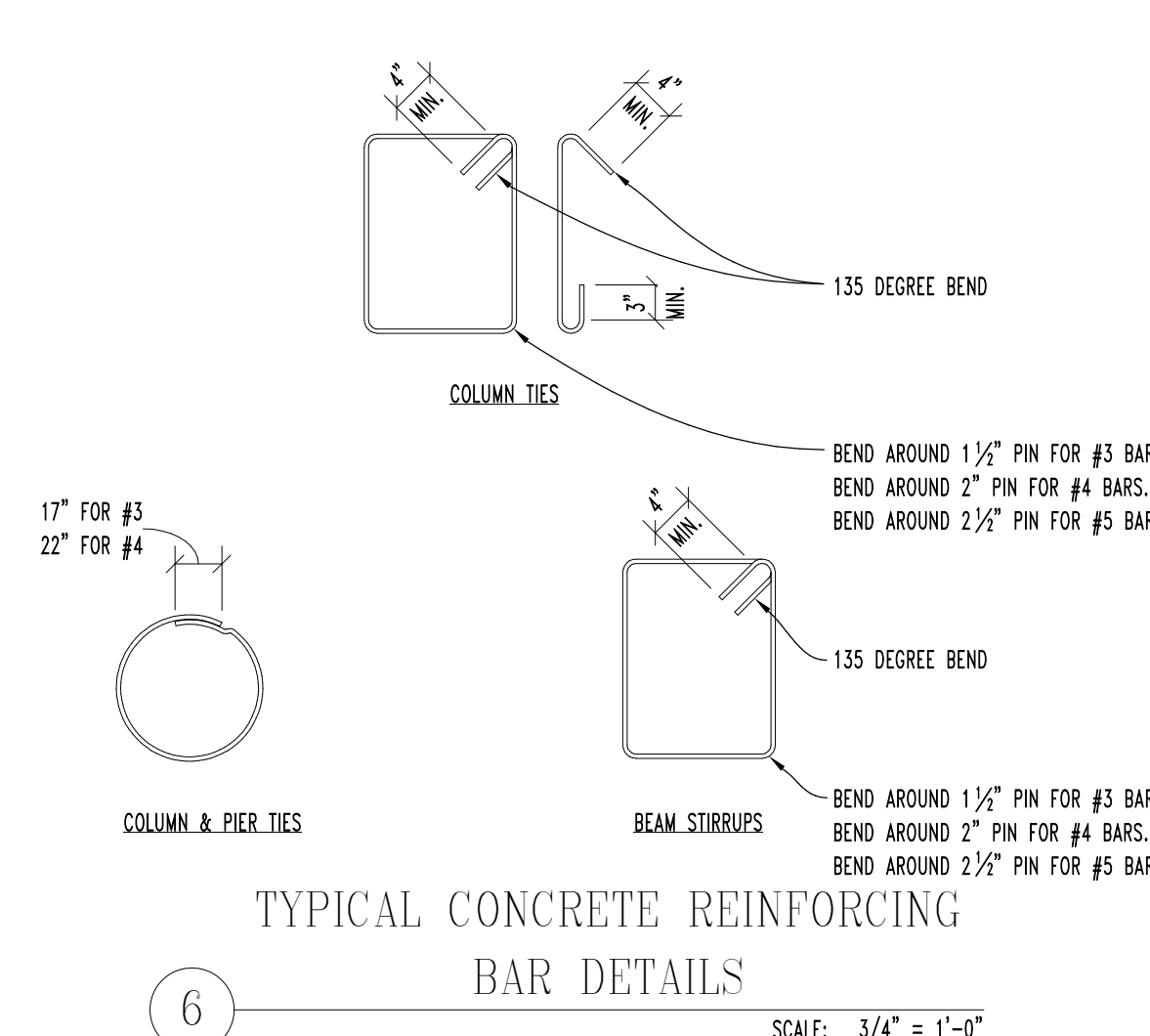
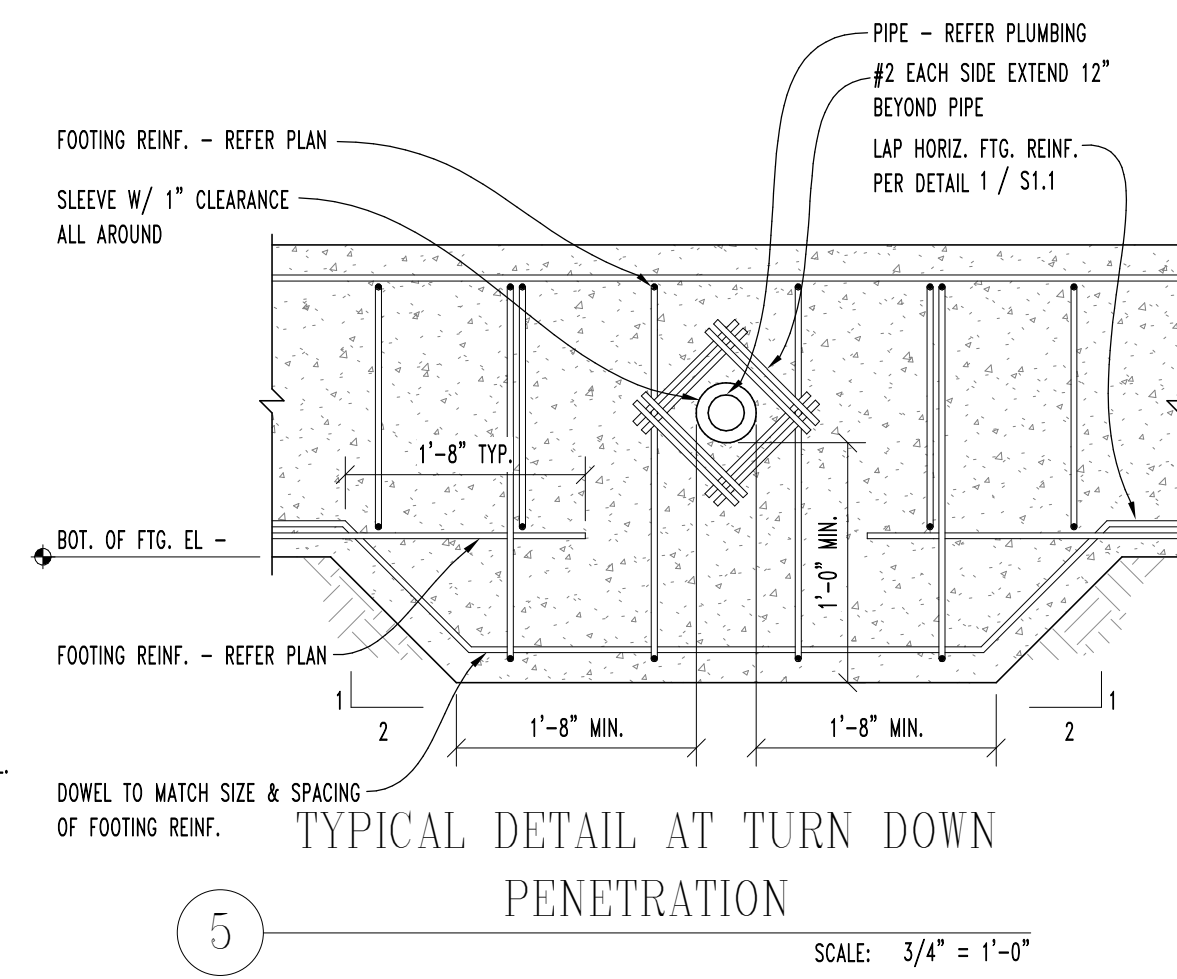
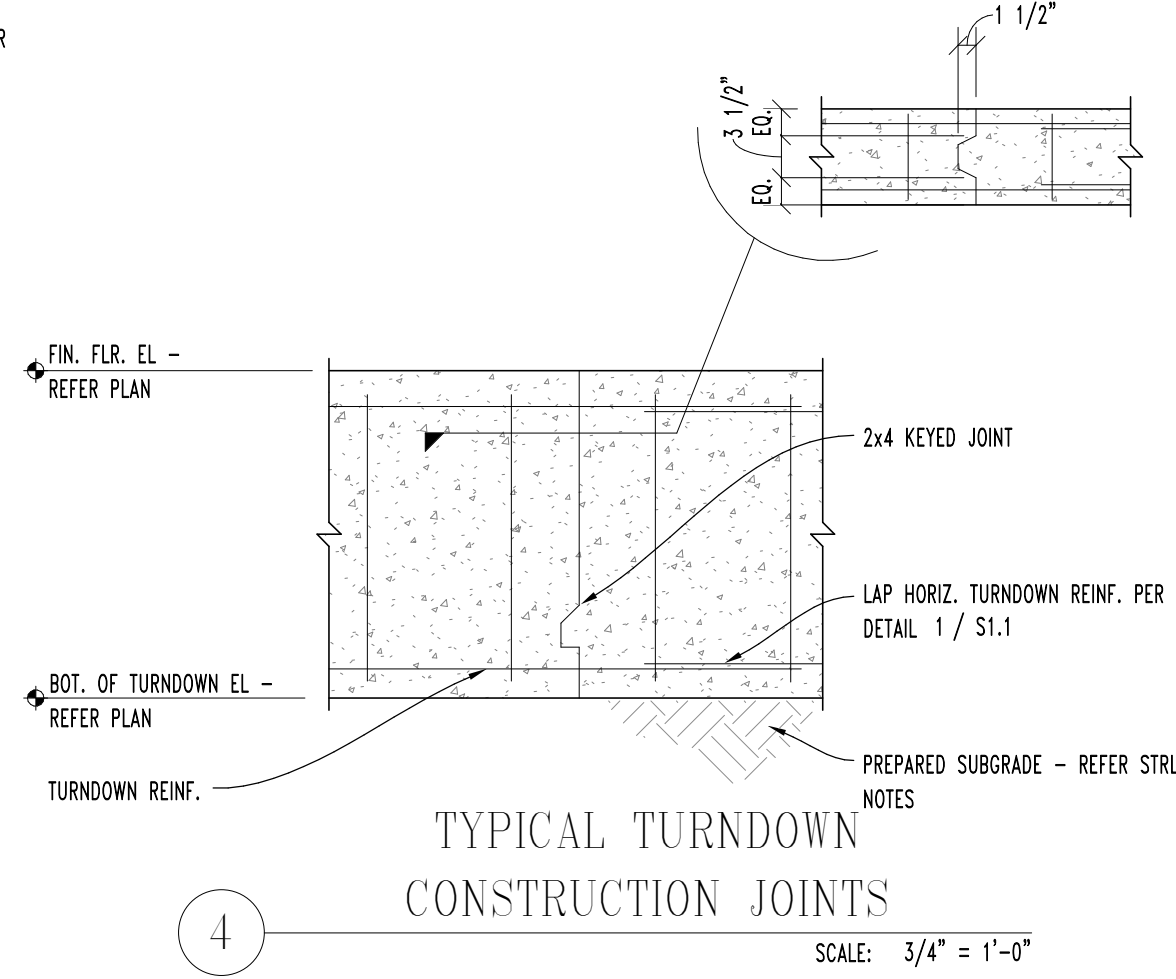
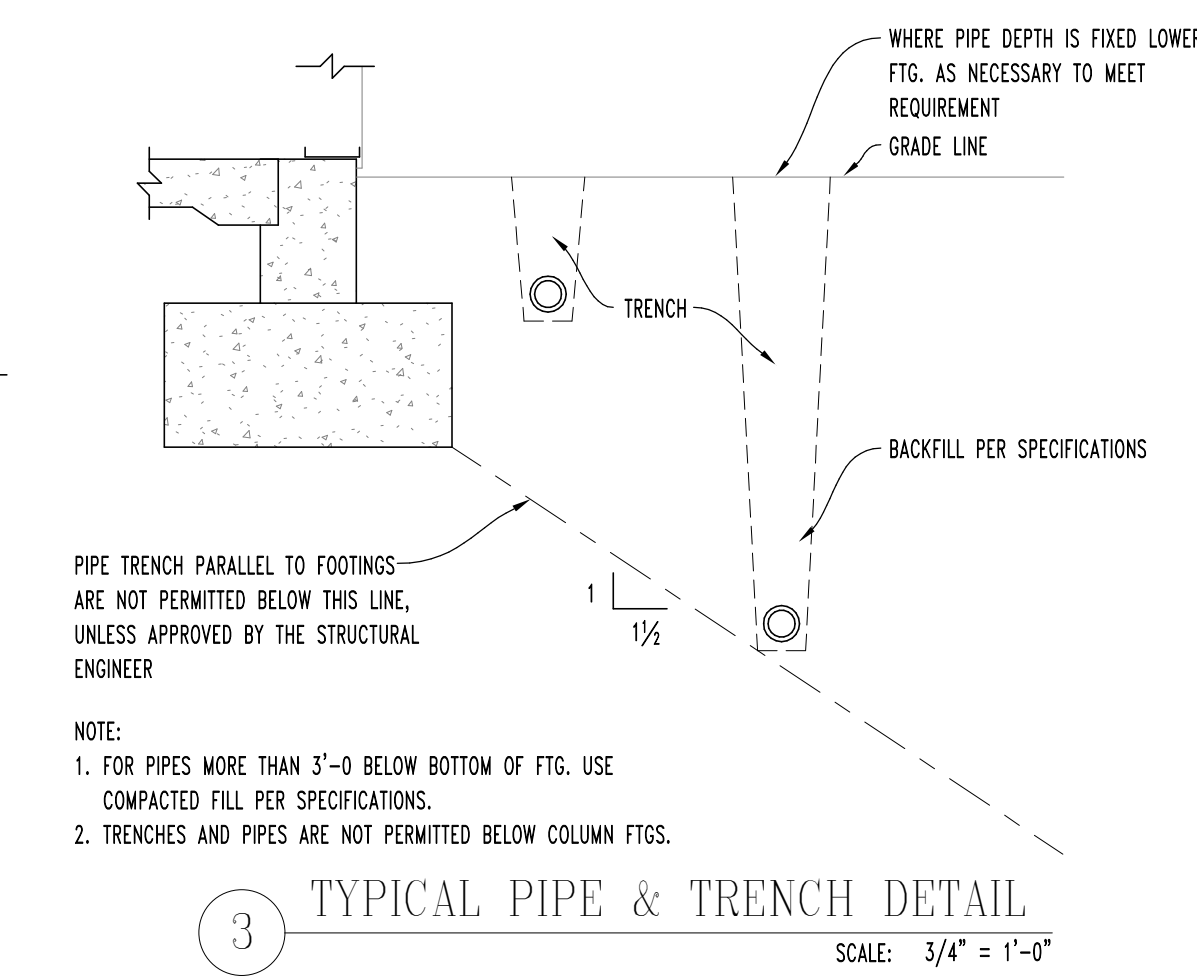
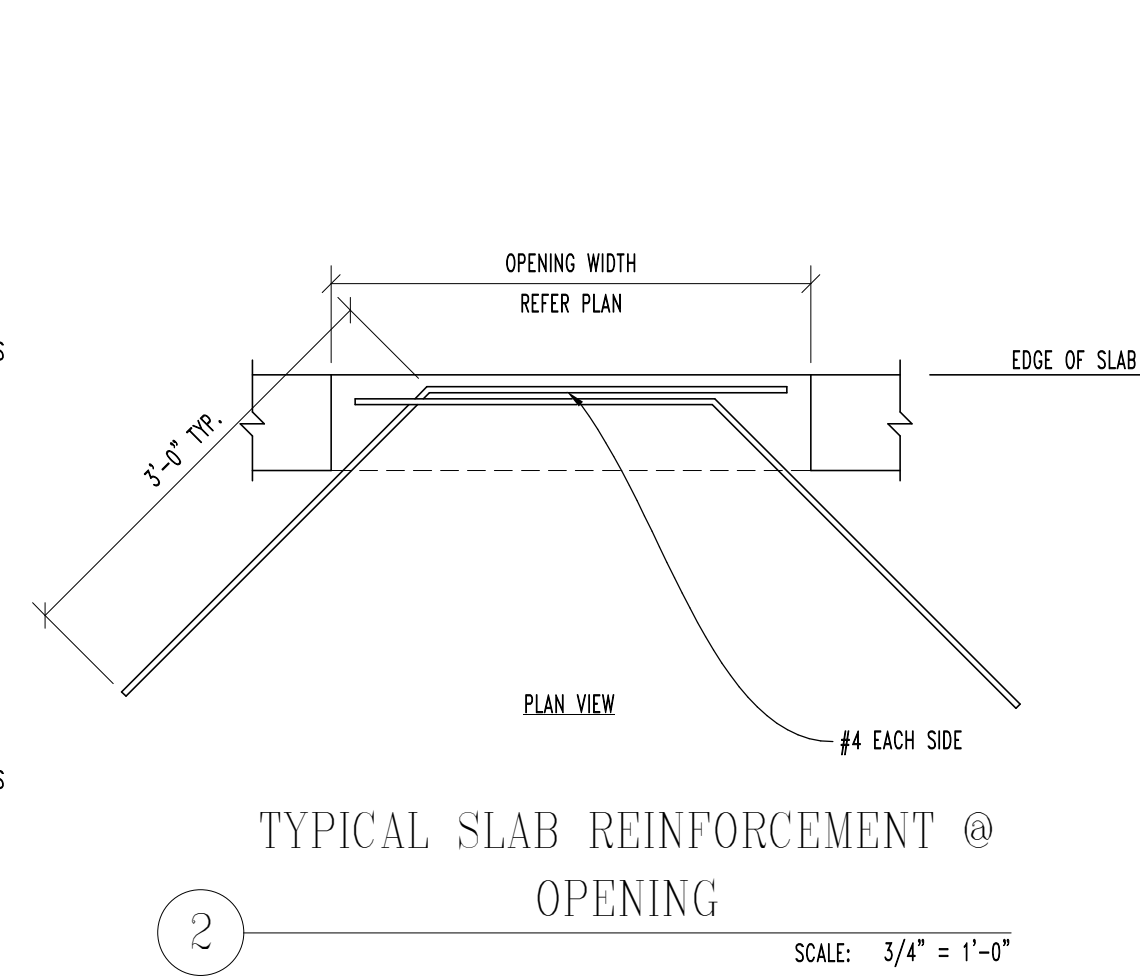
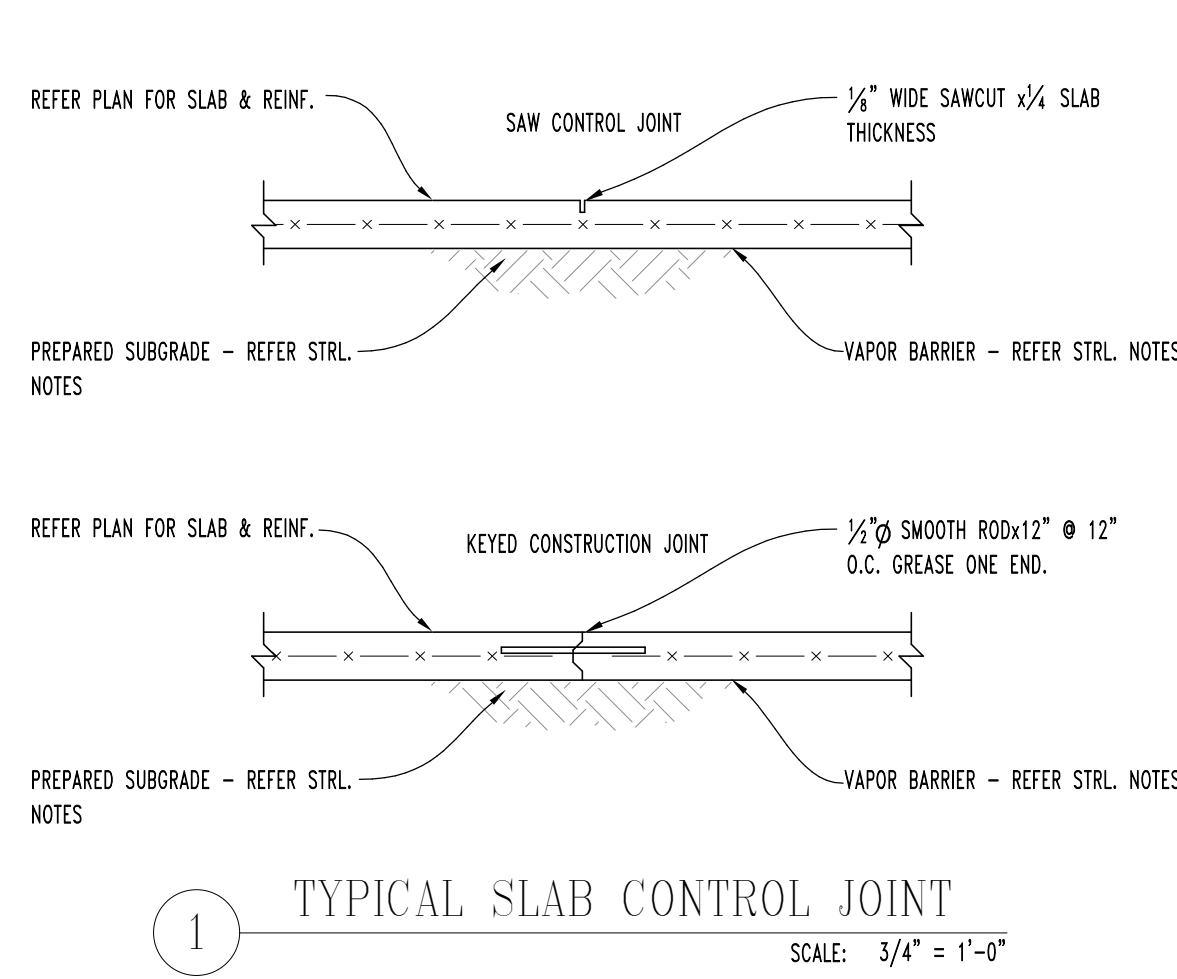


CANOPY FRAMING PLAN

SCALE: 3/16" = 1'-0"



277 E. AMADOR AVE. SUITE 200  
LAS CRUCES, NM 88001  
PH: (575) 993-5228  
SEI JOB NO: S01-036

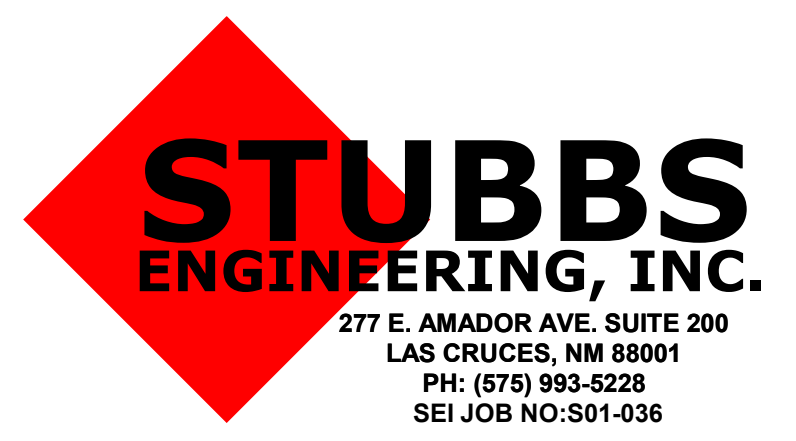


**4872 AGGIE INNOVATION SPACE EC1**

1025 Stewart St.  
Las Cruces, NM

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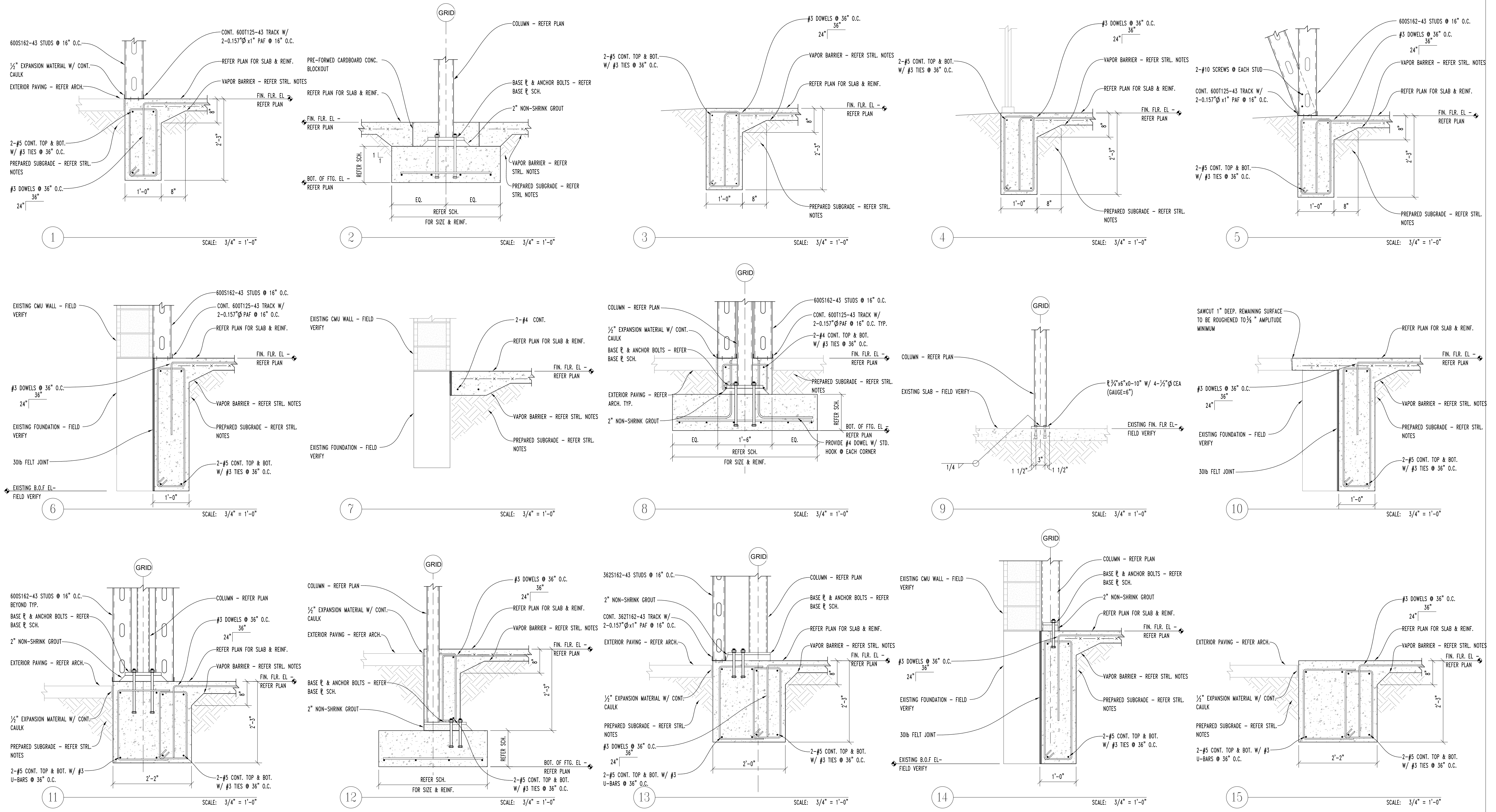
**TYPICAL FOUNDATION DETAILS S4.0**





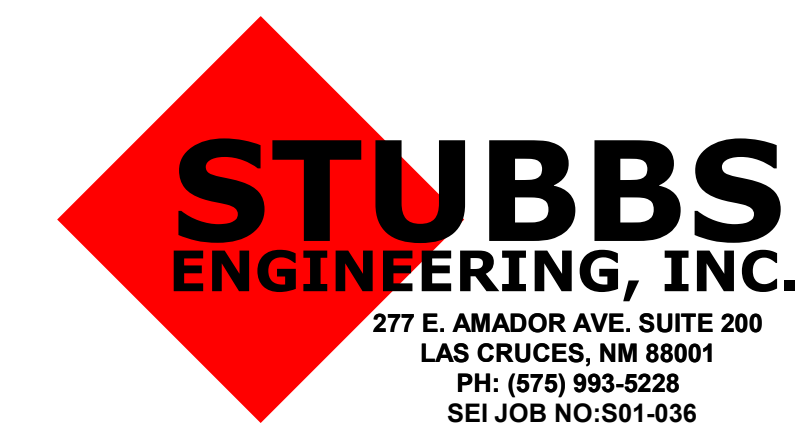
4872 AGGIE  
INNOVATION  
SPACE EC1

1025 Stewart St.  
Las Cruces, NM



REVISION	DATE

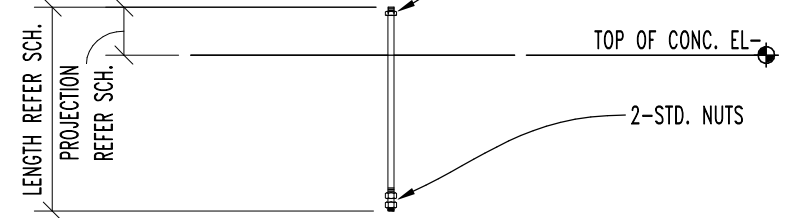
Project no:  
Date: 2024-04-11  
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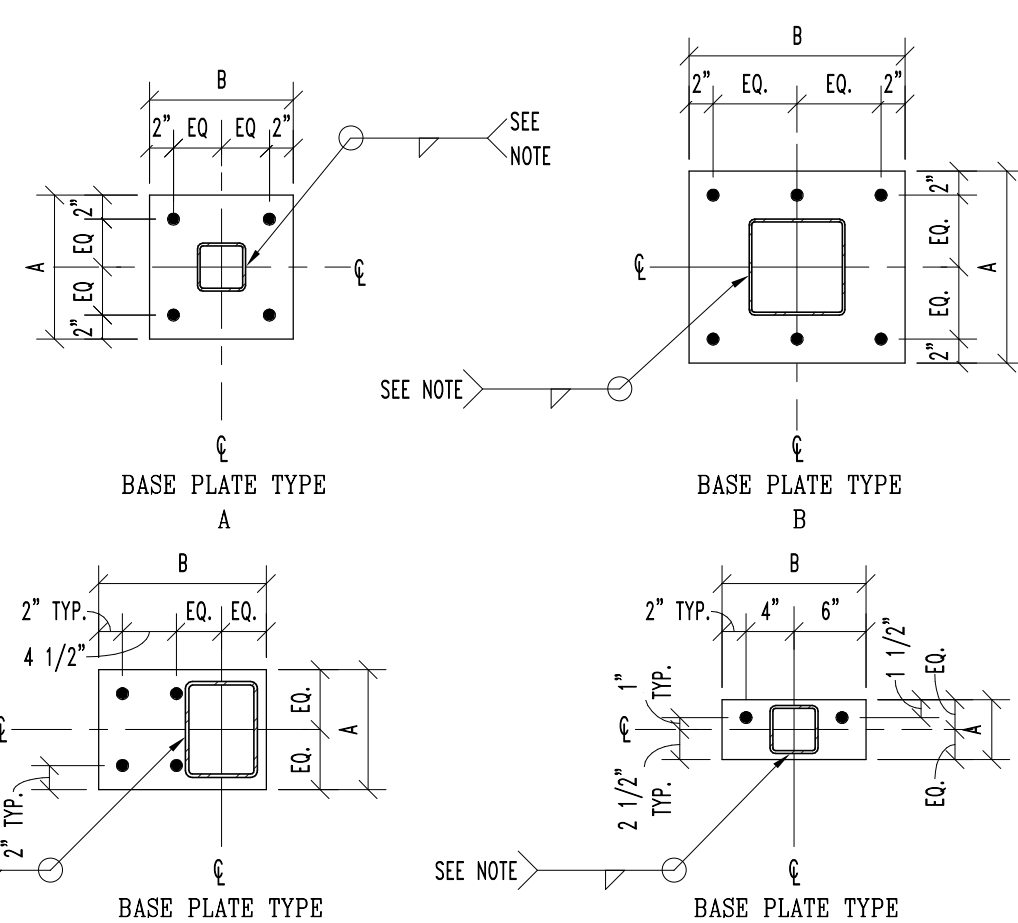
FOUNDATION  
DETAILS  
S4.1

BASE PLATE SCHEDULE				
MARK	BASE PLATE TYPE	BASE PLATE SIZE "Thickness"x"A"x"B"	ANCHOR BOLTS	ANCHOR BOLT PROJECTION
1	A	3/4"x12"x12"	4-3/4"Ø x12"	4"
2	A	3/4"x14"x14"	4-3/4"Ø x12"	4"
3	C	3/4"x10"x14"	4-3/4"Ø x12"	4"
4	B	3/4"x16"x18"	6-3/4"Ø x12"	4"
5	C	3/4"x10"x12"	4-3/4"Ø x12"	4"
6	D	3/4"x6"x14"	2-3/4"Ø x16"	4"
7	C	3/4"x10"x14"	4-3/4"Ø x12"	4"

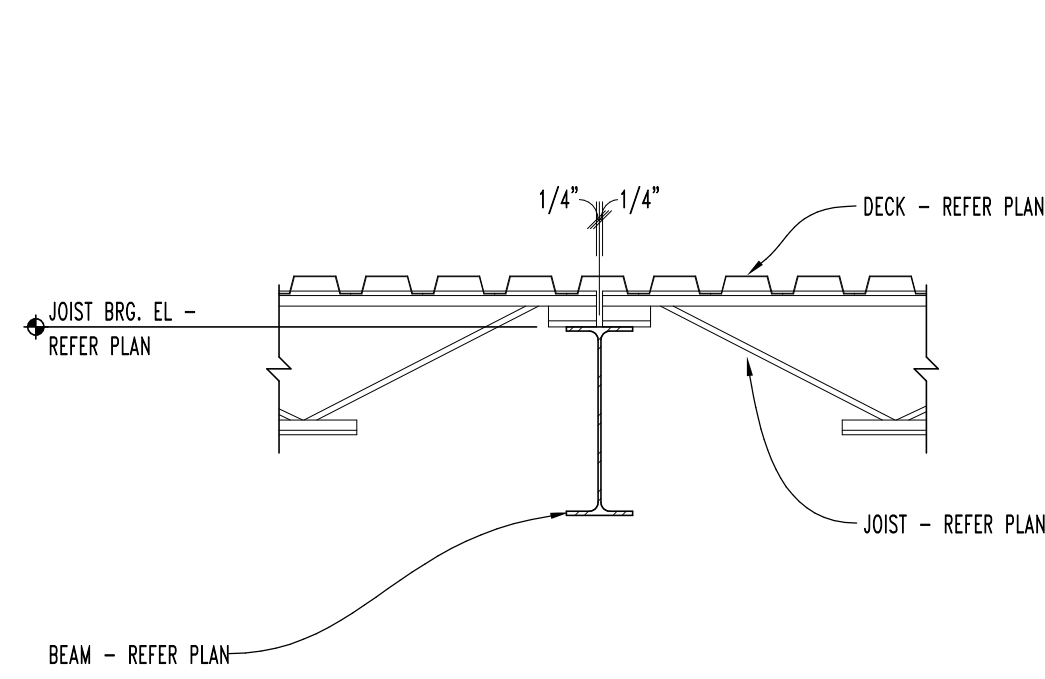
NOTE: ALL COLUMN TO BASE PLATE WELDS SHALL MEET THE REQUIREMENTS OF TABLE J2.4 OF THE AISC MANUAL UNLESS NOTED OTHERWISE.  
STD. NUT & WASHER PROVIDER & WASHER Ø CONTRACTORS OPTION



BASE PLATE SCHEDULE

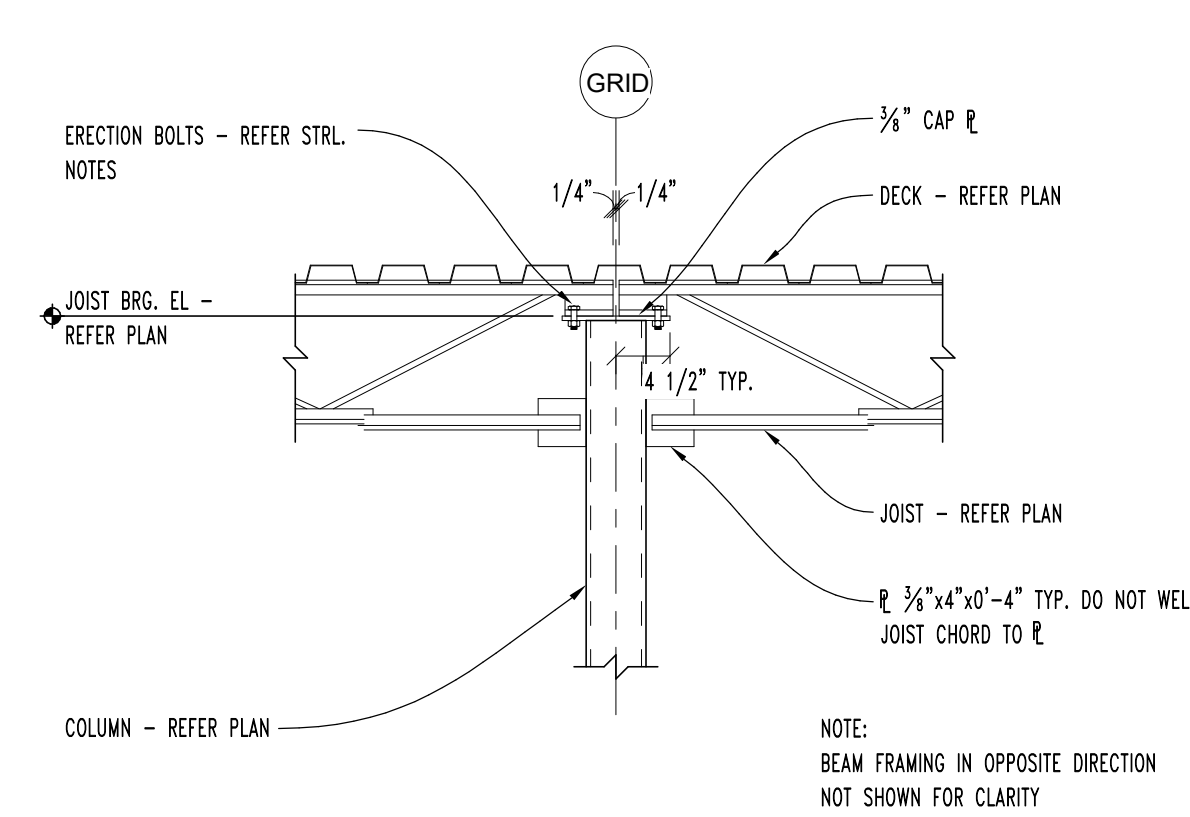


SCALE: 3/4" = 1'-0"



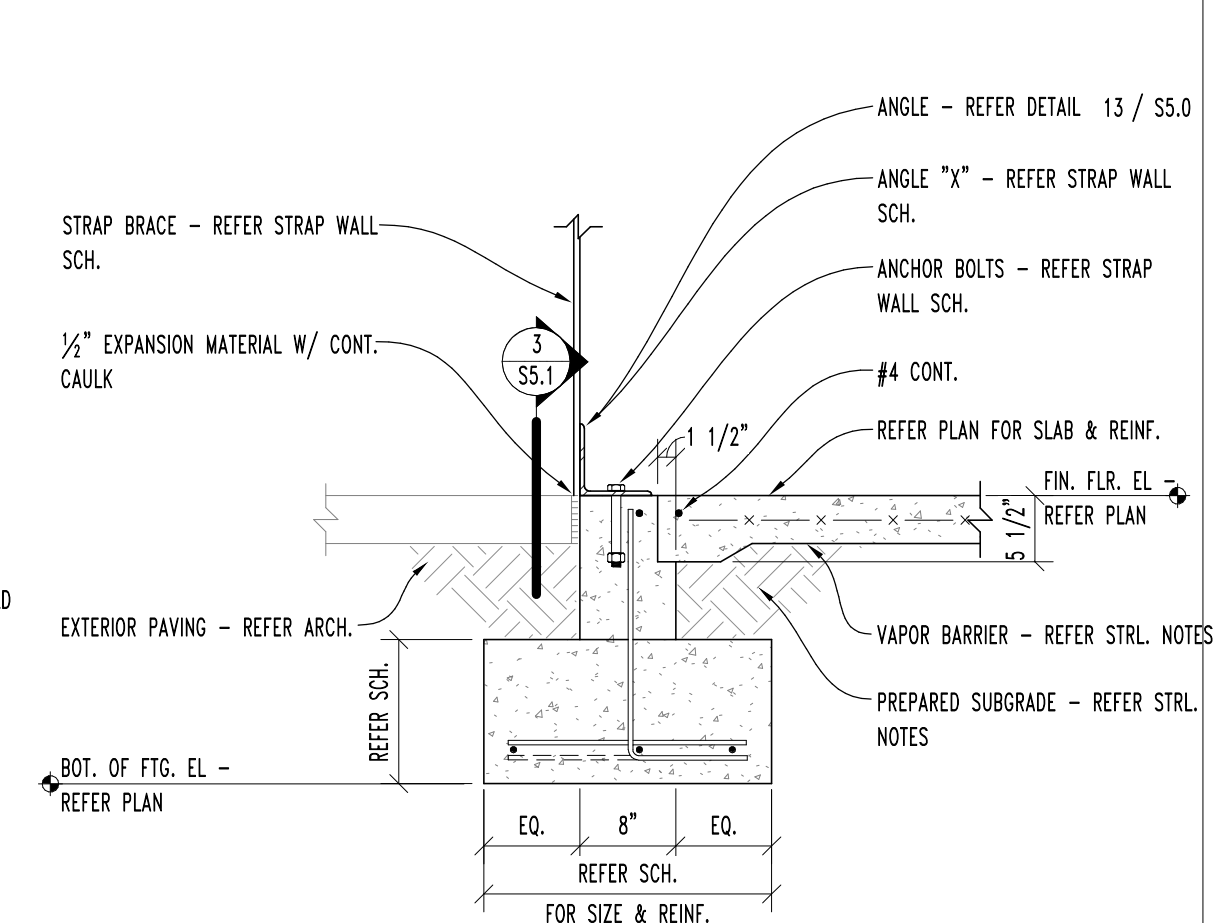
TYPICAL JOIST TO W BEAM CONNECTION

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



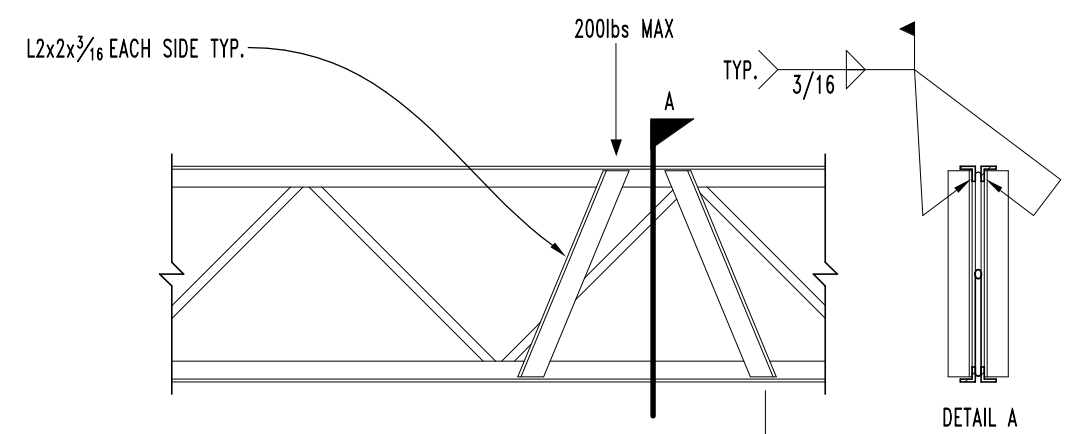
TYPICAL HSS COLUMN CONNECTION

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



TYPICAL STUD TO TRACK DETAIL

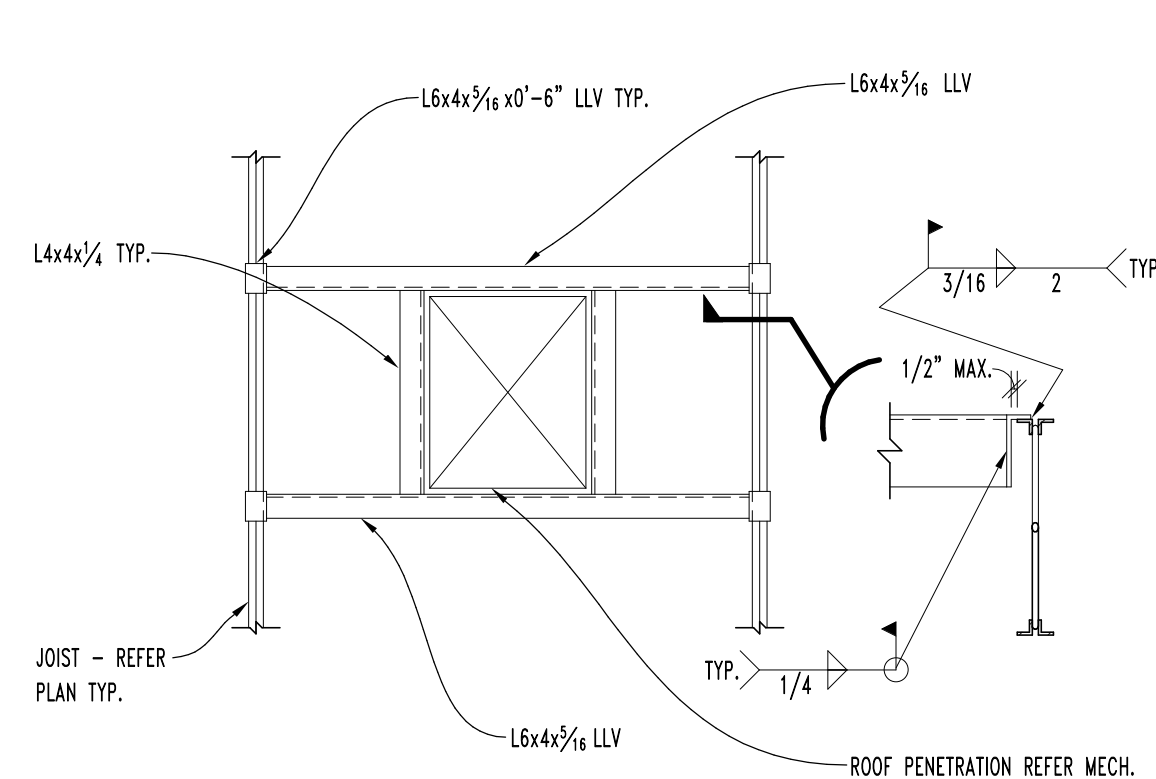
SCALE: N.T.S.



- NOTES:
- LOADS SUPPORTED FROM BOTTOM CHORD OF JOIST SHALL HAVE L2x2x3/8 EACH SIDE TO ADJACENT PANEL POINT ON TOP CHORD.
  - LOADS SUPPORTED BY TOP CHORD OF JOISTS SHALL HAVE L2x2x3/8 EACH SIDE TO ADJACENT PANEL POINT ON BOTTOM CHORD.
  - LOADS IN EXCESS OF 200 LBS SHALL NOT BE SUPPORTED BY JOIST WITHOUT PRIOR APPROVAL OF ENGINEER.
  - LOADS SUPPORTED WITHIN 4 INCHES OF A PANEL POINT DO NOT REQUIRE ANGLES TO OPPOSITE CHORD.

TYPICAL JOIST REINFORCING

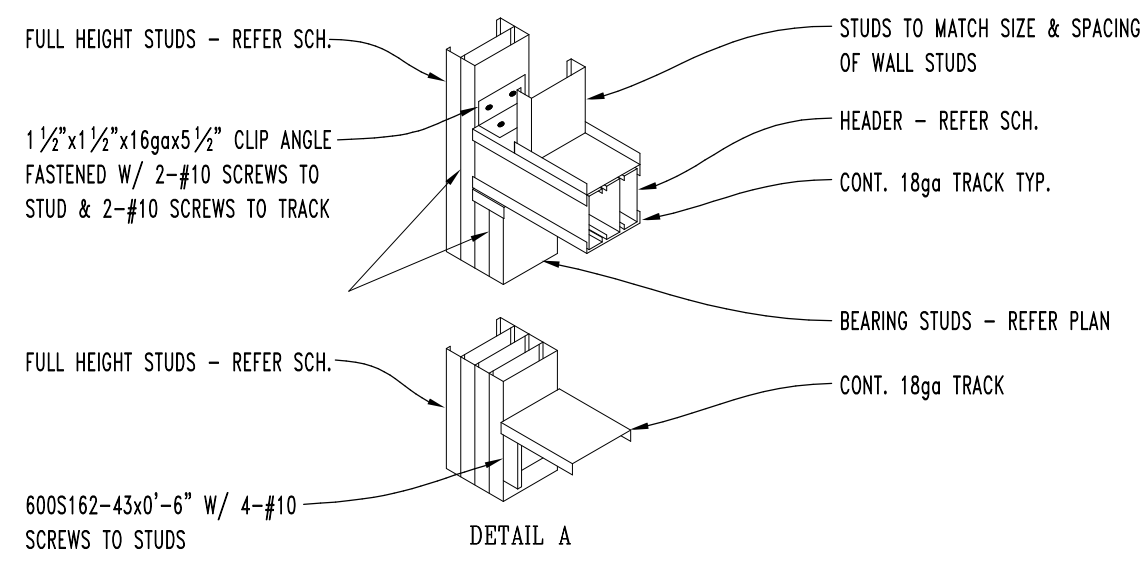
SCALE: 3/4" = 1'-0"



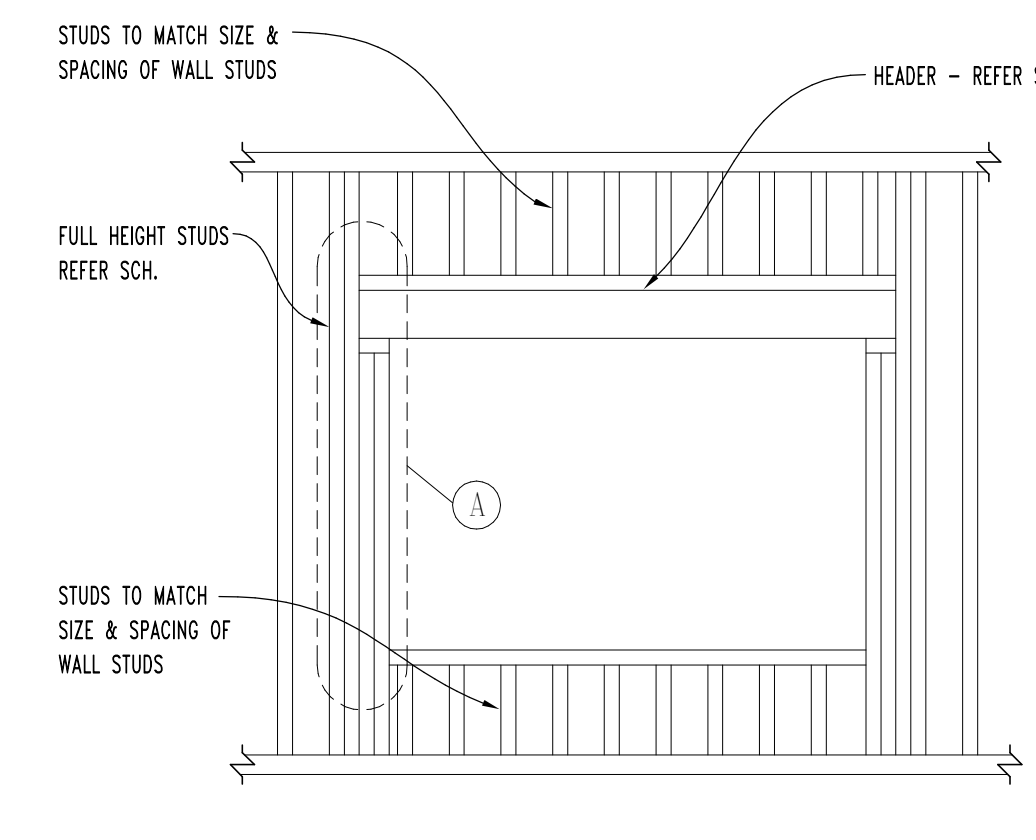
TYPICAL ROOF FRAME

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

HEADER SCHEDULE			
MARK	HEADER	BEARING STUDS	FULL HEIGHT STUDS
(H1)	2-400S162-43	1-600S162-43	2-600S162-43

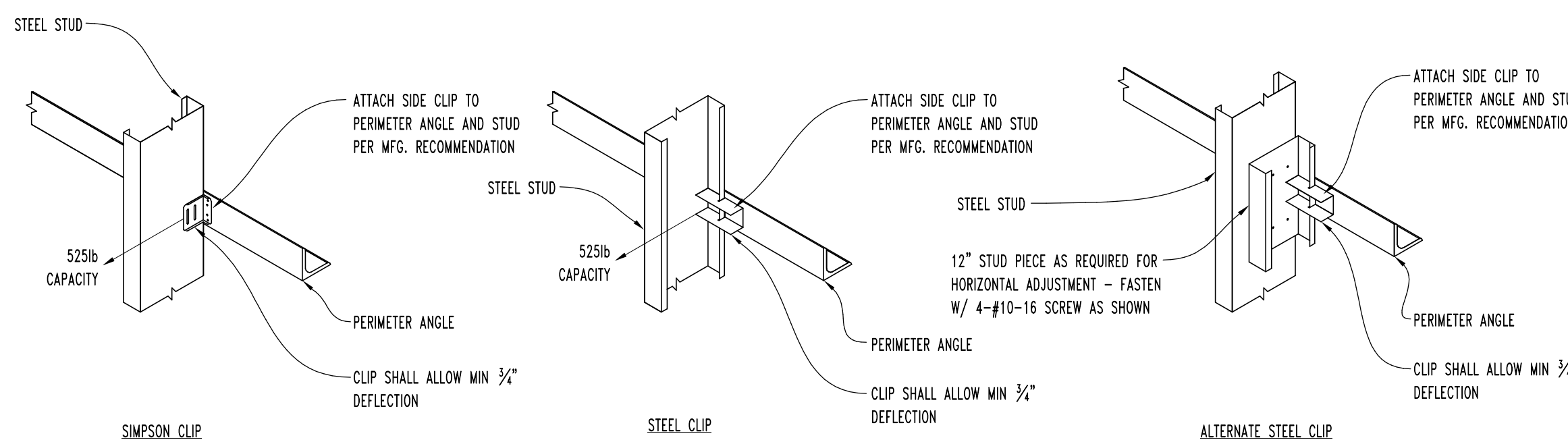


SCALE: 3/4" = 1'-0"



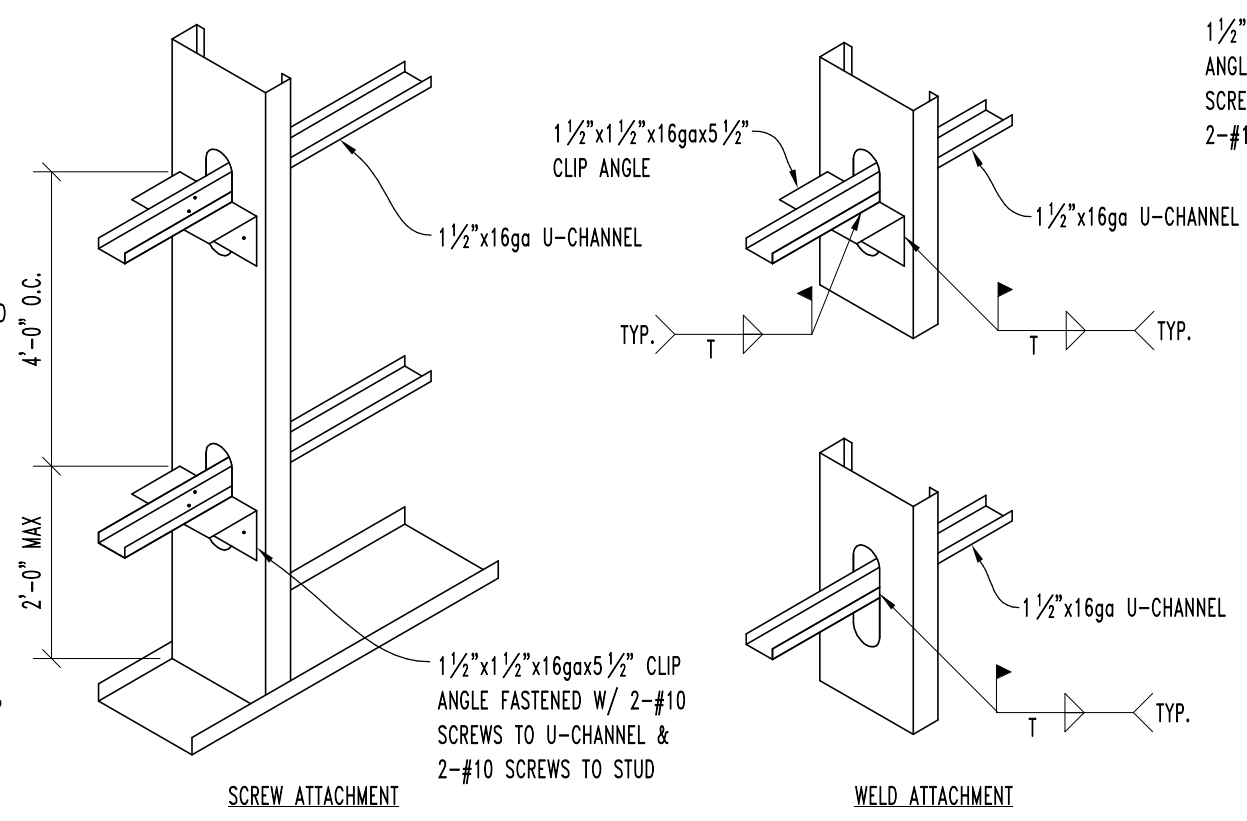
TYPICAL WALL BRIDGING

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



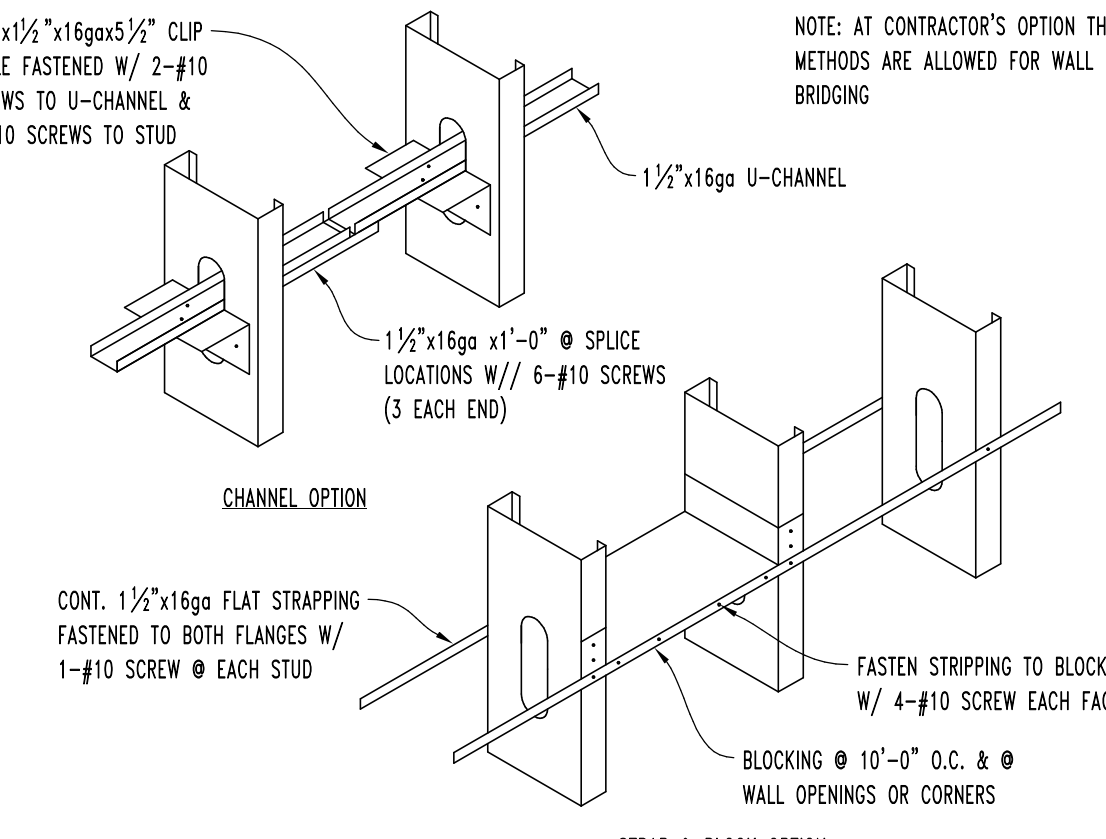
TYPICAL SLIDE CLIP

SCALE: N.T.S.



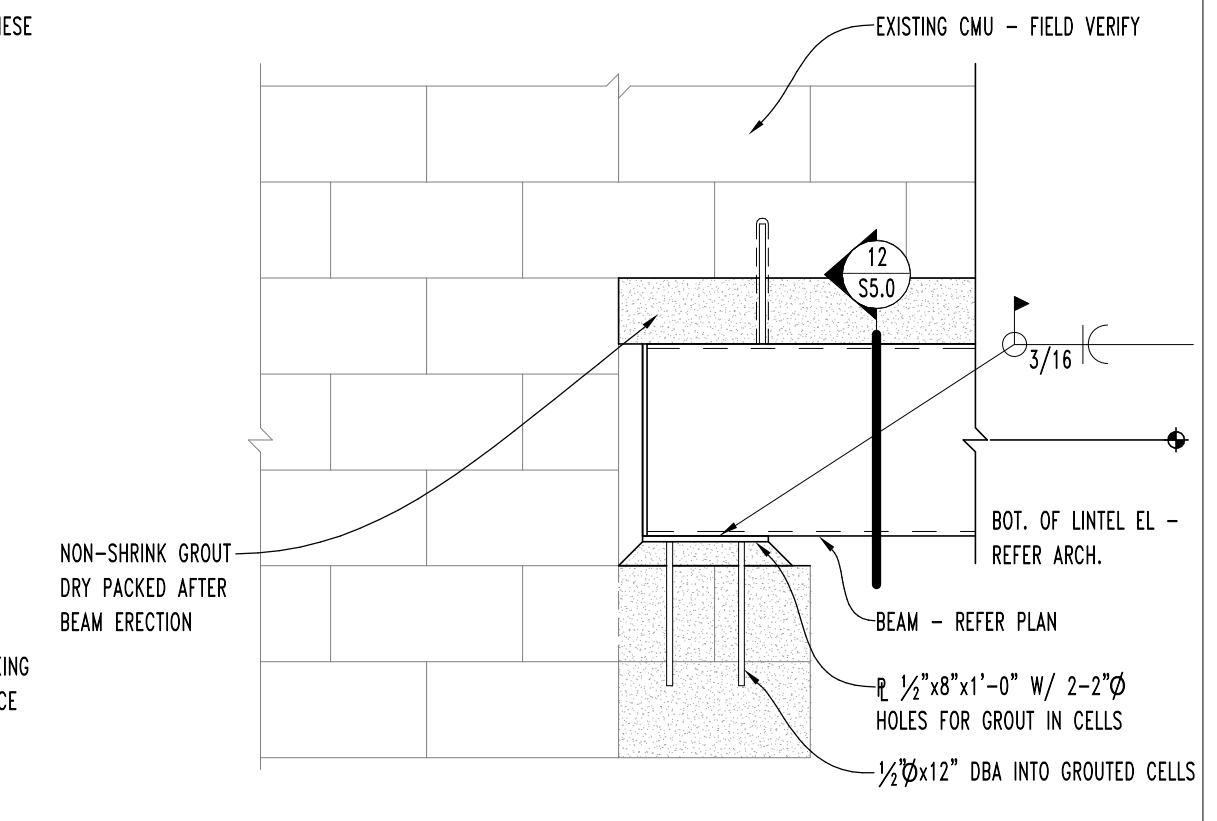
TYPICAL WALL BRIDGING

SCALE: N.T.S.



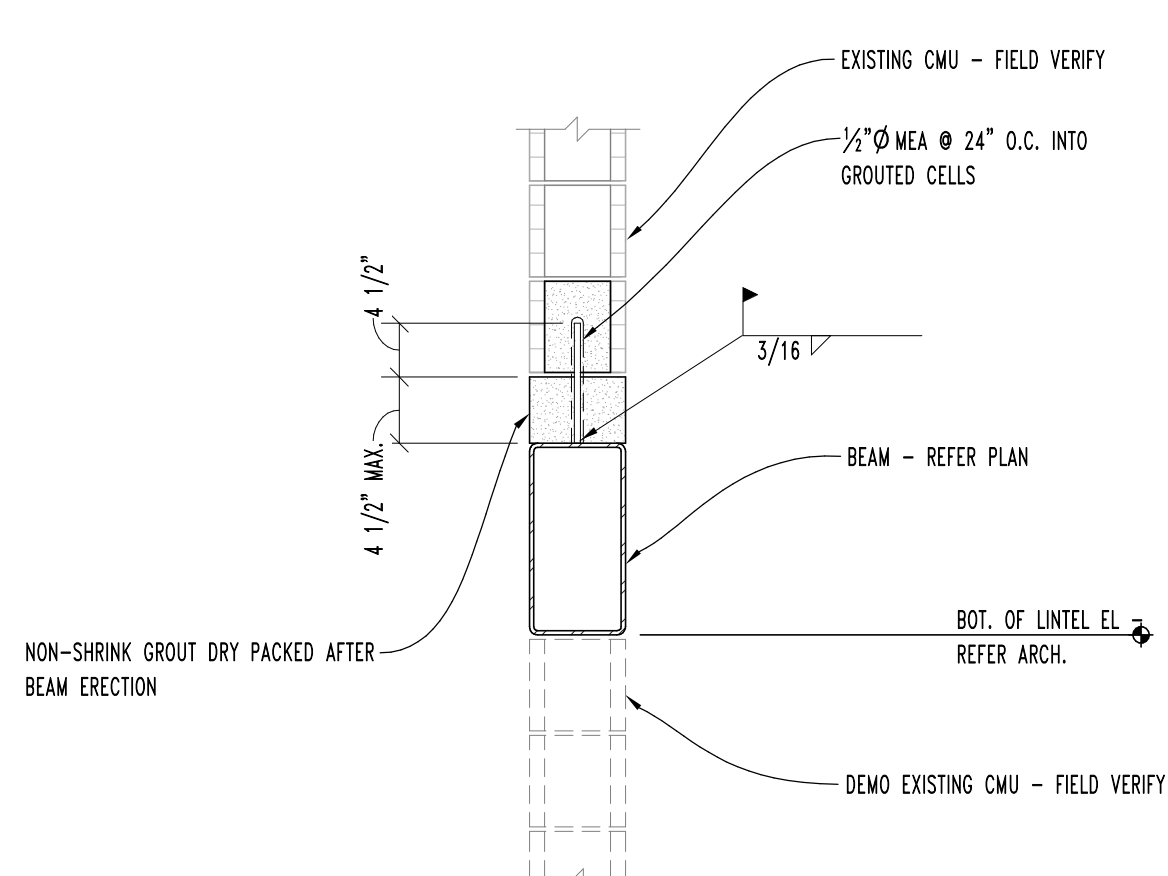
TYPICAL WALL BRIDGING

SCALE: N.T.S.



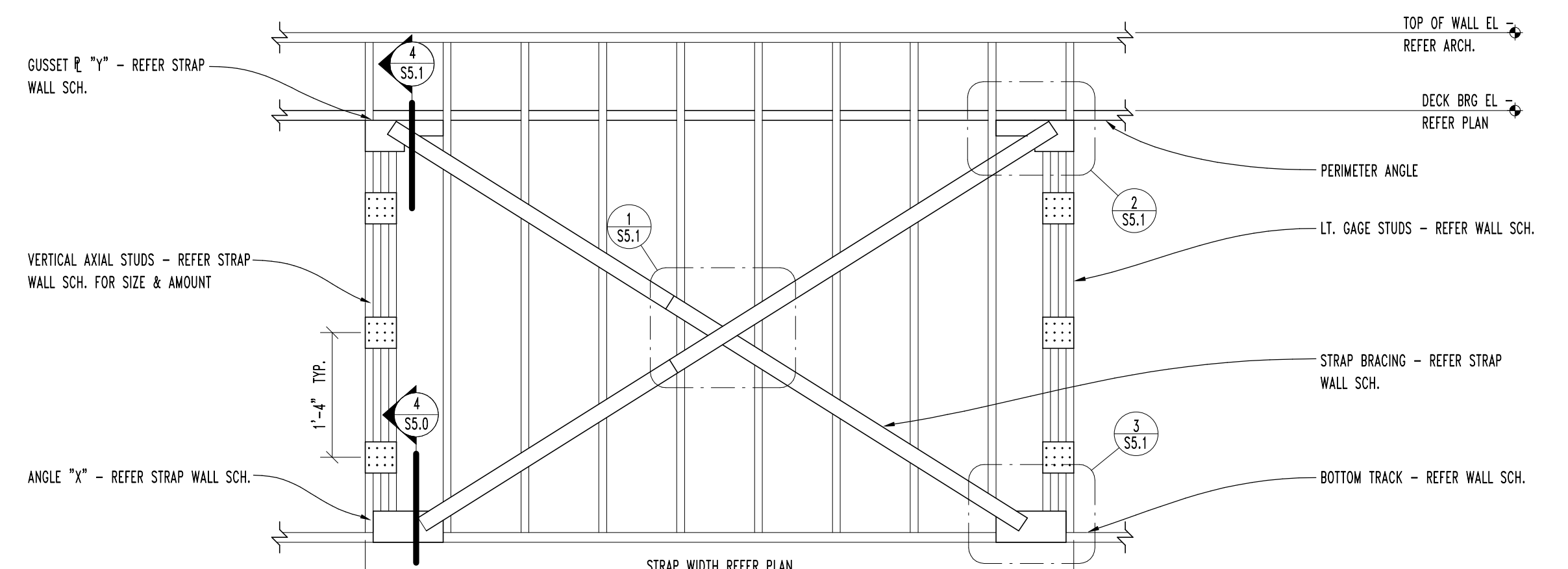
TYPICAL HSS BEAM TO HSS COLUMN CONNECTION

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



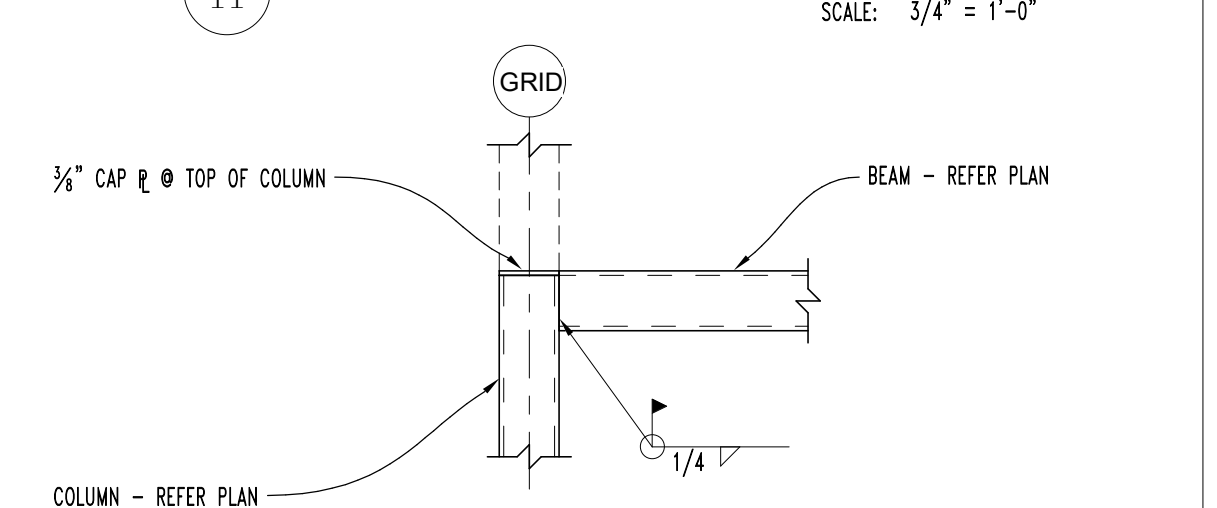
TYPICAL PERIMETER DECK ANGLE SPLICE

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



TYPICAL ROOF FRAME

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



TYPICAL HSS BEAM TO HSS COLUMN CONNECTION

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

**STUBBS ENGINEERING, INC.**  
277 E. AMADOR AVE. SUITE 200  
LAS CRUCES, NM 88001  
PH: (575) 993-5228  
SEI JOB NO: S01-036



4872 AGGIE INNOVATION SPACE EC1

1025 Stewart St.  
Las Cruces, NM

REVISION DATE

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Date:  
Sheet:

TYPICAL FRAMING DETAILS  
S5.0



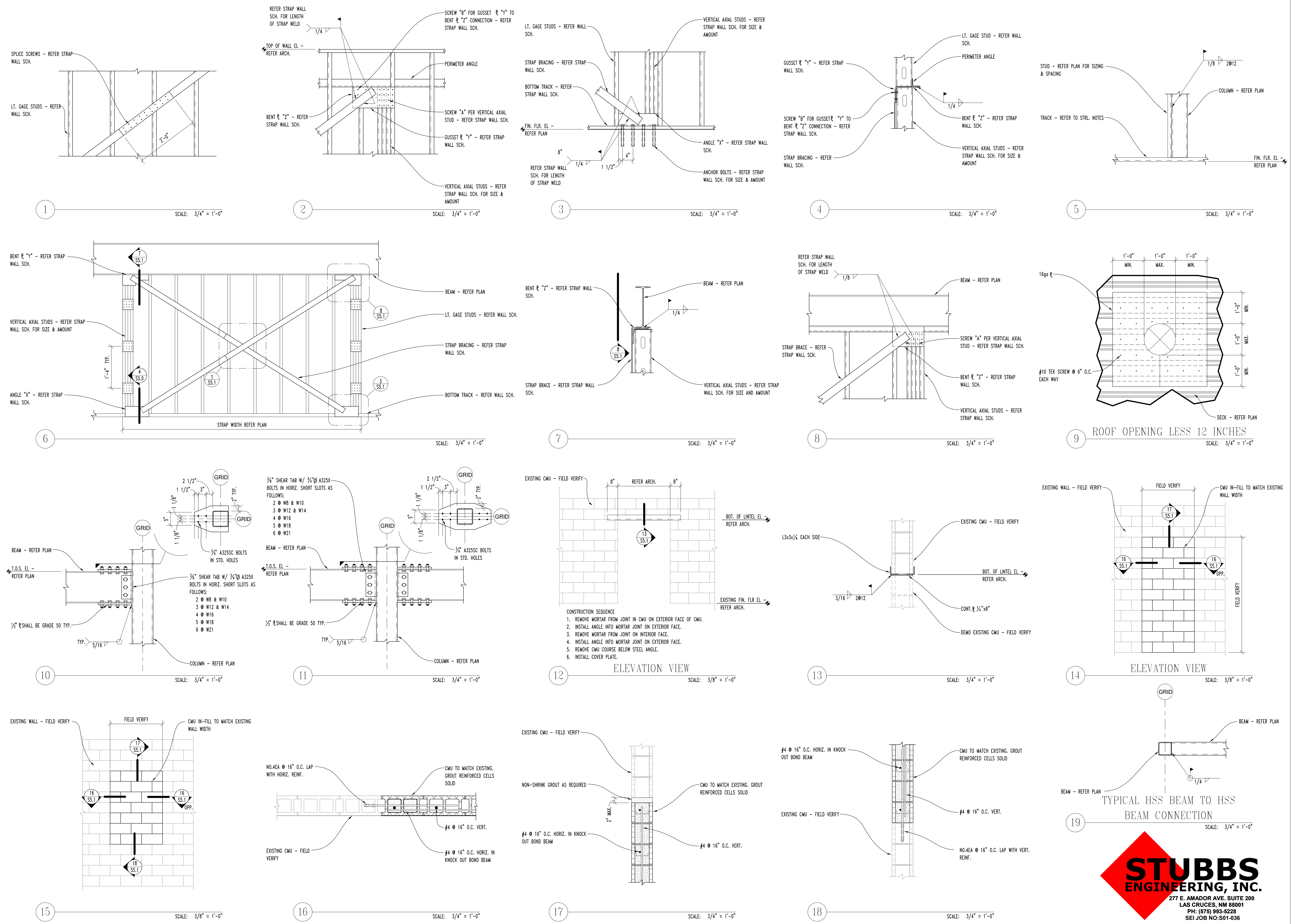
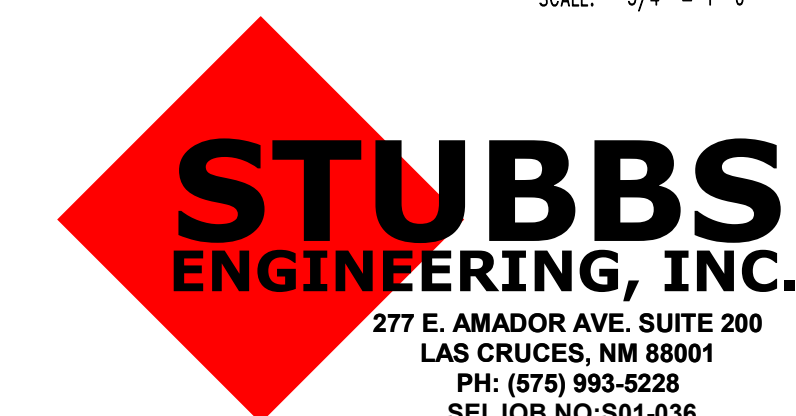
4872 AGGIE  
INNOVATION  
SPACE EC1

1025 Stewart St.  
Las Cruces, NM

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Project no: \_\_\_\_\_  
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TYPICAL  
FRAMING  
DETAILS  
S5.1





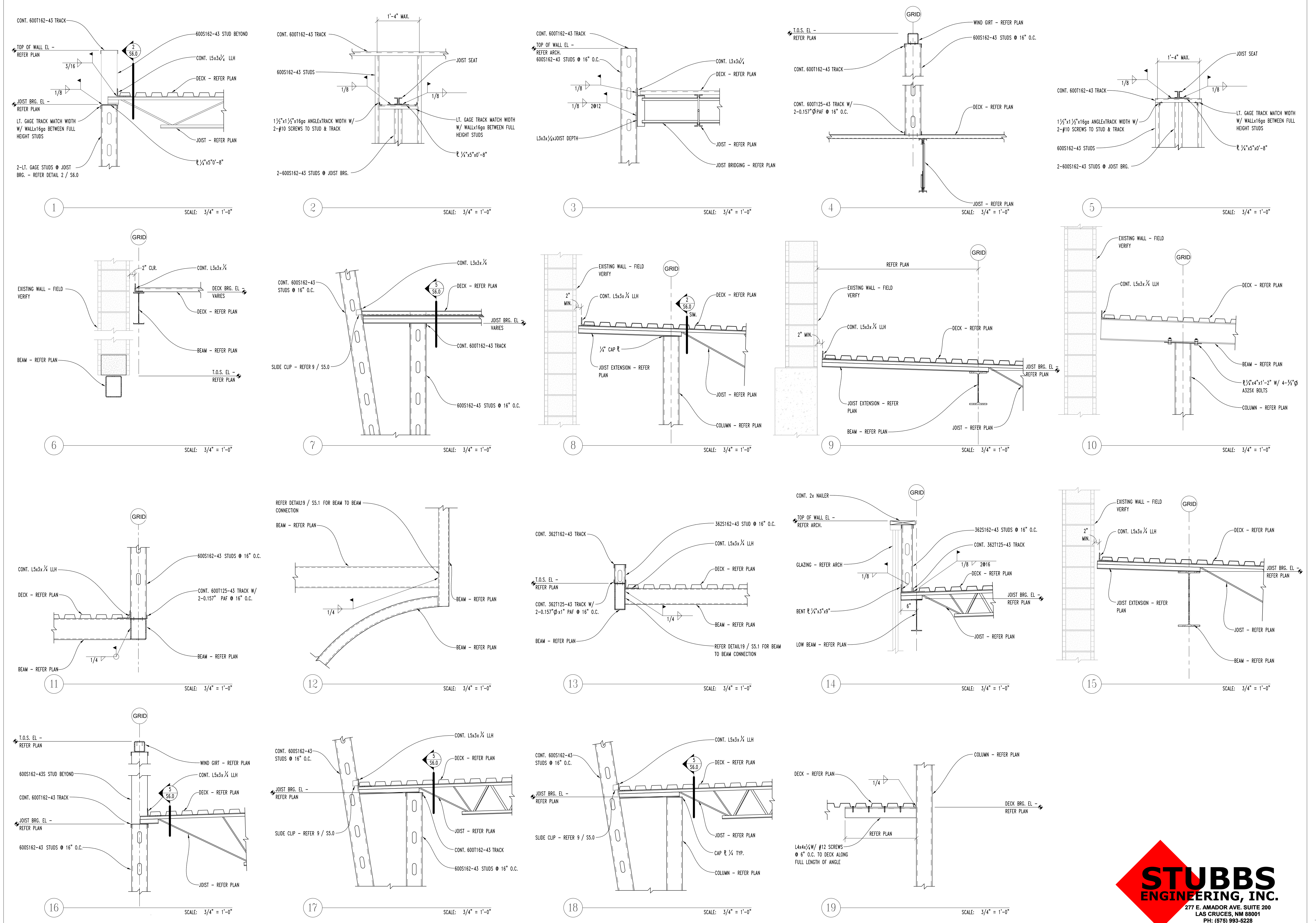
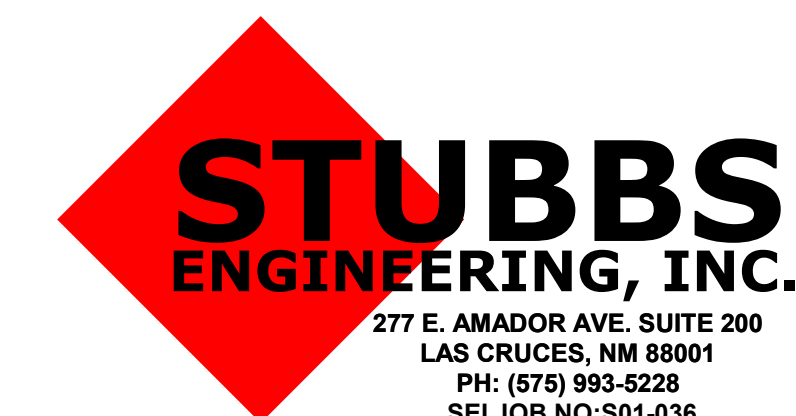
4872 AGGIE  
INNOVATION  
SPACE EC1

1025 Stewart St.  
Las Cruces, NM

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FRAMING  
DETAILS  
S6.0





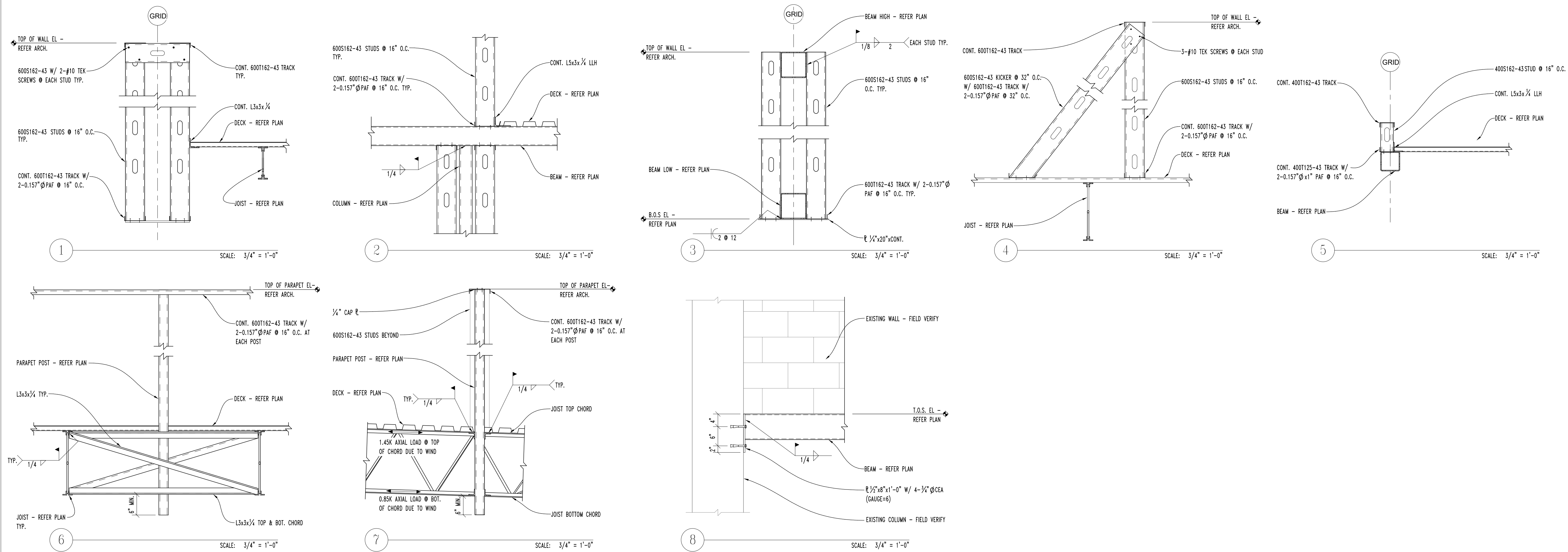
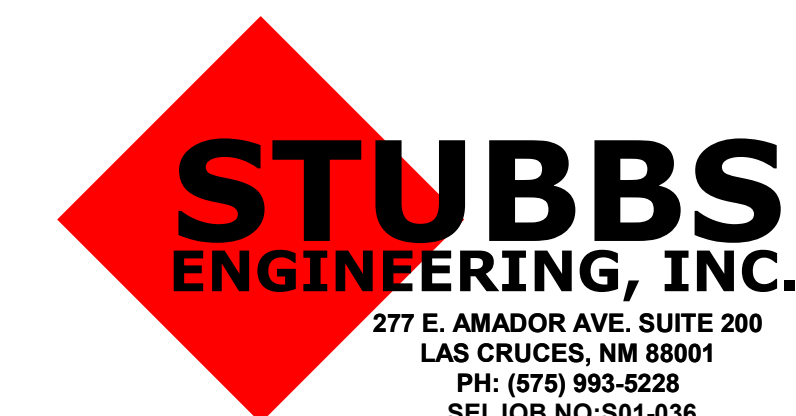
4872 AGGIE  
INNOVATION  
SPACE EC1

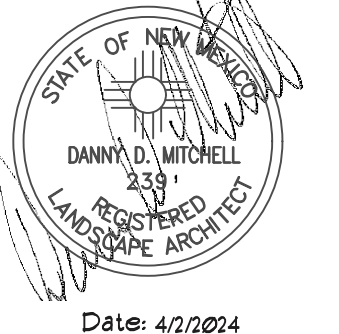
1025 Stewart St.  
Las Cruces, NM

REVISION \_\_\_\_\_ DATE \_\_\_\_\_

Project no: \_\_\_\_\_  
Date: 2024-04-11  
Sheet: \_\_\_\_\_

FRAMING  
DETAILS  
S6.1





**4842 AGGIE  
INNOVATION  
SPACE EC1**

1025 Stewart St.  
Las Cruces, NM

REVISION \_\_\_\_\_ DATE \_\_\_\_\_

Project no: 23.16  
Date: March 2024

LANDSCAPE  
AND IRRIGATION PLAN

LS-101

**LANDSCAPE LEGEND**

QTY	INSTALL SIZE	COMMON/ BOTANICAL NAME	MATURE WATER USE
<b>Shrubs</b>			
8	5 Gal.	Lantana (Yellow) <i>Lantana species</i>	2x3
8	5 Gal.	Centennial Coyote Bush <i>Baccharis species</i>	3x4
161		Landscape Gravel / Filter Fabric <i>Match Street Frontage</i> <i>Re-use existing if possible</i>	
444		Landscape Gravel / Filter Fabric <i>Match Street Frontage</i> <i>Re-use existing if possible</i>	
136		Oversize Landscape Gravel / Filter Fabric <i>2-4" Adobe Rose</i>	
1341		Total Landscape Area Provided	

**LANDSCAPE NOTES:**

Landscape area is to be reworked. Attempt is made to get information from NMSU on how it is currently routed but if cant get anything specific, general notation on how to adapt the existing irrigation to the new layout will be needed. Rock and planting to be matched, on south side of the building. All plant materials to be irrigated using the existing irrigation system. Contractor shall examine existing system and adapt new plantings.

**IRRIGATION LEGEND**

	SLEEVES	Class 200 PVC	2 SIZES LARGER THAN PIPE TO BE SLEEVED.
	Drip Line, Tree Drip Emmitter	Polypipe	
	Drip Line, Shrub Drip Emmitter Line	Polypipe	
	Drip Emmitter Tree Irrigation	RAINBIRD,	SEE DETAIL

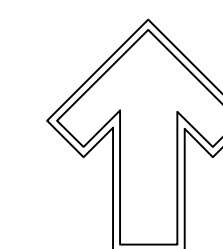
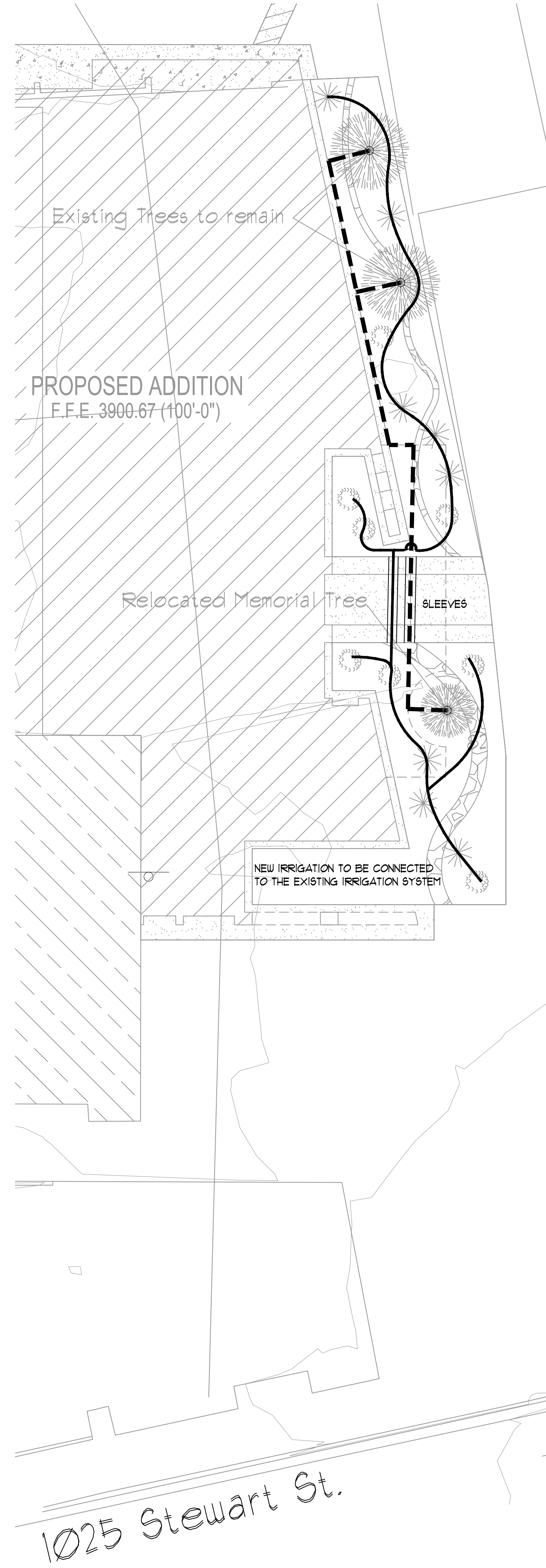
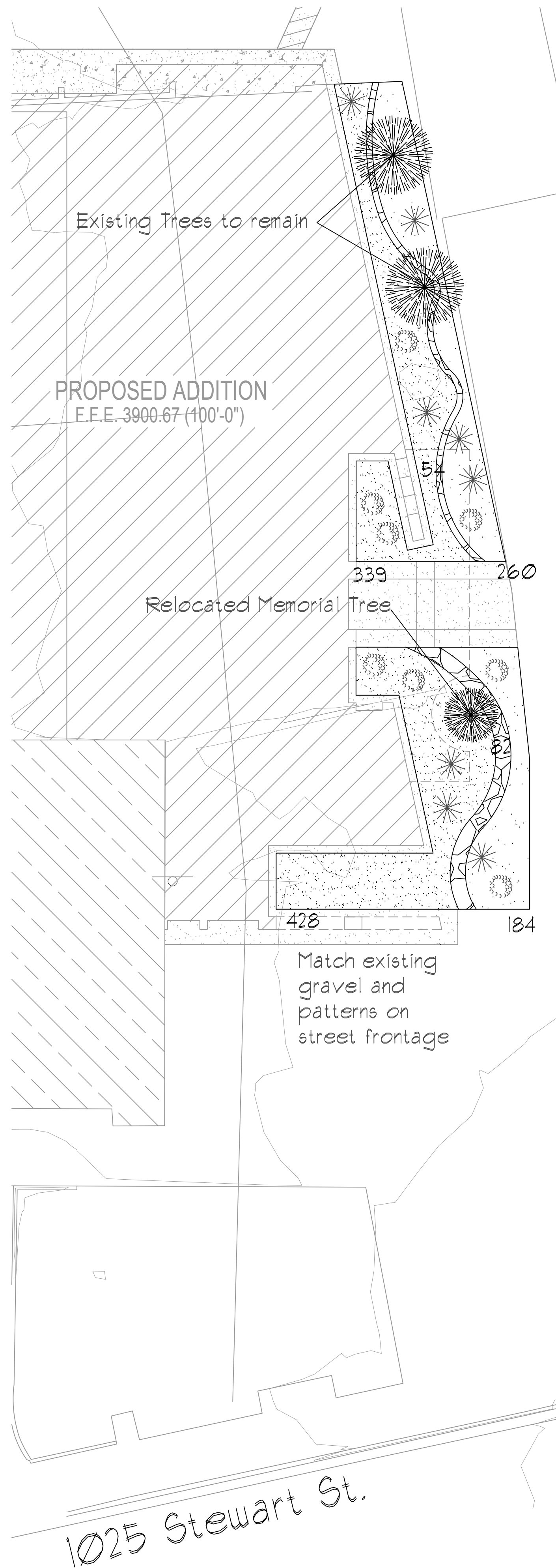
Size Equipment as Required for Flow Rate

**IRRIGATION NOTES**

- CONTRACTOR SHALL VERIFY ALL DIMENSIONS, ELEVATIONS, EQUIPMENT QUANTITIES, AND UTILITY LOCATIONS PRIOR TO BEGINNING WORK.
- CONTRACTOR SHALL NOTIFY LANDSCAPE ARCHITECT OF ANY DISCREPANCIES IN PLANS OR SPECIFICATIONS PRIOR TO BEGINNING OR CONTINUING WORK.
- THE IRRIGATION CONTRACTOR SHALL MAKE NO SUBSTITUTIONS, DELETIONS, OR ADDITIONS TO THIS PLAN WITHOUT APPROVAL OF THE LANDSCAPE ARCHITECT.
- ALL CONSTRUCTION SHALL CONFORM TO CITY, COUNTY, STATE, AND FEDERAL REQUIREMENTS. IT SHALL BE THE RESPONSIBILITY OF THE IRRIGATION CONTRACTOR TO ENSURE THAT ALL IRRIGATION EQUIPMENT MEETS GOVERNMENT REGULATIONS. CONTRACTOR SHALL ALSO BE RESPONSIBLE FOR OBTAINING ANY NECESSARY PERMITS OR APPROVALS.
- THIS PLAN IS SCHEMATIC AND DUE TO THE NATURE OF CONSTRUCTION SLIGHT FIELD MODIFICATIONS MAY BE NECESSARY TO IMPLEMENT PLAN.
- IRRIGATION SYSTEMS CONNECTED TO POTABLE WATER SUPPLY, SHALL HAVE A BACKFLOW PREVENTER INSTALLED.
- IRRIGATION LATERAL LINES, MAIN LINES AND EQUIPMENT MAY BE SHOWN OUTSIDE PROPERTY LINES ON THIS PLAN, ALL IRRIGATION LINES AND EQUIPMENT ARE TO BE WITHIN AND INSTALLED WITHIN THE LIMITS OF THE PROPERTY LINE.
- ALL IRRIGATION SLEEVING TO BE THE RESPONSIBILITY OF THE IRRIGATION CONTRACTOR. ELECTRICAL WIRES FOR IRRIGATION VALVES AND IRRIGATION LINES ARE TO BE PLACED IN SEPARATE SLEEVES. SEE SLEEVING DETAIL.
- SUPPLY LINE AND WATER METER TO BE PROVIDED BY OWNER. BACKFLOW PREVENTOR TO BE PROVIDED BY IRRIGATION CONTRACTOR. IRRIGATION CONTRACTOR'S POINT OF CONNECTION TO BEGIN DOWNSTREAM OF THE IRRIGATION WATER METER.

**IRRIGATION NOTES:**

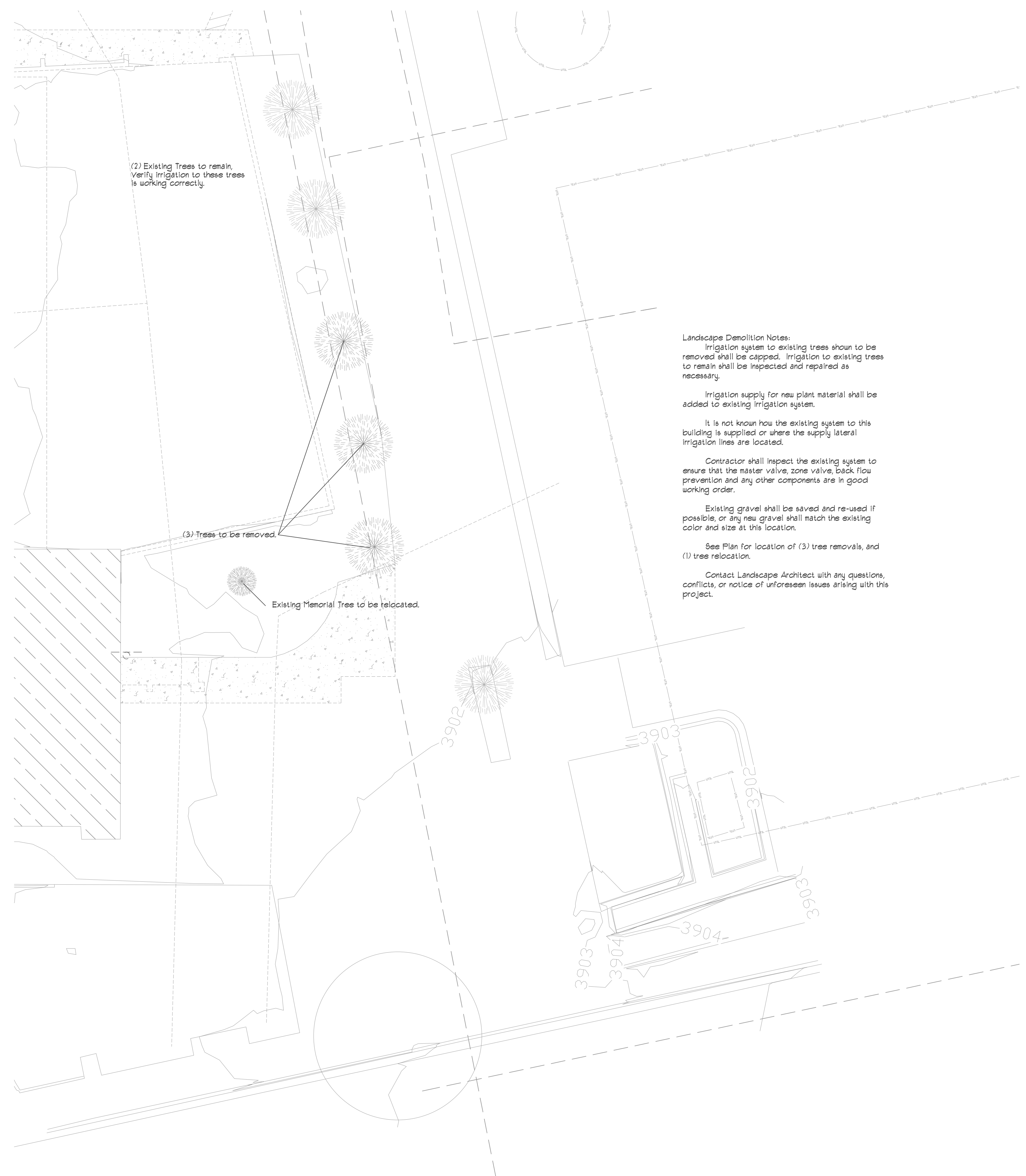
- IRRIGATION SYSTEM REPAIR AND COMPONENTS SHALL MEET THE REQUIREMENTS AND STANDARDS FOR NMSU.
- CONTROLLER LOCATION IS UNKNOWN.
- WATER SOURCE, SIZE, PRESSURE, LOCATION OF UNDERGROUND SUPPLY LINES OR COMPONENTS IS UNKNOWN.
- CONTRACTOR SHALL ENSURE THAT COMPLETED SYSTEM IS FUNCTIONING CORRECTLY TO ALL EXISTING AND PROPOSED PLANT MATERIAL.
- CONTRACTOR SHALL PROVIDE TO THE UNIVERSITY AN AS-BUILT DRAWING DETAILING IRRIGATION REPAIRS AND LAYOUT TO THIS SYSTEM.



GRAPHIC SCALE  
10 5 0 5 10  
SCALE: 1" = 10'-0"



Date: Apr 04, 2024 - 10:09pm User: Denny DT  
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Last Saved By: Denny DT Apr 04, 2024 - 12:40pm  
Layout Name: 24 by 36



**Landscape Demolition Notes:**  
Irrigation system to existing trees shown to be removed shall be capped. Irrigation to existing trees to remain shall be inspected and repaired as necessary.  
Irrigation supply for new plant material shall be added to existing irrigation system.  
It is not known how the existing system to this building is supplied or where the supply lateral irrigation lines are located.  
Contractor shall inspect the existing system to ensure that the master valve, zone valve, back flow prevention and any other components are in good working order.  
Existing gravel shall be saved and re-used if possible, or any new gravel shall match the existing color and size at this location.  
See Plan for location of (3) tree removals, and (1) tree relocation.  
Contact Landscape Architect with any questions, conflicts, or notice of unforeseen issues arising with this project.



ADDITION

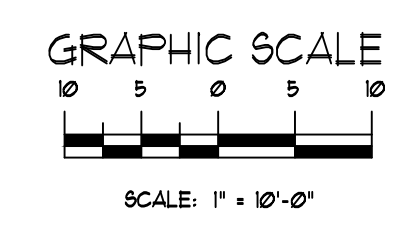
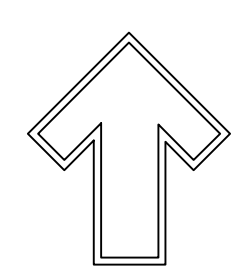
# 4842 AGGIE INNOVATION SPACE EC1

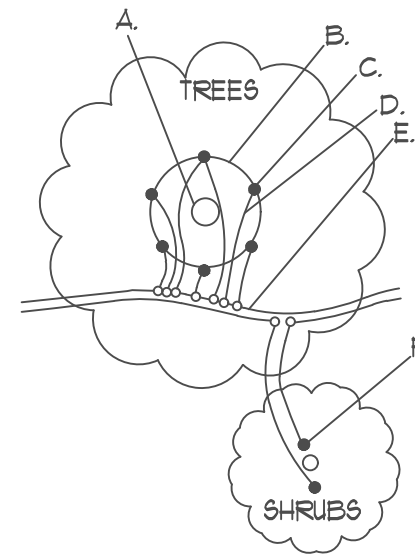
1025 Stewart St.  
Las Cruces, NM

REVISION	DATE

Project no: 23.16  
Date: March 2024  
Sheet:

DEMOLITION PLAN

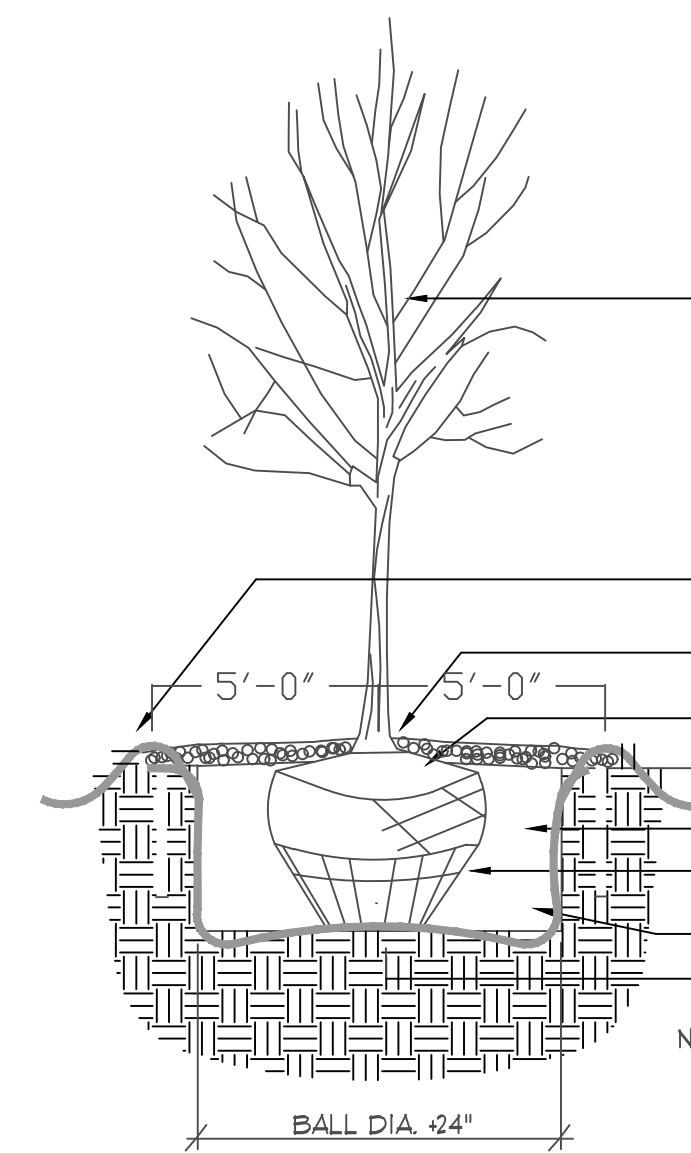




- A. TREE TRUNK/ROOT CROWN
  - B. 24" CIRCLE FROM TRUNK
  - C. EMITTERS
  - D. 1/8" DISTRIBUTION LINE
  - E. PE DRIFLINE
  - F. EMITTER PLACED WITHIN 6" OF PLANT STEM
- NOTE: PLACE EMITTER ABOVE PLANT ON SLOPE

**EMITTER PLACEMENT DETAIL**

NT.S.



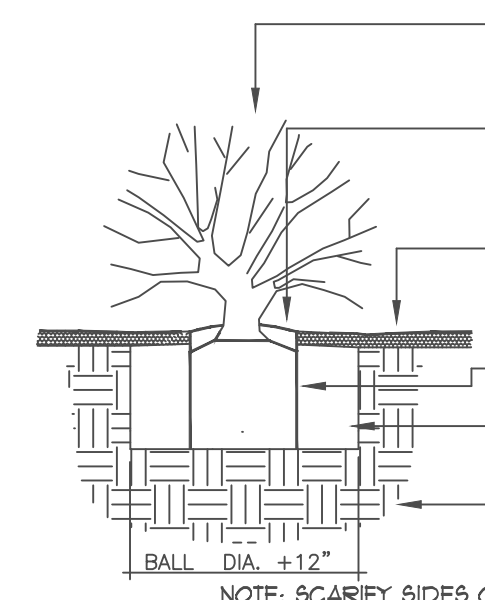
DO NOT CUT LEADER. PRUNE DAMAGED OR DEAD WOOD AFTER PLANTING AND STAKING. KEEP CROWN SHAPE TYPICAL OF SPECIES.

- PLANTINGS TO BE PLANTED WITH BERMED SAUCERS, (CONTINUOUS) TO MITIGATE WATER RUNOFF.
- 4" DEPTH WOOD MULCH TO EDGE OF SAUCER 10' DIA. RING.
- PLANT TREE 2-4" ABOVE SURROUNDING GRADE LEVEL ON UNDISTURBED SOIL. SET TRUNK FLIMS.
- WATER SAUCER TO BE 2.5' FROM TRUNK OF DECIDUOUS TREES.
- ADD ROOT STIMULATOR TO NATIVE BACKFILL.
- REMOVE ALL TWINE AND WIRE FROM BALL.
- REMOVE WIRE BASKETS.
- INITIAL STABILIZING BACKFILL 1/3 DEPTH, COMPACTED.
- UNDISTURBED PIT BOTTOM FOR ROOTBALL BASE

NOTE: SCARIFY SIDES OF PLANTING PIT TO LOOSEN SOIL. DO NOT INSTALL TREES WITH PLANTING PIT SIDES GLAZED.

**TREE PLANTING DETAIL**

NT.S.



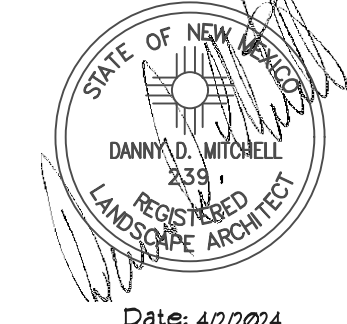
- ALLOW SHRUBS TO REACH FULL MATURE SIZE WITH MINIMAL PRUNING
- SET SHRUB AT GRADE GROWN IN CONTAINER OR GROWN IN NURSERY. SET TOP OF JUNIPER'S ROOTBALL TO FINISH GRADE OF MULCH
- APPLY SPECIFIED MULCH AT 3" DEPTH
- SCORE CONTAINER ROOTBALLS WITH ENCIRCLING ROOTS
- USE ROOT STIMULATOR WITH NATIVE SOIL BACKFILL. ADD SLOW RELEASE FERTILIZER
- REMOVE CONTAINER. PLACE ROOTBALL ON UNDISTURBED SOIL.

NOTE: SCARIFY SIDES OF PLANTING PIT TO LOOSEN SOIL. DO NOT INSTALL SHRUBS WITH PLANTING PIT SIDES GLAZED.

**SHRUB PLANTING DETAIL**

NT.S.

Landscape Architect



Date: 4/2/2024

ADDITION

**4842 AGGIE INNOVATION SPACE EC1**

1025 Stewart St.  
Las Cruces, NM

**DEMOLITION PLAN**

REVISION	DATE

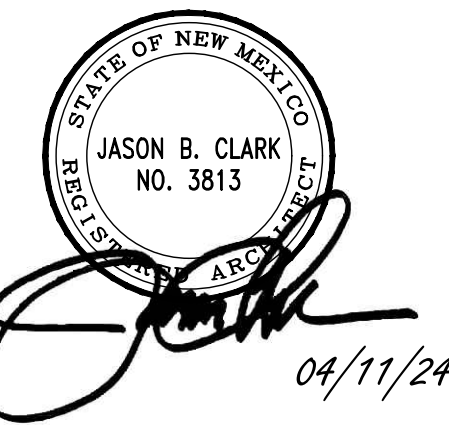
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Date: March 2024  
Sheet:

LANDSCAPE DETAIL



Date: Apr 04, 2024 - 10:08am User: Danny DT  
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 Last Saved By: Danny DT Apr 04, 2024 - 12:10pm  
 Layout: Name: 24 by 36





ADDITION

# 4842 AGGIE INNOVATION SPACE EC1

1025 Stewart St.  
Las Cruces, NM

REVISION DATE

Project no: 23.16  
Date: April 2024  
Sheet:

## DEMOLITION SITE PLAN

# AS001

### KEYED NOTES

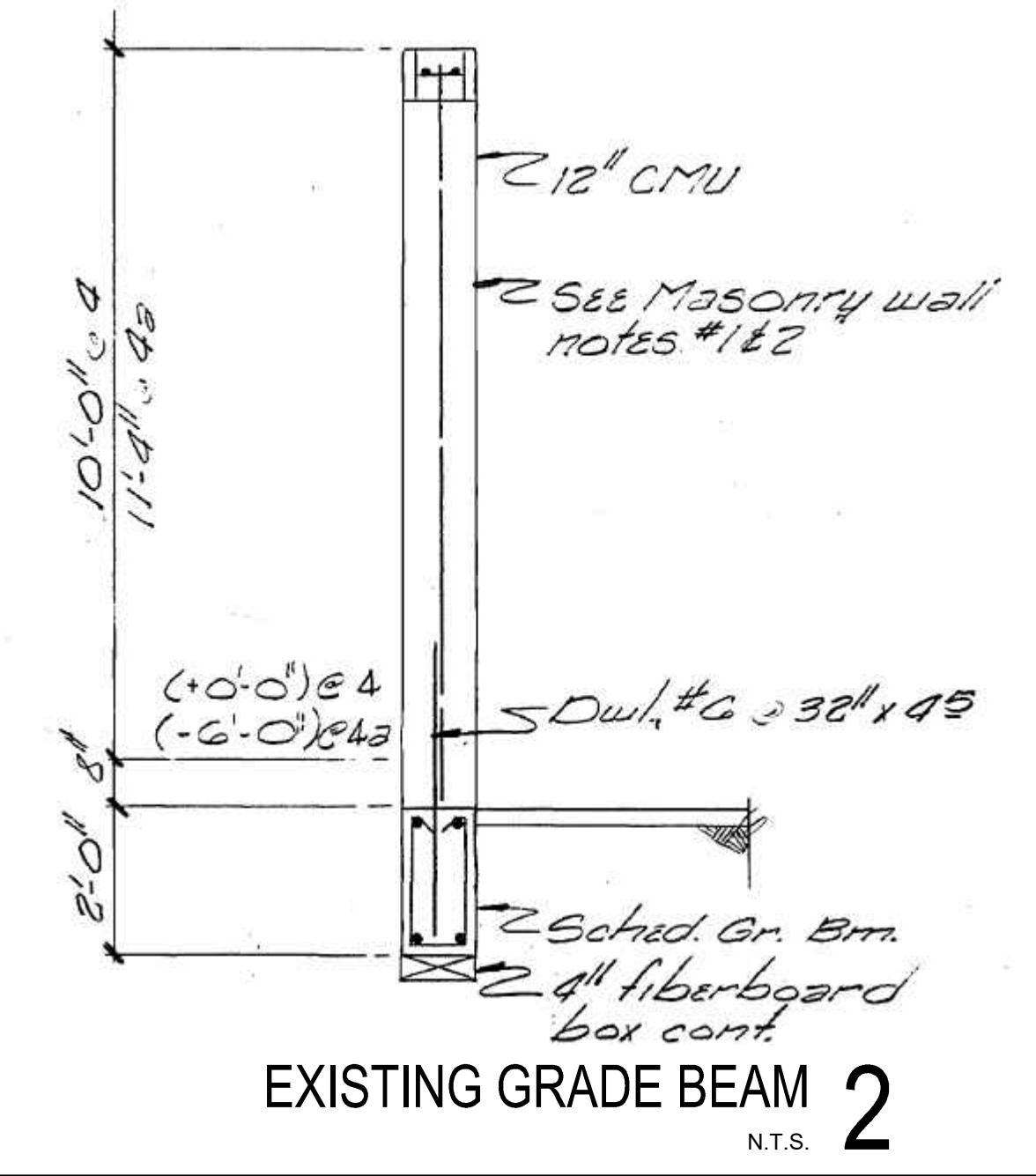
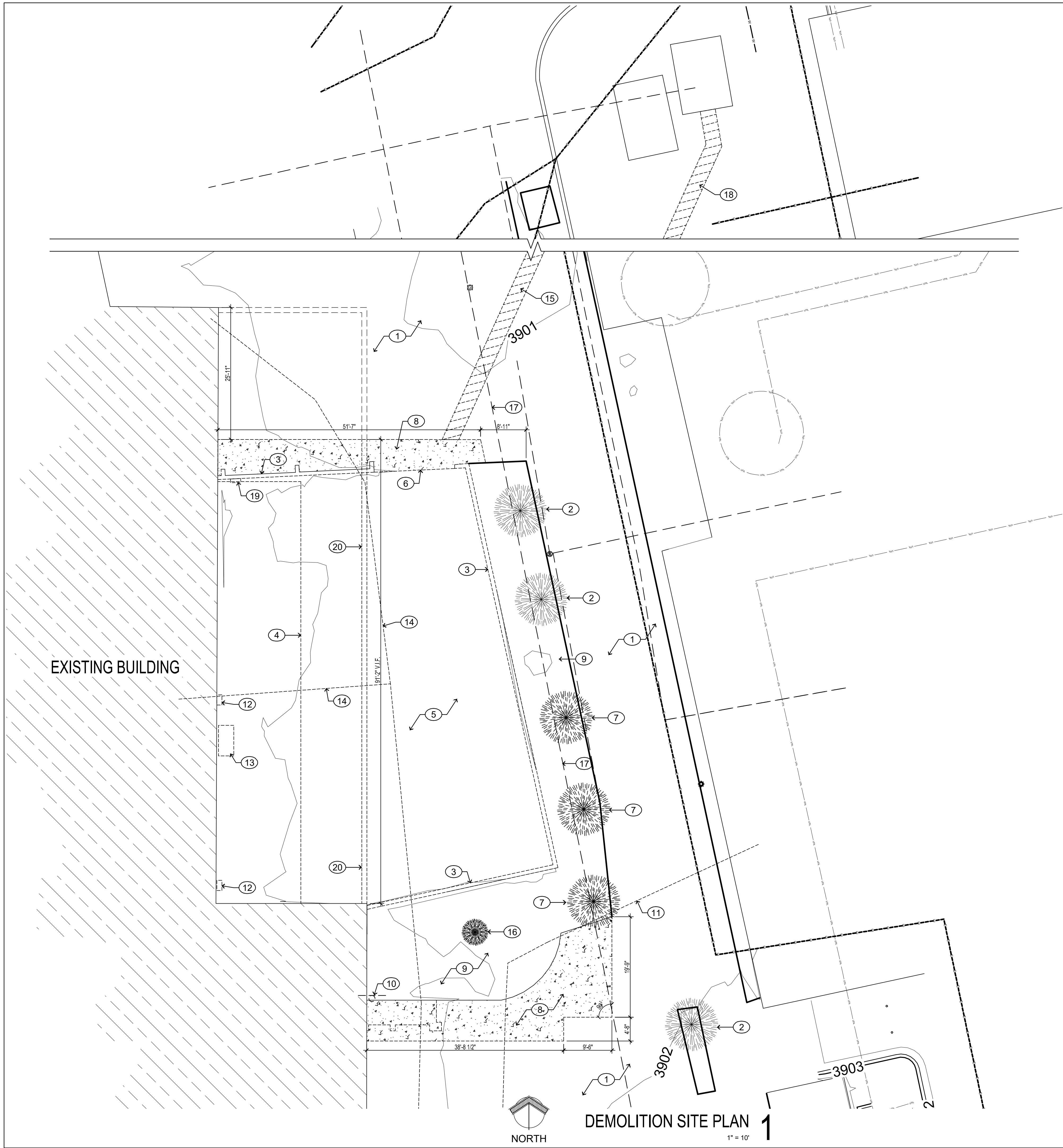
1. EXISTING TO REMAIN.
2. EXISTING TREE TO REMAIN.
3. DEMOLISH EXISTING YARD WALL IN ITS ENTIRETY, INCLUDING REMOVAL OF FOOTINGS. PROVIDE NEW COMPACTED STRUCTURAL FILL AS REQUIRED.
4. DEMOLISH EXISTING CONCRETE WALK WITHIN STORAGE YARD IN ITS ENTIRETY.
5. REMOVE EXISTING GATE.
6. REMOVE EXISTING TREE.
7. REMOVE EXISTING TREE.
8. SAW CUT AND REMOVE EXISTING CONCRETE WALK AS SHOWN. VERIFY ALL DIMENSIONS IN FIELD PRIOR TO COMMENCING DEMOLITION.
9. REMOVE EXISTING PLANTS AND LANDSCAPE MATERIAL. RE-ROUTE/RE-CONFIGURE IRRIGATION LINES AS REQUIRED TO ENSURE WATER SUPPLY TO TREES TO REMAIN. CONTRACTOR IS RESPONSIBLE FOR PROTECTING ALL EXISTING LANDSCAPING AND IRRIGATION DURING CONSTRUCTION.
10. REMOVE EXISTING SIGN AND CONCRETE FOOTING.
11. EXISTING GAS LINE TO BE RELOCATED OUTSIDE OF NEW ADDITION PROJECT AREA. GC TO SAW CUT AND PATCH EXISTING CONTRACT AS REQUIRED. COORDINATE ALL REG. GAS SHUTDOWNS) W/ ARCHITECT AND NMSU.
12. EXISTING GAS MANIFOLD TO BE RELOCATED, SEE MEP.
13. EXISTING AIR COMPRESSOR AND TANK TO BE RELOCATED. COORDINATE W/ OWNER.
14. EXISTING GAS LINE TO BE RELOCATED. SEE MEP.
15. CUT AND PATCH EXISTING CONCRETE FOR NEW ELECTRICAL SERVICE. VERIFY EXACT PATHWAY WITH UTILITY PROVIDER AND NMSU FACILITIES DEPARTMENT.
16. EXISTING MEMORIAL TREE TO BE RELOCATED BY CONTRACTOR.
17. EXISTING STORM DRAIN AND INLETS TO REMAIN. CONTRACTOR TO USE CAUTION SINCE PROJECT IS IN CLOSE PROXIMITY TO DRAIN. CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIRING ALL DAMAGE THAT OCCURS DURING CONSTRUCTION. TRENCH TO EXISTING EPEC SWITCH/Vault. COORDINATE WITH EPEC IN FIELD AND ELECTRICAL DRAWINGS FOR EXACT ROUTING AND SERVICE ORIGIN. FILL TRENCH AND REPLACE GRAVEL TO ORIGINAL CONDITION.
18. EXISTING ELECTRICAL PANEL TO BE RELOCATED, SEE ELECTRICAL.
19. EXISTING GRADE BEAM TO BE DEMOLISHED IN ITS ENTIRETY WITHIN AREA OF NEW WORK. SEE STRUCTURAL AND 2/AS001.

### GENERAL DEMOLITION NOTES

- A. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND CONDITIONS SHOWN ON PLANS AND EXISTING SITE. THE ARCHITECT SHALL BE NOTIFIED OF CONFLICTS OR VARIATIONS PRIOR TO COMMENCEMENT OF CONSTRUCTION. THE ARCHITECT MAKES NO CLAIMS THAT ALL EXISTING CONDITIONS HAVE BEEN SHOWN IN THE CONSTRUCTION DOCUMENTS. THE CONTRACTOR SHALL TAKE ALL PRECAUTIONS NECESSARY TO ENSURE NO DAMAGE IS CAUSED TO CONCEALED CONSTRUCTION.
- B. THE ARCHITECT PRODUCING THESE PLANS WILL NOT BE RESPONSIBLE FOR FIELD CHANGES AND DECISIONS UNLESS NOTIFIED IN WRITING OF CHANGES AND THEN ONLY BY WRITTEN APPROVAL BY THE ARCHITECT.
- C. CONTRACTOR SHALL NOT SCALE DRAWINGS. IN THE EVENT OF OMISSION OF DIMENSIONS THE CONTRACTOR SHALL NOTIFY THE ARCHITECT PRIOR TO THE COMMENCEMENT OF CONSTRUCTION. FAILURE TO DO SO WILL LEAVE THE CONTRACTOR SOLELY RESPONSIBLE FOR ANY DISCREPANCIES, CORRECTIONS, ETC., RESULTING FROM THE SAME.
- D. THE CONTRACTOR SHALL PROVIDE PROTECTION AS NECESSARY TO PREVENT DAMAGE TO THE EXISTING CONSTRUCTION NOT TO BE REMOVED UNDER CONTRACT AND ANY/ALL ITEMS INDICATED TO REMAIN IN PLACE.
- E. ANY AND ALL ITEMS DAMAGED DURING CONSTRUCTION SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO REPAIR TO A LIKE NEW CONDITION AT HIS EXPENSE.
- F. THE CONTRACTOR SHALL CLEAN UP ALL DEBRIS CAUSED BY THE WORK OF THIS PROJECT AND SHALL SOLELY BE RESPONSIBLE FOR KEEPING THE PREMISES CLEAN AND NEAT AT ALL TIMES.
- G. ANY AND ALL CONFLICTS FOUND DURING CONSTRUCTION SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT IN WRITING SO THAT ADDITIONAL INSTRUCTIONS CAN BE FORWARDED TO THE CONTRACTOR. FAILURE TO DO SO MAY RESULT IN CORRECTIVE ACTION TO BE PERFORMED BY CONTRACTOR AT THEIR EXPENSE.
- H. IF THE CONTRACTOR SUSPECTS THE PRESENCE OF ASBESTOS CONTAINING MATERIALS, THE ARCHITECT SHALL BE NOTIFIED IMMEDIATELY. THE OWNER SHALL BE RESPONSIBLE FOR THE SAFE REMOVAL AND/OR CONTAINMENT OF ALL SUCH MATERIALS, IN ACCORDANCE WITH THE APPLICABLE LAW. ADJUSTMENT TO THE CONSTRUCTION SCHEDULE WILL BE CONSIDERED IF ABATEMENT IS REQUIRED. ANY ASBESTOS REMOVAL WORK SHALL BE COORDINATED BY THE GENERAL CONTRACTOR. THE ARCHITECT ASSUMES NO RESPONSIBILITY FOR THE DETECTION, PRESENCE OR REMOVAL OF ASBESTOS CONTAINING MATERIALS.
- I. THE CONTRACTOR SHALL PROVIDE ALL BARRICADES, FENCES, COVERED WALKS, PLANKING, FENCES LIGHTING, BRACING, SHORING, WARNING SIGNS, GUARDS, ETC. AS REQUIRED FOR PROTECTION OF WORKMEN, THE PUBLIC, BUILDING OCCUPANTS AND ADJOINING PROPERTIES.

### CUTTING & PATCHING NOTES

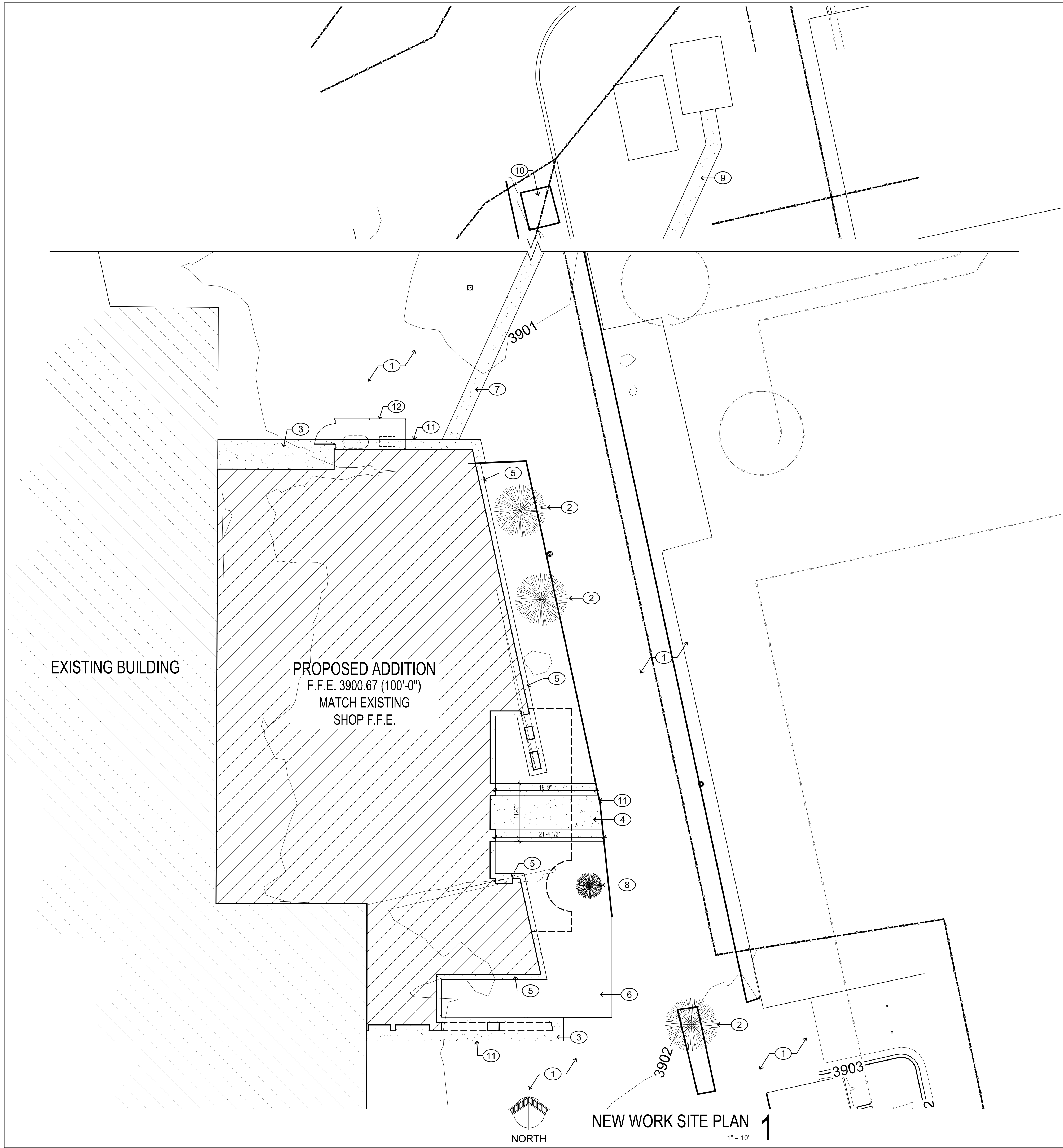
- A. EXECUTE FITTING AND ADJUSTMENT OF PRODUCTS TO PROVIDE FINISHED INSTALLATION TO COMPLY WITH SPECIFIED TOLERANCES AND FINISHES.
- B. EXECUTE CUTTING AND DEMOLITION BY METHODS WHICH WILL PREVENT DAMAGE TO OTHER WORK AND WILL PROVIDE PROPER SURFACES TO RECEIVE INSTALLATION OF REPAIRS AND NEW WORK.
- C. EXECUTE EXCAVATING AND BACKFILLING BY METHODS WHICH WILL PREVENT DAMAGE TO OTHER WORK AND WILL PREVENT SETTLEMENT.
- D. EMPLOY ORIGINAL INSTALLER OR FABRICATOR TO PERFORM CUTTING AND PATCHING FOR:
  1. WEATHER EXPOSED OR MOISTURE RESISTANT ELEMENTS.
  2. SIGHT EXPOSED FINISHED SURFACES.
- E. RESTORE WORK WHICH HAS BEEN CUT OR REMOVED. INSTALL NEW PRODUCTS TO PROVIDE COMPLETED WORK IN ACCORDANCE WITH REQUIREMENTS OF CONTRACT DOCUMENTS.
- F. REFINISH ENTIRE SURFACES AS NECESSARY TO PROVIDE AN EVEN FINISH:
  1. CONTINUOUS SURFACES: TO NEAREST INTERSECTIONS.
  2. ASSEMBLY: REFINISH ENTIRELY.
- G. EXECUTE CUTTING AND FITTING INCLUDING EXCAVATION AND FILL TO COMPLETE THE WORK.
- H. UNCOVER WORK TO INSTALL IMPROPERLY SEQUENCED WORK.
- I. REMOVE AND REPLACE DEFECTIVE OR NON-CONFORMING WORK.
- J. REMOVE SAMPLES OF INSTALLED WORK FOR TESTING WHEN REQUESTED.
- K. PROVIDE OPENINGS IN THE WORK FOR PENETRATION OF MECHANICAL AND ELECTRICAL WORK.
- L. CUT RIGID MATERIALS USING MASONRY SAW OR CORE DRILL. PNEUMATIC TOOLS NOT ALLOWED WITHOUT PRIOR APPROVAL.
- M. EXECUTE PATCHING TO COMPLEMENT ADJACENT WORK. NEW MATERIALS TO BE OF SUFFICIENT THICKNESS TO MAINTAIN A UNIFORM SURFACE OR THICKNESS OF WALL.
- N. FIT PRODUCTS TOGETHER TO INTEGRATE WITH OTHER WORK.
- O. FIT WORK AIR TIGHT TO PIPES, SLEEVES, DUCTS, CONDUIT, AND OTHER PENETRATIONS THROUGH SURFACES.
- P. MATCH OF NEW FINISH MATERIALS SHALL BE TO OWNER'S SATISFACTION.



DEMOLITION SITE PLAN 1  
1" = 10'

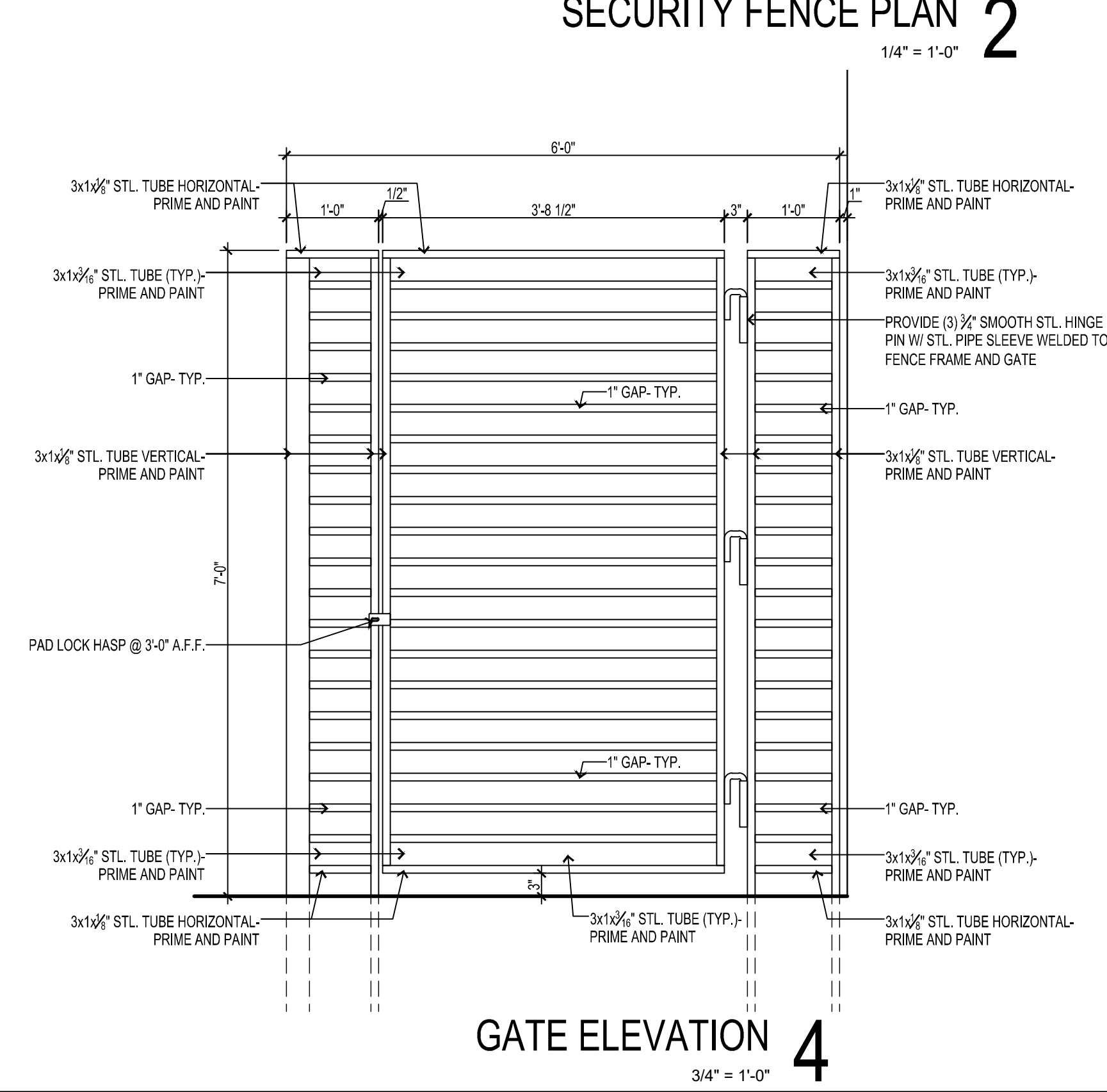
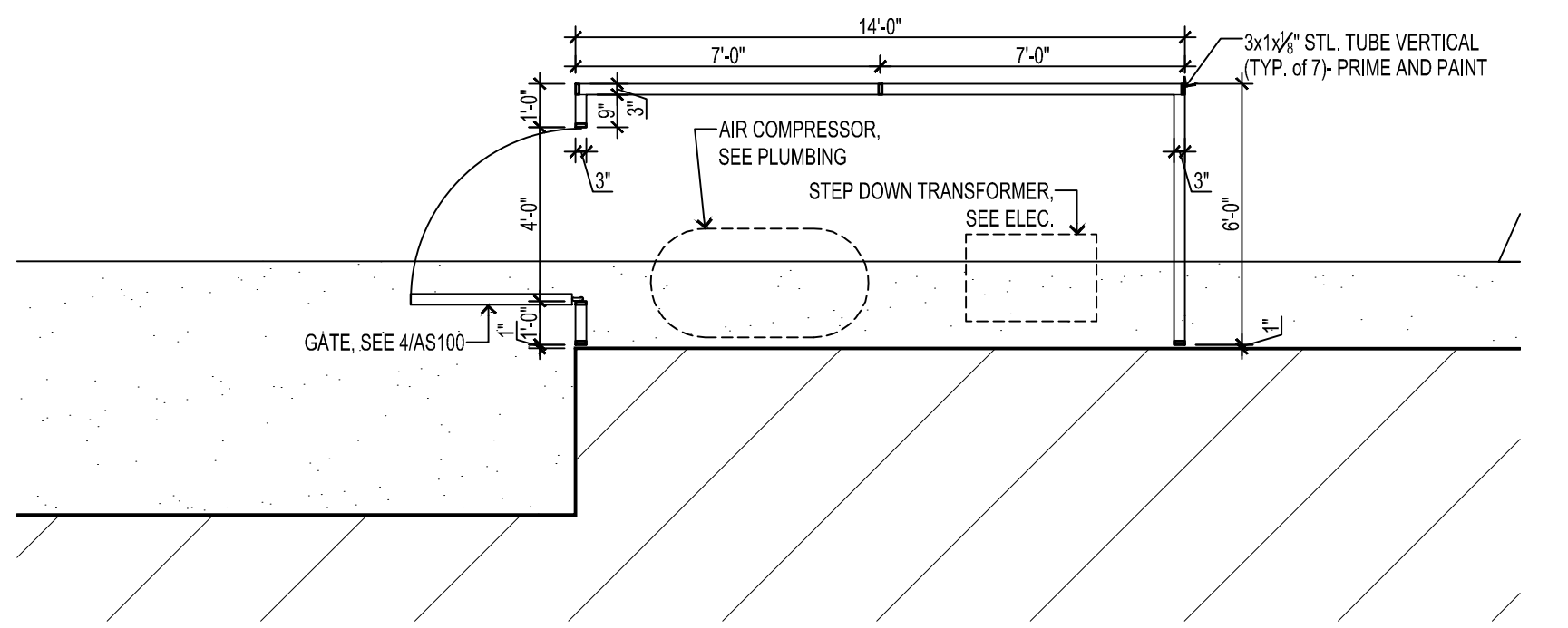
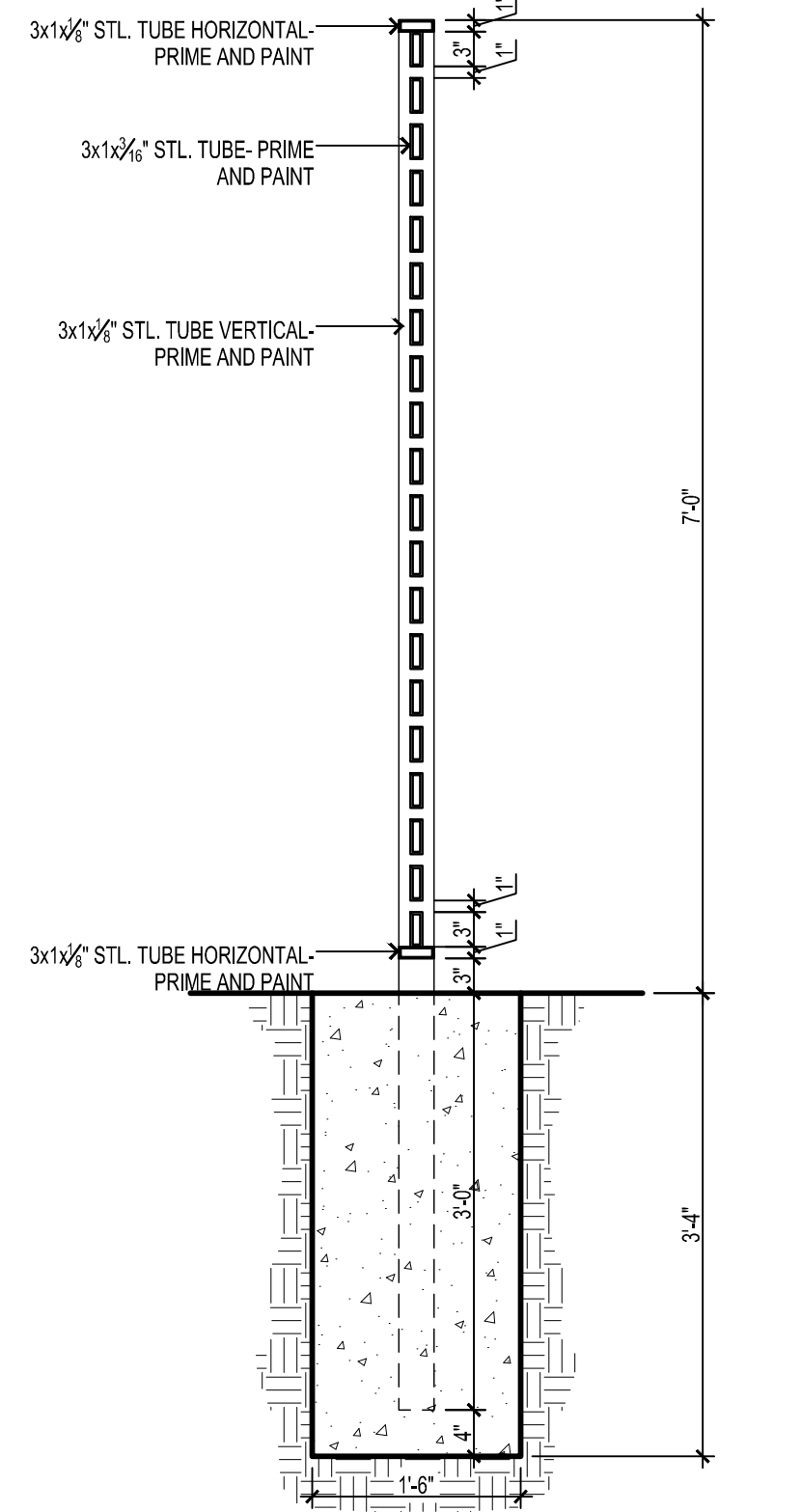
EXISTING GRADE BEAM 2  
N.T.S.

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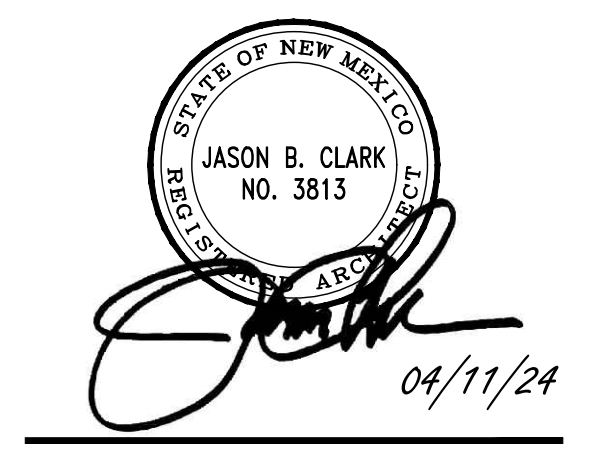
**KEYED NOTES**

1. EXISTING TO REMAIN.
2. EXISTING TREE TO REMAIN.
3. NEW 4" CONCRETE PAVING (4000 PSI) TO MATCH EXISTING- ENSURE NEW WALK IS LEVEL WITH ADJACENT PAVING. PROVIDE CONTROL JOINTS TO ALIGN WITH EXISTING. PROVIDE 6x6 - W2.9 x W2.9 WIRE MESH REINFORCING CENTERED ON SLAB.
4. NEW 4" CONCRETE PAVING (4000 PSI). ENSURE NEW PAVING IS LEVEL WITH ADJACENT. CONTROL JOINTS AS SHOWN. PROVIDE 6x6 - W2.9 x W2.9 WIRE MESH REINFORCING CENTERED ON SLAB.
5. 12" W. x 4" THK. CONCRETE MOW STRIP.
6. NEW LANDSCAPE AREA TO BE INCORPORATED INTO EXISTING. GC SHALL REWORK/REROUTE ALL IRRIGATION LINES AS REQUIRED TO ENSURE CONTINUED OPERATION TO ALL EXISTING PLANTS. PROVIDE NEW LANDSCAPE MATERIAL TO MATCH EXISTING.
7. CUT AND PATCH EXISTING CONCRETE FOR NEW ELECTRICAL SERVICE. VERIFY EXACT PATHWAY WITH UTILITY PROVIDER AND NMSU FACILITIES DEPARTMENT.
8. NEW LOCATION OF EXISTING MEMORIAL TREE. RE-ROUTE IRRIGATION AND ENSURE PROPER OPERATION.
9. TRENCH TO EXISTING EPEC SWITCH/Vault. COORDINATE WITH EPEC IN FIELD AND ELECTRICAL DRAWINGS FOR EXACT ROUTING AND SERVICE ORIGIN. FILL TRENCH AND REPLACE GRAVEL TO ORIGINAL CONDITION.
10. EXISTING ELECTRICAL Vault.
11. MATCH EXISTING WALKWAY ELEVATION.
12. 3x1 1/2" STL. TUBE SECURITY FENCE. SEE 2-3/AS100.



**Studio D Architects**  
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Fairacres, NM 88033  
PH 575.521.3757  
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www.studio-d.biz

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ADDITION

**4842 AGGIE INNOVATION SPACE EC1**

1025 Stewart St.  
Las Cruces, NM

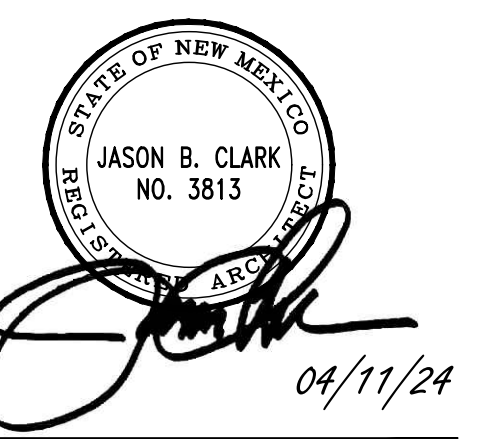
REVISION	DATE

Project no: 23.16  
Date: April 2024  
Sheet:

**NEW WORK SITE PLAN**

**AS100**

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Layout Name: AS100



ADDITION

**4842 AGGIE  
INNOVATION  
SPACE EC1**

1025 Stewart St.  
Las Cruces, NM

REVISION	DATE

Project no: 23.16  
Date: April 2024  
Sheet:

**DEMOLITION  
FLOOR PLAN**

**A001**

**KEYED NOTES**

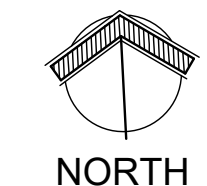
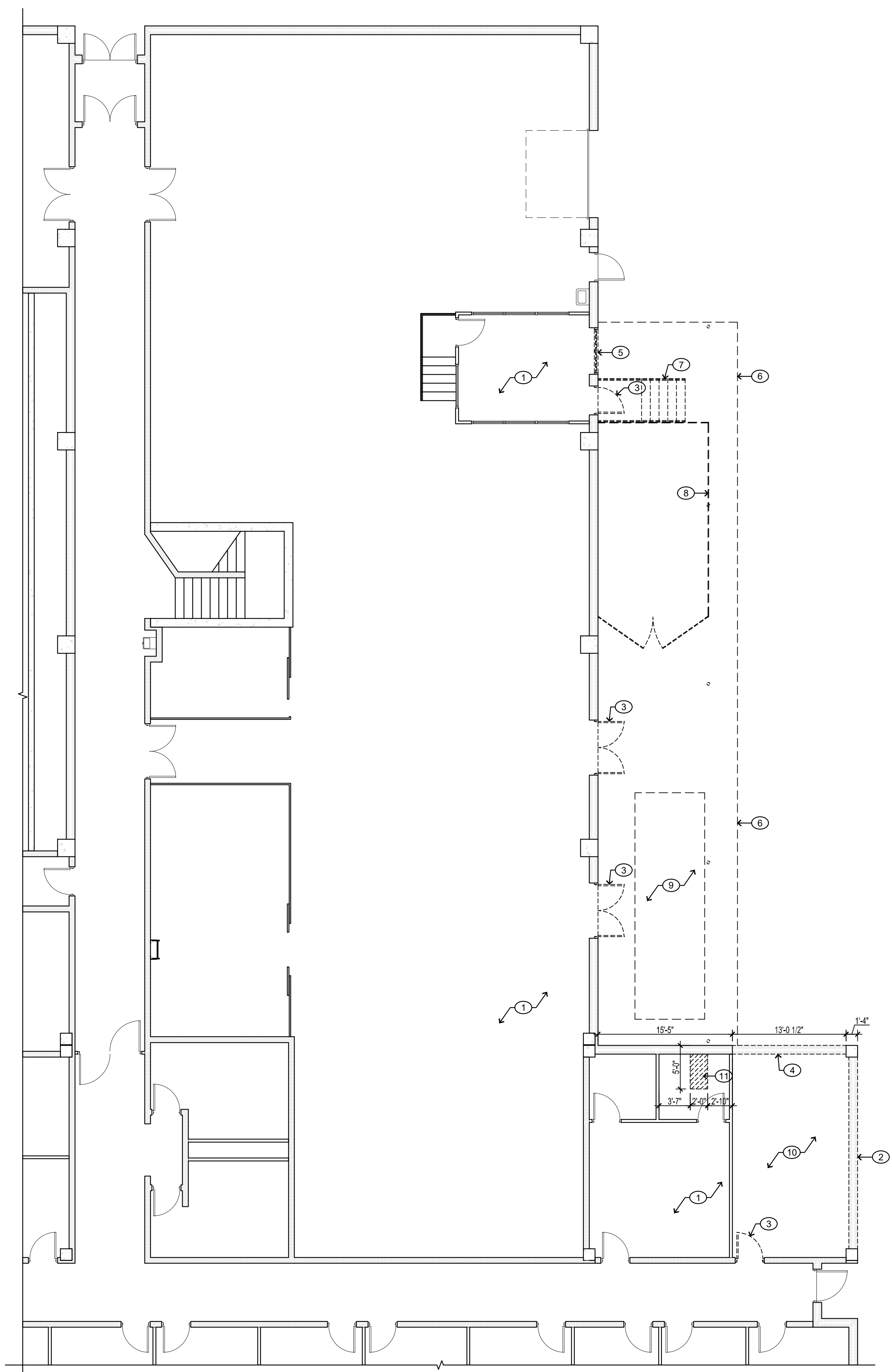
- EXISTING TO REMAIN.
- DEMOLISH EXISTING EXTERIOR CMU WALL TO BOTTOM OF CAST-IN-PLACE CONCRETE BEAM, SEE 2/A001.
- REMOVE EXISTING DOOR AND FRAME. PREPARE OPENING TO ACCEPT NEW CMU IN-FILL WALL OR NEW DOOR FRAME. MATCH ADJACENT EXISTING WALL FINISH.
- DEMOLISH EXISTING EXTERIOR CMU WALL TO BOTTOM OF BOND BEAM AT 12' A.F.F. (VERIFY IN FIELD). SAW CUT BETWEEN PORTION TO REMAIN AND PORTION TO BE REMOVED. PROVIDE BRACING AS REQUIRED TO SUPPORT WALL UNTIL INSTALLATION OF NEW STRUCTURAL SUPPORT, SEE STRUCTURAL AND 3/A001.
- REMOVE EXISTING WINDOW FRAME. PREPARE OPENING TO ACCEPT NEW CMU IN-FILL WALL. MATCH ADJACENT EXISTING WALL FINISH.
- DEMOLISH EXISTING CANOPY STRUCTURE IN ITS ENTIRETY.
- DEMOLISH EXISTING STAIRS IN THEIR ENTIRETY.
- REMOVE EXISTING MATERIAL STORAGE FENCING, SALVAGE TO OWNER.
- REMOVE EXISTING SAND PIT IN ITS ENTIRETY. PROVIDE NEW COMPACTED STRUCTURAL FILL AS REQUIRED.
- REMOVE EXISTING FLOORING & PREPARE SLAB FOR NEW FLOOR FINISH.
- REMOVE EXISTING FLOORING AND SAW CUT EXISTING CONCRETE SLAB AS REQUIRED TO CONNECT NEW SEWER LINE TO EXISTING. DIMENSIONS ARE APPROXIMATE. VERIFY IN FIELD. PATCH/REPAIR SLAB AND REPLACE FLOORING.

**GENERAL DEMOLITION NOTES**

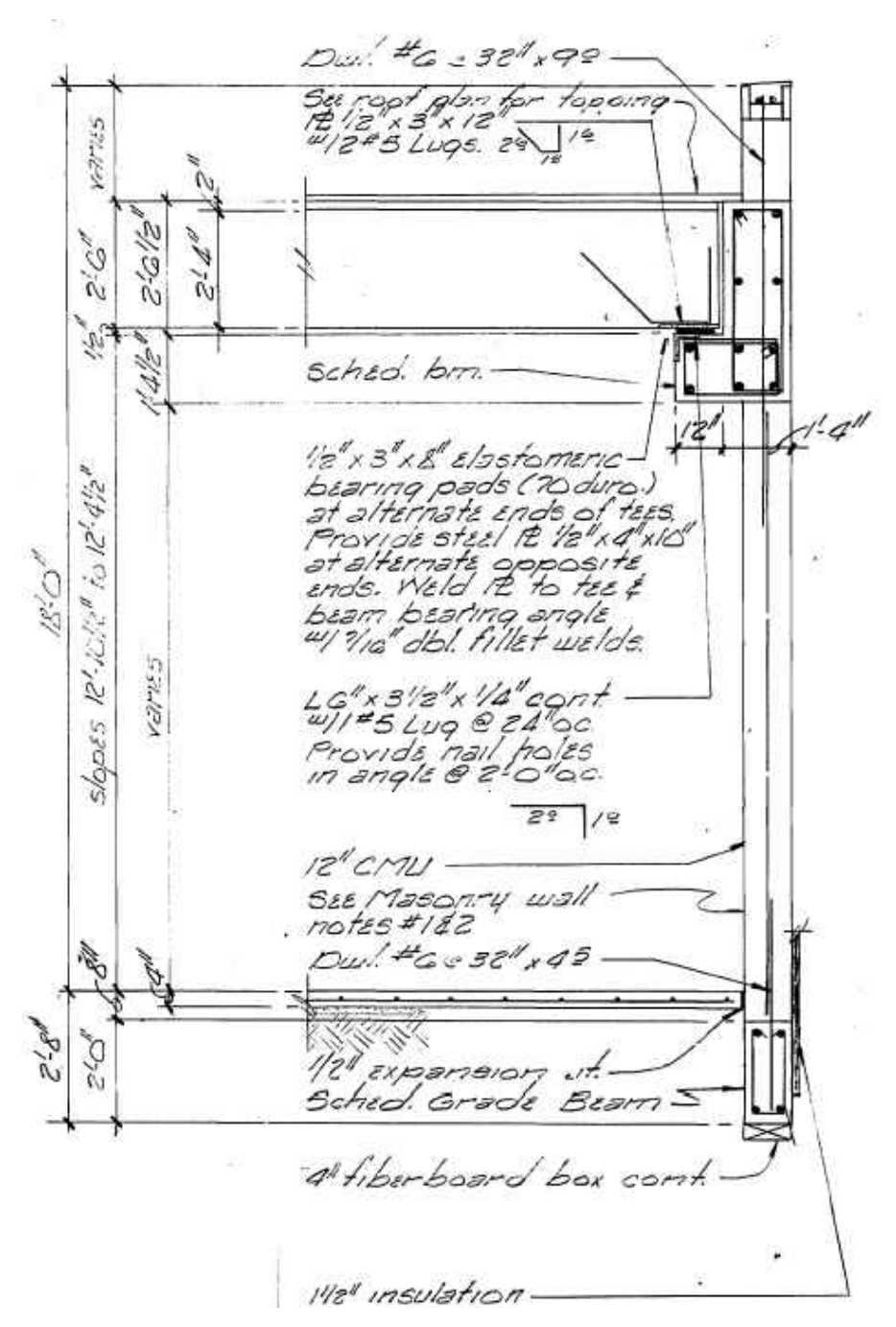
- THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND CONDITIONS SHOWN ON PLANS AND EXISTING SITE. THE ARCHITECT SHALL BE NOTIFIED OF CONFLICTS OR VARIATIONS PRIOR TO COMMENCEMENT OF CONSTRUCTION. THE ARCHITECT MAKES NO CLAIMS THAT ALL EXISTING CONDITIONS HAVE BEEN SHOWN IN THE CONSTRUCTION DOCUMENTS. THE CONTRACTOR SHALL TAKE ALL PRECAUTIONS NECESSARY TO ENSURE NO DAMAGE IS CAUSED TO CONCEALED CONSTRUCTION.
- THE ARCHITECT PRODUCING THESE PLANS WILL NOT BE RESPONSIBLE FOR FIELD CHANGES AND DECISIONS UNLESS NOTIFIED IN WRITING OF CHANGES AND THEN ONLY BY WRITTEN APPROVAL BY THE ARCHITECT.
- CONTRACTOR SHALL NOT SCALE DRAWINGS. IN THE EVENT OF OMISSION OF DIMENSIONS THE CONTRACTOR SHALL NOTIFY THE ARCHITECT PRIOR TO THE COMMENCEMENT OF CONSTRUCTION. FAILURE TO DO SO WILL LEAVE THE CONTRACTOR SOLELY RESPONSIBLE FOR ANY DISCREPANCIES, CORRECTIONS, ETC., RESULTING FROM THE SAME.
- THE CONTRACTOR SHALL PROVIDE PROTECTION AS NECESSARY TO PREVENT DAMAGE TO THE EXISTING CONSTRUCTION NOT TO BE REMOVED UNDER CONTRACT AND ANY ALL ITEMS INDICATED TO REMAIN IN PLACE.
- ANY AND ALL ITEMS DAMAGED DURING CONSTRUCTION SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO REPAIR TO A LIKE NEW CONDITION AT HIS EXPENSE.
- THE CONTRACTOR SHALL CLEAN UP ALL DEBRIS CAUSED BY THE WORK OF THIS PROJECT AND SHALL SOLELY BE RESPONSIBLE FOR KEEPING THE PREMISES CLEAN AND NEAT AT ALL TIMES.
- ANY AND ALL CONFLICTS FOUND DURING CONSTRUCTION SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT IN WRITING SO THAT ADDITIONAL INSTRUCTIONS CAN BE FORWARDED TO THE CONTRACTOR. FAILURE TO DO SO MAY RESULT IN CORRECTIVE ACTION TO BE PERFORMED BY CONTRACTOR AT THEIR EXPENSE.
- IF THE CONTRACTOR SUSPECTS THE PRESENCE OF ASBESTOS CONTAINING MATERIALS, THE ARCHITECT SHALL BE NOTIFIED IMMEDIATELY. THE OWNER SHALL BE RESPONSIBLE FOR THE SAFE REMOVAL AND/OR CONTAINMENT OF ALL SUCH MATERIALS IN ACCORDANCE WITH THE APPLICABLE LAW. ADJUSTMENT TO THE CONSTRUCTION SCHEDULE WILL BE CONSIDERED IF ABATEMENT IS REQUIRED. ANY ASBESTOS REMOVAL WORK SHALL BE COORDINATED BY THE GENERAL CONTRACTOR. THE ARCHITECT ASSUMES NO RESPONSIBILITY FOR THE DETECTION, PRESENCE OR REMOVAL OF ASBESTOS CONTAINING MATERIALS.
- THE CONTRACTOR SHALL PROVIDE ALL BARRICADES, FENCES, COVERED WALKS, PLANKING, FENCES LIGHTING, BRACING, SHORING, WARNING SIGNS, GUARDS, ETC. AS REQUIRED FOR PROTECTION OF WORKMEN, THE PUBLIC, BUILDING OCCUPANTS AND ADJOINING PROPERTIES.

**CUTTING & PATCHING NOTES**

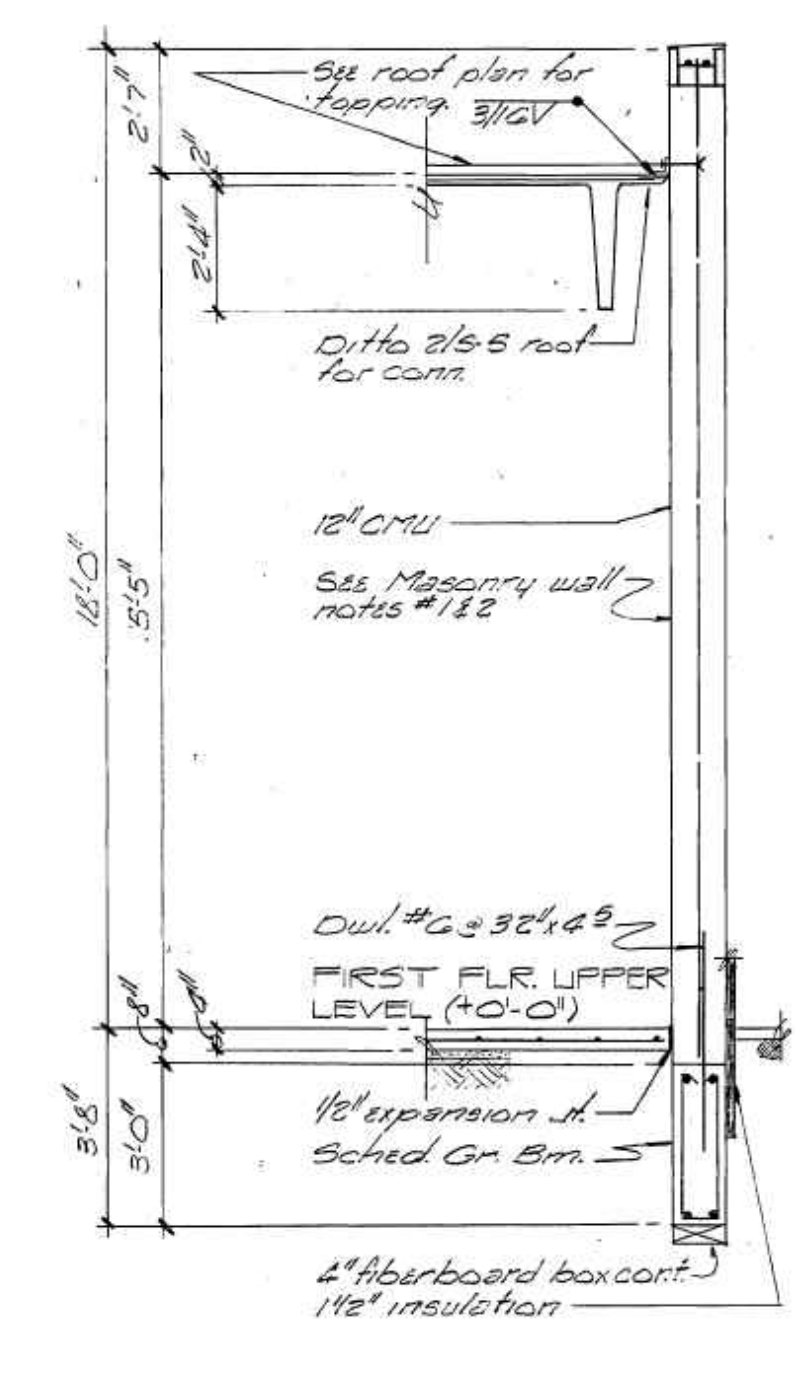
- EXECUTE FITTING AND ADJUSTMENT OF PRODUCTS TO PROVIDE FINISHED INSTALLATION TO COMPLY WITH SPECIFIED TOLERANCES AND FINISHES.
- EXECUTE CUTTING AND DEMOLITION BY METHODS WHICH WILL PREVENT DAMAGE TO OTHER WORK AND WILL PROVIDE PROPER SURFACES TO RECEIVE INSTALLATION OF REPAIRS AND NEW WORK.
- EXECUTE EXCAVATING AND BACKFILLING BY METHODS WHICH WILL PREVENT DAMAGE TO OTHER WORK AND WILL PREVENT SETTLEMENT. EMPLOY ORIGINAL INSTALLER OR FABRICATOR TO PERFORM CUTTING AND PATCHING FOR:
  - WEATHER EXPOSED OR MOISTURE RESISTANT ELEMENTS.
  - SIGHT EXPOSED FINISHED SURFACES.
- RESTORE WORK WHICH HAS BEEN CUT OR REMOVED. INSTALL NEW PRODUCTS TO PROVIDE COMPLETED WORK IN ACCORDANCE WITH REQUIREMENTS OF CONTRACT DOCUMENTS.
- REFINISH ENTIRE SURFACES AS NECESSARY TO PROVIDE AN EVEN FINISH:
  - CONTINUOUS SURFACES: TO NEAREST INTERSECTIONS.
  - ASSEMBLY: REFINISH ENTIRELY.
- EXECUTE CUTTING AND FITTING INCLUDING EXCAVATION AND FILL TO COMPLETE THE WORK.
- UNCOVER WORK TO INSTALL IMPROPERLY SEQUENCED WORK.
- REMOVE AND REPLACE DEFECTIVE OR NON-CONFORMING WORK.
- REMOVE SAMPLES OF INSTALLED WORK FOR TESTING WHEN REQUESTED.
- PROVIDE OPENINGS IN THE WORK FOR PENETRATION OF MECHANICAL AND ELECTRICAL WORK.
- CUT RIGID MATERIALS USING MASONRY SAW OR CORE DRILL. PNEUMATIC TOOLS NOT ALLOWED WITHOUT PRIOR APPROVAL.
- EXECUTE PATCHING TO COMPLEMENT ADJACENT WORK. NEW MATERIALS TO BE OF SUFFICIENT THICKNESS TO MAINTAIN A UNIFORM SURFACE OR THICKNESS OF WALL.
- FIT PRODUCTS TOGETHER TO INTEGRATE WITH OTHER WORK.
- FIT WORK AIR TIGHT TO PIPES, SLEEVES, DUCTS, CONDUIT, AND OTHER PENETRATIONS THROUGH SURFACES.
- MATCH OF NEW FINISH MATERIALS SHALL BE TO OWNER'S SATISFACTION.



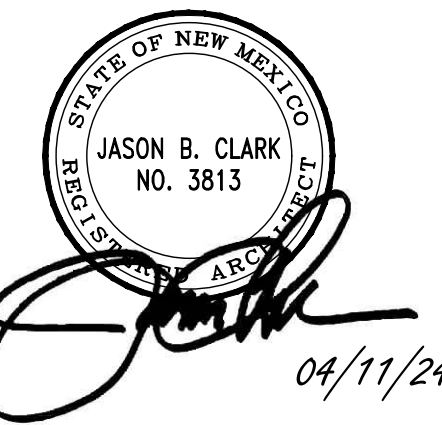
**DEMOLITION FLOOR PLAN 1**  
1/8" = 1'-0"



**EXISTING WALL DTL. 2**  
N.T.S.



**EXISTING WALL DTL. 3**  
N.T.S.



ADDITION

# 4842 AGGIE INNOVATION SPACE EC1

1025 Stewart St.  
Las Cruces, NM

## KEYED NOTES

- EXISTING TO REMAIN.
- NEW IN-FILL WALL TO MATCH ADJACENT WALL CONSTRUCTION. PRIME AND PAINT TO MATCH ADJACENT FINISH.
- DUAL HEIGHT DRINKING FOUNTAIN WITH BOTTLE FILLER. SEE PLUMBING.
- WALL MOUNT FIRE EXTINGUISHER.
- MOP SINK. SEE PLUMBING. PROVIDE 4'-0" x 4'-0" FRP PANELS ON BOTH WALLS BEHIND SINK.
- MECHOSHADE 'MECHO'S' MANUAL ROLLER SHADE W/ FACTORY SUPPLIED POCKET FOR LAY-IN CEILING APPLICATION(S). SHADE TO COVER WINDOW AND SIDELIGHT INDICATED.
- S.S. CORNER GUARD AS SPECIFIED- 6'-0" TALL.
- CARD READER. SEE ELECTRICAL.
- ADA DOOR OPENER BUTTON ON S.S. MOUNTING POST. PLACE ~4'-0" FROM FACE OF WALL.
- MTL. TUBE SECURITY FENCE. SEE 2-4/AS100.
- LINE OF HOOD ABOVE. SEE MECHANICAL.
- PROVIDE NEW 5/8" GYP. BD. ON EXISTING CONCRETE COLUMNS (WHERE EXPOSED).

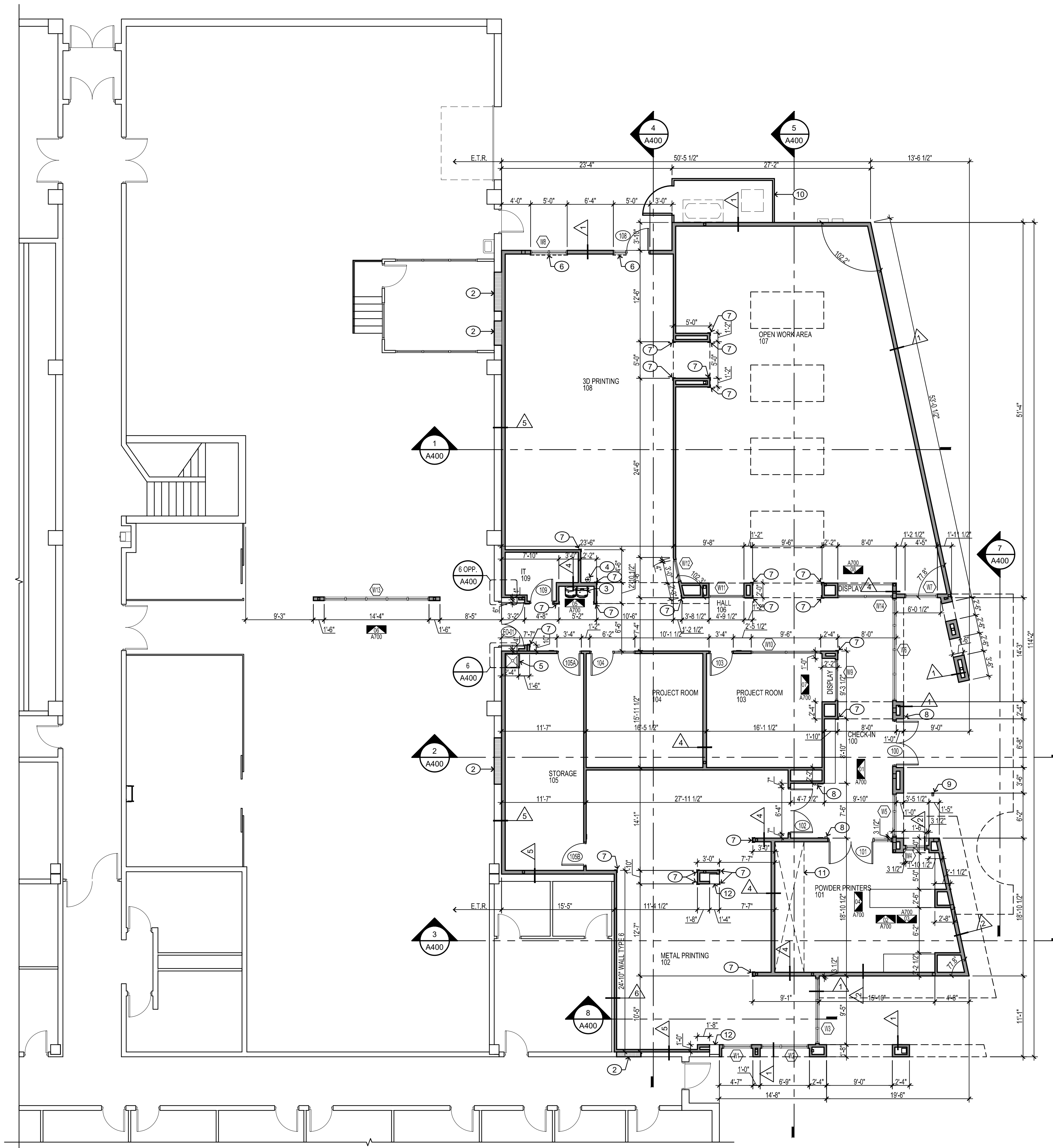
## WALL TYPES

- FULL HEIGHT EXTERIOR WALL**  
1/2" EIFS ON 1/2" DENSGLASS SHEATHING ON 2x6 WD. STUDS @ 16" O.C. W/ R-19 BATT INSULATION & 3/8" G.W.B. AT INTERIOR (NOTE: PROVIDE COMPLETE EIFS SYSTEM FROM LIQUID APPLIED AIR/MOISTURE BARRIER TO FINISH COAT)
- FULL HEIGHT EXTERIOR WALL**  
DR-DESIGN PAINTED ALUMINUM PANELS (48"x48") ON FLUID APPLIED AIR/MOISTURE BARRIER ON 1 1/2" XPS RIGID INSULATION (R7.5 MIN.) ON 2" DENSGLASS SHEATHING ON 2x6 WD. STUDS @ 16" O.C. W/ R-19 BATT INSULATION & G.W.B. AT INTERIOR
- FULL HEIGHT INTERIOR WALL**  
3/8" METAL STUDS TO BTM. OF DECK @ 16" O.C. W/ SOUND BATT INSUL. & 3/8" G.W.B. ON BOTH SIDES
- FULL HEIGHT INTERIOR WALL**  
6" METAL STUDS TO BTM. OF DECK @ 16" O.C. W/ SOUND BATT INSUL. & 3/8" G.W.B. ON BOTH SIDES
- INTERIOR WALL**  
EXISTING BUILDING WALL (CONSTRUCTION VARIES) W/ NEW 6" METAL STUDS @ 16" O.C. W/ R-19 BATT INSULATION & 3/8" G.W.B.
- INTERIOR 2HR RATED WALL (UL U419)**  
3 3/4" MTL. STUDS FIRE SEALED TO B.O. DECK @ 16" O.C. W/ SOUND BATT INSULATION & (2) LAYERS 5/8" TYPE 'X' G.W.B. AT EACH SIDE

- NOTES:
- ALL INTERIOR WALLS TO BE WALL TYPE 3 U.N.O.
  - ENTIRE BUILDING TO UTILIZE STO GOLDCOAT AIR/MOISTURE BARRIER (OR EQUAL FLUID APPLIED AIR/MOISTURE BARRIER) IN CONJUNCTION WITH COMPLETE STOGUARD AIR/MOISTURE BARRIER SYSTEM (OR EQUAL).
  - ALL WALLS THAT RECEIVE G.W.B. FINISH TO BE LEVEL 4 AND READY TO RECEIVE PAINT. LITE ORANGE PEEL FINISH.



AREA OF WORK



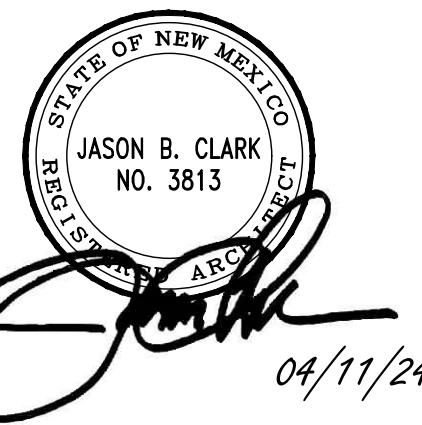
FLOOR PLAN 1  
1/8" = 1'-0"

REVISION	DATE

Project no: 23.16  
Date: April 2024  
Sheet:  

## FLOOR PLAN

# A100



ADDITION

4842 AGGIE  
INNOVATION  
SPACE EC1

1025 Stewart St.  
Las Cruces, NM

ROOM FINISH SCHEDULE

ROOM NO.	ROOM NAME	FLR.	BSE.	WALLS					CLG.	CLG. HT.	REMARKS
				N	W	S	E				
100	CHECK-IN	F1	B1	W1	W1	W1	W1	C1	10'-0"		
101	POWDER PRINTERS	F1	B1	W1	W1	W1	W1	C1	10'-0"		
102	METAL PRINTING	F1	B1	W1	W1	W1	W1	C2	OPEN		
103	PROJECT ROOM	F1	B1	W1	W1	W1	W1	C1	10'-0"		
104	PROJECT ROOM	F1	B1	W1	W1	W1	W1	C1	10'-0"		
105	STORAGE	F1	B1	W1	W1	W1	W1	C2	OPEN		
106	HALL	F1	B1	W1	W1	W1	W1	C1	10'-0"		
107	OPEN WORK AREA	F1	B1	W1	W1	W1	W1	C1	10'-0"		
108	3D PRINTING	F1	B1	W1	W1	W1	W1	C1	10'-0"		
109	IT	F1	B1	W1	W1	W1	W1	C2	OPEN		

\* SEE RCP FOR CEILING DETAILS

FINISHES

FLOOR	BASE	WALL	CEILING
F1 ARMORPOXY II EPOXY FLOOR COATING (PROVIDE ULTRAWEAR NON-SKID ADDITIVE IN RMS. 101, 102 & 105)	B1 4" RUBBER BASE	W1 GYP. WALL BD. PAINT & TEXT.	C1 24" X 24" LAY-IN ACOUS. TILE & GRID  C2 OPEN TO STRUCTURE ABOVE- PRIME & PAINT

DOOR SCHEDULE

DOOR NO.	WIDTH	HT.	THKNS.	TYPE	FRAME W X D	FRAME TYPE	HDWR SET	REMARKS
100	3'-0"	7'-0"	1-3/4"	(2)D1	2'x4 1/2"	F1	HW-5	PROVIDE HARDWARE AS REQUIRED FOR DOUBLE DOOR
101	3'-0"	7'-0"	1-3/4"	(2)D3	2'x7 3/4"	F3	HW-4	PROVIDE HARDWARE AS REQUIRED FOR DOUBLE DOOR. FOB ACCESS.
102	3'-0"	7'-0"	1-3/4"	(2)D3	2'x5 3/4"	F6	HW-1	PROVIDE HARDWARE AS REQUIRED FOR DOUBLE DOOR
103	3'-0"	7'-0"	1-3/4"	D2	2'x5 3/4"	F5	HW-1	
104	3'-0"	7'-0"	1-3/4"	D2	2'x5 3/4"	F4	HW-1	
105A	3'-0"	7'-0"	1-3/4"	D2	2'x5 3/4"	F5	HW-2	
105B	3'-0"	7'-0"	1-3/4"	D2	2'x5 3/4"	F5	HW-2	
108	3'-0"	7'-0"	1-3/4"	D4	2'x4 1/2"	F2	HW-5	EXIT ONLY DOOR-NO EXTERIOR HANDLE. DELAYED ALARM PANIC DEVICE
109	3'-0"	7'-0"	1-3/4"	D2	2'x5 3/4"	F5	HW-2	
EO-01	3'-0"	7'-0"	1-3/4"	(2)D4	2'x5 3/4"	F7	HW-3	90-MIN. RATED DOOR, FRAME AND HARDWARE

NOTE: ALL HARDWARE TO BE COMMERCIAL GRADE 1. ACCESS CONTROL DEVICES PROVIDED BY OWNER, CONTRACTOR INSTALLED.

HW-1 OFFICE OFFICE LEVER LOCK SET (3) 5-KNUCKLE FULL MORTISE HINGES SILENCERS WALL BUMPER	HW-2 STORAGE STORAGE LEVER LOCK SET (3) 5-KNUCKLE FULL MORTISE HINGES SILENCERS WALL BUMPER	HW-3 FIRE RATED PANIC HARDWARE SET SMOKE SEALS (3) S.S. 5-KNUCKLE FULL MORTISE HINGES S.S. THRESHOLD ELECTROMAGNETIC DOOR HOLDER / RELEASE	HW-4 ACCESS CONTROL ACCESS CONTROL DEVICE (3) 5-KNUCKLE FULL MORTISE HINGES SILENCERS WALL BUMPER CLOSER KICK PLATE	HW-5 EXIT PANIC HARDWARE SET WEATHER SEALS (3) 5-KNUCKLE FULL MORTISE HINGES ALUMINUM THRESHOLD CLOSER KICK PLATE WALL BUMPER
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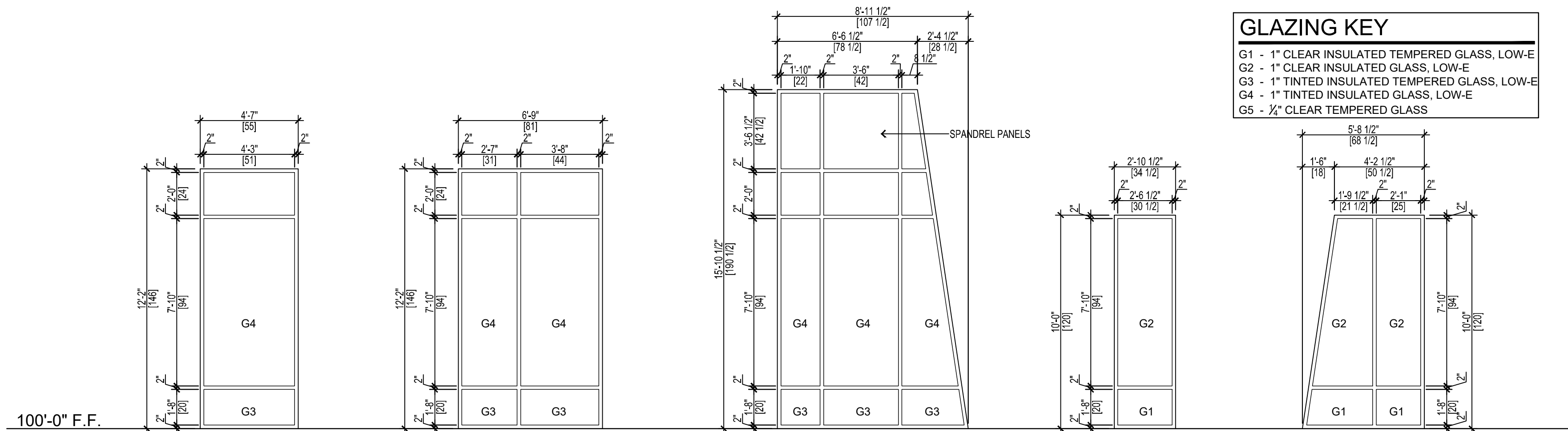
NOTE: SEE NMSU DESIGN GUIDELINES FOR ADDITION INFORMATION  
MORTISE LOCKS: PREFERRED SCHLAGE, SCHLAGE L9000 SERIES, LEVON OR RHODES TRIM, YALE 6600 OR 8700, AUGUSTA TRIM  
CYLINDRICAL LOCKS: YALE LEVER, 5400 SERIES, AUGUSTA TRIM  
FINISHES: ALL HARDWARE US10 OR US26  
DEADBOLTS: LORI, SINGLE OR DOUBLE CYLINDER TO ACCEPT YALE MORTISE CYLINDER  
DOOR CLOSER: LCN 4010  
EXIT DEVICE: RIM OR MORTISE TYPE ONLY: VON DUPRIN 99 SERIES, NO VERTICAL RODS  
DOOR OPERATORS: HORTON OPERATORS ONLY, 4100 HEAVY DUTY, 7100 STANDARD DUTY. BLACKBOARD APPLICATION USE 6R1 HARDWIRED LARCO® ROUND PUSH BUTTONS. WIRELESS USES 6R1U4 BUTTONS  
HINGES: STANLEY OR MCKINNEY HINGE DIVISION, BUTTON TIPS, NON-REMOVABLE PIN ON EXTERIOR DOORS  
WALL AND FLOOR STOPS: GLYNN JOHNSON GJ-WB-50C (OR EQUAL); GLYNN JOHNSON GJ-FB-13 OR GJ-FB-17  
SILENCERS: GJ-64 OR EQUAL

WINDOW SCHEDULE

I.D.	WINDOWS		FRAME W X D	SILL HEIGHT	REMARKS
	W	H			
(W1)	4'-7"	12'-2"	2'x4 1/2"	F.F.E.	PROVIDE WINDOW TINT, COLOR TBD.
(W2)	6'-9"	12'-2"	2'x4 1/2"	F.F.E.	PROVIDE WINDOW TINT, COLOR TBD.
(W3)	9'-1"	??'-??"	2'x4 1/2"	F.F.E.	PROVIDE WINDOW TINT, COLOR TBD.
(W4)	3'-1 1/2"	10'-0"	2'x4 1/2"	F.F.E.	
(W5)	7'-0"	10'-0"	2'x4 1/2"	F.F.E.	
(W6)	13'-11"	10'-0"	2'x4 1/2"	F.F.E.	
(W7)	4'-5"	10'-0"	2'x4 1/2"	F.F.E.	
(W8)	5'-0"	10'-0"	2'x4 1/2"	F.F.E.	
(W9)	5'-7"	7'-2"	2'x5 3/4"	F.F.E.	
(W10)	9'-6"	7'-2"	2'x5 3/4"	F.F.E.	
(W11)	4'-8"	10'-0"	2'x5 3/4"	F.F.E.	
(W12)	3'-0"	10'-0"	2'x5 3/4"	F.F.E.	
(W13)	14'-4"	7'-2"	2'x8 1/4"	F.F.E.	
(W14)	7'-5"	10'-0"	2'x5 3/4"	F.F.E.	

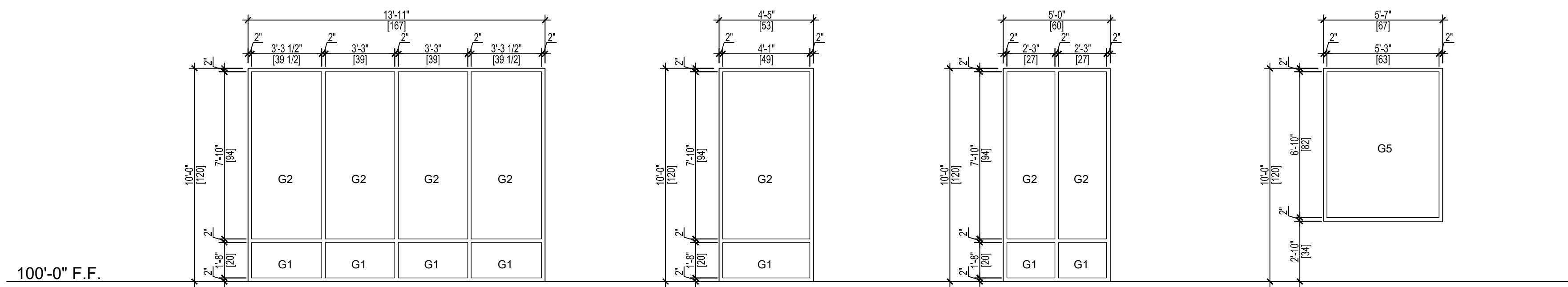
GLAZING KEY

- G1 - 1" CLEAR INSULATED TEMPERED GLASS, LOW-E
- G2 - 1" CLEAR INSULATED GLASS, LOW-E
- G3 - 1" TINTED INSULATED TEMPERED GLASS, LOW-E
- G4 - 1" TINTED INSULATED GLASS, LOW-E
- G5 - 1/2" CLEAR TEMPERED GLASS

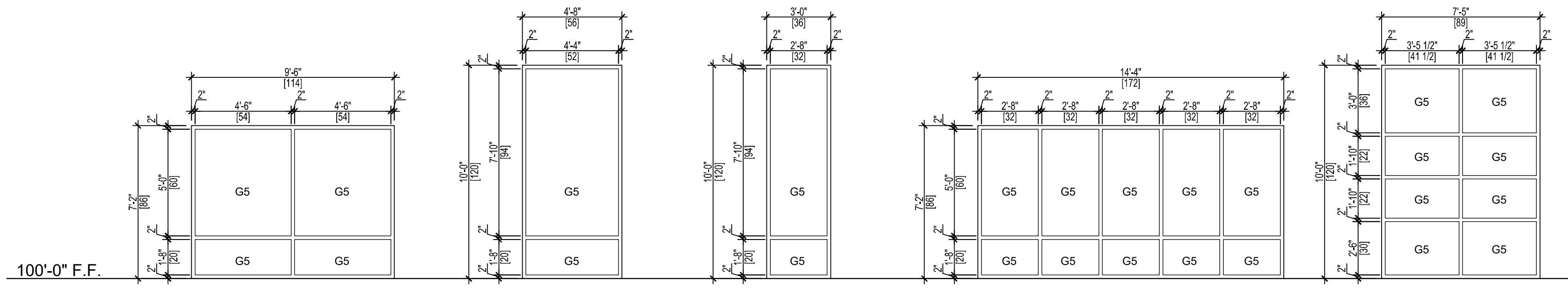


ALUMINUM FRAME W1 ALUMINUM FRAME W2 ALUMINUM FRAME W3 ALUMINUM FRAME W4 ALUMINUM FRAME W5

EXTERIOR FRAMES TO BE 16 GA. MIN.  
EXTERIOR DOORS TO BE 18 GA. MIN.  
INTERIOR FRAMES TO BE 16 GA. MIN.  
INTERIOR DOORS TO BE 20 GA. MIN.



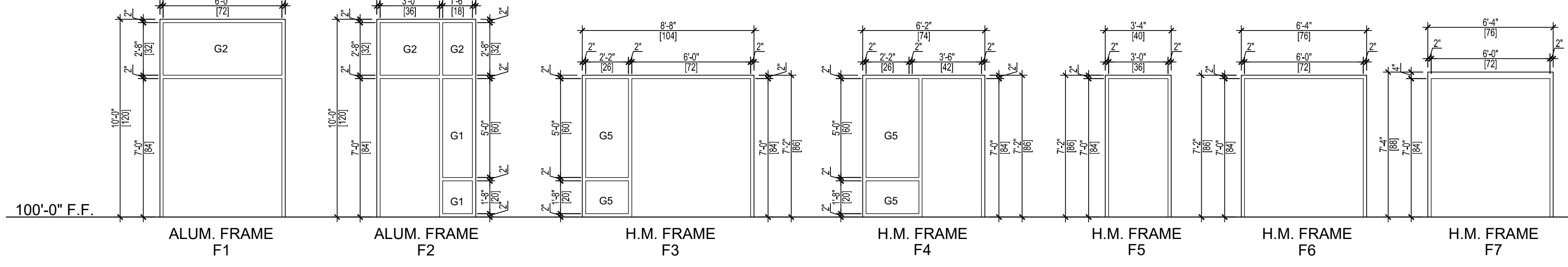
ALUMINUM FRAME W6 ALUMINUM FRAME W7 ALUMINUM FRAME W8 H.M. FRAME W9



H.M. FRAME W10 H.M. FRAME W11 H.M. FRAME W12 H.M. FRAME W13 H.M. FRAME W14

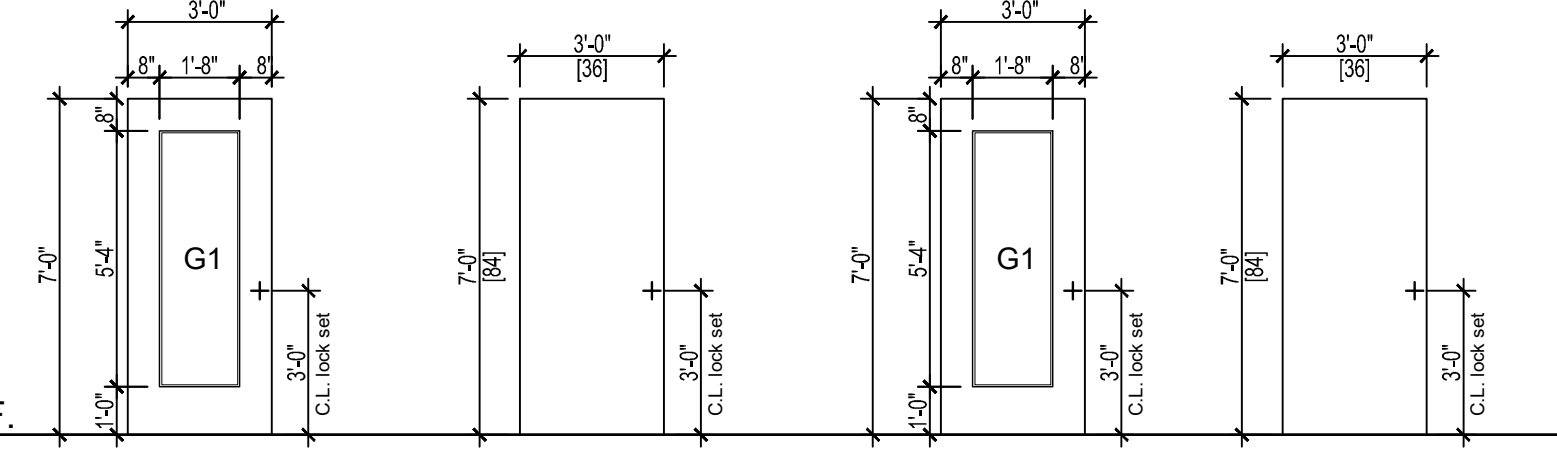
FRAME TYPES (WINDOWS) 1  
1/4" = 1'-0"

EXTERIOR FRAMES TO BE 16 GA. MIN.  
EXTERIOR DOORS TO BE 18 GA. MIN.  
INTERIOR FRAMES TO BE 16 GA. MIN.  
INTERIOR DOORS TO BE 20 GA. MIN.



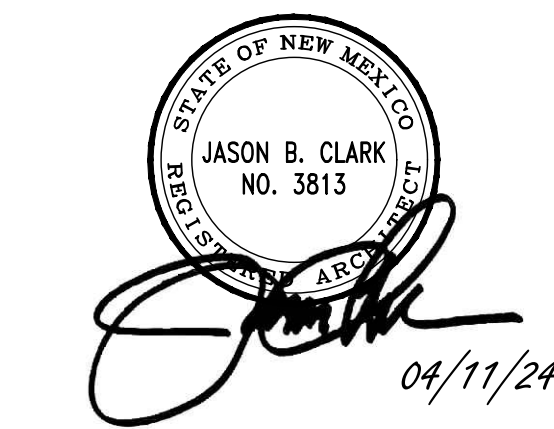
ALUM. FRAME F1 ALUM. FRAME F2 H.M. FRAME F3 H.M. FRAME F4 H.M. FRAME F5 H.M. FRAME F6 H.M. FRAME F7

FRAME TYPES (DOORS) 2  
1/4" = 1'-0"



ALUMINUM DOOR D1 SOLID CORE WD. D2 FULL LITE H.M. DOOR D3 H.M. DOOR D4

DOOR TYPES 3  
1/4" = 1'-0"



ADDITION

**4842 AGGIE  
INNOVATION  
SPACE EC1**

1025 Stewart St.  
Las Cruces, NM

REVISION	DATE

Project no: 23.16  
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**HEAD AND  
JAMB DETAILS**

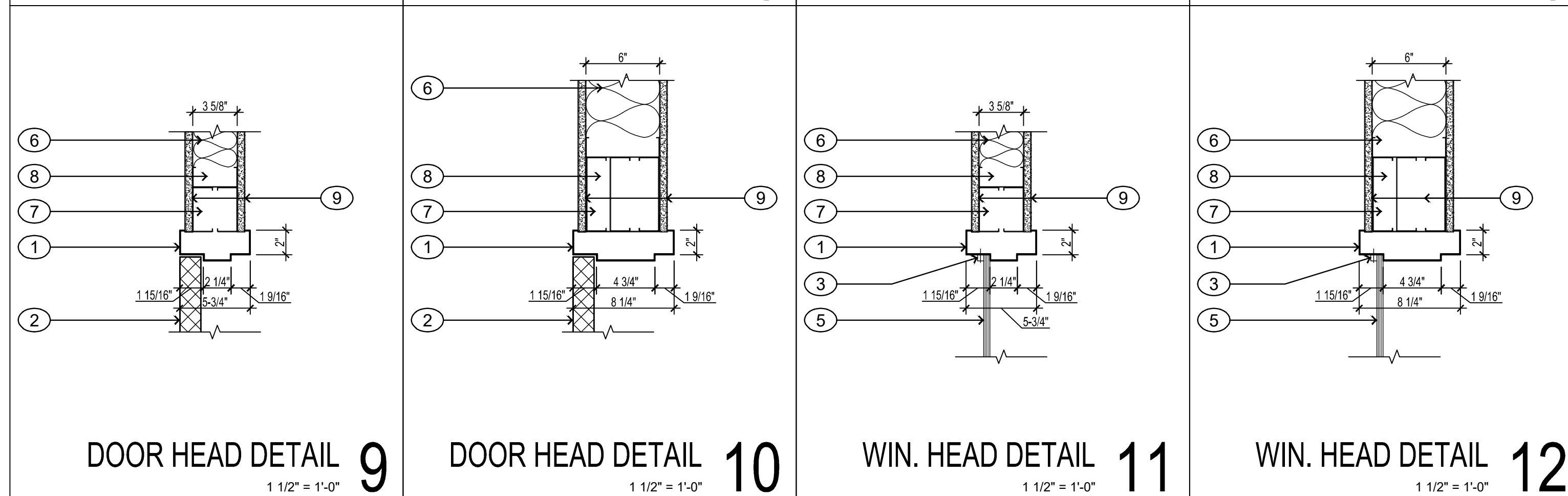
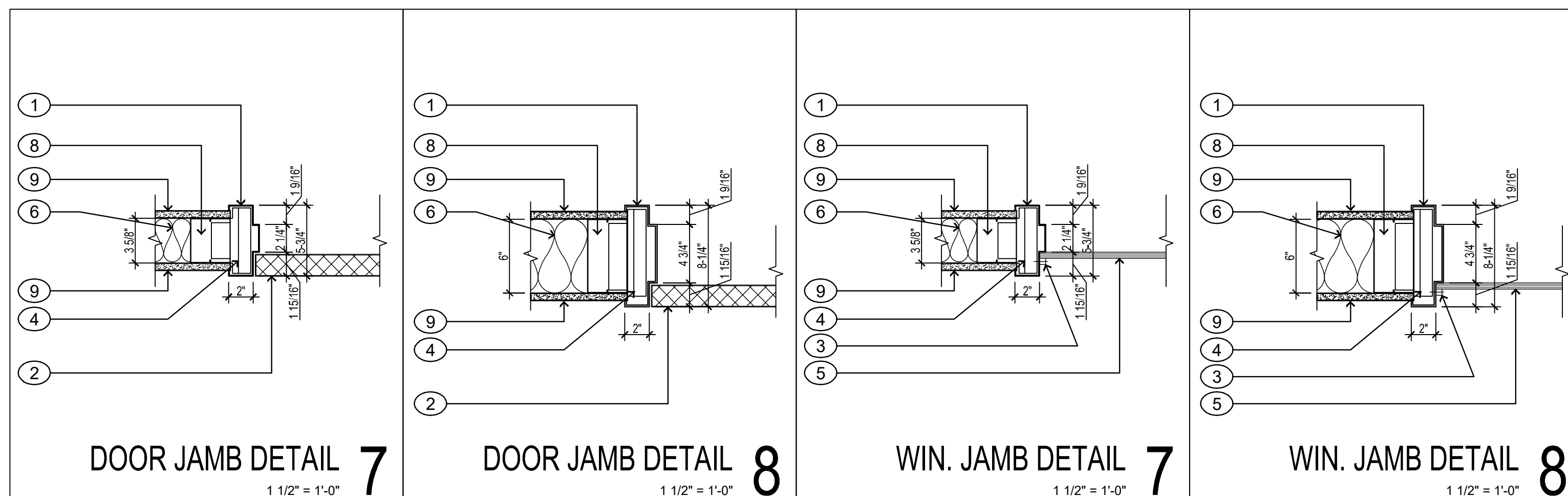
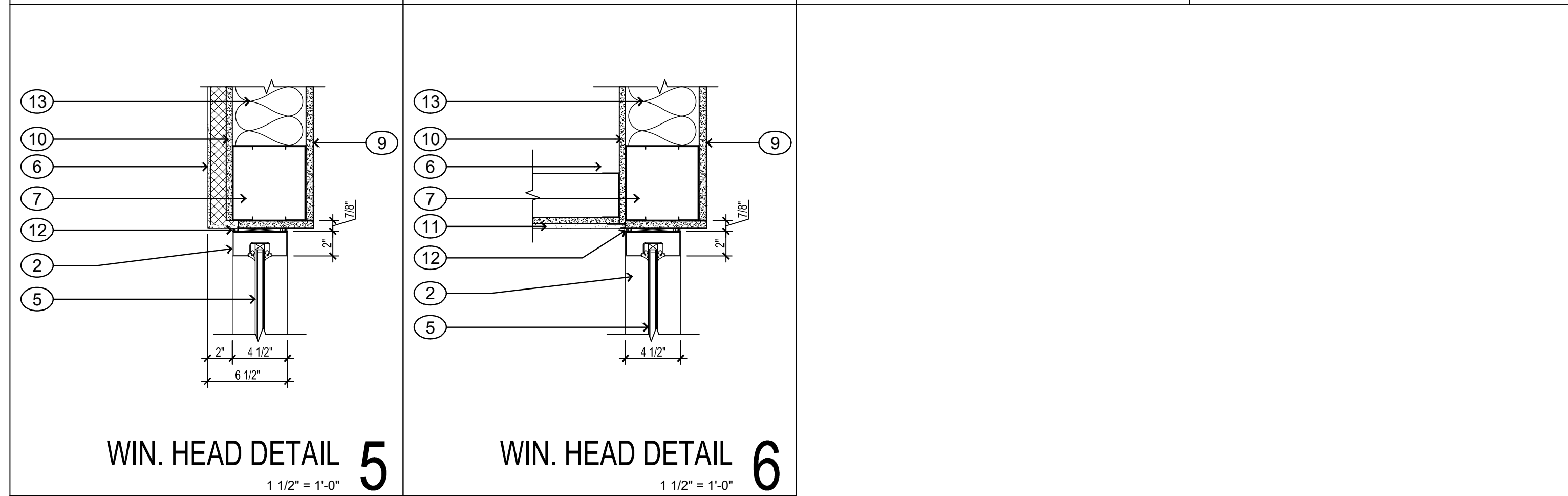
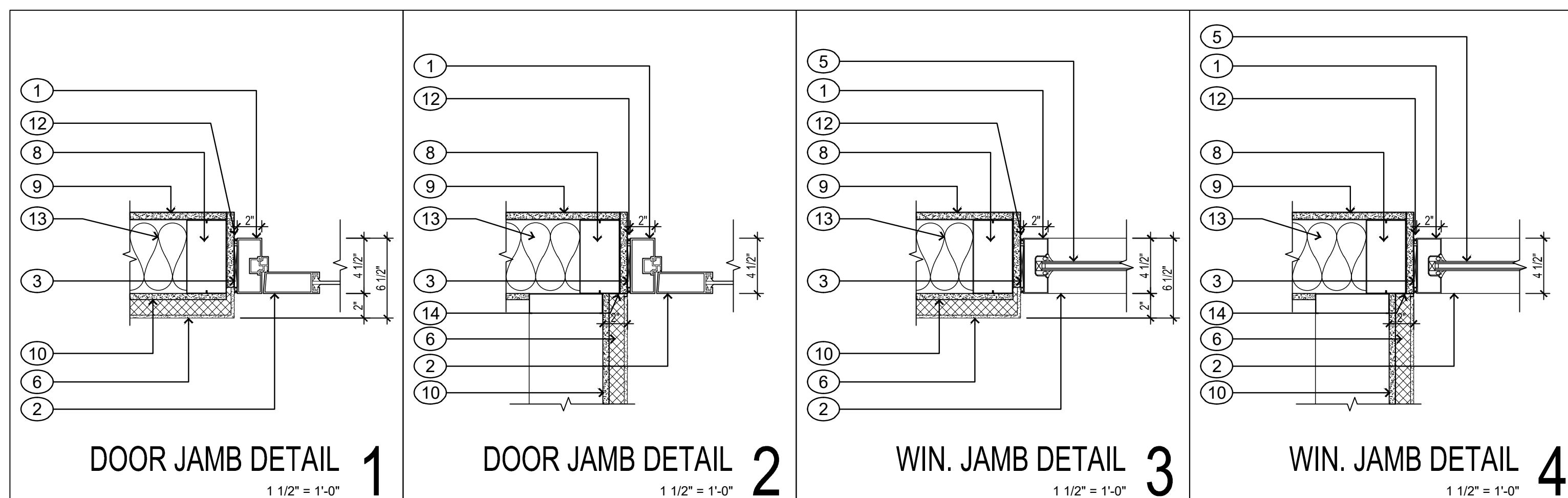
**A201**

**ALUM. KEYED NOTES**

1. ALUMINUM FRAME/ STOREFRONT, SEE SCHEDULE.
2. DOOR / WINDOW, SEE SCHEDULE.
3. 1/4" SHIM SPACE MAX.
4. NOT USED.
5. GLAZING, SEE SCHEDULE.
6. 1 1/2" EIFS.
7. METAL STUD HEADER.
8. METAL STUDS. EXTEND AND BRACE TO STRUCTURE ABOVE. TYP. AT ALL INTERIOR STUD WALL DOORS AND WINDOWS.
9. 5/8" GYPSUM WALL BOARD.
10. 1/2" DENSGLASS SHEATHING.
11. STO DEFS SOFFIT SYSTEM ON 3/4" DENSGLASS SHEATHING.
12. CONTINUOUS SEALANT AND BACKER ROD, BOTH SIDES.
13. BATT. INSULATION, SEE WALL TYPES.
14. EIFS STARTER TRACK.

**H.M. KEYED NOTES**

1. H.M. FRAME, SEE SCHEDULE.
2. DOOR, SEE SCHEDULE.
3. GLAZING STOP.
4. H.M. FRAME ANCHORS, 3 PER JAMB MIN. - CLIP ANCHOR AT FLOOR WHERE REQ.
5. GLAZING, SEE SCHEDULE.
6. BATT INSULATION, SEE WALL TYPES.
7. METAL STUD HEADER.
8. METAL STUDS. EXTEND AND BRACE TO STRUCTURE ABOVE. TYP. AT ALL INTERIOR STUD WALL DOORS AND WINDOWS.
9. 5/8" GYPSUM WALL BOARD.



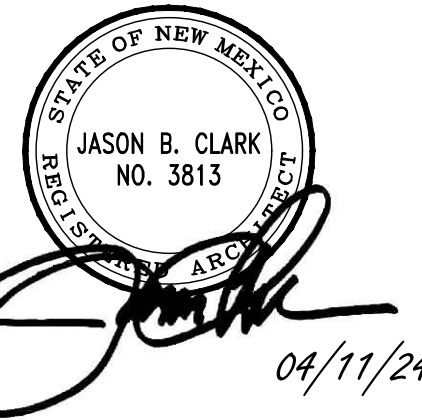
**KEYED NOTES**

1. 1/2" EIFS- COLOR TBD. GC RESPONSIBLE FOR PROVIDING COMPLETE SYSTEM FROM LIQUID APPLIED AIR/MOISTURE BARRIER TO FINISH COAT.
2. PRE-FAB/PRE-FINISHED MTL. PARAPET CAP. SEE SIA600 AND BUILDING SECTIONS.
3. EIFS CONTROL JOINT AS SHOWN.
4. DRI-DESIGN PAINTED ALUMINUM PANELS (48"x48") ON STO GOLD COAT AIR/MOISTURE BARRIER (OR EQUAL) ON 1/2" XPS RIGID INSULATION (R7.5 MIN.)- INSTALL. PER MNF. INSTALLATION INSTRUCTIONS. COLOR TBD.
5. PEAKED EIFS CAP. SEE 4/A402.
6. PRE-FINISHED METAL DRIP EDGE.
7. WALL MOUNT LIGHT FIXTURE. SEE ELECTRICAL.
8. SIGN J-BOX. SEE ELECTRICAL.
9. BRASS NOZZLE (ZURN Z189)- TYP. OF ALL ROOF DRAIN AND OVERFLOW PIPES. SEE PLUMBING.
10. SIGNAGE- CONTRACTOR PROVIDED AND INSTALLED. SIGNAGE TO BE INTERNALLY LIT. COLORS AND GRAPHICS TO BE PROVIDED BY OWNER.
11. SECURITY FENCE. SEE 2-4AS100.
12. ELECTRICAL SERVICE. SEE ELECTRICAL.
13. NEW LOCATION OF EXISTING AIR COMPRESSOR INSIDE SECURITY FENCING. SEE PLUMBING.
14. NEW STEP DOWN TRANSFORMER INSIDE SECURITY. SEE ELECTRICAL.



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ADDITION

**4842 AGGIE  
INNOVATION  
SPACE EC1**

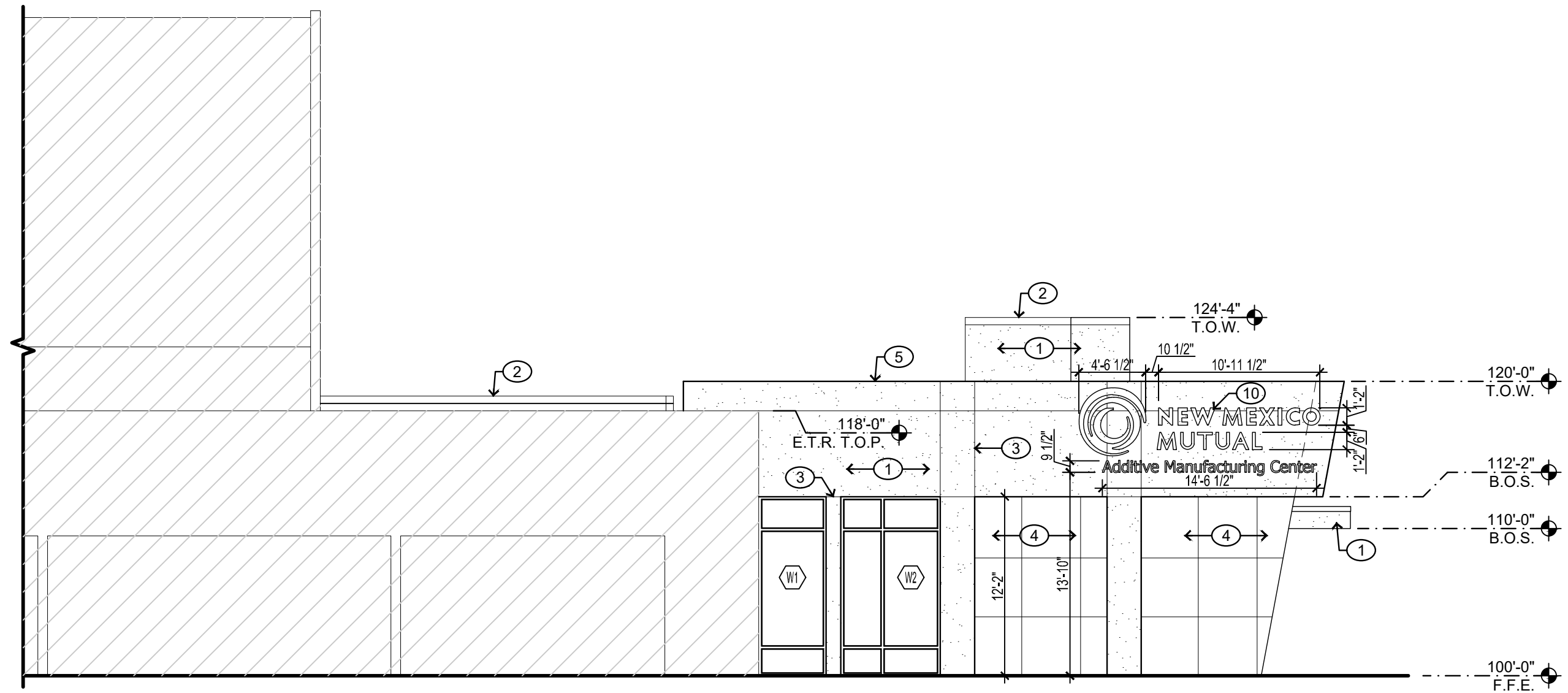
1025 Stewart St.  
Las Cruces, NM

REVISION DATE

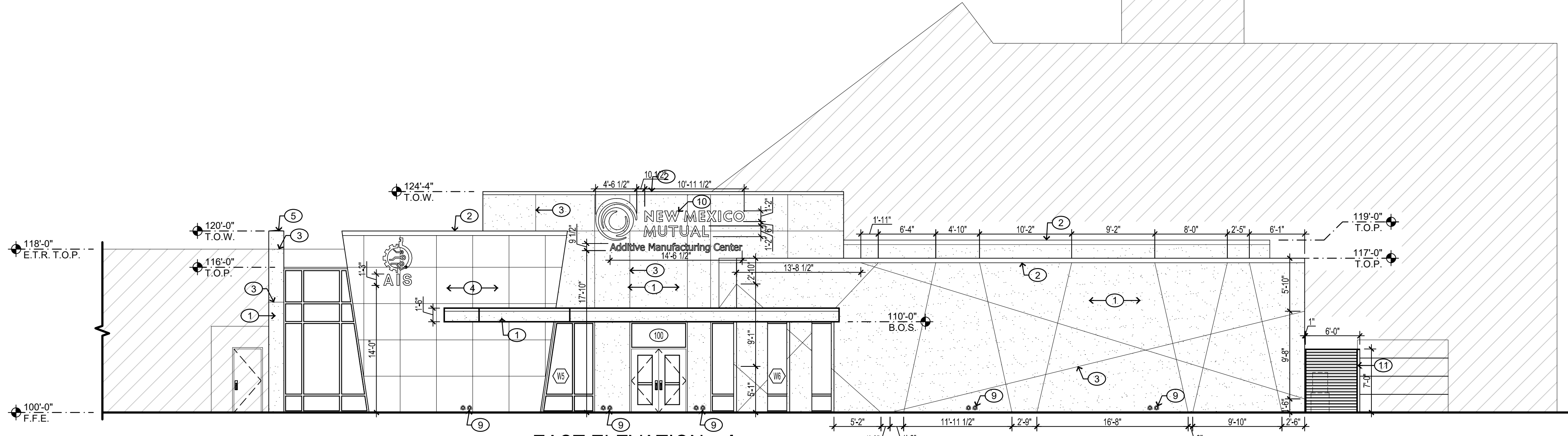
Project no: 23.16  
Date: April 2024  
Sheet:

**EXTERIOR  
ELEVATIONS**

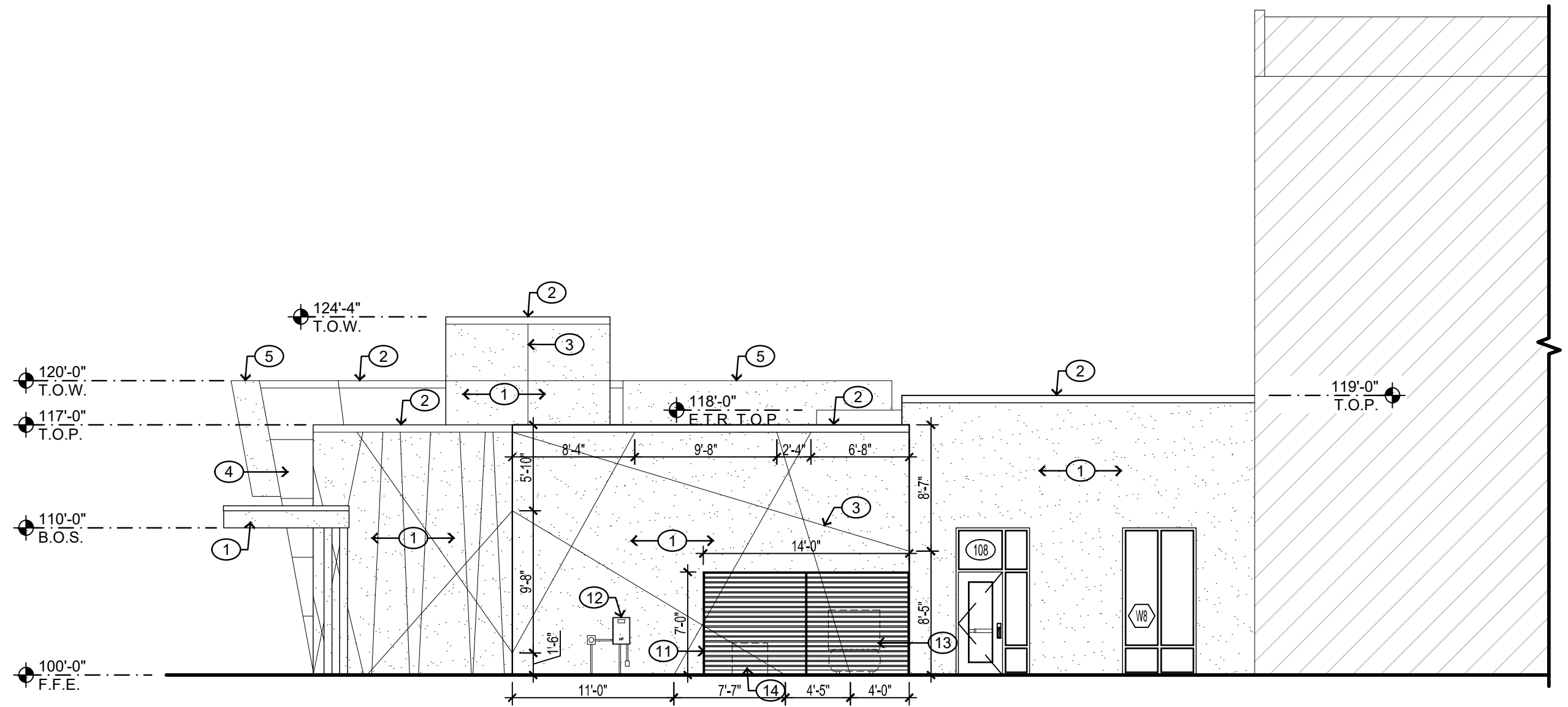
**A300**



**SOUTH ELEVATION 1**  
1/8" = 1'-0"

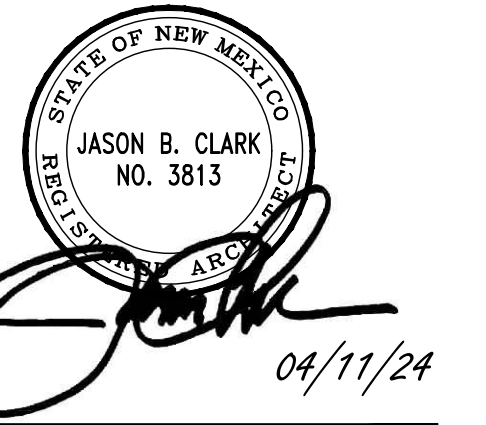


**EAST ELEVATION 1**  
1/8" = 1'-0"



**NORTH ELEVATION 1**  
1/8" = 1'-0"

Date: Apr 12, 2024 - 7:54am User:RS  
Drawing File: K:\2023 Projects\2316 NMSU AIS addition\DWGS\Sheets\2316-A300.dwg  
Last Saved By: RS Apr 11, 2024 - 8:45am  
Layout Name: A300



ADDITION

**4842 AGGIE INNOVATION SPACE EC1**

1025 Stewart St.  
Las Cruces, NM

REVISION DATE

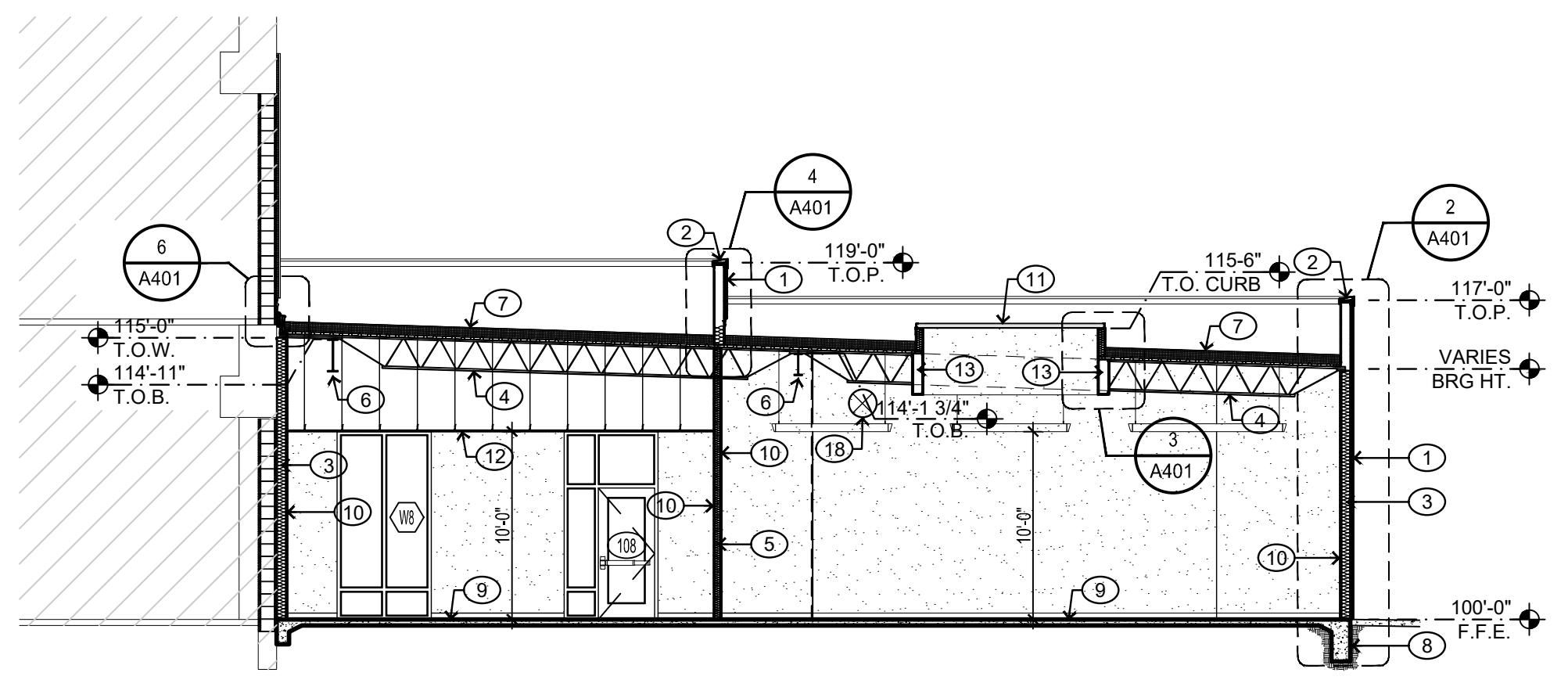
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Date: April 2024  
Sheet:

**BUILDING SECTIONS**

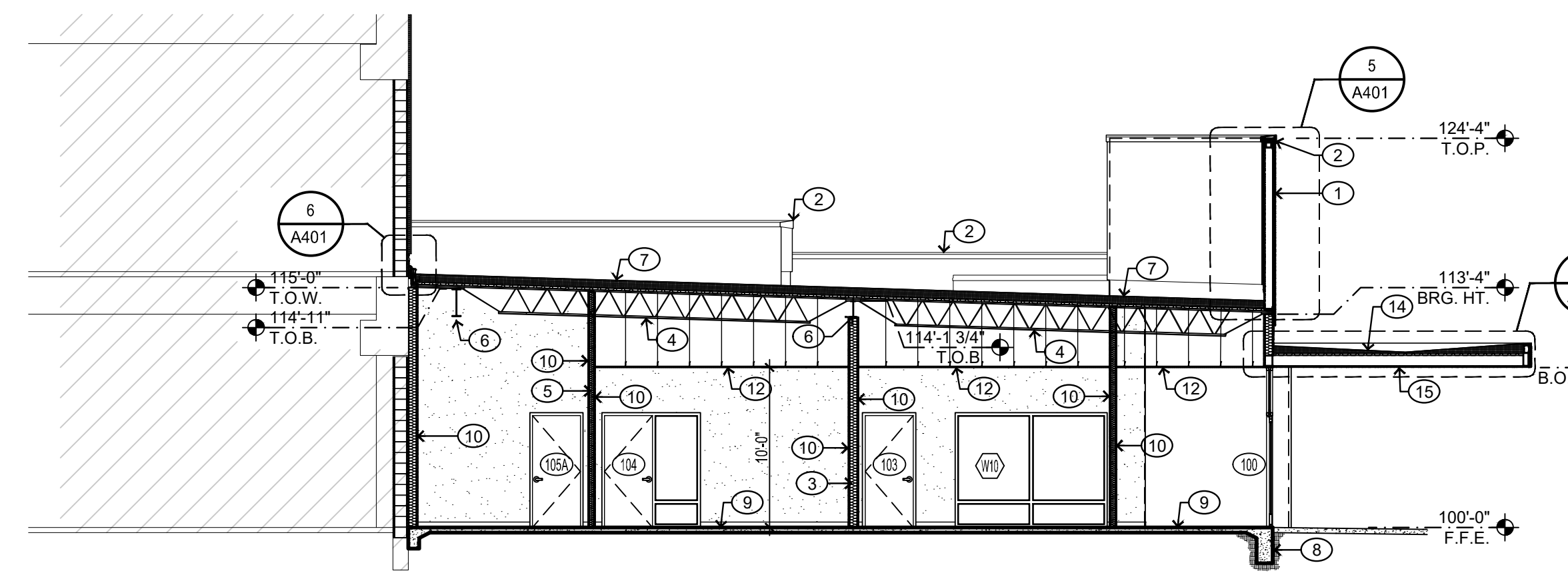
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**KEYED NOTES**

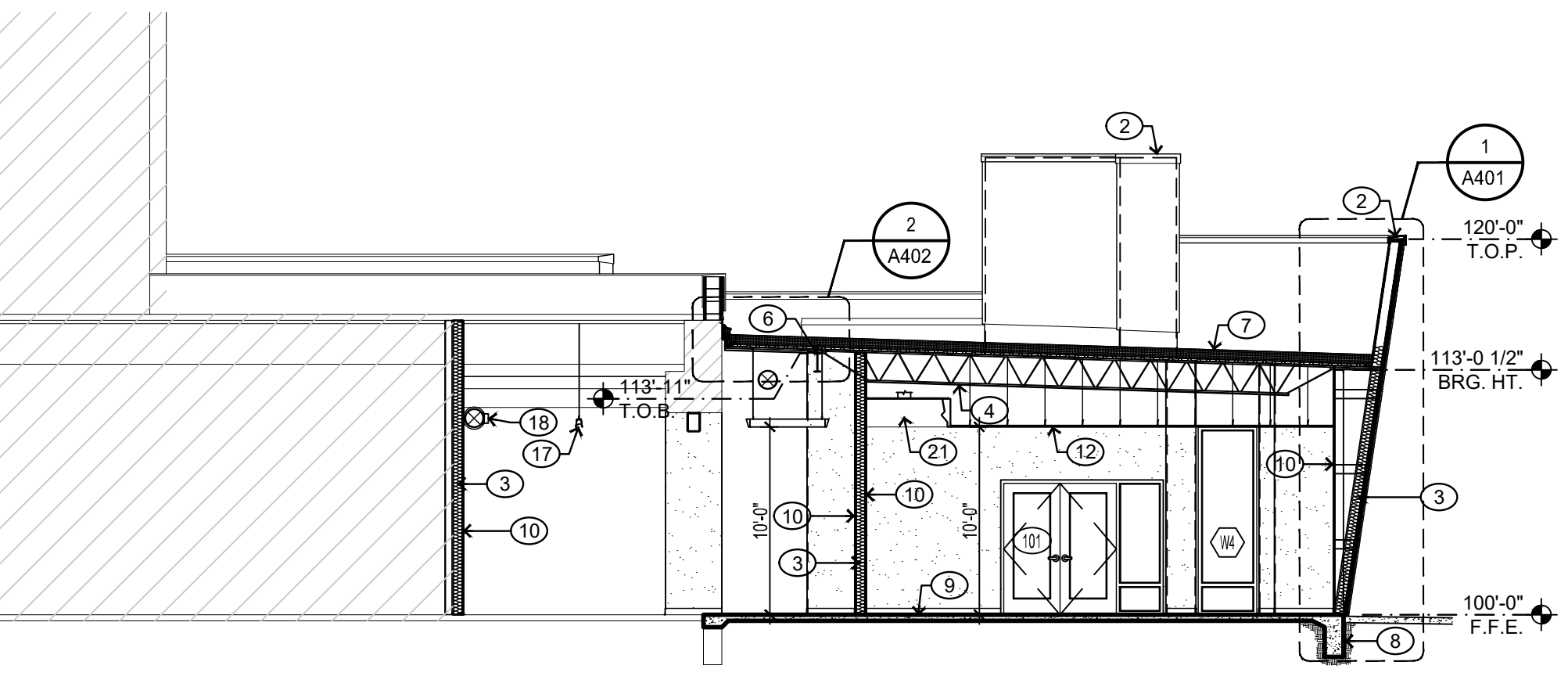
- 1/2" EIFS ON 1/2" DENSGLASS SHEATHING, COLOR TBD. GC RESPONSIBLE FOR PROVIDING COMPLETE SYSTEM FROM STO GOLD COAT AIRMOISTURE BARRIER (OR EQUAL LIQUID APPLIED AIRMOISTURE BARRIER) TO STOLIT FINISH COAT.
- PRE-FAB/PRE-FINISHED MTL. PARAPET CAP.
- 6" MTL. STUDS @ 16" O.C. W/ R-21 BATT INSULATION (OR SOUND BATT INSULATION WITHIN INTERIOR WALLS).
- STL. JOISTS, SEE STRUCTURAL FOR SIZING AND SPACING.
- 3 1/2" MTL. STUDS @ 16" O.C. W/ SOUND BATT INSULATION.
- STEEL COLUMN OR BEAM, SEE STRUCTURAL. PRIME & PAINT ALL EXPOSED STL.
- 80-MIL. FULLY ADHERED SINGLE-PLY ROOF SYSTEM ON R-30 (MIN.) RIGID INSULATION ON 3/4" PLYWD. DECK. PROVIDE 60-MIL. MEMBRANE AT PARAPET WALLS.
- CONT. 1" RIGID INSULATION AT FOUNDATION PERIMETER.
- BUILDING FOOTING AND SLAB, SEE STRUCTURAL.
- 3/4" GYP. BD. TO BTM. OF DECK. TAPE, TEXTURE & PAINT.
- 5'-0" x 10'-0" KAL-WALL S-LINE SKYLIGHT. INSTALL PER MFG. INSTALLATION INSTRUCTIONS.
- LAY-IN CEILING GRID AND TILE.
- 8" MTL. STUD FURRODOWN W/ 3/4" GYP. BD. FINISH.
- 60-MIL. FULLY ADHERED SINGLE-PLY ROOF SYSTEM ON SLOPED RIGID INSULATION ON 3/4" PLYWD. DECK.
- STO DEFS SOFFIT SYSTEM.
- PEAKED EIFS CAP. SEE 2/A600.
- SUSPENDED LINEAR LIGHT FIXTURE. MOUNT AT 10'-0" A.F.F.
- EXPOSED DUCT-PRIME AND PAINT. SEE MECHANICAL.
- SECURITY FENCE, SEE AS100.
- TRANSITION DUCT FROM JOIST LEVEL 90° DOWN AND 90° UNDER NEW STL. SUPPORT BEAM.
- EXHAUST HOOD, SEE MECHANICAL.
- NEW LOCATION OF EXISTING AIR COMPRESSOR INSIDE SECURITY FENCING, SEE PLUMBING.
- NEW STEP DOWN TRANSFORMER INSIDE SECURITY, SEE ELECTRICAL.



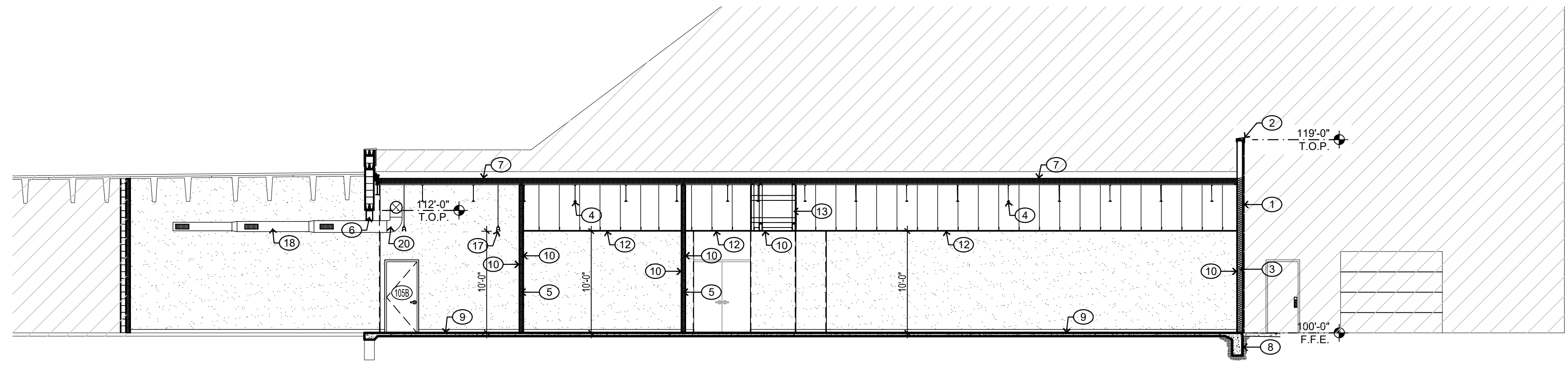
**BUILDING SECTION 1**  
1/8" = 1'-0"



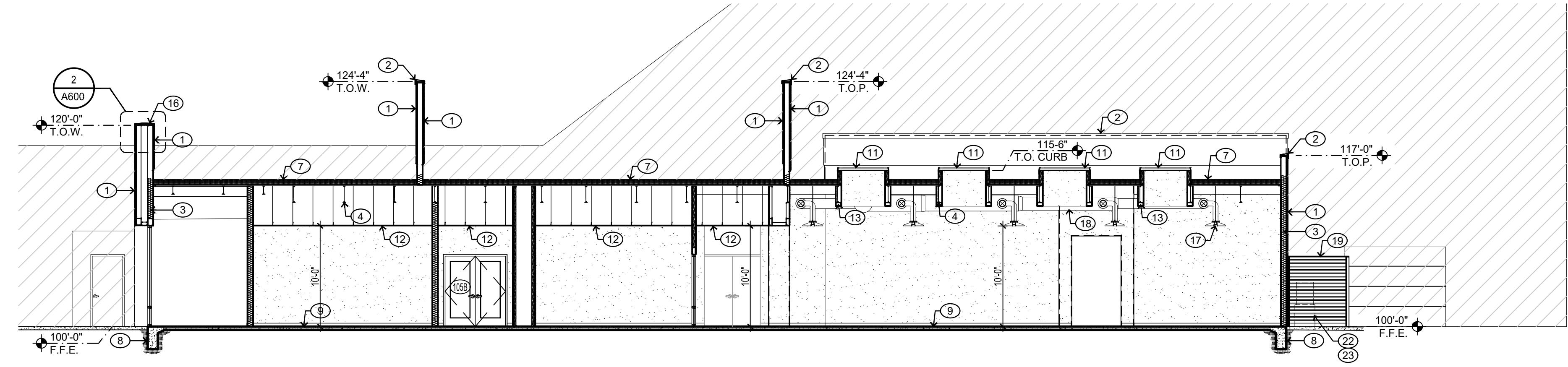
**BUILDING SECTION 2**  
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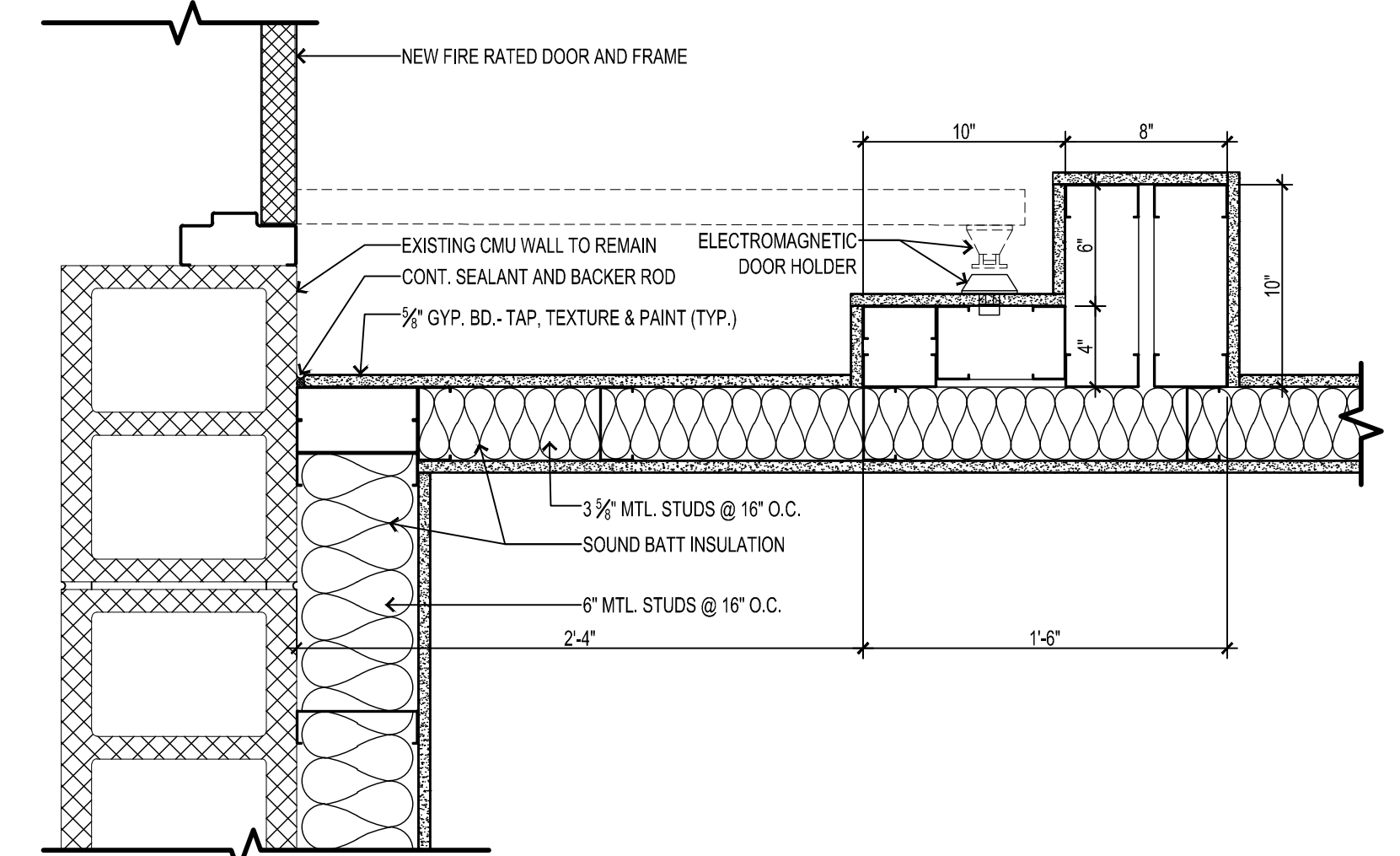
**BUILDING SECTION 3**  
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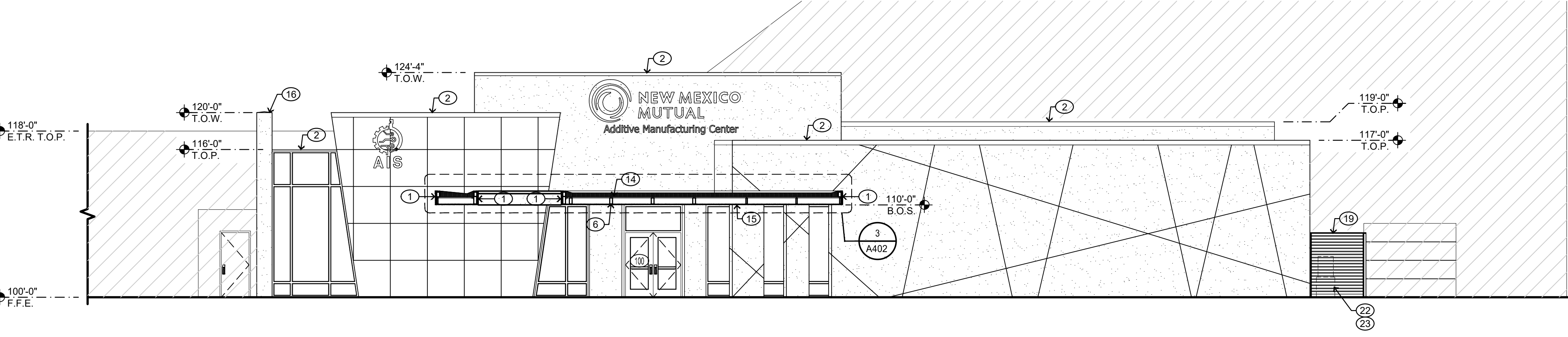
**BUILDING SECTION 4**  
1/8" = 1'-0"



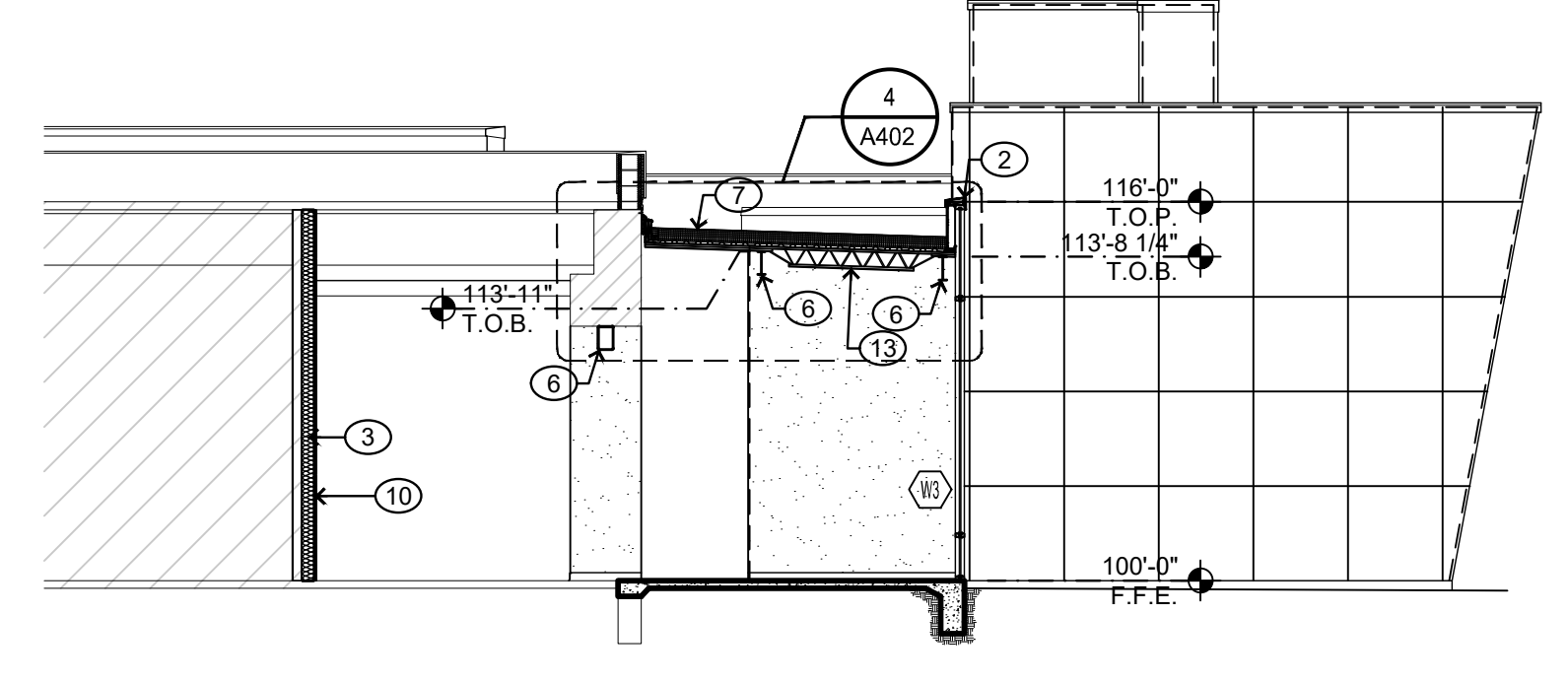
**BUILDING SECTION 5**  
1/8" = 1'-0"



**PLAN DETAIL 6**  
1 1/2" = 1'-0"



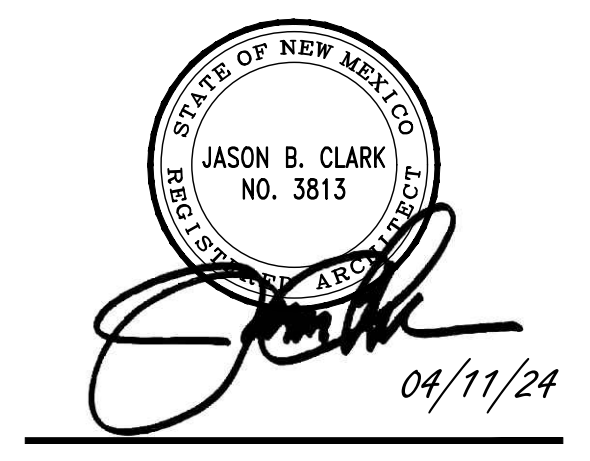
**BUILDING SECTION 7**  
1/8" = 1'-0"



**BUILDING SECTION 8**  
1/8" = 1'-0"

Date: Apr 12, 2024 - 8:08am Users: RS  
 Drawing File: K:\2023 Projects\2316 NMSU AIS addition\DWGS\Sheets\2316-A400.dwg  
 Last Saved By: RS Apr 12, 2024 - 7:55am  
 Layout Name: A400





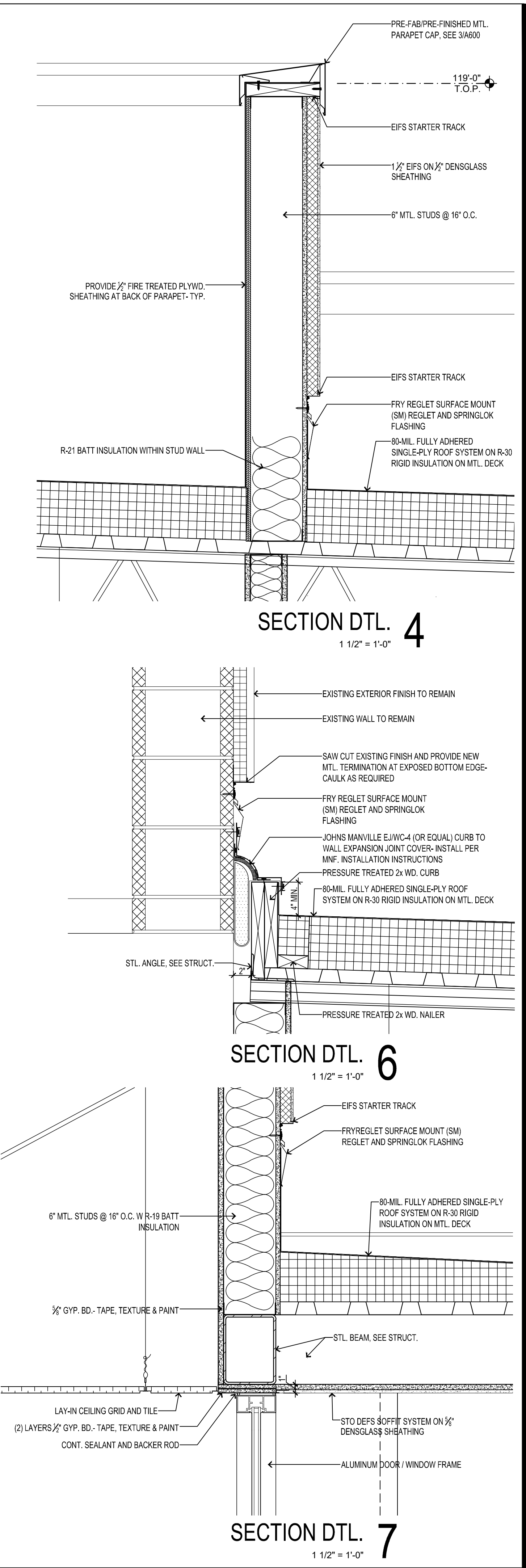
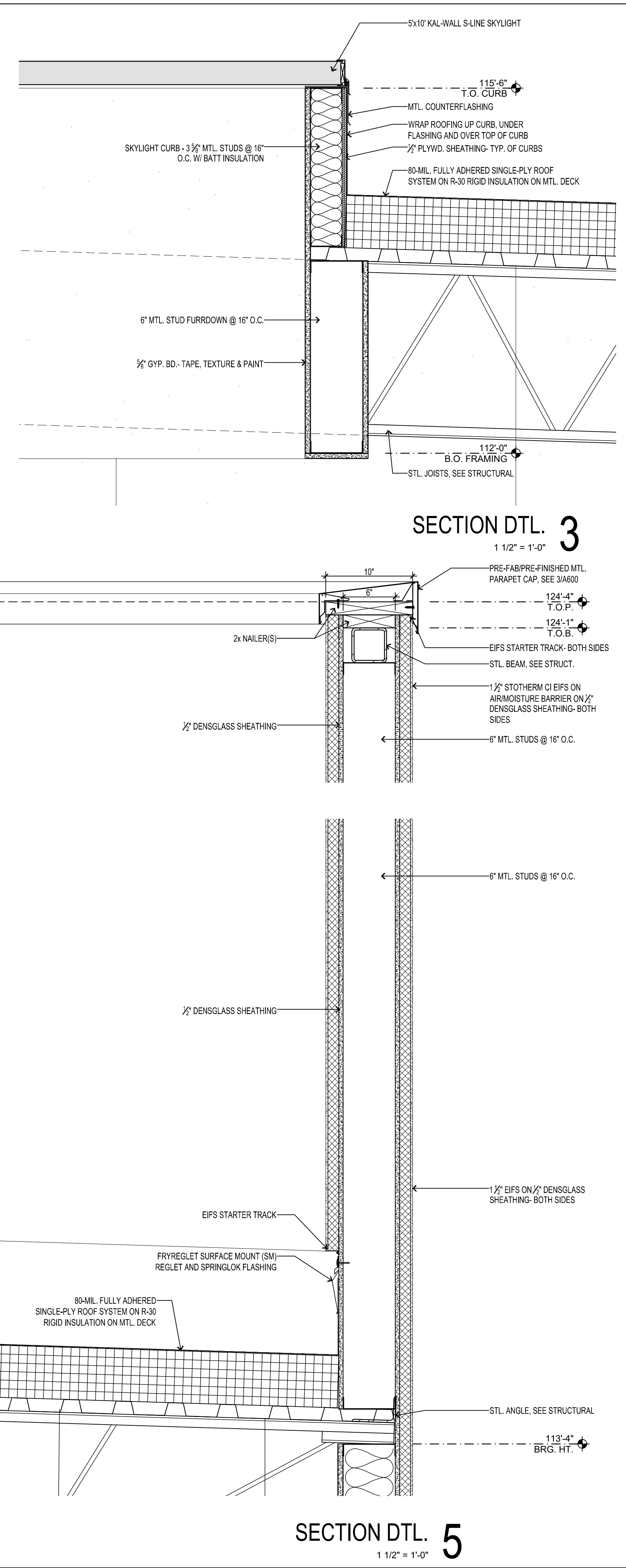
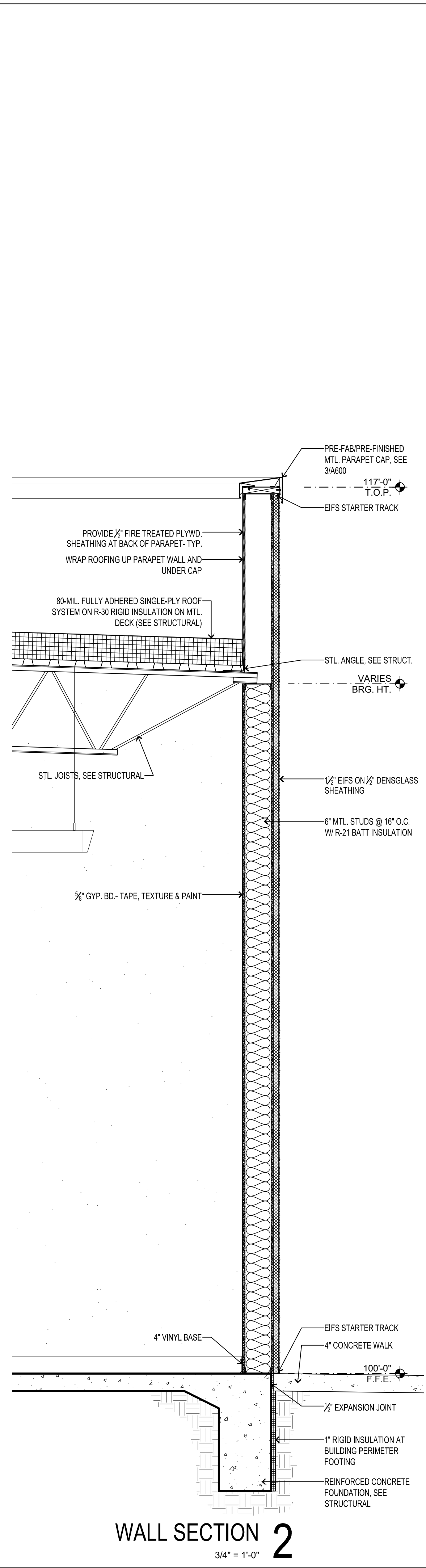
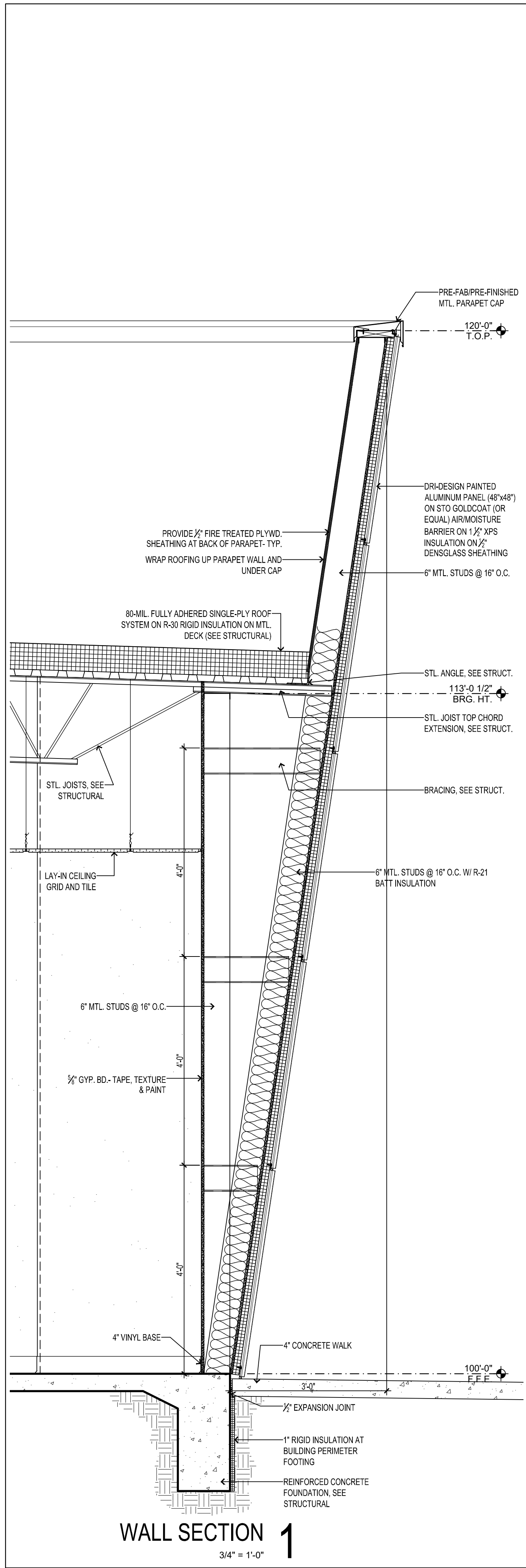
ADDITION  
**4842 AGGIE INNOVATION SPACE EC1**

1025 Stewart St.  
Las Cruces, NM

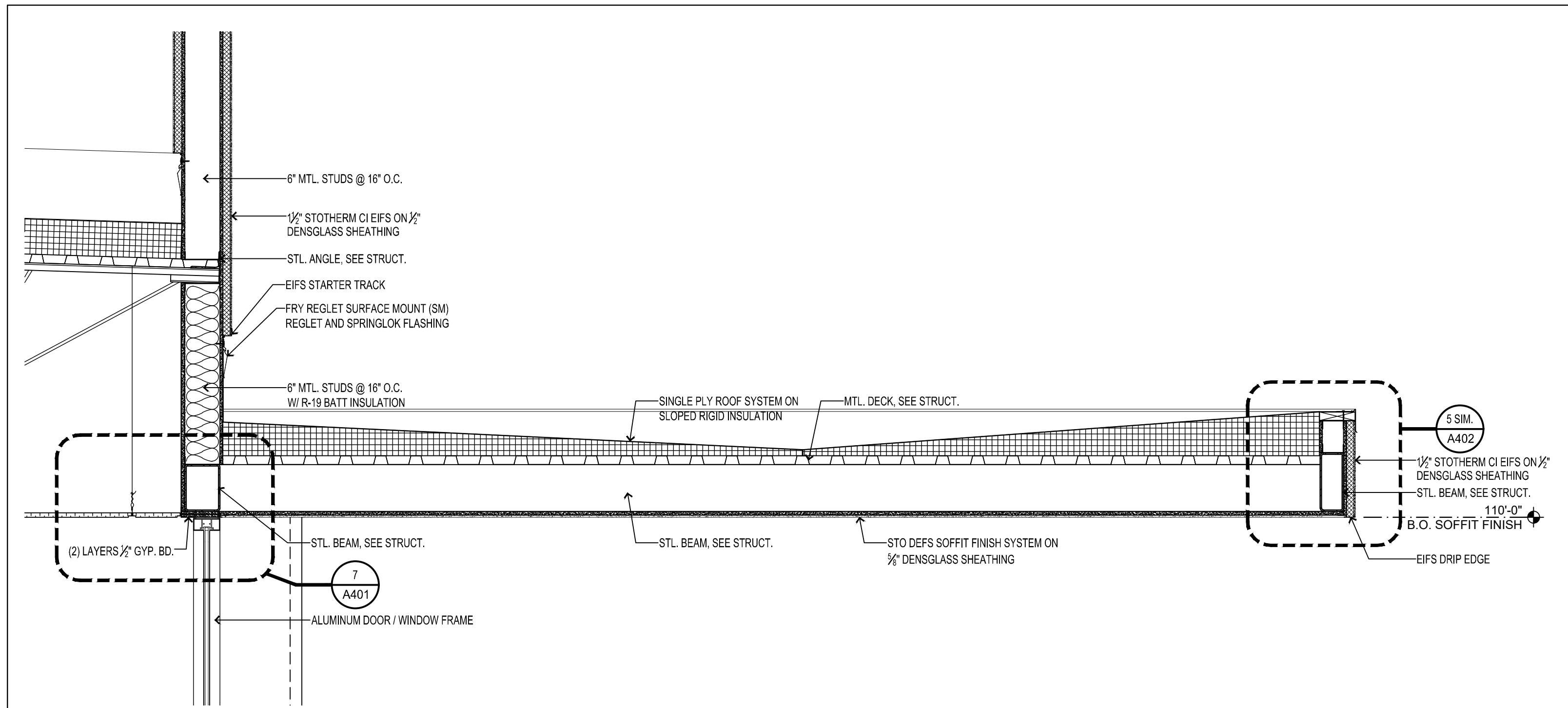
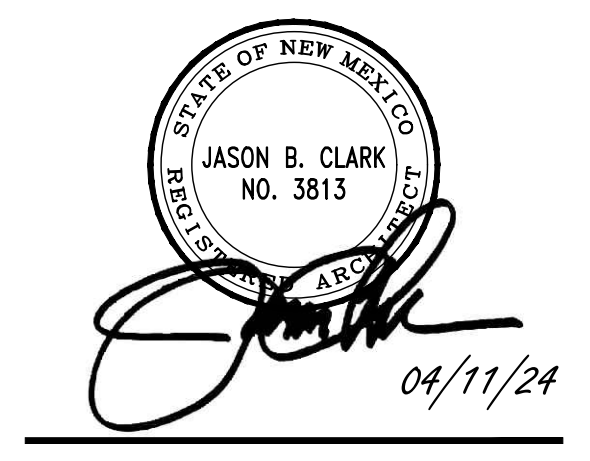
REVISION	DATE

Project no: 23.16  
Date: April 2024  
Sheet:

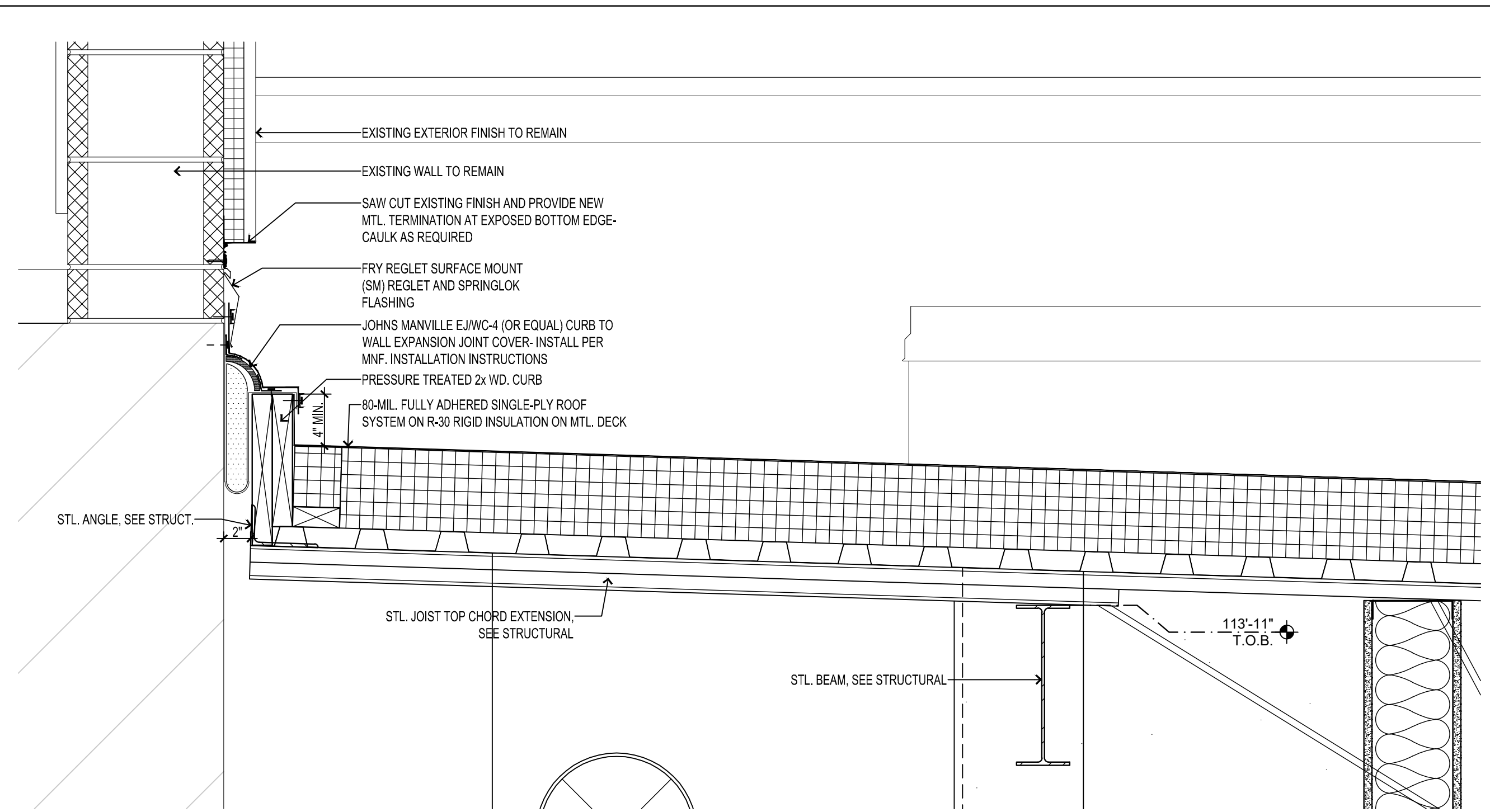
**WALL SECTIONS & SECTION DETAILS**  
**A401**



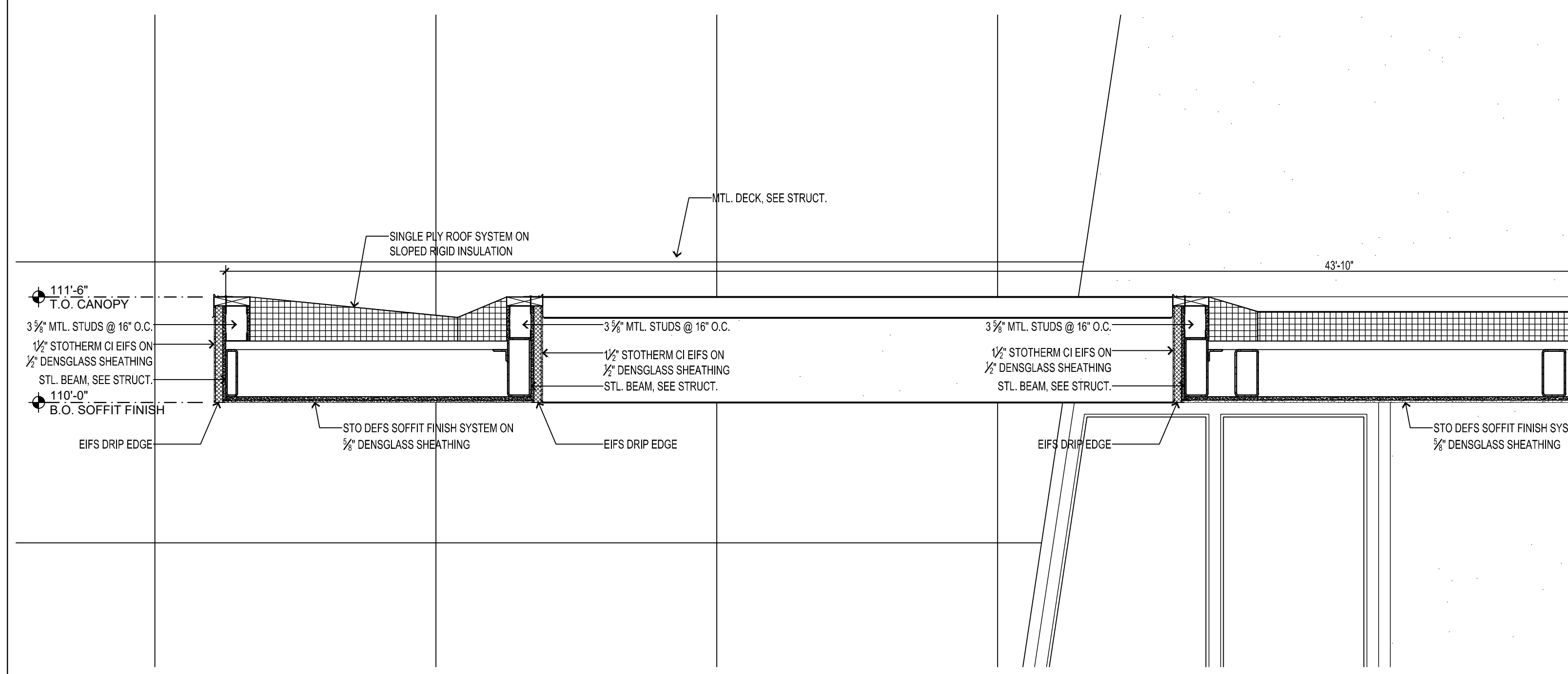
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Layout Name: A401



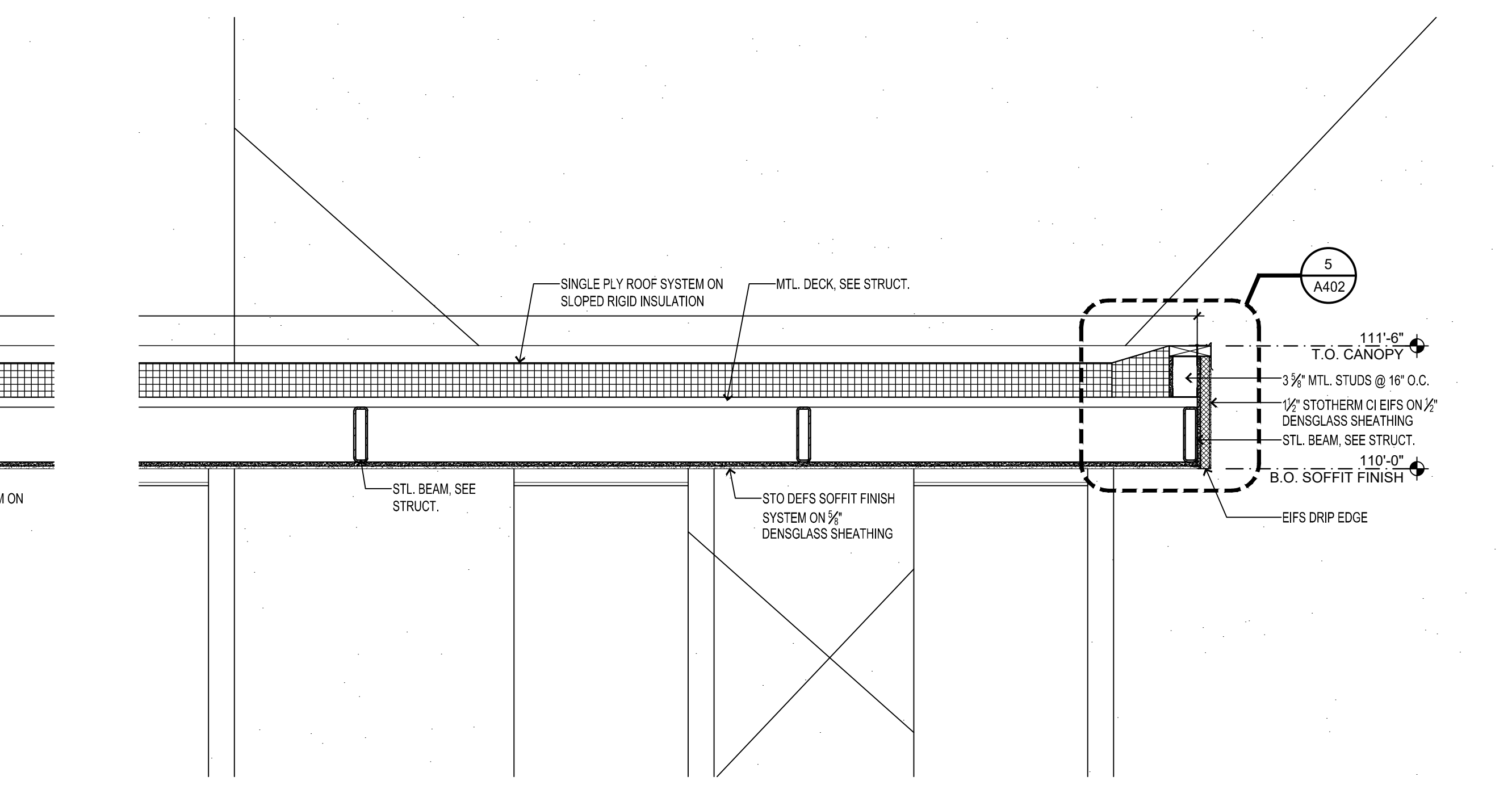
**SECTION DTL. 1**  
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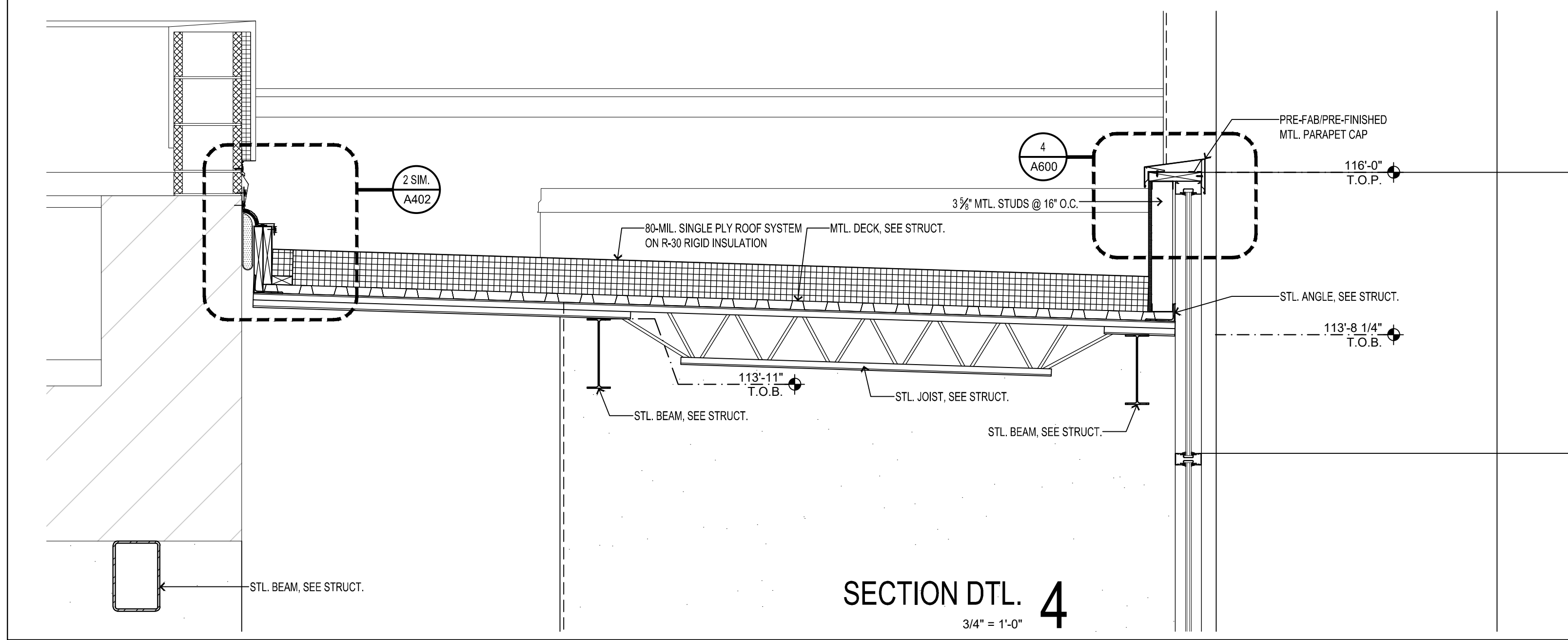
**SECTION DTL. 2**  
1 1/2" = 1'-0"



**SECTION DTL. 3**  
3/4" = 1'-0"



**SECTION DTL. 4**  
3/4" = 1'-0"



**SECTION DTL. 5**  
3" = 1'-0"

ADDITION

**4842 AGGIE INNOVATION SPACE EC1**

1025 Stewart St.  
Las Cruces, NM

REVISION	DATE

Project no: 23.16  
Date: April 2024  
Sheet:

**SECTION DETAILS**  
**A402**

Date: Apr 12, 2024 - 7:58am User:RS  
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Layout Name: A402

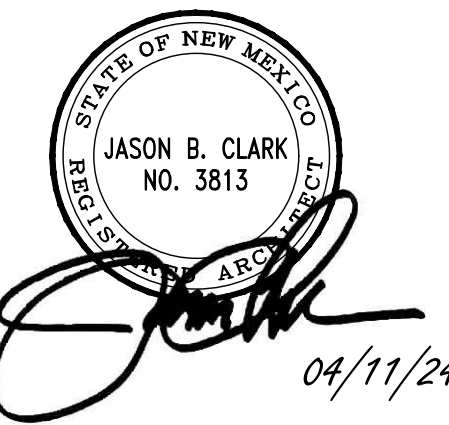
**KEYED NOTES**

1. EXISTING TO REMAIN.
2. OPEN TO STRUCTURE- PRIME AND PAINT STRUCTURE AND ROOF DECK AFTER INSTALLATION OF SINGLE-PLY ROOF MEMBRANE HAS BEEN COMPLETED.
3. 2x2 ARMSTRONG FISSURED-705 LAY-IN CEILING GRID & (TEGULAR) CEILING TILE. COLOR: 'WHITE'.
4. GYP. BD. ON MTL. STUD FRAME FURRDOWN- SECURED TO STRUCTURE.
5. STO DEFS ON 1/2" DENSGLASS SHEATHING, SEE BUILDING SECTIONS AND DETAILS.
6. DRI-DESIGN PAINTED ALUMINUM PANELS ON ANGLED WALL, SEE EXTERIOR ELEVATIONS & BUILDING SECTIONS.
7. LIGHT FIXTURE, SEE ELECTRICAL.
8. HOOD, SEE MECHANICAL.
9. SUPPLY/RETURN GRILLE, SEE MECHANICAL.
10. MECHOSHADE 'MECHO'S' MANUAL ROLLER SHADE W/ FACTORY SUPPLIED POCKET FOR LAY-IN CEILING APPLICATION(S). SHADE TO COVER WINDOW AND SIDELIGHT INDICATED.
11. TRANSITION DUCT FROM JOIST LEVEL 90" DOWN AND 90" UNDER NEW STL. SUPPORT BEAM.
12. EXPOSED GALVANIZED SPIRAL DUCT- NO PAINT. PROTECT DUCT FROM OVERSPRAY AND DRIPS WHILE PRIMING AND PAINTING STRUCTURE (TYP. OF ALL EXPOSED DUCTWORK).



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ADDITION

**4842 AGGIE  
INNOVATION  
SPACE EC1**

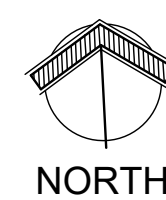
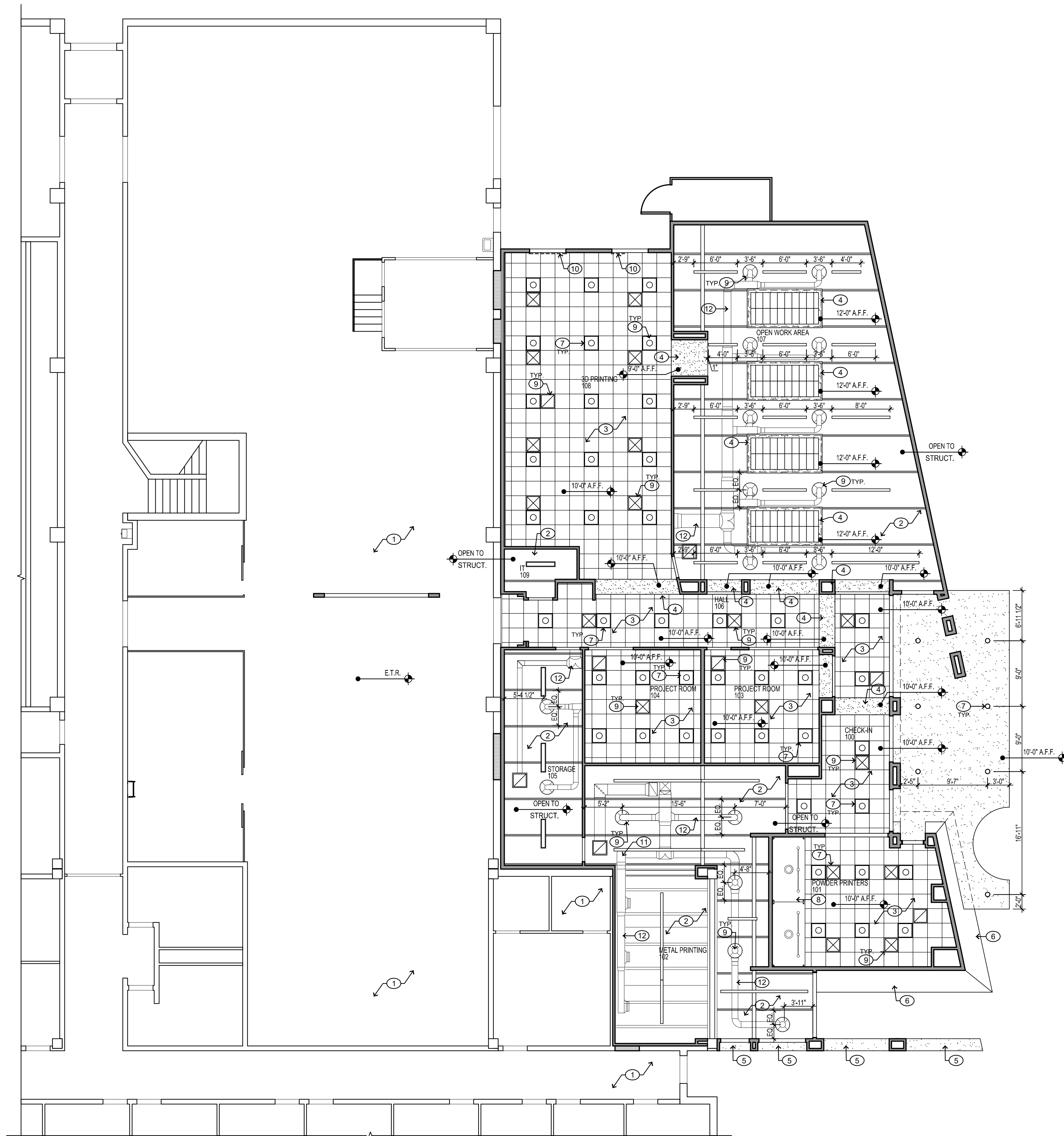
1025 Stewart St.  
Las Cruces, NM

REVISION DATE

Project no: 23.16  
Date: April 2024  
Sheet:

**REFLECTED  
CEILING PLAN**

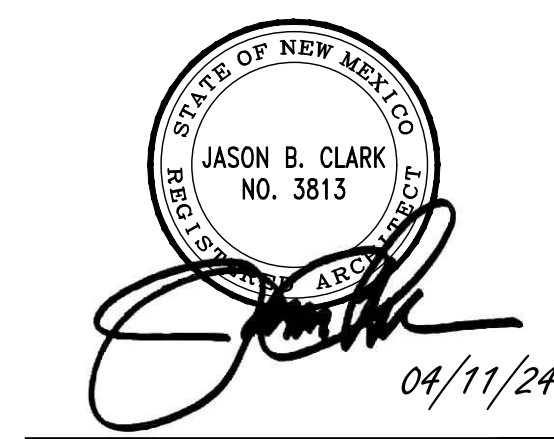
**A500**



**REFLECTED CEILING PLAN 1**

1/8" = 1'-0"





ADDITION

**4842 AGGIE INNOVATION SPACE EC1**

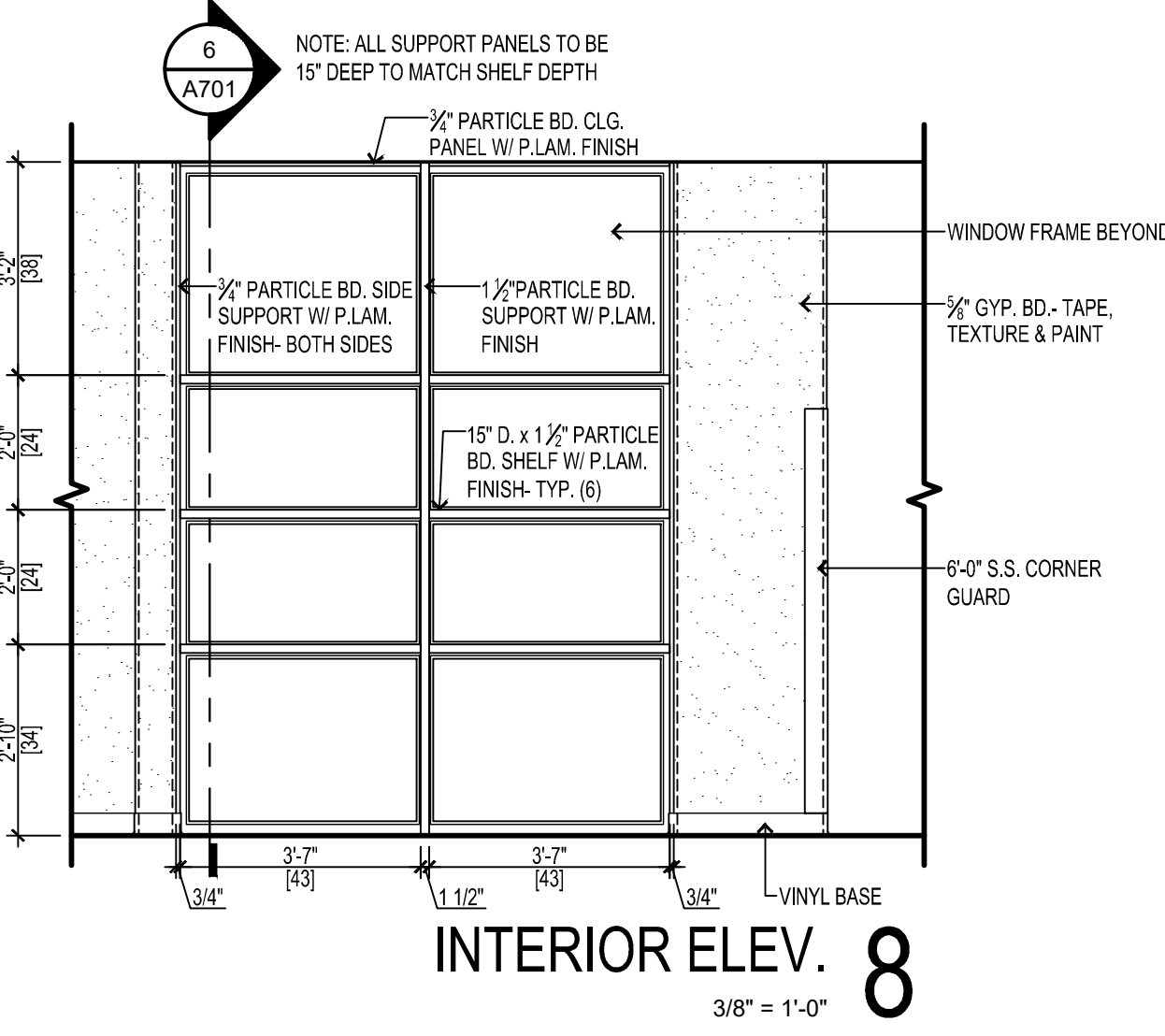
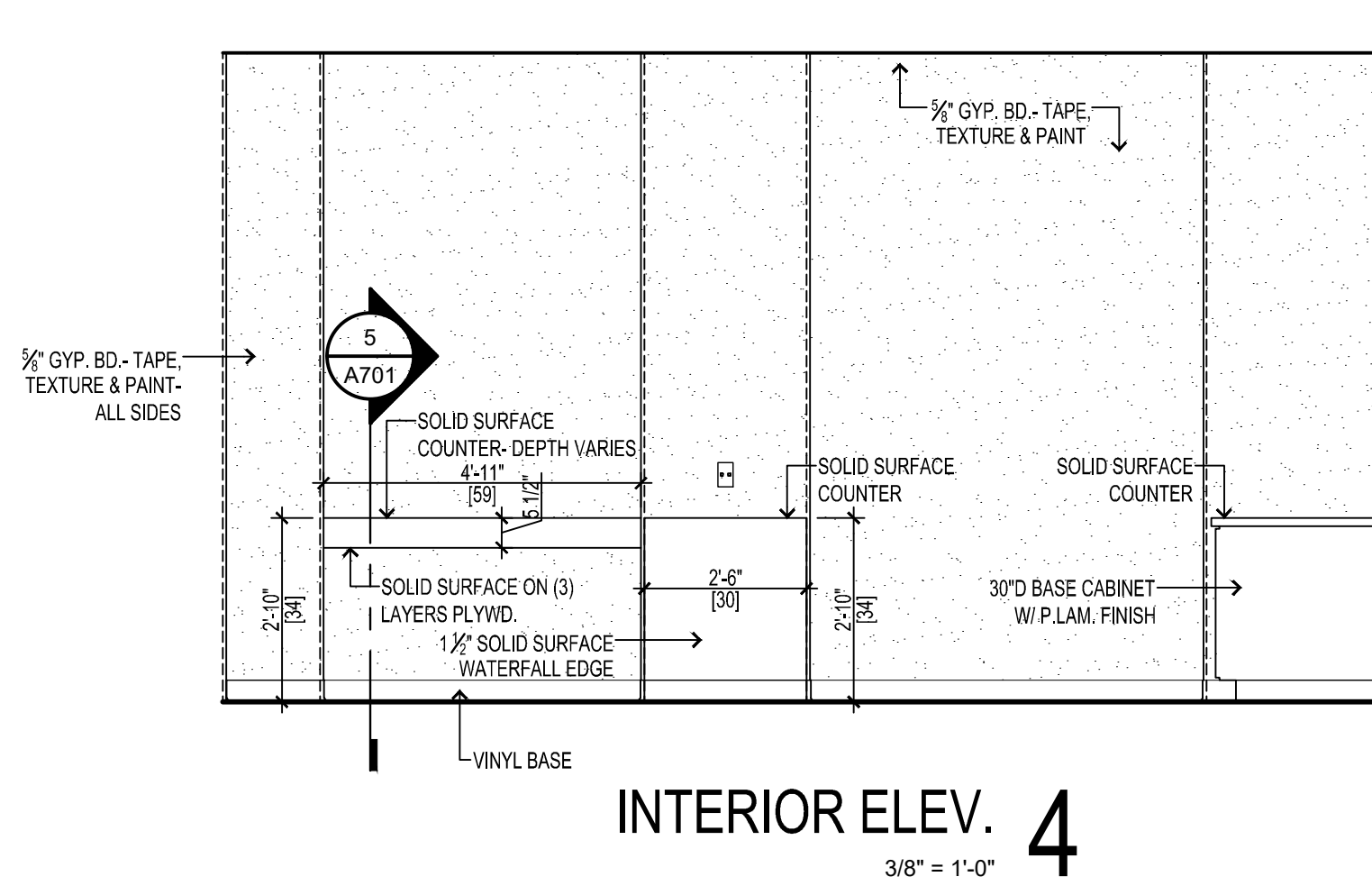
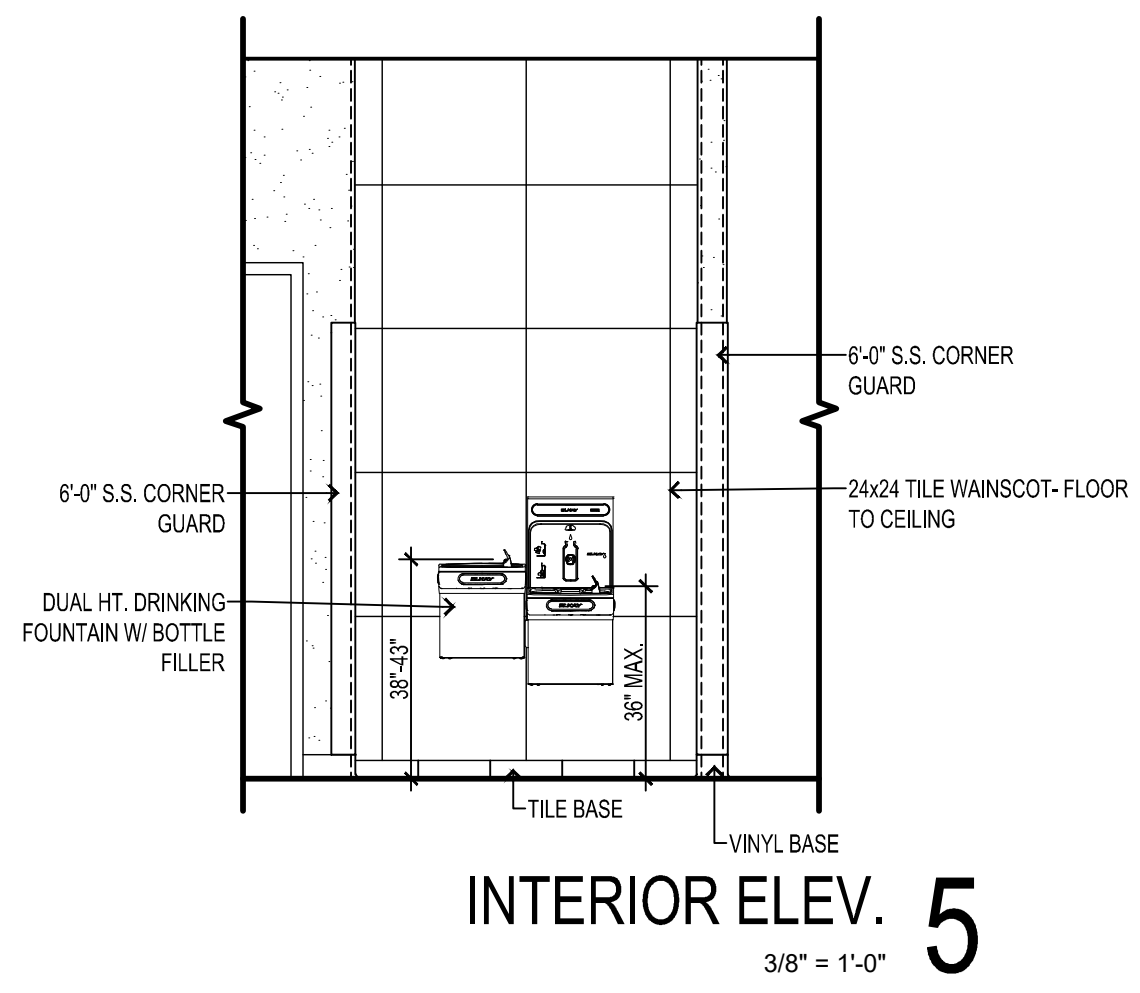
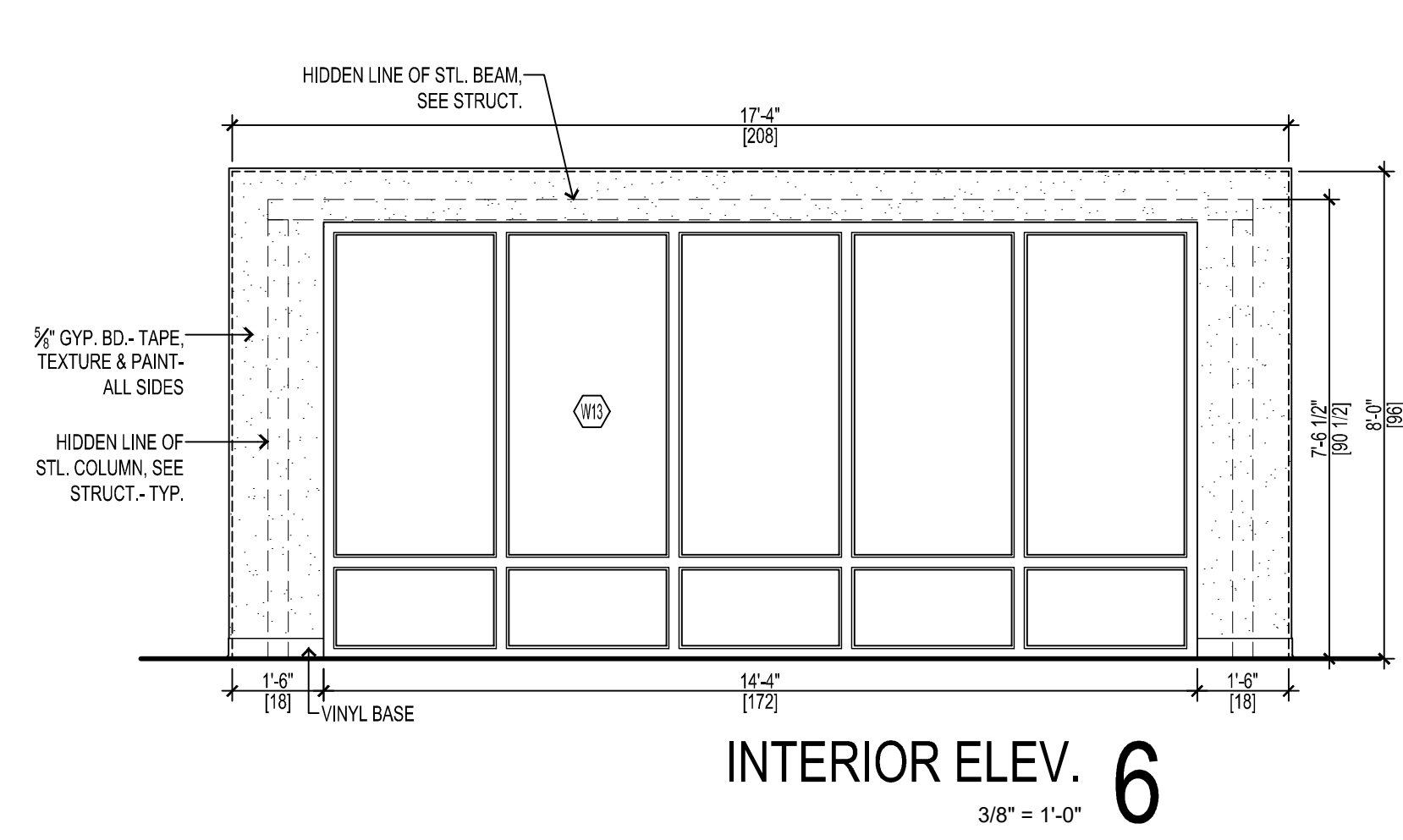
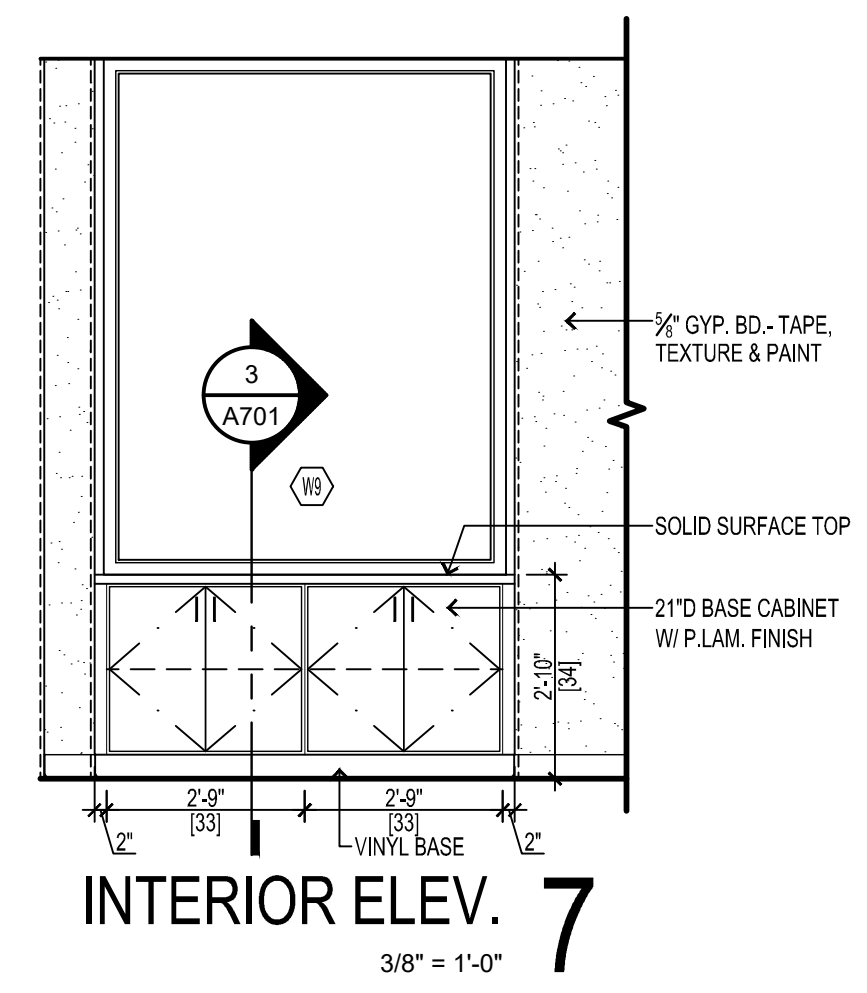
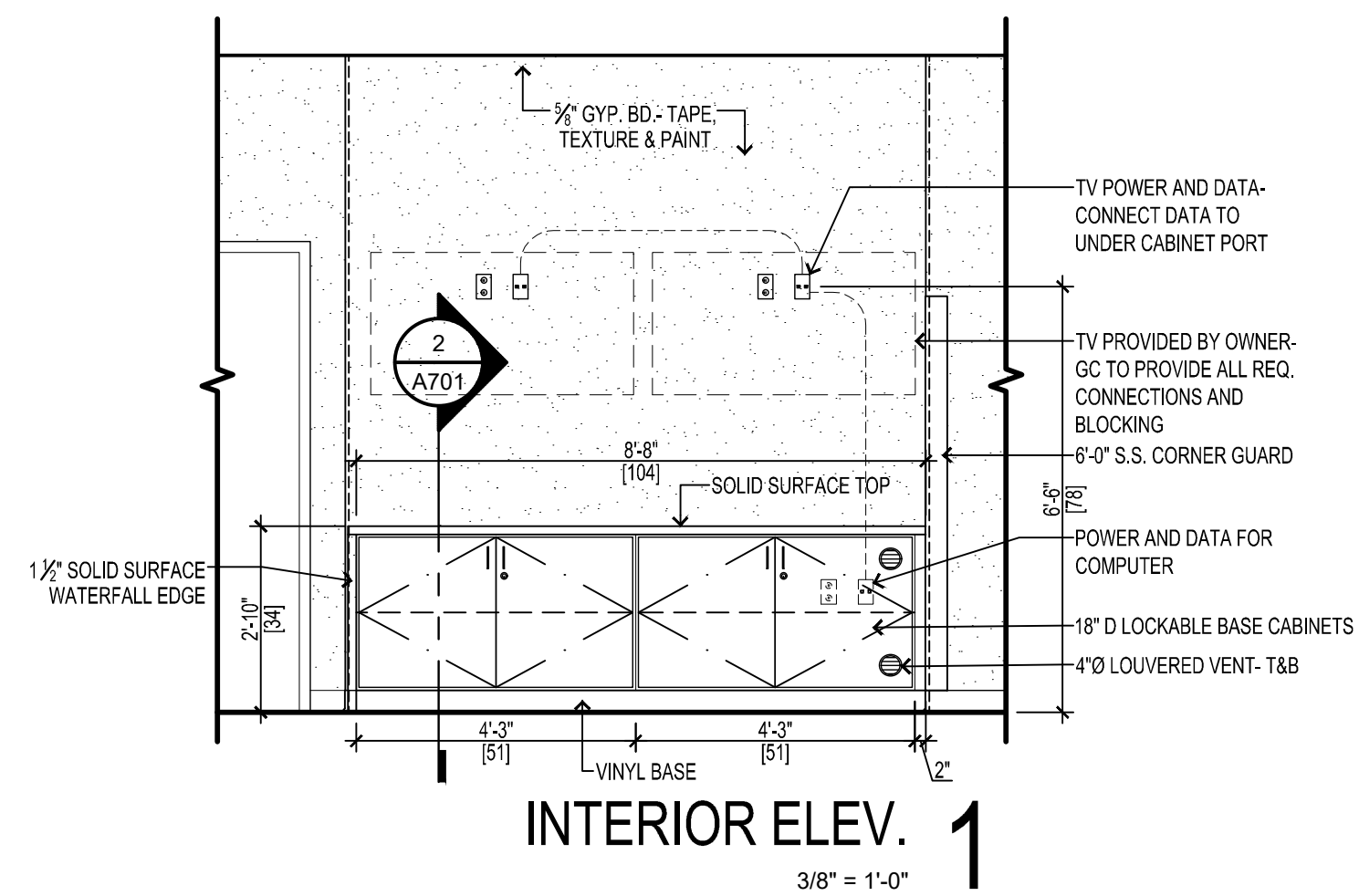
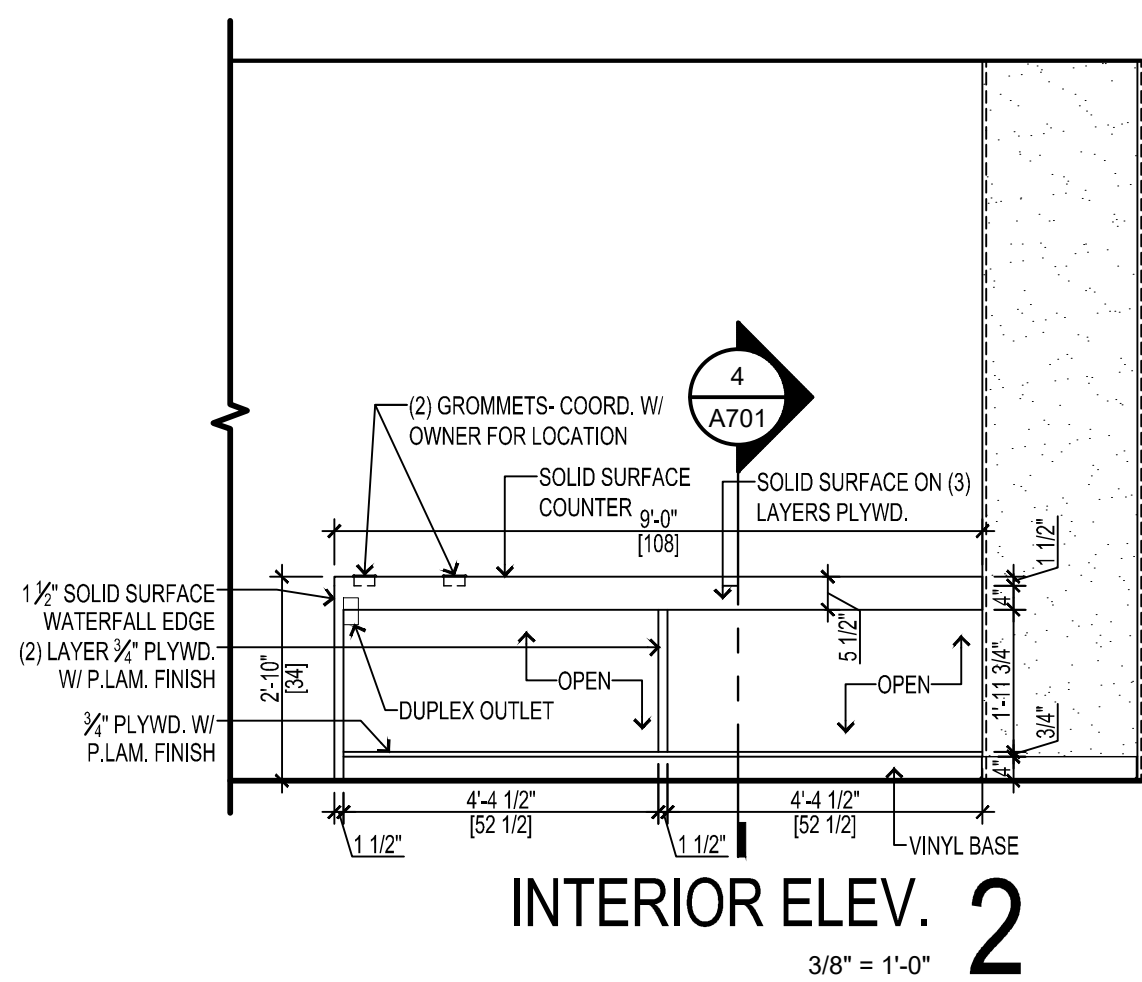
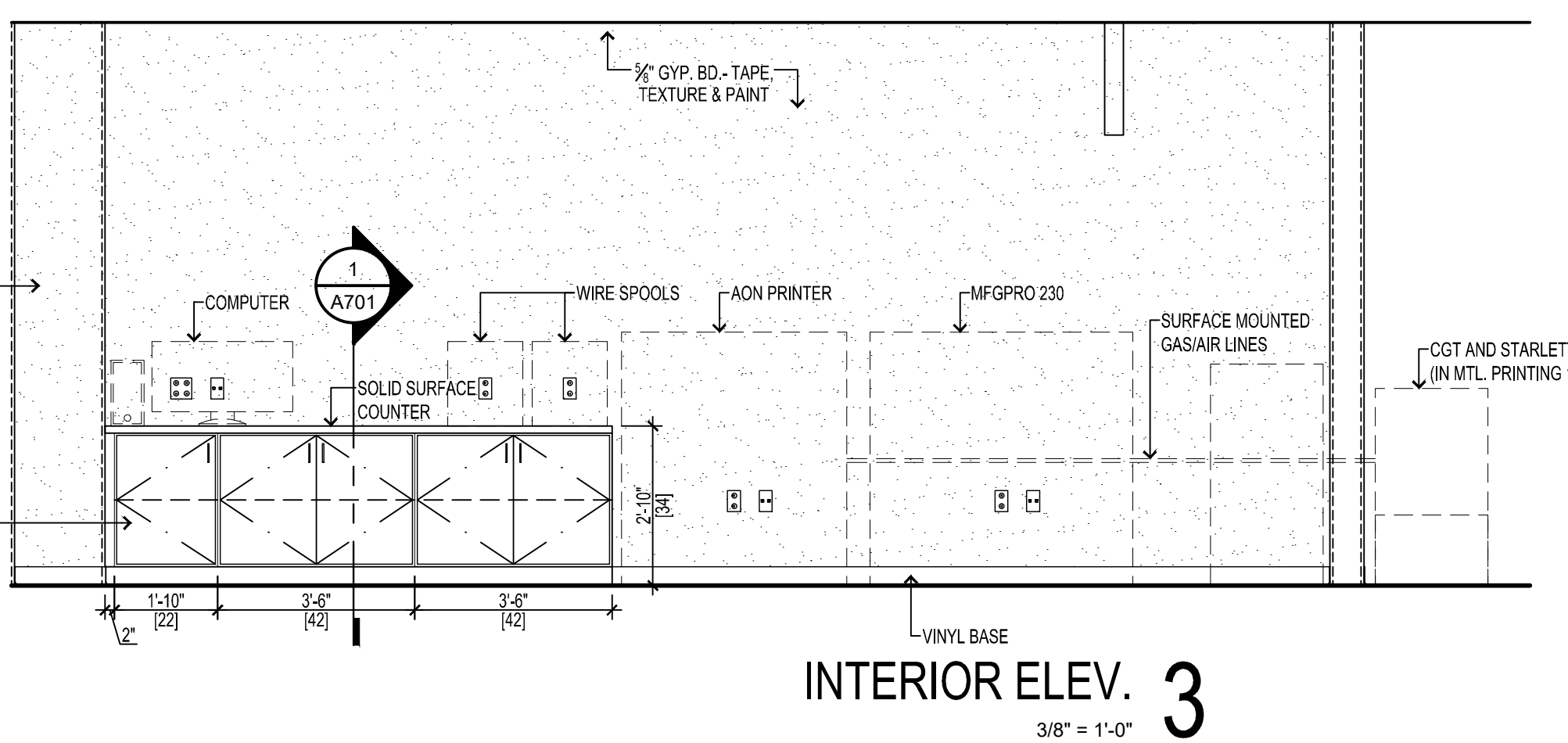
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Las Cruces, NM

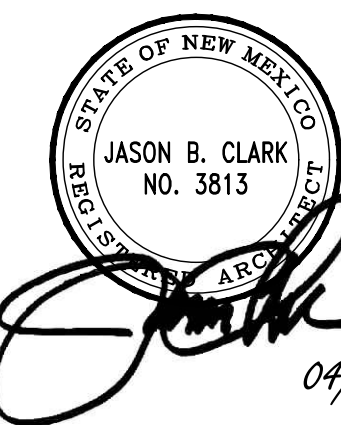
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Project no: 23.16  
Date: April 2024  
Sheet:

**INTERIOR ELEVATIONS**

**A700**





ADDITION

**4842 AGGIE  
INNOVATION  
SPACE EC1**

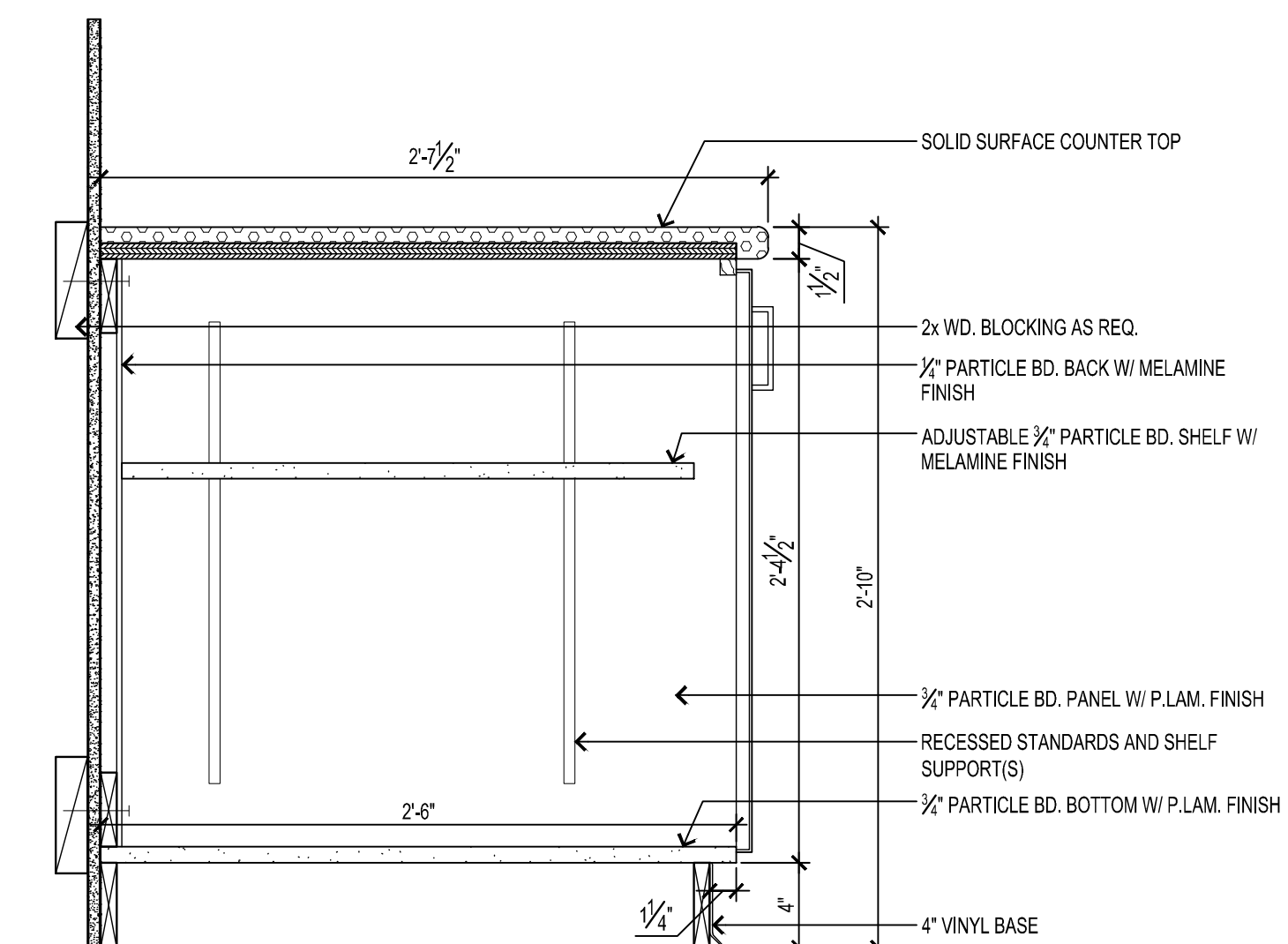
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Las Cruces, NM

REVISION	DATE

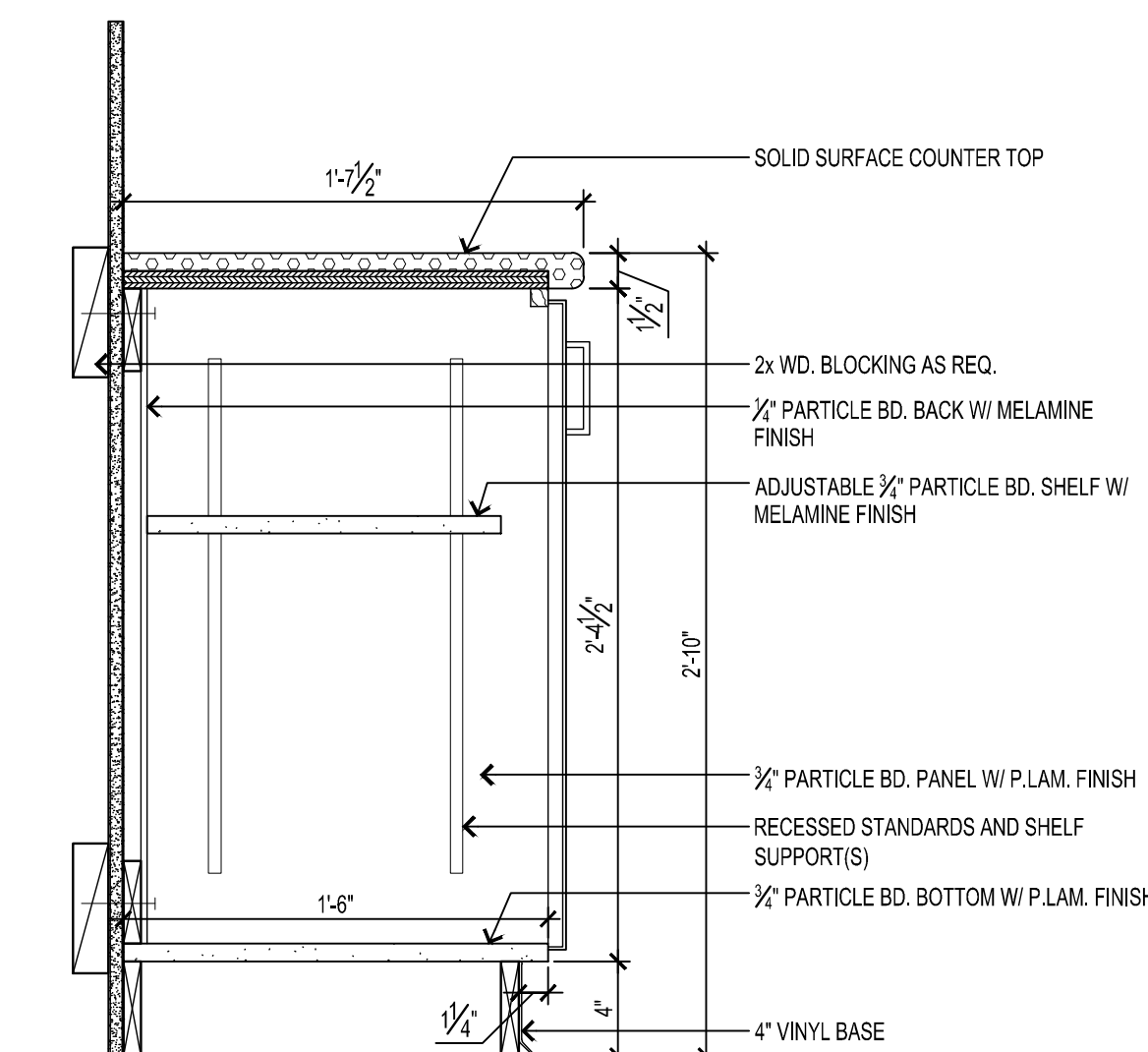
Project no: 23.16  
Date: April 2024  
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**MILLWORK  
SECTIONS**

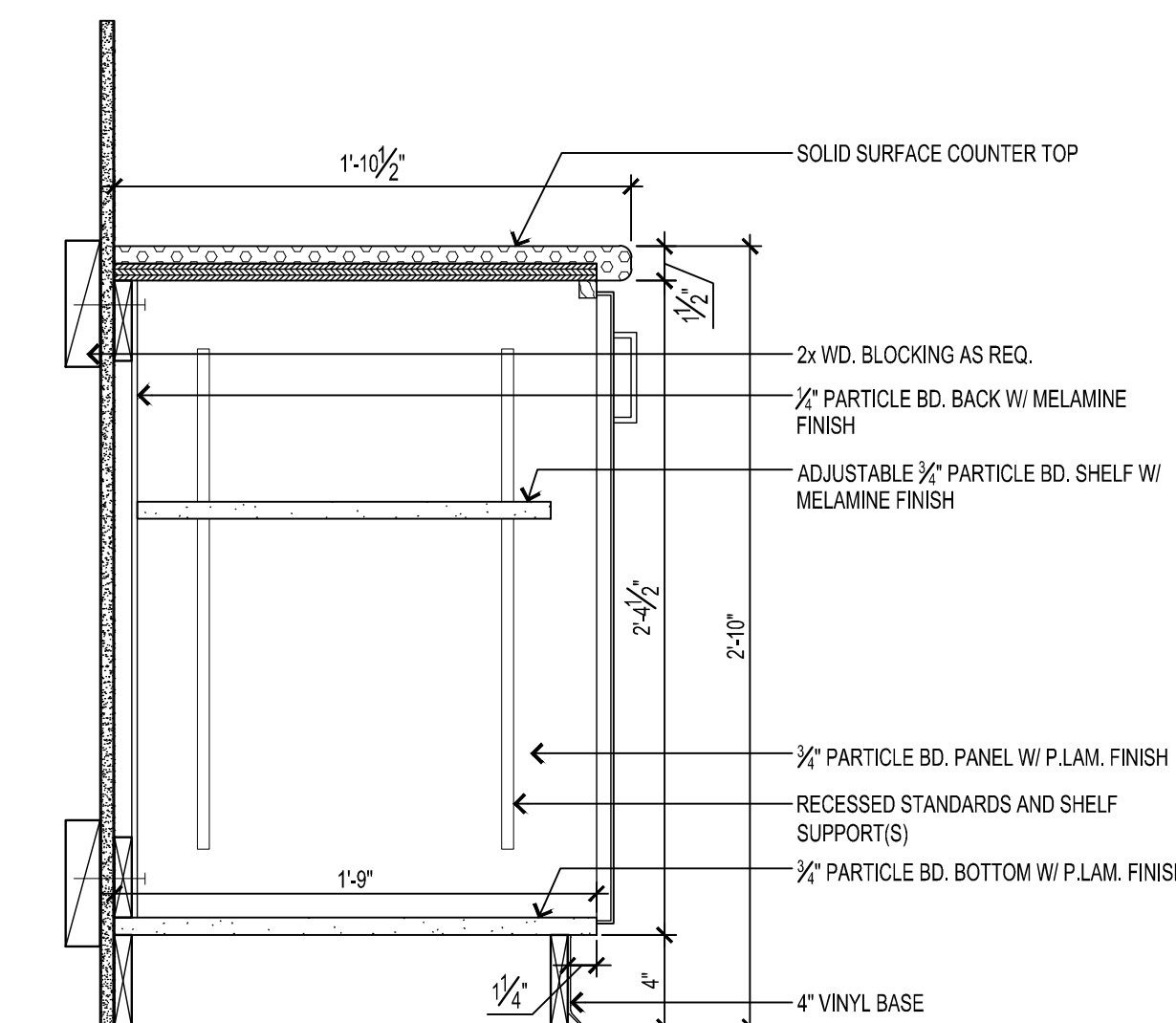
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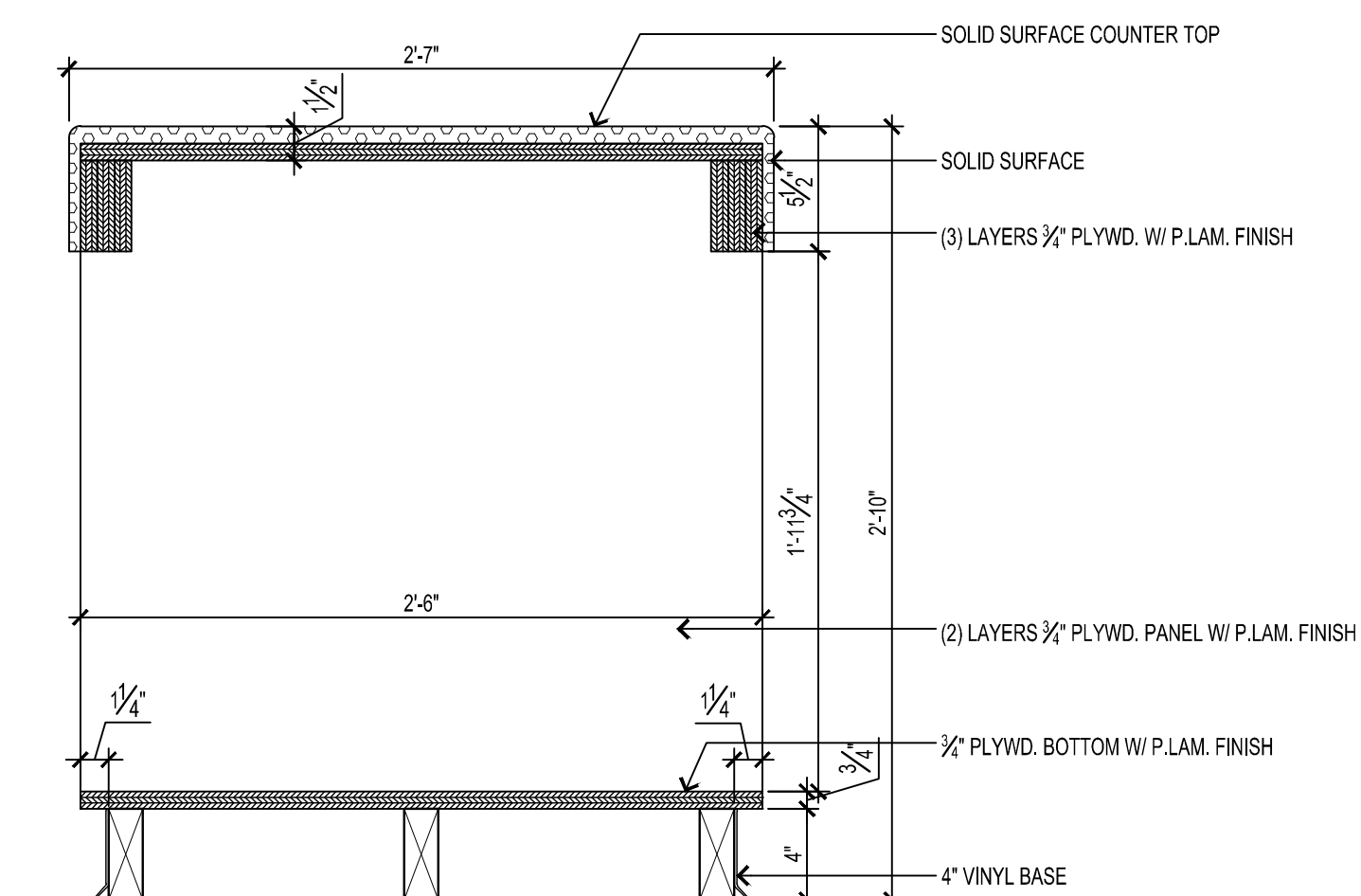
**MILLWORK SECTION 1**  
1 1/2" = 1'-0"



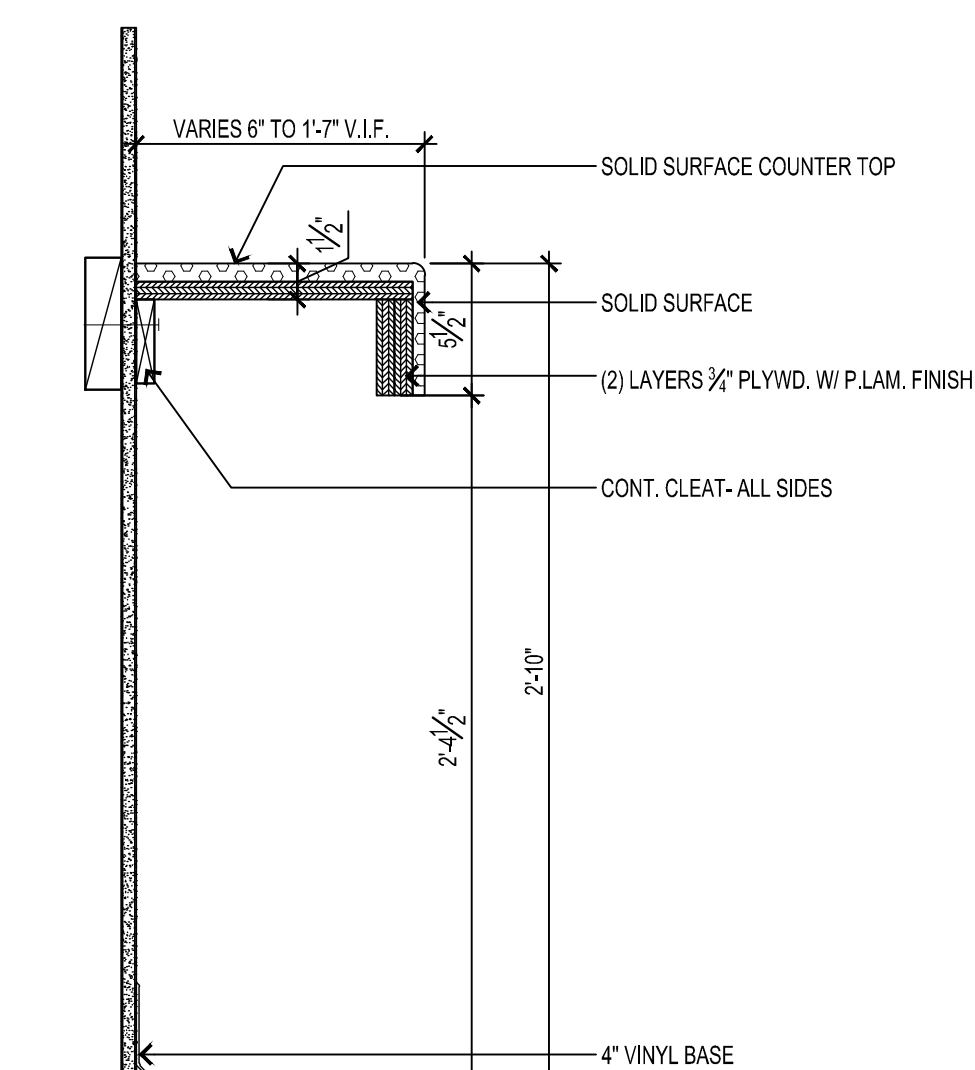
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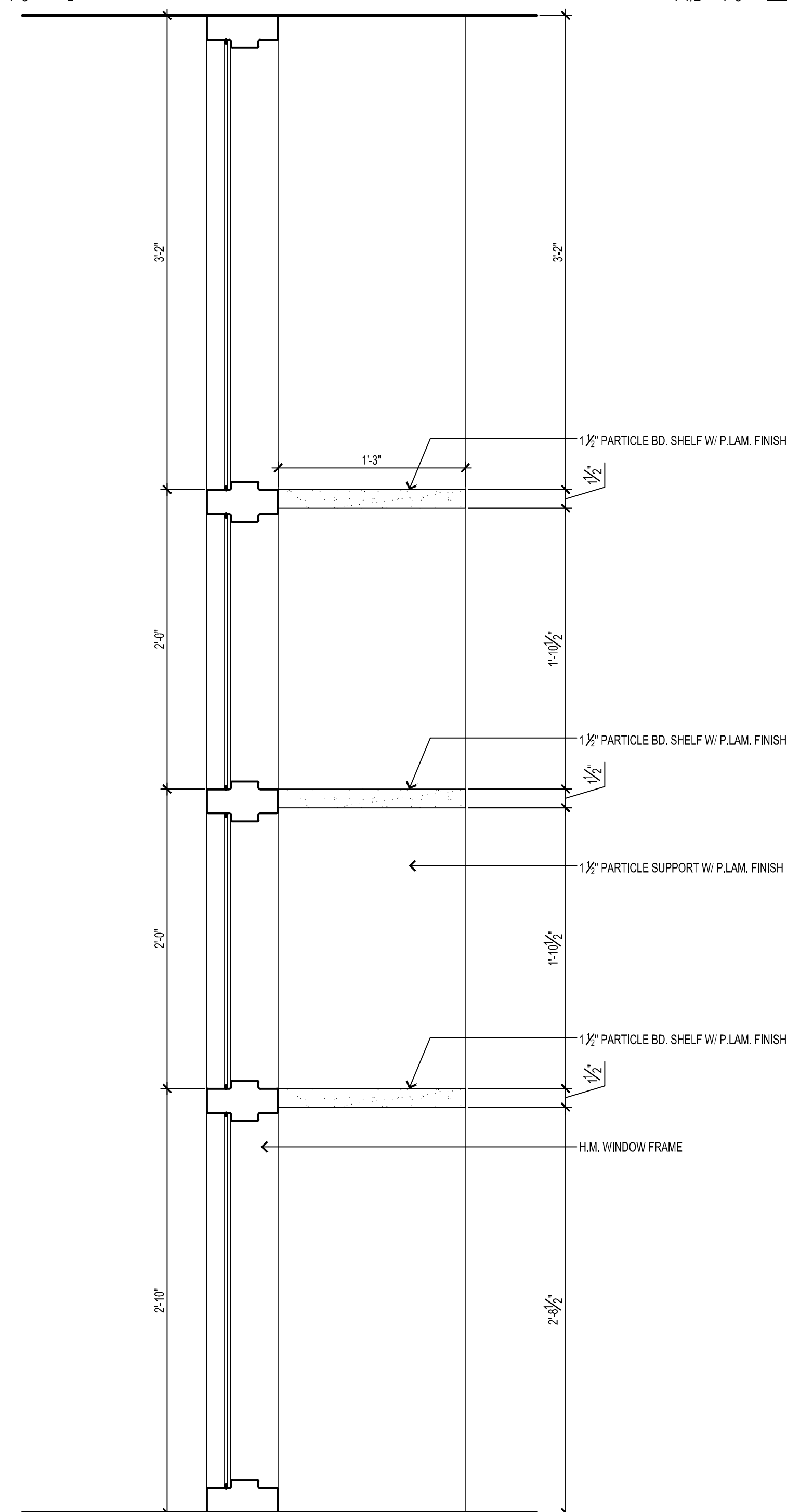
**MILLWORK SECTION 3**  
1 1/2" = 1'-0"



**MILLWORK SECTION 4**  
1 1/2" = 1'-0"



**MILLWORK SECTION 5**  
1 1/2" = 1'-0"



**MILLWORK SECTION 6**  
1 1/2" = 1'-0"

## MECHANICAL SPECIFICATIONS

### A. SUMMARY OF WORK

- THE DRAWINGS INDICATE DIAGRAMMATICALLY THE EXTENT, GENERAL CHARACTER AND LOCATION OF THE WORK INCLUDING, OFFSETS AND/OR CHANGES IN ELEVATION OF PIPING AND DUCTWORK DUE TO STRUCTURAL OR OTHER INTERFERENCES SHALL BE PROVIDED WITHOUT EXTRA COST.
- CONTRACTOR SHALL VERIFY AND EVALUATE ALL EXISTING CONDITIONS PRIOR TO THE COMMENCEMENT OF WORK.
- PROVIDE ALL LABOR, MATERIALS AND EQUIPMENT NECESSARY FOR THE INSTALLATION OF COMPLETE AND OPERATIONAL MECHANICAL SYSTEMS AND WORKMANSHIP AFTER FINAL ACCEPTANCE BY OWNER.
- ENTIRE DEMOLITION AND NEW WORK INSTALLATION SHALL CONFORM WITH ALL APPLICABLE LAWS, CODES AND REGULATIONS OF MUNICIPAL, STATE AND FEDERAL AUTHORITIES INCLUDING BOCA, ASME, ASTM, ANSI, ASHRAE, SMACNA AND NFPA.

### B. MOTORS AND DRIVES

- MOTOR MANUFACTURERS: GENERAL ELECTRIC TRI-CLAD 700, LINCOLN, GOULD E-PLUS.
- BELT DRIVE MANUFACTURERS: T.B. WOODS, BROWNING, EATON.
- MOTOR CHARACTERISTICS: 1/2 HP AND OVER - 208V/3 PHASE/60; UNDER 1/2 HP - 115V/1 PHASE/60.
- MOTOR TYPE:
  - HIGH EFFICIENCY (NEMA IEEF 112B), CONSTANT SPEED, 1.15 SERVICE FACTOR, CLASS B INSULATION, SQUIRREL CAGE INDUCTION TYPE.
  - PROVIDE TEFC OR TEAO MOTORS.
- DRIVES: V-BELT UNLESS OTHERWISE SPECIFIED, DESIGNED FOR 150 PERCENT OF HP RATING, BELT TENSIONER, VARIABLE PITCH SHEAVES FOR BALANCING AND PERMANENT FIXED PITCH SHEAVES. DELIVER VARIABLE PITCH SHEAVES TO OWNER AFTER FIXED PITCH SHEAVE REPLACEMENT.
- GUARDS: IN ACCORDANCE WITH OSHA PROVIDE GREASE FITTING EXTENSIONS TO GUARD EXTERIOR AND TACHOMETER HOLE COVERPLATES.

### C. MECHANICAL EQUIPMENT AND PIPING IDENTIFICATION

- PROVIDE IDENTIFICATION OF ALL PIPES, VALVES, AND EQUIPMENT
- IDENTIFICATION DEVICES TO BE USED SHALL INCLUDE THE FOLLOWING:
  - PLASTIC PIPE MARKERS
  - VALVE TAGS AND EQUIPMENT TAGS
  - VALVE SCHEDULE
- IDENTIFICATION MATERIALS MANUFACTURED BY ONE OF THE FOLLOWING:
  - SETON NAMEPLATE CORP.
  - ALLEN SYSTEMS INC.
  - BRADY CO.

### D. REFRIGERATION PIPING

- PIPE: USE TYPE L OR TYPE ACR DRAWN COPPER TUBING WITH WROUGHT COPPER FITTINGS AND BRAZED JOINTS. INSTALL REFRIGERANT PIPING IN ACCORDANCE WITH MANUFACTURER RECOMMENDATIONS AND ASHRAE STANDARD 15.

### E. INSULATION

- ALL INSULATION SHALL HAVE A FLAME SPREAD RATING OF 25 OR LESS AND A SMOKE DEVELOPED RATING OF 50 OR LESS IN ACCORDANCE WITH ASTM E84 AND NFPA 90A.

### F. STEAM SYSTEM PIPING

- TYPE A 2" GLASS FIBER INSULATION: ANSI/ASTM C547; K' VALUE OF 0.23 AT 75 DEGREES F; NON COMBUSTIBLE; OWENS-CORNING TYPE ASJ WITH SSL-II VAPOR BARRIER JACKET.
- PVC VALVE AND FITTING COVERS: ZESTON.
- TAPE: VAPOR BARRIER, PRESSURE SENSITIVE.
- ADHESIVE: VAPOR BARRIER, COMPATIBLE WITH INSULATION.
- INSULATE JOINTS, FITTINGS, VALVES, UNIONS, FLANGES, STRAINERS, FLEXIBLE CONNECTIONS EXPANSION JOINTS AND EQUIPMENT WITH INSULATION OF LIKE MATERIAL AND THICKNESS AT ADJOINING PIPE AND FINISH WITH VAPOR BARRIER TAPE AND ADHESIVE.
- INSTALL INSULATION AFTER PIPING HAS BEEN TESTED AND ACCEPTED.

### G. DUCTWORK INSULATION

- ALL SUPPLY DUCTWORK SHALL BE INSULATED WITH SEMI-RIGID BOARD TYPE FIBROUS GLASS INSULATION ASTM C 612. INSULATION SHALL HAVE FACTORY APPLIED REINFORCED ALUMINUM FOIL VAPOR BARRIER. THICKNESS TO BE 1-1/2"; THERMAL CONDUCTIVITY: 0.22 AT 75°.
- ALL MAKE-UP AIR DUCTWORK SHALL BE INSULATED WITH SEMI-RIGID BOARD TYPE FIBROUS GLASS INSULATION ASTM C 612. INSULATION SHALL HAVE FACTORY APPLIED REINFORCED ALUMINUM FOIL VAPOR BARRIER THICKNESS TO BE 1-1/2"; THERMAL CONDUCTIVITY: 0.22 AT 75°.
- ALL EXHAUST AIR SYSTEMS SHALL BE INSULATED WITH SEMI-RIGID BOARD TYPE FIBROUS GLASS INSULATION ASTM C 612. INSULATION SHALL HAVE FACTORY APPLIED REINFORCED ALUMINUM FOIL VAPOR BARRIER THICKNESS TO BE 1-1/2"; THERMAL CONDUCTIVITY: 0.22 AT 75°.

### H. REFRIGERANT PIPING INSULATION

- ALL REFRIGERANT PIPING TO BE INSULATED WITH FLEXIBLE ELASTOMERIC TYPE INSULATION ASTM C 534, TYPE I. COAT WITH WATER BASED LATEX ENAMEL COATING RECOMMENDED BY MANUFACTURER.
- ALL EXISTING INSULATION ON DUCTWORK AND PIPING SYSTEMS PERTAINING TO THIS WORK, SHALL BE PATCHED AND/OR REPLACED AS REQUIRED TO MAINTAIN A VAPOR BARRIER.

### I. SUPPORTS AND ANCHORS

- MANUFACTURERS: GRINNELL, B-LINE, O.Z. GEDNEY, MICHIGAN HANGER, BERGEN/CARPENTER AND PATERSON.
- USE MATERIALS COMPATIBLE WITH PIPING SYSTEMS AVOIDING ELECTROLYTIC ACTION AND CONFORM TO ANS/ASME B31, NFPA, MSS SP-58, 69, 89.

### J. TESTING AND BALANCING

- AIR BALANCING SHALL BE ACCOMPLISHED BY ADJUSTMENT OF ADJUSTABLE FAN SHEAVES. EXISTING BRANCH DAMPERS ARE TO BE USED FOR ANY REQUIRED TRIM ADJUSTMENT.
- UPON COMPLETION OF THE INSTALLATION, THE CONTRACTOR SHALL REPLACE ANY EXISTING PORTION OF THE ASSOCIATED SYSTEMS AFFECTED BY THE RENOVATIONS.
- THE CONTRACTOR SHALL PROVIDE ALL LABOR AND EQUIPMENT REQUIRED TO BALANCE ALL AIR SYSTEMS IN ACCORDANCE WITH QUANTITIES SHOWN.
- BALANCING SHALL BE PERFORMED UNDER THE SUPERVISION OF A PROFESSIONAL ENGINEER AND REPORT SHALL BE PROVIDED ON ABC TYPE FORMS.

### K. STEAM AND CONDENSATE PIPING AND SPECIALTIES

- PIPE: 1-1/2 INCH AND SMALLER: SCHEDULE 80, WELDED OR SEAMLESS STEEL, BLACK; A106, GRADE B.
- JOINTS: 1-1/2 INCH AND SMALLER: THREADED.
- FITTINGS: 1-1/2 INCH AND SMALLER: FORGED STEEL, THREADED, 3000 PSI; ANSI B2.1, SCHEDULE 80.
- UNIONS (1-1/2 INCH AND SMALLER): FORGED STEEL, BRONZE TO IRON GROUND JOINT, THREADED, 3000 PSI, ASTM A105, ANSI B21.
- SHUT-OFF VALVES: 1-1/2 INCH AND SMALLER: 150 PSI BRONZE GATE, THREADED ENDS, SOLID WEDGE, RISING STEM, UNION BONNET, GRINNELL FIGURE 3080 WITH THE PACKING.
- STEAM TRAPS - FLOAT & THERMOSTATIC FLOAT AND THERMOSTATIC TRAPS: ASTM A126, CAST IRON BODY AND BOILED COVER FOR 125 PSI SWP. PROVIDE ACCESS TO INTERNAL PARTS WITHOUT DISTURBING PIPING; WITH BOTTOM DRAIN PLUG, STAINLESS STEEL CAPSULE TYPE AIR VENT, STAINLESS STEEL FLOAT, STAINLESS STEEL LEVER AND VALVE ASSEMBLY. SPIRAX/SARCO OR EQUAL, SIZED FOR 4 PSI PRESSURE DIFFERENTIAL.
- STEAM TRAPS - INVERTED BUCKET TRAPS: INVERTED BUCKET TRAPS: ASTM A126/ 216M, STEEL BODY, BUCKET, VALVE AND ORIFICE. STEAM RATING OF 450 PSIG.
- STRAINERS: 1-1/2 INCH AND SMALLER: BRONZE BODY, SCREWED, Y PATTERN WITH 1/32 INCH STAINLESS STEEL PERFORATED SCREEN, 250 PSI, SPIRAX/SARCO MODEL BT OR EQUAL.

### L. AIR DISTRIBUTION SYSTEMS

- SUPPLY AIR DIFFUSERS TO BE MODEL PAS AS MANUFACTURED BY TITUS. FINISH TO BE STANDARD WHITE. NECK SIZE TO BE AS INDICATED ON DRAWINGS. DIFFUSER FIT 48X24 T-BAR CEILING GRID. SLIPCOVER SEAL AIR TIGHT TO CEILING. DIFFUSERS TO BE FURNISHED WITH OPTIONAL BUTTERFLY DAMPER.
- RETURN AIR REGISTERS TO BE MODEL 350RL AS MANUFACTURED BY TITUS. FINISH TO BE STANDARD WHITE. NECK SIZE TO BE AS INDICATED ON DRAWINGS.

### M. SHEET METAL WORK

- EXCEPT AS OTHERWISE SHOWN OR NOTED, ALL DUCTWORK AND OTHER SHEET METAL WORK SHALL BE GALVANIZED STEEL AND SHALL BE INSTALLED IN ACCORDANCE WITH SHEET METAL AND AIR CONDITIONING CONTRACTORS NATIONAL ASSOCIATION, INC. (SMACNA) DUCT CONSTRUCTION STANDARDS. DUCT SYSTEMS TO BE 2" PRESSURE CLASS.
- ALL DUCT DIMENSIONS INDICATED ON THE PLANS ARE INSIDE CLEAR DIMENSIONS.
- SUPPLY DUCTWORK TO BE RECTANGULAR WITH HEMMED "S" LONGITUDINAL SEAMS AND DUCTIMATE TRANSVERSE JOINTS.
- MANUAL VOLUME DAMPERS: GALVANIZED STEEL, PER SMACNA EXCEPT PROVIDE BEARING AT ONE END OF DAMPER ROD AND QUADRANT, WITH LEVER AND LOCKSCREW AT THE OPPOSITE END. FOR INSULATED DUCTS, QUADRANTS MOUNTED ON COLLAR TO CLEAR INSULATION. LEVERS MUST BE ACCESSIBLE.
- EXHAUST DUCTWORK ELBOWS TO BE LONG RADII TYPE.
- ACCESS DOORS SHALL BE PROVIDED IN DUCTWORK WHEREVER CONTROLS, CONTROL DAMPERS, COILS, & INSTRUMENTS ARE INSTALLED.

### N. KITCHEN HOOD NOTES

- THE WALL MOUNTED TYPE-1 KITCHEN EXHAUST HOODS SHALL BE INSTALLED WITH TOP OF HOOD HEIGHTS AS NOTED IN THE HOOD SCHEDULE OR AS PER MANUFACTURER'S INSTRUCTIONS. COORDINATE THEIR COMPLETE INSTALLATION AND PLACEMENT IN THE FIELD.
- REFER TO MANUFACTURER SHEETS FOR THE HOOD CONTROL WIRING DIAGRAM, FOR OPERATION OF THE KITCHEN HOOD EQUIPMENT.
- PITCH ALL HORIZONTAL GREASE DUCTWORK UNIFORMLY BACK TOWARDS THE RESPECTIVE HOOD AT A MINIMUM 1/4" PER FOOT.
- THE GREASE EXHAUST DUCT RISERS BETWEEN THE HOOD COLLARS AND EXHAUST FANS SHALL BE OF THE SAME SIZE AS THE RESPECTIVE HOOD COLLAR SIZE. REFER TO THE HOOD SHEETS FOR THE HOOD COLLAR SIZES AS PROVIDED BY THE HOOD MANUFACTURER.

## MECHANICAL SYMBOL LEGEND AND ABBREVIATIONS

### 1. THESE SYMBOLS COMPRISE A STANDARD LIST; NOT ALL SYMBOLS MAY APPEAR ON THIS PROJECT.

- ALL MOUNTING HEIGHTS ARE TO CENTER OF DEVICE ABOVE FINISHED FLOOR. MOUNTING HEIGHTS INDICATED ON ARCHITECTURAL WALL ELEVATIONS OR AS NOTED SPECIFICALLY ON THE DRAWINGS SHALL TAKE PRECEDENCE OVER MOUNTED HEIGHTS LISTED BELOW.

GENERAL DUCTWORK SYMBOLS		DRAWING SYMBOLS			
	ROUND DUCT SECTION		DAMPER, TYPE INDICATED (OBD, PBD, FD, BD)		
	12" DIA. ROUND DUCT		WALL LOUVER		
	SUPPLY SECTION, DUCTIVE PRESS.		SUPPLY AIR DIFFUSER		
	EXH., RET., O.A., DUCT SECTION NEGATIVE PRES.		RETURN AIR GRILLE		
	DUCTWORK, FIRST NO. IS VISIBLE DIM.		EXHAUST GRILLE		
	FLEXIBLE CONNECTION (DUCT)		LINEAR SUPPLY AIR DEVICE		
	FLEXIBLE DUCT		LINEAR AIR RETURN DEVICE		
	BRANCH DUCT WITH VOLUME DAMPER		VANED ELBOW (PROVIDE ALL SQUARE ELBOWS W/VANES EVEN IF SYMBOL IS MISSING).		
	SIDEWALL REGISTER		VANED ELBOW (PROVIDE ALL SQUARE ELBOWS W/VANES EVEN IF SYMBOL IS MISSING).		
HEATING PIPING SYMBOLS		AIR CONDITIONING SYMBOLS		CONTROL SYMBOLS	
	HIGH PRESSURE STEAM CONDENSATE		CHILLED/HEATING WATER RETURN		THERMOSTAT SERVING ZONE X
	LOW PRESSURE STEAM CONDENSATE		CHILLED/HEATING WATER SUPPLY		TEMPERATURE SENSOR SERVING ZONE X
	STEAM SUPPLY (PRESS. AS NOTED)		CHILLED WATER RETURN		MISC. CONTROL SERVING ZONE X REFER TO KEYED NOTES FOR MORE INFORMATION
	PUMPED CONDENSATE DRAIN		CHILLED WATER SUPPLY		REMOTE SENSOR SERVING ZONE X
	HOT WATER RETURN		REFRIGERANT LIQUID	<b>DEMOLITION / NEW WORK NOMENCLATURE</b> THE FOLLOWING TAG / IDENTIFIERS ADDED TO THE MECHANICAL DEVICES REPRESENT:	
	HOT WATER SUPPLY		REFRIGERANT SUCTION		
	BOILER FEED WATER		REFRIGERANT DISCHARGE		EXISTING TO REMAIN.
	FLOAT & THERMOSTATIC TRAP		CONDENSATE DRAIN		TO BE RELOCATED / ITEM RELOCATED.
	PUMPED CONDENSATE DRAIN		TO BE RELOCATED / ITEM RELOCATED.		TO BE REMOVED.

ABV	ABOVE	EAT	ENTERING AIR TEMPERATURE	NTS	NOT TO SCALE
AC	ABOVE CEILING	EDH	ELECTRIC DUCT HEATER	OA	OUTSIDE AIR
A/C	AIR COOLED	EG	EXHAUST GRILLE	OAH	OUTSIDE AIR INTAKE HOOD
ACCH	AIR COOLED CHILLER	EF	EXHAUST FAN	OBD	OPPOSED BLADE DAMPER
AD	ACCESS DOOR	ELEC	ELECTRICAL	OC	ON CENTER
AF	AIR FLOW	ELEV	ELEVATION	OBD	OPPOSED BLADE DAMPER
AFF	ABOVE FINISHED FLOOR	ENT	ENTERING	PCHP	PARALLEL BLADE DAMPER
AFMS	AIR FLOW MEASURING STATION	EQUIP	EQUIPMENT	PRESS	PRESSURE REDUCING VALVE
AHJ	AIR HANDLING UNIT	ER	EXHAUST REGISTER	PSIG	POUNDS PER SQUARE INCH (GAUGE)
AMCA	AIR MOVING AND CONDITIONING ASSOCIATION INC.	ESP	EXTERNAL STATIC PRESSURE	PHL	PRESSURE HIGH LIMIT
AP	ACCESS PANEL	ET	EXPANSION/COMPRESSION TANK	R-22	REFRIGERANT (TYPE AS NOTED)
APPROX	APPROXIMATE	EW	ENTERING WATER TEMPERATURE	RA	RETURN AIR
ARCH	ARCHITECTURAL	EXH	EXHAUST	REF. 4/W7	REFER TO DETAIL 4, SHEET M7
ARI	AIR CONDITIONING REFRIGERATION INSTITUTE	EXIST	EXISTING	RET	RETURN
ANSI	AMERICAN NATIONAL STANDARD INSTITUTE	F	DEGREES FAHRENHEIT	RG	RETURN GRILLE
AS	AIR SEPARATOR	FC	FAN COIL	RH	RELATIVE HUMIDITY
ASME	AMERICAN SOCIETY OF MECHANICAL ENGINEERING	FD	FIRE DAMPER	RHD	RELIEF HOOD
ASTM	AMERICAN SOCIETY FOR TESTING MATERIALS	FLEX	FLEXIBLE	RPM	REVENUE PER MINUTE
AV	AUTOMATIC AIR VENT ASSEMBLY	FLG	FLANGE	RTU	ROOF TOP UNIT
B	BOILER	FLR	FLOOR	SA	SUPPLY AIR
BD	BACKDRAFT DAMPER	FM	FACTORY MUTUAL	SCH	SCHEDULE
BHP	BRAKE HORSEPOWER	FO	FLAT OVAL DUCT	SCHP	SECONDARY CHILLED WATER PUMP
BI	BACKWARD INCLINED	FT	FEET PER MINUTE	SD	SMOKE DAMPER
BLDG	BUILDING	FS	FEET	SEC	SECOND
BOP	BOTTOM OF DUCT	FSD	FIRE SWITCH	ST	STANDARD
BOP	BOTTOM OF PIPE	FSM	FIRE SMOKE DAMPER	STD	STEEL
BSMT	BASEMENT	GAL	GALLON	SW	SWITCH
BTU	BRITISH THERMAL UNIT	GALV	GALVANIZED	TEMP	TEMPERATURE
CDP	CONDENSATE DRAIN PUMP	GPM	GALLONS PER MINUTE	THL	TEMPERATURE HIGH LIMIT
CFM	CUBIC FEET PER MINUTE	HB	HOSE BIBB	TLL	TEMPERATURE LOW LIMIT
CHT	CHILLED WATER PUMP	HP	HORSE POWER	TSTAT	THERMOSTAT
CLG	CLEANOUT	HOUR	HOUR	TU	TERMINAL UNIT
CMP	CONDENSER WATER PUMP	HVAC	HEATING/VENTILATING/AIR CONDITIONING	TVX	THERMOSTATIC EXPANSION VALVE
COND	CONDENSATE	HW	HOT WATER PUMP	UF	UNDER FLOOR
CONN	CONNECTION	HZ	HERTZ	UH	UNDERWRITER'S LABORATORIES
CONTR	CONTRIBUTION	ID	INSIDE DIAMETER	UI	UNDERWRITER'S LABORATORIES
CP	CONTROL	IE	INVERT ELEVATION (FLOW LINE)	V-12	VARIABLE AIR FLOW
CT	COOLING TOWER	IN	INTAKE HOOD	VAV	VARIABLE AIR VOLUME
CU	CONDENSING UNIT	INCH	INCHES	VB	VOLUME BOX
CW	COLD WATER	INSUL	INSULATION	VD	VOLUME DAMPER
C	CENTER LINE	IN W	INSULATION	VEL	VELOCITY
D	DRAIN	KW	KILOWATT(S)	VENT	VENTILATE
DB	DRY BULB	LAT	LEAVING AIR TEMPERATURE	VFD	VARIABLE FREQUENCY DRIVE
DCP	DATA COLLECTION PANEL	LVR	LOUVER	VOL	VOLUME
DG	DOOR GRILLE	MAX	MAXIMUM	VOLT	VOLTAGE
DI	DIFFUSER	MD	MANJAK DAMPER	W	WIDE
DN	DOWN	MECH	MECHANICAL	W/	WITH
DWG	DRAWING	MIN	MINIMUM	W/O	WITHOUT
EA	EACH	MS	MOTOR STARTER	WB	WET BULB
		NA	NOT APPLICABLE		
		NC	NORMALLY CLOSED		
		NO	NOT IN CONTRACT		
		NIC	NORMALLY OPEN		

## MECHANICAL GENERAL NOTES

- THE CONTRACTOR SHALL REVIEW THE FINAL AND STAMPED CONTRACT DOCUMENTS FULLY PRIOR TO THE SUBMITTAL PHASE OF THE PROJECT. CONFLICTS WITHIN AND BETWEEN THE CONTRACT DOCUMENTS SHALL BE NOTED IN WRITING TO THE ENGINEER PRIOR TO SUBMITTING DATA SHEETS FOR REVIEW.
- FOR THE PURPOSE OF CLEARNESS AND LEGIBILITY, THE DRAWINGS ARE ESSENTIALLY DIAGRAMMATIC AND ALTHOUGH SIZES AND LOCATIONS OF EQUIPMENT ARE DRAWN TO SCALE WHEREVER POSSIBLE, THE CONTRACTOR SHALL MAKE USE OF ALL DATA IN ALL OF THE CONTRACT DOCUMENTS AND VERIFY THIS INFORMATION PRIOR TO ORDERING, FABRICATING OR INSTALLING ANY MATERIALS.
- ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH ALL APPLICABLE LOCAL, STATE, AND FEDERAL CODES AND STANDARDS. CRAFTSMANSHIP AND MATERIAL SHALL BE OF THE HIGHEST QUALITY.
- THE MECHANICAL CONTRACTOR SHALL PROVIDE COMPLETE INFORMATION TO, AND COOPERATE WITH, THE OTHER CONTRACTORS AND TRADES AS REQUIRED FOR THE COMPLETION AND COORDINATION OF THE COMPLETE PROJECT. ANY CONFLICTS SHALL BE BROUGHT TO THE ATTENTION OF THE PRIME CONTRACTOR, ENGINEER AND, AS NECESSARY, THE OWNER.
- THE GENERAL CONTRACTOR SHALL MAINTAIN, ON A DAILY BASIS AT THE PROJECT SITE, A COMPLETE SET OF RECORD DRAWINGS REFLECTING THE PRECISE LOCATION OF CONCEALED EQUIPMENT, EMBEDDED PIPING, VALVES, PIPE RE-ROUTES, AND ALL CHANGES OR DEVIATIONS IN THE MECHANICAL WORK FROM THAT SHOWN ON THE CONTRACT DRAWINGS.
- THE MECHANICAL CONTRACTOR SHALL BE RESPONSIBLE FOR ADMINISTERING ALL WARRANTIES ON EQUIPMENT WHICH THEY FURNISH AND INSTALL.
- THE MECHANICAL CONTRACTOR SHALL PROVIDE A WRITTEN WARRANTY TO REPLACE ALL FAULTY MATERIALS AND/OR LABOR, AT NO COST TO TENANT, FOR A PERIOD OF ONE YEAR FROM DATE OF ACCEPTANCE BY THE OWNER. WARRANTIES SHALL BEGIN ON THE DATE OF SUBSTANTIAL COMPLETION.
- THE MECHANICAL CONTRACTOR SHALL COORDINATE WITH THE GENERAL CONTRACTOR AND OTHER TRADES FOR ALL REQUIRED OPENINGS AND PENETRATIONS. ALL REQUIRED OPENINGS IN FOUNDATIONS, FLOORS, WALLS AND ROOF SHALL BE CONSTRUCTED INTO THE STRUCTURE WITH THE USE OF SLEEVES, CURBS, ETC. CUTTING AND PATCHING SHALL BE HELD TO A MINIMUM.
- ALL ITEMS PROJECTING THROUGH THE ROOF SHALL BE FLASHED THROUGH CURBS OR PIPE SEALS A MINIMUM OF 12" ABOVE THE ROOF. THE PIPE CURBS AND SEALS SHALL BE INSTALLED BY THE ROOFING CONTRACTOR. ENSURE THAT AMPLE BOOT OPENINGS ARE PROVIDED TO ACCOMMODATE ANY ELECTRICAL CONDUIT PENETRATIONS AS REQUIRED FOR POWER.
- ROOF CURBS FOR EXHAUST FANS SHALL BE PER DETAILS SECTION, AND FURNISHED WITH THE FAN BASE, HOOD, AND FAN PACKAGE. THE GENERAL CONTRACTOR SHALL FLASH ROOF CURBS AND SHIM DEAD LEVEL. COORDINATE EXACT SIZE AND LOCATION OF ROOF OPENINGS WITH THE STRUCTURAL FRAMING. CUTTING OF STRUCTURAL MEMBERS IS NOT PERMITTED.
- ROOF CURBS FOR ROOFTOP UNITS SHALL BE FACTORY FABRICATED OF GALVANIZED STEEL CONSTRUCTION WITH WOOD NAILED AND FURNISHED WITH THE HVAC EQUIPMENT PACKAGE. VERIFY REQUIREMENTS FOR THE ROOF CURBS WITH THE EQUIPMENT SUPPLIER. THE GENERAL CONTRACTOR SHALL FIELD ASSEMBLE THE ROOF CURBS, FLASH AND SHIM DEAD LEVEL. COORDINATE EXACT SIZE AND LOCATION OF ROOF OPENINGS WITH THE STRUCTURAL FRAMING. CUTTING OF STRUCTURAL MEMBERS IS NOT PERMITTED.
- ALL OUTDOOR AIR INTAKES BY MECHANICAL EQUIPMENT SHALL HAVE A MINIMUM 10'-0" HORIZONTAL CLEARANCE FROM THE DISCHARGE OF ANY EXHAUST FAN, COMBUSTION EXHAUST OR PLUMBING VENT.
- GUARDS SHALL BE PROVIDED WHERE APPLIANCES, EQUIPMENT, FANS OR OTHER COMPONENTS THAT REQUIRE SERVICE AND ROOF HATCH OPENING ARE LOCATED WITHIN 10' OF A ROOF EDGE OR OPEN SIDE OF A WALKING SURFACE AND SUCH EDGE OR OPEN SIDE IS LOCATED MORE THAN 30 INCHES ABOVE THE FLOOR, ROOF OR GRADE BELOW.

- THE MECHANICAL CONTRACTOR SHALL COORDINATE THE INSTALLATION AND FINISH OF ALL SUPPLY AND RETURN AIR DEVICES WITH THE ARCHITECT. ALL INTERIOR FACES OF DUCTWORK BEHIND RETURN AIR GRILLES SHALL BE PAINTED FLAT BLACK FOR LINE OF SIGHT.
- THE MECHANICAL CONTRACTOR SHALL COORDINATE ALL DUCT AND DIFFUSER LOCATIONS WITH LIGHT FIXTURES AS WELL AS SPRINKLER PIPING AND HEADS (WHERE INCLUDED IN THE PROJECT) FOR A COMPLETE INSTALLATION, WHERE THE ALTERATION OF DUCT SIZES ARE NECESSARY, MAINTAIN CROSS-SECTIONAL AREAS.
- SUPPLY, RETURN AND RESTROOM EXHAUST DUCT CONSTRUCTION SHALL BE GALVANIZED STEEL, ANY REQUIRED GAUGES, SHAY BRACING AND SUSPENSION SHALL CONFORM TO SMACNA STANDARDS. SEAL ALL SEAMS AND JOINTS AIR AND WATER TIGHT. FLEXIBLE ALUMINUM DUCTWORK OR FIBERGLASS DUCTBOARD CAN BE ALLOWED WITH ENGINEER'S PRIOR APPROVAL.
- ALL RECTANGULAR, ROUND, AND FLEXIBLE DUCTWORK SHALL BE SIZED WITH CLEAR INSIDE DIMENSIONS AS SHOWN ON THESE DRAWINGS, AND SHALL BE FABRICATED AND INSTALLED ACCORDING TO THE MOST RECENTLY PUBLISHED SMACNA STANDARDS. ALL JOINTS, SEAMS, AND CONNECTIONS MUST BE SECURELY FASTENED & SEALED.
- ALL HVAC SUPPLY AND RETURN CONCEALED DUCTWORK TO BE EXTERNALLY WRAPPED AND SECURED WITH MINIMUM R-6.0, 2" INSULATION WITH VAPOR BARRIER PER APPLICABLE MECHANICAL CODES, WITH LOCAL JURISDICTION CODE AMENDMENTS. INSULATION SHALL HAVE MAXIMUM RATINGS OF 25 FLAME SPREAD, 50 SMOKE DEVELOPED.
- KEEP DUCTWORK AND PIPING INTERIOR CLEAN AND FREE OF DEBRIS THROUGHOUT THE PROJECT. CAP ALL PIPING AND DUCTWORK EXPOSED TO THE ELEMENTS.
- DO NOT COVER ANY MECHANICAL OR PLUMBING WORK IN WALLS, ABOVE CEILING, ETC. PRIOR TO REQUESTING OBSERVATION BY THE ENGINEER. ALL WORK COVERED WITHOUT OBSERVATION BY THE ENGINEER SHALL BE UNCOVERED FOR OBSERVATION.
- PROVIDE VIBRATION ISOLATION DEVICES AND FLEXIBLE DUCT/ PIPING CONNECTIONS TO ALL MOVING MACHINERY NOT INTERNALLY ISOLATED.
- ALL MEDIUM PRESSURE DUCTWORK SHALL BE TESTED IN ACCORDANCE WITH SMACNA HVAC AIR DUCT LEAKAGE TEST MANUAL. 10% OF LOW-PRESSURE DUCT SYSTEM SHALL BE TESTED. IF LEAKAGE TEST RESULTS EXCEED THE MAX. ALLOWABLE RATE, THE ENTIRE DUCT SYSTEMS SHALL BE TESTED AND DUCT LEAKAGE SHALL BE CORRECTED UNTIL SATISFACTORY RATES ARE OBTAINED.
- WHERE CONDUIT, CABLES, DUCTWORK OR PIPING PASSES THROUGH FIRE RATED FLOOR OR WALLS, THE SLEEVES SHALL BE COMPLETELY SEALED WITH A FIRE STOP MATERIAL THAT IS UL LISTED AND ACCEPTED BY LOCAL AUTHORITIES AND FIRED DEPARTMENT. THIS MATERIAL SHALL BE INSTALLED IN ACCORDANCE WITH THE REQUIREMENTS OF THE MANUFACTURER TO MAINTAIN FIRE RATING OF THE PENETRATED WALL OR FLOOR.
- MECHANICAL CONTRACTOR SHALL PROVIDE FIRE DAMPERS AT ANY LOCATION WHERE DUCTWORK PASSES THROUGH A FIRE RATED WALL ASSEMBLY IN ACCORDANCE WITH IFC.
- PER APPLICABLE MECHANICAL CODES, WITH LOCAL JURISDICTION CODE AMENDMENTS WHEN REQUIRED, EACH SINGLE SYSTEM PROVIDING HEATING OR COOLING AIR IN EXCESS OF 2000 CUBIC FEET PER MINUTE SHALL BE EQUIPPED WITH AN AUTOMATIC SHUTOFF. AUTOMATIC SHUTOFF SHALL BE ACCOMPLISHED BY INTERRUPTING THE POWER SOURCE OF THE AIR MOVING EQUIPMENT DEVICES WHICH WILL DETECT PRODUCTS OF COMBUSTION OTHER THAN HEAT, AND WHICH COMPLY WITH THE IBC. SHALL BE LABELED BY AN APPROVED AGENCY FOR AIR DUCT INSTALLATION AND SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S INSTALLATION INSTRUCTIONS. SUCH DEVICES SHALL BE COMPATIBLE WITH THE OPERATING VELOCITIES, PRESSURES, TEMPERATURES AND HUMIDITIES OF THE SYSTEM WHERE FIRE DETECTION OR ALARM SYSTEMS ARE PROVIDED FOR THE BUILDING, SMOKE DETECTORS SHALL BE SUPERVISED BY SUCH SYSTEMS.
- UNLESS NOTED OTHERWISE, ALL CAPACITIES INDICATED ARE AT SITE CONDITIONS. ALL EQUIPMENT SHALL BE ADJUSTED, MODIFIED AND ORDERED TO ACCOMMODATE SITE CONDITIONS.

- MECHANICAL CONTRACTOR TO PROVIDE AND INSTALL SOUND ATTENUATORS AND VIBRATION ISOLATION DEVICES TO AVOID SOUND OR NOISE TRANSMISSION TO OCCUPIED SPACES.
- CONTRACTOR SHALL COMPLY WITH ALL REQUIREMENTS LISTED ON THE DRAWINGS AND SPECIFICATIONS INCLUDING THOSE LISTED UNDER THE ENERGY COMPLIANCE REPORT. ALL EQUIPMENT INSTALLED SHALL BE PROVIDED WITH THE MANUFACTURER'S RECOMMENDED MAINTENANCE AND OPERATING CLEARANCES.
- MECHANICAL CONTRACTOR SHALL FURNISH AND INSTALL 4" HIGH BLACK OVER WHITE LAMINATE NAMEPLATE WITH 2" LETTERS VISIBLE ADJACENT TO DISCONNECT SWITCH FOR ALL MECHANICAL EQUIPMENT.
- ALL CONDUITS DISCONNECT SWITCHES AND FINAL CONNECTIONS FOR LINE VOLTAGE WIRING SHALL BE BY THE ELECTRICAL CONTRACTOR. LOW VOLTAGE CONDUIT, WIRING AND FINAL CONNECTIONS BY MECHANICAL CONTRACTOR.
- MAINTAIN MINIMUM CLEARANCES IN FRONT OF ALL CONTROL AND ELECTRIC PANELS ON EQUIPMENT SUCH AS FANS, AIR TERMINAL UNITS, ETC. IN ACCORDANCE WITH THE FOLLOWING: 120 V = 36", 208 V = 42", 480 V = 48". CLEARANCE MAY BE MEASURED THROUGH REMOVABLE CEILING GRID OR ACCESS PANEL, WHERE FACTORY MOUNTED PANELS DO NOT ALLOW ADEQUATE CLEARANCE, RELOCATE AND REMOUNT AS REQUIRED. ALL FACTORY WARRANTIES SHALL BE MAINTAINED.
- REFRIGERANT LINES & DUCTS IN FINISH ROOMS OR SPACES SHALL BE CONCEALED IN FURRED CHASES OR INSTALLED ABOVE SUSPENDED CEILING UNLESS NOTED OTHERWISE.
- CONTRACTOR TO PROVIDE ALL REQUIRED CONDENSATE LINES FOR ALL EQUIPMENT. REFER TO PLUMBING PLANS.
- THE MECHANICAL CONTRACTOR SHALL BE RESPONSIBLE FOR REPLACING THE AIR FILTERS AT THE ROOFTOP UNITS WITH AS PER MANUFACTURER RECOMMENDATIONS AT THE COMPLETION OF CONSTRUCTION AND PRIOR TO AIR BALANCE.
- CONTRACTOR SHALL HAVE A THIRD-PARTY CERTIFIED TEST AND BALANCE REPORT PERFORMED AT COMPLETION OF PROJECT. THIRD PARTY TAB CONTRACTOR TO BE SELECTED BY OWNER. ANY DIFFERENCES ARE THE RESPONSIBILITY OF THE MECHANICAL CONTRACTOR.
- TEST, ADJUST AND BALANCE ALL AIR AND WATER SYSTEMS AFTER INSTALLATION IS COMPLETE. SUBMIT REPORTS TO ENGINEER FOR REVIEW AND APPROVAL.
- TURNOVER ALL EQUIPMENT AND MATERIAL OWNING, OPERATING AND MAINTENANCE (OM) MANUALS TO OWNER AFTER INSTALLATION IS COMPLETE.
- MECHANICAL CONTRACTOR SHALL BE ON SITE AND PRESENT AT THE DATE OF PROJECT TURNOVER.
- THE CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS AND EXISTING CONDITIONS PRIOR TO PROCEEDING WITH ANY WORK. WHERE DISCREPANCIES OCCUR BETWEEN THESE DOCUMENTS AND EXISTING CONDITIONS, THE DISCREPANCY SHALL BE REPORTED TO THE OWNER AND/OR ENGINEER FOR EXPEDITING AND RESOLVE.
- SUCCESSFULLY START-UP, TEST AND COMMISSION ALL MECHANICAL EQUIPMENT AND SYSTEMS IN COMPLIANCE WITH MANUFACTURER, INDUSTRY STANDARD AND CODES RECOMMENDATIONS.
- ALL EQUIPMENT SHALL BE INSTALLED IN STRICT COMPLIANCE WITH THE MANUFACTURER'S WRITTEN INSTRUCTIONS. THE CONTRACTOR SHALL PROVIDE ALL HANGERS AND SUPPORTS FOR A COMPLETE INSTALLATION.
- SUBMISSION OF PROPOSAL DIRECTLY OR INDIRECTLY IN CONNECTION WITH THIS WORK SHALL IMPLY THAT THE BIDDER HAS EXAMINED ALL THE CONSTRUCTION DOCUMENTS AND JOB SITE UNDER WHICH HE WILL BE OBLIGATED TO OPERATE SHOULD HE BE AWARDED THE WORK UNDER THIS CONTRACT. NO EXTRA CHARGE WILL BE ALLOWED FOR FAILURE OF ANY BIDDER TO EXAMINE ALL CONSTRUCTION DOCUMENTS AND THE SITE PRIOR TO BID.
- ALL DUCTWORK SHALL BE GALVANIZED SHEET METAL, FABRICATED AND INSTALLED IN ACCORDANCE WITH ASHRAE STANDARDS AND SMACNA HVAC DUCT CONSTRUCTION STANDARDS EXCEPT THAT DUCTWORK

- FLEXIBLE DUCTWORK SHALL BE RATED CLASS I, WHEN TESTED UNDER THE REQUIREMENTS OF UL 181. FLEXIBLE DUCT SHALL NOT EXCEED (6) FEET IN LENGTH.
-



ADDITION

**4842 AGGIE INNOVATION SPACE EC1**

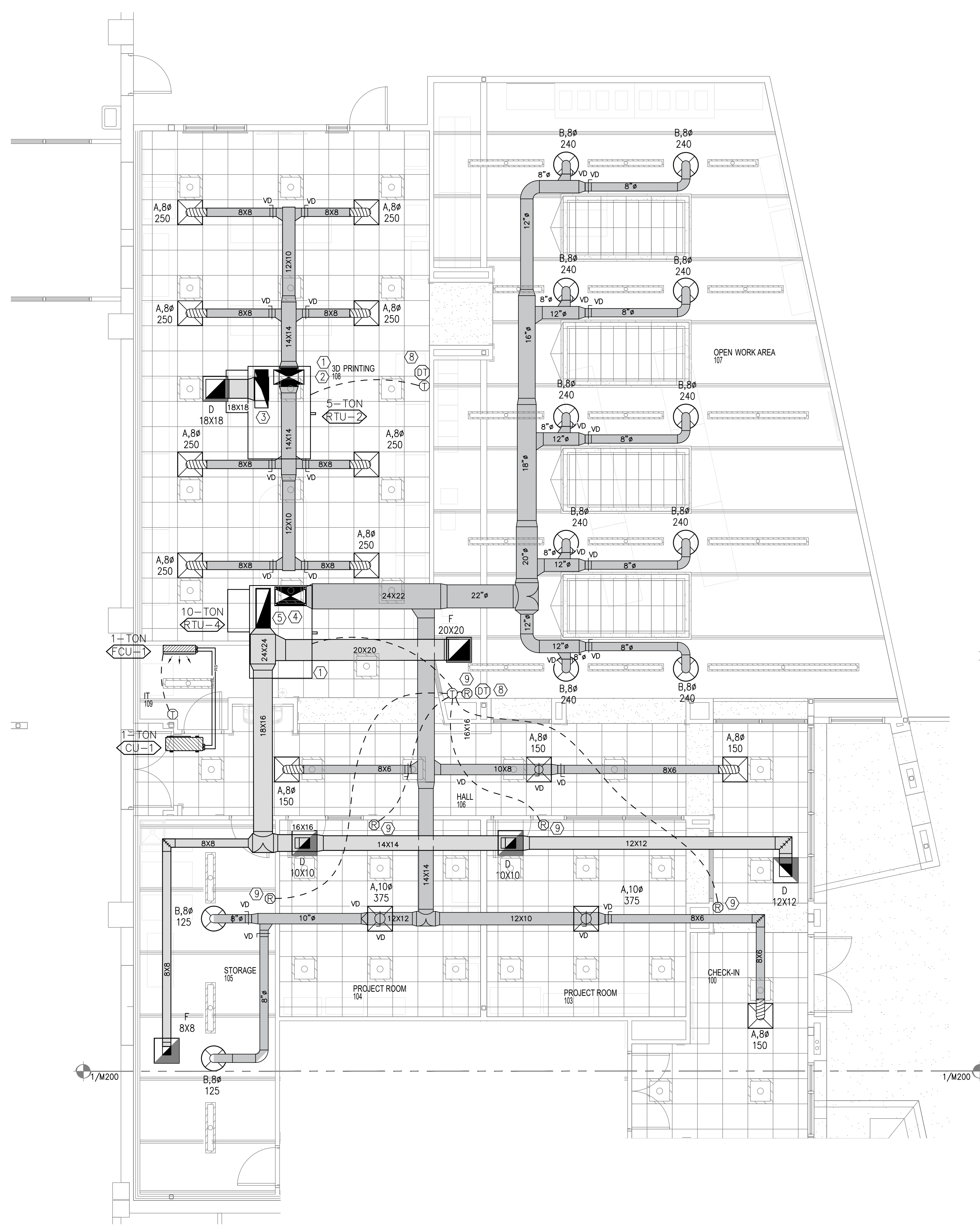
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Las Cruces, NM

REVISION	DATE

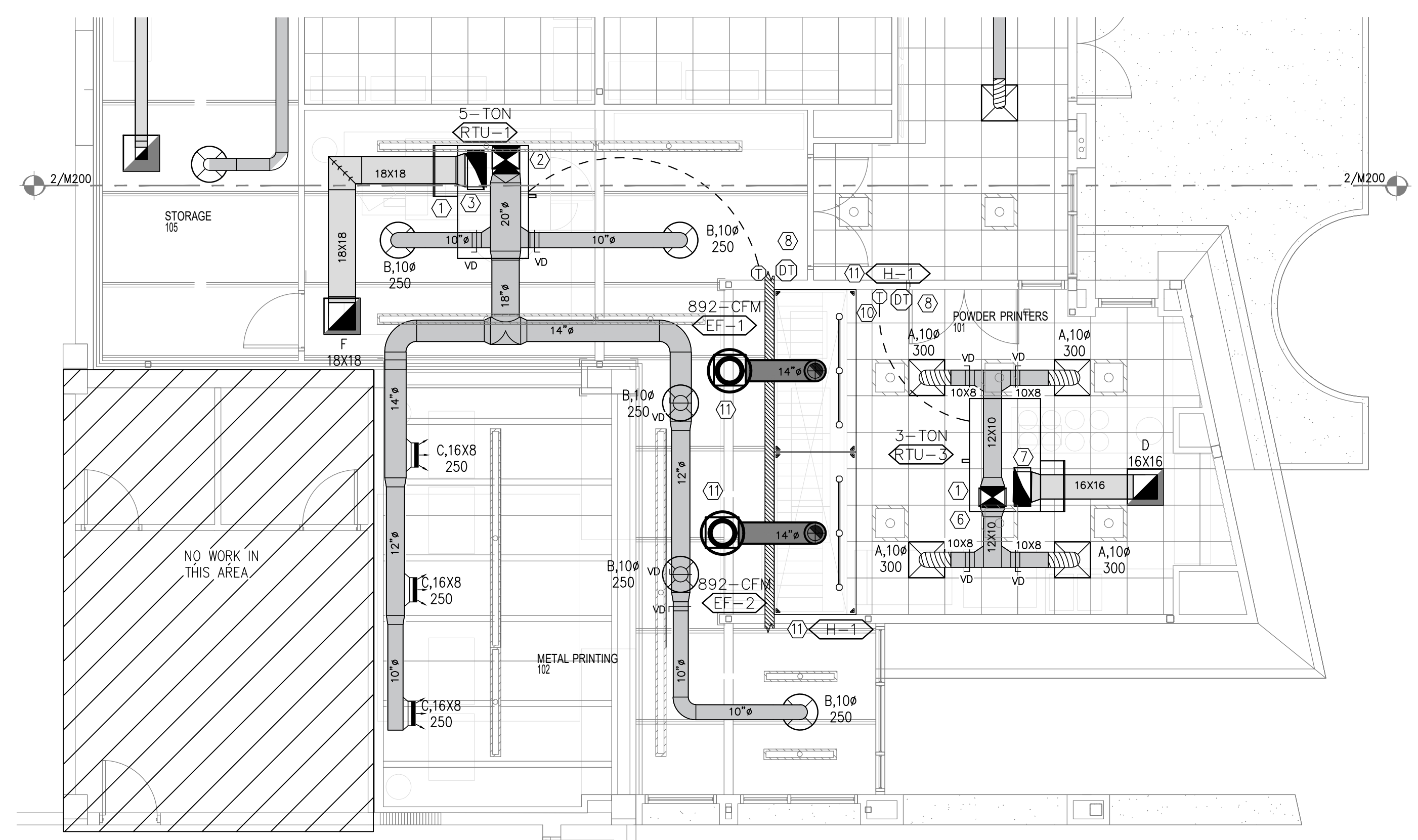
Project no: 23.16  
Date: April 2024  
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**MECHANICAL PLAN**

**M200**



**2 MECHANICAL PLAN**  
3/16" = 1'-0"



**1 MECHANICAL PLAN**  
3/16" = 1'-0"

**KEYED NOTES**

- DUCT OPENING SHALL NOT BE MORE THAN 1/4" CLEARANCE AND CAULKED FULLY ABOVE AND BELOW, WITH ACOUSTICAL GRADE NON-HARDENING HUSH SEALANT.
- 18" X 18" SUPPLY DUCT DOWN FROM RTU-1 AND RTU-2.
- 22" X 14" RETURN DUCT UP TO RTU-1 AND RTU-2.
- 38" X 14" SUPPLY DUCT DOWN FROM RTU-4.
- 36" X 14" RETURN DUCT UP TO RTU-4.
- 16" X 14" SUPPLY DUCT DOWN FROM RTU-3.
- 20" X 12" RETURN DUCT UP TO RTU-3.
- PROVIDE AND INSTALL REMOTE SMOKE DETECTOR TEST STATION NEXT TO UNIT THERMOSTAT.
- PROVIDE REMOTE TEMPERATURE SENSOR, CONNECT TO UNIT THERMOSTAT.
- REFER TO HOOD PLANS.
- 19" X 19" DUCT THRU ROOF TO EXHAUST FAN.

**GENERAL NOTES**

- COORDINATE RTU BACNET CONTROL SYSTEM WITH NMSU. PRIOR TO COMMENCING ANY WORK.

\*TEST AND BALANCE OF MECHANICAL SYSTEMS TO BE PERFORMED AT PROJECT COMPLETION BY A THIRD PARTY NEBB OR TABB CERTIFIED CONTRACTOR.





ADDITION

**4842 AGGIE INNOVATION SPACE EC1**

1025 Stewart St.  
Las Cruces, NM

REVISION	DATE

Project no: 23.16  
Date: April 2024  
Sheet:

**MECHANICAL SCHEDULE**

**M201**

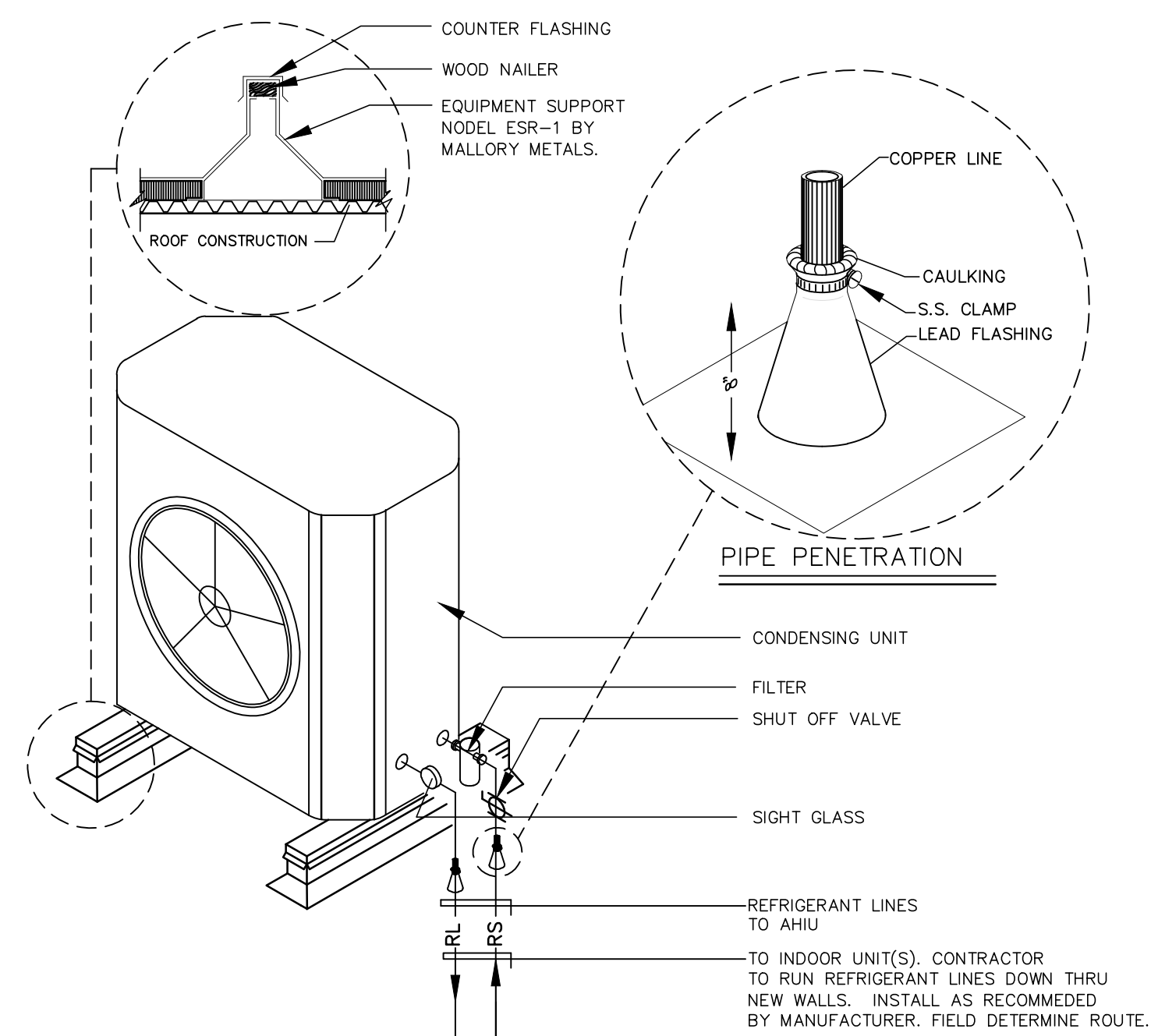
**SINGLE ZONE VAV ROOFTOP PACKAGE UNITS**

MARK	SERVICE	MAKE	MANUFACTURER AND MODEL NUMBER OR APPROVED EQUAL	FAN DATA				COOLING PERFORMANCE				HEATING PERFORMANCE				ELECTRICAL DATA				NOTES				
				NOM TONS	CFM	ESP(IN.WG)	ELEVATION (FT)	TOTAL CAPACITY(BTU/H)	SENSIBLE CAPACITY(BTU/H)	EFFICIENCY(AT AHR1)	EDB (°F)	EWB (°F)	LDB (°F)	LWB (°F)	INPUT(BTU/H)	OUTPUT(BTU/H)	EFFICIENCY	EAT (°F)	LAT (°F)		VOLT/PH	INDOOR MOTOR HP	UNIT MCA	UNIT MSCP
RTU-1,2 (5 TON)	Serves	DAIKIN	DRG0604WM00146C	5	2,000	0.5	4000	54837	42325	16.2 SEER2/11.9 EER2	80	67	59.4	57.7	105800	85698	81% TE	55	97	460/3/60	2.3	15.6	20.0	1,2,3,4,5,6,7,8,9,10,11
RTU-3 (3 TON)	Serves	DAIKIN	DRG0364DM00142C	3	1,200	0.5	4000	34439	27084	16.4 SEER2/12.1 EER2	80	67	59.2	57.8	64400	52164	81% TE	55	95.3	460/3/60	1.2	10.1	15.0	1,2,3,4,5,6,7,8,9,10,11
RTU-4 (10 TON)	Serves	DAIKIN	DRG1204LM00102C	10	4,000	0.5	4000	108884	81096	17 IEER/ 12.2 EER	80	67	59.6	57.5	165600	134136	81% TE	55	88.9	460/3/60	3.5	24.8	30.0	1,2,3,4,5,6,7,8,9,10,11

- NOTES:
1. PROVIDE FACTORY INSTALLED ELECTRO-MECHANICAL CONTROLS
  2. PROVIDE FACTORY INSTALLED TWO STAGE COOLING MODES
  3. PROVIDE FACTORY INSTALLED HAIL GUARD
  4. PROVIDE FACTORY INSTALLED LOW-LEAK DOWNFLOW ECONOMIZER W/ DRY BULB SENSOR
  5. PROVIDE FACTORY INSTALLED NON FUSED DISCONNECT SWITCH
  6. PROVIDE FACTORY INSTALLED STANDARD ALUMINIZED EXCHANGER
  7. PROVIDE FIELD INSTALLED 14" ROOF CURB
  8. PROVIDE FIELD INSTALLED HIGH ALTITUDE KIT
  9. PROVIDE FACTORY INSTALLED HINGED PANELS
  10. PROVIDE FIELD INSTALLED SMOKE DETECTOR- DUCT MOUNTED WITH TEST STATION
  11. PROVIDE FIELD INSTALLED FILTRATION-MERV8
  12. BAS BACNET CONTROLLERS BY OTHERS

**DIFFUSER AND GRILLE SCHEDULE**

MARK	DESCRIPTION	MANUFACTURER AND MODEL NUMBER OR APPROVED EQUAL	REMARKS
A	SUPPLY LAY-IN	SHOEMAKER HWL-3	SOFT WHITE FINISH, NECK SIZE AS INDICATED. 3 CONE STEEL CONSTRUCTION, ADJUSTABLE BAFFLE 360° PATTERN. 24" x 24" FACE
B	SUPPLY DUCT MOUNTED	SHOEMAKER RDA	SOFT WHITE FINISH, NECK SIZE AS INDICATED. STEEL CONSTRUCTION, ADJUSTABLE ROUND 3 CONE 360° PATTERN. FACE SIZE AS INDICATED
C	SUPPLY DUCT MOUNTED	SHOEMAKER RSS4	GALVANIZED FINISH, STEEL CONSTRUCTION, ADJUSTABLE FRONT AND REAR LOUVERS, FACE SIZE AS INDICATED. PROVIDE WITH OPPOSED BLADE DAMPER
D	RETURN LAY-IN	SHOEMAKER 600	SOFT WHITE FINISH, ALUMINUM CONSTRUCTION, 1/2" X 1/2" X 1/2" LATTICE, EXTRUDED ALUMINUM FRAME, FACE SIZE AS INDICATED
F	RETURN DUCT MOUNTED	SHOEMAKER 600	SOFT WHITE FINISH, ALUMINUM CONSTRUCTION, 1/2" X 1/2" X 1/2" LATTICE, EXTRUDED ALUMINUM FRAME, FACE SIZE AS INDICATED



**1 M201 ROOF MOUNTED CONDENSING UNIT DETAIL**

NOT TO SCALE

**\*TEST AND BALANCE OF MECHANICAL SYSTEMS TO BE PERFORMED AT PROJECT COMPLETION BY A THIRD PARTY NEBB OR TABB CERTIFIED CONTRACTOR.**

**COMcheck Software Version COMcheckWeb**  
**Mechanical Compliance Certificate**

**Project Information**

Energy Code: 2021 IECC  
Project Title: CLC-24-014-SDA- NMSU AIS ADDITION  
Location: Las Cruces, New Mexico  
Climate Zone: 3b  
Project Type: New Construction

Construction Site: 1025 Stewart St. Las Cruces, New Mexico  
Owner/Agent: Designer/Contractor:

**Additional Efficiency Package(s)**  
Credits: 10.0 Required 0.0 Proposed

**Mechanical Systems List**

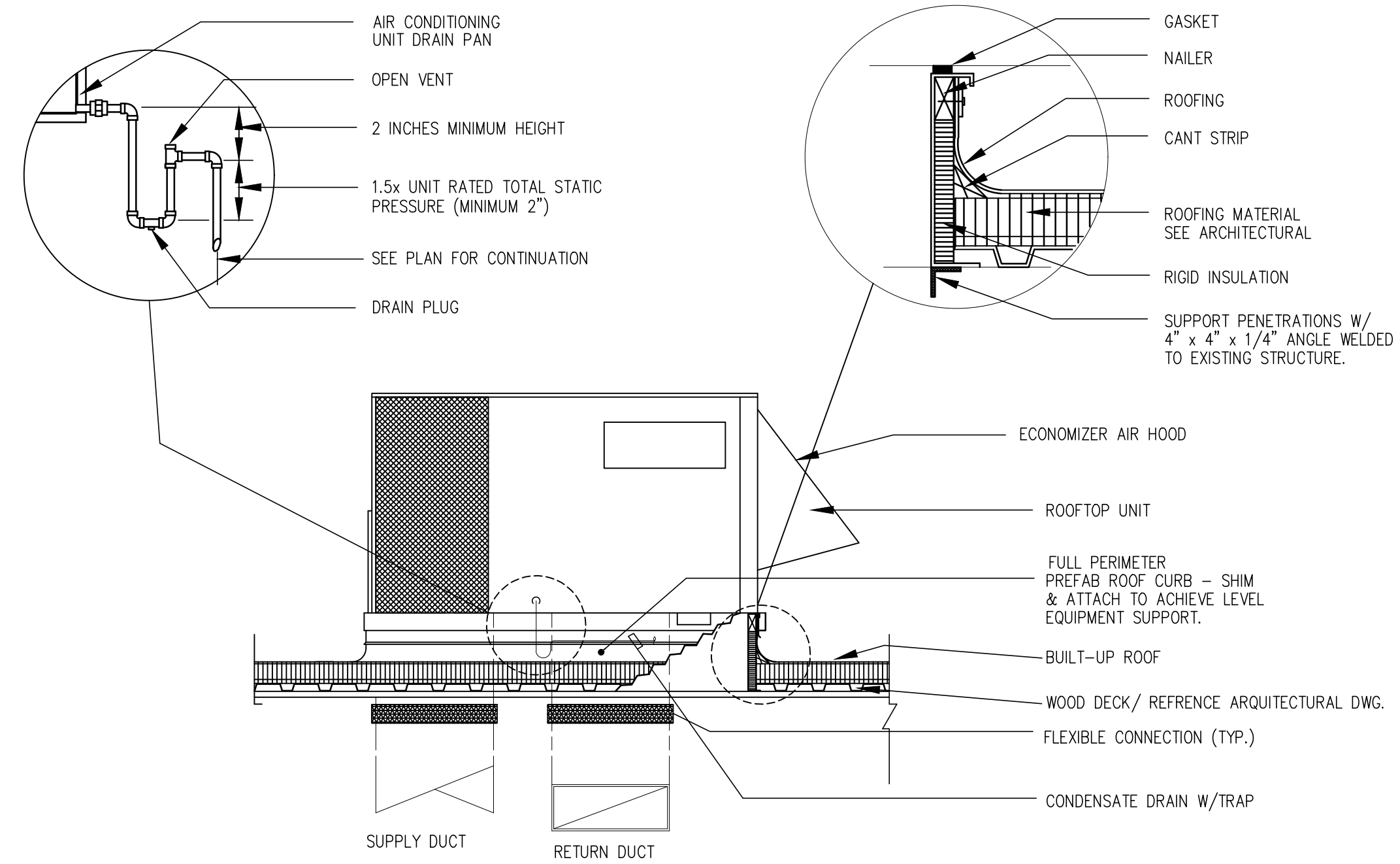
**Quantity System Type & Description**

- 1 RTU-1 (Single Zone):  
Heating: 1 each - Central Furnace, Gas, Capacity = 105 kBtu/h  
Proposed Efficiency = 80.00% Et, Required Efficiency: 80.00 % Et or 80% AFUE  
Cooling: 1 each - Single Package DX Unit, Capacity = 60 kBtu/h, Air-Cooled Condenser, Air Economizer  
Proposed Efficiency = 16.20 SEER2, Required Efficiency = 13.40 SEER2  
Proposed Part Load Efficiency = 0.00 , Required Part Load Efficiency = 0.00
- 1 RTU-2 (Single Zone):  
Heating: 1 each - Central Furnace, Gas, Capacity = 105 kBtu/h  
Proposed Efficiency = 80.00% Et, Required Efficiency: 80.00 % Et or 80% AFUE  
Cooling: 1 each - Single Package DX Unit, Capacity = 60 kBtu/h, Air-Cooled Condenser, Air Economizer  
Proposed Efficiency = 16.20 SEER2, Required Efficiency = 13.40 SEER2  
Proposed Part Load Efficiency = 0.00 , Required Part Load Efficiency = 0.00
- 1 RTU-3 (Single Zone):  
Heating: 1 each - Central Furnace, Gas, Capacity = 64 kBtu/h  
Proposed Efficiency = 80.00% Et, Required Efficiency: 80.00 % Et or 80% AFUE  
Cooling: 1 each - Single Package DX Unit, Capacity = 36 kBtu/h, Air-Cooled Condenser, Unknown Economizer  
Proposed Efficiency = 16.40 SEER2, Required Efficiency = 13.40 SEER2  
Proposed Part Load Efficiency = 0.00 , Required Part Load Efficiency = 0.00
- 1 RTU-4 (Single Zone):  
Heating: 1 each - Central Furnace, Gas, Capacity = 165 kBtu/h  
Proposed Efficiency = 80.00% Et, Required Efficiency: 80.00 % Et or 80% AFUE  
Cooling: 1 each - Single Package DX Unit, Capacity = 120 kBtu/h, Air-Cooled Condenser, Air Economizer  
Proposed Efficiency = 12.20 EER, Required Efficiency = 11.00 EER  
Proposed Part Load Efficiency = 17.00 IEER, Required Part Load Efficiency = 14.60 IEER
- 1 HVAC System (Single Zone):  
Cooling: 1 each - Split System, Capacity = 12 kBtu/h, Air-Cooled Condenser, Unknown Economizer  
Proposed Efficiency = 19.00 SEER2, Required Efficiency = 13.40 SEER2  
Proposed Part Load Efficiency = 0.00 , Required Part Load Efficiency = 0.00

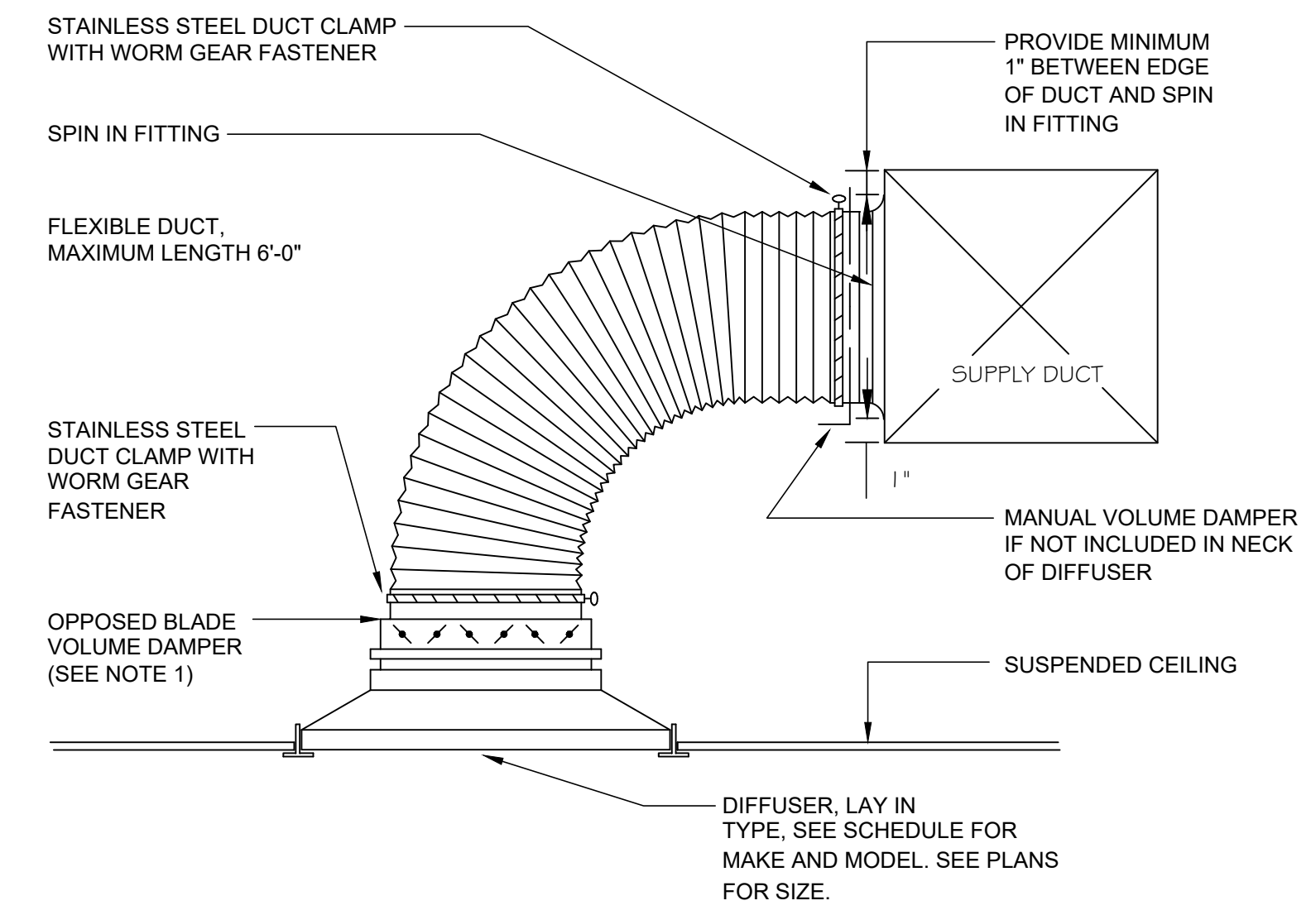
**Mechanical Compliance Statement**

Compliance Statement: The proposed mechanical design represented in this document is consistent with the building plans, specifications, and other calculations submitted with this permit application. The proposed mechanical systems have been designed to meet the 2021 IECC requirements in COMcheck Version COMcheckWeb and to comply with any applicable mandatory requirements listed in the Inspection Checklist.

JOSE A. MORALES, P.E. 03-25-2024  
Name - Title Signature Date

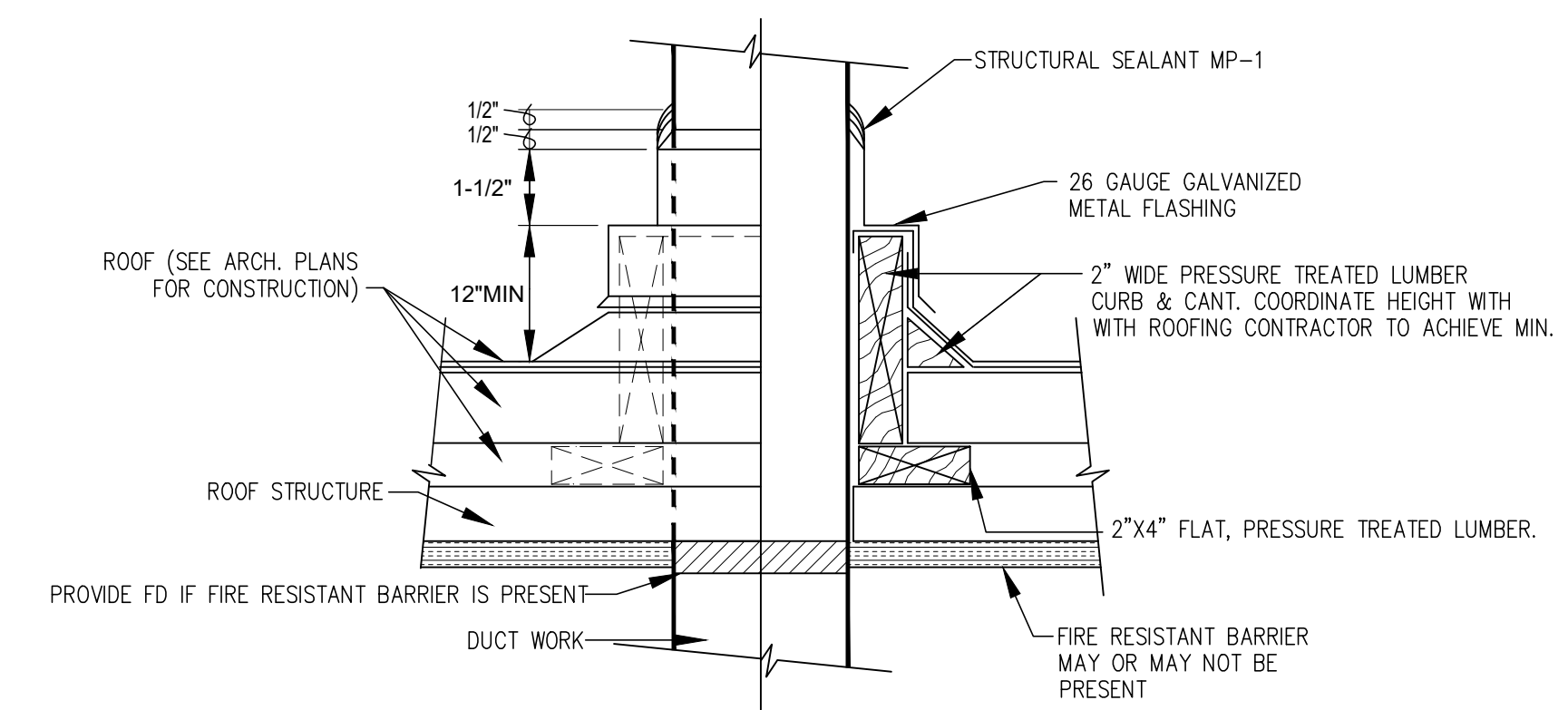


1 ROOF TOP UNIT DETAIL  
M300 NOT TO SCALE

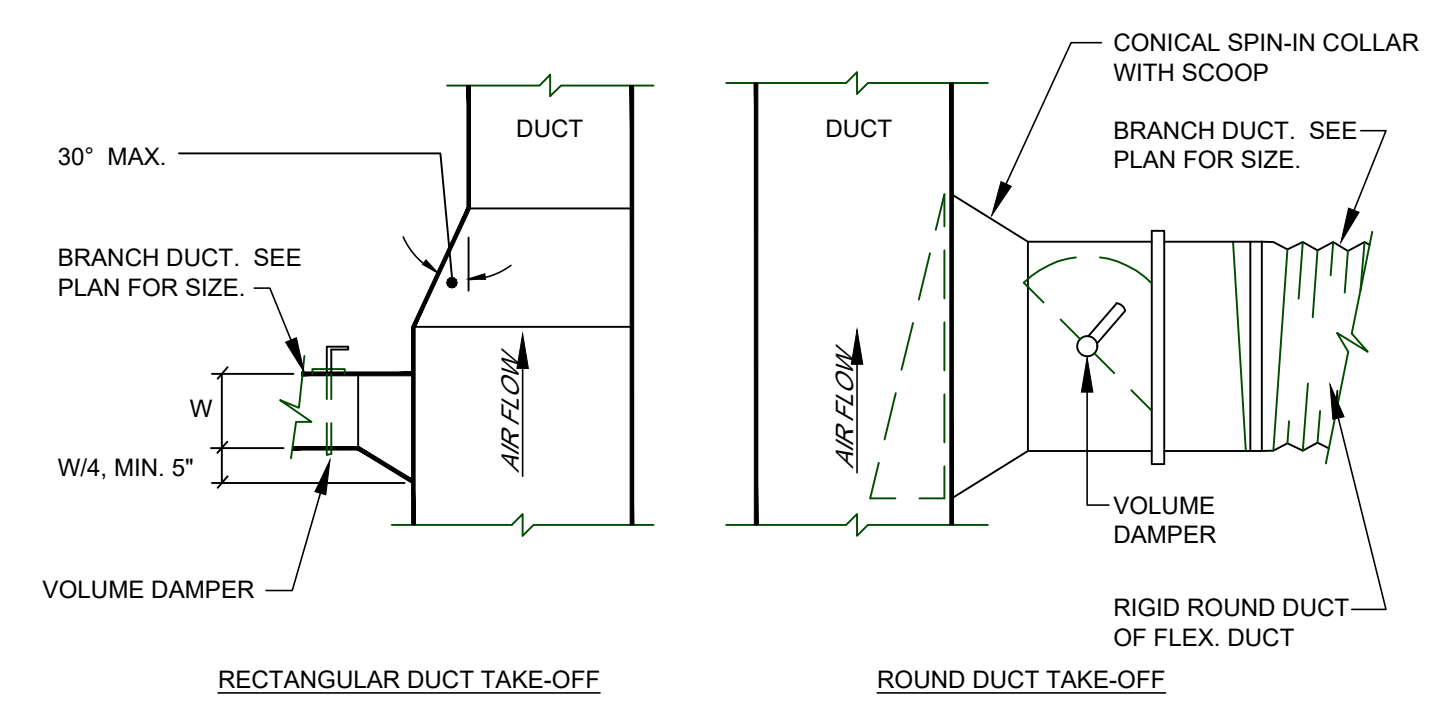


**NOTE:**  
1. VOLUME DAMPERS WILL BE ALLOWED IN DIFFUSERS/GRILLES IN NON-ACCESSIBLE CEILINGS ONLY.

2 CEILING DIFFUSER SCHEMATIC  
M300 NOT TO SCALE



3 DUCT THRU ROOF DETAIL  
M300 NOT TO SCALE



4 DUCT CONNECTION SCHEMATIC  
M300 NOT TO SCALE

ADDITION

4842 AGGIE  
INNOVATION  
SPACE EC1

1025 Stewart St.  
Las Cruces, NM

REVISION	DATE

Project no: 23.16  
Date: April 2024  
Sheet:

MECHANICAL  
DETAILS

M300

ADDITION

**4842 AGGIE INNOVATION SPACE EC1**

1025 Stewart St.  
Las Cruces, NM

REVISION DATE

Project no: 23.16  
Date: April 2024  
Sheet:

**MECHANICAL HOOD**

**M400**

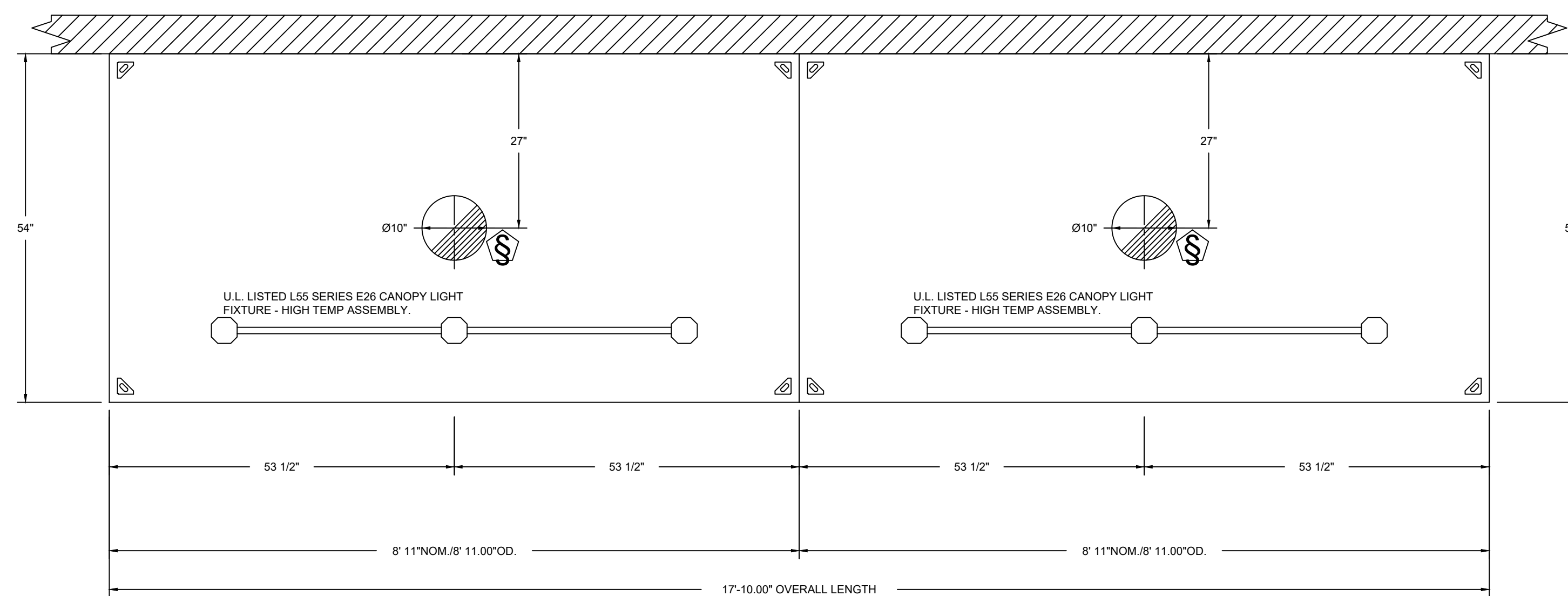
FOR QUESTIONS, CALL THE  
El Paso & SE New Mexico  
REGION 143  
PHONE: (915) 600-7197  
EMAIL: reg143@captiveaire.com

**HOOD INFORMATION - JOB#6705320**

HOOD NO	TAG	MODEL	MANUFACTURER	LENGTH	MAX COOKING TEMP	TYPE	APPLIANCE DUTY	DESIGN CFM/FT	TOTAL EXH CFM	EXHAUST PLENUM RISER(S)				HOOD CONSTRUCTION	HOOD CONFIG		SWITCHES				
										WIDTH	LENG	HEIGHT	DIA		CFM	VEL	SP	END TO END	ROW	QUANTITY	LOCATION
1	HOOD-1	5418 VHB-G-ND	CAPTIVEAIRE	8' 11"	700 DEG	II	N/A	100	892			4"	10"	892	1635	-0.146"	430 SS 100%	LEFT	ALONE		
2	HOOD-2	5418 VHB-G-ND	CAPTIVEAIRE	8' 11"	700 DEG	II	N/A	100	892			4"	10"	892	1635	-0.146"	430 SS 100%	RIGHT	ALONE	1 FAN 1 LIGHT	FRONT RIGHT FACE

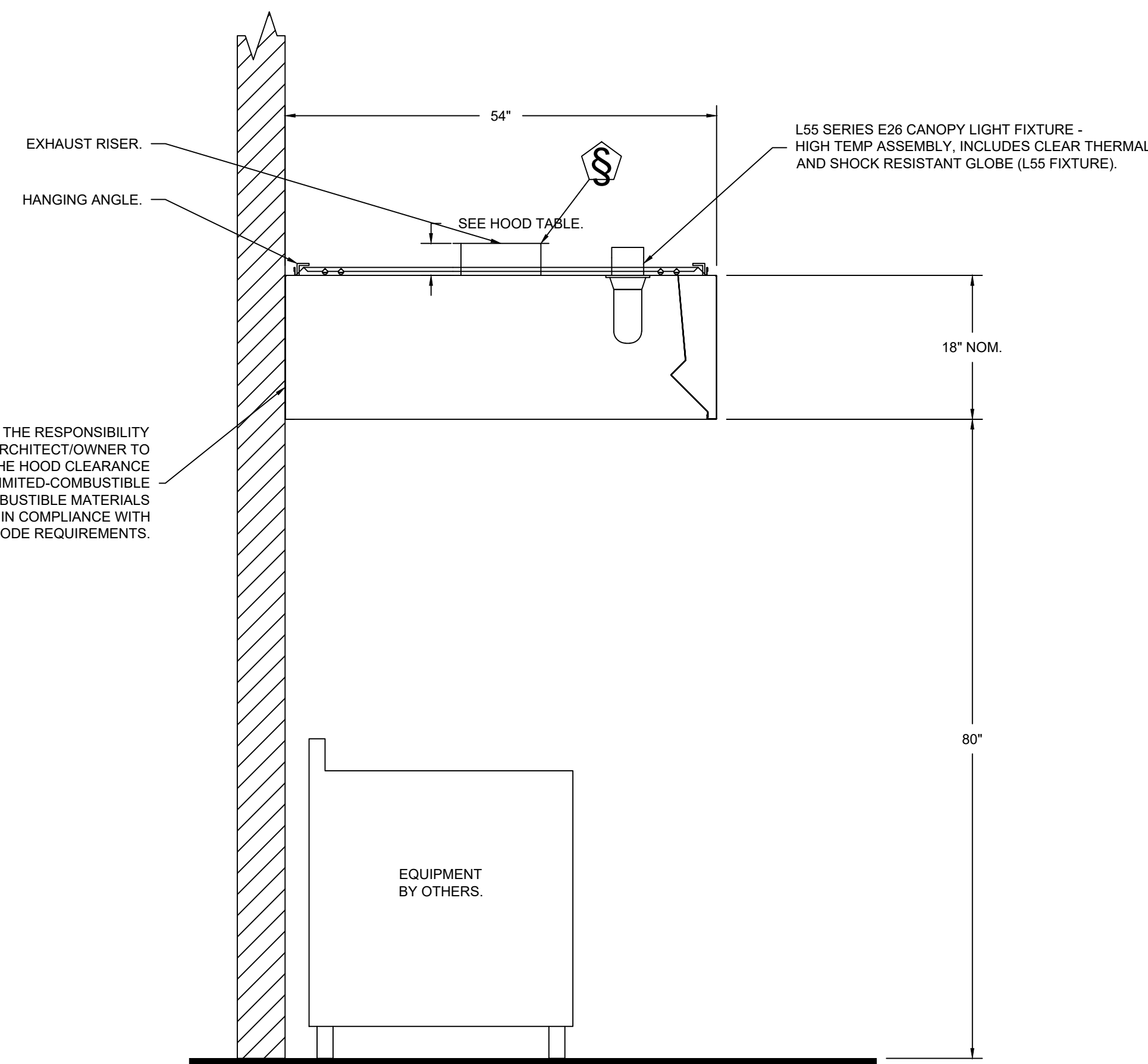
**HOOD INFORMATION**

HOOD NO	TAG	FILTER(S)				LIGHT(S)				UTILITY CABINET(S)				FIRE SYSTEM PIPING	HOOD HANGING WEIGHT	
		TYPE	QTY	HEIGHT	LENGTH	EFFICIENCY @ 7 MICRONS	QTY	TYPE	WIRE GUARD	LOCATION	SIZE	TYPE	SIZE			ELECTRICAL MODEL #
1	HOOD-1						3	L55 SERIES E26	NO						NO	245 LBS
2	HOOD-2						3	L55 SERIES E26	NO						NO	245 LBS



PLAN VIEW - HOOD #1 (HOOD-1)  
8' 11.00" LONG 5418VHB-G-ND

PLAN VIEW - HOOD #2 (HOOD-2)  
8' 11.00" LONG 5418VHB-G-ND



SECTION VIEW - MODEL 5418VHB-G-ND  
HOOD - #1 (HOOD-1)

IT IS THE RESPONSIBILITY OF THE ARCHITECT/OWNER TO ENSURE THAT THE HOOD CLEARANCE FROM LIMITED-COMBUSTIBLE AND COMBUSTIBLE MATERIALS IS IN COMPLIANCE WITH LOCAL CODE REQUIREMENTS.

**REVISIONS**

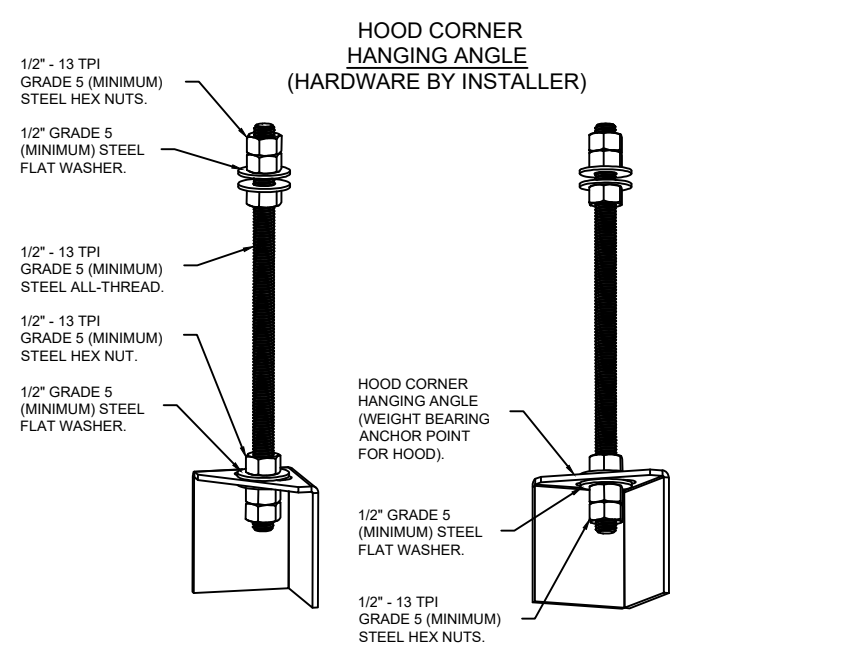
DESCRIPTION	DATE

**CAPTIVEAIRE**  
El Paso & SE New Mexico  
www.captiveaire.com  
PH: 915-682-7654  
EMAIL: reg143@captiveaire.com

NMSU AIS ADDITION  
LAS CRUCES, NM, 88001

DATE: 3/27/2024  
DWG.#: 6705320  
DRAWN BY:  
SCALE: 3/4" = 1'-0"  
MASTER DRAWING

SHEET NO. 1



**ASSEMBLY INSTRUCTIONS**  
HANGING ANGLE MUST BE SUPPORTED WITH 1/2" - 13 TPI GRADE 5 (MINIMUM) ALL-THREAD. SANDWICH HANGING ANGLES AND CEILING ANCHOR POINTS WITH 1/2" GRADE 5 (MINIMUM) STEEL FLAT WASHERS AND 1/2" - 13 TPI GRADE 5 (MINIMUM) HEX NUTS AS SHOWN. MUST USE DOUBLED HEX NUT CONFIGURATION BENEATH HOOD HANGING ANGLES AND ABOVE CEILING ANCHORS. MAINTAIN 1/4" OF EXPOSED THREADS BENEATH BOTTOM HEX NUT. TORQUE ALL HEX NUTS TO 57 FT-LBS.



ADDITION

**4842 AGGIE INNOVATION SPACE EC1**

1025 Stewart St.  
Las Cruces, NM

REVISION	DATE

Project no: 23.16  
Date: April 2024  
Sheet:

**MECHANICAL EXHAUST**

**M401**

REVISIONS	
DESCRIPTION	DATE

CAPTIVE

www.captiveaire.com  
El Paso & SE New Mexico  
El Paso, TX. PHONE: (915) 600-7197 FAX: 915-687-704 EMAIL: neg14@captiveaire.com

NMSU AIS ADDITION  
LAS CRUCES, NM, 88001

DATE: 3/27/2024  
DWG.#: 6705320  
DRAWN BY:  
SCALE: 3/4" = 1'-0"  
MASTER DRAWING  
SHEET NO. 2

**EXHAUST FAN INFORMATION - JOB#6705320**

FAN UNIT NO	TAG	QTY	FAN UNIT MODEL #	MANUFACTURER	CFM	ESP	RPM	MOTOR ENCL	HP	BHP	PHASE	VOLT	FLA	DISCHARGE VELOCITY	WEIGHT (LBS)	SONES
1	EF-1	1	DU33HFA	CAPTIVEAIRE	892	0.500	1546	TEAO-ECM	0.333	0.1980	1	115	4.3	442 FPM	64	16.6
2	EF-2	1	DU33HFA	CAPTIVEAIRE	892	0.500	1546	TEAO-ECM	0.333	0.1980	1	115	4.3	442 FPM	64	16.6

**FAN OPTIONS**

FAN UNIT NO	TAG	QTY	DESCRIPTION
1	EF-1	1	SCR-11 BIRD SCREEN
		1	ECM WIRING PACKAGE - MANUAL OR 0-10VDC REFERENCE SPEED CONTROL -RTC- (TELCO MOTOR), CCW ROTATION
		1	2 YEAR PARTS WARRANTY
2	EF-2	1	SCR-11 BIRD SCREEN
		1	ECM WIRING PACKAGE - MANUAL OR 0-10VDC REFERENCE SPEED CONTROL -RTC- (TELCO MOTOR), CCW ROTATION
		1	2 YEAR PARTS WARRANTY

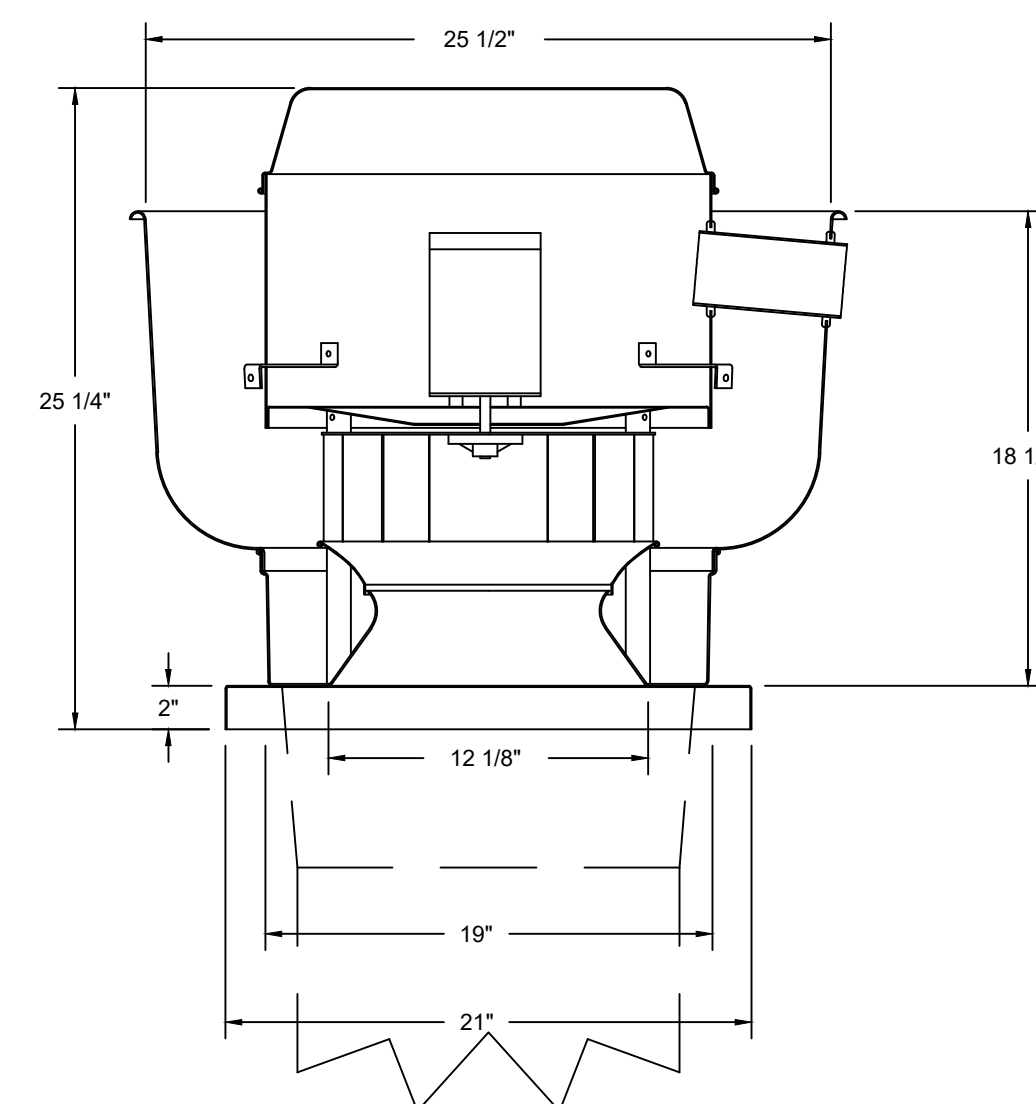
**FAN ACCESSORIES**

FAN UNIT NO	TAG	EXHAUST				SUPPLY			
		GREASE CUP	GRAVITY DAMPER	WALL MOUNT	SIDE DISCHARGE	GRAVITY DAMPER	MOTORIZED DAMPER	WALL MOUNT	
1	EF-1								
2	EF-2								

**CURB ASSEMBLIES**

NO	ON FAN	TAG	WEIGHT	ITEM	SIZE
1	#1	EF-1	27 LBS	CURB	19.500"W X 19.500"L X 20.000"H VENTED.
2	#2	EF-2	27 LBS	CURB	19.500"W X 19.500"L X 20.000"H VENTED.

FANS #1 (EF-1), #2 (EF-2) - DU33HFA EXHAUST FAN

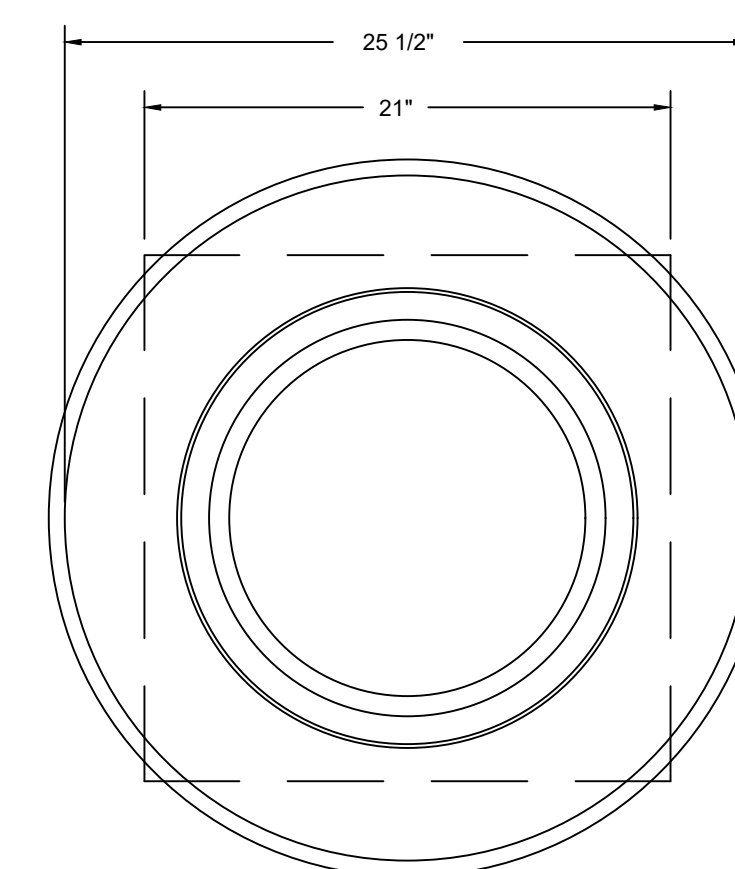


**FEATURES:**

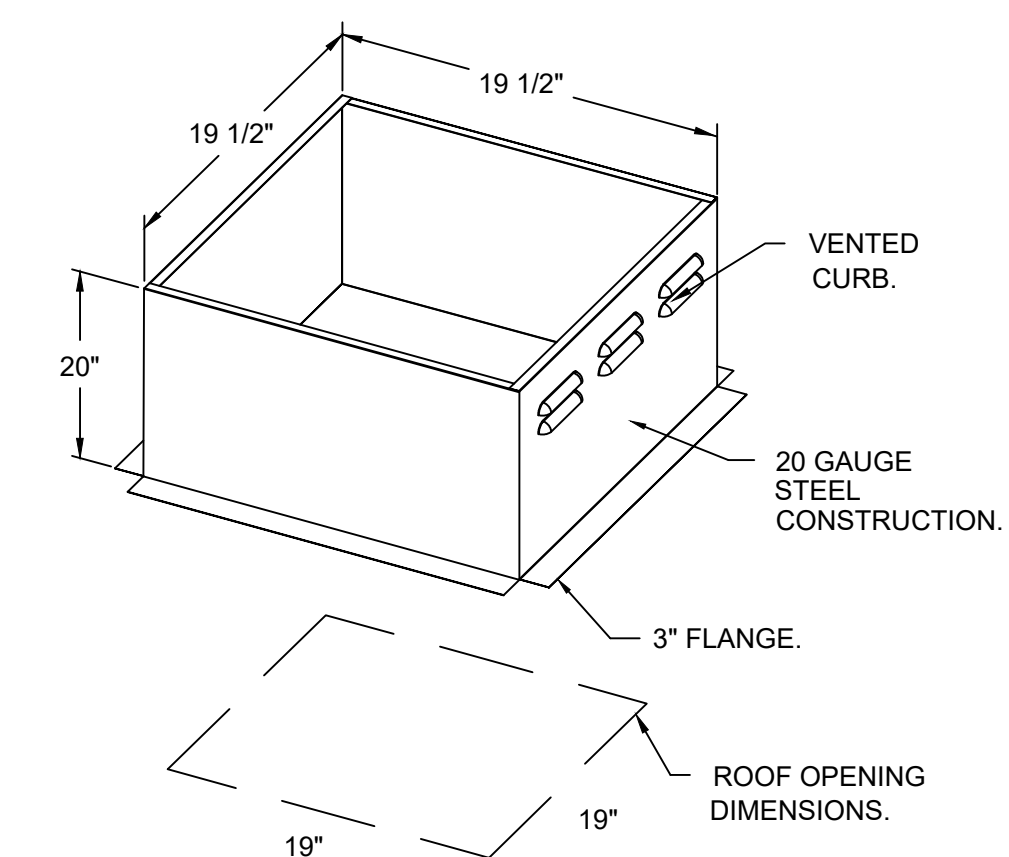
- DIRECT DRIVE CONSTRUCTION (NO BELTS/PULLEYS).
  - ROOF MOUNTED FANS.
  - RESTAURANT MODEL.
  - UL705
  - VARIABLE SPEED CONTROL.
  - INTERNAL WIRING.
  - THERMAL OVERLOAD PROTECTION (SINGLE PHASE).
  - HIGH HEAT OPERATION 300°F (149°C).
  - NEMA 3R SAFETY DISCONNECT SWITCH.
- NORMAL TEMPERATURE TEST**  
EXHAUST FAN MUST OPERATE CONTINUOUSLY WHILE EXHAUSTING AIR AT 300°F (149°C) UNTIL ALL FAN PARTS HAVE REACHED THERMAL EQUILIBRIUM, AND WITHOUT ANY DETERIORATING EFFECTS TO THE FAN WHICH WOULD CAUSE UNSAFE OPERATION.

**OPTIONS**

- SCR-11 BIRD SCREEN.
- ECM WIRING PACKAGE - MANUAL OR 0-10VDC REFERENCE SPEED CONTROL -RTC- (TELCO MOTOR), CCW ROTATION.
- 2 YEAR PARTS WARRANTY.



TOP VIEW



SHEET NO. 2





DUCTWORK #1 PARTS - JOB#6705320 EF-1

TAG	PART #	CFM	GPM	ZONE	COVEREDBY	SP	WEIGHT	VELOCITY	QTY	DESCRIPTION
P1	DW1045ASY	892				-0.0438	4.62	1635.45	1	SINGLE WALL DUCT 45 DEGREE ELBOW, 10" DUCT, ASSEMBLY.
P2	DW1045ASY	892				-0.0625	4.62	1635.45	1	SINGLE WALL DUCT 45 DEGREE ELBOW, 10" DUCT, ASSEMBLY.
P3	DW1047LT	892				-0.0264	15.72	1635.45	1	SINGLE WALL DUCT 10" DIAMETER, 47" LONG, FLANGE AT BOTH ENDS. STAINLESS STEEL.
P4	DW1035LT	892				-0.0196	11.78	1635.45	1	SINGLE WALL DUCT 10" DIAMETER, 35" LONG, FLANGE AT BOTH ENDS. STAINLESS STEEL.
P5	DW1048AJDKIT	892				-0.014	18.63	1635.45	1	SINGLE WALL DUCT ADJUSTABLE, 10" DIAMETER, 47.5" LONG, FLANGE AT ONE END WITH A 10" ADJUSTABLE COLLAR - STAINLESS STEEL.
P6 ASSEMBLED W/P7	DW1035LT	892				-0.019	11.78	1635.45	1	SINGLE WALL DUCT 10" DIAMETER, 35" LONG, FLANGE AT BOTH ENDS. STAINLESS STEEL.
P7 ASSEMBLED W/P6 O=B	DW1910TPDBEX	892					7.50	1635.45	1	DUCT TO CURB TRANSITION 3/4" DOWN TURN, 19-1/2" CURB TO 10" DUCT, 16 GA ALUMINIZED STEEL. FOR USE WITH EXHAUST FANS.
SYSTEM AT P7						-0.3313	0.00			
	3M-2000PLUS						0.80		1	DUCT - 3M FIRE BARRIER 2000 PLUS SILICONE - USED AS SEALANT TO SEAL DUCT JOINTS.
	DW10CLASY						0.82		6	DUCT "V" CLAMP WITH NEW DESIGN 14 GA BRACKETS, 10" DUCT, ASSEMBLY.
TOTAL WEIGHT							80.37			

SINGLE WALL FACTORY BUILT DUCTWORK

- ALL DUCTWORK IS REQUIRED TO BE INSTALLED WITH THE MAXIMUM SUPPORT SPACING LISTED BELOW.
- FOR A COMPLETE LIST OF APPROVED SUPPORT METHODS, SEE THE INSTALLATION AND OPERATION MANUAL.
- DUCTWORK SHALL SLOPE NOT LESS THAN 1/16" PER LINEAR FOOT TOWARDS THE HOOD OR AN APPROVED GREASE COLLECTION RESERVOIR.
- WHERE HORIZONTAL DUCTS EXCEED 75 FEET IN LENGTH, THE SLOPE SHALL NOT BE LESS THAN 3/16" PER LINEAR FOOT.

DUCT DIAMETER	HORIZONTAL SUPPORT (FT)	VERTICAL WALL SUPPORT (FT)	VERTICAL CURB SUPPORT (FT)
5"	10'	10'	24'
6"	10'	10'	24'
7"	10'	10'	24'
8"	10'	10'	24'
10"	10'	10'	24'
12"	10'	10'	24'
14"	10'	10'	24'
16"	10'	10'	24'
18"	10'	10'	24'
20"	10'	10'	24'
22"	10'	10'	24'
24"	10'	10'	24'
26"	10'	10'	24'
28"	10'	10'	24'
30"	10'	10'	24'
32"	10'	10'	24'
34"	10'	10'	24'
36"	10'	10'	24'

**DO NOT LEAK TEST USING SMOKE BOMBS CONTAINING CHLORINES/CHLORIDES. CONSULT WITH CAPTIVEAIRE FOR PROPER LEAK TESTING METHODS.**

REVISIONS	
DESCRIPTION	DATE

**CAPTIVEAIRE**  
 El Paso & SE New Mexico  
 El Paso, TX. PHONE: (915) 600-7197 FAX: 915-68704 EMAIL: reg143@captivaire.com  
 www.captiveaire.com

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 LAS CRUCES, NM, 88001

**DATE:** 3/27/2024  
**DWG.#:** 6705320  
**DRAWN BY:**  
**SCALE:** 3/4" = 1'-0"  
**MASTER DRAWING**

**SHEET NO.**  
4

ADDITION

**4842 AGGIE INNOVATION SPACE EC1**

1025 Stewart St.  
Las Cruces, NM

REVISION	DATE

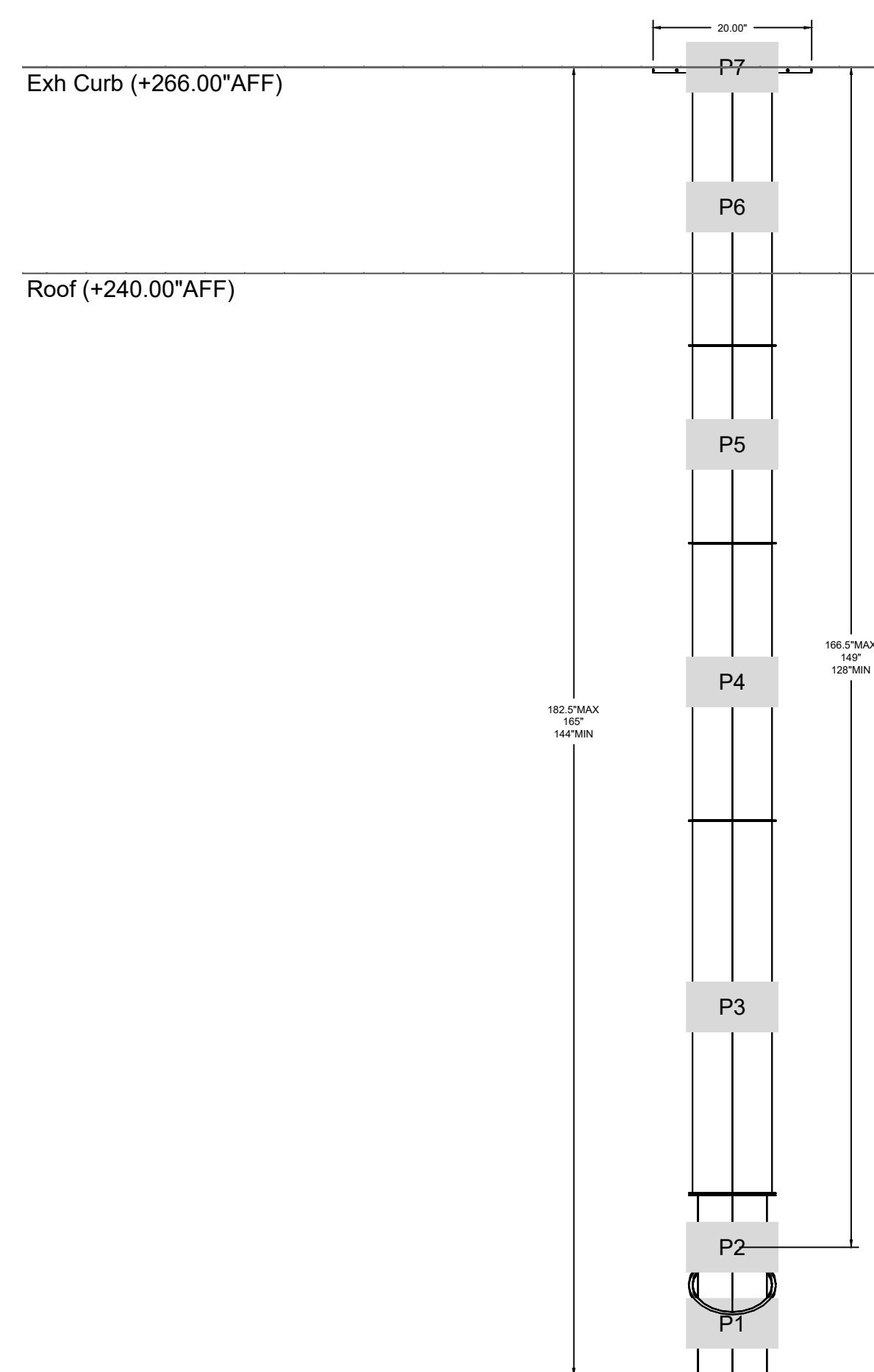
Project no: 23.16  
Date: April 2024  
Sheet:

**MECHANICAL DETAILS**

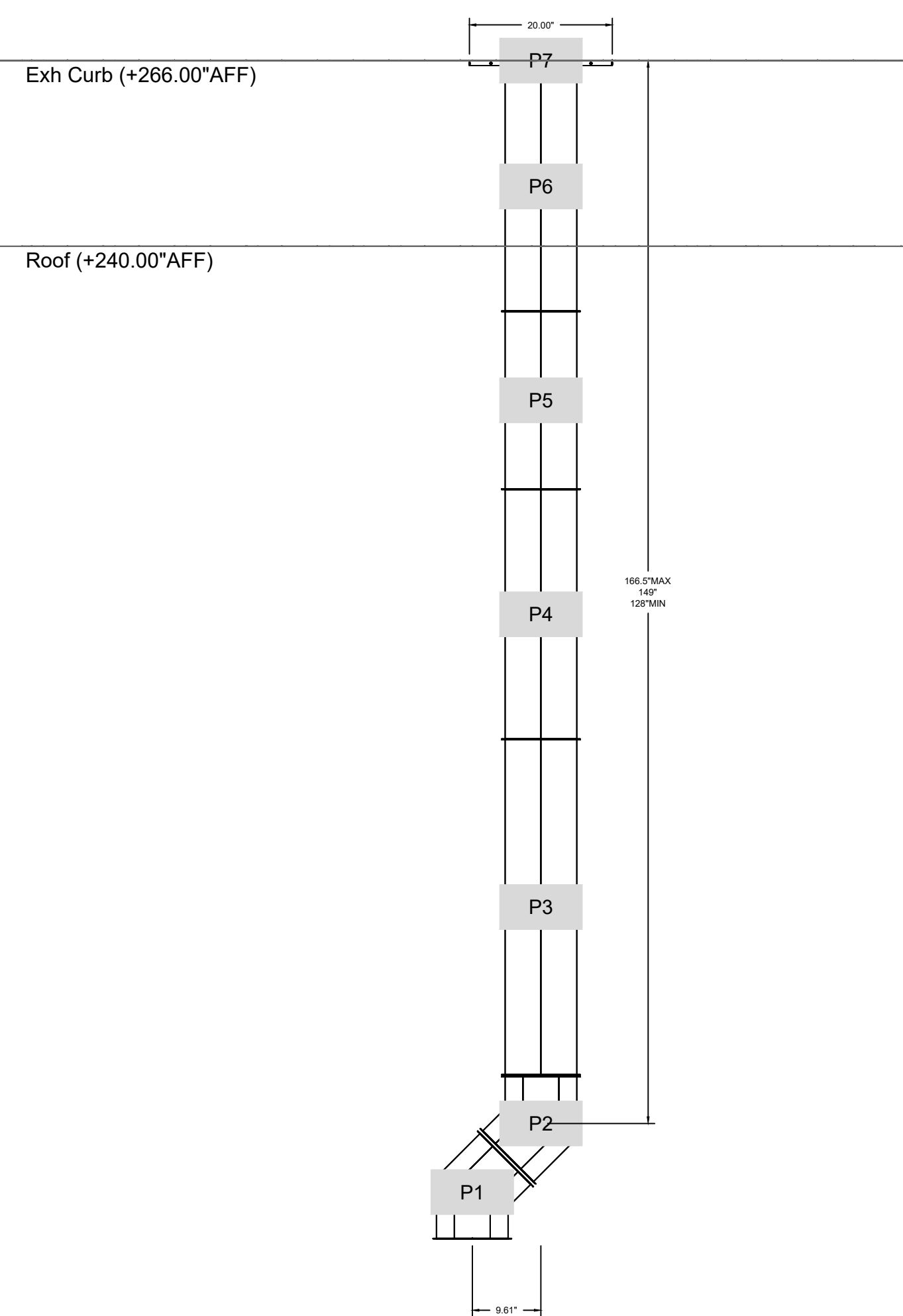
**M403**



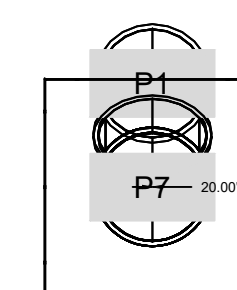
DUCTWORK #1 FRONT VIEW  
EF-1



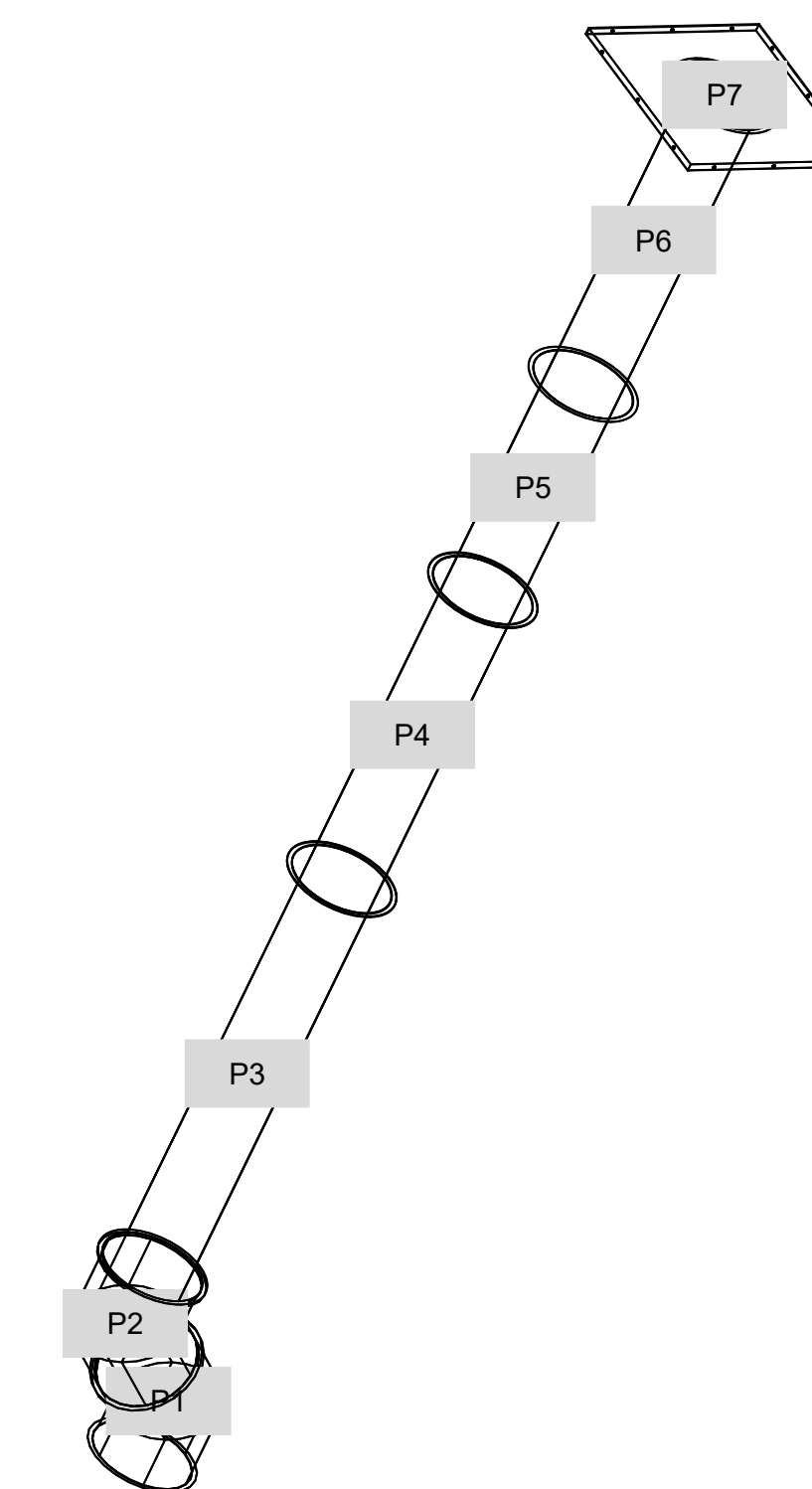
DUCTWORK #1 SIDE VIEW  
EF-1



DUCTWORK #1 TOP VIEW  
EF-1



DUCTWORK #1 SE VIEW  
EF-1



REVISIONS	
DESCRIPTION	DATE

**CAPTIVE**  
El Paso & SE New Mexico  
WWW.CAPTIVEAIR.COM  
El Paso, TX. PHONE: (915) 600 - 7197 FAX: 915 68704 EMAIL: reg143@captivair.com

NMSU AIS ADDITION  
LAS CRUCES, NM, 88001

DATE: 3/27/2024

DWG.#:  
6705320

DRAWN  
BY:

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

MASTER DRAWING

SHEET NO.  
5

ADDITION

4842 AGGIE  
INNOVATION  
SPACE EC1

1025 Stewart St.  
Las Cruces, NM

REVISION	DATE

Project no: 23.16  
Date: April 2024  
Sheet:

MECHANICAL  
DETAILS

M404

DUCTWORK #2 PARTS - JOB#6705320 EF-2

TAG	PART #	CFM	GPM	ZONE	COVEREDBY	SP	WEIGHT	VELOCITY	QTY	DESCRIPTION
P1	DW1045ASY	892				-0.0438	4.62	1635.45	1	SINGLE WALL DUCT 45 DEGREE ELBOW, 10" DUCT, ASSEMBLY.
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18"	10'	10'	24'
20"	10'	10'	24'
22"	10'	10'	24'
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**REVISIONS**

DESCRIPTION	DATE

**CAPTIVEAIRE**  
El Paso & SE New Mexico  
El Paso, TX. PHONE: (915) 600 - 7197 FAX: 91515168704 EMAIL: reg114@captiveaire.com

NMSU AIS ADDITION  
LAS CRUCES, NM, 88001

DATE: 3/27/2024  
DWG.#: 6705320  
DRAWN BY:  
SCALE: 3/4" = 1'-0"  
MASTER DRAWING

SHEET NO. 6

ADDITION

4842 AGGIE  
INNOVATION  
SPACE EC1

1025 Stewart St.  
Las Cruces, NM

REVISION DATE

Project no: 23.16  
Date: April 2024  
Sheet:

MECHANICAL  
DETAILS

M405



ADDITION

**4842 AGGIE INNOVATION SPACE EC1**

1025 Stewart St.  
Las Cruces, NM

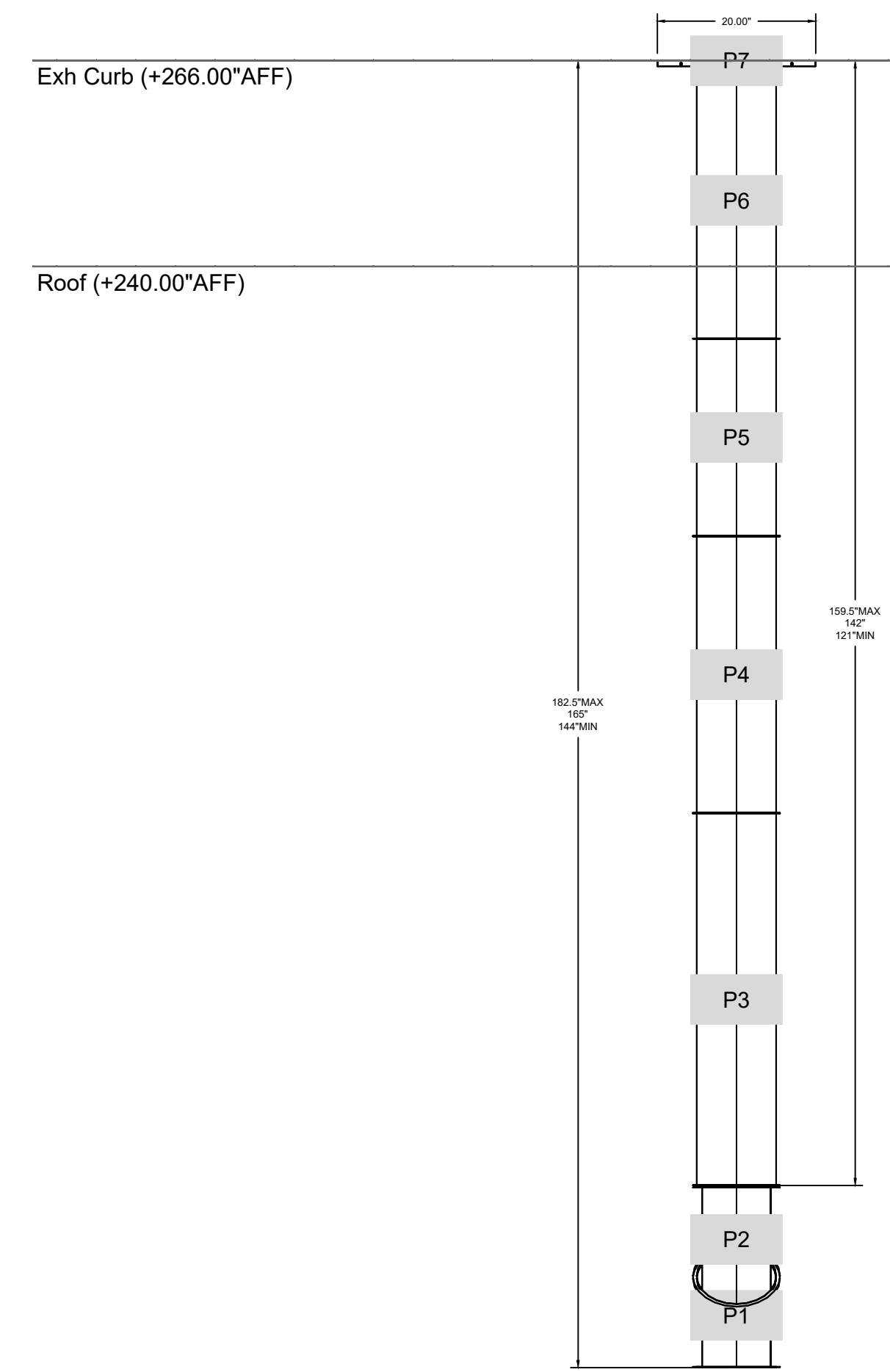
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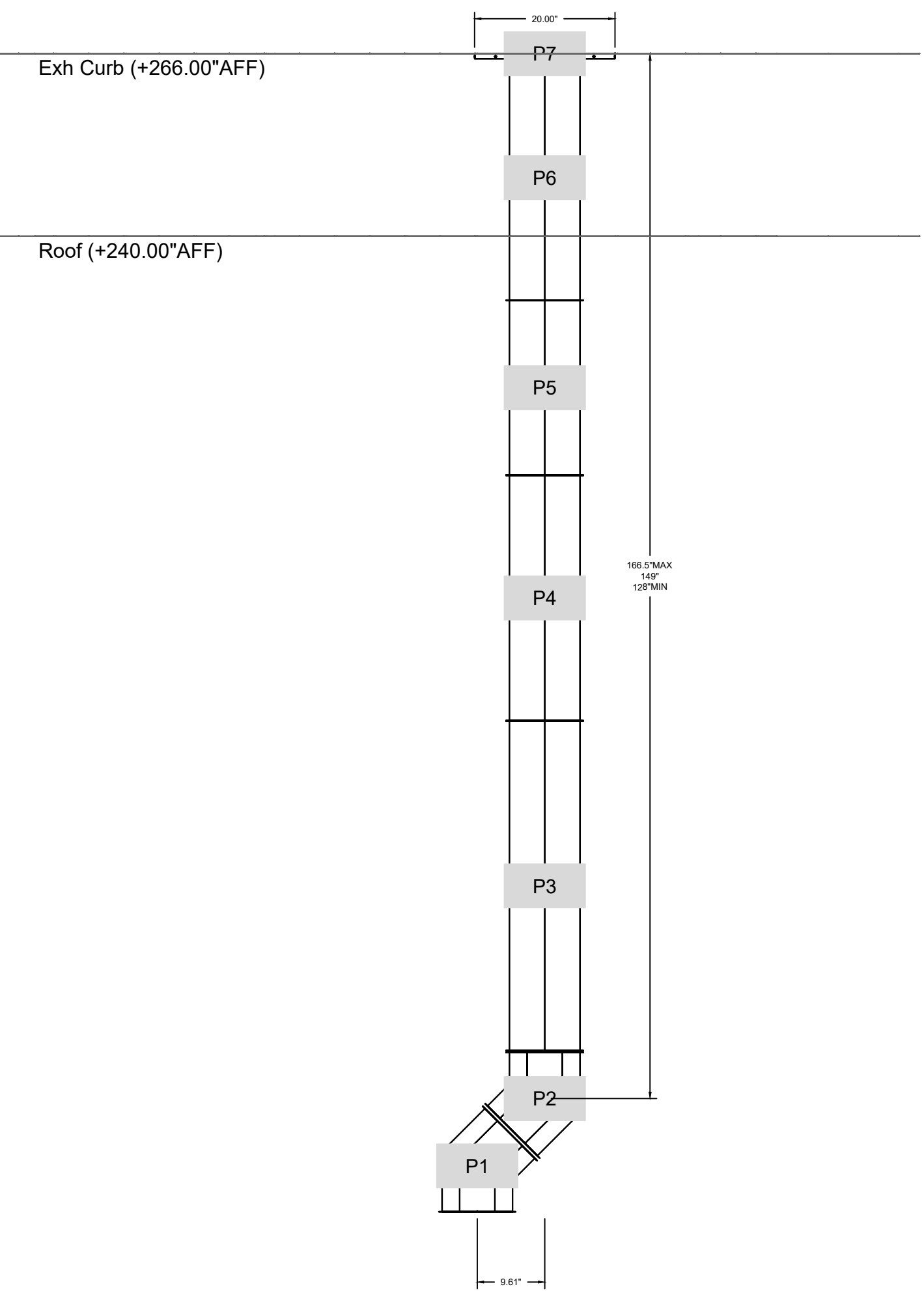
**MECHANICAL DETAILS**

**M406**

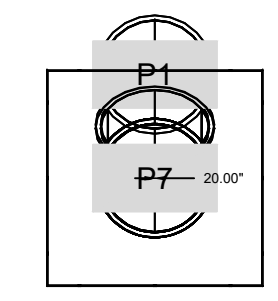
**DUCTWORK #2 FRONT VIEW EF-2**



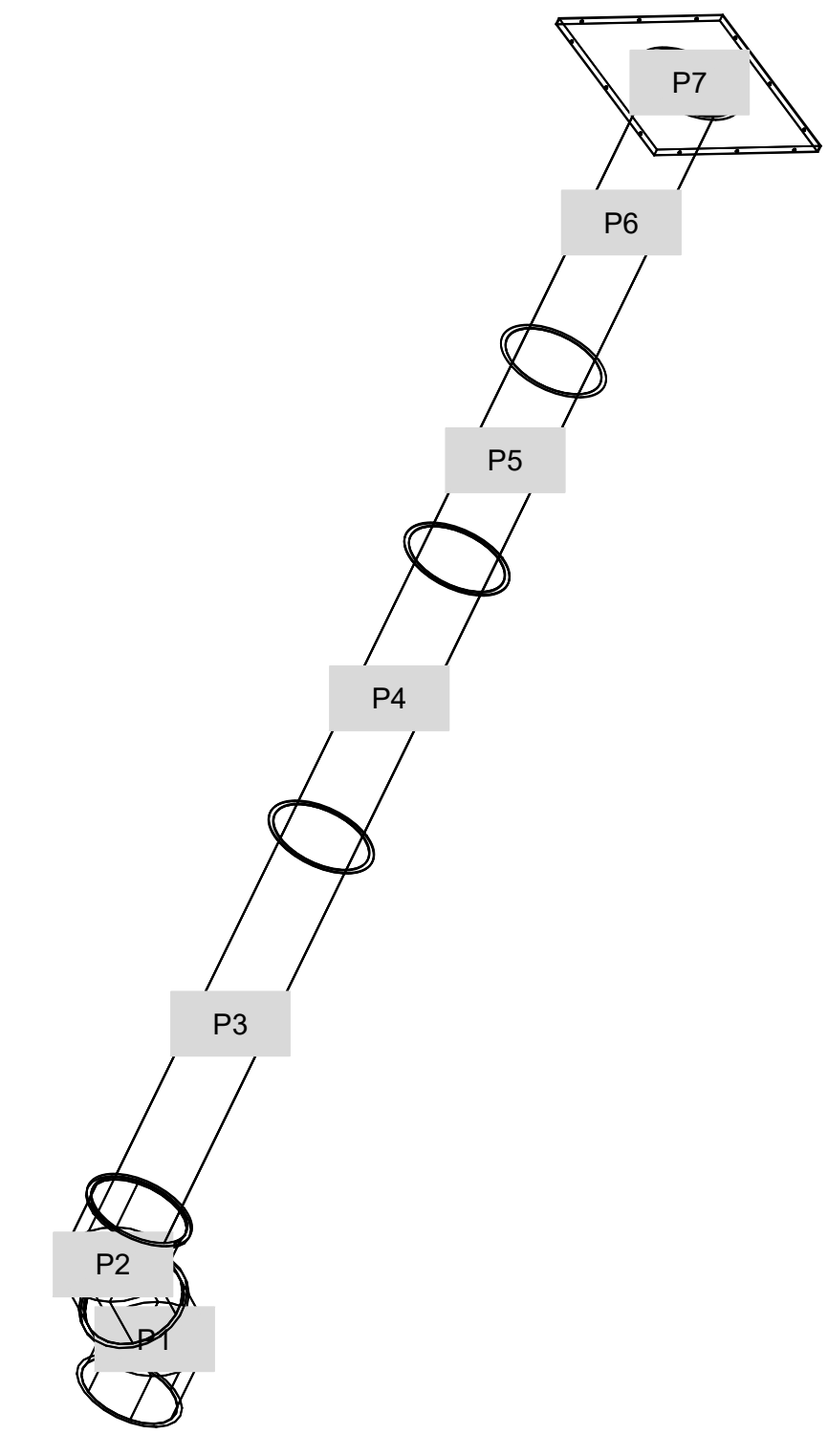
**DUCTWORK #2 SIDE VIEW EF-2**



**DUCTWORK #2 TOP VIEW EF-2**



**DUCTWORK #2 SE VIEW EF-2**



REVISIONS	
DESCRIPTION	DATE

**CAPTIVE**  
El Paso & SE New Mexico  
El Paso, TX. PHONE: (915) 600-7197 FAX: (915) 657-0444 EMAIL: regis@captiveme.com

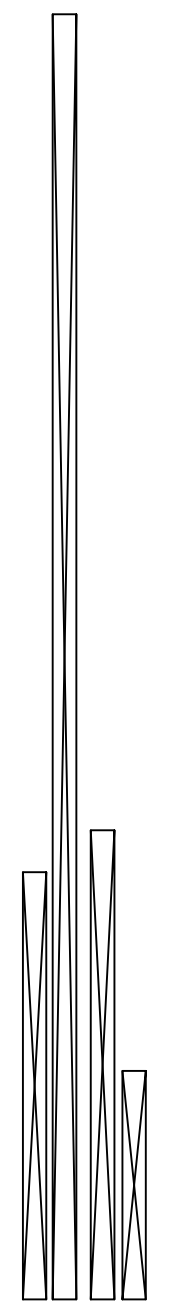
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SCALE: 3/4" = 1'-0"  
MASTER DRAWING

SHEET NO.  
7

Floor (+0.00'AFF)

Floor (+0.00'AFF)



# PLUMBING SYMBOLS AND ABBREVIATIONS

[SOME SYMBOLS MAY NOT BE USED ON THIS PROJECT]

## GENERAL PIPING SYMBOLS

SYMBOL	DESCRIPTION
	90 DEGREE ELBOW
	FLANGE CONNECTION
	CAP
	BLIND FLANGE
	PLUMBING FIXTURE & DESIGNATION SEE FIXTURE CONNECTION SCHEDULE
	PLAN/DETAIL NUMBER SHEET NUMBER
	PIPE DROP
	PIPE RISE
	TEE FITTING - SIDE BRANCH CONNECTION
	TEE FITTING - BOTTOM BRANCH CONNECTION
	TEE FITTING - TOP BRANCH CONNECTION
	CONCENTRIC REDUCER
	ECCENTRIC REDUCER
	BALL JOINT
	EXPANSION JOINT
	FLEXIBLE CONNECTION (PIPE)
	FLOW DIRECTION
	PIPE ANCHOR
	PIPING GUIDE
	NEW CONNECTION TO EXISTING
	FIRE HYDRANT
	GAS PRESSURE REGULATOR
	GAS METER
	WATER METER
	THERMOMETER

## GENERAL PIPING SYMBOLS - VALVES

SYMBOL	DESCRIPTION
	VALVE IN BOX
	BALL VALVE
	CHECK VALVE
	GATE VALVE
	PRESSURE & TEMP. RELIEF VALVE
	PETE'S PLUG (TYPICAL)
	REDUCED PRESSURE BACK FLOW PREVENTER (RPBP)
	PRESSURE REDUCING VALVE

## PLUMBING ABBREVIATIONS

ABBREV.	DESCRIPTION	ABBREV.	DESCRIPTION
ABV	ABOVE	ID	INSIDE DIMENSION
AC	ABOVE CEILING	IE	INVERT ELEVATION (FLOW LINE)
AD	ACCESS DOOR	IN	INCHES
AFF	ABOVE FINISHED FLOOR	INSUL	INSULATION
AP	ACCESS PANEL	IN WG	INCHES OF WATER
APPROX	APPROXIMATE	KW	KILOWATT(S)
ARCH	ARCHITECTURAL	L	LONG, LENGTH
ASME	AMERICAN SOCIETY OF MECHANICAL ENGINEERS	L-#	LAVATORY - REF. PLUMB. FIXT. SCHEDULE
ASTM	AMERICAN SOCIETY FOR TESTING MATERIALS	LB	POUND
AV	ACID VENT	MAX	MAXIMUM
AW	ACID WASTE	MECH	MECHANICAL
BHP	BRAKE HORSEPOWER	MIN	MINIMUM
BLDG	BUILDING	MS	MOTOR STARTER
BOP	BOTTOM OF PIPE	MTD	MOUNTED
BSMT	BASEMENT	NA	NOT APPLICABLE
BTU	BRITISH THERMAL UNIT	NIC	NOT IN CONTRACT
BW-#	BACKWATER VALVE	NTS	NOT TO SCALE
CA	COMPRESSED AIR	OC	ON CENTER
CC	CENTER TO CENTER	OH	OVERHEAD
CAP.	CAPACITY	PCT	PERCENT
CD	CONDENSATE	PLBG	PLUMBING
CDP	CONDENSATE DRAIN PUMP	PRESS	PRESSURE
CI	CAST IRON	PRV	PRESSURE REDUCING VALVE
CLG	CEILING	PSIG	POUNDS PER SQUARE INCH (GAUGE)
CO	CLEANOUT	PVC	POLYVINYL CHLORIDE
CONN	CONNECTION	PW-#	PRESSURE WASHER - REF. PLUMB. FIXT. SCHED.
CONT	CONTINUATION	RD	ROOF DRAIN
CW	COLD WATER	REF: A/P-500	REFER TO DETAIL 4, SHEET P-500
CL	CENTER LINE	REQ'D	REQUIRED
D	DRAIN	RPBP-#	REDUCED PRESSURE BACKFLOW PREVENTER
DCO	DOUBLE CLEANOUT	S-#	SINK - REF. PLUMB. FIXT. SCHEDULE
DIA	DIAMETER	SCHED.	SCHEDULE
DN.	DOWN	SD	STORM DRAIN
DN-#	DOWNSPOUT NOZZLE	SEC	SECOND
DWG	DRAWING	SH-#	SHOWER HEAD - REF. PLUMB. FIXT. SCHED.
EA	EACH	SPEC	SPECIFICATION
EQ	EQUAL	SP	SUMP PUMP
EQUIP	EQUIPMENT	SRO	SECONDARY ROOF DRAIN
EXIST	EXISTING	SS	SERVICE SINK/MOP SINK
3" ED-1	3" FLOOR DRAIN TYPE 1	STD	STANDARD
F	DEGREES FAHRENHEIT	STL	STEEL
FCO	FLOOR CLEANOUT	SW	SWITCH
FIXT	FIXTURE	TEMP	TEMPERATURE
FF	FINISHED FLOOR	TP-#	TRAP PRIMER - REF. PLUMB. FIXT. SCHED.
FG	FINISHED GRADE	TYP	TYPICAL
FLG	FLANGE	U-#	URINAL - REF. PLUMB. FIXT. SCHED.
FLR	FLOOR	UF	UNDER FLOOR
FM	FACTORY MUTUAL	UG	UNDER GROUND
FPM	FEET PER MINUTE	UL	UNDERWRITERS LABORATORIES
FT	FEET, FOOT	UTIL	UTILITY
FS	FLOOR SINK	VB	VALVE BOX
GA	GAUGE	VCP	VITRIFIED CLAY PIPE
GAL	GALLON	VEL	VELOCITY
GALV	GALVANIZED	VOL	VOLUME
GCO	GROUND CLEANOUT	VOLT	VOLTAGE
GPH	GALLONS PER HOUR	VTR	VENT THRU ROOF
GPM	GALLONS PER MINUTE	W	WIDE, WIDTH
GW	GREASE WASTE	WB-#	WASHER BOX - REF. PLUMB. FIXT. SCHED.
GV	GREASE VENT	WD-#	WATER DEVICE - REF. PLUMB. FIXT. SCHED.
H	HIGH, HEIGHT	W/	WITH
HB-#	HOSE BIBB - REF. PLUMB. FIXT. SCHED.	W/O	WITHOUT
HP	HORSEPOWER	WC-#	WATER CLOSET - REF. PLUMB. FIXT. SCHED.
HR	HOUR	WCO	WALL CLEANOUT
HTR	HEATER	WD-#	WATER DEVICE - REF. PLUMB. FIXT. SCHEDULE
HWRP	HOT WATER RECIRCULATING PUMP	WH-#	WATER HEATER - REF. PLUMB. FIXT. SCHED.
HZ	HERTZ	WS-#	WATER SOFTENER - REF. SPECIFICATIONS
		WTD-#	WIDE TRENCH DRAIN - REF. PLUMB. FIXT. SCHED.
		WTR	WATER

## PLUMBING GENERAL NOTES

- NOTE: FOR THE PURPOSE OF CLARITY AND LEGIBILITY, THE DRAWINGS ARE ESSENTIALLY DIAGRAMMATIC AND ALTHOUGH SIZES AND LOCATIONS OF EQUIPMENT ARE DRAWN TO SCALE WHEREVER POSSIBLE, THE CONTRACTOR SHALL MAKE USE OF ALL DATA IN ALL OF THE CONTRACT DOCUMENTS AND VERIFY THIS INFORMATION PRIOR TO ORDERING, FABRICATING OR INSTALLING ANY MATERIALS.
- THE PLUMBING SYSTEM DESIGN, INSTALLATION AND MATERIALS SHALL CONFORM TO ALL FEDERAL, STATE AND LOCAL CODES AND AUTHORITIES HAVING JURISDICTION.
- PLUMBING QUALITY, WEIGHTS OF MATERIALS AND ALTERNATE METHODS OF CONSTRUCTION SHALL CONFORM TO THE APPLICABLE PLUMBING CODES, WITH LOCAL JURISDICTION CODE AMENDMENTS.
- CONTRACTOR SHALL COORDINATE ALL WORK SHOWN ON THESE DRAWINGS AND SPECIFICATIONS WITH ALL DISCIPLINES AND TRADES PRIOR TO SUBMITTAL OF BID AND INSTALLATION OF SYSTEM.
- CONTRACTOR SHALL VISIT SITE PRIOR TO BID TO VERIFY ALL EXISTING CONDITIONS, INCLUDE IN BID THE RELOCATION OF ALL EXISTING UTILITIES THAT WILL OBSTRUCT NEW CONSTRUCTION, INCLUDE IN BID ALL DEVELOPMENT FEES, DEPOSITS, MEASURING DEVICE FEES, AND ALL OTHER FEES RELATED TO THE ESTABLISHMENT OF UTILITY SERVICES FOR THE NEW STRUCTURE.
- CONTRACTOR SHALL MAKE ALL ARRANGEMENTS WITH UTILITY COMPANIES FOR SERVICE AND CONNECTIONS AND SHALL PAY FOR ALL FEES, CHARGES, PENALTIES AND METERS.
- THE PLUMBING CONTRACTOR SHALL GUARANTEE ALL MATERIALS AND LABOR (INCLUDING THE COMPLETE PLUMBING SYSTEM) FOR A PERIOD OF ONE YEAR FROM WRITTEN ACCEPTANCE BY THE TENANT. ANY DEFECTS IN MATERIALS AND/OR LABOR FOUND WITHIN THE GUARANTEE PERIOD SHALL BE REMEDIATED OR REPAIRED BY THIS CONTRACTOR IN A TIMELY FASHION, AT NO COST TO THE TENANT.
- CONTRACTOR TO FIELD VERIFY INVERT ELEVATION OF EXISTING GREASE WASTE AND SANITARY SEWER BEFORE COMMENCING ANY WORK.
- ALL PLUMBING FIXTURE LOCATIONS (WATER CLOSETS, LAVATORIES ETC.) ARE DIAGRAMMATIC. CONTRACTOR SHALL REFER TO FOOD SERVICE AND ARCHITECTURAL DRAWINGS FOR EXACT PLACEMENT AND MOUNTING HEIGHTS.
- ANY DEVIATIONS FROM THE DRAWINGS OR SPECIFICATIONS SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT AND ENGINEER PRIOR TO INSTALLATION.
- CONTRACTOR SHALL VISIT SITE PRIOR TO SUBMITTAL OF BID AND FAMILIARIZE HIMSELF WITH EXISTING CONDITIONS. SUBMITTAL OF BID WILL VERIFY THAT THE CONTRACTOR HAS VISITED THE SITE.
- PIPE SHALL BE INSTALLED PARALLEL TO BUILDING LINES AND SUPPORTED AND ANCHORED AS REQUIRED TO FACILITATE EXPANSION AND CONTRACTION. THE INSTALLATION SHALL MEET ALL CONSTRUCTION CONDITIONS AND ALLOW FOR THE INSTALLATION OF OTHER TRADES.
- SUPPORT PIPING WITH CLEVIS OR SPLIT RING TYPE PIPE HANGERS WITH 3/8" ALL THREAD ROD AND BEAM CLAMPS. "PLUMBERS TAPE AND WIRE" NOT PERMITTED.
- TRAP SEALS FOR FLOOR DRAINS AND FLOOR SINKS AND WATER HAMMER ARRESTORS TO BE INSTALLED AS PER APPLICABLE PLUMBING CODES, WITH LOCAL JURISDICTION CODE AMENDMENTS AND THE LATEST EDITION OF THE AMERICAN SOCIETY OF SANITARY ENGINEERS (ASSE 1100) SINK AND INSTALLATION REQUIREMENTS.
- ALL VALVES, TRAP PRIMERS, WATER HAMMER ARRESTORS OR OTHER EQUIPMENT SHOWN IN WALLS OR ABOVE NON-ACCESSIBLE CEILINGS SHALL BE INSTALLED BEHIND AN ACCESS PANEL.
- ALL SERVICE WATER HEATING EQUIPMENT TO BE IN COMPLIANCE WITH THE APPLICABLE PLUMBING CODES, WITH LOCAL JURISDICTION CODE AMENDMENT REQUIREMENTS AND LABELED AS SUCH.
- ALL ITEMS PROJECTING THROUGH THE ROOF SHALL BE FLASHED THROUGH CURBS OR PIPE SEALS A MINIMUM OF 12" ABOVE THE ROOF. THE PIPE CURBS AND SEALS SHALL BE INSTALLED BY THE ROOFING CONTRACTOR. ENSURE THAT AMBLE BOOT OPENINGS ARE PROVIDED TO ACCOMMODATE ANY ELECTRICAL CONDUIT PENETRATIONS REQUIRED FOR POWER.
- CONTRACTOR SHALL PROVIDE: FAUCETS, TRAPS, STOPS, BALL VALVES, BACKFLOW DEVICES FOR KITCHEN EQUIP, GASCOOKS, WATER HAMMER ARRESTORS, CLEANOUT COVERS AND INDIRECT WASTE TO AN APPROVED RECEPTOR AND ALL NECESSARY TRIM FOR A COMPLETELY CONNECTED PLUMBING SYSTEM. (SEE SCHEDULES)
- ALL CLEANOUTS SHALL BE INSTALLED ACCESSIBLE AND LABELED AS PER CODE REQUIREMENTS. THE CONTRACTOR SHALL COORDINATE ALL CLEAN OUT LOCATIONS WITH EQUIPMENT, MILLWORK, ETC., PRIOR TO INSTALLATION.
- ALL PLUMBING FIXTURE VENTS TO TERMINATE A MINIMUM OF 12 INCHES FROM ANY VERTICAL SURFACE AND 10'-0" FROM OR 3'-0" ABOVE ANY MECHANICAL EQUIPMENT OUTSIDE AIR INTAKE.
- ALL VALVES, UNIONS, ETC. TO BE SAME SIZE AS CONNECTED SUPPLY LINE UNLESS OTHERWISE NOTED ON DRAWINGS.
- UNIONS SHALL BE PROVIDED AND INSTALLED AFTER EACH SIZING-TYPE VALVE AND PRIOR TO EQUIPMENT CONNECTIONS.
- PIPING SHALL BE INSTALLED COMPLETELY WITH ELECTRICAL UNIONS BETWEEN CONNECTIONS OF NON-FERROUS MATERIALS.
- PROVIDE DIELECTRIC INSULATION FOR COPPER PIPE ANYWHERE IT CONTACTS DISSIMILAR METAL. THIS INCLUDES THE WATER HEATER CONNECTIONS.
- PROVIDE ACCESSIBLE WATER SUPPLY STOP VALVES AT EACH PLUMBING FIXTURE.
- PROVIDE A LINE SIZED PRESSURE REDUCING VALVE AT THE BUILDING SERVICE CONNECTION SHOULD THE SUPPLY PRESSURE EXCEED 80 PSI.
- ALL UNDERGROUND METALLIC PIPE AND FITTINGS SHALL BE PROTECTED IN ACCORDANCE WITH THE SOILS ENGINEER'S RECOMMENDATIONS.
- NO PIPING SHALL BE DIRECTLY EMBEDDED IN CONCRETE, MASONRY WALLS, OR CONCRETE FOOTINGS.
- THE PLUMBING CONTRACTOR SHALL COORDINATE ALL REQUIREMENTS FOR ALL POINTS OF CONNECTION WITH THE GENERAL CONTRACTOR AND OTHER TRADES PRIOR TO START OF WORK.
- VERIFY EXACT LOCATIONS, DEPTH AND SIZE OF ALL PIPING TO WHICH CONNECTIONS ARE REQUIRED. COORDINATE ALL CONNECTIONS WITH SITE CONDITIONS AND SITE UTILITY CONTRACTOR/ REPRESENTATIVE.
- CONTRACTOR SHALL BE RESPONSIBLE FOR THE COMPLETE INSTALLATION OF ALL WORK RELATED TO PLUMBING UTILITIES INCLUDING: TRENCHING, BACKFILL, SUPPORTS, CLEAN-OUT PADS, SERVICE VALVES AND BOXES, SERVICE LINES, TESTING, CLEANING, AND STERILIZING.
- ALL HORIZONTAL PIPING LINES EXTENDED AND CONNECTED TO EQUIPMENT SHALL BE RUN AT THE HIGHEST POSSIBLE ELEVATIONS AND NOT LESS THAN 4" ABOVE THE FLOOR TO PROVIDE CLEARANCE FOR CLEANING.
- ALL CUTTING OF EXISTING FRAMING, WALLS AND/OR FLOORS SHALL UTILIZE MACHINE SAW CUTTING EQUIPMENT. HOLES FOR PIPES IN CONCRETE WALLS OR FLOORS SHALL UTILIZE CORE DRILLING EQUIPMENT. COORDINATE WITH ARCHITECTURAL DETAILS FOR FLOOR CUTTING AND PATCHING.
- THE PLUMBING CONTRACTOR IS TO PROVIDE ALL ADDITIONAL STEEL, HANGER MATERIALS, ROOS AND CLAMPS AS REQUIRED FOR COORDINATION WITH WORK OF OTHER TRADES.
- PIPING LAYOUT IS SCHEMATIC ONLY. EXACT ROUTING AND INSTALLATION OF PRES TO BE COORDINATED WITH THE BUILDING STRUCTURE AND THE WORK OF OTHER CONTRACTORS. NO WATER OR DRAIN LINES ARE PERMITTED TO BE INSTALLED OVER OR UNDER ELECTRICAL PANELS.
- NO LIQUID TRANSMISSION PLUMBING PIPING SHALL BE INSTALLED ABOVE ELECTRICAL SWITCH GEAR, EQUIPMENT, OR PANELS. MAKE ADJUSTMENTS NECESSARY TO REROUTE PIPING FOR ACTUAL INSTALLATION OF ELECTRICAL EQUIPMENT.
- WHENEVER FOUNDATION WALLS, EXTERIOR WALLS, ROOFS, ETC. ARE PENETRATED FOR THE INSTALLATION OF PLUMBING SYSTEMS, THEY SHALL BE PATCHED TO MATCH EXISTING CONSTRUCTION AND SEALED WEATHER TIGHT.
- ANY EXPOSED PIPING IN GUEST OR PUBLIC AREAS SHALL BE PAINTED TO MATCH THE WALL COLOR. ANY EXPOSED GAS PIPING IN KITCHENS SHALL BE PAINTED WHITE.
- DURING THE PROGRESS OF THE WORK, MAINTAIN AN ACCURATE RECORD OF ALL CHANGES MADE IN THE PLUMBING SYSTEMS. THE RECORD DRAWINGS SHALL SHOW CHANGES IN MANUFACTURER (WITH NUMBERS AND TRADE NAMES), MATERIALS, SIZES, LOCATIONS AND HOOK-UP POINTS. AS-BUILTS SHALL BE GIVEN TO OWNER'S CONSTRUCTION MANAGER AT COMPLETION OF JOB.
- UPON COMPLETION OF JOB, THIS CONTRACTOR SHALL INSPECT ALL EXPOSED PORTIONS OF THE PLUMBING INSTALLATION AND COMPLETELY REMOVE ALL EXPOSED LABELS, SOIL, MARKINGS AND FOREIGN MATERIAL EXCEPT PRODUCT LABELS AND THOSE REQUIRED BY LAW.
- PLUMBING CONTRACTOR SHALL BE ON SITE AND PRESENT AT THE DATE OF THE PROJECT TURNOVER.
- PLUMBING CONTRACTOR SHALL PROVIDE MANUFACTURER'S OPERATION LITERATURE FOR ALL INSTALLED EQUIPMENT AND FIXTURES AT THE DATE OF PROJECT TURNOVER.
- ALL PLUMBING FIXTURES SHALL MEET AND BE INSTALLED AT DIMENSIONS REQUIRED BY ACCESSIBILITY STANDARDS FOR HANDICAPPED PERSONS.
- ANY PLASTIC PIPING (PVC PIPE) LOCATED IN A RETURN CEILING SPACE (OPEN CEILING) OR PLENUM SHALL BE ENCLOSED IN GFB OR WRAPPED WITH 3M FIREMASTER BLANKET OR UL910 STANDARD COVER.
- ALL UNDERGROUND WATER PIPING SHALL BE SOFT COPPER PIPING. THERE SHALL NOT BE ANY UNDERGROUND JOINT FITTINGS.
- ALL DENTAL SPECIALTY PIPING SHALL BE COPPER PIPING.
- DENTAL SPECIALTY PIPING SHALL BE INSTALLED BY A CERTIFIED MED GAS INSTALLER WITH 5 YEARS EXPERIENCE.
- ALL PIPING INSTALLED ON THE ROOF MUST BE SUPPORTED, WITH PIPE SUPPORTS EVERY 4'-0", PIPE SUPPORT TO BE DURA-BLOCK, CONTRACTOR TO PROVIDED SIZED AND ACCESSORIES REQUIRED.
- TYPICAL DETAILS AND NOTES SHALL APPLY, THOUGH NOT NECESSARILY INDICATED AT A SPECIFIC LOCATION ON PLANS. WHERE NO DETAILS ARE SHOWN, CONSTRUCTION SHALL CONFORM TO SIMILAR WORK ON THE PROJECT. DETAILS MAY SHOW ONLY ONE SIDE OF CONNECTION OR MAY OMIT INFORMATION FOR CLARITY.
- NOTES AND DETAILS ON DRAWINGS SHALL TAKE PRECEDENCE OVER GENERAL STRUCTURAL NOTES AND TYPICAL DETAILS.

## SANITARY SEWER/WASTE/VENT

SYMBOL	DESCRIPTION
	CLEANOUT
	FLOOR DRAIN & P-TRAP (RISER)
	FLOOR DRAIN, ROOF DRAIN, OR AREA DRAIN (SIZE & TYPE NOTED)
	HUB DRAIN & P-TRAP
	2-WAY COUNTERSUNK CLEANOUT PLUGS MOUNT IN CONCRETE PAD FLUSH WITH FINISHED GRADE
	SANITARY COMBINATION FITTING
	VENT PIPE (PLUMBING)
	INDIRECT DRAIN
	CONDENSATE DRAIN
	FLOOR CLEANOUT
	ROOF DRAINAGE
	SECONDARY ROOF DRAINAGE
	NEW PIPING (WASTE, WATER, ETC)
	PIPING TO BE REMOVED
	EXISTING COLD WATER PIPE
	EXISTING HOT WATER PIPE
	EXISTING HOT WATER RETURN PIPE
	EXISTING SANITARY SEWER PIPE
	EXISTING VENT PIPE

## NATURAL GAS

SYMBOL	DESCRIPTION
	PIPING TO BE REMOVED
	EXISTING MED PRESS GAS PIPE
	EXISTING LOW PRESS GAS PIPE
	GAS (MEDIUM PRESSURE)
	GAS (LOW PRESSURE PRESSURE)
	PLUG VALVE
	SOLENOID GAS VALVE

## DOMESTIC WATER SUPPLY

SYMBOL	DESCRIPTION
	PIPING TO BE REMOVED
	NEW COLD WATER PIPE
	NEW HOT WATER (120°)
	NEW HOT WATER RETURN (120°)
	NEW FIRE PIPE
	HOT WATER @ 140°
	SHOCK ABSORBER SEE PLUMBING FIXTURE CONNECTION SCHEDULE

## UTILITIES

WATER / SEWER CONTACT: \_\_\_\_\_

NATURAL GAS CONTACT: \_\_\_\_\_

CONTRACTOR IS RESPONSIBLE TO OBTAIN AND VERIFY WITH ARCHITECT AND CITY FOR LATEST PLANS





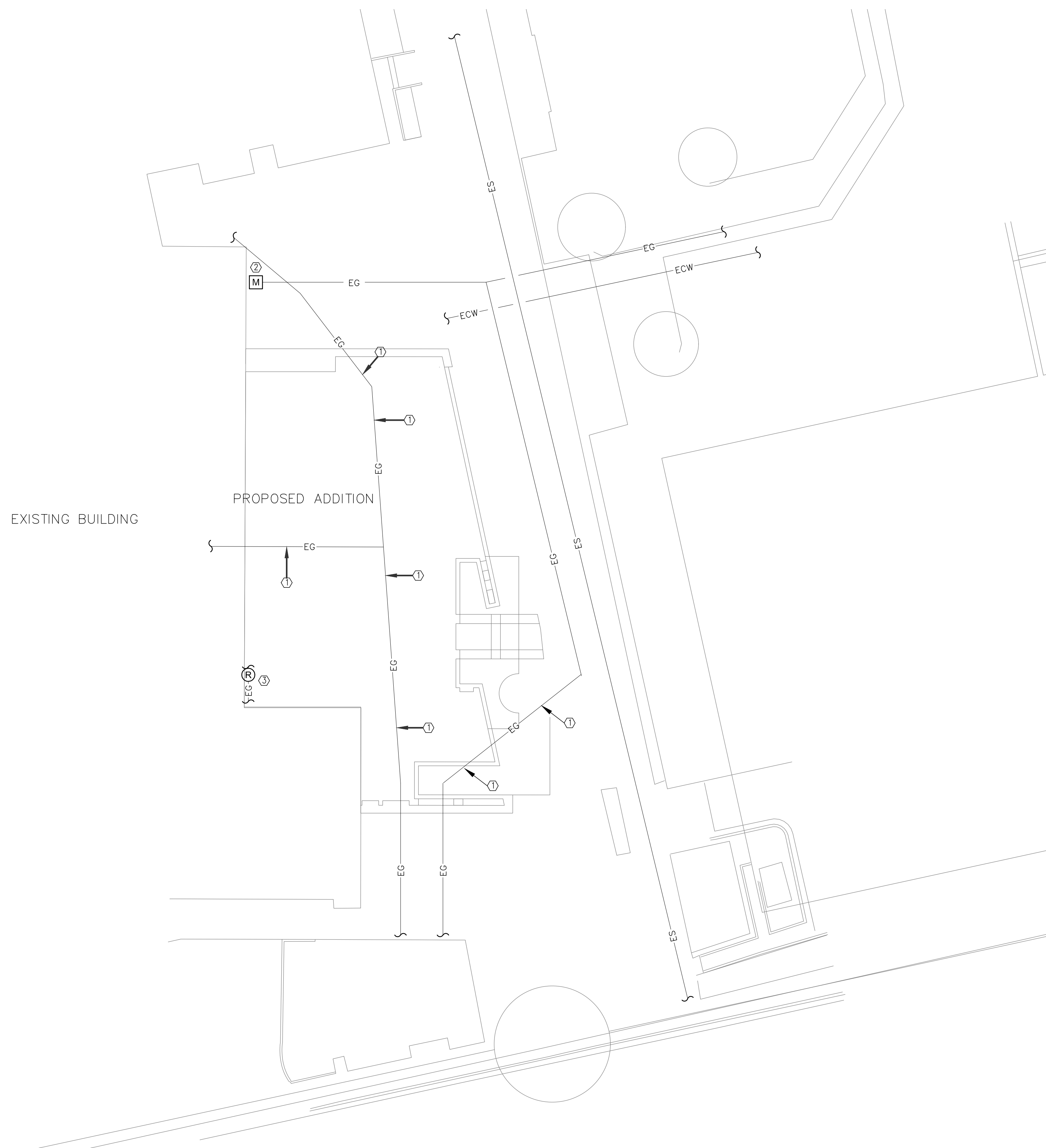
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QUALITY DESIGN AND INNOVATIVE SOLUTIONS  
ELECTRICAL | MECHANICAL | PLUMBING | FIRE SAFETY | ENERGY MANAGEMENT  
1000 N. JACOBO ST. | LAS CRUCES, NM 88001 | 505.325.5144  
WWW.RAXISENGINEERING.COM  
PRJ: 4842-AG-1  
PDC: JUAN MARES  
PH: 505.889.7654  
JMARES@RAXISENGINEERING.COM

**KEYED NOTES** ⓧ

1. EXISTING 1.25" POLY GAS LINE TO BE RELOCATED. COORDINATE WITH LOCAL GAS UTILITY PRIOR TO COMMENCING ANY WORK. VERIFY EXACT LOCATION OF GAS LINE PRIOR TO COMMENCING ANY WORK.
2. EXISTING GAS METER TO REMAIN.
3. EXISTING 1.25 POLY GAS REGULATOR AND GAS LINE TO BE RELOCATED. COORDINATE WITH NMSU FOR EXACT LOCATION OF GAS REGULATOR.



**1 UTILITY SITE PLAN**  
1/16" = 1'-0"

ADDITION

**4842 AGGIE  
INNOVATION  
SPACE EC1**

1025 Stewart St.  
Las Cruces, NM

REVISION	DATE

Project no: 23.16  
Date: April 2024  
Sheet:

**UTILITY  
SITE  
PLAN  
P101**



ADDITION

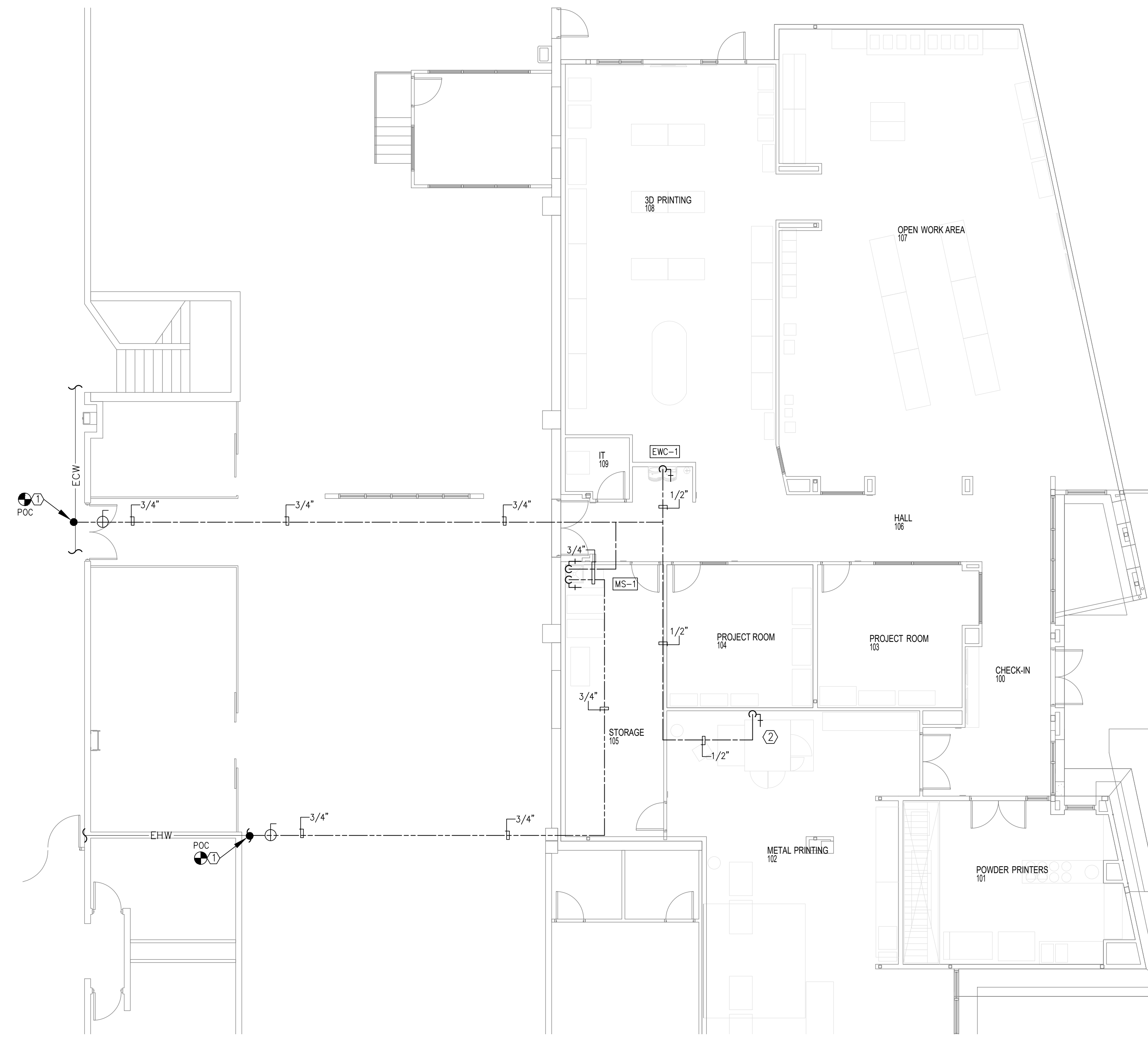
**4842 AGGIE INNOVATION SPACE EC1**

1025 Stewart St.  
Las Cruces, NM

REVISION	DATE

Project no: 23.16  
Date: April 2024  
Sheet:

**DOMESTIC WATER PLUMBING PLAN**  
**P200**



**DOMESTIC WATER PLUMBING PLAN**  
1 P200  
1/8" = 1'-0"

- KEYED NOTES**
- POINT OF CONNECTION – PLUMBING CONTRACTOR TO CONNECT NEW DOMESTIC WATER LINES (HOT/COLD) TO EXISTING WATER MAIN LINES. FIELD VERIFY EXACT LOCATION OF EXISTING SERVICE WATER MAIN LINE (HOT/COLD) PRIOR TO COMMENCING ROUGH IN WORK.
  - PROVIDE 1/2" WATER LINE FOR CUT E 350 MACHINE. COORDINATE WITH MANUFACTURER FOR EXACT REQUIREMENTS AND CONNECTION TYPE PRIOR TO COMMENCING ANY WORK.

**EXISTING WATER SUPPLY FIXTURE UNITS TABLE**

FIXTURE	OCCUPANCY	TYPE OF SUPPLY CONTROL	NUMBER OF FIXTURES	TOTAL WSFU		
				COLD	HOT	TOTAL
Drinking fountain	Offices, etc.	3/8" valve	5	1.25	0	1.25
Kitchen sink	Private	Faucet	2	2	2	2.8
Lavatory	Public	Faucet	26	39	39	52
Service sink	Offices, etc.	Faucet	4	9	9	12
Urinal	Public	1" flush valve	10	100	0	100
Water closet	Public	Flush valve	28	280	0	280
<b>TOTALS</b>				<b>431.25</b>	<b>50</b>	<b>448.05</b>
				<b>Total GPM</b>		
				<b>Cold</b>	<b>Hot</b>	<b>Total</b>
				<b>112.6</b>	<b>38.5</b>	<b>115.8</b>

**PROPOSED WATER SUPPLY FIXTURE UNITS TABLE**

FIXTURE	OCCUPANCY	TYPE OF SUPPLY CONTROL	NUMBER OF FIXTURES	TOTAL WSFU		
				COLD	HOT	TOTAL
Drinking fountain	Offices, etc.	3/8" valve	6	1.5	0	1.5
Kitchen sink	Private	Faucet	2	2	2	2.8
Lavatory	Public	Faucet	26	39	39	52
Service sink	Offices, etc.	Faucet	5	11.25	11.25	15
Urinal	Public	1" flush valve	10	100	0	100
Water closet	Public	Flush valve	28	280	0	280
<b>TOTALS</b>				<b>433.75</b>	<b>52.25</b>	<b>451.3</b>
				<b>Total GPM</b>		
				<b>Cold</b>	<b>Hot</b>	<b>Total</b>
				<b>113.1</b>	<b>31.9</b>	<b>116.5</b>

**PLUMBING FIXTURE SCHEDULE**

MARK	DESCRIPTION	MANUFACTURER AND MODEL NUMBER OR APPROVED EQUAL	ROUGH-IN REQUIREMENTS				ACCESSORIES
			DRAIN	VENT	COLD	HOT	
EWC-1	ELECTRIC WATER COOLER BLEVEL	HALSEY TAYLOR HTHB-HAC8BLPV-WF	2"	1-1/4"	1/2"	-	COOLER: BOTTLE FILLING STATION BLEVEL ADA COOLER, FILTERED 8 GPH PLATINUM VINYL. PROVIDE WITH 98312C CANE APRON AND MLP200 IN WALL CARRIER (B-LEVEL). SINK: FIAT MODEL MSB2424, 24" x 24" FIAT 830-AA FAUCET, HOSE AND BRACKET NO. 832-AA-30" MOP HANGER NO. 889-CC-24"
MS-1	MOP SINK	FIAT MSB2424	3"	2"	3/4"	3/4"	
FS-1	FLOOR SINK	ZURN Z1752	LINE SIZED	LINE SIZED	-	-	SINK: ZURN MODEL Z1752 12" x 12" x 10" DEEP, 16 GAGE, STAINLESS STEEL TYPE 304, LOOSE SET FULL GRATE WITH 1/2" SQUARE OPENINGS.
RD-1	ROOF DRAIN	WATTS RD-250	LINE SIZED	-	-	-	WATTS MODEL RD-250, CAST IRON COMBINATION ROOFDRAIN/OVERFLOW WITH DECK FLANGE, FLASHING CLAMPS WITH INTEGRAL GRAVEL GUARDS, OVERFLOW STAND PIPE, SELF LOCKING CAST IRON DOMES, AND NO HUB OUTLETS.
DN-1	DOWNSPOUT NOZZLE	WATTS RD-940	LINE SIZED	-	-	-	WATTS MODEL RD-940 CAST NICKEL BRONZE DOWNSPOUT NOZZLE WITH ANCHOR FLANGE, COUNTERSUNK MOUNTING HOLES, AND IPS THREADED (STANDARD), NO-HUB, OR PUSH-ON CONNECTION.
WCO	WALL CLEANOUT	WATTS CO-460-RD	2" TO 4"	-	-	-	WATTS MODEL CO-460-RD, CAST IRON STACK CLEANOUT WITH GASKETED COUNTERSUNK PLUG, STAINLESS STEEL ACCESS COVER, VANDAL PROOF STAINLESS STEEL SCREW, AND NO HUB CONNECTIONS.

**PIPING INSULATION SCHEDULE**

MATERIAL	FLUID OPERATING TEMPERATURE AND USAGE (°F)	INSULATION CONDUCTIVITY		NOMINAL PIPE OR TUBE SIZE (INCHES)				
		CONDUCTIVITY BTU"IN./(H·FT <sup>2</sup> ·°F) ^ B	MEAN RATING TEMPERATURE, °F	< 1	1 TO < 1-1/2	1-1/2 TO < 4	4 TO < 8	≥ 8
MINERAL FIBER	>350	0.32-0.34	250	4.5	5.0	5.0	5.0	5.0
MINERAL FIBER	251-350	0.29-0.32	200	3.0	4.0	4.5	4.5	4.5
MINERAL FIBER	201-250	0.27-0.30	150	2.5	2.5	2.5	3.0	3.0
CELLULAR GLASS, MINERAL FIBER, FLEXIBLE ELASTOMERIC, POLYOLEFIN	141-200	0.25-0.29	125	1.5	1.5	2.0	2.0	2.0
CELLULAR GLASS, MINERAL FIBER, FLEXIBLE ELASTOMERIC, POLYOLEFIN	105-140	0.21-0.28	100	1.0	1.0	1.5	1.5	1.5
CELLULAR GLASS, MINERAL FIBER, FLEXIBLE ELASTOMERIC, POLYOLEFIN	40-60	0.21-0.27	75	0.5	0.5	1.0	1.0	1.0
CELLULAR GLASS, FLEXIBLE ELASTOMERIC, POLYOLEFIN	<40	0.20-0.26	50	0.5	1.0	1.0	1.0	1.5

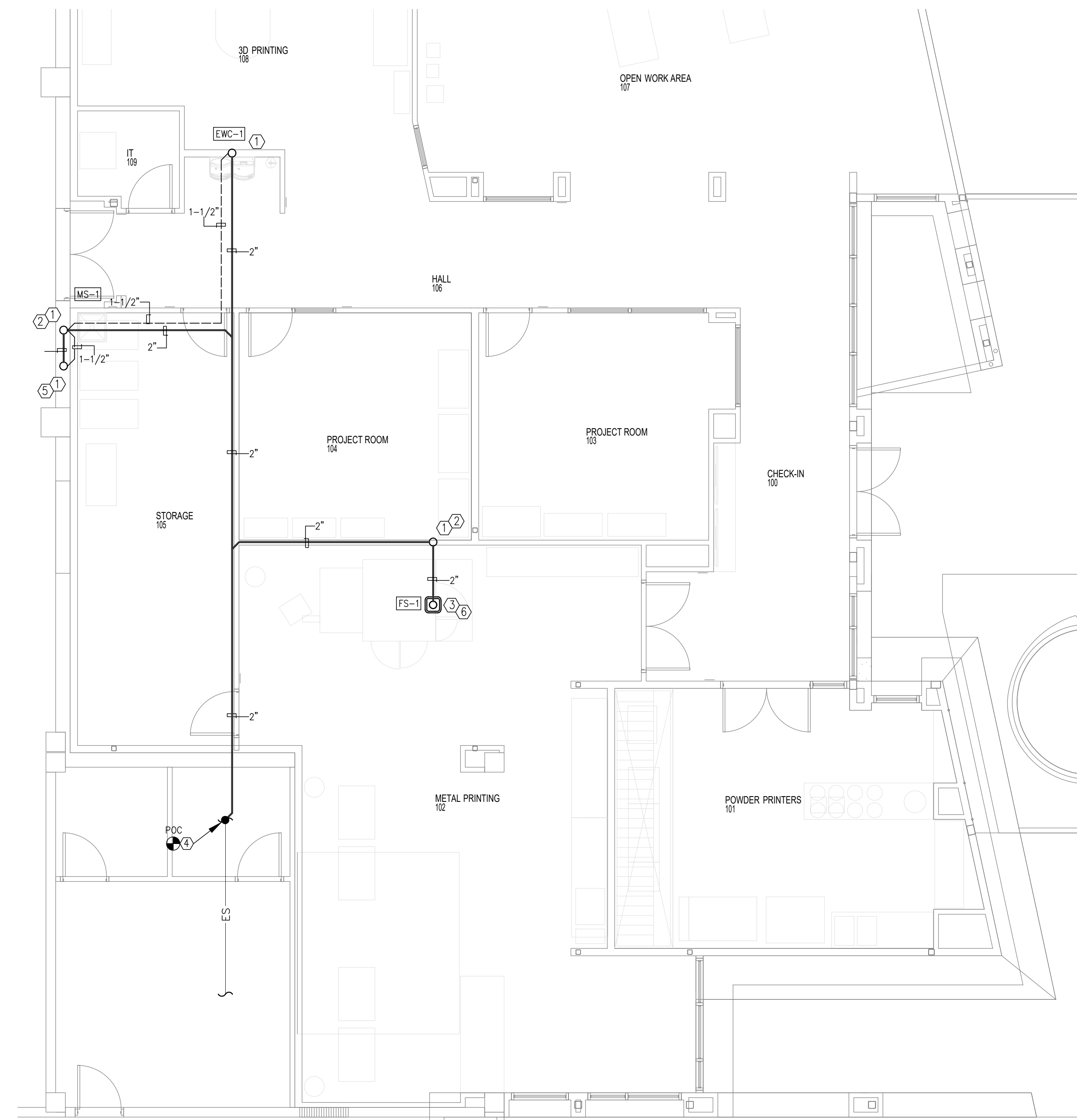
\*BASED ON 2015 IECC TABLE C403.2.10 AND IN COMPLIANCE WITH 2012 UNIFORM PLUMBING CODE REQUIREMENTS



ADDITION

**4842 AGGIE INNOVATION SPACE EC1**

1025 Stewart St.  
Las Cruces, NM



**SEWER AND VENT PLUMBING PLAN**  
1 P300 3/16" = 1'-0"

REVISION	DATE

Project no: 23.16  
Date: April 2024  
Sheet:

**SEWER AND VENT PLUMBING PLAN**  
**P300**

**PIPING MATERIAL SCHEDULE**

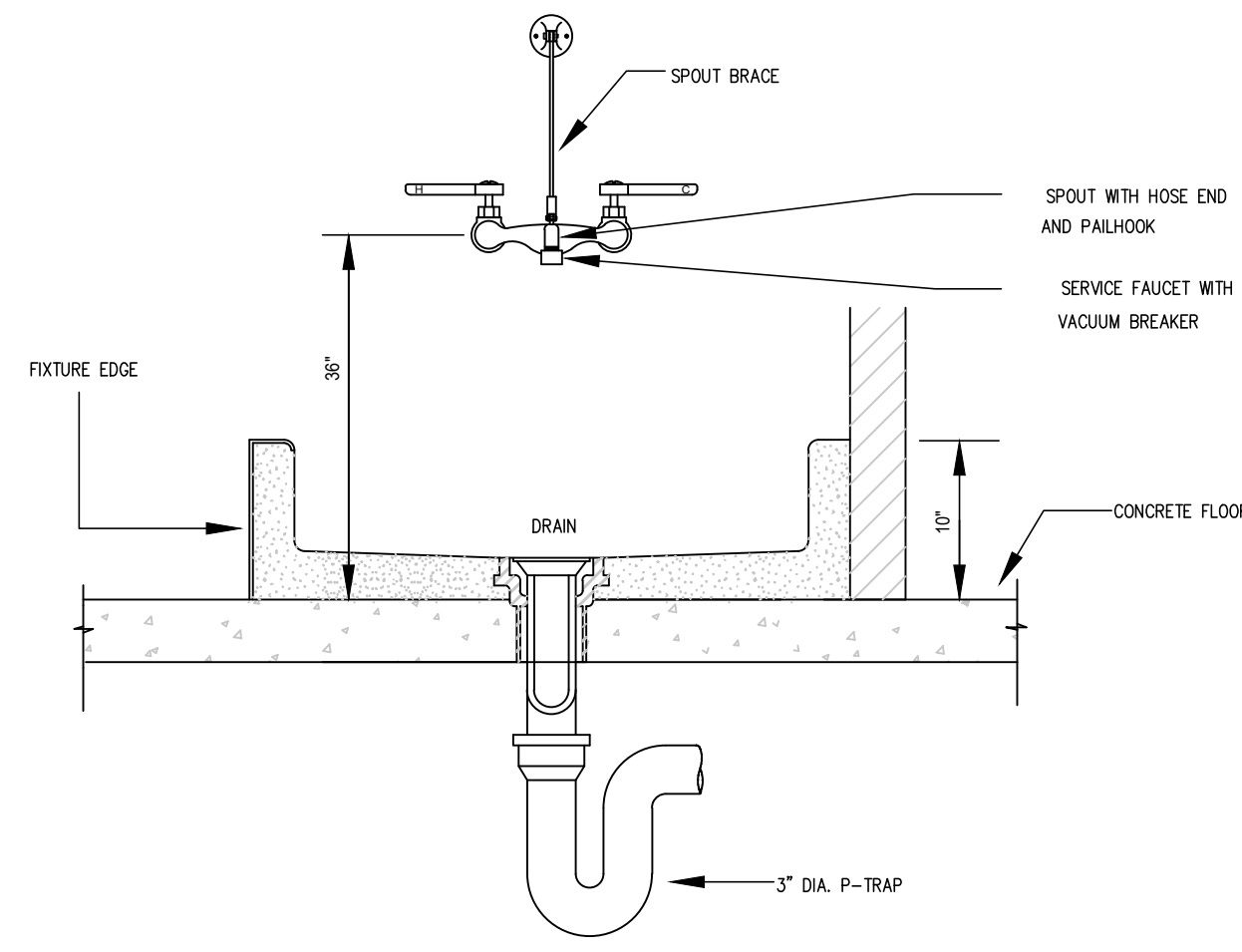
1	DOMESTIC WATER PIPE (ABOVE GROUND)	TYPE "L" HARD DRAWN COPPER TUBING WITH 125 PSI SOLDER JOINTS. COPPER OR BRASS FITTINGS. ALL SOLDER TO BE "NO LEAD" TYPE. ALL DOMESTIC WATER TO BE INSULATED IN COMPLIANCE WITH LOCAL ORDINANCES AND ENERGY CONSERVATION CODES.
2	DOMESTIC WATER PIPE (BELOW GROUND)	TYPE "K" SOFT DRAWN COPPER TUBING WITH BRAZED CONNECTIONS.
3	SEWER AND VENT PIPE (ABOVE AND BELOW GRADE)	2" AND BELOW: SCH. 40 GALV. STL. PIPE WITH SCREWED ENDS OR SCH. 40 PVC WITH SOLVENT JOINTS. ALL SOLDER TO BE "NO LEAD" TYPE. 3" AND ABOVE: SERVICE WT. CAST IRON WITH NO-HUB OR BELL AND SPIGOT JOINTS OR SCH. 40 PVC WITH SOLVENT JOINTS. PVC SHALL NOT BE USED IN AIR PLENUM CEILING AND SHALL NOT CROSS FIRE RATED WALLS, CEILINGS OR FLOORS.
4	CONDENSATE DRAIN AND INDIRECT DRAINAGE PIPE (INTERIOR TO BUILDING)	PROVIDE TYPE "L" HARD DRAWN COPPER TUBING WITH 125 PSI SOLDER JOINTS. COPPER OR BRASS FITTINGS. ALL SOLDER TO BE "NO LEAD" TYPE OR TYPE "DWV" POLYVINYL CHLORIDE PVC PIPING. PVC SHALL NOT BE USED IN AIR PLENUM CEILING AND SHALL NOT CROSS FIRE RATED WALLS, CEILINGS OR FLOORS.
5	CONDENSATE DRAIN PIPE (EXTERIOR TO BUILDING)	PROVIDE TYPE "L" HARD DRAWN COPPER TUBING WITH 125 PSI SOLDER JOINTS. COPPER OR BRASS FITTINGS. ALL SOLDER TO BE "NO LEAD" TYPE.
6	STORM DRAIN PIPE (ABOVE AND BELOW GRADE)	INSIDE BUILDING SERVICE WEIGHT (HUBLESS) CAST IRON SOIL PIPE AND STAINLESS STEEL NO HUB COUPLINGS. INSULATE WITH 1/2" ARMAFLEX CLOSED CELL PIPE INSULATION WITH SELF SEALING ADHESIVE JOINTS, OR EQUIVALENT OR ABS OR PVC PER SPECS.
7	NATURAL GAS PIPE	SCHEDULE 40 BLACK STEEL WITH MALLEABLE IRON FITTINGS. WELDED JOINTS FOR PIPE 2-1/2" AND LARGER AND ALL JOINTS BELOW GRADE.
8	SLEEVE PIPE FOR REFRIGERANT, CO2 AND SYRUP BUNDLES	SCHEDULE 40 PVC EXCEPT WHERE SPECIFICALLY NOTED OTHERWISE, AND MUST BE WATER TIGHT. ALL BENDS MUST BE NO LESS THAN 24" RADIUS SWEEPS.
9	CPVC AND PEX PIPING	ALLOWED FOR INSTALLATION WHERE APPROVED BY THE JURISDICTION HAVING AUTHORITY. PROVIDE WRITTEN APPROVAL TO THE ARCHITECT/ ENGINEER FOR DOCUMENTATION. STUB OUTS TO BE BRASS OR METAL NIPPLES SECURED TO WALLS. PRIOR TO SETTING OF FIXTURES.

**TESTING PROCEDURES**

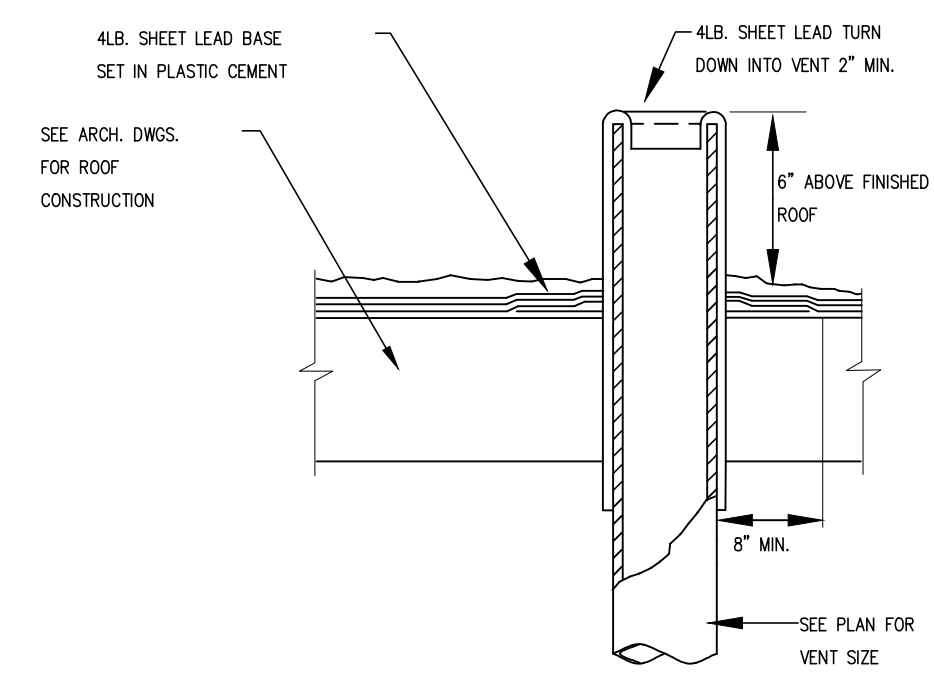
1	TEST INSTALLED WATER PIPING AT 100 PSI FOR A PERIOD OF 8 HOURS, OBSERVING FOR ANY VISIBLE LEAKS. TEST PIPING AGAIN WITH FIXTURES INSTALLED.
2	CHLORINATE ALL WATER PIPING FOR A PERIOD OF 8 HRS, BY CHARGING WITH A HYPOCHLORINATE SOLUTION TO ACHIEVE A5 PPM STRENGTH AT THE FIXTURE FURTHEST FROM THE POINT OF APPLICATION. UPON COMPLETION OF THE CHLORINATION, FLUSH ALL PIPING UNTIL NO CHLORINE CAN BE DETECTED BY TASTE. CLEAN ALL STRAINERS AND SET WATER FLOWS FROM FIXTURES IN ACCORDANCE WITH MANUFACTURER AND LOCAL REQUIREMENTS.
3	TEST INSTALLED GAS PIPING AT 60 PSI FOR A PERIOD OF 2 HRS, USING SOAP AND WATER OBSERVING FOR ANY VISIBLE LEAKS AT ALL JOINTS.
4	TEST INSTALLED WASTE AND VENT PIPING FOR A PERIOD OF 8 HRS, BY CAPPING OR PLUGGING ALL JOINTS TO A LEVEL OF THE HIGHEST FIXTURE OR FITTING. FILL THE SYSTEM WITH WATER AND OBSERVE FOR ANY LEAKS.

**KEYED NOTES**

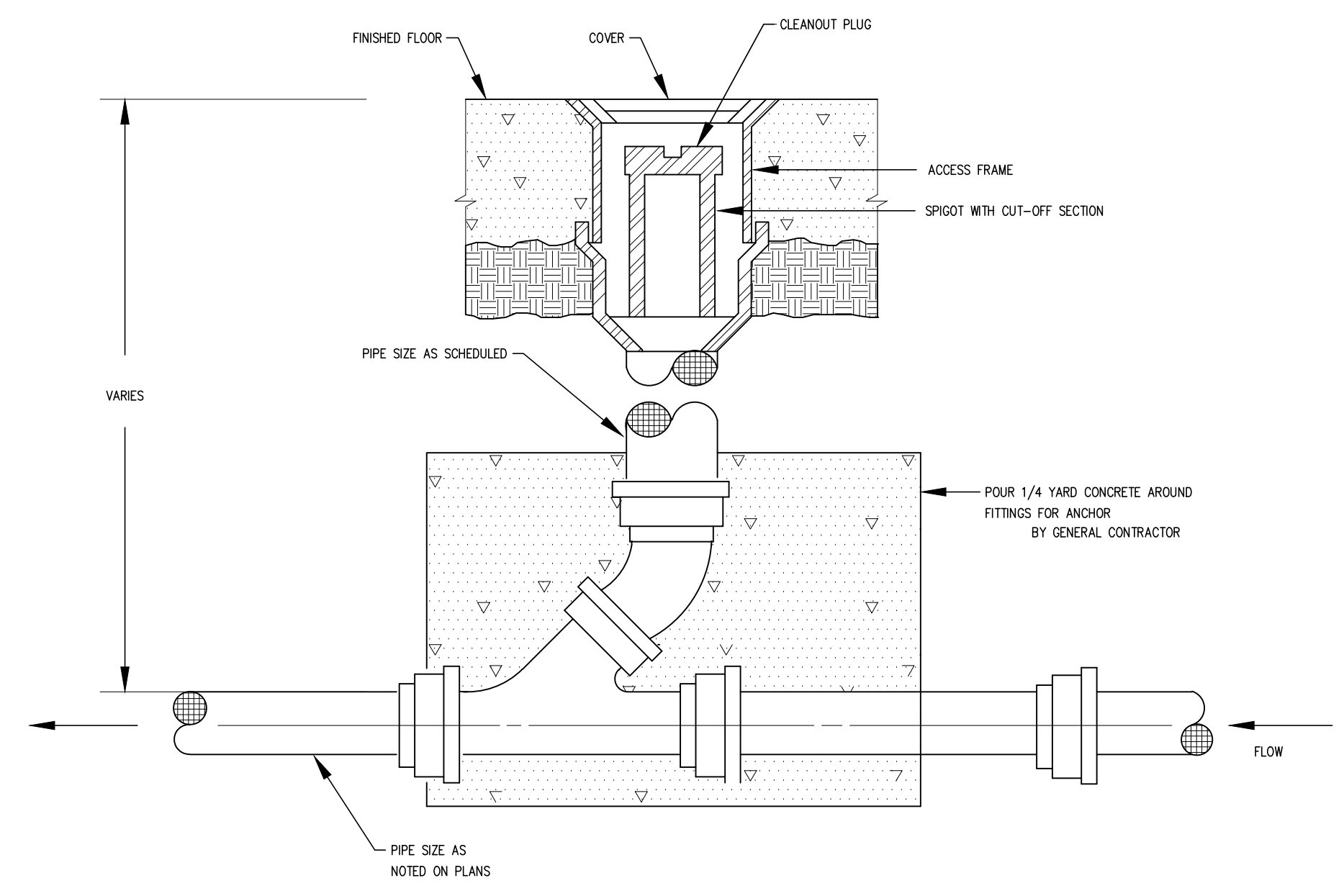
- PROVIDE FULL SIZE CLEANOUT.
- PROVIDE 2" VENT THROUGH ROOF.
- PROVIDE FLOOR DRAIN/SINK TRAP SEALS.
- POINT OF CONNECTION - PLUMBING CONTRACTOR TO CONNECT NEW WASTE LINE TO EXISTING SEWER MAIN LINE. FIELD VERIFY EXACT INVERT AND LOCATION OF EXISTING SEWER MAIN LINE PRIOR TO COMMENCING ROUGH IN WORK.
- PROVIDE DRAIN FOR EXISTING EYEWASH STATION. COORDINATE WITH OWNER FOR EXACT LOCATION.
- COORDINATE LOCATION OF FLOOR SINK WITH EQUIPMENT MANUFACTURER PRIOR TO COMMENCING ANY WORK.



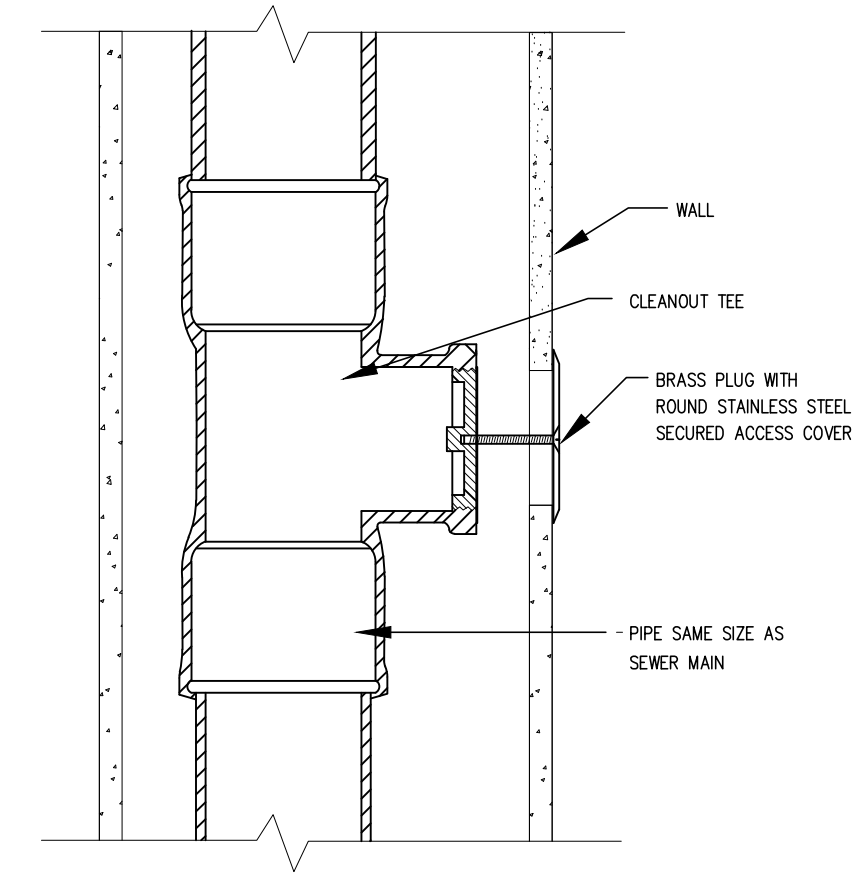
**1 MOP SINK DETAIL**  
P400 NOT TO SCALE



**2 VENT THRU ROOF**  
P400 NOT TO SCALE



**3 FLOOR CLEANOUT DETAILS**  
P400 NOT TO SCALE



**4 WALL CLEANOUT DETAIL**  
P400 NOT TO SCALE

ADDITION

**4842 AGGIE INNOVATION SPACE EC1**

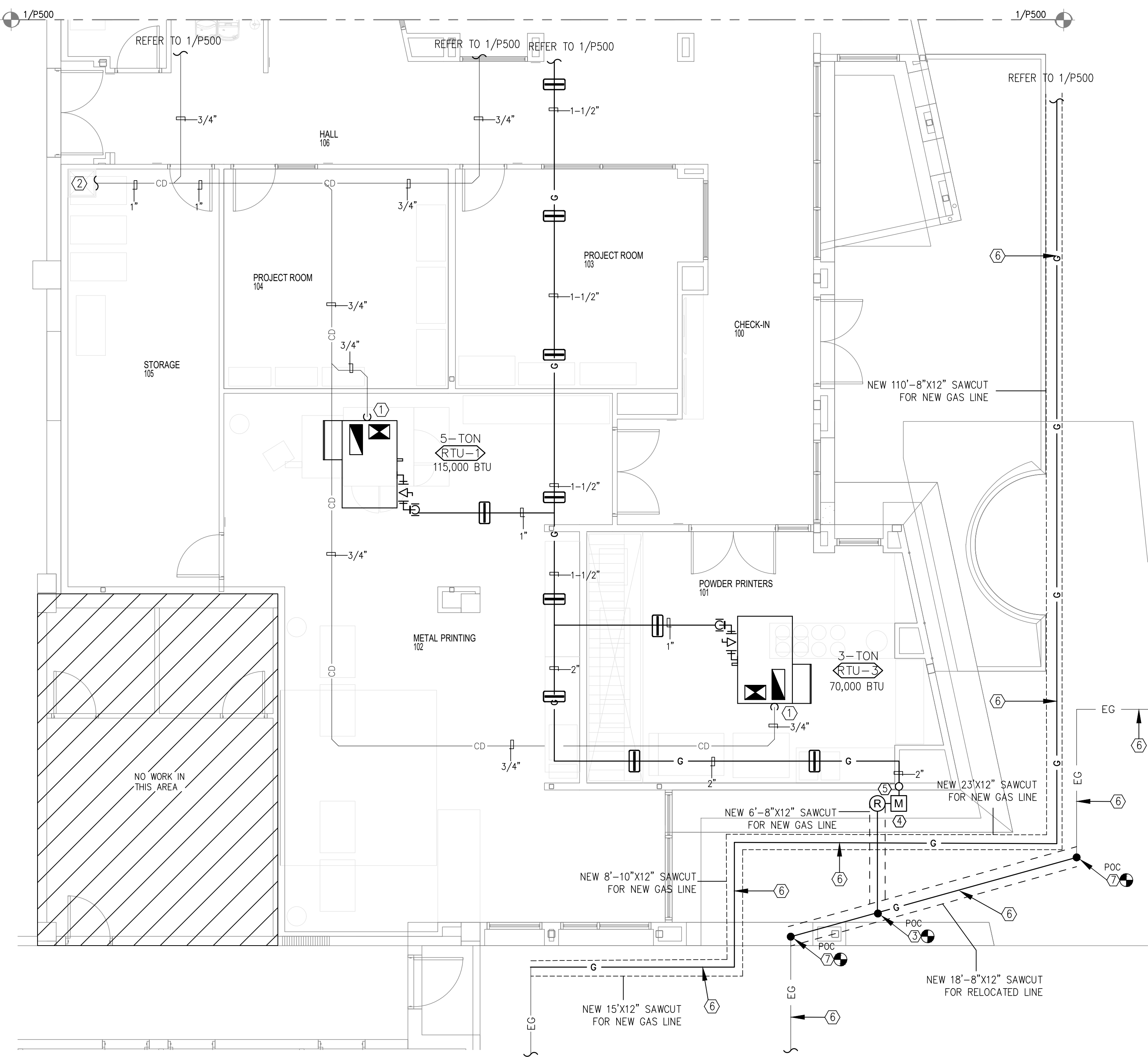
1025 Stewart St.  
Las Cruces, NM

REVISION	DATE

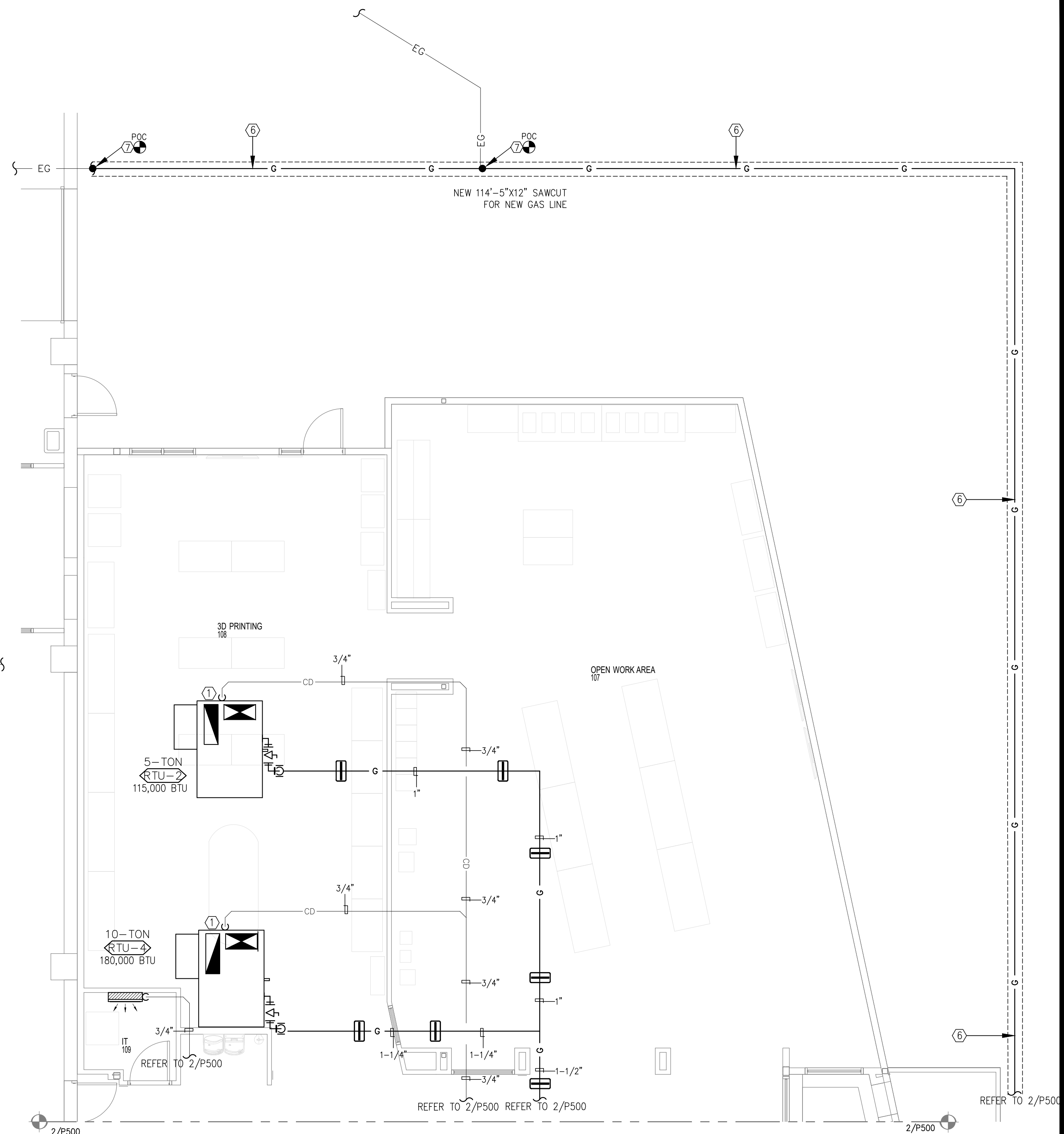
Project no: 23.16  
Date: April 2024  
Sheet:

**PLUMBING DETAILS**

**P400**



**2**  
P500  
**NATURAL GAS AND CONDENSATE PLAN**  
3/16" = 1'-0"



**1**  
P500  
**NATURAL GAS AND CONDENSATE PLAN**  
3/16" = 1'-0"

**KEYED NOTES**

- FULL SIZE CONDENSATE DRAIN THROUGH ROOF. PROVIDE ROOF FLASHING.
- EXTEND AND DISCHARGE FULL SIZE DRAIN FROM ROOF TOP UNIT CONDENSATE LINE DOWN TO 6" ABOVE MOP SINK.
- POINT OF CONNECTION - LOCAL NATURAL GAS UTILITY TO CONNECT NEW LOW PRESSURE GAS LINE TO EXISTING MAIN GAS LINE WITH POLYETHYLENE TAPPING TEE TO DELIVER AT STANDARD PRESSURE OF 0.25. LOCAL NATURAL GAS UTILITY TO FIELD VERIFY EXACT LOCATION OF EXISTING MAIN GAS LINE PRIOR TO COMMENCING ROUGH-IN WORK AND RESPONSIBLE FOR ALL PAVEMENT CUTS AND PATCHING FOR UTILITIES CONNECTIONS. LOCAL NATURAL GAS UTILITY SHALL NOTIFY THE ENGINEER OF RECORD OF ANY ISSUES OR DISCREPANCIES WITH THE PLANS. PLUMBING CONTRACTOR TO COORDINATE WITH OWNER TO PAY FOR ALL FEES ASSOCIATED WITH THE INSTALLATION OF THE NEW NATURAL GAS LINE.
- LOCAL NATURAL GAS UTILITY TO PROVIDE AND INSTALL NEW NATURAL GAS SERVICE YARD LINE TO NEW BUILDING GAS METER BANK. PLUMBING CONTRACTOR TO COORDINATE WITH OWNER TO PAY FOR ALL FEES ASSOCIATED WITH THE INSTALLATION OF THE NEW NATURAL GAS LINE.
- LOCAL NATURAL GAS UTILITY TO PROVIDE AND INSTALL NEW GAS METER AND REGULATOR ASSEMBLY WITH MINIMUM CAPACITY OF 480 CFH. PLUMBING CONTRACTOR TO COORDINATE WITH OWNER TO PAY FOR ALL FEES ASSOCIATED WITH THE INSTALLATION OF THE NEW NATURAL GAS METER.
- PROPOSED LOCATION OF RELOCATED NATURAL GAS LINE. NATURAL GAS UTILITY TO COORDINATE FINAL LOCATION AND COMPLETE FINAL DESIGN.
- POINT OF CONNECTION - RECONNECT RELOCATED GAS LINE TO EXISTING GAS LINE. COORDINATE WITH NATURAL GAS UTILITY FOR EXACT LOCATION PRIOR TO COMMENCING ANY WORK.

**GENERAL NOTES**

- A. ALL ROOF MOUNTED NATURAL GAS LINES AND CONDENSATE LINES TO BE SUPPORTED BY "MAPA PRODUCTS" FREE STANDING, NONPENETRATING, ADJUSTABLE HEIGHT, RUBBER ROLLER SUPPORT WITH NEOPRENE PAD ADHERED TO THE BASE.

GAS DEMAND CALCULATIONS			
EQUIPMENT	QUANTITY	DEMAND (EACH, BTUH)	TOTAL DEMAND (BTUH)
RTU-1	1	115,000	115,000
RTU-2	1	115,000	115,000
RTU-3	1	70,000	70,000
RTU-4	1	180,000	180,000
<b>TOTAL DEMAND</b>			<b>480,000</b>

480,000 BTUH DIVIDED BY 1000 BTUH / CU FT = 480.0 CFH. TOTAL DEVELOPED PIPING LENGTH FOR METER BANK EQUALS 200'. BASED ON TABLE 1215.2(1) OF THE 2021 EDITION OF THE UNIFORM PLUMBING CODE. A 2" GAS LINE WILL CARRY 784.0 CFH OVER 200'. REMAINING BRANCH LINES WILL BE SIZED ACCORDING TO THE TOTAL DEVELOPED LENGTH AND BASED ON TABLE 1215.2(1).

ADDITION

**4842 AGGIE INNOVATION SPACE EC1**

1025 Stewart St.  
Las Cruces, NM

REVISION	DATE

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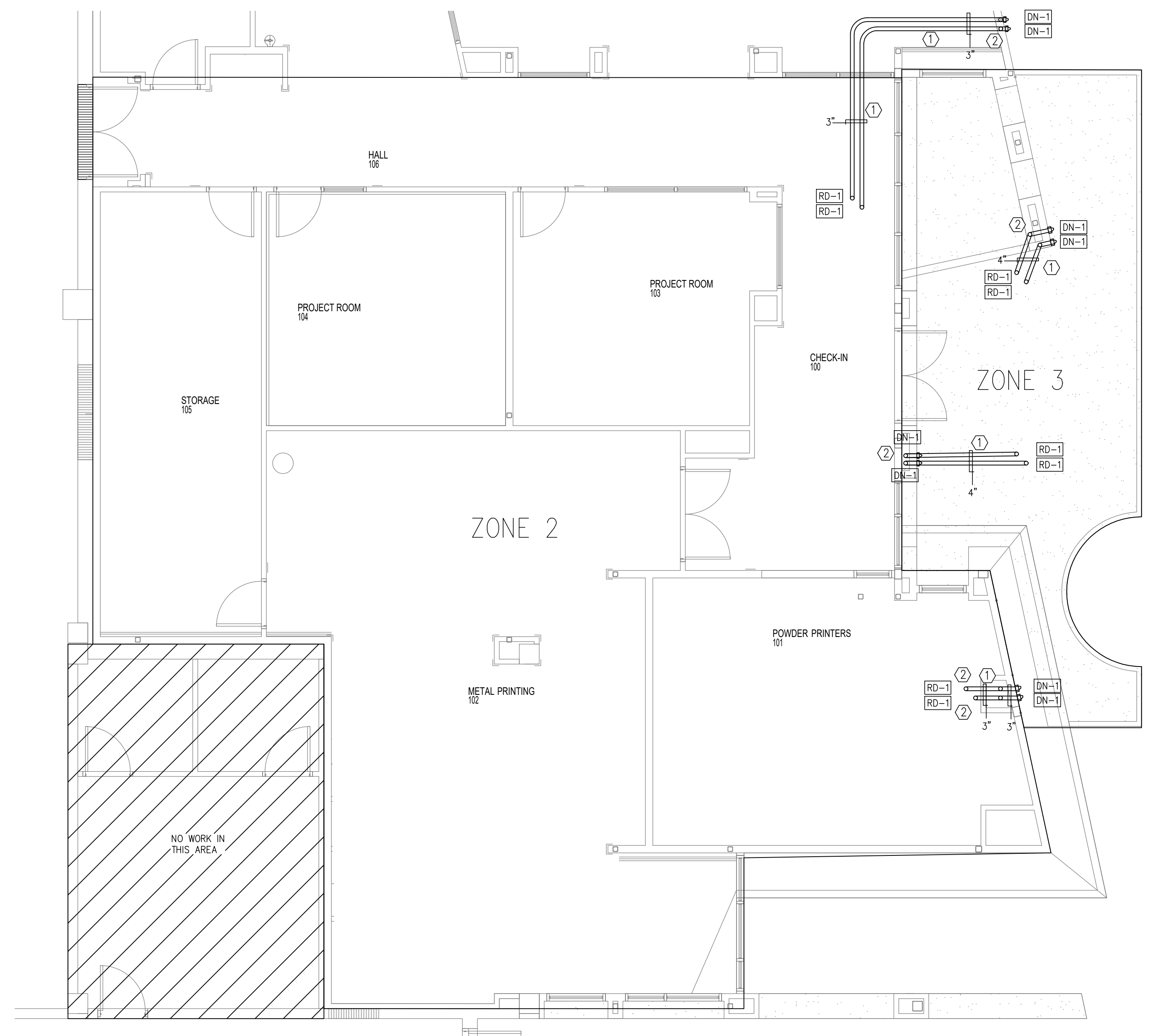
**NATURAL GAS AND COND. PLAN P500**



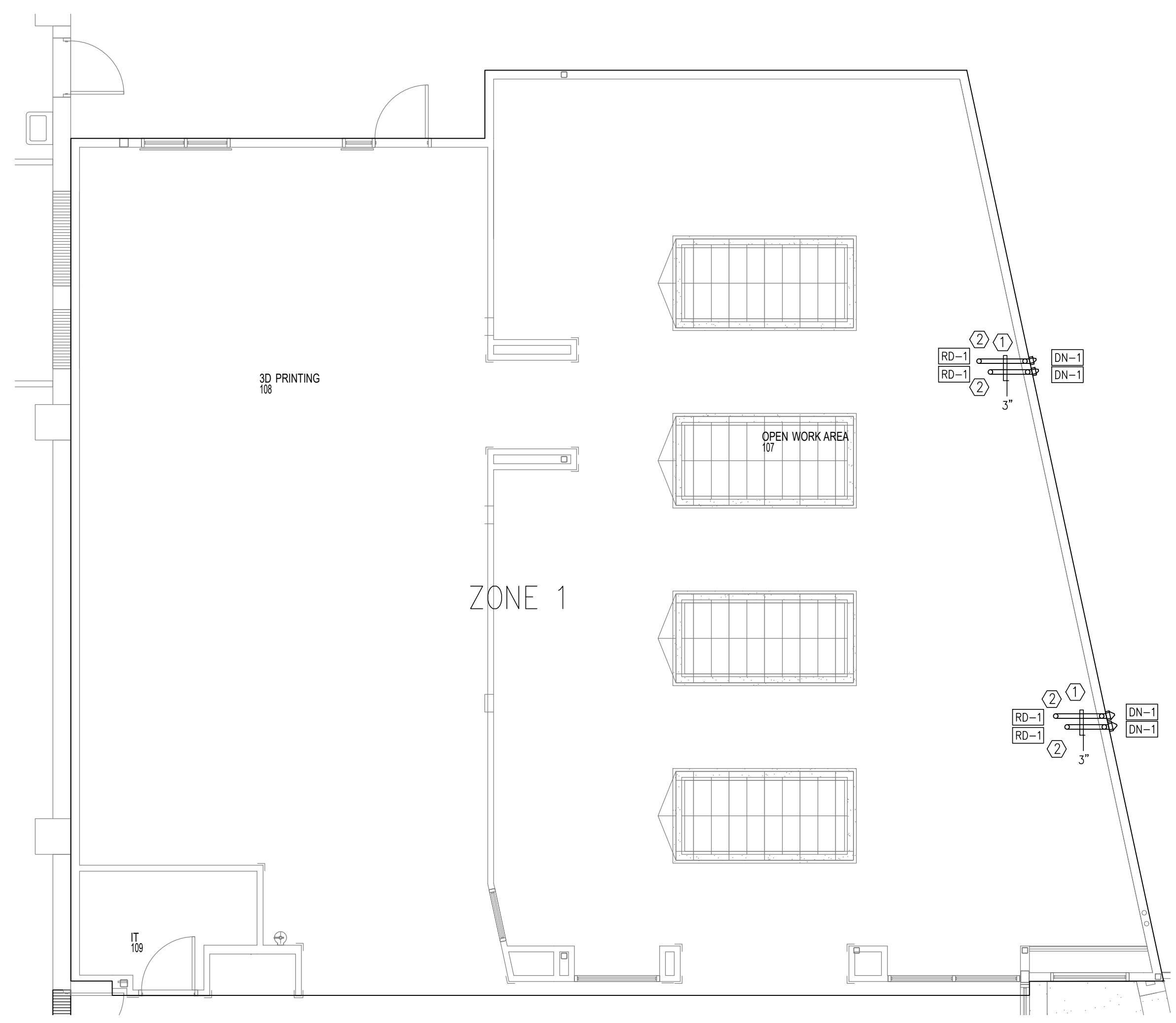
ADDITION

**4842 AGGIE INNOVATION SPACE EC1**

1025 Stewart St.  
Las Cruces, NM



**2 ROOF DRAIN PLAN**  
3/16" = 1'-0"



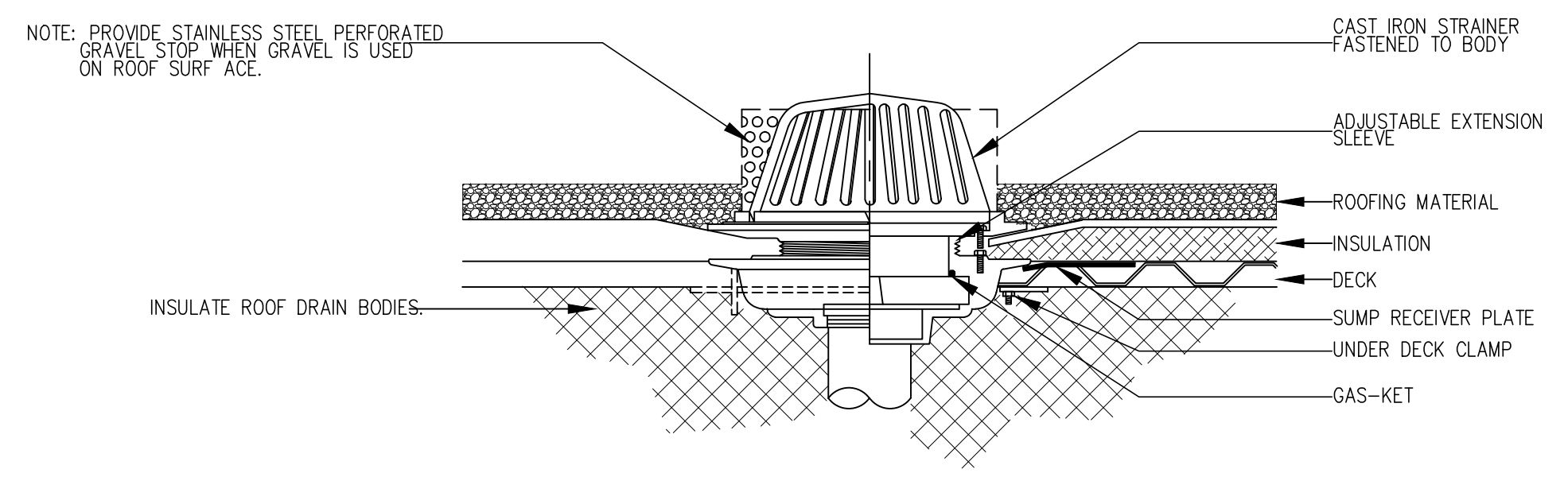
**1 ROOF DRAIN PLAN**  
3/16" = 1'-0"

**KEYED NOTES**

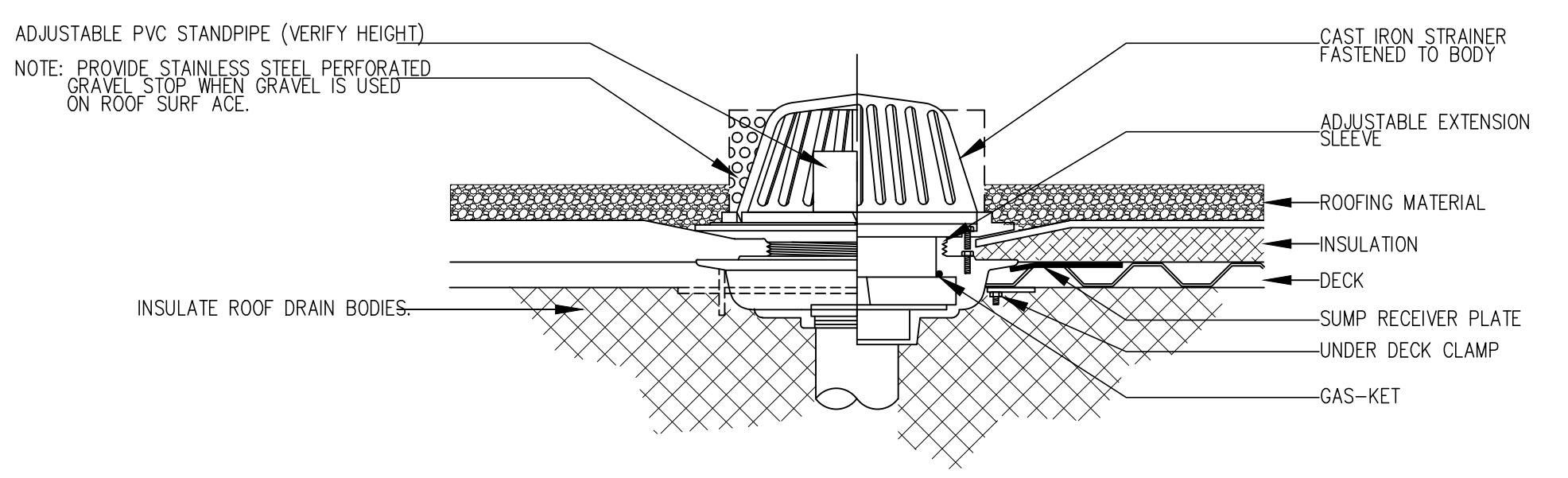
- CONTRACTOR TO PROVIDE AND INSTALL 4" HORIZONTAL ROOF DRAINS.
- CONTRACTOR TO PROVIDE AND INSTALL 4" VERTICAL ROOF DRAINS.

**ROOF DRAIN CALCULATIONS**

	ZONE 1	ZONE 2	ZONE 3
Roof Area (sqft)	2,756	586	3,192
Wall Area (sqft)	0	0	0
Number of Conductors (# of drains)	2	2	2
Rainfall Rate (Appendix B, GPH)	2	2	2
Rainfall Gallons Per Minute	29	6	33
Vertical Drain Size (in)	2	2	2
Horizontal Drain Size (in) @ 1/8" per foot slope	3	2	3



**3 ADJUSTABLE ROOF DRAIN DETAIL**  
NOT TO SCALE



**4 OVERFLOW ROOF DRAIN DETAIL**  
NOT TO SCALE

REVISION	DATE

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Date: April 2024  
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**ROOF DRAIN PLAN**

**P600**

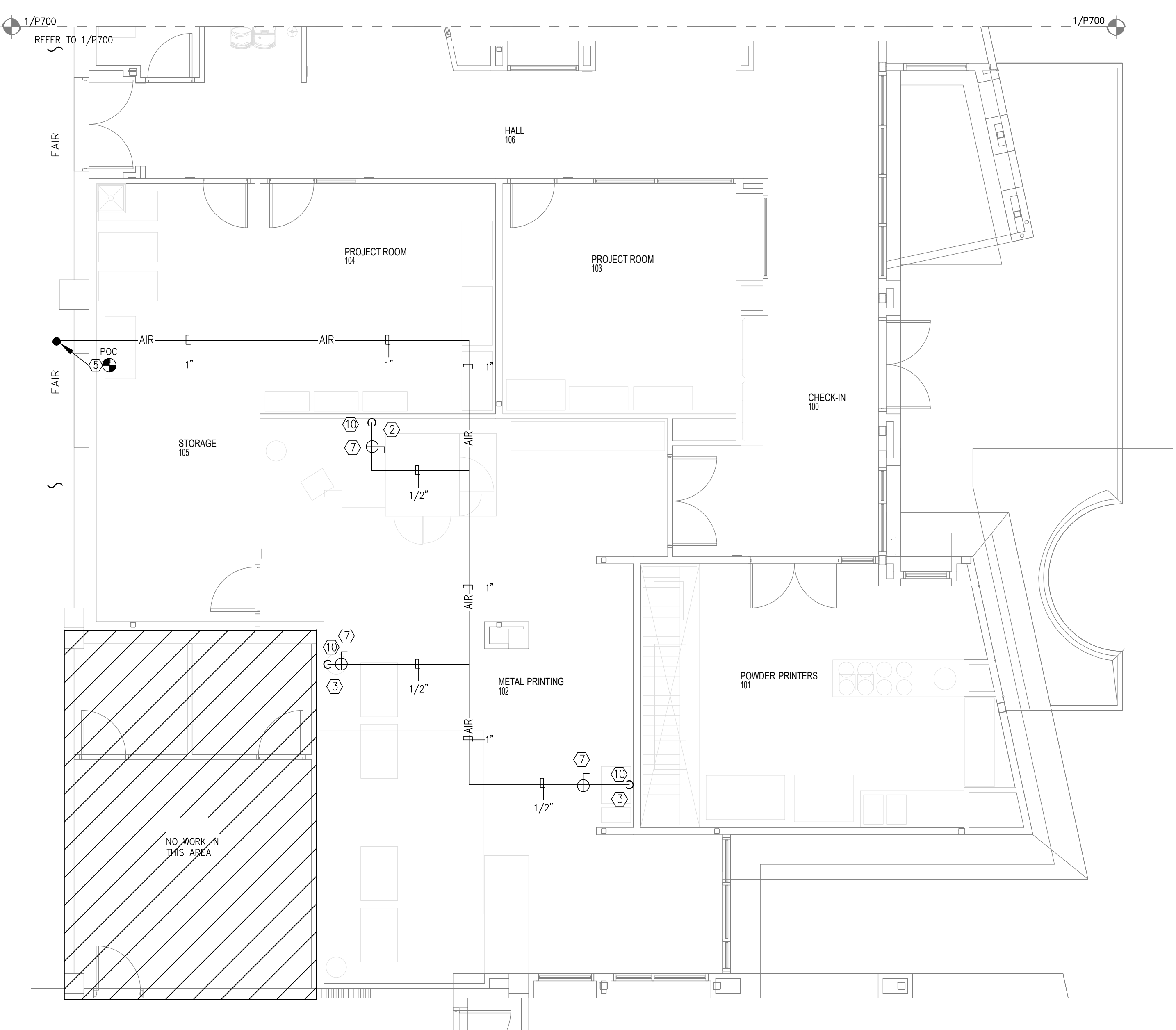




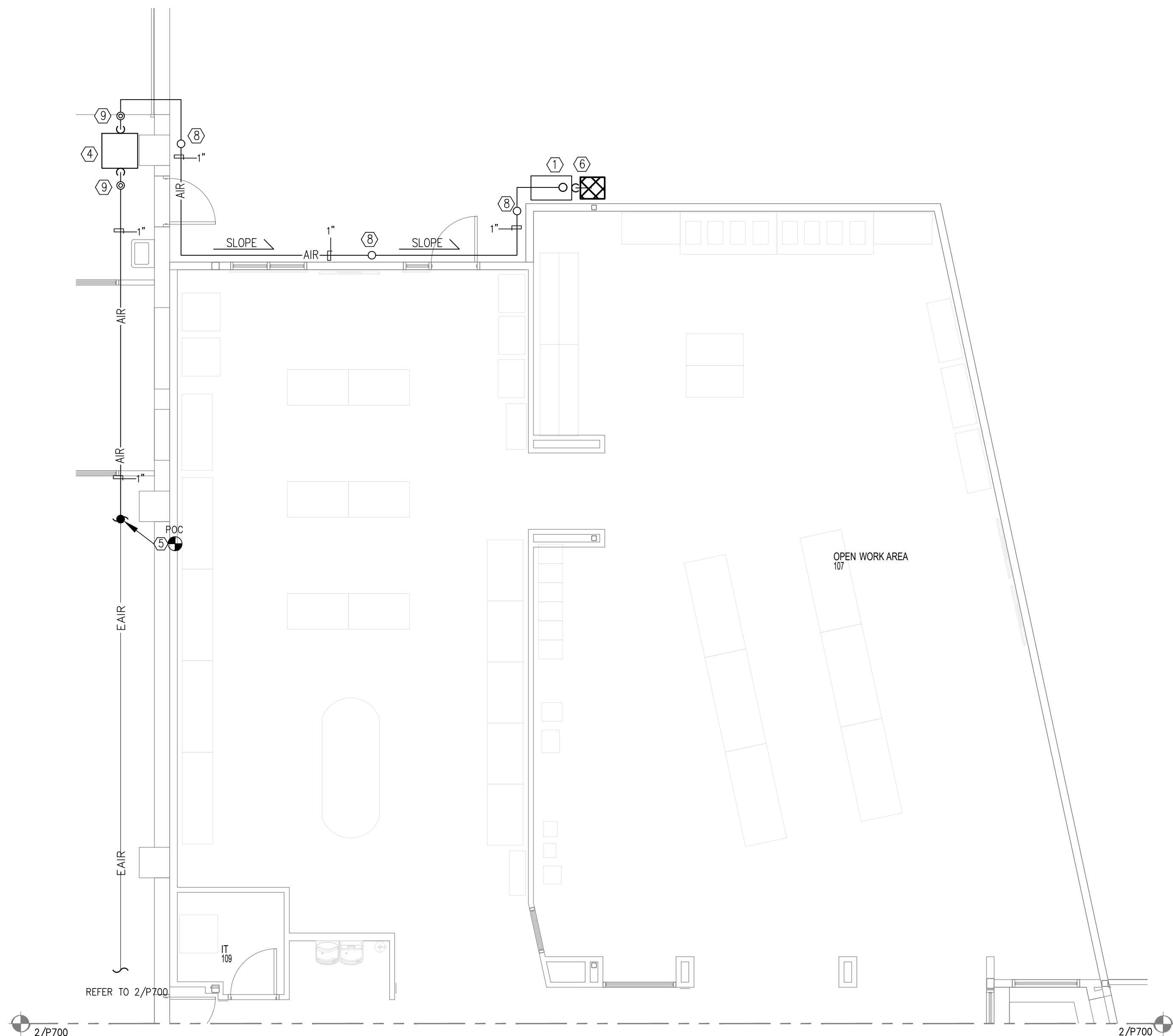
ADDITION

**4842 AGGIE INNOVATION SPACE EC1**

1025 Stewart St.  
Las Cruces, NM



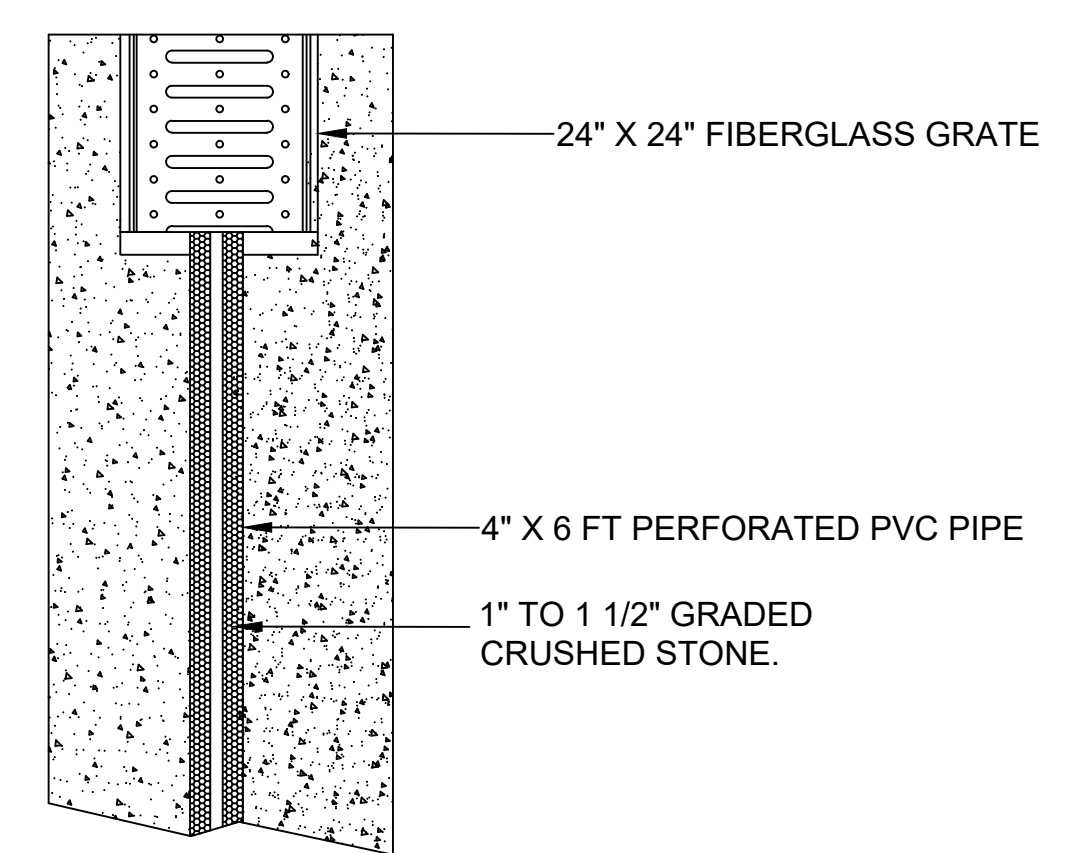
**2 COMPRESSED AIR PLAN**  
3/16" = 1'-0"



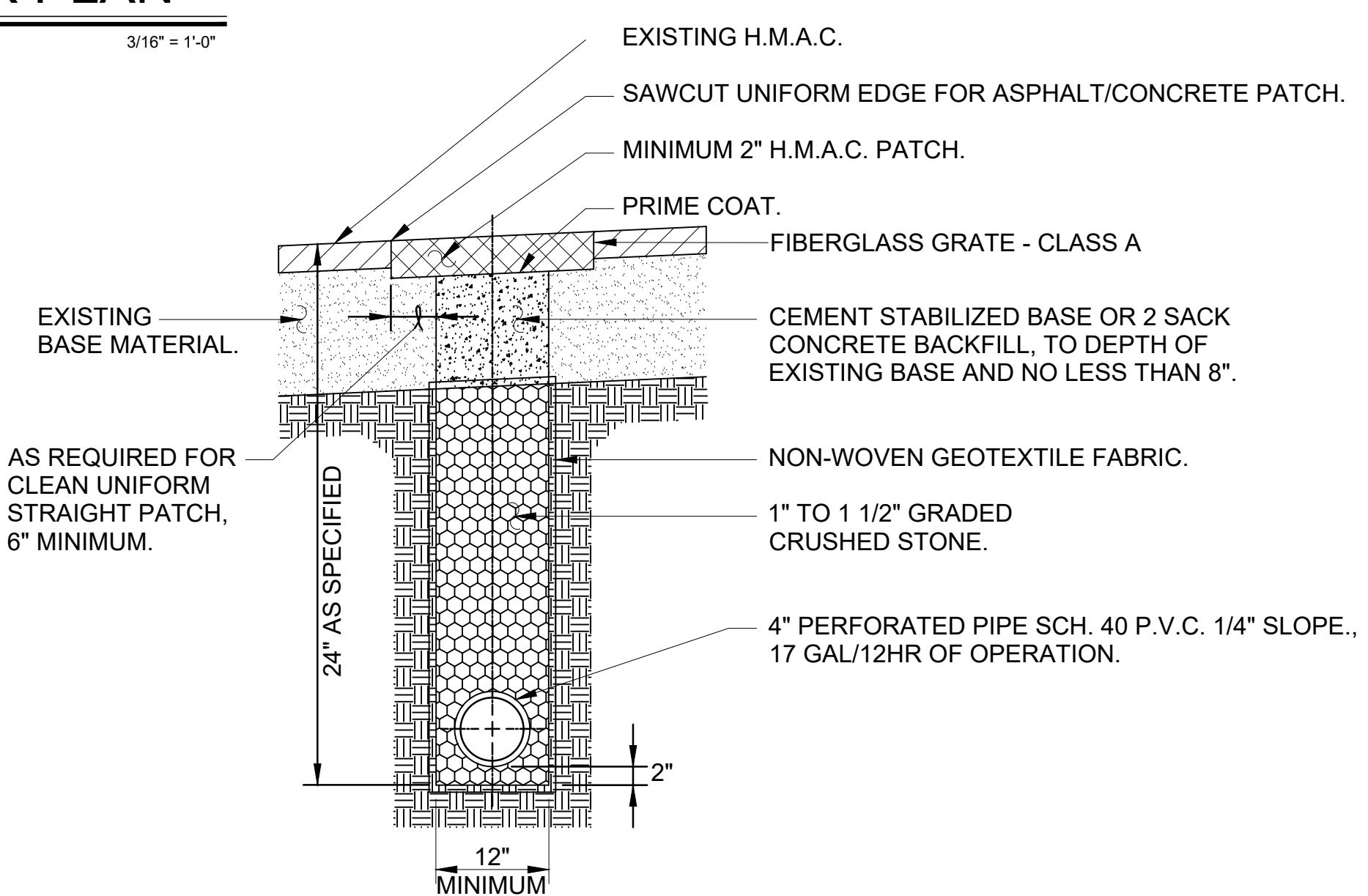
**1 COMPRESSED AIR PLAN**  
3/16" = 1'-0"

**KEYED NOTES**

- LOCATION OF EXISTING INGERSOLL RAND AIR COMPRESSOR. COORDINATE WITH NMSU FOR EXACT LOCATION PRIOR TO COMMENCING ANY WORK.
- PROVIDE A COMPRESSOR AIR LINE FOR CUT E 350 EQUIPMENT. COORDINATE WITH MANUFACTURER FOR CONNECTION. COORDINATE WITH NMSU FOR EXACT LOCATION PRIOR TO COMMENCING ANY WORK.
- PROVIDE A COMPRESSOR AIR LINE FOR NITROGEN GENERATOR. COORDINATE WITH MANUFACTURER FOR CONNECTION. COORDINATE WITH NMSU FOR EXACT LOCATION PRIOR TO COMMENCING ANY WORK.
- LOCATION OF INGERSOLL RAND DRYER LOCATION. MAKE CONNECTIONS TO AIR COMPRESSOR LINE AS REQUIRED. COORDINATE WITH NMSU FOR EXACT LOCATION PRIOR TO COMMENCING ANY WORK.
- POINT OF CONNECTION - RECONNECT EXISTING COMPRESSED AIR LINE TO NEW COMPRESSED AIR LINE TO SERVE ALL EXISTING EQUIPMENT DOWNSTREAM THE LINE.
- EXTEND AND DISCHARGE FULL SIZE DRAIN FROM AIR COMPRESSOR TO FRENCH DRAIN.
- PROVIDE SHUT-OFF VALVES FOR COMPRESSED AIR LINE.
- PROVIDE AND INSTALL DRIP LEGS FOR MOISTURE DRAIN. COORDINATE WITH MANUFACTURER FOR EXACT LOCATIONS PRIOR TO COMMENCING ANY WORK.
- PROVIDE AND INSTALL COMPRESSED AIR FILTERS. COORDINATE WITH MANUFACTURER. FOR EXACT LOCATION PRIOR TO COMMENCING ANY WORK.
- COMPRESSED AIR TO EQUIPMENT. PROVIDE AND INSTALL 1/2" DIAMETER COPPER SUPPLY LINE TO EQUIPMENT AND TERMINATE WITH A 90 DEGREES, 1/2"x3/8" COMPRESSION SHUT-OFF VALVE. SYSTEM MUST BE FLUSHED PRIOR TO EQUIPMENT INSTALLATION. VERIFY EXACT CONNECTION VALVE REQUIRED AT POINT OF USE WITH NMSU. EQUIPMENT INSTALLER MUST COORDINATE WITH NMSU FOR EXACT LOCATION PRIOR TO COMMENCING ANY WORK.



**4 FRENCH DRAIN TOP VIEW DETAIL**  
NOT TO SCALE



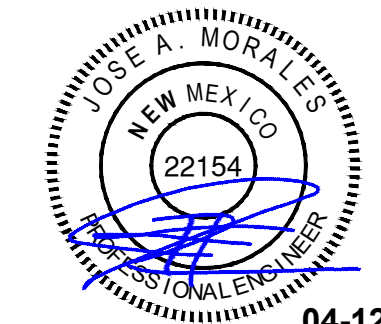
**3 FRENCH DRAIN DETAIL**  
NOT TO SCALE

REVISION	DATE

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**COMPRESSED AIR PLAN  
P700**





**KEYED NOTES** ⓧ

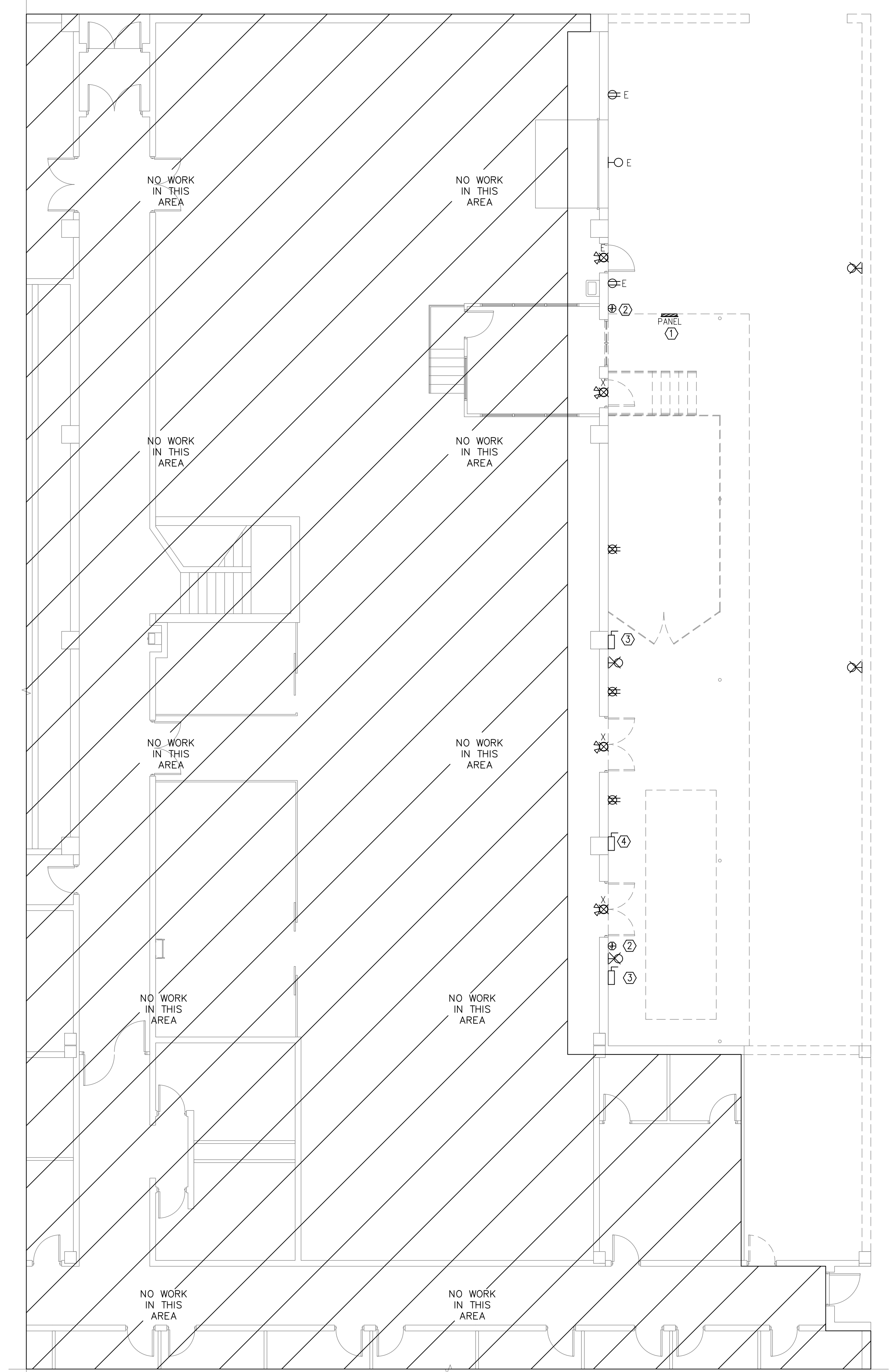
1. EXISTING ELECTRICAL PANEL TO BE RELOCATED. EXTEND CONDUIT AND WIRING AS NECESSARY.
2. EXISTING J-BOX FOR INTERCOM SYSTEM TO BE RELOCATED. COORDINATE WITH NMSU FOR EXACT LOCATION PRIOR TO COMMENCING ANY WORK.
3. EXISTING DISCONNECT FOR EQUIPMENT TO BE RELOCATED. COORDINATE WITH NMSU FOR EXACT LOCATION PRIOR TO COMMENCING ANY WORK.
4. EXISTING DISCONNECT FOR COMPRESSOR TO BE RELOCATED. COORDINATE WITH NMSU FOR EXACT LOCATION PRIOR TO COMMENCING ANY WORK.

**DEMOLITION GENERAL NOTES:**

- A. PRIOR TO BID SUBMISSION, THE CONTRACTOR SHALL VISIT THE SITE AND AREA OF WORK TO FAMILIARIZE WITH THE EXISTING CONDITIONS. CONTRACTOR TO COORDINATE EXTENT OF DEMOLITION WITH ARCHITECT.
- B. REMOVE ALL ELECTRICAL DEVICES TO INCLUDE BUT NOT LIMITED TO J-BOXES, CONDUIT, WIRING, HANGER STRAPS, HANGER SUPPORTS, SWITCHES, DISCONNECTS, PANELS, CIRCUIT BREAKERS. ALL DEMOLITION WORK IN NOT DETAILED ON THESE DRAWINGS. REMOVAL AND RELOCATION OF EXISTING ELECTRICAL WORK SHALL BE NEEDED FOR SATISFACTORY PERFORMANCE OF THIS AND OTHER TRADES.
- C. THE INTENT OF THIS DRAWING IS TO RELATE THE GENERAL EXTENT OF DEMOLITION REQUIRED AND NOT TO INDICATE ALL DEVICES, REMOVALS, RECONNECTIONS OR ADDITIONAL WORK REQUIRED.
- D. CONTRACTOR SHALL BE RESPONSIBLE FOR DISCONNECTING AND DISPOSING OF ALL ELECTRICAL EQUIPMENT, CONDUIT, WIRE, DEVICES, ETC. AS REQUIRED FOR A COMPLETE DEMOLITION. ALL FLUORESCENT LAMPS AND PCB BALLASTS SHALL BE DISPOSED OF IN ACCORDANCE WITH STATE AND FEDERAL REGULATIONS.
- E. ALL CONDUIT NOT USED OR MADE OBSOLETE DURING DEMOLITION SHALL BE CUT BACK TO CEILING, WALL, OR FLOOR WITH THE REMAINING END PLUGGED TO ALLOW REFINISHING OF THE SURFACE. EXISTING CONDUIT THAT ARE IN WALLS OR FLOORS WHICH ARE NOT TO REMAIN AND THE CONDUIT DOES NOT, AND WILL NOT INTERFERE WITH THE WORK OF ANY TRADE, MAY REMAIN. ALL ABANDONED WIRE SHALL BE REMOVED IN ITS ENTIRETY.
- F. ALL WORK REQUIRED SHUT-DOWN OF EXISTING SYSTEM SHALL BE PERFORMED DURING OVERTIME HOURS, WITH OWNER'S APPROVAL, AT NO ADDITIONAL COST TO THE OWNER. CONTRACTOR SHALL PLAN AND PERFORM WORK IN SUCH A WAY AS TO MINIMIZE THE OUTAGES AND SUBMIT TO THE OWNER A SCHEDULE THE REQUIRED OUTAGE.
- G. REFER TO MECHANICAL AND PLUMBING DRAWINGS FOR DEMOLITION/RELOCATION OF MECHANICAL OR PLUMBING EQUIPMENT. THE CONTRACTOR SHALL DISCONNECT AND REMOVE ALL CONDUIT, WIRE AND ASSOCIATED DEVICES RELATING TO THE EQUIPMENT REMOVED.
- H. PRIOR TO INTERRUPTION FOR EXISTING FEEDERS OR PANELS, THE CONTRACTOR SHALL VERIFY, BY MEANS OF TRACING ALL EXISTING CIRCUITS, THAT ALL BRANCH CIRCUIT BEING FED FROM DEMOLISHED/RELOCATED FEEDERS AND PANELS ARE NOT SERVING AREA TO REMAIN. WHERE NECESSARY, RECONNECT CIRCUITS TO CORRESPONDING NEW OR EXISTING TO REMAIN BRANCH CIRCUIT PANELS.
- I. CONTRACTOR TO COORDINATE WITH OTHER TRADES FOR DEMOLITION OF FIRE ALARM DEVICES, INTRUSION DEVICES, CCTV DEVICES, PHONE/DATA DEVICES AND PA SYSTEM PRIOR TO COMMENCING DEMOLITION WORK.
- J. OWNER SHALL RESERVE THE RIGHT TO CLAIM MATERIALS DURING DEMOLITION. CONTRACTOR SHALL COORDINATE WITH OWNER WHICH ITEMS AND/OR MATERIALS OWNER WISHES TO CLAIM AND REMOVE ALL ITEMS AND/OR MATERIALS NOT CLAIMED BY THE OWNER.

FOR THIS PAGE ONLY

DEMOLITION ELECTRICAL SYMBOL LEGEND			
SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
	EXIT/EM COMBO LIGHT TO REMAIN.		EXISTING WALL MOUNTED FIXTURE TO REMAIN.
	EXIT/EM COMBO LIGHT TO BE DEMOLISHED		WALL MOUNTED FIXTURE TO BE DEMOLISHED
	DUPLEX OR QUADRUPEX RECEPTACLE OUTLET TO BE DEMOLISHED		DUPLEX OR QUADRUPEX RECEPTACLE OUTLET TO BE REMAIN.



**1**  
**E101** **ELECTRICAL DEMOLITION PLAN**  
1/8" = 1'-0"

ADDITION

**4842 AGGIE INNOVATION SPACE EC1**

1025 Stewart St.  
Las Cruces, NM

REVISION	DATE

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**ELECTRICAL DEMOLITION PLAN**  
**E101**

**KEYED NOTES** (X)

1. PROPOSED LOCATION OF EL PASO ELECTRIC CO. PADMOUNT TRANSFORMER, COORDINATE WITH EL PASO ELECTRIC CO. BEFORE DOING ANY WORK. FINAL LOCATION OF TRANSFORMER AND ELECTRIC METER TO BE DETERMINED BY EPE. COORDINATE WITH NMSU FOR EXACT LOCATION PRIOR TO COMMENCING ANY WORK.
2. LOCATION OF EPEC METER AND PANEL 'HA', REFER TO ELECTRICAL RISER DIAGRAM 1/E700.
3. UNDERGROUND SERVICE ENTRANCE: 2" CONDUIT WITH 4-#3/0 THWN MCM CU. CONDUCTORS.
4. LOCATION OF 75 KVA TRANSFORMER NEMA 3R.
5. LOCATION OF SUBSTATION.
6. COORDINATE WITH EL PASO ELECTRIC FOR CONDUIT SIZE TO NEW PADMOUNT TRANSFORMER.

**COMcheck Software Version COMcheckWeb**  
**Exterior Lighting Compliance Certificate**

**Project Information**  
 Energy Code: 2021 IECC  
 Project Title: CLC-24-014-SDA- NMSU AIS ADDITION  
 Project Type: New Construction  
 Exterior Lighting Zone: 3 (Other (LZ3))

Construction Site: 1025 Stewart St. Las Cruces, New Mexico  
 Owner/Agent: \_\_\_\_\_ Designer/Contractor: \_\_\_\_\_

**Allowed Exterior Lighting Power**

A Area/Surface Category	B Quantity	C Allowed Watts / Wattage	D Tradable Wattage	E Allowed Watts (B X C)
Entry canopy	585 ft2	0.4	Yes	234
Illuminated area of facade wall or surface	90 ft2	0.11	No	10
Total Tradable Watts (a) =				234
Total Allowed Watts =				244
Total Allowed Supplemental Watts (b) =				500

(a) Wattage tradeoffs are only allowed between tradable areas/surfaces.  
 (b) A supplemental allowance equal to 500 watts may be applied toward compliance of both non-tradable and tradable areas/surfaces.

**Proposed Exterior Lighting Power**

A Fixture ID : Description / Lamp / Wattage Per Lamp / Ballast	B Lamps/ Fixture	C # of Fixture	D Watt. (C X D)	E Watt.
Entry canopy (585 ft2): Tradable Wattage				
D: Other:	1	7	14	98
Illuminated area of facade wall or surface (90 ft2): Non-tradable Wattage				
F: Other:	1	1	58	58
Total Tradable Proposed Watts =				98

**Exterior Lighting PASSES: Design 86% better than code**

**Exterior Lighting Compliance Statement**  
 Compliance Statement: The proposed exterior lighting design represented in this document is consistent with the building plans, specifications, and other calculations submitted with this permit application. The proposed exterior lighting systems have been designed to meet the 2021 IECC requirements in COMcheck Version COMcheckWeb and to comply with any applicable mandatory requirements listed in the Inspection Checklist.

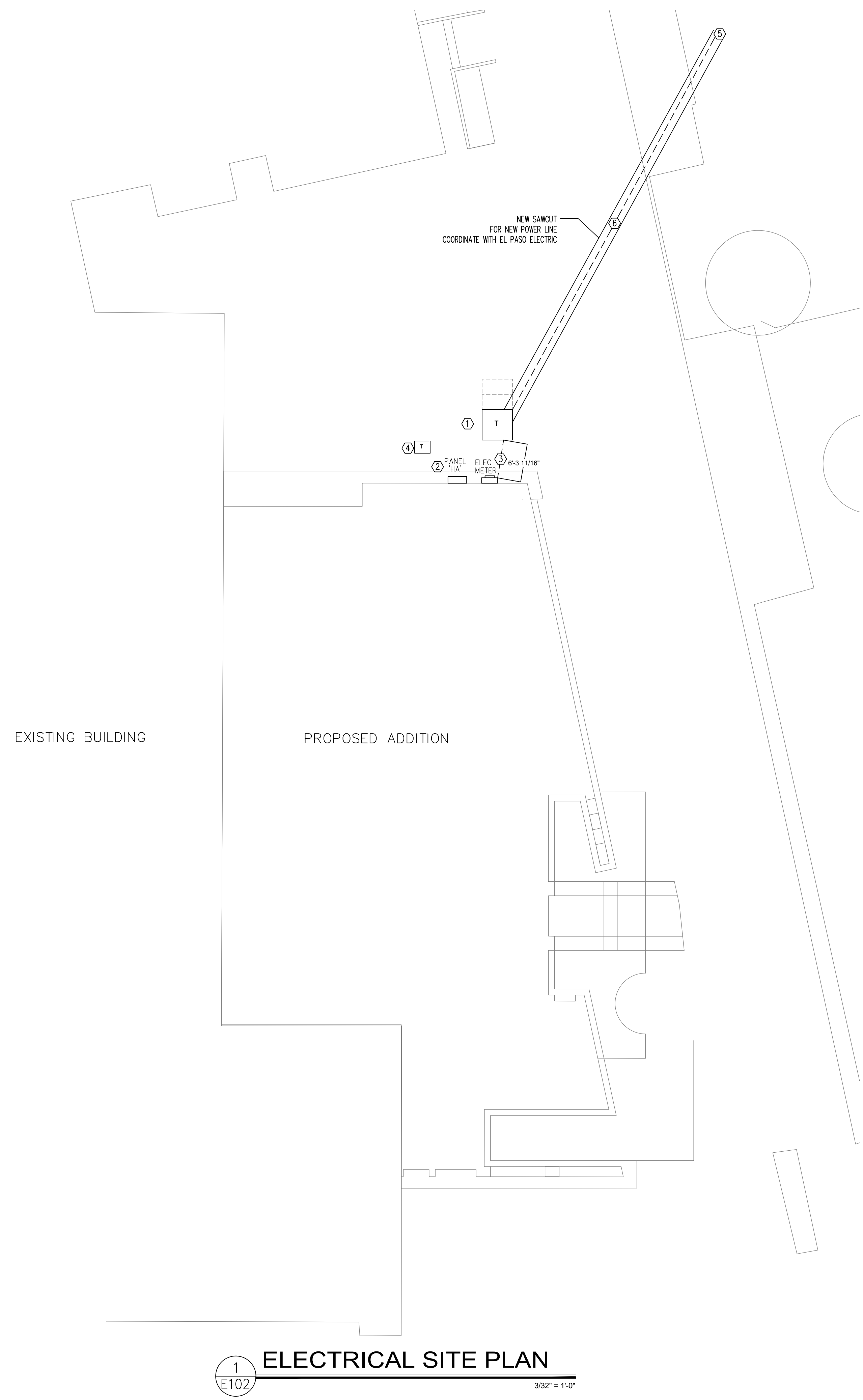
JOSE A. MORALES, P.E. \_\_\_\_\_ Signature \_\_\_\_\_ Date 03-25-2024  
 Name - Title \_\_\_\_\_

TOTAL OUTDOOR LIGHTING COMPLIANCE CALCULATION				
LIGHTING ZONE	LUMEN METHOD	PROJECTED HARDSCAPE AREA (SQ. FT.)	ALLOWED LUMENS PER S.F.	PERMITTED TOTAL LUMENS (AREAxALLOWED LUMENS)
LZ-3	HARDSCAPE	223414.00	8	1,787,312

OUTDOOR LUMEN CALCULATION					
SYMBOL	TYPE	LAMP SOURCE	LUMENS PER LAMP	QUANTITY	TOTAL LUMENS
EXISTING WALL	WALL	60W LED	8,635	17	146,795
EXISTING RECESSED	RECESSED	16W LED	1,782	8	14,256
NEW TYPE 'D'	RECESSED	14W LED	1,598	7	11,186
NEW TYPE 'F'	WALL	58W LED	6,129	1	6,129
<b>TOTAL PROJECT LUMENS</b>					<b>178,366</b>
B. U. G.					
NEW TYPE 'D'	B1-U0-G1				
NEW TYPE 'F'	B2-U0-G1				
<b>DUSK TO DAWN FIXTURES</b>		<b>TOTAL LUMENS</b>	<b>EXTINGUISH AT 11:00 PM FIXTURES</b>		<b>TOTAL LUMENS</b>
NEW TYPE 'D'		11,186	NEW TYPE 'F'		6,129
EXISTING RECESSED		14,256	EXISTING WALL		146,795
<b>TOTAL</b>		<b>25,442</b>	<b>TOTAL</b>		<b>152,924</b>
<b>TOTAL LUMENS</b>		<b>25,442</b>	<b>EXTINGUISHED FIXTURES</b>		
DUSK TO DAWN FIXTURES		25,442			
EXTINGUISHED FIXTURES		152,924			
<b>TOTAL LUMENS</b>		<b>178,366</b>			

85.74% OF LUMENS ARE EXTINGUISHED ON SITE AT 11:00 P.M.



**1**  
**E102**  
**ELECTRICAL SITE PLAN**  
 3/32" = 1'-0"

**Studio D Architects**  
 P.O. Box 1467  
 Fairacres, NM 88033  
 PH 575.521.3757  
 FAX 575.521.3880  
 www.studio-d.biz

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 P.E.: JUAN MARES  
 PH: 575.588.7654  
 JMARES@RAXISENGINEERING.COM

ADDITION

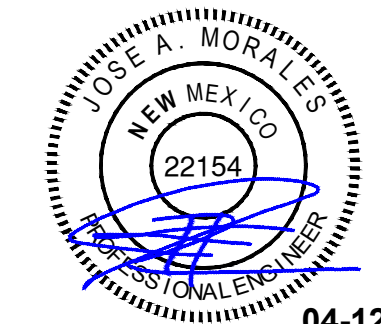
**4842 AGGIE INNOVATION SPACE EC1**

1025 Stewart St.  
 Las Cruces, NM

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**ELECTRICAL SITE PLAN**  
**E102**



ADDITION

**4842 AGGIE INNOVATION SPACE EC1**

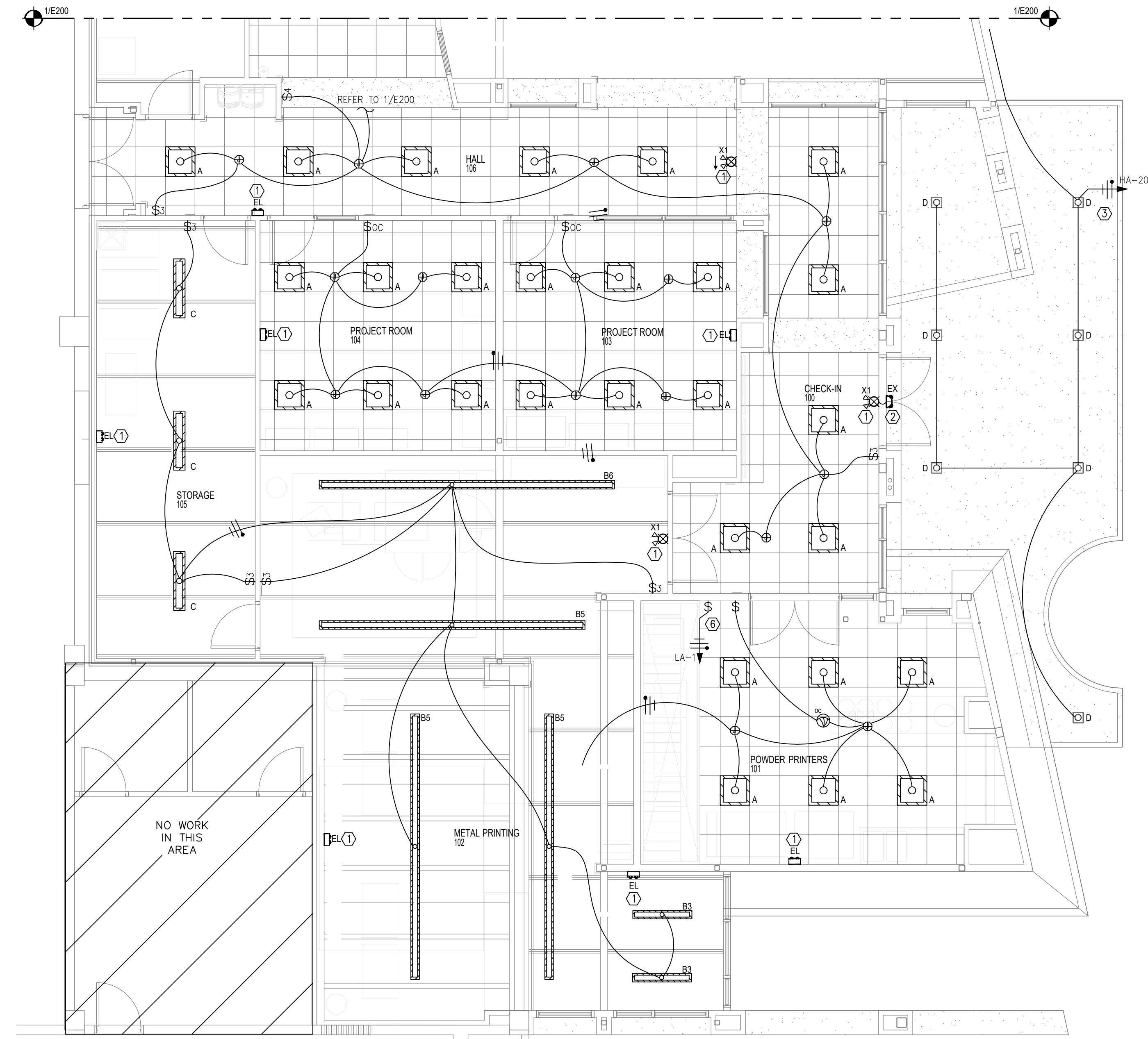
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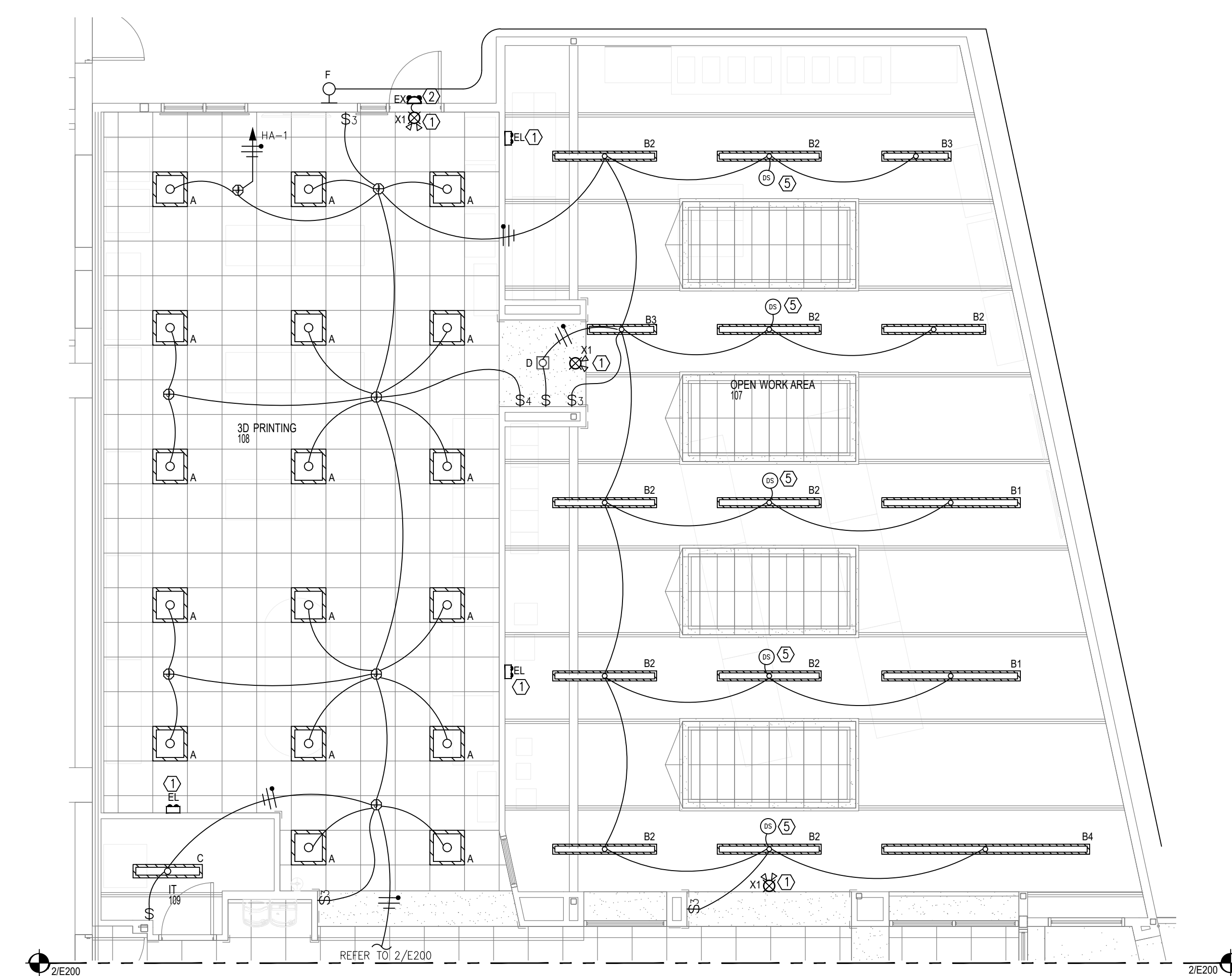
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 Sheet:

**LIGHTING PLAN**

**E200**



**2 LIGHTING PLAN**  
 E200 3/16" = 1'-0"



**1 LIGHTING PLAN**  
 E200 3/16" = 1'-0"

LIGHTING FIXTURE SCHEDULE								
TYPE	MANUFACTURER/MODEL NO.	SUPPLY	LED LAMP INFO		COLOR	MOUNTING	MOUNTING HEIGHT	NOTES
			WATTAGE	TEMP.				
A	METALUX 24SR-LD2-39-C-UNV-L840-DC1-U	277V	32W LED	40K	WHT	LAY-IN		
B1	COOPER LIGHTING VLT-F-B-0U/075D-840-1D-UNV-STD-8	277V	56WLED	40K	WHT	PENDANT	11'-0" A.F.F.	[3]
B2	COOPER LIGHTING VLT-F-B-0U/075D-840-1D-UNV-STD-6	277V	42WLED	40K	WHT	PENDANT	11'-0" A.F.F.	[3]
B3	COOPER LIGHTING VLT-F-B-0U/075D-840-1D-UNV-STD-4	277V	28WLED	40K	WHT	PENDANT	11'-0" A.F.F.	[3]
B4	COOPER LIGHTING VLT-F-B-0U/075D-840-1D-UNV-STD-12	277V	84WLED	40K	WHT	PENDANT	11'-0" A.F.F.	[3]
B5	COOPER LIGHTING VLT-F-B-0U/075D-840-1D-UNV-STD-18	277V	98WLED	40K	WHT	PENDANT	11'-0" A.F.F.	[3]
B6	COOPER LIGHTING VLT-F-B-0U/075D-840-1D-UNV-STD-20	277V	108WLED	40K	WHT	PENDANT	11'-0" A.F.F.	[3]
C	METALUX 4WPLD3140R9	277V	36WLED	40K	WHT	PENDANT	11'-0" A.F.F.	[3]
D	HALO H750T RL560WH6835 H750T ML5612840 691WB	120V	14W LED	40K	CBA	RECESSED		
F	LUMARK XTOR66 W CBA	120V	58W LED	40K	CBA	WALL		
X1	EVENLITE TLP R 2U W PRWLED-MV	UNV	INCLUDED		WH	CEILING/WALL	ABOVE DOOR	[1]
EL	EVENLITE TEBL2W	UNV	INCLUDED		WH	WALL	8FT A.F.F.	[1]
EX	EVENLITE PRWLED-MV	UNV	INCLUDED		WH	WALL	ABOVE DOOR	[2]

NOTES: [1] PROVIDE WITH 90 MIN. MINIMUM POWER LIFE BATTERY  
 [2] REMOTE MOUNTED EMERGENCY HEAD, CONNECT TO INTERIOR EXIT SIGN.  
 [3] COORDINATE WITH ARCHITECT FOR EXACT MOUNTING HEIGHT

GENERAL NOTES:  
 [A] FIXTURES SELECTED BASED ON PERFORMANCE AND AESTHETICS.  
 [B] ARCHITECT TO SELECT ALL FIXTURE FINISH/COLORS PRIOR TO ORDERING LIGHT FIXTURES.  
 [C] SUBSTITUTIONS MUST BE PRE-APPROVED. PROVIDE SUBSTITUTION SUBMITTALS FOR REVIEW 10 BUSINESS DAYS PRIOR TO BID DATE.  
 [D] CONTRACTOR MUST PROVIDE FULL PHOTOMETRIC STUDIES ON SUBSTITUTION FIXTURES.

**KEYED NOTES**

- CONNECT ALL EXIT LIGHTS AND EMERGENCY LIGHTS TO UNSWITCHED HOT LEG OF NEAREST LIGHTING CIRCUIT.
- INSTALL OUTDOOR REMOTE EMERGENCY HEAD ABOVE DOOR, CONNECT AS SHOWN.
- THIS CIRCUIT TO BE WIRED THRU TIMER AND PHOTOCELL FOR LIGHTING CONTROL. SET FOR DUSK TILL DAWN OPERATION.
- THIS CIRCUIT TO BE WIRED THRU TIMER AND PHOTOCELL FOR LIGHTING CONTROL. SET FOR DUSK TILL 11:00 OPERATION OR CLOSE OF BUSINESS.
- PROVIDE AND INSTALL DAYLIGHT SENSOR ON CEILING. CONTROL LIGHTS AS NOTED WITH DOTTED LINES. PROVIDE POWER PACK AND WIRE PER MANUFACTURERS INSTALLATION INSTRUCTIONS.
- MAKE CONNECTIONS TO HOOD LIGHTS AS REQUIRED. COORDINATE WITH HOOD INSTALLER FOR EXACT REQUIREMENTS PRIOR TO COMMENCING ANY WORK

**COMcheck Software Version COMcheckWeb**  
**Interior Lighting Compliance Certificate**

**Project Information**  
 Energy Code: 2021 IECC  
 Project Title: CLC-24-014-SDA- NMSU AIS ADDITION  
 Project Type: New Construction

Construction Site: 1025 Stewart St. Las Cruces, New Mexico  
 Owner/Agent:  
 Designer/Contractor:

**Additional Efficiency Package(s)**  
 Credits: 10.0 Required 0.0 Proposed

A Area Category	B Floor Area (ft2)	C Allowed Watts / ft2	D Allowed Watts
1-Common Space Types:Workshop	5788	1.26	7293
			Total Allowed Watts = 7293

**Proposed Interior Lighting Power**

A Fixture ID : Description / Lamp / Wattage Per Lamp / Ballast	B Lamps / Fixture	C # of Fixture (C X D)	D Watts	E Total
1-Common Space Types:Workshop				
A: Other:	1	40	32	1280
B1: Other:	1	3	56	168
B2: Other:	1	10	42	420
B3: Other:	1	3	28	84
B4: Other:	1	5	84	420
C: Other:	1	4	36	144
			Total Proposed Watts =	2516

Interior Lighting PASSES: Design 66% better than code

**Statement**  
 Compliance Statement: The proposed interior lighting design represented in this document is consistent with the building plans, specifications, and other calculations submitted with this permit application. The proposed interior lighting systems have been designed to meet the 2021 IECC requirements in COMcheck Version COMcheckWeb and to comply with any applicable mandatory requirements listed in the Inspection Checklist.

JOSE A. MORALES, P.E.  
 Name - Title Signature Date 03-25-2024

**LIGHTING PLAN**

**E200**



ADDITION

**4842 AGGIE  
INNOVATION  
SPACE EC1**

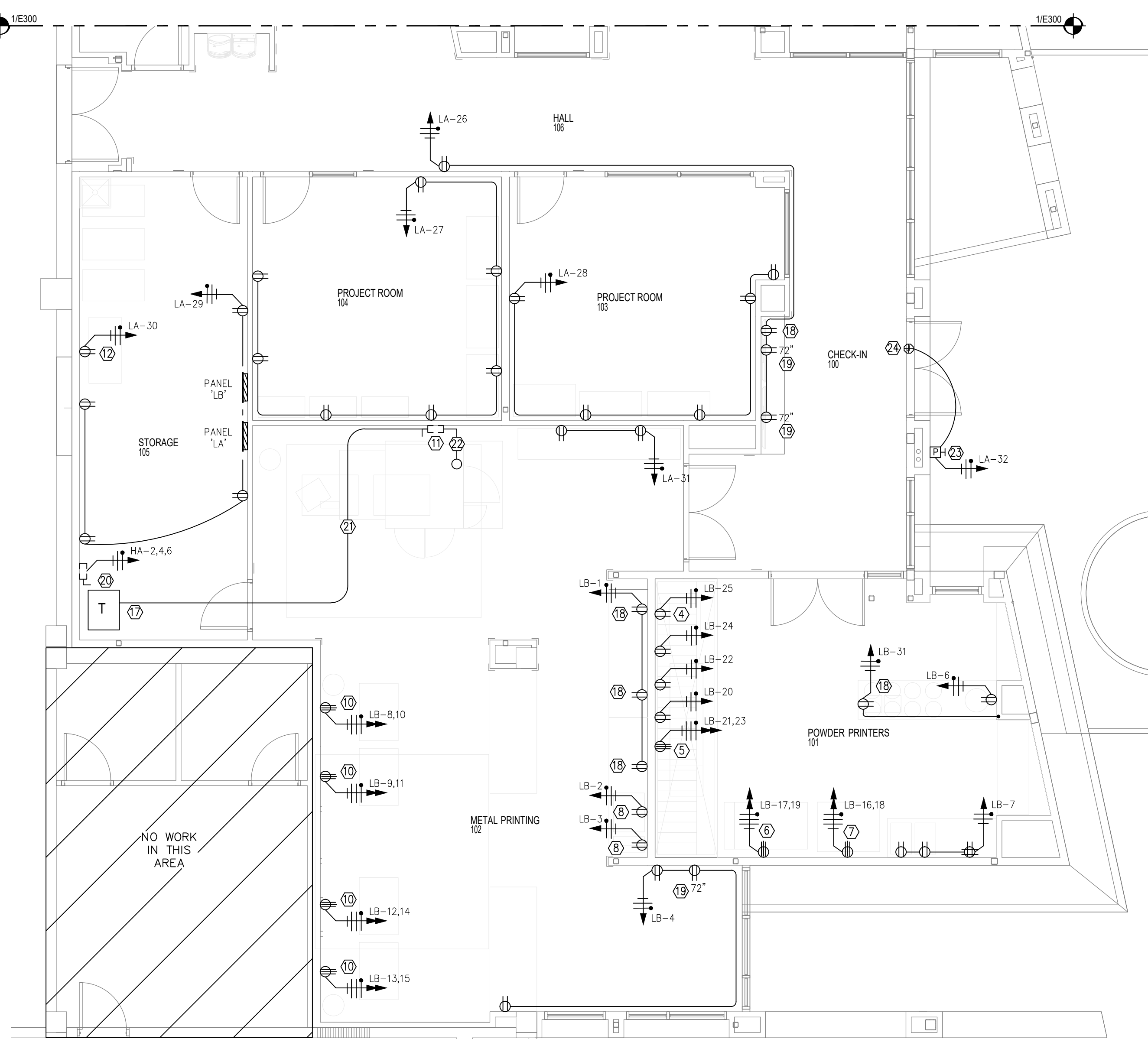
1025 Stewart St.  
Las Cruces, NM

REVISION	DATE

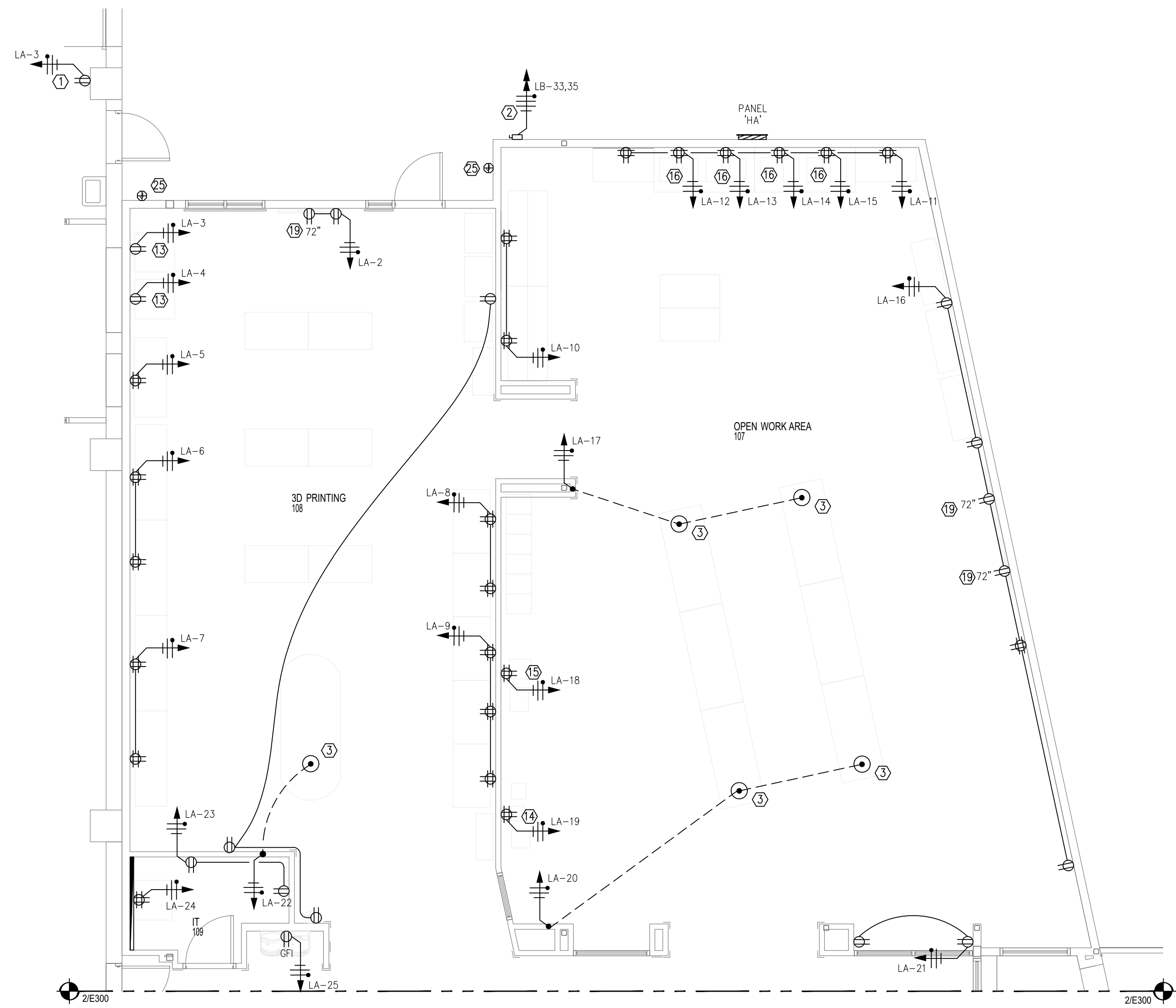
Project no: 23.16  
Date: April 2024  
Sheet:

**POWER  
PLAN**

**E300**



**2 POWER PLAN**  
E300 3/16" = 1'-0"



**1 POWER PLAN**  
E300 3/16" = 1'-0"

**KEYED NOTES**

- PROVIDE AND INSTALL 120V RECEPTACLE FOR AIR DRYER. COORDINATE WITH NMSU FOR EXACT LOCATION PRIOR TO COMMENCING ANY WORK.
- NEW LOCATION OF DISCONNECT FOR AIR COMPRESSOR. COORDINATE WITH NMSU FOR EXACT LOCATION PRIOR TO COMMENCING ANY WORK.
- PROVIDE AND INSTALL FLOOR BOX WITH TWO DUPLEX RECEPTACLES AND SPACE FOR COMMUNICATIONS. FLOOR BOX TO BE LEGRAND WIRE MOLD EF86S-0G OR APPROVED EQUAL. PROVIDE WITH BRASS COVER AND INSTALL FLUSH TO FINISHED FLOOR. COORDINATE WITH ARCHITECT OR STRUCTURAL PLANS FOR EXACT LOCATION PRIOR TO COMMENCING ANY WORK.
- PROVIDE AND INSTALL 120V RECEPTACLE FOR XYZ PRINTING EQUIPMENT. COORDINATE WITH OWNER FOR EXACT LOCATION PRIOR TO COMMENCING ANY WORK.
- PROVIDE AND INSTALL 230V RECEPTACLE FOR LISA X PERFORMANCE SET. COORDINATE WITH OWNER FOR EXACT LOCATION PRIOR TO COMMENCING ANY WORK.
- PROVIDE AND INSTALL 220V RECEPTACLE FOR MIG PRO 230 XS. COORDINATE WITH OWNER FOR EXACT LOCATION PRIOR TO COMMENCING ANY WORK.
- PROVIDE AND INSTALL 230V RECEPTACLE FOR AON EQUIPMENT. COORDINATE WITH OWNER FOR EXACT LOCATION PRIOR TO COMMENCING ANY WORK.
- PROVIDE AND INSTALL 120V RECEPTACLE FOR MFG PRO COMPONENTS. COORDINATE WITH OWNER FOR EXACT LOCATION PRIOR TO COMMENCING ANY WORK.
- PROVIDE AND INSTALL 120V RECEPTACLE FOR WIRE CUTTER. COORDINATE WITH OWNER FOR EXACT LOCATION PRIOR TO COMMENCING ANY WORK.
- PROVIDE AND INSTALL 230V RECEPTACLE FOR 3D PRINTER. COORDINATE WITH OWNER FOR EXACT LOCATION PRIOR TO COMMENCING ANY WORK.
- PROVIDE AND INSTALL 30A, 400V, 3PH, 4 WIRE, HEAVY DUTY, NEMA 3R NON-FUSED DISCONNECT. MAKE CONNECTIONS TO CUT E 350 MACHINE. COORDINATE WITH OWNER FOR EXACT REQUIREMENTS PRIOR TO COMMENCING ANY WORK. MACHINE TO BE POWERED BY STEP-DOWN TRANSFORMER
- PROVIDE AND INSTALL 120V RECEPTACLE FOR PLOTTER. COORDINATE WITH OWNER FOR EXACT LOCATION PRIOR TO COMMENCING ANY WORK.
- PROVIDE AND INSTALL 120V RECEPTACLE FOR FUSIO 3 EQUIPMENT. COORDINATE WITH OWNER FOR EXACT LOCATION PRIOR TO COMMENCING ANY WORK.
- PROVIDE AND INSTALL 120V QUAD-PLEX RECEPTACLE FOR FORM LAB RESIN PRINTER. COORDINATE WITH OWNER FOR EXACT LOCATION PRIOR TO COMMENCING ANY WORK.
- PROVIDE AND INSTALL 120V QUAD-PLEX RECEPTACLE FOR BIG RESIN PRINTER. COORDINATE WITH OWNER FOR EXACT LOCATION PRIOR TO COMMENCING ANY WORK.
- PROVIDE AND INSTALL 120V QUAD-PLEX RECEPTACLE FOR 3D PRINTERS. COORDINATE WITH OWNER FOR EXACT LOCATION PRIOR TO COMMENCING ANY WORK.
- PROVIDE AND INSTALL 15KVA 480-400V STEP-DOWN TRANSFORMER FOR CUT E 350 MACHINE. COORDINATE WITH NMSU FOR EXACT LOCATION PRIOR TO COMMENCING ANY WORK. STEP DOWN TRANSFORMER TO BE SUSPENDED FROM CEILING.
- COORDINATE WITH ARCHITECT FOR EXACT MOUNTING LOCATION WITHIN MILLWORK PRIOR TO COMMENCING ANY WORK.
- PROVIDE AND INSTALL TV BOX ON WALL WITH DUPLEX RECEPTACLE AND DATA CABLE OUTLET. INSTALL ON WALL AT 72" A.F.F. VERIFY HEIGHT WITH ARCHITECT PRIOR TO ROUGH-IN. TV BOX TO BE HUBBELL NSAV62M OR APPROVED EQUAL.
- PROVIDE AND INSTALL 30A 408/277V, 3 PHASE, 4 WIRE, NEMA 3R NON-FUSED DISCONNECT FOR 15 KVA STEP-DOWN TRANSFORMER. MAKE CONNECTIONS TO ROOF TOP UNIT WITH WATER TIGHT FLEXIBLE CONDUIT.
- PROVIDE 1" CONDUIT WITH 4-#6 CU CONDRS AND 1-#8 CU GND FORM 12KVA STEP DOWN TRANSFORMER TO CUT E 350 MACHINE. COORDINATE WITH NMSU FOR EXACT REQUIREMENTS PRIOR TO COMMENCING ANY WORK.
- MAKE CONNECTIONS TO CUT 3 MACHINE AS REQUIRED. COORDINATE WITH MANUFACTURER PRIOR TO COMMENCING ANY WORK.
- PROVIDE AND INSTALL J-BOX AT 48" A.F.F. FOR ADA PUSH BUTTON. STUB 3/4" CONDUIT WITH ALL REQUIRED WIRING TO DOOR MOTOR. COORDINATE WITH EQUIPMENT INSTALLER FOR EXACT REQUIREMENTS PRIOR TO COMMENCING ANY WORK.
- MAKE CONNECTIONS TO DOOR MOTOR FOR ADA ACCESS. COORDINATE WITH EQUIPMENT INSTALLER FOR EXACT REQUIREMENTS PRIOR TO COMMENCING ANY WORK.
- NEW LOCATION OF J-BOX FOR INTERCOM SYSTEM. EXTEND CONDUIT AND WIRING AS NECESSARY. COORDINATE WITH NMSU FOR EXACT LOCATION PRIOR TO COMMENCING ANY WORK.



ADDITION

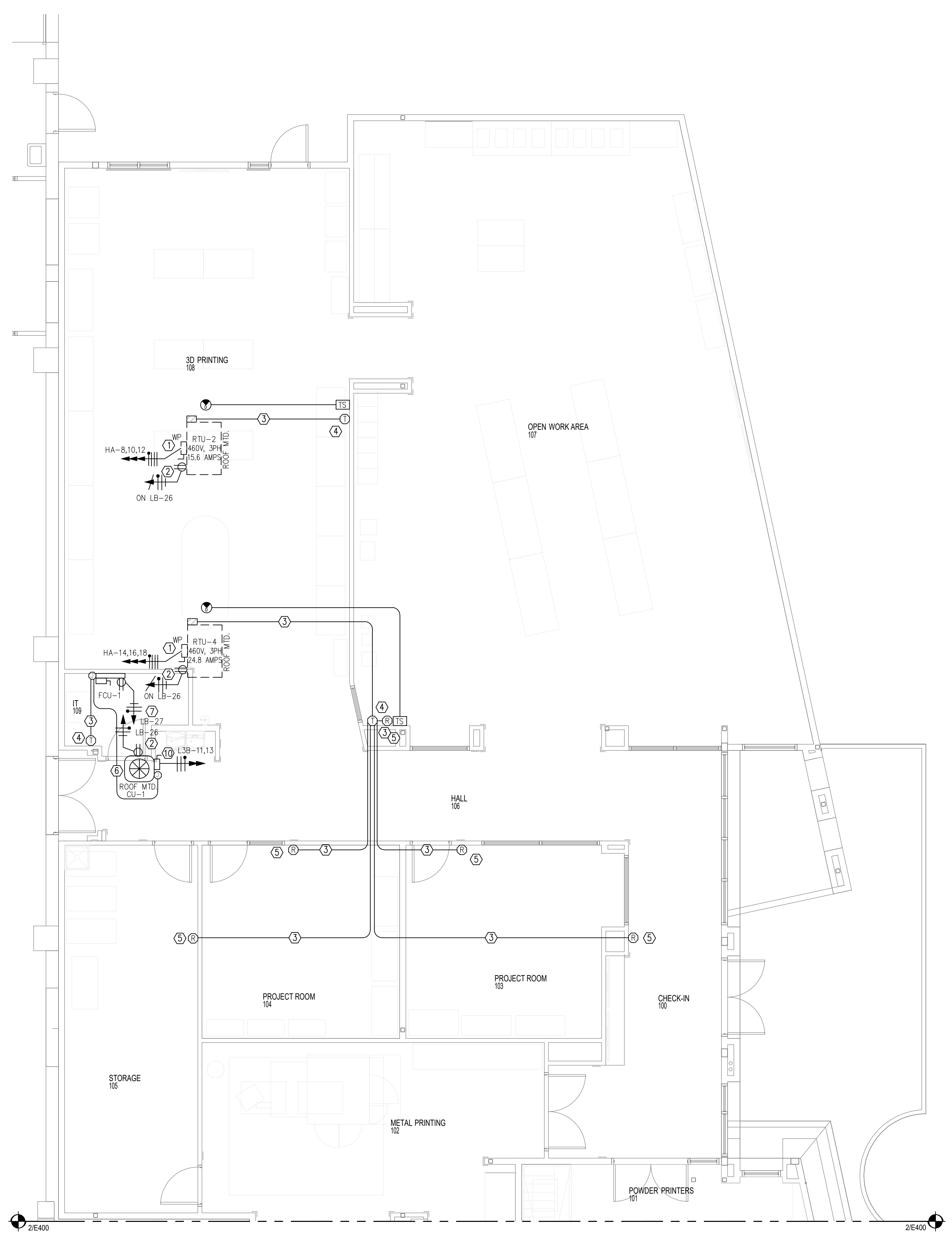
**4842 AGGIE INNOVATION SPACE EC1**

1025 Stewart St.  
Las Cruces, NM

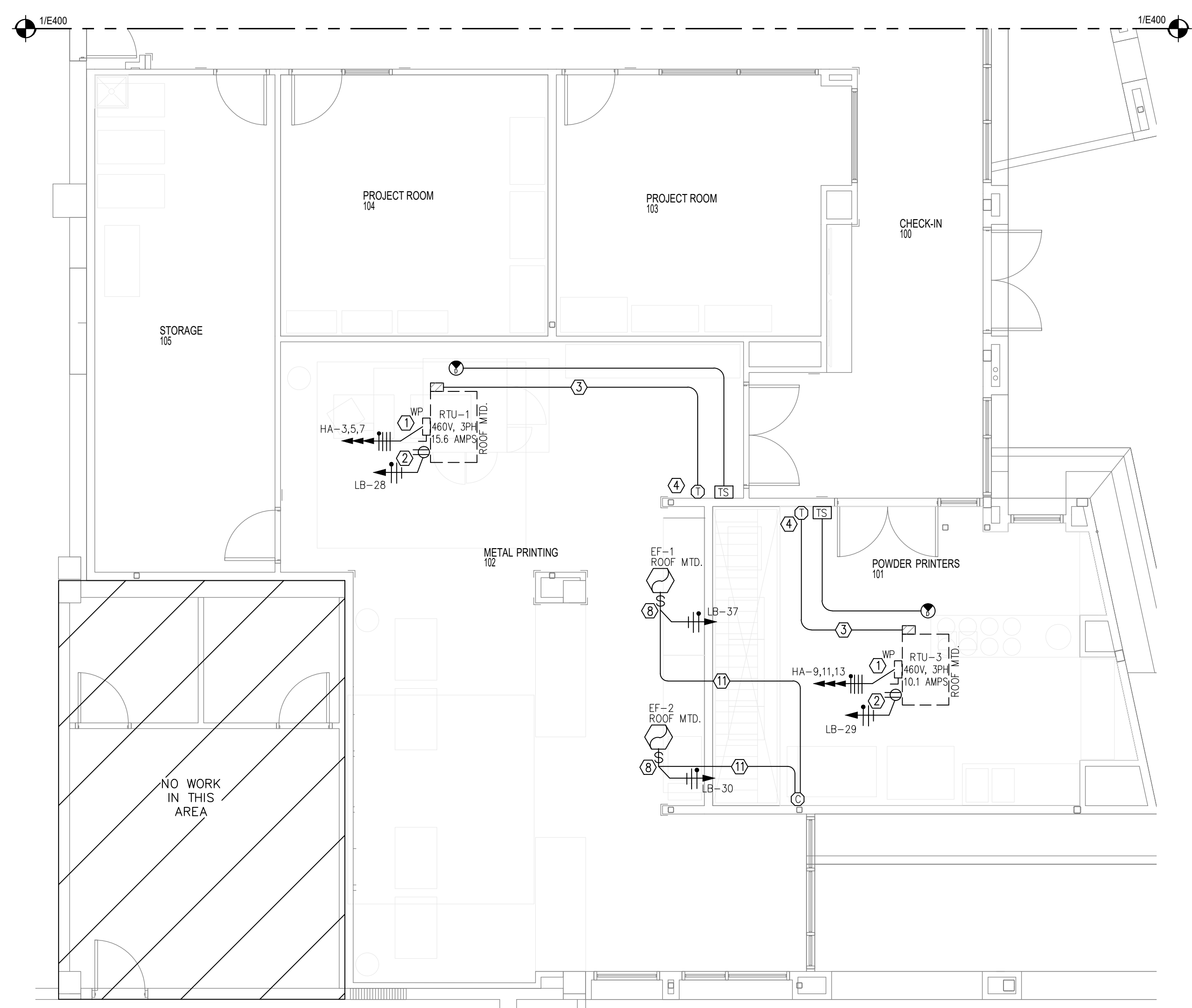
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**HVAC POWER PLAN  
E400**



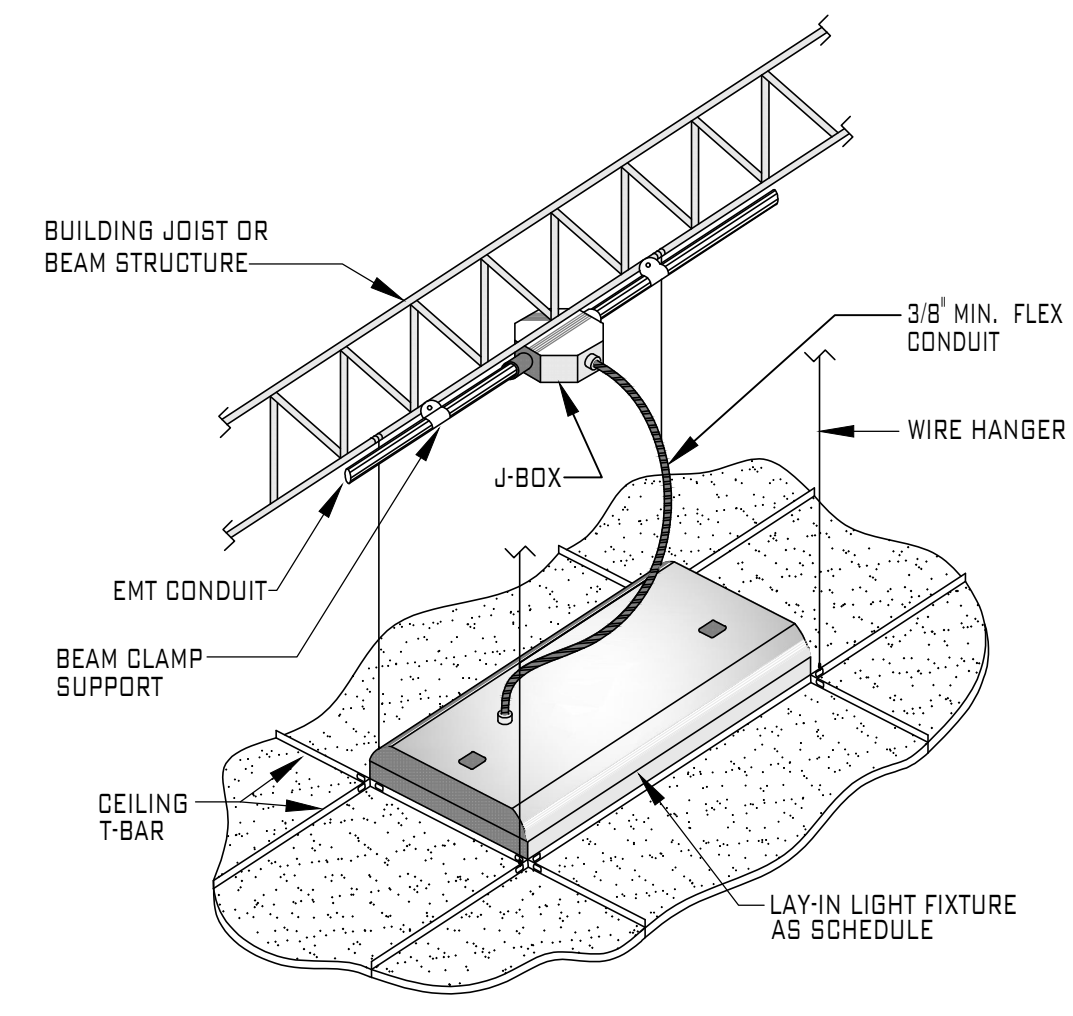
**1 HVAC POWER PLAN**  
3/16" = 1'-0"



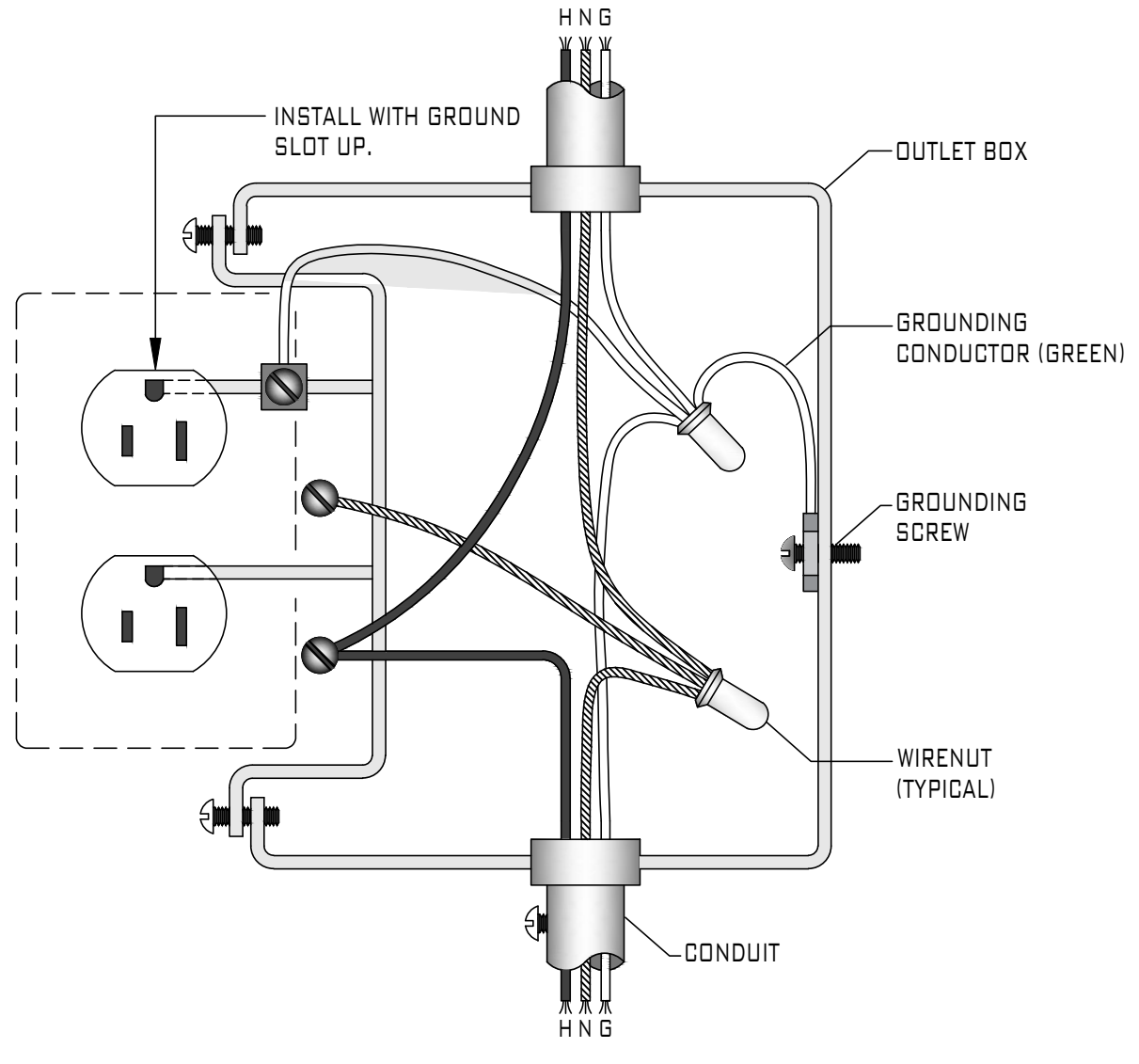
**2 HVAC POWER PLAN**  
3/16" = 1'-0"

**KEYED NOTES**

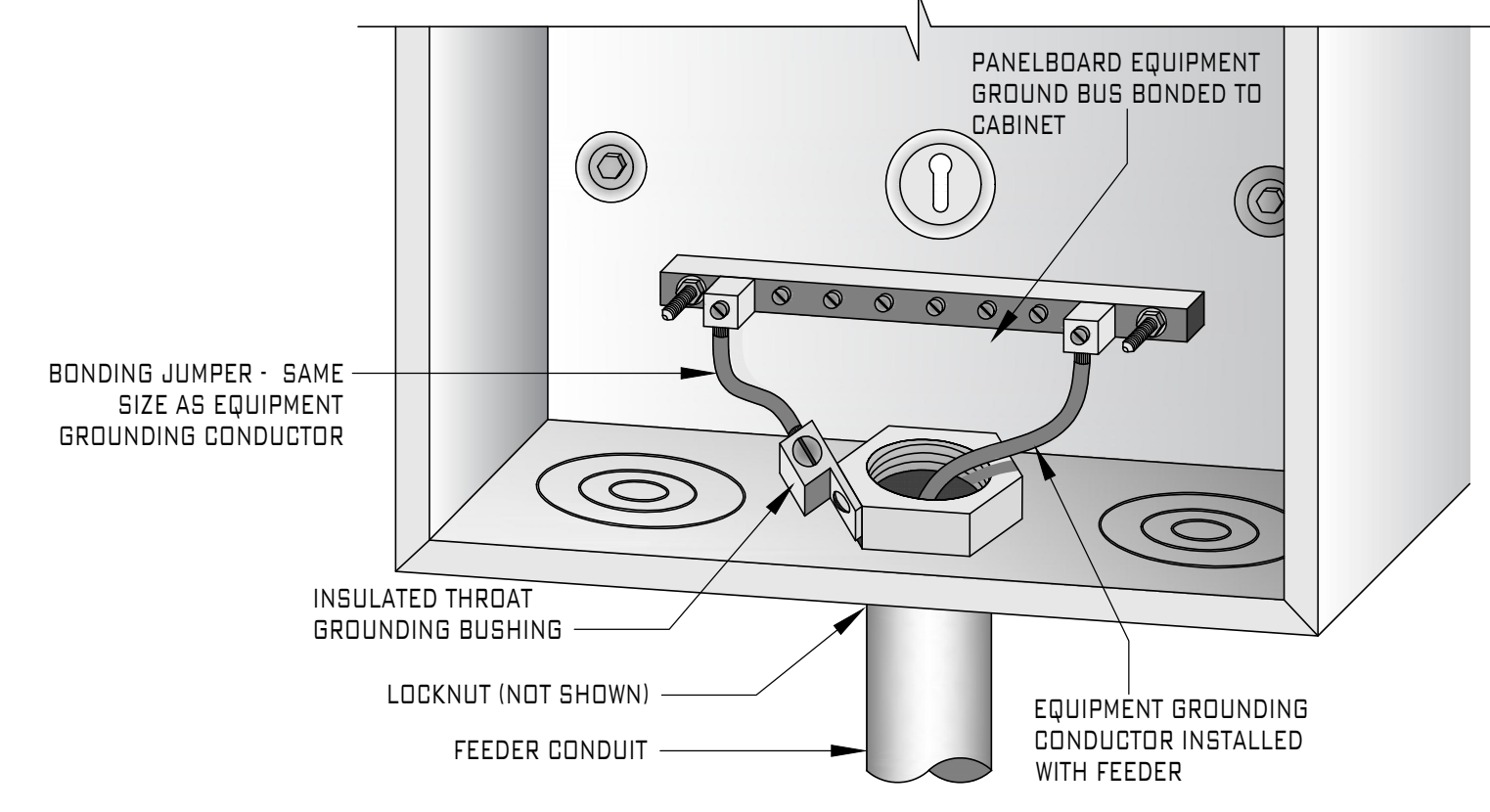
1. PROVIDE AND INSTALL 30A, 460V, 3PH, 4 WIRE, HEAVY DUTY, NEMA 3R NON-FUSED DISCONNECT. MAKE CONNECTIONS TO ROOF TOP UNIT WITH WATER TIGHT FLEXIBLE CONDUIT.
2. INSTALL WEATHER PROOF, GFI, RECEPTACLE WITH WEATHER PROOF COVER. INSTALL RECEPTACLE UNDER DISCONNECT, COORDINATE WITH MECHANICAL CONTRACTOR FOR EXACT LOCATION.
3. 1/2" CONDUIT WITH PULLSTRING, COORDINATE WITH MECHANICAL CONTRACTOR.
4. LOCATION OF THERMOSTAT, PROVIDE 4" SQ. J-BOX WITH PLASTER RING. COORDINATE WITH MECHANICAL CONTRACTOR FOR EXACT LOCATION.
5. LOCATION OF REMOTE TEMPERATURE SENSOR, PROVIDE 4" SQ. J-BOX WITH PLASTER RING. COORDINATE WITH MECHANICAL CONTRACTOR FOR EXACT LOCATION.
6. 3/4" CONDUIT WITH ALL REQUIRED INTERCONNECTION WIRING, COORDINATE WITH MECHANICAL CONTRACTOR.
7. PROVIDE AND INSTALL RECEPTACLE FOR CONDENSATE PUMP. COORDINATE WITH MECHANICAL CONTRACTOR FOR EXACT LOCATION.
8. INSTALL WEATHER PROOF SWITCH AS DISCONNECTING MEANS FOR EXHAUST FAN, MAKE CONNECTIONS WITH WATER TIGHT FLEXIBLE CONDUIT. COORDINATE WITH PLUMBING CONTRACTOR FOR EXACT LOCATION.
9. LOCATION OF LEK-TROL VARIABLE SPEED CONTROLLER FOR EXHAUST FAN, PROVIDE 4" SQ. J-BOX WITH PLASTER RING. COORDINATE WITH MECHANICAL CONTRACTOR FOR EXACT LOCATION.
10. PROVIDE AND INSTALL 30A, 208V, 1PH, 3 WIRE, HEAVY DUTY, NEMA 3R NON-FUSED DISCONNECT. MAKE CONNECTIONS TO CONDENSATE UNIT WITH WATER TIGHT FLEXIBLE CONDUIT.
11. COORDINATE WITH EQUIPMENT INSTALLER FOR LOCATION AND CONNECTIONS REQUIREMENTS.



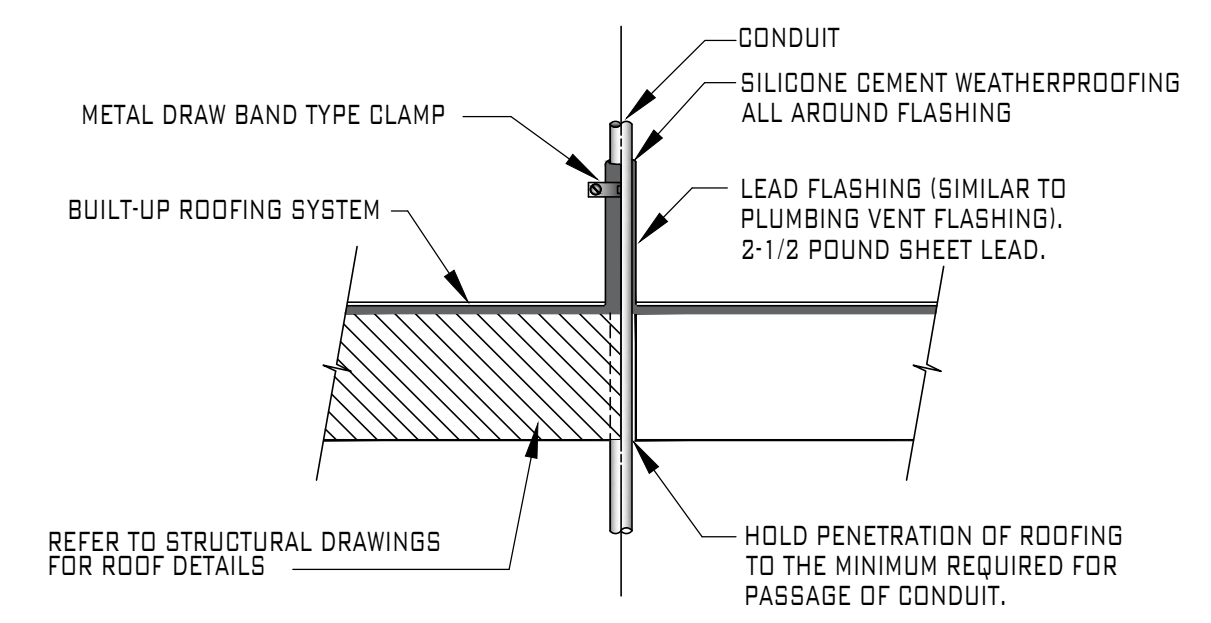
1 LAY-IN FIXTURE MOUNTING DETAIL  
E500 NTS



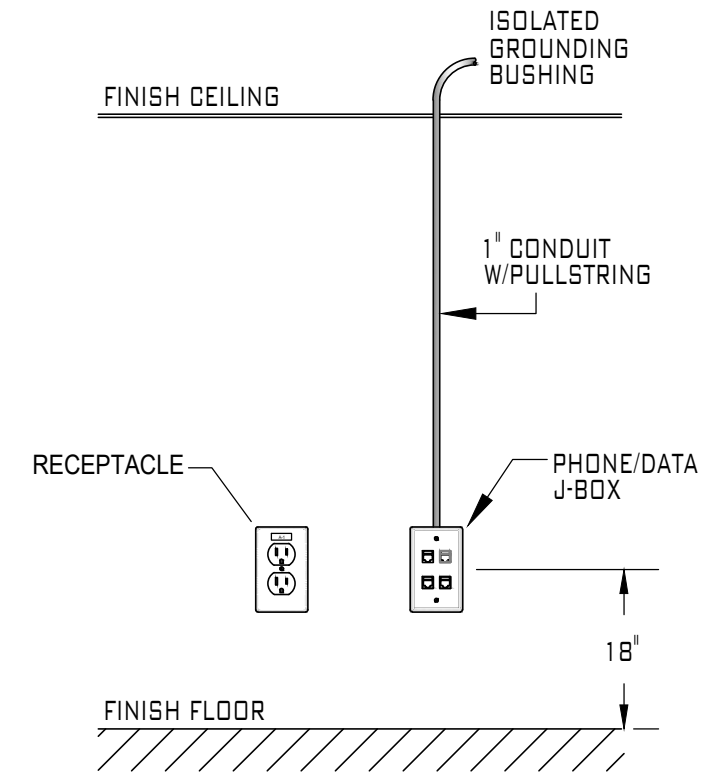
2 RECEPTACLE INSTALLATION  
E500 NTS



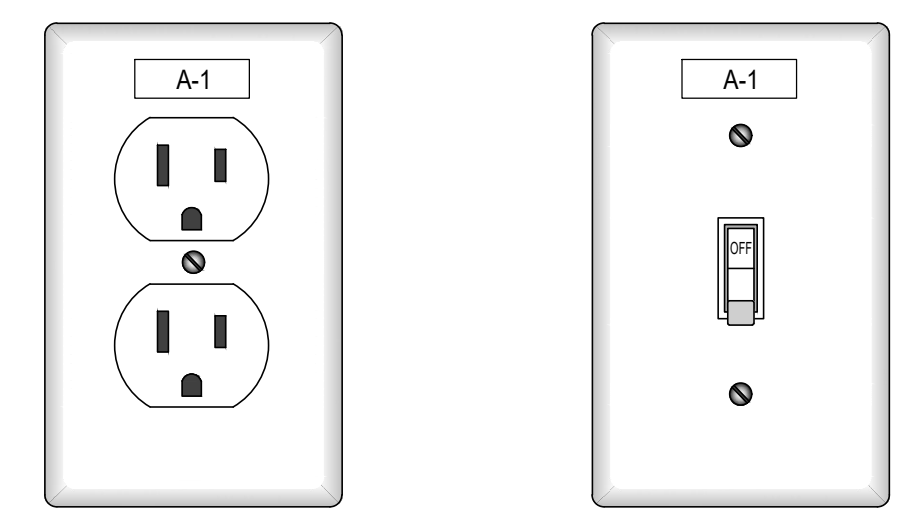
3 PANELBOARD BONDING SCHEMATIC  
E500 NTS



4 CONDUIT ROOF PENETRATION SCHEMATIC  
E500 NTS



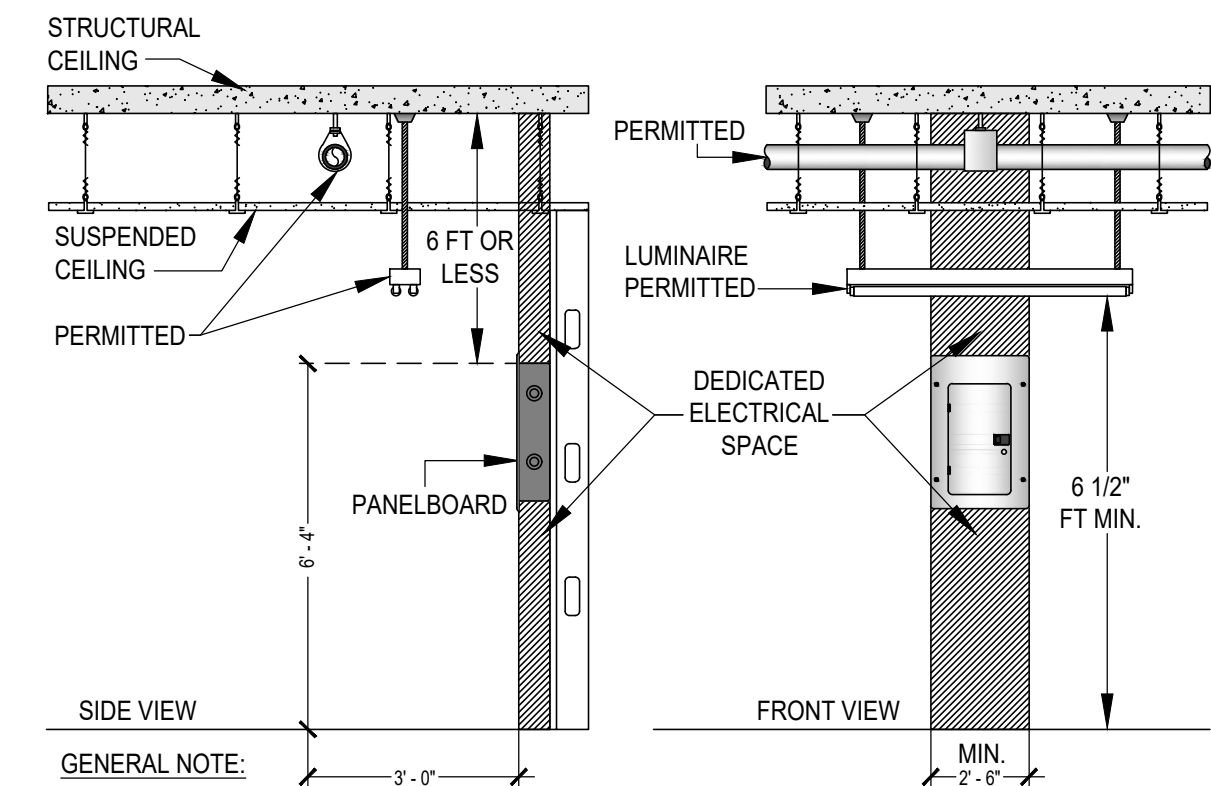
5 TYP. PHONE/DATA BOX  
E500 NTS



6 RECEPTACLE AND SWITCH LABEL TYPICAL FOR ALL  
E500 NTS

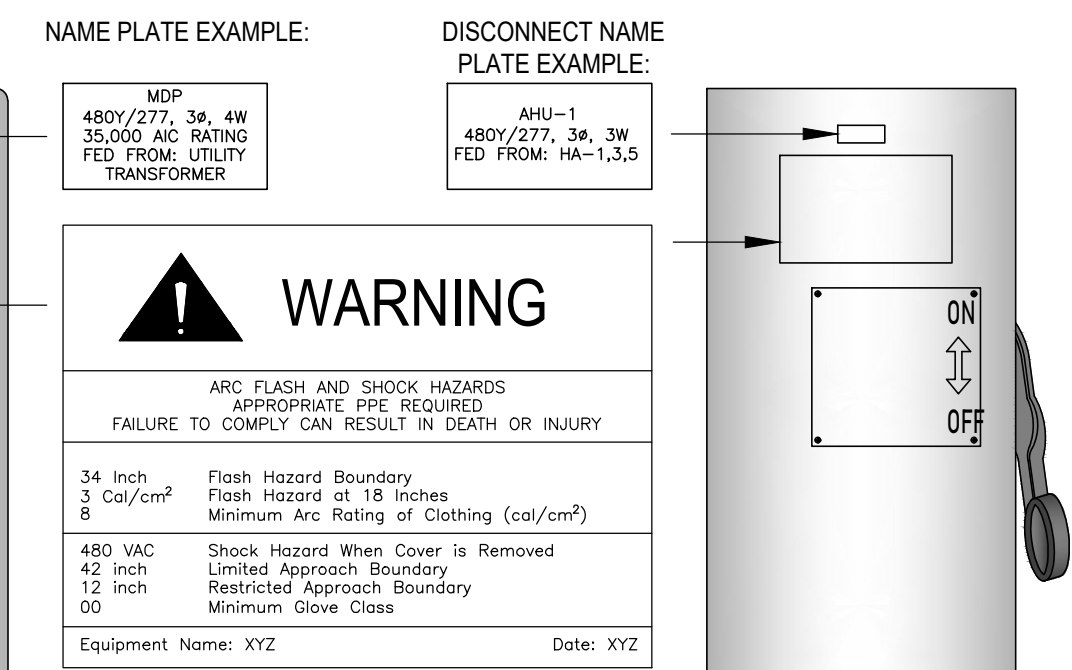
NEC REQUIREMENTS FOR DEDICATED EQUIPMENT SPACE:

- ALL SWITCHBOARDS, PANEL BOARDS, DISTRIBUTION BOARDS, AND MOTOR CONTROL CENTERS SHALL BE LOCATED IN DEDICATED SPACES AND PROTECTED FROM DAMAGE. DEDICATED ELECTRICAL SPACE IS EQUAL TO THE WIDTH AND DEPTH OF THE EQUIPMENT AND EXTENDING FROM THE FLOOR TO A HEIGHT OF 6 FT ABOVE THE EQUIPMENT OR TO THE STRUCTURAL CEILING, WHICHEVER IS LOWER.
- NO PIPING, DUCTS, LEAK PROTECTION APPARATUS, OR OTHER EQUIPMENT FOREIGN TO THE ELECTRICAL INSTALLATION SHALL BE LOCATED IN DEDICATED ELECTRICAL SPACE.
- THE AREA ABOVE THE DEDICATED SPACE SHALL BE PERMITTED TO CONTAIN FOREIGN SYSTEMS, PROVIDE PROTECTION IS INSTALLED TO AVOID DAMAGE TO ELECTRICAL EQUIPMENT FROM CONDENSATION, LEAKS OR BREAKS IS SUCH FOREIGN SYSTEMS.
- A DROPPED, SUSPENDED, OR SIMILAR CEILING THAT DOES NOT ADD STRENGTH TO THE BUILDING STRUCTURE SHALL NOT TO BE CONSIDERED A STRUCTURAL CEILING.



7 ELECTRICAL CLEARANCE DETAIL  
E500 NTS

NAMEPLATE SHALL BE ENGRAVED ON RIGID PLASTIC. BOLTED TO THE PANEL COVER. BLACK PLASTIC WITH WHITE LETTERS FOR NORMAL POWER. RED PLASTIC WITH WHITE LETTERS FOR EMERGENCY POWER. SEE EXAMPLES BELOW, FIELD VERIFY INFORMATION.



8 PANELBOARD IDENTIFICATION SCHEMATIC  
E500 NTS

ADDITION

4842 AGGIE INNOVATION SPACE EC1

1025 Stewart St.  
Las Cruces, NM

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ELECTRICAL DETAILS

E500





ADDITION

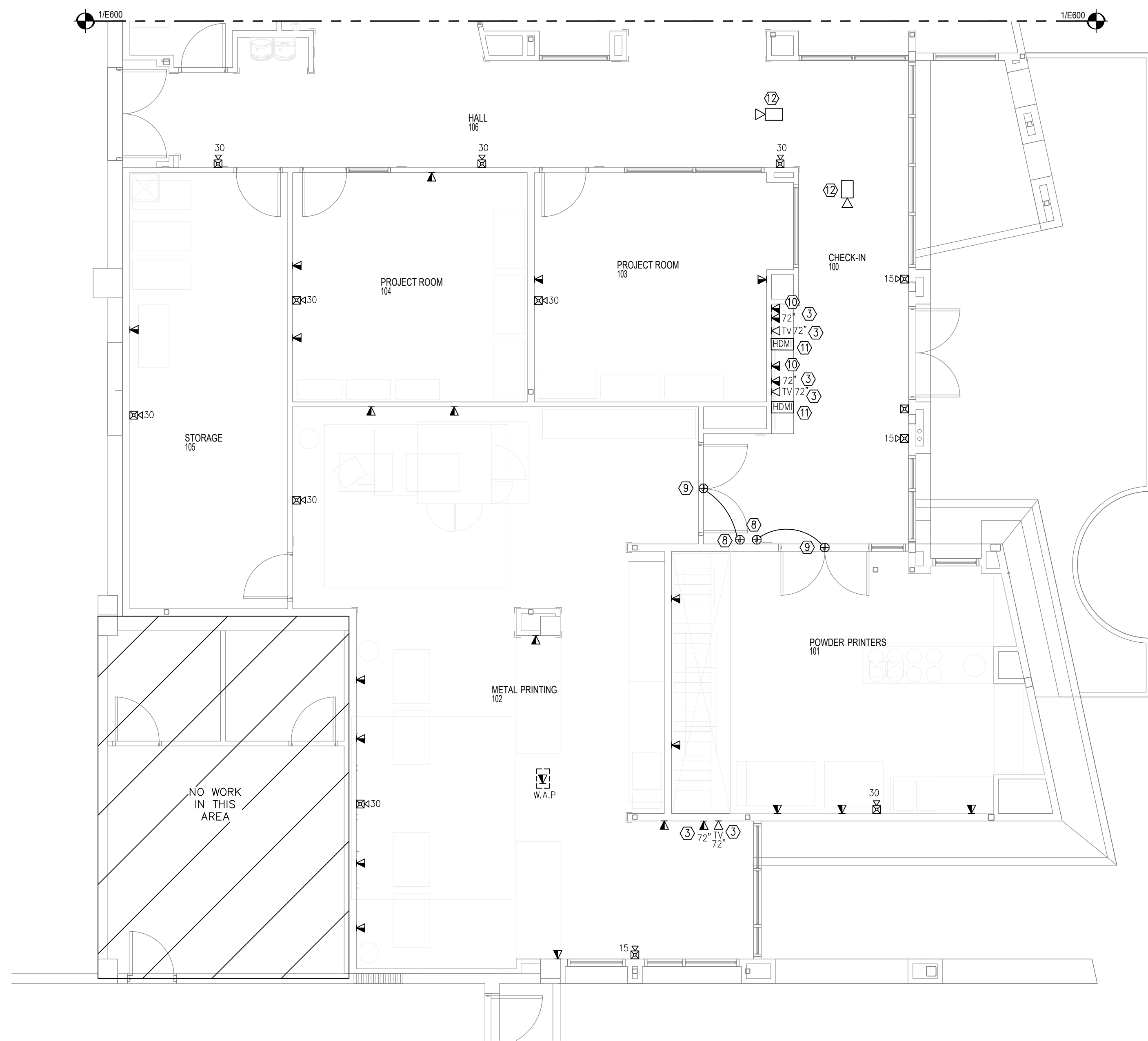
**4842 AGGIE INNOVATION SPACE EC1**

1025 Stewart St.  
Las Cruces, NM

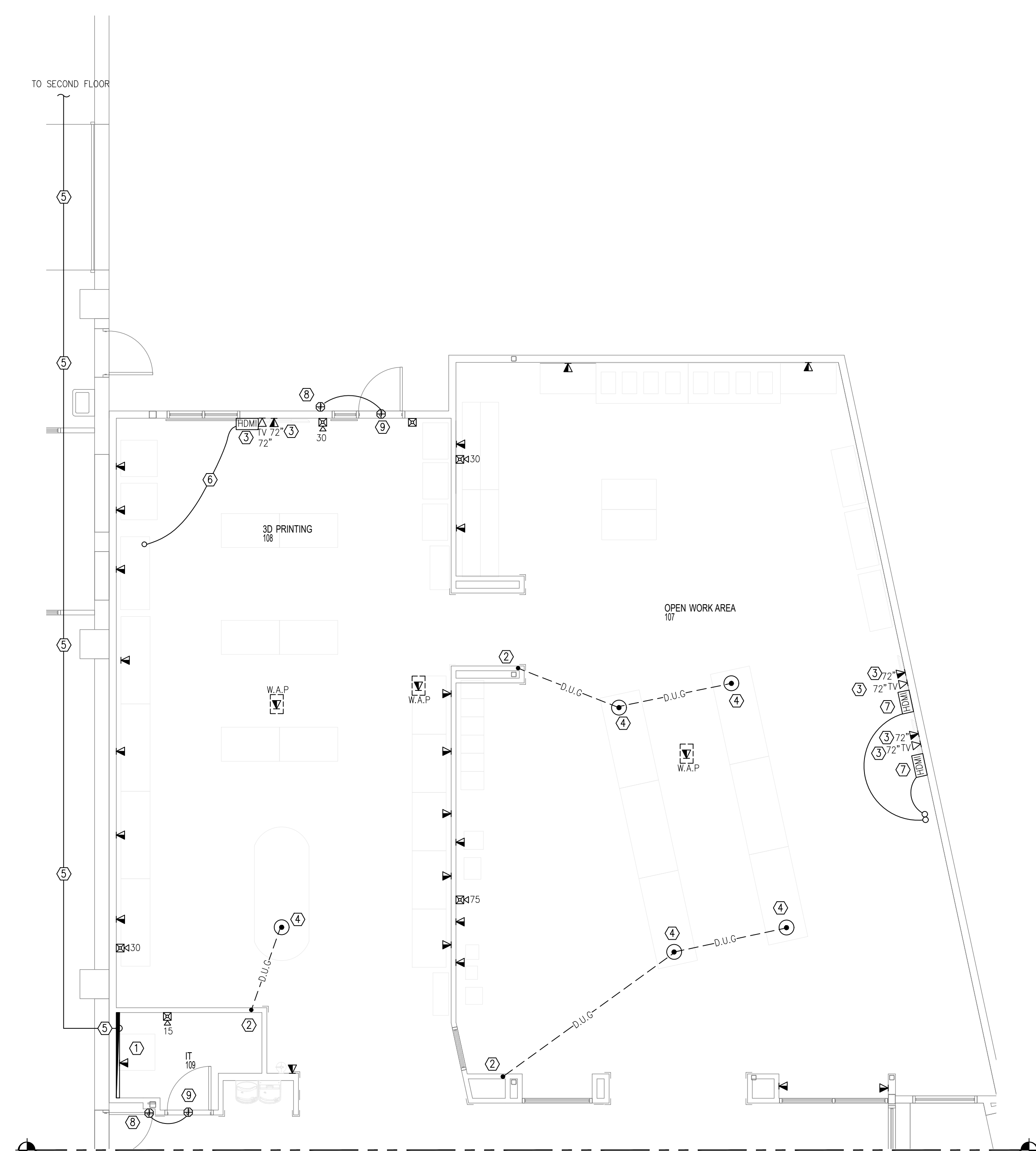
REVISION DATE

Project no: 23.16  
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Sheet:

**SPECIAL SYSTEMS PLAN  
E600**



**2 SPECIAL SYSTEMS PLAN**  
E600 3/16" = 1'-0"



**1 SPECIAL SYSTEMS PLAN**  
E600 3/16" = 1'-0"

**FIRE ALARM GENERAL NOTES**

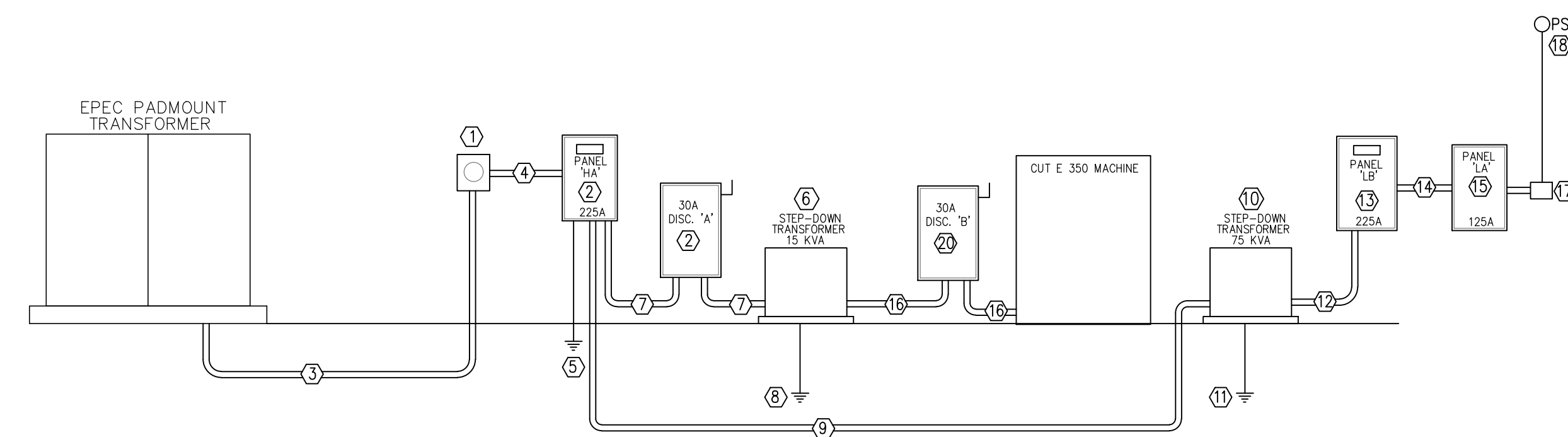
- A. FIRE ALARM INSTALLER TO INSTALL SYSTEM TO MEET ALL NATIONAL AND LOCAL FIRE CODES (i.e. NEC 760 AND NFPA). INSTALLER TO SUBMIT TO ARCHITECT "AS BUILT"
- B. FIRE ALARM INSTALLER TO COORDINATE AND CONNECT SMOKE DETECTION SYSTEM TO A/C DUCT SYSTEM.
- C. FIRE ALARM INSTALLER CAN SUBSTITUTE FIRE ALARM FIXTURES FOR OTHERS OF EQUAL PERFORMANCE.
- D. F.A. INSTALLER MUST BE CERTIFIED BY THE STATE AND SUBMIT ALL REQUIRED PLANS AND DRAWINGS. F.A. SYSTEM CALCULATIONS AND ALL APPLICABLE SUBMITTALS TO THE GOVERNING AUTHORITIES TO OBTAIN A PERMIT.
- E. THE F.A. INSTALLER MUST BID ON A COMPLETE F.A. SYSTEM THAT COMFORMS TO ALL APPLICABLE CODES.
- F. CONTRACTOR MUST VISIT SITE BEFORE BIDDING ON THIS PROJECT AND ALLOW FOR ANY MODIFICATIONS OR ADDITIONS NEEDED TO BE DONE ON THE EXISTING FIRE ALARM PANEL TO ACCOMMODATE ALL NEW DEVICES IN THE NEW ADDITION.
- G. CONTRACTOR MUST MAKE ALL FINAL CONNECTIONS AND TEST THE SYSTEM IN THE PRESENCE OF BUILDING PERSONNEL OR ENGINEER.
- H. PROVIDE AFCI PROTECTION TO ALL CIRCUITS THAT SERVE ANY FIRE ALARM PANEL OR DEVICE.
- I. FIRE ALARM CONTRACTOR TO CONNECT NEW FIRE ALARM PROTECTION EQUIPMENT TO EXISTING FIRE ALARM CONTROL PANEL (MS-9200DLS). FIRE ALARM CONTROL PANEL LOCATED IN STORAGE 150. CONTRACTOR TO VERIFY OUTPUTS AND IF REQUIRED REPLACE THE UPGRADE TO FIT NEW FIRE ALARM EQUIPMENT IN THE BUILDING.

**KEYED NOTES**

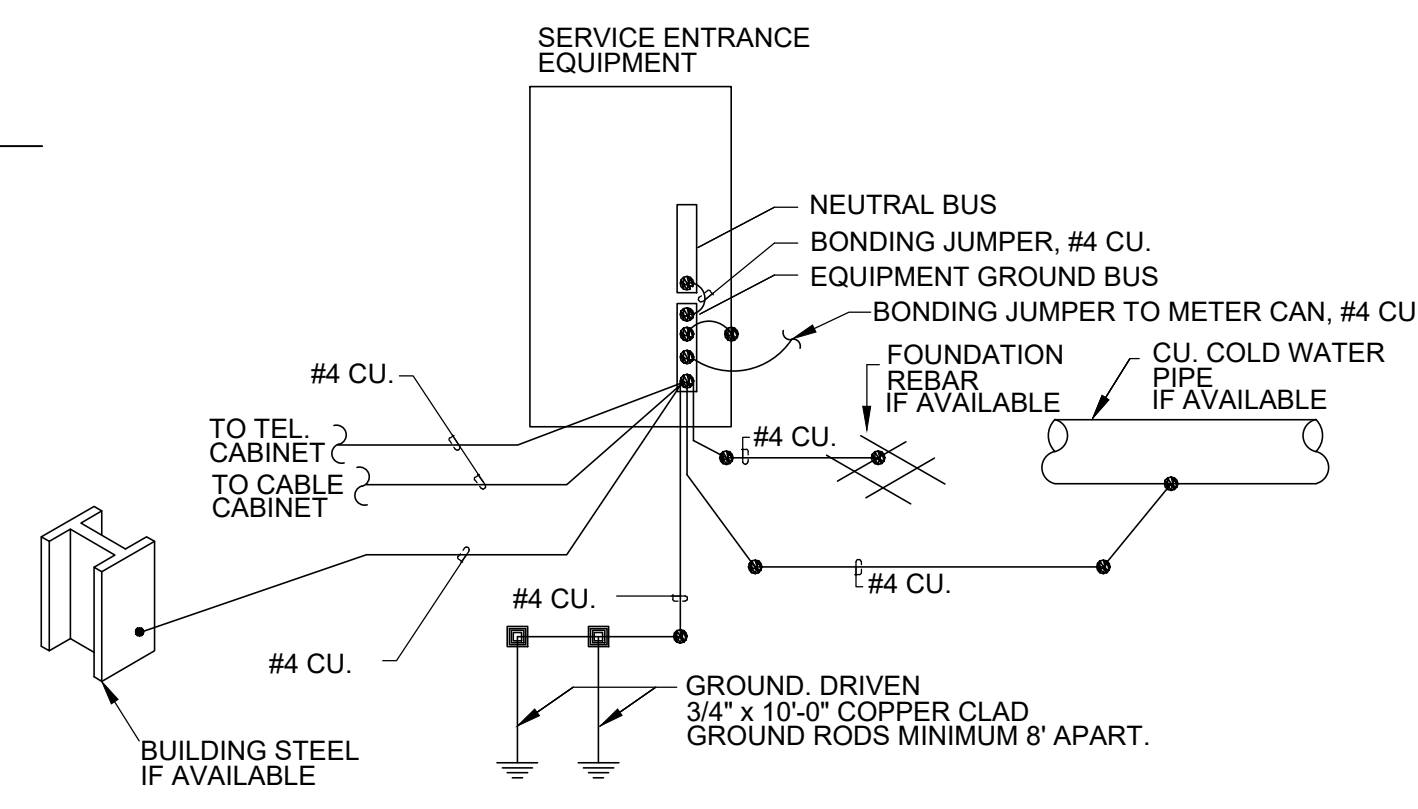
1. SHEET FIRE TREATED PLYWOOD ON WALL FOR TELEPHONE BOARD AS SHOWN, COORDINATE WITH OWNER FOR EXACT LOCATION. INSTALL GROUND BAR WITH #6 CU. GND. TO BUILDING STEEL.
2. RISE TO ABOVE ACCESSIBLE CEILING WITH 1" CONDUIT WITH PULLSTRING.
3. PROVIDE AND INSTALL TV BOX ON WALL WITH TV CABLE OUTLET. INSTALL ON WALL AT 72" A.F.F., VERIFY HEIGHT WITH ARCHITECT PRIOR TO ROUGH-IN. TV BOX TO BE HUBBELL NSAV62M OR APPROVED EQUAL.
4. PROVIDE AND INSTALL FLOOR BOX WITH TWO DUPLEX RECEPTACLES AND SPACE FOR COMMUNICATIONS. FLOOR BOX TO BE LEGRAND WIRE MOLD EFB6S-OG OR APPROVED EQUAL. PROVIDE WITH BRASS COVER AND INSTALL FLUSH TO FINISHED FLOOR. COORDINATE WITH ARCHITECT FOR EXACT LOCATION PRIOR TO COMMENCING ANY WORK.
5. PROVIDE AND INSTALL 4" CONDUIT WITH PULLSTRING FROM EXISTING IT ROOM IN SECOND FLOOR TO NEW IT ROOM FOR FIBER. COORDINATE WITH NMSU FOR EXACT LOCATION PRIOR TO COMMENCING ANY WORK.
6. PROVIDE AND INSTALL HDMI CABLE AND CONNECTIONS FROM COMPUTER DESK TO TV. COORDINATE WITH NMSU FOR EXACT LOCATION PRIOR TO COMMENCING ANY WORK.
7. PROVIDE AND INSTALL HDMI CABLE AND CONNECTION FROM INSTRUCTION COMPUTER TO TV. COORDINATE WITH NMSU FOR EXACT LOCATION PRIOR TO COMMENCING ANY WORK.
8. PROVIDE AND INSTALL J-BOX AT 48" A.F.F. FOR CARD READER. STUB 3/4" CONDUIT WITH PULLSTRING TO ABOVE ACCESSIBLE CEILING. COORDINATE WITH NMSU IT DEPARTMENTS FOR EXACT REQUIREMENTS PRIOR TO COMMENCING ANY WORK.
9. PROVIDE AND INSTALL J-BOX FOR DOOR STRIKE MAGLOCK. STUB 3/4" CONDUIT WITH PULLSTRING TO I.T ROOM. COORDINATE WITH NMSU FOR EXACT REQUIREMENTS PRIOR TO COMMENCING ANY WORK.
10. COORDINATE WITH ARCHITECT FOR EXACT MOUNTING LOCATION WITHIN MILLWORK PRIOR TO COMMENCING ANY WORK.
11. PROVIDE AND INSTALL HDMI CABLE WITH CONDUIT DOWN INTO BASE CABINET BELOW FOR PC. COORDINATE WITH NMSU FOR EXACT LOCATION PRIOR TO COMMENCING ANY WORK.
12. PROVIDE AND INSTALL J-BOX FOR CAMERA BY OTHERS. EXTEND CONDUIT TO ACCESSIBLE CEILING OR IT ROOM. COORDINATE WITH TENANT FOR EXACT REQUIREMENTS.

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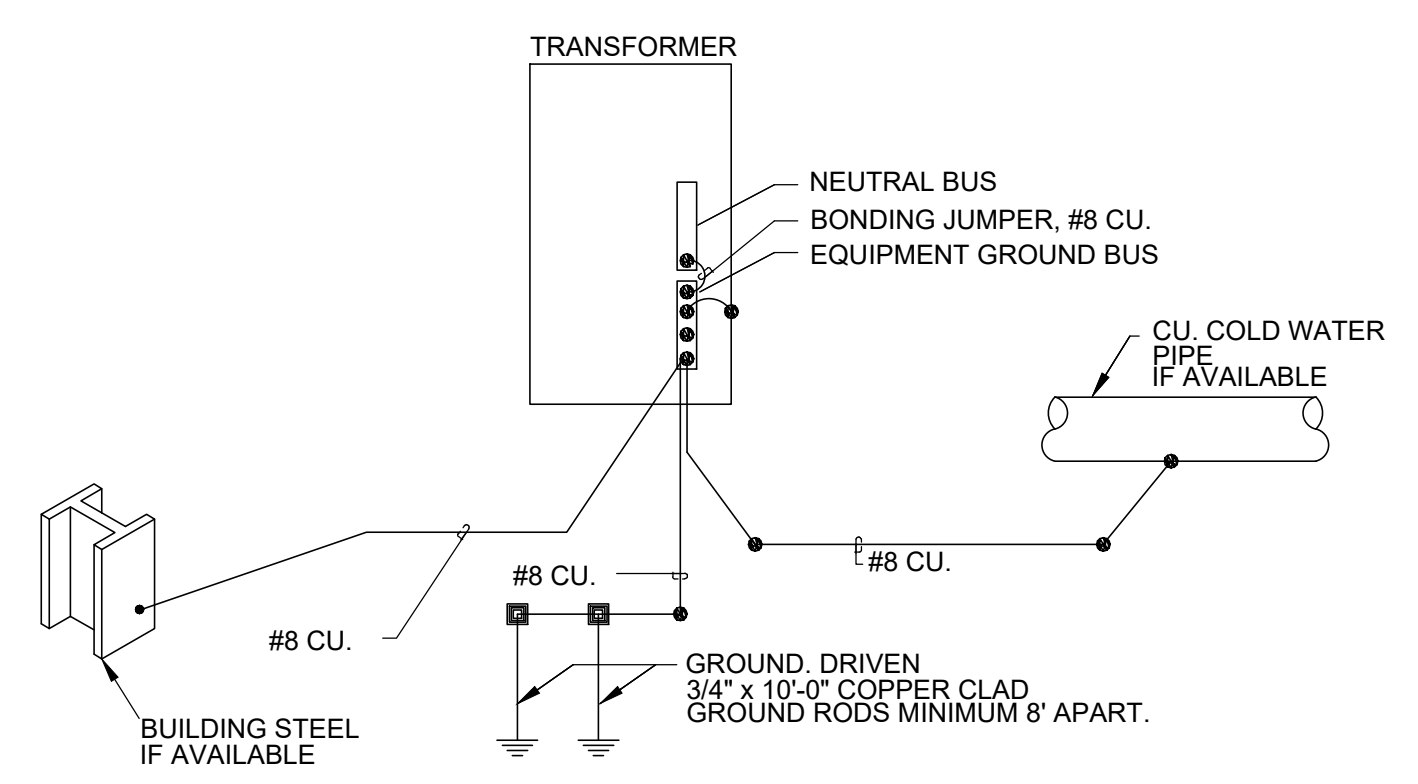
SPECIAL SYSTEMS SYMBOL LEGEND	
SYMBOL	DESCRIPTION
	DATA/COMMUNICATIONS J-BOX, PROVIDE J-BOX IN WALL, 4" SQ. DEEP J-BOX WITH SINGLE GANG PLASTER RING. STUBB UP 1" WITH PULLSTRING AND BUSHINGS TO ACCESSIBLE CEILING FOR FIBER OPTIC CABLE.
	TV CABLE BOX, PROVIDE J-BOX IN WALL, 4" SQ. DEEP J-BOX WITH SINGLE GANG PLASTER RING. STUBB UP 3/4" WITH COAX CABLE TO CABLE BOX AT TELEPHONE BOARD.
	FIRE ALARM HORN/STROBE, NUMBER DENOTES 'c' RATING, WALL MOUNTED DEVICE. PROVIDE 4" SQ. DEEP J-BOX WITH SINGLE GANG PLASTER RING, 1" CONDUIT TO ACCESSIBLE CEILING.
	FIRE ALARM STROBE, NUMBER DENOTES 'c' RATING, WALL MOUNTED DEVICE. PROVIDE 4" SQ. DEEP J-BOX WITH SINGLE GANG PLASTER RING, 1" CONDUIT TO ACCESSIBLE CEILING.
	FIRE ALARM PULL STATION, PROVIDE WITH STOPPER. PROVIDE 4" SQ. DEEP J-BOX WITH SINGLE GANG PLASTER RING, 1" CONDUIT TO ACCESSIBLE CEILING.
	CCTV CAMERA BY OTHERS. PROVIDE 4" SQ. DEEP J-BOX WITH SINGLE GANG PLASTER RING, 1" CONDUIT TO ACCESSIBLE CEILING.
	WIRELESS ACCESS POINT
	FLOOR BOX PROVIDE WITH DUPLEX RECEPTACLES AND ENOUGH SPACE FOR COMMUNICATIONS. 1" CONDUIT TO ACCESSIBLE CEILING.
	HDMI CABLE FOR TV 1" CONDUIT.



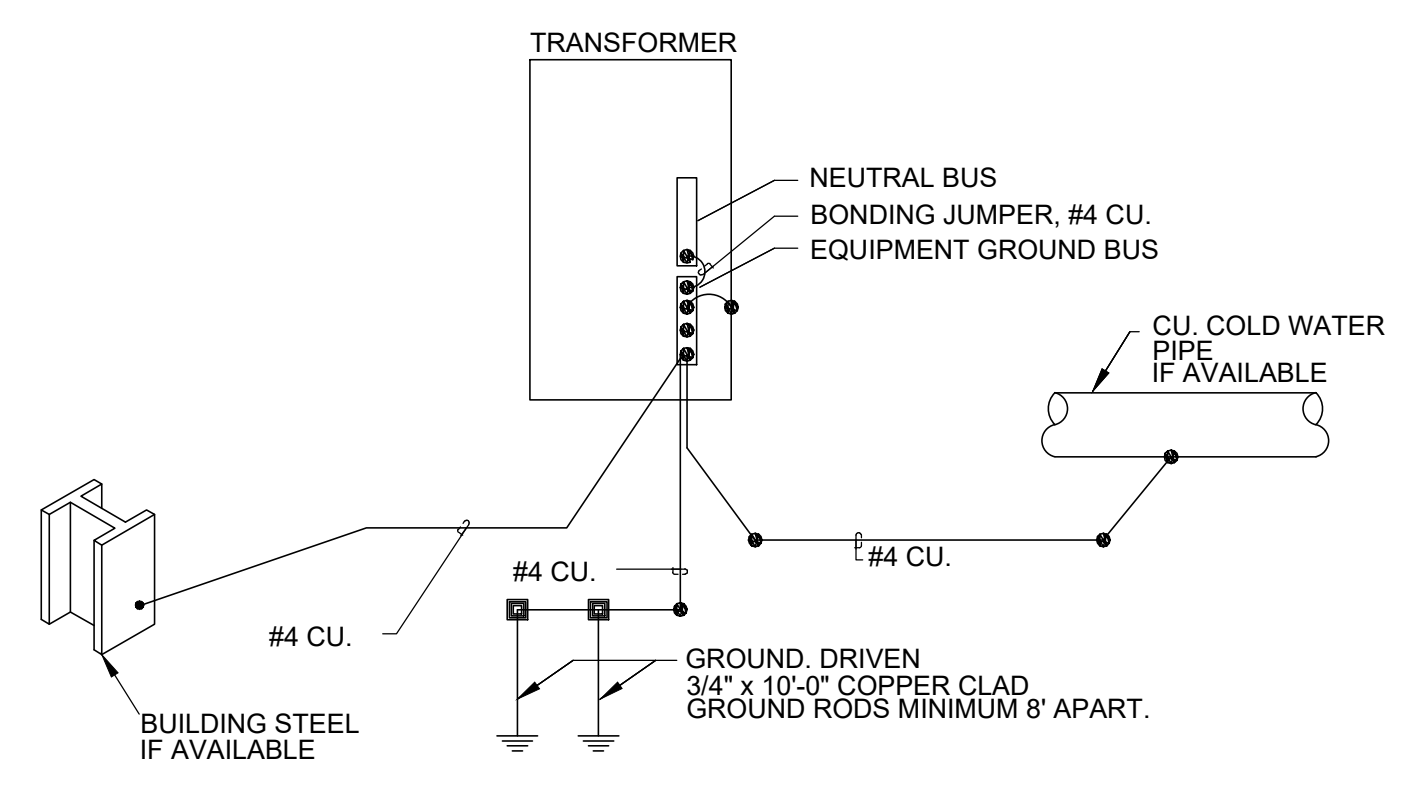
**1 ELECTRICAL RISER DIAGRAM**  
SCALE: N.T.S.



**2 GROUNDING SCHEMATIC**  
NTS



**3 STEP DOWN TRANSFORMER GROUNDING SCHEMATIC**  
NTS



**4 STEP DOWN TRANSFORMER GROUNDING SCHEMATIC**  
NTS

- KEYED NOTES**
- NEW METER PER LOCAL ELECTRIC COMPANY REQUIREMENTS.
  - PANEL 'HA' 225A, 480/277V, 3 PHASE, 4 WIRE, WITH A 200A MAIN C.B. REFER TO PANEL SCHEDULE.
  - 2" CONDUIT WITH 4-#3/0 THWN CU. CONDUCTORS.
  - 2" CONDUIT WITH 4-#3/0 THWN CU. CONDUCTORS AND 1-#4 CU. GROUND.
  - GROUNDING SYSTEM PER SCHEMATIC 2/E700.
  - NEW 15 KVA, 480-400V, 3PH, 4W, STEP DOWN TRANSFORMER, TP-1 COMPLIANT.
  - 1/2" CONDUIT WITH 3-#10 THWN CU. CONDUCTORS AND 1-#8 CU. GROUND.
  - GROUNDING SYSTEM PER SCHEMATIC 3/E700.
  - 1 1/2" CONDUIT WITH 3-#2 THWN CU. CONDUCTORS AND 1-#8 CU. GROUND.
  - NEW 75 KVA, 480-120/208V, 3PH, 4W, NEMA 3R, STEP DOWN TRANSFORMER. DELTA-WYE, TP-1 COMPLIANT.
  - GROUNDING SYSTEM PER SCHEMATIC 4/E700.
  - 2" CONDUIT WITH 4-#3/0 THWN CU. CONDUCTORS AND 1-#4 CU. GROUND.
  - PANEL 'LB' 225A, 208/120V, 3 PHASE, 4 WIRE, WITH A 200A MAIN C.B. REFER TO PANEL SCHEDULE.
  - 1-1/2" CONDUIT WITH 4-#2 THWN CU CONDRS AND 1-#8 CU GND.
  - PANEL 'LA' 125A, 208/120V, 3 PHASE, 4 WIRE, REFER TO PANEL SCHEDULE.
  - CONNECT 12 KVA STEP-DOWN TRANSFORMER TO CUT E 350 MACHINE. COORDINATE WITH MANUFACTURER FOR EXACT REQUIREMENTS PRIOR TO COMMENCING ANY WORK.
  - PROVIDE NEMA 3R, HINGED, WITH LOCKABLE COVER LARGE ENOUGH TO FIT TIME CLOCK, 4 POLE LIGHTING CONTACTOR, AND ASSOCIATED DEVICES.
  - PHOTOCELL ON ROOF, FACING SOUTH.
  - NON-FUSED DISCONNECT 'A' 30A 480Y/277V, 3 PHASE, 4 WIRE, NEMA 3R FOR 12 KVA STEP-DOWN TRANSFORMER.
  - NON-FUSED DISCONNECT 'B' 30A 400Y/380V, 3 PHASE, 4 WIRE, NEMA 3R FOR CUT E 350 MACHINE.

**SHORT CIRCUIT AVAILABILITY (SCA)**

BASED UPON MAXIMUM BUILDING TRANSFORMER SC. LET THROUGH WITH UNLIMITED PRIMARY S.C. CURRENT (INFINITY BUS)

ASSUMING BUILDING TRANSFORMER RATING = 225 KVA  
TRANSFORMER IMPEDANCE (%Z) = 3.75 %  
SECONDARY VOLTAGE = 480 VOLTS  
SECONDARY PHASE = 3 PHASE

$$FLA = \frac{KVA \times 1000}{E(I-I) \times PHASE CORRECTION} = \frac{225 \times 1000}{480 \times \sqrt{3}}$$

FLA = 270.63 AMPS

$$MULTIPLIER = \frac{100}{3.75} = 26.67$$

SCA = AMPS X MULTIPLIER = 270.63 X 26.67

SCA = 7220 AMPS AT LOAD SIDE OF TRANSFORMER

**FAULT CURRENT AT MAIN SERVICE**

SCA AT SECONDARY = 7220 AMPS  
LENGTH TO MAIN SERVICE = 7 FT  
"C" (WIRE CONSTANT) = 13823  
# OF PARALLEL WIRES = 1

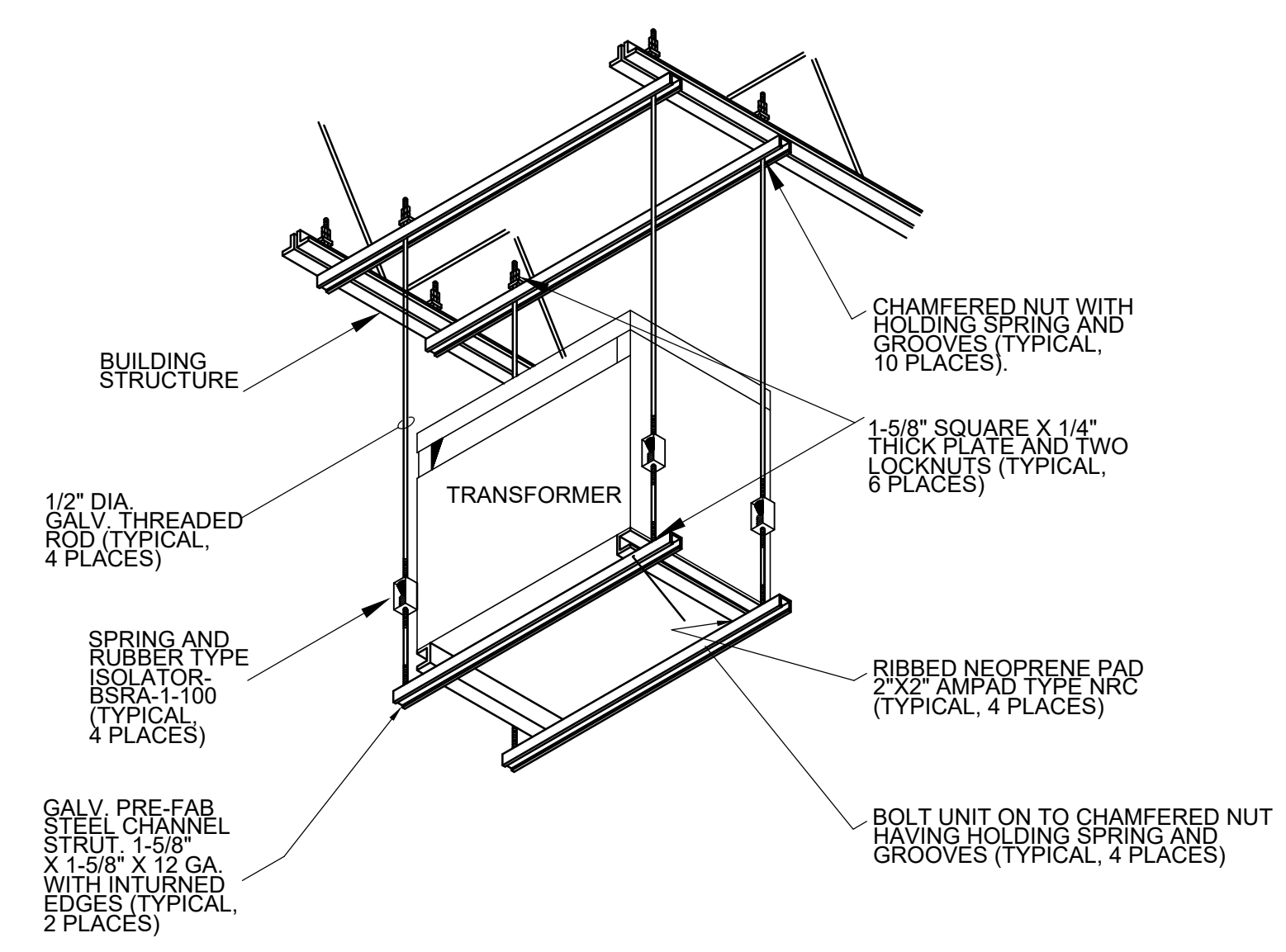
CALCULATE "F" FACTOR

$$F = \frac{PHASE CORRECTION \times LENGTH (FEET) \times SCA}{\# OF PARALLEL WIRES \times "C" \times WIRE CONSTANT \times VOLTAGE L-L}$$

F = 0.013193  
M = 0.986979

$$M = \frac{1}{1 + F}$$

NEW SCA = SCA X M  
SCA AT MAIN SERVICE = 7125.985 AMPS



**5 SUSPENDED TRANSFORMER SCHEMATIC**  
NTS

ADDITION

**4842 AGGIE INNOVATION SPACE EC1**

1025 Stewart St.  
Las Cruces, NM

REVISION	DATE

Project no: 23.16  
Date: April 2024  
Sheet:

**ELECTRICAL RISER DIAGRAM E700**



ADDITION

**4842 AGGIE INNOVATION SPACE EC1**

1025 Stewart St.  
Las Cruces, NM

REVISION \_\_\_\_\_ DATE \_\_\_\_\_

Project no: 23.16  
Date: April 2024  
Sheet:

**ELECTRICAL PANEL SCHEDULE E800**

PANEL OR LOAD CENTER - HA																																																																														
LOAD TYPE	CKT. NO.	DESCRIPTION	NOTES	AMPS	POLE	LOAD KVA	A	B	C	LOAD KVA	POLE	AMPS	NOTES	DESCRIPTION	CKT. NO.	LOAD TYPE																																																														
LT	1	INTERIOR LIGHTING		20	1	2.6	6.6			4				STEP DOWN TRANSFORMER	2	OT																																																														
OT	3	RTU-1				4.3		8.3		4	3	20		480-380/400V	4	OT																																																														
OT	5	480V, 3PH		20	3	4.3			8.3	4				15KVA	6	OT																																																														
OT	7	15.6 MCA				4.3	8.6			4.3				RTU-2	8	OT																																																														
OT	9	RTU-3				2.8		7.1		4.3	3	20		480V 3PH	10	OT																																																														
OT	11	480V, 3PH		15	3	2.8			7.1	4.3				15.6 MCA	12	OT																																																														
OT	13	10.1 MCA				2.8	9.7			6.9				RTU-4	14	AC																																																														
OT	15	STEP DOWN TRANSFORMER				24.8		31.7		6.9	3	30		480V, 3PH	16	AC																																																														
OT	17	480-120/208V		90	3	23.1				6.9				24.8 MCA	18	AC																																																														
OT	19	75 KVA				23.3	23.6			0.3	1	20		EXTERIOR LIGHTS	20	LT																																																														
	21	SPARE		20	1			0			1	20		SPARE	22																																																															
	23	SPARE		20	1				0		1	20		SPARE	24																																																															
	25	SPARE		20	1			0			1	20		SPARE	26																																																															
	27	SPARE		20	1			0			1	20		SPARE	28																																																															
	29	SPARE		20	1				0		1	20		SPARE	30																																																															
						TOTAL KVA	48.5	47.1	45.4																																																																					
						TOTAL AMPS	175.1	170.0	163.9																																																																					
<b>PANELBOARD INFORMATION</b>																																																																														
DESIGNATION	HA																																																																													
MAIN SIZE	200A																																																																													
MAIN TYPE	200A MAIN C.B.																																																																													
VOLTS	277/480																																																																													
PHASE	3																																																																													
Wire	4																																																																													
AIC RATING	22KAIC																																																																													
NEMA TYPE	3R/EXTERIOR																																																																													
MOUNTING	SURFACE																																																																													
SERVED FROM	200A MAIN C.B.																																																																													
														<table border="1"> <thead> <tr> <th colspan="2">LOAD TYPE</th> <th colspan="2">CONNECTED</th> <th>DESIGN FACTOR</th> <th colspan="2">DESIGN LOAD</th> </tr> <tr> <th></th> <th>KVA</th> <th>AMPS</th> <th></th> <th></th> <th>KVA</th> <th>AMPS</th> </tr> </thead> <tbody> <tr> <td>LIGHTS</td> <td>2.90</td> <td>3.5</td> <td>1.25</td> <td>3.63</td> <td>4.4</td> <td></td> </tr> <tr> <td>RECEPTACLES</td> <td>0.00</td> <td>0.0</td> <td>1.0</td> <td>0.00</td> <td>0.0</td> <td></td> </tr> <tr> <td>MOTOR</td> <td>0.00</td> <td>0.0</td> <td>NEC</td> <td>0.00</td> <td>0.0</td> <td></td> </tr> <tr> <td>AC</td> <td>20.70</td> <td>24.9</td> <td>1.25</td> <td>25.88</td> <td>31.2</td> <td></td> </tr> <tr> <td>KITCHEN</td> <td>0.00</td> <td>0.0</td> <td>1.0</td> <td>0.00</td> <td>0.0</td> <td></td> </tr> <tr> <td>OTHER</td> <td>117.40</td> <td>141.4</td> <td>NEC</td> <td>117.40</td> <td>141.4</td> <td></td> </tr> <tr> <td>TOTAL</td> <td>141.00</td> <td>169.8</td> <td></td> <td>146.90</td> <td>176.9</td> <td></td> </tr> </tbody> </table>		LOAD TYPE		CONNECTED		DESIGN FACTOR	DESIGN LOAD			KVA	AMPS			KVA	AMPS	LIGHTS	2.90	3.5	1.25	3.63	4.4		RECEPTACLES	0.00	0.0	1.0	0.00	0.0		MOTOR	0.00	0.0	NEC	0.00	0.0		AC	20.70	24.9	1.25	25.88	31.2		KITCHEN	0.00	0.0	1.0	0.00	0.0		OTHER	117.40	141.4	NEC	117.40	141.4		TOTAL	141.00	169.8		146.90	176.9	
LOAD TYPE		CONNECTED		DESIGN FACTOR	DESIGN LOAD																																																																									
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PANEL OR LOAD CENTER - LA																																																																														
LOAD TYPE	CKT. NO.	DESCRIPTION	NOTES	AMPS	POLE	LOAD KVA	A	B	C	LOAD KVA	POLE	AMPS	NOTES	DESCRIPTION	CKT. NO.	LOAD TYPE																																																														
LT	1	HOOD LIGHT		20	1	0.8	1.6			0.8	1	20		3D PRINTING TV OUTLETS	2	RE																																																														
RE	3	FUSION 3 PRINTER OUTLET		20	1	0.6		1.2		0.6	1	20		FUSION 3 PRINTER OUTLET	4	RE																																																														
RE	5	COMPUTER OUTLET		20	1	0.8			1.6	0.8	1	20		WORK TABLE OUTLETS	6	RE																																																														
RE	7	WORK TABLE OUTLETS		20	1	0.8	1.6			0.8	1	20		COMPUTER OUTLETS	8	RE																																																														
RE	9	COMPUTER OUTLETS		20	1	0.8			1.6	0.8	1	20		WORK TABLE OUTLETS	10	RE																																																														
RE	11	COMPUTER OUTLETS		20	1	0.8			2	1.2	1	20		3D PRINTER OUTLET	12	RE																																																														
RE	13	3D PRINTERS OUTLET		20	1	1.2	2.4			1.2	1	20		3D PRINTER OUTLET	14	RE																																																														
RE	15	3D PRINTERS OUTLET		20	1	1.2		2		0.8	1	20		OPEN WORK AREA OUTLETS	16	RE																																																														
RE	17	OPEN WORK AREA FLOOR OUTLETS		20	1	0.8			1.8	1	1	20		BIG RESIN PRINTER OUTLET	18	RE																																																														
RE	19	BIG RESIN PRINTER OUTLET		20	1	1.0	1.8			0.8	1	20		OPEN WORK AREA FLOOR OUTLETS	20	RE																																																														
RE	21	OPEN WORK AREA OUTLETS		20	1	0.8		1.6		0.8	1	20		3D PRINTER FLOOR OUTLET	22	RE																																																														
RE	23	IT ROOM OUTLETS		20	1	0.8			1.6	0.8	1	20		TELE BOARD	24	RE																																																														
RE	25	WATER COOLER OUTLET		20	1	0.8	1.6			0.8	1	20		HALL/CHECK-IN OUTLETS	26	RE																																																														
RE	27	PROJECT ROOM 104 OUTLETS		20	1	0.8			1.6	0.8	1	20		PROJECT ROOM 103 OUTLETS	28	RE																																																														
RE	29	STORAGE OUTLETS		20	1	0.8			1.6	0.8	1	20		PLOTTER OUTLET	30	RE																																																														
RE	31	METAL PRINTING OUTLET		20	1	0.8	1.6			0.8	1	20		ADA PUSH BUTTON	32	RE																																																														
	33	SPARE		20	1	2.0		2			1	20		SPARE	34																																																															
	35	SPARE		20	1				0		1	20		SPARE	36																																																															
	37	SPARE		20	1		0				1	20		SPARE	38																																																															
	39	SPARE		20	1		0				1	20		SPARE	40																																																															
	41	SPARE		20	1		0				1	20		SPARE	42																																																															
						TOTAL KVA	10.6	10	8.6																																																																					
						TOTAL AMPS	88.3	83.3	71.7																																																																					
<b>PANELBOARD INFORMATION</b>																																																																														
DESIGNATION	LA																																																																													
MAIN SIZE	125A																																																																													
MAIN TYPE	M.L.O.																																																																													
VOLTS	120/208																																																																													
PHASE	3																																																																													
Wire	4																																																																													
AIC RATING	12 KAIC																																																																													
NEMA TYPE	INTERIOR																																																																													
MOUNTING	SURFACE																																																																													
SERVED FROM	100A, 3 POLE C.B. IN PANEL LB																																																																													
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LOAD TYPE		CONNECTED		DESIGN FACTOR	DESIGN LOAD																																																																									
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PANEL OR LOAD CENTER - LB																																			
LOAD TYPE	CKT. NO.	DESCRIPTION	NOTES	AMPS	POLE	LOAD KVA	A	B	C	LOAD KVA	POLE	AMPS	NOTES	DESCRIPTION	CKT. NO.	LOAD TYPE																			
RE	1	METAL PRINTING OUTLETS		20	1	0.8	1.6			0.8	1	20		MFG PRO COMPONENTS OUTLET	2	RE																			
RE	3	MFG PRO COMPONENTS OUTLET		20	1	0.8		1.6		0.8	1	20		METAL PRINTING OUTLETS	4	RE																			
RE	5	AIR DRYER		20	1	0.8			1.6	0.8	1	20		POWDER PRINTER OUTLETS	6	RE																			
RE	7	POWDER PRINTER OUTLETS		20	1	0.8	2.5			1.7	2	20		M-PURE 3D PRINTER OUTLET	8	RE																			
RE	9	M-PRINT 3D PRINTER OUTLET		20	2	1.7		3.4		1.7				230V	10	RE																			
RE	11	230V		20	2	1.7			3.4	1.7	2	20		M-PURE 3D PRINTER OUTLET	12	RE																			
RE	13	M-PRINT 3D PRINTER OUTLET		20	2	1.7	3.4			1.7				230V	14	RE																			
RE	15	230V		20	2	1.7		3.4		1.7	2	20		AON 3 PRINTER OUTLET	16	RE																			
RE	17	MFG PRO OUTLET		20	2	3.3			5	1.7				230V	18	RE																			
RE	19	220V		40	2	3.3	4.1			0.8	1	20		POWDER PRINTER OUTLET	20	RE																			
RE	21	LISA X SLS OUTLET		15	2	0.8		1.6		0.8	1	20		POWDER PRINTER OUTLET	22	RE																			
RE	23	230V		20	2	0.8			1.6	0.8	1	20		POWDER PRINTER OUTLET	24	RE																			
RE	25	XYZ PRINTING OUTLET		20	1	0.2	1			0.8	1	20		ROOF OUTLET	26	RE																			
RE	27	CONDENSATE PUMP		20	1	0.8		1.6		0.8	1	20		ROOF OUTLET	28	RE																			
RE	29	ROOF OUTLET		20	1	0.8			1.6	0.8	1	20		EXHAUST FAN	30	RE																			
RE	31	POWDER PRINTER OUTLET		20	1	0.8	11.4			10.6				PANEL LA	32	OT																			
RE	33	AIR COMPRESSOR		30	2	1.5		11.5		10	3	100		208/120V, 3PH	34	OT																			
RE	35	220V		20	2	1.5			10.1	8.6				4 WIRE	36	OT																			
RE	37	EXHAUST FAN		20	1	0.8	0.8				1	20		SPARE	38																				
	39	SPARE		20	1				0		1	20		SPARE	40																				
	41	SPARE		20	1				0		1	20		SPARE	42																				
						TOTAL KVA	24.8	23.1	23.3																										
						TOTAL AMPS	206.7	192.5	194.2																										
<b>PANELBOARD INFORMATION</b>																																			
DESIGNATION	LB																																		
MAIN SIZE	225A																																		
MAIN TYPE	200A MAIN C.B.																																		
VOLTS	120/208																																		
PHASE	3																																		
Wire	4																																		
AIC RATING	12KAIC																																		
NEMA TYPE	INTERIOR																																		
MOUNTING	SURFACE																																		
SERVED FROM	75 KVA TRANSFORMER																																		
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LOAD TYPE		CONNECTED		DESIGN FACTOR	DESIGN LOAD																														
	KVA	AMPS			KVA	AMPS																													
LIGHTS	0.00	0.0	1.25	0.00	0.																														