

NTU ENVIRONMENTAL LAB CHINLE

CHINLE, APACHE COUNTY, AZ
SCHEMATIC DESIGN
DECEMBER 2, 2022



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- 3
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4

TOTAL SHEETS: 45

Early Work Package 1 Plans
01.24.2023

NTU ENVIRONMENTAL
LAB CHINLE

CHINLE, APACHE COUNTY, AZ

SCHEMATIC DESIGN
DECEMBER 2, 2022

DYRON MURPHY ARCHITECTS, P.C.



4505 Montbel Place NE, Albuquerque, New Mexico 87107

ARCHITECT

Revision Schedule		
#	Date	Description

PROJECT NUMBER	DRAWN BY	PROJ MGR
Project #	Author	Designer

RVT FILE
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Chinle Lab_R22_ehermandez@dm-architects.com.rvt

Sheet Number

TITLE SHEET and
DRAWING INDEX

G001

Sequence of

GENERAL NOTES

- CONTRACTOR SHALL COORDINATE ALL CONTRACT DRAWINGS AND SPECIFICATIONS FOR COORDINATION OF ALL SITE AND BUILDING COMPONENTS.
- CONTRACTOR SHALL PROVIDE COORDINATION DRAWINGS AS PART OF SUBMITTAL PROCESS AND IS RESPONSIBLE FOR ACCURACY AND COMPLETENESS OF DOCUMENTS.
- DRAWINGS SHALL NOT BE SCALED FOR DIMENSIONS NOT PROVIDED. IF ADDITIONAL DIMENSIONS ARE REQUIRED, NOTIFY ARCHITECT.
- CONTRACTOR SHALL VERIFY ALL EXISTING SITE CONDITIONS AND DIMENSIONS PRIOR TO CONSTRUCTION.
- CONTRACTOR SHALL NOTIFY ARCHITECT IMMEDIATELY OF ANY ERRORS, OMISSIONS OR CONFLICTS IN THE CONSTRUCTION DOCUMENTS.
- ALL MANUFACTURER'S INSTALLATION INSTRUCTIONS, ASTM STANDARDS AND ICBO AND ICC ER REPORTS SHALL BE PROVIDED TO THE INSPECTOR AT THEIR REQUEST AND AT THE TIME OF INSPECTION.
- CONTRACTOR SHALL COORDINATE ALL MATERIALS AND TRADES WITH THE LIFE SAFETY PLAN. IN THE CASE OF ANY DISCREPANCIES IN FIRE-RESISTANCE, SMOKE-RESISTANCE OR OTHER LIFE SAFETY FACTOR, THE MOST RESTRICTIVE SHALL GOVERN.
- ALL MATERIALS USED IN RATED ASSEMBLIES SHALL BEAR THE UL CLASSIFICATION MARK AS REQUIRED BY THE UL DESIGN OF THE ASSEMBLY IN WHICH THEY OCCUR.
- ALL ASSEMBLIES AND PENETRATIONS TO BE COORDINATED WITH RATINGS INDICATED IN CODE ANALYSIS/ LIFE SAFETY PLANS. CONTRACTOR TO PROVIDE UL RATED ASSEMBLIES AS REQUIRED. CONTRACTOR TO PROVIDE UL RATINGS IN SUBMITTALS FOR ALL PENETRATIONS AS REQUIRED.
- CONTRACTOR SHALL COORDINATE WITH MANUFACTURER REQUIREMENTS FOR PROPER INSTALLATION OF ALL MATERIALS AND COMPONENTS.

ABBREVIATIONS

A.F.F.	ABOVE FINISHED FLOOR	N.C.	NON-COMBUSTIBLE
AL.	ALUMINUM	N.I.C.	NOT IN CONTRACT
BM.	BEAM	NR.	NON-RATED
CL.R.	CLEAR	N.T.S.	NOT TO SCALE
CONT.	CONTINUOUS	O.A.E.	OR APPROVED EQUAL
DIA.	DIAMETER	O.C.	ON CENTER
EQ.	EQUAL	OPP.	OPPOSITE
F.E.	FIRE EXTINGUISHER	REQ'D.	REQUIRED
F.E.C.	FIRE EXTINGUISHER CABINET	S.F.	SQUARE FOOT
F.F.	FINISHED FLOOR	SIM.	SIMILAR
GA.	GALVANIZED	S.S.	STAINLESS STEEL
G.S.F.	GROSS SQUARE FOOT	STL.	STEEL
H.M.	HOLLOW METAL	T.B.D.	TO BE DETERMINED
HR.	HOUR	T.O.P.	TOP OF PARAPET
JST.	JOIST	T.O.W.	TOP OF WALL
MAX.	MAXIMUM	TYP.	TYPICAL
MIN.	MINIMUM	U.N.O.	UNLESS NOTED OTHERWISE
MTL.	METAL	V.I.F.	VERIFY IN FIELD
N/A	NOT APPLICABLE		

DEFERRED SUBMITTALS

- Fire sprinkler drawings and shop drawings.
- Fire alarm drawings and shop drawings.
- Tactile signage shop drawings.
- Roof joists.
- EIFS shop drawings.
- Furniture plan (by others).
- Suspended ceilings - structural engineering & calculations

SYMBOLS LEGEND

	<u>CENTER LINE</u>
101	<u>DOOR NUMBER</u>
	<u>WALL TYPE</u>
	<u>WINDOW TYPE</u>
	<u>MATERIAL FINISH IDENTIFICATION</u>
	<u>REVISION INDICATOR</u>
	<u>KEYED NOTE</u>
	<u>ELEVATION CALLOUT</u>
	<u>STRUCTURAL GRID IDENTIFICATION</u>
Room Name	ROOM NUMBER
101	ROOM / EGRESS TAG
150 SF	APPROXIMATE AREA
100	OCCUPANT LOAD FACTOR
2	CALCULATED NUMBER OF OCCUPANTS
	DETAIL / VIEW NUMBER
	<u>DETAIL MARKER</u>
	SHEET NUMBER
	DETAIL / VIEW NUMBER
	<u>EXTERIOR ELEVATION MARKER</u>
	SHEET NUMBER
	DETAIL / VIEW NUMBER
	<u>INTERIOR ELEVATION MARKER</u>
	SHEET NUMBER
	DETAIL / VIEW NUMBER
	<u>SECTION MARKER</u>
	SHEET NUMBER
	PLAN NORTH TRUE NORTH
	<u>NORTH ARROW</u>
	SHEET NUMBER
	VIEW NUMBER ON SHEET
	<u>VIEW REFERENCE AND TITLE</u>
	VIEW SCALE

PROJECT TEAM

Owner

NAVAJO TECHNICAL UNIVERSITY
P.O. Box 849
Chinle, AZ 86503
Tel. (xxx) xxx-xxxx

Architect

DYRON MURPHY ARCHITECTS, P.C.
4505 Montbel Pl, NE
Albuquerque, NM 87107
Tel. (505) 830-0203

Civil

HOZHO Engineering, LLC
2733, E Lakin Drive Suite #2
Flagstaff, AZ 86004
Tel. (928) 864-7198

Structural

Chavez-Grievens Consulting Engineers, Inc.
4700 Lincoln Road NE, Suite 102
Albuquerque, NM 87109
Tel. (505) 344-0800

Mechanical & Plumbing

IMEG Corp
9000 E Pima Center Parkway, Suite 320
Scottsdale, AZ 85258
Tel. (602) 943 8424

Electrical

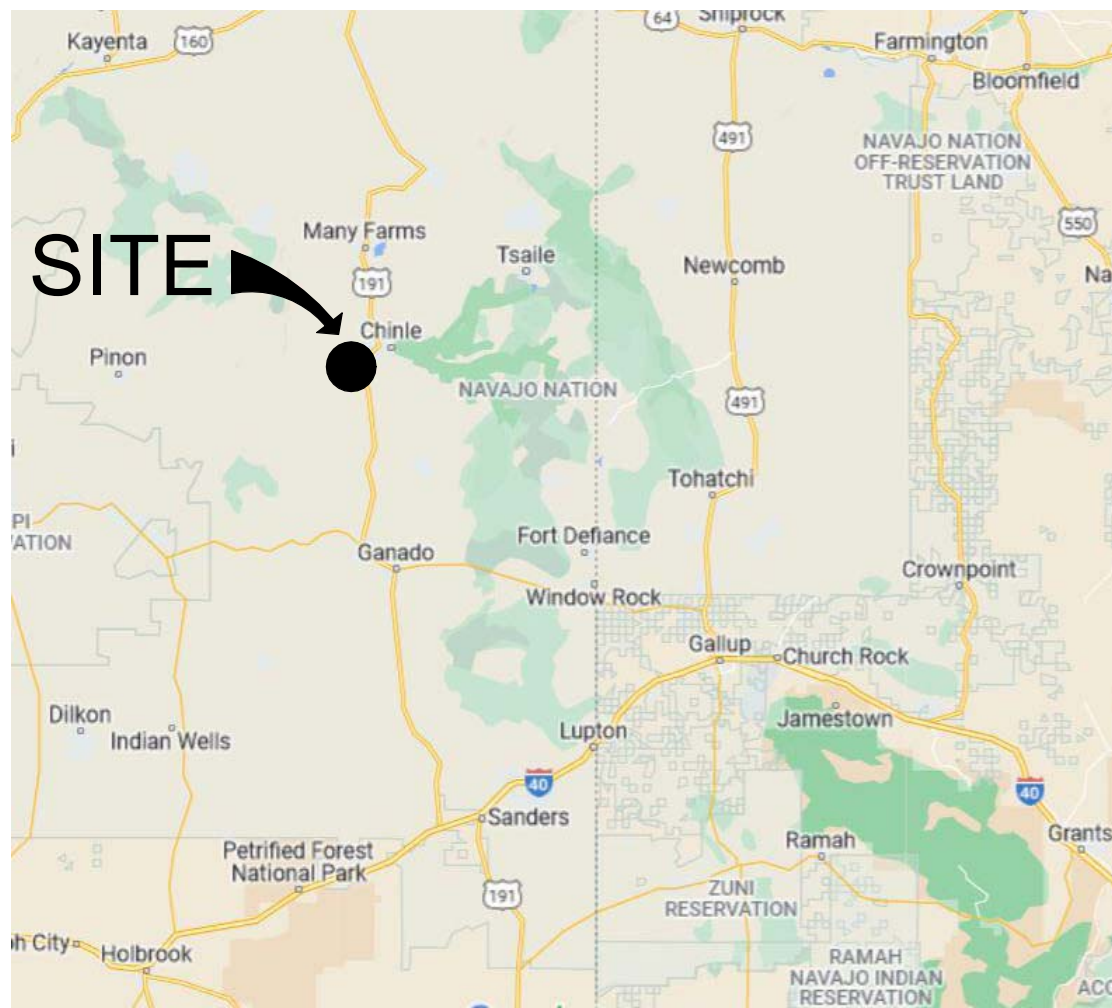
Allied Engineering & Design Inc.
5101 Coors Blvd NW, Suite F
Albuquerque, NM 87120
Tel. (505) 262-1766

Fire Protection

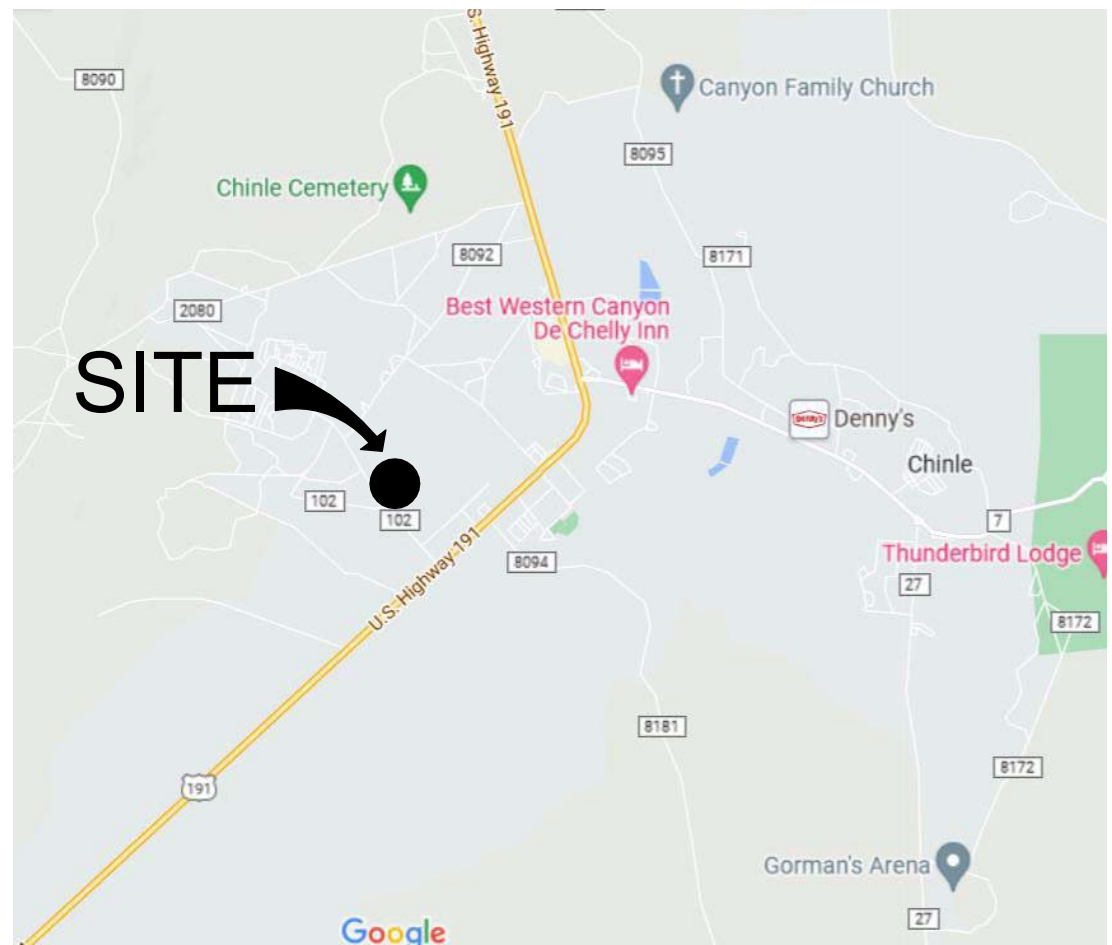
Veritas Fire Engineering, Inc.
12364 West Alameda Parkway, Suite 132
Lakewood, Colorado 80228
Tel. (303) 982 3300

LOCATION

REGION MAP



VICINITY MAP



NTU ENVIRONMENTAL LAB CHINLE

CHINLE, APACHE COUNTY, AZ

SCHEMATIC DESIGN

DECEMBER 2, 2022

DYRON MURPHY ARCHITECTS, P.C.



4505 Montbel Place NE, Albuquerque, New Mexico 87107

ARCHITECT

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#	Date	Description

PROJECT NUMBER	DRAWN BY	PROJ MIGR
Project #	Author	Designer

RVT FILE
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Chinle Lab_R22_ahernandez@dm-architects.com.rvt

Sheet Number

PROJECT INFORMATION

G002

Sequence of

NTU ENVIRONMENTAL
LAB CHINLE

CHINLE, APACHE COUNTY, AZ

SCHEMATIC DESIGN
DECEMBER 2, 2022

CONSTRUCTION NOTES

1. CONSTRUCT ASPHALT PAVEMENT.
2. INSTALL DETECTABLE WARNING STRIP.
3. CONSTRUCT CONCRETE SLAB FOR TRASH ENCLOSURE.
4. CONSTRUCT CONCRETE SIDEWALK.
5. CONSTRUCT CONCRETE SIDEWALK ALONG CURB.
6. CONSTRUCT CONCRETE CURB RAMP.
7. INSTALL 4" SOLID WHITE LINE.
8. INSTALL ACCESSIBLE PARKING.
9. INSTALL ACCESSIBLE PARKING AND VAN ACCESSIBLE PARKING SIGNS.
10. INSTALL PRECAST SAFETY CURB.
11. CONSTRUCT CONCRETE VALLEY GUTTER AND APRON.
12. CONSTRUCT ASPHALT PAVEMENT EDGE.
13. CONSTRUCT SINGLE VERTICAL CURB, TYPE 'A'.
14. INSTALL ACCESSIBLE PARKING SIGN.
15. SAWCUT, REMOVE AND DISPOSE OF EXISTING CONCRETE CURB AND GUTTER.
16. SAWCUT, REMOVE AND DISPOSE OF EXISTING ASPHALT PAVEMENT.
17. REMOVE AND DISPOSE OF CURB INLET CATCH BASIN ENTIRELY. REMOVE AND DISPOSE OF EXISTING STORM PIPE AS NEEDED TO COMPLETE WORK. REMAINING STORM PIPE SHALL BE CAPED OFF AND ABANDONED IN PLACE. CAP SHALL BE APPROVED BY ENGINEER.
18. CONSTRUCT 3' WIDE CONCRETE VALLEY GUTTER.
19. CONSTRUCT CURB AND GUTTER.

REFERENCE NOTES

1. NEW BUILDING
REFER TO ARCHITECTURAL & STRUCTURAL PLAN
7. TRASH ENCLOSURE
REFER TO ARCHITECTURAL PLAN



DYRON MURPHY ARCHITECTS, P.C.



4505 Montbel Place NE, Albuquerque, New Mexico 87107

NOT FOR
CONSTRUCTION

CIVIL

Revision Schedule

Revision Number	Revision Date	Revision Description
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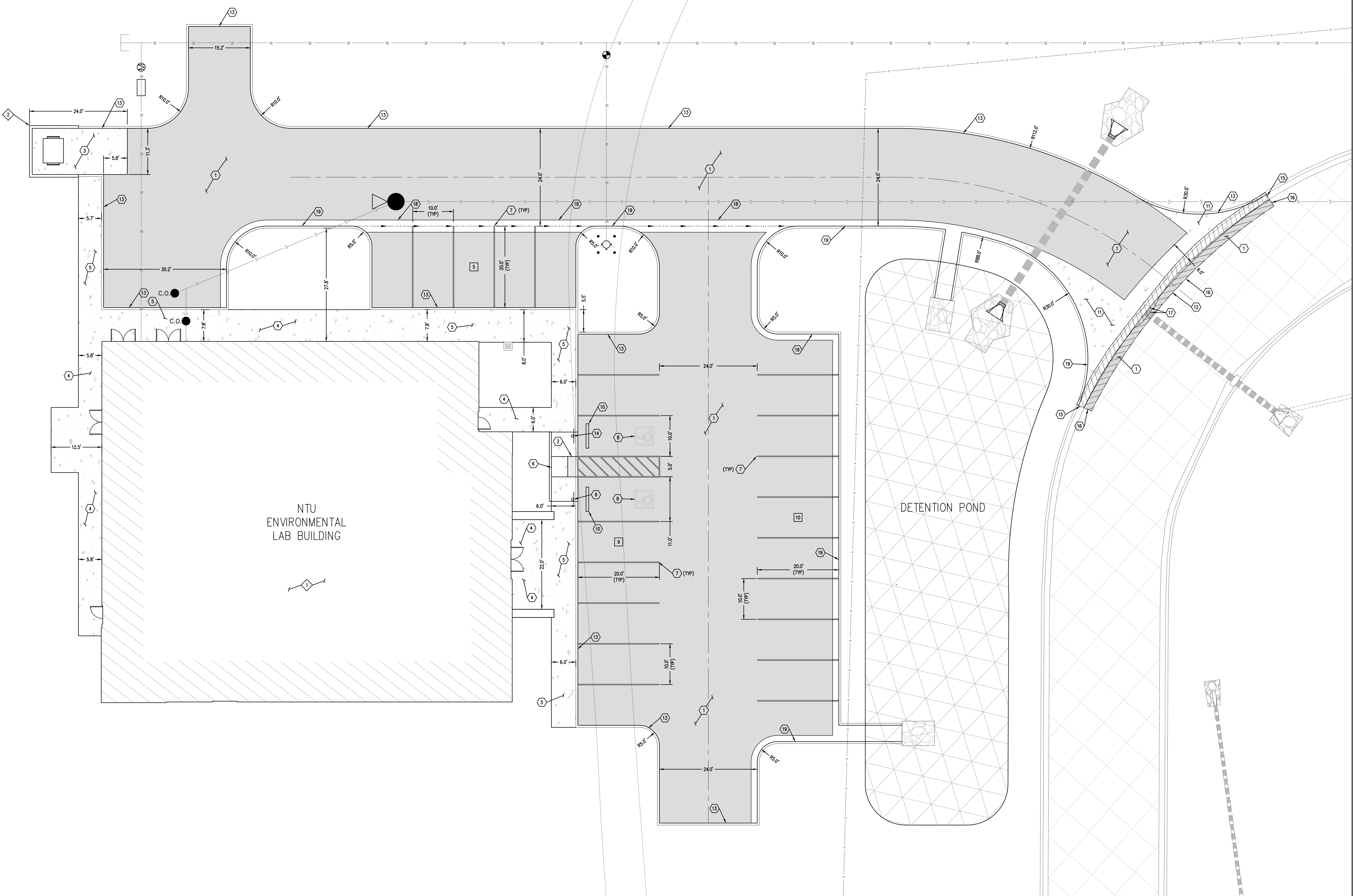
Sheet Number

CIVIL SITE PLAN

Sheet Title

C100

Sequence of



- LEGEND**
- BOUNDARY LINE
 - W PROPOSED WATER LINE
 - W-F PROPOSED WATER FIRE LINE
 - S PROPOSED SEWER MAIN
 - UGE PROPOSED UNDERGROUND ELECTRIC
 - X PROPOSED FENCE
 - GAS PROPOSED GAS LINE
 - W EXISTING WATER LINE
 - S EXISTING SEWER MAIN
 - X EXISTING FENCE
 - OHE EXISTING OVERHEAD ELECTRIC
 - UGE EXISTING UNDERGROUND ELECTRIC
 - T EXISTING TELECOMMUNICATIONS LINE
 - GATE VALVE PROPOSED GATE VALVE
 - EXISTING GATE VALVE
 - WATER METER
 - CURB STOP
 - DOMESTIC STOP
 - CLEANOUT
 - EXISTING CLEANOUT
 - PROPOSED SEWER MANHOLE
 - EXISTING SEWER MANHOLE
 - FIRE HYDRANT

- PAVING HATCH LEGEND**
- ASPHALT PAVEMENT AREAS
 - CONCRETE AREAS
 - EXISTING ASPHALT TO REMAIN
 - REMOVAL LIMITS

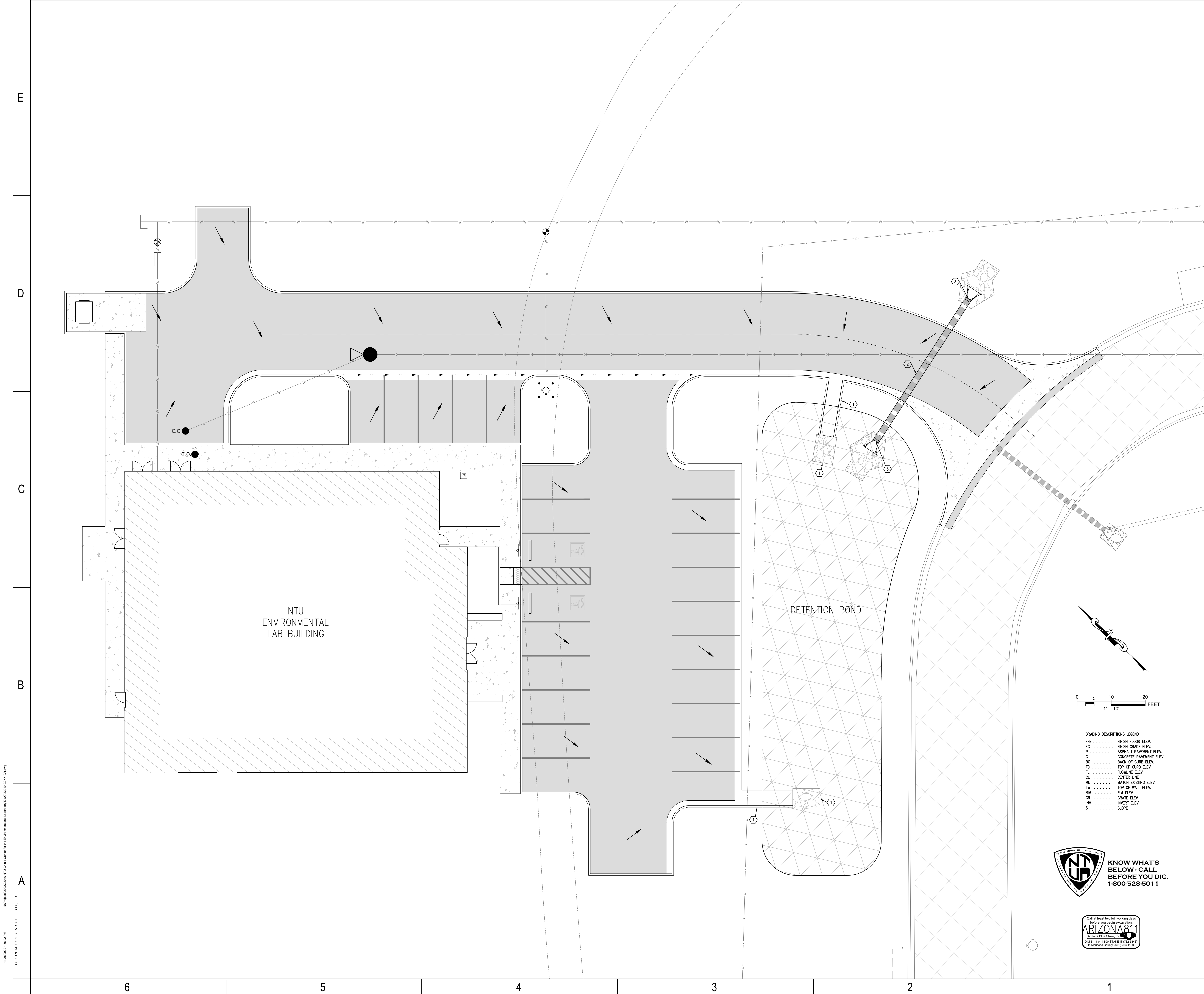
- PARKING STALL LEGEND**
- PARKING STALL COUNT

0 5 10 20
1" = 10' FEET



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1-800-528-5011





NTU ENVIRONMENTAL
LAB CHINLE

CHINLE, APACHE COUNTY, AZ

SCHEMATIC DESIGN
DECEMBER 2, 2022

GENERAL GRADING AND DRAINAGE NOTES

1. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY ALL QUANTITIES INCLUDING EXCAVATION, BORROW, EMBANKMENT, SHRINK OR SWELL, GROUND COMPACTION, HAIL, AND ANY OTHER ITEMS PRIOR TO CONSTRUCTION TO COMPLETE THE GRADING TO THE ELEVATIONS SHOWN ON THE PLANS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO NOTIFY THE ENGINEER OF ANY MAJOR DISCREPANCIES PRIOR TO CONSTRUCTION.

2. THE CONTRACTOR SHALL REFER TO THE ARCHITECTURAL AND MECHANICAL PLANS AND SPECIFICATIONS FOR BUILDING DIMENSIONS AND ACTUAL LOCATIONS OF ALL UTILITIES ENTERING THE BUILDING INCLUDING SANITARY SEWER, LATERALS, DOMESTIC WATER, ELECTRIC, TELEPHONE, AND GAS SERVICES.

3. ELEVATIONS REFERRED TO HEREIN ARE DESIGN ELEVATIONS ONLY. ANY FIELD DESIGN CHANGES PROPOSED BY THE CONTRACTOR SHALL REQUIRE PRIOR WRITTEN APPROVAL BY THE ARCHITECT, OWNER OR OWNER'S REPRESENTATIVE.

4. EARTHWORK SHALL CONFORM TO PROJECT SPECIFICATIONS AND GEOTECHNICAL ENGINEERING REPORT PREPARED BY GEOMAT, INC. (INCLUDED IN THE SPECIFICATIONS).

5. DRAINAGE DITCHES/SWALES LOCATED AROUND THE HOUSING UNITS SHALL BE GRADED TO DRAIN AND DISCHARGE AWAY FROM THE HOUSING UNITS. ALL AREAS BEYOND DITCHES/SWALES GRADING SHALL REMAIN INTACT.

6. PROPOSED UNPAVED FINISHED GRADES ADJACENT TO THE HOUSING FOUNDATIONS SHALL SLOPE AWAY FROM THE UNIT FOUNDATION AT A 5% MINIMUM SLOPE FOR A MINIMUM DISTANCE OF 10 FT.

7. PROPOSED ROOF DRAIN DOWNSPOUT LOCATIONS SHALL HAVE A SPLASH PAD WITH ADDITIONAL RIPRAP APRON/SWALE EXTENDING FROM THE SPLASH PAD TO THE ADJACENT TIE-UP SLOPE. DISCHARGE FROM THE DOWNSPOUTS SHALL DRAIN AWAY FROM THE HOUSING UNITS TO ADJACENT DOWNSIDE DITCHES/SWALES.

8. ANY UTILITY ADJUSTMENTS SHALL BE IN ACCORDANCE WITH N.T.U.A. SPECIFICATIONS.

9. THE CONTRACTOR SHALL FIELD VERIFY ALL FINISH FLOOR ELEVATIONS.

10. FINISH GRADING SHALL BE UNIFORM AND SMOOTH PER THE PROJECT SPECIFICATIONS.

11. IMPORTED MATERIAL SHALL BE TESTED IN CONFORMANCE WITH THE GEOTECHNICAL REPORT AND PROJECT SPECIFICATIONS.

CONSTRUCTION NOTES

1. CONSTRUCT CONCRETE SPILLWAY AND RIP RAP.

2. INSTALL STORM DRAIN PIPE WITH WATERTIGHT JOINTS.

3. INSTALL STORM DRAIN END SECTION AND OUTLET RIPRAP.

2733 E. Lakin Dr.
Suite 2
Flagstaff, AZ 86004
ph: (928) 779-0420
www.hozho-eng.com

HOZHO
ENGINEERING, LLC

DYRON MURPHY ARCHITECTS, P.C.

4505 Montbel Place NE, Albuquerque, New Mexico 87107

NOT FOR
CONSTRUCTION

CIVIL

Revision Schedule

Revision Number	Revision Date	Revision Description
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PROJECT NUMBER
22010

DRAWN BY
HOZHO

PROJ MGR
AW

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Sheet Number
C200

Sequence of

Call at least two full working days before you begin design.

ARIZONA811

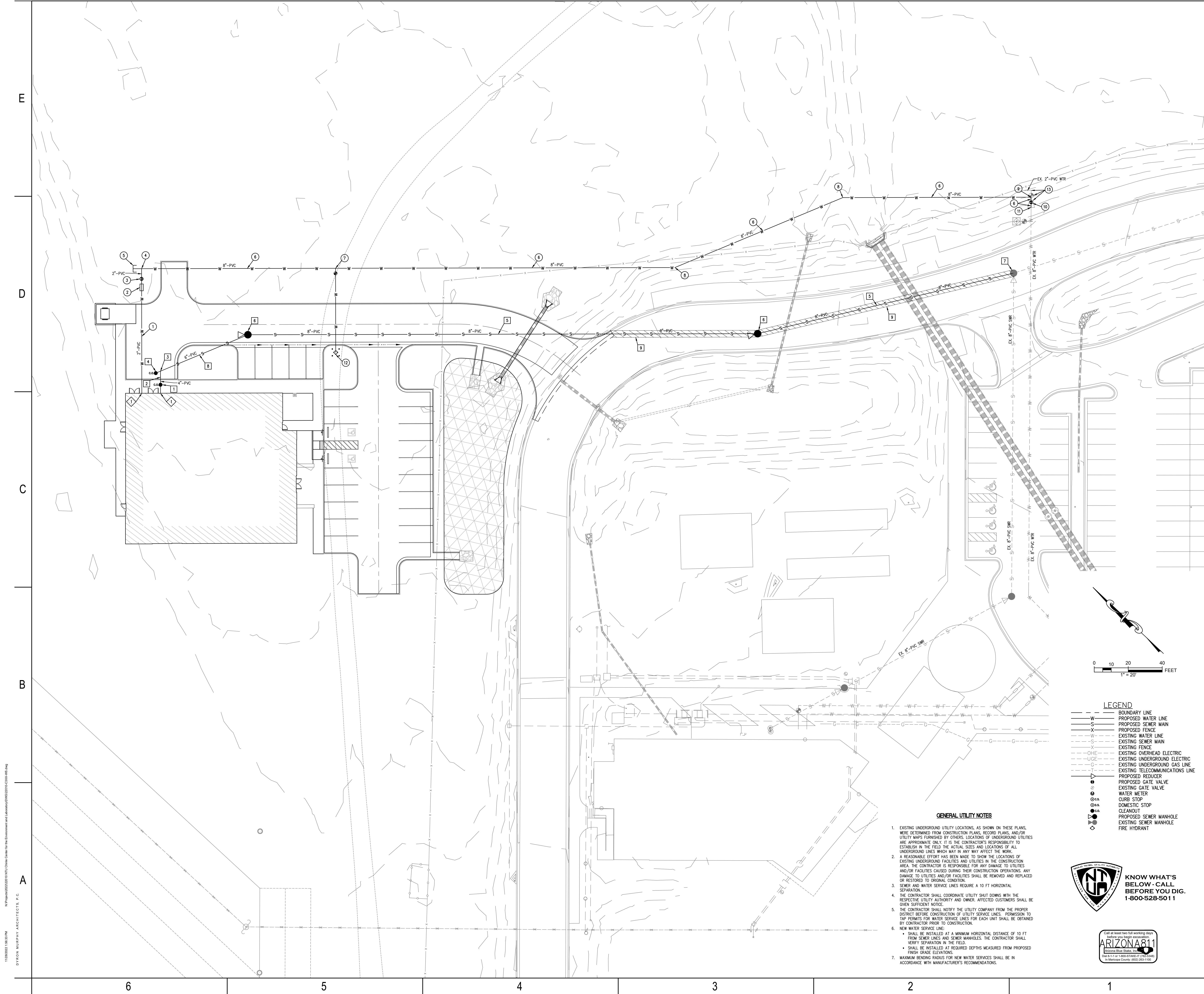
Arizona Blue Stakes, Inc.

Call 8-1-1 or 1-800-574-2171 (782-5348) in Maricopa County 2021.201-1100

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NTU ENVIRONMENTAL
LAB CHINLE
CHINLE, APACHE COUNTY, AZ

SCHEMATIC DESIGN
DECEMBER 2, 2022

WATER NOTES

1

INSTALL 2" PVC WATER SERVICE LINE.

2

INSTALL 2" BACKFLOW PREVENTER WITH HEATING ENCLOSURE.

3

INSTALL 2" WATER METER.

4

INSTALL 6"x2" DUCTILE IRON TEE.

5

INSTALL 8" DUCTILE IRON END CAP.

6

INSTALL 8" PVC WATER MAIN LINE.

7

INSTALL 6"x6" DUCTILE IRON TEE.

8

INSTALL 8"-22.5' DUCTILE IRON BEND.

9

INSTALL 8"-90' DUCTILE IRON BEND.

10

INSTALL 8" GATE VALVE.

11

CONNECT TO EXISTING 8" WATER LINE.

12

INSTALL FIRE HYDRANT WITH 6" PIPE, 6" GATE VALVE, AND BOLLARDS.

13

REMOVE EXISTING 8"x2" REDUCER, 2" WATER SERVICE LINE, AND 2" FLUSH VALVE.

SEWER NOTES

1

INSTALL TWO-WAY SEWER CLEANOUT.

2

INSTALL 4" PVC SEWER SERVICE LINE.

3

INSTALL 6"x4" WYE CONNECTION.

4

INSTALL 6" SEWER CLEANOUT.

5

INSTALL 8" PVC SEWER MAIN LINE.

6

CONSTRUCT 4" DIAMETER SEWER MANHOLE.

7

CONNECT TO EXISTING 4" DIAMETER SEWER MANHOLE.

8

INSTALL 6" PVC SEWER LINE.

9

SAWCUT, REMOVE, AND DISPOSE OF EXISTING PAVEMENT. CONSTRUCT PAVEMENT REPLACEMENT.

REFERENCE NOTES

1

CONNECT TO BUILDING SUB. SEE PLUMBING PLANS FOR CONTINUATION. CONTRACTOR SHALL VERIFY EXACT LOCATION & INVERT WITH PLUMBING PLANS PRIOR TO CONSTRUCTION. NOTIFY OWNER'S AGENT OF ANY DISCREPANCIES.

HOZHO
ENGINEERING, LLC

2733 E. Lakin Dr.
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PROJECT NUMBER
22010

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Sheet Title
WATER & SEWER PLAN

Sheet Number
C300

Sequence of

GENERAL UTILITY NOTES

1.

EXISTING UNDERGROUND UTILITY LOCATIONS, AS SHOWN ON THESE PLANS, WERE DETERMINED FROM CONSTRUCTION PLANS, RECORD PLANS, AND/OR UTILITY MAPS FURNISHED BY OTHERS. LOCATIONS OF UNDERGROUND UTILITIES ARE APPROXIMATE ONLY. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ESTABLISH IN THE FIELD THE ACTUAL SIZES AND LOCATIONS OF ALL UNDERGROUND LINES WHICH MAY IN ANY WAY AFFECT THE WORK.

2.

A REASONABLE EFFORT HAS BEEN MADE TO SHOW THE LOCATIONS OF EXISTING UNDERGROUND FACILITIES AND UTILITIES IN THE CONSTRUCTION AREA. THE CONTRACTOR IS RESPONSIBLE FOR ANY DAMAGE TO UTILITIES AND/OR FACILITIES CAUSED DURING THEIR CONSTRUCTION OPERATIONS. ANY DAMAGE TO UTILITIES AND/OR FACILITIES SHALL BE REMOVED AND REPLACED OR RESTORED TO ORIGINAL CONDITION.

3.

SEWER AND WATER SERVICE LINES REQUIRE A 10 FT HORIZONTAL SEPARATION.

4.

THE CONTRACTOR SHALL COORDINATE UTILITY SHUT DOWNS WITH THE RESPECTIVE UTILITY AUTHORITY AND OWNER. AFFECTED CUSTOMERS SHALL BE GIVEN SUFFICIENT NOTICE.

5.

THE CONTRACTOR SHALL NOTIFY THE UTILITY COMPANY FROM THE PROPER DISTRICT BEFORE CONSTRUCTION OF UTILITY SERVICE LINES. PERMISSION TO TAP PERMITS FOR WATER SERVICE LINES FOR EACH UNIT SHALL BE OBTAINED BY CONTRACTOR PRIOR TO CONSTRUCTION.

6.

NEW WATER SERVICE LINE.

- SHALL BE INSTALLED AT A MINIMUM HORIZONTAL DISTANCE OF 10 FT FROM SEWER LINES AND SEWER MANHOLES. THE CONTRACTOR SHALL VERIFY SEPARATION IN THE FIELD.
- SHALL BE INSTALLED AT REQUIRED DEPTHS MEASURED FROM PROPOSED FINISH GRADE ELEVATIONS.

7.

MAXIMUM BENDING RADIUS FOR NEW WATER SERVICES SHALL BE IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.

LEGEND

BOUNDARY LINE

PROPOSED WATER LINE

PROPOSED SEWER MAIN

PROPOSED FENCE

EXISTING WATER LINE

EXISTING SEWER MAIN

EXISTING FENCE

EXISTING OVERHEAD ELECTRIC

EXISTING UNDERGROUND ELECTRIC

EXISTING UNDERGROUND GAS LINE

EXISTING TELECOMMUNICATIONS LINE

PROPOSED GATE VALVE

EXISTING GATE VALVE

WATER METER

CURB STOP

DOMESTIC STOP

CLEANOUT

PROPOSED SEWER MANHOLE

EXISTING SEWER MANHOLE

FIRE HYDRANT

KNOW WHAT'S
BELOW - CALL
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Arizona Blue Stakes, Inc.

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in Maricopa County (800) 251-1101

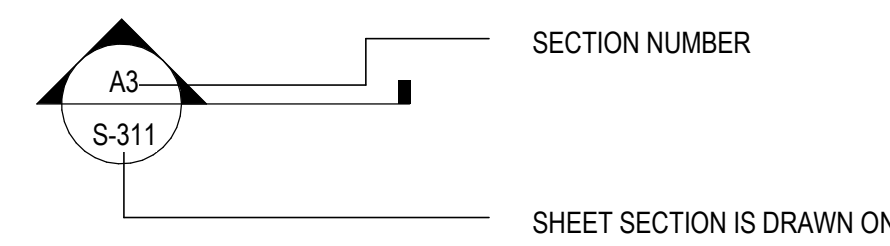
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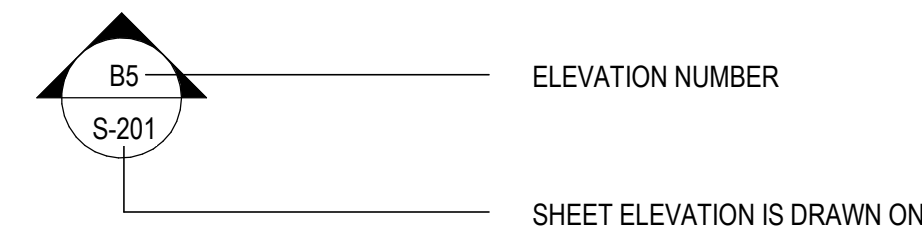
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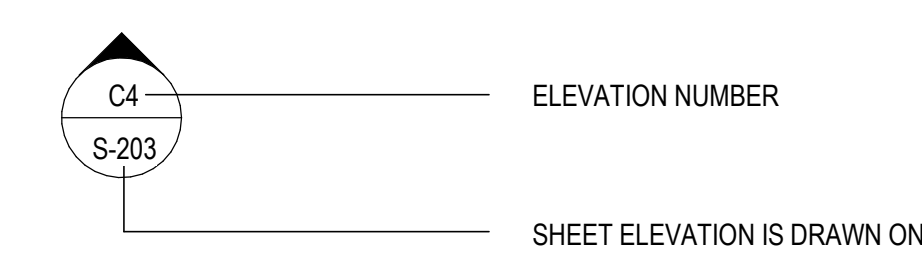
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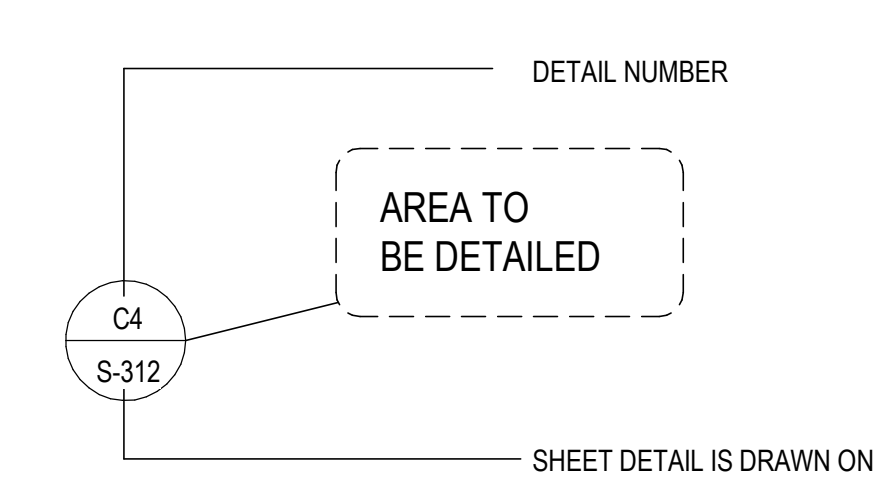
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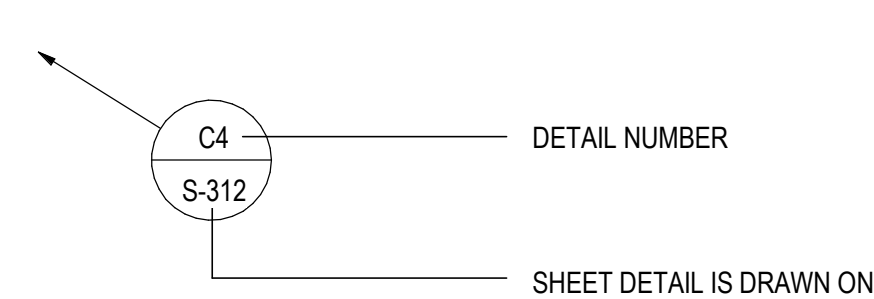
INTERIOR ELEVATION CROSS-REFERENCE SYMBOL



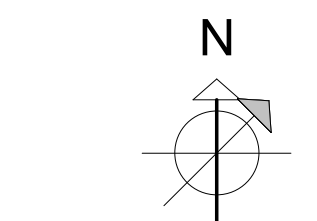
PLAN DETAIL CROSS-REFERENCE SYMBOL



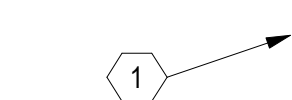
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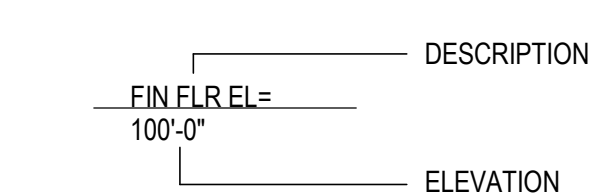
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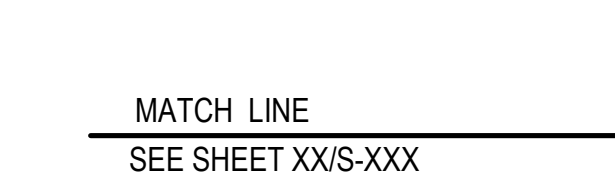
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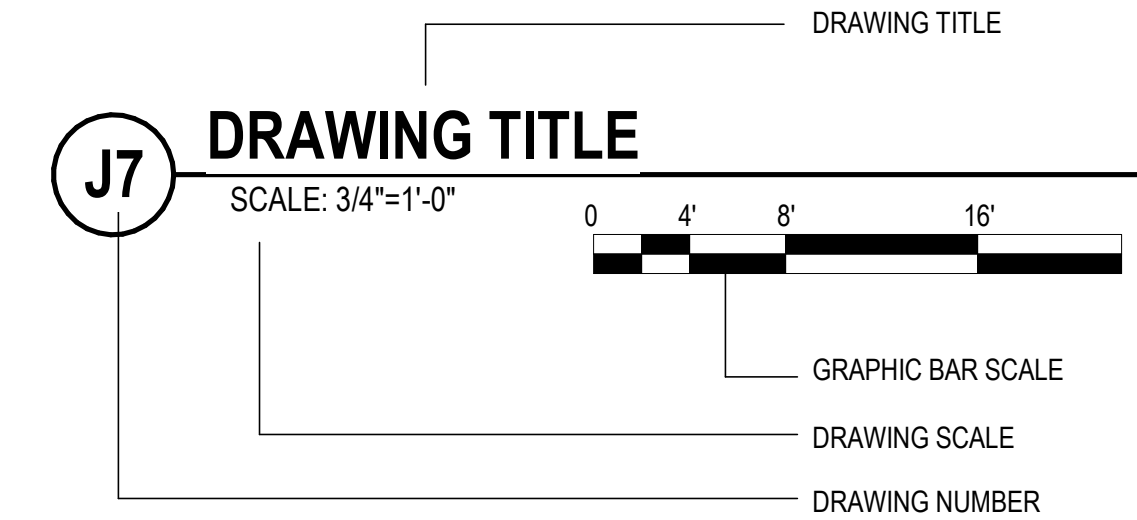
ELEVATION TARGET SYMBOL



MATCH LINE SYMBOL



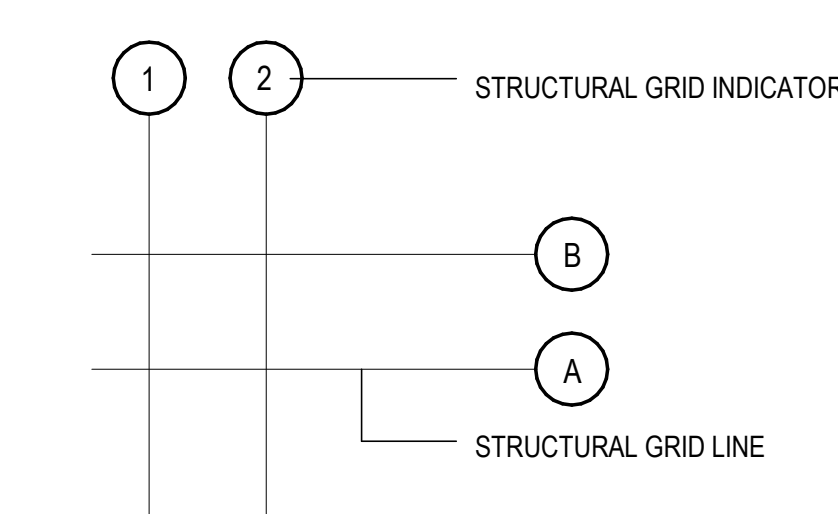
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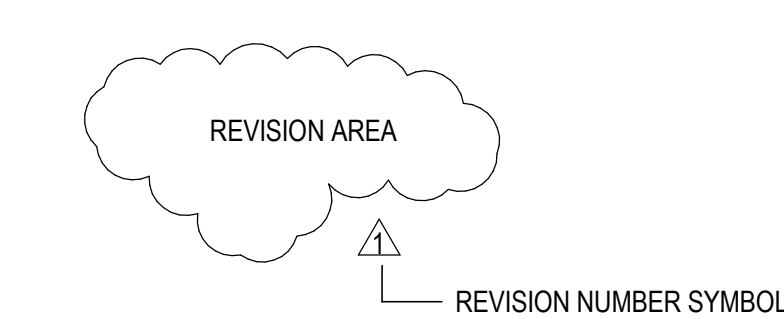
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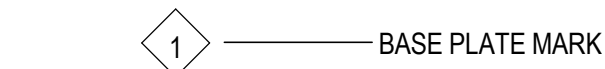
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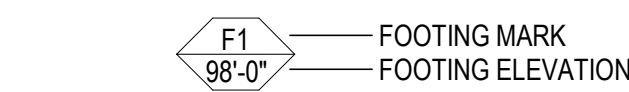
REVISION INDICATOR SYMBOL



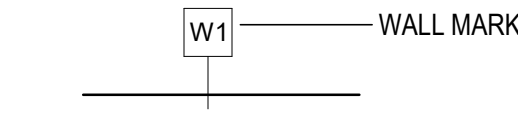
BASE PLATE MARK SYMBOL



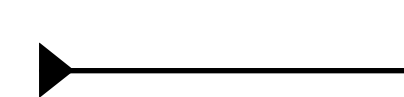
FOOTING MARK SYMBOL



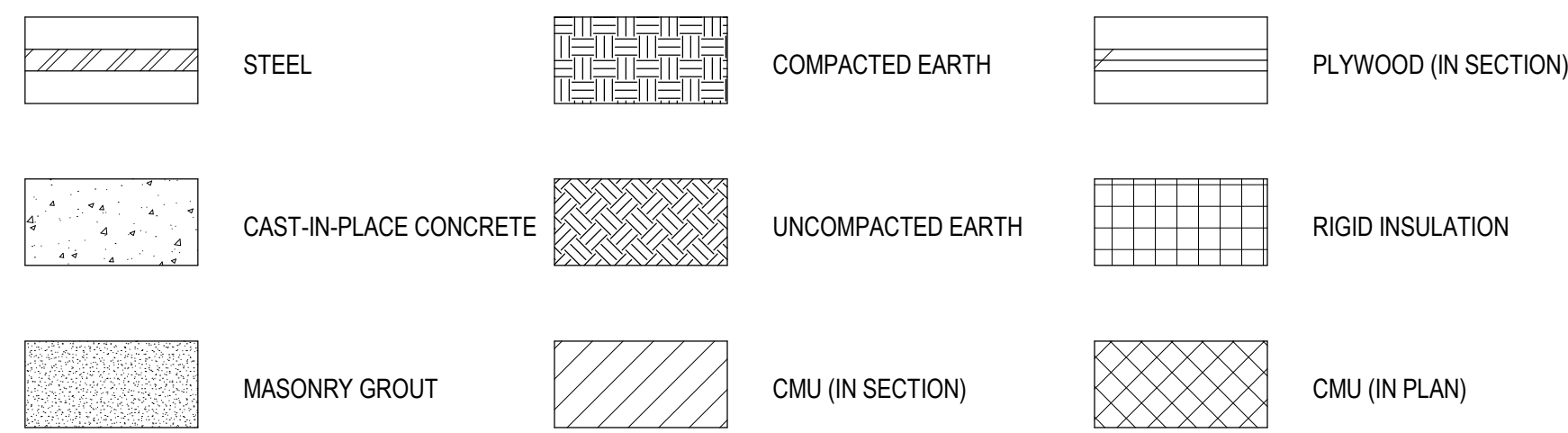
WALL MARK SYMBOL



MOMENT CONNECTION SYMBOL



STRUCTURAL MATERIALS LEGEND



ABBREVIATIONS

A/E	ARCHITECT/ENGINEER
AB	ANCHOR BOLT
ABAN	ABANDON
ABBRV	ABBREVIATION
AC	ASPHALTIC CONCRETE
ACI	AMERICAN CONCRETE INSTITUTE
ACP	ASPHALTIC CONCRETE PAVING
ACR	ACROSS
ACST	ACOUSTIC
AD	AREA DRAIN
ADA	AMERICANS WITH DISABILITIES ACT
ADDL	ADDITIONAL
ADDUM	ADDENDUM
ADJ	ADJACENT/ADJOINING
ADMIN	ADMINISTRATION
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AFS	ABOVE FINISHED SLAB
AGGR	AGGREGATE
AHR	ANCHOR
AIA	AMERICAN INSTITUTE OF ARCHITECTS
AISC	AMERICAN INSTITUTE OF STEEL CONSTRUCTION
AISI	AMERICAN IRON AND STEEL INSTITUTE
AITC	AMERICAN INSTITUTE OF TIMBER CONSTRUCTION
ALUMT	ALIGNMENT
ALT	ALTERNATE, ALTERNATIVE
ALUM	ALUMINUM
AMT	AMOUNT
ANSI	AMERICAN NATIONAL STANDARDS INSTITUTE
APA	AMERICAN PLYWOOD ASSOCIATION
APPD	APPROVED
APPROX	APPROXIMATE
APPX	APPENDIX
AR	AS REQUIRED
ARCH	ARCHITECT
ASCE	AMERICAN SOCIETY OF CIVIL ENGINEERS
ASPH	ASPHALT
ASI	ARCHITECT'S SUPPLEMENTAL INSTRUCTIONS
ASSN	ASSOCIATION
ASTM	AMERICAN SOCIETY FOR TESTING AND MATERIALS
ATCH	ATTACHMENT
ATTN	ATTENTION
AWS	AMERICAN WELDING SOCIETY
AZ	AZIMUTH
B&F	BELL AND FLANGE
BAL	BALANCE
B/B	BACK TO BACK
BC	BOTTOM CHORD
BD	BOARD
BDRY	BOUNDARY
BEV	BEVEL
BFF	BELOW FINISH FLOOR
BKG	BACKGROUND
BKGD	BACKGROUND
BLD	BUILD
BLDG	BUILDING
BLK	BLOCKBLOCKING
BLT	BUILT
BLVD	BOULEVARD
BLW	BELOW
BM	BEAM
BO	BOTTOM OF
BOS	BOTTOM FACE OF STEEL
BOT	BOTTOM
B PL	BASE PLATE
BRCG	BRACING
BRDG	BRIDGING
BRG	BEARING
BRG PL	BEARING PLATE
BS	BOTH SIDES
BSMT	BASEMENT
BT WLD	BUTT WELD
BTWN	BETWEEN
C	CHANNEL
C/C	CENTER TO CENTER
CAM	CAMBER
CAN	CANOPY
CD	CONSTRUCTION DOCUMENTS, CONTRACT DOCUMENTS
CEM	CEMENT
CHFR	CHAMFER
CHKD	CHECKED/CHECKERED
CI	CAST IRON
CIP	CAST-IN-PLACE
CJ	CONSTRUCTION JOINT
CJ	CONTRACTION JOINT
CJ	CONTROL JOINT
CL	CENTER LINE
CLG	CEILING
CLR	CLEAR
cm	CENTIMETER
CMU	CONCRETE MASONRY UNIT
CO	COMPANY
COA	CITY OF ALBUQUERQUE
COL	COLUMN
COM	COMMON
CONC	CONCRETE
CONN	CONNECTION
CONSTR	CONSTRUCTION
CONT	CONTINUOUS, CONTINUE
CONTR	CONTRACTOR
COORD	COORDINATE
CRSI	CONCRETE REINFORCING STEEL INSTITUTE
CSI	CONSTRUCTION SPECIFICATIONS INSTITUTE
CTR	CENTER
CTRL	CONTROL
CU	CUBIC
CU YD	CUBIC YARD
D	DEEP, DEPTH
D-B	DESIGN-BUILD
DAT	DATUM
DBL	DOUBLE
DEG	DEGREE
DEL	DELETE
DEMO	DEMOLITION
DET	DETAIL
DEV	DEVELOPMENT
DFTG	DRAFTING
DIA	DIAMETER
DIAG	DIAGONAL
DIFF	DIFFERENCE, DIFFERENTIAL
DIM	DIMENSION
DIST	DISTANCE
DIV	DIVIDE
DJ	DOUBLE JOIST
DL	DEAD LOAD
DOC	DOCUMENT
DOUG FIR	DOUGLAS FIR
DSGN	DESIGN
DWG	DRAWING
DWLDWLS	DOWELS
E	EAST, MODULUS OF ELASTICITY
EA	EACH
EE	EACH END
EF	EACH FACE
EIFS	EXTERIOR INSULATION AND FINISH SYSTEM
EJ	EXPANSION JOINT
EL	ELEVATION
ELAST	ELASTOMERIC
ELEC	ELECTRIC
ELEM	ELEMENTARY
ELEV	ELEVATOR
EMBED	EMBEDDED / EMBEDMENT
ENCL	ENCLOSURE
ENGR	ENGINEER
EOS	EDGE OF SLAB
EPA	ENVIRONMENTAL PROTECTION AGENCY
EQ	EQUAL
EQUIP	EQUIPMENT
EQUIV	EQUIVALENT
ESCAL	ESCALATOR
ESMT	EASEMENT
EST	ESTIMATE

ABBREVIATIONS

ETC	ET CETERA
EW	EACH WAY
EX	EXAMPLE
EXC	EXCAVATE
EXCL	EXCLUDE
EXIST	EXISTING
EXP	EXPANSION
EXT	EXTERIOR
F/F	FACE TO FACE
FAB	FABRIC
FACIL	FACILITY
FB	FLAT BAR
FD	FLOOR DRAIN
FDTN	FOUNDATION
FF	FAR FACE
FF EL	FINISH FLOOR ELEVATION
FIN GR	FINISH GRADE
FH	FLAT HEAD
FIN	FINISH
FIN FLR	FINISH FLOOR
FLG	FLANGE
FLR	FLOOR
FLR SK	FLOOR SINK
FOC	FACE OF CONCRETE
FOF	FACE OF FINISH
FOM	FACE OF MASONRY
FOS	FACE OF SLAB
FOS	FACE OF STUD
FOW	FACE OF WALL
FR	FRAME
FRMG	FRAMING
FS	FAR SIDE
FSTNR	FASTENER
FT	FOOT / FEET
FT/LB	FOOT/POUND
FT/LBF	FOOT/POUND FORCE
FTG	FOOTING
FUT	FUTURE
G	GIRDER
GAGE	GAGE
GALV	GALVANIZED
GALV STL	GALVANIZED STEEL
GR BM	GRADE BEAM
GC	GENERAL CONTRACTOR
GEN	GENERAL
GLU LAM	GLUED LAMINATED WOOD
GLZ	GLAZING
GOVT	GOVERNMENT
GRTG	GRATING
GT	GROUT
H	HIGH
HAS	HEADED ANCHOR STUD
HC	HOLLOW-CORE
HCP	HANDICAPPED
HD	HEAVY DUTY
HGR	HANGER
HLDN	HOLDOWN
HORIZ	HORIZONTAL
HS	HIGH STRENGTH
HSKPG	HOUSEKEEPING
HSS	HOLLOW STRUCTURAL SECTIONS
HST	HOIST
HT	HEIGHT
IBC	INTERNATIONAL BUILDING CODE
ID	INSIDE DIAMETER
IF	INSIDE FACE
IFS	INSIDE FACE OF STUD
IN	INCH
INCL	INCLUDED
INFO	INFORMATION
IN-LB	INCH-POUND
IN-LBF	INCH-POUND FORCE
INSTL	INSTALL
INSUL	INSULATION
INT	INTERIOR
R	INSIDE RADIUS
K	KIP
K	THOUSAND
KB	KNEE BRACE
KCJ	KEYED CONTROL JOINT
KIP	THOUSAND POUNDS
KIP FT	THOUSAND FOOT/POUNDS
KLF	KIPS PER LINEAL FOOT
KO	KNOCK OUT
KOP	KNOCK OUT PANEL
KSF	KIPS PER SQUARE FOOT
KSI	KIPS PER SQUARE INCH
L	ANGLE
LAM	LAMINATE
LATL	LATERAL
LBF	POUND-FORCE
LBR	LUMBER
LBS	POUND
LD BRG	LOAD BEARING
LF	LINEAR FEET (FOOT)
LIN	LINEAR
LL	LIVE LOAD
LLBB	LONG LEG BACK TO BACK
LLV	LONG LEG VERTICAL
LONG	LONGITUDINAL
LT GA	LIGHT GAGE
LT WT	LIGHT WEIGHT
LVR	LOUVER
LWC	LIGHTWEIGHT CONCRETE
M	MOMENT
MAINT	MAINTENANCE
MATL	MATERIAL
ME	METAL DECK
ME	MECHANICAL ENGINEER
MECH	MECHANICAL
MEZZ	MEZZANINE
MFR	MANUFACTURER
MID	MIDDLE
MIN	MINIMUM
MISC	MISCELLANEOUS
ML	MICRO-LAMINATED
ML	MONOLITHIC
MO	MASONRY OPENING
MS	MACHINE SCREW
MSL	MEAN SEA LEVEL
MTL	METAL
N	NORTH
NA	NOT APPLICABLE
NF	NEAR FACE
NIC	NOT IN CONTRACT
NM	NEW MEXICO
NO	NUMBER
NOM	NOMINAL
NS	NEAR SIDE
NTS	NOT TO SCALE
OIO	OUT TO OUT
OIA	OVERALL
OC	ON CENTER
OD	OUTSIDE DIAMETER
OF	OUTSIDE FACE
OFS	OUTSIDE FACE OF STUD
OPH	OPPOSITE HAND
OPNG	OPENING
OPP	OPPOSITE
OPT	OPTIONAL
OR	OUTSIDE RADIUS
PAR	PARALLEL, PARAPET
PART	PARTIAL
PC	PIECE, PORTLAND CEMENT
PCC	PRECAST CONCRETE
PCF	POUNDS PER CUBIC FOOT
PCI	PRECAST/PRESTRESSED CONCRETE INSTITUTE
PED	PEDESTAL
PEN	PENETRATE
PERIM	PERIMETER
PERP	PERPENDICULAR

ABBREVIATIONS

PH	PHASE
PIL	PILASTER
PL	PLATE
PLAT	PLATFORM
PLBG	PLUMBING
PLF	POUNDS PER LINEAR FOOT
PLM	PARALLAM
PLYWD	PLYWOOD
POS	POSITION
PP	PANEL POINT
PRCST	PRECAST
PREFAB	PREFABRICATE
PRELIM	PRELIMINARY
PREV	PREVIOUS
PSF	POUNDS PER SQUARE FOOT
PSI	POUNDS PER SQUARE INCH
PT	POST-TENSIONED
PT CONC	POST-TENSIONED CONCRETE
PTN	PARTITION
PVG	PAVING
QTY	QUANTITY
QUAD	QUADRANT
R	RADIUS, RISER
RC	REINFORCED CONCRETE
RD	ROAD, ROOF DRAIN
REC	RECESSED
REF	REFERENCE
REINF	REINFORCE/REINFORCEMENT
REPL	REPLACE
REQ	REQUIRED
REQD	REQUIRED
REV	REVISION
RGD INS	RIGID INSULATION
RFI	REQUEST FOR INFORMATION
RND	ROUND
RO	ROUGH OPENING
ROT	RIGHT
RVL	REVEAL
S	SOUTH
SCHEM	SCHEMATIC
SCHED	SCHEDULE
SD	SHOP DRAWINGS
SDI	STEEL DECK INSTITUTE
SDL	SADDLE
SE	STRUCTURAL ENGINEER
SECT	SECTION
SF	SQUARE FEET (FOOT)
SHT	SHEET, SHAFT
SHTHG	SHEATHING
SIM	SIMILAR
SJ	STEEL JOIST INSTITUTE
SLNT	SEALANT
SM	SMOOTH
SP	SUMP PIT
SPA	SPACE/SPACES
SPEC	SPECIFICATION
SPRT	SUPPORT
SQ	SQUARE
SQ IN	SQUARE INCH
SQ YD	SQUARE YARD
SSPC	STRUCTURAL STEEL PAINTING COUNCIL
ST	STAIRS
STAG	STAGGERED
STD	STANDARD
STIF	STIFFENER
STIR	STIRRUP
STAG	STAGGERED
STD	STANDARD
STIF	STIFFENER
STIR	STIRRUP
STL	STEEL
STL LNTL	STEEL LINTEL
STL	JST STEEL JOIST
STL PL	STEEL PLATE
STL RF OK	STEEL ROOF DECK
STR	STRINGERS
STRUCT	STRUCTURAL
SUB	SUBSTITUTE
SUF	SUFFICIENT
SUP	SUPPLEMENTARY
SUPPL	SUPPLEMENT
SYM	SYMBOL
SYMM	SYMMETRICAL
SYS	SYSTEM
T	TREAD
T&B	TOP AND BOTTOM
T&G	TONGUE AND GROOVE
TAN	TANGENT
TB	THRU BOLT
TEMP	TEMPORARY
THD	THREAD
THK	THICKNESS
THRU	THROUGH
TJI	TRUSS JOIST INSTITUTE
TO	TOP OF
TOB	TOP OF BEAM
TOC	TOP OF CONCRETE
TOC FTG	TOP OF CONCRETE FOOTING
TOC WALL	TOP OF CONCRETE WALL
TOF	TOP OF FOOTING
TOG	TOP OF GRATE
TOJ	TOP OF JOIST
TOL	TOLERANCE
TOM	TOP OF MASONRY
TOP	TOP OF PARAPET
TOS	TOP OF SLAB
TOS	TOP OF STEEL
TOW	TOP OF WALL
TRANS	TRANSVERSE
TRNBKL	TURNBUCKLE
TYP	TYPICAL
UBC	UNIFORM BUILDING CODE
UNO	UNLESS NOTED OTHERWISE
VAR	VARIABLES
VERT	VERTICAL
VIF	VERIFY IN FIELD
VNR	VENEER
VR	VAPOR RETARDER
VREY	VERIFY
W	WEST, WIDE
W	WITH
W/O	WITHOUT
WBL	WOOD BLOCKING
WD	WOOD
WF	WIDE FLANGE
WF BM	WIDE FLANGE BEAM
NL	WIND LOAD
WLD	WELDED
WM	WIRE MESH
WP	WATERPROOFING
WSCT	WAINSCOT
WT	WEIGHT
WWF	WELDED WIRE FABRIC
WWM	WELDED WIRE MESH
X BRACE	CROSS BRACING
XXH	DOUBLE EXTRA HEAVY
YD	YARD

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LAB CHINLE

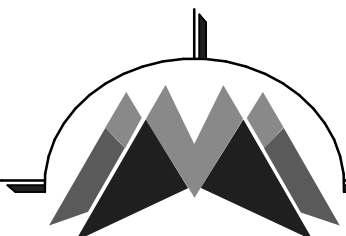
CHINLE, APACHE COUNTY, AZ

SCHEMATIC DESIGN

DECEMBER 2, 2022



DYRON MURPHY ARCHITECTS, P.C.



4505 Montbel Place NE, Albuquerque, New Mexico 87107

Revision Schedule		
#	Date	Description

PROJECT NUMBER	DRAWN BY	PROJ MGR
	Author	Designer

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Sheet Number

S-001

Sequence of

Sheet Title
ABBREVIATIONS AND
LEGEND

SCHEDULE OF STRUCTURAL SPECIAL INSPECTIONS

1. SPECIAL INSPECTIONS / TESTING - "SPECIAL STRUCTURAL INSPECTION" SHALL NOT RELIEVE THE OWNER OR THEIR AGENT FROM HAVING THE INSPECTIONS OF THE JURISDICTION BUILDING DEPARTMENT PER SECTION 110 OF THE IBC PERFORMED. BOTH THE JURISDICTION BUILDING DEPARTMENT INSPECTIONS AND "SPECIAL STRUCTURAL INSPECTION" SHALL BE PERFORMED.
2. THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING THE JURISDICTION BUILDING OFFICIAL AND SPECIAL INSPECTOR WHEN WORK IS READY FOR INSPECTION.
3. REPORTING FOR SPECIAL INSPECTION - SPECIAL INSPECTION AND TESTING REPORTS SHALL BE COMPLETED AND DISTRIBUTED AT THE COMPLETION OF EACH TASK. IF A TASK IS TO TAKE LONGER THAN THREE (3) DAYS, PROVIDE REPORTS FOR EACH DAY. PROVIDE COPIES OF REPORTS TO CONTRACTOR, OWNER, ARCHITECT AND STRUCTURAL ENGINEER OF RECORD. SPECIAL INSPECTOR TO KEEP A NON-COMPLIANCE LIST DOCUMENTING ITEMS INSPECTED NOT MEETING APPROVED CONSTRUCTION DOCUMENTS AND WHEN / HOW RESOLVED.
4. SEE ARCHITECTURAL, MECHANICAL, ELECTRICAL, AND PLUMBING CONSTRUCTION DOCUMENTS FOR ADDITIONAL NON-STRUCTURAL SPECIAL INSPECTION ITEMS.
5. SPECIAL INSPECTION OF SHOP FABRICATED MEMBERS AND ASSEMBLIES SHALL BE IN ACCORDANCE WITH SECTION 1704.2, UNLESS FABRICATOR IS APPROVED TO PERFORM WORK WITHOUT SPECIAL INSPECTION.
6. IN ACCORDANCE WITH IBC CHAPTER 17, THE OWNER OR THE OWNER'S AGENT, OTHER THAN THE CONTRACTOR, SHALL EMPLOY ONE OR MORE APPROVED AGENCIES TO PROVIDE SPECIAL INSPECTIONS AND TESTS, DURING CONSTRUCTION FOR THE TYPES OF WORK LISTED BELOW THESE SPECIAL INSPECTIONS AND TESTS ARE IN ADDITION TO THE INSPECTIONS BY THE BUILDING OFFICIAL IDENTIFIED IN IBC SECTION 110
7. DEFINITIONS:
* **SPECIAL INSPECTION:** INSPECTION AS HEREIN REQUIRED BY A QUALIFIED SPECIAL INSPECTOR COMPETENT WITH THE MATERIALS, INSTALLATION, FABRICATION, ERECTION OR PLACEMENT OF COMPONENTS AND CONNECTIONS REQUIRING SPECIAL EXPERTISE TO ENSURE COMPLIANCE WITH APPROVED CONSTRUCTION DOCUMENTS AND REFERENCED STANDARDS (SEE SECTION 1704).
* **CONTINUOUS SPECIAL INSPECTION:** FULL-TIME OBSERVATION OF WORK REQUIRING SPECIAL INSPECTION BY AN APPROVED SPECIAL INSPECTOR WHO IS PRESENT IN THE AREA WHERE THE WORK IS BEING PERFORMED.
* **PERIODIC SPECIAL INSPECTION:** THE PART-TIME OR INTERMITTENT OBSERVATION OF WORK REQUIRING SPECIAL INSPECTION BY AN APPROVED SPECIAL INSPECTOR WHO IS PRESENT IN THE AREA WHERE THE WORK HAS BEEN OR IS BEING PERFORMED AND AT THE COMPLETION OF THE WORK.

ITEM	DESCRIPTION OF REQUIREMENTS	REQUIRED (YES/NO)
SPECIAL INSPECTION OF STRUCTURAL STEEL	TO BE PERFORMED IN ACCORDANCE WITH CHAPTER N OF AISC 360-10	YES
SPECIAL INSPECTION AND VERIFICATION OF STEEL CONSTRUCTION OTHER THAN STRUCTURAL STEEL	TO BE PERFORMED IN ACCORDANCE WITH IBC SECTION 1705.2	YES
SPECIAL INSPECTIONS AND VERIFICATIONS FOR CONCRETE CONSTRUCTION	TO BE PERFORMED IN ACCORDANCE WITH IBC SECTION 1705.3	YES
SPECIAL INSPECTIONS AND VERIFICATIONS FOR MASONRY CONSTRUCTION	TO BE PERFORMED IN ACCORDANCE WITH IBC SECTION 1705.4 AND REFERENCED STANDARDS	YES
SPECIAL INSPECTIONS AND VERIFICATIONS FOR WOOD CONSTRUCTION	TO BE PERFORMED IN ACCORDANCE WITH IBC SECTION 1705.5	YES
SPECIAL INSPECTIONS AND VERIFICATIONS OF SOILS	TO BE PERFORMED IN ACCORDANCE WITH IBC SECTION 1705.6, THE GEOTECHNICAL REPORT LISTED IN THE GENERAL FOUNDATION NOTES, AND ANY OTHER REQUIREMENTS LISTED IN THE GENERAL FOUNDATION NOTES	YES
SPECIAL INSPECTIONS AND VERIFICATIONS FOR DEEP FOUNDATIONS (DRIVEN PILES, CAST-IN-PLACE, OR HELICAL PILES AS APPLICABLE)	TO BE PERFORMED IN ACCORDANCE WITH IBC SECTIONS 1705.7-1705.9 AS APPLICABLE. THE GEOTECHNICAL REPORT LISTED IN THE GENERAL FOUNDATION NOTES, AND ANY OTHER REQUIREMENTS LISTED IN THE CONSTRUCTION DOCUMENTS	YES
SPECIAL INSPECTIONS FOR WIND RESISTANCE (REQUIRED ONLY FOR Vult= 155MPH OR GREATER IN EXPOSURE CATEGORY B, OR Vult=142MPH OR GREATER IN EXPOSURE CATEGORY C OR D)	TO BE PERFORMED IN ACCORDANCE WITH IBC SECTION 1705.11	YES
SPECIAL INSPECTIONS AND VERIFICATIONS FOR SEISMIC RESISTANCE (REQUIRED FOR STRUCTURES ASSIGNED TO CATEGORIES C, D, E, OR F)	TO BE PERFORMED IN ACCORDANCE WITH ALL APPLICABLE PORTIONS OF IBC SECTIONS 1705.12 AND 1705.13	YES

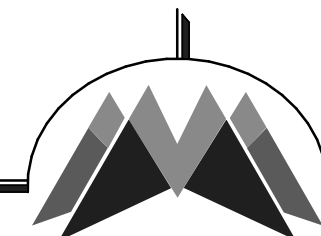
NTU ENVIRONMENTAL
LAB CHINLE

CHINLE, APACHE COUNTY, AZ

SCHEMATIC DESIGN
DECEMBER 2, 2022



DYRON MURPHY ARCHITECTS, P.C.



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Revision Schedule		
#	Date	Description

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	Author	Designer

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Sheet Number

S-003

Sequence of

SPECIAL INSPECTION
TABLES (2015
CONDENSED)

NTU ENVIRONMENTAL
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CHINLE, APACHE COUNTY, AZ

SCHEMATIC DESIGN

DECEMBER 2, 2022

GENERAL SHEET NOTES

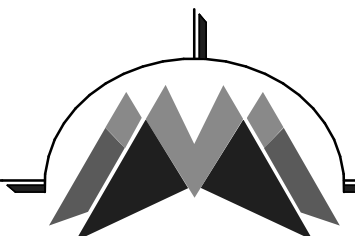
- SOME SHEET KEYNOTES MAY NOT APPLY TO THIS SHEET.
- REFERENCE FINISH FLOOR ELEVATION 100'-0" = MEAN SEA FINISH FLOOR ELEVATION. SEE CIVIL DRAWINGS.
- NOTE TO CONTRACTOR: ENLARGED SLAB BLOCKOUTS MAY BE REQUIRED AT FRAME COLUMNS FOR BRACED FRAME GUSSET PLATE CLEARANCE.
- NOTE TO ERECTOR: LATERAL STABILITY OF THE STEEL FRAME IS DEPENDENT UPON THE [MASONRY WALLS, CONCRETE WALLS, STUD WALLS, BRACED FRAMES]. THE ERECTOR SHALL PROVIDE TEMPORARY BRACING OF THE STEEL FRAME IN ACCORDANCE WITH SECTION 7.10 OF THE AISC CODE OF STANDARD PRACTICES.
- PROVIDE BLOCKOUTS AT ALL COLUMNS UNLESS NOTED OTHERWISE.
- DIMENSIONS ARE TO THE FACE OF CONCRETE, STUD, OR GRID LINES, UNLESS NOTED OTHERWISE.
- SEE ARCHITECTURAL DRAWINGS FOR MASONRY DIMENSIONS NOT SHOWN.
- PROVIDE SLAB JOINTS AT [JOINT SPACING] ON CENTER MAXIMUM. THE AREA OF THE CONTROL JOINT SHALL NOT EXCEED A 2:1 RATIO. CONTROL JOINTS SHALL BE LOCATED AT COLUMN LINES WHERE THE LAYOUT PERMITS. AT RE-ENTRANT CORNERS THAT DO NOT HAVE CONTROL JOINTS, PROVIDE 2-#4 x 3'-0" DIAGONAL TO THE RE-ENTRANT CORNER.
- STRUCTURAL COLD FORMED METAL STUDS SHALL BE [800S162-43] AT [16"] ON CENTER UNLESS NOTED OTHERWISE.
- SEE SHEET [S-301] FOR TYPICAL FOUNDATION SECTIONS AND DETAILS.
- SEE SHEETS S-701 THRU S-742 FOR TYPICAL DETAILS.
- SEE SHEET S-601 FOR SCHEDULES.

SHEET KEYNOTES

- FLOOR DRAIN, SLOPE SLAB TO DRAIN 1/8" PER FOOT. COORDINATE EXACT SIZE AND LOCATION WITH ARCHITECTURAL AND MECHANICAL DRAWINGS.



DYRON MURPHY ARCHITECTS, P.C.



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ENGINEER

Revision Schedule		
#	Date	Description

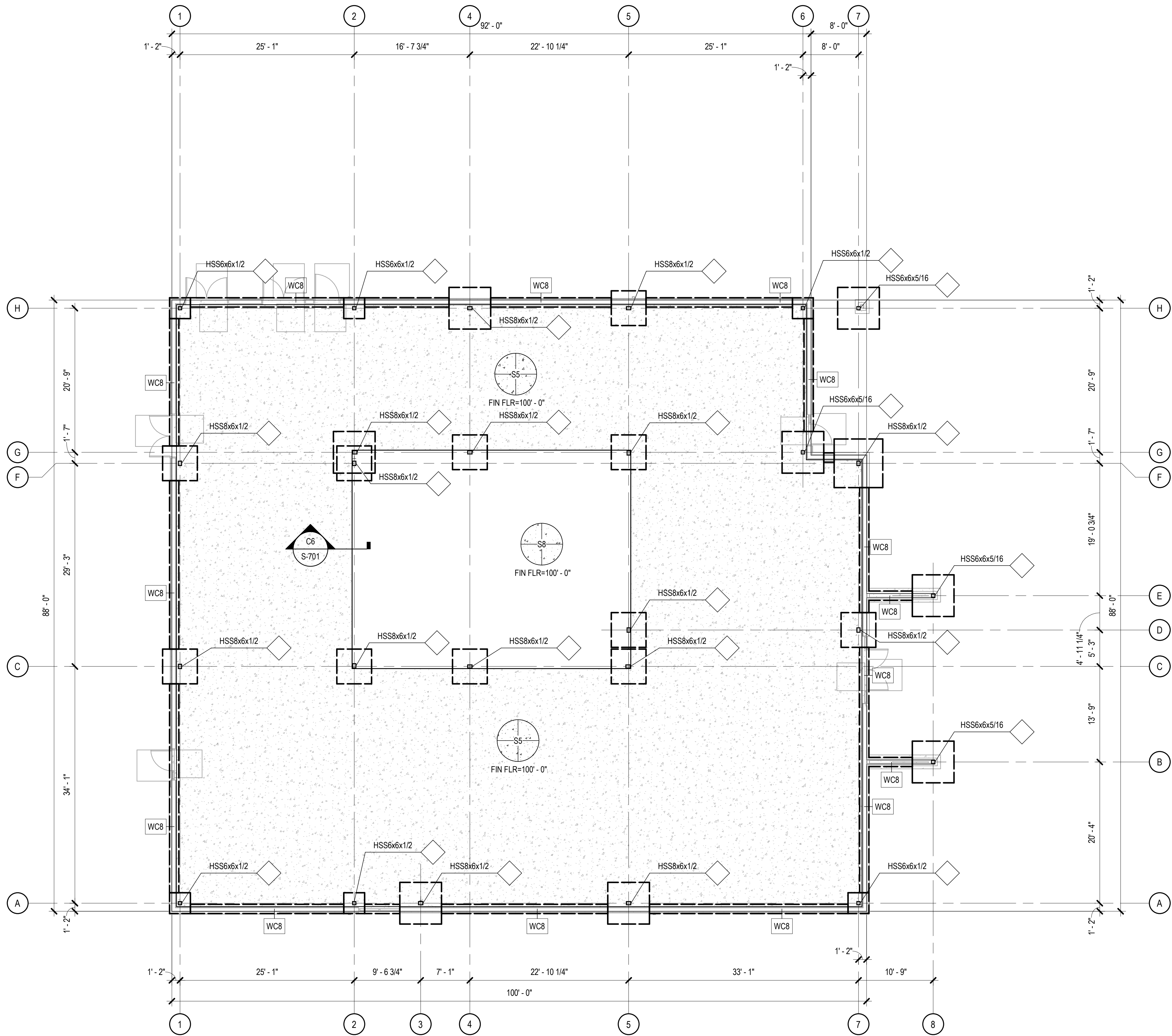
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	Author	Designer

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Sheet Title

S-101

Sequence of



A4 FOUNDATION PLAN
SCALE: 1/8" = 1'-0"

FOUNDATION PLAN

NTU ENVIRONMENTAL
LAB CHINLE

CHINLE, APACHE COUNTY, AZ

SCHEMATIC DESIGN

DECEMBER 2, 2022

GENERAL SHEET NOTES

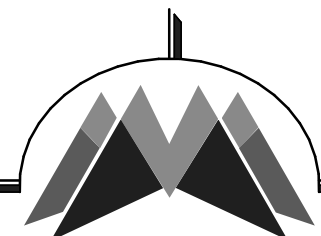
- SOME SHEET KEYNOTES MAY NOT APPLY TO THIS SHEET.
- NOTE TO ERECTOR: LATERAL STABILITY OF THE STEEL FRAME IS DEPENDENT UPON THE MASONRY WALLS, CONCRETE WALLS, STUD WALLS, BRACED FRAMES. THE ERECTOR SHALL PROVIDE TEMPORARY BRACING OF THE STEEL FRAME IN ACCORDANCE WITH SECTION 7.10 OF THE AISC CODE OF STANDARD PRACTICES.
- DIMENSIONS ARE TO THE FACE OF STUD OR GRID LINES, UNLESS NOTED OTHERWISE.
- SEE ARCHITECTURAL DRAWINGS FOR MASONRY DIMENSIONS NOT SHOWN.
- BEAMS ARE SPACED AT 2' - 0" ON CENTER, UNLESS NOTED OTHERWISE.
- STRUCTURAL COLD FORMED METAL STUDS SHALL BE [600S162-43] AT [16"] ON CENTER UNLESS NOTED OTHERWISE.
- SEE SHEET S-501 FOR TYPICAL ROOF FRAMING SECTIONS.
- SEE SHEET S-701 THRU S-742 FOR TYPICAL DETAILS.
- SEE SHEET S-601 FOR SCHEDULES.

SHEET KEYNOTES

- MECHANICAL UNIT, COORDINATE EXACT SIZE AND LOCATION WITH MECHANICAL DRAWINGS.



DYRON MURPHY ARCHITECTS, P.C.



4505 Montbel Place NE, Albuquerque, New Mexico 87107

ENGINEER

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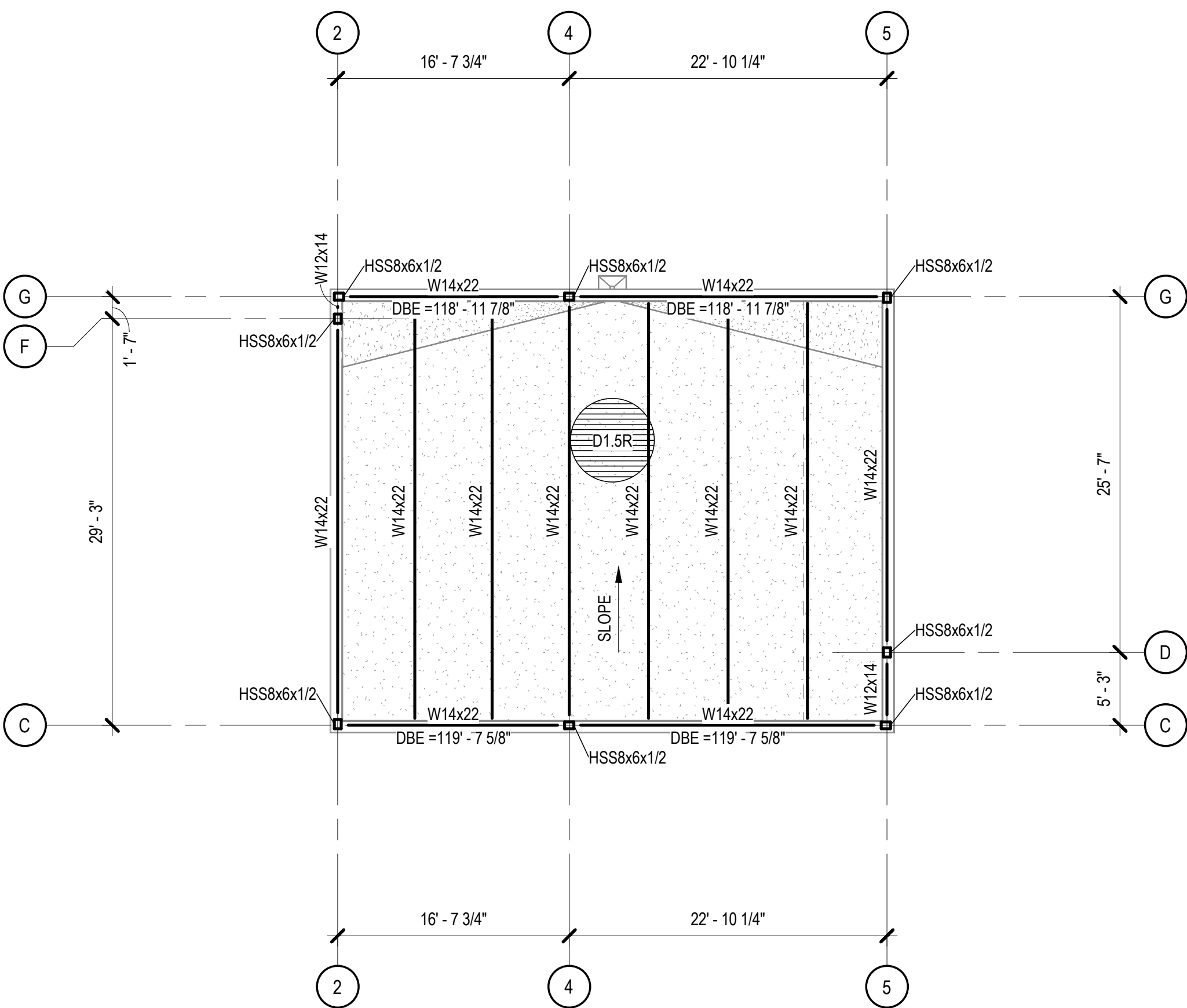
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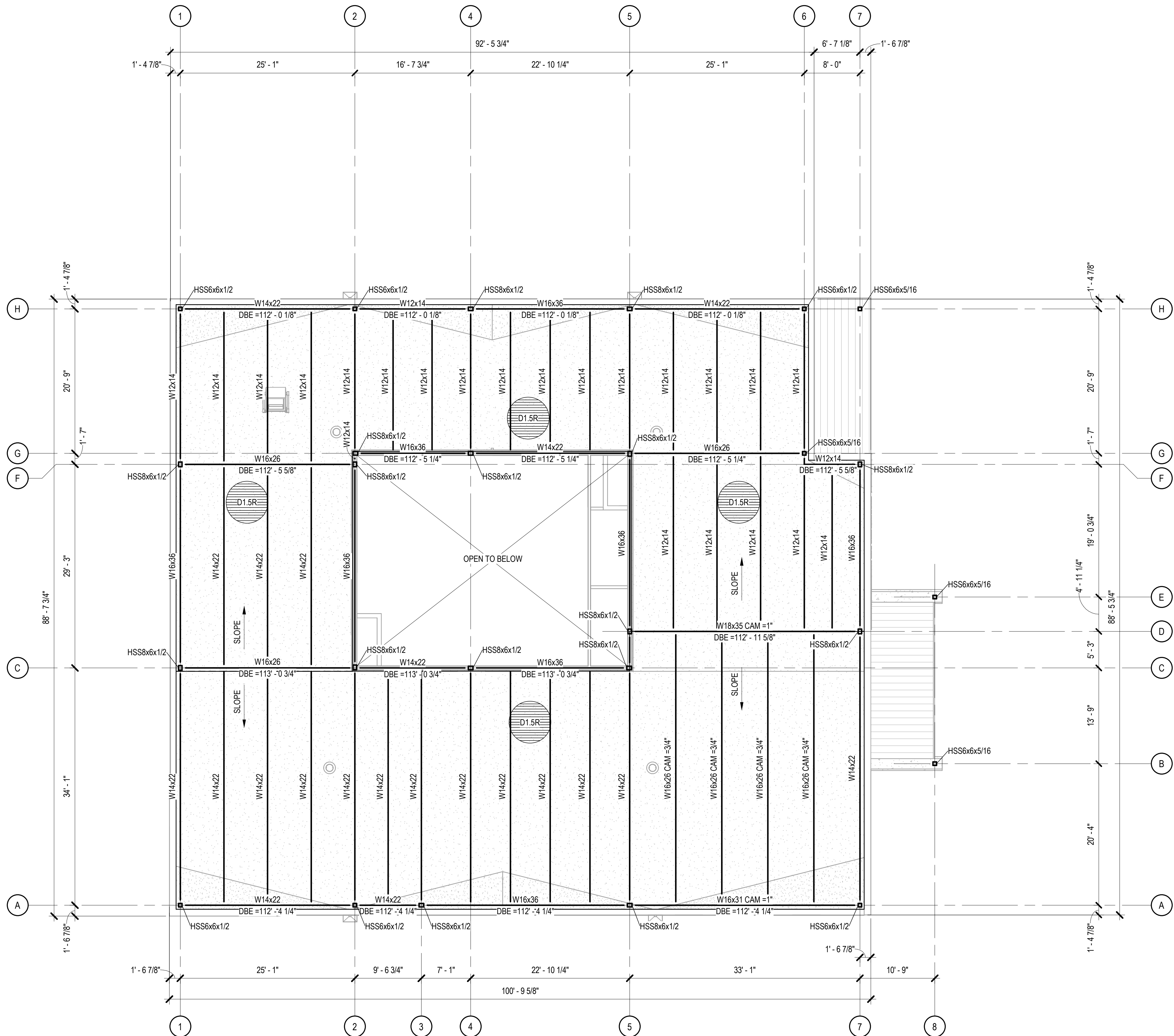
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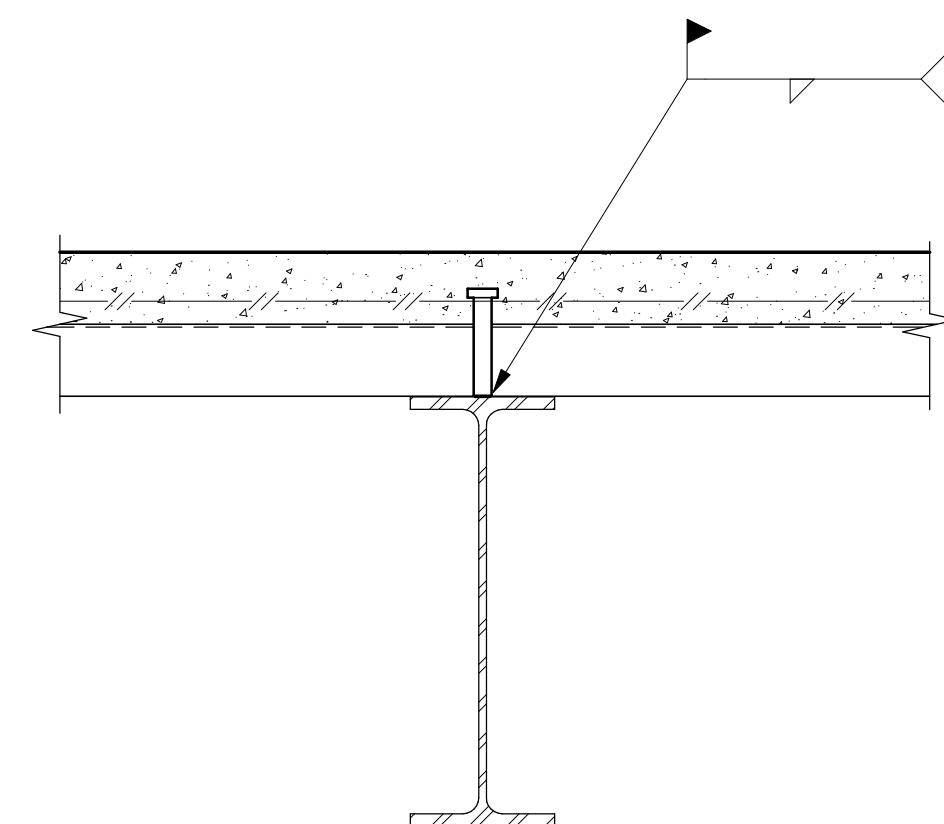
LOW ROOF AND HIGH
ROOF FRAMING PLAN



B6 HIGH ROOF FRAMING PLAN
SCALE: 1/8" = 1'-0"



A4 ROOF FRAMING PLAN
SCALE: 1/8" = 1'-0"



GRID

1 1/2"

2d

1/2"

TOS EL

SEE PLAN

SHEAR PL TYP

NOTE: K IS THE BOLT DIAMETER

NOTE:
 $\frac{1}{2}$ " IS THE BOLT DIAMETER

GRID

SEE PLAN

DECK BRG EL
 SEE PLAN

SHEAR PL TYPE

1 1/2"

2d

GRID

TYP

1/4

2 1/2

1/2 STIF PL TYP

TOS EL
SEE PLAN

SHEAR PLATE TYP

Diagram illustrating a skewed beam connection using a 3/8" bent plate. The connection involves a support member (column, beam, etc.) and a skewed beam with a cope flange as required. The bent plate is shown with a 1/4" gap and 3-sides of the connection.

NOTE:
1. HEADED STUDS SHALL NOT BE ADDED
UNTIL THE FLOOR DECK IS INSTALLED.

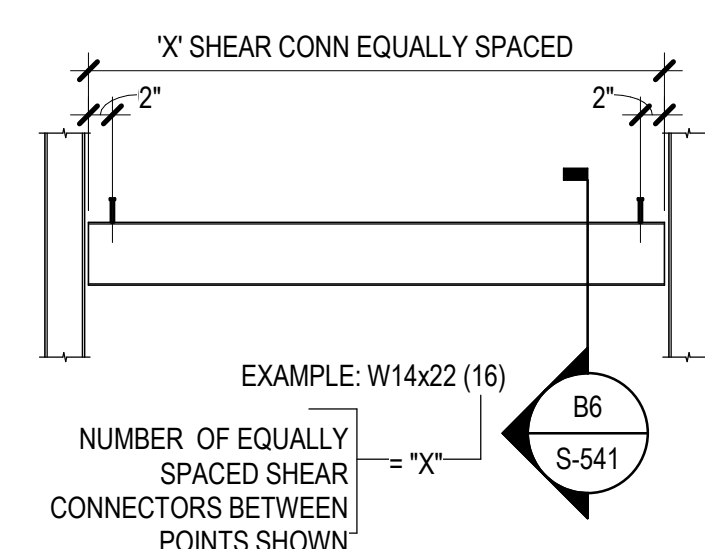


Diagram illustrating the elevation view of a column and beam joint. The column is shown with a central vertical axis and a horizontal axis intersecting at the joint. The beam is shown with a horizontal axis and a vertical axis intersecting at the joint. The column is labeled "GRID" at the top. The beam is labeled "TOS EL" (Top of Slab) and "SEE PLAN" on the right. The column is labeled "SHEAR TAB TYPICAL" on the left. The beam is labeled "2 1/2\"

HEADED ANCHOR STUDS WHERE OCCURS

1 - #4 x 6'-0" @ 12' OC @ ALL FLOOR GIRDERS

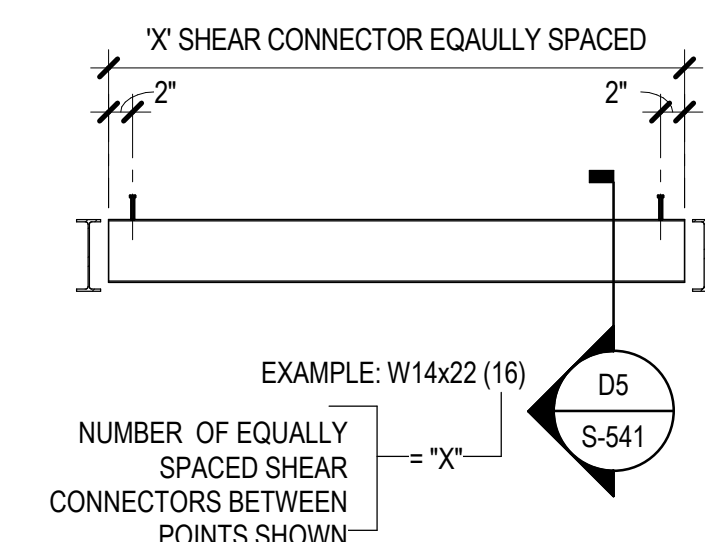
THRU DECK AS PER MFR SPECS

FLOOR BEAMS BEYOND

NOTE:
1. HEADED STUDS SHALL NOT

NOTES:

1. PLACE STUDS UNIFORMLY IN LOW FLUTES
2. STUDS SHALL BE PLACED ON EDGE OF LOW FLUTE FURTHEST AWAY FROM THE BEAM CENTERLINE
3. HEADED STUDS SHALL NOT BE ADDED UNTIL THE FLOOR IS INSTALLED



NOTE:
COPE BEAM AS REQUIRED

2 1/2"

3"

DECK BRG EL.
SEE PLAN

PECO

SHEAR PL. TYP

This diagram shows a cross-section of a beam-to-column connection. A horizontal beam is shown with a vertical cutout (cope) in its center. The beam is supported by a vertical column. The connection is detailed with dimensions and labels. A dimension of 2 1/2" is shown for the top flange thickness. A dimension of 3" is shown for the bottom flange thickness. The label 'DECK BRG EL. SEE PLAN' points to the top of the beam. The label 'PECO' is located near the bottom of the beam. The label 'SHEAR PL. TYP' points to a shear plate on the right side of the beam.

NOTE:
 ϕ IS THE BOLT DIAMETER

CAP PL. @
 TOP OF COL.

SHEAR TAB TYPICAL

SRID

1 1/2"
 2ϕ

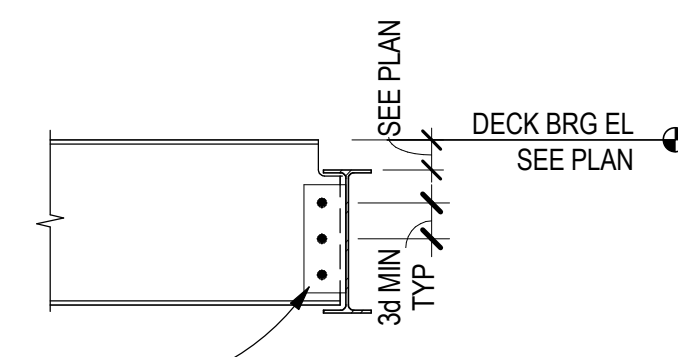
1/2"

TOS EL.
 SEE PLAN

Detailed description: This diagram shows the elevation of a column-beam joint. A vertical column is intersected by a horizontal beam. At the top of the column, a circular 'SRID' (structural reinforcement identification) is indicated. The column's reinforcement consists of longitudinal bars (solid circles) and stirrups (dashed lines). The beam's reinforcement includes top bars (solid circles) and bottom bars (solid circles). A 'CAP PL.' (cap plate) is shown at the top of the column, secured with bolts (indicated by dots). A 'SHEAR TAB TYPICAL' is shown on the beam. Dimensions include a 1 1/2" gap between the cap plate and the column top, and a 1/2" gap between the beam bottom and the column. A note points to the top of the column, stating 'CAP PL. @ TOP OF COL.'. A 'TOS EL. SEE PLAN' (top of slab elevation) is indicated on the right. A note at the top left states 'NOTE: \phi IS THE BOLT DIAMETER'.

NOTE:
COPE BEAM AS REQUIRED

NOTE:
"d" IS THE BOLT DIAMETER



GRID

SEE PLAN

L3x3x1/4 DIAG BRACE
FROM
BOT FLANGE OF BEAM TO
TOP CHORD OF NEAREST
JOIST

TOS EL
SEE PLAN

PL 1/2" W/ 4 BOLTS

3/8" STIF PL EACH SIDE

1/4

2" TYP

1. ALL BOLTS SHALL BE A325N 3/4" DIA IN STANDARD HOLES UNLESS NOTED OTHERWISE.
2. ALL SHEAR PLATES SHALL BE PL 5/16" WELDED TO THE SUPPORTING MEMBER WITH 1/4" FILLET WELDS ON BOTH SIDES UNLESS NOTED OTHERWISE.
3. BOLT QUANTITIES FOR EACH CONNECTION SHALL BE AS FOLLOWS UNLESS NOTED OTHERWISE:
 - 2 @ W10
 - 3 @ W12, W14
 - 4 @ W16
 - 5 @ W18, W21
 - 6 @ W24
 - 7 @ W27
 - 8 @ W30
 - 9 @ W33
 - 10 @ W36
 - 11 @ W40
 - 12 @ W44
4. PROVIDE 1/4" CAP PL AT TOP OF ALL HSS/PIPE COLUMNS AND 1/2" CAP PL @ TOP OF ALL WF COLUMNS UNO.
5. PROVIDE 1/4" END PLATE AT ALL EXPOSED HSS MEMBERS UNO.
6. DIMENSIONS SHOWN FOR SIMPLE CONNECTIONS APPLY TO SIMILAR CONNECTIONS UNO.



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Revision Schedule		
#	Date	Description

PROJECT NUMBER	DRAWN BY	PROJ MGR
	Author	Designer

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Sheet Number

ENGINEER

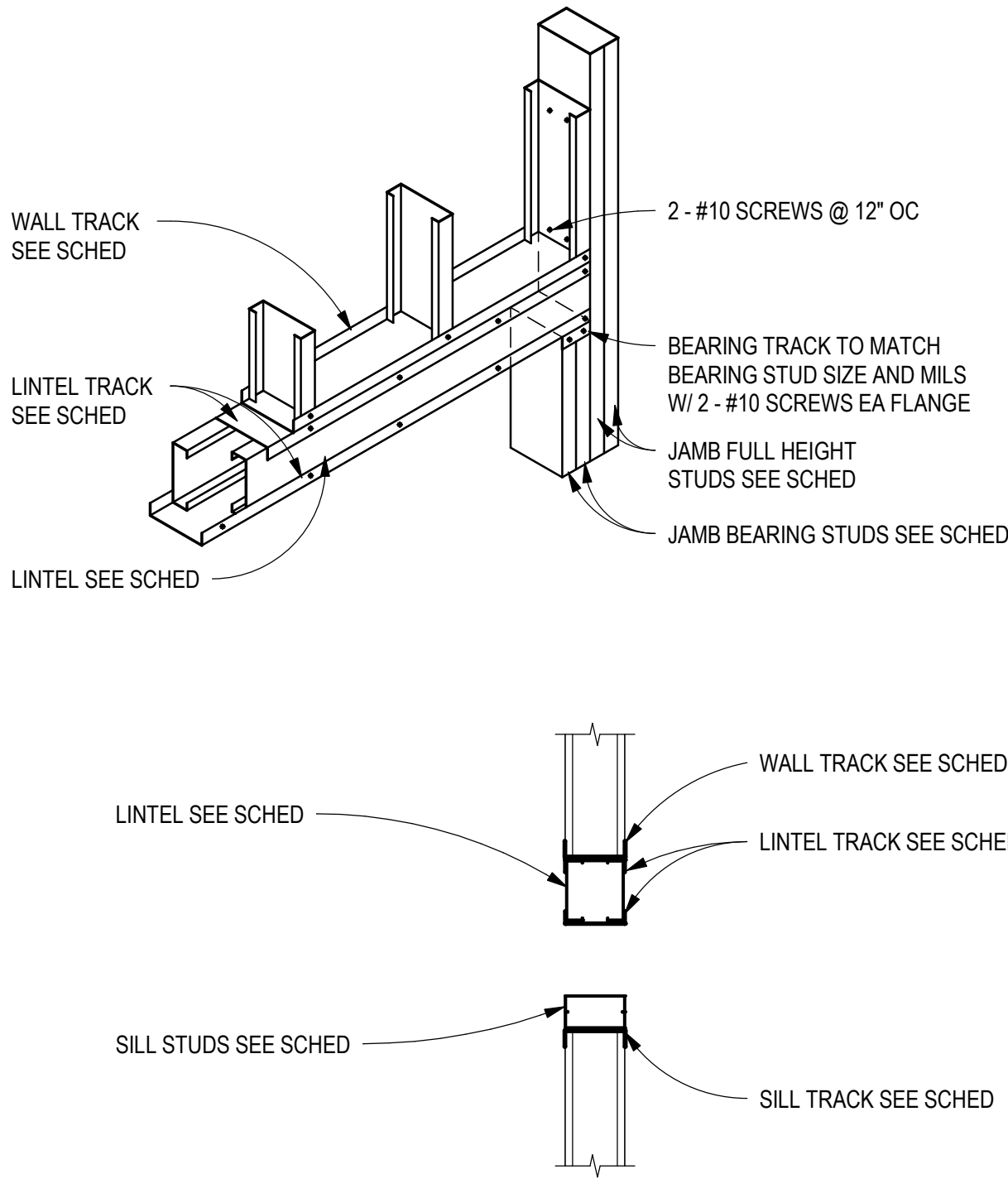
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STEEL DETAILS

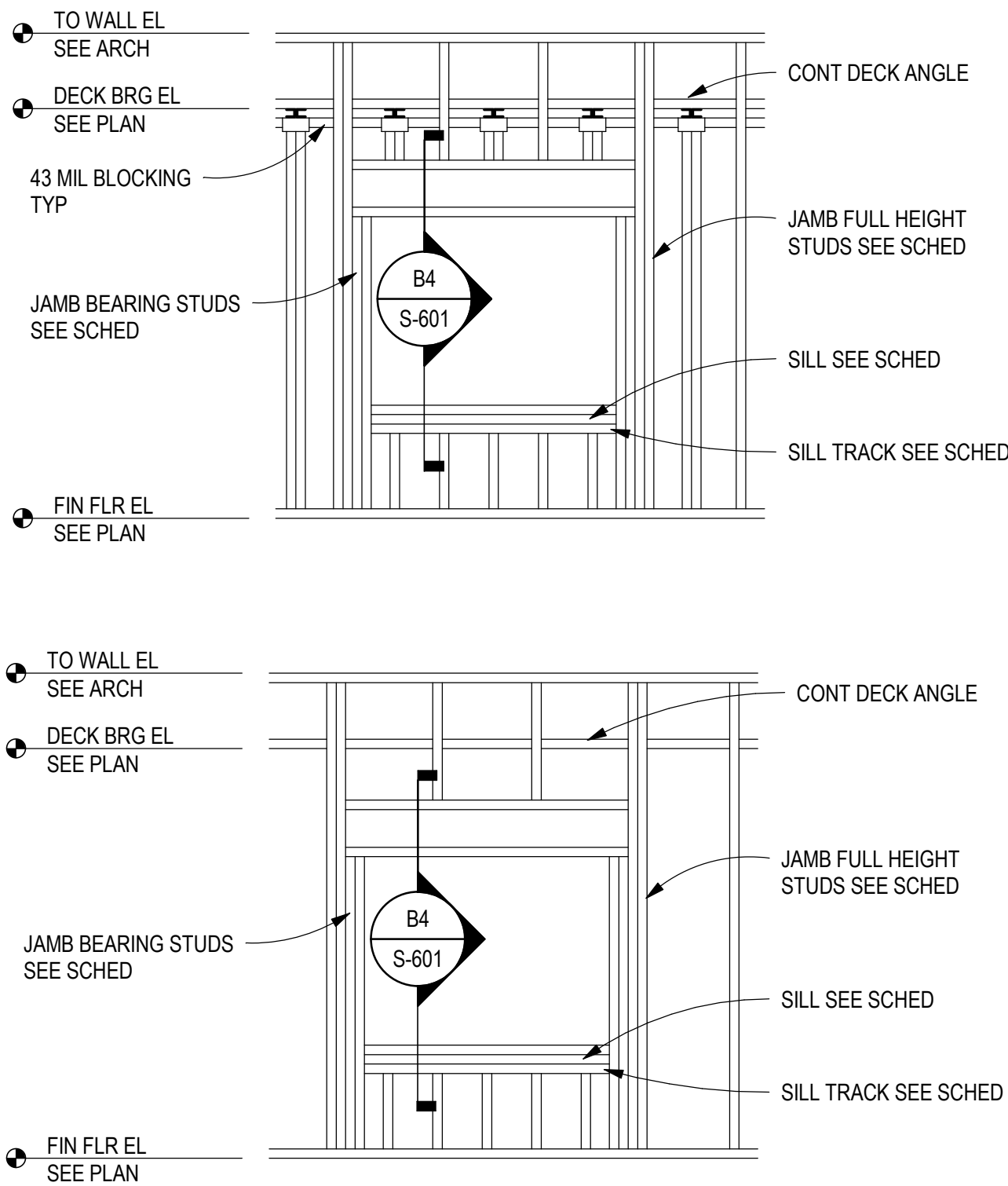
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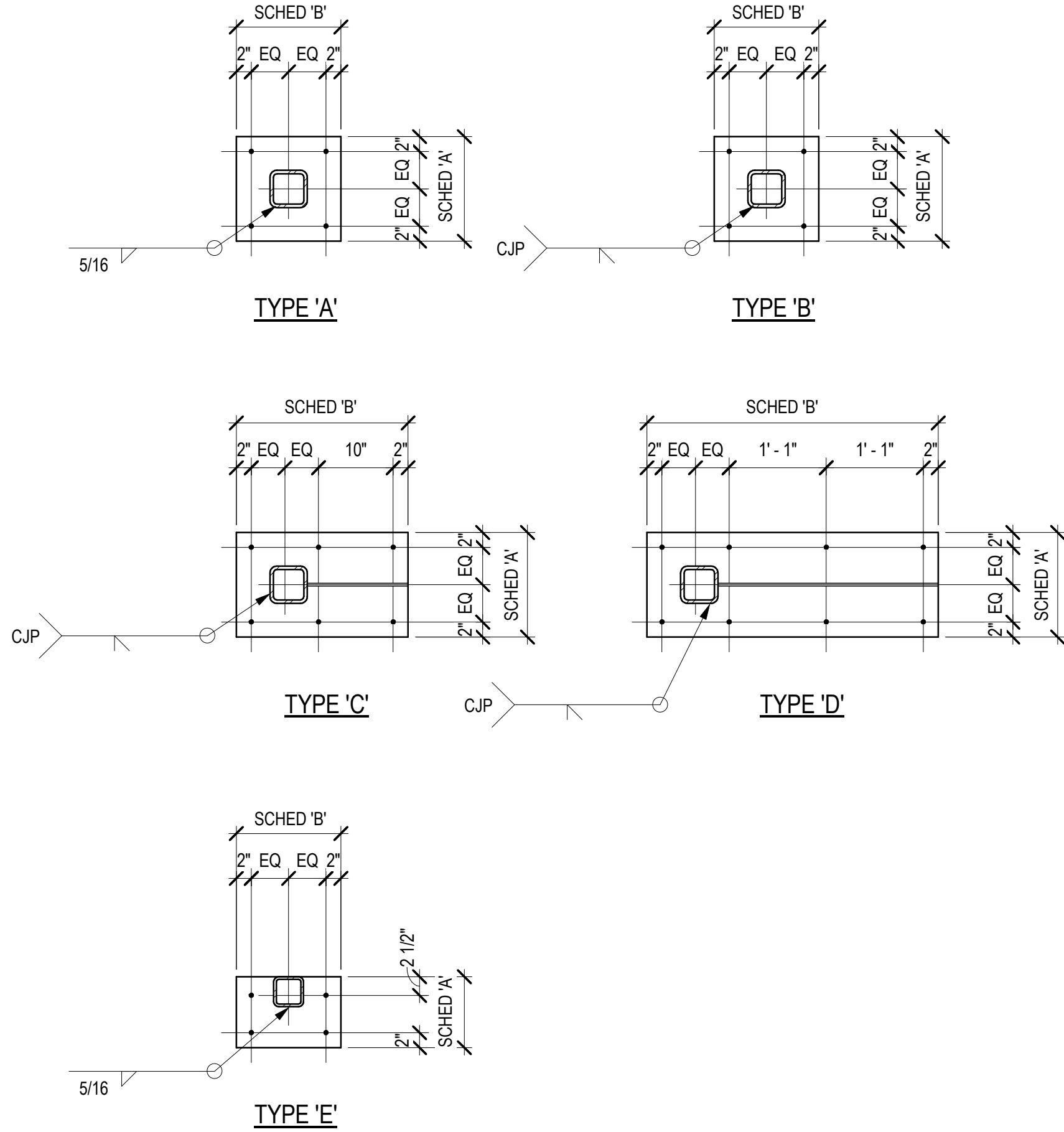
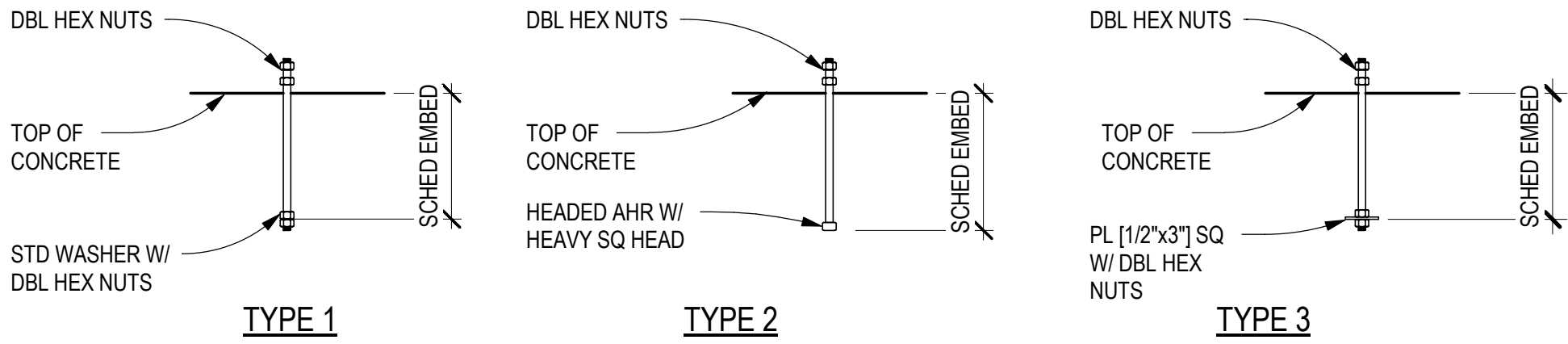
COLD-FORMED LINTEL SCHEDULE								
MARK	LINTEL			JAMB STUDS		SILL		COMMENTS
	SIZE	LINTEL TRACK	WALL TRACK	BEARING	FULL HEIGHT	SIZE	SILL TRACK	
[0'-0" - 4'-0"]	[2-600S162-43]	[1-600T125-43]	[1-600T125-43]	[1-600S162-43]	[1-600S162-43]	[2-600S162-43]	[1-600S162-43]	
[4'-1" - 8'-0"]	[2-600S162-43]	[1-600T125-43]	[1-600T125-43]	[2-600S162-43]	[2-600S162-43]	[2-600S162-43]	[2-600S162-43]	
[8'-1" - 12'-0"]	[3-600S162-43]	[1-600T125-43]	[1-600T125-43]	[2-600S162-43]	[2-600S162-43]	[2-600S162-43]	[2-600S162-43]	
[12'-1" - 16'-0"]	[3-600S162-54]	[1-600T125-43]	[1-600T125-43]	[2-600S162-54]	[3-600S162-43]	[2-600S162-43]	[3-600S162-43]	
NOTE: 1. NOT ALL LINTELS MAY REQUIRE SILL STUDS. COORDINATE SILL LOCATIONS WITH ARCHITECTURAL PLANS AND ELEVATIONS								



B4 TYPICAL COLD-FORMED LINTEL
SCALE: 3/4" = 1'-0"



BASE PLATE SCHEDULE					
BASE PLATE			ANCHOR BOLTS		NON-SHRINK GROUT THICKNESS
MARK	TYPE	SIZE "T"x"A"x"B"	F1554 ANCHOR BOLTS	TYPE	
BP1	[A]	PL [1 1/2"x9"x1'-10"]	[4 - 3/4" DIA x 9"]	[1]	[2"]
BP2	[B]	PL [3/4"x12"x1'-0"]	[4 - 3/4" DIA x 9"]	[2]	[2"]
BP3	[C]	PL [3/4"x9"x1'-1"]	[4 - 3/4" DIA x 21"]	[3]	[2"]



DECK SCHEDULE								
MARK	METAL DECK				DECK ATTACHMENTS			TOTAL SLAB / DECK THICKNESS
	DECK	TYPE	GAGE	FINISH	ATTACH PERP TO RIBS	ATTACH PARALLEL TO RIBS	ATTACH SIDELAPS	
D1.SR	1 1/2"	B	[20]	PAINTED	[5-5/8" DIA PUDDLE WELDS] PER [36"] WIDE SHEET	[5/8" DIA PUDDLE WELDS] @ [12"] OC	[#10] SCREWS @ [12"] OC	1 1/2"

REINFORCING LAP SPLICE SCHEDULE							
REINFORCEMENT TYPE	#6 AND SMALLER (NUMBER OF BAR DIAMETERS)			#7 AND LARGER (NUMBER OF BAR DIAMETERS)			COMMENTS
	3000 PSI	4000 PSI	5000 PSI	3000 PSI	4000 PSI	5000 PSI	
CONTINUOUS WALL FOOTINGS AND HORIZONTAL REINFORCEMENT IN SITE WALLS AND STEM WALLS	30	30	30	30	30	30	18
CONCRETE WALLS: ALL VERTICAL REINFORCEMENT	57	50	45	72	62	56	12
CONCRETE WALLS: ALL HORIZONTAL REINFORCEMENT, EXCLUDING SITE WALLS AND STEM WALLS	75	65	58	93	81	72	12
CONCRETE COLUMNS	57	50	45	72	62	56	12
TOP FLEXURAL REINFORCEMENT, INCLUDING BEAMS, GRADE BEAMS, AND COMBINED FOOTING COLUMNS	75	65	58	93	81	72	12
BOTTOM FLEXURAL REINFORCEMENT, INCLUDING BEAMS, GRADE BEAMS, AND COMBINED COLUMN FOOTINGS	57	50	45	72	62	56	12
MINIMUM EMBEDMENT OF STANDARD HOOKS INTO CONCRETE BASE	22	19	17	22	19	17	6
SLABS-ON-GRADE		30			30		12
SLABS OVER METAL DECK		30			30		6
ALL CMU LAPS UNLESS NOTED OTHERWISE		48			48		18

- NOTES:
1. LAP SPLICES SHALL NOT BE PERMITTED FOR BARS LARGER THAN #11 IN CONCRETE OR #9 IN MASONRY. SUCH SPLICES SHALL USE APPROVED MECHANICAL CONNECTIONS
2. LAP SPLICES FOR BUNDLED BARS SHALL BE IN ACCORDANCE WITH ACI 318
3. LAP LENGTHS FOR LIGHTWEIGHT CONCRETE SHALL BE INCREASED BY 33%
4. LAP LENGTHS FOR EPOXY COATED BARS SHALL BE INCREASED BY 50%
5. FOR INTERMEDIATE OR LARGER VALUES OF F_c, USE THE CLOSEST LOWER VALUE IN THE TABLE. DO NOT INTERPOLATE

SLAB-ON-GRADE SCHEDULE					
MARK	THICKNESS	SLAB		BEARING STRATA	COMMENTS
		MATL	REINFORCING		
S5	5"	NORMAL WEIGHT CONC	#4 @ 18" OC EACH WAY	[15 MIL VAPOR RETARDER] OVER SUBGRADE PER GEN STRUCT NOTES	
S8	8"	NORMAL WEIGHT CONC	#4 @ 12" OC EACH WAY TOP & BOT	[15 MIL VAPOR RETARDER] OVER SUBGRADE PER GEN STRUCT NOTES	

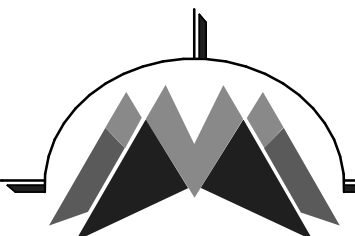
WALL SCHEDULE				
MARK	WALL	REINFORCING		COMMENTS
		VERTICAL	HORIZONTAL	
WC8	8" CONC	[#4 @ 12"] OC	[#4 @ 12"] OC	

SPOT FOOTING SCHEDULE					
MARK	WIDTH	SIZE		REINFORCING	COMMENTS
		LENGTH	DEPTH		
F1	3'-0"	3'-0"	1'-0"	3 - #5 EA WAY	
F2	5'-0"	5'-0"	1'-0"	4 - #5 EA WAY	
F3	6'-0"	6'-0"	1'-0"	4 - #5 EA WAY	
F4	7'-0"	7'-0"	1'-0"	4 - #5 EA WAY	
F6	6'-0"	6'-0"	1'-0"	4 - #5 EA WAY	

CONTINUOUS FOOTING SCHEDULE					
MARK	SIZE		REINFORCING		COMMENTS
	WIDTH	DEPTH	CONTINUOUS	TRANSVERSE	
CF16	1'-4"	1'-0"	RUN DYNAMO SCRIPT		



DYRON MURPHY ARCHITECTS, P.C.



4505 Montbel Place NE, Albuquerque, New Mexico 87107

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	Author	Designer

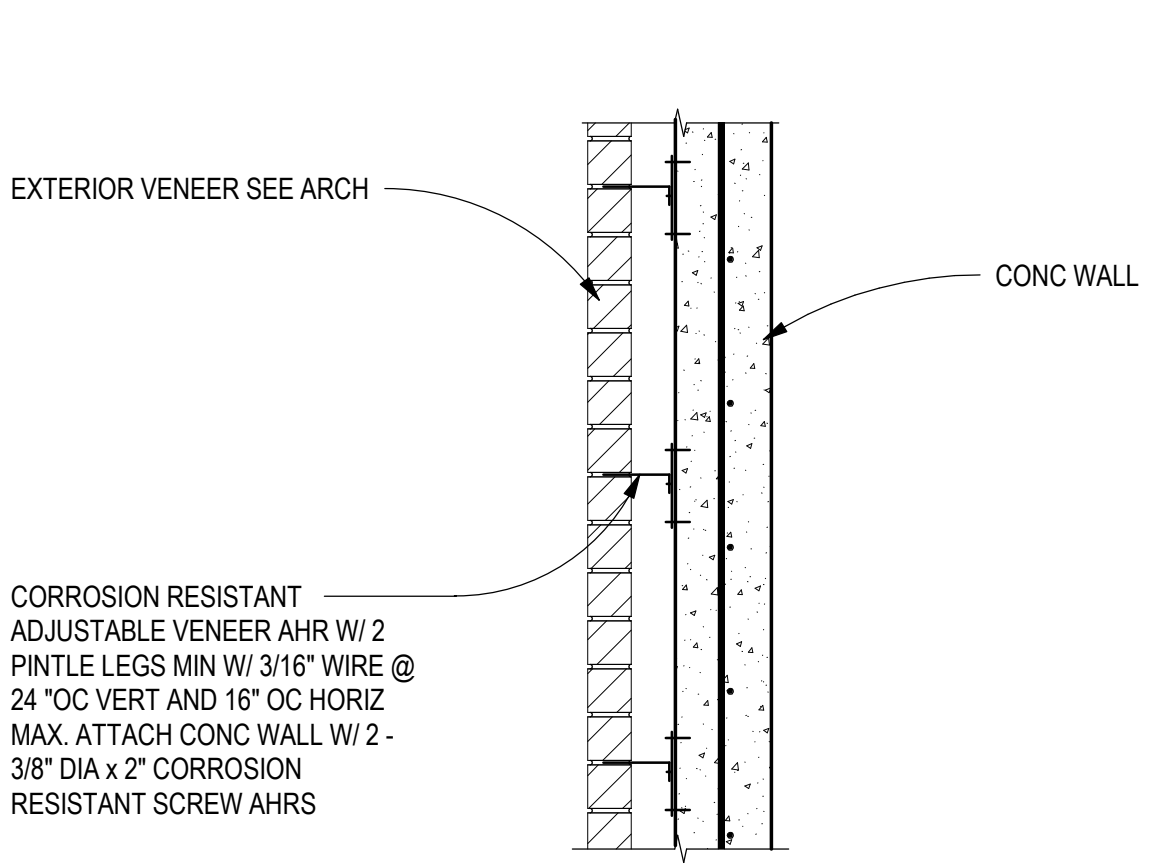
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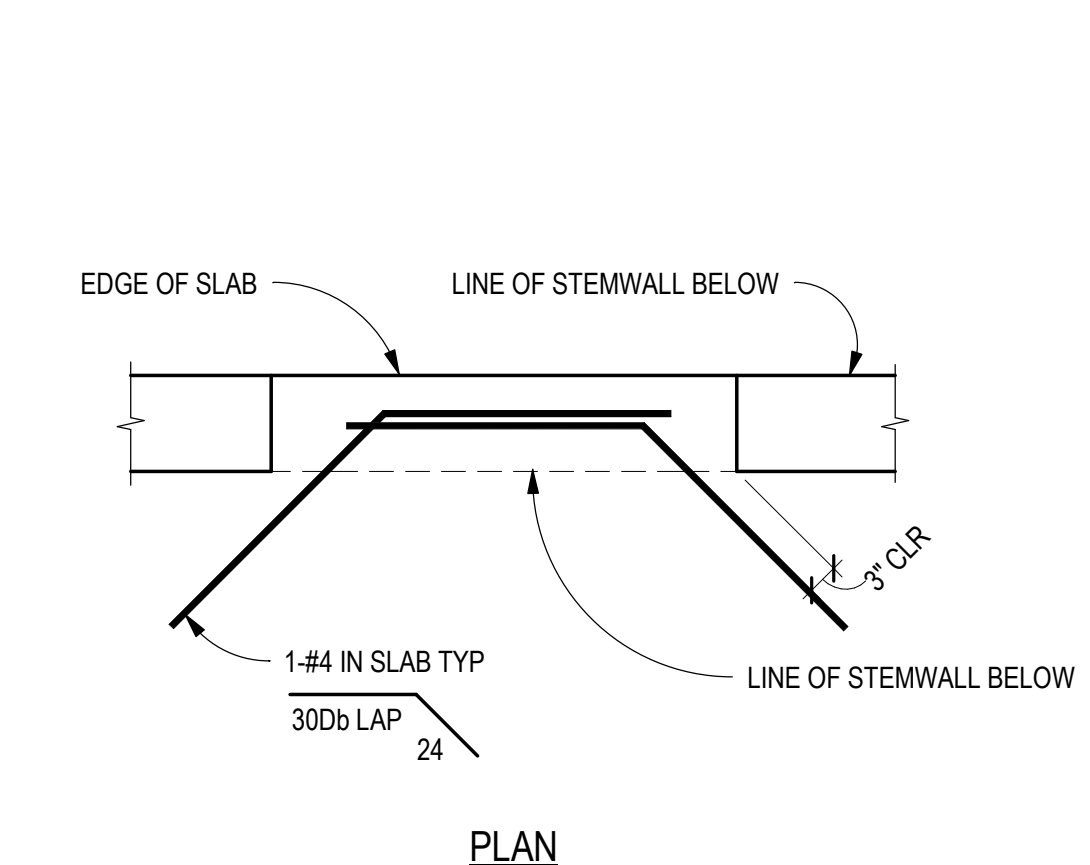
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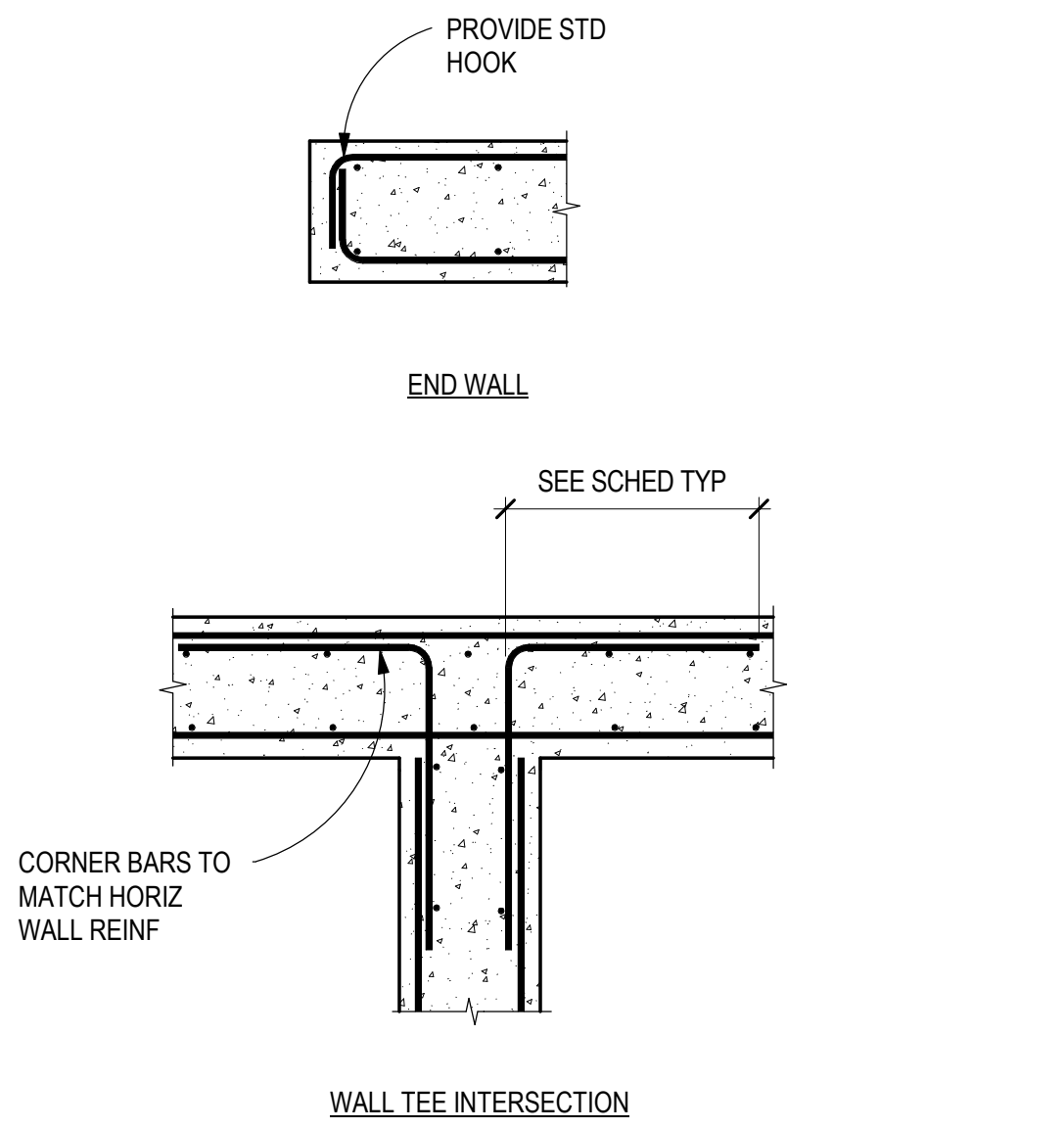
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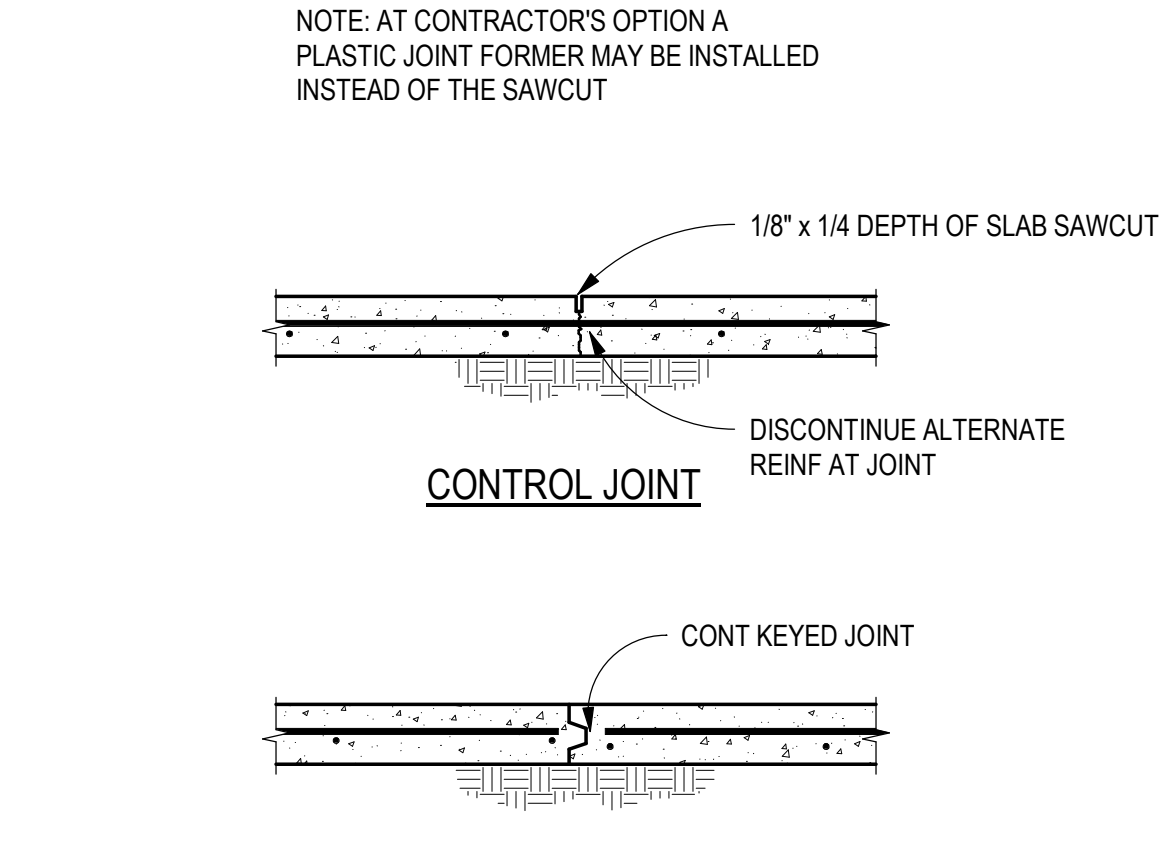
E6 TYPICAL VENEER TO CONC WALL
SCALE: NTS



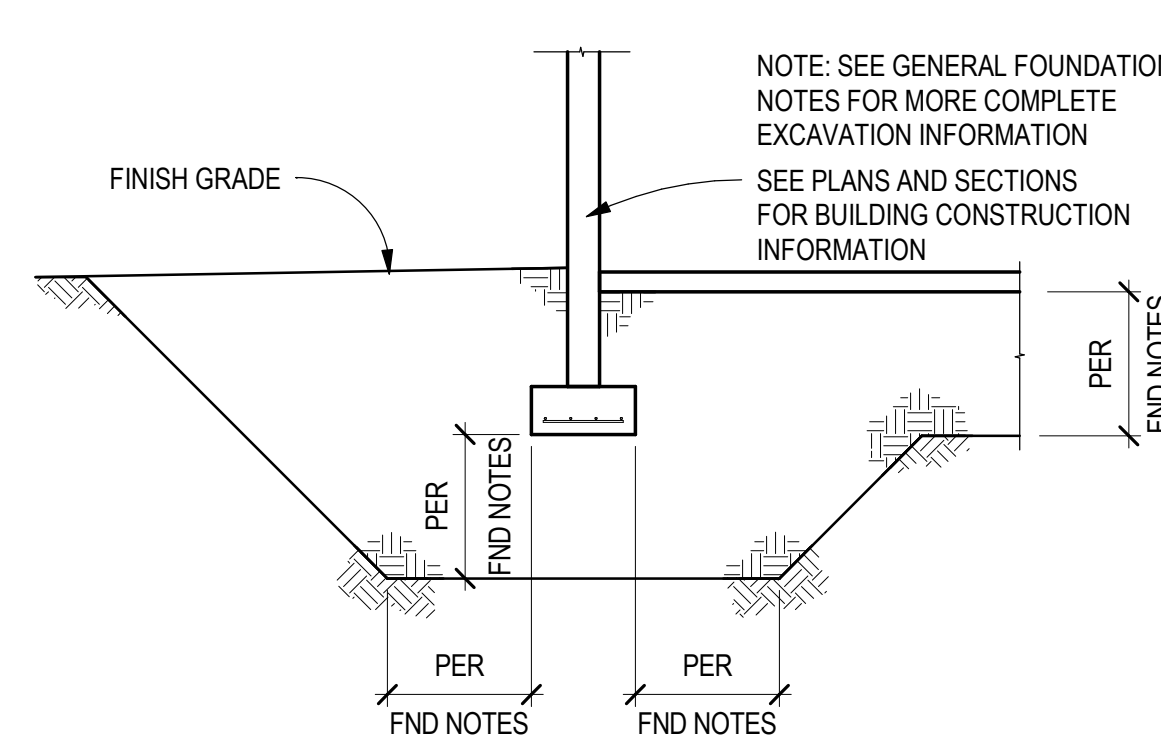
E5 TYPICAL SLAB REINF AT OPNG
SCALE: NTS



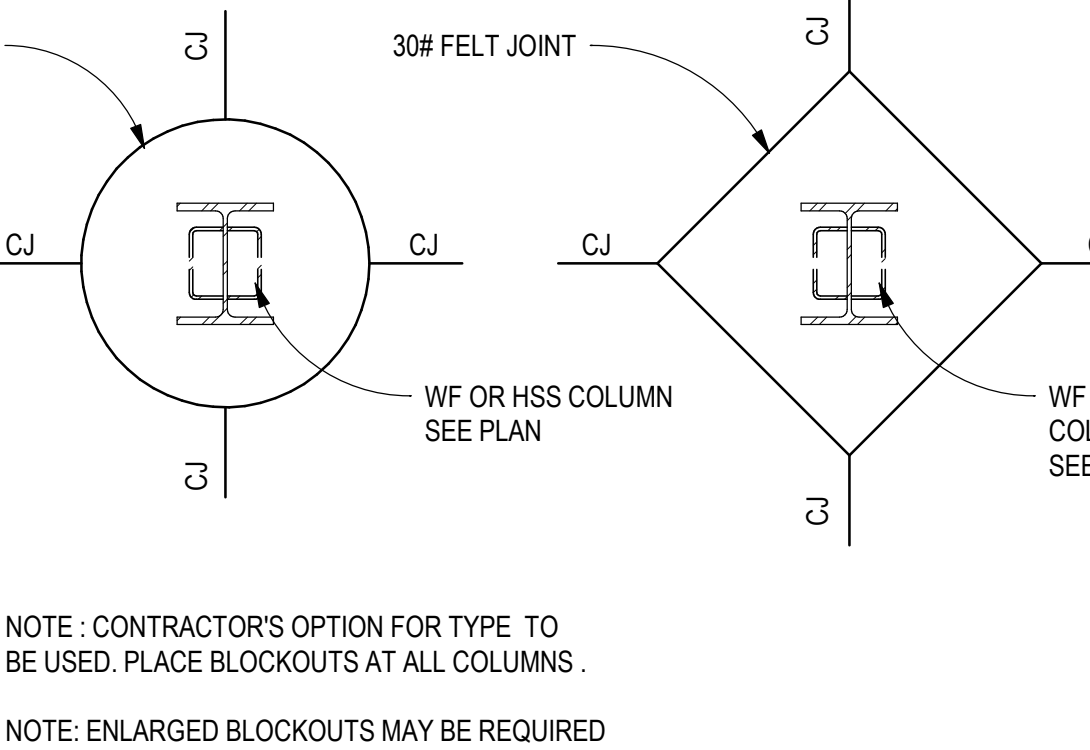
E3 TYPICAL OPNG IN CONC WALL
SCALE: NTS



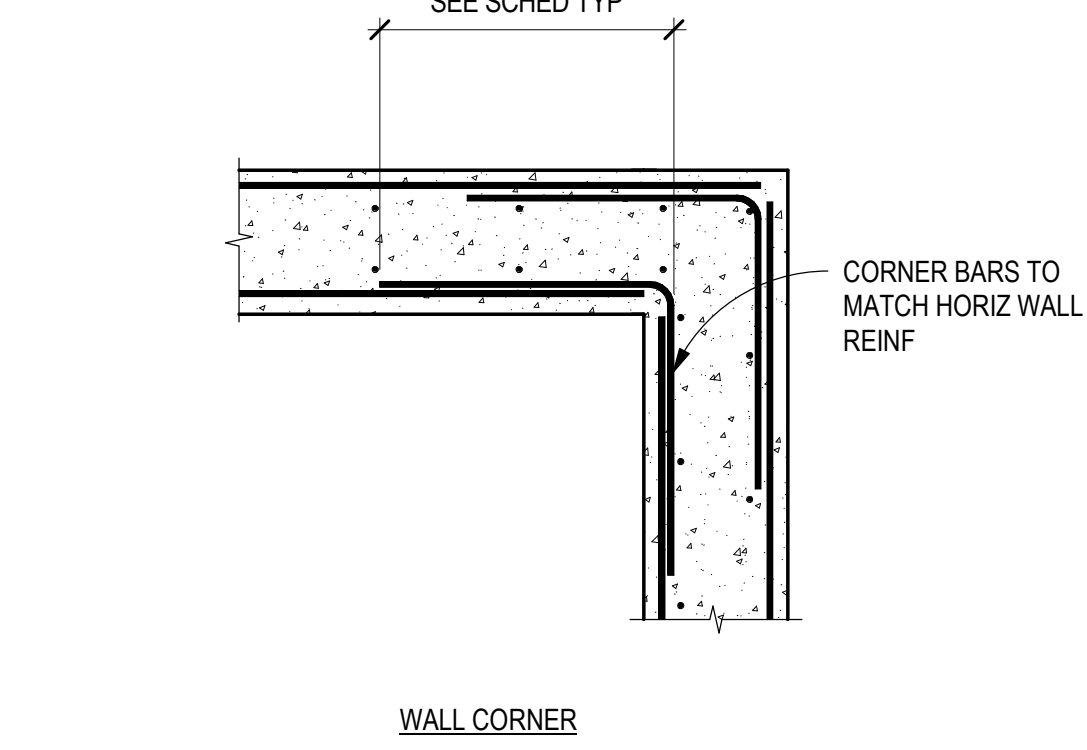
E2 TYPICAL SLAB JOINT
SCALE: NTS



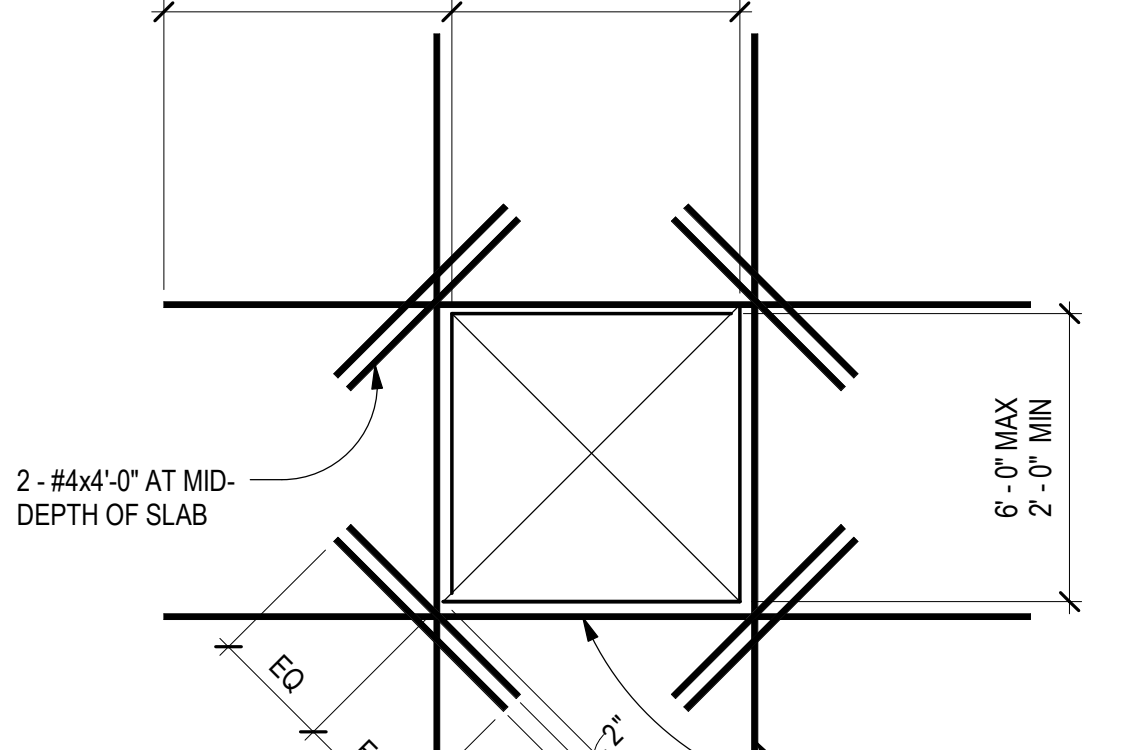
D6 TYPICAL FND EXCAVATION DETAIL
SCALE: NTS



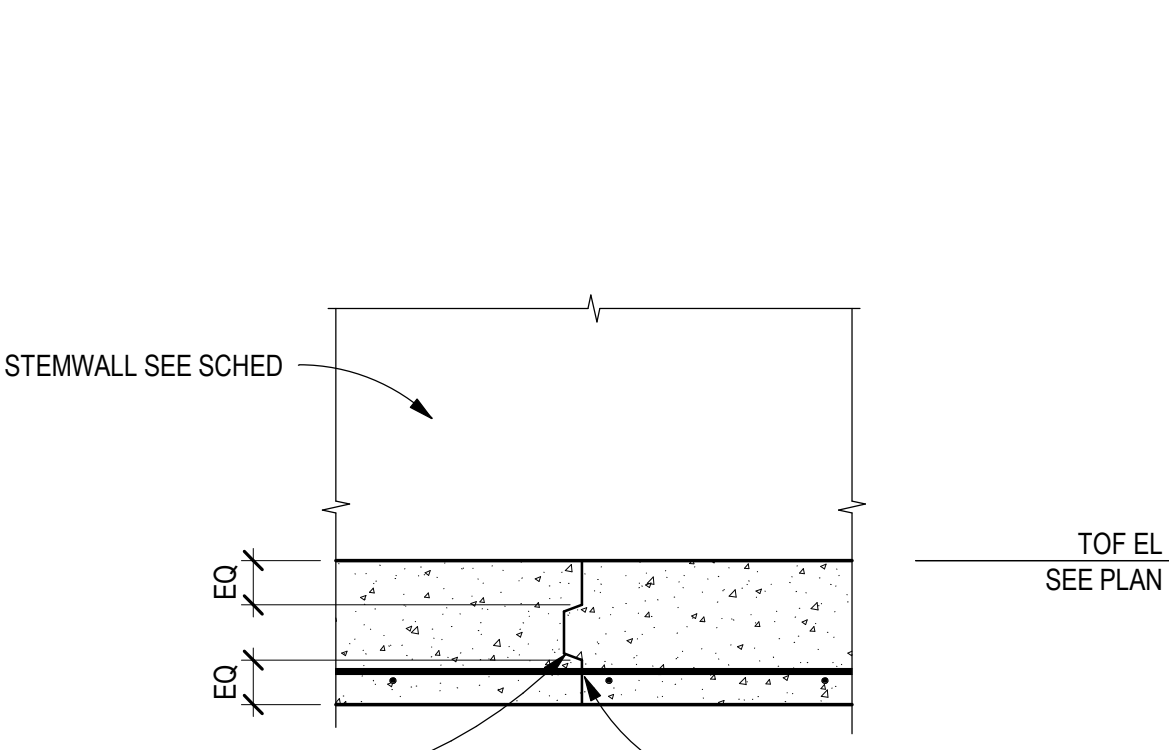
D5 TYPICAL COLUMN BLOCKOUT
SCALE: NTS



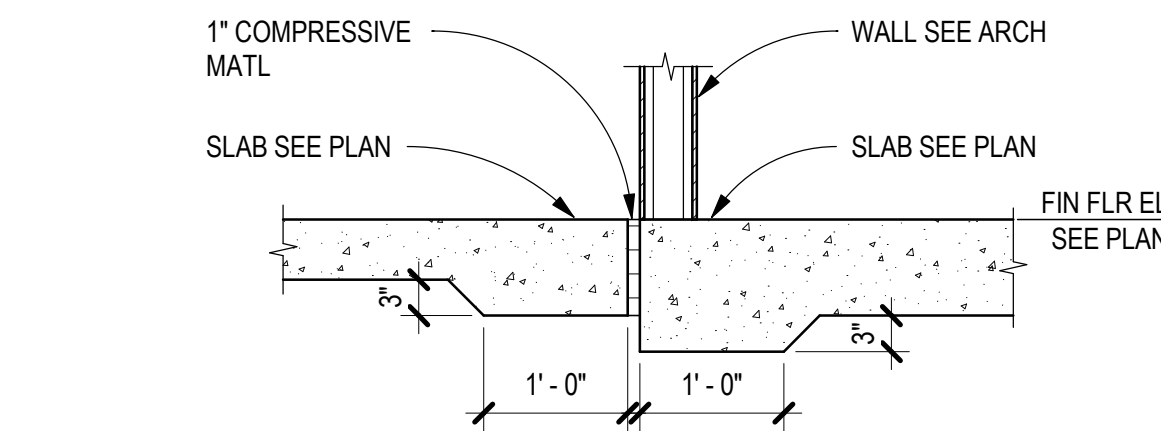
C4 TYPICAL DOUBLE MAT WALL REINF
SCALE: NTS



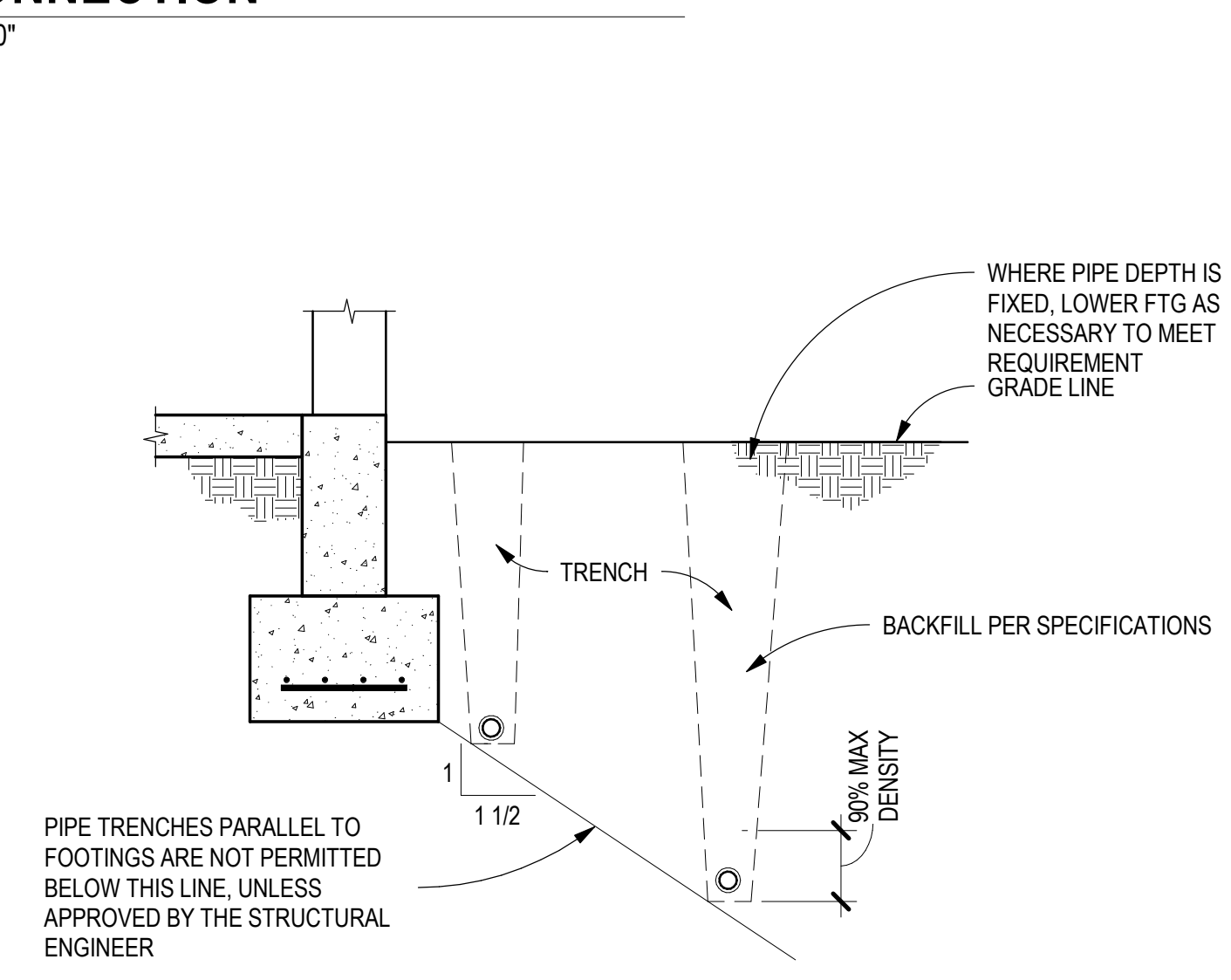
C3 TYPICAL OPNG IN SLAB-ON-GRADE
SCALE: NTS



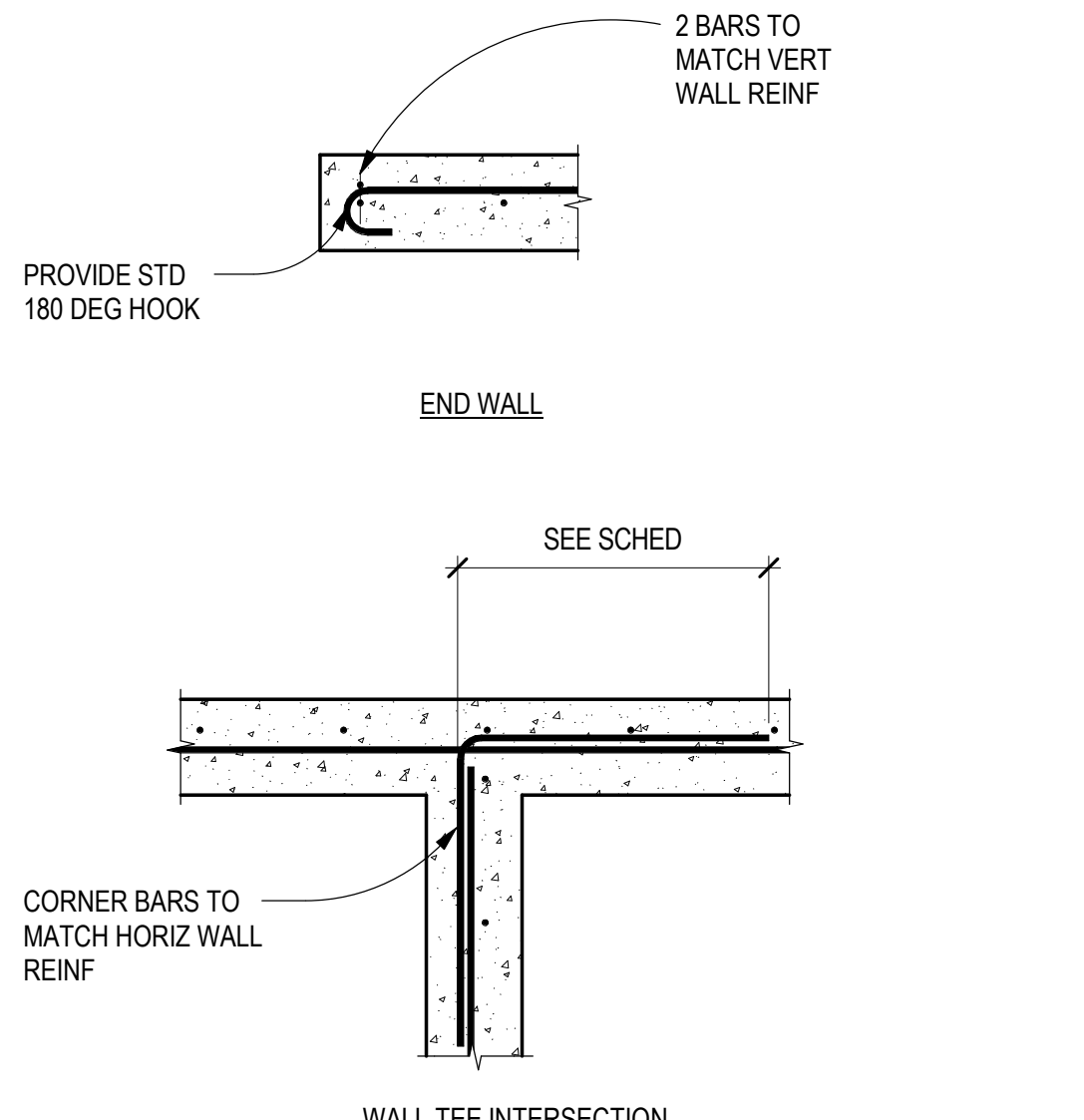
C2 TYPICAL CONT FTG BULKHEAD
SCALE: NTS



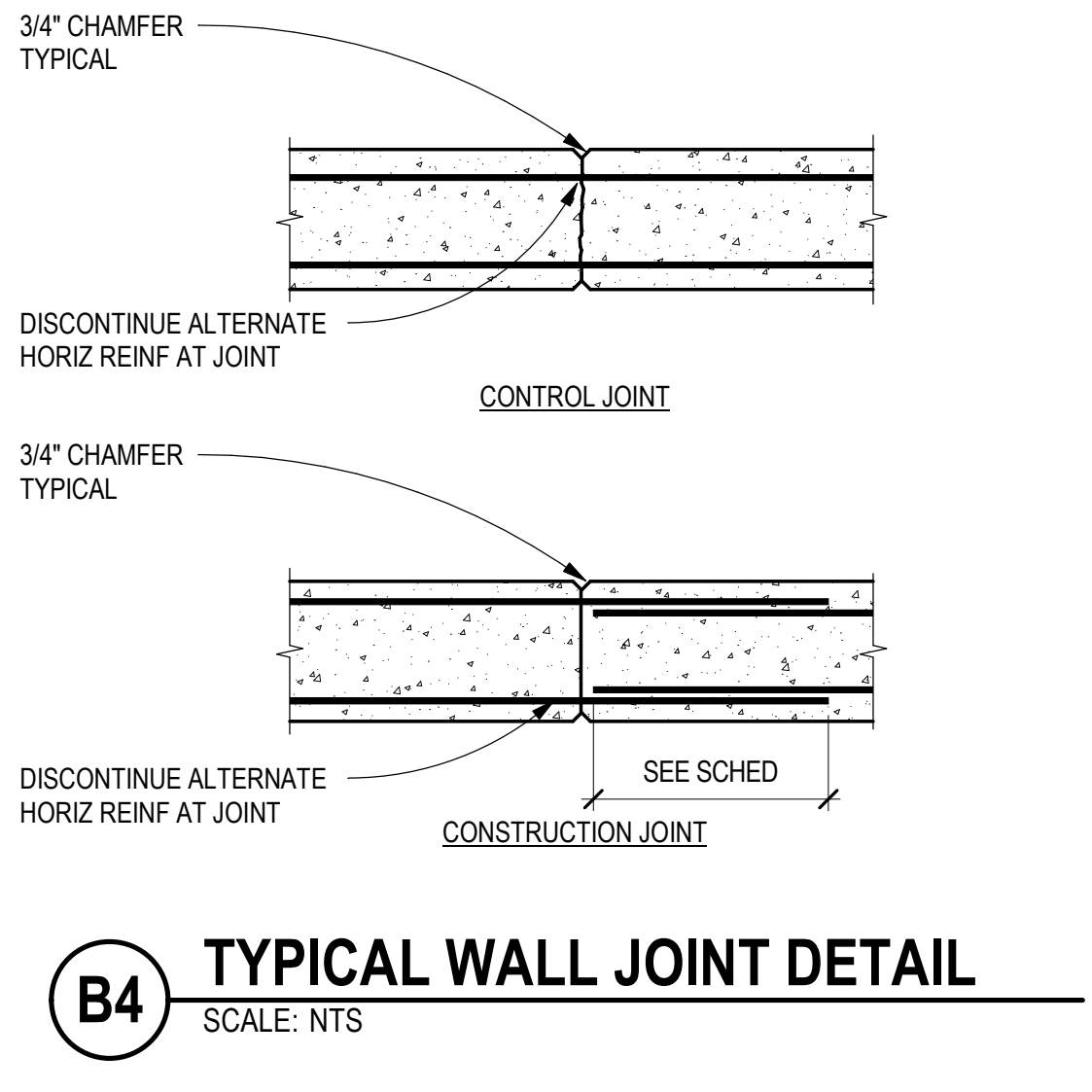
C6 SLAB CONNECTION
SCALE: 3/4\"/>



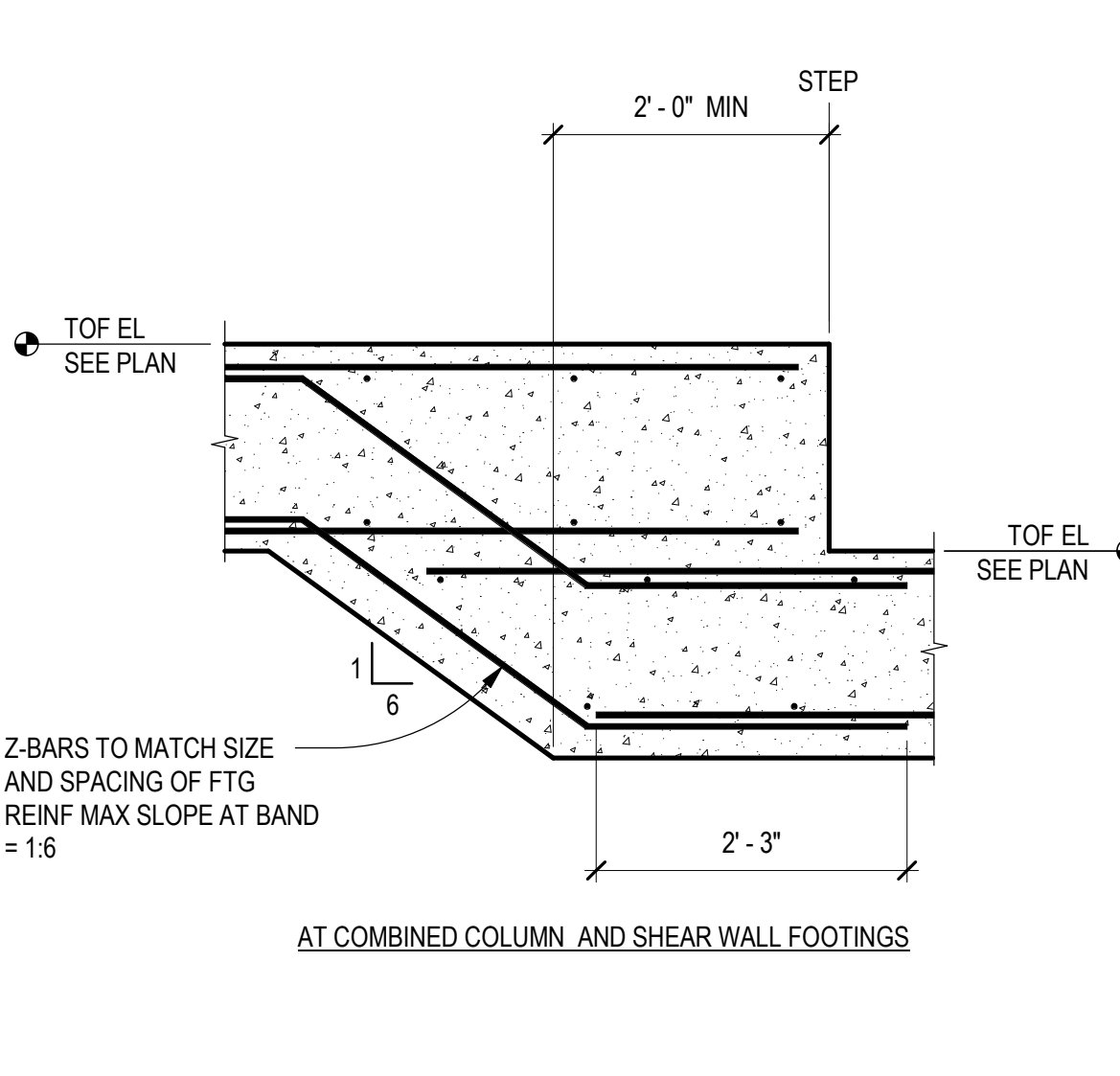
A6 TYPICAL PIPE PENETRATION AND TRENCH DETAILS
SCALE: NTS



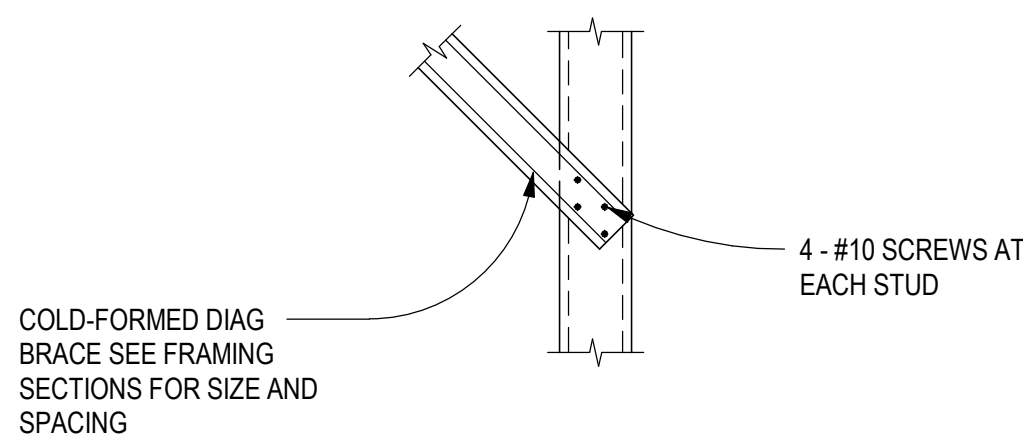
A4 TYPICAL SINGLE MAT WALL REINF
SCALE: NTS



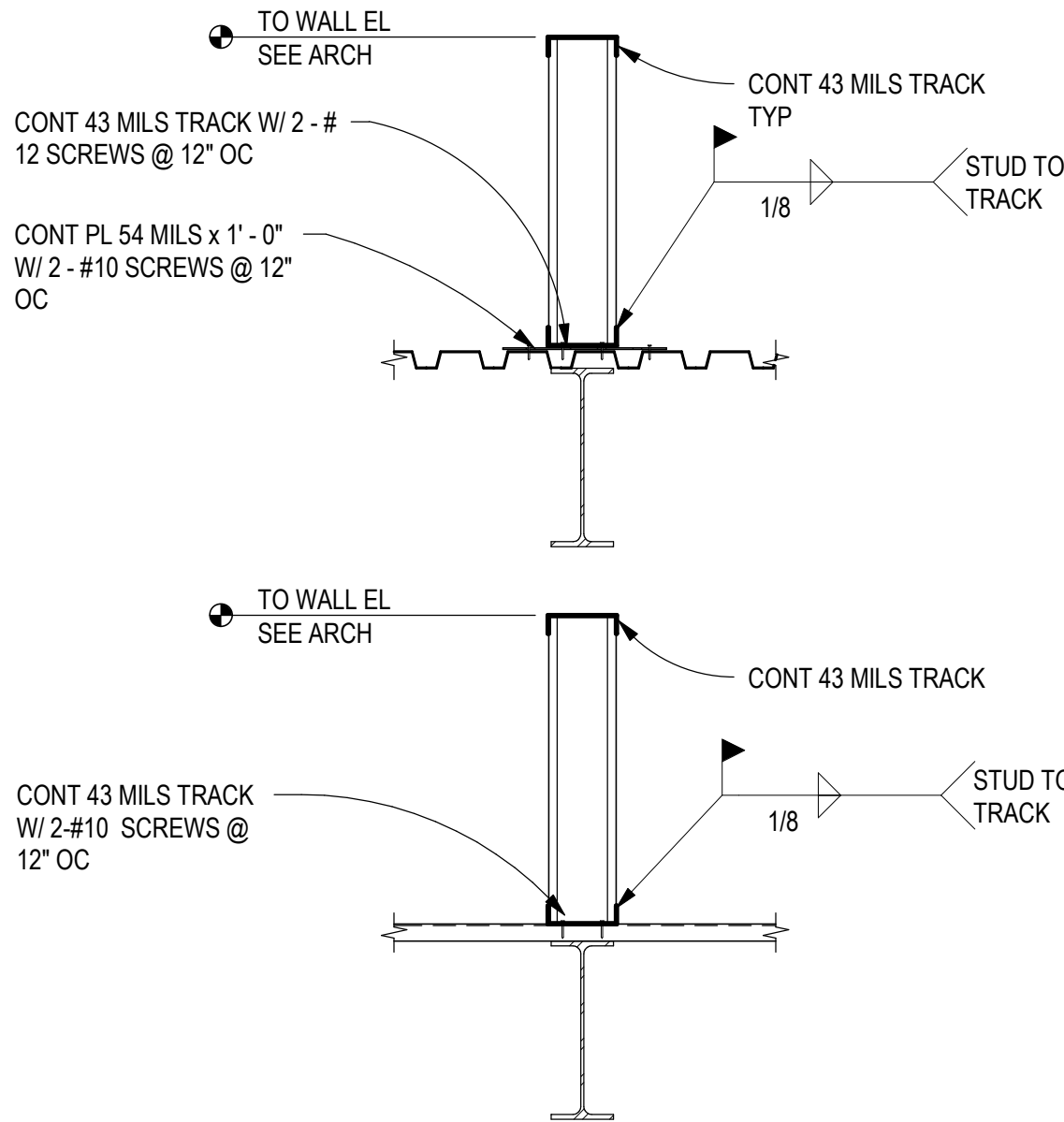
B4 TYPICAL WALL JOINT DETAIL
SCALE: NTS



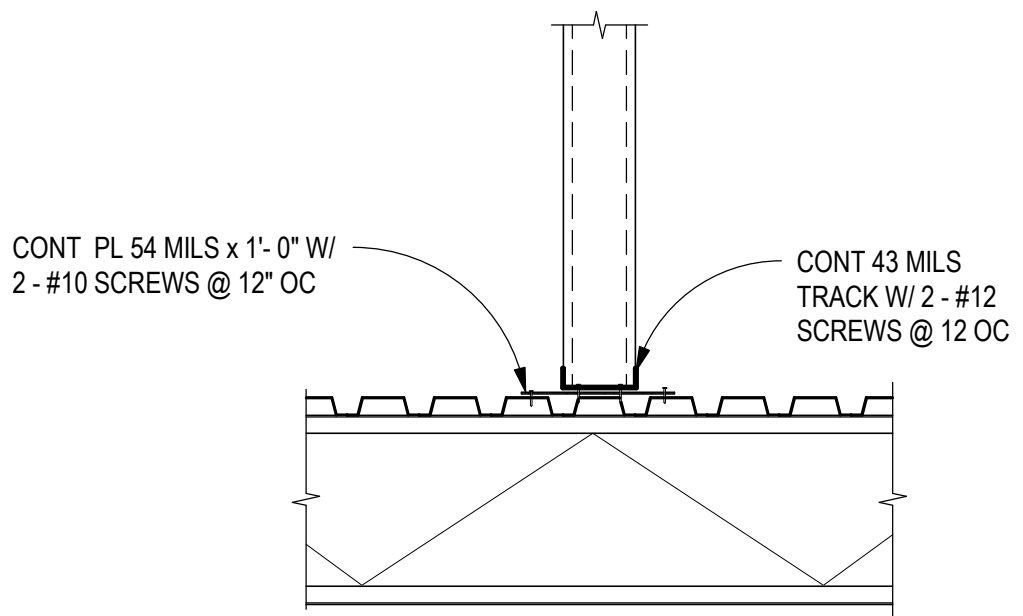
A2 TYPICAL STEPPED FOOTING DETAIL
SCALE: NTS



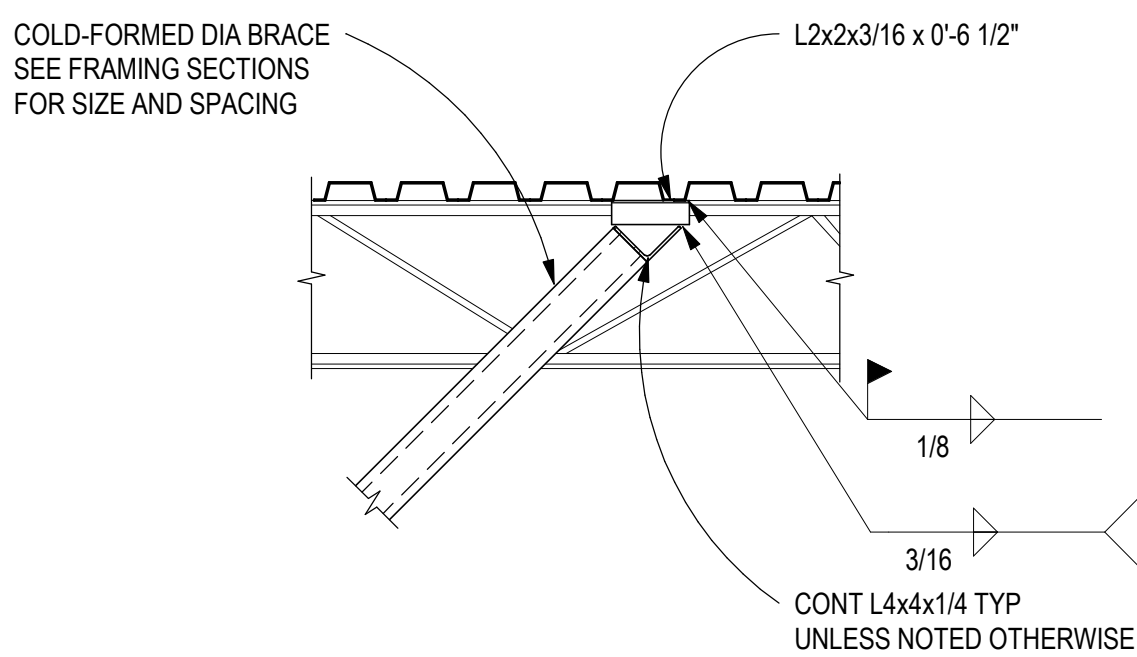
D5 TYPICAL DIAG STUD LAP DETAIL
SCALE: 3/4" = 1'-0"



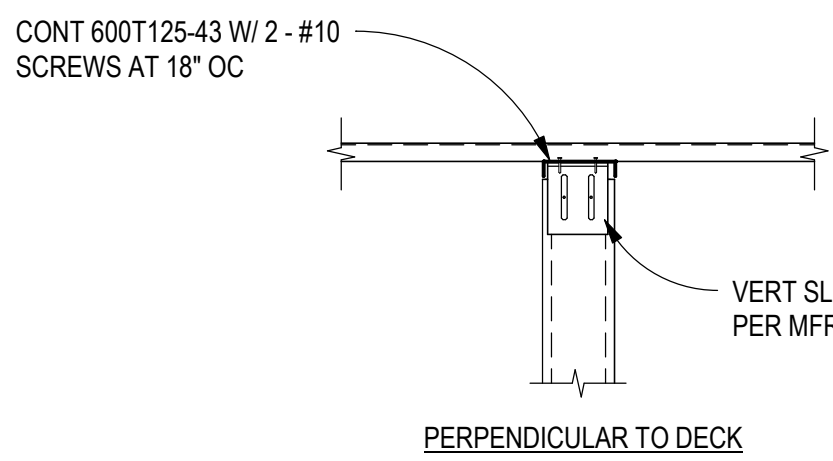
C5 TYPICAL PARAPET TO DECK
SCALE: 3/4" = 1'-0"



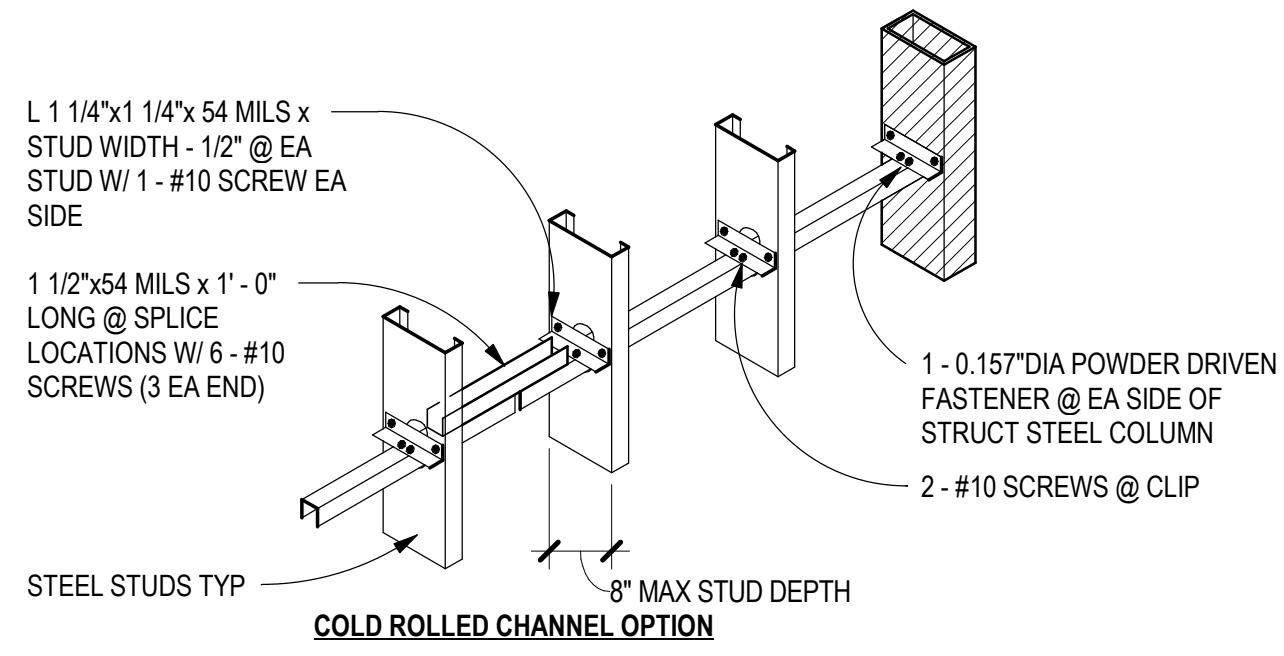
B5 TYPICAL STUD AT METAL DECK
SCALE: 3/4" = 1'-0"



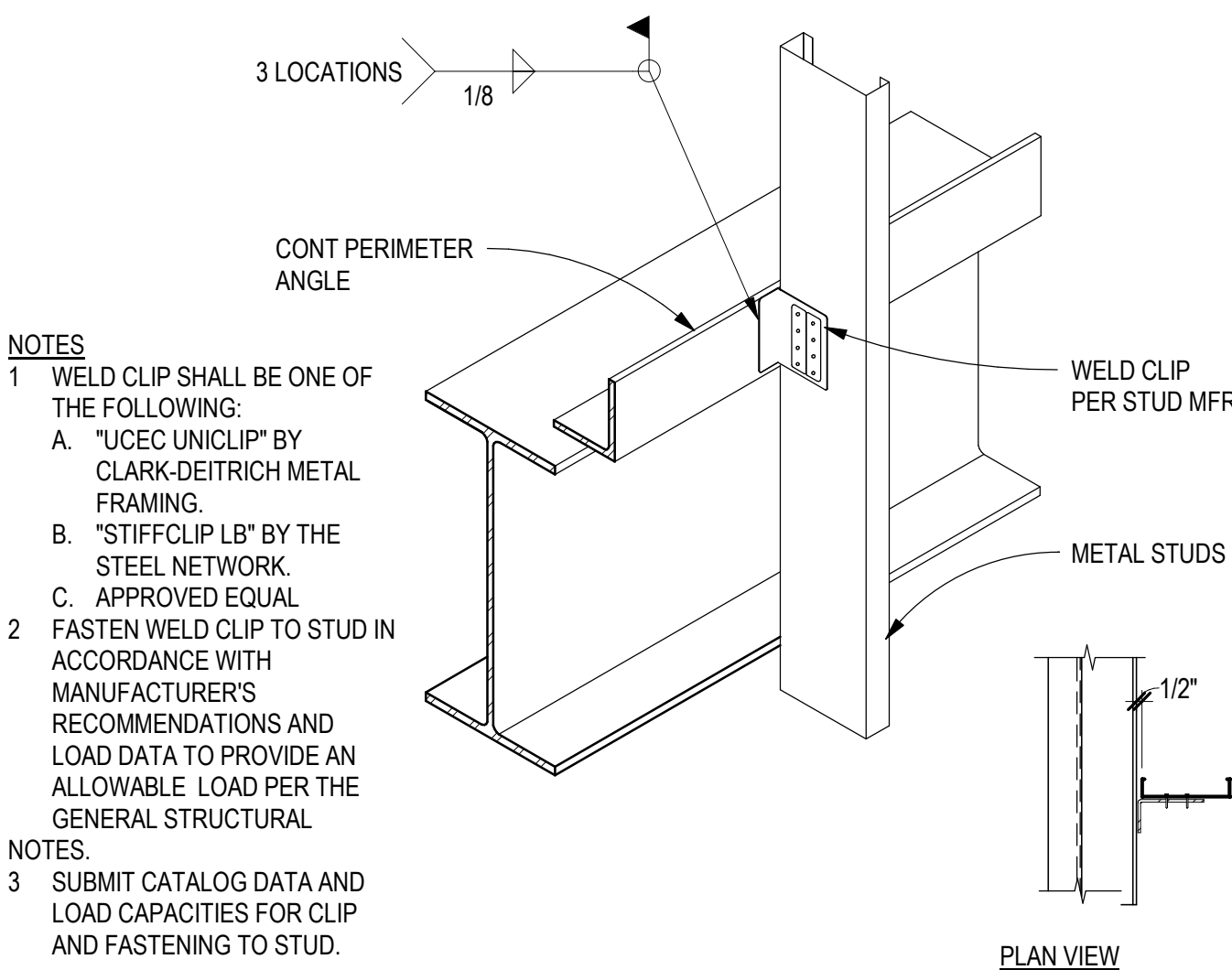
D4 TYPICAL DIAG BRACE TO DECK
SCALE: 3/4" = 1'-0"



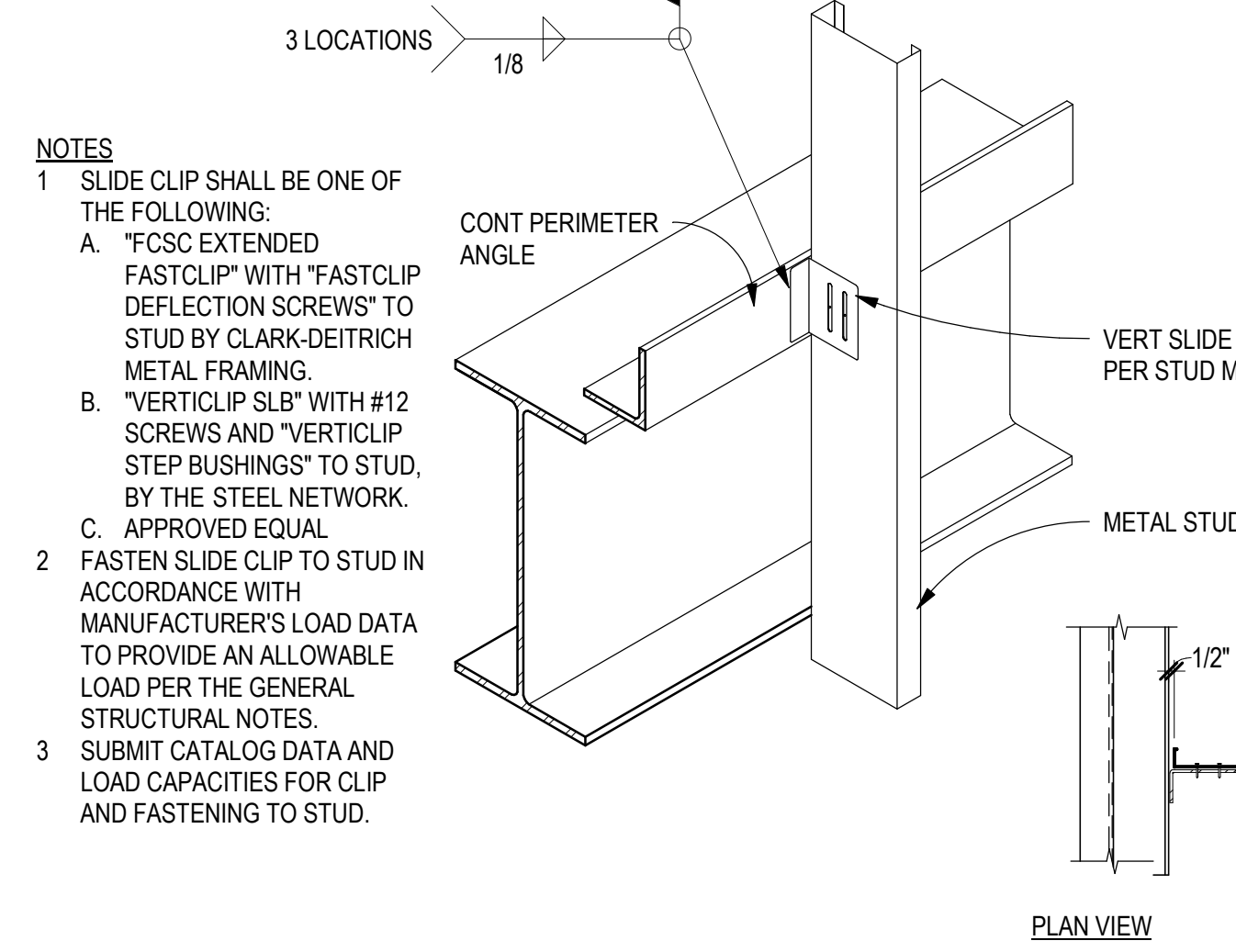
C4 TYPICAL SLIP TRACK ASSEMBLY
SCALE: NTS



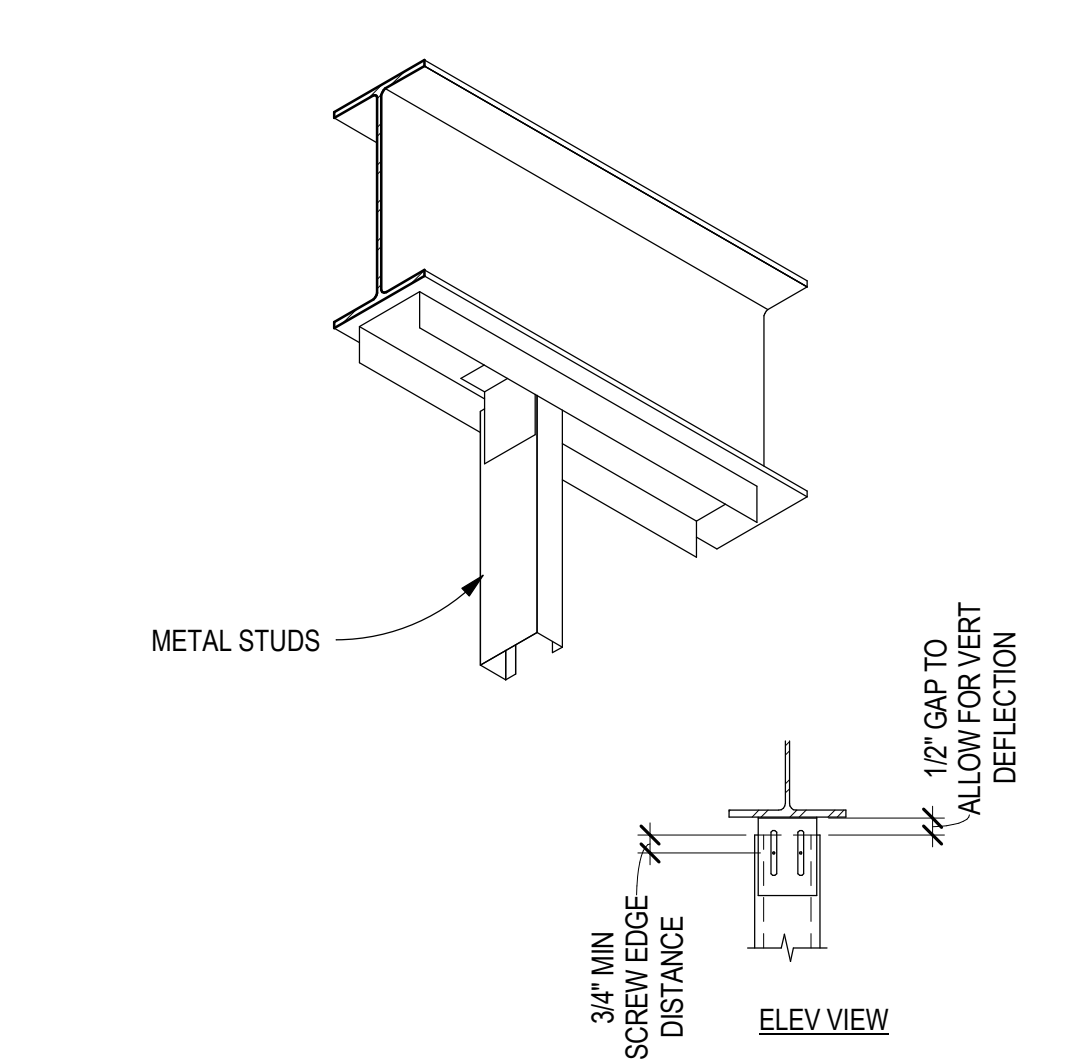
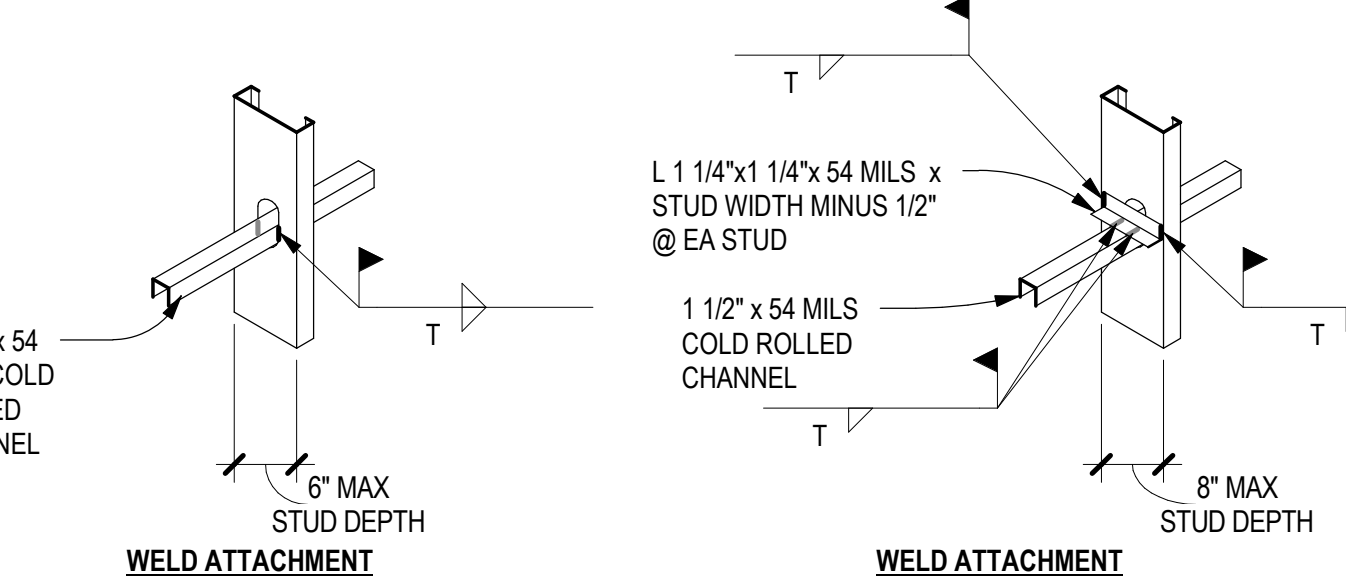
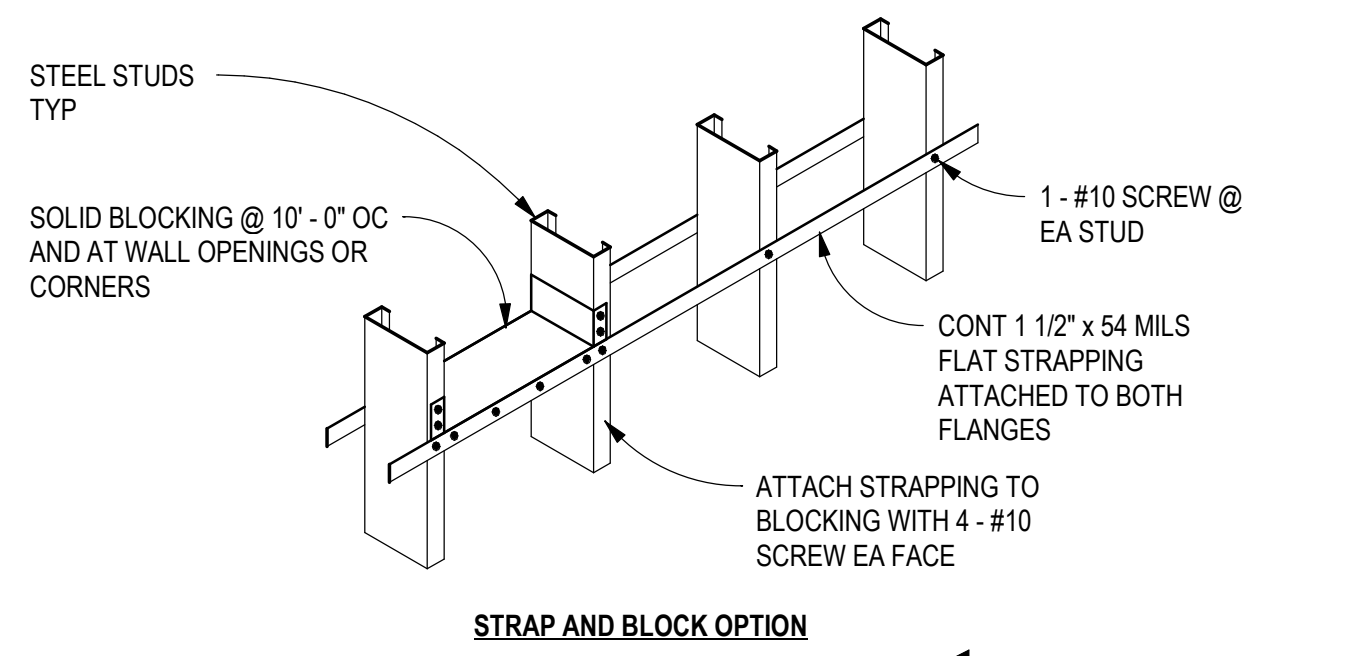
B4 TYPICAL BRIDGING DETAILS
SCALE: NTS



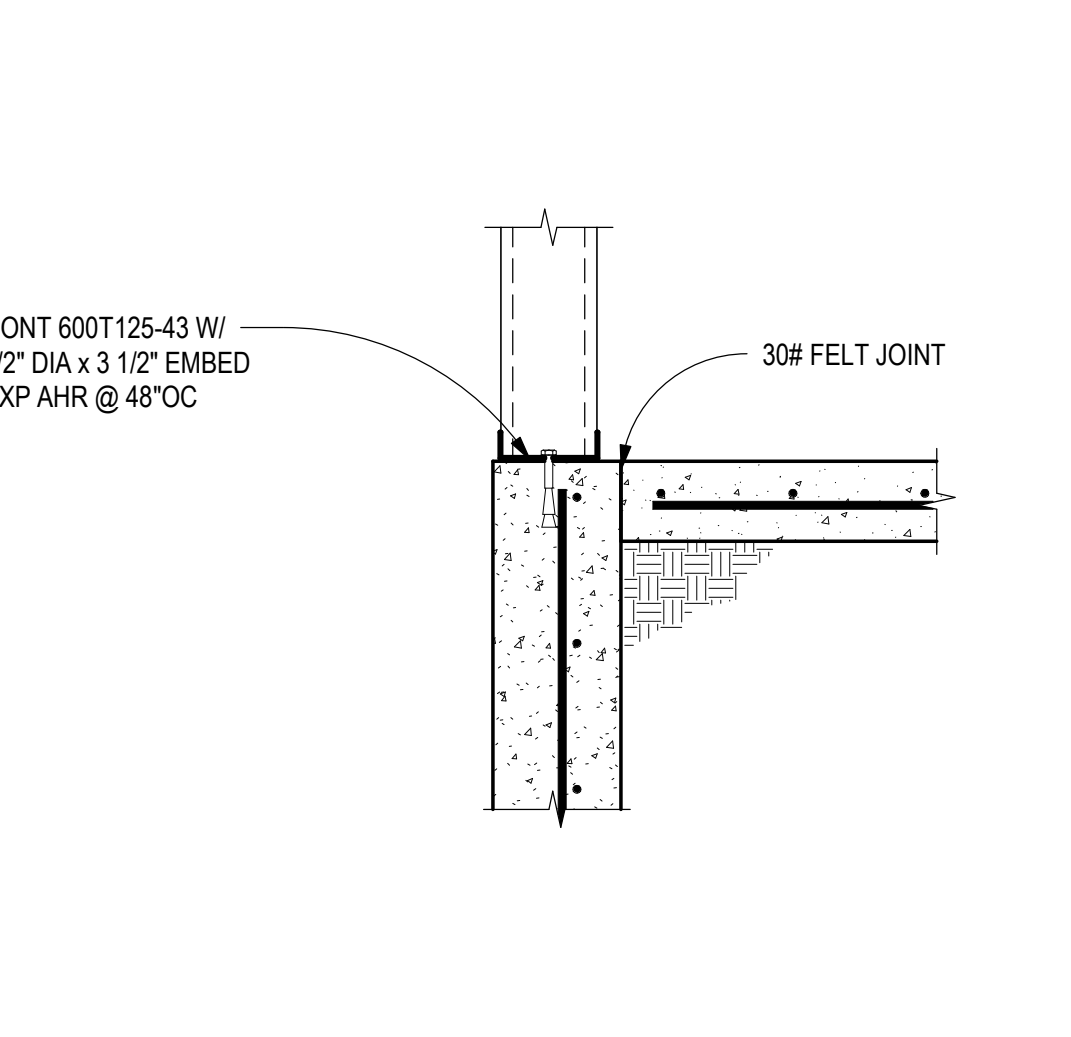
D3 TYPICAL WELD CLIP
SCALE: NTS



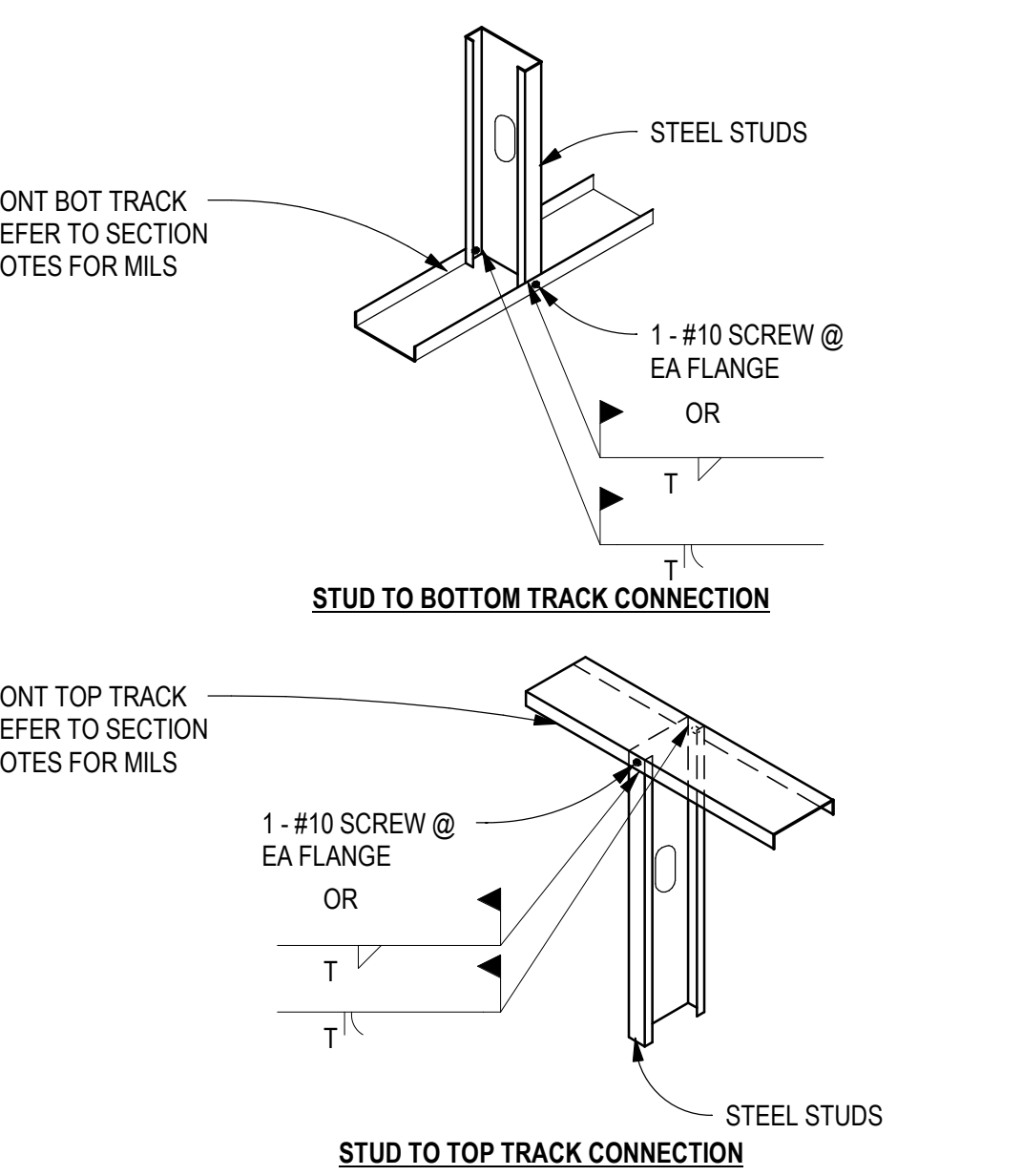
C3 TYPICAL VERTICAL SLIDE CLIP
SCALE: NTS



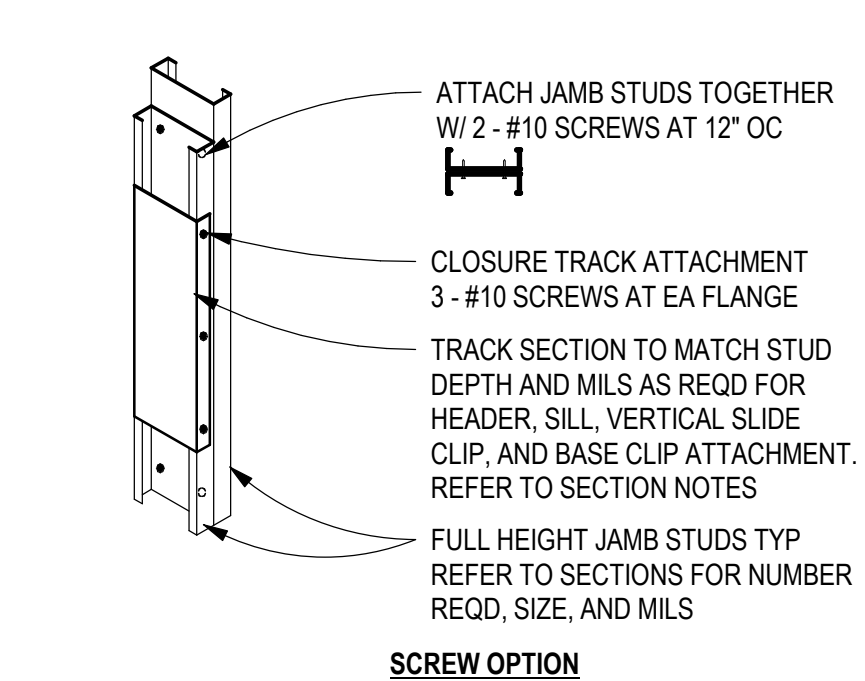
D1 TYPICAL SLIP TRACK ASSEMBLY
SCALE: NTS



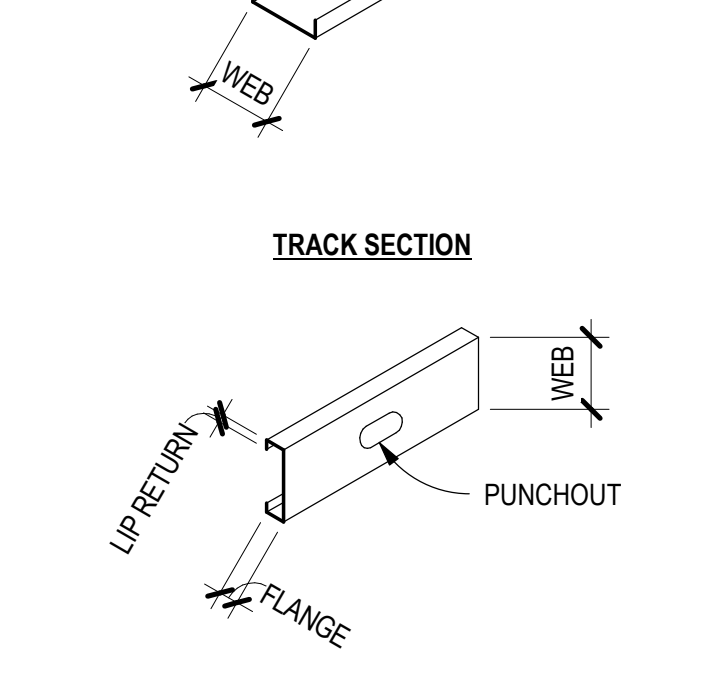
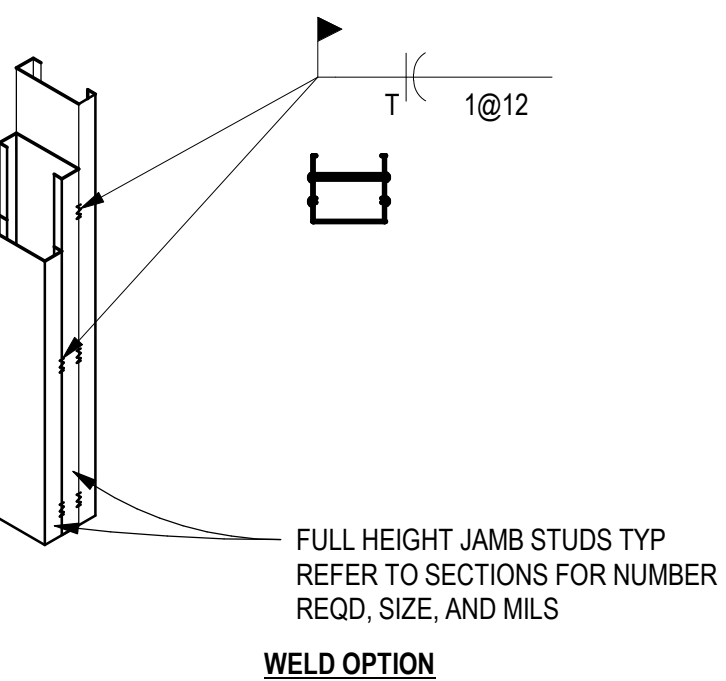
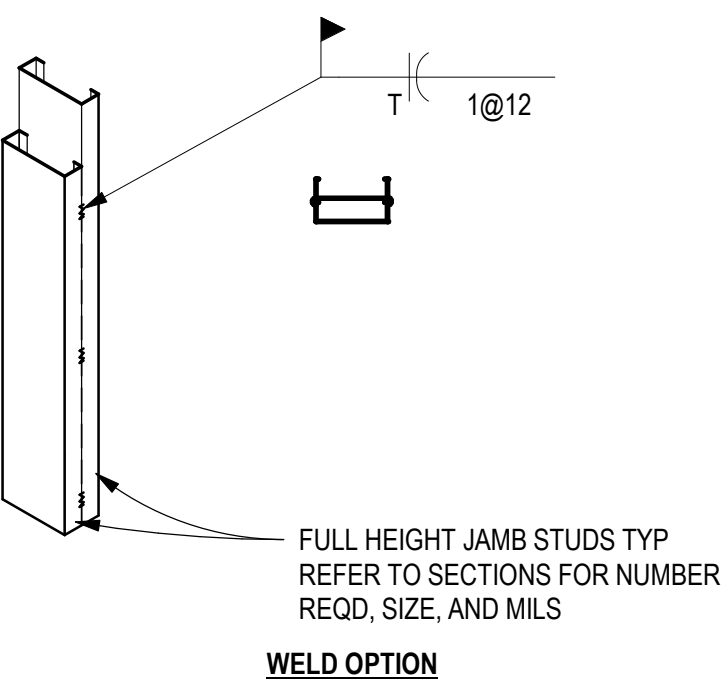
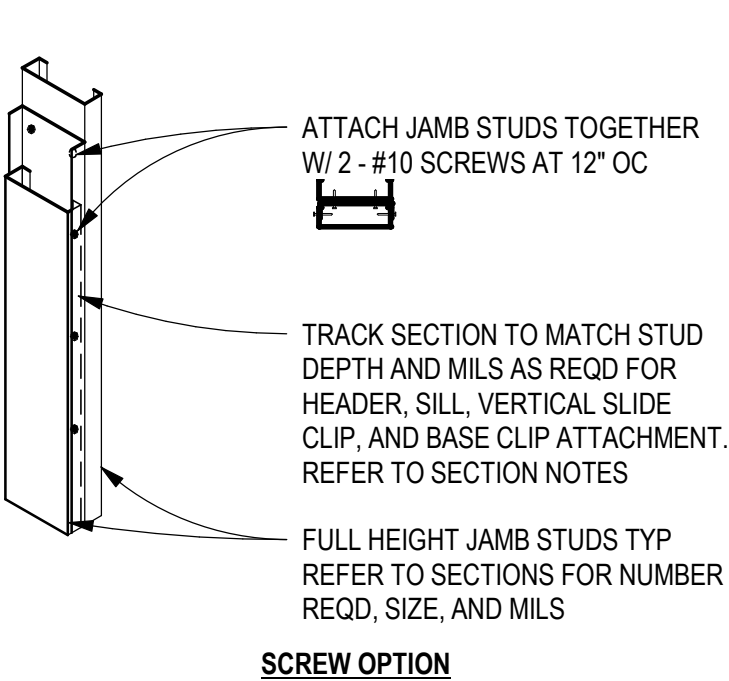
C1 TYPICAL STUDS AT STEMWALL
SCALE: 1" = 1'-0"



B1 TYPICAL STUDS TO TRACK DETAIL
SCALE: NTS



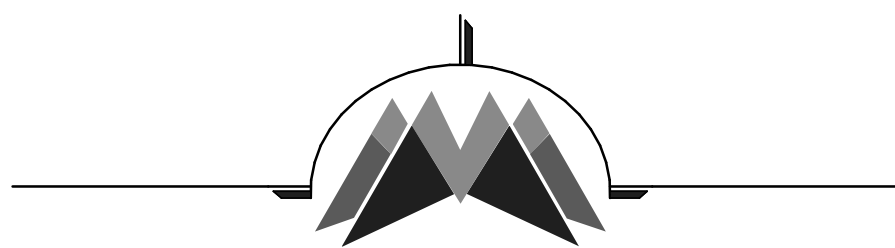
A5 TYPICAL STUD JAMB ATTACHMENT DETAILS
SCALE: NTS



MILS TO GAGE CONVERSION CHART	
MILS	GAGE
33 MILS	20 GAGE
43 MILS	18 GAGE
54 MILS	16 GAGE
68 MILS	14 GAGE
97 MILS	12 GAGE

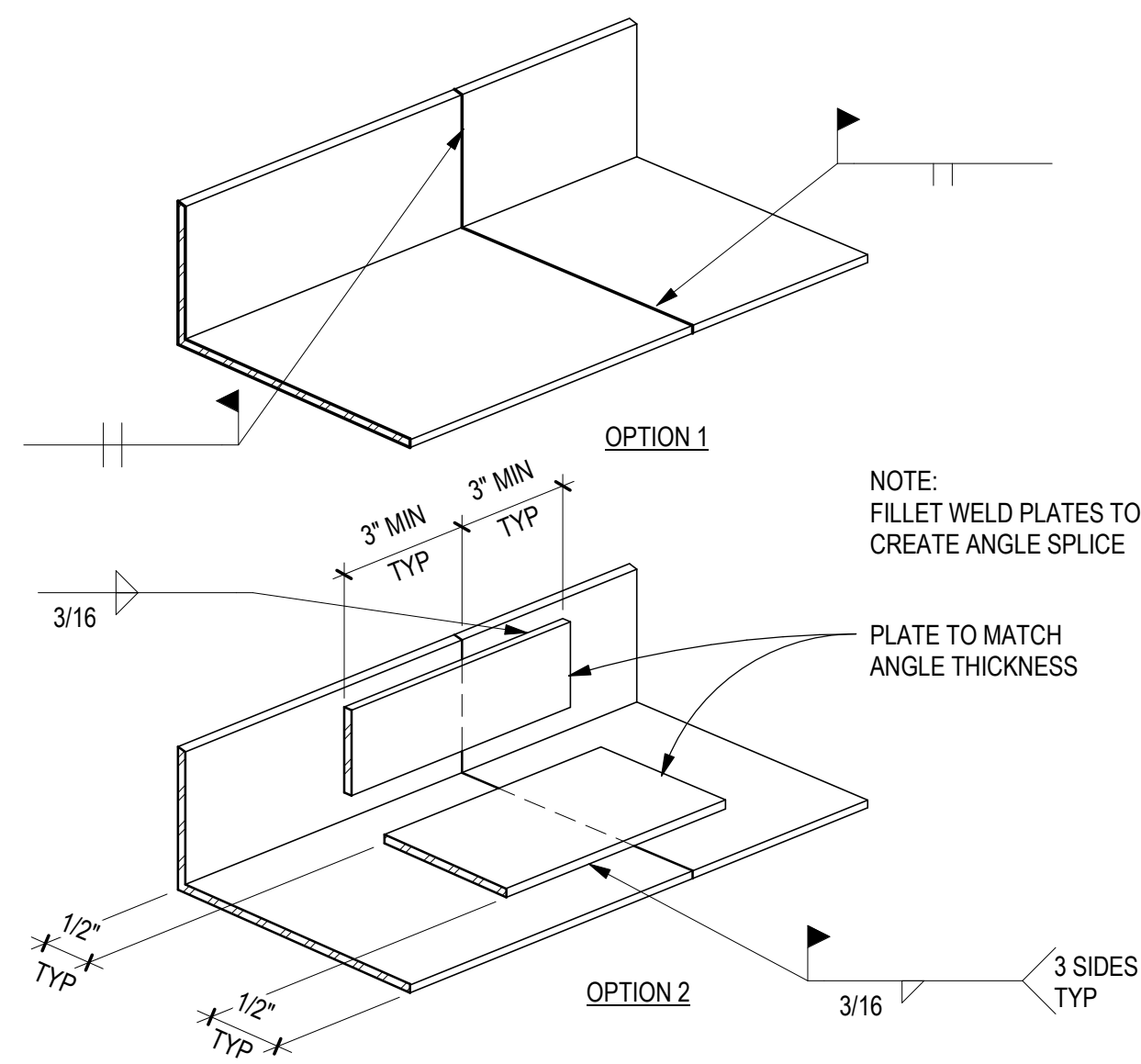
MEMBER WEB IN INCHES (IE - 600 = 6") (IE - 362 = 3 5/8") (IE - 250 = 2 1/2")	MEMBER THICKNESS IN MILS
MEMBER TYPE S = STUD T = TRACK	GRADE OF STEEL (ONLY SHOWN WHEN MEMBER IS 50 KSI)
600S162-43 (50 KSI)	FLANGE WIDTH OF MEMBER IN INCHES (IE - 162 = 1 5/8") (IE - 200 = 2")

A2 TYPICAL COLD-FORMED MEMBER DESIGNATION
SCALE: NTS

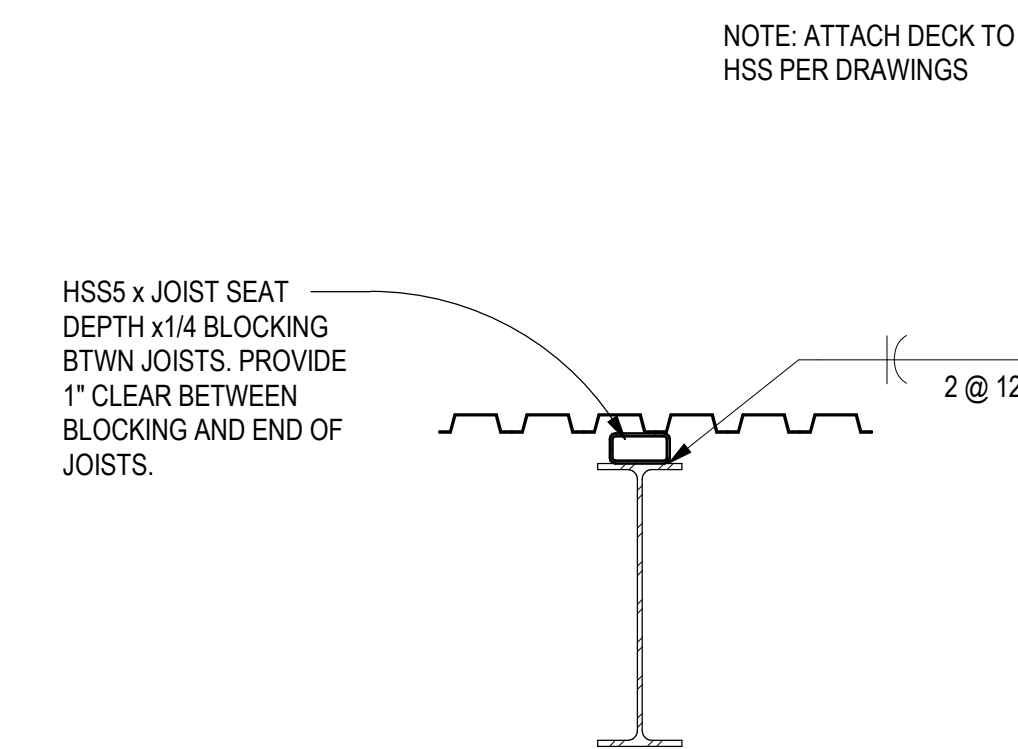


Revision Schedule		
#	Date	Description

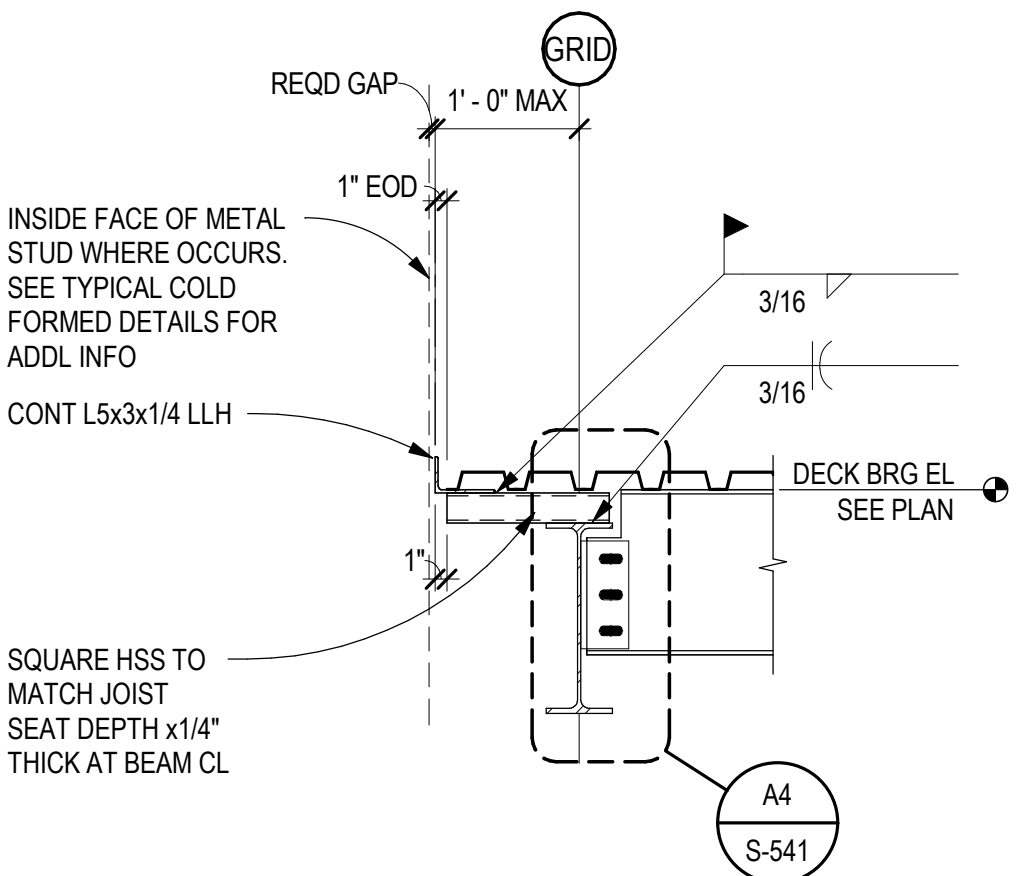
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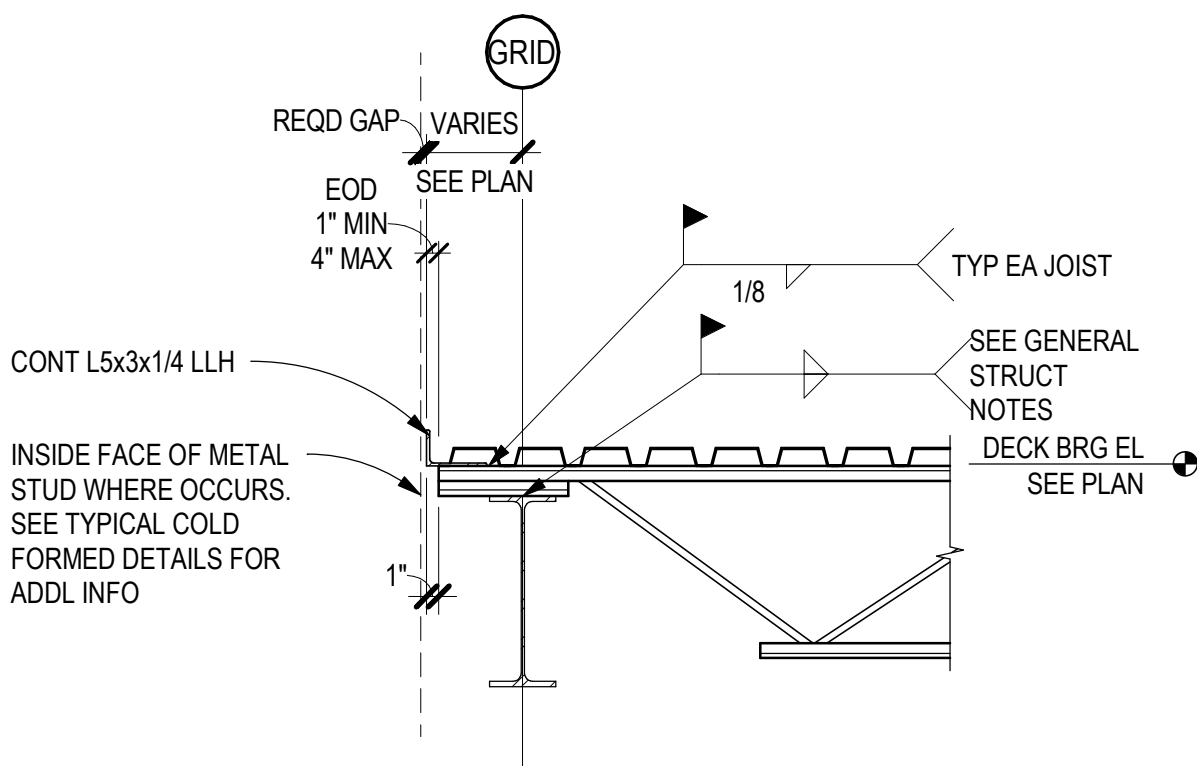
D5 TYPICAL PERIMETER ANGLE SPLICE
SCALE: 3/4" = 1'-0"



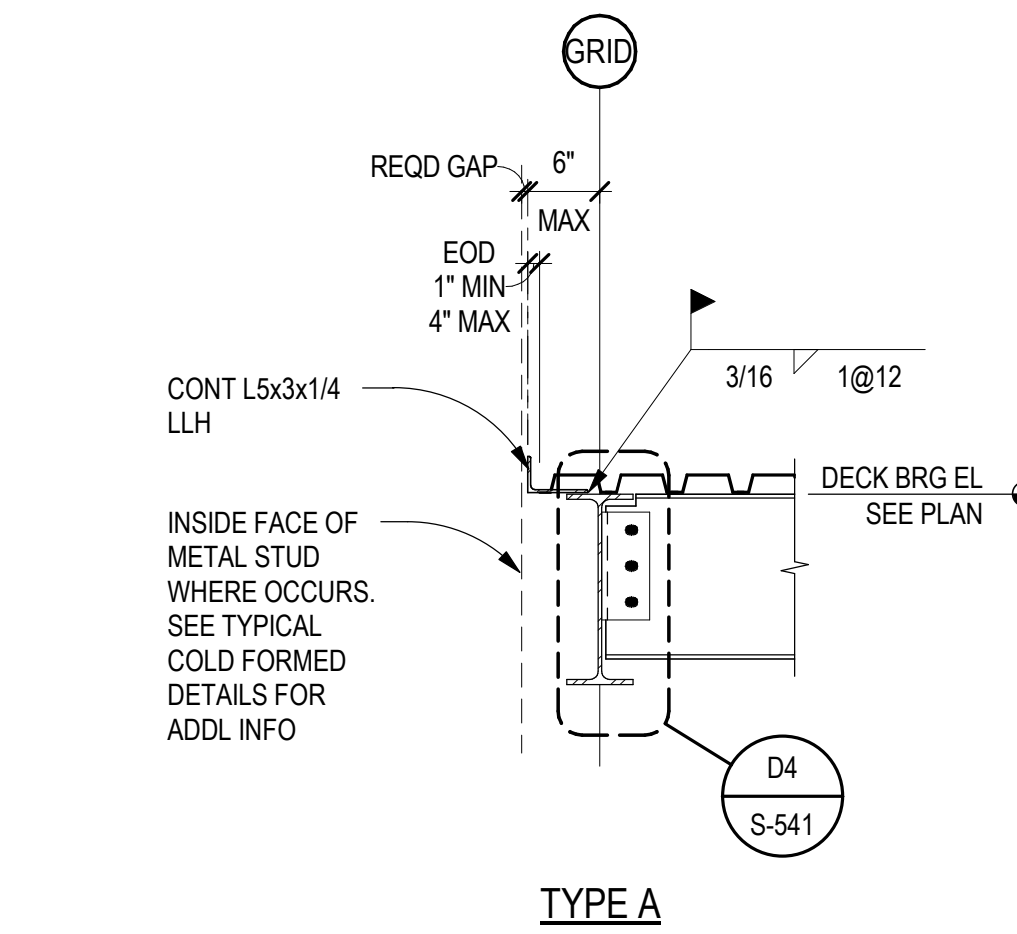
C5 TYPICAL HSS BLOCKING DETAIL
SCALE: 3/4" = 1'-0"



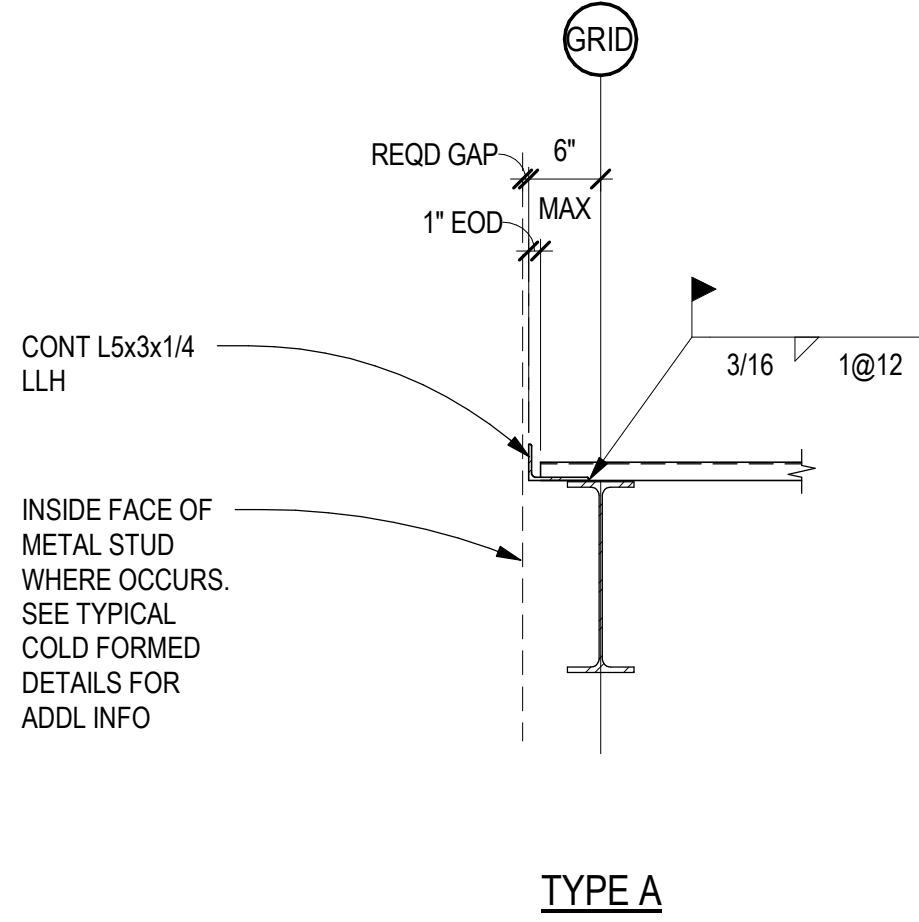
B5 TYPICAL DECK EDGE AT BEAM
SCALE: 3/4" = 1'-0"



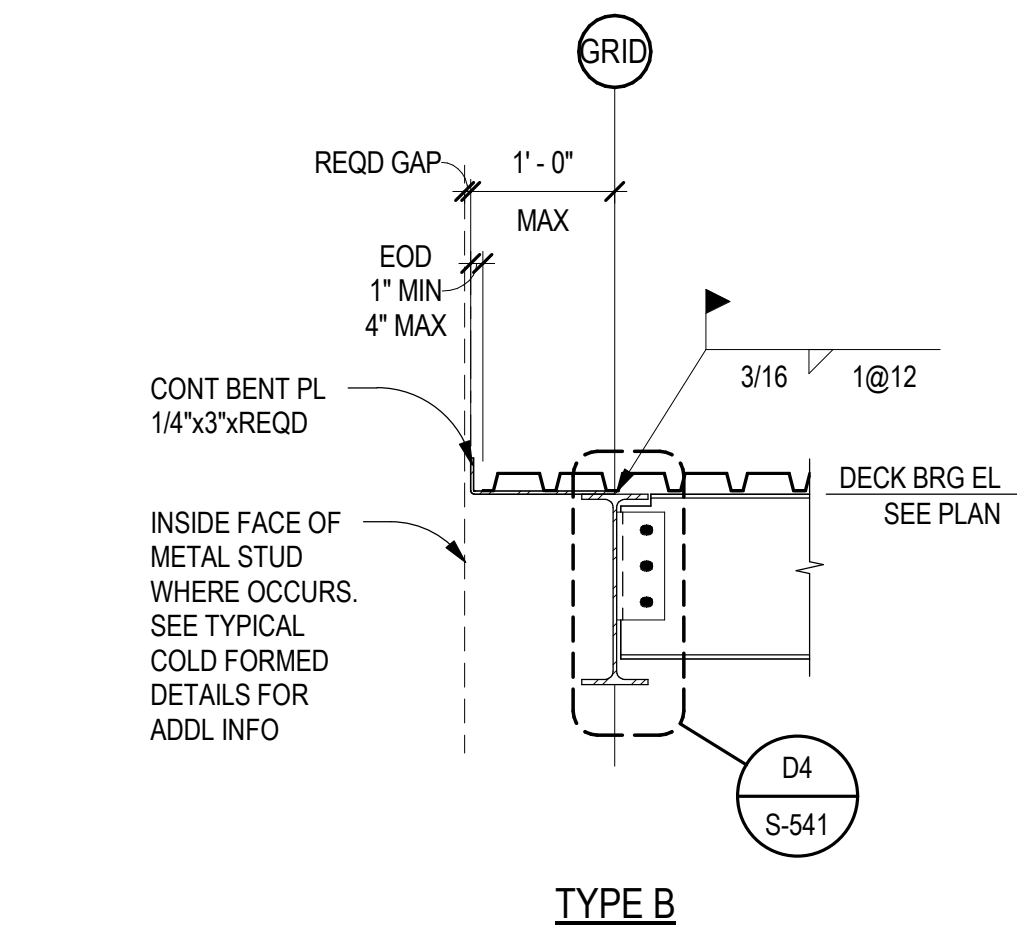
A5 TYPICAL ROOF BRG DECK EDGE
SCALE: 3/4" = 1'-0"



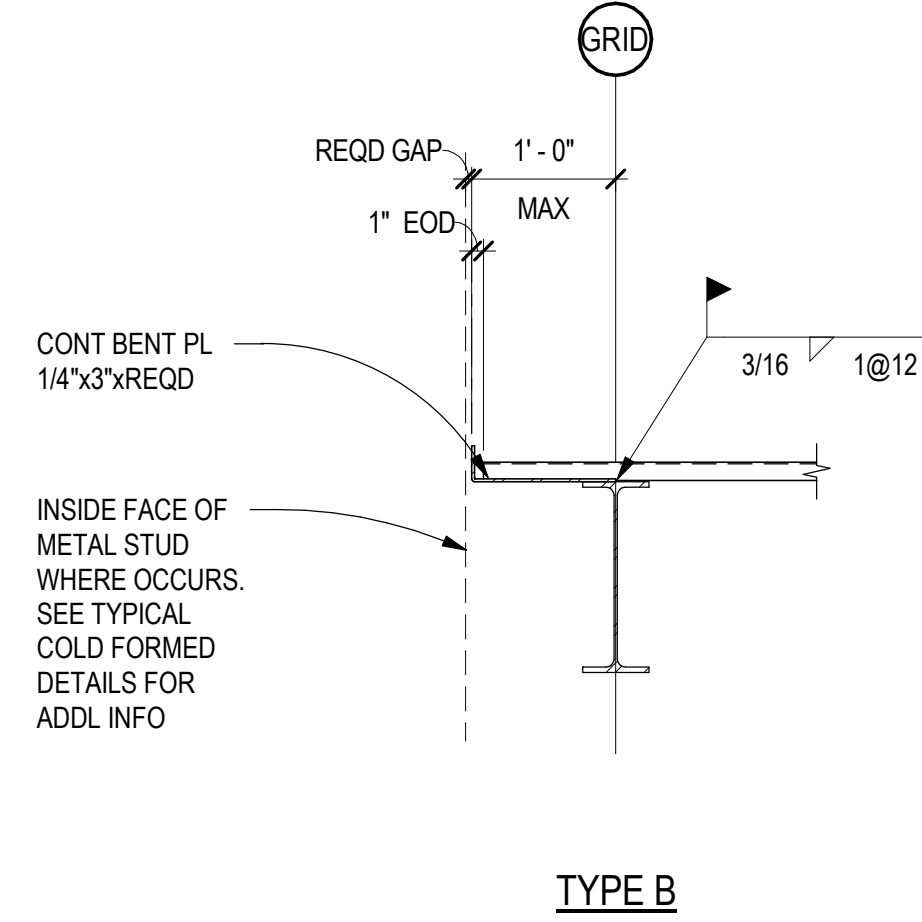
D4 TYPICAL DECK EDGE AT NON-BEARING BEAM
SCALE: 3/4" = 1'-0"



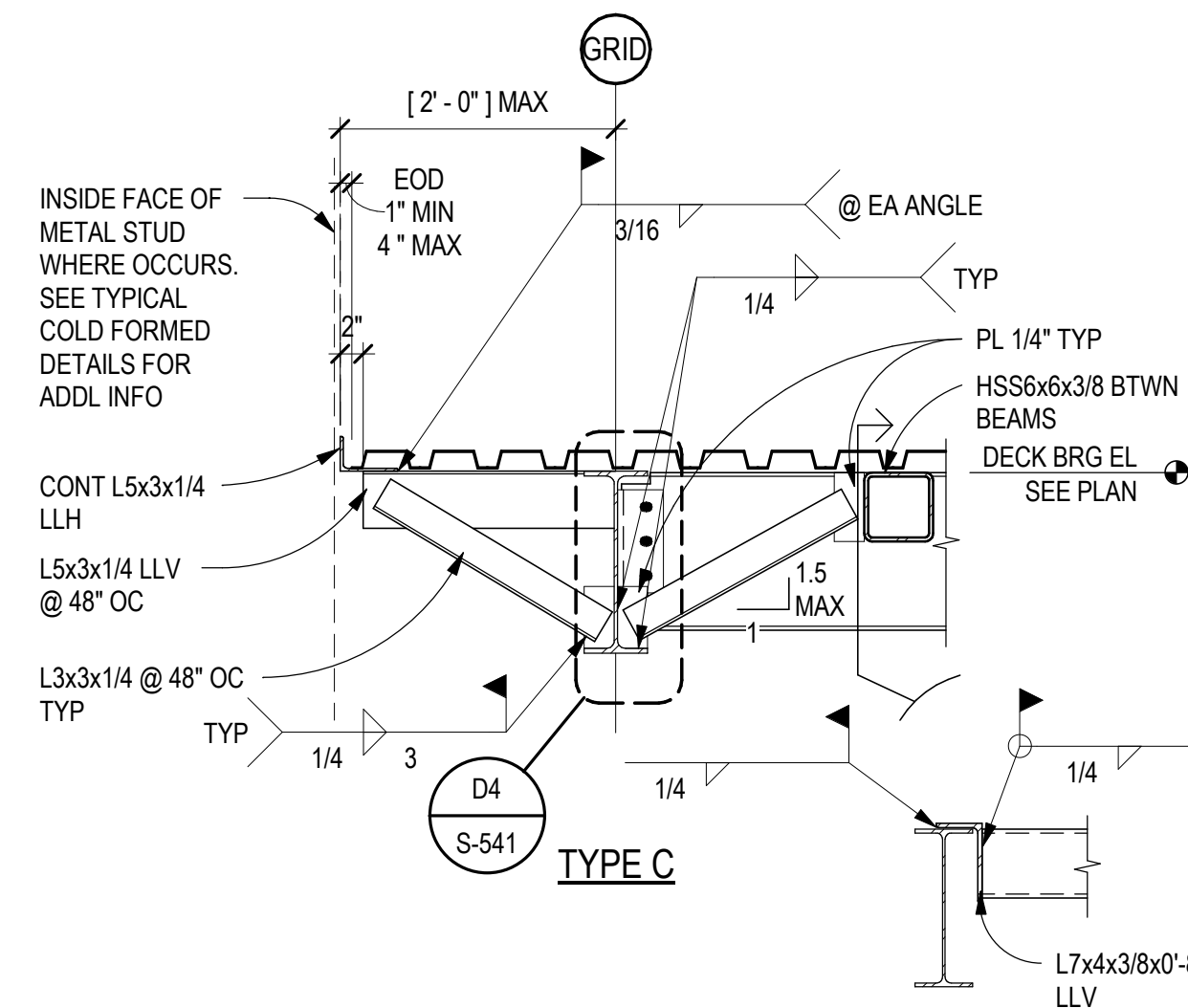
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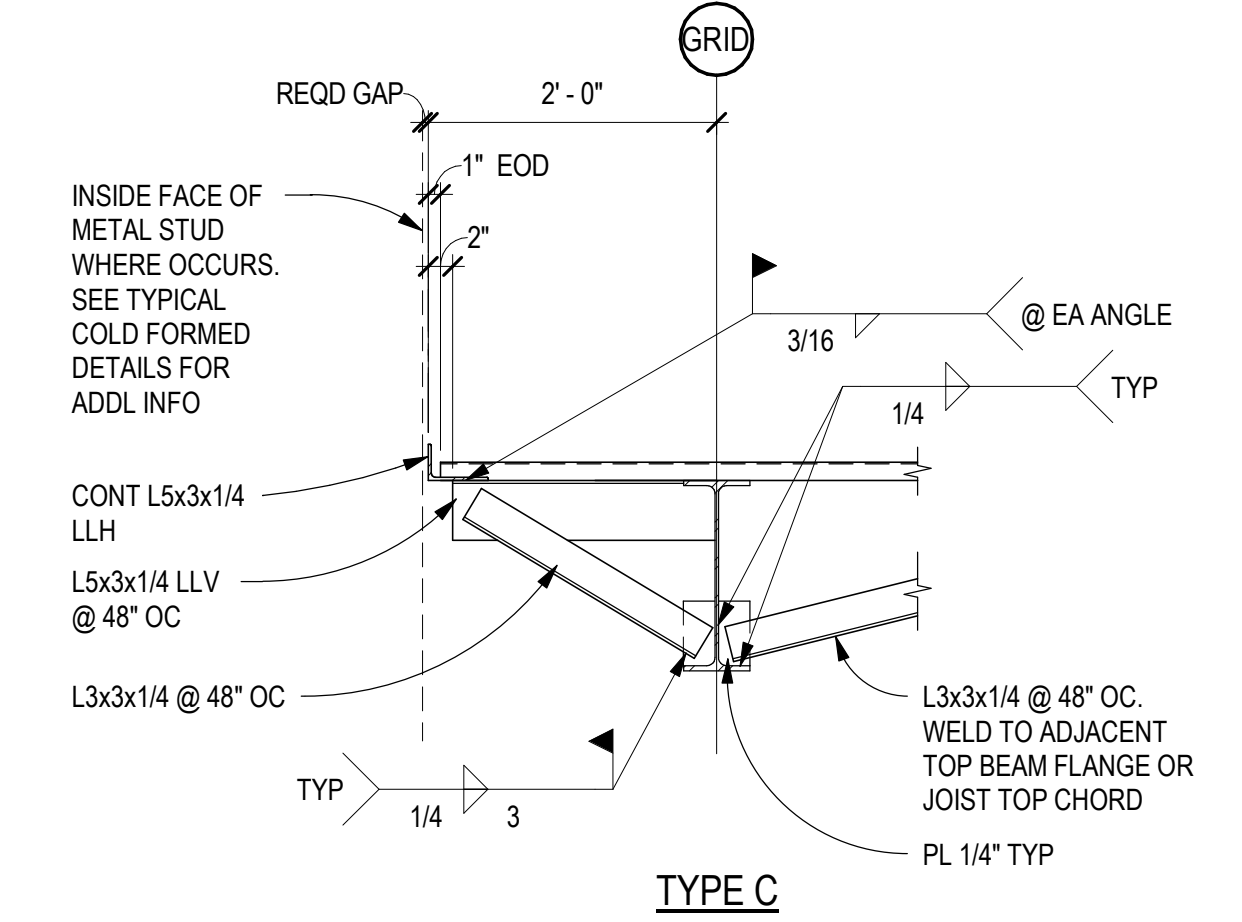
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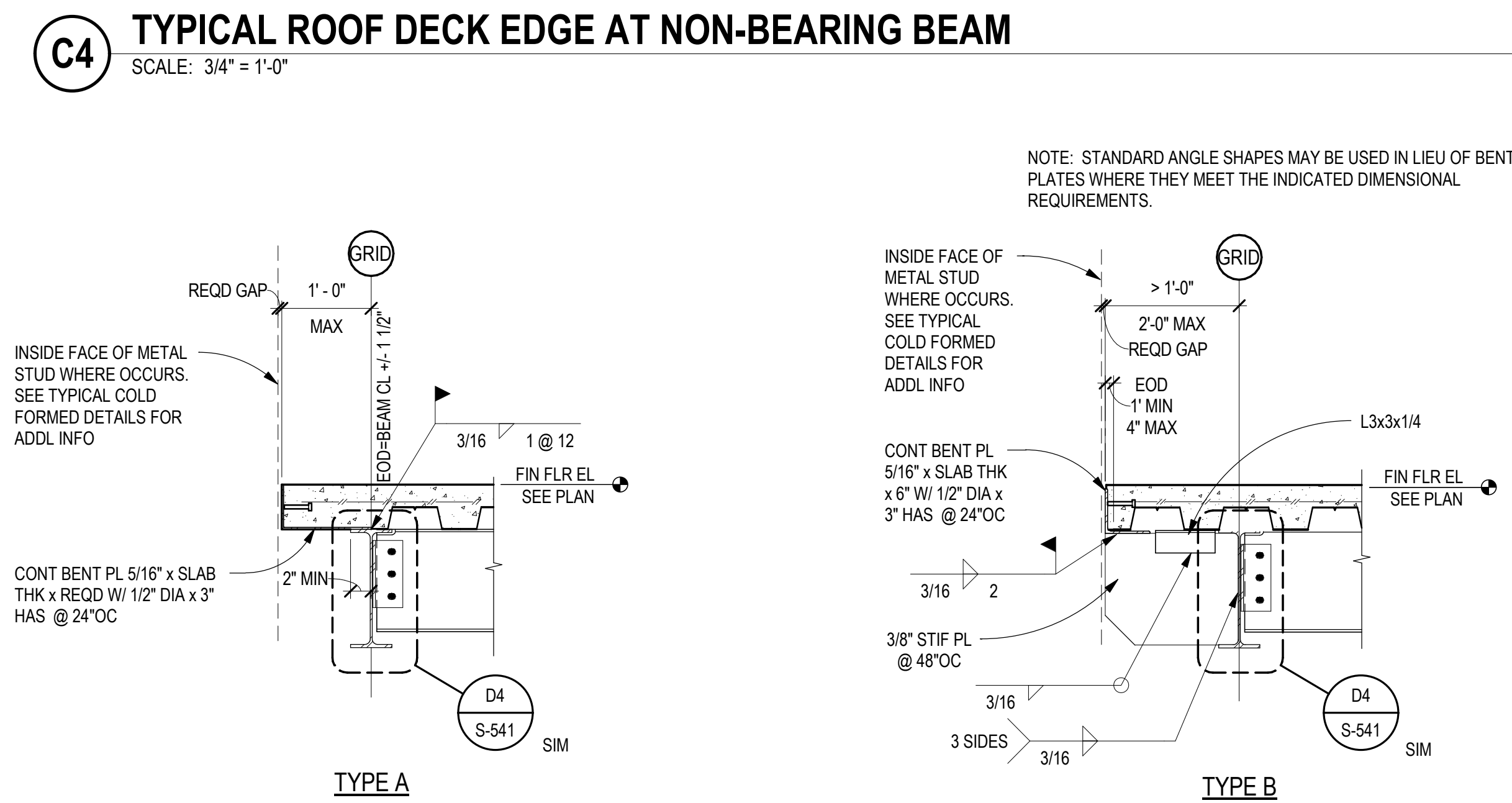
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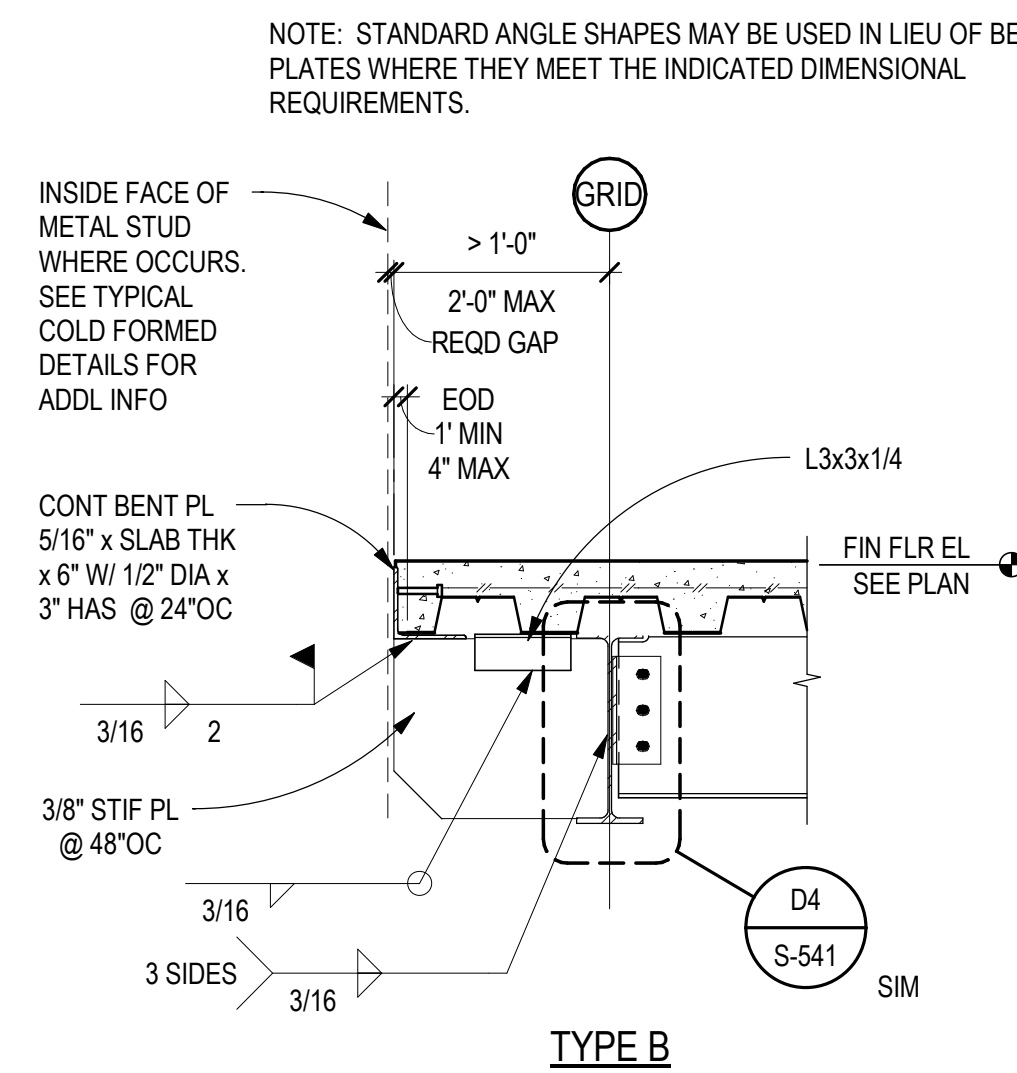
TYPE C



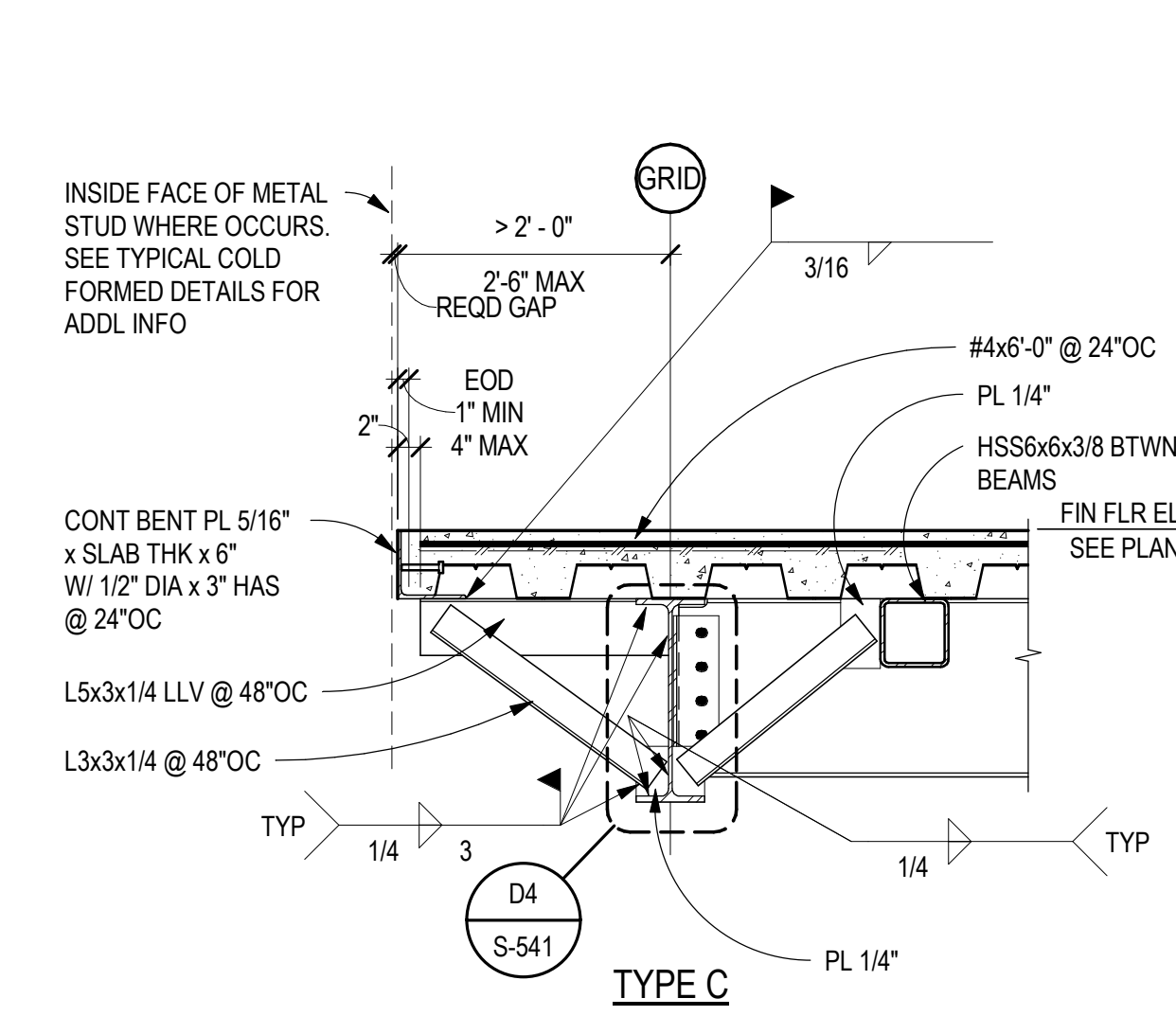
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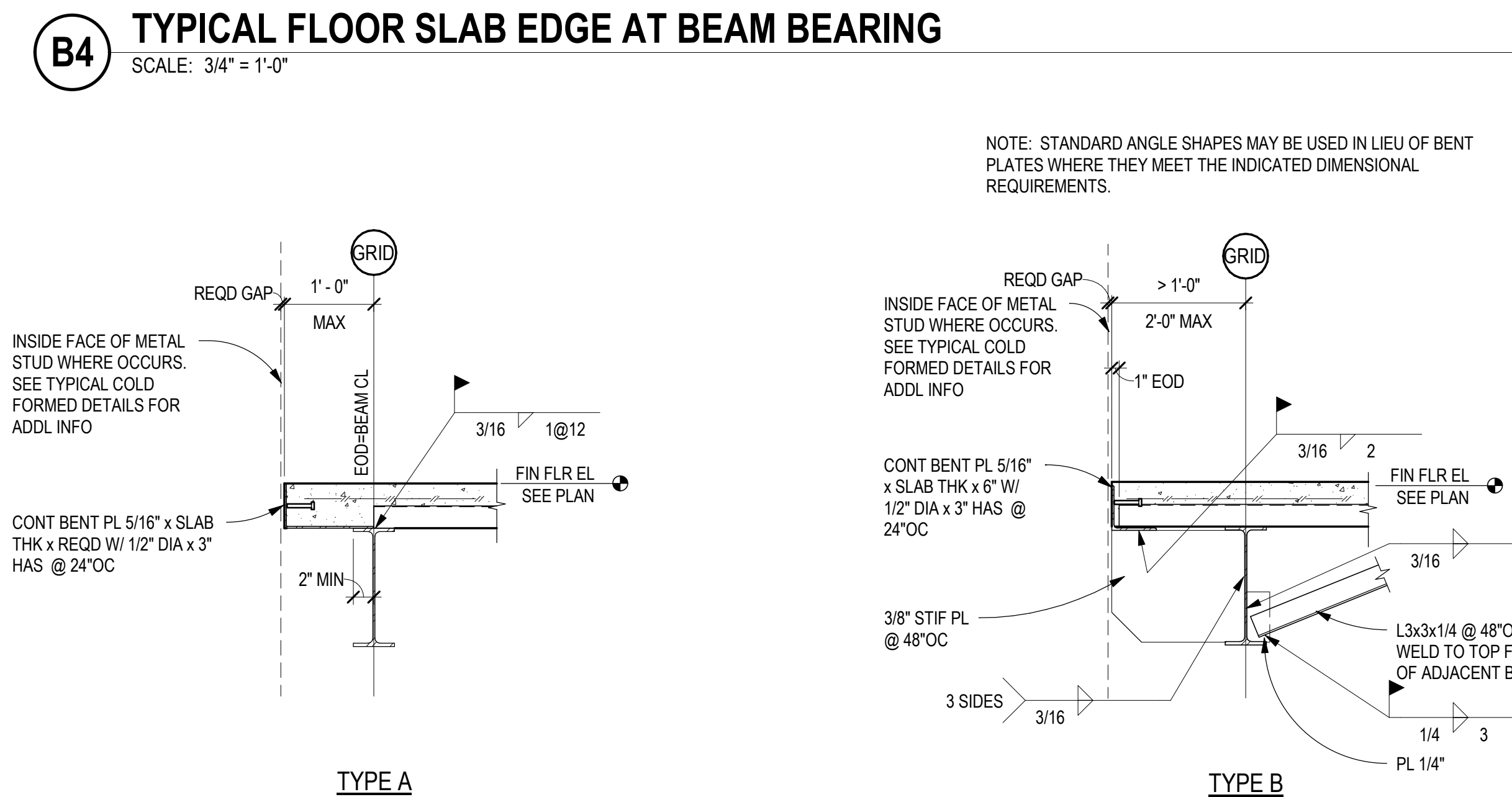
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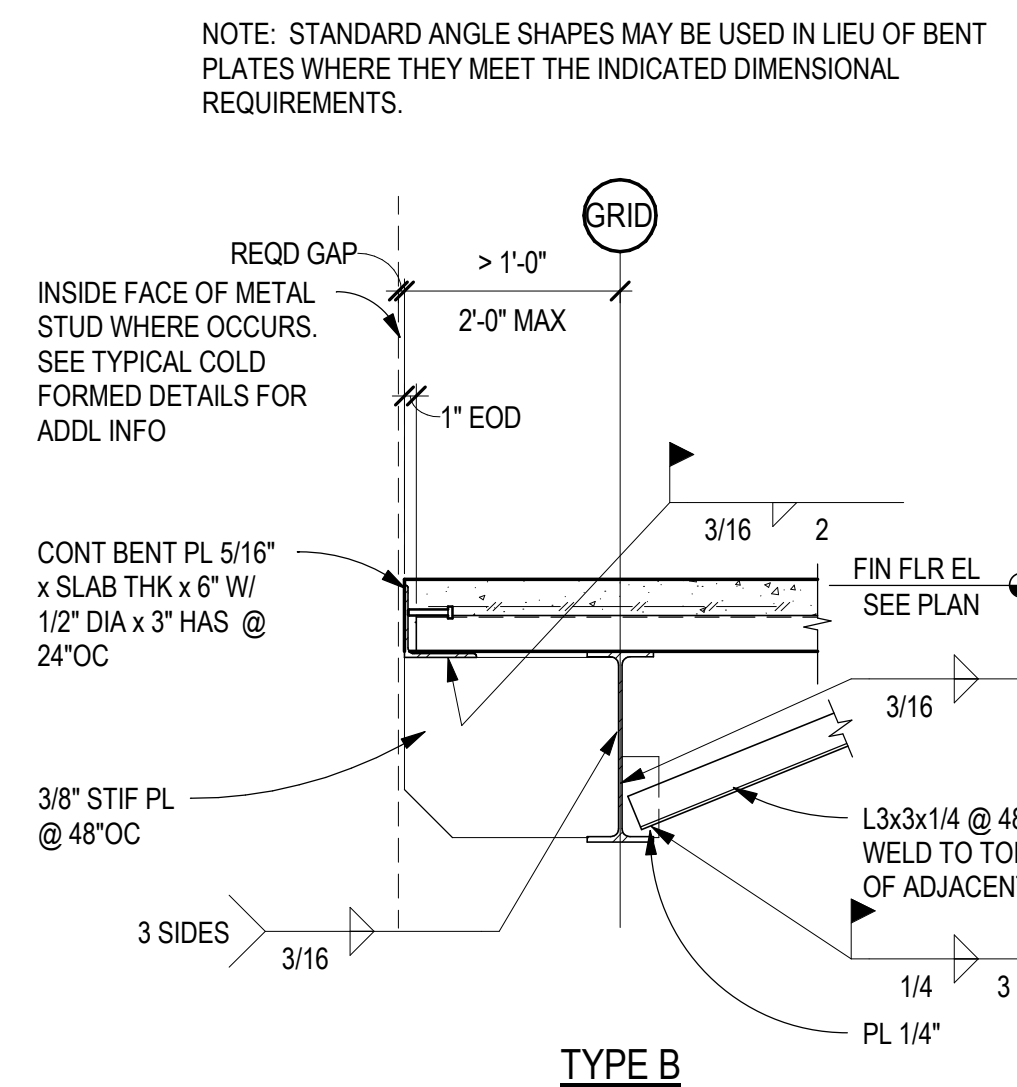
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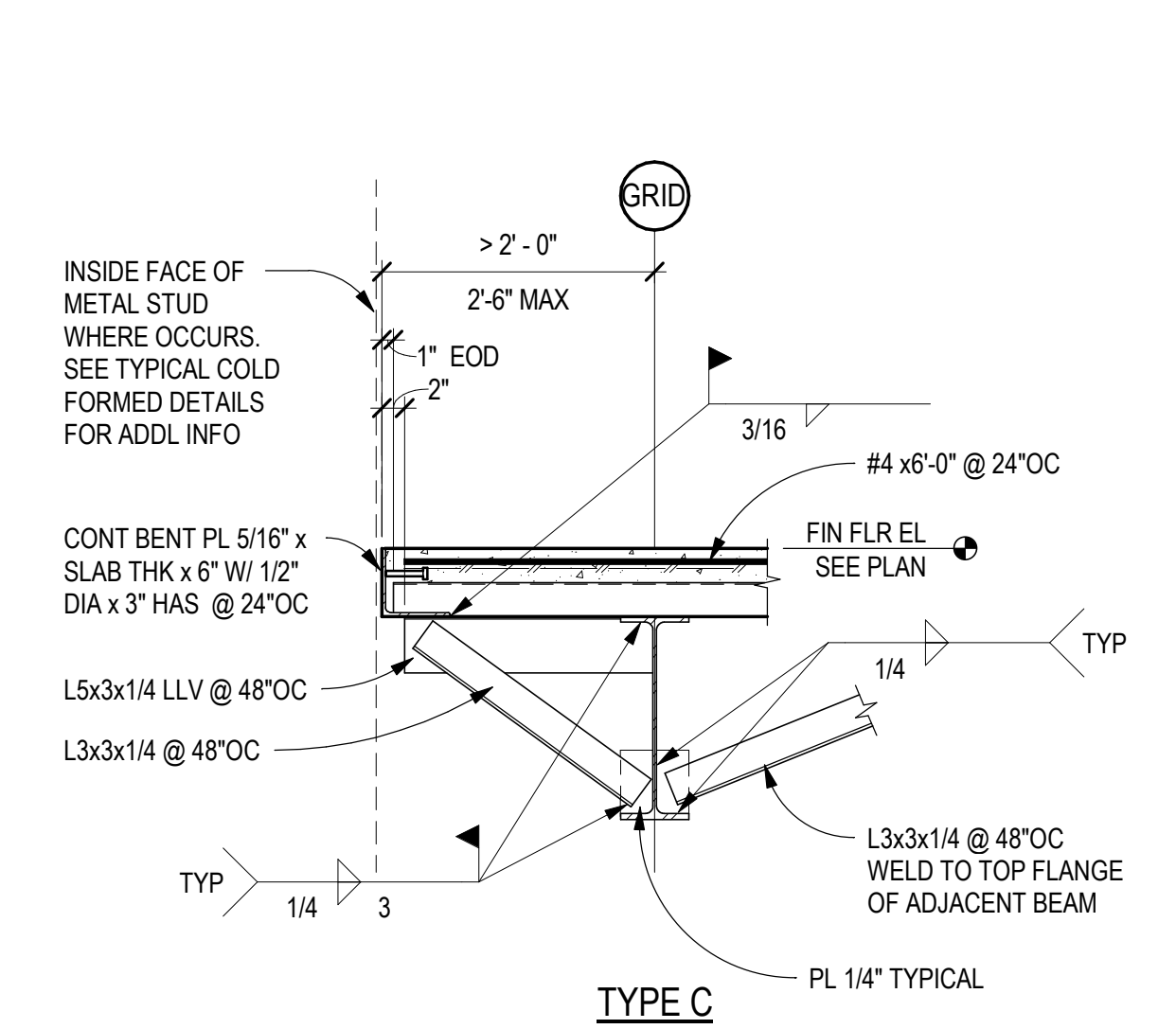
TYPE C



TYPE A



TYPE B



TYPE C

A4 TYPICAL FLOOR SLAB EDGE AT NON-BEARING BEAM
SCALE: 3/4" = 1'-0"

Revision Schedule		
#	Date	Description

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	Author	Designer

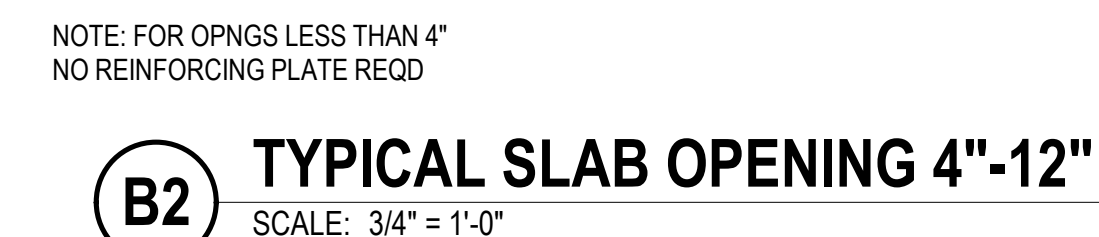
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Sheet Number

S-741

Sequence of

TYPICAL STEEL DETAILS



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Sheet Number

S-742

Sequence of

TYPICAL STEEL DETAILS

E

D

C

B

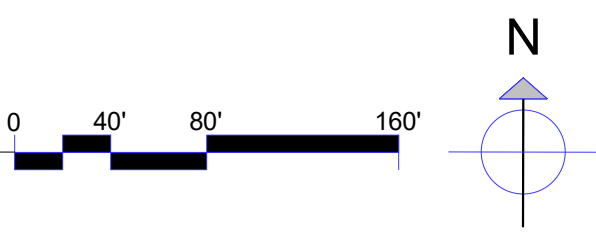
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A5

OVERALL SITE PLAN
1" = 80'-0"



NTU ENVIRONMENTAL LAB CHINLE

CHINLE, APACHE COUNTY, AZ

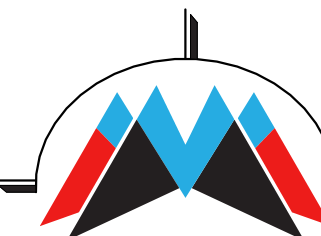
SCHEMATIC DESIGN

DECEMBER 2, 2022

GENERAL NOTES

- CONTRACTOR TO FIELD VERIFY EXISTING CONDITIONS AND EXISTING UTILITIES AND IS RESPONSIBLE FOR REMOVALS AS REQUIRED TO COMPLETE THE WORK. CONTRACTOR SHALL NOTIFY ARCHITECT IMMEDIATELY OF ANY DISCREPANCIES.
- CONTRACTOR TO PROMOTE SAFETY MEASURES TO PROTECT PEDESTRIANS, VEHICLES AND ALL EXISTING CONSTRUCTION TO REMAIN.
- CONTRACTOR TO COORDINATE WITH THE OWNER FOR ALLOWABLE STAGING AREAS DURING CONSTRUCTION.
- FIELD VERIFY ALL EXISTING UTILITIES AND COORDINATE WITH THE SCOPE OF WORK SHOWN ON DRAWINGS.
- ALL DIMENSIONS ARE TO FACE OF CURB UNLESS OTHERWISE NOTED.
- ALL SIDEWALKS ARE 5'-0" BY 5'-0" FROM EDGE TO EDGE UNLESS OTHERWISE NOTED.
- REFER TO CIVIL DRAWINGS FOR ADDITIONAL SITE INFORMATION.

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Sheet Number

OVERALL SITE PLAN

A001

Sequence of

E

D

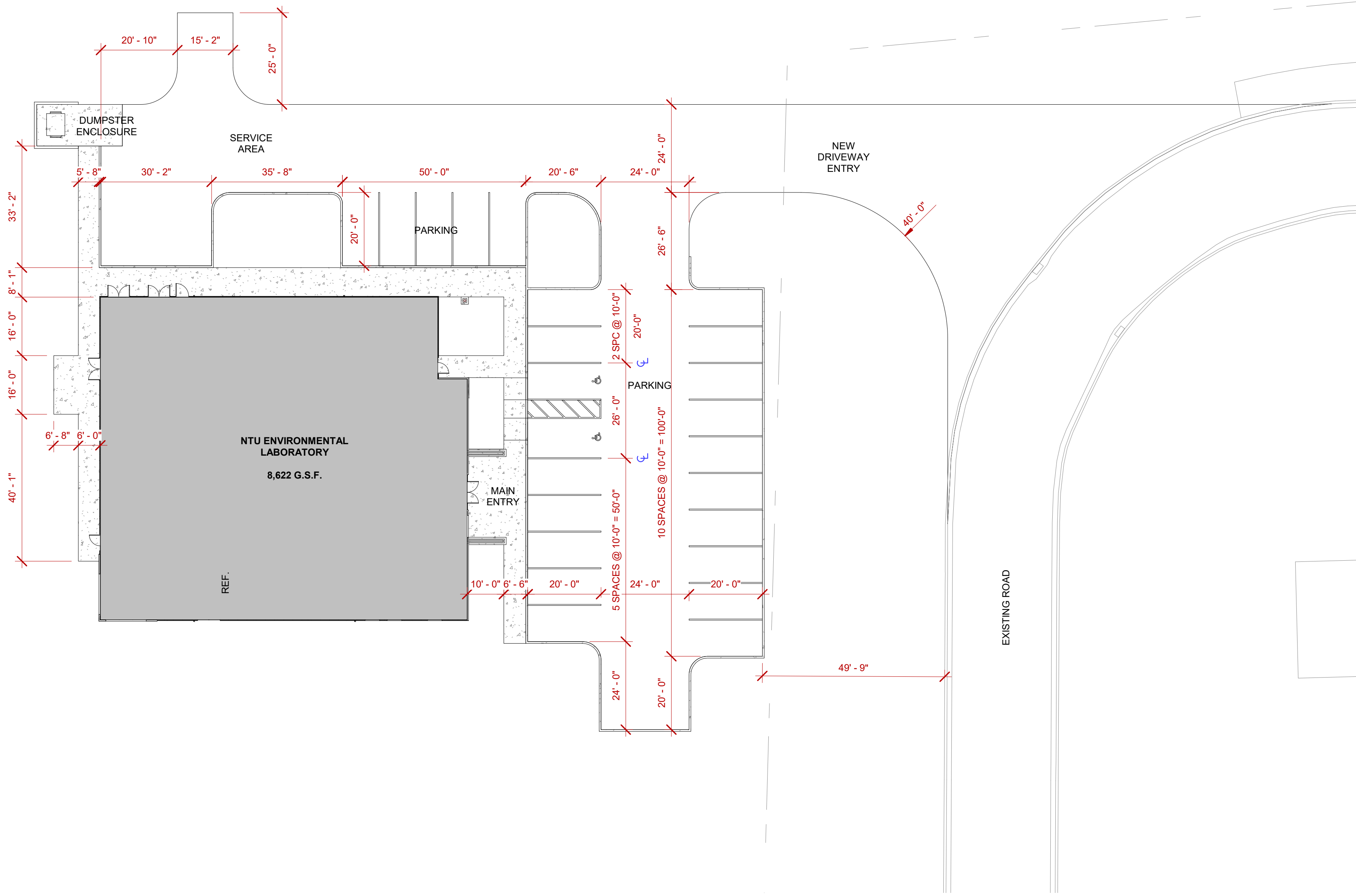
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A4 SITE PLAN
1" = 20'-0"



NTU ENVIRONMENTAL LAB CHINLE

CHINLE, APACHE COUNTY, AZ

SCHEMATIC DESIGN

DECEMBER 2, 2022

GENERAL NOTES

- CONTRACTOR TO FIELD VERIFY EXISTING CONDITIONS AND EXISTING UTILITIES AND IS RESPONSIBLE FOR REMOVALS AS REQUIRED TO COMPLETE THE WORK. CONTRACTOR SHALL NOTIFY ARCHITECT IMMEDIATELY OF ANY DISCREPANCIES.
- CONTRACTOR TO PROMOTE SAFETY MEASURES TO PROTECT PEDESTRIANS, VEHICLES AND ALL EXISTING CONSTRUCTION TO REMAIN.
- CONTRACTOR TO COORDINATE WITH THE OWNER FOR ALLOWABLE STAGING AREAS DURING CONSTRUCTION.
- FIELD VERIFY ALL EXISTING UTILITIES AND COORDINATE WITH THE SCOPE OF WORK SHOWN ON DRAWINGS.
- ALL DIMENSIONS ARE TO FACE OF CURB UNLESS OTHERWISE NOTED.
- ALL SIDEWALKS ARE 5'-0" BY 5'-0" FROM EDGE TO EDGE UNLESS OTHERWISE NOTED.
- REFER TO CIVIL DRAWINGS FOR ADDITIONAL SITE INFORMATION.

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Sheet Number

SITE PLAN

A002

Sequence of

NTU ENVIRONMENTAL
LAB CHINLE

CHINLE, APACHE COUNTY, AZ

SCHEMATIC DESIGN

DECEMBER 2, 2022

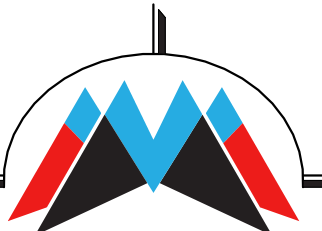
GENERAL NOTES

- A. SEE DIMENSION PLAN FOR WALL TYPES.
B. PROVIDE BLINDS AT ALL INTERIOR AND EXTERIOR WINDOWS.
C. REFER TO SHEET G101 FOR LOCATION OF FIRE EXTINGUISHERS AND FIRE EXTINGUISHER CABINETS.
D. REFER TO ELEVATIONS FOR ALL WINDOW LOCATIONS AND WINDOWS NOT SHOWN ON PLAN.
E. CONTRACTOR SHALL COORDINATE ALL ROOF DRAIN PIPING WITH FURR-OUTS DIMENSIONS AS SHOWN ON PLANS.
F. CONTRACTOR SHALL COORDINATE WITH STRUCTURAL AND PLUMBING DRAWINGS FOR EXACT FLOOR DRAIN AND FLOOR SINK LOCATIONS PRIOR TO POURING FLOOR SLAB. ANY DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT /ENGINEER.
G. CONTRACTOR TO COORDINATE ALL ELECTRICAL FLOOR BOXES WITH ELECTRICAL DRAWINGS.
H. PROVIDE CORNER GUARDS AT ALL STUD WALL OUTSIDE CORNERS. REFER TO MATERIAL FINISH SCHEDULE ON ID002.
I. PROVIDE PLYWOOD BACKINGS AT ALL LOCATIONS AS REQUIRED, INCLUDING BUT NOT LIMITED TO DOOR WALL STOPS (COORDINATE WITH DOOR HARDWARE).
J. REFER TO SHEET A401 FOR TYPICAL MOUNTING DIMENSIONS FOR PLUMBING FIXTURES.

DIMENSION NOTES

- A. ALL DIMENSIONS ARE TO FACE OF STUD UNLESS OTHERWISE NOTED.
B. LOCATE DOOR FRAMES ACCORDING TO THE DETAILS INDICATED ON THE DOOR SCHEDULE.
C. REFER TO LARGE SCALE FLOOR PLANS FOR DIMENSIONS NOT SHOWN ON THIS SHEET.
D. REFER TO SHEET A103 FOR PARTITION TYPES.
E. CONTRACTOR SHALL COORDINATE THE PARTITION TYPES INDICATED ON THIS SHEET WITH THE SMOKE RESISTANT AND/OR FIRE-RESISTANCE RATED ASSEMBLIES INDICATED ON THE LIFE SAFETY PLAN. IN THE CASE OF ANY DISCREPANCIES IN SMOKE RESISTANCE OR FIRE RATING, THE MOST RESTRICTIVE SHALL GOVERN.

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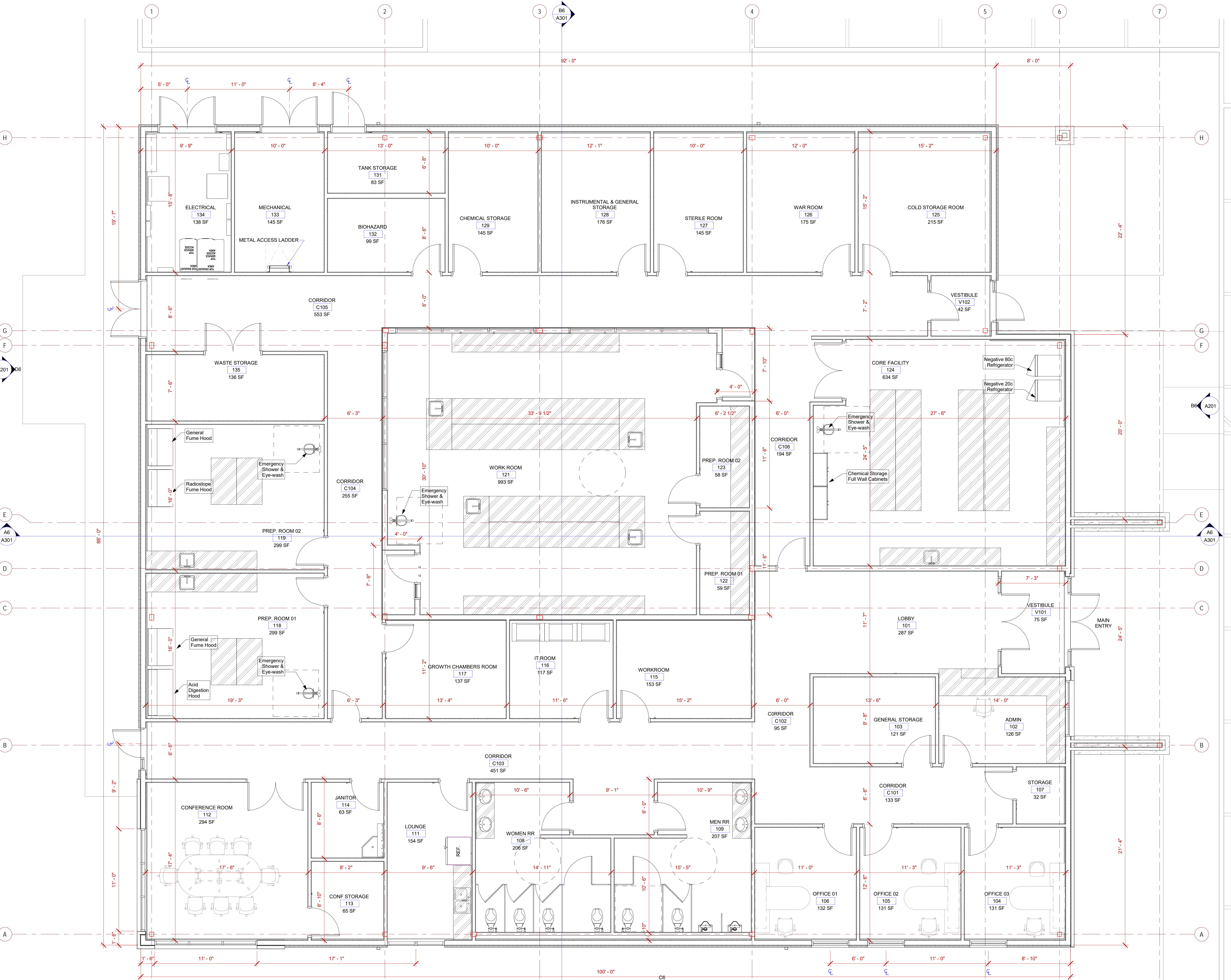
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Sheet Number

FLOOR & DIMENSION
PLAN

A101

Sequence of



A6 FLOOR PLAN
1/4" = 1'-0"

8,622 G.S.F.



NTU ENVIRONMENTAL
LAB CHINLE

CHINLE, APACHE COUNTY, AZ

SCHEMATIC DESIGN

DECEMBER 2, 2022

REFLECTED
CEILING LEGEND

- 2'X4' ACOUSTICAL SUSPENDED CEILING
- 2'X4' ACOUSTICAL SUSPENDED CEILING WITH REVEAL
- GYPSUM BOARD CEILING
- STUCCO SOFFIT
- METAL PANEL SOFFIT
- OPEN TO STRUCTURE, PAINT P.
- LINEAR WOOD CEILING SYSTEM

GENERAL CEILING LEGEND

- N.T.S.
- FOR ELECTRICAL SYMBOLS, SIZES AND TYPES, SEE ELECTRICAL DRAWINGS.
 - FOR MECHANICAL SYMBOLS, SIZES AND TYPES, SEE MECHANICAL DRAWINGS.

- WALL MOUNTED FIXTURE
- SUSPENDED FLUORESCENT DIRECT/INDIRECT PENDANT
- CEILING SURFACE OR PENDANT FIXTURE
- FLUORESCENT FIXTURE
- EXIT LIGHTS
- SUPPLY AIR DIFFUSER
- EXHAUST GRILL
- RETURN AIR DIFFUSER
- 2X4 LIGHT FIXTURE
- 1X4 LIGHT FIXTURE
- CEILING ACCESS HATCH
- TUBULAR SKYLIGHT

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Project #	Author	Designer

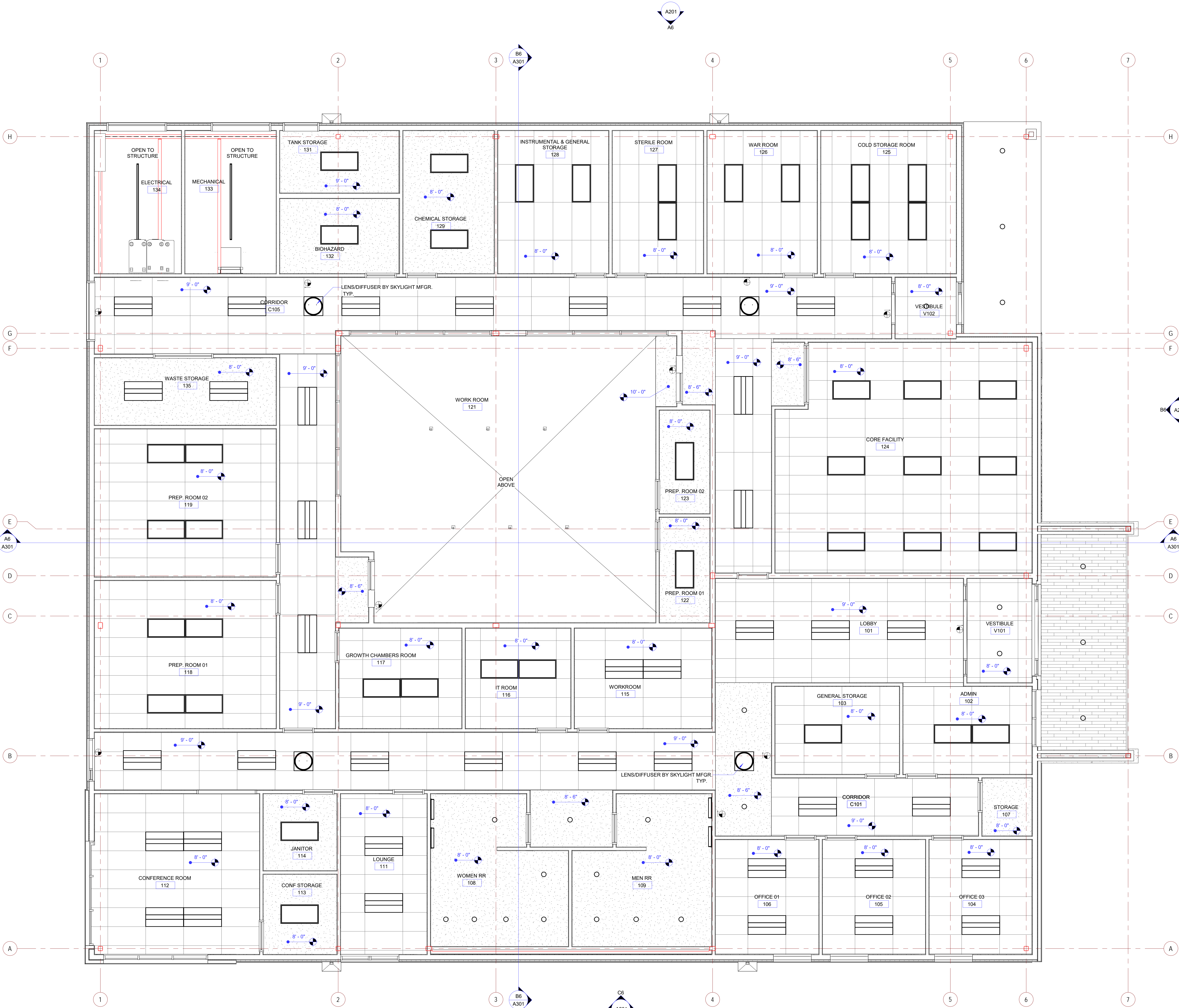
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Sheet Number

REFLECTED CEILING PLAN

A103

Sequence of



A6 REFLECTED CEILING PLAN
1/4" = 1'-0"

NTU ENVIRONMENTAL
LAB CHINLE

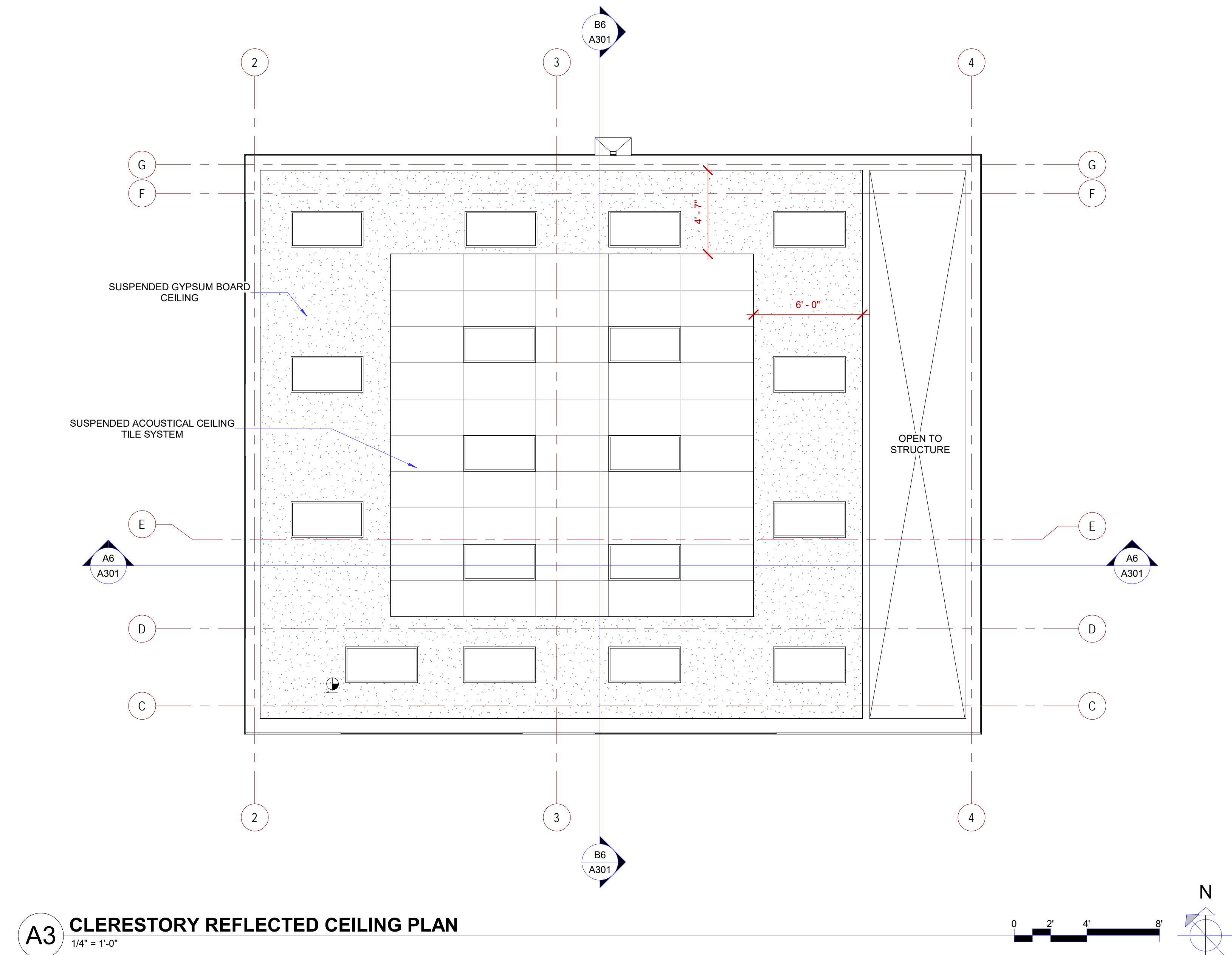
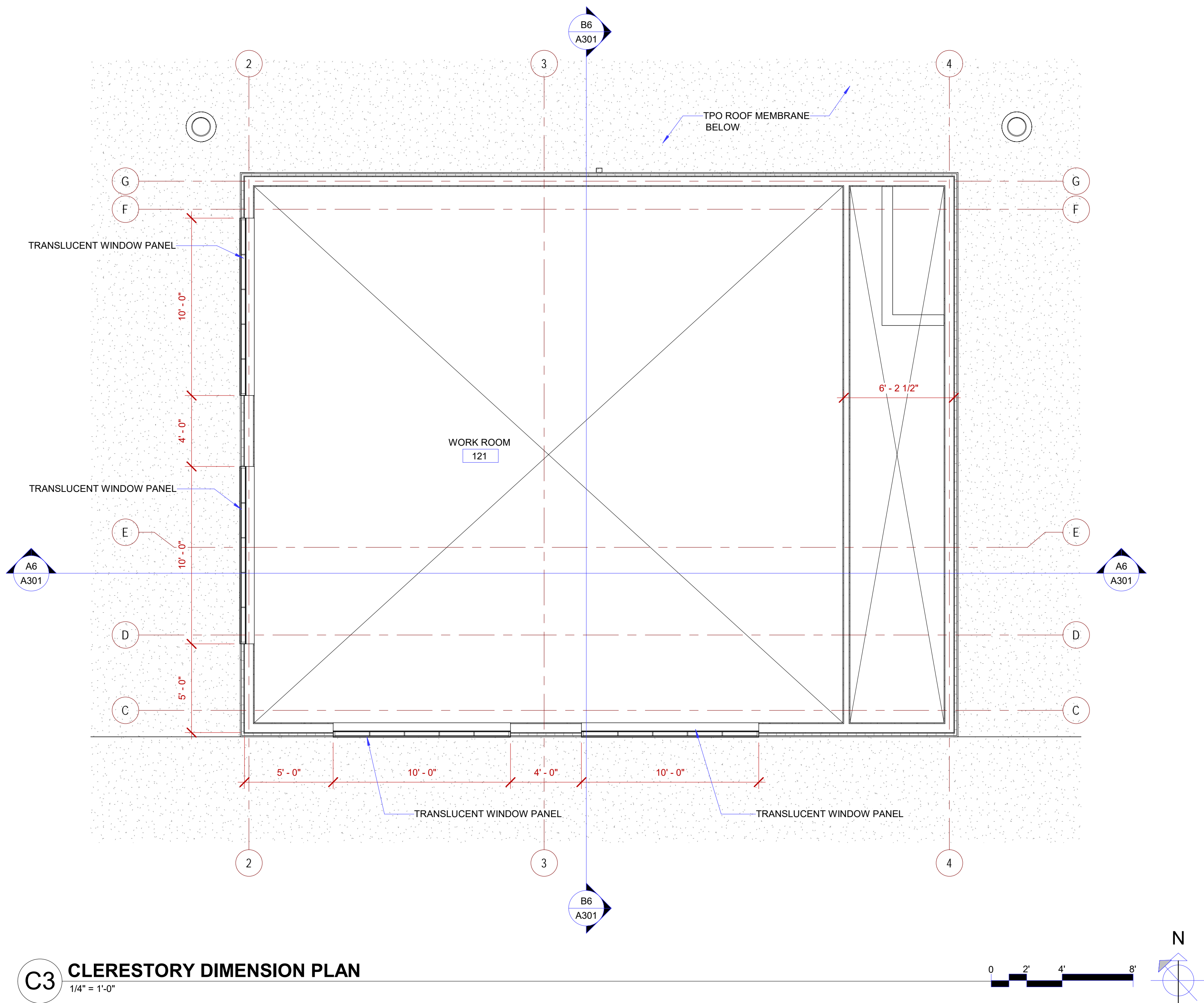
CHINLE, APACHE COUNTY, AZ

SCHEMATIC DESIGN

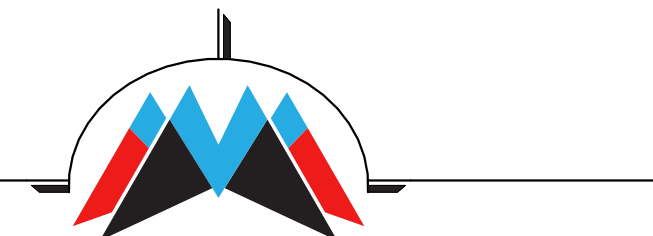
DECEMBER 2, 2022

GENERAL NOTES

- A. SEE DIMENSION PLAN FOR WALL TYPES.
B. PROVIDE BLINDS AT ALL INTERIOR AND EXTERIOR WINDOWS.
C. REFER TO SHEET G101 FOR LOCATION OF FIRE EXTINGUISHERS AND FIRE EXTINGUISHER CABINETS.
D. REFER TO ELEVATIONS FOR ALL WINDOW LOCATIONS AND WINDOWS NOT SHOWN ON PLAN.
E. CONTRACTOR SHALL COORDINATE ALL ROOF DRAIN PIPING WITH FURR-OUTS DIMENSIONS AS SHOWN ON PLANS.
F. CONTRACTOR SHALL COORDINATE WITH STRUCTURAL AND PLUMBING DRAWINGS FOR EXACT FLOOR DRAIN AND FLOOR SINK LOCATIONS PRIOR TO POURING FLOOR SLAB. ANY DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT /ENGINEER.
G. CONTRACTOR TO COORDINATE ALL ELECTRICAL FLOOR BOXES WITH ELECTRICAL DRAWINGS.
H. PROVIDE CORNER GUARDS AT ALL STUD WALL OUTSIDE CORNERS. REFER TO MATERIAL FINISH SCHEDULE ON ID602.
I. PROVIDE PLYWOOD BACKINGS AT ALL LOCATIONS AS REQUIRED, INCLUDING BUT NOT LIMITED TO DOOR WALL STOPS (COORDINATE WITH DOOR HARDWARE).
J. REFER TO SHEET A401 FOR TYPICAL MOUNTING DIMENSIONS FOR PLUMBING FIXTURES.



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CLERESTORY DIMENSION
& REFLECTED CEILING
PLAN

A104

Sequence of

NTU ENVIRONMENTAL
LAB CHINLE

CHINLE, APACHE COUNTY, AZ

SCHEMATIC DESIGN

DECEMBER 2, 2022

GENERAL NOTES

- A. 1/2" GLASS MAT FACED GYPSUM ROOF BOARD TO BE USED AT PARAPET LOCATIONS WHERE SINGLE PLY ROOFING MEMBRANE IS TO BE ATTACHED.
B. PROVIDE TREATED WOOD BLOCKING AT ALL ROOF FLASHING LOCATIONS AND WHERE OTHER ATTACHMENTS OCCUR ON INTERIOR SIDE OF PARAPET.

ROOF LEGEND

- SINGLE-PLY ROOF MEMBRANE
ROOF CRICKET
METAL ROOF
WALK PAD

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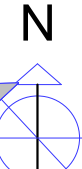
ROOF PLAN

A105

Sequence of

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A6 ROOF PLAN
1/4" = 1'-0"



NTU ENVIRONMENTAL
LAB CHINLE

CHINLE, APACHE COUNTY, AZ

SCHEMATIC DESIGN

DECEMBER 2, 2022

GENERAL NOTES

- A. ALL METAL PARAPET COPINGS AND FLASHING COLORS TO BE SELECTED BY ARCHITECT.
B. ALL EXTERNAL HOLLOW METAL FRAME COLORS TO BE SELECTED BY ARCHITECT.
C. ALL STUCCO COLORS TO BE SELECTED BY ARCHITECT.
D. SEE ROOF PLAN FOR TOP OF WALL ELEVATIONS.
E. DIMENSIONS SHOWN ON EXTERIOR ELEVATIONS ARE TO FINISHED FACE UNLESS NOTED OTHERWISE.
F. COORDINATE FINISHED FACE DIMENSIONS WITH DIMENSION PLAN AND DETAIL DIMENSIONS.
G. ALL EXPOSED STEEL SHALL BE PRIMED AND PAINTED. COLOR BY ARCHITECT.
H. ALL ROOF DRAIN OUTLETS TO DAYLIGHT AT 6" A.F.F. COORDINATE WITH ARCHITECTURAL, PLUMBING, AND CIVIL PLANS.
I. STUCCO CONTROL JOINTS INDICATED BY (C.J.)

EXTERIOR FINISH NOTES

- A. ALL EXPOSED STEEL TO BE PRIMED AD PAINTED. COLOR TO BE SELECTED BY ARCHITECT.
B. ALL SCUPPERS AND DOWNSPOUTS COLOR TO BE SELECTED BY ARCHITECT.
C. ALL EXTERIOR HOLLOW METAL DOORS AND FRAMES COLOR TO BE SELECTED BY ARCHITECT.
D. (INSULATED METAL PANEL) COLORS TO BE SELECTED BY ARCHITECT.
E. (STUCCO/EIFS) COLORS TO BE SELECTED BY ARCHITECT.

E1	EIFS COLOR 1
E2	EIFS COLOR 2
M1	METAL PANEL COLOR 1
S1	STUCCO COLOR 1
STV1	STONE VENEER COLOR 1

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EXTERIOR ELEVATIONS

ARCHITECT

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Project #	Author	Designer

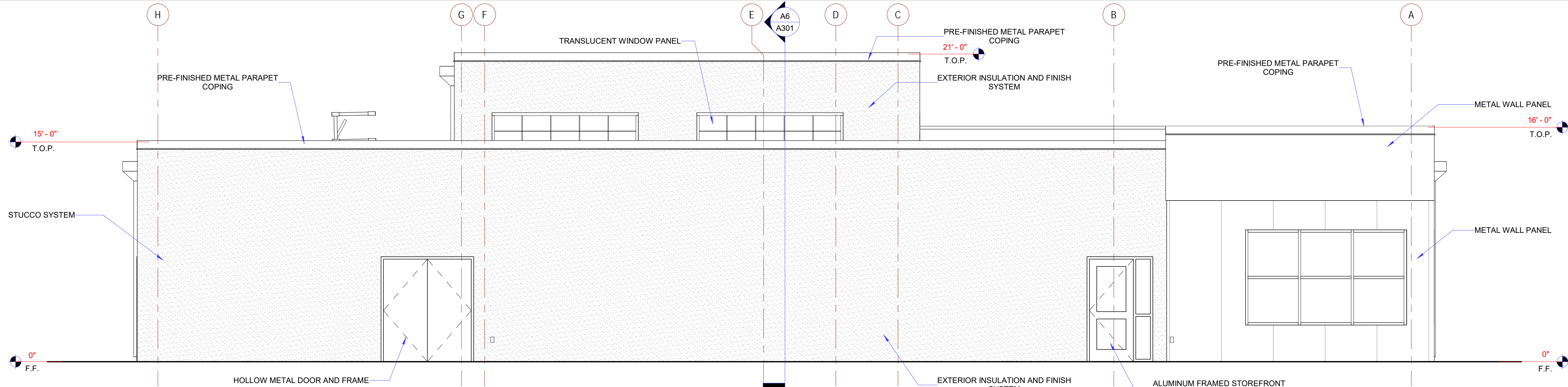
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Sheet Title

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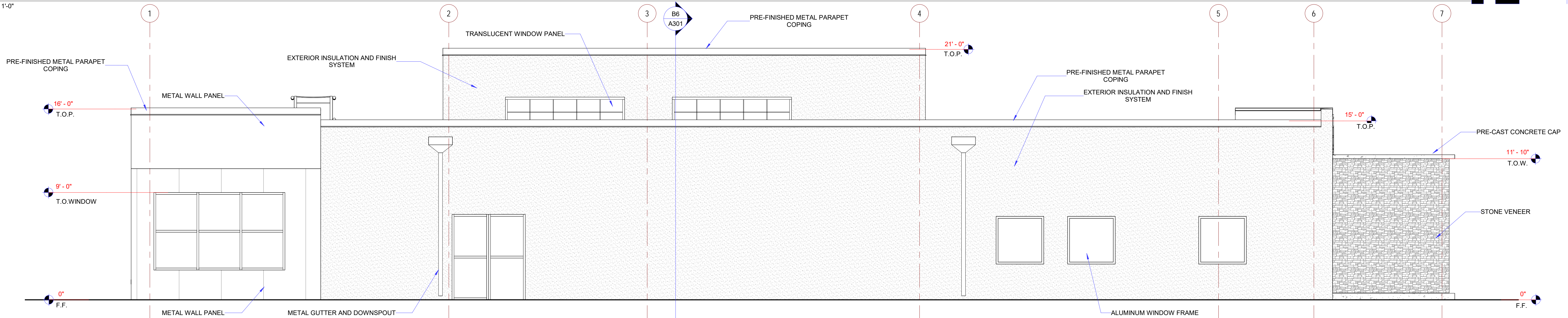
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Sequence of



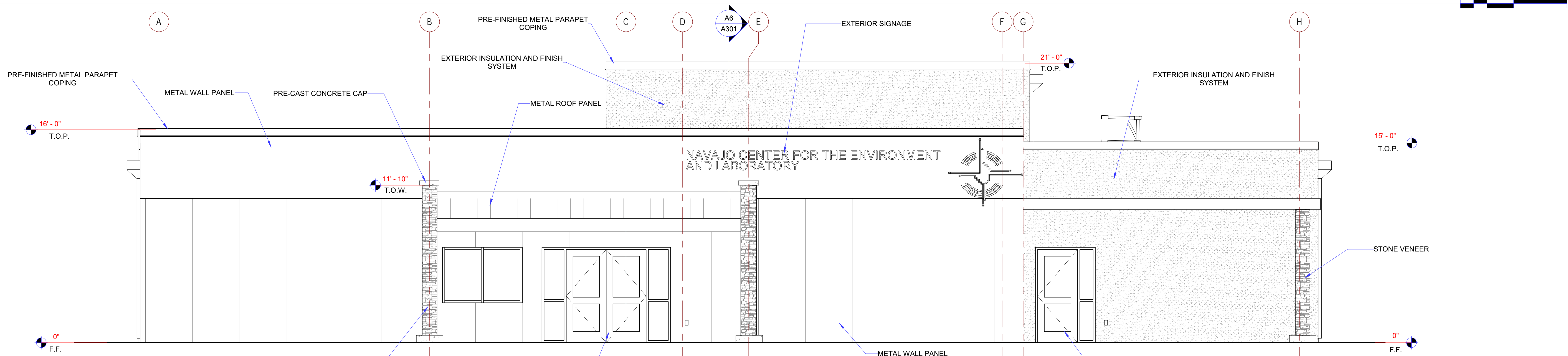
D6 WEST ELEVATION

1/4" = 1'-0"



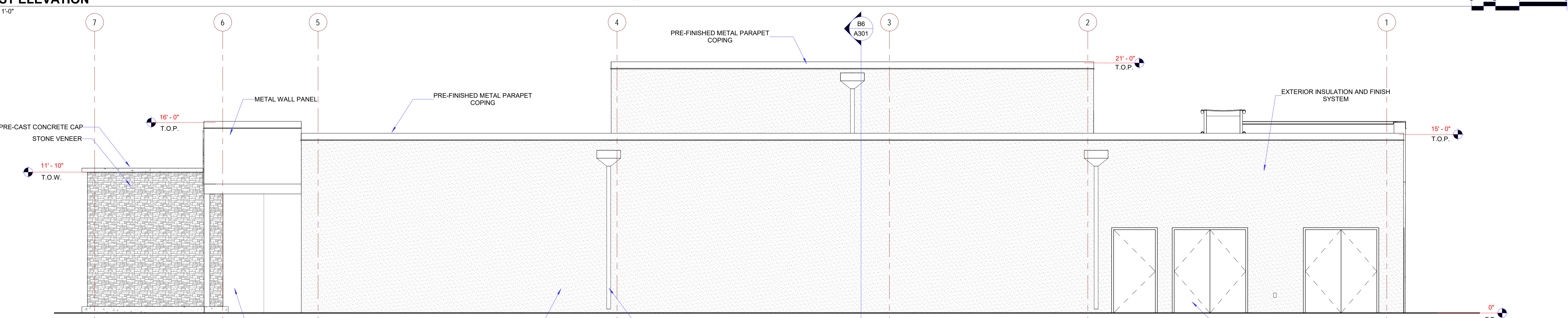
C6 SOUTH ELEVATION

1/4" = 1'-0"



B6 EAST ELEVATION

1/4" = 1'-0"



A6 NORTH ELEVATION

1/4" = 1'-0"

NTU ENVIRONMENTAL
LAB CHINLE

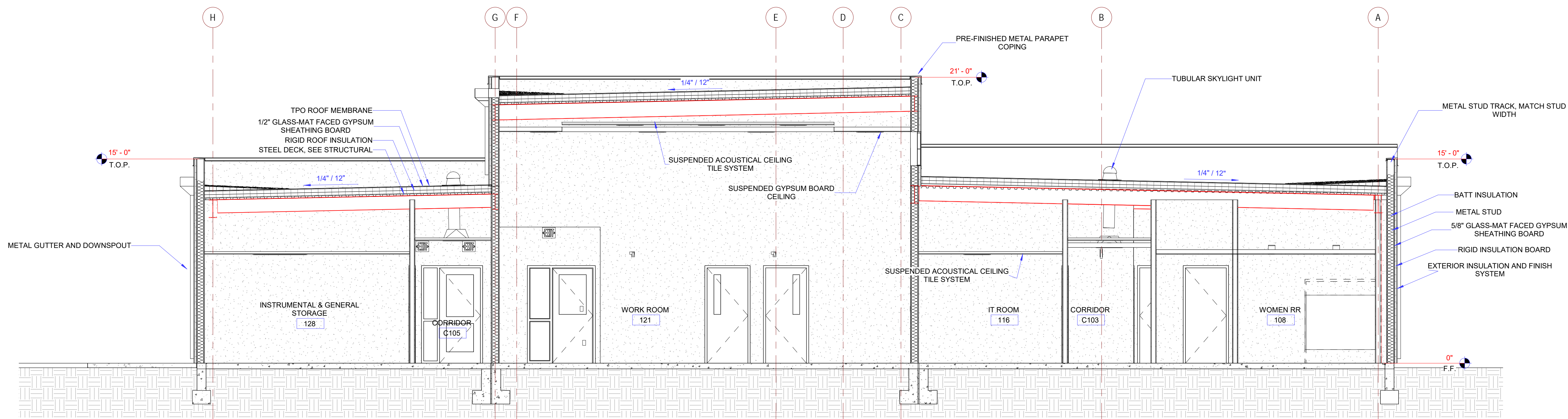
CHINLE, APACHE COUNTY, AZ

SCHEMATIC DESIGN

DECEMBER 2, 2022

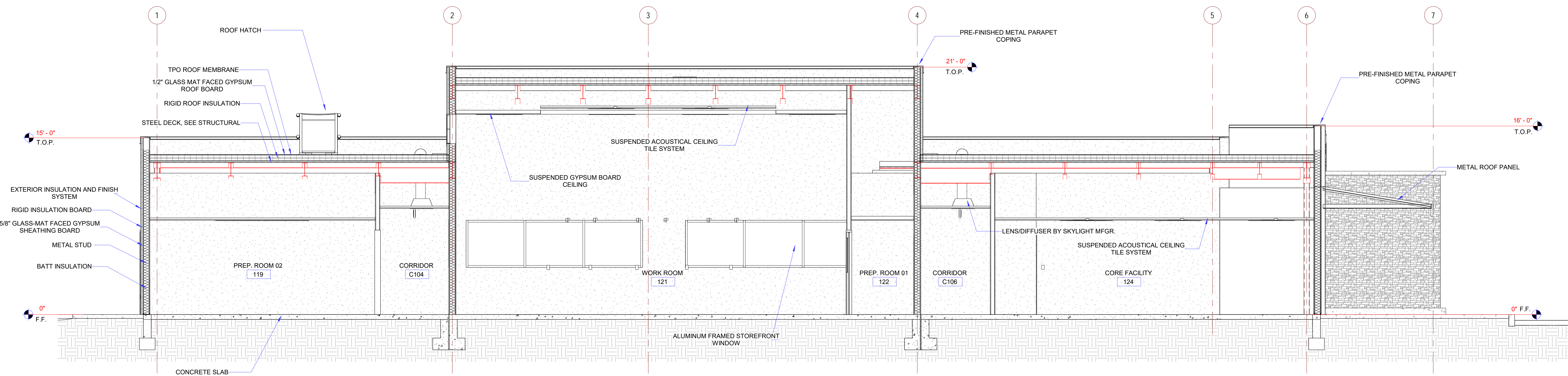
GENERAL NOTES

- A. ALL EXPOSED STRUCTURAL STEEL SHALL BE PRIMED AND PAINTED.
B. COORDINATE ALL PENETRATIONS THROUGH FIRE AND SMOKE ASSEMBLIES AS INDICATED IN LIFE SAFETY PLAN AND PARTITION TYPES. PROVIDE DAMPERS, SEALS AND ALL OTHER APPURTENANCES AS NECESSARY TO ENSURE FIRE RATING COMPLIANCE OF PENETRATIONS.
C. ALL ASSEMBLIES AND PENETRATIONS TO BE COORDINATED WITH RATING INDICATED IN CODE ANALYSIS/LIFE SAFETY PLANS. CONTRACTOR TO PROVIDE UL RATED ASSEMBLIES AS REQUIRED. CONTRACTOR TO PROVIDE UL RATINGS IN SUBMITTALS FOR ALL PENETRATIONS AS REQUIRED.



B6 BUILDING SECTION
1/4" = 1'-0"

0 2' 4' 8'



A6 BUILDING SECTION
1/4" = 1'-0"

0 2' 4' 8'

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Sheet Number

BUILDING SECTIONS

Sheet Title

A301

Sequence of

E

D

C

B

A

NAME

10'-0"

HEIGHT ABOVE PROJECT 0'-0"

INDICATES NOTE USED TO DESCRIBE ADDITIONAL INFORMATION ABOUT WORK REQUIRED, SPECIFIC TO THE SHEET AND/OR DETAIL

INDICATES DIRECTION OF TRUE NORTH

PLAN OR DETAIL NUMBER

PLAN OR DETAIL NAME

VIEW NAME

1

1/8" = 1'-0"

PLAN OR DETAIL SCALE

SIM

INDICATES SIMILAR DETAIL REFERENCED IN MULTIPLE LOCATIONS

DETAIL REFERRED TO BY SECTION CUT

1

1/8" = 1'-0"

SIM

4

1

2

3

T101

SHEET DETAIL IS LOCATED ON

LINE TYPE AND TAG KEY:

NEW WORK BY THIS CONTRACTOR (WIDE LINE)

NEW

EXISTING TO BE REMOVED (SHORT DASHED PATTERN)

NEW UNDERFLOOR OR UNDERGROUND (LONG DASHED PATTERN)

EXISTING TO REMAIN OR WORK BY OTHERS (NARROW LINE)

EXISTING

EXISTING TO BE REMOVED BY OTHERS (SHORT DASHED PATTERN)

EXISTING UNDERFLOOR OR UNDERGROUND (LONG DASHED PATTERN)

HALF-TONING DOES NOT MODIFY SCOPE.

TAG-E

TAGS WITH DASH 'E' INDICATES THE REFERENCED OBJECT IS EXISTING

TAG

UNDERLINED TAG INDICATES OBJECT IS IN-SCOPE. IF NEW, ADDITIONAL INFORMATION IS AVAILABLE IN A SCHEDULE, MATERIAL LIST, OR SYMBOL LIST

INDICATES AN EXISTING SYSTEM'S POINT OF CONNECTION/REMOVAL

PIPING SYMBOL LIST	
NOT ALL SYMBOLS MAY APPLY.	
SYMBOL:	DESCRIPTION:
—HWR—	HEATING WATER RETURN
—HWS—	HEATING WATER SUPPLY
—LCS—	LOW PRESSURE CLEAN STEAM (0 TO 15 PSIG)
—LIQ—	REFRIGERANT LIQUID
—LPC—	LOW PRESSURE CONDENSATE (0 TO 15 PSIG)
—LPS—	LOW PRESSURE STEAM (0 TO 15 PSIG)
—LWR—	LOOP WATER RETURN
—LWS—	LOOP WATER SUPPLY
—PC—	PUMPED CONDENSATE
—PD—	PUMPED DISCHARGE
—RCR—	RADIANT COOLING RETURN
—RCS—	RADIANT COOLING SUPPLY
—REF—	REFRIGERANT
—RWR—	REHEAT WATER RETURN
—RWS—	REHEAT WATER SUPPLY
—SUC—	REFRIGERANT SUCTION
—SV—	SAFETY RELIEF VENT
—VAC—	LAB VACUUM
	PIPE CAP
	PIPE DOWN
	PIPE UP OR UP/DOWN
	PITCH PIPE IN DIRECTION
	DIRECTION OF FLOW IN PIPE
	DIELECTRIC CONNECTION
	UNION/FLANGE
	SHUTOFF VALVE NORMALLY OPEN
	SHUTOFF VALVE NORMALLY CLOSED
	THROTTLING VALVE
	BALANCING VALVE (NUMBER INDICATES GPM)
	AUTOMATIC BALANCING VALVE
	MIXING VALVE
	CONTROL VALVE (THREE-WAY)
	CONTROL VALVE (TWO-WAY)
	SOLENOID VALVE
	CHECK VALVE
	BACKFLOW PREVENTER
	SAFETY/RELIEF VALVE
	PRESSURE REDUCING VALVE (LIQUID/GAS)
	PRESSURE REDUCING VALVE (STEAM)
	TRIPLE DUTY VALVE (ANGLE TYPE)
	TRIPLE DUTY VALVE (IN-LINE TYPE)
	PUMP
	VACUUM BREAKER
	"WYE" - STRAINER
	"WYE" - STRAINER W/SHUTOFF VALVE AND HOSE CONNECTION WITH CAP
	BASKET STRAINER
	FLEXIBLE CONNECTION
	PRESSURE/TEMPERATURE TEST PLUG
	REDUCER - REFERENCE SPECIFICATION FOR CONCENTRIC/ECCENTRIC AND FOOT/FOB
	SUCTION DIFFUSER WITH SUPPORT FOOT
	AUTOMATIC AIR VENT
	MANUAL AIR VENT
	DRAIN VALVE WITH HOSE CONNECTION AND CAP
	PRESSURE SENSOR (FURNISHED WITH BALL VALVE)
	PRESSURE GAUGE (FURNISHED WITH BALL VALVE)
	DIFFERENTIAL PRESSURE SENSOR
	STATIC SWITCH
	FLOW METER
	FLOW SWITCH
	FLOW SENSOR
	THERMOSTAT
	THERMOSTAT/SENSOR WITH HEAVY DUTY ENCLOSURE
	TEMPERATURE SENSOR
	TEMPERATURE SENSOR WITH WELL
	THERMOMETER WITH WELL (DIAL TYPE)
	THERMOMETER WITH WELL (FILLED TYPE)
	STEAM TRAP (REFER TO SCHEDULE)
	F&T STEAM TRAP (REFER TO SCHEDULE)
	INVERTED BUCKET STEAM TRAP (REFER TO SCHEDULE)
	ALIGNMENT GUIDE
	PIPE ANCHOR
	EXPANSION JOINT #.#" IS THE EXPANSION TRAVEL INCHES
	METER
	TERMINAL AIR BOX W/REHEAT COIL (REFER TO SCHEDULE)
	HUMIDIFIER
	HUMIDISTAT SENSOR
	HUMIDISTAT / SENSOR
	CARBON MONOXIDE SENSOR
	CARBON DIOXIDE SENSOR
	OCCUPANCY SENSOR

PLUMBING ABBREVIATION KEY	
ABBR:	DESCRIPTION:
AD	ACCESS DOOR
AFF	ABOVE FINISHED FLOOR
BFP	BACKFLOW PREVENTER
BT	BATHTUB
CB	CATCH BASIN
CI	CAST IRON
CO	CLEANOUT
CS	CLINICAL SINK
DB	DIALYSIS BOX
DF	DRINKING FOUNTAIN
DI	DUCTILE IRON
E	EXISTING
EE	EMERGENCY EYEWASH
ES	EMERGENCY SHOWER
ESE	EMERGENCY SHOWER/EYEWASH
EWC	ELECTRIC WATER COOLER
FCO	FLOOR CLEANOUT
FD	FLOOR DRAIN
FM	FLOW METER
FS	FLOOR SINK
GD	GARBAGE DISPOSER
GI	GREASE INTERCEPTOR
HB	HOSE BIBB
I.E.	INVERT ELEVATION (FOR REFERENCE ONLY)
LAV	LAVATORY
MB	MOP BASIN
MH	MANHOLE
MV	MIXING VALVE
NIC	NOT IN CONTRACT
NT	NEUTRALIZATION TANK
OS	OIL SEPARATOR
RD	ROOF DRAIN
SCCR	SHORT CIRCUIT CURRENT RATING
SH	SHOWER
SK	SINK
SS	SERVICE SINK
TD	TRENCH DRAIN
TP	TRAP PRIMER
TYP	TYPICAL
UR	URINAL
VTR	VENT THROUGH ROOF
WC	WATER CLOSET
WCO	WALL CLEANOUT
WF	WASH FOUNTAIN
WH	WATER HEATER
WMF	WASHING MACHINE FIXTURE
WM	WATER METER
WS	WATER SOFTENER
UB	UTILITY BOX
UON	UNLESS OTHERWISE NOTES
YCO	YARD CLEANOUT

PIPING ABBREVIATION KEY	
ABBR:	DESCRIPTION:
AD	ACCESS DOOR
AFF	ABOVE FINISHED FLOOR
C	COMMON
CO	CLEANOUT
DPG (0-2")	DIFFERENTIAL PRESSURE GAUGE (RANGE)
DPS	DIFFERENTIAL PRESSURE SWITCH
EA	EXHAUST/RELIEF AIR
EP	ELECTRICAL TO PNEUMATIC VALVE
MA	MIXED AIR
MV	MIXING VALVE
N.C.	NORMALLY CLOSED
NIC	NOT IN CONTRACT
N.O.	NORMALLY OPEN
OA	OUTSIDE AIR
PS	PRESSURE SWITCH
RA	RETURN AIR
SA	SUPPLY AIR
SCCR	SHORT CIRCUIT CURRENT RATING
TYP	TYPICAL
UON	UNLESS OTHERWISE NOTES

MECHANICAL GENERAL NOTES:

THESE NOTES APPLY TO ALL MECHANICAL SHEETS AND TRADES, INCLUDING BUT NOT LIMITED TO, FIRE PROTECTION, PLUMBING, MEDICAL GAS, VENTILATION, PIPING AND TEMPERATURE CONTROL.

- DRAWINGS SHOWING LOCATIONS OF EQUIPMENT, DUCTWORK, PIPING, ETC. ARE DIAGRAMMATIC AND MAY NOT ALWAYS REFLECT EXACT INSTALLATION CONDITIONS. DRAWINGS SHOW THE GENERAL ARRANGEMENT OF DUCTWORK, PIPING, EQUIPMENT, ETC., AND MAY NOT INCLUDE ALL OFFSETS AND FITTINGS REQUIRED FOR COMPLETE INSTALLATION. THE DRAWINGS SHALL BE FOLLOWED AS CLOSELY AS ACTUAL BUILDING CONSTRUCTION AND THE WORK OF OTHERS WILL PERMIT.
- DO NOT SCALE DRAWINGS. VERIFY ALL DIMENSIONS AND CLEARANCES FROM ARCHITECTURAL, STRUCTURAL, SUBMITTALS, AND OTHER APPROPRIATE DRAWINGS OR PHYSICALLY AT SITE. REVIEW ALL DRAWINGS, INCLUDING THOSE OF OTHER TRADES.
- COORDINATE ALL WORK WITH ALL OTHER TRADES PRIOR TO INSTALLATION TO PROVIDE CLEARANCES REQUIRED FOR OPERATION, MAINTENANCE, CODE COMPLIANCE, AND TO VERIFY NON-INTERFERENCE WITH OTHER WORK. DO NOT FABRICATE PRIOR TO VERIFICATION OF NECESSARY CLEARANCES FOR ALL TRADES. BRING ANY INTERFERENCES OR CONFLICTS TO THE ATTENTION OF THE ARCHITECT/ENGINEER BEFORE PROCEEDING WITH FABRICATION OR EQUIPMENT ORDERS.
- REVIEW SPACE REQUIREMENTS OF EQUIPMENT SPECIFIED OR SUBSTITUTED AND MAKE REASONABLE ACCOMMODATIONS IN LAYOUT AND POSITIONING TO PROVIDE PROPER ACCESS.
- ANY CHANGES REQUIRED TO ELIMINATE CONFLICTS OR THAT RESULT FROM A FAILURE TO COORDINATE SHALL BE MADE BY THE CONTRACTOR WITHOUT ADDITIONAL COST OR EXPENSE TO OTHERS.
- EACH CONTRACTOR IS RESPONSIBLE FOR ALL COSTS ASSOCIATED WITH ELECTRICAL CHANGES REQUIRED FOR EQUIPMENT PROPOSED THAT DIFFERS FROM THE BASIS OF DESIGN.
- REFER TO ARCHITECTURAL REFLECTED CEILING PLAN, ELECTRICAL, TECHNOLOGY AUDIOVISUAL AND OTHER MECHANICAL PLANS FOR EXACT LOCATIONS OF ALL CEILING MOUNTED DEVICES, OTHER THAN SPRINKLERS.
- EACH CONTRACTOR IS RESPONSIBLE FOR DAMAGE CAUSED BY THEIR ACTIONS TO WALLS, FLOORS, CEILINGS, AND ROOFS. THE CONTRACTOR WHOSE WORK CAUSES DAMAGE IS RESPONSIBLE FOR PATCHING TO MATCH ORIGINAL CONSTRUCTION, FIRE RATING, AND FINISH.
- IN AREAS WITH DRYWALL CEILINGS COORDINATE LOCATIONS OF ACCESS PANELS WITH THE GC FOR ACCESS TO VALVES, DUCTWORK ACCESSORIES, DAMPERS, ETC. COORDINATE PANEL TYPE AND COLOR WITH ARCHITECT. NOTIFY THE GC OF THE REQUIRED ACCESS PANELS PRIOR TO BIDDING.
- SEAL ALL FLOOR, WALL, AND ROOF PENETRATIONS AIRTIGHT WHERE CONDUITS, PIPING, AND DUCTS PENETRATE. PENETRATIONS THROUGH EXTERIOR WALLS AND ROOF SHALL BE SEALED AIRTIGHT WITH WATERPROOFING MATERIALS RECOMMENDED BY MANUFACTURER FOR OUTDOOR USE.
- CAULK ALL PIPE AND DUCT PENETRATIONS OF FULL HEIGHT NON-FIRE RATED WALL, PARTITION, FLOOR, AND ROOF ASSEMBLIES. THIS IS ESSENTIAL TO PREVENT NOISE TRANSMISSION FROM ONE ROOM TO ANOTHER AND TO PROVIDE THE DESIRED NC LEVELS WITHIN ROOMS.
- WHERE PIPES AND DUCTS ARE SHOWN TO PENETRATE FLOORS, PROVIDE SLEEVED OPENINGS WITH THE TOP EDGE RAISED ABOVE FLOOR SURFACE IN ACCORDANCE WITH ALL RELEVANT SPEC SECTIONS. SEAL SLEEVE PERIMETER TO BE WATER TIGHT.
- EQUIPMENT SIZES AND SERVICE CLEARANCE REQUIREMENTS VARY AMONG DIFFERENT MANUFACTURERS. CONSULT APPROVED SHOP DRAWINGS FOR EQUIPMENT SIZES AND REQUIRED SERVICE CLEARANCES. COORDINATE WITH LAYOUT OF EQUIPMENT PADS, PIPING, DUCTWORK, ETC.
- DO NOT BLOCK TUBE PULL OR EQUIPMENT SERVICE CLEARANCES.
- MAINTAIN A MINIMUM WORKING CLEARANCE OF 3'-6" IN FRONT OF ALL ELECTRICAL EQUIPMENT REQUIRING MAINTENANCE, INSPECTION, AND TESTING INCLUDING BUT NOT LIMITED TO PANELS, DISTRIBUTION PANELS, SWITCHBOARDS, MOTOR CONTROL CENTERS, TRANSFORMERS, EQUIPMENT DISCONNECTS AND STARTERS.
- MAINTAIN THE DEDICATED ELECTRICAL EQUIPMENT SPACE DEFINED BY THE WIDTH / DEPTH OF ELECTRICAL EQUIPMENT MEASURED FROM THE FLOOR TO A HEIGHT 6'-0" ABOVE THE EQUIPMENT OR THE STRUCTURAL CEILING, WHICHEVER IS LOWER. SYSTEMS FOREIGN TO THE ELECTRICAL DISTRIBUTION SYSTEM ARE NOT ALLOWED IN THE DEDICATED ELECTRICAL SPACE INCLUDING: DUCTWORK, PIPING, ETC.
- PROVIDE CONCRETE EQUIPMENT PAD FOR ALL FLOOR MOUNTED EQUIPMENT. PAD SHALL EXTEND MINIMUM 6" BEYOND ALL SIDES OF EQUIPMENT.
- DO NOT SUPPORT EQUIPMENT, PIPING, OR DUCTWORK FROM METAL DECKING OR OTHER NON-STRUCTURAL BUILDING ELEMENTS. ANCHORS EMBEDDED IN CONCRETE SHALL BE CRACKED CONCRETE APPROVED IN ACCORDANCE WITH SPECIFICATIONS.

[NOTE TO DESIGNER: CONFIRM NOTE ON RISER DIAGRAMS: REFER TO FLOOR PLANS FOR LOCATIONS OF ALL VALVES AND EQUIPMENT ACCESSORIES.]

PLUMBING GENERAL NOTES:

- THE SYMBOLS AND THE MATERIAL LIST ARE FOR THE CONVENIENCE OF THE CONTRACTOR. CONTRACTOR SHALL VERIFY QUANTITIES AND FURNISH ALL MATERIALS REQUIRED FOR FULLY OPERATIONAL SYSTEMS, WHETHER SPECIFIED OR NOT.
- CATALOG NUMBERS SHALL NOT BE CONSIDERED COMPLETE, BUT ARE GIVEN AS AN AID TO THE CONTRACTOR AND TO INDICATE THE QUALITY REQUIRED. CONTRACTOR IS RESPONSIBLE FOR A COMPLETE DESCRIPTION OF MATERIAL ON THESE DRAWINGS AND IN THE SPECIFICATIONS BEFORE ORDERING. THE DESCRIPTION OF THE MATERIAL TAKES PRECEDENCE OVER THE CATALOG NUMBER. THE FIRST MANUFACTURER LISTED IS THE BASIS OF DESIGN.
- CONTRACTOR SHALL VERIFY THAT FIXTURES SUPPLIED ARE APPROVED PER ALL APPLICABLE STATE, LOCAL AND GOVERNING AUTHORITIES.
- ALL FIXTURES SHALL CONFORM TO FEDERAL ACT S.3874
- INVERT ELEVATIONS ARE FROM EXISTING DRAWINGS AND MAY NOT BE ACCURATE. VERIFY ALL ELEVATIONS BEFORE BEGINNING WORK.
- VERIFY UNDERGROUND PIPE SIZES, INVERT ELEVATIONS, AND LOCATIONS PRIOR TO BEGINNING ANY WORK.
- REFER TO THE PLUMBING ROUGH-IN SCHEDULE FOR THE SIZES OF BRANCH PIPES TO PLUMBING FIXTURES.
- FOR CLARITY, NOT ALL VALVES HAVE BEEN SHOWN. PROVIDE SHUTOFF VALVES IN DOMESTIC WATER PIPING SERVING EACH ROOM WITH FIXTURES. ANGLE STOPS SHALL NOT BE CONSIDERED SHUTOFF VALVES. **[INTD: INCLUDE FOR HOSPITAL/INPATIENT PROJECTS, CONTAINING BATHROOM GROUPS WITHIN OCCUPANT ROOMS.]**
- EXISTING CONDITIONS ON DEMOLITION PLANS ARE PROVIDED TO INDICATE THE GENERAL SCOPE OF ITEMS TO BE REMOVED. REFER TO SPECIFICATION SECTION 22 05 05 FOR ADDITIONAL DEMOLITION INFORMATION.
- P.C. SHALL CUT AND PATCH EXISTING AS REQUIRED FOR NEW OR DEMOLITION WORK UNLESS NOTED OTHERWISE. REFER TO SPECIFICATION SECTION 22 05 05 FOR ADDITIONAL INFORMATION.

PLUMBING SHEET INDEX	
P000	PLUMBING COVERSHEET
P200	SANITARY WASTE - UNDERFLOOR
P201	SANITARY VENT AND POTABLE (CW & HW)
P202	ROOF PLAN - PLUMBING
P400	PLUMBING DETAILS
P500	PLUMBING DIAGRAMS
P600	PLUMBING SCHEDULES
GRAND TOTAL: 7	

NTU ENVIRONMENTAL
LAB CHINLE

CHINLE, APACHE COUNTY, AZ

SCHEMATIC DESIGN

DECEMBER 2, 2022

IMEG

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SCOTTSDALE, AZ 85258
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PROJECT #22080848.00

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Project Number

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Designer

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PLUMBING COVERSHEET

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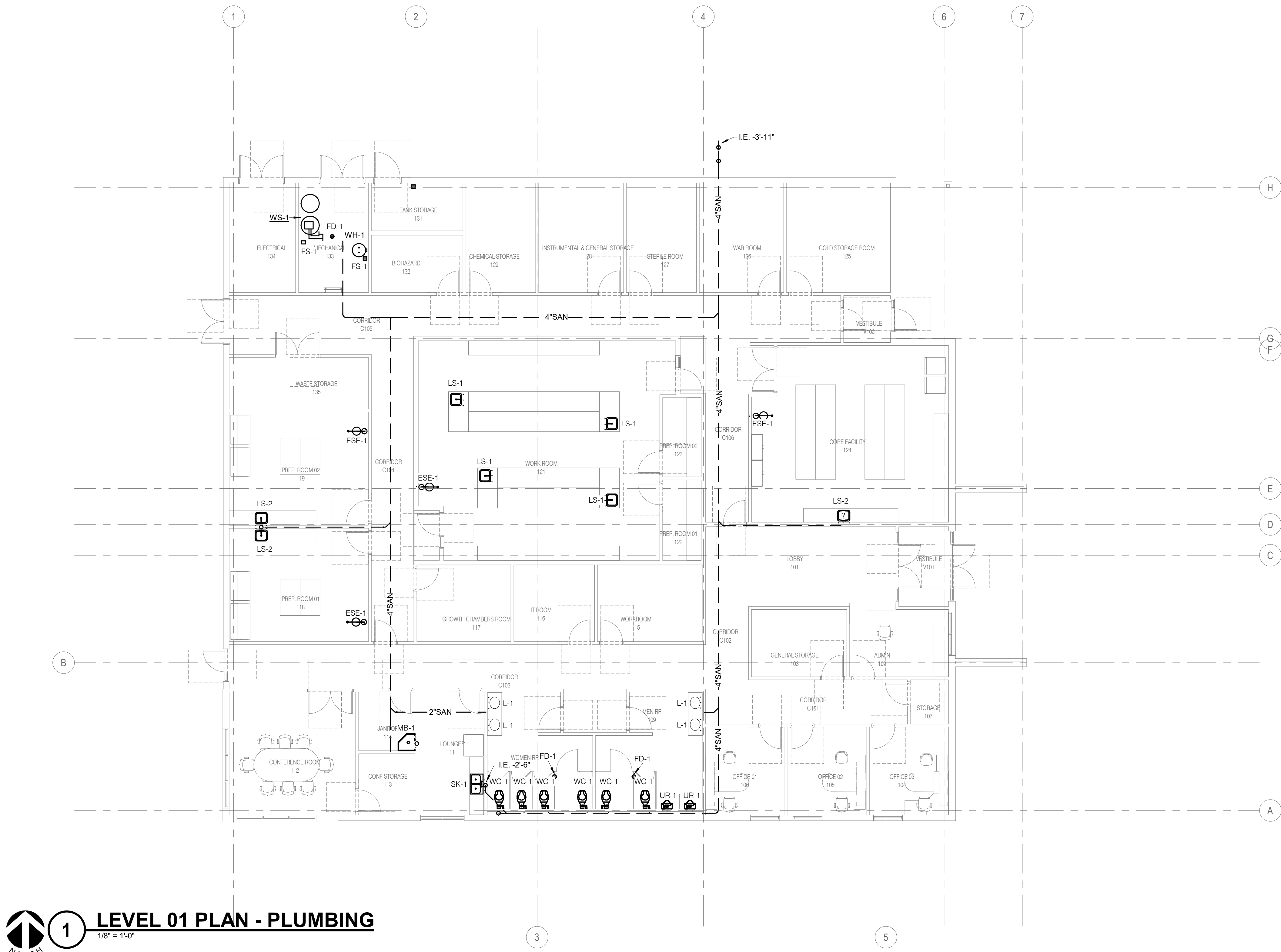
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C

B

A



1 LEVEL 01 PLAN - PLUMBING
1/8" = 1'-0"

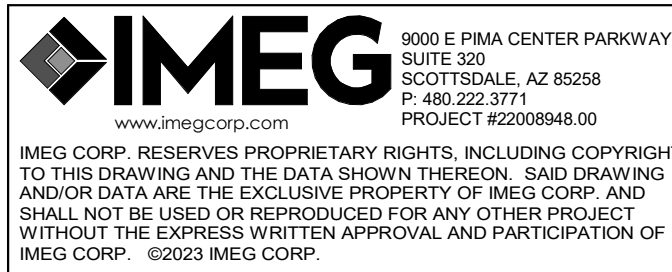
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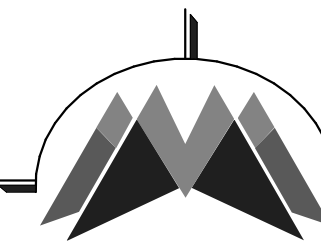
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SANITARY WASTE -
UNDERFLOOR

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P201

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**SANITARY VENT AND
POTABLE (CW & HW)**

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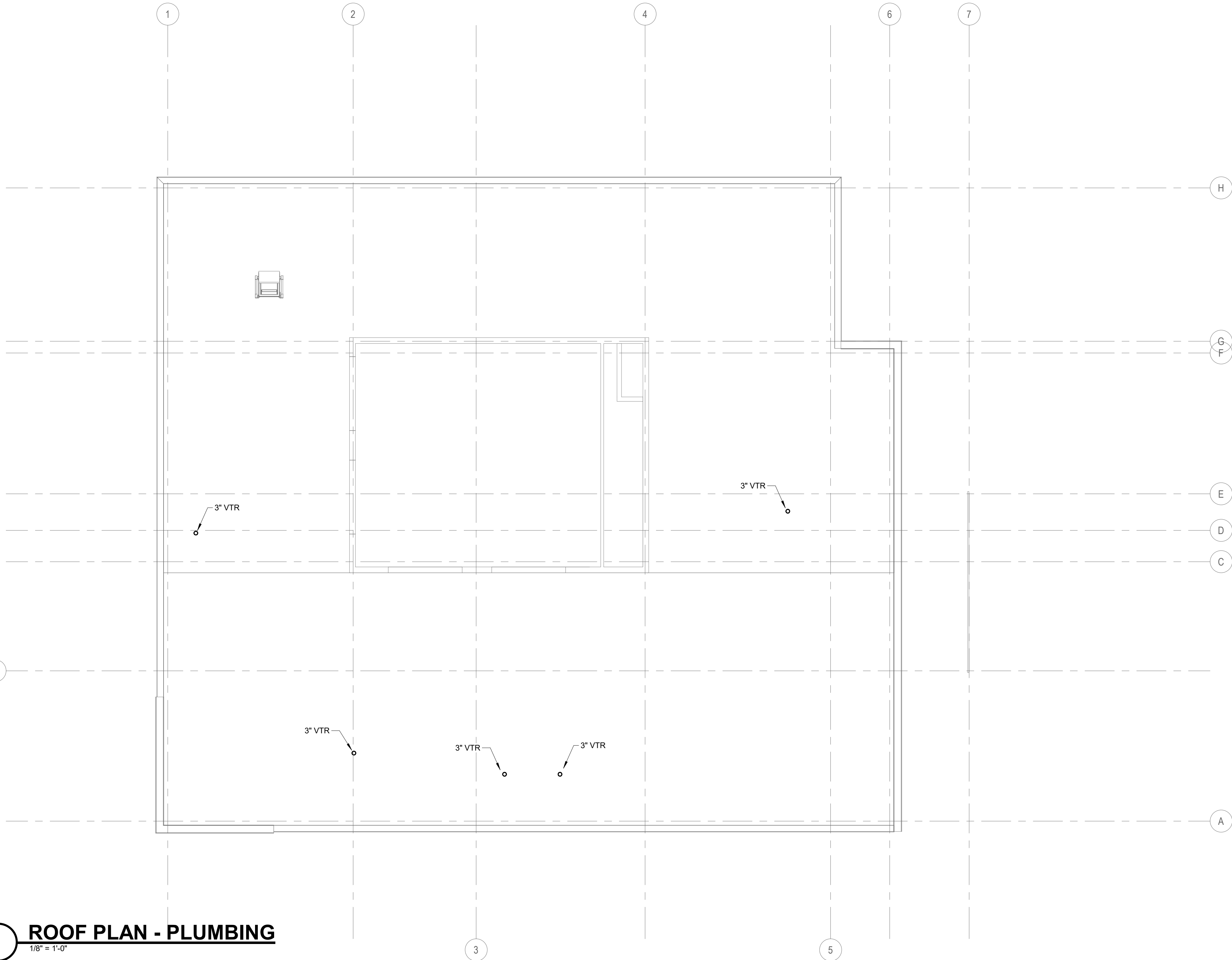
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1

ROOF PLAN - PLUMBING

1/8" = 1'-0"



- SHEET NOTES:**
1. REMOTE VOLUME DAMPERS ARE REQUIRED FOR ALL DAMPERS INSTALLED ABOVE INACCESSIBLE CEILINGS.
 2. VERIFY LOCATION OF ALL THERMOSTATS WITH ARCHITECT PRIOR TO INSTALLATION. MOUNT ALL THERMOSTATS @48" A.F.F. IN ACCORDANCE WITH ADA STANDARDS. PROVIDE LOCKING COVERS WHERE REQUESTED (COORDINATE WITH OWNER).
 3. VERIFY AND COORDINATE FRAME AND BORDER TYPE REQUIREMENTS FOR AIR DEVICES WITH ARCHITECTURAL CEILING PLANS PRIOR TO ORDERING.
 4. DUCT SIZES SHOWN ARE THE CLEAR INSIDE DIMENSIONS.
 5. THE MECHANICAL CONTRACTOR SHALL VERIFY THE LOCATION OF ALL ROOF MOUNTED EQUIPMENT AND ROOF PENETRATIONS WITH ARCHITECT AND STRUCTURAL ENGINEER PRIOR TO COMMENCING WORK.
 6. THE MECHANICAL CONTRACTOR SHALL COORDINATE LOCATION AND ROUTING OF HVAC EQUIPMENT AND DUCTWORK WITH OTHER TRADES PRIOR TO COMMENCING WORK.
 7. ALL EXHAUST OUTLETS SHALL BE LOCATED MIN. OF 10'-0" FROM ANY OUTSIDE AIR INTAKES.
 8. THE CUTTING, NOTCHING AND BORING OF HOLES IN FLOOR JOIST AND WALL STUDS SHALL BE IN ACCORDANCE WITH THE LATEST APPROVED EDITION OF THE INTERNATIONAL BUILDING CODE.
 9. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CUTTING AND PATCHING AS REQUIRED TO ACCOMMODATE HIS WORK.
 10. REFER TO THE MECHANICAL DIAGRAMS THAT APPLY TO THE WORK ON THIS DRAWING. THESE DIAGRAMS PROVIDE GUIDANCE AS TO INSTALLATION INTENT AND DO NOT NECESSARILY SHOW ALL COMPONENTS REQUIRED.
 11. APPLIANCES SERVING DIFFERENT AREAS OF A BUILDING OTHER THAN WHERE THEY ARE INSTALLED SHALL BE PERMANENTLY MARKED IN AN APPROVED MANNER THAT UNIQUELY IDENTIFIES THE APPLIANCE AND THE AREA IT SERVES.
 12. PROVIDE 1" ACOUSTICAL DUCT LINER FOR ALL TRANSFER AIR DUCT.
 13. ALL RECTANGULAR DUCT ELBOWS SHALL HAVE TURNING VANES.

- KEYNOTES:** (#)
1. .
 2. .
 3. .

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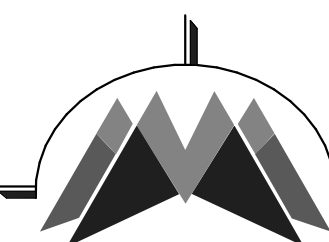
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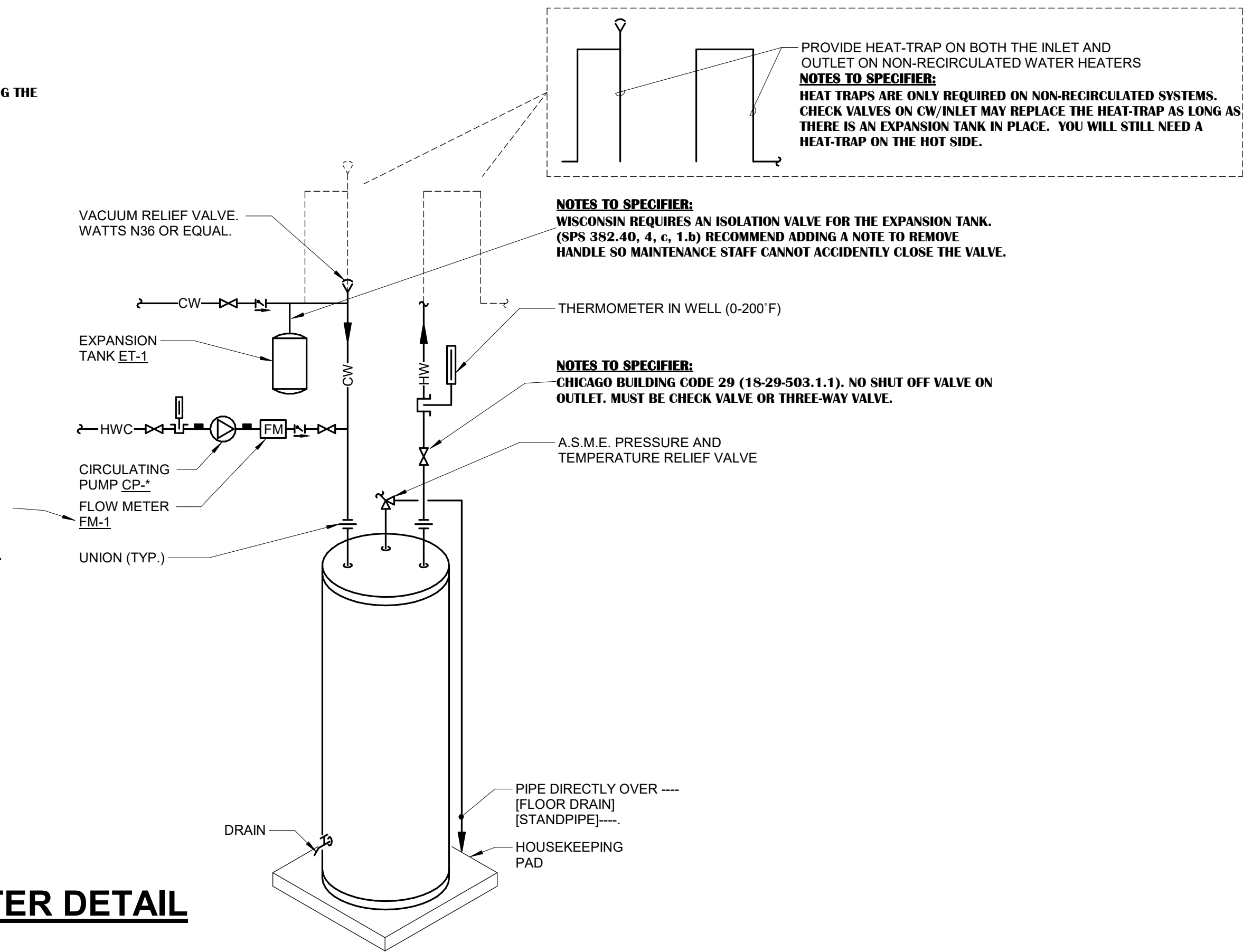
ROOF PLAN - PLUMBING

P202

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NOTES TO SPECIFIER:
1. FOR TANKS OVER 50 GALLONS PROVIDE EXPANSION CALCULATIONS.
2. IF MIXING VALVE PIPING DETAIL IS USED, REMOVE EXPANSION TANK, CIRCULATING PUMP AND ALL ASSOCIATED EQUIPMENT UPSTREAM OF EACH TAP IN TO THE COLD WATER LINE FROM THIS DETAIL LEAVING THE VACUUM BREAKER.

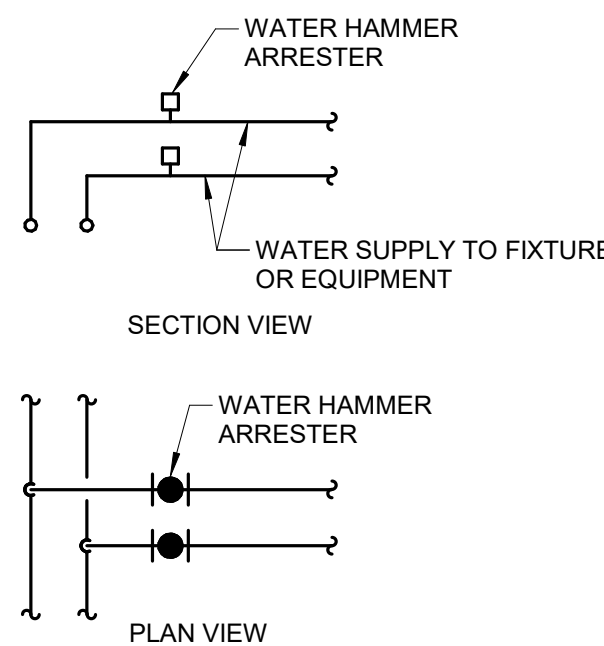
NOTES TO SPECIFIER:
1. OPTIONAL INEXPENSIVE FLOW METER. THIS DOES NOT INTERFACE WITH THE BMS. REFER TO FLOW METER PRODUCT DESCRIPTION IN PLUMBING MATERIAL LIST.
2. DISCUSS NEED FOR FLOW METER WITH OWNER. MAY PROVIDE BENEFIT WHEN MODIFYING HWC SYSTEM IN THE FUTURE.
3. INCLUDE PRESSURE DROP ACROSS FLOW METER IN PUMP HEAD CALC.



2 WATER HEATER DETAIL
NO SCALE

PROVIDE WATER HAMMER ARRESTER (WHA-#) AT PLUMBING FIXTURES AND QUICK CLOSING VALVES AS INDICATED ON DRAWINGS AND AS RECOMMENDED BY STANDARD PDI-WH201. REFER TO PLUMBING MATERIAL LIST FOR WATER HAMMER ARRESTER DESCRIPTION.

SINGLE / DOUBLE FIXTURE

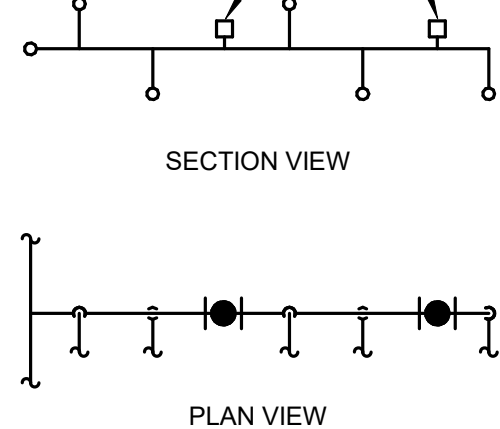


PDI SIZE	PIPE SIZE	FIXTURE UNIT LOAD
A	1/2"	1-11
B	3/4"	12-32
C	1"	33-60
D	1-1/4"	61-113
E	1-1/2"	114-154
F	2"	155-330

INSTALL WHA'S PER PDI STANDARDS AND MANUFACTURER'S INSTRUCTIONS. INSTALL IN HORIZONTAL OR VERTICAL POSITION, BUT NEVER UPSIDE DOWN. INSTALL IN LINE WITH WATER FLOW DIRECTION IF POSSIBLE. SIZE THE WHA AS SHOWN PER THE TABLES ABOVE. PROVIDE ACCESSIBILITY TO WHA WITH ACCESS PANEL OR INSTALL ABOVE ACCESSIBLE CEILING.

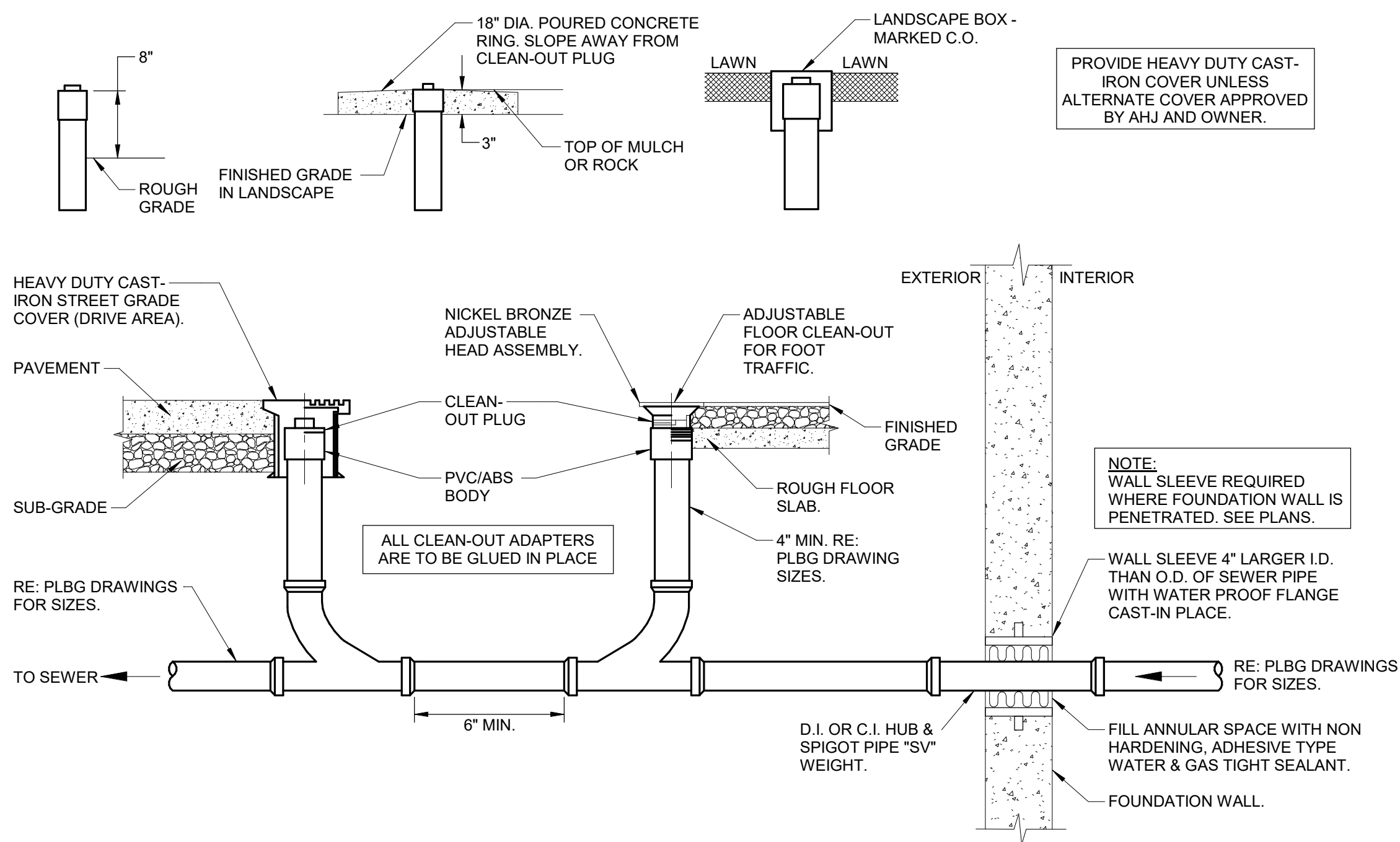
MULTIPLE FIXTURES

IF HORIZONTAL BRANCH IS LESS THAN 20'-0" PROVIDE ONE WHA AT THE END OF LINE. IF BRANCH IS GREATER THAN 20'-0" PROVIDE ANOTHER WHA IN MIDDLE, EACH SIZED FOR HALF THE FIXTURE UNITS.

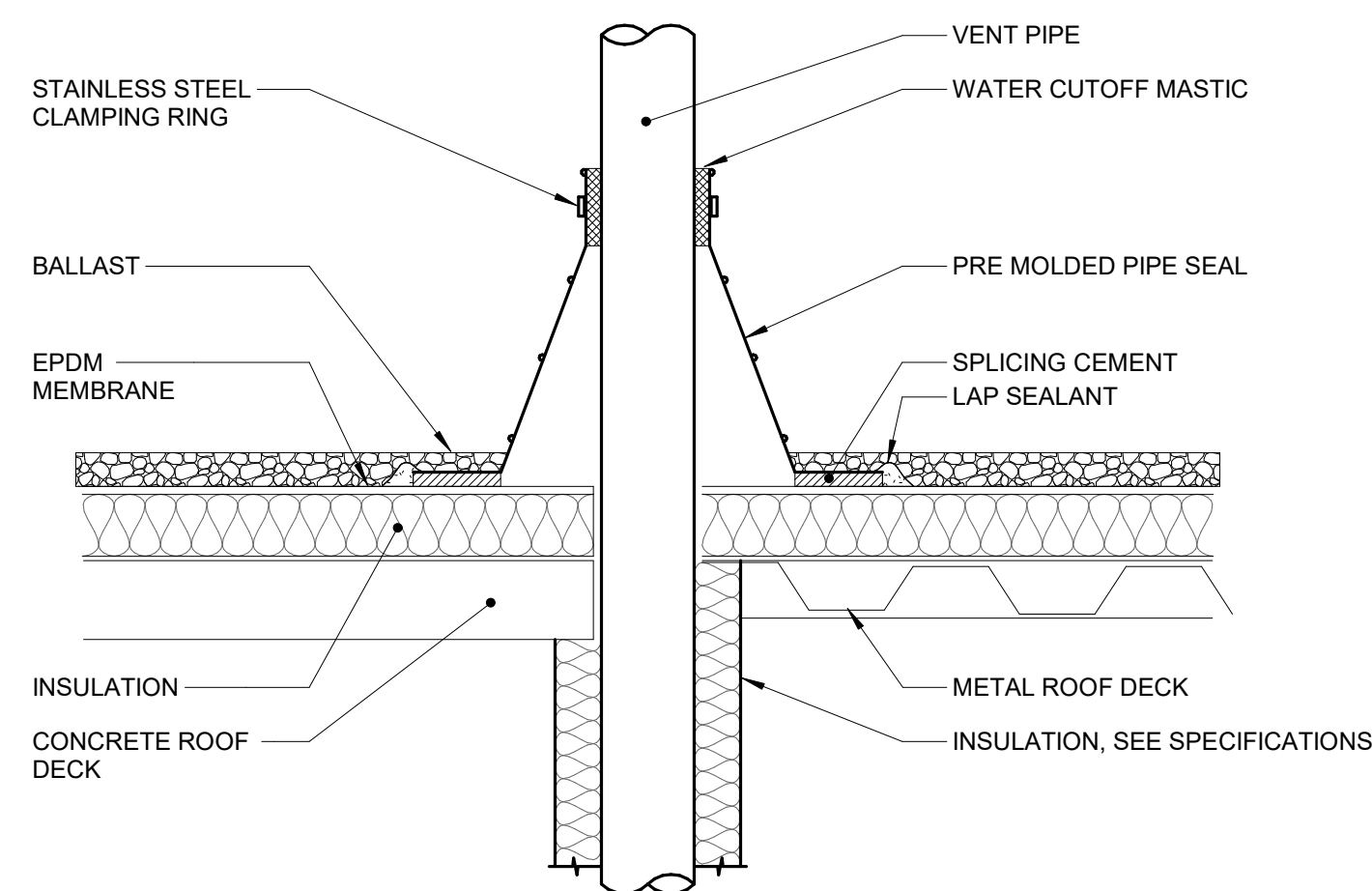


FIXTURE UNIT CALCULATION		
FIXTURE	COLD	HOT
WATER CLOSET (F.V.)	10	--
WATER CLOSET (TANK)	5	--
URINAL	5	--
LAVATORY	1.5	1.5
JANITOR'S SINK	3	3
SHOWER/BATHTUB	2	3
DRINKING FOUNTAIN	2	-
KITCHEN SINK	2	2
ICE MAKER / BEVERAGE	1	-

4 WATER HAMMER ARRESTER LOCATION DETAIL
NO SCALE



1 YARD CLEANOUT (TWO-WAY) DETAIL
NO SCALE



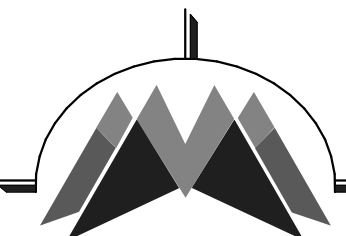
NOTES:

- VENT PIPE SHALL BE A MINIMUM OF 3" DIAMETER UNLESS NOTED LARGER ON FLOOR PLANS. INCREASES, IF REQUIRED TO TRANSITION TO THE LARGER VTR SIZE, MUST BE INSTALLED AT LEAST 12 INCHES BELOW THE THERMAL ENVELOPE OF THE BUILDING.
- EXTEND VENT PIPE AT LEAST 7 FEET ABOVE ROOF LEVEL WHEN ROOF AREA IS INTENDED TO BE USED BY THE GENERAL PUBLIC. THIS INCLUDES PROMENADES, OBSERVATION DECKS, ETC. THIS IS NOT REQUIRED FOR ROOFS THAT ARE ACCESSIBLE BY MAINTENANCE PERSONNEL ONLY.

3 VENT PIPE FLASHING
NO SCALE



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PLUMBING DETAILS

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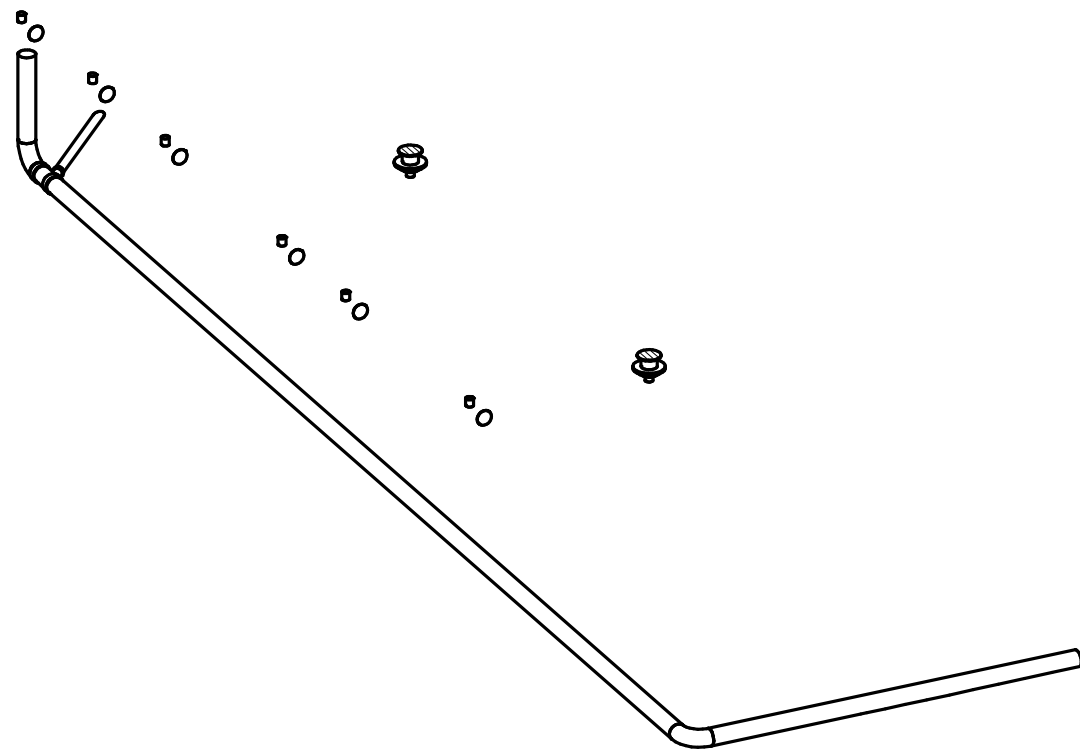
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NTU ENVIRONMENTAL
LAB CHINLE

CHINLE, APACHE COUNTY, AZ

SCHEMATIC DESIGN
DECEMBER 2, 2022



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SUITE 300
SCOTTSDALE, AZ 85258
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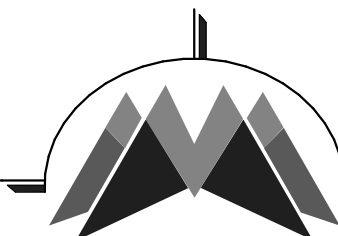
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4505 Montbel Place NE, Albuquerque, New Mexico 87107

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Revision Schedule		
Revision Number	Revision Date	Revision Description

PROJECT NUMBER	DRAWN BY	PROJ MGR
Project Number	Author	Designer
RVT FILE Autodesk Docs\NTU-Chinle-AZ\NTU Environmental Lab\MEP22_2308948\00_NTU-Chinle-AZ\NTU Environmental Lab_C.rvt		

Sheet Title

PLUMBING DIAGRAMS

P500

Sequence of

PLUMBING FIXTURE UNIT SCHEDULE									
TAG NAME	DESCRIPTION	COLD WATER		HOT WATER		SUPPLY WATER		DRAINAGE	
		EA.	TOTAL	EA.	TOTAL	EA.	TOTAL	EA.	TOTAL
ESE-1	EMERGENCY SHOWER EYE/FACE WASH	0	0	0	0	0	0	0	0
FD-1	FLOOR DRAIN		0		0	0	0	0	0
FS-1	FLOOR SINK		0		0	0	0	0	0
L-1	LAVATORY	0	0	0	0	0	0	0	0
LS-1	SINK	0	0	0	0	0	0	0	0
LS-2	SINK	0	0	0	0	0	0	0	0
MB-1	MOP BASIN	0	0	0	0	0	0	0	0
SK-1	SINK	0	0	0	0	0	0	0	0
UR-1	URINAL	0	0	0	0	0	0	0	0
WC-1	WATER CLOSET	0	0	0	0	0	0	0	0
GRAND TOTALS			0		0		0		0


PLUMBING MATERIAL LIST		
TAG NAME	DESCRIPTION	MANUFACTURER AND MODEL
ESE-1		
FD-1		
FS-1		
L-1		
LS-1		
LS-2		
MB-1		
SK-1		
UR-1		
WC-1		
WH-1		
WS-1		

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LAB CHINLE

CHINLE, APACHE COUNTY, AZ

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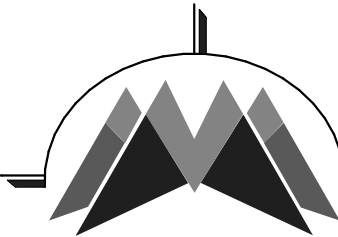
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Project Number	Author	Designer

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Sheet Title

PLUMBING SCHEDULES

P600

Sequence of

THESE NOTES APPLY TO ALL MECHANICAL SHEETS AND TRADES, INCLUDING BUT NOT LIMITED TO, FIRE PROTECTION, PLUMBING, MEDICAL GAS, VENTILATION, PIPING AND TEMPERATURE CONTROL.

1. DRAWINGS SHOWING LOCATIONS OF EQUIPMENT, DUCTWORK, PIPING, ETC., ARE DIAGRAMMATIC AND MAY NOT ALWAYS REFLECT EXACT INSTALLATION CONDITIONS. CONTRACTOR SHALL VERIFY THE GENERAL LOCATION OF ALL DUCTWORK, PIPING, ETC., AND MAY NOT INCLUDE ALL OFFSETS AND FITTINGS REQUIRED FOR COMPLETE INSTALLATION. THE DRAWINGS SHALL BE FOLLOWED AS CLOSELY AS ACTUAL BUILDING CONDITIONS PERMIT.
2. DO NOT SCALE DRAWINGS. VERIFY ALL DIMENSIONS AND CLEARANCES FROM ARCHITECTURAL, STRUCTURAL, SUBMITTALS, AND OTHER APPROPRIATE DRAWINGS OR SPECIFICATIONS. VERIFY THE LOCATION OF ALL DUCTWORK, PIPING, ETC.
3. COORDINATE ALL WORK WITH ALL OTHER TRADES PRIOR TO INSTALLATION TO PROVIDE CLEARANCES REQUIRED FOR OPERATION, MAINTENANCE, CODE COMPLIANCE, AND TO PREVENT INTERFERENCE WITH OTHER TRADES' WORK.
4. VERIFY NECESSARY CLEARANCES FOR ALL TRADES. BRING ANY INTERFERENCES OR CONFLICTS TO THE ATTENTION OF THE ARCHITECT/ENGINEER BEFORE PROCEEDING WITH THE WORK.
5. REVIEW SPACE REQUIREMENTS OF EQUIPMENT SPECIFIED OR SUBSTITUTED AND MAKE REASONABLE ACCOMMODATIONS IN LAYOUT AND POSITIONING TO PROVIDE PROPER ACCESS.
6. ANY CHANGES REQUIRED TO ELIMINATE CONFLICTS OR THAT RESULT FROM A FAILURE TO COORDINATE SHALL BE MADE BY THE CONTRACTOR WITHOUT ADDITIONAL COST OR DELAY THEREON.
7. EACH CONTRACTOR IS RESPONSIBLE FOR ALL COSTS ASSOCIATED WITH ELECTRICAL CHANGES REQUIRED FOR EQUIPMENT PROPOSED THAT DIFFERS FROM THE BASIS OF DESIGN.
8. REFER TO ARCHITECTURAL, REFLECTED CEILING PLAN, ELECTRICAL, TECHNOLOGY AUDIOVISUAL, AND OTHER MECHANICAL PLANS FOR EXACT LOCATIONS OF ALL CEILING AND FLOOR PENETRATIONS. OTHER TRADES SHALL BE RESPONSIBLE FOR THESE PENETRATIONS PRIOR TO BIDDING.
9. EACH CONTRACTOR IS RESPONSIBLE FOR DAMAGE CAUSED BY THEIR ACTIONS TO WALLS, FLOORS, CEILINGS, AND ROOFS. THE CONTRACTOR WHOSE WORK CAUSES DAMAGE IS RESPONSIBLE FOR PATCHING TO MATCH ORIGINAL CONSTRUCTION, FIRE RATING, AND FINISH.
10. IN AREAS WITH DRYWALL, CEILINGS COORDINATE LOCATIONS OF ACCESS PANELS WITH THE GC FOR ACCESS TO VALVES, DUCTWORK ACCESSORIES, DAMPERS, ETC. COORDINATE PANEL LOCATION WITH THE GC TO PREVENT DAMAGE TO THE FINISH OF THE ACCESS PANELS PRIOR TO BIDDING.
11. SEAL ALL FLOOR, WALL, AND ROOF PENETRATIONS THROUGH CONDUTS, PIPING, AND DUCTS TO PREVENT LEAKAGE OF AIR OR WATER.
12. SEAL ALL FLOOR, WALL, AND ROOF PENETRATIONS THROUGH EXTERIOR WALLS AND ROOF SHALL BE SEALED AROUND WITH WATERPROOFING MATERIALS RECOMMENDED BY MANUFACTURER FOR OUTDOOR USE.
13. CALL OUT FLOOR AND DUCT PENETRATIONS OF FULL HEIGHT NON-FIRE RATED WALL, PARTITION, FLOOR, AND ROOF ASSEMBLIES. THIS IS ESSENTIAL TO PREVENT NOISE TRANSMISSION FROM ONE ROOM TO ANOTHER AND TO PROVIDE THE DESIRED NC LEVELS WITHIN THE ROOMS.
14. WHERE PIPES AND DUCTS ARE SHOWN TO PENETRATE FLOORS, PROVIDE SLEEVED OPENINGS WITH THE TOP EDGE RAISED ABOVE FLOOR SURFACE IN ACCORDANCE WITH ALL APPLICABLE CODES AND SECTIONS.
15. EQUIPMENT SIZES AND SERVICE CLEARANCE REQUIREMENTS VARY AMONG DIFFERENT MANUFACTURERS. CONSULT ADOPTED SHOP DRAWINGS FOR EQUIPMENT SIZES AND SERVICE CLEARANCES. COORDINATE WITH LAYOUT FOR EQUIPMENT PADS, PIPING, DUCTWORK, ETC.
16. DO NOT BLOCK TUBE PULL OR EQUIPMENT SERVICE CLEARANCES.
17. PROVIDE A MINIMUM WORKING SPACE OF 36" AROUND ALL ELECTRICAL AND EQUIPMENT REQUIRING MAINTENANCE, INSPECTION, AND TESTING INCLUDING BUT NOT LIMITED TO PANELS, DISTRIBUTION PANELS, SWITCHBOARDS, MOTOR CONTROL CENTERS, AND TRANSFORMERS.
18. MAINTAIN THE DEDICATED ELECTRICAL EQUIPMENT SPACE DEFINED BY THE WIDTH / DEPTH OF ELECTRICAL EQUIPMENT MEASURED FROM THE FLOOR TO A HEIGHT 6" ABOVE THE TOP OF THE EQUIPMENT. THE EQUIPMENT SHALL NOT BE ALLOWED TO PENETRATE INTO THE ELECTRICAL DISTRIBUTION SYSTEM ARE NOT ALLOWED IN THE DEDICATED ELECTRICAL SPACE INCLUDING: DUCTWORK, PIPING, ETC.
19. PROVIDE A MINIMUM WORKING SPACE OF 36" AROUND THE EQUIPMENT PAD SHALL EXTEND MINIMUM 6" BEYOND ALL SIDES OF EQUIPMENT.
20. DO NOT SUPPORT EQUIPMENT, PIPING, OR DUCTWORK FROM METAL DECKING OR OTHER STRUCTURAL ELEMENTS. PROVIDE SUPPORT FOR ALL EQUIPMENT. EQUIPMENT SHALL BE CRACKED CONCRETE APPROVED IN ACCORDANCE WITH SPECIFICATIONS.

ABBR:	DESCRIPTION:
--------------	---------------------

AR	ARGON
CDA	COMPRESSED DRY AIR
DIR	DEIONIZED WATER RETURN
DIS	DEIONIZED WATER SUPPLY
N2	NITROGEN
NPW	NON POTABLE WATER
O2	OXYGEN
VAC	VACUUM

ABBR:	DESCRIPTION:
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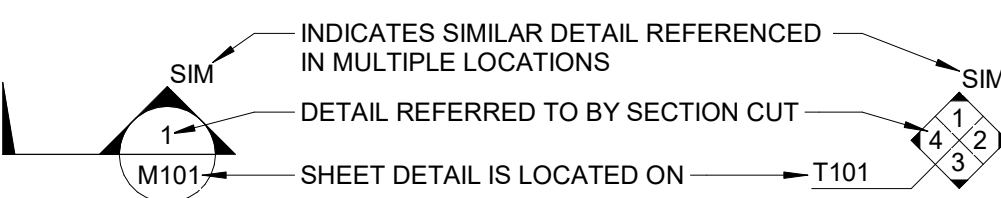
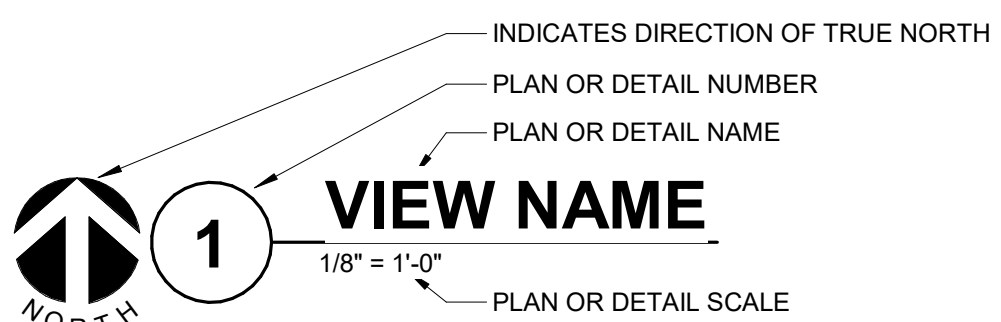
ABS	ACRYLONITRILE-BUTADIENE-STYRENE (ABS)
COP	COPPER
CPVC	CHLORINATED POLYVINYL CHLORIDE (CPVC)
PPR	POLYPROPYLENE
PVDF	POLYVINYLIDENE FLUORIDE (PVDF)
SS4	304L STAINLESS STEEL
SS6	316L STAINLESS STEEL

NOT ALL SYMBOLS MAY APPLY.

SYMBOL:	DESCRIPTION:
	COMPRESSED AIR
	DEIONIZED WATER
	INSTRUMENT AIR
	MEDICAL VACUUM
	NITROGEN
	NON-POTABLE COLD WATER
	NITROUS OXIDE
	OXYGEN
	PURE WATER
	TEMPERED WATER
	LAB VACUUM
	PIPE CONTINUATION
	PIPE CAP
	PIPE DOWN
	PIPE UP OR UP/DOWN
	PITCH PIPE IN DIRECTION
	DIRECTION OF FLOW IN PIPE
	DIELECTRIC CONNECTION
	UNION/FLANGE
	SHUTOFF VALVE NORMALLY OPEN
	SHUTOFF VALVE NORMALLY CLOSED
	BALANCING VALVE (NUMBER INDICATES GPM)
	CHECK VALVE
	SAFETY/RELIEF VALVE
	PRESSURE REDUCING VALVE (LIQUID/GAS)
	PUMP
	BACKFLOW PREVENTER
	SOLENOID VALVE
	VACUUM BREAKER
	PRESSURE GAUGE (FURNISHED WITH BALL VALVE)
	PRESSURE SENSOR (FURNISHED WITH BALL VALVE)
	METER

NAME ← LEVEL NAME
10'-0" ← HEIGHT ABOVE PROJECT 0'-0"

1 ← INDICATES NOTE USED TO DESCRIBE ADDITIONAL INFORMATION ABOUT WORK REQUIRED, SPECIFIC TO THE SHEET AND/OR DETAIL



LINE TYPE AND TAG KEY:

NEW WORK BY THIS CONTRACTOR (WIDE LINE)

- _____ NEW
 - - - - - EXISTING TO BE REMOVED (SHORT DASHED PATTERN)
 — — — — — NEW UNDERFLOOR OR UNDERGROUND (LONG DASHED PATTERN)

EXISTING TO REMAIN OR WORK BY OTHERS (NARROW LINE)

- _____ EXISTING
 - - - - - EXISTING TO BE REMOVED BY OTHERS (SHORT DASHED PATTERN)
 — — — — — EXISTING UNDERFLOOR OR UNDERGROUND (LONG DASHED PATTERN)

HALFTONING DOES NOT MODIFY SCOPE.

TAG UNDERLINED TAG INDICATES OBJECT IS IN-SCOPE. IF NEW, ADDITIONAL

INFORMATION IS AVAILABLE IN A SCHEDULE, MATERIAL LIST, OR SYMBOL LIST

ABBR:	DESCRIPTION:
-------	--------------

A.C.	ASBESTOS ABATEMENT CONTRACTOR
A/V.C.	AUDIO/VISUAL CONTRACTOR
C.C.	CIVIL CONTRACTOR
C.M.	CONSTRUCTION MANAGER
E.C.	ELECTRICAL CONTRACTOR
F.P.F.	FIRE PROTECTION CONTRACTOR
F.S.C.	FOOD SERVICE CONTRACTOR
G.C.	GENERAL CONTRACTOR
H.C.	HEATING CONTRACTOR
M.C.	MECHANICAL CONTRACTOR
N.C.C.	NURSE CALL CONTRACTOR
P.C.	PLUMBING CONTRACTOR
S.C.	SECURITY CONTRACTOR
T.C.	TECHNOLOGY CONTRACTOR
T.C.C.	TEMPERATURE CONTROLS CONTRACTOR
V.C.	VENTILATION CONTRACTOR

PP000	PROCESS PIPING COVERSHEET
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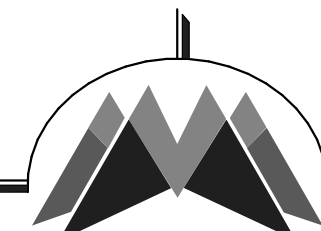
PP200	PROCESS PIPING FLOOR PLAN - DI WATER
PP201	PROCESS PIPING FLOOR PLAN - COMPRESSED GAS
PP400	PROCESS PIPING DETAILS
PP500	PROCESS PIPING FLOW DIAGRAM - ARGON
PP501	PROCESS PIPING FLOW DIAGRAM - CDA
PP502	PROCESS PIPING FLOW DIAGRAM - NITROGEN
PP503	PROCESS PIPING FLOW DIAGRAM - OXYGEN
PP504	PROCESS PIPING FLOW DIAGRAM - VACUUM
PP600	PROCESS PIPING SCHEDULE

GRAND TOTAL: 10

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Revision Schedule

Revision Number	Revision Date	Revision Description
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PROJECT NUMBER	DRAWN BY	PROJ MGR
Project Number	Author	Designer

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Lab/MEP22_22008948.00_NTU-Chinle-AZ-NTU
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Sheet Number

PP000

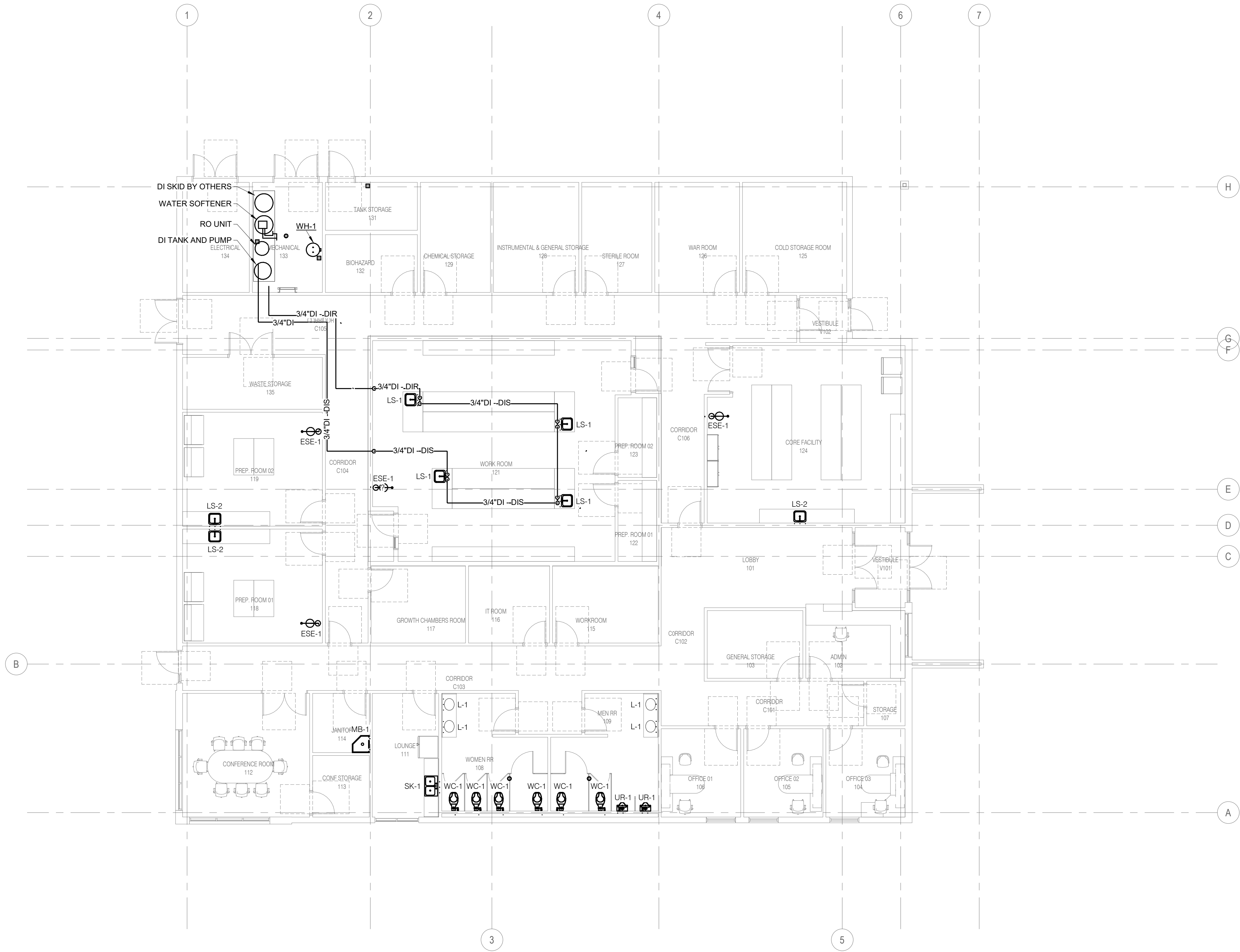
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PROCESS PIPING COVERSHEET

NTU ENVIRONMENTAL
LAB CHINLE

CHINLE, APACHE COUNTY, AZ

SCHEMATIC DESIGN
DECEMBER 2, 2022

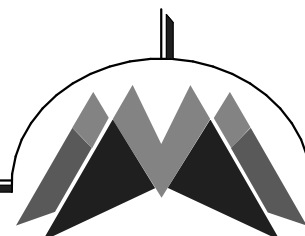


 **1** **PROCESS PIPING FLOOR PLAN - DI WATER**
1/8" = 1'-0"

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Sheet Title
Sheet Number

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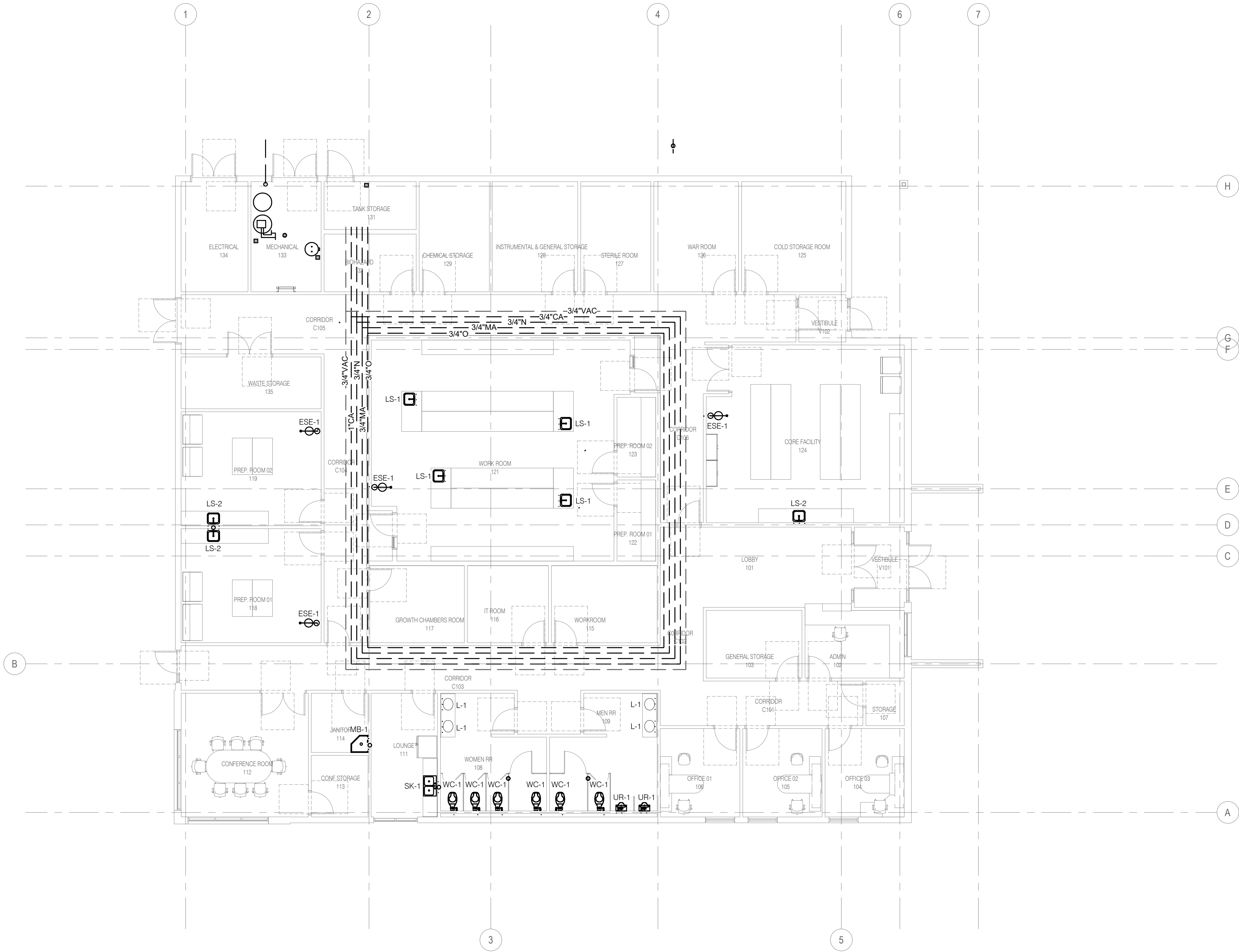
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PROCESS PIPING FLOOR
PLAN - DI WATER

NTU ENVIRONMENTAL
LAB CHINLE

CHINLE, APACHE COUNTY, AZ

SCHEMATIC DESIGN
DECEMBER 2, 2022



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PROCESS PIPING FLOOR PLAN - COMPRESSED GAS

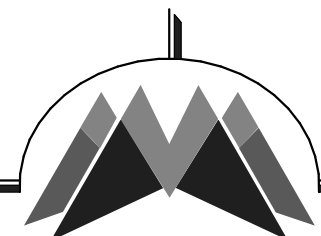
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PP201

Sequence of

PROCESS PIPING FLOOR
PLAN - COMPRESSED GAS

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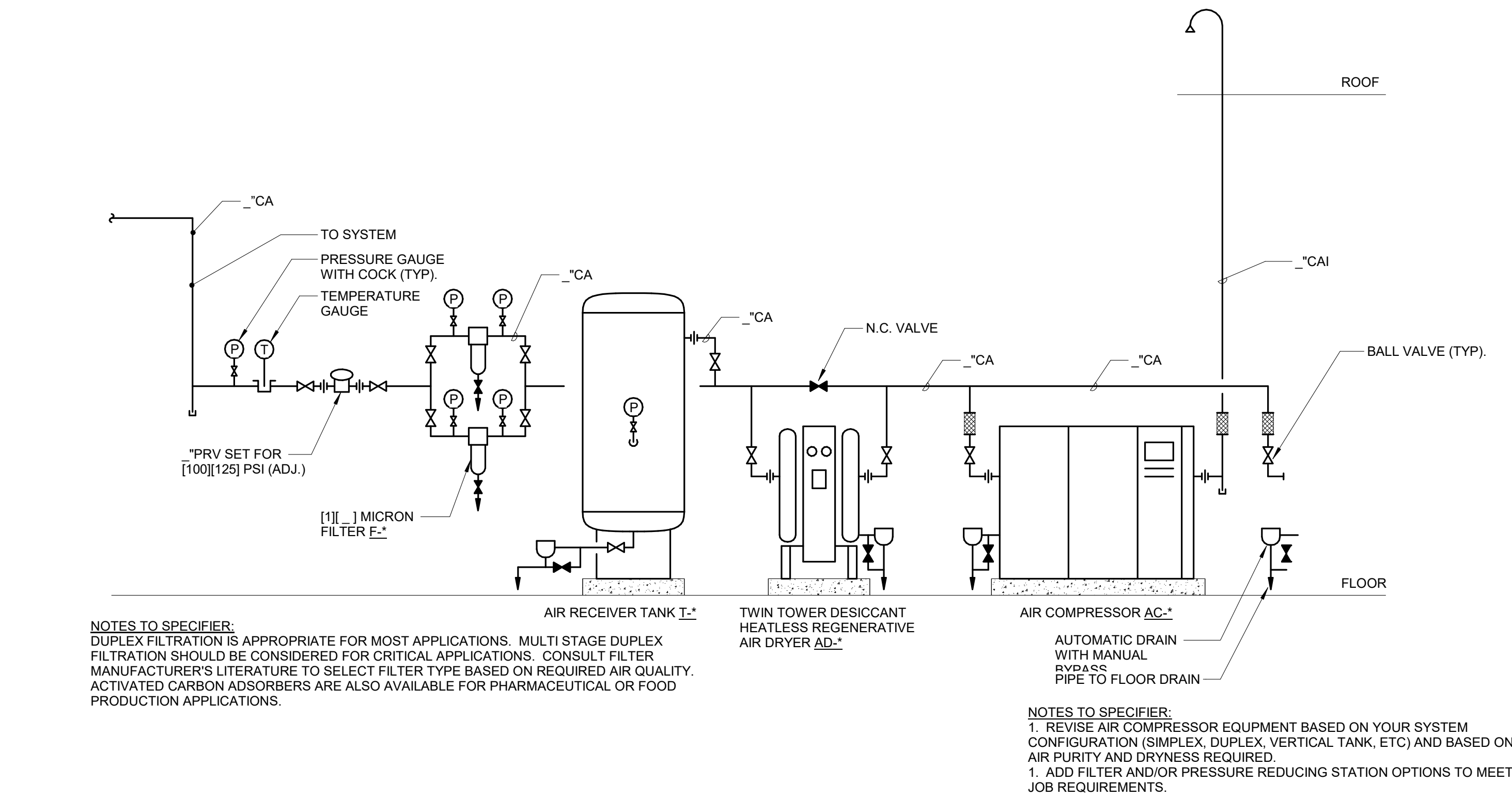
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1 COMPRESSED AIR FLOW DIAGRAM
NO SCALE

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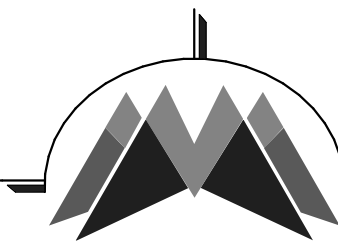
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Sheet Title

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Sequence of

PROCESS PIPING DETAILS

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PIPING CONTINUED, SEE
SHEET PP201

PRESSURE
REGULATOR


ARGON GAS CYLINDER

1 ARGON PIPING FLOW DIAGRAM
NO SCALE

NTU ENVIRONMENTAL
LAB CHINLE

CHINLE, APACHE COUNTY, AZ

SCHEMATIC DESIGN
DECEMBER 2, 2022



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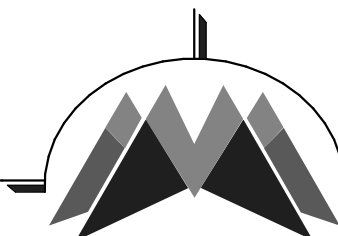
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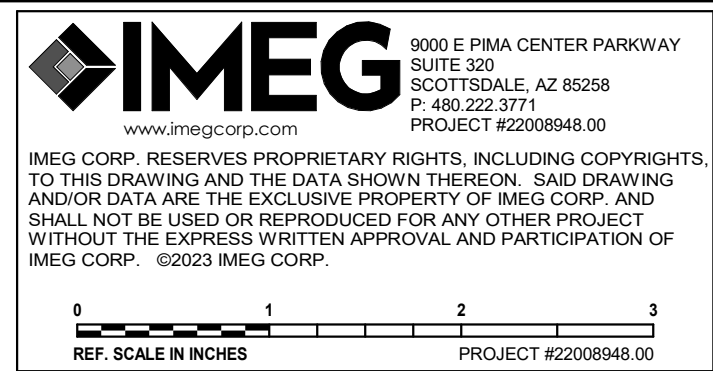
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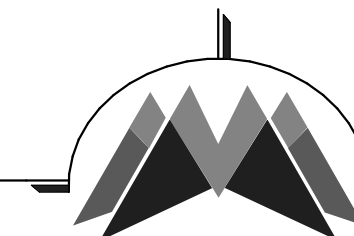
PROCESS PIPING FLOW
DIAGRAM - ARGON



1 CDA PIPING FLOW DIAGRAM



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Sheet Title

PROCESS PIPING FLOW DIAGRAM - CDA

PP501

Sequence

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PIPING CONTINUED, SEE
SHEET PP201

PRESSURE
REGULATOR


NITROGEN GAS
CYLINDER

1 **NITROGEN PIPING FLOW DIAGRAM**
NO SCALE

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CHINLE, APACHE COUNTY, AZ

SCHEMATIC DESIGN
DECEMBER 2, 2022



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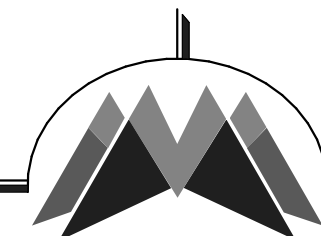
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PROJECT #22008948.00

DYRON MURPHY ARCHITECTS, P.C.



4505 Montbel Place NE, Albuquerque, New Mexico 87107

NOT FOR
CONSTRUCTION

ARCHITECT

Revision Schedule		
Revision Number	Revision Date	Revision Description

PROJECT NUMBER	DRAWN BY	PROJ MGR
Project Number	Author	Designer
RVT FILE Autodesk Docs/NTU-Chinle-AZ-NTU Environmental Lab/PP522_22008948.00_NTU-Chinle-AZ-NTU Environmental Lab_C.rvt		

Sheet Title

PP502

Sequence of

PROCESS PIPING FLOW
DIAGRAM - NITROGEN

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Autodesk Docs/NTU-Chinle-AZ-NTU Environmental Lab/PP503_220808.dwg, NTU-Chinle-AZ-NTU Environmental Lab, C.rvt
DYRON MURPHY ARCHITECTS, P.C.

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C

B

A

6

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PIPING CONTINUED, SEE
SHEET PP201

PRESSURE
REGULATOR

OXYGEN GAS CYLINDER


1 **OXYGEN PIPING FLOW DIAGRAM**
NO SCALE

NTU ENVIRONMENTAL
LAB CHINLE

CHINLE, APACHE COUNTY, AZ

SCHEMATIC DESIGN

DECEMBER 2, 2022



www.imegcorp.com

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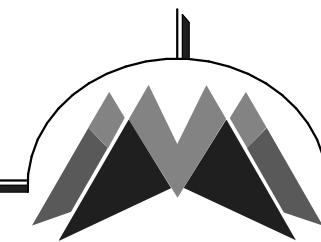
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REF. SCALE IN INCHES

PROJECT #220808.dwg

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
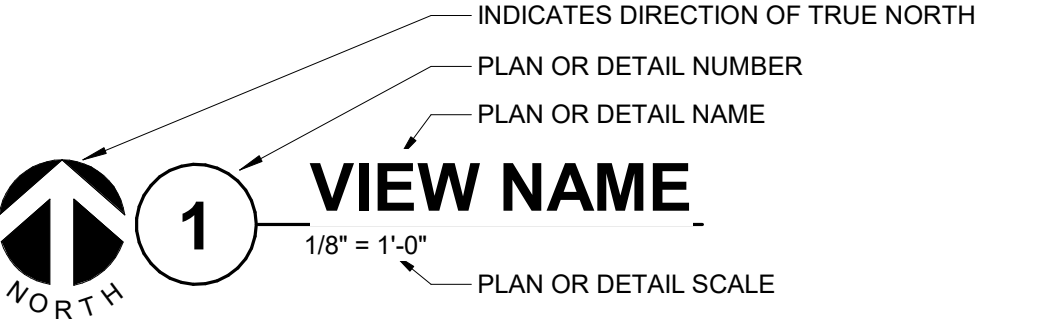
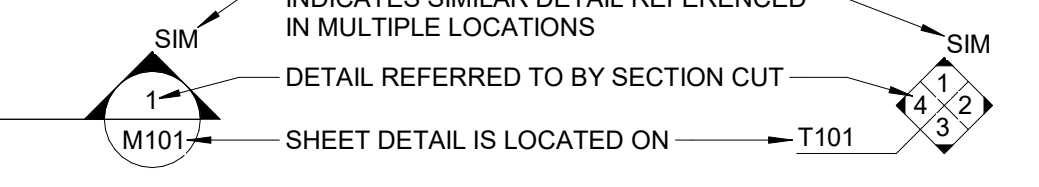

PROJECT NUMBER	DRAWN BY	PROJ MGR
Project Number	Author	Designer
RVT FILE Autodesk Docs/NTU-Chinle-AZ-NTU Environmental Lab/PP503_220808.dwg, NTU-Chinle-AZ-NTU Environmental Lab, C.rvt		

Sheet Title

PP503

Sequence of

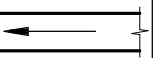

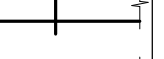
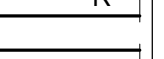
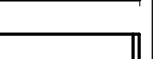






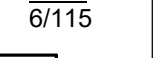
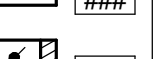


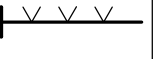
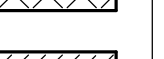



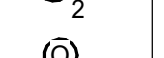
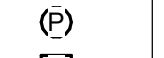





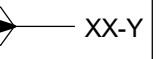
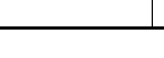
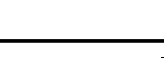


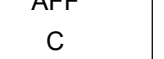
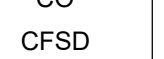
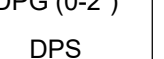
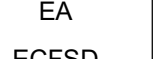
PROCESS PIPING FLOW
DIAGRAM - OXYGEN

VIEW KEY		
 NAME 10'-0"	 LEVEL NAME HEIGHT ABOVE PROJECT 0'-0"	 INDICATES NOTE USED TO DESCRIBE ADDITIONAL INFORMATION ABOUT WORK REQUIRED, SPECIFIC TO THE SHEET AND/OR DETAIL
		
		
LINE TYPE AND TAG KEY: NEW WORK BY THIS CONTRACTOR (WIDE LINE) ----- NEW ----- EXISTING TO BE REMOVED (SHORT DASHED PATTERN) ----- NEW UNDERFLOOR OR UNDERGROUND (LONG DASHED PATTERN) EXISTING TO REMAIN OR WORK BY OTHERS (NARROW LINE) ----- EXISTING ----- EXISTING TO BE REMOVED BY OTHERS (SHORT DASHED PATTERN) ----- EXISTING UNDERFLOOR OR UNDERGROUND (LONG DASHED PATTERN) HALFTONING DOES NOT MODIFY SCOPE. TAG-E TAGS WITH DASH 'E' INDICATES THE REFERENCED OBJECT IS EXISTING TAG UNDERLINED TAG INDICATES OBJECT IS IN-SCOPE. IF NEW, ADDITIONAL INFORMATION IS AVAILABLE IN A SCHEDULE, MATERIAL LIST, OR SYMBOL LIST  INDICATES AN EXISTING SYSTEM'S POINT OF CONNECTION/REMOVAL		

FIRE / SMOKE BARRIER DESIGNATIONS	
THE LINE TYPES SHOWN ARE FOR THE CONVENIENCE OF THE CONTRACTOR. THE CONTRACTOR SHALL VERIFY RATINGS WITH THE LATEST SET OF ARCHITECTURAL PLANS AND FURNISH ALL MATERIALS REQUIRED TO COMPLY WITH THOSE RATINGS WHETHER SHOWN OR NOT. ALL FLOOR, FLOOR CEILING, AND ROOF CEILING ASSEMBLIES SHALL BE DESIGNATED AS [1], [2], [3], [4] HOUR FIRE (SMOKE) BARRIER(S), UNLESS NOTED OTHERWISE ON THE PLANS. RATINGS WERE ACQUIRED FROM THE ARCHITECTURAL PLANS DATED [11/17/21]. NTD: COORDINATE WITH ARCHITECT	
FIRE PARTITION	-----
1 HOUR FIRE BARRIER	-----
2 HOUR FIRE BARRIER OR WALL	-----
3 HOUR FIRE BARRIER OR WALL	-----
4 HOUR FIRE BARRIER OR WALL	-----
SMOKE PARTITION	-----
SMOKE BARRIER	-----
1 HOUR FIRE/SMOKE BARRIER OR SHAFT ENCLOSURE	-----
2 HOUR FIRE/SMOKE BARRIER OR SHAFT ENCLOSURE	-----
3 HOUR FIRE/SMOKE BARRIER	-----
4 HOUR FIRE/SMOKE BARRIER	-----

ABBR:	DESCRIPTION:
A.C.	ASBESTOS ABATEMENT CONTRACTOR
A.V.C.	AUDIO/VISUAL CONTRACTOR
C.C.	CIVIL CONTRACTOR
C.M.	CONSTRUCTION MANAGER
E.C.	ELECTRICAL CONTRACTOR
F.P.C.	FIRE PROTECTION CONTRACTOR
F.S.C.	FOOD SERVICE CONTRACTOR
G.C.	GENERAL CONTRACTOR
H.C.	HEATING CONTRACTOR
M.C.	MECHANICAL CONTRACTOR
N.C.C.	NURSE CALL CONTRACTOR
P.C.	PLUMBING CONTRACTOR
S.C.	SECURITY CONTRACTOR
T.C.	TECHNOLOGY CONTRACTOR
T.C.C.	TEMPERATURE CONTROLS CONTRACTOR
V.C.	VENTILATION CONTRACTOR

MECHANICAL SYMBOL LIST	
NOT ALL SYMBOLS MAY APPLY.	
SYMBOL:	DESCRIPTION:
BD	BOILER BLOW DOWN
BF	BOILER FEED WATER
CA	COMPRESSED AIR
CBR	CHILLED BEAM RETURN
CBS	CHILLED BEAM SUPPLY
CR	CONDENSER WATER RETURN
CS	CONDENSER WATER SUPPLY
CWR	CHILLED WATER RETURN
CWS	CHILLED WATER SUPPLY
DPP	DRAIN
FOR	FUEL OIL RETURN
FOS	FUEL OIL SUPPLY
G	NATURAL GAS
GV	GAS REGULATOR VENT
GWR	GLYCOL WATER RETURN
GWS	GLYCOL WATER SUPPLY
HCR	HEATING/CHILLED WATER RETURN
HCS	HIGH PRESSURE CLEAN STEAM (>125 TO 250 PSIG) [N.T.S. MIDDY STEAM PRESSURE RANGES TO THE PROJECT'S SPECIFIC PRESSURES OR PRESSURE RANGES]
HG	REFRIGERANT HOT GAS
HPC	HIGH PRESSURE CONDENSATE (>125 TO 250 PSIG) [N.T.S. MIDDY STEAM PRESSURE RANGES TO THE PROJECT'S SPECIFIC PRESSURES OR PRESSURE RANGES]
HPS	HIGH PRESSURE STEAM (>125 TO 250 PSIG)
HWR	HEATING WATER RETURN
HWS	HEATING WATER SUPPLY
LCS	LOW PRESSURE CLEAN STEAM (0 TO 15 PSIG) [N.T.S. MIDDY STEAM PRESSURE RANGES TO THE PROJECT'S SPECIFIC PRESSURES OR PRESSURE RANGES]
LQ	REFRIGERANT LIQUID
LPC	LOW PRESSURE CONDENSATE (0 TO 15 PSIG) [N.T.S. MIDDY STEAM PRESSURE RANGES TO THE PROJECT'S SPECIFIC PRESSURES OR PRESSURE RANGES]
LPS	LOW PRESSURE STEAM (0 TO 15 PSIG)
LWR	LOOP WATER RETURN
LWS	LOOP WATER SUPPLY
MCS	MEDIUM PRESSURE CLEAN STEAM (>15 TO 125 PSIG) [N.T.S. MIDDY STEAM PRESSURE RANGES TO THE PROJECT'S SPECIFIC PRESSURES OR PRESSURE RANGES]
MPC	MEDIUM PRESSURE CONDENSATE (>15 TO 125 PSIG)
MPS	MEDIUM PRESSURE STEAM (>15 TO 125 PSIG)
MV	MEDICAL VACUUM
PC	PUMPED CONDENSATE
PD	PUMPED DISCHARGE
RCR	RADIANT COOLING RETURN
RCS	RADIANT COOLING SUPPLY
REF	REFRIGERANT
RWR	REHEAT WATER RETURN
RWS	REHEAT WATER SUPPLY
SUC	REFRIGERANT SUCTION
SV	SAFETY RELIEF VENT
VAC	LAB VACUUM
PIPE CAP	PIPE CAP
PIPE DOWN	PIPE DOWN
PIPE UP OR UP/DOWN	PIPE UP OR UP/DOWN
PITCH PIPE IN DIRECTION	PITCH PIPE IN DIRECTION
DIRECTION OF FLOW IN PIPE	DIRECTION OF FLOW IN PIPE
DIELECTRIC CONNECTION	DIELECTRIC CONNECTION
UNION/FLANGE	UNION/FLANGE
SHUTOFF VALVE NORMALLY OPEN	SHUTOFF VALVE NORMALLY OPEN
SHUTOFF VALVE NORMALLY CLOSED	SHUTOFF VALVE NORMALLY CLOSED
THROTTLING VALVE	THROTTLING VALVE
BALANCING VALVE (NUMBER INDICATES GPM)	BALANCING VALVE (NUMBER INDICATES GPM)
AUTOMATIC BALANCING VALVE	AUTOMATIC BALANCING VALVE
MIXING VALVE	MIXING VALVE
CONTROL VALVE (THREE-WAY)	CONTROL VALVE (THREE-WAY)
CONTROL VALVE (TWO-WAY)	CONTROL VALVE (TWO-WAY)
SOLENOID VALVE	SOLENOID VALVE
CHECK VALVE	CHECK VALVE
BACKFLOW PREVENTER	BACKFLOW PREVENTER
SAFETY/RELIEF VALVE	SAFETY/RELIEF VALVE
PRESSURE REDUCING VALVE (LIQUID/GAS)	PRESSURE REDUCING VALVE (LIQUID/GAS)
PRESSURE REDUCING VALVE (STEAM)	PRESSURE REDUCING VALVE (STEAM)
TRIPLE DUTY VALVE (ANGLE TYPE)	TRIPLE DUTY VALVE (ANGLE TYPE)
TRIPLE DUTY VALVE (IN-LINE TYPE)	TRIPLE DUTY VALVE (IN-LINE TYPE)
PUMP	PUMP
VACUUM BREAKER	VACUUM BREAKER
"WYE" - STRAINER	"WYE" - STRAINER
"WYE" - STRAINER W/SHUTOFF VALVE AND HOSE CONNECTION WITH CAP	"WYE" - STRAINER W/SHUTOFF VALVE AND HOSE CONNECTION WITH CAP
BASKET STRAINER	BASKET STRAINER
FLEXIBLE CONNECTION	FLEXIBLE CONNECTION
PRESSURE/TEMPERATURE TEST PLUG	PRESSURE/TEMPERATURE TEST PLUG
REDUCER - REFERENCE SPECIFICATION FOR CONCENTRIC/ECCENTRIC AND FOT/FOB	REDUCER - REFERENCE SPECIFICATION FOR CONCENTRIC/ECCENTRIC AND FOT/FOB
SUCTION DIFFUSER WITH SUPPORT FOOT	SUCTION DIFFUSER WITH SUPPORT FOOT
AUTOMATIC AIR VENT	AUTOMATIC AIR VENT
MANUAL AIR VENT	MANUAL AIR VENT
DRAIN VALVE WITH HOSE CONNECTION AND CAP	DRAIN VALVE WITH HOSE CONNECTION AND CAP
PRESSURE SENSOR (FURNISHED WITH BALL VALVE)	PRESSURE SENSOR (FURNISHED WITH BALL VALVE)
PRESSURE GAUGE (FURNISHED WITH BALL VALVE)	PRESSURE GAUGE (FURNISHED WITH BALL VALVE)
DIFFERENTIAL PRESSURE SENSOR	DIFFERENTIAL PRESSURE SENSOR
STATIC SWITCH	STATIC SWITCH
FLOW METER	FLOW METER
FLOW SWITCH	FLOW SWITCH
FLOW SENSOR	FLOW SENSOR
STEAM TRAP (REFER TO SCHEDULE)	STEAM TRAP (REFER TO SCHEDULE)
F&T STEAM TRAP (REFER TO SCHEDULE)	F&T STEAM TRAP (REFER TO SCHEDULE)
INVERTED BUCKET STEAM TRAP (REFER TO SCHEDULE)	INVERTED BUCKET STEAM TRAP (REFER TO SCHEDULE)
ALIGNMENT GUIDE	ALIGNMENT GUIDE
PIPE ANCHOR	PIPE ANCHOR
EXPANSION JOINT #.#" IS THE EXPANSION TRAVEL INCHES	EXPANSION JOINT #.#" IS THE EXPANSION TRAVEL INCHES
METER	METER

MECHANICAL SYMBOL LIST	
NOT ALL SYMBOLS MAY APPLY.	
SYMBOL:	DESCRIPTION:
	DIRECTION OF AIR FLOW
	FLEXIBLE DUCT
	MANUAL VOLUME DAMPER
	RISE IN DIRECTION OF AIR FLOW
	DROP IN DIRECTION OF AIR FLOW
	DUCT CAP
	DUCT DOWN
	DUCT UP
	SUPPLY/OUTSIDE AIR DUCT SECTION
	RETURN AIR DUCT SECTION
	EXHAUST/RELIEF AIR DUCT SECTION
	4-WAY DIFFUSER WITH BLANKOFF IN ONE DIRECTION
	AIR TERMINAL PROPERTIES <u>SYMBOL</u> NECK SIZE/CFM
	TERMINAL AIR BOX (REFER TO SCHEDULE)
	TERMINAL AIR BOX w/REHEAT COIL (REFER TO SCHEDULE)
	FAN POWERED TERMINAL AIR BOX w/REHEAT COIL (REFER TO SCHEDULE)
	HUMIDIFIER
	OPPOSED BLADE DAMPER (REFER TO SCHEDULE)
	PARALLEL BLADE DAMPER (REFER TO SCHEDULE)
	DIFFERENTIAL PRESSURE SENSOR
	HUMIDISTAT SENSOR
	HUMIDISTAT / SENSOR
	CARBON MONOXIDE SENSOR
	CARBON DIOXIDE SENSOR
	OCCUPANCY SENSOR
	PRESSURE SENSOR/MONITOR
	PRESSURE SENSOR (DUCT MOUNTED)
	THERMOSTAT/SENSOR
	TEMPERATURE SENSOR
	THERMOSTAT/SENSOR WITH HEAVY DUTY ENCLOSURE
	TEMPERATURE SENSOR WITH WELL
	THERMOMETER WITH WELL (DIAL TYPE)
	THERMOMETER WITH WELL (FILLED TYPE)
	AIRFLOW MEASUREMENT SYMBOL
	XX - AHU SYMBOL
	Y - SEQUENTIAL NUMBER

MECHANICAL ABBREVIATION KEY	
ABBR:	DESCRIPTION:
AD	ACCESS DOOR
AFF	ABOVE FINISHED FLOOR COMMON
CO	CLEANOUT
CFSD	CONTROL/FIRE/SMOKE DAMPER
DPG (0-2")	DIFFERENTIAL PRESSURE GAUGE (RANGE)
DPS	DIFFERENTIAL PRESSURE SWITCH
EA	EXHAUST/RELIEF AIR
ECFSD	EXISTING CONTROL FIRE SMOKE DAMPER
EFD	EXISTING FIRE DAMPER
EFSD	EXISTING FIRE SMOKE DAMPER
EP	ELECTRICAL TO PNEUMATIC VALVE
ESD	EXISTING SMOKE DAMPER
FD	FIRE DAMPER
FOB	FLAT ON BOTTOM
FOT	FLAT ON TOP
FSD	FIRE/SMOKE DAMPER
MA	MIXED AIR
MV	MIXING VALVE
N.C.	NORMALLY CLOSED
NIC	NOT IN CONTRACT
N.O.	NORMALLY OPEN
OA	OUTSIDE AIR
PS	PRESSURE SWITCH
RA	RETURN AIR
SA	SUPPLY AIR
SCCR	SHORT CIRCUIT CURRENT RATING
SD	SMOKE DAMPER
TAB	TERMINAL AIR BOX
TD	TRANSFER DUCT
TYP	TYPICAL
UC-1	DOOR UNDERCUT BY OTHERS (1" TYPICAL)
UON	UNLESS OTHERWISE NOTES

PIPING GENERAL NOTES:	
1.	THE SIZE OF BRANCH PIPING TO TERMINAL HEATING DEVICES AND COILS SHALL BE 3/4" UNLESS NOTED OTHERWISE.
2.	PIPE DRAIN LINES FROM EQUIPMENT TO NEAREST FLOOR DRAIN.
3.	INSTALL ALL REFRIGERANT LIQUID AND SUCTION PIPING SIZED PER EQUIPMENT MANUFACTURER RECOMMENDATIONS.

VENTILATION GENERAL NOTES:	
1.	UNLESS NOTED OTHERWISE, THE SIZE OF EACH BRANCH DUCT TO A TERMINAL AIR BOX (TAB) SHALL MATCH THE INLET SIZE UNLESS THE BRANCH IS GREATER THAN 8FEET IN LENGTH, IN WHICH CASE THE BRANCH DUCT SHALL BE SIZED AT A PRESSURE DROP OF 0.07"W.C. PER 100' OF DUCTWORK.
2.	UNLESS NOTED OTHERWISE, THE SIZE OF EACH BRANCH DUCT TO AN AIR TERMINAL SHALL MATCH THE INLET SIZE.
3.	ALIGN TEMPERATURE SENSORS WITH LIGHT SWITCHES AND WHEN IN CLOSE PROXIMITY TO EACH OTHER.
4.	PROVIDE ACCESS DOORS AT ALL DUCT MOUNTED EQUIPMENT.
5.	EXISTING AIR INLET AND OUTLET CFM SHOWN ON DRAWINGS ARE FROM EXISTING DRAWINGS, AND ARE FOR REFERENCE ONLY. CONTRACTOR SHALL USE PRE-BALANCE VALUES, AND NOT EXISTING CFM SHOWN ON DRAWINGS.
6.	CONTRACTOR MAY REUSE PORTIONS OF EXISTING DUCT PROVIDED SIZES AND PRESSURE CLASSES ARE CORRECT; DUCT IS THOROUGHLY CLEANED AND FREE OF DEFECTS; AND ALL TRANSVERSE JOINTS, LONGITUDINAL SEAMS, AND DUCT WALL PENETRATIONS ARE SEALED AS SPECIFIED FOR NEW DUCTWORK.

MECHANICAL GENERAL NOTES:	
THESE NOTES APPLY TO ALL MECHANICAL SHEETS AND TRADES, INCLUDING BUT NOT LIMITED TO, FIRE PROTECTION, PLUMBING, MEDICAL GAS, VENTILATION, PIPING AND TEMPERATURE CONTROL.	
1.	DRAWINGS SHOWING LOCATIONS OF EQUIPMENT, DUCTWORK, PIPING, ETC., ARE DIAGRAMMATIC AND MAY NOT ALWAYS REFLECT EXACT INSTALLATION CONDITIONS. DRAWINGS SHOW THE GENERAL ARRANGEMENT OF DUCTWORK, PIPING, EQUIPMENT, ETC., AND MAY NOT INCLUDE ALL OFFSETS AND FITTINGS REQUIRED FOR COMPLETE INSTALLATION. THE DRAWINGS SHALL BE FOLLOWED AS CLOSELY AS ACTUAL BUILDING CONSTRUCTION AND THE WORK OF OTHERS WILL PERMIT.
2.	DO NOT SCALE DRAWINGS. VERIFY ALL DIMENSIONS AND CLEARANCES FROM ARCHITECTURAL, STRUCTURAL, SUBMITTALS, AND OTHER APPROPRIATE DRAWINGS OR PHYSICALLY AT SITE. REVIEW ALL DRAWINGS, INCLUDING THOSE OF OTHER TRADES.
3.	COORDINATE ALL WORK WITH ALL OTHER TRADES PRIOR TO INSTALLATION TO PROVIDE CLEARANCES REQUIRED FOR OPERATION, MAINTENANCE, CODE COMPLIANCE, AND TO VERIFY NON-INTERFERENCE WITH OTHER WORK. DO NOT FABRICATE PRIOR TO VERIFICATION OF NECESSARY CLEARANCES FOR ALL TRADES. BRING ANY INTERFERENCES OR CONFLICTS TO THE ATTENTION OF THE ARCHITECT/ENGINEER BEFORE PROCEEDING WITH FABRICATION OR EQUIPMENT ORDERS.
4.	REVIEW SPACE REQUIREMENTS OF EQUIPMENT SPECIFIED OR SUBSTITUTED AND MAKE REASONABLE ACCOMMODATIONS IN LAYOUT AND POSITIONING TO PROVIDE PROPER ACCESS.
5.	ANY CHANGES REQUIRED TO ELIMINATE CONFLICTS OR THAT RESULT FROM A FAILURE TO COORDINATE SHALL BE MADE BY THE CONTRACTOR WITHOUT ADDITIONAL COST OR EXPENSE TO OTHERS.
6.	EACH CONTRACTOR IS RESPONSIBLE FOR ALL COSTS ASSOCIATED WITH ELECTRICAL CHANGES REQUIRED FOR EQUIPMENT PROPOSED THAT DIFFERS FROM THE BASIS OF DESIGN.
7.	REFER TO ARCHITECTURAL REFLECTED CEILING PLAN, ELECTRICAL, TECHNOLOGY AUDIO/VISUAL, AND OTHER MECHANICAL PLANS FOR EXACT LOCATIONS OF ALL CEILING MOUNTED DEVICES, OTHER THAN SPRINKLERS.
8.	EACH CONTRACTOR IS RESPONSIBLE FOR DAMAGE CAUSED BY THEIR ACTIONS TO WALLS, FLOORS, CEILINGS, AND ROOFS. THE CONTRACTOR WHOSE WORK CAUSES DAMAGE IS RESPONSIBLE FOR PATCHING TO MATCH ORIGINAL CONSTRUCTION, FIRE RATING, AND FINISH.
9.	IN AREAS WITH DRYWALL CEILINGS COORDINATE LOCATIONS OF ACCESS PANELS WITH THE GC FOR ACCESS TO VALVES, DUCTWORK ACCESSORIES, DAMPERS, ETC. COORDINATE PANEL TYPE AND COLOR WITH ARCHITECT. NOTIFY THE GC OF THE REQUIRED ACCESS PANELS PRIOR TO BIDDING.
10.	SEAL ALL FLOOR, WALL, AND ROOF PENETRATIONS AIRTIGHT WHERE CONDUITS, PIPING, AND DUCTS PENETRATE. PENETRATIONS THROUGH EXTERIOR WALLS AND ROOF SHALL BE SEALED AIRTIGHT WITH WATERPROOFING MATERIALS RECOMMENDED BY MANUFACTURER FOR OUTDOOR USE.
11.	CAULK ALL PIPE AND DUCT PENETRATIONS OF FULL HEIGHT NON-FIRE RATED WALL, PARTITION, FLOOR, AND ROOF ASSEMBLIES. THIS IS ESSENTIAL TO PREVENT NOISE TRANSMISSION FROM ONE ROOM TO ANOTHER AND TO PROVIDE THE DESIRED NC LEVELS WITHIN ROOMS.
12.	WHERE PIPES AND DUCTS ARE SHOWN TO PENETRATE FLOORS, PROVIDE SLEEVED OPENINGS WITH THE TOP EDGE RAISED ABOVE FLOOR SURFACE IN ACCORDANCE WITH ALL RELEVANT SPEC SECTIONS. SEAL SLEEVE PERIMETER TO BE WATERTIGHT.
13.	EQUIPMENT SIZES AND SERVICE CLEARANCE REQUIREMENTS VARY AMONG DIFFERENT MANUFACTURERS. CONSULT APPROVED SHOP DRAWINGS FOR EQUIPMENT SIZES AND REQUIRED SERVICE CLEARANCES. COORDINATE WITH LAYOUT OF EQUIPMENT PADS, PIPING, DUCTWORK, ETC.
14.	DO NOT BLOCK TUBE PULL OR EQUIPMENT SERVICE CLEARANCES.
15.	MAINTAIN A MINIMUM WORKING CLEARANCE OF 3'-0" IN FRONT OF ALL ELECTRICAL EQUIPMENT REQUIRING MAINTENANCE, INSPECTION, AND TESTING INCLUDING BUT NOT LIMITED TO PANELS, DISTRIBUTION PANELS, SWITCHBOARDS, MOTOR CONTROL CENTERS, TRANSFORMERS, EQUIPMENT DISCONNECTS AND STARTERS.
16.	MAINTAIN THE DEDICATED ELECTRICAL EQUIPMENT SPACE DEFINED BY THE WIDTH / DEPTH OF ELECTRICAL EQUIPMENT MEASURED FROM THE FLOOR TO A HEIGHT 6'-0" ABOVE THE EQUIPMENT OR THE STRUCTURAL CEILING, WHICHEVER IS LOWER. SYSTEMS FOREIGN TO THE ELECTRICAL DISTRIBUTION SYSTEM ARE NOT ALLOWED IN THE DEDICATED ELECTRICAL SPACE INCLUDING: DUCTWORK, PIPING, ETC.
17.	PROVIDE CONCRETE EQUIPMENT PAD FOR ALL FLOOR MOUNTED EQUIPMENT. PAD SHALL EXTEND MINIMUM 6" BEYOND ALL SIDES OF EQUIPMENT.
18.	DO NOT SUPPORT EQUIPMENT, PIPING, OR DUCTWORK FROM METAL DECKING OR OTHER NON-STRUCTURAL BUILDING ELEMENTS. ANCHORS EMBEDDED IN CONCRETE SHALL BE CRACKED CONCRETE APPROVED IN ACCORDANCE WITH SPECIFICATIONS.

TAB POST-CONSTRUCTION NOTES:	
1.	AFTER CONSTRUCTION ACTIVITIES ARE COMPLETE, TESTING, ADJUSTING (TAB) AND BALANCING CONTRACTOR SHALL REBALANCE AIR HANDLING UNITS AND EXHAUST FANS AS REQUIRED TO ACHIEVE THE NEW AIRFLOW VALUES SHOWN ON THE CONSTRUCTION DRAWINGS.
2.	AREAS SERVED BY THIS EQUIPMENT WHICH WERE NOT RENOVATED SHALL BE RE-BALANCED TO THE AIRFLOW RATES MEASURED BEFORE THE RENOVATION OCCURRED (REFER TO THE FINAL PRE-DEMOLITION REPORT).
3.	IF DUCT TRAVERSE LOCATION AS MARKED ON THE DRAWINGS IS INACCESSIBLE FOR MEASUREMENT, THE TAB CONTRACTOR SHALL PERFORM THE TRAVERSE AT AN ALTERNATE LOCATION OR SHALL TAKE MULTIPLE DUCT TRAVERSES AND/OR GRILLE READINGS AS REQUIRED TO DETERMINE THE FLOW RATE. IN THE EVENT TRAVERSES ARE TAKEN AT AN ALTERNATE LOCATION(S), TAB CONTRACTOR SHALL INCLUDE A DRAWING THAT SHOWS THE LOCATIONS WHERE THE ACTUAL MEASUREMENTS WERE TAKEN.
4.	A DUCT STATIC PRESSURE READING SHALL BE TAKEN AT EACH LOCATION WHERE A DUCT TRAVERSE READING IS TAKEN AND SHALL BE INCLUDED IN THE FINAL POST-CONSTRUCTION TAB REPORT.
5.	TAB CONTRACTOR SHALL COMPILER AND SUBMIT COPIES OF THE FINAL POST-CONSTRUCTION TAB REPORT AS REQUIRED BY SECTION 23 05 93.
6.	THE FINAL POST CONSTRUCTION REPORT SHALL INCLUDE ALL ITEMS REQUIRED IN THE SPECIFICATIONS.

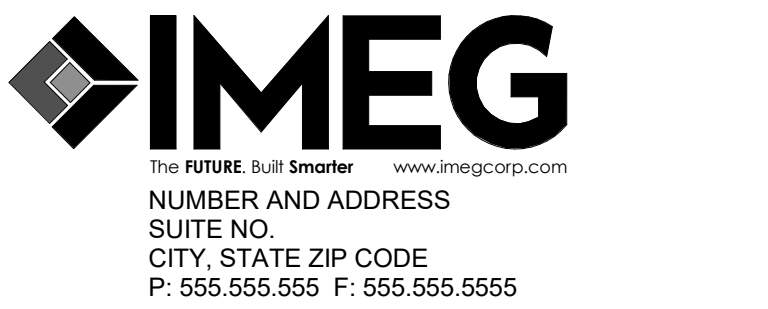
MECHANICAL DESIGN CONDITIONS:	
DESIGN CONDITIONS: BASED ON WEATHER DATA FOR: (CITY, STATE)	
SUMMER:	##°F DRY BULB, ##°F WET BULB
WINTER:	##°F DRY BULB, ##°F DRY BULB
WINTER:	(AIR SYSTEM'S OUTSIDE AIR STREAM) ##°F DRY BULB
TYPICAL ROOM SETPOINTS:	
SUMMER DESIGN:	##°F DRY BULB, ##% RELATIVE HUMIDITY (NO HUMIDITY REQUIREMENT)
WINTER DESIGN:	##°F DRY BULB, ##% RELATIVE HUMIDITY (NO HUMIDITY REQUIREMENT)
SUMMER SETBACK:	##°F DRY BULB, ##% RELATIVE HUMIDITY (NO HUMIDITY REQUIREMENT)
WINTER SETBACK:	##°F DRY BULB, ##% RELATIVE HUMIDITY (NO HUMIDITY REQUIREMENT)
REFER TO CONTROL DIAGRAMS FOR ROOM SPECIFICS.	

MECHANICAL SHEET INDEX	
M000	MECHANICAL COVERSHEET
M201	LEVEL 01 PLAN - VENTILATION
M201A	LEVEL 01 PLAN - VENTILATION - ZONE PLAN
M500	MECHANICAL DIAGRAMS
GRAND TOTAL: 4	

PLACE LOGO HERE IF APPLICABLE

NTU-Chinle-AZ-NTU Environmental Lab
Project Address

Client Name



PROFESSIONAL SEAL

CONSULTANT (MAY BE USED FOR ANY OTHER REQUIREMENT IF THERE IS NO CONSULTANT)

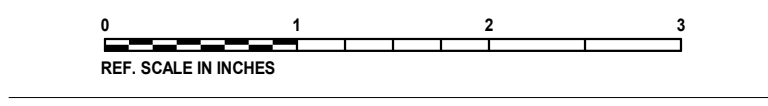
KEY PLAN

AGENCY APPROVAL

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No. Date Revision / Issue

SHEET INFORMATION	
Issue	Project Status
Date	Issue Date
Project #	Project Number
Drawn	Author
Checked	Checker
Approved	Approver

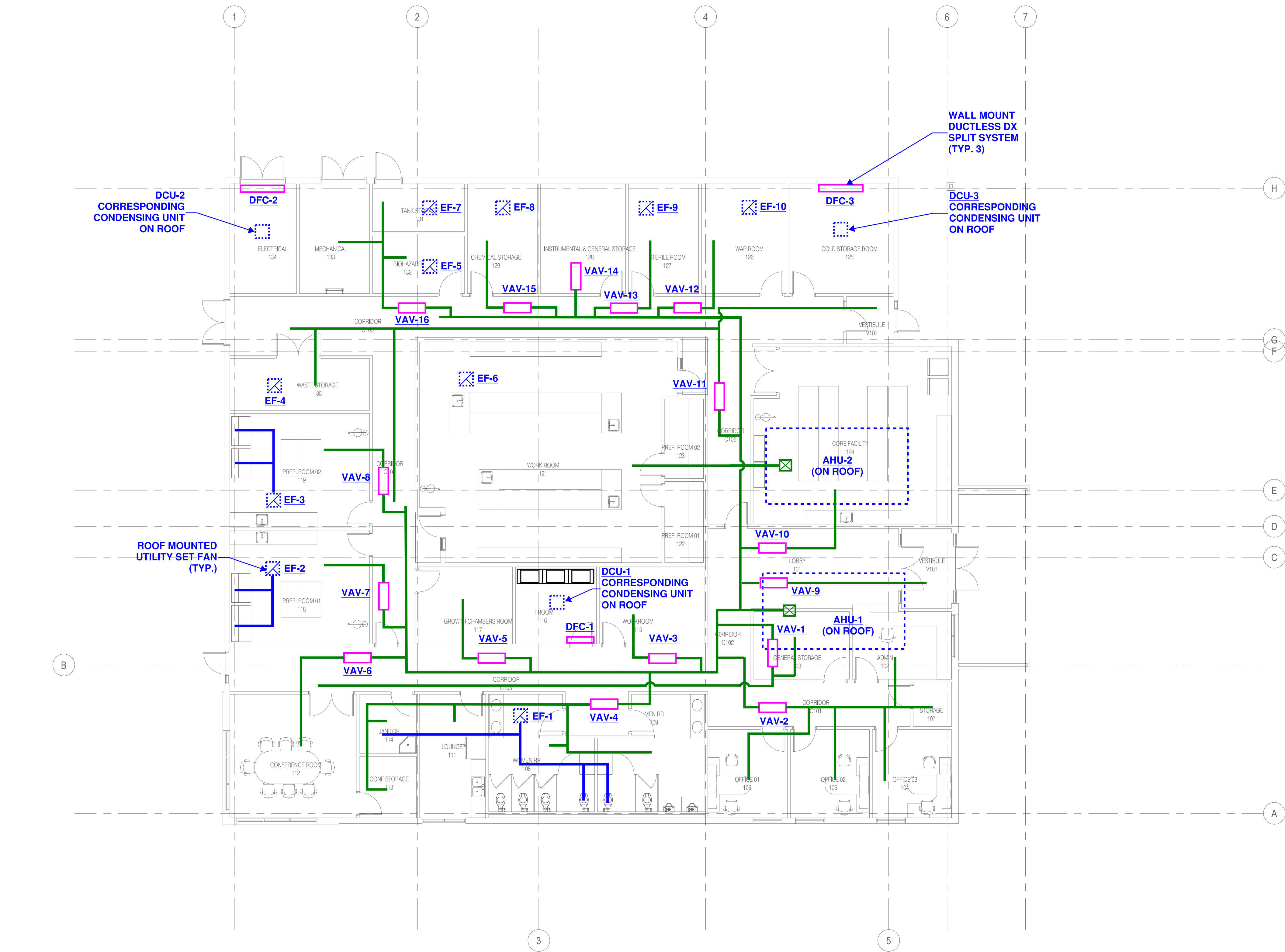
SHEET TITLE
MECHANICAL COVERSHEET

SCALE

Scale: As Indicated

SHEET NUMBER

M000



1 LEVEL 01 PLAN - VENTILATION
1/8" = 1'-0"

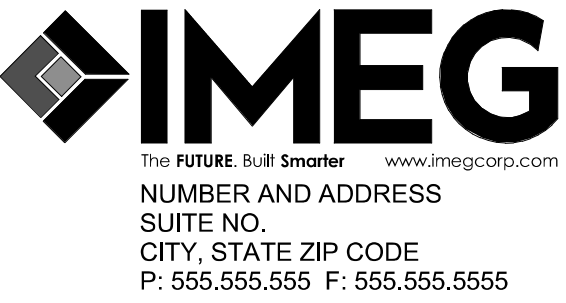
- SHEET NOTES:**
1. REMOTE VOLUME DAMPERS ARE REQUIRED FOR ALL DAMPERS INSTALLED ABOVE INACCESSIBLE CEILINGS.
 2. VERIFY LOCATION OF ALL THERMOSTATS WITH ARCHITECT PRIOR TO INSTALLATION. MOUNT ALL THERMOSTATS @8' A.F.F. IN ACCORDANCE WITH ADA STANDARDS. PROVIDE LOCKING COVERS WHERE REQUESTED (COORDINATE WITH OWNER).
 3. VERIFY AND COORDINATE FRAME AND BORDER TYPE REQUIREMENTS FOR AIR DEVICES WITH ARCHITECTURAL CEILING PLANS PRIOR TO ORDERING.
 4. DUCT SIZES SHOWN ARE THE CLEAR INSIDE DIMENSIONS.
 5. THE MECHANICAL CONTRACTOR SHALL VERIFY THE LOCATION OF ALL ROOF MOUNTED EQUIPMENT AND ROOF PENETRATIONS WITH ARCHITECT AND STRUCTURAL ENGINEER PRIOR TO COMMENCING WORK.
 6. THE MECHANICAL CONTRACTOR SHALL COORDINATE LOCATION AND ROUTING OF HVAC EQUIPMENT AND DUCTWORK WITH OTHER TRADES PRIOR TO COMMENCING WORK.
 7. ALL EXHAUST OUTLETS SHALL BE LOCATED MIN. OF 10'-0" FROM ANY OUTSIDE AIR INTAKES.
 8. THE CUTTING, NOTCHING AND BORING OF HOLES IN FLOOR JOIST AND WALL STUDS SHALL BE IN ACCORDANCE WITH THE LATEST APPROVED EDITION OF THE INTERNATIONAL BUILDING CODE.
 9. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CUTTING AND PATCHING AS REQUIRED TO ACCOMMODATE HIS WORK.
 10. REFER TO THE MECHANICAL DIAGRAMS THAT APPLY TO THE WORK ON THIS DRAWING. THESE DIAGRAMS PROVIDE GUIDANCE AS TO INSTALLATION INTENT AND DO NOT NECESSARILY SHOW ALL COMPONENTS REQUIRED.
 11. APPLIANCES SERVING DIFFERENT AREAS OF A BUILDING OTHER THAN WHERE THEY ARE INSTALLED SHALL BE PERMANENTLY MARKED IN AN APPROVED MANNER THAT UNIQUELY IDENTIFIES THE APPLIANCE AND THE AREA IT SERVES.
 12. PROVIDE 1" ACCOUSTICAL DUCT LINER FOR ALL TRANSFER AIR DUCT.
 13. ALL RECTANGULAR DUCT ELBOWS SHALL HAVE TURNING VANES.

- KEYNOTES:** (#)
1. .
 2. .
 3. .

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Environmental Lab
Project Address

Client Name



PROFESSIONAL SEAL

CONSULTANT
(MAY BE USED FOR ANY OTHER REQUIREMENT IF THERE IS NO CONSULTANT)

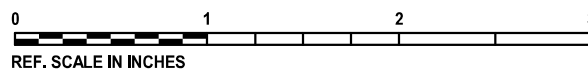
KEY PLAN

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REVISIONS		
No.	Date	Revision / Issue

SHEET INFORMATION	
Issue	Project Status
Date	Issue Date
Project #	Project Number
Drawn	Author
Checked	Checker
Approved	Approver

SHEET TITLE
LEVEL 01 PLAN - VENTILATION

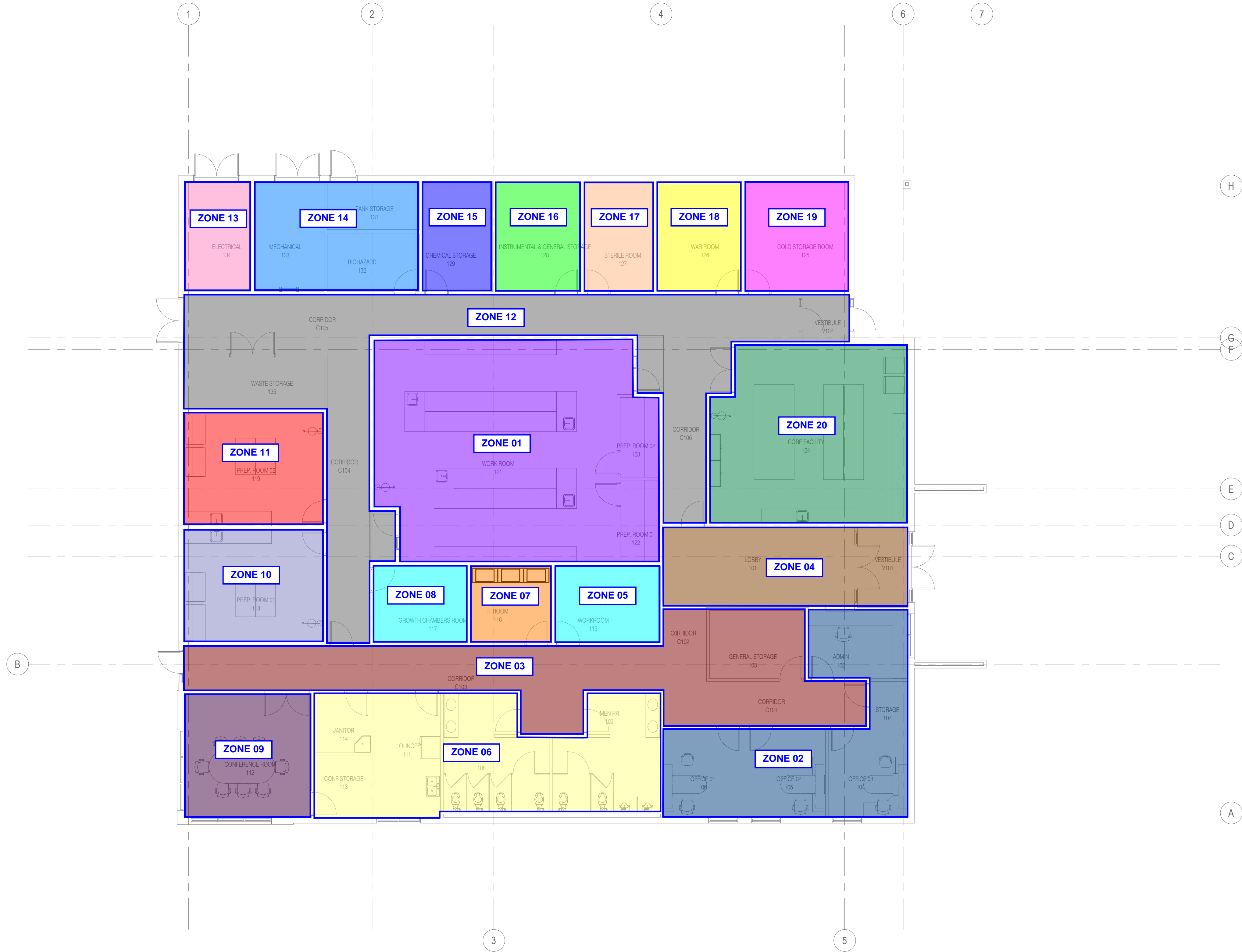
SCALE
Scale: 1/8" = 1'-0"

SHEET NUMBER

M201



1 LEVEL 01 PLAN - VENTILATION - ZONE PLAN
1/8" = 1'-0"



SHEET NOTES:

1. REMOTE VOLUME DAMPERS ARE REQUIRED FOR ALL DAMPERS INSTALLED ABOVE INACCESSIBLE CEILINGS.
2. VERIFY LOCATION OF ALL THERMOSTATS WITH ARCHITECT PRIOR TO INSTALLATION. MOUNT ALL THERMOSTATS @48" A.F.F. IN ACCORDANCE WITH ADA STANDARDS. PROVIDE LOCKING COVERS WHERE REQUESTED (COORDINATE WITH OWNER).
3. VERIFY AND COORDINATE FRAME AND BORDER TYPE REQUIREMENTS FOR AIR DEVICES WITH ARCHITECTURAL CEILING PLANS PRIOR TO ORDERING.
4. DUCT SIZES SHOWN ARE THE CLEAR INSIDE DIMENSIONS.
5. THE MECHANICAL CONTRACTOR SHALL VERIFY THE LOCATION OF ALL ROOF MOUNTED EQUIPMENT AND ROOF PENETRATIONS WITH ARCHITECT AND STRUCTURAL ENGINEER PRIOR TO COMMENCING WORK.
6. THE MECHANICAL CONTRACTOR SHALL COORDINATE LOCATION AND ROUTING OF HVAC EQUIPMENT AND DUCTWORK WITH OTHER TRADES PRIOR TO COMMENCING WORK.
7. ALL EXHAUST OUTLETS SHALL BE LOCATED MIN. OF 10'-0" FROM ANY OUTSIDE AIR INTAKES.
8. THE CUTTING, NOTCHING AND BORING OF HOLES IN FLOOR JOIST AND WALL STUDS SHALL BE IN ACCORDANCE WITH THE LATEST APPROVED EDITION OF THE INTERNATIONAL BUILDING CODE.
9. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CUTTING AND PATCHING AS REQUIRED TO ACCOMMODATE HIS WORK.
10. REFER TO THE MECHANICAL DIAGRAMS THAT APPLY TO THE WORK ON THIS DRAWING. THESE DIAGRAMS PROVIDE GUIDANCE AS TO INSTALLATION INTENT AND DO NOT NECESSARILY SHOW ALL COMPONENTS REQUIRED.
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12. PROVIDE 1" ACCOUSTICAL DUCT LINER FOR ALL TRANSFER AIR DUCT.
13. ALL RECTANGULAR DUCT ELBOWS SHALL HAVE TURNING VANES.

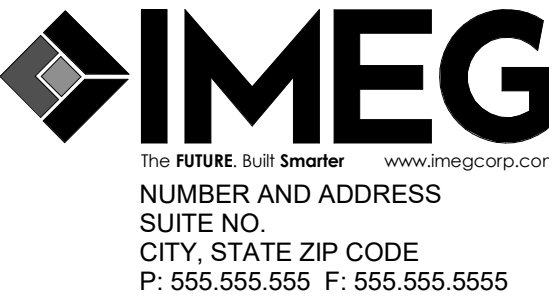
KEYNOTES: C #

1. .
2. .
3. .

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Environmental Lab
Project Address

Client Name



PROFESSIONAL SEAL

CONSULTANT
(MAY BE USED FOR ANY OTHER
REQUIREMENT IF THERE IS NO
CONSULTANT)

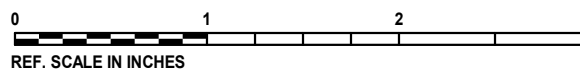
KEY PLAN

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REVISIONS

No. Date Revision / Issue

SHEET INFORMATION

Issue Project Status
Date Issue Date
Project # Project Number
Drawn Author
Checked Checker
Approved Approver

SHEET TITLE

LEVEL 01 PLAN - VENTILATION

SCALE

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

SHEET NUMBER

M201A

E

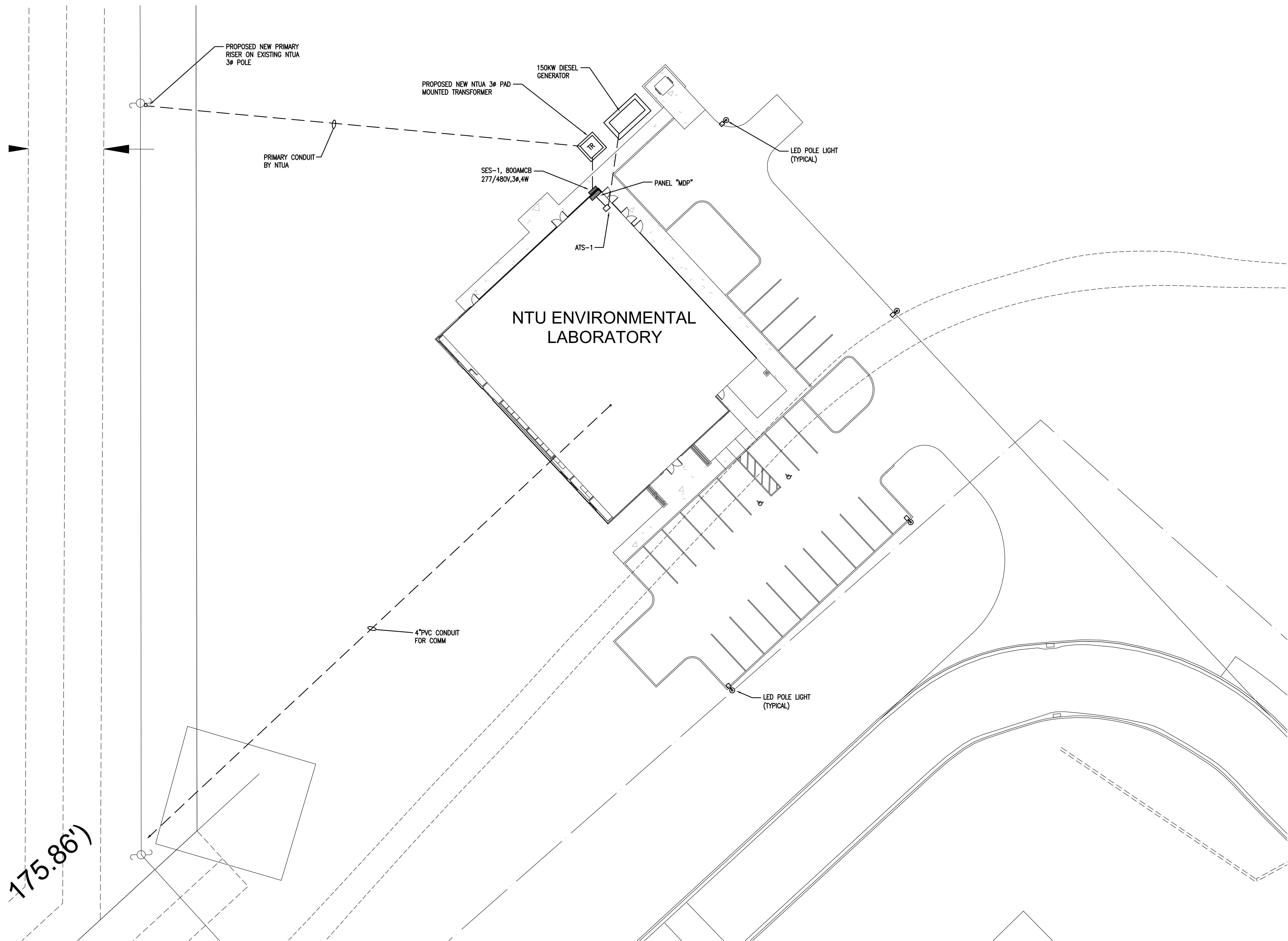
D

C

B

A

DYRON MURPHY ARCHITECTS, P.C.



A5 SITE PLAN
1" = 20'-0"



NTU ENVIRONMENTAL LAB CHINLE

CHINLE, APACHE COUNTY, AZ

SCHEMATIC DESIGN

DECEMBER 2, 2022

GENERAL NOTES:

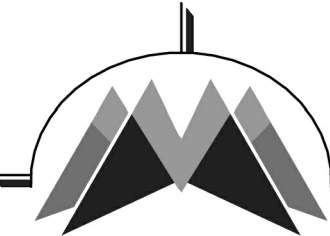
- COORDINATE NEW ELECTRICAL SERVICE WITH NTUA. PROVIDE CONCRETE TRANSFORMER PAD PER NTUA STANDARDS.
- ALL ELECTRICAL TO MEET NATIONAL STATE AND LOCAL CODES.
- ALL ELECTRICAL DEVICES TO BE U.L. LISTED FOR INTENDED USE.
- ALL GROUNDING OF DEVICES TO MEET THE REQUIREMENTS OF ARTICLE 250 OF THE NEC.
- CONTRACTOR TO PROVIDE ROUGH-IN AS REQUIRED FOR TELEPHONE SERVICE. COORDINATE WITH LOCAL TELEPHONE SERVICE PROVIDER. PROVIDE TRU-TAPE PULL STRINGS IN ALL IT/TELEPHONE CONDUITS.

KEYED NOTES:



5101 Coors Blvd. NW
Suite "F"
Albuquerque, New Mexico 87120
(505)268-1786
(505)255-0456 fax

DYRON MURPHY ARCHITECTS, P.C.



4505 Montbel Place NE, Albuquerque, New Mexico 87107

ENGINEER

Revision Schedule		
#	Date	Description

PROJECT NUMBER	DRAWN BY	PROJ MGR
77-22	AEDI	DJS/DMG
RVT FILE C:\Users\DJ\Documents\NTU Environmental Chinle Lab_Electrical-C22_djaedi@aol.com.rvt		

Sheet Number

E001

Sequence of

ELECTRICAL SITE PLAN

NTU ENVIRONMENTAL
LAB CHINLE

CHINLE, APACHE COUNTY, AZ

SCHEMATIC DESIGN

DECEMBER 2, 2022

GENERAL NOTES:

- ALL WIRING TO BE #12 THHN/THWN CU AND ALL CONDUIT TO BE 1/2" EMT MINIMUM UNLESS NOTED OTHERWISE.
- ALL ELECTRICAL TO MEET NATIONAL, STATE AND LOCAL CODES.
- ALL GROUNDING OF DEVICES TO MEET THE REQUIREMENTS OF NEC ARTICLE 250.
- ALL ELECTRICAL EQUIPMENT AND DEVICES TO BE U.L. LISTED FOR INTENDED USE.

KEYED NOTES:

○

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Albuquerque, New Mexico 87120
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DYRON MURPHY ARCHITECTS, P.C.



4505 Montbel Place NE, Albuquerque, New Mexico 87107

ENGINEER

Revision Schedule		
#	Date	Description

PROJECT NUMBER	DRAWN BY	PROJ MGR
77-22	AEDI	DJS/DMG
RVT FILE		
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Sheet Number

E101

Sequence of

LIGHTING PLAN



A6 LIGHTING PLAN
1/4" = 1'-0"

NTU ENVIRONMENTAL
LAB CHINLE

CHINLE, APACHE COUNTY, AZ

SCHEMATIC DESIGN

DECEMBER 2, 2022

GENERAL NOTES:

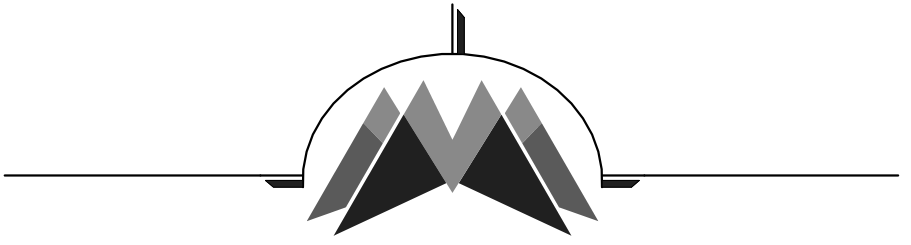
- ALL WIRING TO BE #12 THHN/THWN CU AND ALL CONDUIT TO BE 1/2" EMT MINIMUM UNLESS NOTED OTHERWISE.
- ALL ELECTRICAL TO MEET NATIONAL, STATE AND LOCAL CODES.
- ALL GROUNDING OF DEVICES TO MEET THE REQUIREMENTS OF NEC ARTICLE 250.
- ALL ELECTRICAL EQUIPMENT AND DEVICES TO BE U.L. LISTED FOR INTENDED USE.

KEYED NOTES:

○

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(505)255-0466 fax

DYRON MURPHY ARCHITECTS, P.C.



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ENGINEER

Revision Schedule		
#	Date	Description

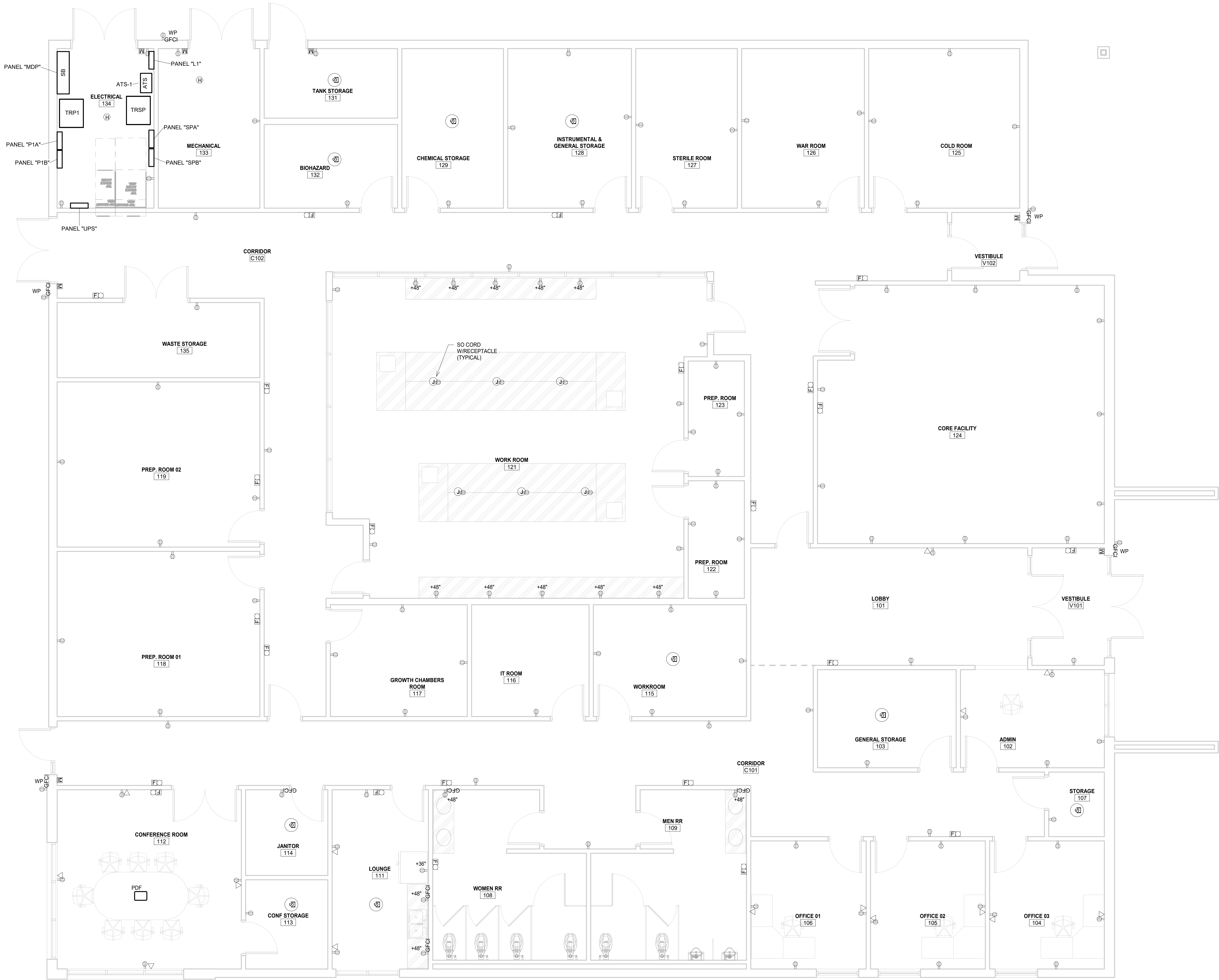
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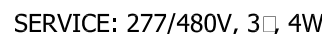
POWER AND SPECIAL
SYSTEMS PLAN

E102

Sequence of



A6 POWER AND SPECIAL SYSTEMS PLAN
1/4" = 1'-0"



NOT TO SCALE