GENESIS CENTER BUILDING A : addition & remodel

3655 Reaserch Rd. Bldg. A
Las Cruces, New Mexico

CONSTRUCTION DOCUMENTS

date 5.22.26
project no. 25.25

PROJECT DATA

ITEM	CODE REQUIREMENT	PROVIDED
BUILDING OCCUPANCY	B	B
CONSTRUCTION TYPE	TYPE II - B	TYPE II - B
ALLOWABLE AREA	92,000 S.F.	10,000 S.F. (EXIST) 788 S.F. (ADDITION) 910 S.F. (GREEN HOUSE) 11,698 S.F. TOTAL
MAX. HEIGHT / STORIES	75 FT. / 4 STORIES	19 FT. / 1 STORY
PUBLIC OCCUPANT LOAD	78 (RATIO OF 1/150 S.F.)	78
NO. OF EXITS	2	4 EXIST. / 2 NEW
EXIT WIDTH	5"	48" MIN.
EXTERIOR WALL FIRE RESISTANCE	N/A	N/A
MIN. CORRIDOR WIDTH	44"	44" (EXIST)

REGULATING CODES

INTERNATIONAL BUILDING CODE	2021
UNIFORM MECHANICAL CODE	2021
NEW MEXICO MECHANICAL CODE	2021
UNIFORM PLUMBING CODE	2021
NEW MEXICO PLUMBING CODE	2021
INTERNATIONAL FIRE CODE	2021
NATIONAL ELECTRIC CODE	2020
NEW MEXICO ELECTRICAL CODE	2020
AMERICAN NATIONAL STANDARDS INSTITUTE A117	2017
NEW MEXICO COMMERCIAL BUILDING CODE	2021
NEW MEXICO ENERGY CODE	2021

ABBREVIATIONS

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

DRAWING INDEX

COVER SHEET

SITE / CIVIL
AS100 SITE PLAN
C-1 CIVIL SITE PLAN
C-2 GRADING PLAN
L100 EXISTING LANDSCAPE & IRRIGATION

STRUCTURAL
S100 STRUCTURAL NOTES
S101 QUALITY ASSURANCE
S102 STRUCTURAL DETAILS
S103 STRUCTURAL DIAGRAMS
S200 FOUNDATION PLAN
S300 ROOF FRAMING PLAN
S400 TYPICAL FOUNDATION DETAILS
S410 FOUNDATION DETAILS
S500 TYPICAL FRAMING DETAILS
S501 TYPICAL FRAMING DETAILS
S510 ROOF FRAMING DETAILS

ARCHITECTURAL
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A100 FLOOR PLAN
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A102 CONSTRUCTION PHASING PLAN
A103 FLOOR FINISHES PLAN
A200 SCHEDULES, DOOR AND WINDOW TYPES
A201 HEAD AND JAMB DETAILS
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A301 EXTERIOR ELEVATOINS
A400 BUILDING SECTIONS
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A700 INTERIOR ELEVATIONS
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MECHANICAL
M100 MECHANICAL GENERAL NOTES
M101 MECHANICAL DEMOLITION PLAN
M200 MECHANICAL PLAN
M300 MECHANICAL DETAILS

PLUMBING
P100 PLUMBING GENERAL NOTES
P101 PLUMBING DEMOLITION PLAN
P200 DOMESTIC WATER PLUMB. PLAN
P300 PLUMBING PLAN
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ELECTRICAL
E100 ELECTRICAL GENERAL NOTES
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E200 LIGHTING PLAN
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E500 SPECIAL SYSTEMS PLAN
E600 ELECTRICAL DETAILS
E700 ELECTRICAL RISER DIAGRAM
E701 ELECTRICAL PANEL SCHEDULE

PROJECT TEAM

OWNER

NEW MEXICO STATE UNIVERSITY
P.O. BOX 30001
LAS CRUCES, NM 88003
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ADRIAN RENTERIA, PE

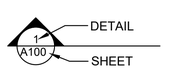
SITE REQUIREMENTS

ALL SITE CONDITIONS ARE EXISTING TO REMAIN UNCHANGED.

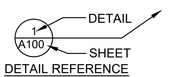
OCCUPANCY LOAD

USE	AREA S.F.	LOAD FACTOR	# OCCUPANTS
BUILDING A	10,788	1/150	71.92
GREEN HOUSE	910	1/150	6.3
TOTAL OCCUPANTS			78.2

SYMBOLS / REFERENCE TAGS



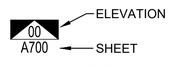
BUILDING OR WALL SECTION



DETAIL REFERENCE



CONTROL POINT ELEVATION



ELEVATION REFERENCE



WINDOW I.D.



DOOR I.D.

PLUMBING FIXTURE REQUIREMENTS

GENESIS BUILDING-A

10,788 S.F. / 150 S.F. = 71.92 OR 72 — 36 MEN & 36 WOMEN

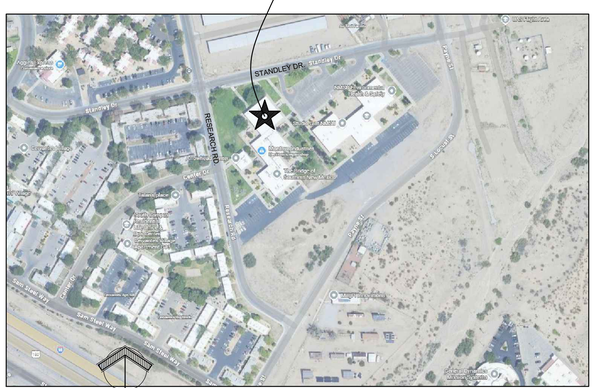
	WATER CLOSETS		URINALS	LAVATORIES	
	REQUIRED	PROVIDED	PROVIDED	REQUIRED	PROVIDED
MALE	2	1	1	1	1
FEMALE	2	2	-	1	1
DRINKING FOUNTAINS	1	1 EXIST. 2 NEW			
SERVICE SINK	1	1 EXIST. 1 NEW			

GENESIS GREEN HOUSE BLDG.

910 S.F. / 150 S.F. = 6.06 OR 6 — 3 MEN & 3 WOMEN

	WATER CLOSETS		URINALS	LAVATORIES	
	REQUIRED	PROVIDED	PROVIDED	REQUIRED	PROVIDED
MALE/FEMALE	1	1-SINGLE USE	-	1	1

PROJECT LOCATION



NORTH

VICINITY MAP

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STATE OF NEW MEXICO
ABELARDO NATIVIDAD
NO. 004727
REGISTERED ARCHITECT
05.22.26

PARTIAL REMODEL & ADDITION

GENESIS CNTR.
BUILDING 'A'

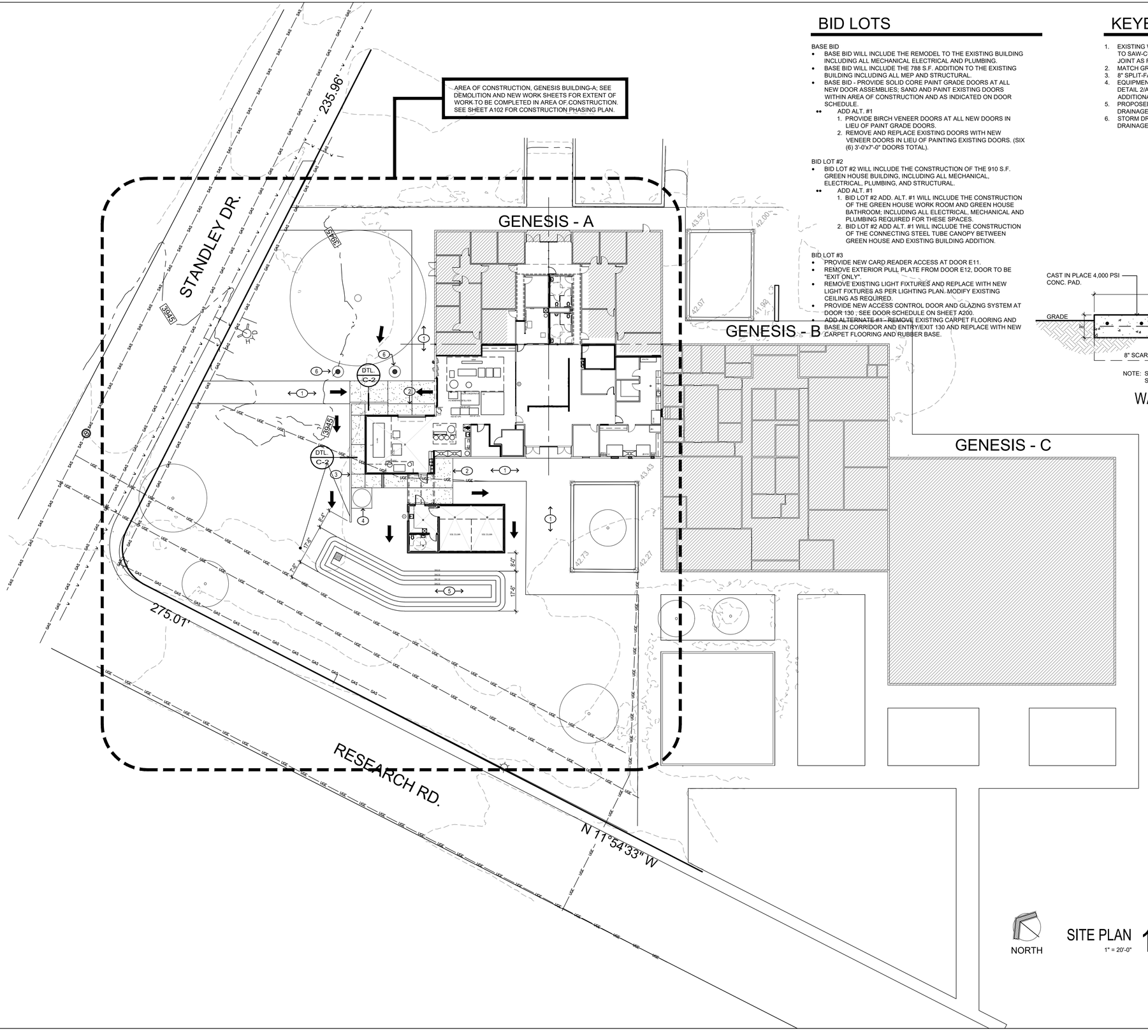
3655 Research Dr. Bldg. A
NMSU Campus
Las Cruces, New Mexico

REVISION	DATE

Project no: 25.25
Date: May 2026
Sheet:

Date: May 26, 2026 - 2:11pm User:AN
Drawing File: K:\2025 Projects\2525 NMSU GENESIS BLDG A\DWG\Sheets\2525-COV.dwg
Last Saved By: AN May 26, 2026 - 2:11pm
Layout Name: Layout1

AREA OF CONSTRUCTION, GENESIS BUILDING-A; SEE DEMOLITION AND NEW WORK SHEETS FOR EXTENT OF WORK TO BE COMPLETED IN AREA OF CONSTRUCTION. SEE SHEET A102 FOR CONSTRUCTION PHASING PLAN.



BID LOTS

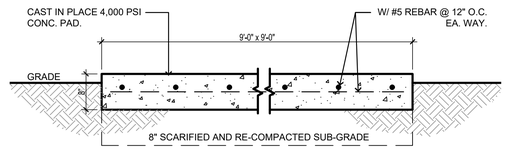
BASE BID
- BASE BID WILL INCLUDE THE REMODEL TO THE EXISTING BUILDING INCLUDING ALL MECHANICAL ELECTRICAL AND PLUMBING.
- BASE BID WILL INCLUDE THE 788 S.F. ADDITION TO THE EXISTING BUILDING INCLUDING ALL MEP AND STRUCTURAL.
- BASE BID - PROVIDE SOLID CORE PAINT GRADE DOORS AT ALL NEW DOOR ASSEMBLIES; SAND AND PAINT EXISTING DOORS WITHIN AREA OF CONSTRUCTION AND AS INDICATED ON DOOR SCHEDULE.
  - ADD ALT. #1
    1. PROVIDE BIRCH VENEER DOORS AT ALL NEW DOORS IN LIEU OF PAINT GRADE DOORS.
    2. REMOVE AND REPLACE EXISTING DOORS WITH NEW VENEER DOORS IN LIEU OF PAINTING EXISTING DOORS. (SIX (6) 3'-0'x7'-0" DOORS TOTAL).

BID LOT #2
- BID LOT #2 WILL INCLUDE THE CONSTRUCTION OF THE 910 S.F. GREEN HOUSE BUILDING, INCLUDING ALL MECHANICAL, ELECTRICAL, PLUMBING, AND STRUCTURAL.
  - ADD ALT. #1
    1. BID LOT #2 ADD. ALT. #1 WILL INCLUDE THE CONSTRUCTION OF THE GREEN HOUSE WORK ROOM AND GREEN HOUSE BATHROOM; INCLUDING ALL ELECTRICAL, MECHANICAL AND PLUMBING REQUIRED FOR THESE SPACES.
    2. BID LOT #2 ADD ALT. #1 WILL INCLUDE THE CONSTRUCTION OF THE CONNECTING STEEL TUBE CANOPY BETWEEN GREEN HOUSE AND EXISTING BUILDING ADDITION.

BID LOT #3
- PROVIDE NEW CARD READER ACCESS AT DOOR E11.
- REMOVE EXTERIOR PULL PLATE FROM DOOR E12, DOOR TO BE "EXIT ONLY".
- REMOVE EXISTING LIGHT FIXTURES AND REPLACE WITH NEW LIGHT FIXTURES AS PER LIGHTING PLAN. MODIFY EXISTING CEILING AS REQUIRED.
- PROVIDE NEW ACCESS CONTROL DOOR AND GLAZING SYSTEM AT DOOR 130 ; SEE DOOR SCHEDULE ON SHEET A200.
- ADD ALTERNATE #1 - REMOVE EXISTING CARPET FLOORING AND BASE IN CORRIDOR AND ENTRY/EXIT 130 AND REPLACE WITH NEW CARPET FLOORING AND RUBBER BASE.

KEYED NOTES

1. EXISTING WALKWAY TO REMAIN, CONTRACTOR IS TO SAW-CUT OR REMOVE TO NEAREST CONTROL JOINT AS REQUIRED BY NEW CONSTRUCTION.
2. MATCH GRADES WHERE NEW MEETS EXISTING.
3. 8" SPLIT-FACE C.M.U. LOW WALL WITH 2" WALL CAP.
4. EQUIPMENT PAT AT RELOCATED WATER TANK, SEE DETAIL 2/AS100; COORDINATE WITH MEP FOR ADDITIONAL INFORMATION.
5. PROPOSED PONDING, SEE CIVIL GRADING AND DRAINAGE.
6. STORM DRAIN INLET, SEE CIVIL GRADING AND DRAINAGE.



NOTE: SLEEVE ALL PIPING THROUGH CONCRETE SLAB FOR WATER TANK CONNECTIONS.

WATER TANK PAD DTL. 2
1" = 20'-0"

NORTH

SITE PLAN 1
1" = 20'-0"

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GENESIS CNTR. BUILDING 'A'

3655 Research Dr. Bldg. A
NMSU Campus
Las Cruces, New Mexico

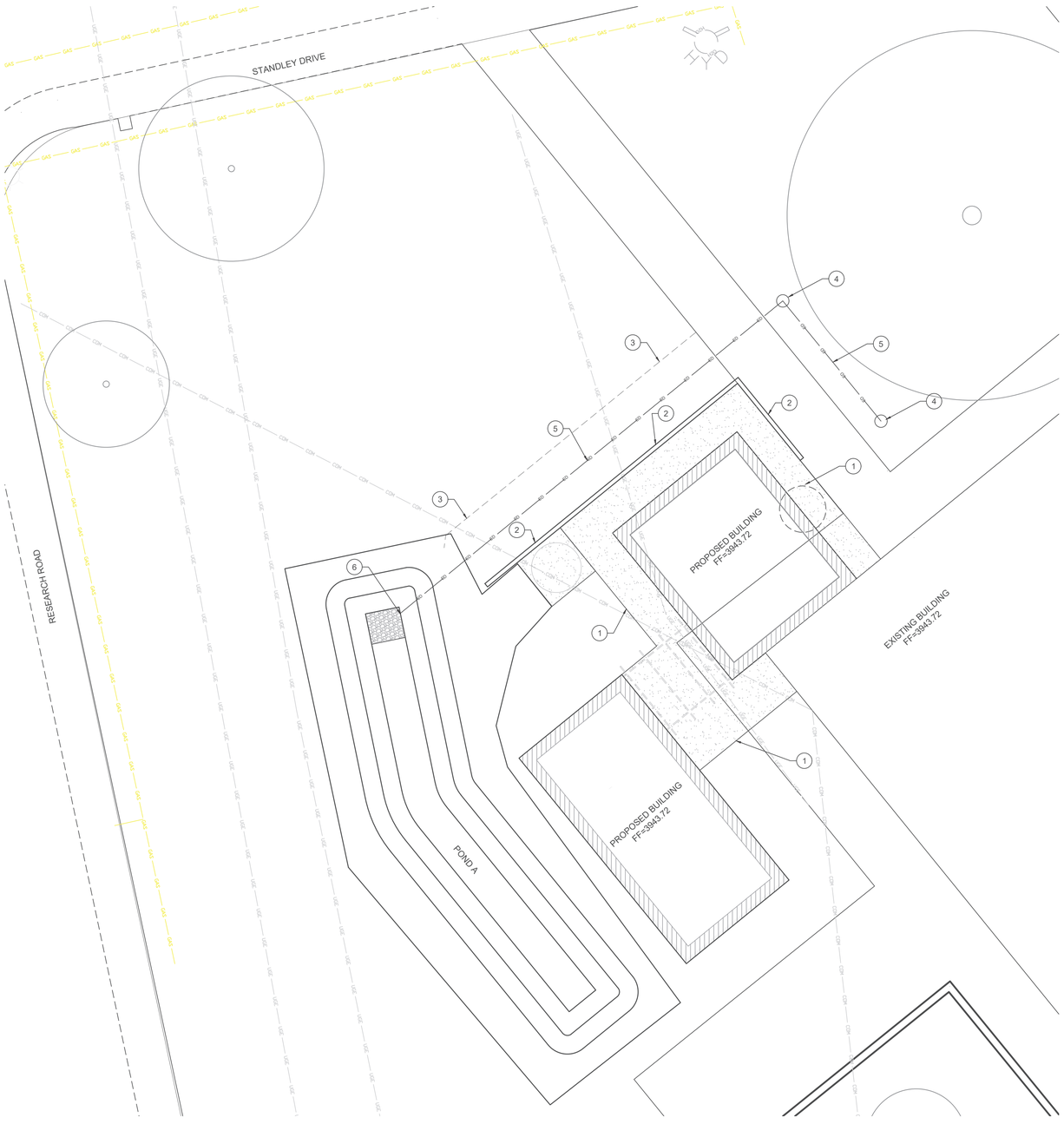
REVISION	DATE

Project no: 25.25
Date: May 2026
Sheet:

OVERALL SITE PLAN

AS100

Date: May 26, 2026 - 9:23am User:AN
Drawing File: K:\2025 Projects\2525 NMSU GENESIS BLDG A\DWG\Sheets\2525-AS100.dwg
Last Saved By: AN May 26, 2026 - 9:23am
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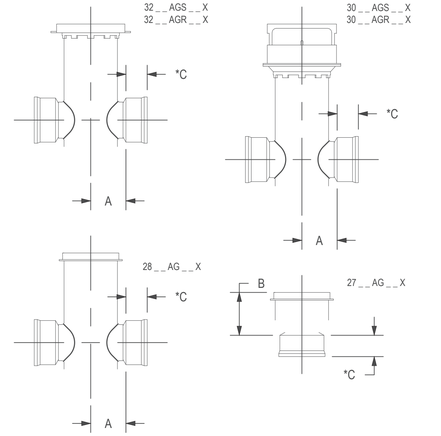
SITE PLAN
SCALE 1" = 10'

0 10' 20'
SCALE: 1" = 10'

KEY NOTES

1. NEW 4" THICK CONCRETE SIDEWALK. SEE DETAIL SHEET C-2
2. NEW CMU WALL. SEE DETAIL SHEET C-2
3. NEW DRAINAGE SWALE SEE GRADING PLAN SHEET C-2 FOR FLOWLINE ELEVATIONS
4. NEW 24" DIAMETER NYLOPLAST BASIN INLET PLATE COVER
5. NEW 6" DIAMETER PVC STORM DRAIN PIPE
6. NEW 5'X5'X18" DEEP (8-12") LOOSE ROCK RIP RAP

BODY SIZE	ADAPTER SIZE	A	B	*C
8"	4"	6.20	7.50	3.82
8"	6"	6.20	5.25	4.21
8"	8"	6.70	7.25	5.24
10"	4"	7.25	8.75	3.82
10"	6"	7.25	8.75	4.21
10"	8"	7.75	6.50	5.24
10"	10"	7.75	7.75	6.08
12"	4"	8.25	10.50	3.82
12"	6"	8.25	11.50	4.21
12"	8"	8.75	11.50	5.24
12"	10"	8.75	11.25	6.08
12"	12"	9.25	8.00	6.45
15"	4"	9.65	13.25	3.82
15"	6"	9.65	12.75	4.21
15"	8"	10.15	12.25	5.24
15"	10"	10.15	13.50	6.08
15"	12"	10.65	12.75	6.45
15"	15"	10.65	7.00	7.9
18"	4"	11.35	14.00	3.82
18"	6"	11.35	14.00	4.21
18"	8"	11.85	14.00	5.24
18"	10"	11.85	14.00	6.08
18"	12"	12.35	14.00	6.45
18"	15"	12.35	13.50	7.9
18"	18"	12.85	8.25	8.39
24"	4"	14.40	15.00	3.82
24"	6"	14.40	15.00	4.21
24"	8"	14.90	15.00	5.24
24"	10"	14.90	15.00	6.08
24"	12"	15.40	15.00	6.45
24"	15"	15.40	15.00	7.9
24"	18"	15.90	10.00	8.39
24"	24"	16.90	10.25	10.05
30"	4"	18.00	15.25	3.82
30"	6"	18.00	15.50	4.21
30"	8"	18.50	15.75	5.24
30"	10"	18.50	16.00	6.08
30"	12"	19.00	16.50	6.45
30"	15"	19.00	17.00	7.9
30"	18"	19.50	17.75	8.39
30"	24"	20.50	14.00	10.05
30"	30"	27.00	9.50	12.85



DIMENSIONS ARE FOR REFERENCE ONLY
ACTUAL DIMENSIONS MAY VARY
DIMENSIONS ARE IN INCHES
*C - DIMENSIONS ARE FOR ADS N-12 / HANCOR DUAL WALL BELL
CONTACT ENGINEERING FOR BELL INFORMATION NOT LISTED

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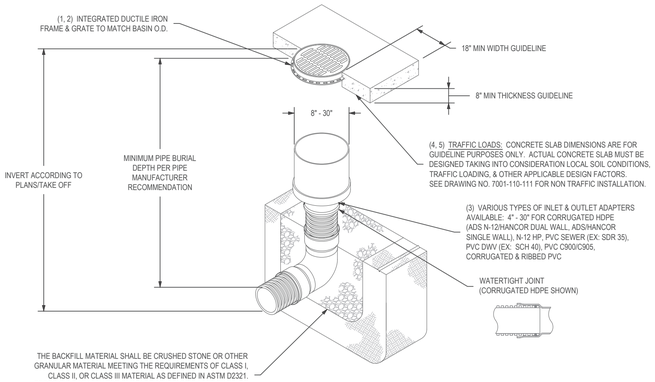
DRAWN BY	CJA	MATERIAL	
DATE	09-30-99		
REVISED BY	CCA	PROJECT NO./NAME	
DATE	09-09-13		
DWG SIZE	A	SCALE 1:25	SHEET 1 OF 1

Nyloplast
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BUFORD, GA 30518
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FAX (770) 932-2490
www.nyloplast-us.com

TITLE: 8 IN - 30 IN BODY TO ADAPTER DIMENSIONS

DWG NO. 7002-110-003 REV G

NYLOPLAST INLINE DRAIN WITH STANDARD GRATE



1 - 8" - 30" STANDARD GRATES SHALL BE DUCTILE IRON PER ASTM A536 GRADE 70-50-05.
2 - 12" - 30" FRAMES SHALL BE DUCTILE IRON PER ASTM A536 GRADE 70-50-05. 8" & 10" STANDARD GRATES FIT DIRECTLY ONTO INLINE DRAINS SEE DRAWING NO. 7003-110-000 & 7003-110-001.
3 - DRAINAGE CONNECTION STUB JOINT TIGHTNESS SHALL CONFORM TO ASTM D3212 FOR CORRUGATED HDPE (ADS N-12/HANCOR DUAL WALL), N-12 HP, & PVC SEWER (4" - 24").
4 - 12" - 30" STANDARD GRATES SHALL MEET H-20 LOAD RATING.
5 - 8" & 10" STANDARD GRATES ARE RATED FOR LIGHT DUTY APPLICATIONS ONLY, NO CONCRETE COLLAR NEEDED FOR LIGHT DUTY RATING.

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DRAWN BY	EBC	MATERIAL	
DATE	1-23-06		
REVISED BY	NMH	PROJECT NO./NAME	
DATE	03-15-16		
DWG SIZE	A	SCALE 1:40	SHEET 1 OF 1

ADS Nyloplast
3130 VERONA AVE
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PHN (770) 932-2443
FAX (770) 932-2490
www.nyloplast-us.com

TITLE: INLINE DRAIN WITH STANDARD GRATE QUICK SPEC INSTALLATION DETAIL

DWG NO. 7003-110-022 REV J

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PARTIAL REMODEL & ADDITION

GENESIS CNTR. BUILDING 'A'

3655 Research Dr. Bldg. A
NMSU Campus
Las Cruces, New Mexico

ADRIAN RENTERIA
NEW MEXICO
21978
05/28/26
PROFESSIONAL ENGINEER

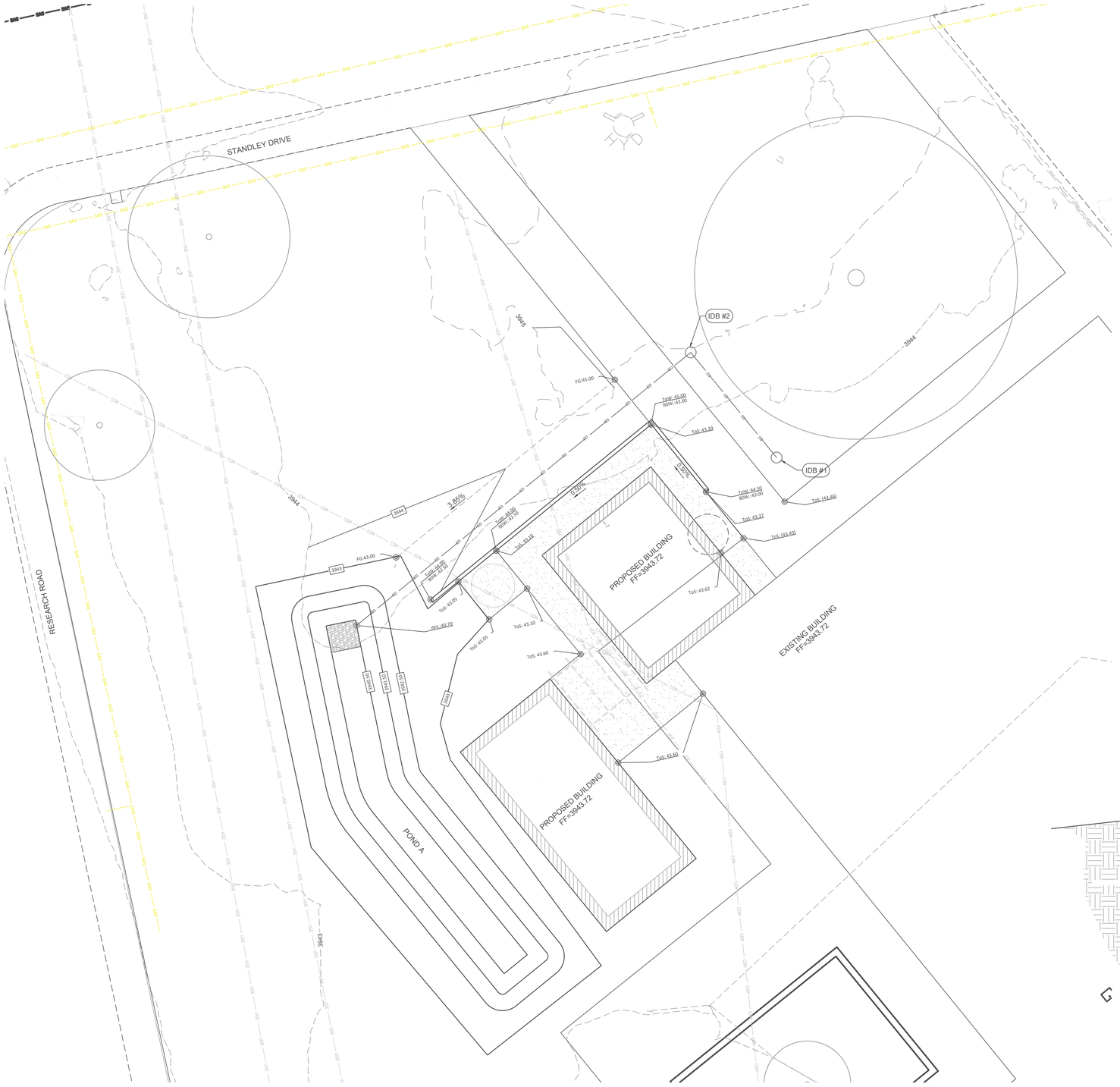
REVISION	DATE

Project no: 25.25
Date: January 2026
Sheet:

SITE PLAN

C-1

Date: May 28, 2026 - 9:09am User:adrianr
Drawing File: N:\A&E Engineering\Projects\Studio D-Genesis Building\DWG\SAE GENESIS BLDG.dwg
Last Saved By: adrianr May 28, 2026 - 8:58am
Layout Name: C-1



GRADING PLAN
SCALE 1" = 10'

0 10' 20'
SCALE: 1" = 10'

GENERAL NOTES

1. ALL FILL MATERIAL SHALL BE COMPACTED TO 95% OF ASTM D1557.
2. CONTRACTOR SHALL MATCH GRADE AT PROPERTY LINE.
3. CONTRACTOR SHOULD FIELD LOCATE EXISTING UTILITIES BEFORE BEGINNING EARTHWORK
4. ALL CONSTRUCTION SHALL CONFORM TO I.B.C., I.P.C. AND N.E.C. AS NOTED HEREIN.
5. CONTRACTOR SHALL SLOPE PAVED AREA AS SHOWN TO DRAIN.
6. ALL CONCRETE SHALL BE 4,000 P.S.I. MINIMUM.
7. THE CONTRACTOR IS RESPONSIBLE FOR JOB SITE SAFETY AND COMPLIANCE WITH OSHA REGULATIONS.
8. SHOULD CONFLICTING INFORMATION OR INTERFERENCE PROBLEMS APPEAR IN THE CONSTRUCTION DRAWINGS, THE CONTRACTOR SHALL BRING THAT INFORMATION TO THE ATTENTION OF THE DESIGN ENGINEER IMMEDIATELY AND PRIOR TO INSTALLATION, FAILURE TO DO SO SHALL NOT BE BASIS FOR EXTRA PAYMENT.
9. GRADING SHALL MATCH GRADE AT PROPERTY LINE. ALL SLOPES TO DAYLIGHT AT A 4:1 SLOPE..
10. NM ONE CALL PROCEDURES SHALL BE FOLLOWED BEFORE GRADING WORK BEGINS.
11. RE-SEED DISTURBED AREAS WITH NATURAL DESERT SPECIES.
12. ALL FILL AND CUT MATERIAL SHALL COMPLY WITH GEOTECHNICAL REPORT PREPARED. IF NO REPORT WAS COMPLETED THE CONTRACTOR MUST HIRE A GEOTECHNICAL ENGINEER TO CONDUCT ON-SITE INVESTIGATION TO PROVIDE EARTHWORK PROCESS.

LEGEND

2.00%	SLOPE
93.00 FG	FINISHED GRADE
93.00 FL	FLOW LINE OF SWALE
93.00 ToP	TOP OF PAVEMENT
92.75 ToC	TOP OF CURB
92.32 ToS	TOP OF SIDEWALK
92.32 ToCo	TOP OF CONCRETE
	BUILDING DRAINAGE FLOW
	ASPHALT
	CONCRETE SIDEWALK

STORM DRAIN SYSTEM

INLET DRAIN BASIN (IDB #1): RIM ELEVATION=4043.00
INVERT OUT=4041.50 (6" PVC)

INLET DRAIN BASIN (IDB #2): RIM ELEVATION=4044.50
INVERT IN= 4041.37
INVERT OUT=4041.27 (6" PVC)

DRAINAGE ANALYSIS

IMPERVIOUS AREA=2,613 SF
AREA CLASSIFICATION: MESA AREA=2.0 INCHES
(PER CLC DESIGN STANDARDS)
PONDING REQUIREMENT=(2.0-INCH/12-INCH/FEET)*2,613=435 CF

PONDING PROVIDED:

POND A
TOP AREA= 1,468
TOP ELEVATION= 3942.50

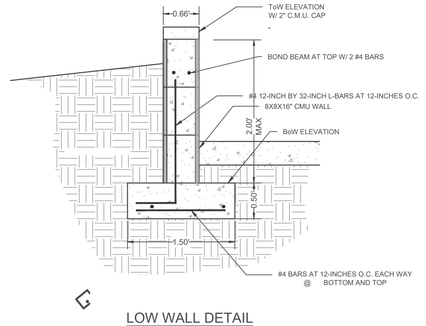
AREA 1= 904
TOP ELEVATION= 3941.50

BTM. AREA= 400
BTM. ELEVATION=3940.50

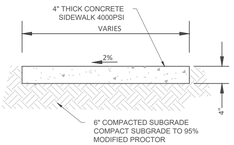
POND CALCULATIONS:

(1,468+904)/2 * 1= 1,186 CF
(904+400)/2*1=652 CF

TOTAL POND VOLUME= 1,838 CF



LOW WALL DETAIL
NOT TO SCALE



TYPICAL SIDEWALK DETAIL
NOT TO SCALE

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PARTIAL REMODEL & ADDITION

GENESIS CNTR.
BUILDING 'A'

3655 Research Dr. Bldg. A
NMSU Campus
Las Cruces, New Mexico

ADRIAN RENTERIA
NEW MEXICO
21978
05/28/26
PROFESSIONAL ENGINEER

REVISION	DATE

Project no: 25.25
Date: January 2026
Sheet:

GRADING PLAN
C-2

Date: May 28, 2026 - 9:09am User:adrianr
Drawing File: N:\A&E Engineering\Projects\Studio D-Genesis Building\DWGS\AE GENESIS BLDG.dwg
Last Saved By: adrianr May 28, 2026 - 8:58am
Layout Name: C-2

IRRIGATION NOTES

A. CONTRACTOR IS TO COORDINATE EXISTING IRRIGATION PLAN WITH ADDITION OF NEW CONSTRUCTION AND EXTERIOR PAVING.
B. CONTRACTOR IS TO RELOCATE EXISTING IRRIGATION LINE AND IRRIGATION SPRINKLER HEADS WITHIN THE AREA OF CONSTRUCTION AS REQUIRED BY NEW ADDITION. RELOCATE SPRINKLER HEADS TO NEW LOCATIONS TO PROVIDE ADEQUATE SPRINKLER OVERLAP AND COVERAGE.

KEYED NOTES

1. RELOCATE EXISTING SPRINKLER HEAD.
2. RELOCATE EXISTING IRRIGATION LINE FROM UNDER NEW BUILDING ADDITION. ROUTE AROUND NEW ADDITION.
3. ADD NEW SPRINKLER HEAD AS REQUIRED IN ORDER TO MAINTAIN COVERAGE. MATCH EXISTING.
4. REPLACE EXISTING SPRINKLER HEAD WITH NEW SPRINKLER HEAD AS REQUIRED TO MAINTAIN COVERAGE. MATCH EXISTING
5. REPLENISH DAMAGED SOD WITHIN AREA OF CONSTRUCTION (HIGH IMPACT) WITH NEW SOD; IN AREAS WHERE THERE IS ONLY LOW IMPACT, REPLENISH SOD BY CLEANING AND RE-SEEDING.
6. EXISTING TREE TO BE REMOVED IN ITS ENTIRETY.
7. INTERCEPT EXISTING IRRIGATION LINE, CUT AND CAP AND INSTALL NEW LINE AT POINT OF CONNECTION.

AREA OF CONSTRUCTION, GENESIS BUILDING-A; SEE DEMOLITION AND NEW WORK SHEETS FOR EXTENT OF WORK TO BE COMPLETED IN AREA OF CONSTRUCTION. SEE SHEET A102 FOR CONSTRUCTION PHASING PLAN.

GENESIS - A

GENESIS - B

GENESIS - C

STANDLEY DR.

RESEARCH RD.

TECHNOLOGY TRANSFER CENTER

LAB ADDITION.

GREENHOUSE ADDITION.

RETENTION POND.

2½" MASTER LINE

EXISTING WATER MAIN

POINT OF CONNECTION EXISTING 4" WATER STUB

EXISTING 4"ø SCH. 40 PVC SLEEVE TYPICAL

2½"ø SCH. 40 PVC STUB 5'-0" LONG. CAP FOR FUTURE USE

P.O.C.

NORTH

EXISTING LANDSCAPE & IRRIGATION 1

1" = 20'-0"

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STATE OF NEW MEXICO
REGISTERED ARCHITECT
ABELARDO NATIVIDAD
NO. 004727
05.22.26

PARTIAL REMODEL & ADDITION

GENESIS CNTR. BUILDING 'A'

3655 Research Dr. Bldg. A
NMSU Campus
Las Cruces, New Mexico

REVISION	DATE

Project no: 25.25
Date: May 2026
Sheet:

EXISTING LANDSCAPING & IRRIGATION

L100

Date: May 26, 2026 - 9:21am User:AN
Drawing File: K:\2025 Projects\2525 NMSU GENESIS BLDG A\DWG\Sheets\2525-L100.dwg
Last Saved By: AN May 21, 2026 - 4:01pm
Layout Name: L100

STRUCTURAL NOTES

GENERAL

GN-1 ALL DETAILS ARE TYPICAL AND SHALL APPLY TO SIMILAR CONDITIONS UNLESS NOTED OTHERWISE.

GN-2 THE CONTRACTOR SHALL COORDINATE THE SIZE AND LOCATION OF ALL HOLES AND SLEEVES THROUGH WALLS AND SLABS WITH ARCHITECTURAL, MECHANICAL, PLUMBING, ELECTRICAL AND CIVIL DRAWINGS. ALL PLUMBING AND MECHANICAL PENETRATIONS THROUGH WALLS AND SLABS SHALL BE PROPERLY SLEEVED. PENETRATING FOOTINGS, BEAMS, JOISTS, OR COLUMNS IS PROHIBITED. PLUMBING AND CONDUITS SHALL NOT BE INSTALLED BELOW FOOTINGS WITHOUT PRIOR WRITTEN APPROVAL FROM STUBBS ENGINEERING, INC.

GN-3 THE STRUCTURE AS SHOWN IN THESE DRAWINGS IS STABLE UNDER THE FINAL CONDITION. THE STRUCTURE IS DESIGNED FOR THE IN-SERVICE LOADS ONLY. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO ENSURE THE STRUCTURAL STABILITY DURING CONSTRUCTION. SEQUENCE OF CONSTRUCTION, SHORING, AND MEANS AND METHODS SHALL BE DETERMINED BY THE CONTRACTOR.

GN-4 NON-LOAD BEARING ELEMENTS SHALL BE CONNECTED TO THE STRUCTURE BY METHODS THAT ALLOW VERTICAL DEFLECTION OF THE STRUCTURE. ALLOWABLE DEFLECTIONS OF THE STRUCTURE SHALL BE THE MAXIMUM OF EITHER A HALF INCH OR THE STRUCTURAL SPAN DIVIDED BY 360.

GN-5 NOTCHING, CUTTING OR MODIFYING STRUCTURAL ELEMENTS IN THE FIELD IS PROHIBITED.

GN-6 THE CONTRACTOR SHALL VERIFY FIELD CONDITIONS AND REPORT ANY DISCREPANCIES TO THE ENGINEER.

GN-7 THE ATTACHMENT OF ROOF TOP EQUIPMENT TO THE STRUCTURE SHALL BE INSTALLED PER DESIGNS PROVIDED BY THE MANUFACTURER. THE MANUFACTURER SHALL CERTIFY THAT THE ATTACHMENTS HAVE BEEN DESIGN TO WITHSTAND LOADS BASED ON THE DESIGN CRITERIA LISTED BELOW.

DESIGN CRITERIA

DC-1 THE STRUCTURAL DESIGN WAS COMPLETED IN ACCORDANCE WITH THE FOLLOWING CODES:
- IBC 2021
- ASCE 7-16
- ACI 318-19
- ACI 530-13/ASCE 5-11/TMS 402-13
- AISC 360 – MANUAL OF STEEL CONSTRUCTION 15TH EDITION
- AWSI NORTH AMERICAN SPECIFICATION FOR THE DESIGN OF COLD-FORMED STEEL STRUCTURAL MEMBERS, 2012 EDITION

DC-2 DEAD LOAD ARE CALCULATED IN ACCORDANCE WITH CHAPTER 3 OF THE ASCE 7-16.

DC-3 LIVE LOADS ARE CALCULATED IN ACCORDANCE WITH CHAPTER 4 OF THE ASCE 7-16 AS FOLLOWS:

OCCUPANCY OR USE	UNIFORM (psf.)	CONCENTRATED (lbs.)
ROOF	20	300
TYPICAL FLOOR	100	2,000
AWNINGS AND CANOPIES	20	N/A

DC-4 WIND PRESSURES SHALL BE CALCULATED IN ACCORDANCE WITH CHAPTER 26-31 OF THE ASCE 7-16 AS FOLLOWS:

RISK CATEGORY	II
WIND VELOCITY	105 MPH
DIRECTIONAL FACTORS (K_d)	0.85 MWFS 0.85 COMPONENTS
TOPOGRAPHIC FACTOR (K_{zt})	1.00
WIND EXPOSURE	B
INTERNAL PRESSURE COEFFICIENT	±0.18

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

RISK CATEGORY	II
GROUND SNOW (p_g)	9 PSF
EXPOSURE FACTOR (C_e)	0.90
THERMAL FACTOR (C_t)	1.0
IMPORTANCE FACTOR	1.00

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

RISK CATEGORY	II
MAPPED MCE	S_s=0.280 S_1=0.093
SPECTRAL RESPONSE COEFFICIENT	SD_s=0.294 SD_1=0.149
SITE CLASSIFICATION	D
IMPORTANCE FACTOR	1.00
SEISMIC DESIGN CATEGORY	C
ANALYSIS PROCEDURE	EQUIVALENT FORCE METHOD
MAINFORCE RESISTING SYSTEM	A.3 & A.18
RESPONSE MODIFICATION FACTOR (R)	2.00 & 4.00
SYSTEM OVERSTRETCH FACTOR (Ω_o)	2.50 & 2.00
DEFLECTION AMPLIFICATION FACTOR (C_d)	1.75 & 3.50
SEISMIC RESPONSE COEFFICIENT (C_s)	0.147 & 0.074

SHOP DRAWINGS

SD-1 THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS TO THE ARCHITECT/ENGINEER PRIOR TO FABRICATION AS REQUIRED BY THE SPECIFICATIONS AND SHALL INCLUDE AT A MINIMUM THE FOLLOWING SUBMITTALS:
- STRUCTURAL FILL AND EARTHWORK
- STRUCTURAL STEEL
- REINFORCING STEEL
- CONCRETE MIX DESIGNS
- MASONRY GROUT MIX DESIGN
- CONCRETE MASONRY UNIT PRODUCT DATA
- MASONRY LADDER TYPE JOINT REINFORCING PRODUCT DATA
- METAL DECK
- STEEL JOISTS & JOIST GIRDERS
- WELDING PROCEDURES AND WELDING CERTIFICATIONS
- LIGHT GAGE FRAMING PRODUCT DATA
- PRODUCT DATA FOR CONCRETE INSERTS
- PRODUCT DATA FOR POWER ACTIVATED FASTENERS
- PRODUCT DATA FOR CONCRETE EXPANSION ANCHORS

SD-2 REVIEWS BY THE ARCHITECT/ENGINEER SHALL BE FOR GENERAL CONFORMANCE TO THE PLANS AND SPECIFICATIONS ONLY. MODIFICATIONS, COMMENTS AND INFORMATION PROVIDED BY THE ARCHITECT/ENGINEER ON THE SHOP DRAWINGS DOES NOT RELIEVE THE CONTRACTOR FROM THE REQUIREMENTS OF THE PLANS AND SPECIFICATIONS.

SD-3 THE CONTRACTOR IS RESPONSIBLE FOR FIELD VERIFYING DIMENSIONS AT THE JOB SITE AND COORDINATING THEM WITH THE PLANS AND SPECIFICATIONS. ANY DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT / ENGINEER.

SD-4 THE FABRICATION AND CONSTRUCTION PROCESS, MEANS AND METHODS OF CONSTRUCTION, AND COORDINATING ALL TRADES FOR PERFORMING THE WORK IN A SAFE AND SATISFACTORY METHOD SHALL REMAIN THE RESPONSIBILITY OF THE CONTRACTOR.

SD-5 REPRODUCTION OF CONSTRUCTION DOCUMENTS AS PART OF THE SHOP DRAWINGS IS PROHIBITED. THE SHOP DRAWINGS SHALL BE INDEPENDENTLY PRODUCED DRAWINGS BASED ON THE CONSTRUCTION DOCUMENTS. USE OF ELECTRONIC FILES PRODUCED BY STUBBS ENGINEERING, INC. TO GENERATE SHOP DRAWINGS IS PROHIBITED WITHOUT PRIOR WRITTEN APPROVAL FROM STUBBS ENGINEERING, INC. IF ELECTRONIC DRAWINGS PRODUCED BY THE STUBBS ENGINEERING, INC. ARE USED IN THE PRODUCTION OF THE SHOP DRAWINGS, ANY COMPANY LOGOS, TITLE BLOCKS AND SEALS SHALL BE REMOVED FROM THE SUBMITTAL.

SD-6 THE CONTRACTOR SHALL BE RESPONSIBLE FOR DELAYS DUE TO REJECTION OF INADEQUATE OR INCORRECT SHOP DRAWINGS.

SD-7 SHOP DRAWINGS SUBMITTED WITHOUT PRIOR REVIEW BY THE GENERAL CONTRACTOR SHALL NOT BE REVIEWED BY THE ENGINEER.

SD-8 REQUESTS FOR SUBSTITUTION SHALL BE CLEARLY SHOWN ON SHOP DRAWINGS. SUBSTITUTIONS SHALL NOT BE IMPLEMENTED UNLESS SPECIFICALLY APPROVED IN WRITING BY THE ARCHITECT/ENGINEER.

FOUNDATION

FND-1 THE CONTRACTOR SHALL REVIEW AND BECOME FAMILIAR WITH THE SOIL, WATER AND SITE CONDITIONS DESCRIBED IN THE SOILS REPORT PRIOR TO BIDDING THE PROJECT. SOILS BORINGS AND CONDITIONS DESCRIBED IN THE SOILS REPORT ARE FOR GENERAL INFORMATION PURPOSES ONLY. THE ACTUAL CONDITIONS MAY VARY AT THE SITE.

FND-2 ALL EARTHWORK AND SITE PREPARATION SHALL BE IN COMPLIANCE WITH THE GEOTECHNICAL REPORT PREPARED BY CO2 ENGINEERING, LLC. DATED MARCH 26, 2026. THE GEOTECHNICAL ENGINEER'S PROJECT NUMBER IS 4226031. ADDITIONAL INFORMATION IS CONTAINED IN THE GEOTECHNICAL REPORT.

FND-3 THE SITE SHALL BE PREPARED IN ACCORDANCE WITH THE GEOTECHNICAL REPORT TO PROVIDE A MINIMUM ALLOWABLE BEARING PRESSURE OF 2,000 PSF.

FND-4 REMOVE ALL BRUSH, RUBBISH, AND VEGETATION MATERIAL FROM THE BUILDING PAD PRIOR TO EXCAVATION.

FND-5 THE SITE SHALL BE OVEREXCAVATED TO ALLOW FOR A MINIMUM OF 2 FEET OF STRUCTURAL SELECT FILL BELOW ALL FOOTINGS AND A MINIMUM OF 2 FEET OF STRUCTURAL SELECT FILL BELOW ALL SLABS ON GRADE. OVEREXCAVATION SHALL EXTEND A MINIMUM OF 5 FEET BEYOND THE EXTENT OF THE BUILDING PAD. REFERENCE DETAIL A / S101 FOR TYPICAL SUBGRADE PREPARATION.

FND-6 NATIVE SOILS BELOW STRUCTURAL SELECT FILL SHALL BE SCARIFIED TO A DEPTH OF 10 INCHES. THE NATIVE SOILS SHALL BE COMPACTED TO A MINIMUM DRY DENSITY OF 95% PER THE MODIFIED PROCTOR (ASTM D1557) AT A MOISTURE CONTENT OF +/- 2% OPTIMUM. WEAK OR COMPRESSIBLE NATIVE SOILS IDENTIFIED DURING EARTHWORK SHALL BE REMOVED AND REPLACED WITH STRUCTURAL SELECT FILL PER THE REQUIREMENTS FOR STRUCTURAL FILL.

FND-7 STRUCTURAL SELECT FILL SHALL BE FREE OF ROCKS, ROOTS, VEGETABLE MATTER, CLAY CLUMPS OR ROCKS GREATER THAN 3 INCHES IN ANY DIMENSION. STRUCTURAL SELECT FILL SHALL MEET THE FOLLOWING REQUIREMENTS:
- NO EXPANSIVE MATERIAL
- MAXIMUM PLASTICITY INDEX (ASTM D4318): 15
- SIEVE SIZE — PERCENT PASSING
  - 4-INCH — 100%
  - 3/4-INCH — 70-100%
  - NO. 4 — 50-100%
  - NO. 200 — 50% MAX.

FND-8 PLACE ALL STRUCTURAL SELECT FILL IN 10 INCH MAXIMUM LOOSE LIFTS. MOISTEN TO A MOISTURE CONTENT OF +/- 2% OPTIMUM MOISTURE CONTENT AND COMPACT TO A MINIMUM DENSITY OF 95% MODIFIED PROCTOR (ASTM D1557) MAXIMUM DRY DENSITY.

FND-9 ALL EARTHWORK SHALL BE INSPECTED BY A LICENSED GEOTECHNICAL ENGINEER TO ENSURE ALLOWABLE BEARING PRESSURE IS MET, THERE IS A LOW SETTLEMENT POTENTIAL AND THE ABSENCE OF EXPANSIVE MATERIAL. TESTING SHALL BE PERFORMED AT THE FOLLOWING MINIMUM RATES. THE GEOTECHNICAL ENGINEER MAY DETERMINE MORE STRINGENT TESTING IF REQUIRED::
- ONE MOISTURE-DENSITY CURVE, IN ACCORDANCE WITH ASTM D1557, FOR EACH TYPE OF STRUCTURAL SELECT FILL OR EACH SOURCE OF STRUCTURAL FILL USED FOR THE PROJECT.
- ONE FIELD DENSITY TEST, IN ACCORDANCE WITH ASTM D1556, D2167 OR D2922, PER EACH 2,500 SQUARE FEET OF COMPACTED NATIVE SUBGRADE PRIOR TO PLACING STRUCTURAL SELECT FILL OR FLOOR SLAB. PROVIDE A MINIMUM OF THREE TESTS.
- EACH HORIZONTAL LIFT OF STRUCTURAL SELECT FILL SHALL BE TESTED WITH ONE FIELD DENSITY TEST, IN ACCORDANCE WITH ASTM D1556, D2167 OR D2922, PER EACH 2,500 SQUARE FEET AND 100 FEET OF CONTINUOUS FOOTING WITH A MINIMUM OF THREE TESTS.

STRUCTURAL STEEL

SS-10 WELD ACCESS HOLE CONFIGURATIONS FOR MOMENT CONNECTIONS SHALL COMPLY WITH TABLE 1-1 AND TABLE 1-2 OF AISC SEISMIC DESIGN MANUAL.

SS-11 ALL PERIMETER ANGLES AND POUR STOPS SHALL BE SPLICED PER DETAIL 12 / S500 .

SS-12 ALL STEEL PERMANENTLY EXPOSED TO WEATHER SHALL BE GALVANIZED PER ASTM A123 TO G-90 UNLESS NOTED OTHERWISE.

STEEL JOISTS

SJ-1 STEEL JOISTS, AND BRIDGING SHALL BE FABRICATED AND ERECTED BY A MEMBER OF SJI IN ACCORDANCE WITH SJI'S "STANDARD SPECIFICATION FOR OPEN WEB STEEL JOISTS AND JOIST GIRDERS", 2005 EDITION.

SJ-2 WHERE BEARING LENGTHS ARE NOT SHOWN ON THE DRAWINGS, THE FOLLOWING MINIMUMS SHALL BE PROVIDED:

JOIST DESIGNATION	MATERIAL	BEARING LENGTH
K SERIES	STEEL	2 1/2"
	CONCRETE OR MASONRY	4" – ON BEARING PLATE
LH SERIES	STEEL	4"
	CONCRETE OR MASONRY	6" – ON BEARING PLATE

SJ-3 WHERE END ANCHORAGE FOR JOISTS ARE NOT SHOWN ON THE DRAWINGS, THE FOLLOWING MINIMUMS SHALL BE PROVIDED:

JOIST DESIGNATION	CONDITION	BEARING LENGTH
K SERIES	TYPICAL BEARING	2–1/8"x1" FILLET WELDS
	OSHA CORNER @ COLUMN	2–1/2"x1" DIA 307
LH SERIES	STEEL	2–5/16"x3" FILLET WELDS
	OSHA CORNER @ COLUMN	2–3/4" DIA A307

SJ-4 BRIDGING FOR STEEL JOISTS SHALL BE AS SHOWN ON THE DRAWINGS AND MEET THE MINIMUM REQUIREMENTS OF THE SJI SPECIFICATIONS.

SJ-5 EXTEND BOTTOM CHORD OF JOIST AT COLUMNS TO PROVIDE TEMPORARY STRUCTURAL FRAME STABILITY DURING ERECTION PER OSHA STANDARDS.

SJ-6 HANGERS AND OTHER SUPPORTS FOR MECHANICAL, ELECTRICAL OR PLUMBING SHALL NOT EXCEED 200 LBS WITHOUT PRIOR WRITTEN APPROVAL FROM ENGINEER. HANGER LOCATIONS SHALL BE AT INTERSECTION OF WEB AND CHORD MEMBER OR THE JOIST SHALL BE REINFORCED PER DETAIL 10 / S501 .

SJ-7 PROVIDED BOTTOM CHORD JOIST EXTENSION WHERE REQUIRED BY THE ARCHITECTURAL DRAWINGS.

SJ-8 JOISTS SHALL BE DESIGN FOR THE NET UPLIFT (AS SHOWN IN 2 / S102). INCREASE JOIST AND JOIST GIRDER SIZES AS REQUIRED. PROVIDE UPLIFT BRIDGING PER SJI REQUIREMENTS.

SJ-9 ALL JOISTS SHALL MEET A DEFLECTION CRITERIA OF L/240 FOR LIVE LOADS AND L/180 FOR TOTAL LOADS.

SJ-10 JOIST CAMBER SHALL BE SPECIFIED PER SJI.

METAL DECK

MD-1 METAL DECK SHALL BE DETAILED AND FABRICATED BY A MEMBER OF SDI AND IN ACCORDANCE WITH SDI SPECIFICATIONS.

MD-2 ALL METAL DECK SHALL BE CONTINUOUS OVER A MINIMUM OF THREE SPANS UNLESS APPROVED BY ENGINEER OR SPECIFICALLY SHOWN ON THE DRAWINGS.

MD-3 METAL DECK AS DESIGNATED ON THE PLANS SHALL MEET THE FOLLOWING PROPERTIES:

DESIGNATION ON PLANS	THICKNESS IN A PANEL	Ix IN	FY KSI	ATTACHMENTS
1-1/2" 22ga B DECK	0.0295 PAINTED	0.192	33	NO. 12 TEK SCREWS @ 36/4 TO SUPPORTS PERPENDICULAR TO RIBS, NO. 12 TEK SCREWS @ 12" O.C. TO SUPPORTS PARALLEL TO RIBS. & NO. 10 TEK SCREWS @ 12" O.C. AT SIDELAPS

MD-4 ALTERNATE FASTENERS TYPES MAY BE USED WITH PRIOR APPROVAL OF THE ENGINEER.

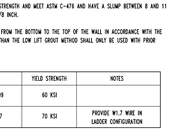
MD-5 PROVIDE A MINIMUM OF 1-1/2" BEARING FOR ALL STEEL DECK.

MD-6 DECK SHALL BE SPLICED WITH A MINIMUM OF 3" LAP. SPLICES SHALL BE LOCATED AT SUPPORTS.

LIGHT GAGE FRAMING (18ga AND HEAVIER)

LG-1 STRUCTURAL LIGHT GAGE FRAMING SHALL BE DESIGNED AND CONSTRUCTED IN ACCORDANCE WITH THE AISI "SPECIFICATIONS FOR COLD-FORMED STEEL STRUCTURAL MEMBERS", 7TH EDITION

LG-2 LIGHT GAGE FRAMING MEMBERS SHALL COMPLY WITH "THE STEEL STUD MANUFACTURERS ASSOCIATION" DESIGNATION CALL OUTS.



LG-3 EXTERIOR AND LOAD BEARING LIGHT GAGE STUD WALLS SHALL HAVE BRIDGING AT A MAXIMUM SPACING OF 4'-0" O.C. BRIDGING SHALL BE PER MANUFACTURER'S RECOMMENDATIONS & MEET THE REQUIREMENTS OF DETAIL 9 / S500.

LG-4 SECURE ALL STUDS TO TOP AND BOTTOM TRACKS WITH A MINIMUM OF 1-NO. 8 SCREW EACH SIDE.

LG-5 ALL WELDING OF MATERIAL LESS THAN 3/16" IN THICKNESS SHALL BE MADE IN ACCORDANCE WITH THE AWS D1.3. WELDERS AND WELDING PROCEDURES SHALL BE SHALL BE QUALIFIED BY AWS D1.3.

LG-6 SPLICING STRUCTURAL LIGHT GAGE MEMBERS SHALL NOT BE ALLOWED.

LG-7 LIGHT GAGE STRAPS SHALL MATCH THE WIDTH AND THICKNESS SHOWN ON PLANS. STRAPS SHALL HAVE A MINIMUM YIELD STRENGTH (Fy) OF 50 KSI. STRAPS SHALL BE GALVANIZED WITH A MINIMUM G60 FINISH.

LG-8 NON LOAD BEARING EXTERIOR STUDS SHALL BE ATTACHED TO PERIMETER ANGLE WITH A SLIDE CLIP PER DETAIL 14 / S500 .

LG-9 ALL LIGHT GAGE STUDS AND TRACKS SHALL HAVE A G60 FINISH

POST INSTALLED ANCHORS

PIA-1 ALL CONCRETE EXPANSION ANCHORS TO BE USED SHALL HAVE AN ICC-ES REPORT AND MEET THE REQUIREMENTS OF ACI 318 APPENDIX D FOR CRACKED & UNCRACKED CONCRETE. ANCHORS SHALL BE APPROVED FOR SEISMIC LOADS AND CRACKED CONCRETE. PRODUCT DATA SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL. ANCHORS SHALL BE INSTALLED PER THE ICC-ES REPORT AND MANUFACTURES RECOMMENDATIONS. CONCRETE ANCHORS SHALL BE GALVANIZED CARBON STEEL. CONCRETE EXPANSION ANCHORS SHALL MEET THE FOLLOWING MINIMUM REQUIREMENTS UNLESS NOTED OTHERWISE.

DESIGNATION ON PLAN	MINIMUM EMBEDMENT	ULTIMATE NON-SEISMIC TENSILE LOAD	ULTIMATE NON-SEISMIC SHEAR LOAD
3/8"Ø CEA	3"	3,070 LBS	3,005 LBS
1/2"Ø CEA	3-1/4"	4,534 LBS	12,450 LBS
3/4"Ø CEA	4-3/4"	8,780 LBS	22,000 LBS

ALL ULTIMATE (LRFD) LOADS ARE PROVIDED FOR CONCRETE WITH f'c = 400psi, UNCRACKED & FOR NON SEISMIC LOADS

PIA-2 ALL ADHESIVE (EPOXY) ANCHORS INTO CONCRETE SHALL HAVE AN ICC-ES REPORT, AND MEET THE REQUIREMENTS OF ACI 318 APPENDIX D FOR CRACKED & UNCRACKED CONCRETE. PRODUCT DATA SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL. ANCHORS SHALL BE INSTALLED PER THE ICC-ES REPORT AND MANUFACTURES RECOMMENDATIONS. THREAD RODS SHALL BE GALVANIZED AND MEET THE REQUIREMENTS OF ASTM 193, B7. ADHESIVE ANCHORS SHALL MEET THE FOLLOWING MINIMUM REQUIREMENTS UNLESS NOTED OTHERWISE.

THREADED ANCHOR RODS

DESIGNATION ON PLAN	MINIMUM EMBEDMENT	ULTIMATE TENSILE LOAD	ULTIMATE SHEAR LOAD
3/8"Ø EA	3-3/8"	4,055 LBS	10,460 LBS
1/2"Ø EA	4-1/2"	8,025 LBS	18,595 LBS
3/4"Ø EA	6-3/4"	17,305 LBS	37,265 LBS

ALL ULTIMATE LOADS (LRFD) ARE PROVIDED FOR NORMAL WEIGHT CONCRETE WITH f'c=400psi UNCRACKED & FOR NON-SEISMIC LOADS

EPOXY EMBEDDED REBAR

DESIGNATION ON PLAN	REBAR SIZE	MINIMUM EMBEDMENT	ULTIMATE TENSILE LOAD	ULTIMATE SHEAR LOAD
NO.3EA	#3	4-1/2"	5,725 LBS	12,330 LBS
NO.4EA	#4	6"	10,175 LBS	21,915 LBS
NO.5EA	#5	7-1/2"	15,900 LBS	34,245 LBS
NO.6EA	#6	9"	22,895 LBS	49,310 LBS

ALL ULTIMATE LOADS ARE PROVIDED FOR NORMAL WEIGHT CONCRETE REBAR WITH f'c=4000psi AND 60ksi REBAR

PIA-3 ALL MASONRY EXPANSION ANCHORS TO BE USED SHALL HAVE AN ICC-ES REPORT AND MEET THE REQUIREMENTS OF ACI 530. ANCHORS SHALL BE APPROVED FOR SEISMIC LOADS FOR FULLY GROUTED CELLS. PRODUCT DATA SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL. ANCHORS SHALL BE INSTALLED PER THE ICC-ES REPORT AND MANUFACTURES RECOMMENDATIONS. MASONRY EXPANSION ANCHORS SHALL BE GALVANIZED CARBON STEEL. MASONRY EXPANSION ANCHORS SHALL MEET THE FOLLOWING MINIMUM REQUIREMENTS UNLESS NOTED OTHERWISE.

DESIGNATION ON PLAN	MINIMUM EMBEDMENT	ULTIMATE TENSILE LOAD	ULTIMATE SHEAR LOAD
3/8"Ø WEA	2-1/2"	3,120 LBS	4,040 LBS
1/2"Ø WEA	3-1/2"	3,620 LBS	4,320 LBS
3/4"Ø WEA	4-3/4"	6,850 LBS	5,300 LBS

ALL ULTIMATE LOADS (LRFD) ARE PROVIDED FOR MINIMUM MASONRY PRISM STRENGTH OF f'm=1,500PSI AND MINIMUM EDGE DISTANCE OF 4 INCHES FROM EDGE OF BLOCK

PIA-4 ALL MASONRY EPOXY ANCHORS TO BE USED SHALL HAVE AN ICC-ES REPORT AND MEET THE REQUIREMENTS OF ACI 530. ANCHORS SHALL BE APPROVED FOR SEISMIC LOADS FOR FULLY GROUTED CELLS. PRODUCT DATA SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL. ANCHORS SHALL BE INSTALLED PER ICC-ES REPORT AND MANUFACTURERS RECOMMENDATIONS. MASONRY EPOXY ANCHORS SHALL BE APPROVED FOR HOLLOW UNREINFORCED MASONRY. MASONRY EPOXY ANCHORS SHALL MEET THE FOLLOWING MINIMUM REQUIREMENTS.

DESIGNATION ON PLAN	MINIMUM EMBEDMENT	ULTIMATE TENSILE LOAD	ULTIMATE SHEAR LOAD
3/8"Ø WEA	3-5/8"	6,200 LBS	4,250 LBS
1/2"Ø WEA	4-1/2"	10,175 LBS	7,475 LBS
3/4"Ø WEA	6-3/4"	19,050 LBS	20,450 LBS

ALL ULTIMATE LOADS (LRFD) ARE PROVIDED FOR MINIMUM MASONRY PRISM STRENGTH f'm=1,500PSI AND MINIMUM EDGE DISTANCE OF 4" FROM EDGE OF BLOCK AND FULLY GROUTED

CONCRETE

CNC-1 ALL CONCRETE SHALL BE PROPORTIONED, CONSTRUCTED AND CONFORM TO THE SPECIFICATION OF ACI 301-16. CONCRETE DESIGN SHALL CONFORM TO ACI 318-14.

CNC-2 PORTLAND CEMENT SHALL CONFORM TO ASTM C-150, TYPE I OR II. CONCRETE IN CONTACT WITH SOIL SHALL BE TYPE II CEMENT.

CNC-3 FLY ASH SHALL NOT BE USED IN ARCHITECTURALLY EXPOSED CONCRETE, TILTWALLS OR SLABS ON GRADE. FLY ASH IS ALLOWED IN ALL OTHER NON-ARCHITECTURALLY EXPOSED CONCRETE, UP TO A MAXIMUM OF 20% OF THE CEMENT CONTENT. THE MIX DESIGN SHALL INDICATE THAT THE FLY ASH SHALL NOT ADVERSELY EFFECT THE PERFORMANCE OF OTHER PRODUCTS AND MATERIALS THAT WILL BE IN CONTACT WITH THE CONCRETE.

CNC-4 CONCRETE SHALL BE PROPORTIONED TO THE FOLLOWING REQUIREMENTS:

LOCATION	f'c AT 28 DAYS	MAX SIZE AGGREGATE	SLUMP	AIR CONTENT	CONCRETE TYPE	MAXIMUM WATER TO CEMENT RATIO
FOOTINGS	3,000 PSI	1 – INCH	3 – 5 INCH	0 – 5%	NORMAL WEIGHT	0.55
SLAB ON GRADE & TURNDOWNS	4,000 PSI	3/4 – INCH	4 – 6 INCH	NONE	NORMAL WEIGHT	0.55

CNC-5 CONCRETE REINFORCING STEEL AND EMBEDS SHALL HAVE THE FOLLOWING PROPERTIES:

TYPE	DESIGNATION ON PLAN	ASTM	YIELD STRENGTH	NOTES
REBAR	#	A615	60 KSI	NOT WELDABLE
WELDED WIRE REINF.	WWF	A185	60 KSI	FLAT SHEETS ONLY
DEFORMED BAR ANCHORS	DBA	A496	60 KSI	WELDABLE
HEADED ANCHOR STUDS	HAS	A108, GR 10	70 KSI	

CNC-6 UNLESS OTHERWISE SHOWN THE CLEAR DISTANCE FOR THE FACE OF CONCRETE FORMS TO THE REINFORCING STEEL SHALL BE:

CONDITION	CLEAR DISTANCE	NOTES
CONCRETE CAST AGAINST EARTH OR WATER	3 – INCH	EXCLUDES SLABS ON GRADE
CONCRETE CAST TO FORMS EXPOSED TO EARTH, WATER OR WEATHER	2 – INCH	NO. 6 BAR AND LARGER
	1 1/2 – INCH	NO. 5 BAR AND SMALLER
CONCRETE CAST TO FORMS NOT EXPOSED TO EARTH, WATER OR WEATHER	1 – INCH	SLABS AND JOISTS
	1 1/2 – INCH	BEAMS, COLUMNS, & WALLS
SLABS ON GRADE	2 – INCH	FROM BOTTOM SURFACE
	1 1/2 – INCH	FROM TROWLED SURFACE
	3/4 – INCH	FROM SCREED SURFACE

CNC-7 REINFORCING DETAILING AND PLACEMENT SHALL BE IN COMPLIANCE WITH ACI 315-08.

CNC-8 ALL REBAR SHALL BE SPLICED IN ACCORDANCE WITH DETAIL 2 / S101 AND STANDARD HOOK SHALL BE PROVIDED PER DETAIL 1 / S101 . MESH REINFORCING SHALL BE SPLICED IN ACCORDANCE WITH DETAIL 4 / S400 .

CNC-9 ALL REBAR AND REINFORCING MESH SHALL BE CHAIRED TO PROVIDE REQUIRED COVER AND SUPPORT THE REINFORCING ADEQUATELY TO PREVENT ACCIDENTAL DISPLACEMENT. CHAIRS FOR SLABS ON GRADE SHALL BE SPECIFICALLY DESIGNED FOR USE ON SOIL. CHAIRS FOR SLABS ON METAL DECK SHALL BE SPECIFICALLY DESIGNED FOR USE ON METAL DECK.

CNC-10 SIZE AND LOCATION OF EQUIPMENT SUPPORTS AND EMBEDS SHALL BE COORDINATED WITH THE EQUIPMENT SUPPLIER AND SHALL BE IN ACCORDANCE WITH APPROVED SHOP DRAWINGS.

CNC-11 ALL CONCRETE SHALL BE CONSOLIDATED BY VIBRATORY MEANS. CONSOLIDATIONS SHALL BE OBSERVED BY INSPECTION AGENCY.

CNC-12 CONCRETE DIMENSIONS SHOWN ON DRAWINGS ARE ACTUAL DIMENSIONS NOT NOMINAL DIMENSIONS.

CNC-13 ALL CONTINUOUS REINFORCING IN FOOTINGS AND WALLS SHALL EITHER BE CONTINUOUS AROUND CORNERS OR HAVE BENT CORNER BARS OF THE SAME SIZE AND SPACING AS THE HORIZONTAL BARS.

CNC-14 FORM TIES SHALL BE EITHER OF THE THREADED OR SNAP OFF TYPE. NO EXPOSED METAL SHALL BE ALLOWED WITHIN ONE INCH OF THE SURFACE. ALL RECESSES SHALL BE POINTED WITH MORTAR.

CNC-15 ALL DOWELS, EMBEDS AND REINFORCING BARS SHALL BE SECURELY TIED PRIOR TO PLACING CONCRETE. INSTALLATION OF ITEMS INTO WET CONCRETE WILL NOT BE ALLOWED.

CNC-16 ALL EXPOSED CONCRETE CORNERS SHALL HAVE A 3/4" CHAMFER.

CNC-17 CONCRETE SHALL NOT BE DROPPED VERTICALLY MORE THAN 5 FEET WITHOUT THE USE OF A TREMIE.

MASONRY

MSN-1 ALL MASONRY CONSTRUCTION SHALL CONFORM TO ACI 530/ASCE 5/TMS 402 "BUILDING CODE REQUIREMENTS FOR MASONRY STRUCTURES" AND ACI 530.1/ASCE 6/TMS 602 "SPECIFICATION FOR MASONRY STRUCTURES", LATEST EDITION.

MSN-2 MASONRY UNITS SHALL MEET ASTM C-90 FOR HOLLOW LOAD BEARING TYPE MASONRY WITH A UNIT STRENGTH OF 1,900 PSI ON A NET AREA (f'm = 1,500 PSI) MORTAR SHALL BE TYPE "M" OR "S" AND MEET ASTM C-270.

MSN-3 GROUT SHALL BE 2,000 PSI MINIMUM COMPRESSIVE STRENGTH AND MEET ASTM C-476 AND HAVE A SLUMP BETWEEN 8 AND 11 INCHES. THE MAXIMUM SIZE AGGREGATE SHALL BE 3/8 INCH.

MSN-4 CELLS CONTAINING REBAR SHALL BE GROUTED SOLID FROM THE BOTTOM TO THE TOP OF THE WALL IN ACCORDANCE WITH THE LOW LIFT GROUT METHOD. USE OF METHODS OTHER THAN THE LOW LIFT GROUT METHOD SHALL ONLY BE USED WITH PRIOR WRITTEN APPROVAL FROM THE ENGINEER.

MSN-5 MASONRY REINFORCING SHALL BE AS FOLLOWS:

LOCATION	ASTM	YIELD STRENGTH	NOTES
BOND BEAM AND VERTICAL REINFORCING	A615-09	60 KSI	
LADDER TYPE JOINT REINFORCING	A82-07	70 KSI	PROVIDE W1.7 WIRE IN LADDER CONFIGURATION

LADDER TYPE JOINT REINFORCING SHALL HAVE PREFABRICATED CORNERS OR TEES AT WALL INTERSECTIONS.

MSN-6 ALL HORIZONTAL REINFORCING IN BOND BEAMS SHALL BE CONTINUOUS AT CORNERS AND INTERSECTION OR USE CORNER BARS. VERTICAL REINFORCING SHALL BE CONTINUOUS THROUGH BOND BEAMS.

MSN-7 CELLS TO BE GROUTED SOLID SHALL HAVE VERTICAL ALIGNMENT SUFFICIENT TO MAINTAIN A CLEAR, UNOBSTRUCTED, CONTINUOUSLY GROUT SPACE.

MSN-8 LAP REBAR IN ACCORDANCE WITH DETAIL 3 / S101 LAP JOINT REINFORCING A MINIMUM OF 6".

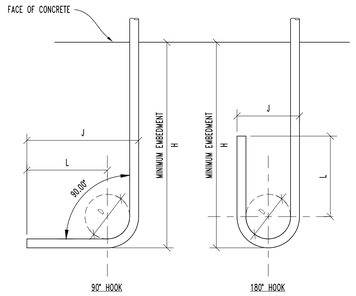
MSN-9 ALL MASONRY WALL CONFIGURATIONS INCLUDING OPENING SHALL BE COORDINATED WITH ARCHITECTURAL, CIVIL, MECHANICAL, PLUMBING AND ELECTRICAL DRAWINGS ALONG WITH OTHER TRADES.

MSN-10 ALL MASONRY BELOW GRADE AND/OR IN CONTACT WITH SOIL SHALL HAVE CELLS, VOIDS A

REBAR STANDARD HOOKS

REBAR SIZE	D (IN.)	90° HOOK				180° HOOK			
		J (IN.)	L (IN.)	H (IN.)		J (IN.)	L (IN.)	H (IN.)	
#3	2¼	6	4½	f'c = 3000PSI	9	3	1½	f'c = 3000PSI	6
				f'c = 4000PSI	7			f'c = 4000PSI	6
#4	3	8	6	f'c = 3000PSI	11	4	2	f'c = 3000PSI	7
				f'c = 4000PSI	10			f'c = 4000PSI	7
#5	3¾	10	7½	f'c = 3000PSI	14	5	2½	f'c = 3000PSI	7
				f'c = 4000PSI	12			f'c = 4000PSI	7
#6	4½	12	9	f'c = 3000PSI	17	6	3	f'c = 3000PSI	8
				f'c = 4000PSI	15			f'c = 4000PSI	8
#7	5¼	14	10½	f'c = 3000PSI	19	7	3½	f'c = 3000PSI	9
				f'c = 4000PSI	17			f'c = 4000PSI	9
#8	6	16	12	f'c = 3000PSI	22	8	4	f'c = 3000PSI	10
				f'c = 4000PSI	19			f'c = 4000PSI	10
#9	9½	19	13½	f'c = 3000PSI	25	11¼	4½	f'c = 3000PSI	12
				f'c = 4000PSI	22			f'c = 4000PSI	12
#10	10¾	22	15¼	f'c = 3000PSI	28	13¼	5¼	f'c = 3000PSI	14
				f'c = 4000PSI	24			f'c = 4000PSI	14

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



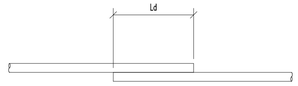
1 REBAR STANDARD HOOKS

SCALE: N.T.S.

CONCRETE REINFORCING SPLICE SCHEDULE

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

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



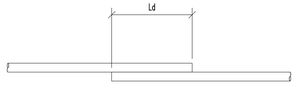
2 CONCRETE REINFORCING SPLICE SCHEDULE

SCALE: N.T.S.

MASONRY REINFORCING SPLICE SCHEDULE

f'm (PSI)	SPLICE TYPE	BAR SIZE					
		#3	#4	#5	#6	#7	#8
1500	8" CMU SINGLE MAT	12	15	24	44	61	91
	12" CMU SINGLE MAT	12	15	23	44	59	90
	12" CMU DOUBLE MAT	12	22	35	65	89	134
2000	8" CMU SINGLE MAT	12	13	21	39	52	79
	12" CMU SINGLE MAT	12	13	20	38	51	78
	12" CMU DOUBLE MAT	12	19	30	57	77	116
2500	8" CMU SINGLE MAT	12	12	18	34	47	71
	12" CMU SINGLE MAT	12	12	18	34	46	69
	12" CMU DOUBLE MAT	12	17	27	51	69	104

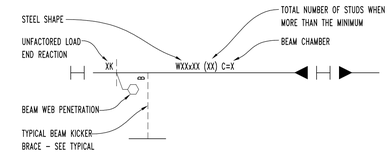
NOTES:
1. ALL REBAR SPLICE LENGTHS (Ld) PROVIDED ARE IN INCHES.
2. MECHANICAL SPLICES CAN BE SUBSTITUTE WITH APPROVAL OF ENGINEER.
3. REBARS IN SPLICE SHALL BE IN CONTACT.
4. LINTEL REINFORCING SHALL NOT BE SPLICED WITHOUT WRITTEN APPROVAL OF ENGINEER.



3 MASONRY REINFORCING SPLICE SCHEDULE

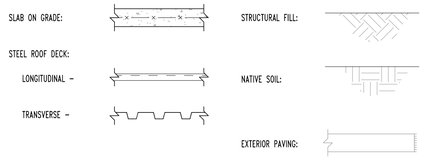
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STEEL BEAM CALLOUT KEY

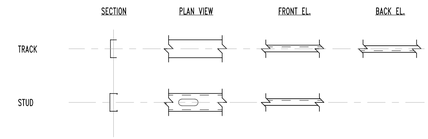


NOTE:
1. SPACE STUDS PER "COMPOSITE BEAM CONSTRUCTION" DETAIL. REFERENCE DETAIL

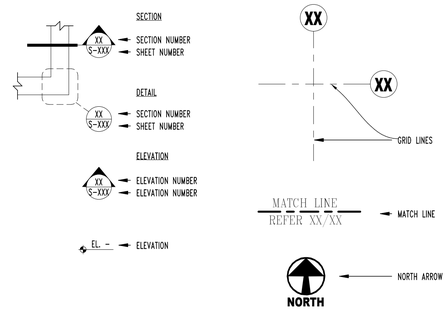
DETAIL LEGEND



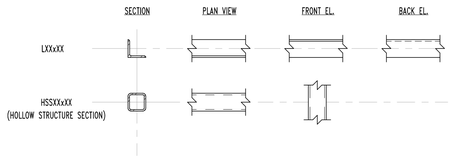
DETAIL LIGHT GAGE MEMBERS



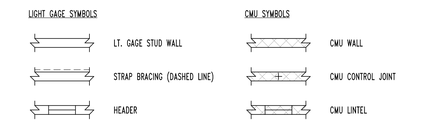
MISCELLANEOUS SYMBOLS

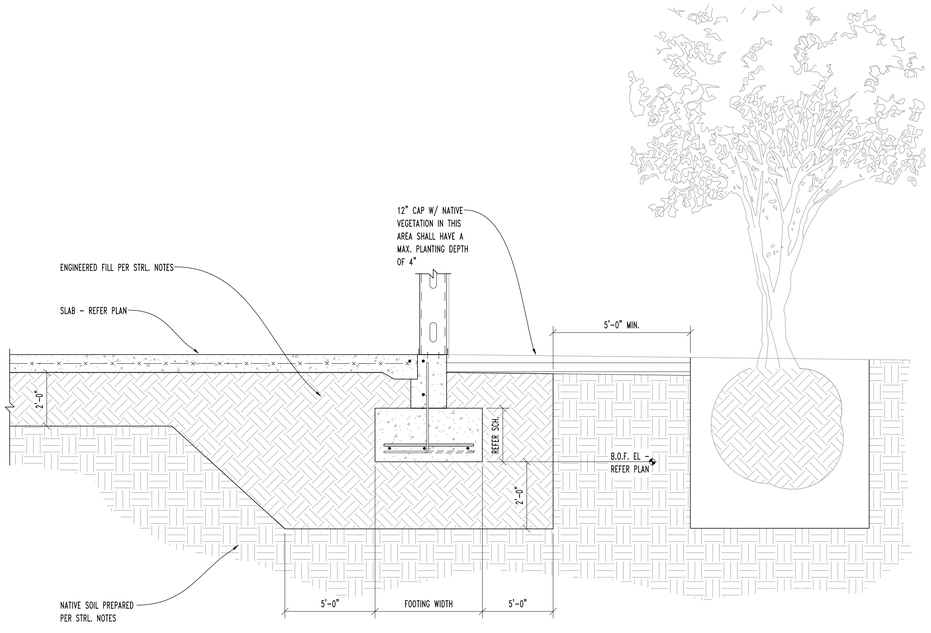


DETAIL STEEL MEMBERS



PLAN SYMBOLS





A OVER EXCAVATION EXTENTS

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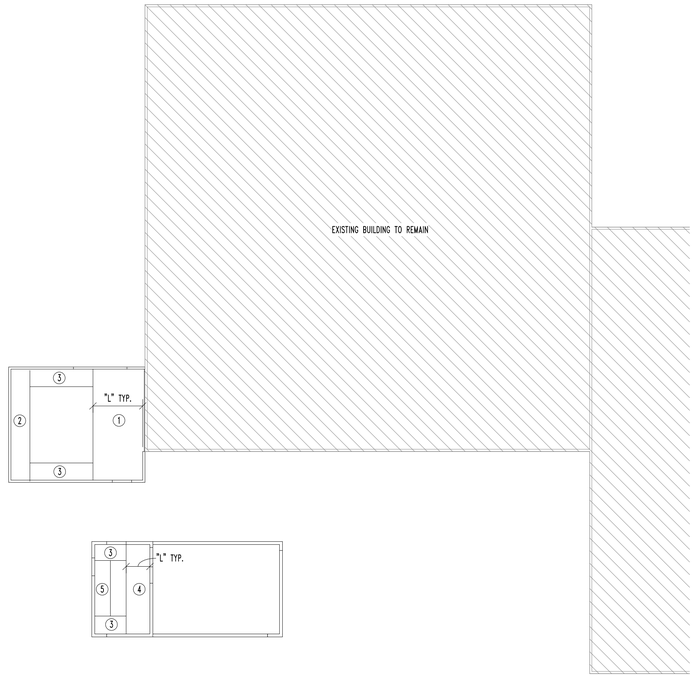
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STRUCTURAL DETAILS

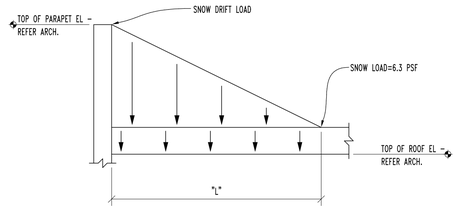
S101

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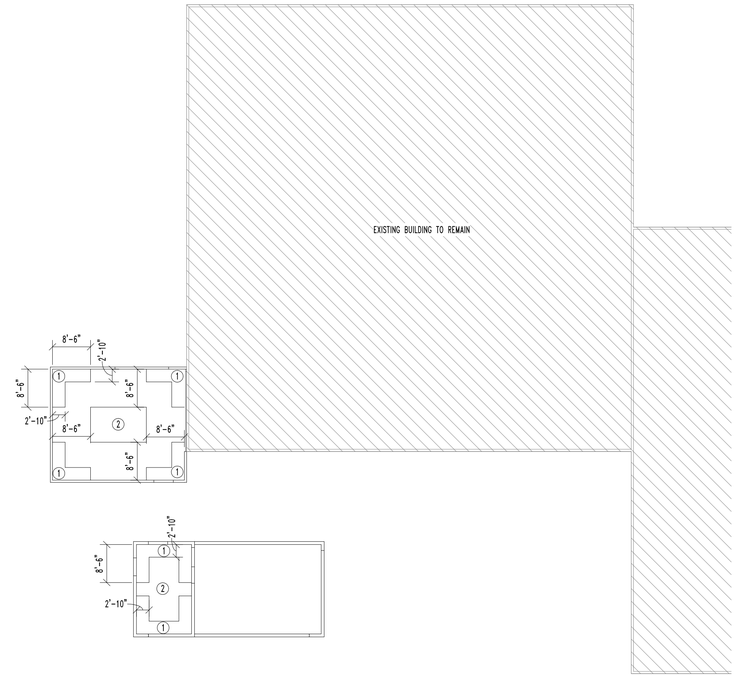


ZONE	SNOW DRIFT LOAD	HORIZONTAL DIMENSION OF DRIFT (L)
①	46.8 PSF	10'-9"
②	21.1 PSF	3'-11"
③	19.4 PSF	3'-6"
④	25.4 PSF	5'-1"
⑤	17 PSF	2'-10"

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



1 SNOW DRIFT DIAGRAM
SCALE: 1/16" = 1'-0"



ZONE	ACTUAL ALLOWABLE WIND UPLIFT PRESSURE (0.6WL)	NET WINDUPLIFT PRESSURE (0.6WL+0.6DL)
①	19.07 PSF	10.07 PSF
②	14.80 PSF	5.80 PSF

NOTE: WIND UPLIFT PRESSURES SHOWN ARE ACTUAL ALLOWABLE PRESSURES (0.6WL) NEGLECTING ROOF DEAD LOAD. FOR A NET WIND UPLIFT PRESSURE UTILIZE A ROOF DEAD LOAD (1.0DL) OF 15 PSF WITH A LOAD COMBINATION OF 0.6DL+0.6WL.

2 WIND UPLIFT DIAGRAM
SCALE: 1/16" = 1'-0"

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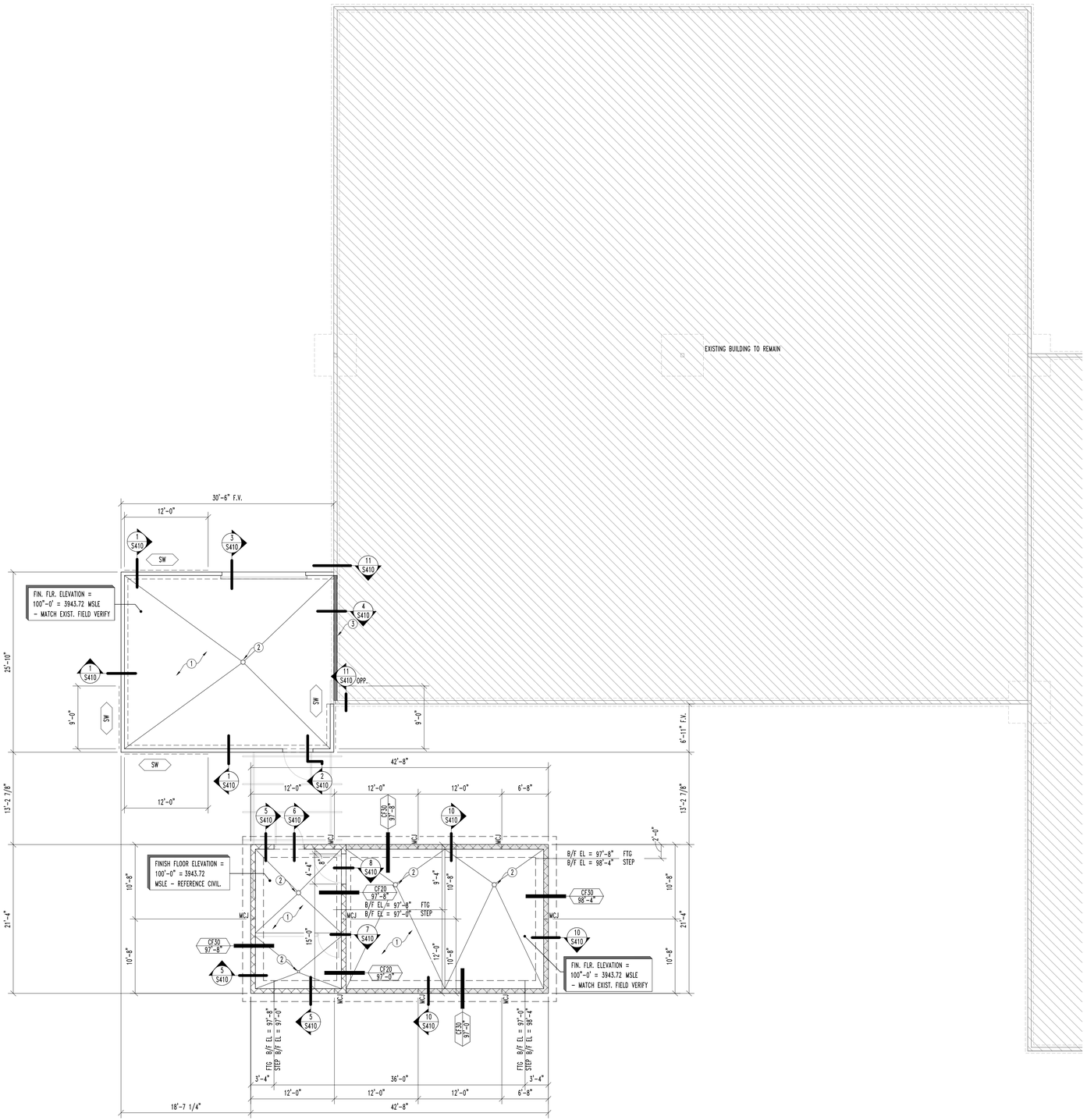
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STRUCTURAL DIAGRAMS

S102

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FOUNDATION PLAN

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

NORTH

PLAN NOTES

ALL DIMENSIONS ARE TO FACE OF CONCRETE UNLESS NOTED OTHERWISE.

CJ INDICATES A SLAB CONSTRUCTION JOINT. REFERENCE DETAIL 1 / S400 .

WCJ INDICATES A MASONRY CONTROL JOINT. REFERENCE DETAIL 5 / S501 .

SWX INDICATES STRAP WALL TYPE. REFERENCE STRAP WALL SCHEDULE.

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

KEY NOTES

1 . 4" CONCRETE SLAB WITH WWF6x6x-W1.4xW1.4 MESH IN CENTER OF SLAB OVER 10 MIL VAPOR BARRIER, AND PREPARED SUBGRADE. REFERENCE STRUCTURAL NOTES

2 . FLOOR DRAIN. COORDINATE WITH PLUMBING AND ARCHITECTURAL. SLOPE SLAB IN AROUND DRAIN 1/8":12"

3 . NEW OPENING IN EXISTING WALL - REFER FRAMING PLAN FOR HEADER

FOOTING SCHEDULE

XX
XX' - XX"

XX FOOTING MARK

XX' - XX" BOTTOM OF FOOTING ELEVATION

FOOTING MARK	LONGITUDINAL WIDTH	TRANSVERSE WIDTH	DEPTH	LONGITUDINAL REINFORCEMENT	TRANSVERSE REINFORCEMENT
CF20	CONTINUOUS	2'-0"	1'-0"	3 - #4	#5 @ 12" O.C.
CF30	CONTINUOUS	3'-0"	1'-0"	4 - #4	#5 @ 12" O.C.

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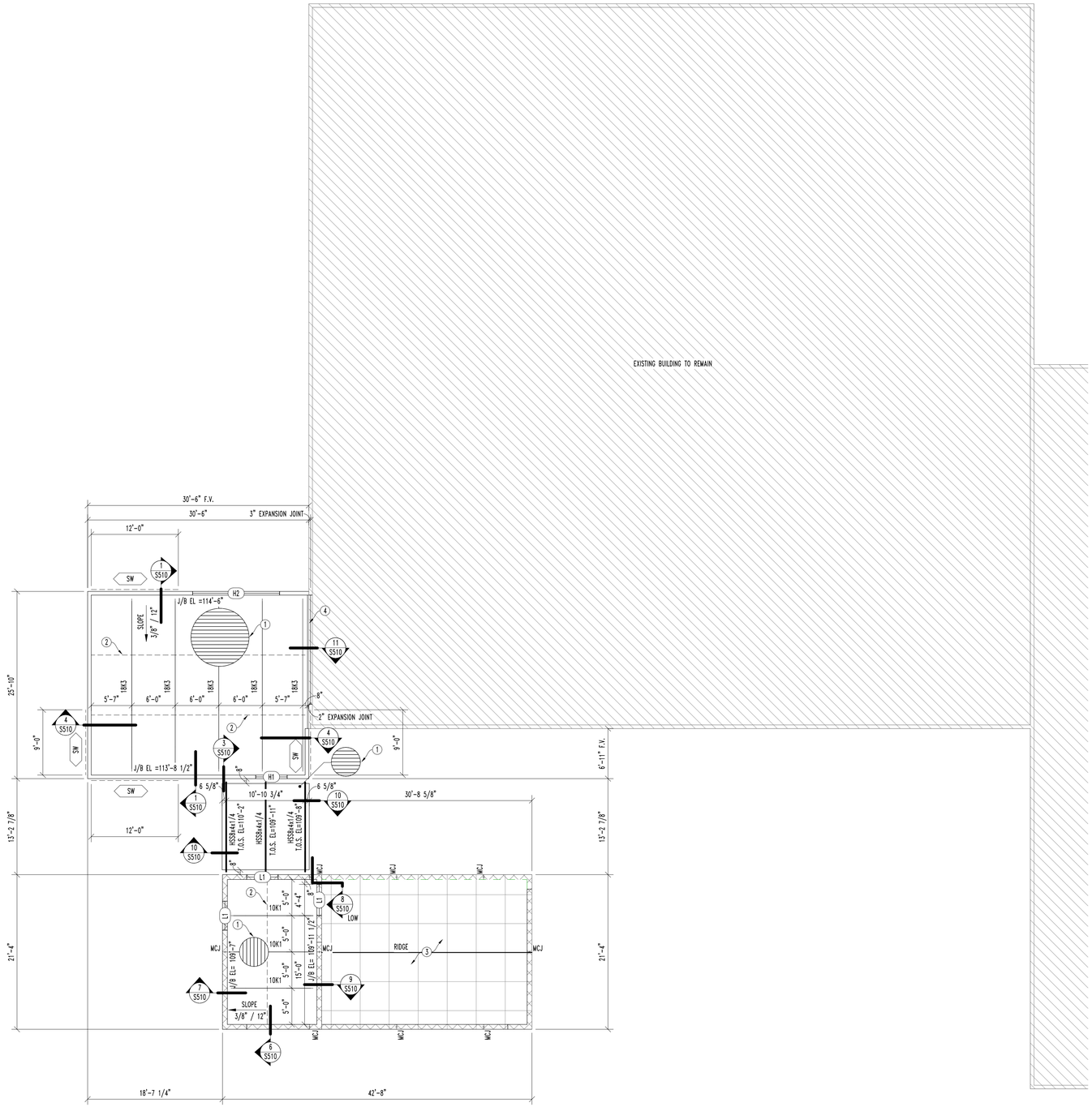
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FOUNDATION PLAN

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ROOF FRAMING PLAN

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

NORTH

PLAN NOTES

ALL DIMENSIONS ARE TO FACE OF CMU UNLESS NOTED OTHERWISE.

ALL DIMENSIONS ARE TO FACE OF STUD UNLESS NOTED OTHERWISE.

WCJ INDICATES A MASONRY CONTROL JOINT. REFERENCE DETAIL 5 / SS01 .

(LX) INDICATES CMU LINTEL. REFERENCE DETAIL 7 / SS01 FOR HEADER SCHEDULE.

(HX) INDICATES LIGHT GAGE HEADER. REFERENCE DETAIL 1 / S500 FOR HEADER SCHEDULE.

JOISTS SHALL BE EQUALLY SPACED UNLESS NOTED OTHERWISE.

J/B ELEVATION INDICATES ELEVATION AT BOTTOM OF JOIST SEAT.

REFERENCE DETAIL 11 / SS01 FOR TYPICAL ROOF FRAME DETAIL.

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

TYPICAL JOIST SEATS ARE 3" U.N.O.

KEY NOTES

1 . 1-1/2" 22ga B DECK – REFERENCE STRUCTURAL NOTES

2 . JOIST BRIDGING PER SJI SPECIFICATIONS

3 . PRE-ENGINEERED GREENHOUSE STRUCTURE – REFER MFG.

4 . NEW OPENING IN EXISTING METAL STUD WALL REFERENCE ARCH. FOR SIZE AND LOCATION – REFER DERAIL 13/S500

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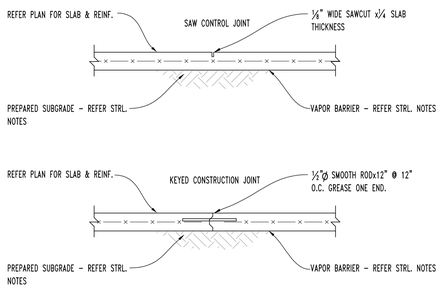
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ROOF FRAMING PLAN

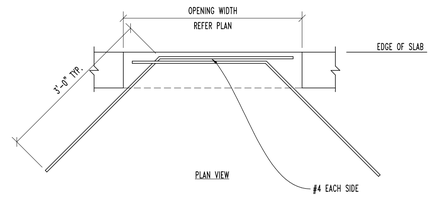
S300

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SEI JOB NO:S01-051



1 TYPICAL SLAB CONTROL JOINT

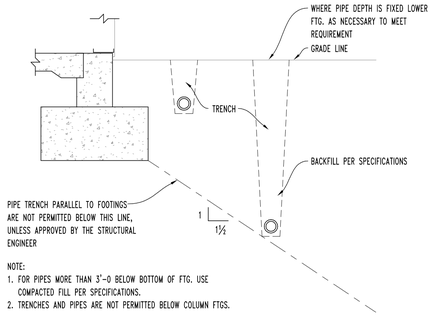
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TYPICAL SLAB REINFORCEMENT @ OPENING

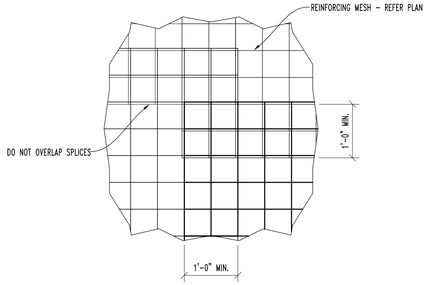
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SCALE: 3/4" = 1'-0"



3 TYPICAL PIPE & TRENCH DETAIL

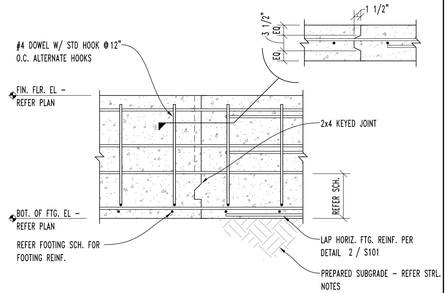
SCALE: 3/4" = 1'-0"



TYPICAL REINFORCING MESH SPLICE

4

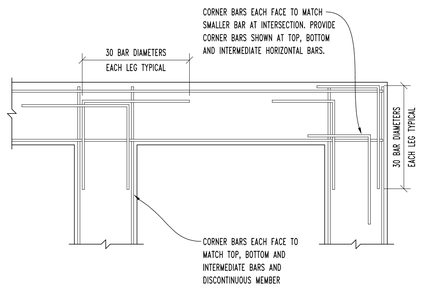
SCALE: 3/4" = 1'-0"



TYPICAL FOOTING CONSTRUCTION JOINTS

5

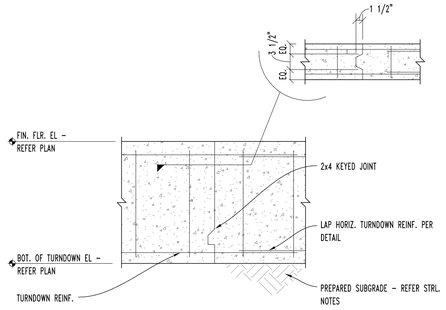
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TYPICAL CORNER BARS AT WALL OR GRADE BEAM INTERSECTION DETAIL

6

SCALE: N.T.S.



TYPICAL TURNDOWN CONSTRUCTION JOINTS

7

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

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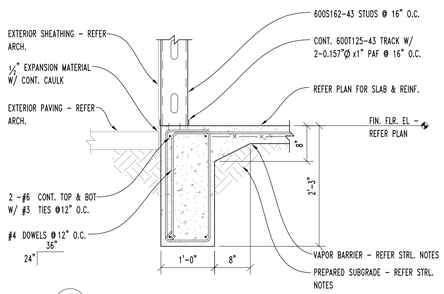
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TYPICAL FOUNDATION DETAILS

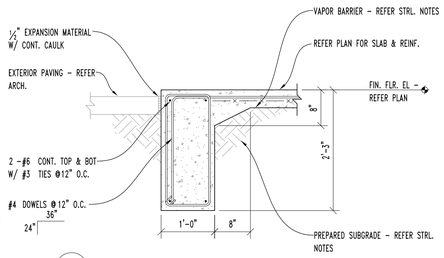
S400

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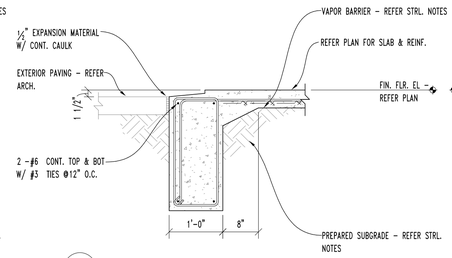
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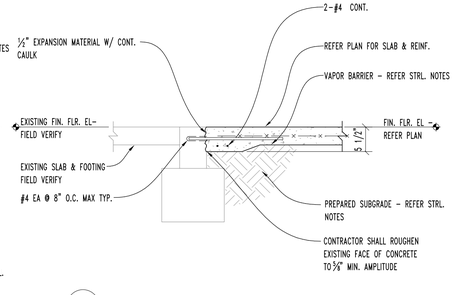
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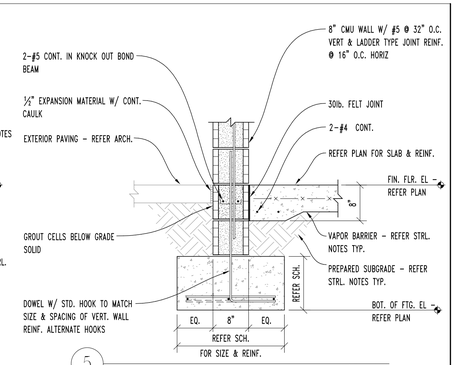
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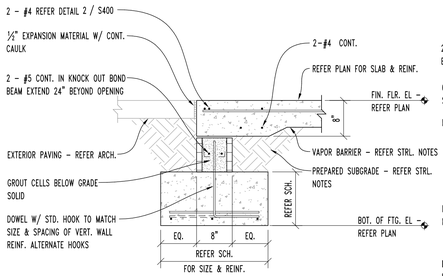
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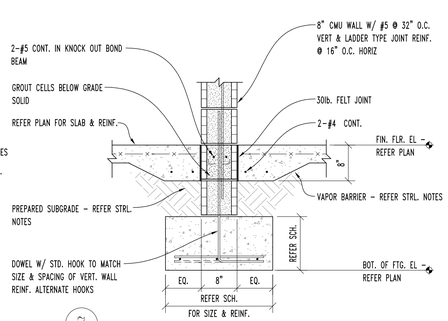
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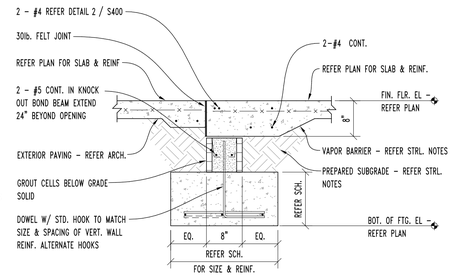
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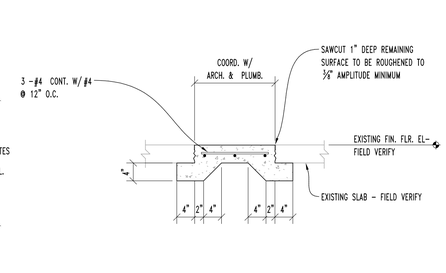
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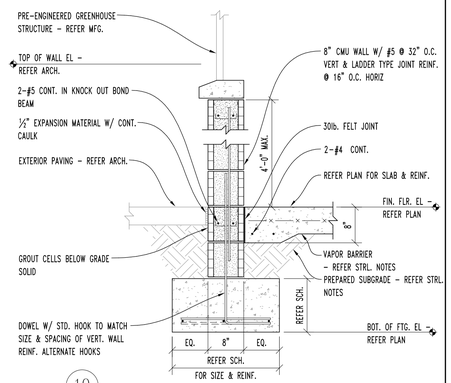
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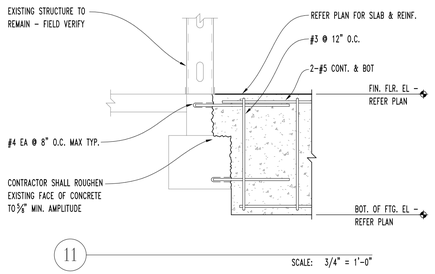
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SCALE: 3/4" = 1'-0"



10

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



11

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

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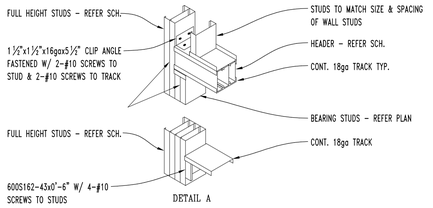
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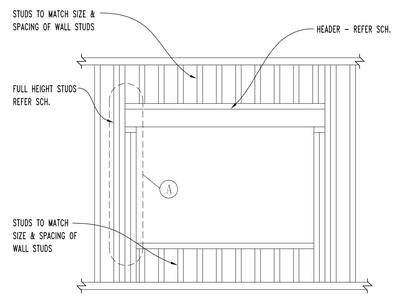
FOUNDATION DETAILS

S410

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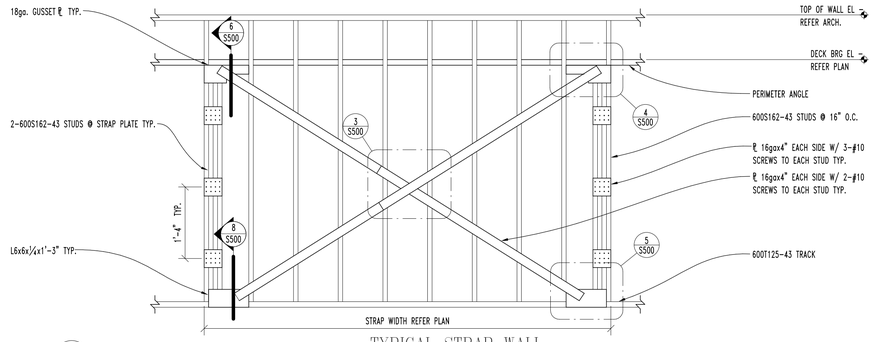
HEADER SCHEDULE			
MARK	HEADER	BEARING STUDS	FULL HEIGHT STUDS
H1	2-600S162-54	2-600S162-54	1-600S162-54
H2	3-600S162-68	3-600S162-54	4-600S162-54





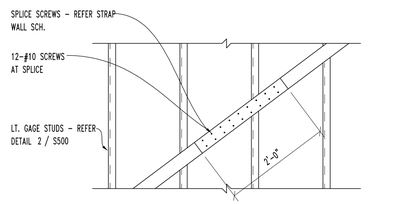
1 HEADER SCHEDULE

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



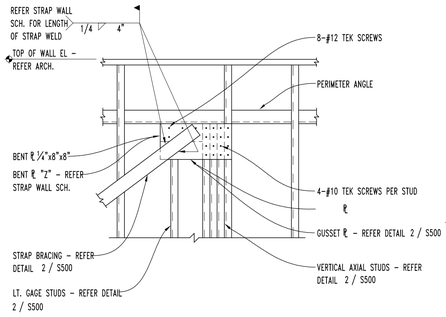
2 TYPICAL STRAP WALL

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



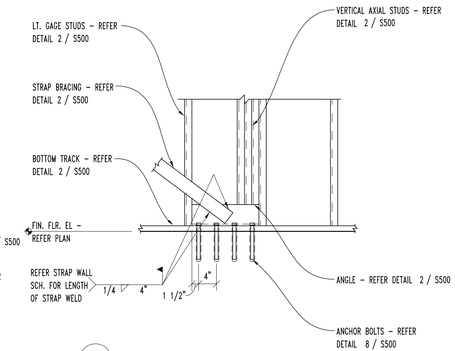
3 TYPICAL STRAP BRACE SPLICE

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



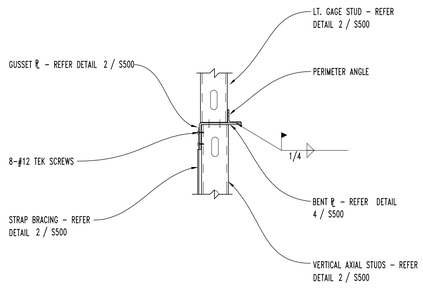
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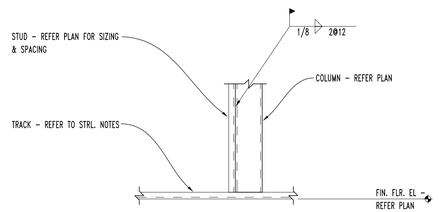
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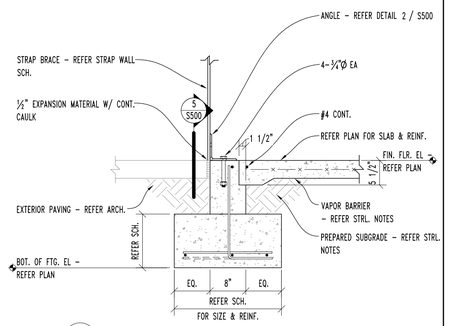
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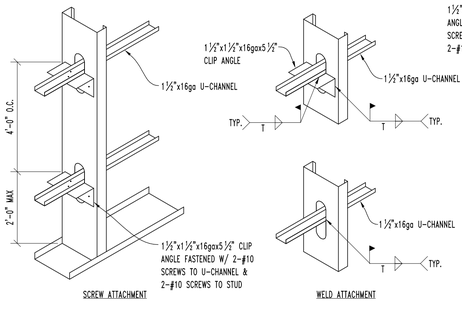
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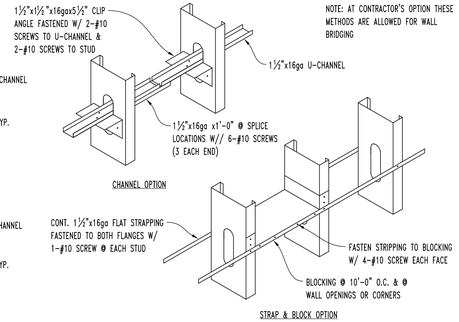
SCALE: 3/4" = 1'-0"



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

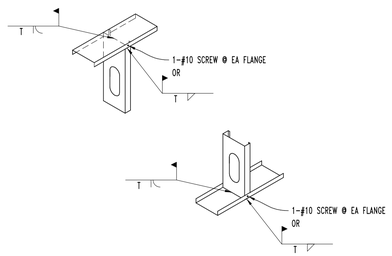




NOTE: AT CONTRACTOR'S OPTION THESE METHODS ARE ALLOWED FOR WALL BRIDGING

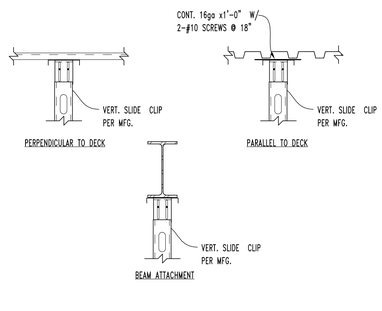
9 TYPICAL WALL BRIDGING

SCALE: N.T.S.



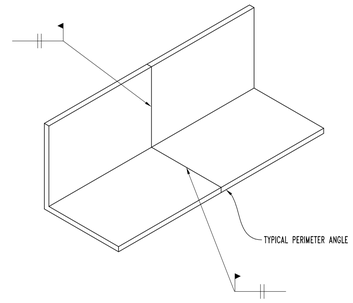
10 TYPICAL STUD TO TRACK DETAIL

SCALE: N.T.S.



11 TYPICAL SLIP TRACK

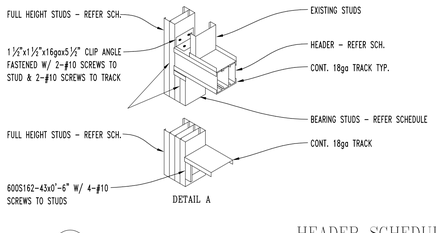
SCALE: 3/4" = 1'-0"

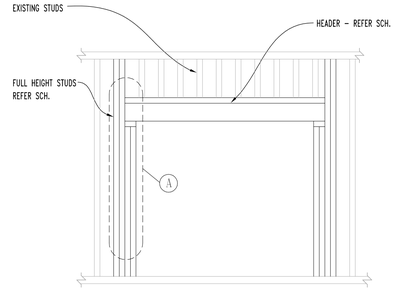


12 TYPICAL PERIMETER DECK ANGLE SPLICE

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

HEADER SCHEDULE			
MARK	HEADER	BEARING STUDS	FULL HEIGHT STUDS
H3	3-600S162-68	3-600S162-54	4-600S162-54

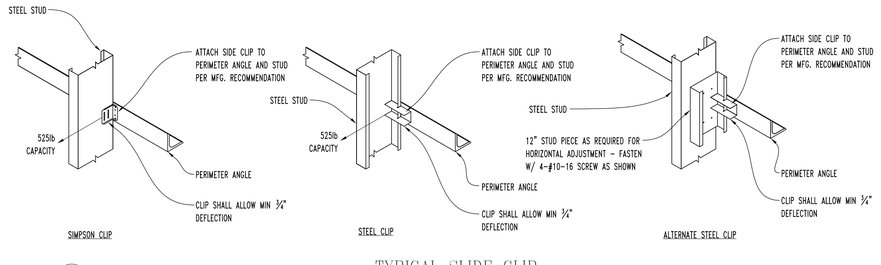




13 HEADER SCHEDULE - EXISTING WALLS

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

NOTE: USE THIS DETAIL AT ALL STUDS WHERE ROOF EDGE ANGLE AND STUDS DO NOT ALIGN



14 TYPICAL SLIDE CLIP

SCALE: N.T.S.

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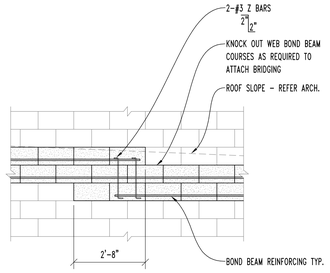
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NMSU Campus
Las Cruces, NM

REVISION	DATE

Project no: 25.25
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Sheet:

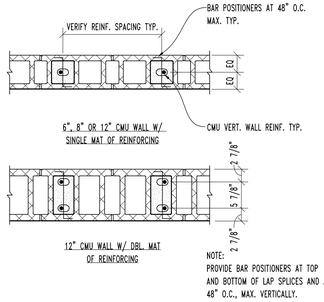
TYPICAL FRAMING DETAILS
S500

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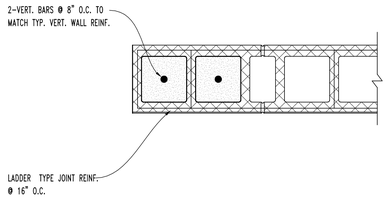
1 TYPICAL STEP ION BOND BEAM ELEVATION DETAIL

SCALE: N.T.S.



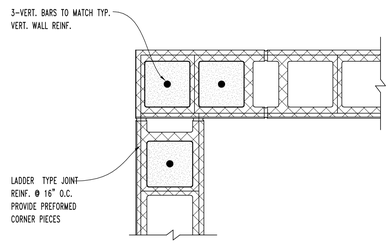
2 TYPICAL CMU BAR PLACEMENT DETAIL

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



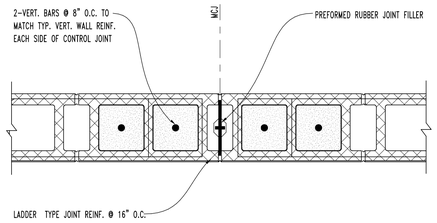
3 TYPICAL WALL JAMB

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



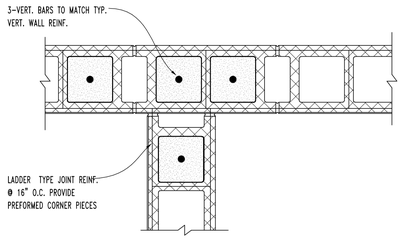
4 TYPICAL WALL CORNER

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



5 TYPICAL MASONRY CONTROL JOINT

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



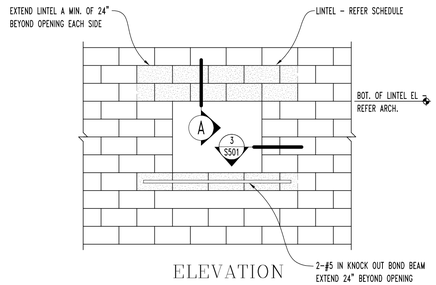
6 TYPICAL WALL INTERSECTION

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

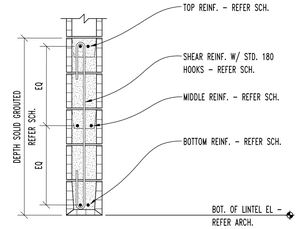
LINTEL SCHEDULE					
MARK	LINTEL DEPTH	BOTTOM REINF.	MIDDLE REINF.	TOP REINF.	SHEAR REINF.
L1	24"	2-#5	--	--	--

7 CMU LINTEL SCHEDULE

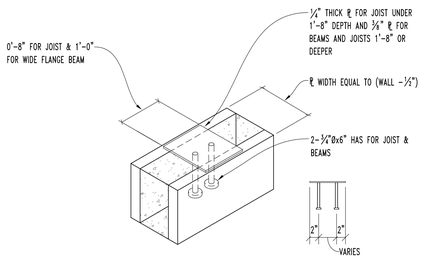
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ELEVATION

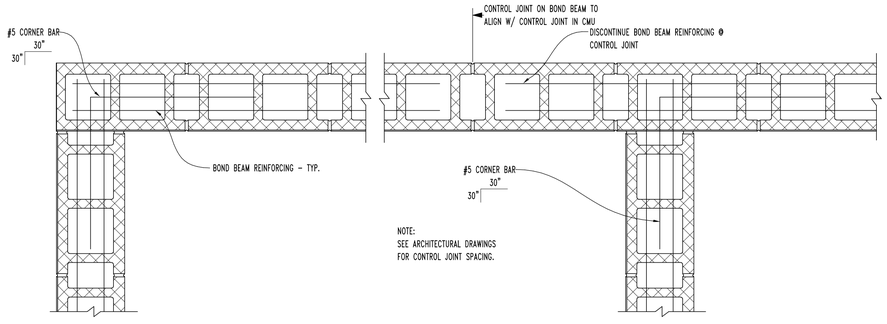


DETAIL A



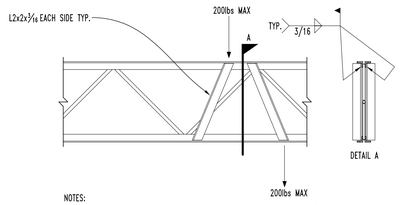
8 TYPICAL BEARING PLATE @ CMU WALLS

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



9 TYPICAL CORNER BARS AT BOND BEAMS DETAIL

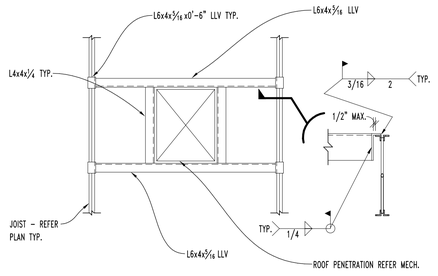
SCALE: N.T.S.



NOTES:
1. LOADS SUPPORTED FROM BOTTOM CHORD OF JOIST SHALL HAVE L2x2x3/16 EACH SIDE TO ADJACENT PANEL POINT ON TOP CHORD.
2. LOADS SUPPORTED BY TOP CHORD OF JOISTS SHALL HAVE L2x2x3/16 EACH SIDE TO ADJACENT PANEL POINT ON BOTTOM CHORD.
3. LOADS IN EXCESS OF 200 LBS SHALL NOT BE SUPPORTED BY JOIST WITHOUT PRIOR APPROVAL OF ENGINEER.
4. LOADS SUPPORTED WITHIN 4 INCHES OF A PANEL POINT DO NOT REQUIRE ANGLES TO OPPOSITE CHORD.

10 TYPICAL JOIST REINFORCING

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



11 TYPICAL ROOF FRAME

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

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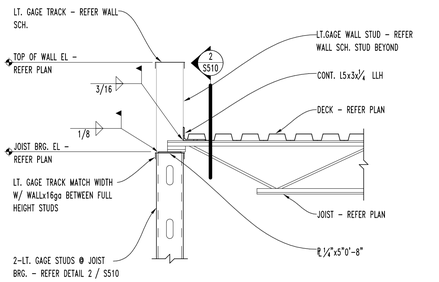
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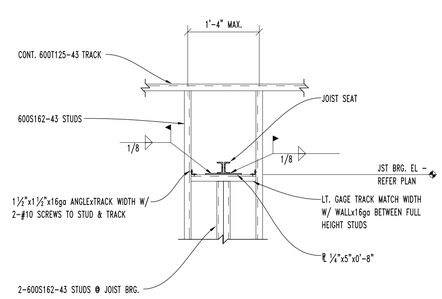
TYPICAL FRAMING DETAILS

S501

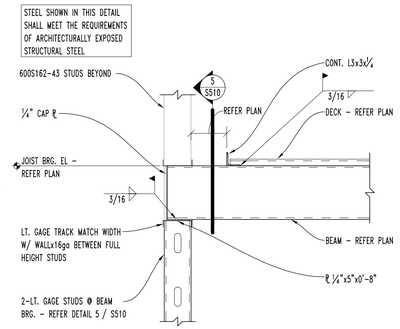
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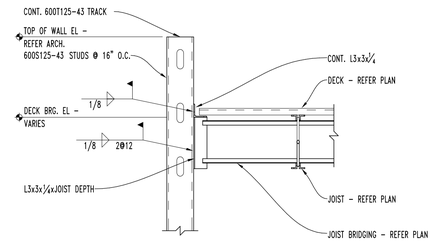
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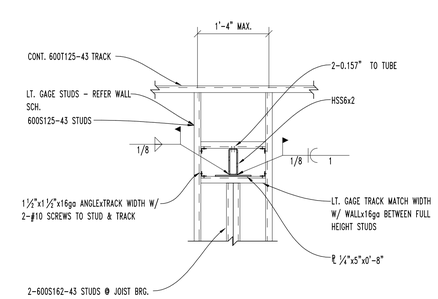
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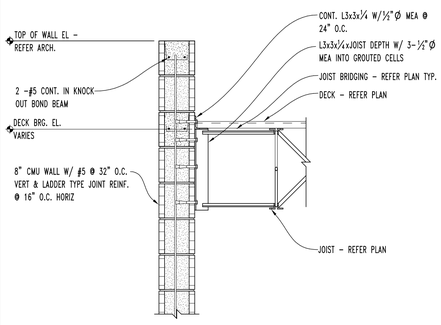
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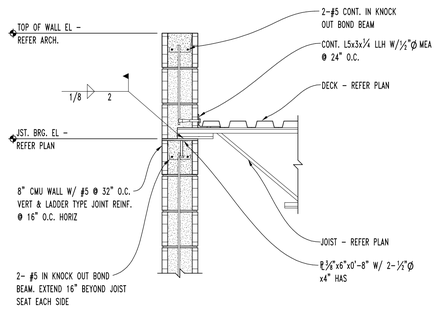
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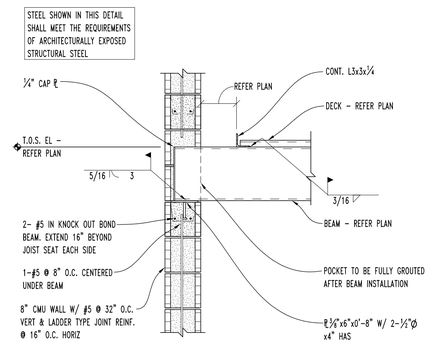
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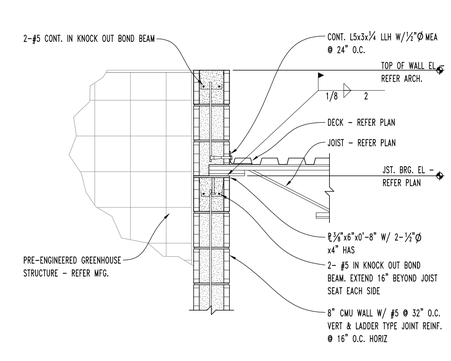
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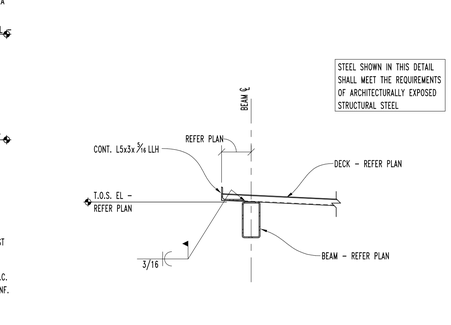
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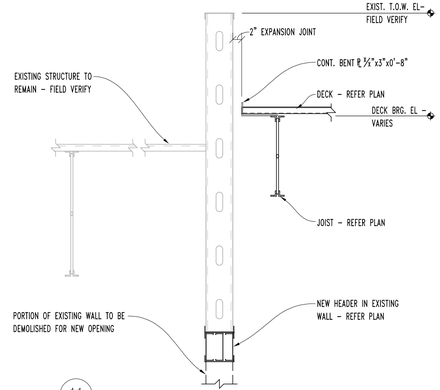
8 SCALE: 3/4" = 1'-0"



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



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



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

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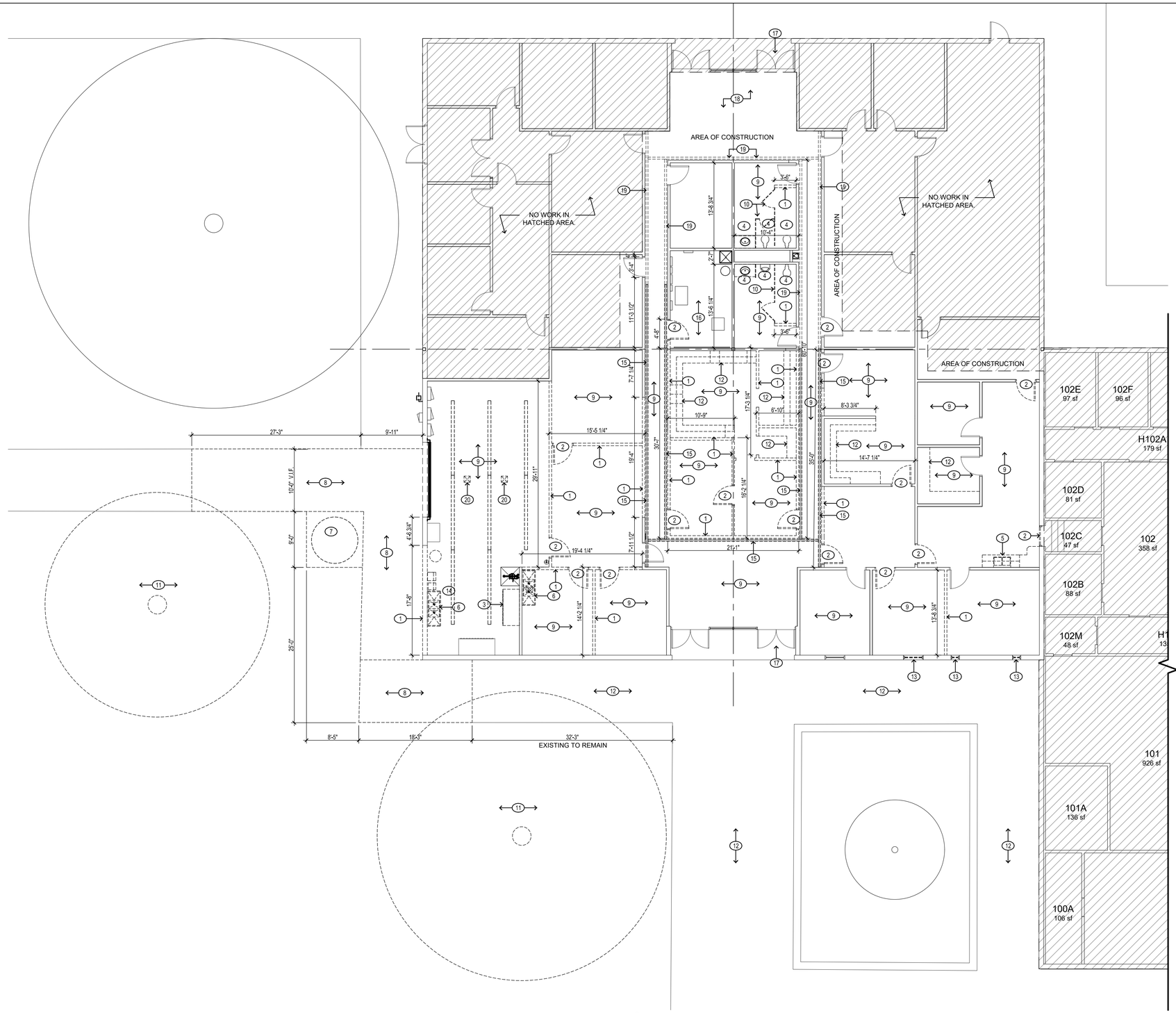
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ROOF FRAMING DETAILS

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NORTH

DEMOLITION FLOOR PLAN 1

1/8" = 1'-0"

GENERAL SITE NOTES

a. LANDSCAPING, SIGNAGE, WALLS, FENCES, TREES, AND SHRUBBERY BETWEEN TWO FEET AND TEN FEET TALL (AS MEASURED FROM THE GUTTER PAN) ARE NOT ALLOWED WITHIN THE CLEAR SIGHT TRIANGLE. UNIQUE STREET AND LOT GRADES MAY REQUIRE ADDITIONAL LIMITATIONS WITHIN THE CLEAR SIGHT TRIANGLE.

GENERAL NOTES

A. CONTRACTOR TO REMOVE ALL EXISTING FLOORING, WALL FINISHES, BASE, CEILINGS, AND LIGHTING WITHIN AREA OF CONSTRUCTION AND MAKE READY FOR NEW FINISHES AS SCHEDULED.
B. CONTRACTOR IS TO STAGE THE REMODEL OF THE EXISTING BATHROOMS IN SEQUENTIAL ORDER AS TO ALLOW THE USE OF ONE BATHROOM AT MINIMUM THROUGHOUT THE CONSTRUCTION. CONTRACTOR TO PROVIDE TEMPORARY PRIVACY HARDWARE DURING CONSTRUCTION.

KEYED NOTES

1. REMOVE EXISTING FRAMED WALL TO EXTENTS SHOWN.
2. REMOVE EXISTING DOOR AND FRAME IN ITS ENTIRETY.
3. EXISTING HOOD TO BE RELOCATED AS SHOWN ON NEW WORK.
4. REMOVE EXISTING PLUMBING FIXTURE, REMOVE ALL PLUMBING LINES AND CAP ABOVE CEILING OR BELOW FLOOR SLAB.
5. REMOVE EXISTING MILLWORK AND PLUMBING FIXTURES IN THEIR ENTIRETY.
6. REMOVE EXISTING SINK, REMOVE ALL PLUMBING LINES AND CAP ABOVE CEILING OR BELOW FLOOR SLAB.
7. EXISTING STORAGE TANK, REMOVE AND RELOCATE AS SHOWN ON NEW WORK DRAWINGS.
8. EXISTING CONCRETE TO BE REMOVED AS REQUIRED BY NEW CONSTRUCTION, CONTRACTOR IS TO SAW-CUT OR REMOVE CONCRETE TO NEAREST JOINT.
9. REMOVE EXISTING FLOORING, BASE, WALL FINISHES, LIGHT FIXTURES, AND CEILING FINISHES; MAKE READY FOR NEW CONSTRUCTION.
10. REMOVE EXISTING TOILET PARTITION.
11. REMOVE EXISTING TREE IN ITS ENTIRETY AND AS REQUIRE BY NEW CONSTRUCTION. REMOVE ALL ROOT SYSTEMS AND FILL HOLE WITH ADEQUATE BACK-FILL.
12. REMOVE EXISTING MILLWORK IN ITS ENTIRETY.
13. REMOVE EXISTING EXTERIOR WINDOW SYSTEM AND INFILL WALL TO MATCH EXISTING.
14. RELOCATE EXISTING WATER HEATER ABOVE AND EXTEND ALL WATER LINES AND POWER AS REQUIRED. COORDINATE WITH MEP FOR WATER HEATER LOCATION.
15. REMOVE EXISTING LINEAR WALL MOUNTED LIGHT FIXTURE TO NEAREST FIXTURE SECTION AS REQUIRED BY NEW CONSTRUCTION. CONTRACTOR IS TO SUPPORT EXISTING DATA CABLING TO REMAIN AND RELOCATE TO ABOVE CEILING.
16. REMOVE EXISTING CEILING SYSTEM AND LIGHT FIXTURES IN UTILITY CLOSET AND PROVIDE NEW CEILING AND LIGHTING AS SHOWN ON THE NEW WORK PLANS.
17. REMOVE EXTERIOR PULL PLATE FROM EXISTING DOOR, DOOR TO BE EXIT ONLY.
18. EXISTING FLOORING AND CEILING IN THIS AREA ARE TO REMAIN, EXISTING LIGHT FIXTURES ARE TO BE REMOVED; MODIFY EXISTING FLOORING AND CEILING AS REQUIRED BY NEW CONSTRUCTION IN THIS AREA.
19. EXISTING WALL-MOUNTED FIXTURE/CABLE TRAY TO REMAIN.
20. REMOVE EXISTING FLOOR SINK AND CONVERT TO FLOOR DRAIN.

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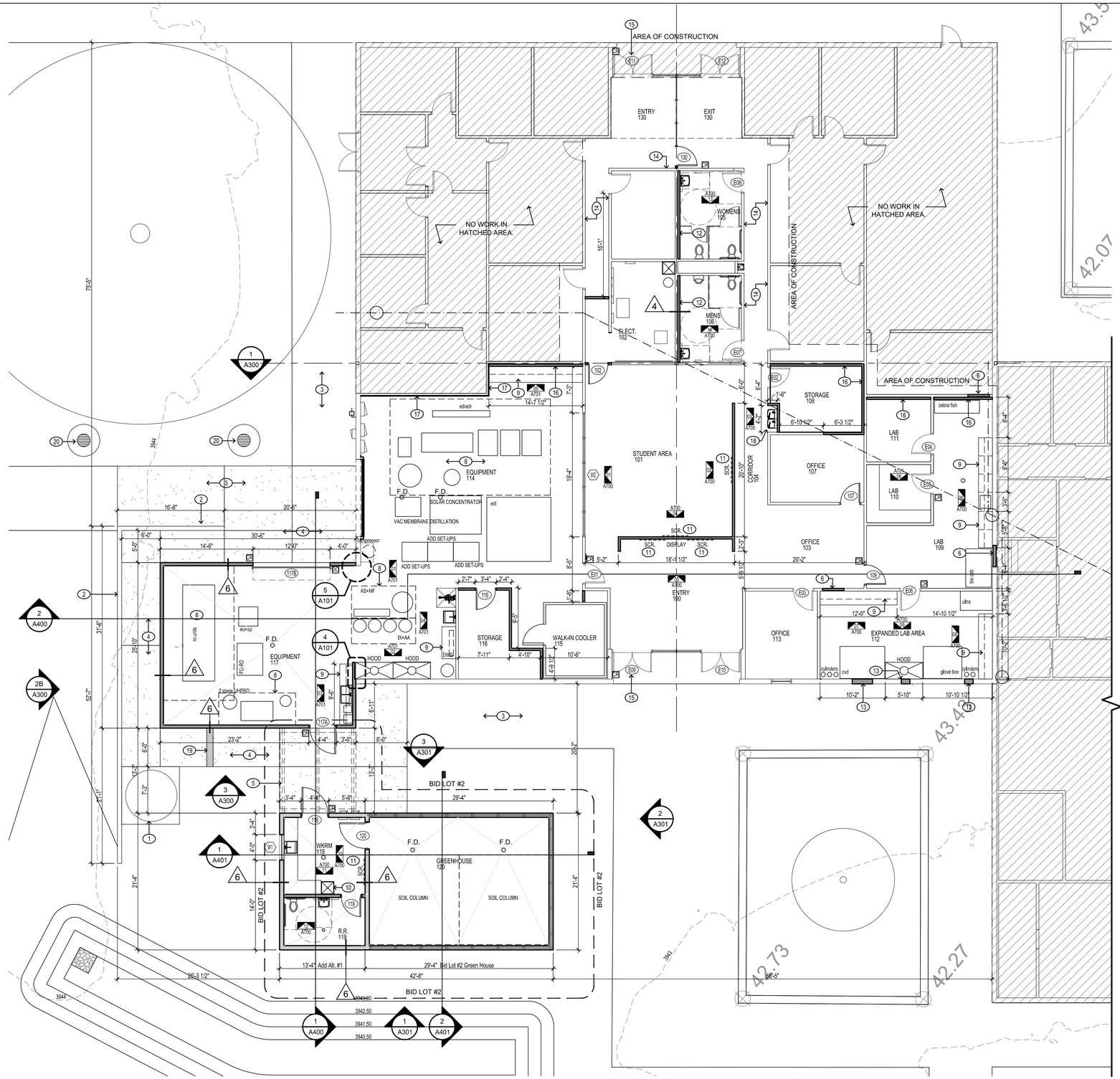
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DEMOLITION FLOOR PLAN

A001

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Last Saved By: AN May 22, 2026 - 10:35am
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FLOOR PLAN 1
1/8" = 1'-0"

GENERAL NOTES

A. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND CONDITIONS SHOWN ON PLANS AND EXISTING SITE. THE ARCHITECT SHALL BE NOTIFIED OF CONFLICTS OR VARIATIONS PRIOR TO COMMENCEMENT OF CONSTRUCTION.
B. THE ARCHITECT PRODUCING THESE PLANS WILL NOT BE RESPONSIBLE FOR FIELD CHANGES AND DECISIONS UNLESS NOTIFIED IN WRITING OF CHANGES AND THEN ONLY BY WRITTEN APPROVAL BY THE ARCHITECT.
C. ALL SCALE PLAN DIMENSIONS ARE TO NOMINAL FACE OF STUD OR FACE OF MASONRY UNLESS OTHERWISE NOTED.
D. CONTRACTOR SHALL NOT SCALE DRAWINGS, IN THE EVENT OF OMISSION OF DIMENSIONS THE CONTRACTOR SHALL NOTIFY THE ARCHITECT PRIOR TO THE COMMENCEMENT OF CONSTRUCTION. FAILURE TO DO SO WILL LEAVE THE CONTRACTOR SOLELY RESPONSIBLE FOR ANY DISCREPANCIES, CORRECTIONS, ETC., RESULTING FROM THE SAME.
E. THE CONTRACTOR SHALL PROVIDE PROTECTION AS NECESSARY TO PREVENT DAMAGE TO THE EXISTING CONSTRUCTION NOT TO BE REMOVED UNDER CONTRACT AND ANY/ALL ITEMS INDICATED TO REMAIN IN PLACE.
F. ANY AND ALL ITEMS DAMAGED DURING CONSTRUCTION SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO REPAIR TO A LIKE NEW CONDITION AT HIS EXPENSE.
G. THE CONTRACTOR SHALL CLEAN UP ALL DEBRIS CAUSED BY THE WORK OF THIS PROJECT AND SHALL SOLELY BE RESPONSIBLE FOR KEEPING THE PREMISES CLEAN AND NEAT AT ALL TIMES.
H. THERE SHALL BE LITTLE IF NO INTERRUPTION TO THE ADJACENT BUILDING OPERATIONS DURING THE COURSE OF CONSTRUCTION. UNAVOIDABLE INTERRUPTIONS IN SERVICES SHALL BE DISCUSSED, AGREED UPON AND SCHEDULED WITH NMSU.
I. ANY AND ALL CONFLICTS FOUND DURING CONSTRUCTION SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT IN WRITING, SO THAT ADDITIONAL INSTRUCTIONS CAN BE FORWARDED TO THE CONTRACTOR.
J. THE CONTRACTOR SHALL NOT INSTALL ANY MATERIAL, PRODUCT, ETC. WHICH CONTAINS ASBESTOS OR OTHER TOXIC SUBSTANCES. IF ANY MATERIAL, PRODUCT, ETC. DOES CONTAIN ANY OF THE ABOVE, THE CONTRACTOR SHALL SUBMIT AN EQUAL SUBSTITUTION FOR THE OWNERS APPROVAL PRIOR TO INSTALLATION. AT THE COMPLETION OF THE PROJECT THE CONTRACTOR SHALL CERTIFY IN WRITING ON COMPANY LETTER HEAD THAT HE IS IN COMPLIANCE.
K. IF THE CONTRACTOR SUSPECTS THE PRESENCE OF ASBESTOS CONTAINING MATERIALS, THE ARCHITECT SHALL BE NOTIFIED IMMEDIATELY. THE OWNER SHALL BE RESPONSIBLE FOR THE SAFE REMOVAL AND/OR CONTAINMENT OF ALL SUCH MATERIALS, IN ACCORDANCE WITH THE APPLICABLE LAW. ADJUSTMENT TO THE CONSTRUCTION SCHEDULE WILL BE CONSIDERED IF ABATEMENT IS REQUIRED. ANY ASBESTOS REMOVAL WORK SHALL BE COORDINATED BY THE GENERAL CONTRACTOR. THE ARCHITECT ASSUMES NO RESPONSIBILITY FOR THE DETECTION, PRESENCE OR REMOVAL OF ASBESTOS CONTAINING MATERIALS.
L. THE CONTRACTOR SHALL PROVIDE ALL BARRICADES, FENCES, COVERED WALKS, PLANKING, FENCES LIGHTING, BRACING, SHORING, WARNING SIGNS, GUARDS, ETC. AS REQUIRED FOR PROTECTION OF WORKMEN, THE PUBLIC, BUILDING OCCUPANTS AND ADJOINING PROPERTIES.
M. PRIOR TO COMMENCEMENT OF WORK, THE CONTRACTOR AND ARCHITECT SHALL JOINTLY SURVEY THE SITE AND EXISTING BUILDINGS, PAVING, PLANT LIFE, AND OTHER ITEMS, NOTING AND RECORDING EXISTING DAMAGE SUCH AS CRACKS, SAGS, LOOSE MASONRY, UNHEALTHY PLANT LIFE, AND OTHER DAMAGE. THIS SURVEY WILL BE USED AS A BASIS FOR DETERMINATION OF SUBSEQUENT DAMAGE TO THIS ITEMS DUE TO DEMOLITION AND CONSTRUCTION OPERATIONS. THE OFFICIAL RECORD OF THIS DAMAGES SHALL BE SIGNED BY THE ARCHITECT AND CONTRACTOR. DAMAGE TO THE SITE AND ADJACENT BUILDINGS, PAVING PLANT LIFE AND OTHER ITEMS NOT NOTED IN THE ORIGINAL SURVEY BUT SUBSEQUENTLY OBSERVED SHALL BE REPORTED IMMEDIATELY TO THE ARCHITECT AND IMMEDIATELY REPAIRED OR CORRECTED BY THE CONTRACTOR AT THE CONTRACTOR EXPENSE.
N. CONTRACTOR SHALL INSTALL BATT INSULATION TO ALL EXISTING EXPOSED WALLS. VERIFY WITH WITH ARCHITECT SO THAT ADDITIONAL INSTRUCTIONS CAN BE FORWARDED TO THE CONTRACTOR.
O. ALL WALLS AT RESTROOMS AND JANITOR CLOSETS SHALL BE INSTALLED UP TO DECK.
P. CONTRACTOR SHALL PATCH ALL EXISTING WALLS, CEILINGS, AND FLOORS WITHIN AREA OF CONSTRUCTION; AND REFINISH TO MATCH NEW FINISHES OR PROVIDE NEW FINISHES AS SCHEDULED.

KEYED NOTES

1. RELOCATED STORAGE TANK, CONTRACTOR TO PROVIDE 6" EQUIPMENT PAD TO MATCH EXISTING.
2. LOW SPLIT-FACE C.M.U. WALL, SEE SITE DETAILS.
3. EXISTING WALKWAY TO REMAIN.
4. NEW 4" THICK CONCRETE WALK, SEE SITE DETAILS.
5. HIDDEN LINE OF STEEL TUBE CANOPY ABOVE.
6. INFILL OPENING WITH METAL STUD FRAMING AND WALL FINISHES TO MATCH ADJACENT FINISHES.
7. EDUCATIONAL TRAINING WALL, PROVIDE ALL REQUIRED TECHNOLOGY CONNECTIONS.
8. NEW EQUIPMENT, COORDINATE WITH MEP REQUIREMENTS.
9. MILLWORK, SEE INTERIOR ELEVATIONS AND MILLWORK SECTIONS.
10. MOP SINK, SEE PLUMBING.
11. DISPLAY SCREEN, SEE POWER/ DATA.
12. PROVIDE 3-5/8" MTL. STUD FURROUT PLUMBING WALL. PROVIDE FINISHES AS SCHEDULED.
13. INFILL EXISTING WINDOW OPENINGS WITH METAL STUD FRAMING, MATCH EXTERIOR AND INTERIOR WALL FINISHES. SEE WALL TYPE-1.
14. PATCH AND PAINT EXISTING WALLS AT CORRIDOR.
15. PROVIDE NEW ACCESS CONTROL SYSTEM TO EXISTING ENTRY DOOR.
16. PROVIDE 3-5/8" MTL. STUD FURR-OUT WALL AND EXTEND TO B.O. DECK, CONTRACTOR TO PROVIDE FULL HT. SOUND BATT INSULATION AND 5/8" SOUND DAMPENING TWO-PIECE HIGH DENSITY GYPSUM BOARD AT FINISH SIDE.
17. ADD LAY OF 5/8" SOUND DAMPENING TWO-PIECE HIGH DENSITY GYPSUM BOARD TO FULL HT., FINISH TO MATCH NEW FINISHES.
18. BI-LEVEL WATER COOLER, SEE MEP.
19. PROVIDE 12" WIDE TRENCH AND STL. PLATE TRENCH COVER AT ROOF DRAIN SCUPPER.
20. STORM DRAIN INLET, SEE CIVIL GRADING AND DRAINAGE.

WALL TYPES

1. EXTERIOR WALL INFILL
EIFS SYSTEM ON ½" EXT. SHEATHING ON 6" METAL STUDS @ 16" O.C. W/ R-19 BATT INSUL. & ⅝" G.W.B. AT INTERIOR.

2. INTERIOR WALL
3⅝" METAL STUDS @ 16" O.C. W/ SOUND BATT INSUL. & ⅝" G.W.B. AT EACH SIDE; EXTEND WALL TO BOTTOM OF DECK.
ALL WALLS TO BE TYPE-2 U.N.O.

3. INTERIOR WALL
3⅝" METAL STUDS @ 16" O.C. W/ SOUND BATT INSUL. & ⅝" G.W.B. AT EACH SIDE; EXTEND WALL TO 12" ABOVE CEILING AND BRACE TO STRUCTURE ABOVE.

4. INTERIOR FURROUT WALL
3⅝" METAL STUDS @ 16" O.C. W/ SOUND BATT INSUL. & ⅝" G.W.B. AT EACH SIDE; EXTEND WALL TO 12" ABOVE CEILING.
EXIST. WALL

5. INTERIOR PLUMBING WALL
6" METAL STUDS TO DECK @ 16" O.C. W/ SOUND BATT INSUL. & ⅝" G.W.B. ON BOTH SIDES

6. FULL HEIGHT EXTERIOR WALL
8" C.M.U. WALL.

7. FULL HEIGHT EXTERIOR WALL
EIFS SYSTEM ON ½" EXT. SHEATHING ON 6" METAL STUDS @ 16" O.C. W/ R-19 BATT INSUL. & ⅝" G.W.B. AT INTERIOR.

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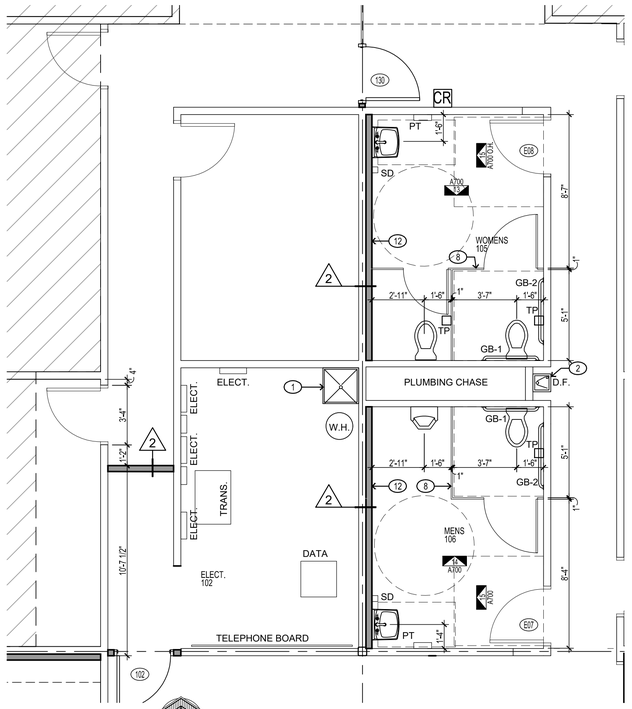
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NEW WORK FLOOR PLAN, WALL TYPES

A100

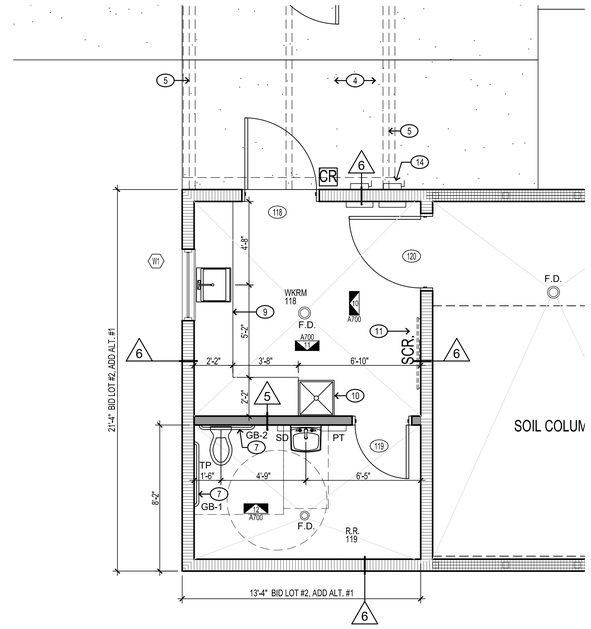
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NORTH

ENLARGED FLOOR PLAN 1

1/4" = 1'-0"

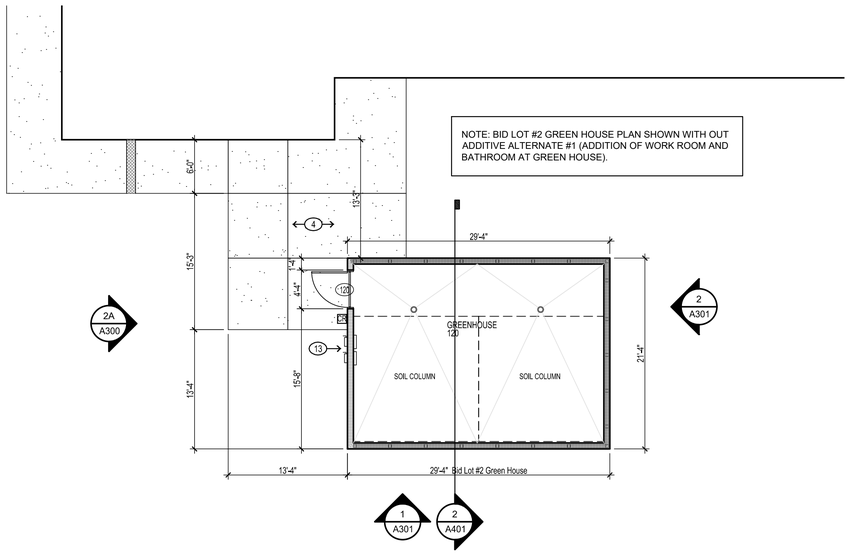


NOTE: BID LOT #2, ADDITIVE ALTERNATE #1 TO INCLUDE THE ADDITION OF WORK ROOM AND BATHROOM AT GREEN HOUSE.

NORTH

ENLARGED FLOOR PLAN 2

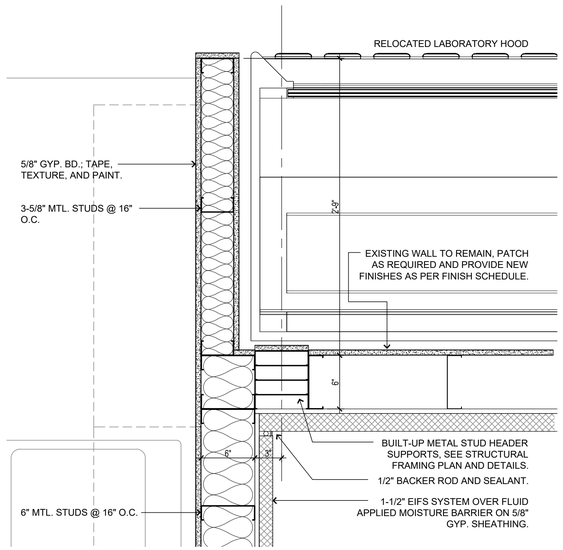
BID LOT #2, ADD ALT. #1 1/4" = 1'-0"



NORTH

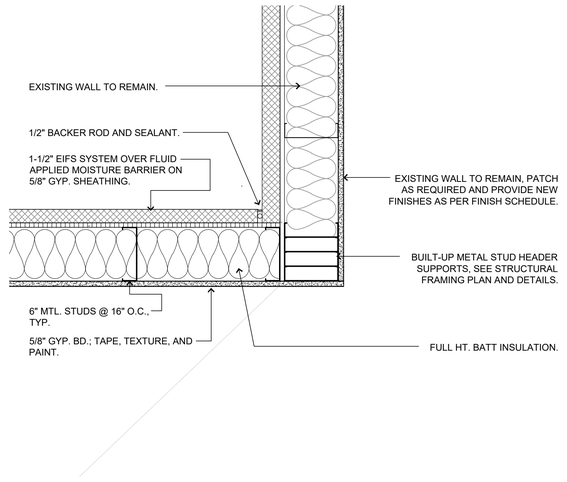
GREEN HOUSE PLAN 3

BID LOT #2 1/4" = 1'-0"



PLAN DETAIL 4

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



PLAN DETAIL 5

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

KEYED NOTES

1. EXISTING MOP SINK TO REMAIN.
2. EXISTING DRINKING FOUNTAIN TO REMAIN.
3. NOT USED.
4. NEW 4" THICK CONCRETE WALK, SEE SITE DETAILS.
5. HIDDEN LINE OF STEEL TUBE CANOPY ABOVE. STL. TUBE CANOPY TO BE PART OF ADDITIVE ALTERNATE #1 WITHIN BID LOT #2.
6. INFILL OPENING WITH METAL STUD FRAMING AND WALL FINISHES TO MATCH ADJACENT FINISHES.
7. STAINLESS STEEL ACCESSIBLE GRAB BARS, PROVIDE 36", 42" AND 18" VERTICAL.
8. 1" STAINLESS STEEL TOILET PARTITION/URINAL SCREEEN; FLOOR MOUNTED, OVERHEAD BRACED.
9. COUNTER TOP AND BASE CABINET, SEE INTERIOR ELEVATIONS AND MILLWORK SECTIONS.
10. MOP SINK, SEE PLUMBING.
11. DISPLAY SCREEN, PROVIDE POWER/ DATA; SEE ELECTRICAL.
12. PROVIDE 3-5/8" MTL. STUD FURROUT PLUMBING WALL. PROVIDE FINISHES AS SCHEDULED.
13. ELECTRICAL SERVICE LOCATION FOR GREEN HOUSE UNDER BID LOT #2.
14. ELECTRICAL SERVICE LOCATION FOR GREEN HOUSE UNDER BID LOT #2, ADD ALT. #1.

TOILET RM. ACCESSORIES

GB-1 : 42" STAINLESS STEEL GRAB BAR
GB-2 : 36" STAINLESS STEEL GRAB BAR
GB-3 : 18" VERTICAL STAINLESS STEEL GRAB BAR
TP : TOILET PAPER DISPENSER (OWNER PROVIDED, CONTRACTOR INSTALLED)
PT : PAPER TOWEL DISPENSER (OWNER PROVIDED, CONTRACTOR INSTALLED)
SD : SOAP DISPENSER (OWNER PROVIDED, CONTRACTOR INSTALLED)

WALL TYPES

1 — EXTERIOR WALL INFILL
EIFS SYSTEM ON ½" EXT. SHEATHING ON 6" METAL STUDS @ 16" O.C. W/ R-19 BATT INSUL. & ⅝" G.W.B. AT INTERIOR.

2 — INTERIOR WALL
3⅝" METAL STUDS @ 16" O.C. W/ SOUND BATT INSUL. & ⅝" G.W.B. AT EACH SIDE; EXTEND WALL TO BOTTOM OF DECK.
ALL WALLS TO BE TYPE-2 U.N.O.

3 — INTERIOR WALL
3⅝" METAL STUDS @ 16" O.C. W/ SOUND BATT INSUL. & ⅝" G.W.B. AT EACH SIDE; EXTEND WALL TO 12" ABOVE CEILING AND BRACE TO STRUCTURE ABOVE.

4 — INTERIOR FURROUT WALL
EXIST. WALL
3⅝" METAL STUDS @ 16" O.C. W/ SOUND BATT INSUL. & ⅝" G.W.B. AT EACH SIDE; EXTEND WALL TO 12" ABOVE CEILING.

5 — INTERIOR PLUMBING WALL
6" METAL STUDS TO DECK @ 16" O.C. W/ SOUND BATT INSUL. & ⅝" G.W.B. ON BOTH SIDES

6 — FULL HEIGHT EXTERIOR WALL
8" C.M.U. WALL.

7 — FULL HEIGHT EXTERIOR WALL
EIFS SYSTEM ON ½" EXT. SHEATHING ON 6" METAL STUDS @ 16" O.C. W/ R-19 BATT INSUL. & ⅝" G.W.B. AT INTERIOR.

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ABELARDO NATIVIDAD
NO. 004727
REGISTERED ARCHITECT
05.22.26

PARTIAL REMODEL & ADDITION

GENESIS CNTR. BUILDING 'A'

3655 Research Dr. Bldg. A
NMSU Campus
Las Cruces, New Mexico

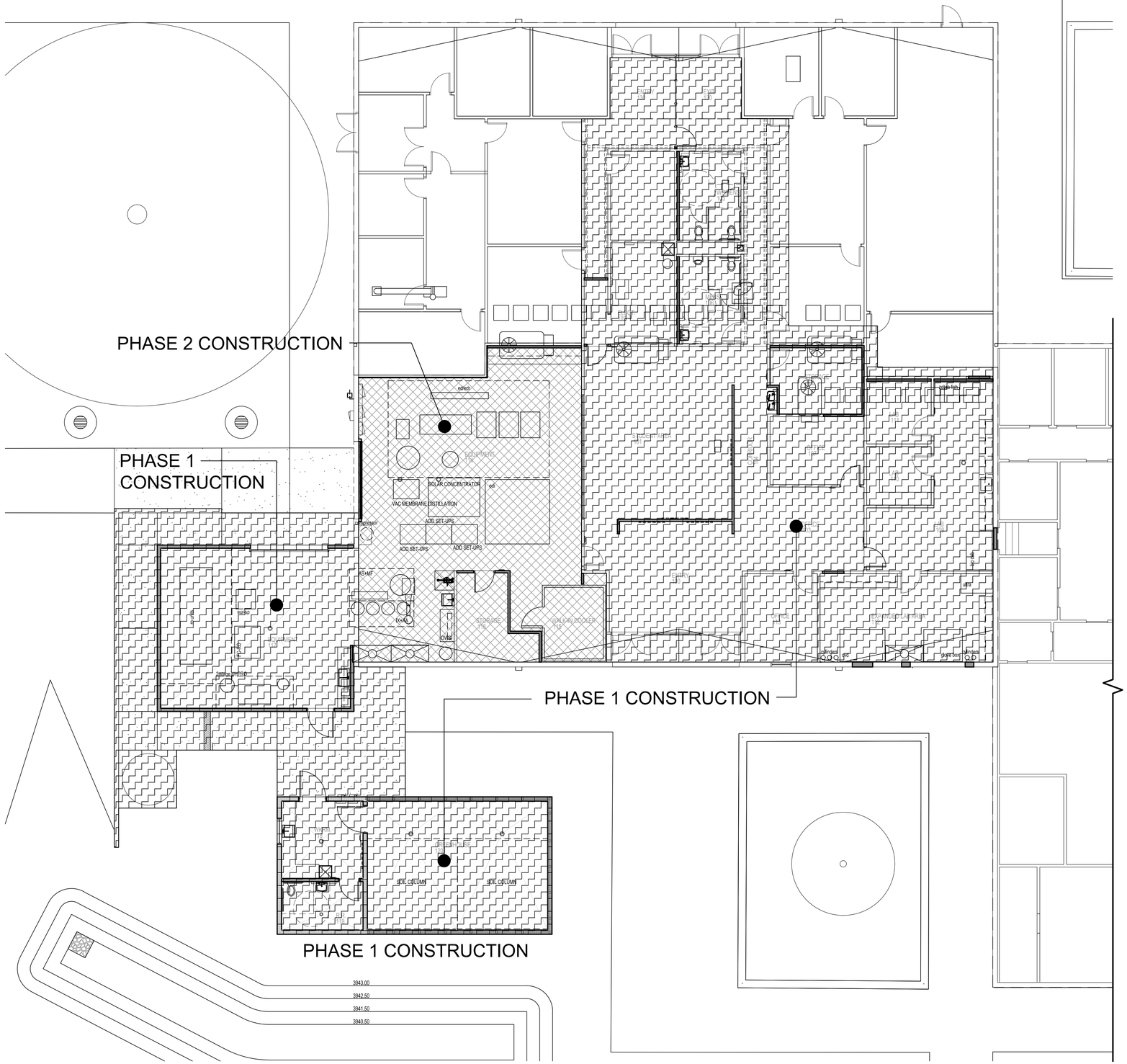
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Date: May 2026
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ENLARGED PLANS & DETAILS

A101

Date: May 26, 2026 - 8:29am User:AN
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Last Saved By: AN May 26, 2026 - 8:29am
Layout Name: A101



NORTH

CONSTRUCTION PHASING PLAN 1

1/8" = 1'-0"

PHASE 1

WORK UNDER PHASE 1 CONSTRUCTION.
CONTRACTOR TO COORDINATE PHASE 1 CONSTRUCTION WORK WITH BID LOTS. PERFORM ALL WORK UNDER PHASE 1 CONSTRUCTION THAT CORRELATES TO AWARDED BID LOTS AND BID ALTERNATES.

PHASE 2

WORK UNDER PHASE 2 CONSTRUCTION.

- ALLOW FOR SPACE TO BE OPERATIONAL UNTIL END OF PROJECT.
- CONTRACTOR TO COORDINATE PHASE 2 CONSTRUCTION WORK WITH BID LOTS. PERFORM ALL WORK UNDER PHASE 2 CONSTRUCTION THAT CORRELATES TO AWARDED BID LOTS AND BID ALTERNATES.

BID LOTS

BASE BID

- BASE BID WILL INCLUDE THE REMODEL TO THE EXISTING BUILDING INCLUDING ALL MECHANICAL ELECTRICAL AND PLUMBING.
- BASE BID WILL INCLUDE THE 788 S.F. ADDITION TO THE EXISTING BUILDING INCLUDING ALL MEP AND STRUCTURAL.
- BASE BID - PROVIDE SOLID CORE PAINT GRADE DOORS AT ALL NEW DOOR ASSEMBLIES; SAND AND PAINT EXISTING DOORS WITHIN AREA OF CONSTRUCTION AND AS INDICATED ON DOOR SCHEDULE.
  - ADD ALT. #1
    1. PROVIDE BIRCH VENEER DOORS AT ALL NEW DOORS IN LIEU OF PAINT GRADE DOORS.
    2. REMOVE AND REPLACE EXISTING DOORS WITH NEW VENEER DOORS IN LIEU OF PAINTING EXISTING DOORS. (SIX (6) 3'-0'x7'-0" DOORS TOTAL).

BID LOT #2

- BID LOT #2 WILL INCLUDE THE CONSTRUCTION OF THE 910 S.F. GREEN HOUSE BUILDING, INCLUDING ALL MECHANICAL, ELECTRICAL, PLUMBING, AND STRUCTURAL.
  - ADD ALT. #1
    1. BID LOT #2 ADD. ALT. #1 WILL INCLUDE THE CONSTRUCTION OF THE GREEN HOUSE WORK ROOM AND GREEN HOUSE BATHROOM; INCLUDING ALL ELECTRICAL, MECHANICAL AND PLUMBING REQUIRED FOR THESE SPACES.
    2. BID LOT #2 ADD ALT. #1 WILL INCLUDE THE CONSTRUCTION OF THE CONNECTING STEEL TUBE CANOPY BETWEEN GREEN HOUSE AND EXISTING BUILDING ADDITION.

BID LOT #3

- PROVIDE NEW CARD READER ACCESS AT DOOR E11.
- REMOVE EXTERIOR PULL PLATE FROM DOOR E12, DOOR TO BE "EXIT ONLY".
- REMOVE EXISTING LIGHT FIXTURES AND REPLACE WITH NEW LIGHT FIXTURES AS PER LIGHTING PLAN. MODIFY EXISTING CEILING AS REQUIRED.
- PROVIDE NEW ACCESS CONTROL DOOR AND GLAZING SYSTEM AT DOOR 130 , SEE DOOR SCHEDULE ON SHEET A200.
- ADD ALTERNATE #1 - REMOVE EXISTING CARPET FLOORING AND BASE IN CORRIDOR AND ENTRY/EXIT 130 AND REPLACE WITH NEW CARPET FLOORING AND RUBBER BASE.

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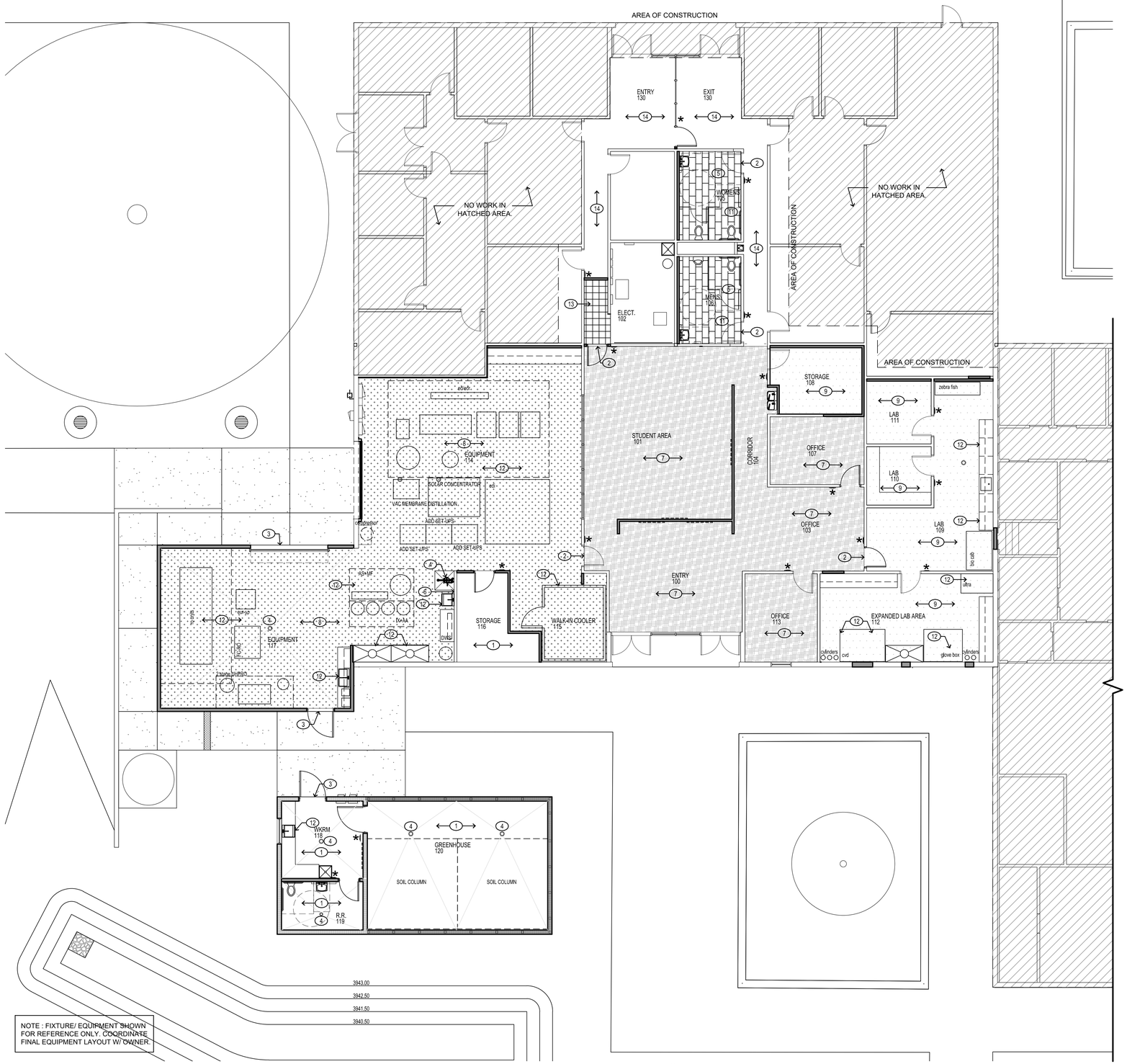
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PHASING PLAN

A102

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NORTH

FLOOR FINISH PLAN 1

1/8" = 1'-0"

KEYED NOTES

1. EXPOSED SEALED CONCRETE. H&C CLARISHIELD WATER-BASED SEALER OR EQUAL.
2. TRANSITION STRIP. PROVIDE RUBBER TRANSITION BETWEEN CARPET AND VINYL FLOORING; PROVIDE SCHLUTER ALUMINUM FLOOR TRANSITION AT BATHROOM TILE TO CARPET.
3. ALUMINUM THRESHOLD.
4. FLOOR DRAIN, SLOPE FLOOR TOWARDS DRAIN. SEE PLUMBING.
5. TILE WAINSCOT UP TO 5'-0" A.F.F.
6. FRP WAINSCOT UP TO 4'-0" A.F.F.; MARLITE STANDARD FRP PANEL OR EQUAL. COLOR AS SELECTED BY OWNER.
7. CARPET TILE FLOORING, INTERFACE FLOR MIRRORED HEIGHTS SKYLIGHTS OR EQUAL. COLOR AS SELECTED BY OWNER.
8. FLUID APPLIED EPOXY FLOOR COATING AS SPECIFIED. INSTALL PER MANUFACTURER REQUIREMENTS.
9. SHEET VINYL FLOORING AND INTEGRAL COVE BASE. ARMSTRONG SLIP-RETARDANT FLOORING HOMOGENOUS SHEET VINYL WITH 4" BASE AND CONT. TERMINATION BAR.
10. MATCH EXISTING FLOORING.
11. TILE FLOORING.
12. FLOORING UNDER EQUIPMENT AND MILLWORK.
13. REPLACE FLOORING IN THIS AREA TO MATCH EXISTING ELECTRICAL ROOM VCT FLOORING. 12x12 VCT COLOR AS SELECTED BY OWNER/ARCHITECT.
14. BID LOT #3, ADD ATL. 1 - REMOVE EXISTING CARPET FLOORING AND BASE IN ENTRY AND CORRIDORS AND REPLACE WITH NEW CARPET FLOORING AND BASE TO MATCH NEW FINISHES IN AREA OF CONSTRUCTION.

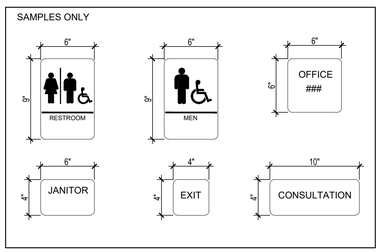
SIGN GENERAL NOTES

1. ALL ROOM SIGNAGE WILL COMPLY WITH APPENDIX E107.2 DESIGNATIONS. INTERIOR SIGNS AND EXTERIOR SIGNS IDENTIFYING PERMANENT ROOMS AND SPACES SHALL BE TACTILE. WHERE PICTOGRAMS ARE PROVIDED AS DESIGNATIONS OF INTERIOR ROOMS AND SPACES, THE PICTOGRAMS SHALL HAVE TEXT DESCRIPTORS. SIGNS REQUIRED TO PROVIDE TACTILE CHARACTERS AND PICTOGRAMS SHALL COMPLY WITH ICC A117.1.
2. ALL EXITS WILL HAVE ADA SIGNAGE PER SECTION 1011.3. A TACTILE SIGN STATING "*EXIT*" AND COMPLYING WITH ICC A117.1 SHALL BE PROVIDED ADJACENT TO EACH DOOR TO AN AREA OF REFUGE, AN EXTERIOR AREA FOR ASSISTED RESCUE, AN EXIT STAIRWAY, AN EXIT RAMP, AN EXIT PASSAGEWAY AND THE EXIT DISCHARGE.
3. CONTRACTOR MUST PROVIDE COMPLIANCE WITH SECTION 1011.3 TACTILE EXIT SIGNS. A TACTILE SIGN STATING 'EXIT' AND COMPLYING WITH ICC A117.1 SHALL BE PROVIDED ADJACENT TO EACH DOOR TO AN AREA OF REFUGE, AN EXTERIOR AREA FOR ASSISTED RESCUE, AN EXIT STAIRWAY, AN EXIT RAMP, AN EXIT PASSAGEWAY AND THE EXIT DISCHARGE.
4. CONTRACTOR MUST PROVIDE COMPLIANCE WITH APPENDIX E107.2 DESIGNATION. INTERIOR AND EXTERIOR SIGNS IDENTIFYING PERMANENT ROOMS AND SPACES SHALL BE TACTILE. WHERE PICTORIAL ARE PROVIDED AS DESIGNATIONS OF INTERIOR ROOMS AND SPACES, THE PICTOGRAMS SHALL HAVE TACTILE TEXT DESCRIPTIONS. SIGNS REQUIRED TO PROVIDE TACTILE CHARACTERS AND PICTOGRAMS SHALL COMPLY WITH ICC A117.1.

SIGN DETAILS

1. UP TO 3 ROWS OF LETTERING AND/OR ROOM NUMBER. COORDINATE ROOM NAMES AND NUMBERS WITH OWNER.
2. BACKGROUND AND RETURNS TO BE AN ACCENT COLOR AS SELECTED BY OWNER.
3. BRAILLE TO MATCH BACKGROUND COLOR.
4. LOCATE 6" FROM DOOR JAMB LATCH SIDE OF DOOR.
5. MUST INCLUDE BRAILLE AT ALL SIGNS.
6. MUST INCLUDE PICTOGRAM AT RESTROOMS.
7. EXIT SIGNS REQUIRED AT ALL EXIT DOORS.
8. CLEAR ACRYLIC ROOM SIGN WITH BLANK CLEAR ACRYLIC BACK ATTACHED WITH CLEAR ADHESIVE REQUIRED AT GLASS WALLS.
9. ROOM SIGNAGE REQUIRED AT ALL ROOMS NOTED WITH [★] SYMBOL. COORDINATE NAMES AND NUMBERS WITH OWNER.

SAMPLES ONLY



LEGEND

ROLLED ON EPOXY COATING; RESU-GRIP 250 OR EQUAL.

CARPET TILE; INTERFACE FLOR OPEN AIR STRIA / NON-DIRECTIONAL INSTALL; OR EQUAL.

SHEET VINYL FLOORING AND INTEGRAL COVE BASE. ARMSTRONG HOMOGENOUS VINYL SHEET.

SEALED CONCRETE FLOOR.

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05.22.26

PARTIAL REMODEL & ADDITION

GENESIS CNTR. BUILDING 'A'

3655 Research Dr. Bldg. A
NMSU Campus
Las Cruces, New Mexico

REVISION	DATE

Project no: 25.25
Date: May 2026
Sheet:

FLOOR FINISH PLAN

A103

Date: May 26, 2026 - 8:32am User:AN
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Last Saved By: AN May 26, 2026 - 8:32am
Layout Name: A103

ROOM FINISH SCHEDULE

	ROOM NO.	ROOM NAME	FLR.	BSE.	WALLS N	WALLS W	WALLS S	WALLS E	CLG.	CLG. HT.	REMARKS
	100	ENTRY	F1	B1	-	-	-	W3	C1	9'-0"	
	101	STUDENT AREA	F1	B1	W1	W1	W1	W1	C1	9'-0"	SEE RCP FOR CEILING DETAILS
	102	ELECTRICAL	F6	B1	-	-	-	-	-	9'-0"	PAINT EXISTING WALLS
	103	OFFICE	F1	B1	W1	W1	W1	W1	C1	9'-0"	
	104	CORRIDOR	F1	B1	W1	W1	W1	W1	C1	9'-0"	SEE RCP FOR CEILING DETAILS
	105	WOMENS	F4	B2	W2/W1	W2/W1	W2/W1	W2/W1	C3	8'-0"	
	106	MENS	F4	B2	W2/W1	W2/W1	W2/W1	W2/W1	C3	8'-0"	
	107	OFFICE	F1	B1	W1	W1	W1	W1	C1	9'-0"	
	108	STORAGE	F3	B1	W1	W1	W1	W1	C1	9'-0"	
	109	LAB	F5	B3	W1	W1	W1	W1	C1	9'-0"	
	110	LAB	F5	B3	W1	W1	W1	W1	C1	9'-0"	
	111	LAB	F5	B3	W1	W1	W1	W1	C1	9'-0"	
	112	EXPANDED LAB	F5	B3	W1	W1	W1	W1	C1	9'-0"	
	113	OFFICE	F1	B1	W1	W1	W1	W1	C1	9'-0"	
	114	EQUIPMENT	F2	B1	W1	W1	W1	W1	C2	---	
	115	WALK-IN COOLER	---	---	---	---	---	---	---	---	
	116	STORAGE	F3	B1	W1	W1	W1	W1	C1	9'-0"	
	117	EQUIPMENT	F2	B1	W1	W1	W1	W1	C2	---	
	118	WORK RM	F3	B1	W3	W3	W3	W3	C2	---	
	119	RESTROOM	F3	B1	W2/W3	W2/W3	W2/W3	W2/W3	C3	8'-0"	
	120	GREENHOUSE	F3	B1	W3	W3	W3	W3	C2	VARIES	SEE RCP FOR CEILING DETAILS
	130	ENTRY	F1	B1	---	---	---	---	---	---	BID LOT #3 / BL3 ADD ALT. #1
	130	EXIT	F1	B1	---	---	---	---	---	---	BID LOT #3 / BL3 ADD ALT. #1
*	SEE RCP FOR CEILING DETAILS										

FINISHES

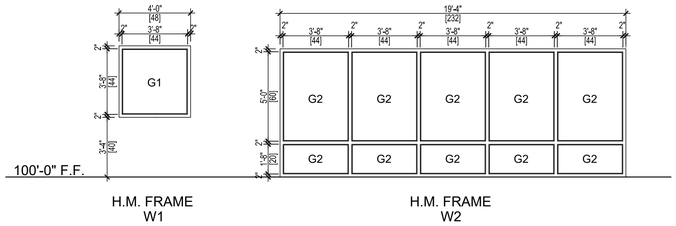
	FLOOR		BASE		WALL		CEILING
F1	CARPET TILES- INTERFACE FLOR CROSSWIRE- PEARL	B1	4" RUBBER BASE	W1	GYP. WALL BD., PAINT & TEXT.	C1	24" X 24" LAY-IN ACOUS. TILE & GRID
F2	EPOXY FLOORING	B2	4" TILE COVE BASE	W2	5FT TILE WAINSCOT DALTILE- 3x6 COLOR WHEEL CLASSIC	C2	EXPOSED CEILING STRUCTURE
F3	SEALED CONCRETE	B3	4" INTEGRAL SHEET VINYL COVE BASE	W3	PAINTED C.M.U.	C3	5/8" GYP. BD. CEILING; TA TEXTURE, AND PAINT.
F4	TILE; 12x24 DALTILE INDUSTRIAL PARK						
F5	SHEET VINYL						
F6	MATCH EXISTING						

DOOR SCHEDULE

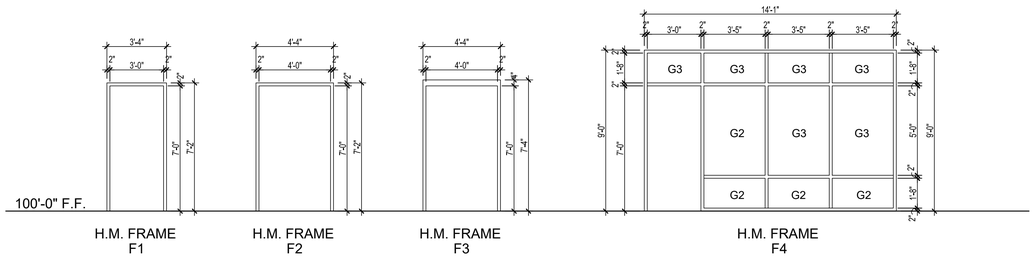
DOOR NO.	WIDTH	HT.	THKNS.	TYPE	FRAME W X D	FRAME TYPE	HDWR SET	REMARKS
100	3'-0"	7'-0"	1-3/4"	D2	2"x5 3/4"	-		NOTES: 2
102	3'-0"	7'-0"	1-3/4"	D2	2"x5 3/4"	F1		NOTES: 2
107	3'-0"	7'-0"	1-3/4"	D1	---	---		NOTES: 2 / EXISTING DOOR FRAME TO REMAI
109	3'-0"	7'-0"	1-3/4"	D1	---	---		NOTES: 2 / EXISTING DOOR FRAME TO REMAI
116	3'-0"	7'-0"	1-3/4"	D2	2"x5 3/4"	F1		NOTES: 2
117A	4'-0"	7'-0"	1-3/4"	D4	2"x8 1/4"	F2		
117B	12'-0"	10'-0"	---	D5	---	---		OVERHEAD COILING DOOR / STORMTITE 620
118	4'-0"	7'-0"	1-3/4"	D4	2"x5 3/4"	F3		
119	3'-0"	7'-0"	1-3/4"	D2	2"x8 1/4"	F1		NOTES: 2
120	4'-0"	7'-0"	1-3/4"	D3	2"x5 3/4"	F3		NOTES: 7, 8
130	3'-0"	7'-0"	1-3/4"	D2	2"x5 3/4"	F4		NOTES: 6
E01	3'-0"	7'-0"						NOTES: 1, 3
E02	3'-0"	7'-0"						NOTES: 1, 3
E03	3'-0"	7'-0"						NOTES: 1, 3
E04	3'-0"	7'-0"						NOTES: 1, 3
E05	3'-0"	7'-0"						NOTES: 1, 3
E06	3'-0"	7'-0"						NOTES: 1, 3
E07	3'-0"	7'-0"						
E08	3'-0"	7'-0"						
E09	6'-0" DBL.	7'-0"						NOTES: 4 (BASE BID)
E10	6'-0" DBL.	7'-0"						NOTES: 5 (BASE BID)
E11	6'-0" DBL.	7'-0"						NOTES: 4 (BID LOT #3)
E12	6'-0" DBL.	7'-0"						NOTES: 5 (BID LOT #3)

DOOR NOTES:
1. REPLACE ALL HARDWARE IN EXISTING DOORS
2. BASE BID, PROVIDE SOLID CORE PAINT GRADE DOORS; ADD ALT. #1 - PROVIDE BIRCH VENEER SOLID CORE WOOD DOOR.
3. BASE BID, PAINT EXISTING WOOD DOORS; ADD ALT. #1 REPLACE EXISTING DOORS WITH NEW BIRCH VENEER SOLID CORE WOOD DOOR.
4. PROVIDE ACCESS CONTROL AT EXISTING DOOR AND FRAME, PROVIDE RETROFIT SYSTEM AND REPLACE REQUIRED EXISTING HARDWARE.
5. REMOVE EXISTING EXTERIOR PULL PLATE AND PROVIDE NEW BLANK PLATE, DOOR TO BE "EXIT ONLY".
6. DOOR AND FRAME ASSEMBLY TO BE PART OF BID LOT #3.
7. DOOR 120 IS TO RECEIVE SCHEDULED DOOR HARDWARE FOR DOOR 118 AS PART OF BID LOT #2.
8. DOOR 120 IS TO RECIEVE SCHEDULED DOOR HARDWARE AS PART OF BID LOT #2, ADD ALT. #1.

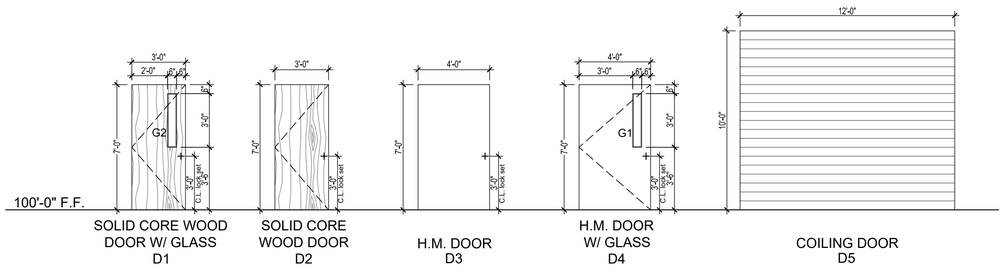
NOTE: ALL HARDWARE TO BE COMMERCIAL GRADE 1
REFER TO SPECIFICATIONS SECTION 087100 FOR DOOR HARDWARE



FRAME TYPES (WINDOWS) 1/A200
1/4" = 1'-0"



FRAME TYPES (DOORS) 2/A200
1/4" = 1'-0"



DOOR TYPES 3/A200
1/4" = 1'-0"

GLAZING KEY

G1 - 1" CLEAR INSULATED TEMPERED GLASS, LOW-E
G2 - 1/4" CLEAR TEMPERED GLASS
G3 - 1/4" CLEAR FLAT GLASS

ROLL-UP DOOR

- UPWARD COILING SERVICE DOOR OVERHEAD DOOR COMPANY MODEL 610 OR APPROVED EQUAL.
- SHOP DRAWINGS: INDICATE ROUGH AND ACTUAL OPENING DIMENSIONS, ANCHORING METHODS, HARDWARE LOCATIONS, AND INSTALLATION DETAILS.
- PROVIDE MANUFACTURER DOOR AND OPERATOR WARRANTY FREE FROM MATERIAL AND WORKMANSHIP DEFECTS FOR MINIMUM OPERATING CYCLES 20,000.
- CURTAIN MATERIAL
  - GALVANIZED STEEL SLATS 20GA, WITH STANDARD POLYESTER BASE COAT FINISH.
- PROVIDE MOTOR OPERATOR WITH MANUAL OVERRIDE
- PROVIDE PUSH-BUTTON OPERATION
- PROVIDE OBSTRUCTION SAFETY DETECTION.

PROVIDE ALL REQUIRED GUIDES, SEALS, BRACKETS, COUNTER BALANCES, HOODS, FOR A COMPLETE INSTALLATION

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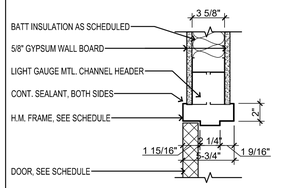
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Project no: 25.25
Date: May 2026
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SCHEDULES, DOOR, WINDOW, & FRAME TYPES

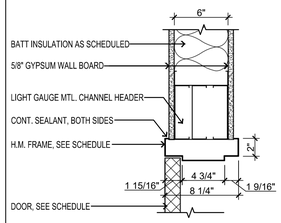
A200

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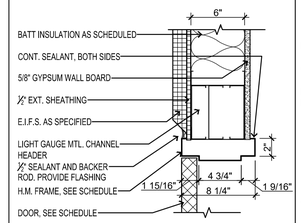
DOOR HEAD DETAIL 1

1 1/2" = 1'-0"



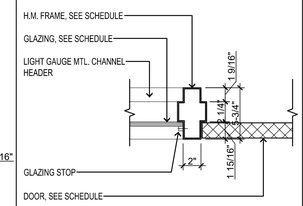
DOOR HEAD DETAIL 2

1 1/2" = 1'-0"



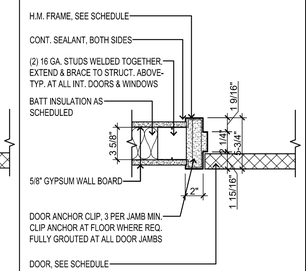
DOOR HEAD DETAIL 3

1 1/2" = 1'-0"



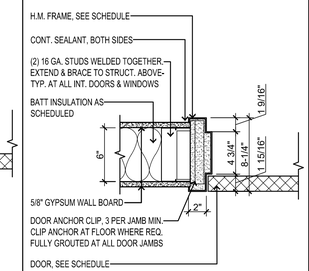
DOOR/WIN. JAMB DET. 4

1 1/2" = 1'-0"



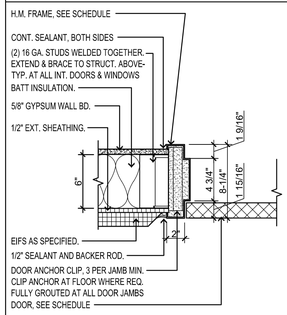
DOOR JAMB DETAIL 5

1 1/2" = 1'-0"



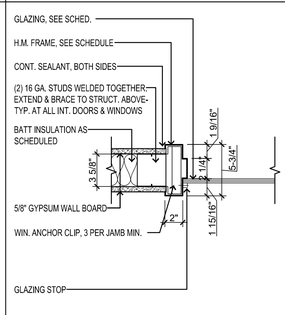
DOOR JAMB DETAIL 6

1 1/2" = 1'-0"



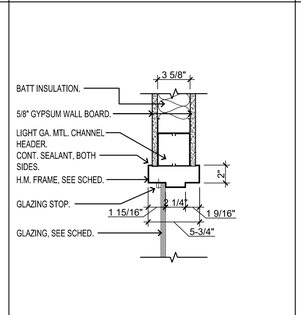
DOOR JAMB DETAIL 7

1 1/2" = 1'-0"



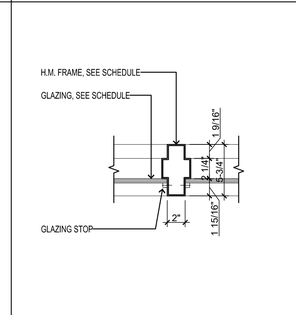
WINDOW JAMB DETAIL 8

1 1/2" = 1'-0"



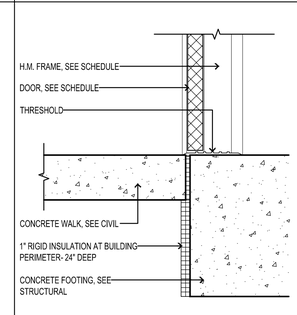
WINDOW HEAD DETAIL 9

1 1/2" = 1'-0"



WIN. MULLION DET. 10

1 1/2" = 1'-0"

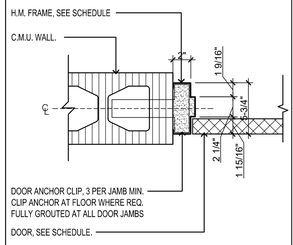


THRESHOLD DETAIL 11

1 1/2" = 1'-0"

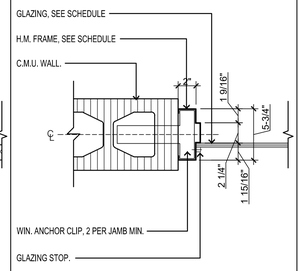
NOT USED 12

1 1/2" = 1'-0"



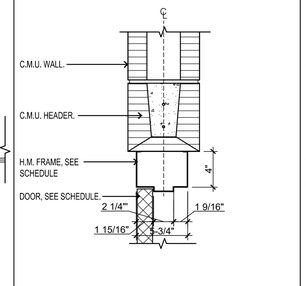
DOOR JAMB DETAIL 13

1 1/2" = 1'-0"



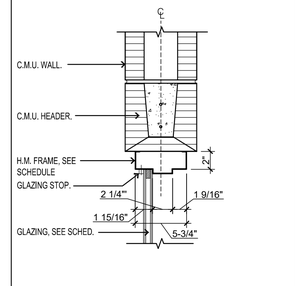
WIN. JAMB DETAIL 14

1 1/2" = 1'-0"



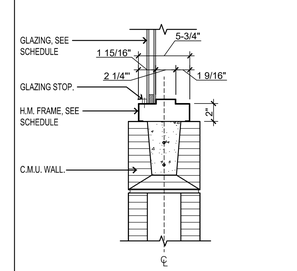
DOOR HEAD DETAIL 15

1 1/2" = 1'-0"



WIN. HEAD DETAIL 16

1 1/2" = 1'-0"



WINDOW SILL DETAIL 17

1 1/2" = 1'-0"

NOT USED 18

1 1/2" = 1'-0"

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ABELARDO NATIVIDAD
NO. 004727
05.22.26

PARTIAL REMODEL & ADDITION

GENESIS CNTR. BUILDING 'A'

3655 Research Dr. Bldg. A
NMSU Campus
Las Cruces, New Mexico

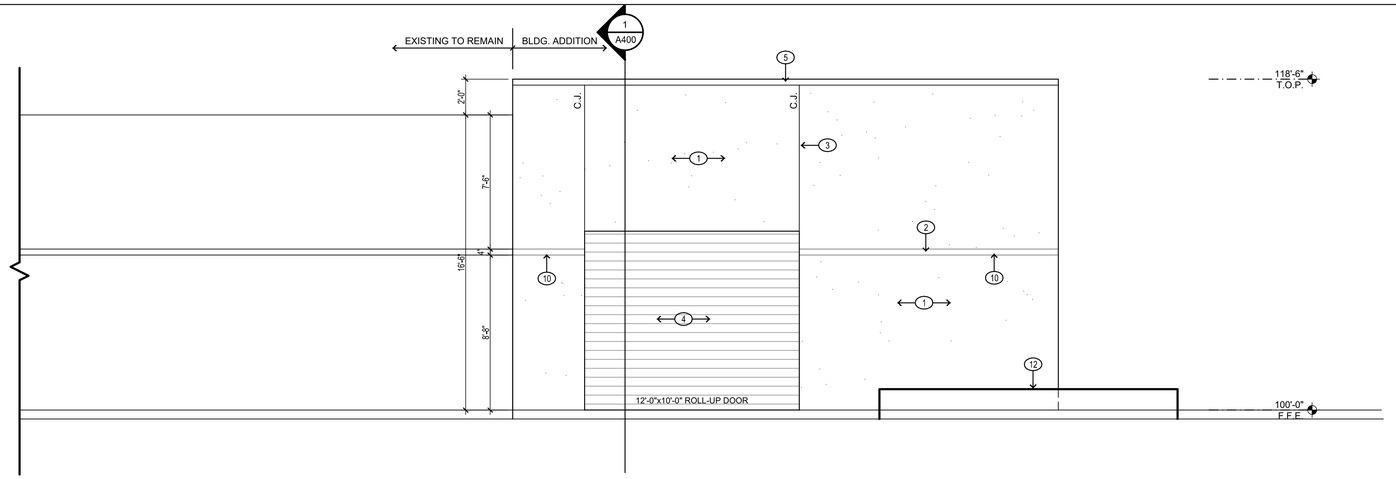
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Project no:	25.25
Date:	May 2026
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HEAD&JAMB DETAILS

A201

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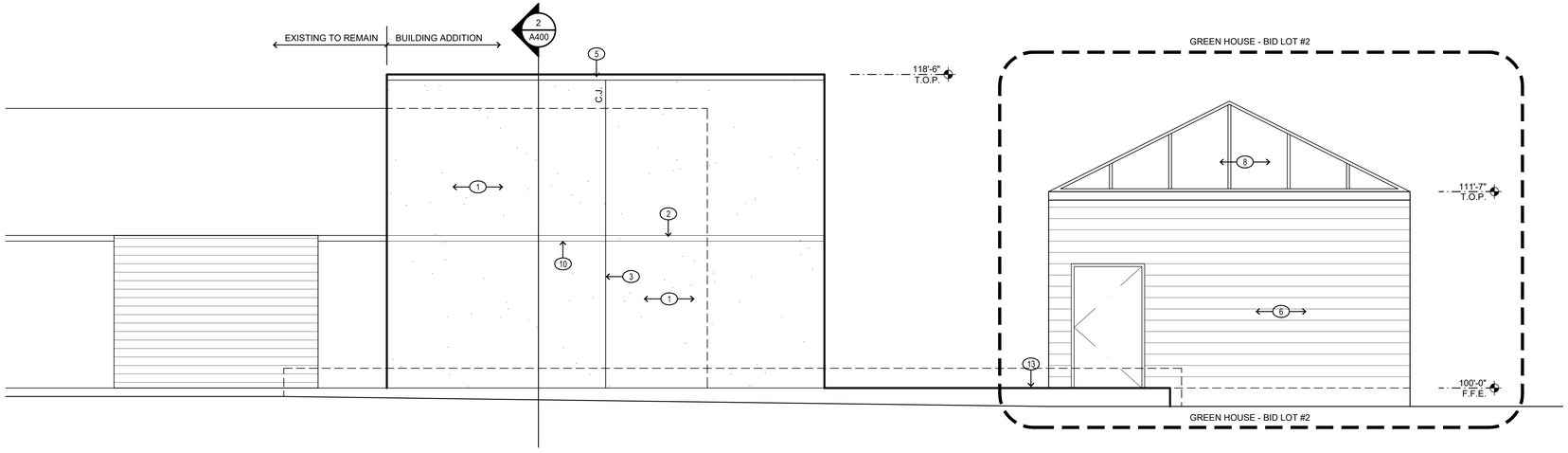


EXTERIOR ELEVATION 1

1/4" = 1'-0"

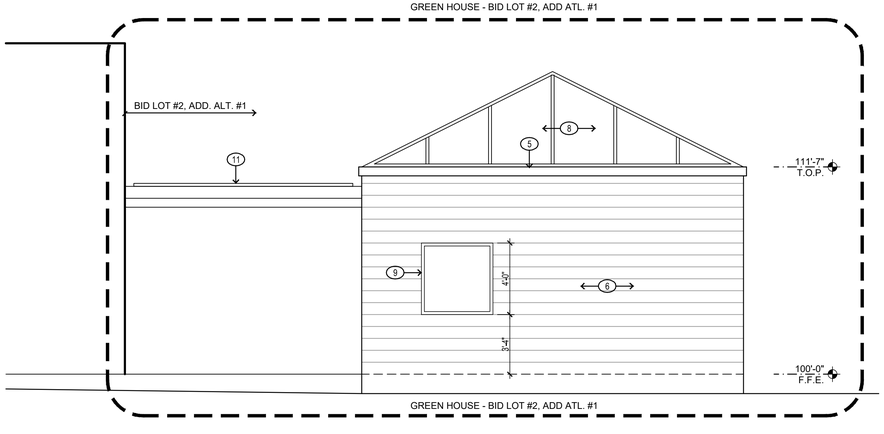
KEYED NOTES

1. 1-1/2" EIFS SYSTEM OVER FLUID APPLIED MOISTURE BARRIER, COLOR 1.
2. 1-1/2" EIFS SYSTEM OVER FLUID APPLIED MOISTURE BARRIER, COLOR 2.
3. EIFS CONTROL JOINT.
4. 12'-0"x10'-0" MOTORIZED ROLL-UP DOOR.
5. PRE-FINISHED MTL. CAP.
6. 8" SPLIT-FACE C.M.U. WALL.
7. H.M. DOOR AND FRAME, SEE SHEET A200 FOR DOOR AND FRAME TYPES.
8. GREEN HOUSE GLAZING SYSTEM. BID LOT #2.
9. H.M. WINDOW, SEE SHEET A200 FOR WINDOW TYPES.
10. EIFS ACCENT STRIPE REVEAL TO MATCH EXISTING BUILDING.
11. BID LOT #2, ADD ALT. #1 - STEEL TUBE CANOPY, SEE BUILDING SECTIONS AND DETAILS.
12. 8" C.M.U. LOW WALL, SEE SITE AND CIVIL DETAILS.
13. EXTEND CONCRETE WALKWAY TO GREEN HOUSE DOOR AS PART OF BID LOT #2.



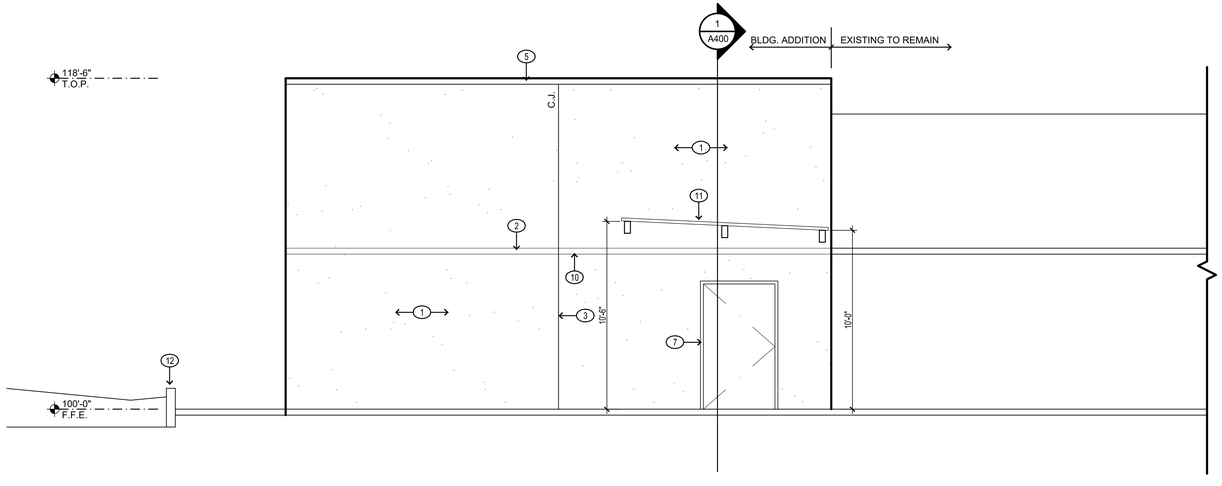
EXTERIOR ELEVATION 2A

1/4" = 1'-0"



EXTERIOR ELEVATION 2B

1/4" = 1'-0"



EXTERIOR ELEVATION 3

1/4" = 1'-0"

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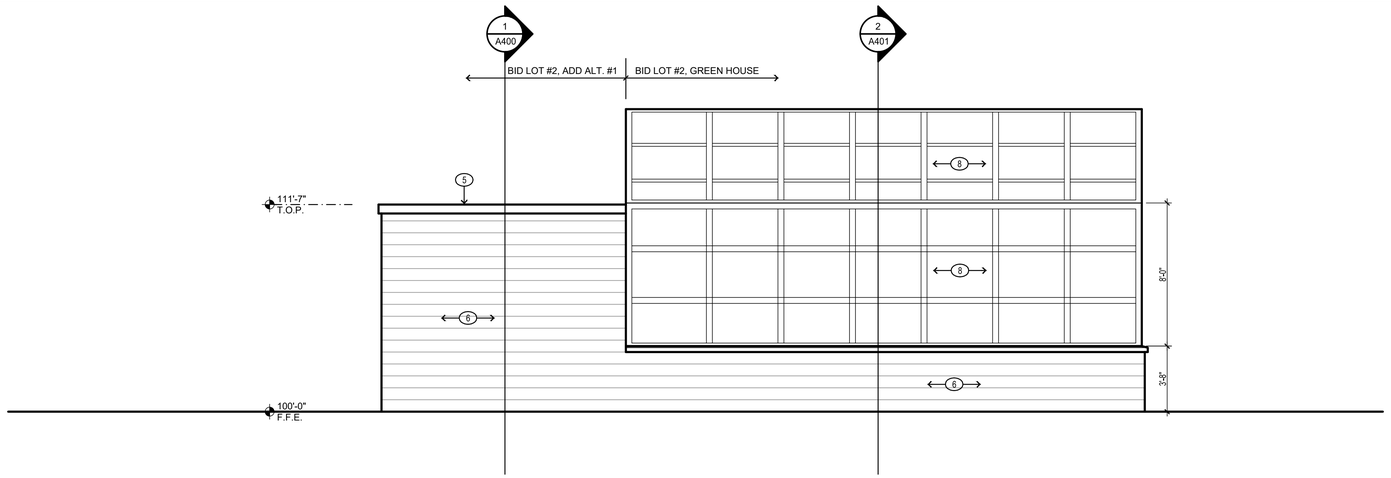
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EXTERIOR ELEVATIONS

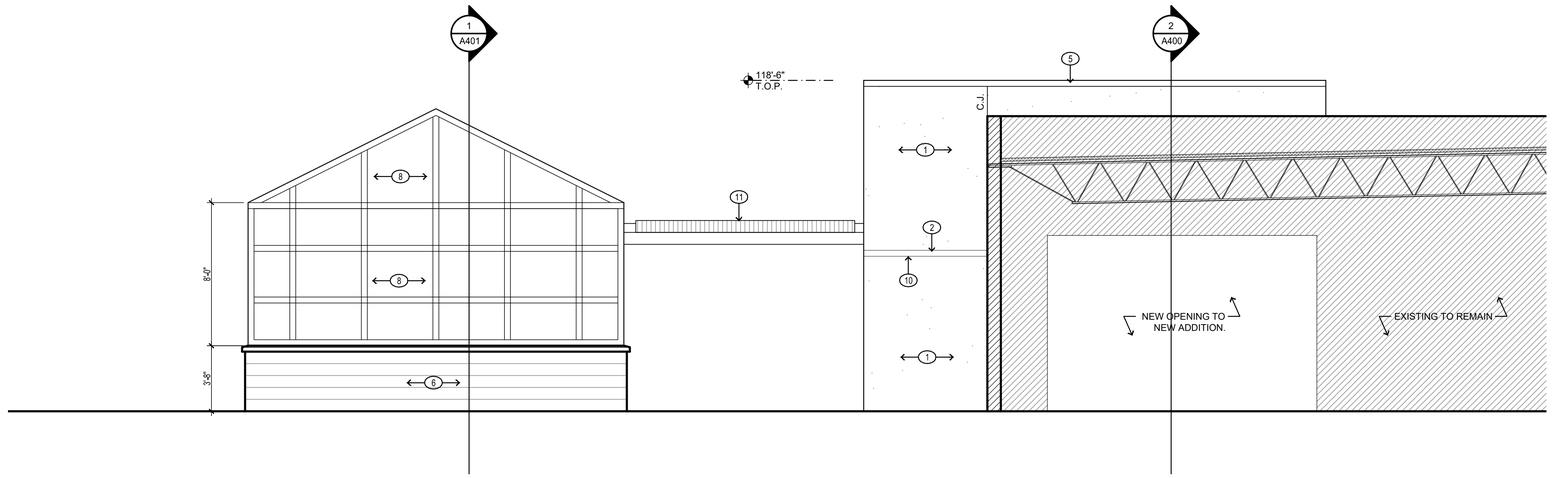
A300

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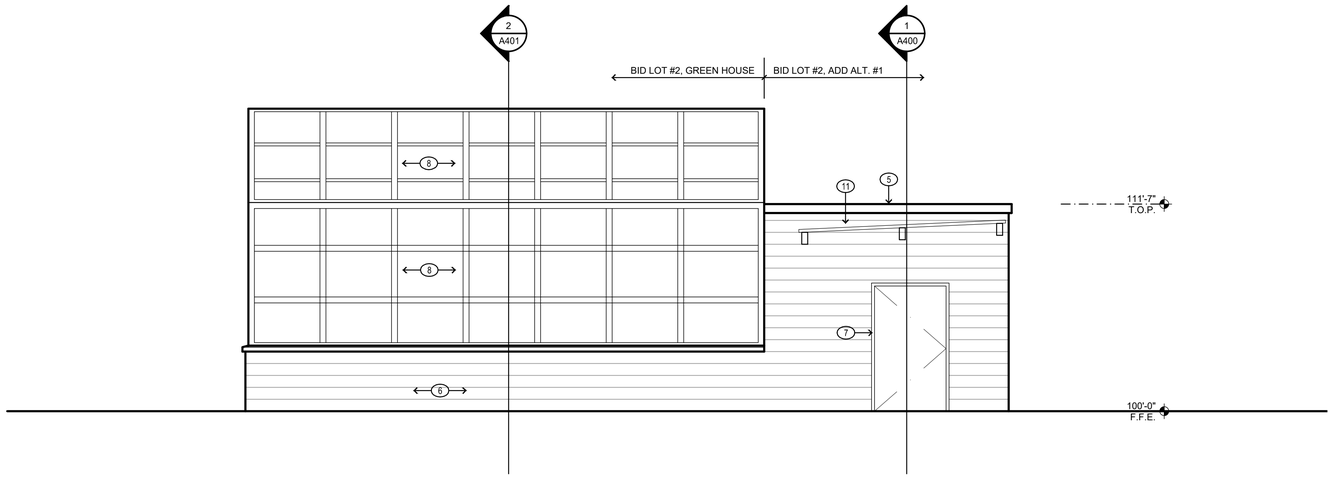
EXTERIOR ELEVATION 1

1/4" = 1'-0"



EXTERIOR ELEVATION 2

1/4" = 1'-0"



EXTERIOR ELEVATION 3

1/4" = 1'-0"

KEYED NOTES

1. 1-1/2" EIFS SYSTEM OVER FLUID APPLIED MOISTURE BARRIER, COLOR 1.
2. 1-1/2" EIFS SYSTEM OVER FLUID APPLIED MOISTURE BARRIER, COLOR 2.
3. EIFS CONTROL JOINT.
4. 12'-0"x10'-0" MOTORIZED ROLL-UP DOOR.
5. PRE-FINISHED MTL. CAP.
6. 8" SPLIT-FACE C.M.U. WALL.
7. H.M. DOOR AND FRAME, SEE SHEET A200 FOR DOOR AND FRAME TYPES.
8. GREEN HOUSE GLAZING SYSTEM. BID LOT #2.
9. H.M. WINDOW, SEE SHEET A200 FOR WINDOW TYPES.
10. EIFS ACCENT STRIPE REVEAL TO MATCH EXISTING BUILDING.
11. BID LOT #2, ADD ALT. #1 - STEEL TUBE CANOPY, SEE BUILDING SECTIONS AND DETAILS.
12. 8" C.M.U. LOW WALL, SEE SITE AND CIVIL DETAILS.
13. EXTEND CONCRETE WALKWAY TO GREEN HOUSE DOOR AS PART OF BID LOT #2.

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05.22.26

PARTIAL REMODEL & ADDITION

GENESIS CNTR. BUILDING 'A'

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NMSU Campus
Las Cruces, New Mexico

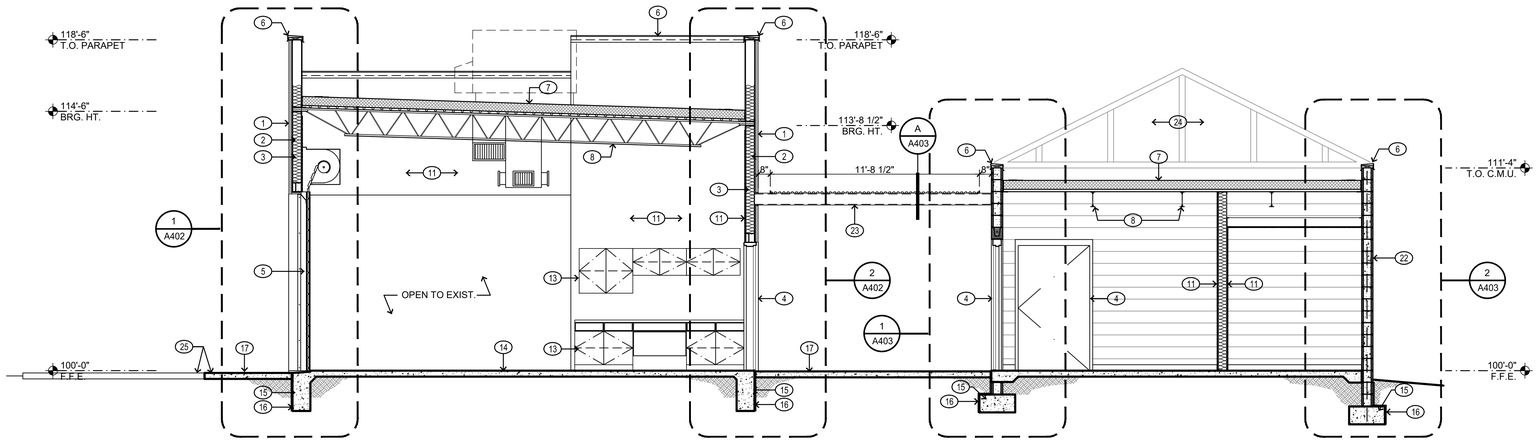
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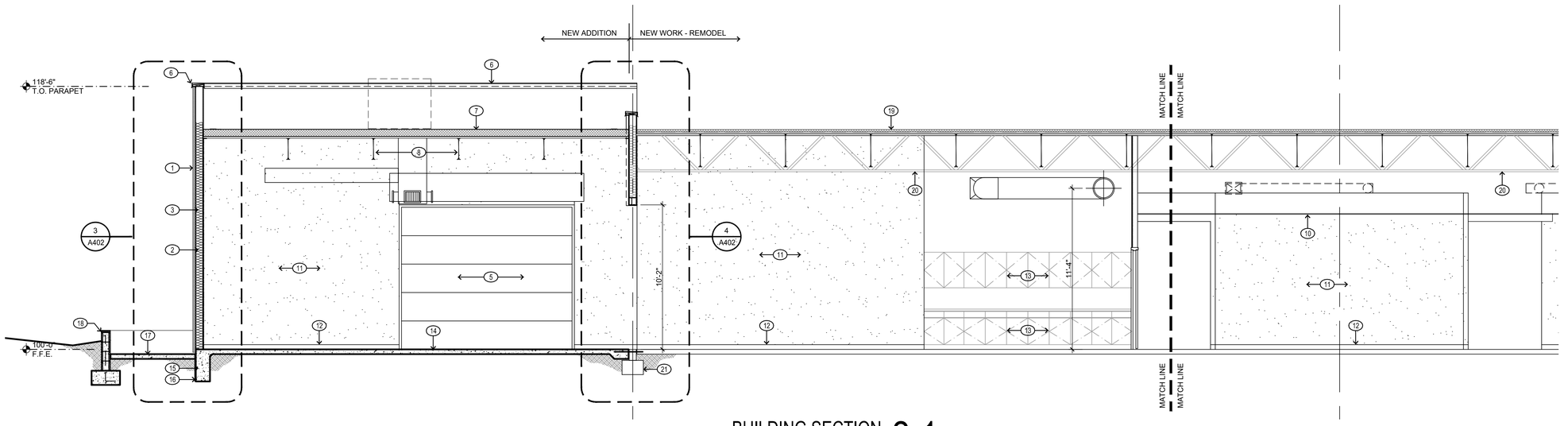
EXTERIOR ELEVATIONS

A301

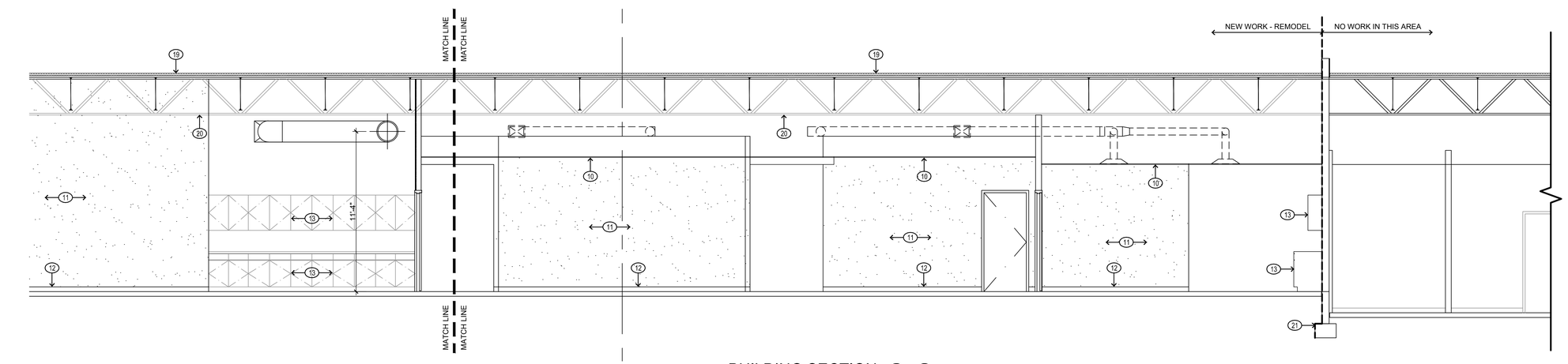
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BUILDING SECTION 1
1/4" = 1'-0"



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



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

KEYED NOTES

1. 1-1/2" EIFS SYSTEM OVER FLUID APPLIED MOISTURE BARRIER ON 5/8" DENS-GLASS EXTERIOR SHEATHING.
2. 6" MTL. STUDS AT 16" O.C. AT EXTERIOR WALLS.
3. R-19 BATT INSULATION AT ALL EXTERIOR WALLS.
4. H.M. DOOR AND FRAME, SEE DOOR SCHEDULE ON SHEET A200.
5. SERVICE ROLL-UP DOOR AS SCHEDULED.
6. PRE-FINISHED MTL. PARAPET CAP.
7. SINGLE-PLY ROOF MEMBRANE OVER R-30 MIN. RIGID ROOF INSULATION ON 1-1/2" MTL. ROOF DECK.
8. STEEL ROOF JOIST, SEE STRUCTURAL FRAMING PLAN.
9. STRUCTURAL STEEL BEAM, SEE FRAMING PLAN.
10. ACOUSTICAL LAY-IN CEILING SYSTEM, SEE REFLECTED CEILING PLAN SHEET A500.
11. 5/8" GYP. BD.; TAPE, TEXTURE, AND PAINT.
12. 4" RUBBER WALL BASE AS SCHEDULED.
13. BUILT-IN MILLWORK, SEE MILLWORK ELEVATIONS AND SECTION.
14. REINFORCED CONCRETE FLOOR, SEE STRUCTURAL FOUNDATION PLAN. FLOOR FINISHES AS SCHEDULED.
15. REINFORCED CONCRETE FOOTING, SEE STRUCTURAL FOUNDATION PLAN.
16. 1" RIGID INSULATION AT PERIMETER OF BUILDING ADDITION.
17. 4" CONCRETE WALK, SEE SITE/CIVIL.
18. SPLIT-FACE C.M.U. LOW WALL W/2" C.M.U. WALL CAP, SEE SITE/CIVIL.
19. EXISTING ROOF SYSTEM TO REMAIN.
20. EXISTING ROOF STRUCTURE TO REMAIN.
21. EXISTING FOUNDATION SYSTEM TO REMAIN.
22. 8" C.M.U. WALL.
23. STL. TUBE BEAM; PRIME AND PAINT.
24. GREEN HOUSE BEYOND.
25. MATCH ELEVATION WHERE NEW MEETS EXISTING.

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PARTIAL REMODEL & ADDITION

GENESIS CNTR. BUILDING 'A'

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Las Cruces, New Mexico

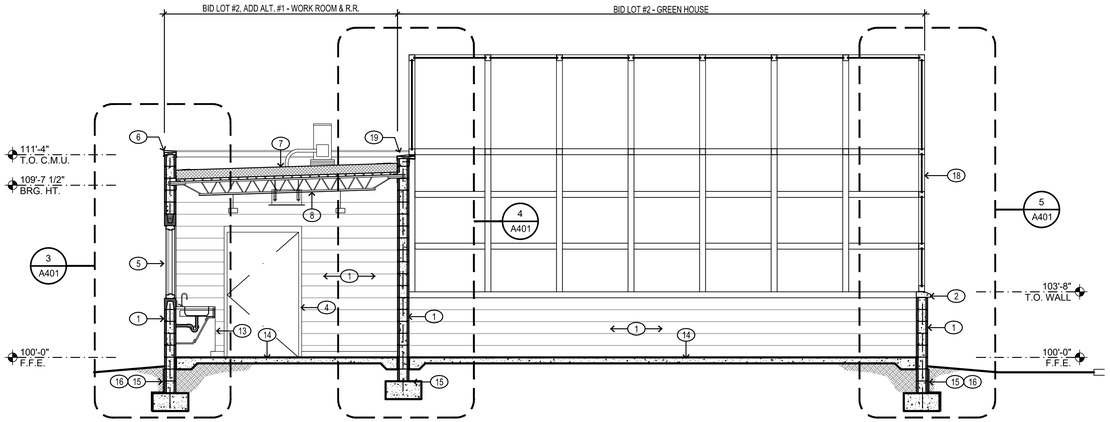
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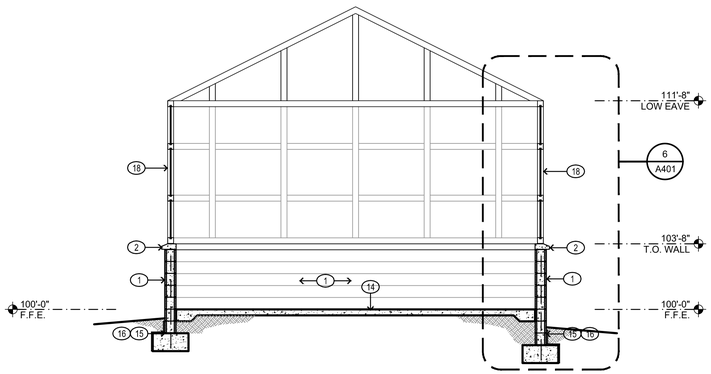
BUILDING SECTIONS

A400

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



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

KEYED NOTES

1. 8" C.M.U. BLOCK WALL, SEE STRUCTURAL FOR FOUNDATION AND REINFORCEMENT REQUIREMENTS. PROVIDE SPLIT-FACE C.M.U. AT EXTERIOR WALLS AND STANDARD C.M.U. AT INTERIOR.
2. 4" PRE-CAST CONCRETE CAP.
3. NOT USED.
4. H.M. DOOR AND FRAME, SEE DOOR SCHEDULE ON SHEET A200.
5. H.M. WINDOW, SEE WINDOW SCHEDULE ON SHEET A200.
6. PRE-FINISHED MTL. PARAPET CAP.
7. SINGLE-PLY ROOF MEMBRANE OVER R-30 MIN. RIGID ROOF INSULATION ON 1-1/2" MTL. ROOF DECK.
8. STEEL ROOF JOIST, SEE STRUCTURAL FRAMING PLAN.
9. NOT USED.
10. ACOUSTICAL LAY-IN CEILING SYSTEM, SEE REFLECTED CEILING PLAN SHEET A500.
11. NOT USED.
12. 4" RUBBER WALL BASE AS SCHEDULED.
13. BUILT-IN MILLWORK, SEE MILLWORK ELEVATIONS AND SECTION.
14. REINFORCED CONCRETE FLOOR, SEE STRUCTURAL FOUNDATION PLAN. FLOOR FINISHES AS SCHEDULED.
15. REINFORCED CONCRETE FOOTING, SEE STRUCTURAL FOUNDATION PLAN.
16. 1" RIGID INSULATION AT PERIMETER OF BUILDING ADDITION.
17. 4" CONCRETE WALK, SEE SITE/CIVIL.
18. PRE-ENGINEERED GREEN HOUSE STRUCTURE AND GLAZING.
19. PRE-FINISHED MTL. FLASHING AND COUNTER FLASHING.

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

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

WALL SECTION 5
3/4" = 1'-0"

WALL SECTION 6
3/4" = 1'-0"

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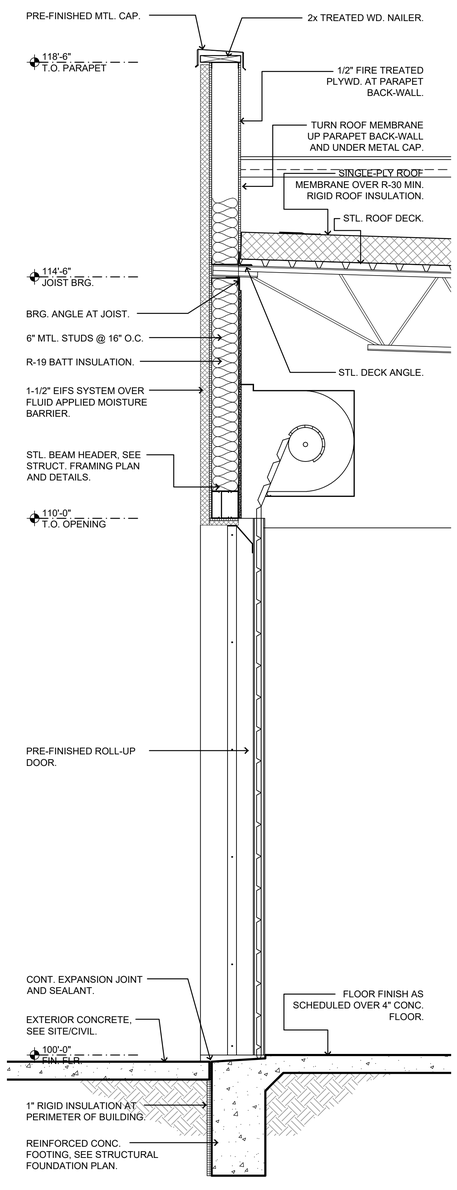
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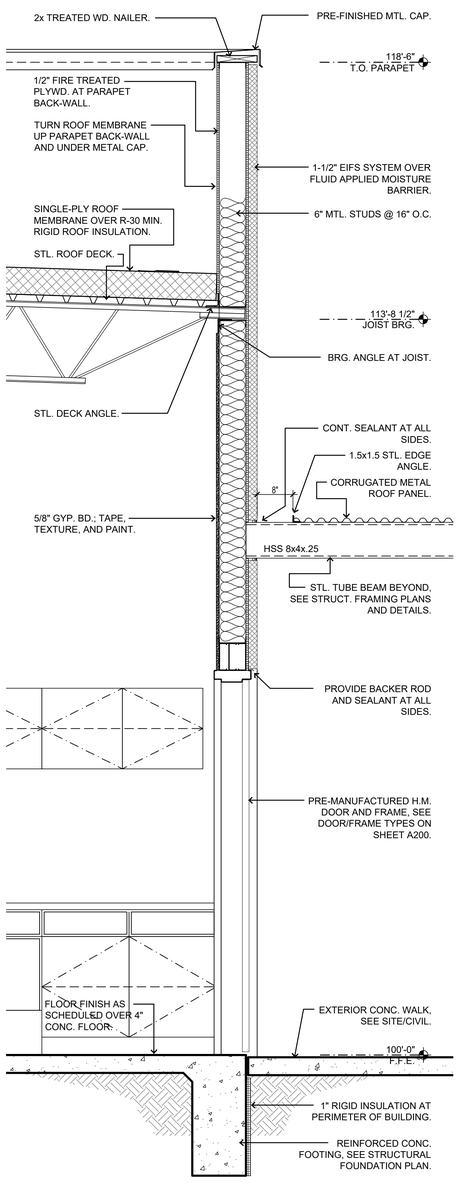
BUILDING SECTIONS

A401

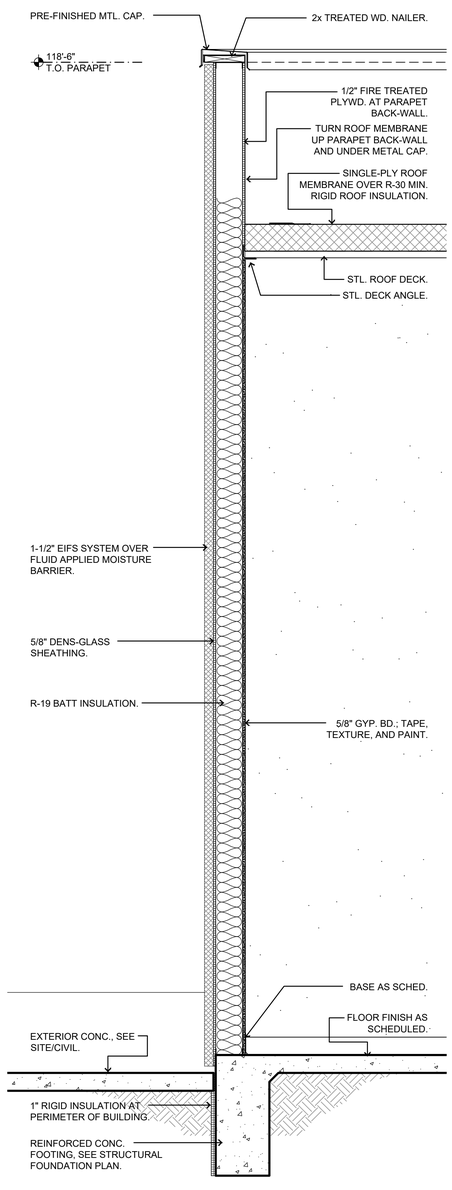
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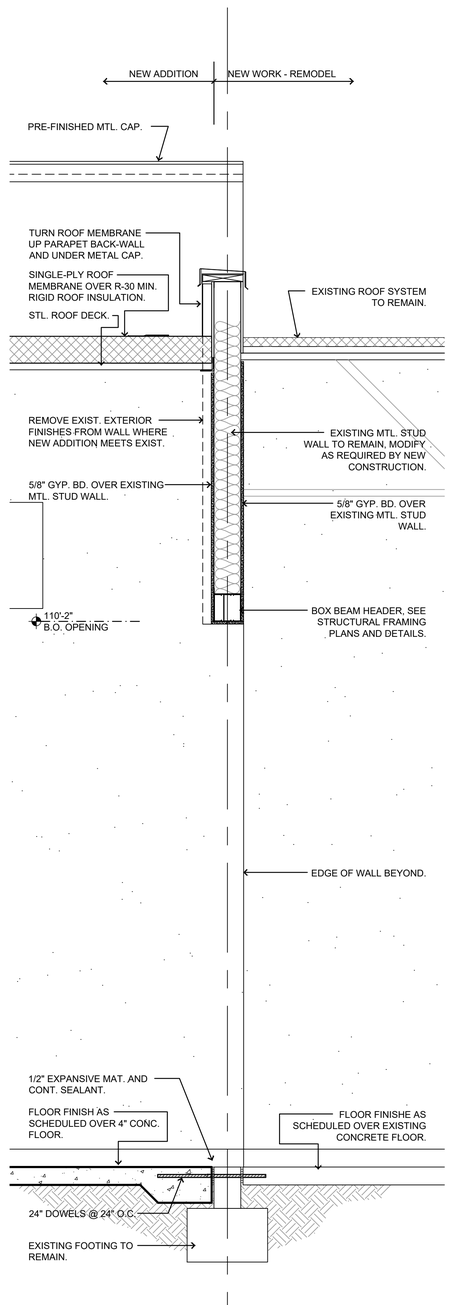
WALL SECTION 1
3/4" = 1'-0"



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



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



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

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PARTIAL REMODEL & ADDITION

GENESIS CNTR. BUILDING 'A'

3655 Research Dr. Bldg. A
NMSU Campus
Las Cruces, New Mexico

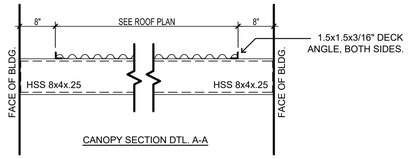
REVISION	DATE

Project no: 25.25
Date: May 2026
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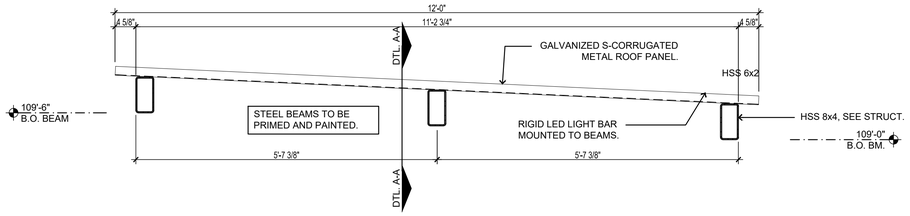
BUILDING SECTIONS

A402

Date: May 26, 2026 - 8:47am User:AN
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Last Saved By: AN May 22, 2026 - 12:11pm
Layout Name: A402

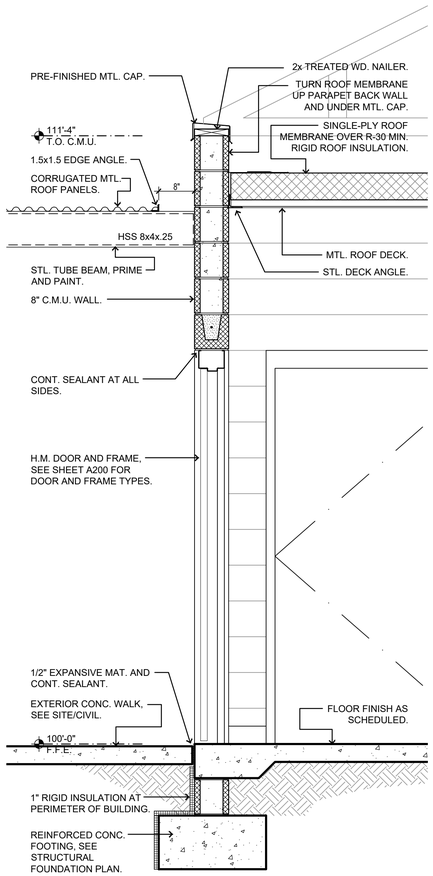


CANOPY SECTION DTL. A-A



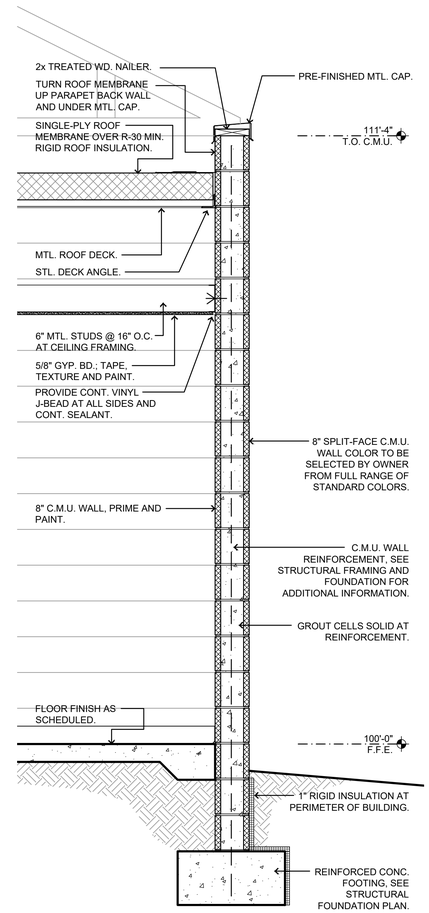
CANOPY SECTION A

3/4" = 1'-0"



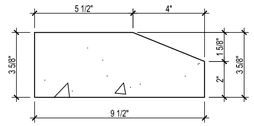
WALL SECTION 1

3/4" = 1'-0"



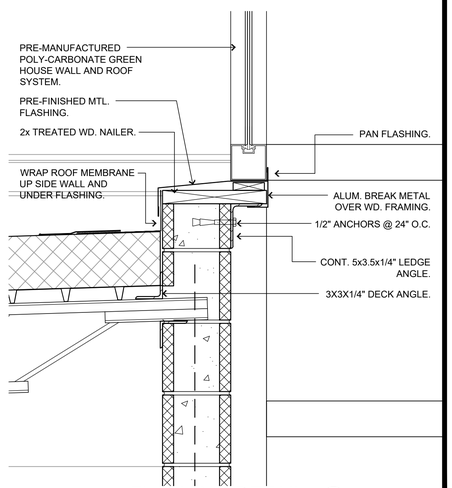
WALL SECTION 2

3/4" = 1'-0"



CONC. CAP DETAIL B

3" = 1'-0"



FLASHING DETAIL C

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

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ABELARDO NATIVIDAD
NO. 004727
REGISTERED ARCHITECT

05.22.26

PARTIAL REMODEL & ADDITION

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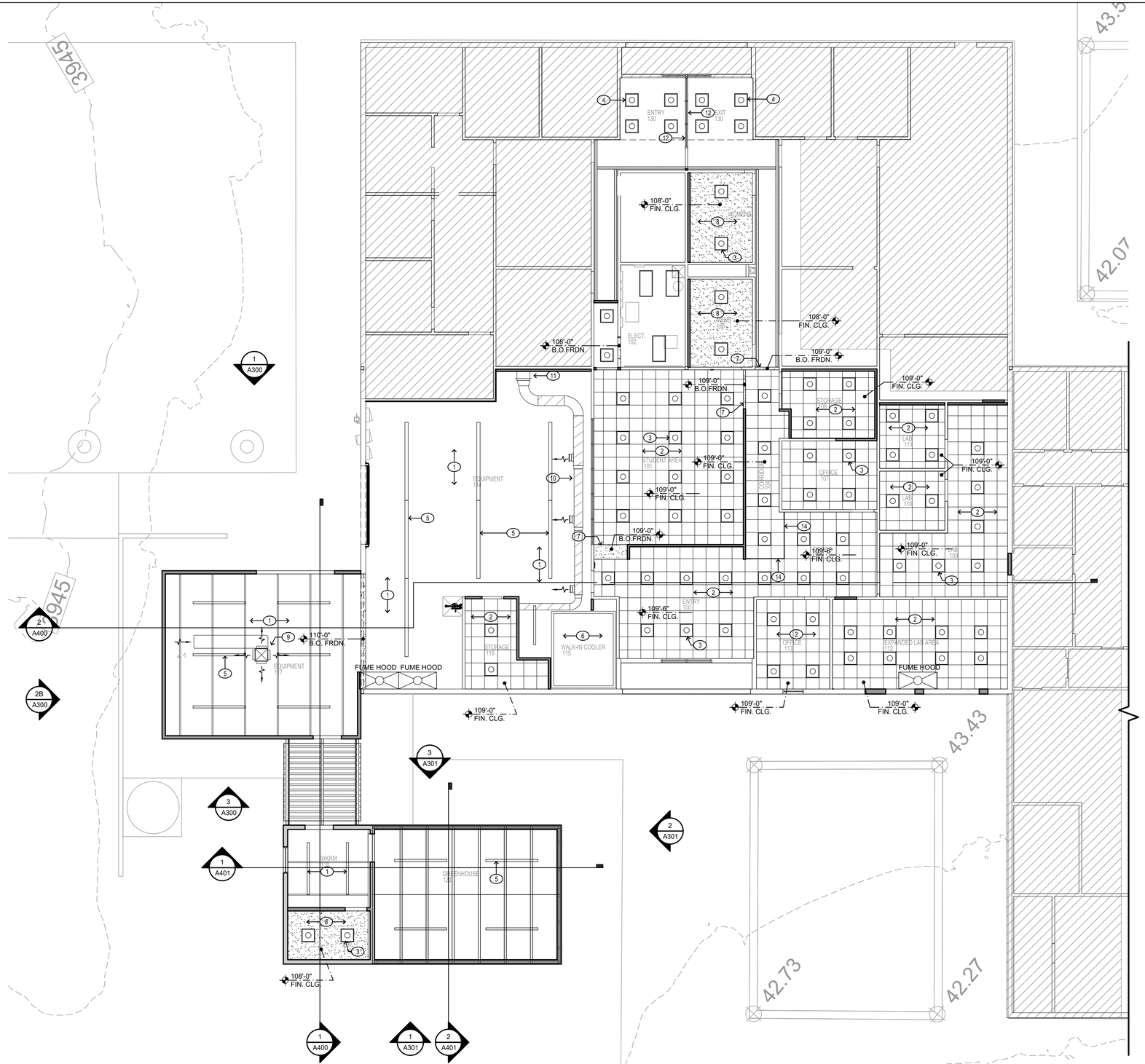
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Project no: 25.25
Date: May 2026
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BUILDING SECTIONS

A403

Date: May 26, 2026 - 8:48am User:AN
Drawing File: K:\2025 Projects\2525 NMSU GENESIS BLDG A\DWG\Sheets\2525-A402.dwg
Last Saved By: AN May 22, 2026 - 12:11pm
Layout Name: A403



REFLECTED CEILING PLAN 1

1/8" = 1'-0"

KEYED NOTES

1. OPEN TO STRUCTURE ABOVE, CONTRACTOR TO PRIME AND PAINT.
2. 2x2 ACOUSTICAL LAY-IN CEILING SYSTEM AS SCHEDULED.
3. NEW 2x2 LAY-IN CEILING LIGHT FIXTURE, SEE ELECTRICAL LIGHTING PLAN AND SCHEDULES.
4. PROVIDE NEW 2x2 LIGHT FIXTURES IN EXISTING LAY-IN CEILING SYSTEM IN EXISTING CORRIDOR, SEE ELECTRICAL LIGHTING PLAN AND SCHEDULES.
5. LED FIXTURE, SEE ELECTRICAL LIGHTING PLAN AND SCHEDULES.
6. WALK-IN COOLER LIGHTING PER WALK-IN COOLER MANUFACTURER.
7. FURRDOWN, 5/8" GYP. BD. OVER LIGHT GA. METAL FRAMING; TAPE, TEXTURE, AND PAINT.
8. 5/8 GYP. BD. CEILING ON LIGHT GA. METAL FRAMING; TAPE, TEXTURE, AND PAINT.
9. RTU SUPPLY DUCT THROUGH ROOF INTO LAB SPACE, SEE MEP.
10. NEW SPIRAL SUPPLY DUCT, CONNECTED TO EXISTING UNIT.
11. TRANSITION BETWEEN EXISTING AND NEW DUCTWORK FOR LAB SPACE. VERIFY EXISTING.
12. MODIFY EXISTING CEILING SYSTEM AS REQUIRED BY INSTALLATION OF NEW SEPARATION WALL.
13. EXISTING WALL MOUNTED LIGHT FIXTURE TO REMAIN, CONTRACTOR IS TO MODIFY EXISTING LIGHT FIXTURE AS REQUIRED BY NEW CONSTRUCTION AND REMOVE EXISTING LIGHT FIXTURE SECTIONS AS INDICATED ON DEMOLITION PLAN.
14. PROVIDE 6" AXIOM CLASSIC SUSPENDED CEILING PERIMETER STEP UP CEILING TRIM.

CEILING SYSTEM

1. CEILING TILE TO BE ARMSTRONG WORLD INDUSTRIES, INC. ULTIMA LAY-IN TEGULAR - ULTIMA HIGH NRC 9/16 BEVELED TEGULAR. OR EQUAL.
   - 1.1. PROVIDE 2X2 FINE TEXTURE CEILING TILES.
   - 1.2. PROVIDE EXPOSED GRID SUSPENSION SYSTEM.
   - 1.3. PROVIDE ALL WIRE HANGERS, FASTENERS, MAIN RUNNERS, CROSS TEES, AND PERIMETER TRIM.
   - 1.4. COLOR - WHITE
2. METAL SUSPENSION SYSTEM
   - 2.1. PRELUDE XL 15/16" EXPOSED TEE
   - 2.2. COLOR - WHITE TO MATCH CEILING TILE.

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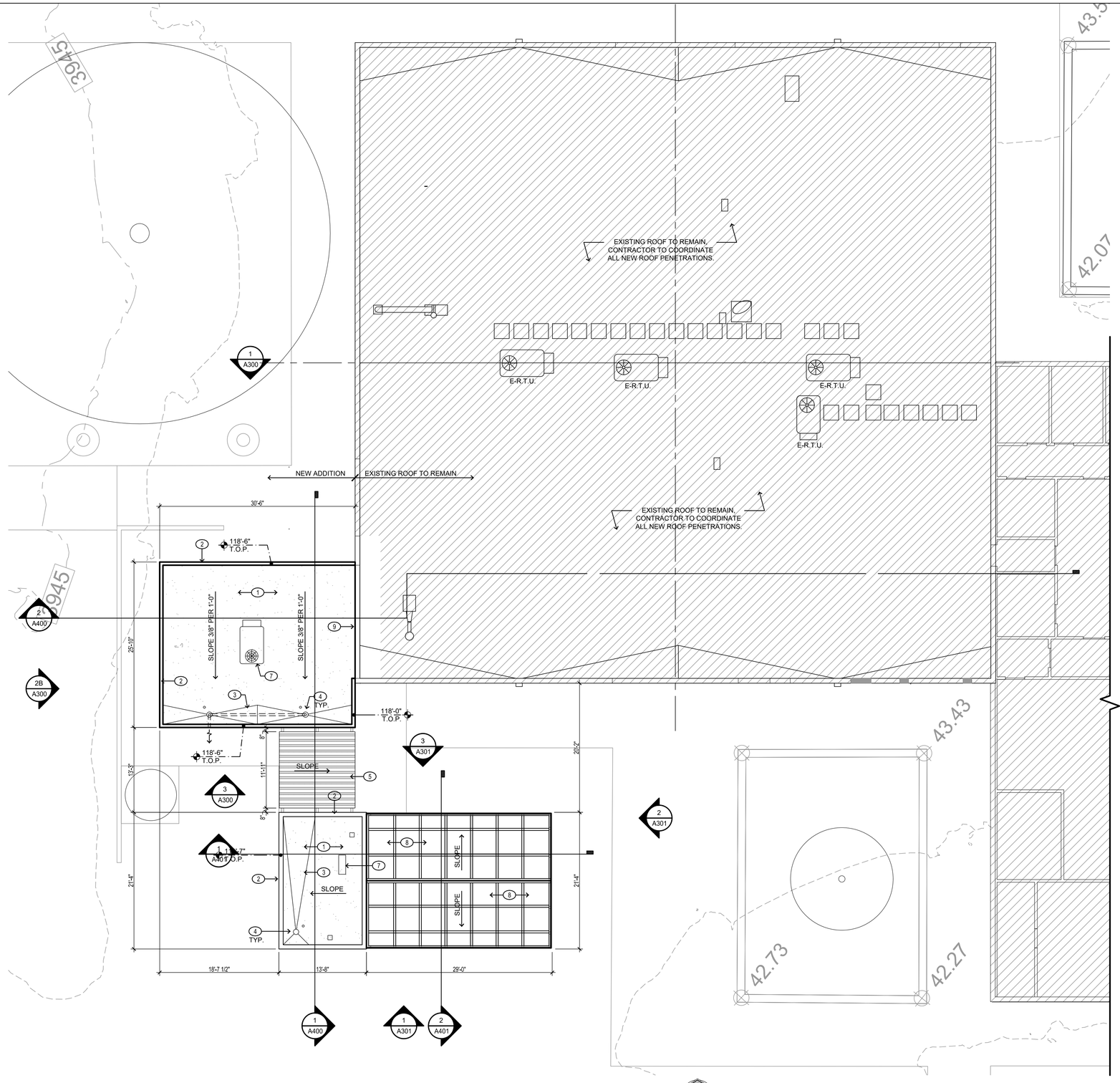
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Project no:	25.25
Date:	May 2026
Sheet:	

REFLECTED CEILING PLAN

A500

Date: May 26, 2026 - 8:51am User:AN
Drawing File: K:\2025 Projects\2525 NMSU GENESIS BLDG A\DWG\Sheets\2525-A500.dwg
Last Saved By: AN May 26, 2026 - 8:51am
Layout Name: A500



NORTH

ROOF PLAN 1

1/8" = 1'-0"

KEYED NOTES

1. SINGLE-PLY ROOF MEMBRANE OVER MIN. R-30 RIGID ROOF INSULATION.
2. PRE-FINISHED MTL. CAP.
3. BUILT-UP ROOF CRICKET, SLOPE TO ROOF DRAIN.
4. ROOF DRAIN AND OVERFLOW DRAIN, SEE PLUMBING.
5. GALVANIZED CORRUGATED METAL PANELS AT BREEZEWAY. BID LOT #2, ADD ALT. #1.
6. PRE-FINISHED MTL. DRIP EDGE.
7. ROOF TOP HVAC EQUIPMENT, SEE MEP FOR ADDITIONAL INFORMATION.
8. GREEN HOUSE ROOF AND WALL SYSTEM, SEE EXTERIOR ELEVATIONS, SECTIONS AND SPECIFICATIONS FOR ADDITIONAL INFORMATION.
9. FLASH NEW ROOF TO EXISTING BUILDING WALL.

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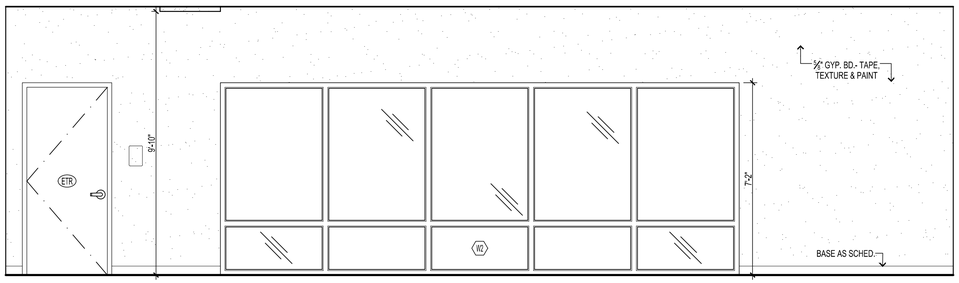
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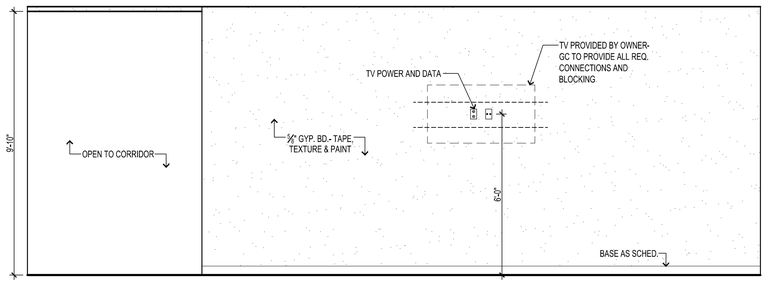
ROOF PLAN

A600

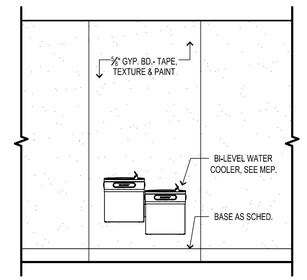
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Layout Name: A600



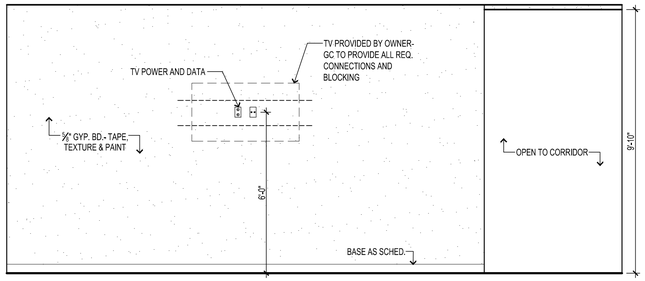
INTERIOR ELEVATION 1
3/8" = 1'-0"



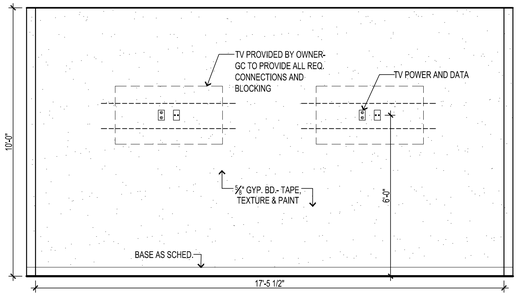
INTERIOR ELEVATION 2
3/8" = 1'-0"



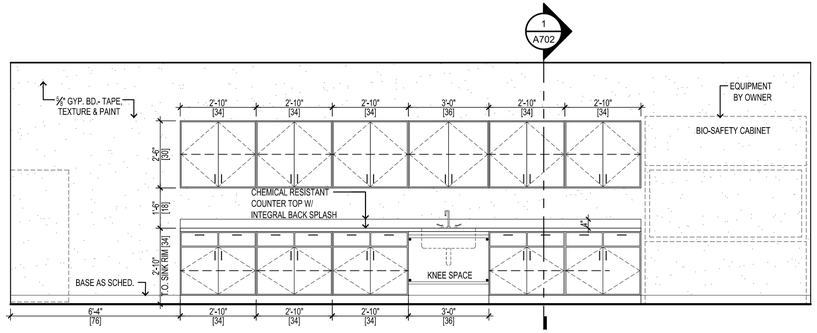
BI-LEVEL WATER COOLER 3
3/8" = 1'-0"



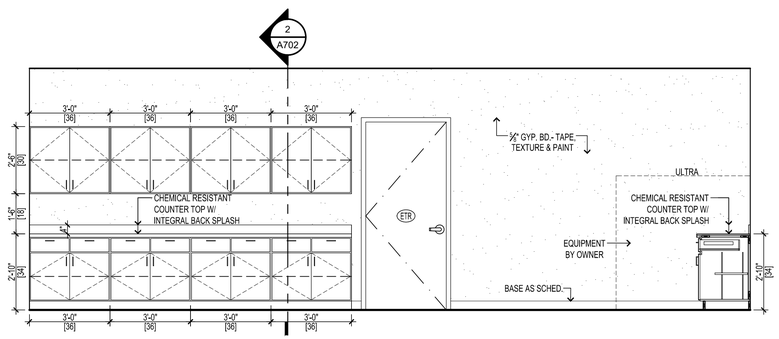
INTERIOR ELEVATION 4
3/8" = 1'-0"



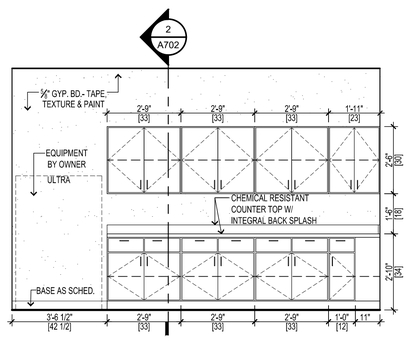
INTERIOR ELEVATION 5
3/8" = 1'-0"



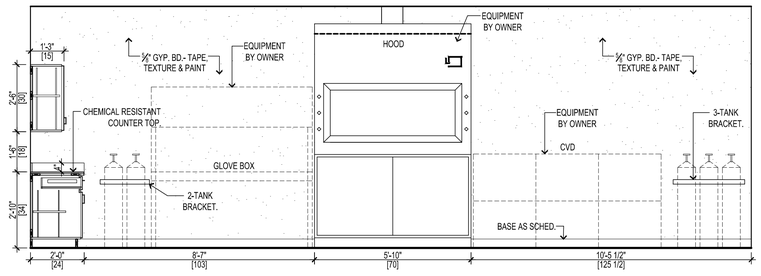
INTERIOR ELEVATION 6
3/8" = 1'-0"



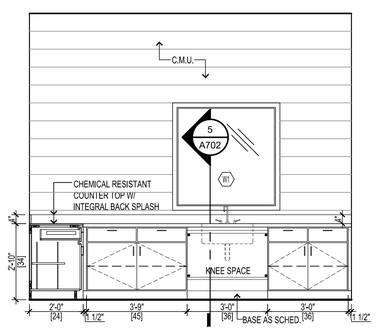
INTERIOR ELEVATION 7
3/8" = 1'-0"



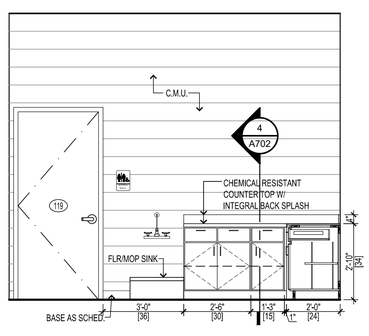
INTERIOR ELEVATION 8
3/8" = 1'-0"



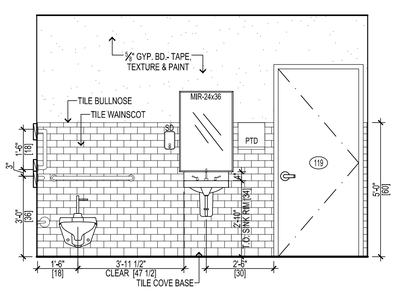
INTERIOR ELEVATION 9
3/8" = 1'-0"



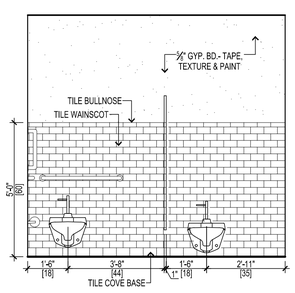
INTERIOR ELEVATION 10
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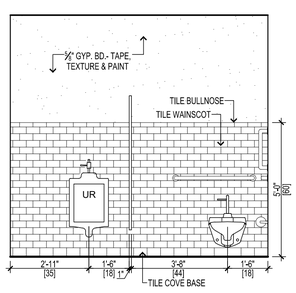
INTERIOR ELEVATION 11
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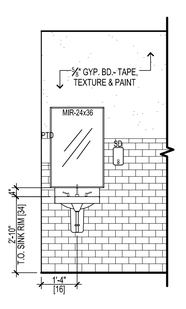
INTERIOR ELEVATION 12
3/8" = 1'-0"



INTERIOR ELEVATION 13
3/8" = 1'-0"



INTERIOR ELEVATION 14
3/8" = 1'-0"



INT. ELEVATION 15
3/8" = 1'-0"

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05.22.26

PARTIAL REMODEL & ADDITION

GENESIS CNTR. BUILDING 'A'

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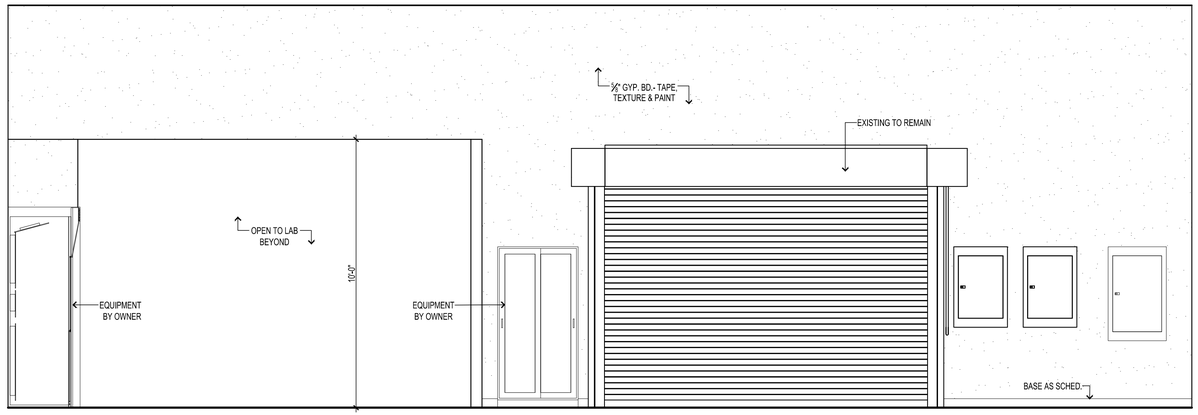
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Date: May 2026
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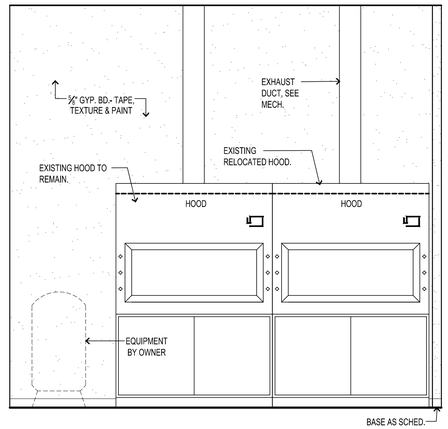
INTERIOR ELEVATIONS

A700

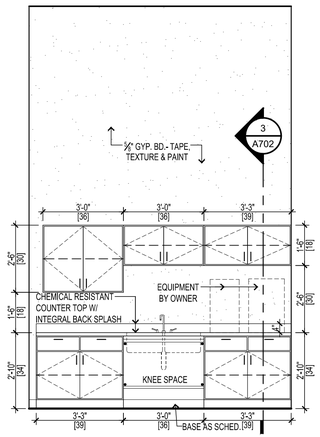
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Layout Name: A700



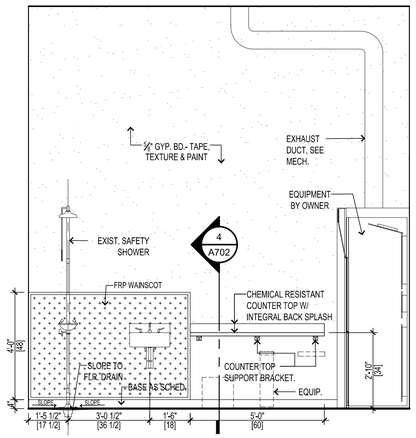
INTERIOR ELEVATION 1
3/8" = 1'-0"



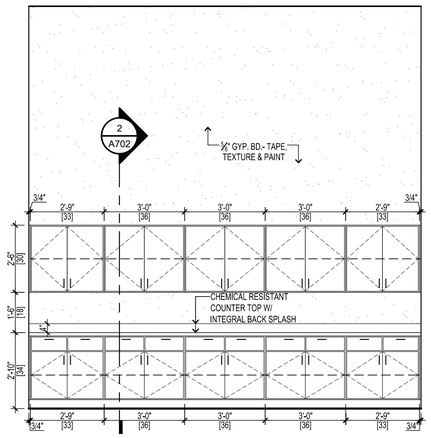
INTERIOR ELEVATION 2
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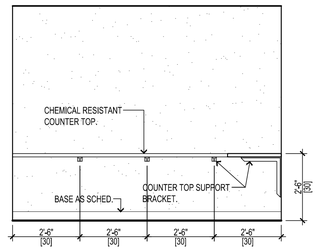
INTERIOR ELEVATION 3
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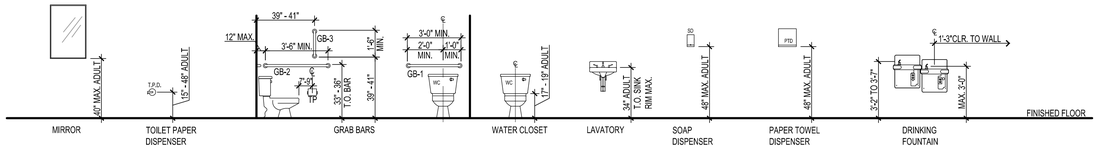
INTERIOR ELEVATION 4
3/8" = 1'-0"



INTERIOR ELEVATION 5
3/8" = 1'-0"



INTERIOR ELEVATION 6
3/8" = 1'-0"



ADA MOUNTING HEIGHTS
N.T.S. 6

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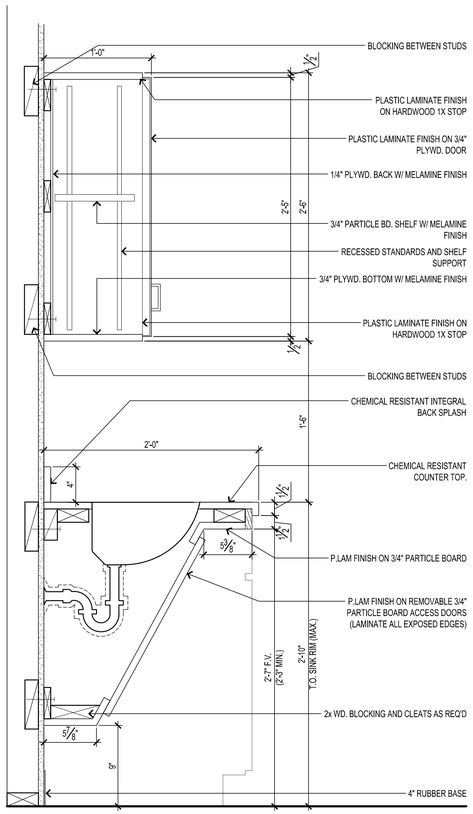
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Date: May 2026
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INTERIOR ELEVATIONS

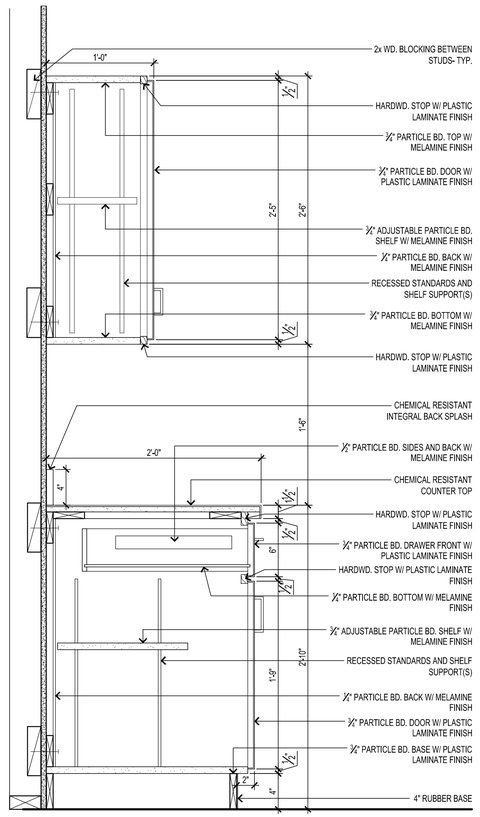
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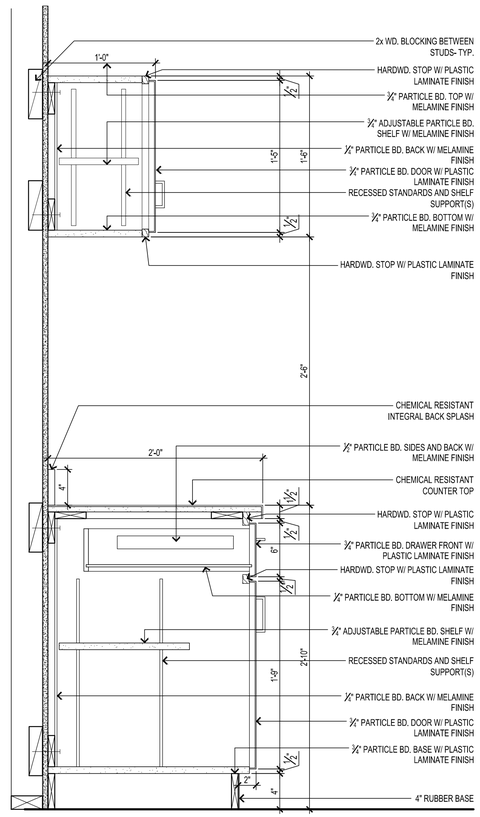
MILLWORK SECTION 1

1 1/2" = 1'-0"



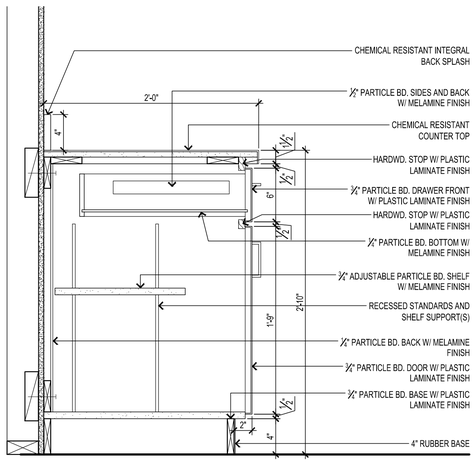
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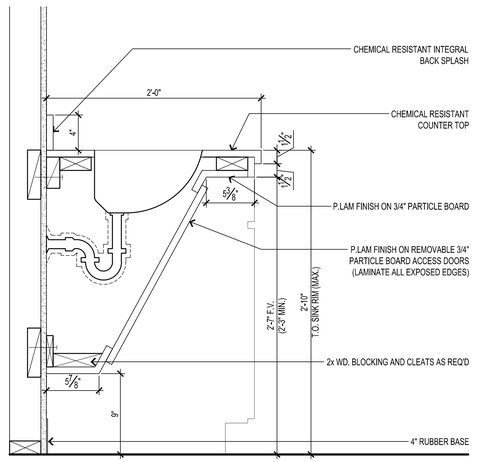
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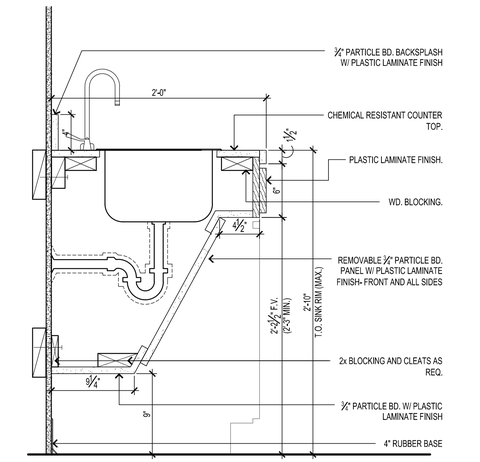
MILLWORK SECTION 4

1 1/2" = 1'-0"



MILLWORK SECTION 5

1 1/2" = 1'-0"



MILLWORK SECTION 6

1 1/2" = 1'-0"

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NO. 004727

05.22.26

PARTIAL REMODEL & ADDITION

GENESIS CNTR. BUILDING 'A'

3655 Research Dr. Bldg. A
NMSU Campus
Las Cruces, New Mexico

REVISION	DATE

Project no: 25.25
Date: May 2026
Sheet:

MILLWORK SECTIONS

A702

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MECHANICAL SYMBOL LEGEND AND ABBREVIATIONS

1. THESE SYMBOLS COMPRISE A STANDARD LIST; NOT ALL SYMBOLS MAY APPEAR ON THIS PROJECT.
2. ALL MOUNTING HEIGHTS ARE TO CENTER OF DEVICE ABOVE FINISHED FLOOR, MOUNTING HEIGHTS INDICATED ON ARCHITECTURAL WALL ELEVATIONS OR AS NOTED SPECIFICALLY ON THE DRAWINGS SHALL TAKE PRECEDENCE OVER MOUNTED HEIGHTS LISTED BELOW.

GENERAL DUCTWORK SYMBOLS

SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
	ROUND DUCT SECTION	PBD	DAMPER, TYPE INDICATED (OBD, PBD, FD, BD)
12"ø	12" DIA. ROUND DUCT		WALL LOUVER
	SUPPLY SECTION, POSITIVE PRESS.		SUPPLY AIR DIFFUSER
	EXH., RET., O.A., DUCT SECTION NEGATIVE PRESS.		RETURN AIR GRILLE
12X8	DUCTWORK, FIRST NO. IS VISIBLE DIM.		EXHAUST GRILLE
FLEX	FLEXIBLE CONNECTION (DUCT)		LINEAR SUPPLY AIR DEVICE
	FLEXIBLE DUCT		LINEAR AIR RETURN DEVICE
	BRANCH DUCT WITH VOLUME DAMPER		VANED ELBOW (PROVIDE ALL SQUARE ELBOWS W/VANES EVEN IF SYMBOL IS MISSING).

DRAWING SYMBOLS

SYMBOL	DESCRIPTION
5-TON CU-1	EQUIPMENT MARK NUMBER – 5-TON, CU-1
②	KEYED NOTE 2
A,6ø 150	TYPE 'A' AIR DEVICE, 150 CFM W/ 6ø NECK. WHEN NOT INDICATED ON DRAWING REFER TO SCHEDULE
	SIDEWALL REGISTER

HEATING PIPING SYMBOLS

SYMBOL	DESCRIPTION
HPS	HIGH PRESSURE STEAM CONDENSATE
LPS	LOW PRESSURE STEAM CONDENSATE
S/SUPP	STEAM SUPPLY (PRESS. AS NOTED)
PCD	PUMPED CONDENSATE DRAIN
HTWR	HOT WATER RETURN
HTWS	HOT WATER SUPPLY
BFW	BOILER FEED WATER
	THERMOSTATIC PUMP
	FLOAT & THERMOSTATIC TRAP

AIR CONDITIONING SYMBOLS

SYMBOL	DESCRIPTION
CHWR	CHILLED/HEATING WATER RETURN
CHWS	CHILLED/HEATING WATER SUPPLY
CHWR	CHILLED WATER RETURN
CHWS	CHILLED WATER SUPPLY
RL	REFRIGERANT LIQUID
RS	REFRIGERANT SUCTION
RD	REFRIGERANT DISCHARGE
MUAW	MAKE-UP AIR UNIT WATER
CD	CONDENSATE DRAIN
PCD	PUMPED CONDENSATE DRAIN

CONTROL SYMBOLS

SYMBOL	DESCRIPTION
T x	THERMOSTAT SERVING ZONE X
T x	TEMPERATURE SENSOR SERVING ZONE X
C x	MISC. CONTROL SERVING ZONE X REFER TO KEYED NOTES FOR MORE INFORMATION
R x	REMOTE SENSOR SERVING ZONE X
TS x	REMOTE SMOKE DETECTOR TEST STATION ZONE X

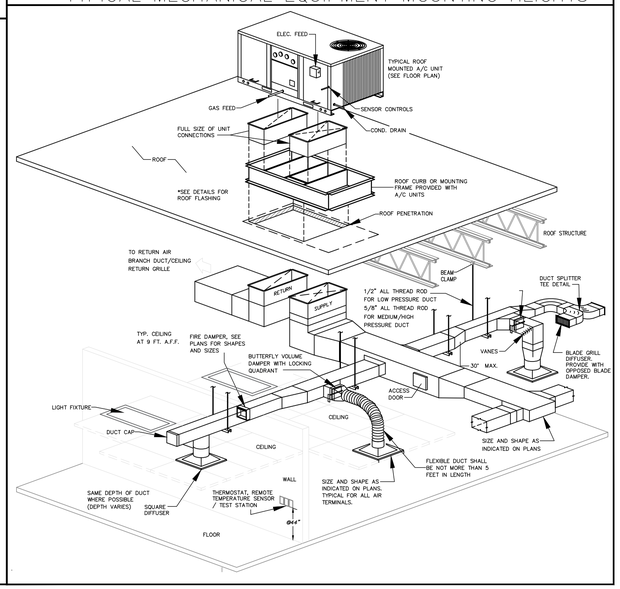
DEMOLITION / NEW WORK NOMENCLATURE

THE FOLLOWING TAG / IDENTIFIERS ADDED TO THE MECHANICAL DEVICES REPRESENT:

SYMBOL	DESCRIPTION
E	EXISTING TO REMAIN.
R	TO BE RELOCATED / ITEM RELOCATED.
X	TO BE REMOVED.

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

TYPICAL MECHANICAL EQUIPMENT MOUNTING HEIGHTS



MECHANICAL SPECIFICATIONS

GENERAL REQUIREMENTS

A. ADHERE TO ALL APPLICABLE AND LATEST MECHANICAL CODES AND STANDARDS, INCLUDING BUT NOT LIMITED TO THE INTERNATIONAL MECHANICAL CODE (IMC), NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) GUIDELINES, ASHRAE STANDARDS, AND BUILDING CODES ENFORCED BY LOCAL JURISDICTIONS. ENSURE ALL WORK COMPLIES WITH THESE STANDARDS TO MEET REGULATORY REQUIREMENTS.

B. OBTAIN ALL NECESSARY PERMITS, INSPECTIONS, AND APPROVALS FROM LOCAL AUTHORITIES AND REGULATORY AGENCIES AS REQUIRED FOR THE FULL DURATION OF THE PROJECT. DOCUMENT COMPLIANCE MEASURES AND MAINTAIN OPEN COMMUNICATION WITH INSPECTING AUTHORITIES TO GUARANTEE ADHERENCE THROUGHOUT CONSTRUCTION.

C. PROVIDE AND USE ONLY NEW, DEFECT-FREE EQUIPMENT, MATERIALS, AND COMPONENTS THAT MEET OR EXCEED RECOGNIZED STANDARDS (E.G., ASTM, UL, ANSI). ENSURE ALL PRODUCTS ARE OF THE HIGHEST QUALITY, WITH EVIDENCE OF CERTIFICATION WHERE APPLICABLE. SEEK WRITTEN APPROVAL FROM THE ENGINEER OF RECORD (EOR) FOR ANY PROPOSED SUBSTITUTIONS, ENSURING THAT ALL SUBSTITUTE PRODUCTS MEET OR EXCEED THE SPECIFIED PERFORMANCE AND DURABILITY STANDARDS.

D. COORDINATE THE MECHANICAL SYSTEMS THOROUGHLY WITH ALL OTHER DISCIPLINES, INCLUDING STRUCTURAL, ARCHITECTURAL, ELECTRICAL, AND PLUMBING, TO ENSURE COMPATIBILITY AND FUNCTIONALITY. ADDRESS POTENTIAL CONFLICTS PROACTIVELY AND SEQUENCE ALL WORK TO MAINTAIN EFFICIENCY, SAFETY, AND OPERATIONAL INTEGRITY OF ALL BUILDING SYSTEMS. CONFIRM CLEARANCES, ALIGNMENT, AND INSTALLATION PATHS EARLY IN THE PLANNING STAGE.

E. MAINTAIN A CLEAN, ORGANIZED, AND SAFE WORK ENVIRONMENT AT ALL TIMES. MANAGE THE REMOVAL AND PROPER DISPOSAL OF ALL CONSTRUCTION DEBRIS, WASTE MATERIALS, AND PACKAGING IN ACCORDANCE WITH ENVIRONMENTAL REGULATIONS AND SITE-SPECIFIC DISPOSAL GUIDELINES. PROTECT INSTALLED SYSTEMS AND EQUIPMENT FROM CONTAMINATION, PHYSICAL DAMAGE, AND UNAUTHORIZED ACCESS DURING THE CONSTRUCTION PHASE.

F. CONDUCT A COMPREHENSIVE SITE INSPECTION BEFORE COMMENCING WORK TO VERIFY EXISTING CONDITIONS AND IDENTIFY ANY DISCREPANCIES OR ISSUES THAT MAY AFFECT THE INSTALLATION. DOCUMENT ALL SITE CONDITIONS, REPORT FINDINGS TO THE EOR, AND IMPLEMENT ANY NECESSARY MODIFICATIONS AS PART OF THE AGREED PROJECT SCOPE.

G. IMPLEMENT A RIGOROUS QUALITY ASSURANCE PROGRAM, WITH FREQUENT INSPECTIONS AND ADHERENCE TO PROJECT SPECIFICATIONS. ENSURE THAT ALL WORK CONFORMS STRICTLY TO THE DESIGN DOCUMENTS AND REPORT ANY DEVIATIONS TO THE EOR FOR REVIEW AND APPROVAL. LOG ALL INSPECTIONS, CORRECTIONS, AND VERIFICATIONS AS PART OF THE PROJECT'S QUALITY DOCUMENTATION.

SUBMITTALS

H. SUBMIT DETAILED SHOP DRAWINGS FOR REVIEW AND APPROVAL PRIOR TO INSTALLATION. INCLUDE IN THESE DRAWINGS THE PLACEMENT AND ARRANGEMENT OF ALL EQUIPMENT, DUCTWORK LAYOUT, PIPING SCHEMATICS, SUPPORT DETAILS, AND SPECIFIC INFORMATION ON INTEGRATION WITH STRUCTURAL AND ARCHITECTURAL ELEMENTS. WHERE COMPLEX INSTALLATIONS ARE INVOLVED, PROVIDE ISOMETRIC VIEWS TO ENHANCE CLARITY AND AVOID MISINTERPRETATION.

I. SUBMIT COMPREHENSIVE PRODUCT DATA SHEETS FOR ALL MECHANICAL EQUIPMENT AND COMPONENTS. EACH DATA SHEET SHOULD COVER PERFORMANCE RATINGS, ELECTRICAL REQUIREMENTS, PHYSICAL DIMENSIONS, WEIGHT, INSTALLATION GUIDELINES, AND COMPLIANCE CERTIFICATIONS. HIGHLIGHT AND JUSTIFY ANY VARIANCES FROM DESIGN SPECIFICATIONS.

J. PROVIDE ACCURATE AS-BUILT DRAWINGS AT PROJECT COMPLETION, DETAILING ALL CHANGES, MODIFICATIONS, AND ADDITIONS MADE DURING CONSTRUCTION. THESE DRAWINGS MUST BE COMPLETE, PRECISE, AND VERIFIED FOR CORRECTNESS. ACCOMPANY AS-BUILT DOCUMENTATION WITH A FULL SET OF OPERATION AND MAINTENANCE MANUALS FOR ALL EQUIPMENT, INCLUDING TROUBLESHOOTING PROCEDURES, MAINTENANCE INTERVALS, AND RECOMMENDED SPARE PARTS.

K. INCLUDE WARRANTY DOCUMENTATION FOR ALL MAJOR MECHANICAL EQUIPMENT AND MATERIALS, ENSURING A MINIMUM ONE-YEAR WARRANTY ON ALL EQUIPMENT AND LABOR. EACH WARRANTY MUST SPECIFY THE DURATION, COVERAGE, AND SERVICE PROVISIONS IN DETAIL. ENSURE THAT EXTENDED WARRANTIES ARE SECURED FOR CRITICAL MECHANICAL COMPONENTS, SUCH AS CHILLERS, BOILERS, PUMPS, AND CONTROL SYSTEMS, AS APPLICABLE.

L. DEVELOP AND SUBMIT A COMPREHENSIVE COMMISSIONING PLAN OUTLINING ALL TESTING, VERIFICATION, AND DOCUMENTATION PROCEDURES REQUIRED TO CONFIRM SYSTEM PERFORMANCE. INCLUDE DETAILED DESCRIPTIONS OF FUNCTIONAL TESTING METHODS, ACCEPTANCE CRITERIA, AND CORRECTIVE ACTION PLANS FOR ANY IDENTIFIED DEFICIENCIES.

M. SUBMIT A SEQUENCE OF OPERATIONS FOR ALL CONTROL SYSTEMS, OUTLINING HOW EACH COMPONENT WILL FUNCTION UNDER BOTH NORMAL AND EMERGENCY CONDITIONS. PROVIDE A DETAILED, WRITTEN DESCRIPTION OF CONTROL LOGIC AND SETPOINTS FOR EOR REVIEW AND FINALIZATION.

QUALITY ASSURANCE

N. ENSURE THAT ALL MECHANICAL WORK IS PERFORMED BY CERTIFIED AND LICENSED PROFESSIONALS WITH PROVEN EXPERIENCE IN PROJECTS OF SIMILAR SCALE AND COMPLEXITY. SUBMIT WORKER CERTIFICATIONS AND QUALIFICATIONS FOR ALL PERSONNEL INVOLVED IN THE INSTALLATION. CONFIRM THAT ALL WORKERS ARE FAMILIAR WITH AND ADHERE TO THE SPECIFIC REQUIREMENTS AND CODES APPLICABLE TO THE PROJECT.

O. ESTABLISH AND IMPLEMENT A ROBUST QUALITY CONTROL PLAN THAT INCLUDES REGULAR INSPECTIONS, NON-DESTRUCTIVE TESTING, AND PERIODIC REVIEWS BY THE EOR. MAINTAIN COMPREHENSIVE LOGS OF ALL INSPECTIONS AND TESTS, INCLUDING INFORMATION ON THE PERSONNEL INVOLVED, TEST DATES, AND RECORDED RESULTS. ADDRESS ALL NON-CONFORMING WORK PROMPTLY, WITH CORRECTIVE MEASURES AT NO ADDITIONAL COST TO THE OWNER.

P. USE ONLY EQUIPMENT FROM MANUFACTURERS WITH A PROVEN TRACK RECORD OF AT LEAST FIVE YEARS IN PRODUCING RELIABLE, HIGH-QUALITY PRODUCTS. ENSURE THAT ALL EQUIPMENT IS COVERED BY A COMPREHENSIVE WARRANTY AND THAT SPARE PARTS AND SERVICE SUPPORT ARE READILY AVAILABLE.

Q. MAINTAIN ACCESSIBLE, ON-SITE COPIES OF ALL REFERENCED CODES, STANDARDS, AND MANUFACTURER INSTALLATION MANUALS. ENSURE THAT THE QUALITY ASSURANCE REPRESENTATIVE UNRESTRICTED ACCESS TO THE WORK AREA TO VERIFY ADHERENCE TO COMPLIANCE AND QUALITY STANDARDS.

R. CONDUCT REGULAR COORDINATION MEETINGS WITH ALL TRADES TO DISCUSS PROGRESS, POTENTIAL ISSUES, AND STRATEGIES TO MAINTAIN THE CONSTRUCTION SCHEDULE AND UPHOLD QUALITY STANDARDS. DOCUMENT ALL MEETING OUTCOMES AND DISTRIBUTE MINUTES TO RELEVANT PARTIES TO ENSURE TRANSPARENCY AND ACCOUNTABILITY.

DELIVERY, STORAGE, AND HANDLING

S. DELIVER ALL EQUIPMENT IN ORIGINAL, SEALED PACKAGING WITH INTACT MANUFACTURER LABELS. INSPECT EACH DELIVERY UPON ARRIVAL FOR ANY SIGNS OF DAMAGE, TAMPERING, OR COMPROMISE. REPORT ANY DAMAGE IMMEDIATELY AND REPLACE OR REPAIR AFFECTED EQUIPMENT AS NECESSARY.

T. STORE MECHANICAL COMPONENTS IN A SECURE, DRY, CLIMATE-CONTROLLED AREA AS SPECIFIED BY THE MANUFACTURER'S GUIDELINES. ENSURE THAT ALL ITEMS ARE PROTECTED FROM DUST, MOISTURE, AND POTENTIAL PHYSICAL DAMAGE. STORE CRITICAL COMPONENTS SUCH AS CHILLERS, BOILERS, AND CONTROL PANELS OFF THE GROUND AND COVER THEM WITH WEATHERPROOF MATERIALS TO PROTECT AGAINST ENVIRONMENTAL CONDITIONS.

U. HANDLE EQUIPMENT USING APPROVED LIFTING AND RIGGING TECHNIQUES TO PREVENT DAMAGE DURING TRANSPORT AND INSTALLATION. USE CRANES, FORKLIFTS, OR OTHER DESIGNATED LIFTING DEVICES AS NEEDED. ADHERE TO SAFETY REGULATIONS AND MANUFACTURER RECOMMENDATIONS TO SAFEGUARD EQUIPMENT INTEGRITY AND WORKER SAFETY.

V. MAINTAIN AN ACCURATE STORAGE INVENTORY LOG, DOCUMENTING THE RECEIPT AND CONDITION OF ALL MATERIALS. CONDUCT WEEKLY INSPECTIONS OF STORED EQUIPMENT TO VERIFY COMPLIANCE WITH STORAGE REQUIREMENTS AND PROMPTLY ADDRESS ANY SIGNS OF DETERIORATION.

INSTALLATION AND COORDINATION

W. INSTALL ALL MECHANICAL SYSTEMS IN STRICT ACCORDANCE WITH APPROVED PLANS, SPECIFICATIONS, AND MANUFACTURER REQUIREMENTS. ENSURE THAT PIPING AND DUCTWORK ROUTING ALIGNS PARALLEL AND PERPENDICULAR TO BUILDING LINES, PROVIDING ADEQUATE SUPPORT TO PREVENT SAGGING AND STRESS ON JOINTS. DESIGN SYSTEMS TO ACCOMMODATE THERMAL EXPANSION AND CONTRACTION.

X. SEAL ALL PENETRATIONS THROUGH FIRE-RATED ASSEMBLIES WITH APPROVED FIRESTOPPING MATERIALS THAT MAINTAIN THE ASSEMBLY'S FIRE RATING. COORDINATE THE PLACEMENT AND INSTALLATION OF FIRE DAMPERS, ACCESS PANELS, AND OTHER FIRE SAFETY DEVICES IN ALIGNMENT WITH THE BUILDING'S FIRE PROTECTION SYSTEM.

Y. INSTALL VIBRATION ISOLATION SYSTEMS ON ALL EQUIPMENT GENERATING VIBRATION OR NOISE, SUCH AS PUMPS AND COMPRESSORS. VERIFY THAT ISOLATION DEVICES EFFECTIVELY MINIMIZE TRANSMISSION AND DO NOT COMPROMISE EQUIPMENT PERFORMANCE. USE FLEXIBLE CONNECTORS FOR PIPING CONNECTIONS TO VIBRATING EQUIPMENT.

Z. ENSURE THAT ALL SUPPORTS AND HANGERS FOR MECHANICAL SYSTEMS ARE CORRECTLY SPACED AND INSTALLED TO ACCOMMODATE BOTH DYNAMIC AND STATIC LOADS. USE CORROSION-RESISTANT SUPPORT STRUCTURES, AND WHERE NECESSARY, PROVIDE INSULATION TO PREVENT THERMAL BRIDGING. INSTALL INSULATING BARRIERS BETWEEN THE PIPING AND SUPPORTS/HANGERS TO PREVENT GALVANIC CORROSION.

AA. INSTALL CONTROL VALVES, DAMPERS, ACCESS DOORS, AND OTHER OPERABLE COMPONENTS IN ACCESSIBLE LOCATIONS TO FACILITATE MAINTENANCE. COORDINATE ACCESS PANEL INSTALLATION IN CEILINGS AND WALLS, ENSURING COMPATIBILITY WITH ARCHITECTURAL FINISHES AND MAINTAINING THE AESTHETIC QUALITY OF THE SPACE.

BB. WORK CLOSELY WITH ELECTRICAL, PLUMBING, AND STRUCTURAL TRADES TO PREVENT INTERFERENCE OF MECHANICAL SYSTEMS WITH OTHER BUILDING ELEMENTS. SUBMIT A CLASH DETECTION REPORT USING BUILDING INFORMATION MODELING (BIM) SOFTWARE IF REQUIRED, TO PREEMPTIVELY IDENTIFY AND RESOLVE ANY CONFLICTS.

TESTING AND BALANCING

CC. CONDUCT COMPREHENSIVE TESTING AND BALANCING OF ALL HVAC SYSTEMS TO CONFIRM OPERATION AS DESIGNED. ENGAGE A CERTIFIED TESTING AND BALANCING AGENCY FOR AIR AND WATER BALANCING, SUBMITTING ALL REPORTS TO THE EOR FOR REVIEW AND APPROVAL.

DD. PERFORM PRESSURE TESTING ON ALL PIPING SYSTEMS. FOR WATER SYSTEMS, CONDUCT HYDROSTATIC TESTS AT 1.5 TIMES THE WORKING PRESSURE OR A MINIMUM OF 150 PSI FOR NO LESS THAN TWO HOURS. FOR AIR SYSTEMS, CONDUCT LEAK TESTING AT PRESSURES SPECIFIED IN THE DESIGN DOCUMENTS. REPAIR AND RETEST ANY DETECTED LEAKS AS NEEDED.

EE. CONDUCT FUNCTIONAL TESTING OF HVAC EQUIPMENT, INCLUDING AIR HANDLING UNITS, CHILLERS, BOILERS, AND CONTROL SYSTEMS, TO VERIFY PROPER OPERATION. TEST ALL CONTROL SEQUENCES, SENSORS, AND SAFETY FEATURES UNDER BOTH NORMAL AND EMERGENCY CONDITIONS TO ENSURE THEY FUNCTION AS INTENDED.

FF. MAINTAIN DETAILED LOGS OF ALL TEST RESULTS, NOTING DATE, TIME, PERSONNEL INVOLVED, AND ANY CORRECTIVE ACTIONS TAKEN. REPEAT TESTS AS NECESSARY UNTIL ALL SYSTEMS MEET SPECIFIED PERFORMANCE CRITERIA. PROVIDE FINAL TEST REPORTS TO THE EOR FOR INCLUSION IN PROJECT DOCUMENTATION.

GG. PERFORM WATER QUALITY TESTING ON HYDRONIC SYSTEMS, ENSURING THAT WATER CHEMISTRY ALIGNS WITH ACCEPTABLE RANGES FOR SYSTEM LONGEVITY. TREAT WATER SYSTEMS WITH APPROPRIATE CORROSION INHIBITORS AND BIOCIDES, AND SUBMIT CHEMICAL TREATMENT REPORTS FOR APPROVAL.

INSULATION AND SEALING

HH. INSULATE ALL PIPING AND DUCTWORK PER PROJECT SPECIFICATIONS TO MINIMIZE ENERGY LOSS, CONTROL CONDENSATION, AND REDUCE NOISE TRANSMISSION. USE INSULATION MATERIALS WITH FLAME SPREAD AND SMOKE-DEVELOPED RATINGS COMPLIANT WITH LOCAL FIRE CODES.

II. INSTALL INSULATION IN A CONTINUOUS, VAPOR-TIGHT MANNER, SEALING ALL JOINTS, SEAMS, AND PENETRATIONS. FOR OUTDOOR INSTALLATIONS, APPLY UV-RESISTANT JACKETING TO PROTECT INSULATION FROM ENVIRONMENTAL EXPOSURE. ENSURE ALL EXPOSED INSULATION IS NEATLY FINISHED AND SHIELDED FROM POTENTIAL DAMAGE.

JJ. PROVIDE ADDITIONAL PROTECTION FOR INSULATION IN HIGH-TRAFFIC OR EXPOSED AREAS, SUCH AS MECHANICAL ROOMS AND ROOFTOPS, USING METAL JACKETING OR PROTECTIVE COVERS AS REQUIRED.

VIBRATION AND SEISMIC CONTROLS

KK. INSTALL VIBRATION ISOLATION SYSTEMS ON ALL MAJOR MECHANICAL EQUIPMENT TO MINIMIZE THE TRANSMISSION OF VIBRATION TO THE BUILDING STRUCTURE. SELECT ISOLATION DEVICES BASED ON SPECIFIC LOAD REQUIREMENTS, STATIC DEFLECTION CRITERIA, AND FREQUENCY CHARACTERISTICS OF THE EQUIPMENT. ENSURE THAT ISOLATION DEVICES ARE APPROPRIATELY RATED FOR THE EQUIPMENT'S OPERATIONAL LOADS AND ENVIRONMENTAL CONDITIONS. VERIFY THE PERFORMANCE OF INSTALLED ISOLATION DEVICES THROUGH THOROUGH TESTING AND DOCUMENTATION, MAINTAINING RECORDS FOR PROJECT CLOSEOUT AND FUTURE REFERENCE.

LL. PROVIDE SEISMIC RESTRAINTS AND BRACING ON ALL MECHANICAL EQUIPMENT AND SYSTEMS IN COMPLIANCE WITH LOCAL SEISMIC CODE REQUIREMENTS. SUBMIT DETAILED SEISMIC CALCULATIONS AND SHOP DRAWINGS FOR REVIEW AND APPROVAL BY THE STRUCTURAL ENGINEER AND OTHER RELEVANT AUTHORITIES. COORDINATE CLOSELY WITH THE STRUCTURAL ENGINEER TO ENSURE THAT SEISMIC RESTRAINTS DO NOT INTERFERE WITH THE BUILDING'S STRUCTURAL INTEGRITY OR INTRODUCE UNDUE STRESS TO ADJACENT SYSTEMS.

MM. CONDUCT A POST-INSTALLATION INSPECTION OF ALL VIBRATION AND SEISMIC CONTROL MEASURES TO CONFIRM CORRECT INSTALLATION AND FUNCTIONALITY. SUBMIT A COMPREHENSIVE REPORT DETAILING THE TYPE, LOCATION, AND SPECIFICATIONS OF ALL RESTRAINTS AND ISOLATION DEVICES, ALONG WITH ANY TESTING RESULTS THAT VERIFY COMPLIANCE WITH PROJECT REQUIREMENTS. INCLUDE THIS DOCUMENTATION IN THE PROJECT'S FINAL SUBMITTALS TO SUPPORT LONG-TERM MAINTENANCE AND QUALITY ASSURANCE EFFORTS.

IDENTIFICATION

NN. CLEARLY LABEL ALL MECHANICAL EQUIPMENT, PIPING, DUCTWORK, AND VALVES TO ENSURE STRAIGHTFORWARD IDENTIFICATION DURING MAINTENANCE AND OPERATION. USE PERMANENT, LEGIBLE TAGS RESISTANT TO MOISTURE, FADING, AND ABRASION TO PREVENT DETERIORATION OVER TIME. ENSURE PIPE MARKINGS MEET ASME A13.1 STANDARDS, WITH INDICATIONS OF CONTENTS, DIRECTION OF FLOW, AND SYSTEM FUNCTION. IDENTIFY DUCTWORK WITH DIRECTIONAL AIRFLOW AND SYSTEM DESIGNATION MARKINGS THAT ARE EASILY VISIBLE AND LOGICALLY PLACED.

OO. ATTACH ENGRAVED NAMEPLATES TO ALL MAJOR EQUIPMENT, SPECIFYING THE EQUIPMENT TYPE, CAPACITY, AND OPERATIONAL PARAMETERS. POSITION LABELS TO BE EASILY READ FROM ACCESSIBLE LOCATIONS AND SECURELY FASTEN THEM TO THE EQUIPMENT TO PREVENT DISPLACEMENT OR DAMAGE DURING ROUTINE USE OR MAINTENANCE.

PP. ALIGN ALL LABELING AND IDENTIFICATION WITH THE PROJECT'S OVERALL WAYFINDING AND SIGNAGE PLAN TO MAINTAIN A COHESIVE AND PROFESSIONAL APPEARANCE. COORDINATE LABELING PLACEMENTS AND DESIGNATIONS WITH OTHER TRADES TO AVOID REDUNDANT OR CONFLICTING INFORMATION AND TO ENHANCE EASE OF NAVIGATION AND EQUIPMENT IDENTIFICATION THROUGHOUT THE FACILITY.

WARRANTY AND MAINTENANCE

QQ. FURNISH A COMPREHENSIVE WARRANTY ON ALL MECHANICAL SYSTEMS, ENSURING COVERAGE FOR A MINIMUM OF ONE YEAR ON BOTH LABOR AND MATERIALS. ADDRESS AND CORRECT ANY DEFECTS OR FAILURES THAT ARISE DURING THE WARRANTY PERIOD PROMPTLY AND AT NO ADDITIONAL COST TO THE OWNER. SECURE EXTENDED WARRANTIES FOR CRITICAL COMPONENTS SUCH AS BOILERS, CHILLERS, AND CONTROL SYSTEMS, SPECIFYING THE TERMS AND COVERAGE FOR EACH COMPONENT IN THE WARRANTY DOCUMENTATION.

RR. DELIVER DETAILED MAINTENANCE MANUALS FOR ALL INSTALLED EQUIPMENT, INCLUDING STEP-BY-STEP PROCEDURES FOR ROUTINE MAINTENANCE, RECOMMENDED SERVICE INTERVALS, TROUBLESHOOTING GUIDES, AND A LIST OF RECOMMENDED SPARE PARTS. ORGANIZE INFORMATION CLEARLY TO FACILITATE QUICK REFERENCE DURING MAINTENANCE ACTIVITIES. SCHEDULE AND CONDUCT A TRAINING SESSION FOR THE OWNER'S MAINTENANCE STAFF TO COVER ALL ASPECTS OF SYSTEM OPERATION, MAINTENANCE PROCEDURES, AND SAFETY PRACTICES TO ENSURE THEY ARE WELL-PREPARED FOR ONGOING UPKEEP.

SS. CONDUCT A POST-WARRANTY INSPECTION TO ASSESS THE SYSTEM'S PERFORMANCE AND DOCUMENT ANY NECESSARY ADJUSTMENTS OR IMPROVEMENTS. SUBMIT A REPORT SUMMARIZING THE INSPECTION RESULTS, IDENTIFYING ANY AREAS THAT MAY REQUIRE FURTHER ATTENTION, AND OFFERING RECOMMENDATIONS FOR MAINTAINING SYSTEM EFFICIENCY, RELIABILITY, AND OPTIMAL PERFORMANCE.

KITCHEN HOOD NOTES

A. THE WALL MOUNTED TYPE-1 KITCHEN EXHAUST HOODS SHALL BE INSTALLED WITH TOP OF HOOD HEIGHTS AS NOTED IN THE HOOD SCHEDULE OR AS PER MANUFACTURERS INSTRUCTIONS. COORDINATE THEIR COMPLETE INSTALLATION AND PLACEMENT IN THE FIELD.

B. REFER TO MANUFACTURER SHEETS FOR THE HOOD CONTROL WIRING DIAGRAM, FOR OPERATION OF THE KITCHEN HOOD EQUIPMENT.

C. PITCH ALL HORIZONTAL GREASE

FOR THIS PAGE ONLY

DEMOLITION MECHANICAL SYMBOL LEGEND

SYMBOL	DESCRIPTION
X	EXISTING CEILING MTD. SUPPLY AIR TERMINAL TO BE REMOVED.
X	EXISTING CEILING MTD. RETURN AIR TERMINAL TO BE REMOVED.
X	EXISTING WALL MTD. SUPPLY AIR TERMINAL TO BE REMOVED.
X	EXISTING WALL MTD. RETURN AIR TERMINAL TO BE REMOVED.
E	EXISTING RETURN AIR TRANSFER GRILLE ABOVE CEILING TO REMAIN.
R	EXISTING WALL THERMOSTAT/REMOTE SENSOR/CONTROL TO REMAIN.
R	EXISTING CEILING FAN TO BE RELOCATED.
X	EXISTING CEILING FAN TO BE REMOVED.
E	EXISTING MECHANICAL EQUIPMENT TO REMAIN.
	EXISTING DUCTWORK TO REMAIN.
	EXISTING DUCTWORK TO BE REMOVED.
E	EXISTING ROOF TOP UNIT TO REMAIN.

DEMOLITION GENERAL NOTES:

A. FOR DEMOLISHED MECHANICAL EQUIPMENT, CONTRACTOR SHALL REMOVE ALL OF ITS COMPONENTS TO INCLUDE BUT NOT LIMITED TO DUCTING SYSTEM, HYDRONIC PIPING, CONTROLS, ELECTRICAL AND PLUMBING UNLESS INDICATED OTHERWISE IN PLANS AND PROTECT ALL OTHER TRADES WORK WHICH IS TO REMAIN.

B. ALL HYDRONIC AND MECHANICAL EQUIPMENT PIPING NOT USED OR MADE OBSOLETE DURING DEMOLITION, MAY BE CUT BACK TO CEILING, WALL, OR FLOOR WITH THE REMAINING END CAPPED TO ALLOW REFINISHING OF THE SURFACE AS LONG AS IT DOES NOT CREATE NUISANCE ON EXISTING SYSTEMS SUCH AS DEAD-END WATER, CONDENSATE OR NATURAL GAS LINES AND SIMILAR.

C. CONTRACTOR SHALL BE RESPONSIBLE FOR DISCONNECTING AND DISPOSING OF ALL MECHANICAL EQUIPMENT AS REQUIRED FOR A COMPLETE DEMOLITION. ALL HAZARDOUS MATERIALS SHALL BE DISPOSED OF IN ACCORDANCE WITH LOCAL, STATE AND FEDERAL REGULATIONS, AND IN CONFORMANCE WITH GOVERNING CODES.

D. PRIOR TO BID SUBMISSION, THE CONTRACTOR SHALL VISIT THE JOB SITE TO FAMILIARIZE WITH THE EXISTING FIELD CONDITIONS.

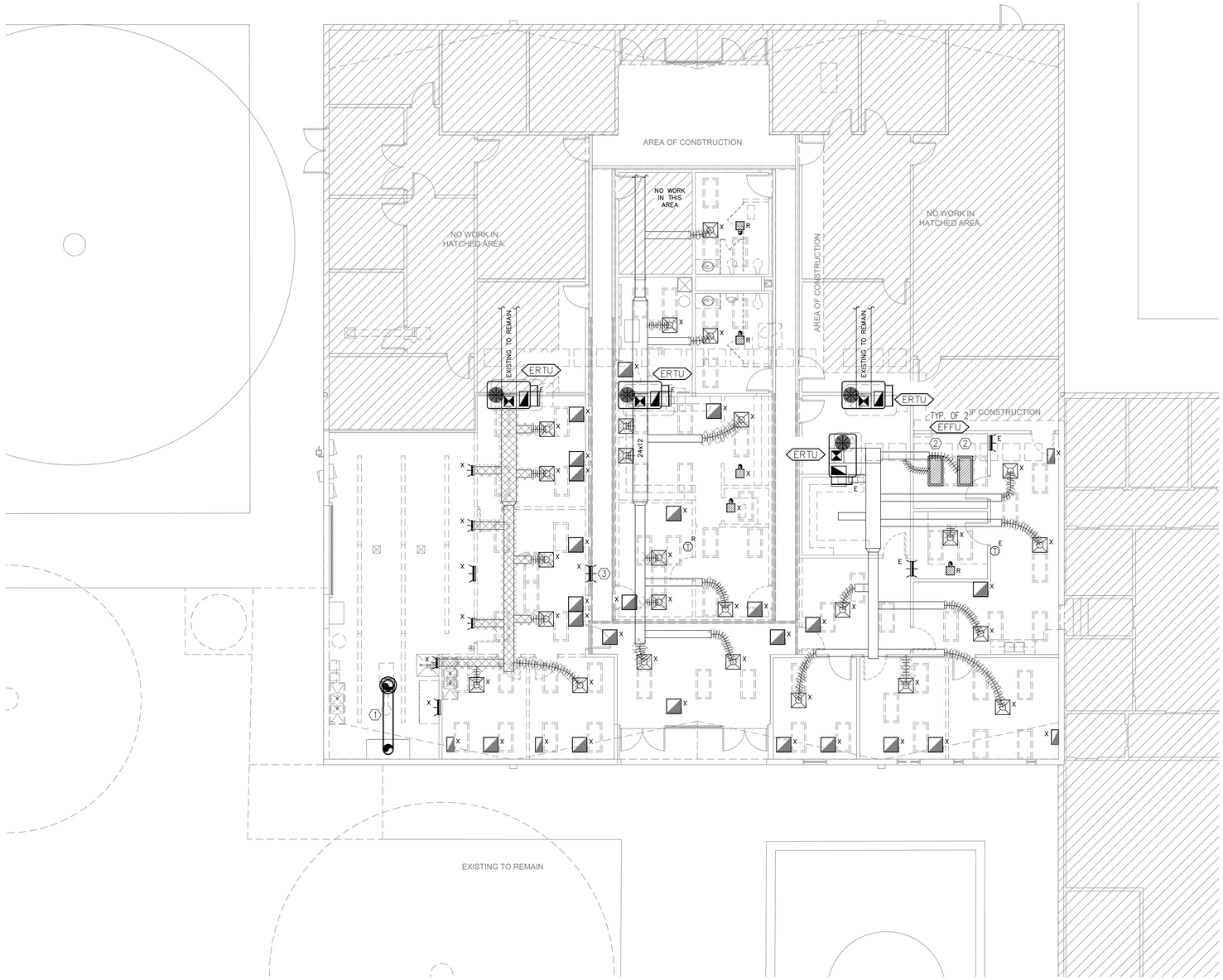
E. ALL DEMOLITION WORK MAY NOT BE DETAILED IN THESE DRAWINGS. THE INTENT OF THIS DRAWING IS TO RELATE THE GENERAL EXTENT OF DEMOLITION REQUIRED AND NOT TO INDICATE ALL DEVICES, REMOVALS, RECONNECTIONS OR ADDITIONAL WORK REQUIRED.

F. ALL WORK REQUIRING UTILITIES SHUT DOWN SHALL BE PERFORMED WITH OWNER'S APPROVAL DURING OVERTIME HOURS AT NOT ADDITIONAL COST TO THE OWNER. CONTRACTOR SHALL PLAN AND PERFORM WORK IN SUCH A WAY AS TO MINIMIZE THE OUTAGES AND SUBMIT A UTILITY OUTAGE REQUEST TO THE OWNER AHEAD OF TIME FOR OWNER TO PREPARE AND COORDINATE WITH HIS TEAM.

G. REFER TO OTHER DISCIPLINES DEMOLITION PLANS FOR DEMOLITION/RELOCATION OF OTHER DISCIPLINES EQUIPMENT.

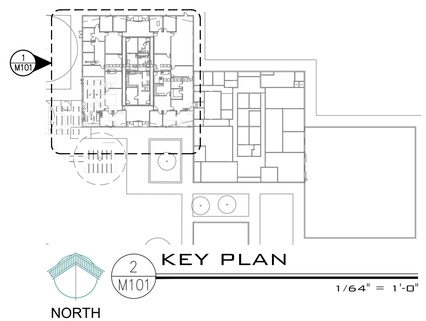
H. CONTRACTOR TO COORDINATE WITH OTHER TRADES FOR DEMOLITION.

I. OWNER SHALL RESERVE THE RIGHT TO CLAIM MATERIALS DURING DEMOLITION. CONTRACTOR SHALL COORDINATE WITH OWNER WHICH ITEMS AND/OR MATERIALS OWNER WISHES TO CLAIM AND REMOVE ALL ITEMS AND/OR MATERIALS NOT CLAIMED BY THE OWNER.



1 M101 MECHANICAL DEMOLITION PLAN
1/8"=1'-0"

NORTH



2 M101 KEY PLAN
1/64" = 1'-0"

NORTH

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

KEYED NOTES

1. EXISTING EXHAUST DUCTWORK THROUGH ROOF FROM HOOD TO EXHAUST FAN SYSTEM ON ROOF.
2. DISCONNECT, REMOVE, AND PROTECT EXISTING FAN FILTER UNIT FOR REUSE. REMOVE ASSOCIATED DUCTWORK, SUPPORTS, AND CONNECTIONS AS REQUIRED TO ACCOMMODATE NEW CEILING CONSTRUCTION. COORDINATE WITH ALL TRADES.
3. EXISTING TRANSFER GRILLE ABOVE CEILING FOR PLENUM RETURN AIR TO BE REMOVED.

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3655 Research Dr. Bldg. A
NMSU Campus
Las Cruces, New Mexico

REVISION	DATE

Project no:	25.25
Date:	May 2026
Sheet:	

MECHANICAL DEMOLITION PLAN

M101

JOSE A. MORALES NEW MEXICO 22154 PROFESSIONAL ENGINEER
5/27/2026

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COMcheck Software Version COMcheckWeb

Mechanical Compliance Certificate

Project Information

Energy Code:	2018 IECC
Project Title:	CLC-26-016 NMSU CENTER BLDG. A
Location:	Las Cruces, New Mexico
Climate Zone:	3b
Project Type:	New Construction

Construction Site:
3655 Research Dr. Bldg. A
Las CRuces, New Mexico 88003

Owner/Agent:
Texas

Designer/Contractor:
Jose Morales P.E.
Raxis Engineering LLC
1712 Texas Ave.
El Paso, Texas 79901
915-519-4340
jmorales@raxisengineering.com

Additional Efficiency Package(s)

Credits: 1.0 Required 0.0 Proposed

Mechanical Systems List

Quantity System Type & Description

1 RTU-1 (Single Zone):
Heating: 1 each - Central Furnace, Electric, Capacity = 36 kBtu/h
No minimum efficiency requirement applies
Cooling: 1 each - Single Package DX Unit, Capacity = 36 kBtu/h, Air-Cooled Condenser, Unknown Economizer
Proposed Efficiency = 14.30 SEER, Required Efficiency = 14.00 SEER
Proposed Part Load Efficiency = 0.00 , Required Part Load Efficiency = 0.00

1 CU-1 (Single Zone):
Split System Heat Pump
Heating Mode: Capacity = 12 kBtu/h,
Proposed Efficiency = 8.20 HSPF, Required Efficiency = 8.20 HSPF
Cooling Mode: Capacity = 12 kBtu/h,
Proposed Efficiency = 20.30 SEER, Required Efficiency = 14.00 SEER
Proposed Part Load Efficiency = 0.00 , Required Part Load Efficiency = 0.00

1 HVAC System (Unknown w/ PerimeterSystem):
Heating: 1 each - Unit Heater, Electric, Capacity = 10 kBtu/h
No minimum efficiency requirement applies

Mechanical Compliance Statement

Compliance Statement: The proposed mechanical design represented in this document is consistent with the building plans, specifications, and other calculations submitted with this permit application. The proposed mechanical systems have been designed to meet the 2018 IECC requirements in COMcheck Version COMcheckWeb and to comply with any applicable mandatory requirements listed in the Inspection Checklist.

JOSE A. MORALES, P.E. — Name - Title
Signature
05-27-2026 — Date

EXHAUST FAN SCHEDULE

MARK	MANUFACTURER AND MODEL NUMBER OR PROVED EQUAL	SERVICE	CFM	ESP	MOTOR HP	MOTOR VOLTS	MOTOR PHASE	MOTOR # SPDS	REMARKS
EF-1	S&P TD150	RR 119	250	0.25	65 W	120	1	1	PROVIDE WITH VIBRATION ISOLATORS AND ROOF CAP. UNIT CONTROLLED BY SWITCH.

DIFFUSER AND GRILLE SCHEDULE

MARK	DESCRIPTION	MANUFACTURER AND MODEL NUMBER OR APPROVED EQUAL	REMARKS
A	SUPPLY LAY-IN	PRICE SCD	ALL STEEL, THREE STEP SQUARE DIFFUSER, NOMINAL FACE PER DRAWINGS, ADJUSTABLE AIRFLOW BALANCING DAMPER BLADES IN THE NECK WITH FRONT ACCESS, NECK SIZE AS SHOWN ON DRAWINGS, BORDER FOR CEILING SPECIFIED, 4-WAY THROW UNLESS SPECIFIED OTHERWISE.
B	SUPPLY SURFACE MOUNT	PRICE PRICE 520S	ALL STEEL, NOMINAL FACE SIZE AS SHOWN ON DRAWINGS, DOUBLE DEFLECTION, WITH VERTICAL BLADES PARALLEL TO THE LONG DIMENSION AT ZERO DEGREES DEFLECTION, 1/2" SPACING. BALANCING DAMPER SHALL BE AT DUCT TAP.
C	RETURN LAY-IN	PRICE 80	ALL ALUMINUM, 1/2" x 1/2" x 1/2" EGG CRATE FLUSH FACE, NOMINAL 24" X 24" FACE, NECK SIZE AS SHOWN ON DRAWINGS, BORDER FOR CEILING SPECIFIED.
C1	RETURN LAY-IN	PRICE 80	ALL ALUMINUM, 1/2" x 1/2" x 1/2" EGG CRATE FLUSH FACE, NOMINAL 12" X 24" FACE, NECK SIZE AS SHOWN ON DRAWINGS, BORDER FOR CEILING SPECIFIED.
D	EXHAUST SURFACE MOUNT	PRICE 510ZL	ALL STEEL, ONE SET OF FIXED HORIZONTAL BLADES PARALLEL TO LONG SIDES, 1/2" SPACING, ZERO DEGREES OF DEFLECTION, OPPOSED BLADE BALANCING DAMPER.

ELECTRICAL UNIT HEATER SCHEDULE

MARK	MANUFACTURER AND MODEL NO OR APPROVED EQUAL	CFM	KW	MBH OUTPUT	TEMP RISE (°F)	HEAT THROW (FT)	MAX. MOUNT HEIGHT (FT)	FUEL	MOTOR HP	MOTOR VOLTS	MOTOR PHASE	REMARKS
UH-1	MODINE HER 30C 1101	380	3	10	25	12	8	ELECTRIC	1/40 HP	208	1	SUPPORT FROM STRUCTURE, PROVIDE WITH SAFETY FINGER PROOF FAN GUARD, VERTICAL DEFLECTOR BLADE KIT, 120V/24V CONTROL TRANSFORMER.

SPLIT SYSTEM SCHEDULE

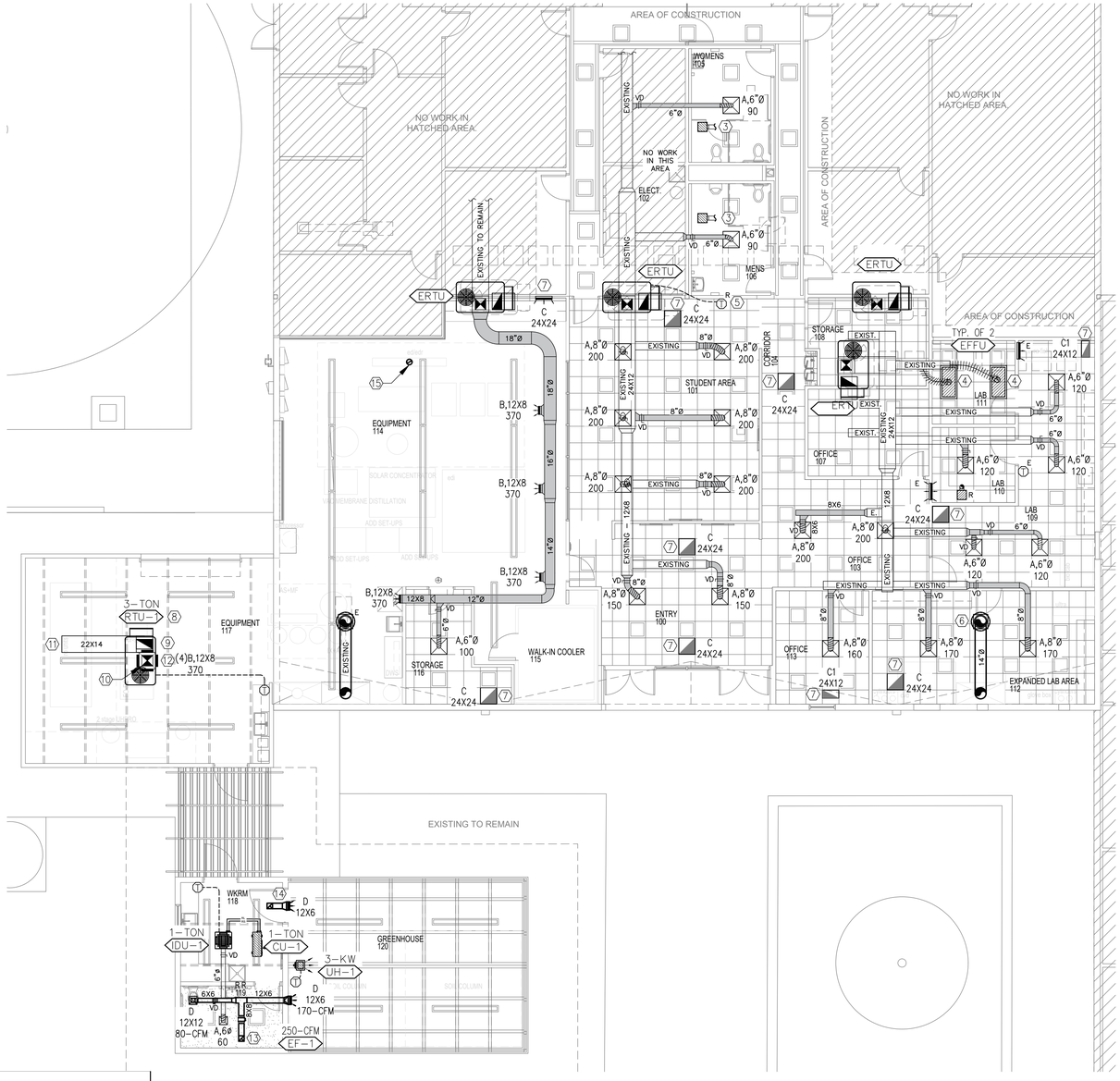
MARK	MANUFACTURER AND MODEL NUMBER OR APPROVED EQUAL	CFM (L/M/H)	ESP	COOLING MBH TOTAL	COOLING MBH SENS	COIL ENT. AIR db°F	COIL ENT. AIR wb°F	AMB db°F	SEER 2	EER2	HSPF2	HEATING MBH MAX.	HEATING MBH MIN.	HEATING MBH FUEL	ELECTRICAL OUTDOOR UNIT MCA	MOCP	VOLTS	PHASE	REFRIG.	WEIGHT (LBS)	REMARKS
CU-1 IDU-1	MITSUBISHI OUTDOOR UNIT - SUZ-AA12NL MITSUBISHI INDOOR UNIT - SLZ-AF12NL	230 / 280 / 335	N/A	12.0	10.8	80	67	95	20.3	12.5	9.7	15.0	4.9	ELEC	14.0	25	208/230	1	R454B	81 31	PROVIDE PROGRAMMABLE THERMOSTAT, CONDENSATE PUMP, PROPER LINE SIZE. 4-WAY CEILING CASSETTE, NON-DUCTED. PROVIDE CONDENSATE DRAIN AND CEILING PANEL AS NEEDED.

PACKAGED ROOFTOP UNIT SCHEDULE

MARK	MANUFACTURER AND MODEL NUMBER OR APPROVED EQUAL	SERVICE	SUPPLY AIR (CFM)	OUTSIDE AIR (CFM)	ESP	COOLING TOTAL MBH	COOLING SENS MBH	COOLING LAT °F	COIL ENT. AIR db°F	COIL ENT. AIR wb°F	AMB db°F	SEER 2	EER /EER	HEATING INPUT MBH	HEATING OUTPUT MBH	HEATING FUEL	HEATING ELEC. HEAT ELEMENT (KW)	ELECTRICAL MCA	ELECTRICAL MOP	ELECTRICAL VOLTS	ELECTRICAL PHASE	ELECTRICAL HP	APROX. NET WEIGHT (LBS)	DUCT CONFIGURATION	REMARKS
RTU-1	TRANE 3-TON TSC036G4EBA	EQUIPMENT 117	1,200	180	0.5	34.5	28.7	57.8	80	67	105	14.3	10.6	N/A	N/A	ELEC	6KW	19	30	460	3	0.75	706	DOWNFLOW	1, 2, 3, 4, 5, 6, 7, 8,9

REMARKS:
1. CONDENSATE OVERFLOW SWITCH.
2. SUPPLY AIR SMOKE DETECTOR.
3. BAROMETRIC RELIEF.
4. ECONOMIZER/DRY BULB.
5. HAIL GUARDS.
6. HIGH-ALTITUDE KIT.
7. ZONE PROGRAMMABLE THERMOSTAT.
8. SMOKE DETECTORS W/ REMOTE TEST STATIONS.
9. QUICK ADAPT CURBS/ ROOF CURBS.

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



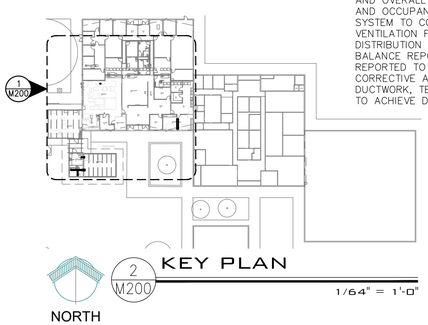
NORTH

1 M200 MECHANICAL PLAN
1/8" = 1'-0"

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MECHANICAL SYMBOL LEGEND

SYMBOL	DESCRIPTION
	EXISTING DUCTWORK TO REMAIN.
	NEW DUCTWORK.



NORTH

1 M200 KEY PLAN
1/64" = 1'-0"

KEYED NOTES

1. 6"Ø ROUND DUCT THRU ROOF TO GOOSENECK FROM EXHAUST FAN.
2. PROVIDE AND EXTEND NEW DUCT TO EXISTING MAIN DUCTWORK FROM NEW AIR TERMINAL AS REQUIRED. MECHANICAL CONTRACTOR TO FIELD VERIFY FOR EXACT LOCATION.
3. PROVIDE AND EXTEND NEW DUCT TO EXISTING GOOSENECK THROUGH ROOF FROM RELOCATED EXHAUST FAN AS REQUIRED. MECHANICAL CONTRACTOR TO FIELD VERIFY FOR EXACT LOCATION.
4. REINSTALL AND RELOCATE EXISTING FAN FILTER UNIT AFTER COMPLETION OF NEW CEILING WORK. COORDINATE FINAL LOCATION WITH ARCHITECTURAL REFLECTED CEILING PLAN. RECONNECT ALL DUCTWORK, ELECTRICAL, AND CONTROLS REQUIRED FOR PROPER OPERATION.
5. PROPOSED LOCATION FOR RELOCATED THERMOSTAT. SET FINAL LOCATION PER FIELD CONDITIONS; COORDINATE BEFORE ROUGH-IN.
6. PROVIDE ROOF MOUNTED EXHAUST FAN SERVING LABORATORY FUME HOOD. EXHAUST FAN SHALL BE SELECTED BY OWNER (OR HOOD SUPPLIER) TO MATCH INSTALLED FUME HOOD REQUIREMENTS, INCLUDING REQUIRED CFM, STATIC PRESSURE, AND COMPATIBILITY WITH HOOD SYSTEM. CONTRACTOR SHALL FURNISH AND INSTALL FAN PER FINAL SUBMITTAL AND MANUFACTURER RECOMMENDATIONS. COORDINATE ELECTRICAL, STRUCTURAL, AND ROOF PENETRATIONS.
7. PROVIDE FACTORY OR FIELD FABRICATED SOUND ATTENUATING RETURN AIR BOOTS AT ALL NEW RETURN AIR TERMINALS SERVING PLENUM RETURN SYSTEM. BOOTS SHALL BE FULLY LINED WITH ACOUSTIC DUCT LINER AND INSTALLED TO PREVENT DIRECT LINE-OF-SIGHT INTO PLENUM. SEAL ALL JOINTS AIRTIGHT. COORDINATE WITH ARCHITECTURAL REFLECTED CEILING PLAN AND MAINTAIN REQUIRED CLEARANCES.
8. DUCT OPENING SHALL NOT BE MORE THAN 1/4" CLEARANCE AND CAULKED FULLY ABOVE AND BELOW, WITH ACOUSTICAL GRADE NON-HARDENING HUSH SEALANT.
9. 22"X14" RETURN AIR DUCT UP THROUGH ROOF TO ROOF TOP UNIT.
10. 16"X14" SUPPLY AIR DUCT DOWN THROUGH ROOF FROM ROOF TOP UNIT.
11. DUCT OPEN TO PLENUM. PROVIDE 3/4" OPENING SIZE MESH AT OPENING.
12. PROVIDE FIELD FABRICATED 4-WAY SUPPLY AIR DIFFUSER. MATCH STANDARD PERFORMANCE AND SIZE; COORDINATE WITH AIRFLOW AND CEILING SYSTEM.
13. 8"X8" SQUARE DUCT THRU ROOF TO GOOSENECK FROM EXHAUST FAN.
14. 8"X8" SQUARE DUCT THRU ROOF TO FRESH AIR TERMINAL FROM GOOSENECK.
15. 8"Ø ROUND FLUE VENT THRU ROOF TO WEATHER CAP FROM ED/EDR EQUIPMENT.

GENERAL NOTES

A. INSTALL FIRE DAMPERS WITH MAINTENANCE ACCESSIBILITY IN ALL PENETRATIONS THROUGH FIRE-RATED WALLS, FLOORS, AND CEILINGS, IN COMPLIANCE WITH CODE REQUIREMENTS.

B. REFRIGERANT LINES ARE REPRESENTED AS SINGLE LINES ON THE DRAWINGS TO IMPROVE VISIBILITY AND CLARITY. WHILE ENSURING THEY ARE SIZED ACCORDING TO THE MANUFACTURER'S RECOMMENDATIONS.

C. SIZE ALL REFRIGERANT LINES BASED ON THE MANUFACTURER'S RECOMMENDATIONS TO ENSURE PROPER FUNCTIONALITY AND SYSTEM EFFICIENCY.

D. THE INSTALLING MECHANICAL CONTRACTOR IS RESPONSIBLE FOR DETERMINING AND PROVIDING THE EXACT LENGTHS OF REFRIGERANT PIPES, AS WELL AS THE NUMBER OF ELBOWS REQUIRED, FROM THE CONDENSING UNITS TO THE INDOOR UNITS AND BRANCH BOXES.

E. THE MECHANICAL CONTRACTOR MUST COLLABORATE WITH THE LIGHTING FLOOR PLAN TO IDENTIFY AND CONFIRM THE APPROPRIATE PLACEMENT AND LOCATION OF ALL MECHANICAL EQUIPMENT, ENSURING NO CONFLICTS ARISE.

F. EXISTING RTUs SERVING AREAS IMPACTED BY NEW CONSTRUCTION SHALL BE FIELD VERIFIED BY CONTRACTOR FOR CAPACITY, AIRFLOW DISTRIBUTION, AND OVERALL PERFORMANCE RELATIVE TO NEW LAYOUT AND OCCUPANCY. CONTRACTOR SHALL EVALUATE SYSTEM TO CONFIRM ADEQUATE HEATING, COOLING, AND VENTILATION FOR ALL SPACES, REBALANCE AIR DISTRIBUTION AS REQUIRED, AND PROVIDE TEST AND BALANCE REPORT. ANY DEFICIENCIES SHALL BE REPORTED TO ENGINEER WITH RECOMMENDED CORRECTIVE ACTIONS, AND REQUIRED ADJUSTMENTS TO DUCTWORK, TERMINALS, OR CONTROLS SHALL BE MADE TO ACHIEVE DESIGN INTENT.

JOSE A. MORALES — NEW MEXICO — 22154 — PROFESSIONAL ENGINEER

5/27/2026

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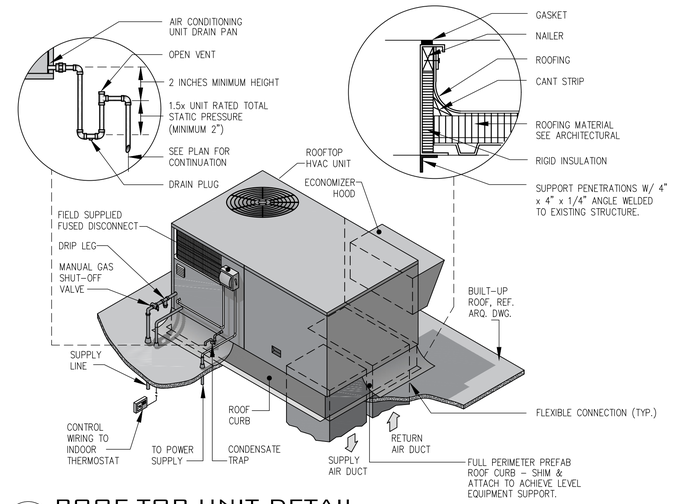
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Las Cruces, New Mexico

REVISION	DATE

Project no: 25.25
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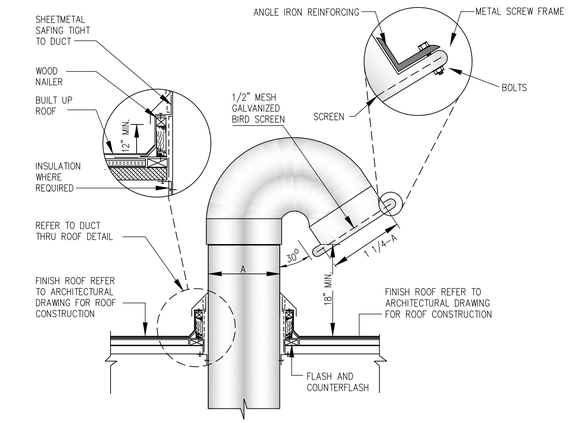
MECHANICAL PLAN

M200



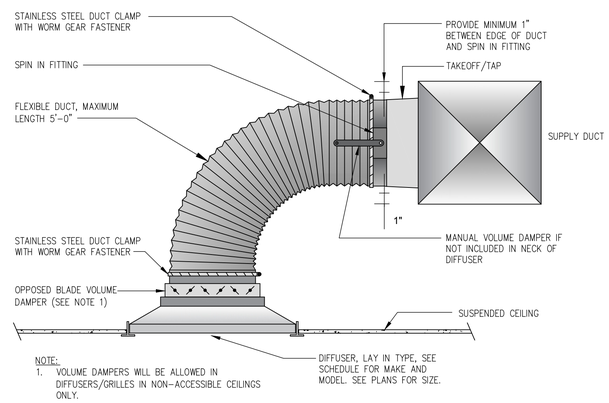
1 M300 **ROOF TOP UNIT DETAIL**

NTS



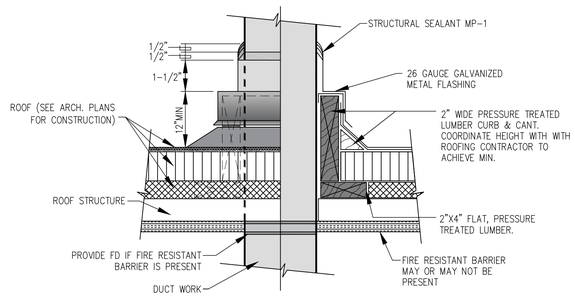
2 M300 **GOOSENECK DETAIL**

NTS



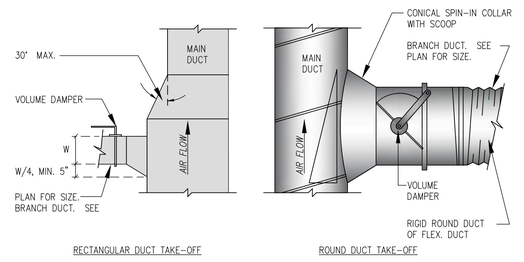
3 M300 **CEILING DIFFUSER SCHEMATIC**

NTS



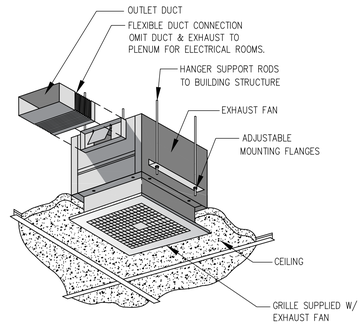
4 M300 **DUCT THRU ROOF DETAIL**

NTS



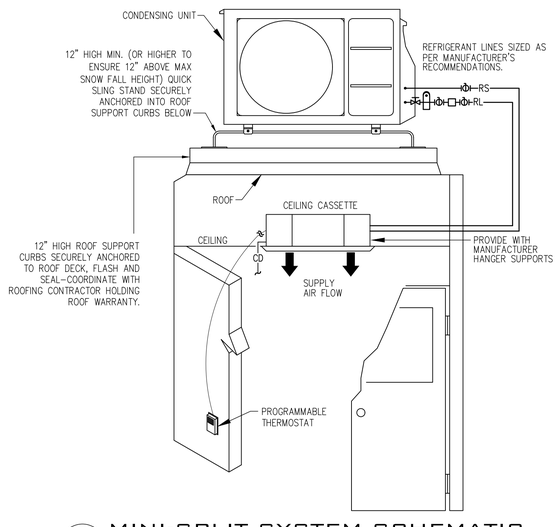
5 M300 **DUCT CONNECTION SCHEMATIC**

NTS



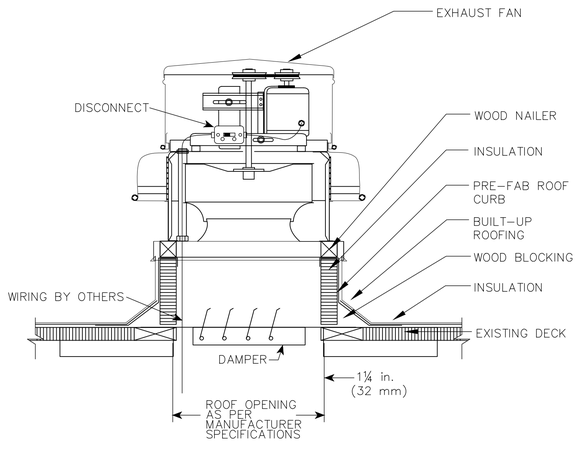
6 M300 **EXHAUST FAN DETAIL**

NTS



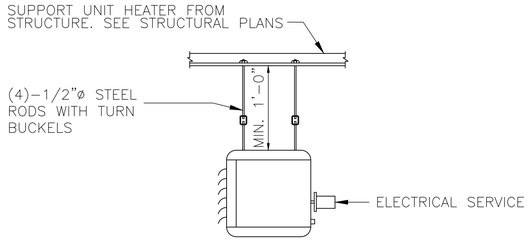
7 M300 **MINI-SPLIT SYSTEM SCHEMATIC**

NTS



8 M300 **TYPICAL INSTALLATION EXHAUST FAN DETAIL**

NTS



9 M300 **ELECTRICAL UNIT HEATER DETAIL**

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GENESIS CNTR. BUILDING 'A'

3655 Research Dr. Bldg. A
NMSU Campus
Las Cruces, New Mexico

REVISION	DATE

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MECHANICAL DETAILS

M300

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PLUMBING SPECIFICATIONS

GENERAL REQUIREMENTS

A. PERFORM ALL WORK IN STRICT ACCORDANCE WITH APPLICABLE CODES AND REGULATIONS, INCLUDING THE LATEST EDITION OF THE INTERNATIONAL PLUMBING CODE (IPC), UNIFORM PLUMBING CODE (UPC), AND OTHER RELEVANT STANDARDS. CONTRACTORS MUST ALSO COMPLY WITH LOCAL AMENDMENTS AS ISSUED BY THE GOVERNING AUTHORITIES. THE CONTRACTOR SHALL ENSURE THAT ALL PERMITS, LICENSES, AND CERTIFICATIONS ARE OBTAINED AND UP TO DATE BEFORE STARTING ANY WORK ON–SITE.

B. ENSURE ALL MATERIALS, PRODUCTS, AND EQUIPMENT USED IN THE PROJECT MEET THE SPECIFICATIONS OUTLINED IN THIS DOCUMENT. SUBSTITUTIONS ARE PERMITTED ONLY WITH PRIOR WRITTEN APPROVAL FROM THE ENGINEER OF RECORD. MATERIALS SHALL BE NEW, FREE FROM DEFECTS, AND MANUFACTURED IN ACCORDANCE WITH RECOGNIZED STANDARDS, INCLUDING ANSI, ASTM, NSF, AND ANY OTHER RELEVANT INDUSTRY STANDARDS. PLUMBING FIXTURES MUST ADHERE TO WATER CONSERVATION GUIDELINES AND EPA STANDARDS WHERE APPLICABLE. ALL PIPING SYSTEMS SHALL BE INSTALLED TO FACILITATE MAINTENANCE AND FUTURE EXPANSION.

C. MAINTAIN A CLEAN AND SAFE WORK ENVIRONMENT. ALL WASTE AND DEBRIS GENERATED SHALL BE DISPOSED IN ACCORDANCE WITH ENVIRONMENTAL REGULATIONS AND SITE–SPECIFIC GUIDELINES. INSTALL PROTECTIVE BARRIERS AND TEMPORARY MEASURES, SUCH AS COVERS OVER OPEN PIPE ENDS, TO KEEP SYSTEMS FREE FROM DEBRIS AND CONTAMINATION.

D. SUBMIT AND MAINTAIN ALL NECESSARY PERMITS AND DOCUMENTATION AS REQUIRED BY LOCAL AUTHORITIES. MAINTAIN PROPER RECORDS OF INSPECTIONS, TESTS, AND CERTIFICATIONS THROUGHOUT THE PROJECT DURATION. PROVIDE A COMPREHENSIVE LOGBOOK THAT DETAILS ALL ACTIVITIES, INCLUDING CORRECTIVE ACTIONS TAKEN TO ADDRESS DEFICIENCIES.

E. PROTECT EXISTING STRUCTURES, UTILITIES, AND FINISHES FROM DAMAGE DURING THE INSTALLATION PROCESS. ANY DAMAGE CAUSED MUST BE REPAIRED OR REPLACED AT NO ADDITIONAL COST TO THE OWNER. IMPLEMENT MEASURES TO ENSURE MINIMAL DISRUPTION TO OTHER TRADES AND OPERATIONS WITHIN THE PROJECT AREA.

F. COORDINATE WORK WITH OTHER TRADES TO AVOID CONFLICTS AND ENSURE EFFICIENT WORKFLOW. ESTABLISH A CLEAR COMMUNICATION PLAN, INCLUDING REGULAR COORDINATION MEETINGS, TO RESOLVE ISSUES PROMPTLY. UTILIZE BUILDING INFORMATION MODELING (BIM) WHERE AVAILABLE TO ANTICIPATE AND MITIGATE POTENTIAL CONFLICTS.

G. IMPLEMENT ENVIRONMENTAL PROTECTION MEASURES TO MINIMIZE POLLUTION, SUCH AS CONTAINMENT OF HAZARDOUS MATERIALS AND PROPER DISPOSAL PRACTICES. PREVENT CONTAMINATION OF STORMWATER SYSTEMS AND PROTECT NATURAL RESOURCES ON OR NEAR THE CONSTRUCTION SITE.

SUBMITTALS

H. SUBMIT DETAILED SHOP DRAWINGS FOR APPROVAL PRIOR TO INSTALLATION. DRAWINGS SHALL SHOW DIMENSIONS, ROUTING, AND CONNECTION POINTS OF ALL PLUMBING SYSTEMS AND HIGHLIGHT ANY POTENTIAL CONFLICTS WITH OTHER BUILDING ELEMENTS.

I. SUBMIT PRODUCT DATA SHEETS FOR ALL EQUIPMENT, FIXTURES, AND MATERIALS FOR ENGINEERING REVIEW. EACH DATA SHEET SHALL INCLUDE SPECIFICATIONS, PERFORMANCE RATINGS, COMPLIANCE CERTIFICATIONS, AND DETAILED INSTALLATION INSTRUCTIONS. ALL SUBMITTALS MUST BE ORGANIZED SYSTEMATICALLY, WITH AN INDEX FOR EASY REFERENCE.

J. PROVIDE AS–BUILT DRAWINGS UPON PROJECT COMPLETION, DOCUMENTING ANY CHANGES OR DEVIATIONS FROM THE ORIGINAL DESIGN. INCLUDE OPERATION AND MAINTENANCE MANUALS FOR ALL EQUIPMENT, DETAILING ROUTINE MAINTENANCE, TROUBLESHOOTING, AND SPARE PARTS INVENTORY. THESE DOCUMENTS MUST INCLUDE A SECTION ON ENERGY EFFICIENCY PRACTICES FOR OPTIMIZING SYSTEM PERFORMANCE.

K. SUBMIT WARRANTY CERTIFICATES FOR ALL MAJOR PLUMBING COMPONENTS, ENSURING A MINIMUM ONE–YEAR WARRANTY ON ALL EQUIPMENT AND LABOR. SPECIFY THE COVERAGE AND TERMS CLEARLY, AND SECURE EXTENDED WARRANTIES FOR CRITICAL EQUIPMENT, SUCH AS PUMPS, WATER HEATERS, AND CONTROL VALVES, WHERE APPLICABLE. PROVIDE WARRANTY DOCUMENTATION IN BOTH DIGITAL AND HARD COPY FORMATS FOR THE OWNER'S RECORDS.

L. SUBMIT A MATERIAL DELIVERY SCHEDULE OUTLINING TIMELINES AND LOGISTICS. IDENTIFY LONG–LEAD ITEMS AND PROPOSE CONTINGENCY PLANS TO MITIGATE DELAYS. PROVIDE PROOF OF COMPLIANCE WITH BUY AMERICAN ACT PROVISIONS IF REQUIRED.

M. PROVIDE MOCK–UPS OF KEY INSTALLATIONS, SUCH AS COMPLEX VALVE ASSEMBLIES, FOR REVIEW AND APPROVAL BY THE ENGINEER. MOCK–UPS WILL SERVE AS A STANDARD FOR QUALITY AND WORKMANSHIP FOR THE ENTIRE PROJECT.

QUALITY ASSURANCE

N. ENSURE ALL WORKMANSHIP IS OF THE HIGHEST QUALITY AND PERFORMED BY CERTIFIED, LICENSED PLUMBING PROFESSIONALS. CONFIRM THAT CONTRACTORS ARE RESPONSIBLE FOR COMPLIANCE WITH ALL SPECIFIED CODES AND STANDARDS. REQUIRE WORKERS TO HAVE UPDATED SAFETY TRAINING, INCLUDING CONFINED SPACE ENTRY, HAZARD COMMUNICATION, AND FALL PROTECTION.

O. IMPLEMENT A COMPREHENSIVE QUALITY CONTROL PLAN. THIS INCLUDES REGULAR INSPECTIONS, NON–DESTRUCTIVE TESTING, AND THIRD–PARTY CERTIFICATIONS WHERE NECESSARY. PERFORM IN–HOUSE QUALITY CHECKS BEFORE EACH INSPECTION TO MINIMIZE THE RISK OF REWORK.

P. RECTIFY ANY NON–COMPLIANT MATERIALS OR INSTALLATIONS AT NO ADDITIONAL COST TO THE OWNER. REMOVE DEFECTIVE WORK AND REPLACE IT WITH APPROVED MATERIALS. IMPLEMENT A CORRECTIVE ACTION PLAN FOR RECURRING ISSUES AND REPORT RESOLUTIONS TO THE PROJECT SUPERVISOR.

Q. CONDUCT QUALITY CONTROL MEETINGS WEEKLY TO REVIEW PROGRESS, INSPECTION OUTCOMES, AND ANY ISSUES ENCOUNTERED. MAINTAIN A DETAILED INSPECTION LOG, INCLUDING TEST RESULTS, CORRECTIVE ACTIONS, AND APPROVALS BY THE ENGINEER OR DESIGNATED AUTHORITY.

R. VERIFY CALIBRATION OF ALL TESTING EQUIPMENT USED IN QUALITY ASSURANCE PROCEDURES. TESTING INSTRUMENTS MUST BE RECALIBRATED PERIODICALLY AS PER THE MANUFACTURER'S RECOMMENDATIONS TO ENSURE ACCURACY.

S. PROVIDE TRAINING SESSIONS FOR BUILDING MAINTENANCE STAFF ON THE OPERATION AND MAINTENANCE OF INSTALLED PLUMBING SYSTEMS. TRAINING MUST COVER ROUTINE INSPECTIONS, EMERGENCY PROCEDURES, AND TROUBLESHOOTING TECHNIQUES. INCLUDE A TRAINING SCHEDULE AND AN OUTLINE OF TOPICS TO BE COVERED.

DELIVERY, STORAGE, AND HANDLING

T. DELIVER ALL PLUMBING MATERIALS AND EQUIPMENT IN THEIR ORIGINAL, SEALED PACKAGING, COMPLETE WITH MANUFACTURER LABELS. VERIFY THE CONTENTS OF EACH SHIPMENT AGAINST THE DELIVERY MANIFEST. INSPECT ALL DELIVERIES FOR DAMAGE, AND DOCUMENT ANY DISCREPANCIES IMMEDIATELY.

U. STORE MATERIALS IN A SECURE, DRY LOCATION TO PREVENT DAMAGE OR CONTAMINATION. TEMPERATURE–SENSITIVE ITEMS MUST BE STORED IN A CLIMATE–CONTROLLED ENVIRONMENT AS SPECIFIED BY THE MANUFACTURER. PROTECT LARGE–DIAMETER PIPING AND CRITICAL COMPONENTS WITH WEATHERPROOF COVERS AND ADEQUATE VENTILATION TO PREVENT CONDENSATION.

V. HANDLE ALL THE ITEMS IN A MANNER THAT PREVENTS PHYSICAL DAMAGE. USE APPROPRIATE LIFTING AND MOVING EQUIPMENT AND ENSURE THAT HEAVY ITEMS ARE MOVED SAFELY. PROTECT FIXTURES AND FINISHES FROM SCRATCHES OR DENTS AND COVER THEM WITH PROTECTIVE SHEETING UNTIL INSTALLATION IS COMPLETE.

W. CONDUCT REGULAR INSPECTIONS OF STORED MATERIALS TO ENSURE THEY REMAIN IN GOOD CONDITION. ANY ITEMS SHOWING SIGNS OF DAMAGE OR DEGRADATION MUST BE REPLACED. MAINTAIN A COMPREHENSIVE INVENTORY LOG OF MATERIALS RECEIVED, STORED, AND USED, NOTING ANY ISSUES OR DELAYS IN PROCUREMENT.

INSTALLATION & COORDINATION

X. INSTALL ALL PLUMBING SYSTEMS IN ACCORDANCE WITH THE APPROVED DRAWINGS, MANUFACTURER GUIDELINES, AND INDUSTRY BEST PRACTICES. ENSURE PIPING IS PROPERLY ALIGNED, PITCHED FOR DRAINAGE, AND ADEQUATELY SUPPORTED TO PREVENT SAGGING OR VIBRATION. ALL PENETRATIONS MUST BE SEALED IN A MANNER THAT MAINTAINS THE FIRE RATING OF ASSEMBLIES.

Y. USE PIPE HANGERS, SUPPORTS, AND ANCHORS DESIGNED TO ACCOMMODATE THERMAL EXPANSION AND CONTRACTION. INSPECT AND ADJUST HANGERS AND SUPPORTS AS NECESSARY TO MAINTAIN PROPER ALIGNMENT. VERIFY THE PLACEMENT OF ALL COMPONENTS TO AVOID STRAIN ON JOINTS AND CONNECTIONS.

Z. COORDINATE INSTALLATION WITH OTHER TRADES TO AVOID CONFLICTS. DOCUMENT ANY DISCREPANCIES AND REPORT THEM TO THE ENGINEER. PROPOSE AND IMPLEMENT SOLUTIONS TO ADDRESS THESE ISSUES COLLABORATIVELY. KEEP A RED–LINE SET OF DRAWINGS TO RECORD DEVIATIONS FROM THE DESIGN FOR AS–BUILT DOCUMENTATION.

AA. SCHEDULE INSPECTIONS WITH LOCAL AUTHORITIES AND THE ENGINEER AS NEEDED. PROVIDE 48–HOUR NOTICE BEFORE EACH INSPECTION. INCLUDE DOCUMENTATION FOR VISUAL INSPECTIONS, PRESSURE TESTS, AND SYSTEM FUNCTIONALITY CHECKS. THE CONTRACTOR MUST BE PRESENT DURING INSPECTIONS TO ADDRESS QUESTIONS OR ISSUES.

BB. INSTALL SPECIALTY PIPING SYSTEMS, INCLUDING BUT NOT LIMITED TO MEDICAL GAS AND VACUUM SYSTEMS FOR LABORATORIES AND HEALTHCARE FACILITIES, FOLLOWING STRICT REGULATORY STANDARDS. TEST AND CERTIFY THESE SYSTEMS TO COMPLY WITH NFPA AND OTHER RELEVANT GUIDELINES.

CC. INSTALL BACKFLOW PREVENTERS AND ISOLATION VALVES AS INDICATED IN THE DESIGN. ENSURE THESE DEVICES ARE EASILY ACCESSIBLE FOR FUTURE MAINTENANCE AND TESTING. COORDINATE WITH LOCAL WATER AUTHORITIES FOR ANY ADDITIONAL TESTING OR INSPECTION REQUIREMENTS.

TESTING

DD. CONDUCT PRESSURE TESTING OF ALL PIPING SYSTEMS TO VERIFY SYSTEM INTEGRITY. TEST WATER SUPPLY LINES AT 1.5 TIMES THE WORKING PRESSURE OR A MINIMUM OF 150 PSI, WHICHEVER IS GREATER, FOR NO LESS THAN 2 HOURS. MAINTAIN A LOG OF ALL PRESSURE TESTS, INCLUDING DATE, TIME, AND RESULTS.

EE. CONDUCT HYDROSTATIC TESTS ON DRAINAGE AND VENT SYSTEMS BY FILLING THE SYSTEM WITH WATER TO THE TOP OR A DESIGNATED TEST LEVEL, MAINTAINING THIS LEVEL FOR A MINIMUM OF 30 MINUTES. IF NECESSARY, USE SMOKE OR DYE TESTS TO IDENTIFY HIDDEN LEAKS IN VENT SYSTEMS. DOCUMENT ALL RESULTS, INCLUDING ANY CHANGES IN WATER LEVEL, AND SUBMIT THEM FOR REVIEW.

FF. CONDUCT FUNCTIONAL TESTS ON FIXTURES, VALVES, AND EQUIPMENT TO ENSURE PROPER OPERATION. TEST ALL SHUTOFF VALVES, MIXING VALVES, AND PRESSURE REGULATORS UNDER VARYING CONDITIONS. PERFORM FLOW TESTS AT MULTIPLE FIXTURES SIMULTANEOUSLY TO VERIFY SYSTEM PERFORMANCE.

GG. ADDRESS ANY DEFICIENCIES PROMPTLY AND RE–TEST THE SYSTEMS UNTIL ALL ISSUES ARE RESOLVED. PROVIDE DETAILED TEST LOGS, INCLUDING PERSONNEL INVOLVED, AND SUBMIT THE FINAL RESULTS TO THE ENGINEER. COORDINATE WITH THIRD–PARTY AGENCIES FOR ADDITIONAL TESTING AND CERTIFICATION IF REQUIRED.

HH. CONDUCT WATER QUALITY TESTING FOR DOMESTIC WATER SYSTEMS BEFORE COMMISSIONING. ENSURE SAMPLES ARE TESTED BY A CERTIFIED LABORATORY, AND SUBMIT RESULTS TO THE RELEVANT HEALTH DEPARTMENT. TREAT WATER SYSTEMS AS NECESSARY TO MEET HEALTH AND SAFETY STANDARDS.

EXPANSION FITTINGS AND LOOPS

II. INSTALL EXPANSION FITTINGS AND LOOPS AT INTERVALS SPECIFIED BY LOCAL GOVERNING PLUMBING CODES TO ACCOMMODATE THERMAL EXPANSION AND CONTRACTION. ENSURE ALL COMPONENTS ARE PROPERLY ALIGNED AND FREE FROM STRESS ON JOINTS OR SUPPORTS. VERIFY THE FUNCTIONALITY OF EXPANSION DEVICES DURING SYSTEM TESTING TO MEET CODE REQUIREMENTS.

JJ. SELECT EXPANSION DEVICES BASED ON SYSTEM PRESSURE, TEMPERATURE FLUCTUATIONS, AND FLUID CHARACTERISTICS. SUBMIT DATA SHEETS FOR APPROVAL AND PROVIDE DETAILED INSTALLATION INSTRUCTIONS. TEST EXPANSION JOINTS UNDER FULL PRESSURE AND TEMPERATURE LOAD TO CONFIRM THEIR PERFORMANCE.

KK. PLACE ANCHOR POINTS AND GUIDES STRATEGICALLY TO CONTROL THE DIRECTION OF MOVEMENT. SUBMIT A DETAILED LAYOUT OF EXPANSION FITTINGS, ANCHORS, AND GUIDES FOR REVIEW. VERIFY THE INSTALLATION USING DIGITAL MEASUREMENT TOOLS AND PROVIDE A REPORT OF FINDINGS.

SLEEVES AND SLEEVE SEALS

LL. PROVIDE SLEEVES AND SEALS FOR ALL PIPING THAT PASSES THROUGH WALLS, FLOORS, OR CEILINGS. ENSURE FIRE–RATED ASSEMBLIES ARE SEALED WITH UL–LISTED FIRESTOP SYSTEMS. SEALS MUST BE WATER–RESISTANT WHERE REQUIRED, AND COMPATIBLE WITH THE PIPING MATERIALS USED.

MM. COORDINATE SLEEVE PLACEMENT WITH STRUCTURAL AND ARCHITECTURAL PLANS. ENSURE SLEEVES ARE PROPERLY SIZED AND ALIGNED TO ACCOMMODATE MOVEMENT AND FUTURE MAINTENANCE. INSTALL WATERPROOF SLEEVES IN AREAS EXPOSED TO POTENTIAL WATER INTRUSION.

NN. CONDUCT WATER AND AIR INFILTRATION TESTS ON ALL SLEEVE SEALS. USE FOAM OR SEALANT PLUGS AS TEMPORARY MEASURES WHERE SLEEVES WILL BE USED LATER. INCLUDE TEST RESULTS IN THE FINAL DOCUMENTATION PACKAGE.

HANGERS AND SUPPORTS

OO. USE ENGINEERED HANGERS AND SUPPORTS TO CARRY THE LOAD OF THE PIPING SYSTEM, INCLUDING INSULATION AND FLUID WEIGHT. SPACE HANGERS PER CODE AND MANUFACTURER RECOMMENDATIONS. SUBMIT DETAILED CALCULATIONS FOR REVIEW, ENSURING SUPPORTS ACCOUNT FOR ALL LOADING SCENARIOS.

PP. USE CERTIFIED SEISMIC BRACING SYSTEMS WHERE SEISMIC RESTRAINTS ARE REQUIRED. PROVIDE SHOP DRAWINGS AND STRUCTURAL CALCULATIONS FOR APPROVAL. ENSURE SEISMIC SUPPORTS COMPLY WITH THE LATEST ASCE 7 AND IBC STANDARDS.

QQ. INSULATE HANGER CLAMPS AND SUPPORTS AS NECESSARY TO PREVENT THERMAL BRIDGING AND ENSURE PROPER INSTALLATION. USE CORROSION–RESISTANT MATERIALS IN CORROSIVE ENVIRONMENTS, AVOIDING THE USE OF DIFFERENT TYPES OF MATERIALS BETWEEN PIPING AND SUPPORTS. WHERE DISSIMILAR MATERIALS ARE USED, INSTALL INSULATING BARRIERS BETWEEN THE PIPING AND SUPPORTS/HANGERS TO PREVENT GALVANIC CORROSION. REGULARLY INSPECT AND ADJUST HANGERS AS PART OF ROUTINE MAINTENANCE.

RR. INCLUDE VIBRATION ISOLATION SYSTEMS TO REDUCE NOISE AND MECHANICAL VIBRATION TRANSMISSION. USE FLEXIBLE CONNECTORS ON PIPES CONNECTED TO PUMPS, COMPRESSORS, AND OTHER EQUIPMENT THAT GENERATES VIBRATION. VALIDATE THE PERFORMANCE OF ISOLATION MEASURES USING ACOUSTIC TESTING WHERE REQUIRED.

SS. SUBMIT A COMPREHENSIVE HANGER AND SUPPORT PLAN, DETAILING TYPES, LOCATIONS, AND SPECIFICATIONS. ENSURE ALL ATTACHMENTS TO STRUCTURAL ELEMENTS ARE REVIEWED BY A STRUCTURAL ENGINEER.

WARRANTY AND MAINTENANCE

TT. PROVIDE A MINIMUM ONE–YEAR WARRANTY ON ALL PLUMBING SYSTEMS, COVERING BOTH LABOR AND MATERIALS. PROMPTLY ADDRESS AND CORRECT ANY DEFECTS OR FAILURES THAT ARISE DURING THE WARRANTY PERIOD AT NO ADDITIONAL COST TO THE OWNER. SECURE EXTENDED WARRANTIES FOR CRITICAL COMPONENTS, SUCH AS WATER HEATERS, PUMPS, AND CONTROL VALVES, CLEARLY SPECIFYING THE TERMS AND COVERAGE FOR EACH COMPONENT IN THE WARRANTY DOCUMENTATION.

UU. SUPPLY COMPREHENSIVE MAINTENANCE MANUALS FOR ALL INSTALLED PLUMBING EQUIPMENT, INCLUDING STEP–BY–STEP PROCEDURES FOR ROUTINE MAINTENANCE, RECOMMENDED SERVICE INTERVALS, TROUBLESHOOTING GUIDES, AND A LIST OF RECOMMENDED SPARE PARTS. ORGANIZE THE INFORMATION FOR EASY REFERENCE DURING MAINTENANCE ACTIVITIES. SCHEDULE AND CONDUCT A TRAINING SESSION FOR THE OWNER'S MAINTENANCE STAFF TO COVER ALL ASPECTS OF SYSTEM OPERATION, MAINTENANCE PROCEDURES, AND SAFETY PRACTICES, ENSURING THEY ARE FULLY PREPARED FOR ONGOING SYSTEM UPKEEP.

VV. PERFORM A POST–WARRANTY INSPECTION TO EVALUATE THE PLUMBING SYSTEM'S PERFORMANCE AND DOCUMENT ANY NECESSARY ADJUSTMENTS OR IMPROVEMENTS. SUBMIT A REPORT SUMMARIZING THE INSPECTION RESULTS, IDENTIFYING AREAS THAT MAY REQUIRE FURTHER ATTENTION, AND PROVIDING RECOMMENDATIONS FOR MAINTAINING SYSTEM EFFICIENCY, RELIABILITY, AND OPTIMAL PERFORMANCE.

PLUMBING SYMBOL LEGEND AND ABBREVIATIONS

1. THESE SYMBOLS COMPRISE A STANDARD LIST; NOT ALL SYMBOLS MAY APPEAR ON THIS PROJECT.
2. ALL MOUNTING HEIGHTS ARE TO CENTER OF DEVICE ABOVE FINISHED FLOOR, MOUNTING HEIGHTS INDICATED ON ARCHITECTURAL WALL ELEVATIONS OR AS NOTED SPECIFICALLY ON THE DRAWINGS SHALL TAKE PRECEDENCE OVER MOUNTED HEIGHTS LISTED BELOW.

GENERAL PIPING SYMBOLS

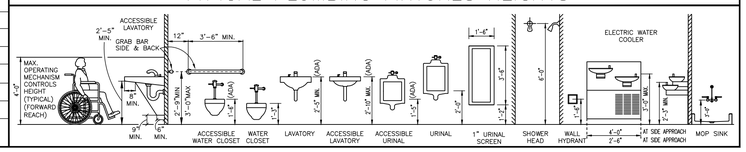
SYMBOL	DESCRIPTION
	90 DEGREE ELBOW
	FLANGE CONNECTION
	CAP
	BLIND FLANGE90 DEGREE ELBOW
WC–1	PLUMBING FIXTURE & DESIGNATION SEE FIXTURE CONNECTION SCHEDULE
A5/P1	PLAN/DETAIL NUMBER SHEET NUMBER
	PIPE DROP
	PIPE RISE
	TEE FITTING – SIDE BRANCH CONNECTION
	TEE FITTING – BOTTOM BRANCH CONN.
	TEE FITTING – TOP BRANCH CONNECTION
	CONCENTRIC REDUCER
	ECCENTRIC REDUCER
	BALL JOINT
	EXPANSION JOINT
	FLEXIBLE CONNECTION (PIPE)
	FLOW DIRECTION
	PIPE ANCHOR
	PIPING GUIDE
	NEW CONNECTION TO EXISTING
	FIRE HYDRANT
R	GAS PRESSURE REGULATOR
M	GAS METER
M	WATER METER
T	THERMOSTAT / THERMOMETER

DOMESTIC WATER SUPPLY	
SYMBOL	DESCRIPTION
	PIPING TO BE REMOVED
	NEW COLD WATER PIPE
	NEW HOT WATER (120°)
	NEW HOT WATER RETURN (120°)
FL	NEW FIRE LINE PIPE
140°	HOT WATER @ 140°
SA–1	SHOCK ABSORBER SEE PLUMING FIXTURE CONNECTION SCHEDULE
GENERAL PIPING SYMBOLS – VALVES	
	VALVE IN BOX
	BALL VALVE
	CHECK VALVE
	GATE VALVE
P&T	PRESSURE & TEMP. RELIEF VALVE
	PETE'S PLUG (TYPICAL)
	REDUCED PRESSURE BACK FLOW PREVENTER
	PRESSURE REDUCING VALVE
NATURAL GAS	
	PIPING TO BE REMOVED
EMG	EXISTING MED PRESS GAS PIPE
MG	EXISTING LOW PRESS GAS PIPE
G	GAS (MEDIUM PRESSURE)
	PLUG VALVE
S	SOLENOID GAS VALVE

SANITARY SEWER/WASTE/VENT	
SYMBOL	DESCRIPTION
	CLEANOUT
	FLOOR DRAIN & P–TRAP (RISER)
	FLOOR DRAIN, ROOF DRAIN, OR AREA DRAIN (SIZE & TYPE NOTED)
	HUB DRAIN & P–TRAP
	2–WAY COUNTERSUNK CLEANOUT PLUGS MOUNT IN CONCRETE PAD FLUSH WITH FINISHED GRADE
	SANITARY COMBINATION FITTING
	VENT PIPE (PLUMBING)
D	INDIRECT DRAIN
CD	CONDENSATE DRAIN
	FLOOR CLEANOUT
RD	ROOF DRAINAGE
SRD	SECONDARY ROOF DRAINAGE
	NEW PIPING (WASTE, WATER, ETC)
EXX	EXISTING PIPING (WASTE, WATER, ETC)
ECW	EXISTING DOMESTIC WATER PIPE
ES	EXISTING SANITARY SEWER PIPE
EV	EXISTING VENT PIPE
FD–1	FIXTURE TAG

ABV	ABOVE
AC	ABOVE CEILING
AD	ACCESS DOOR
AFF	ABOVE FINISHED FLOOR
AP	ACCESS PANEL
APPROX	APPROXIMATE
ARCH	ARCHITECTURAL
ASME	AMERICAN SOCIETY OF MECH. ENGINEERS
ATSM	AMERICAN SOC. FOR TESTING MATERIALS
AV	ACID VENT
AW	ACID WASTE
BHP	BRAKE HORSEPOWER
BLDG	BUILDING
BOP	BOTTOM OF PIPE
BSMT	BASEMENT
BTU	BRITISH THERMAL UNIT
BW–#	BACKWATER VALVE
CA	COMPRESSED AIR
CC	CENTER TO CENTER
CAP.	CAPACITY
CD	CONDENSATE
CDP	CONDENSATE DRAIN PUMP
CI	CAST IRON
CLG	CEILING
CO	CLEANOUT
CONN	CONNECTION
CONT	CONTINUATION
CW	COLD WATER
℄	CENTER LINE
D	DRAIN
DCO	DOUBLE CLEANOUT
DIA	DIAMETER
DN.	DOWN
DN–#	DOWNSPOUT NOZZLE
DWG	DRAWING
EA	EACH
EQ	EQUAL
EQUIP	EQUIPMENT
EXIST	EXISTING
F FD–1	3" FLOOR DRAIN TYPE 1
F	DEGREES FAHRENHEIT
FCO	FLOOR CLEANOUT
FIXT	FIXTURE
FF	FINISHED FLOOR
FG	FINISHED GRADE
FLG	FLANGE
FLR	FLOOR
FM	FACTORY MUTUAL
FPM	FEET PER MINUTE
FT	FEET, FOOT
FS	FLOOR SINK
GA	GAUGE
GAL	GALLON
GALV	GALVANIZED
GCO	GROUND CLEANOUT
GPH	GALLONS PER HOUR
GPM	GALLONS PER MINUTE
GW	GREASE WASTE
GV	GREASE VENT
H	HIGH, HEIGHT
HB–#	HOSE BIBB – REF. PLUMB. FIXT. SCHED.
HP	HORSEPOWER
HR	HOUR
HTR	HEATER
HWRP	HOT WATER RECIRCULATING PUMP
HZ	HERTZ
ID	INSIDE DIMENSION
IE	INVERT ELEVATION (FLOW LINE)
IN	INCHES
INSUL	INSULATION
IN WG	INCHES OF WATER
KW	KILOWATT(S)
L	LONG, LENGTH
L–#	LAVATORY – REF. PLUMB. FIXT. SCHED.
LB	POUND
MAX	MAXIMUM
MECH	MECHANICAL
MIN	MINIMUM
MS	MOTOR STARTER
MTD	MOUNTED
N/A	NOT APPLICABLE
NIC	NOT IN CONTRACT
NTS	NOT TO SCALE
OC	ON CENTER
OH	OVERHEAD
PCT	PERCENT
PLBG	PLUMBING
PRESS	PRESSURE
PRV	PRESSURE REDUCING VALVE
PSIG	POUNDS PER SQUARE INCH (GAUGE)
PVC	POLYVINYL CHLORIDE
PW–#	PRESSURE WASHER–REF. PLUMB. FIXT. SCHED.
RD	ROOF DRAIN
REF: 4/P5	REFER TO DETAIL 4, SHEET P5
REQD	REQUIRED
RFP–#	REDUCED PRESSURE BACKFLOW PREVENTER
S–#	SINK – REF. PLUMB. FIXT. SCHEDULE
SCHED.	SCHEDULE
SD	STORM DRAIN
SEC	SECOND
SH–#	SHOWER HEAD – REF. PLUMB. FIXT. SCHED.
SPEC	SPECIFICATION
SP	SUMP PUMP
SRD	SECONDARY ROOF DRAIN
SS	SERVICE SINK/MOP SINK
STD	STANDARD
STL	STEEL
SW	SWITCH
TEMP	TEMPERATURE
TP–#	TRAP PRIMER – REF. PLUMB. FIXT. SCHED.
TYP.	TYPICAL
U–#	URINAL – REF. PLUMB. FIXT. SCHED.
UF	UNDER FLOOR
UG	UNDER GROUND
UL	UNDERWRITERS LABORATORIES
UTIL	UTILITY
VB	VALVE BOX
VCP	VITRIFIED CLAY PIPE
VEL	VELOCITY
VOL	VOLUME
VOLT	VOLTAGE
VTR	VENT THRU ROOF
W	WIDE, WIDTH
WB–#	WASHER BOX – REF. PLUMB. FIXT. SCHED.
WD–#	WATER DEVICE – REF. PLUMB. FIXT. SCHED.
W/O	WITHOUT
WC–#	WATER CLOSET – REF. PLUMB. FIXT. SCHED.
WCO	WALL CLEANOUT
WD–#	WATERING DEVICE – REF. PLUMB. FIXT. SCHED.
WH–#	WATER HEATER – REF. PLUMB. FIXT. SCHED.
WS–#	WATER SOFTENER – REF. SPECIFICATIONS
WTD–#	WIDE TRENCH DRAIN–REF. PLUMB. FIXT. SCHED.
WTR	WATER

TYPICAL PLUMBING FIXTURES HEIGHTS



PLUMBING GENERAL NOTES

GENERAL AND COORDINATION NOTES

A. USE THESE DRAWINGS AS A GUIDE, STRUCTURED DIAGRAMMATICALLY FOR CLARITY, WITH EQUIPMENT SIZES AND APPROXIMATE LOCATIONS DEPICTED TO SCALE WHERE FEASIBLE. CONFIRM ALL MEASUREMENTS AND CLEARANCES ON–SITE, CONSIDERING ANY POTENTIAL SPATIAL LIMITATIONS OR STRUCTURAL ELEMENTS THAT COULD AFFECT PLACEMENT OR ALIGNMENT.

B. COORDINATE THOROUGHLY WITH ALL OTHER TRADES, INCLUDING STRUCTURAL, ELECTRICAL, AND MECHANICAL TEAMS, TO ENSURE SMOOTH INSTALLATION AND INTEGRATION OF SYSTEMS. INCLUDE DETAILED PLANNING SESSIONS TO AVOID CONFLICTS IN SHARED SPACES OR OVERLAPPING INSTALLATIONS.

C. CONDUCT A PRE–BID SITE VISIT TO ASSESS ALL EXISTING CONDITIONS, INCLUDING OBSTACLES THAT COULD IMPACT PLUMBING INSTALLATION. ACCOUNT FOR ANY COSTS RELATED TO MOVING OR ADJUSTING UTILITIES IN BIDS AND DOCUMENT ALL OBSERVATIONS MADE DURING THE SITE VISIT FOR FUTURE REFERENCE.

D. INSPECT THE SITE THOROUGHLY BEFORE BID SUBMISSION TO GAIN A COMPLETE UNDERSTANDING OF EXISTING CONDITIONS. ACKNOWLEDGE BY SUBMITTING A BID THAT ALL CURRENT SITE CONDITIONS, INCLUDING POTENTIAL COMPLICATIONS NOT APPARENT IN DRAWINGS, HAVE BEEN REVIEWED.

E. REPORT ANY DISCREPANCIES BETWEEN CONSTRUCTION DRAWINGS AND SITE CONDITIONS IMMEDIATELY TO THE ARCHITECT AND ENGINEER. TAKE A PROACTIVE APPROACH TO ALLOW NECESSARY DESIGN ADJUSTMENTS OR INSTALLATION METHOD REVISIONS, ENSURING TIMELY RESOLUTION AND AVOIDING PROJECT DELAYS.

F. COORDINATE CONNECTION POINTS, ELEVATIONS, AND DIMENSIONS WITH THE GENERAL CONTRACTOR AND RELEVANT TRADES BEFORE STARTING ANY INSTALLATION WORK. ENSURE THAT ALL CONNECTIONS ALIGN CORRECTLY WITH SITE CONDITIONS AND THE REQUIREMENTS OF OTHER SYSTEMS.

G. VERIFY ALL CONNECTION POINTS, SIZES, AND ELEVATIONS WITH THE SITE UTILITY CONTRACTOR, PARTICULARLY FOR CRITICAL CONNECTIONS LIKE WATER, DRAINAGE, AND VENTING. COORDINATE NECESSARY ADJUSTMENTS TO CONNECTION POINTS TO AVOID INTERFERENCE WITH OTHER SITE UTILITIES OR SERVICES.

H. MAINTAIN ACCURATE AS–BUILT DRAWINGS THAT DOCUMENT ALL CHANGES AND DEVIATIONS THROUGHOUT THE PROJECT. REGULARLY UPDATE THESE DRAWINGS AND SUBMIT THEM TO THE CONSTRUCTION MANAGER UPON PROJECT COMPLETION TO SUPPORT FUTURE MAINTENANCE OR MODIFICATIONS.

I. ATTEND THE PROJECT TURNOVER AS THE PLUMBING CONTRACTOR TO



NORTH

1 P101 PLUMBING DEMOLITION SITE PLAN

1/8" = 1'-0"

KEYED NOTES ⓧ

1. EXISTING PLUMBING FIXTURES TO REMAIN.
2. REMOVE PLUMBING FIXTURE. REMOVE DOMESTIC WATER (HOT/COLD), SEWER AND VENT PIPING UP TO THE NEAREST MAIN LINES. PROTECT ALL OTHER TRADES WORK WHICH IS TO REMAIN.
3. EXISTING PLUMBING FIXTURE TO BE DISCONNECTED AND RELOCATED.
4. EXISTING WATER FILTRATION SYSTEM TO BE RELOCATED.
5. REMOVE PLUMBING FIXTURE AND PREPARE TO REPLACE WITH SIMILAR FIXTURE. PROTECT ALL OTHER TRADES WORK WHICH IS TO REMAIN.

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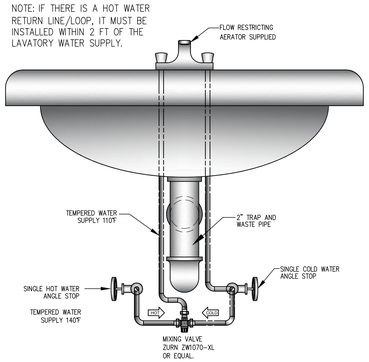
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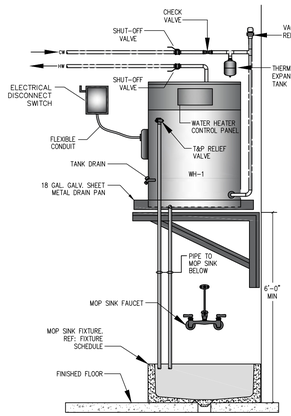
PLUMBING DEMOLITION PLAN

P101



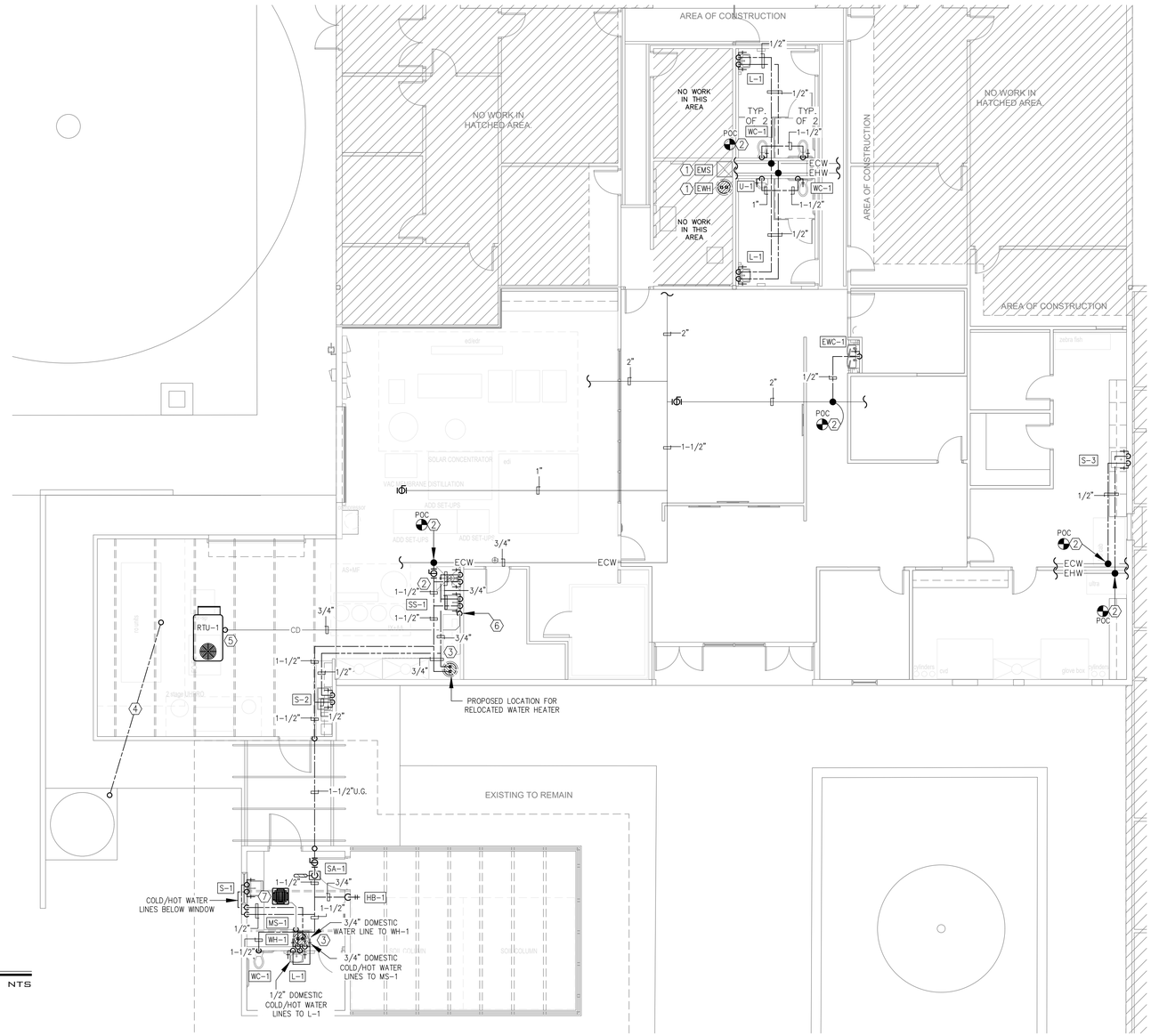
3 P200 MIXING VALVE DETAIL

NTS



4 P200 ELECTRIC WATER HEATER DETAIL

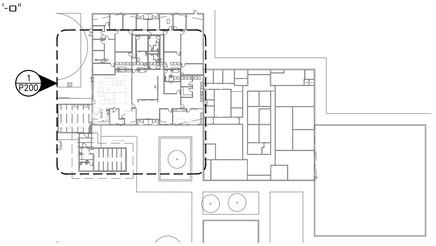
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1 P200 DOMESTIC WATER PLUMBING PLAN

1/8" = 1'-0"

NORTH



2 P200 KEY PLAN

1/64" = 1'-0"

NORTH

KEYED NOTES ⓧ

1. EXISTING PLUMBING FIXTURES TO REMAIN.
2. EXTEND AND RECONNECT NEW DOMESTIC WATER LINES (HOT/COLD) TO EXISTING WATER MAIN LINE. FIELD VERIFY EXACT LOCATION OF EXISTING SERVICE WATER MAIN LINE (HOT/COLD) PRIOR TO COMMENCING ROUGH IN WORK.
3. PROVIDE WITH ISOLATION VALVES ON COLD/HOT WATER LINES BEFORE WATER HEATER PIPING CONNECTIONS.
4. PROVIDE UNDERGROUND DOMESTIC WATER LINE BETWEEN WATER TANK AND RO SYSTEM EQUIPMENT ROUTED WITHIN 2" PVC SLEEVE. TERMINATE WITH STUB-UPS AND CAPS AT BOTH ENDS FOR FUTURE CONNECTION. FINAL WATER LINE SIZE AND CONFIGURATION SHALL BE COORDINATED WITH RO EQUIPMENT REQUIREMENTS PRIOR TO INSTALLATION.
5. FULL SIZE CONDENSATE DRAIN THROUGH ROOF. PROVIDE ROOF FLASHING.
6. EXTEND AND DISCHARGE FULL SIZE DRAIN FROM ROOF TOP UNIT CONDENSATE LINE DOWN TO 6" ABOVE MOP/SERVICE SINK.
7. EXTEND AND DISCHARGE FULL SIZE DRAIN FROM INDOOR UNIT UNIT CONDENSATE LINE TO TO 6" ABOVE MOP SINK.

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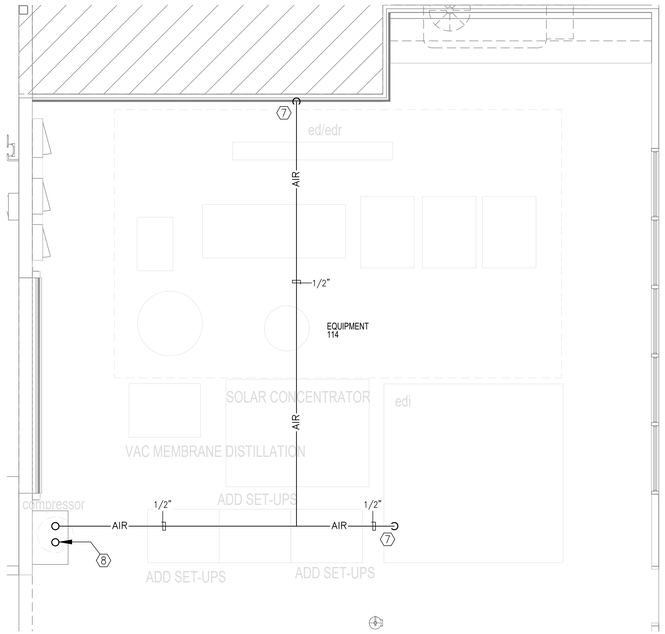
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DOMESTIC WATER PLUMB. PLAN

P200

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3 P300 KEY PLAN

1/8" = 1'-0"

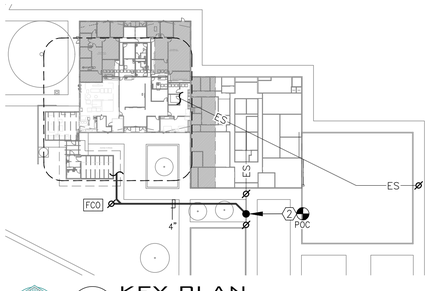
NORTH



1 P300 SEWER AND VENT PLUMBING PLAN

1/8" = 1'-0"

NORTH



2 P300 KEY PLAN

1/8" = 1'-0"

NORTH

KEYED NOTES ⓧ

1. EXISTING PLUMBING FIXTURE TO REMAIN.
2. EXTEND AND RECONNECT NEW WASTE LINE TO EXISTING SEWER MAIN LINE. FIELD VERIFY EXACT INVERT AND LOCATION OF EXISTING SEWER MAIN LINE PRIOR TO COMMENCING ROUGH IN WORK.
3. EXTEND AND RECONNECT NEW SEWER VENT LINE TO EXISTING SEWER VENT MAIN LINE. FIELD VERIFY EXACT LOCATION OF EXISTING VENT PRIOR TO COMMENCING ROUGH IN WORK.
4. PROVIDE FULL SIZE CLEANOUT.
5. PROVIDE 2"Ø VENT THROUGH ROOF.
6. PROVIDE FLOOR DRAIN/SINK TRAP SEALS.
7. PROVIDE TUBING FROM AIR COMPRESSOR TO PIPE DROP. COORDINATE EXACT REQUIREMENTS AND LOCATION WITH OWNER PRIOR TO COMMENCING WORK.
8. PROVIDE 1–1/2" VENT PIPING CONNECTION FOR AIR COMPRESSOR SYSTEM WHERE REQUIRED BY MANUFACTURER OR AUTHORITY HAVING JURISDICTION. ROUTE VENT PIPING THROUGH ROOF AND TERMINATE WITH GOOSENECK. COORDINATE EXACT ROUTING AND TERMINATION LOCATION PRIOR TO INSTALLATION.

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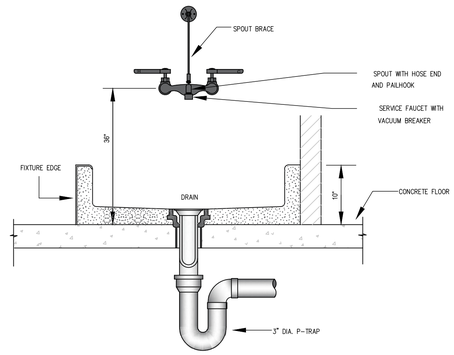
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PLUMBING PLAN

P300

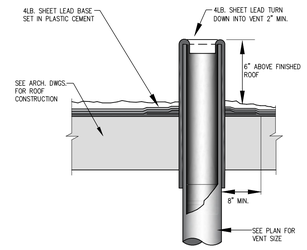
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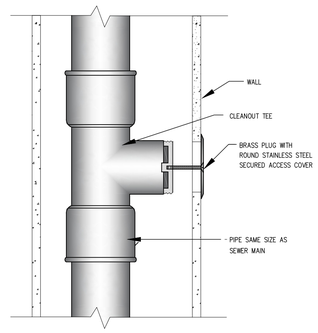
2 P400 MOP SINK DETAIL

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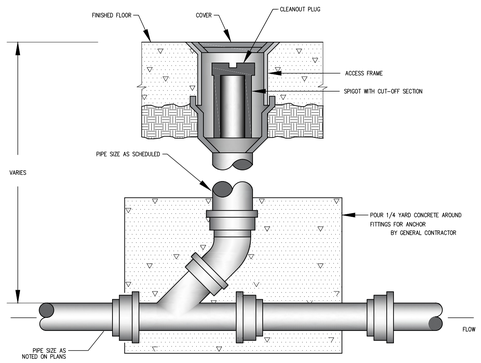
3 P400 VENT THRU ROOF

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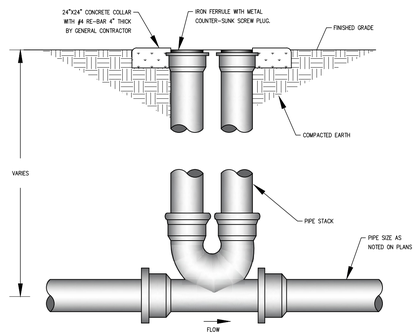
4 P400 WALL CLEANOUT DETAIL

NTS



5 P400 GRADE / FLOOR CLEANOUT DETAIL

NTS



6 P400 DOUBLE GRADE CLEANOUT DETAIL

NTS

PLUMBING FIXTURE SCHEDULE

MARK	DESCRIPTION	MANUFACTURER AND MODEL NUMBER OR APPROVED EQUAL	ROUGH-IN				ACCESSORIES
			DRAIN	VENT	COLD	HOT	
WC-1	WATER CLOSET FLOOR MOUNTED BOTTOM OUTLET MANUAL FLUSHOMETER	KOHLER K-96057-SS-0	3"	2"	1-1/2"	-	BOWL: ELONGATED, ADA COMPLIANT, VITREOUS CHINA, ANTIMICROBIAL FINISH. SEAT: KOHLER MODEL K-4731-CA-0 WHITE OPEN FRONT TOILET SEAT. FLUSHOMETER: KOHLER MODEL K-76322-CP, MANUAL, 1.6 GPF, 1-1/2" TOP SPUD.
U-1	URINAL WALL MOUNTED TOP SPUD MANUAL FLUSHOMETER	KOHLER K-5016-ET-SS-0	2"	2"	3/4"	-	URINAL: ADA COMPLIANT, VITREOUS CHINA, SIPHON JET. PROVIDE WITH MANUFACTURER'S APPROVED MOUNTING BRACKET. FLUSHOMETER: KOHLER MODEL K-76319-CP, MANUAL, 1.0GPF, 3/4" TOP SPUD. CARRIER (IF REQUIRED): WATTS DRAINAGE MODEL CA-321, FLOOR MOUNTED URINAL CARRIER WITH BEARING PLATE.
L-1	LAVATORY WALL MOUNTED VITREOUS CHINA MANUAL FAUCET	KOHLER K-1997-SS4-0	2"	1-1/4"	1/2"	1/2"	LAVATORY: ADA COMPLIANT, VITREOUS CHINA, ANTI MICROBIAL FINISH, OVAL BASIN, OVERFLOW DRAIN, 3-HOLE 4-INCH CENTER. PROVIDE WITH K-8998 P-TRAP AND K-1998-SS-0 SHORUD AND MOUNTING BRACKET. FAUCET: KOHLER MODEL K-15240-4NDRA-CP, MANUAL, 0.5 GPM, VANDAL RESISTANT AERATOR. CARRIER: WATTS DRAINAGE MODEL TCA-411, FLOOR MOUNTED CONCEALED ARM TRACK LAVATORY CARRIER.
S-1	SINK STAINLESS STEEL DROP-IN SINGLE BOWL	JUST SINKS SLADA1613A653-J	2"	1-1/2"	1/2"	1/2"	SINK: 16"W x 13"L x 6-1/2"D, 18 GAUGE 304 STAINLESS STEEL, THREE-HOLES AND INTEGRA OVERFLOW SYSTEM. STRAINER: JUST SINKS MODEL J-35-SSF. FAUCET: JUST SINKS MODEL J-900, BRASS BODY, CHROME PLATED, 2.2 GPM VANDAL RESISTANT AERATOR.
S-2	SINK STAINLESS STEEL DROP-IN DOUBLE BOWL	JUST SINKS DLADA2233A65-J	2"	1-1/2"	1/2"	1/2"	SINK: 22"W x 33"L x 6-1/2"D, 18 GAUGE 304 STAINLESS STEEL, SINGLE HOLE AND INTEGRA OVERFLOW SYSTEM. STRAINER: JUST SINKS MODEL J-35-SSF. FAUCET: JUST SINKS MODEL JPO-220, POLISHED CHROME, PULL-OUT SPRAY, SINGLE HANDLE, DECK PLATE AND POP-UP DRAIN.
S-3	SINK / WITH EYE WASH STATION STAINLESS STEEL DROP-IN SINGLE BOWL	JUST SINKS SLFADA1921A653-J	2"	1-1/2"	1/2"	1/2"	SINK: 19"W x 21"L x 6-1/2"D, 18 GAUGE 304 STAINLESS STEEL, SINGLE HOLE AND INTEGRA OVERFLOW SYSTEM. STRAINER: JUST SINKS MODEL J-35-SSF. FAUCET: BRADLEY MODEL S19-500W, DECK MOUNTED SWING ACTIVATED EYEWASH. COMBINED FAUCET AND AND EYEWASH.
EWC-1	ELECTRIC WATER COOLER BI-LEVEL	HALSEY TAYLOR HAC8BLPV-WF	2"	1-1/2"	1/2"	-	COOLER: BI-LEVEL ADA COOLER, FILTERED 8 GPH PLATINUM VINYL. PROVIDE WITH 98312C CANE APRON AND MLP200 IN WALL CARRIER (BI-LEVEL).
HB-1	WALL HYDRANT WALL MOUNTED	ZURN Z1345	-	-	3/4"	-	HYDRANT: ZURN MODEL Z1345 EXPOSED NON-FREEZE ANTI-SIPHON DRAINING WALL FAUCET,EXTERIOR CHROME FINISH, BRASS CASING, ALL BRONZE INTERIOR PARTS AND HAND OPERATION.
MS-1	MOP SINK	FIAT MSB2424	3"	2"	3/4"	3/4"	SINK: FIAT MODEL MSB2424, 24" x 24" FIAT 830-AA FAUCET, HOSE AND BRACKET NO. 832-AA-30" MOP HANGER NO. 889-CC-24"
SS-1	MOP SINK	FIAT TAT1	3"	2"	3/4"	3/4"	SINK: FIAT MODEL TAT1, 20" x 23-7/8" , INCLUDES POLISHED CHROME FAUCET WITH SPOUT, P-TRAP AND TWO SUPPLY LINES. HARDWARE KIT: ONE SCREW BAG, ONE TAIL NUT, ONE STOPPER AND FOUR LEGS.
FS-1	FLOOR SINK	ZURN Z1752	LINE SIZED	LINE SIZED	-	-	SINK: ZURN MODEL Z1752 12" x 12" x 10" DEEP, 16 GAGE, STAINLESS STEEL TYPE 304, LOOSE SET FULL GRATE WITH 1/2" SQUARE OPENINGS. PROVIDE WITH TRAP GUARD.
FD-1	FLOOR DRAIN	ZURN ZN415-BZ1	LINE SIZED	LINE SIZED	-	-	DRAIN: ZURN MODEL ZN415-BZ1 CAST IRON FLOOR DRAIN WITH NICKEL BRONZE TOP, PROVIDE WITH Z1072 TRAP GUARD.
WH-1	WATER HEATER ELECTRIC 19 GALLON TANK	BRADFORD WHITE LE120L3-3	-	-	3/4"	3/4"	1.5KW/1.5KW, 208V/1Ø, SIMULTANEOUS OPERATION. 18 GPH RECOVERY RATE AT 100°F RISE. ALL INTERNAL SURFACES OF THE TANK EXPOSED TO WATER SHALL BE GLASS-LINED WITH VITRAGLAS® VITREOUS ENAMEL WITH MICROBAN® ANTIMICROBIAL TECHNOLOGY THAT HAS BEEN FUSED TO STEEL BY FIRING AT A TEMPERATURE RANGE OF 1,600°F.
SA-1	WATER HAMMER ARRESTOR /SHOCK ABSORBER	ZURN Z1700	-	-	LINE SIZED	-	ZURN MODEL Z1700 SHOKTROL WATER HAMMER ARRESTOR.
MXV-1	MIXING VALVE	ZURN ZW1070-XL	-	-	LINE SIZED	LINE SIZED	ZURN MODEL ZW1070-XL AQUA-GARD THERMOSTATIC MIXING VALVE, WITH BRONZE BODY AND INTEGRAL MOUNTING HOLES. TEMPERATURE ADJUSTMENT FROM 95-115°F.
FCO	FLOOR CLEANOUT	ZURN ZN1400-BZ1	2" TO 4"	-	-	-	ZURN MODEL Z1400-BZ1 CLEANOUT, DURA-COATED CAST IRON BODY WITH BOTTOM OUTLET, WITH GAS AND WATERTIGHT THREADED ABS TAPERED PLUG AND TOP ASSEMBLY. "TYPE B" LIGHT DUTY SCORIATED COVER.
WCO	WALL CLEANOUT	ZURN Z-1446	2" TO 4"	-	-	-	ZURN MODEL Z1446 CLEANOUT, DURA-COATED CAST IRON BODY, GAS AND WATERTIGHT ABS TAPERED PLUG, AND ROUND, SMOOTH STAINLESS STEEL WALL ACCESS COVER WITH SECURING SCREW.
GCO	GRADE CLEANOUT	ZURN Z-1402-HD	2" TO 4"	-	-	-	ZURN MODEL Z1402-HD TUF-TOP NON ADJUSTABLE FLOOR CLEANOUT WITH DURA-COATED CAST IRON BODY, WITH GAS AND WATERTIGHT ABS TAPERED THREADPLUG, AND ROUND SCORIATED CAST IRON HEAVY-DUTY SECURED COVER AND FRAME.
DGCO	DOUBLE GRADE CLEANOUT	ZURN Z-1402-HD	2" TO 4"	-	-	-	ZURN MODEL Z1402-HD TUF-TOP NON ADJUSTABLE FLOOR CLEANOUT WITH DURA-COATED CAST IRON BODY, WITH GAS AND WATERTIGHT ABS TAPERED THREADPLUG, AND ROUND SCORIATED CAST IRON HEAVY-DUTY SECURED COVER AND FRAME.

PIPING MATERIAL SCHEDULE

1	DOMESTIC WATER PIPE (ABOVE GROUND)	TYPE "L" HARD DRAWN COPPER TUBING WITH 125 PSI SOLDER JOINTS. COPPER OR BRASS FITTINGS. ALL SOLDER TO BE "NO LEAD" TYPE. ALL DOMESTIC WATER TO BE INSULATED IN COMPLIANCE WITH LOCAL ORDINANCES AND ENERGY CONSERVATION CODES.
2	DOMESTIC WATER PIPE (BELOW GROUND)	TYPE "K" SOFT DRAWN COPPER TUBING WITH BRAZED CONNECTIONS.
3	SEWER AND VENT PIPE (ABOVE AND BELOW GRADE)	2" AND BELOW: SCH. 40 GALV. STL. PIPE WITH SCREWED ENDS OR SCH. 40 PVC WITH SOLVENT JOINTS. ALL SOLDER TO BE "NO LEAD" TYPE. 3" AND ABOVE: SERVICE WT. CAST IRON WITH NO-HUB OR BELL AND SPIGOT JOINTS OR SCH. 40 PVC WITH SOLVENT JOINTS. PVC SHALL NOT BE USED IN AIR PLENUM CEILING AND SHALL NOT CROSS FIRE RATED WALLS, CEILINGS OR FLOORS.
4	CONDENSATE DRAIN AND INDIRECT DRAINAGE PIPE (INTERIOR TO BUILDING)	PROVIDE TYPE "L" HARD DRAWN COPPER TUBING WITH 125 PSI SOLDER JOINTS. COPPER OR BRASS FITTINGS. ALL SOLDER TO BE "NO LEAD" TYPE OR TYPE "DWV" POLYVINYL CHLORIDE PVC PIPING. PVC SHALL NOT BE USED IN AIR PLENUM CEILING AND SHALL NOT CROSS FIRE RATED WALLS, CEILINGS OR FLOORS.
5	CONDENSATE DRAIN PIPE (EXTERIOR TO BUILDING)	PROVIDE TYPE "L" HARD DRAWN COPPER TUBING WITH 125 PSI SOLDER JOINTS. COPPER OR BRASS FITTINGS. ALL SOLDER TO BE "NO LEAD" TYPE
6	STORM DRAIN PIPE (ABOVE AND BELOW GRADE)	INSIDE BUILDING SERVICE WEIGHT (HUBLESS) CAST IRON SOIL PIPE AND STAINLESS STEEL NO HUB COUPLINGS. INSULATE WITH 1/2" ARMAFLEX CLOSED CELL PIPE INSULATION WITH SELF SEALING ADHESIVE JOINTS, OR EQUIVALENT OR ABS OR PVC PER SPECS.
7	NATURAL GAS PIPE	SCHEDULE 40 BLACK STEEL WITH MALLEABLE IRON FITTINGS. WELDED JOINTS FOR PIPE 2-1/2" AND LARGER AND ALL JOINTS BELOW GRADE.
8	SLEEVE PIPE FOR REFRIGERANT, CO2 AND SYRUP BUNDLES	SCHEDULE 40 PVC EXCEPT WHERE SPECIFICALLY NOTED OTHERWISE, AND MUST BE WATER TIGHT. ALL BENDS MUST BE NO LESS THAN 24" RADIUS SWEEPS.
9	CPVC AND PEX PIPING	ALLOWED FOR INSTALLATION WHERE APPROVED BY THE JURISDICTION HAVING AUTHORITY. PROVIDE WRITTEN APPROVAL TO THE ARCHITECT/ ENGINEER FOR DOCUMENTATION. STUB OUTS TO BE BRASS OR METAL NIPPLES SECURED TO WALLS, PRIOR TO SETTING OF FIXTURES.
10	POSITIVE PRESSURE MEDICAL GAS SYSTEM	TYPE L FOR PRESSURES UNDER 185 PSI TYPE K FOR PRESSURES OVER 185 PSI TYPE K FOR ALL TUBING OVER 3" ID (3-1/8" OD) MANUFACTURER CLEANED AND IDENTIFIED PRIOR TO INSTALLATION. PLUGGED OR CAPPED AND KEPT SEALED UNTIL PREPARED FOR INSTALLATION. FITTINGS, VALVES & OTHER COMPONENTS KEPT SEALED UNTIL PREPARED FOR INSTALLATION. FURNISH DOCUMENTATION CERTIFYING THAT INSTALLED PIPING MATERIALS COMPLY WITH THE REQUIREMENTS OF NFPA 99.
11	MEDICAL-SURGICAL GAS SYSTEM	COPPER WATER TUBE (TYPES K, L, M) COPPER REFRIGERATION TUBE (TYPE ACR) MEDICAL GAS TUBE (TYPE K OR L)STAINLESS STEEL TUBE. IF USED MUST BE LABELED TO IDENTIFY IT FROM MEDICAL GAS TUBE. FITTINGS MUST BE CLEANED FOR OXYGEN SERVICE. JOINTS SHALL BE BRAZED.
12	MEDICAL-SURGICAL WAGD GAS SYSTEM	COPPER WATER TUBE (TYPES K, L, M). COPPER REFRIGERATION TUBE (TYPE ACR). MEDICAL GAS TUBE (TYPE K OR L). STAINLESS STEEL TUBE. IF USED MUST BE LABELED TO IDENTIFY IT FROM MEDICAL GAS TUBE. FITTINGS MUST BE CLEANED FOR OXYGEN SERVICE.JOINTS SHALL BE BRAZED.

TESTING PROCEDURES

1	TEST INSTALLED WATER PIPING AT 100 PSI FOR A PERIOD OF 8 HOURS, OBSERVING FOR ANY VISIBLE LEAKS. TEST PIPING AGAIN WITH FIXTURES INSTALLED.
2	CHLORINATE ALL WATER PIPING FOR A PERIOD OF 8 HRS, BY CHARGING WITH A HYPOCHLORINATE SOLUTION TO ACHIEVE A 5 PPM STRENGTH AT THE FIXTURE. FURTHEST FROM THE POINT OF APPLICATION. UPON COMPLETION OF THE CHLORINATION, FLUSH ALL PIPING UNTIL NO CHLORINE CAN BE DETECTED BY TASTE. CLEAN ALL STRAINERS AND SET WATER FLOWS FROM FIXTURES IN ACCORDANCE WITH MANUFACTURER AND LOCAL REQUIREMENTS.
3	TEST INSTALLED GAS PIPING AT 60 PSI FOR A PERIOD OF 2 HRS, USING SOAP AND WATER OBSERVING FOR ANY VISIBLE LEAKS AT ALL JOINTS.
4	TEST INSTALLED WASTE AND VENT PIPING FOR A PERIOD OF 8 HRS, BY CAPPING OR PLUGGING ALL JOINTS TO A LEVEL OF THE HIGHEST FIXTURE OR FITTING. FILL THE SYSTEM WITH WATER AND OBSERVE FOR ANY LEAKS.

PIPING INSULATION SCHEDULE

MATERIAL	FLUID OPERATING TEMPERATURTE AND USAGE(°F)	INSULATION CONDUCTIVITY		NOMINAL PIPE OR TUBE SIZE (INCHES)				
		CONDUCTIVITY Btu*IN./(H*FT²*°F)^a	MEAN RATING TEMPERATURE, °F	<1	1 TO < 1-1/2	1-1/2 TO<4	4 TO <8	≥8
MINERAL FIBER	>350	0.32-0.34	250	4.5	5.0	5.0	5.0	5.0
MINERAL FIBER	251-350	0.29-0.32	200	3.0	4.0	4.5	4.5	4.5
MINERAL FIBER	201-250	0.27-0.30	150	2.5	2.5	2.5	3.0	3.0
CELLULAR GLASS, MINERAL FIBER, FLEXIBLE ELASTOMERIC, POLYOLEFIN	141-200	0.25-0.29	125	1.5	1.5	2.0	2.0	2.0
CELLULAR GLASS, MINERAL FIBER, FLEXIBLE ELASTOMERIC, POLYOLEFIN	105-140	0.21-0.28	100	1.0	1.0	1.5	1.5	1.5
CELLULAR GLASS, MINERAL FIBER, FLEXIBLE ELASTOMERIC, POLYOLEFIN	40-60	0.21-0.27	75	0.5	0.5	1.0	1.0	1.0
CELLULAR GLASS, FLEXIBLE ELASTOMERIC, POLYOLEFIN	<40	0.20-0.26	50	0.5	1.0	1.0	1.0	1.5

*BASED ON 2021 IECC TABLE C403.2.10 AND IN COMPLIANCE WITH 2021 UNIFORM PLUMBING CODE REQUIREMENTS

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PARTIAL REMODEL & ADDITION

GENESIS CNTR. BUILDING 'A'

3655 Research Dr. Bldg. A
NMSU Campus
Las Cruces, New Mexico

REVISION	DATE

Project no: 25.25
Date: May 2026
Sheet:

PLUMBING DETAILS

P400

JOSE A. MORALES NEW MEXICO 22154 PROFESSIONAL ENGINEER

5/27/2026

RAXIS ENGINEERING
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NEW MEXICO ELECTRICAL SPECIFICATIONS

GENERAL REQUIREMENTS

A. COMPLY WITH ALL APPLICABLE CODES AND STANDARDS IN THE ELECTRICAL INSTALLATION, INCLUDING BUT NOT LIMITED TO THE NATIONAL ELECTRICAL CODE (NEC), NFPA GUIDELINES, IEEE STANDARDS, AND RELEVANT LOCAL, STATE, AND FEDERAL REGULATIONS. ADHERE TO PROJECT-SPECIFIC REQUIREMENTS AND SPECIFICATIONS AS OUTLINED IN THE CONSTRUCTION DOCUMENTS FOR ALL WORK. ENSURE THAT THE CONTRACTOR IS RESPONSIBLE FOR DESIGNING AND INSTALLING THE ENTIRE ELECTRICAL SYSTEM IN A MANNER THAT PROMOTES SDAFETY, ENERGY EFFICIENCY, AND LONG-TERM RELIABILITY.

B. REVIEW ALL DRAWINGS AND SPECIFICATIONS, INCLUDING ARCHITECTURAL, MECHANICAL, AND STRUCTURAL PLANS, TO ENSURE A COMPREHENSIVE UNDERSTANDING OF THE PROJECT SCOPE. INTERPRET ELECTRICAL PLANS AS DIAGRAMMATIC AND INTENDED SOLELY FOR GENERAL GUIDANCE; COORDINATE WITH ALL TRADES IN DETAIL TO PREVENT CONFLICTS AND MAINTAIN THE DESIGN INTENT. VERIFY ALL FIELD CONDITIONS, ADJUSTING INSTALLATIONS AS NECESSARY TO ENSURE PROPER FIT, FUNCTION, AND ACCESSIBILITY.

C. EXECUTE ELECTRICAL WORK EXCLUSIVELY BY LICENSED AND EXPERIENCED ELECTRICIANS. ADHERE TO INDUSTRY BEST PRACTICES FOR ALL LABOR, WITH METICULOUS ATTENTION TO DETAIL IN EVERY ASPECT OF INSTALLATION. ENFORCE TEMPORARY SAFETY MEASURES, INCLUDING LOCK-OUT/TAG-OUT PROCEDURES, STRICTLY THROUGHOUT THE PROJECT TO PREVENT ACCIDENTS AND ENSURE ON-SITE PERSONNEL SAFETY.

D. COORDINATE ELECTRICAL SYSTEMS EFFECTIVELY WITH STRUCTURAL, ARCHITECTURAL, AND MECHANICAL COMPONENTS. INSTALL ELECTRICAL CONDUITS, CABLE TRAYS, AND OTHER ELEMENTS PARALLEL OR PERPENDICULAR TO BUILDING LINES, SUPPORTING THEM IN A MANNER THAT ENSURES LONG-TERM STABILITY. CONCEAL ALL WIRING WITHIN WALLS, FLOORS, OR CEILINGS UNLESS EXPLICITLY NOTED OTHERWISE, AND FINISH EXPOSED CONDUITS TO COMPLEMENT THE BUILDING'S AESTHETIC.

E. PROTECT ALL COMPLETED INSTALLATIONS FROM POTENTIAL DAMAGE OR CONTAMINATION BY IMPLEMENTING TEMPORARY COVERS AND BARRIERS TO PREVENT DUST AND DEBRIS FROM ENTERING ELECTRICAL EQUIPMENT. KEEP EQUIPMENT ENCLOSURES SEALED UNTIL FINAL CONNECTIONS ARE MADE AND SYSTEMS ARE READY FOR COMMISSIONING.

F. PROVIDE ALL REQUIRED INSURANCE FOR PROTECTION AGAINST PUBLIC LIABILITY AND PROPERTY DAMAGE THROUGHOUT THE WORK'S DURATION. SECURE AND PAY FOR ALL PERMITS, FEES, INSPECTIONS, AND TESTS UNLESS OTHERWISE SPECIFIED, COVERING ANY SUBSTITUTIONS REQUESTED BY THE CONTRACTOR.

G. EMERGENCY EGRESS LIGHTING TO COMPLY WITH 2020 IBC SECTION 106 AND 2021 NEC 700.12.

SUBMITTALS

H. SUBMIT DETAILED SHOP DRAWINGS FOR ALL ELECTRICAL SYSTEMS, INCLUDING PANELBOARDS, TRANSFORMERS, SWITCHGEAR, DISTRIBUTION BOARDS, LIGHTING FIXTURES, AND EMERGENCY POWER SYSTEMS. PROVIDE COMPREHENSIVE INFORMATION IN SHOP DRAWINGS ON EQUIPMENT DIMENSIONS, CIRCUITING, MOUNTING DETAILS, AND POTENTIAL CONFLICTS WITH OTHER BUILDING COMPONENTS.

I. INCLUDE PRODUCT DATA SHEETS FOR ALL ELECTRICAL MATERIALS AND EQUIPMENT WITHIN THE SUBMITTAL PACKAGE. DETAIL SPECIFICATIONS, PERFORMANCE RATINGS, COMPLIANCE CERTIFICATIONS, PHYSICAL DIMENSIONS, AND INSTALLATION REQUIREMENTS ON EACH DATA SHEET, HIGHLIGHTING ANY DEVIATIONS FROM PROJECT SPECIFICATIONS FOR REVIEW AND APPROVAL.

J. SUBMIT AS-BUILT DRAWINGS AT PROJECT COMPLETION, ACCURATELY DOCUMENTING ALL CHANGES MADE DURING INSTALLATION. INCLUDE FINAL ROUTING OF CONDUITS, CABLE TRAYS, AND CIRCUIT NUMBERS IN THESE DRAWINGS. UPDATE ALL PANEL SCHEDULES TO REFLECT THE FINAL CONFIGURATION, ENSURING EACH CIRCUIT IS CLEARLY LABELED WITH ITS CORRESPONDING LOAD.

K. PROVIDE COMPREHENSIVE OPERATION AND MAINTENANCE MANUALS FOR ALL INSTALLED EQUIPMENT. INCLUDE WIRING DIAGRAMS, CONTROL SEQUENCES, RECOMMENDED MAINTENANCE PROCEDURES, AND TROUBLESHOOTING GUIDES IN MANUALS, AND DOCUMENT WARRANTIES FOR ALL MAJOR COMPONENTS WITH CLEAR INSTRUCTIONS ON REQUESTING SERVICE DURING THE WARRANTY PERIOD.

L. SUBMIT A DETAILED COMMISSIONING PLAN OUTLINING ALL TESTING, VERIFICATION, AND DOCUMENTATION PROCEDURES. INCLUDE DESCRIPTIONS OF FUNCTIONAL TESTS, ACCEPTANCE CRITERIA, AND STEPS FOR ADDRESSING IDENTIFIED DEFICIENCIES IN THE PLAN, AND COORDINATE COMMISSIONING ACTIVITIES WITH THE OWNER'S REPRESENTATIVE TO ENSURE ALL SYSTEMS ARE FULLY OPERATIONAL AND MEET DESIGN PERFORMANCE CRITERIA.

M. PREPARE A SEQUENCE OF OPERATIONS FOR ALL CONTROL SYSTEMS, INCLUDING LIGHTING CONTROLS, HVAC INTEGRATION, AND EMERGENCY POWER SWITCHING. DEFINE CLEARLY THE INTENDED RESPONSE OF EACH SYSTEM UNDER NORMAL AND EMERGENCY CONDITIONS, SPECIFYING SETPOINTS AND OVERRIDE PROCEDURES WHERE APPLICABLE.

QUALITY ASSURANCE

N. MAINTAIN A PROVEN RECORD OF SUCCESSFULLY COMPLETING SIMILAR PROJECTS OF COMPARABLE SIZE AND COMPLEXITY AS AN ELECTRICAL CONTRACTOR. SUBMIT DOCUMENTATION OF AT LEAST FIVE YEARS OF EXPERIENCE WITH REFERENCES FROM THREE COMPLETED PROJECTS, INCLUDING CONTACT INFORMATION FOR VERIFICATION.

O. ESTABLISH A ROBUST QUALITY CONTROL PROGRAM THAT INCLUDES REGULAR INSPECTIONS AND ADHERENCE TO ALL PROJECT SPECIFICATIONS. OUTLINE PROCEDURES IN THE QUALITY CONTROL PLAN FOR MONITORING INSTALLATION, TESTING, AND COMPLIANCE DOCUMENTATION, CORRECTING NON-COMPLIANT WORK PROMPTLY AT NO ADDITIONAL COST TO THE OWNER.

P. CERTIFY ALL ELECTRICAL COMPONENTS AS UL-LISTED OR BY AN EQUIVALENT NATIONALLY RECOGNIZED TESTING LABORATORY (NRTL). ACCOMPANY EQUIPMENT AND MATERIALS WITH DOCUMENTATION CONFIRMING COMPLIANCE WITH RELEVANT STANDARDS AND CODES, ENSURING THAT ALL ELECTRICAL COMPONENTS AND EQUIPMENT ARE NEW.

Q. MAINTAIN A COMPLETE SET OF ALL APPLICABLE CODES, STANDARDS, AND MANUFACTURER INSTRUCTIONS ON-SITE. DESIGNATE A QUALITY CONTROL REPRESENTATIVE WITH UNRESTRICTED ACCESS TO INSPECT WORK AT ANY STAGE AND VERIFY COMPLIANCE WITH SPECIFICATIONS.

R. CONDUCT REGULAR COORDINATION MEETINGS WITH REPRESENTATIVES FROM OTHER TRADES TO ENSURE THE ELECTRICAL INSTALLATION PROGRESSES HARMONIOUSLY WITH THE OVERALL CONSTRUCTION SCHEDULE. DOCUMENT MEETING MINUTES AND DISTRIBUTE THEM TO ALL RELEVANT PARTIES, NOTING ANY AGREED-UPON ADJUSTMENTS OR RESOLUTIONS TO CONFLICTS.

S. INSTALL ELECTRICAL PANELS AS PANEL BOARDS WITH COPPER BUSS, BOLTED CIRCUIT BREAKERS, AND KAIC RATINGS AS NOTED. PROVIDE A TYPED AND LAMINATED COMPLETE SCHEDULE FOR ALL DISCONNECTS, RATED FOR HEAVY-DUTY USE.

T. MARK BURIED ELECTRICAL CONDUITS PER CODE REQUIREMENTS WITH UNDERGROUND WARNING TAPE 3 INCHES BELOW THE FINISHED GRADE. USE A 4-INCH WIDE, RED-COLORED TAPE WITH A SUITABLE WARNING LEGEND PER LOCAL CODES AND JURISDICTION.

DELIVERY, STORAGE, AND HANDLING

U. DELIVER ALL ELECTRICAL EQUIPMENT AND MATERIALS TO THE SITE IN ORIGINAL, SEALED PACKAGING WITH MANUFACTURER LABELS CLEARLY INDICATING CONTENTS. INSPECT EACH SHIPMENT FOR DAMAGE, DOCUMENTING AND REPORTING DISCREPANCIES OR DEFECTS TO THE SUPPLIER IMMEDIATELY, WITH DAMAGED OR SUBSTANDARD ITEMS REPAIRED OR REPLACED AT THE CONTRACTOR'S EXPENSE.

V. STORE ELECTRICAL COMPONENTS IN A SECURE, DRY, AND WELL-VENTILATED AREA, PROTECTED FROM DUST, MOISTURE, AND EXTREME TEMPERATURES. ELEVATE EQUIPMENT SUCH AS TRANSFORMERS, SWITCHGEAR, AND PANELBOARDS OFF THE GROUND AND COVER THEM TO PREVENT CONTAMINATION, MAINTAINING A LOG OF STORAGE CONDITIONS AND CONDUCTING WEEKLY INSPECTIONS TO VERIFY MATERIAL INTEGRITY.

W. HANDLE ELECTRICAL EQUIPMENT CAREFULLY, USING PROPER LIFTING AND RIGGING METHODS TO PREVENT PHYSICAL DAMAGE. CERTIFY LIFTING EQUIPMENT, USING IT ACCORDING TO THE MANUFACTURER'S GUIDELINES, PROTECTING DELICATE COMPONENTS, SUCH AS RELAY CONTACTS AND ELECTRONIC BOARDS, FROM ELECTROSTATIC DISCHARGE (ESD) BY EMPLOYING APPROPRIATE HANDLING TECHNIQUES AND PROTECTIVE MEASURES.

INSTALLATION

X. INSTALL ALL ELECTRICAL SYSTEMS AS SPECIFIED IN THE APPROVED DRAWINGS AND IN COMPLIANCE WITH THE MANUFACTURER'S INSTRUCTIONS. EXECUTE WIRING METHODS WITH PRECISION, ENSURING THAT ALL CONDUCTORS ARE ADEQUATELY PROTECTED, SECURED, AND ROUTED TO PREVENT POTENTIAL DAMAGE, AND INSTALL RACEWAYS WITH CLEAN, EVEN BENDS, ENSURING ALL JUNCTION BOXES ARE ACCESSIBLE.

Y. RUN ALL WIRING IN RIGID CONDUIT, INTERMEDIATE METALLIC CONDUIT (IMC), OR ELECTRICAL METALLIC TUBING (EMT) ACCORDING TO THE N.E.C., ALLOWING MC CABLE ONLY FOR FIXTURE WHIPS. DO NOT USE ALUMINUM CONDUIT UNLESS SPECIFIED ON DRAWINGS, AND DO NOT INSTALL EMT OR ALUMINUM CONDUIT IN CONCRETE SLABS OR BELOW GRADE. USE MINIMUM ¾-INCH CONDUITS AND INCLUDE AN EQUIPMENT GROUNDING CONDUCTOR SIZED PER THE N.E.C., WITH A #9 PULL WIRE IN ALL EMPTY CONDUITS.

Z. MOUNT EQUIPMENT SUCH AS SWITCHGEAR, MOTOR CONTROL CENTERS, AND DISTRIBUTION PANELS ON CONCRETE HOUSEKEEPING PADS UNLESS OTHERWISE SPECIFIED. ENSURE HOUSEKEEPING PADS ARE A MINIMUM OF 4 INCHES HIGH AND EXTEND 3 INCHES BEYOND THE EQUIPMENT FOOTPRINT ON ALL SIDES, LEVELING AND ALIGNING EQUIPMENT FOR PROPER OPERATION AND SERVICEABILITY.

AA. SEAL FIRE-RATED PENETRATIONS USING APPROVED FIRESTOP SYSTEMS TO MAINTAIN THE INTEGRITY OF THE FIRE-RATED ASSEMBLY. INSTALL FIRESTOP MATERIALS IN ACCORDANCE WITH UL LISTINGS AND MANUFACTURER INSTRUCTIONS, SUBMITTING A FIRESTOP SCHEDULE WITH DETAILS ON ALL MATERIALS USED AND THEIR RESPECTIVE RATINGS FOR REVIEW AND APPROVAL.

AB. COORDINATE WITH OTHER TRADES TO AVOID CONFLICTS AND ENSURE THAT ELECTRICAL OUTLETS, SWITCHES, AND DEVICES ALIGN WITH ARCHITECTURAL AND INTERIOR DESIGN PLANS. ADJUST INSTALLATIONS AS NECESSARY TO ACCOMMODATE MILLWORK, FINISHES, AND HVAC COMPONENTS, AVOIDING BACK-TO-BACK INSTALLATIONS IN WALLS TO REDUCE SOUND TRANSMISSION.

BB. INSTALL ELECTRICAL FIXTURES AND DEVICES WITH ATTENTION TO ALIGNMENT AND AESTHETICS, ENSURING WALL PLATES ARE FLUSH WITH FINISHED SURFACES AND SECURELY MOUNTING FIXTURES. USE TAMPER-RESISTANT RECEPTACLES IN ALL PUBLIC AREAS IN ACCORDANCE WITH THE NEC.

CC. INCREASE BRANCH CIRCUIT WIRE SIZE AS REQUIRED TO PREVENT EXCESSIVE VOLTAGE DROP AS FOLLOWS: 60'–100' – #10 AWG; OVER 100' – #8 AWG. GROUND CONDUIT SYSTEMS AND NEUTRAL CONDUCTORS PER THE N.E.C. AND LOCAL CODES, ENSURING GROUNDING AND BONDING COMPLY WITH ALL RELEVANT REQUIREMENTS.
5.8 USE THE FOLLOWING WIRING COLOR CODE:

120/208		277/480	
PHASE A	BLACK	BROWN	
PHASE B	RED	ORAGE	
PHASE C	BLUE	YELLOW	
NEUTRAL	WHITE	GRAY	
GROUND	GREEN	GREEN	
SWITCH	PINK/PURPLE	PINK/PURPLE	

TESTING AND COMMISSIONING

DD. PERFORM A COMPLETE SET OF ELECTRICAL TESTS TO VERIFY SYSTEM INTEGRITY, INCLUDING CONTINUITY, INSULATION RESISTANCE, GROUNDING, AND FUNCTIONAL PERFORMANCE TESTS. CALIBRATE AND CERTIFY TESTING EQUIPMENT, WITH DOCUMENTATION AVAILABLE FOR REVIEW BY THE ENGINEER.

EE. CONDUCT LOAD BALANCING ON ALL PANELBOARDS TO ENSURE EVEN DISTRIBUTION OF ELECTRICAL LOADS ACROSS ALL PHASES, DOCUMENTING PHASE CURRENT READINGS UNDER FULL LOAD CONDITIONS AND MAKING NECESSARY ADJUSTMENTS TO MAINTAIN BALANCE. SUBMIT LOAD ANALYSIS REPORTS AS PART OF COMMISSIONING DOCUMENTATION.

FF. TEST ALL EMERGENCY POWER SYSTEMS, INCLUDING AUTOMATIC TRANSFER SWITCHES (ATS) AND BACKUP GENERATORS, UNDER SIMULATED POWER FAILURE CONDITIONS. VERIFY SYSTEMS OPERATE AS DESIGNED AND PROVIDE POWER TO ALL ESSENTIAL LOADS WITHIN THE REQUIRED TIMEFRAME, DOCUMENTING TEST RESULTS, INCLUDING RUN TIMES, LOAD PERFORMANCE, AND ANOMALIES.

GG. TEST FIRE ALARM AND LIFE SAFETY SYSTEMS IN THE PRESENCE OF THE LOCAL FIRE MARSHAL, CONDUCTING FUNCTIONAL TESTS ON DETECTION, NOTIFICATION, AND CONTROL DEVICES. VERIFY NOTIFICATION APPLIANCES MEET THE SPECIFIED DECIBEL LEVELS, ENSURING FIRE ALARM CONTROL PANELS COMMUNICATE CORRECTLY WITH MONITORING STATIONS.

HH. SUBMIT A COMPREHENSIVE COMMISSIONING REPORT, INCLUDING ALL TEST RESULTS, OBSERVATIONS, CORRECTIVE

IDENTIFICATION AND LABELING

II. LABEL ALL ELECTRICAL PANELS, SWITCHGEAR, TRANSFORMERS, AND JUNCTION BOXES WITH ENGRAVED PHENOLIC NAMEPLATES. ENSURE NAMEPLATES ARE DURABLE, MOISTURE-RESISTANT, AND SECURELY FASTENED, INCLUDING INFORMATION SUCH AS EQUIPMENT DESIGNATION, VOLTAGE, AND SOURCE LOCATION.

JJ. UPDATE CIRCUIT DIRECTORIES IN PANELBOARDS, TYPE THEM, AND ENCLOSE THEM IN A PROTECTIVE COVER MOUNTED INSIDE EACH PANEL DOOR. IDENTIFY EACH CIRCUIT CLEARLY BY LOAD DESCRIPTION AND ROOM NUMBER. IF ANY CONSTRUCTION CHANGES OCCUR, UPDATE DIRECTORIES TO REFLECT THE FINAL CONFIGURATION.

KK. COLOR-CODE ALL WIRING ACCORDING TO NEC STANDARDS AND PROJECT REQUIREMENTS. USE INTEGRALLY COLORED INSULATION FOR FEEDERS, BRANCH CIRCUITS, AND CONTROL WIRING WHERE SPECIFIED, AND IDENTIFY ALL GROUNDING CONDUCTORS AND ISOLATED GROUNDS WITH APPROPRIATE LABELS.

LL. LABEL CONDUITS AT INTERVALS NOT EXCEEDING 20 FEET AND AT ALL POINTS OF TERMINATION OR ENTRY. USE PERMANENT, UV-RESISTANT LABELS FOR OUTDOOR INSTALLATIONS. LABEL EMERGENCY POWER CIRCUITS IN RED, AND APPLY DISTINCT MARKINGS TO FIRE ALARM CIRCUITS AS REQUIRED BY NFPA STANDARDS.

GROUNDING AND BONDING

MM. COMPLY WITH NEC ARTICLE 250 AND APPLICABLE LOCAL CODES FOR ALL GROUNDING AND BONDING WORK. INSTALL A CONTINUOUS, LOW-IMPEDANCE PATH TO GROUND FOR ALL ELECTRICAL ENCLOSURES, EQUIPMENT, AND RACEWAYS, USING COPPER CONDUCTORS FOR ALL GROUNDING AND BONDING APPLICATIONS UNLESS OTHERWISE APPROVED.

NN. INSTALL GROUNDING ELECTRODES, INCLUDING RODS, PLATES, AND GRIDS, TO ACHIEVE A MAXIMUM RESISTANCE OF 25 OHMS OR LESS. CONDUCT GROUND RESISTANCE TESTING WITH CERTIFIED EQUIPMENT AND SUBMIT TEST RESULTS FOR REVIEW. IF RESISTANCE VALUES DO NOT MEET REQUIREMENTS, INSTALL ADDITIONAL ELECTRODES AS NECESSARY.

OO. BOND ALL METAL PARTS OF THE ELECTRICAL SYSTEM, INCLUDING RACEWAYS, ENCLOSURES, AND SUPPORT STRUCTURES, TO THE MAIN GROUNDING SYSTEM. USE MECHANICAL OR EXOTHERMIC CONNECTIONS AS SPECIFIED, ENSURING A SECURE BOND CAPABLE OF CARRYING FAULT CURRENT.

PP. PROVIDE ISOLATED GROUND SYSTEMS FOR SENSITIVE ELECTRONIC EQUIPMENT AS SPECIFIED IN THE PLANS. BOND ISOLATED GROUNDS ONLY TO THE MAIN GROUNDING SYSTEM AT THE SERVICE ENTRANCE OR DESIGNATED GROUNDING POINT TO PREVENT ELECTRICAL NOISE INTERFERENCE.

SELECTIVE DEMOLITION AND RENOVATION

QQ. IDENTIFY AND VERIFY ALL CIRCUITS AND DEVICES TO BE REMOVED BEFORE STARTING DEMOLITION WORK. REMOVE ALL ABANDONED WIRING AND CONDUIT BACK TO THE SOURCE PANEL OR CAP AND LABEL THEM AS 'SPARE', APPROPRIATELY. DOCUMENT ALL REMOVED OR MODIFIED COMPONENTS.

RR. COORDINATE WITH THE OWNER, ARCHITECT, AND/OR ENGINEER FOR ANY WORK THAT MAY AFFECT ELECTRICAL SERVICES OUTSIDE THE CONTRACT'S SCOPE. SCHEDULE ANY SHUTDOWNS OR SYSTEM TIE-INS RELATED TO THESE SERVICES AND SUBMIT THEM IN WRITING FOR APPROVAL BY THE OWNER'S FACILITY MANAGEMENT, OWNER, ARCHITECT, OR ENGINEER. SUBMIT A WRITTEN CONSTRUCTION PHASING SCHEDULE OUTLINING THE PRIORITY AREAS FOR EACH WORK PHASE, INCLUDING ANTICIPATED COMPLETION TIMES, AT LEAST ONE WEEK BEFORE COMMENCING WORK. ALLOW FACILITY MANAGEMENT, THE OWNER, ARCHITECT, OR ENGINEER TO REVIEW AND APPROVE THESE SCHEDULES BEFORE STARTING THE WORK.

SS. SALVAGE ANY REUSABLE ELECTRICAL COMPONENTS AS DIRECTED BY THE OWNER, AND PROPERLY DISPOSE OF HAZARDOUS MATERIALS SUCH AS FLUORESCENT LAMPS, MERCURY SWITCHES, AND PCB-CONTAINING BALLASTS ACCORDING TO LOCAL AND FEDERAL ENVIRONMENTAL REGULATIONS.

TT. REPAIR AND RESTORE ANY SURFACES AFFECTED BY ELECTRICAL WORK TO MATCH SURROUNDING FINISHES, COORDINATING PATCHING, PAINTING, AND OTHER RESTORATIVE ACTIVITIES WITH THE GENERAL CONTRACTOR TO ENSURE A SEAMLESS APPEARANCE.

SAFETY AND HOUSEKEEPING

UU. ADHERE TO STRICT SAFETY STANDARDS THROUGHOUT THE PROJECT. IMPLEMENT LOCK-OUT/TAG-OUT PROCEDURES FOR ALL ENERGIZED CIRCUITS AND EQUIPMENT, PROVIDE PERSONAL PROTECTIVE EQUIPMENT (PPE) FOR ALL WORKERS, AND ENFORCE OSHA SAFETY REGULATIONS. CONDUCT REGULAR SAFETY MEETINGS AND TRAINING SESSIONS TO PROMOTE SAFETY AWARENESS.

VV. MAINTAIN A CLEAN AND ORGANIZED WORK AREA AT ALL TIMES. REMOVE DEBRIS DAILY, STORE MATERIALS IN DESIGNATED AREAS, AND ENSURE ALL PATHWAYS, EXITS, AND EMERGENCY ACCESS POINTS REMAIN UNOBSTRUCTED. PERFORM DAILY INSPECTIONS TO IDENTIFY AND ADDRESS ANY SAFETY HAZARDS.

WW. ERECT TEMPORARY BARRIERS AND POST WARNING SIGNS AROUND HAZARDOUS AREAS TO PROTECT BUILDING OCCUPANTS AND VISITORS. ENSURE BARRIERS ARE STURDY AND SECURE, AND THAT SIGNS ARE CLEARLY VISIBLE AND EASY TO READ. REMOVE ALL TEMPORARY PROTECTIONS UPON PROJECT COMPLETION AND CLEAN THE AREA THOROUGHLY.

WARRANTY AND MAINTENANCE

XX. PROVIDE A MINIMUM ONE-YEAR WARRANTY ON ALL ELECTRICAL SYSTEMS, COVERING BOTH LABOR AND MATERIALS. ADDRESS AND CORRECT ANY DEFECTS OR FAILURES ARISING DURING THE WARRANTY PERIOD PROMPTLY AND AT NO ADDITIONAL COST TO THE OWNER. SECURE EXTENDED WARRANTIES FOR CRITICAL ELECTRICAL COMPONENTS, INCLUDING TRANSFORMERS, SWITCHGEAR, AND CONTROL PANELS, CLEARLY SPECIFYING TERMS AND COVERAGE FOR EACH COMPONENT WITHIN THE WARRANTY DOCUMENTATION.

YY. SUPPLY COMPREHENSIVE MAINTENANCE MANUALS FOR ALL INSTALLED ELECTRICAL EQUIPMENT, DETAILING STEP-BY-STEP PROCEDURES FOR ROUTINE MAINTENANCE, RECOMMENDED SERVICE INTERVALS, TROUBLESHOOTING GUIDES, AND A LIST OF RECOMMENDED SPARE PARTS. ORGANIZE INFORMATION FOR EASY REFERENCE DURING MAINTENANCE ACTIVITIES. SCHEDULE AND CONDUCT A TRAINING SESSION FOR THE OWNER'S MAINTENANCE STAFF TO COVER ALL ASPECTS OF SYSTEM OPERATION, MAINTENANCE PROCEDURES, AND SAFETY PRACTICES, ENSURING STAFF ARE FULLY PREPARED FOR ONGOING SYSTEM UPKEEP.

ZZ. PERFORM A POST-WARRANTY INSPECTION TO EVALUATE THE ELECTRICAL SYSTEM'S PERFORMANCE, DOCUMENTING ANY NECESSARY ADJUSTMENTS OR IMPROVEMENTS. SUBMIT A REPORT SUMMARIZING THE INSPECTION RESULTS, IDENTIFYING AREAS THAT MAY NEED FURTHER ATTENTION, AND PROVIDING RECOMMENDATIONS FOR MAINTAINING SYSTEM EFFICIENCY, RELIABILITY, AND OPTIMAL PERFORMANCE.

ELECTRICAL SYMBOL LEGEND

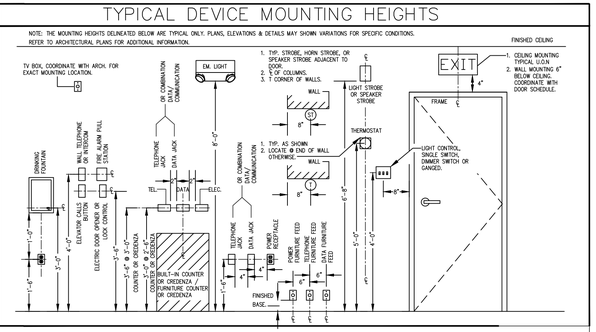
A OR AMP	AMPERE	EWH	ELECTRICAL WATER HEATER	MTD	MOUNTED	RTU	ROOF TOP UNIT		
AF	AMP FUSED	FA	FIRE ALARM	NC	NORMALLY CLOSED	SW	SWITCH		
AFF	ABOVE FINISH FLOOR	FLA	FULL LOAD AMPERES	NEC	NATIONAL ELECTRIC CODE	TC	TIMER CONTACTOR		
AHU	AIR HANDLING UNIT	GC	GENERAL CONTRACTOR	NEUT	NEUTRAL	T OR XFORMER	TRANSFORMER		
AIC	AMPS INTERRUPTING CAPACITY	GFI	GROUND FAULT INTERRUPTER	NEMA	NATIONAL ELECTRICAL MANUFACTURER ASSOCIATION	TEL	TELEPHONE		
AL	ALUMINUM	GND	GROUND			TYP	TYPICAL		
COND./C	CONDUIT	HP	HORSE POWER	NFPA	NATIONAL FIRE PROTECTION ASSOCIATION	UG	UNDER GROUND		
CKT	CIRCUIT	HZ	HERTZ			UH	UNIT HEATER		
CLG	CEILING	IG	ISOLATED GROUND	NF	NON FUSED	V	VOLT		
CU	COPPER	J-BOX	JUNCTION BOX	NO	NORMALLY OPEN	VA	VOLT AMPERES		
DISC	DISCONNECT	KVA	KILOVOLT AMPERES	PB	PUSHBUTTON	W	WATTS		
EC	ELECTRICAL CONTRACTOR	KW	KILOWATT	PC	PHOTOCELL	WP	WEATHER PROOF		
EM	EMERGENCY	LTG	LIGHTING	PH	PHASE	W/O	WITHOUT		
EPEC	EL PASO ELECTRIC COMPANY	MC/MECH	MECHANICAL CONTRACTOR	PNL	PANEL	Y	WYE CONNECTED		
EWC	ELECTRICAL WATER COOLER	MCM	THOUSAND CIRCULAR MIL	PVC	POLYVINYL CHLORIDE CONDUIT	ø	PHASE		

DEFINITIONS

CONTRACTOR	MEANS THE PERSON(S), FIRM OR COMPANY WHOSE TENDER FOR THE ELECTRICAL INSTALLATION HAS BEEN ACCEPTED BY THE EMPLOYER AND INCLUDE THE CONTRACTOR'S PERSONAL REPRESENTATIVE, SUCCESSOR, AND PERMITTED ASSIGNS.(The word 'Contractor' may also mean sub-contractor as the context requires.)	EQUIPMENT SUPPLIER	MEANS A PERSON WHO GENERATE, SUPPLIES AND SELLS SPECIAL EQUIPMENT FOR USE IN THE PROJECT.
		PROVIDE	FURNISH AND INSTALL, UNLESS OTHERWISE NOTED.
		OR EQUAL	EQUAL IN QUALITY AND FUNCTION.
		INSTALL	FURNISH AND INSTALL, UNLESS OTHERWISE NOTED.
DRAWINGS	MEANS THE DRAWINGS REFERRED TO IN THE CONTRACT AND ANY MODIFICATION OF SUCH DRAWINGS APPROVED BY THE ARCHITECT AND SUCH OTHER DRAWINGS AS MAY FROM TIME TO TIME BE FURNISHED OR APPROVED IN WIRING BY ARCHITECT.	OTHERS	MEANS ANOTHER PERSON WILL PROVIDE OR INSTALL SUCH AS OTHER CONTRACTOR, OWNER, TENANT, ETC.

TYPICAL DEVICE MOUNTING HEIGHTS

NOTE: THE MOUNTING HEIGHTS DELINEATED BELOW ARE TYPICAL ONLY. PLANS, ELEVATIONS & DETAILS MAY SHOWN VARIATIONS FOR SPECIFIC CONDITIONS. REFER TO ARCHITECTURAL PLANS FOR ADDITIONAL INFORMATION.



ELECTRICAL SYMBOL LEGEND

NOTE: THESE SYMBOLS COMPRISE A STANDARD LIST; NOT ALL SYMBOLS MAY APPEAR ON THIS PROJECT.

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

LIGHTING SYMBOLS

SYMBOL	DESCRIPTION	MTG. HT.
A	LED LINEAR OR TROFFER LIGHT FIXTURE, CAPITAL LETTER INDICATES FIXTURE TYPE, REFER TO FIXTURE SCHEDULE	
A	DIRECTIONAL LIGHT, LETTER INDICATES FIXTURE TYPE, REFER TO FIXTURE SCHEDULE	
A	WALL MOUNTED LIGHT FIXTURE, CAPITAL LETTER INDICATES FIXTURE TYPE, REFER TO FIXTURE SCHEDULE	
A	RECESSED CAN OR DOWNLIGHT LIGHT FIXTURE, CAPITAL LETTER INDICATES FIXTURE TYPE, REFER TO FIXTURE SCHEDULE	
EF	EXHAUST FAN, REFER TO MECHANICAL PLANS	
	LED POLE MTD. LIGHT FIXTURE AND POLE, CAPITAL LETTER INDICATES FIXTURE AND POLE TYPE, REFER TO FIXTURE SCHEDULE	
A	LED DECORATIVE CHANDELIER LIGHT FIXTURE, CAPITAL LETTER INDICATES FIXTURE TYPE, REFER TO FIXTURE SCHEDULE	
A	PENDANT DECORATIVE LIGHT FIXTURE, CAPITAL LETTER INDICATES FIXTURE TYPE, REFER TO FIXTURE SCHEDULE	
A	CEILING FAN WITH OR WITHOUT LIGHT KIT, CAPITAL LETTER INDICATES FIXTURE TYPE, REFER TO FIXTURE SCHEDULE	
EM	EMERGENCY LIGHT, CAPITAL LETTER INDICATES FIXTURE TYPE, REFER TO FIXTURE SCHEDULE	
X1	EXIT LIGHT, CAPITAL LETTER INDICATES FIXTURE TYPE, REFER TO FIXTURE SCHEDULE	
A	BOLLARD LIGHTING FIXTURE, CAPITAL LETTER INDICATES FIXTURE TYPE, REFER TO FIXTURE SCHEDULE	
A	TRACK SYSTEM WITH LIGHT FIXTURES, CAPITAL LETTER INDICATES TRACK AND FIXTURE TYPE, REFER TO FIXTURE SCHEDULE	
$	WALL SWITCH, 20A SINGLE POLE, SINGLE THROW	MTG. HT. 48"
	SYM DESCRIPTION / SYM DESCRIPTION: sb SWITCH LEG CONTROL, DOUBLE POLE; 3 THREE WAY; 4 FOUR WAY; D SLIDER DIMMER (1400W MIN.); K KEYED SWITCH (WITH OPERATING DEVICE TOOL); T ROTARY TIMER; M HORSE POWER MOTOR RATED SWITCH; B BYPASS SWITCH; LV LOW VOLTAGE SWITCH; P RED PILOT LIGHT	
$c	OCCUPANCY SENSOR WALL SWITCH DUAL TECHNOLOGY SENSOR (INFRARED & ULTRASONIC) SENSORWORX SWX-100	
$oc	OCCUPANCY SENSOR WALL SWITCH DUAL TECHNOLOGY SENSOR WITH RECEPTACLE CONTROL- SENSORWORX SWX-121-1-D-MS SWITCH/SWX-900 RECEPTACLE POWER PACK/SWX-900AX LIGHTING POWER PACK	
oc	CEILING MOUNTED OCCUPANCY SENSOR, WITH BYPASS SWITCH WALL MOUNTED	
	SYM DESCRIPTION: OC OCCUPANCY SENSOR, WITH BYPASS; DU DUAL TECHNOLOGY SENSOR (INFRARED & ULTRASONIC)	

POWER SYMBOLS

SYMBOL	DESCRIPTION	MTG. HT.
	DUPLEX RECEPTACLE OUTLET, WALL MOUNTED: SYM DESCRIPTION / COLOR: STANDARD 20A / WHITE; H ISOLATED GROUND / ORANGE W/ TRIAN

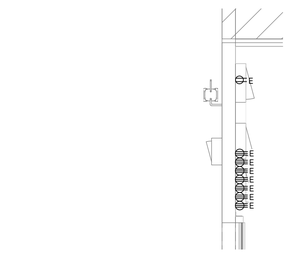
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DEMOLITION ELECTRICAL SYMBOL LEGEND

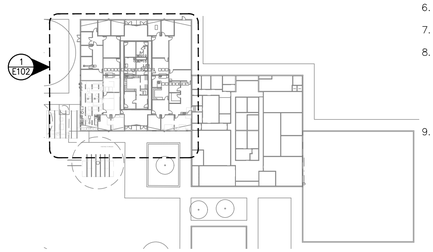
SYMBOL	DESCRIPTION
X	EXISTING LIGHTING FIXTURE TO BE DISCONNECTED AND REMOVED
E	EXISTING LIGHTING FIXTURE TO REMAIN.
E	EXISTING OUTDOOR REMOTE EMERGENCY HEAD ABOVE DOOR FIXTURE TO REMAIN.
E	EXIT/EM COMBO LIGHT TO REMAIN.
X	EXIT/EM COMBO LIGHT TO BE DEMOLISHED
$ E	EXISTING WALL SWITCH TO REMAIN.
$ X	EXISTING WALL SWITCH TO BE DEMOLISHED.
E	DUPLEX OR QUADRUPLEX RECEPTACLE OUTLET TO BE REMAIN.
R	DUPLEX OR QUADRUPLEX RECEPTACLE OUTLET TO BE RELOCATED.
X	DUPLEX OR QUADRUPLEX RECEPTACLE OUTLET TO BE DEMOLISHED.
E	EXISTING DATA/TEL. BOX IN WALL TO REMAIN.
X	EXISTING DATA/TEL. BOX IN WALL TO BE DEMOLISHED.
E	EXISTING MECHANICAL EQUIPMENT TO REMAIN.
ERTU	EXISTING MECHANICAL EQUIPMENT TO REMAIN.
X	EXISTING MECHANICAL EQUIPMENT TO BE DISCONNECTED AND REMOVED.
R	EXISTING MECHANICAL EQUIPMENT TO BE DISCONNECTED AND RELOCATED.
X	EXISTING EMERGENCY LIGHT TO BE DISCONNECTED AND REMOVED.
E	EXISTING ELECTRICAL PANEL TO REMAIN.
E	EXISTING ELECTRICAL DISCONNECT TO REMAIN.
E	EXISTING FIRE ALARM SMOKE DETECTOR DEVICES TO REMAIN.
E	EXISTING FIRE ALARM FIRE ALARM HORN/STROBE DEVICES TO REMAIN.
E	EXISTING CCTV DEVICES TO REMAIN.
S E	EXISTING P.A. SYSTEM SPEAKER DEVICES TO REMAIN.
E	EXISTING FIRE ALARM PULL STATION DEVICES TO REMAIN.
R WH	EXISTING WATER HEATER ELECTRIC DISCONNECT TO BE DISCONNECTED AND RELOCATED.
T E	EXISTING WALL THERMOSTAT/REMOTE SENSOR/CONTROL TO REMAIN.
T R	EXISTING WALL THERMOSTAT/REMOTE SENSOR/CONTROL TO BE RELOCATED.



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



2 E101 ENLARGED ELECTRICAL DEMOLITION PLAN
1/4"=1'-0"
NORTH



3 E101 KEY PLAN
1/64" = 1'-0"
NORTH

DEMOLITION GENERAL NOTES:

A. PRIOR TO BID SUBMISSION, THE CONTRACTOR SHALL VISIT THE SITE AND AREA OF WORK TO FAMILIARIZE WITH THE EXISTING CONDITIONS.

B. REMOVE ALL ELECTRICAL DEVICES TO INCLUDE BUT NOT LIMITED TO J-BOXES, CONDUIT, WIRING, HANGERS STRAPS, HANGER SUPPORTS, SWITCHES, DISCONNECTS, PANELS, CIRCUIT BREAKERS, RECEPTACLES, AND LIGHT FIXTURES IN AFFECTED AREA. ALL DEMOLITION WORK MAY NOT BE DETAILED ON THESE DRAWINGS, CONTRACTOR TO FIELD VERIFY. REMOVAL AND RELOCATION OF EXISTING ELECTRICAL DEVICES TO REMAIN IS REQUIRED FOR SATISFACTORY PERFORMANCE OF THIS AND OTHER TRADES.

C. THE INTENT OF THIS DRAWING IS TO RELATE THE GENERAL EXTEND OF DEMOLITION REQUIRE AND NOT TO INDICATE ALL DEVICES, REMOVALS, RECONNECTIONS OR ADDITIONAL WORK REQUIRED.

D. CONTRACTOR SHALL BE RESPONSIBLE FOR DISCONNECTING AND DISPOSING OF ALL ELECTRICAL EQUIPMENT, CONDUIT, WIRE, DEVICES, ETC. AS REQUIRED FOR A COMPLETE DEMOLITION. ALL FLUORESCENT LAMPS AND PCB BALLASTS SHALL BE DISPOSED OF IN ACCORDANCE WITH STATE AND FEDERAL REGULATIONS.

E. ALL CONDUIT NOT USED OR MADE OBSOLETE DURING DEMOLITION SHALL BE CUT BACK TO CEILING, WALL, OR FLOOR WITH THE REMAINING END PLUGGED TO ALLOW REFINISHING OF THE SURFACE. EXISTING CONDUIT THAT ARE IN WALL OR FLOORS WHICH ARE NOT REMAIN AND THE CONDUIT DOES NOT, AND WILL NOT INTERFERE WITH THE WORK OF ANY TRADE, MAY REMAIN. ALL ABANDONED WIRE SHALL BE REMOVED IN ITS ENTIRETY.

F. ALL WORK REQUIRED SHUT-DOWN OF EXISTING SYSTEM SHALL BE PERFORMED DURING OVERTIME HOURS, WITH OWNER'S APPROVAL, AT NOT ADDITIONAL COST TO THE OWNER. CONTRACTOR SHALL PLAN AND PERFORM WORK IN SUCH A WAY AS TO MINIMIZE THE OUTAGES AND SUBMIT TO THE OWNER A SCHEDULE THE REQUIRED OUTAGE.

G. REFER TO MECHANICAL AND PLUMING DRAWINGS FOR DEMOLITION/RELOCATION OF MECHANICAL OR PLUMBING EQUIPMENT. THE CONTRACTOR SHALL DISCONNECT AND REMOVE ALL CONDUIT, WIRE AND ASSOCIATED DEVICES RELATING TO HE EQUIPMENT REMOVED.

H. PRIOR TO INTERRUPTION FOR EXISTING FEEDERS OR PANELS, THE CONTRACTOR SHALL VERIFY, BY MEANS OF TRACING ALL EXISTING CIRCUITS, THAT ALL BRANCH CIRCUIT BEING FED FROM DEMOLISHED/RELOCATED FEEDERS AND PANELS ARE NOT SERVING AREA TO REMAIN. WHERE NECESSARY, RECONNECT CIRCUITS TO CORRESPONDING NEW OR EXISTING TO REMAIN BRANCH CIRCUIT PANELS.

I. CONTRACTOR TO COORDINATE WITH OTHER TRADES FOR DEMOLITION OF FIRE ALARM DEVICES, INTRUSION DEVICES, CCTV DEVICES, PHONE/DATA DEVICES AND PA SYSTEM PRIOR TO COMMENCING DEMOLITION WORK.

J. OWNER SHALL RESERVE THE RIGHT TO CLAIM MATERIALS DURING DEMOLITION. CONTRACTOR SHALL COORDINATE WITH OWNER WHICH ITEMS AND/OR MATERIALS OWNER WISHES TO CLAIM AND REMOVE ALL ITEMS AND/OR MATERIALS NOT CLAIMED BY THE OWNER.

DEMOLITION KEYED NOTES (X)

1. CONTRACTOR TO REMOVE ALL EXISTING ELECTRICAL DEVICES. REMOVE OUTLETS, LIGHT FIXTURES, BOXES, SWITCHES, DISCONNECTS, ETC. REMOVE CONDUIT AND WIRING BACK TO SOURCE PANEL.
2. ALL ELECTRICAL DEVICES (CONDUITS, WIRING, OUTLETS, LIGHT FIXTURES, DATA BOXES, ETC.) TO BE DEMOLISHED. CONTRACTOR TO COORDINATE WITH ARCHITECT FOR EXTENT OF DEMOLITION IN RELATION TO AREA OF WORK. DEMOLITION AREA MAY EXCEED THAT OF SHOWN ON PLANS.
3. EXISTING 1-1/4" CONDUIT WITH WIRING FEEDER CONDUCTORS SERVING EXTERIOR STORAGE TANK/EQUIPMENT TO BE DISCONNECTED AND RELOCATED.
4. EXISTING ELECTRICAL DEVICES, CONDUIT, AND WIRING ASSOCIATED WITH EDR EQUIPMENT TO BE DISCONNECTED AND RELOCATED AS NEEDED. PROTECT EXISTING EQUIPMENT AND COMPONENTS TO REMAIN.
5. EXISTING ELECTRICAL DEVICES, CONDUIT, AND WIRING ASSOCIATED WITH RO SYSTEM TO BE DISCONNECTED AND RELOCATED. PROTECT EXISTING EQUIPMENT AND COMPONENTS TO REMAIN.
6. EXISTING ROOM PRESSURE MONITOR TO REMAIN.
7. EXISTING FAN FILTER UNIT TO REMAIN.
8. DEMOLISH EXISTING LIGHT FIXTURES AND CABLE TRAY ONLY WITHIN AREA OF CONSTRUCTION. EXISTING CABLING TO REMAIN SHALL BE SUPPORTED, PROTECTED, AND REROUTED AS REQUIRED TO MAINTAIN CONTINUITY, AND ELEVATED ABOVE NEW CEILING. COORDINATE WITH NEW CEILING HEIGHT AND OTHER TRADES.
9. EXISTING 1-1/4" UNDERGROUND CONDUIT AND WIRING TO BE ABANDONED IN PLACE BELOW FLOOR SLAB. CUT AND CAP CONDUIT BELOW SLAB LEVEL, PATCH FLOOR FINISH TO MATCH EXISTING.

JOSE A. MORALES NEW MEXICO 22154 PROFESSIONAL ENGINEER
5/27/2026

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PARTIAL REMODEL & ADDITION

GENESIS CNTR. BUILDING 'A'

3655 Research Dr. Bldg. A
NMSU Campus
Las Cruces, New Mexico

REVISION	DATE

Project no: 25.25
Date: May 2026
Sheet:

ELECTRICAL DEMOLITION PLAN

E101

LIGHTING FIXTURE SCHEDULE

TYPE	MANUFACTURER/MODEL NO.	VOLTAGE	LED LAMP INFO		COLOR	MOUNTING	MOUNTING HEIGHT	NOTES
			WATTAGE	TEMP.				
A	COLUMBIA # LCAT22-40MLG-R-ED1U	UNV	24W LED	40K	WHT	LAY-IN		
A1	COLUMBIA # LCAT22-40MLG-R-ED1U	UNV	24W LED	40K	WHT	RECESSED		[4]
B	COLUMBIA # MPS8-50HL-CW-ED1U	UNV	75W LED	40K	WHT	SURFACE	9FT A.F.F.	[3][5]
BE	COLUMBIA # MPS8-50HL-CW-ED1U-ELL14	UNV	75W LED	40K	WHT	SURFACE	9FT A.F.F.	[3][5]
C	LUMENWERX # V2SEALS-D-IP64-ASDO-SW-90CRI-500LMF-40K-4ft-UNV-D1-1C-TF-GSM-W	UNV	25W LED	40K	WHT	SURFACE		[6]
D	BEACON # VPW2-80L-70-4K7-3-UNV-CBA	UNV	70W LED	40K	CBA	WALL	12FT A.F.F.	[3]
X1	ENVOY #EEXP-2-R-W	UNV	INCLUDED		WH	CEILING/WALL	ABOVE DOOR	[1]
EL	ENVOY # ELEDMR2-W	UNV	INCLUDED		WH	WALL	8FT A.F.F.	[1]
EX	ENVOY # EMDBEL-ACHEM-BR-PC	UNV	INCLUDED		WH	WALL	ABOVE DOOR	[2]

NOTES: [1] PROVIDE WITH 90 MIN. MINIMUM POWER LIFE BATTERY
[2] REMOTE MOUNTED EMERGENCY HEAD, CONNECT TO INTERIOR EXIT SIGN.
[3] COORDINATE WITH ARCHITECT FOR EXACT MOUNTING HEIGHT
[4] PROVIDE WITH FLANGE KIT FOR RECESSED HARD CEILING.
[5] PROVIDE WITH CHAIN HANGER KIT.
[6] PROVIDE WITH SURFACE MOUNTING KIT AND ENDCAPS / JOINTS AS NEEDED.

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

COMcheck Software Version COMcheckWeb

Interior Lighting Compliance Certificate

Project Information

Energy Code: 2018 IECC
Project Title: CLC-26-016 NMSU CENTER BLDG. A
Project Type: New Construction

Construction Site:
3655 Research Dr. Bldg. A
Las CRuces, New Mexico 88003

Owner/Agent:
Texas

Designer/Contractor:
Jose Morales P.E.
Raxis Engineering LLC
1712 Texas Ave.
El Paso, Texas 79901
915-519-4340
jmorales@raxisengineering.com

Additional Efficiency Package(s)

Credits: 1.0 Required 0.0 Proposed

Allowed Interior Lighting Power

A Area Category	B Floor Area (ft2)	C Allowed Watts / ft2	D Allowed Watts
1-School/University	7730	0.81	6261
		Total Allowed Watts =	6261

Proposed Interior Lighting Power

A Fixture ID : Description / Lamp / Wattage Per Lamp / Ballast	B Lamps/ Fixture	C # of Fixture	D Fixture Watt.	E (C X D)
1-Schoo/University				
LED: 'F': 2X2 LAY-IN: Other:	1	68	24	1632
LED: 'A1': 2X2 SURFACE: Other:	1	8	24	192
LED: 'E': 1X8 PENDANT: Other:	1	23	75	1725
			Total Proposed Watts =	3549

Interior Lighting PASSES: Design 43% better than code

Interior Lighting Compliance Statement

Compliance Statement: The proposed interior lighting design represented in this document is consistent with the building plans, specifications, and other calculations submitted with this permit application. The proposed interior lighting systems have been designed to meet the 2018 IECC requirements in COMcheck Version COMcheckWeb and to comply with any applicable mandatory requirements listed in the Inspection Checklist.

JOSE A. MORALES, P.E. — Name - Title
Signature
05-26-2026 — Date

COMcheck Software Version COMcheckWeb

Exterior Lighting Compliance Certificate

Project Information

Energy Code: 2018 IECC
Project Title: CLC-26-016 NMSU CENTER BLDG. A
Project Type: New Construction
Exterior Lighting Zone: 2 (Residential mixed use area (LZ2))

Construction Site:
3655 Research Dr. Bldg. A
Las CRuces, New Mexico 88003

Owner/Agent:
Texas

Designer/Contractor:
Jose Morales P.E.
Raxis Engineering LLC
1712 Texas Ave.
El Paso, Texas 79901
915-519-4340
jmorales@raxisengineering.com

Allowed Exterior Lighting Power

A Area/Surface Category	B Quantity	C Allowed Watts /	D Tradable Wattage	E Allowed Watts (B X C)
Walkway >= 10 feet wide	1640 ft2	0.1	Yes	164
Landscaping	5414 ft2	0.04	Yes	217
		Total Tradable Watts (a) =		381
		Total Allowed Watts =		381
		Total Allowed Supplemental Watts (b) =		400

(a) Wattage tradeoffs are only allowed between tradable areas/surfaces.
(b) A supplemental allowance equal to 400 watts may be applied toward compliance of both non-tradable and tradable areas/surfaces.

Proposed Exterior Lighting Power

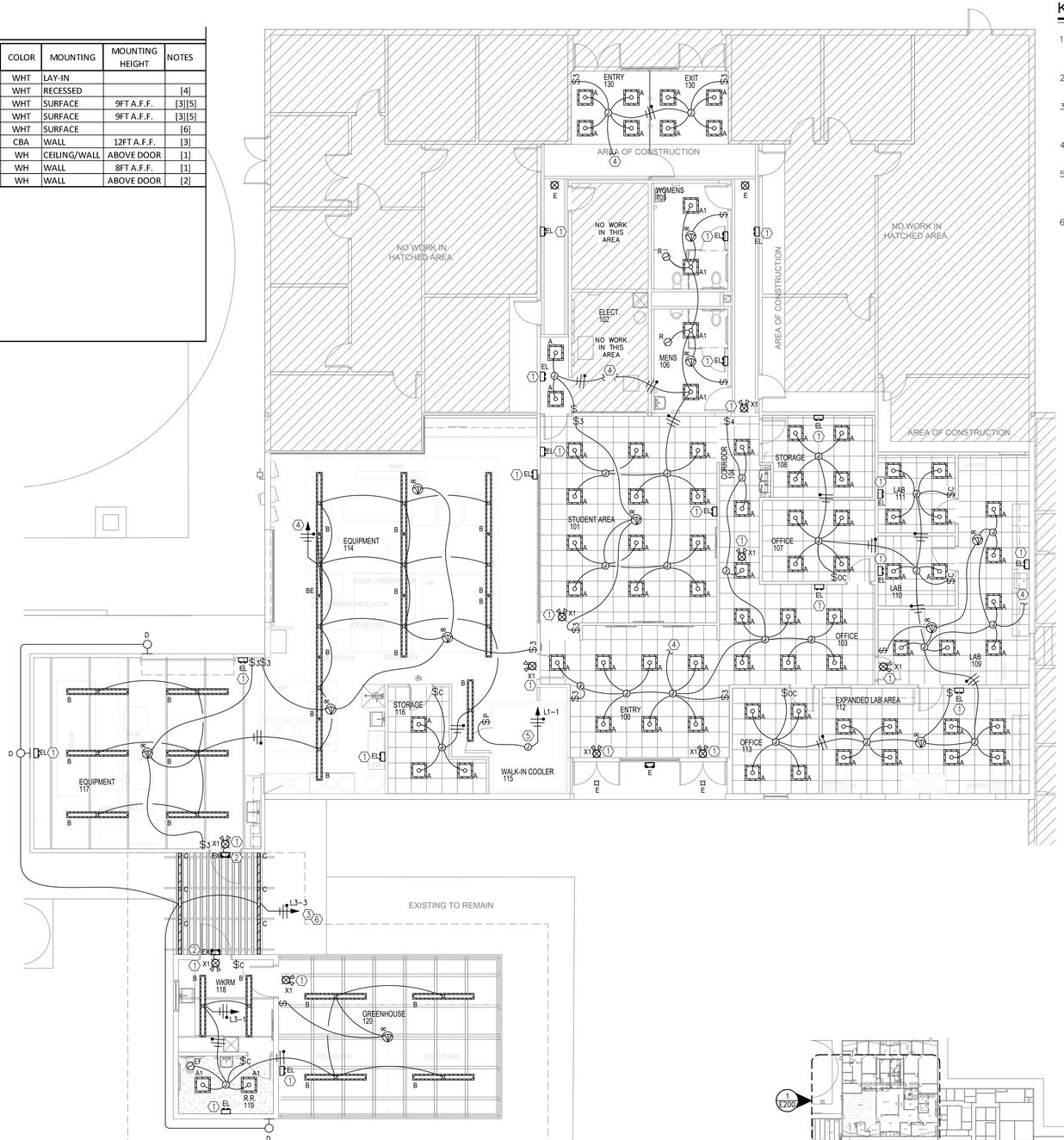
A Fixture ID : Description / Lamp / Wattage Per Lamp / Ballast	B Lamps/ Fixture	C # of Fixture	D Fixture Watt.	E (C X D)
Walkway >= 10 feet wide (1640 ft2): Tradable Wattage				
LED: 'D': WALLPACK: Other:	1	1	70	70
LED: 'C': LINEAR 4 FT.: Other:	1	6	19	114
Landscaping (5414 ft2): Tradable Wattage				
LED: 'D': WALLPACK: Other:	1	2	1	2
			Total Tradable Proposed Watts =	186

Exterior Lighting PASSES: Design 76% better than code

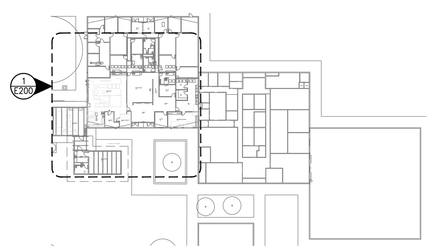
Exterior Lighting Compliance Statement

Compliance Statement: The proposed exterior lighting design represented in this document is consistent with the building plans, specifications, and other calculations submitted with this permit application. The proposed exterior lighting systems have been designed to meet the 2018 IECC requirements in COMcheck Version COMcheckWeb and to comply with any applicable mandatory requirements listed in the Inspection Checklist.

JOSE A. MORALES, P.E. — Name - Title
Signature
05-26-2026 — Date



1 E200 LIGHTING PLAN
1/8" = 1'-0"
NORTH



1 E200 KEY PLAN
1/64" = 1'-0"
NORTH

KEYED NOTES ⓧ

1. CONNECT ALL EXIT LIGHTS AND EMERGENCY LIGHTS TO UNSWITCHED HOT LEG OF NEAREST LIGHTING CIRCUIT SERVING THIS AREA.
2. INSTALL OUTDOOR REMOTE EMERGENCY HEAD ABOVE DOOR, CONNECT AS SHOWN.
3. THIS CIRCUIT TO BE WIRED THRU TIMER CONTACTOR, TIMER CONTACTOR TO BE CONTROLLED BY PHOTOCELL.
4. CONNECT NEW LAY-IN LIGHTING FIXTURES TO EXISTING LIGHTING CIRCUIT IN THE AREA.
5. MAKE CONNECTIONS TO WALK-IN LIGHT AND DOOR HEATER, IF APPLICABLE. COORDINATE WITH EQUIPMENT SUPPLIER FOR CONNECTION REQUIREMENTS.
6. THIS CIRCUIT TO BE WIRED THRU TIMER AND PHOTOCELL FOR LIGHTING CONTROL. SET FOR DUSK TILL 11:00 OPERATION OR CLOSE OF BUSINESS.

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PARTIAL REMODEL & ADDITION

GENESIS CNTR. BUILDING 'A'

3655 Research Dr. Bldg. A
NMSU Campus
Las Cruces, New Mexico

REVISION	DATE

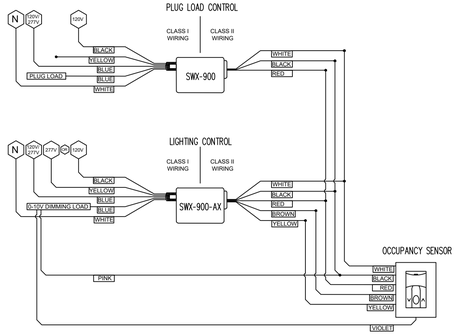
Project no: 25.25
Date: May 2026
Sheet:

LIGHTING PLAN

E200

JOSE A. MORALES — NEW MEXICO — 22154 — PROFESSIONAL ENGINEER
5/27/2026

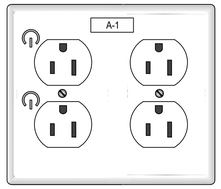
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POC: JOSE MORALES
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JMORALES@RAXISENGINEERING.COM



TYP. PLUG LOAD CONTROL - WALL SWITCH SENSOR

3 / E300

ALSO APPLIES WHERE 0-10V DIMMING CONTROL IS INSTALLED. NTS



NOTE:
CONTROLLED RECEPTACLE (□):
RECEPTACLE IDENTIFIED WITH "□"SYMBOL SHALL BE AUTOMATICALLY CONTROLLED VIA OCCUPANCY SENSOR OR SCHEDULED TIME-OFF CONTROL. WHERE INSTALLED IN A MULTI-GANG OR QUAD DEVICE, ONLY THE RECEPTACLES MARKED WITH "□" SHALL BE CONTROLLED; REMAINING RECEPTACLES SHALL BE UNSWITCHED. PROVIDE CONTROLLED RECEPTACLES IN ACCORDANCE WITH GENERAL NOTES A AND B AND IECC 2021 SECTION C405.11. REFER TO DETAIL 3/E300 FOR WIRING CONNECTION.

AUTOMATIC RECEPTACLE CONTROL DETAIL

4 / E300

NOTE: PROVIDE WITH 1/8" BLACK LETTER WITH WHITE LABELS, INDICATING PANEL AND CIRCUIT FEEDING DEVICE. NTS

GENERAL NOTES

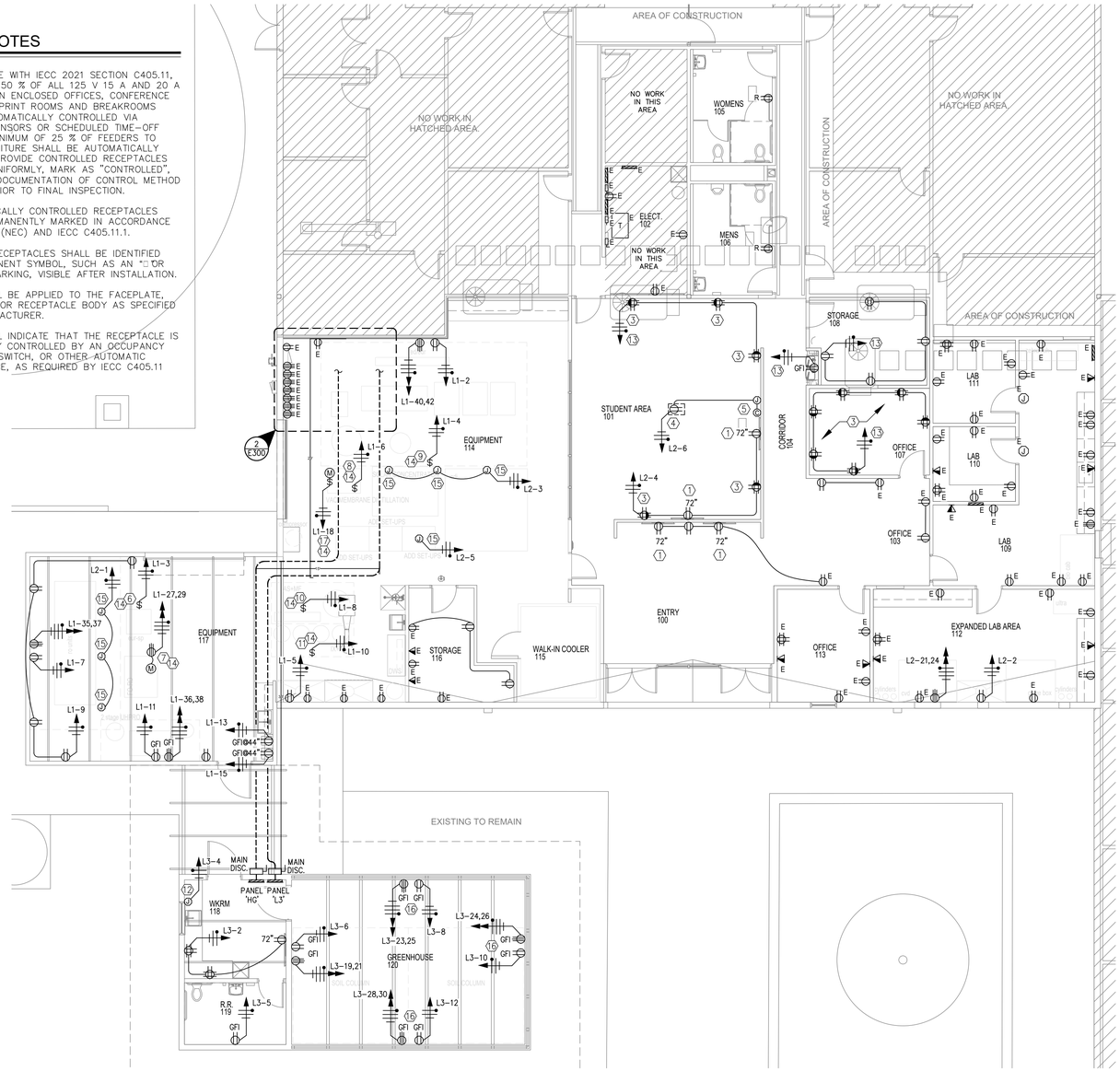
A. IN ACCORDANCE WITH IECC 2021 SECTION C405.11, A MINIMUM OF 50 % OF ALL 125 V 15 A AND 20 A RECEPTACLES IN ENCLOSED OFFICES, CONFERENCE ROOMS, COPY/PRINT ROOMS AND BREAKROOMS SHALL BE AUTOMATICALLY CONTROLLED VIA OCCUPANCY SENSORS OR SCHEDULED TIME-OFF CONTROL. A MINIMUM OF 25 % OF FEEDERS TO MODULAR FURNITURE SHALL BE AUTOMATICALLY CONTROLLED. PROVIDE CONTROLLED RECEPTACLES DISTRIBUTED UNIFORMLY, MARK AS "CONTROLLED", AND PROVIDE DOCUMENTATION OF CONTROL METHOD AND ZONES PRIOR TO FINAL INSPECTION.

B. ALL AUTOMATICALLY CONTROLLED RECEPTACLES SHALL BE PERMANENTLY MARKED IN ACCORDANCE WITH NFPA 70 (NEC) AND IECC C405.11.1.

CONTROLLED RECEPTACLES SHALL BE IDENTIFIED WITH A PERMANENT SYMBOL, SUCH AS AN "□" OR EQUIVALENT MARKING, VISIBLE AFTER INSTALLATION.

MARKING SHALL BE APPLIED TO THE FACEPLATE, COVER PLATE, OR RECEPTACLE BODY AS SPECIFIED BY THE MANUFACTURER.

MARKING SHALL INDICATE THAT THE RECEPTACLE IS AUTOMATICALLY CONTROLLED BY AN OCCUPANCY SENSOR, TIME SWITCH, OR OTHER AUTOMATIC CONTROL DEVICE, AS REQUIRED BY IECC C405.11 AND C405.11.1.



POWER PLAN

1 / E300

1/8" = 1'-0"

NORTH

NEW PANEL 'HA'

Voltage Drop

1.26%

Voltage drop will be limited to 1.26% or less with 1 parallel (set) of 350 KCMIL copper conductor delivering a total of 300 amps on a 480 volt three phase system for a distance of 230 feet.

Engineering Information

310	Amps Rated ampacity of selected conductor
0.0367	Ohms Resistance (Ohms per 1000 feet)
0.0400	Ohms Reactance (Ohms per 1000 feet)
0.9	Power Factor

PANEL 'HG'

Voltage Drop

0.81%

Voltage drop will be limited to 0.81% or less with 1 parallel (set) of 2 AWG copper conductor delivering a total of 100 amps on a 480 volt three phase system for a distance of 115 feet.

Engineering Information

115	Amps Rated ampacity of selected conductor
0.1940	Ohms Resistance (Ohms per 1000 feet)
0.0450	Ohms Reactance (Ohms per 1000 feet)
0.9	Power Factor

PANEL 'L3'

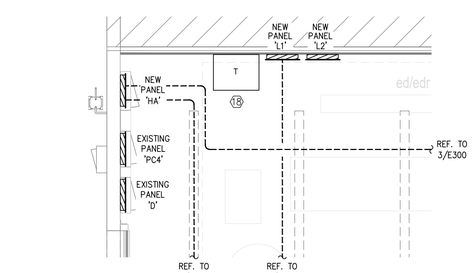
Voltage Drop

1.86%

Voltage drop will be limited to 1.86% or less with 1 parallel (set) of 2 AWG copper conductor delivering a total of 100 amps on a 208 volt three phase system for a distance of 115 feet.

Engineering Information

115	Amps Rated ampacity of selected conductor
0.1940	Ohms Resistance (Ohms per 1000 feet)
0.0450	Ohms Reactance (Ohms per 1000 feet)
0.9	Power Factor



ENLARGED ELECTRICAL DEMOLITION PLAN

2 / E300

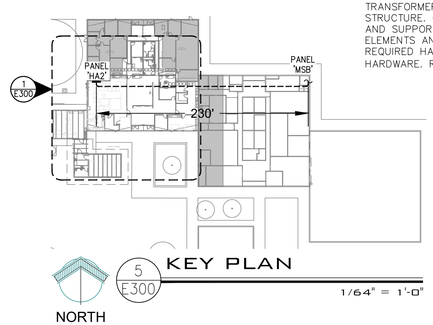
1/4"= 1'-0"

NORTH

GENERAL NOTES

1. DURING DEMOLITION OF WALLS, THE ELECTRICAL CONTRACTOR SHALL VERIFY CONTINUITY AND FUNCTIONALITY OF ALL EXISTING ELECTRICAL DEVICES AND CIRCUITS LOCATED OUTSIDE THE DEMOLITION AREA THAT REMAIN CONNECTED TO AFFECTED SYSTEMS.

2. ALL NEW RECEPTACLES INSTALLED IN EQUIPMENT AREAS, WET LOCATIONS, OR IN AREAS SUBJECT TO WATER EXPOSURE, SPLASHING, OR WATER HANDLING OPERATIONS SHALL BE GFCI PROTECTED IN ACCORDANCE WITH NEC REQUIREMENTS.



KEY PLAN

5 / E300

1/64" = 1'-0"

NORTH

KEYED NOTES ⓧ

1. PROVIDE AND INSTALL TV BOX ON WALL WITH DUPLEX RECEPTACLE AND DATA CABLE OUTLET. INSTALL ON WALL AT 72" A.F.F, VERIFY HEIGHT WITH ARCHITECT PRIOR TO ROUGH-IN. TV BOX TO BE HUBBELL NSAV62M OR APPROVED EQUAL.
2. PROVIDE AND INSTALL FLOOR BOX WITH TWO DUPLEX RECEPTACLES AND SPACE FOR COMMUNICATIONS. FLOOR BOX TO BE LEGRAND WIRE MOLD EFB45S-OG OR APPROVED EQUAL.PROVIDE WITH BRASS COVER AND INSTALL FLUSH TO FINISHED FLOOR. COORDINATE WITH ARCHITECT FOR EXACT LOCATION PRIOR TO COMMENCING ANY WORK.
3. THIS RECEPTACLE TO BE WIRED THROUGH OCCUPANCY SENSOR, REFER TO DETAIL 3/E300.
4. PROVIDE AND INSTALL DUPLEX RECEPTACLE ON CEILING FOR MULTIMEDIA PROJECTOR. COORDINATE WITH TRADES PRIOR TO INSTALLATION.
5. PROVIDE AND INSTALL J-BOX ABOVE ACCESSIBLE CEILING FOR RETRACTABLE PROJECTION SCREEN. CONFIRM FINAL LOCATION IN FIELD, COORDINATE WITH TRADES PRIOR TO INSTALLATION.
6. INSTALL WEATHER PROOF SWITCH AS DISCONNECTING MEANS FOR EUR-SP EQUIPMENT, MAKE CONNECTIONS WITH WATER TIGHT FLEXIBLE CONDUIT. FIELD-VERIFY AND COORDINATE FINAL LOCATION WITH ALL TRADES.
7. PROVIDE AND INSTALL DEDICATED 240V, 1 PHASE POWER CONNECTION FOR FO-RO EQUIPMENT PUMP. PROVIDE RECEPTACLE TYPE, CIRCUITING, AND OVERCURRENT PROTECTION AS REQUIRED BY APPROVED FO-RO EQUIPMENT SPECIFICATIONS. COORDINATE EXACT ELECTRICAL REQUIREMENTS PRIOR TO ROUGH-IN.
8. INSTALL WEATHER PROOF SWITCH AS DISCONNECTING MEANS FOR VACUUM MEMBRANE DISTILLATION EQUIPMENT PUMP, MAKE CONNECTIONS WITH WATER TIGHT FLEXIBLE CONDUIT. FIELD-VERIFY AND COORDINATE FINAL LOCATION WITH ALL TRADES.
9. INSTALL WEATHER PROOF SWITCH AS DISCONNECTING MEANS FOR SOLAR CONCENTRATION EQUIPMENT, MAKE CONNECTIONS WITH WATER TIGHT FLEXIBLE CONDUIT. FIELD-VERIFY AND COORDINATE FINAL LOCATION WITH ALL TRADES.
10. INSTALL WEATHER PROOF SWITCH AS DISCONNECTING MEANS FOR AS+MF EQUIPMENT, MAKE CONNECTIONS WITH WATER TIGHT FLEXIBLE CONDUIT. FIELD-VERIFY AND COORDINATE FINAL LOCATION WITH ALL TRADES.
11. INSTALL WEATHER PROOF SWITCH AS DISCONNECTING MEANS FOR IX+AA EQUIPMENT, MAKE CONNECTIONS WITH WATER TIGHT FLEXIBLE CONDUIT. FIELD-VERIFY AND COORDINATE FINAL LOCATION WITH ALL TRADES.
12. PROVIDE AND INSTALL J-BOX ABOVE CEILING FOR ROLLER SHADE POWER. FIELD-VERIFY AND COORDINATE FINAL LOCATION WITH ALL TRADES.
13. PROVIDE AND EXTEND CONDUIT AND WIRING TO NEAREST EXISTING POWER CIRCUIT AND PROVIDE CONNECTION. VERIFY AVAILABLE CAPACITY AND COORDINATE WITH EXISTING PANELBOARD.
14. PROVIDE STRAIN RELIEF WIRING/PENDANT RECEPTACLES IN COMPLIANCE WITH NEC 314.23(H) AND 400.10. CONNECTIONS SHALL UTILIZE LISTED CORD GRIP FITTINGS. FLEXIBLE CORDS SHALL BE PROPERLY SUPPORTED TO PREVENT STRAIN ON CONDUCTOR TERMINATIONS.
15. PROVIDE AND INSTALL J-BOX FOR POWER TO ELECTRICAL DROP CORD WITH REEL. COORDINATE WITH OWNER FOR EXACT MOUNTING, HEIGHT AND ELECTRICAL REQUIREMENTS PRIOR TO COMMENCING ANY WORK. RETRACTABLE ELECTRICAL CORD REELS TO BE INSTALLED ABOVE EQUIPMENT.
16. PROVIDE RECEPTACLES IN GREENHOUSE VIA FLOOR MOUNTED STUB UPS, PEDESTALS, OR OVERHEAD DROPS AS REQUIRED. DO NOT MOUNT DEVICES ON GLASS SURFACES. ALL EQUIPMENT AND DEVICES SHALL BE SUITABLE FOR DAMP/WET LOCATIONS AND COORDINATED WITH EQUIPMENT LAYOUT.
17. INSTALL WEATHER PROOF SWITCH AS DISCONNECTING MEANS FOR VAC MEMBRANE EQUIPMENT PUMP, MAKE CONNECTIONS WITH WATER TIGHT FLEXIBLE CONDUIT. FIELD-VERIFY AND COORDINATE FINAL LOCATION WITH ALL TRADES.
18. PROVIDE AND INSTALL NEW STEP-DOWN TRANSFORMER SUSPENDED FROM BUILDING STRUCTURE. COORDINATE FINAL MOUNTING LOCATION AND SUPPORT REQUIREMENTS WITH STRUCTURAL ELEMENTS AND OTHER TRADES. PROVIDE ALL REQUIRED HANGERS, BRACING, AND SUPPORT HARDWARE. REFER TO DETAIL 3/E400.

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Las Cruces, New Mexico

REVISION	DATE

Project no:	25.25
Date:	May 2026
Sheet:	

POWER PLAN

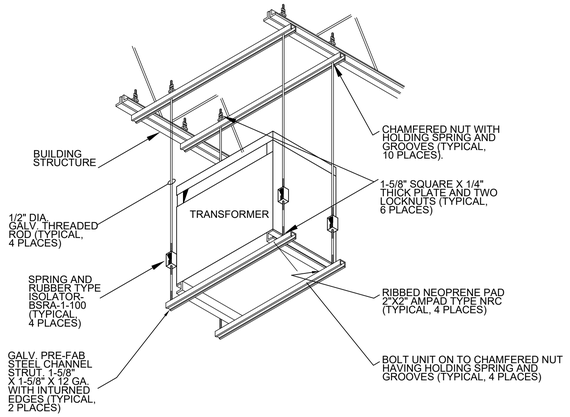
E300

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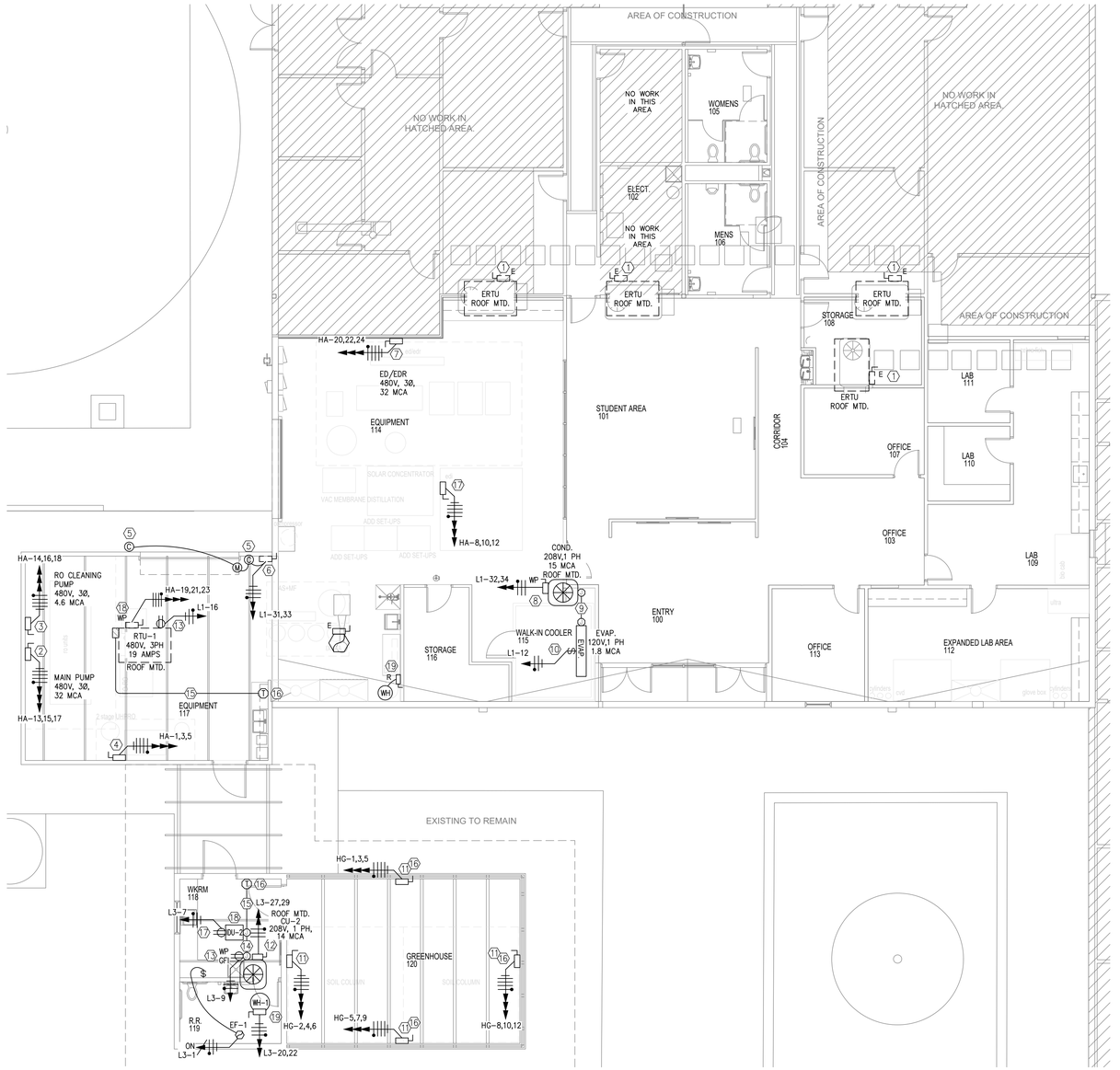
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3 / E400 SUSPENDED TRANSFORMER SCHEMATIC

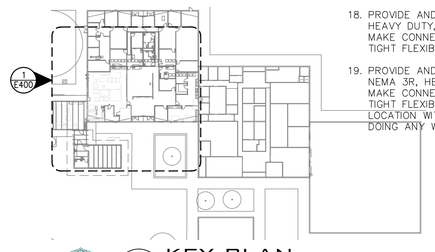
NTS



1 / E400 HVAC POWER PLAN

1/8" = 1'-0"

NORTH



1 / E400 KEY PLAN

1/64" = 1'-0"

NORTH

KEYED NOTES ⓧ

1. EXISTING ELECTRIAL DISCONNECT ON ROOF FOR HVAC EQUIPMENT, TO REMAIN.
2. PROVIDE AND INSTALL 100A, 480V, 3PH, 4 WIRE, HEAVY DUTY, NEMA 3R NON-FUSED DISCONNECT. MAKE CONNECTIONS TO RO MAIN PUMP MOTOR EQUIPMENT WITH WATER TIGHT FLEXIBLE CONDUIT.
3. PROVIDE AND INSTALL 30A, 480V, 3PH, 4 WIRE, HEAVY DUTY, NEMA 3R NON-FUSED DISCONNECT. MAKE CONNECTIONS TO RO CLEANING PUMP EQUIPMENT WITH WATER TIGHT FLEXIBLE CONDUIT.
4. PROVIDE AND INSTALL 60A, 480V, 3PH, 4 WIRE, HEAVY DUTY, NEMA 3R NON-FUSED DISCONNECT. MAKE CONNECTIONS TO 2 STAGE UHPRO EQUIPMENT WITH WATER TIGHT FLEXIBLE CONDUIT.
5. COORDINATE WITH OWNER FOR EXACT LOCATION OF CONTROL FOR DOOR UNIT PRIOR TO COMMENCING ANY WORK.
6. PROVIDE AND INSTALL 30A, 208V, 1PH, 3 WIRE, HEAVY DUTY, NEMA 3R NON-FUSED DISCONNECT. MAKE CONNECTIONS TO MOTOR DOOR UNIT WITH WATER TIGHT FLEXIBLE CONDUIT.
7. PROVIDE AND INSTALL 100A, 480V, 3PH, 4 WIRE, HEAVY DUTY, NEMA 3R NON-FUSED DISCONNECT. MAKE CONNECTIONS TO ED/EDR EQUIPMENT WITH WATER TIGHT FLEXIBLE CONDUIT.
8. PROVIDE AND INSTALL 30 AMP, 208V, 1 PH, NEMA 3R, HEAVY DUTY, FUSED DISCONNECT, PROVIDE FUSES AS REQUIRED. MAKE CONNECTIONS TO CONDENSER WITH WATER TIGHT FLEXIBLE CONDUIT. CONTRACTOR MUST VERIFY EXACT INTERCONNECTION REQUIREMENTS BETWEEN CONDENSER AND EVAPORATOR FOR WALK-IN. CONTRACTOR MUST VERIFY EXACT REQUIREMENTS OF EQUIPMENT WITH OWNER BEFORE DOING ANY WORK.
9. COORDINATE WITH EQUIPMENT INSTALLER FOR LOCATION AND CONNECTIONS REQUIREMENTS.
10. INSTALL WEATHER PROOF SWITCH AS DISCONNECTING MEANS FOR WALK-IN EVAPORATOR, MAKE CONNECTIONS WITH WATER TIGHT FLEXIBLE CONDUIT, COORDINATE WITH PLUMBING CONTRACTOR FOR EXACT LOCATION.
11. PROVIDE AND INSTALL 30A, 480V, 3PH, 4 WIRE, HEAVY DUTY, NEMA 3R NON-FUSED DISCONNECT. MAKE CONNECTIONS TO GREENHOUSE EQUIPMENT WITH WATER TIGHT FLEXIBLE CONDUIT.
12. PROVIDE AND INSTALL 30A, 208V, 1PH, 3 WIRE, HEAVY DUTY, NEMA 3R NON-FUSED DISCONNECT. MAKE CONNECTIONS TO CONDENSER UNIT WITH WATER TIGHT FLEXIBLE CONDUIT.
13. INSTALL WEATHER PROOF, GFI, RECEPTACLE WITH WEATHER PROOF COVER. INSTALL RECEPTACLE UNDER DISCONNECT, COORDINATE WITH MECHANICAL CONTRACTOR FOR EXACT LOCATION.
14. 3/4" CONDUIT WITH ALL REQUIRED INTERCONNECTION WIRING, COORDINATE WITH MECHANICAL CONTRACTOR.
15. 1/2" CONDUIT WITH PULLSTRING, COORDINATE WITH MECHANICAL CONTRACTOR.
16. LOCATION OF THERMOSTAT, PROVIDE 4" SQ. J-BOX WITH PLASTER RING. COORDINATE WITH MECHANICAL CONTRACTOR FOR EXACT LOCATION.
17. PROVIDE AND INSTALL RECEPTACLE FOR CONDENSATE PUMP. COORDINATE WITH MECHANICAL CONTRACTOR FOR EXACT LOCATION.
18. INDOOR UNIT POWERED VIA INTERCONNECTING WIRING FROM ASSOCIATED OUTDOOR UNIT. PROVIDE CONTROL AND POWER WIRING PER MANUFACTURER REQUIREMENTS. NO SEPARATE BRANCH CIRCUIT REQUIRED UNLESS OTHERWISE NOTED.
19. PROPOSED LOCATION FOR EXISTING ELECTRIC TANK WATER HEATER. FIELD-VERIFY AND COORDINATE FINAL LOCATION WITH ALL TRADES.
16. PROVIDE RECEPTACLES IN GREENHOUSE VIA FLOOR MOUNTED STUB UPS, PEDESTALS, OR OVERHEAD DROPS AS REQUIRED. DO NOT MOUNT DEVICES ON GLASS SURFACES. ALL EQUIPMENT AND DEVICES SHALL BE SUITABLE FOR DAMP/WET LOCATIONS AND COORDINATED WITH EQUIPMENT LAYOUT.
17. PROVIDE AND INSTALL 30A, 480V, 3PH, 4 WIRE, HEAVY DUTY, NEMA 3R NON-FUSED DISCONNECT. MAKE CONNECTIONS TO EDI EUIPMENT WITH WATER TIGHT FLEXIBLE CONDUIT.
18. PROVIDE AND INSTALL 30A, 480V, 3PH, 4 WIRE, HEAVY DUTY, NEMA 3R NON-FUSED DISCONNECT. MAKE CONNECTIONS TO ROOF TOP UNIT WITH WATER TIGHT FLEXIBLE CONDUIT.
19. PROVIDE AND INSTALL 30 AMP, 208V, 1 PHASE, NEMA 3R, HEAVY DUTY, NON-FUSED DISCONNECT, MAKE CONNECTIONS TO WATER HEATER WITH WATER TIGHT FLEXIBLE CONDUIT. COORDINATE EXACT LOCATION WITH PLUMBING CONTRACTOR BEFORE DOING ANY WORK.

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Date: May 2026
Sheet:

HVAC POWER PLAN

E400

FOR THIS PAGE ONLY

SPECIAL SYSTEMS SYMBOL LEGEND

SYMBOL	DESCRIPTION
	DATA/COMMUNICATIONS J-BOX: PROVIDE 4" SQ. DEEP J-BOX IN WALL WITH SINGLE-GANG PLASTER RING. STUB UP 1" CONDUIT WITH PULLSTRING AND BUSHINGS TO ACCESSIBLE CEILING. PROVIDE COMPLETE AND OPERABLE DATA/COMMUNICATIONS INSTALLATION, INCLUDING CABLING, TERMINATIONS, FACEPLATES, AND ASSOCIATED COMPONENTS AS REQUIRED. ALL WORK SHALL COMPLY WITH NMSU STANDARDS AND REQUIREMENTS. COORDINATE WITH OWNER AND IT/COMMUNICATIONS PROVIDER PRIOR TO INSTALLATION.
TV	TV CABLE BOX, PROVIDE J-BOX IN WALL, 4" SQ. DEEP J-BOX WITH SINGLE GANG PLASTER RING. STUBB UP 3/4" WITH COAX CABLE TO CABLE BOX AT TELEPHONE BOARD.
	12" WIDE X 4" DEEP CABLE TRAY. PROVIDE J-HOOKS ALONG CABLE TRAY FOR FIRE ALARM, P.A., AND SECURITY WIRING.
FACP	FIRE ALARM CONTROL PANEL WITH DIGITAL NOTIFIER DIALER.
FARA	FIRE ALARM REMOTE ENUNCIATOR.
110	FIRE ALARM HORN/STROBE, NUMBER DENOTES 'cd' RATING, WALL MOUNTED DEVICE PROVIDE 4" SQ. DEEP J-BOX WITH SINGLE GANG PLASTER RING, 1" CONDUIT TO ACCESSIBLE CEILING.
15	FIRE ALARM STROBE, NUMBER DENOTES 'cd' RATING, WALL MOUNTED DEVICE PROVIDE 4" SQ. DEEP J-BOX WITH SINGLE GANG PLASTER RING, 1" CONDUIT TO ACCESSIBLE CEILING.
	FIRE ALARM PULL STATION, PROVIDE WITH STOPPER PROVIDE 4" SQ. DEEP J-BOX WITH SINGLE GANG PLASTER RING, 1" CONDUIT TO ACCESSIBLE CEILING.
15	FIRE ALARM HORN/STROBE, NUMBER DENOTES 'cd' RATING, CEILING MOUNTED DEVICE PROVIDE 4" SQ. DEEP J-BOX WITH SINGLE GANG PLASTER RING, 1" CONDUIT TO ACCESSIBLE CEILING.
15 S	FIRE ALARM STROBE, NUMBER DENOTES 'cd' RATING, CEILING MOUNTED DEVICE PROVIDE 4" SQ. DEEP J-BOX WITH SINGLE GANG PLASTER RING, 1" CONDUIT TO ACCESSIBLE CEILING.
T	FIRE SUPPRESSION SYSTEM TAMPER SWITCH. PROVIDE FIRE ALARM MODULE FOR MONITORING.
F	FIRE SUPPRESSION SYSTEM FLOW SWITCH. PROVIDE FIRE ALARM MODULE FOR MONITORING.
	FIRE ALARM SMOKE DETECTOR, CEILING MOUNTED DEVICE PROVIDE 4" SQ. DEEP J-BOX WITH SINGLE GANG PLASTER RING, 1" CONDUIT TO ACCESSIBLE CEILING.
	FIRE ALARM DUCT SMOKE DETECTOR, MOUNTED ON UNIT DUCTWORK. VERIFY WITH MECHANICAL CONTRACTOR IF PROVIDED WITH HVAC UNIT, 1" CONDUIT TO ACCESSIBLE CEILING. PROVIDE WITH REMOTE TEST STATION NEXT TO UNIT THERMOSTAT.
IACP	INTRUSION ALARM CONTROL PANEL.
IAKP	INTRUSION ALARM KEY PAD.
S	INTRUSION ALARM MOTION SENSOR
D	INTRUSION ALARM CONTACT SENSOR
X	P.A. SYSTEM SPEAKER. NUMBER DENOTES ZONE. PROVIDE 4" SQ. DEEP J-BOX WITH SINGLE GANG PLASTER RING, 1" CONDUIT TO ACCESSIBLE CEILING
PA	PUBLIC ADDRESS SYSTEM CONSOLE
	CCTV CAMERA BY OTHERS. PROVIDE 4" SQ. DEEP J-BOX WITH SINGLE GANG PLASTER RING, 1" CONDUIT TO ACCESSIBLE CEILING .

FIRE ALARM GENERAL NOTES

A. FIRE ALARM INSTALLER TO INSTALL SYSTEM TO MEET ALL NATIONAL AND LOCAL FIRE CODES (I.E. NEC 760 AND NFPA). INSTALLER TO SUBMIT TO ARCHITECT "AS BUILT"

B. FIRE ALARM INSTALLER TO COORDINATE AND CONNECT SMOKE DETECTION SYSTEM TO A/C DUCT SYSTEM.

C. FIRE ALARM INSTALLER CAN SUBSTITUTE FIRE ALARM FIXTURES FOR OTHERS OF EQUAL PERFORMANCE.

D. F.A. INSTALLER MUST BE CERTIFIED BY THE STATE AND SUBMIT ALL REQUIRED PLANS AND DRAWINGS, F.A. SYSTEM CALCULATIONS AND ALL APPLICABLE SUBMITTALS TO THE GOVERNING AUTHORITIES TO OBTAIN A PERMIT.

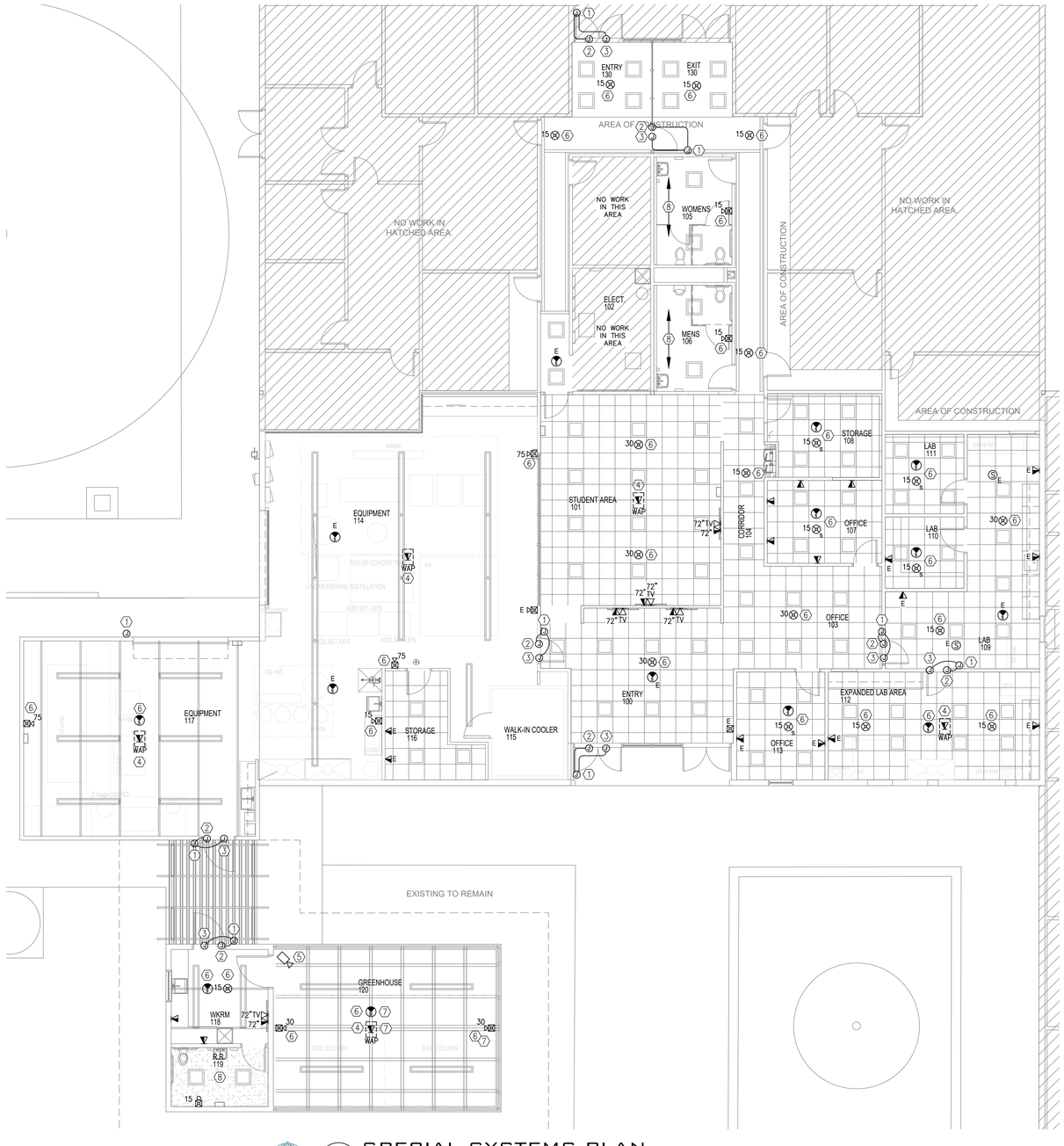
E. THE F.A. INSTALLER MUST BID ON A COMPLETE F.A. SYSTEM THAT CONFORMS TO ALL APPLICABLE CODES.

F. CONTRACTOR MUST VISIT SITE BEFORE BIDDING ON THIS PROJECT AND ALLOW FOR ANY MODIFICATIONS OR ADDITIONS NEEDED TO BE DONE ON THE EXISTING FIRE ALARM PANEL TO ACCOMMODATE ALL NEW DEVICES IN THE NEW ADDITION.

G. CONTRACTOR MUST MAKE ALL FINAL CONNECTIONS AND TEST THE SYSTEM IN THE PRESENCE OF BUILDING PERSONNEL OR ENGINEER.

H. PROVIDE AFCI PROTECTION TO ALL CIRCUITS THAT SERVE ANY FIRE ALARM PANEL OR DEVICE.

I. PROVIDE 1" CONDUIT WITH ALL REQUIRED WIRING TO FIRE LINE BACK FLOW PREVENTOR FOR FIRE ALARM MONITORING

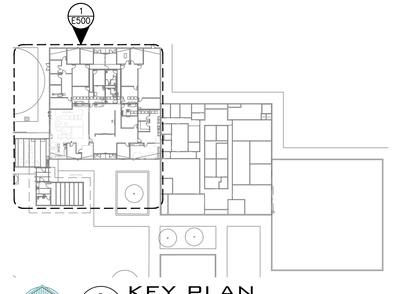


1 E500 SPECIAL SYSTEMS PLAN
1/4" = 1'-0"

NORTH

KEYED NOTES ⓧ

1. PROVIDE AND INSTALL J-BOX AT 48" A.F.F. FOR CARD READER. STUB 3/4" CONDUIT WITH PULLSTRING TO IT ROOM OR DOOR STRIKE/MAGLOCK. CARD READER DEVICES SHALL BE BLACKBOARD ACCESS CONTROL DEVICES, OWNER FURNISHED AND INSTALLED BY CONTRACTOR. COORDINATE EXACT DEVICE REQUIREMENTS, WIRING, AND MOUNTING WITH ACCESS CONTROL VENDOR PRIOR TO COMMENCING WORK.
2. PROVIDE AND INSTALL J-BOX FOR DOOR CONTACT. STUBB 3/4" CONDUIT WITH PULLSTRING TO I.T. ROOM. COORDINATE WITH ACCESS CONTROL CONTRACTOR FOR EXACT REQUIREMENTS PRIOR TO COMMENCING ANY WORK.
3. PROVIDE AND INSTALL J-BOX FOR DOOR STRIKE MAGLOCK. STUBB 3/4" CONDUIT WITH PULLSTRING TO I.T. ROOM. COORDINATE WITH ACCESS CONTROL CONTRACTOR FOR EXACT REQUIREMENTS PRIOR TO COMMENCING ANY WORK.
4. PROVIDE AND INSTALL DATA BOX ON CEILING FOR WIRELESS ACCESS PORT. VERIFY LOCATION WITH OWNER PRIOR ROUGH-IN.
5. PROVIDE AND INSTALL 4" SQUARE J-BOX FOR CAMERA, BY OTHERS. INSTALL 3/4" CONDUIT WITH PULLSTRING TO NEAREST ACCESSIBLE CEILING OR IT ROOM.
6. CONNECT NEW FIRE ALARM DEVICES TO EXISTING FIRE ALARM CONTROL PANEL (FACP). CONTRACTOR SHALL VERIFY LOCATION, AVAILABLE CAPACITY, AND COMPATIBILITY OF EXISTING FACP PRIOR TO INSTALLATION. COORDINATE ALL WORK WITH EXISTING FIRE ALARM SYSTEM.
7. ALL DEVICES LOCATED WITHIN GREENHOUSE SHALL BE SURFACE-MOUNTED TO STRUCTURAL MEMBERS. PROVIDE EXPOSED CONDUIT ROUTED ALONG STRUCTURE; CONDUIT, BOXES, AND FITTINGS SHALL BE SUITABLE FOR DAMP/WET LOCATIONS. COORDINATE EXACT ROUTING AND MOUNTING WITH GREENHOUSE FRAMING; DO NOT MOUNT DEVICES OR RACEWAYS DIRECTLY TO GLASS SURFACES.
8. ADD ACCESS PANEL IN HARD CEILINGS FOR MAINTENANCE PURPOSES. COORDINATE WITH ARCHITECT FOR EXACT LOCATIONS.



2 E500 KEY PLAN
1/64" = 1'-0"

NORTH

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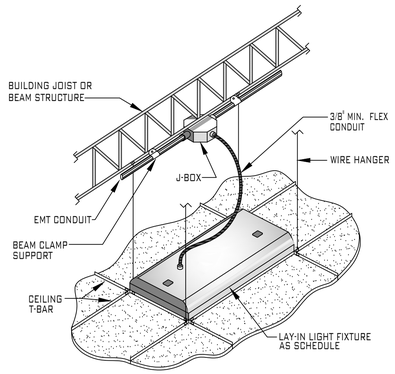
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Date: May 2026
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SPECIAL SYSTEMS PLAN
E500

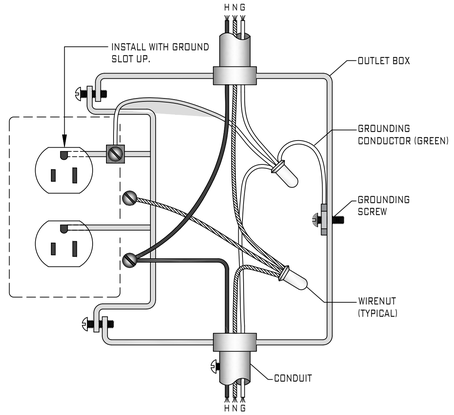
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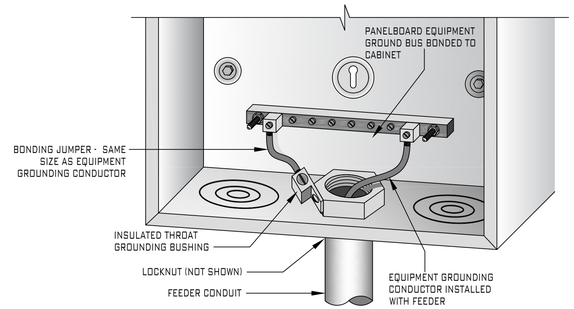
1 E600 **LAY-IN FIXTURE MOUNTING DETAIL**

NTS



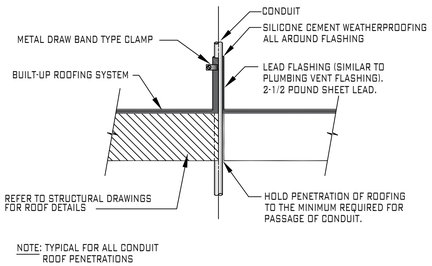
2 E600 **RECEPTACLE INSTALLATION**

NTS



3 E600 **PANELBOARD BONDING SCHEMATIC**

NTS

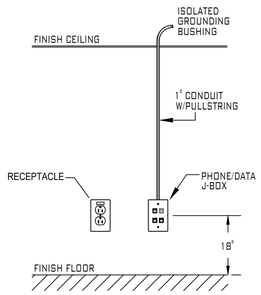


NOTE: TYPICAL FOR ALL CONDUIT ROOF PENETRATIONS

4 E600 **CONDUIT ROOF PENETRATION SCHEMATIC**

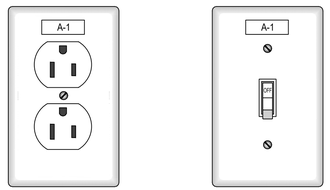
NTS

NOTE: CONTRACTOR TO COORDINATE WITH OWNER FOR ROOFING PENETRATIONS IN ORDER TO MAINTAIN ROOF WARRANTY IN EFFECT.



5 E600 **TYP. PHONE/DATA BOX**

NTS



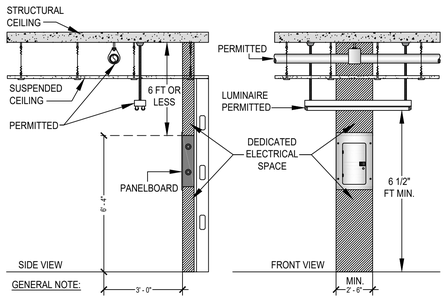
6 E600 **RECEPTACLE AND SWITCH LABEL TYPICAL FOR ALL**

NOTE: PROVIDE WITH 1/8" BLACK LETTER WITH WHITE LABELS, INDICATING PANEL AND CIRCUIT FEEDING DEVICE.

NTS

NEC REQUIREMENTS FOR DEDICATED EQUIPMENT SPACE:

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



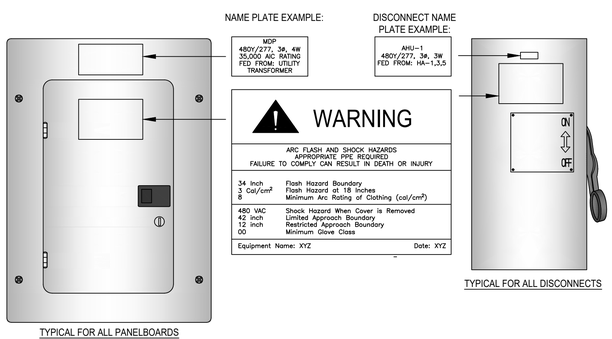
GENERAL NOTE:

ELECTRICAL CONTRACTOR SHALL COORDINATE WITH OTHER TRADES TO MAINTAIN THE REQUIRED ELECTRICAL EQUIPMENT DEDICATED SPACE.

7 E600 **ELECTRICAL CLEARANCE DETAIL**

NTS

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



TYPICAL FOR ALL PANELBOARDS

TYPICAL FOR ALL DISCONNECTS

8 E600 **PANELBOARD IDENTIFICATION SCHEMATIC**

NTS

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PARTIAL REMODEL & ADDITION

GENESIS CNTR. BUILDING 'A'

3655 Research Dr. Bldg. A
NMSU Campus
Las Cruces, New Mexico

REVISION	DATE

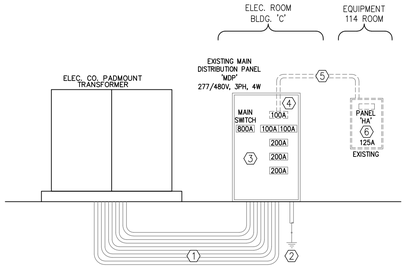
Project no: 25.25
Date: May 2026
Sheet:

ELECTRICAL DETAILS

E600

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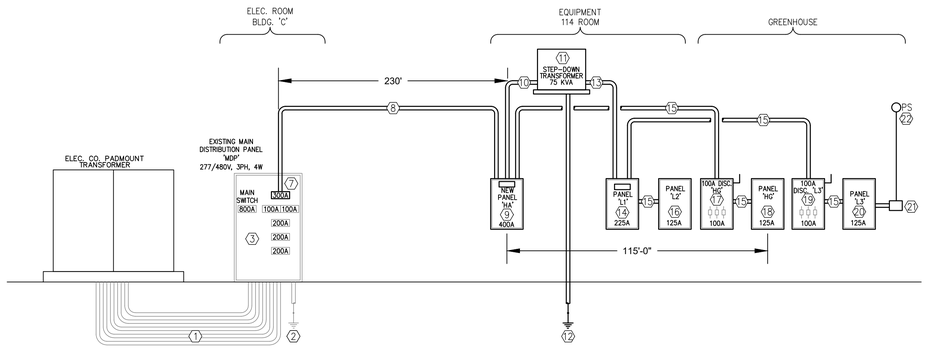
EXISTING ELECTRICAL RISER DIAGRAM

1 / E700

NTS

KEYED NOTES ⓧ

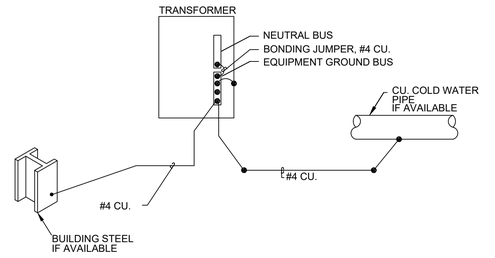
1. EXISTING CONDUIT AND WIRING FEEDER TO REMAIN.
2. EXISTING GROUNDING SYSTEM TO REMAIN.
3. EXISTING MAIN SWITCH BOARD 'MSB' 800A, 277/480V, 3 PH, 4 WIRE TO REMAIN.
4. EXISTING 100A, 480/277V, 3 PHASE 4 WIRE DISCONNECT SWITCH TO BE REPLACED.
5. EXISTING 2" CONDUIT WITH 4–#1/0 THWN. CU. CONDS. AND 1–#6 CU. GND. TO BE REPLACED.
6. EXISTING PANEL 'HA' 125A, 480/277V, 3 PHASE, 4 WIRE, WITH 100 MAIN C.B. TO BE REPLACED. DISCONNECT EXISTING BRANCH CIRCUITS FROM EXISTING 125A PANEL TO BE REMOVED AND RECONNECT TO NEW 400A PANEL. EXISTING CIRCUIT BREAKERS SERVING EXISTING LOADS SHALL BE REINSTALLED OR REPLACED AS REQUIRED TO MATCH NEW PANELBOARD CONFIGURATION AND RATINGS.
7. PROVIDE NEW 300A, 3 POLE DISCONNECT SWITCH OR CIRCUIT BREAKER COMPATIBLE WITH EXISTING MAIN SWITCHBOARD. ELECTRICAL CONTRACTOR SHALL VERIFY EQUIPMENT COMPATIBILITY, FIT, AND ALL INSTALLATION REQUIREMENTS PRIOR TO COMMENCING WORK.
8. NEW 3" CONDUIT WITH 4–#350 THWN CU. CONDUCTORS AND 1–#2 CU. GROUND.
9. NEW PANEL 'HA' 400A, 480/277V, 3 PHASE, 4 WIRE, WITH A 300A MAIN C.B. REFER TO PANEL SCHEDULE. REFER TO PANEL SCHEDULE.
10. 1 1/2" CONDUIT WITH 3–#2 THWN CU. CONDUCTORS AND 1–#8 CU. GROUND.
11. NEW 75 KVA, 480–120/208V, 3PH, 4W, STEP DOWN TRANSFORMER. DELTA–WYE, TP–1 COMPLIANT, CU. WINDINGS, LOW NOISE RATED.
12. GROUNDING SYSTEM PER SCHEMATIC 3/E700.
13. 2" CONDUIT WITH 4–#3/0 THWN CU. CONDUCTORS AND 1–#4 CU. GROUND.
14. PANEL 'L1' 225A, 208/120V, 3 PHASE, 4 WIRE, WITH A 200A MAIN C.B. REFER TO PANEL SCHEDULE.
15. 1–1/2" CONDUIT WITH 4–#2 THWN CU. CONDUCTORS AND 1–#8 CU. GROUND.
16. PANEL 'L2' 225A, 208/120V, 3 PHASE, 4 WIRE, REFER TO PANEL SCHEDULE.
17. MAIN DISCONNECT 'HG': 100A, 480Y/277V, 3 PHASE, 4 WIRE, NEMA 3R, WITH (3) 100A FUSES.
18. PANEL 'HG' 125A, 480/277V, 3 PHASE, 4 WIRE, REFER TO PANEL SCHEDULE.
19. MAIN DISCONNECT 'L3': 100A, 208/120V, 3 PHASE, 4 WIRE, NEMA 3R, WITH (3) 100A FUSES.
20. PANEL 'L3' 125A, 208/120V, 3 PHASE, 4 WIRE, REFER TO PANEL SCHEDULE.
21. PROVIDE NEMA 3R, HINGED, WITH LOCKABLE COVER LARGE ENOUGH TO FIT TIME CLOCK, 4 POLE LIGHTING CONTACTOR, AND ASSOCIATED DEVICES.
22. PHOTOCELL ON ROOF, FACING SOUTH.
23. NEW 150/225 KVA, 480–120/208V, 3PH, 4W, STEP DOWN TRANSFORMER. DELTA–WYE, TP–1 COMPLIANT, K–4 FACTOR, FIRE RATED, CU. WINDINGS, LOW NOISE RATED.



NEW ELECTRICAL RISER DIAGRAM

2 / E700

NTS



STEP DOWN TRANSFORMER GROUNDING SCHEMATIC

3 / E700

NTS

SERVICE LOAD CALCULATIONS		
SPACE	LOAD (A)	
ESTIMATED EXISTING ELEC. LOAD	150	
NEW ELECTRICAL LOAD (PANEL HA)	266	
TOTAL	416	AMPS
CONTRACTOR MUST PROVIDE ANY AVAILABLE PEAK DEMANDS FROM EPEC AS SOON AS CONTRACT IS AWARDED.		

NEW PANEL 'HA'

Voltage Drop

1.26%

Voltage drop will be limited to 1.26% or less with 1 parallel (set) of 350 KCMIL copper conductor delivering a total of 300 amps on a 480 volt three phase system for a distance of 230 feet.

Engineering Information

310	Amps Rated ampacity of selected conductor
0.0367	Ohms Resistance (Ohms per 1000 feet)
0.0400	Ohms Reactance (Ohms per 1000 feet)
0.9	Power Factor

PANEL OR LOAD CENTER - HA

LOAD TYPE	CKT. NO.	DESCRIPTION	NOTES	AMPS	POLE	LOAD KVA	A	B	C	LOAD KVA	POLE	AMPS	NOTES	DESCRIPTION	CKT. NO.	LOAD TYPE
OT	1	2 STAGE UHPRO				4.8	31.2			26.4				PANEL HG	2	OT
OT	3	480V, 3 PH		30	3	4.8		31.2		26.4	3	100		480V, 3 PHASE	4	OT
OT	5					4.8			31.2	26.4				4 WIRE	6	OT
OT	7	TRANSFORMER 'L1'				20.0	24.9			4.9				EDI EQUIPMENT	8	OT
OT	9	480V-120/208, 3 PHASE		90	3	22.6		27.5		4.9	3	50		480V, 3 PHASE	10	OT
OT	11	75 KVA				23.8			28.7	4.9				32 MCA	12	OT
OT	13	RO MAIN PUMP MOTOR				4.8	6.1			1.3				RO CLEANING PUMP	14	OT
OT	15	480V, 3 PH		30	3	4.8		6.1		1.3	3	15		480V, 3 PH	16	OT
OT	17	14.5 KVA				4.8			6.1	1.3				3.8 KVA	18	OT
	19	SPACE					8.9			8.9				EDR REDFIER	20	OT
	21	FOR FUTURE			3			8.9		8.9	3	50		480V, 3 PH	22	OT
	23	60A/3P C.B.							8.9	8.9				32 MCA	24	OT
	25	SPACE				0								SPACE	26	
	27	FOR FUTURE			3		0				3			FOR FUTURE	28	
	29	60A/3P C.B.							0					60A/3P C.B.	30	
				TOTAL KVA		71.1	73.7	74.9								
				TOTAL AMPS		256.7	266.1	270.4								

PANELBOARD INFORMATION	
DESIGNATION	HA
MAIN SIZE	400A
MAIN TYPE	300A MAIN C.B.
VOLTS	277/480
PHASE	3
Wire	4
AIC RATING	22kAIC
NEMA TYPE	INTERIOR
MOUNTING	SURFACE
SERVED FROM	300 AMP, 3 POLE IN PANEL 'MDP'

LOAD TYPE	CONNECTED KVA	CONNECTED AMPS	DESIGN FACTOR	DESIGN LOAD KVA	DESIGN LOAD AMPS
LIGHTS	0.00	0.0	1.25	0.00	0.0
RECEPTACLES	0.00	0.0	1.0	0.00	0.0
MOTOR	0.00	0.0	NEC	0.00	0.0
AC	0.00	0.0	1.25	0.00	0.0
KITCHEN	0.00	0.0	1.0	0.00	0.0
OTHER	219.70	264.6	NEC	219.70	264.6
TOTAL	219.70	264.6		219.70	264.6

	kVA
PHASE A	71.1
PHASE B	73.7
PHASE C	74.9
UNBALANCE %	5.07

NOTES:

PANEL 'HG'

Voltage Drop

0.81%

Voltage drop will be limited to 0.81% or less with 1 parallel (set) of 2 AWG copper conductor delivering a total of 100 amps on a 480 volt three phase system for a distance of 115 feet.

Engineering Information

115	Amps Rated ampacity of selected conductor
0.1940	Ohms Resistance (Ohms per 1000 feet)
0.0450	Ohms Reactance (Ohms per 1000 feet)
0.9	Power Factor

PANEL OR LOAD CENTER - HG

LOAD TYPE	CKT. NO.	DESCRIPTION	NOTES	AMPS	POLE	LOAD KVA	A	B	C	LOAD KVA	POLE	AMPS	NOTES	DESCRIPTION	CKT. NO.	LOAD TYPE
OT	1	GREENHOUSE EQUIP.				6.6	13.2			6.6				GREENHOUSE EQUIP.	2	OT
OT	3	480V, 3 PHASE		30	3	6.6		13.2		6.6	3	30		480V, 3 PHASE	4	OT
OT	5	4 WIRE				6.6			13.2	6.6				4 WIRE	6	OT
OT	7	GREENHOUSE EQUIP.				6.6	13.2			6.6				GREENHOUSE EQUIP.	8	OT
OT	9	480V, 3 PHASE		30	3	6.6		13.2		6.6	3	30		480V, 3 PHASE	10	OT
OT	11	4 WIRE				6.6			13.2	6.6				4 WIRE	12	OT
	13	SPACE				1	0				1			SPACE	14	
	15	FOR FUTURE				1		0			1			FOR FUTURE	16	
	17	3P C.B.				1			0		1			3P C.B.	18	
				TOTAL KVA		26.4	26.4	26.4								
				TOTAL AMPS		95.3	95.3	95.3								

PANELBOARD INFORMATION	
DESIGNATION	HG
MAIN SIZE	125 AMPS
MAIN TYPE	100A MAIN C.B.
VOLTS	277/480
PHASE	3
Wire	4
AIC RATING	22kAIC
NEMA TYPE	INTERIOR
MOUNTING	SURFACE
SERVED FROM	100A, 3 POLE C.B. IN PANEL 'HA'

LOAD TYPE	CONNECTED KVA	CONNECTED AMPS	DESIGN FACTOR	DESIGN LOAD KVA	DESIGN LOAD AMPS
LIGHTS	0.00	0.0	1.25	0.00	0.0
RECEPTACLES	0.00	0.0	1.0	0.00	0.0
MOTOR	0.00	0.0	NEC	0.00	0.0
AC	0.00	0.0	1.25	0.00	0.0
KITCHEN	0.00	0.0	1.0	0.00	0.0
OTHER	79.20	95.4	NEC	79.20	95.4
TOTAL	79.20	95.4		79.20	95.4

	kVA
PHASE A	26.4
PHASE B	26.4
PHASE C	26.4
UNBALANCE %	0.00

NOTES:

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PARTIAL REMODEL & ADDITION

GENESIS CNTR. BUILDING 'A'

3655 Research Dr. Bldg. A
NMSU Campus
Las Cruces, New Mexico

REVISION	DATE

Project no: 25.25
Date: May 2026
Sheet:

ELECTRICAL RISER DIAGRAM

E700

SHORT CIRCUIT AVAILABILITY (SCA)

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

ASSUMING BUILDING TRANSFORMER RATING = 500 KVA
TRANSFORMER IMPEDANCE (%Z)= 3.75 %
SECONDARY VOLTAGE = 480 VOLTS
SECONDARY PHASE= 3 PHASE

$$FLA = \frac{KVA \times 1000}{E(l\text{-}l) \times PHASE\ CORRECTION} = \frac{500 \times 1000}{480 \times SQRT(3)}$$

FLA = 601.41 AMPS

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

SCA = AMPS X MULTIPLIER = 601.41 X 26.67

SCA = 16040 AMPS AT LOAD SIDE OF TRANSFORMER

FAULT CURRENT AT MAIN SERVICE

SCA AT SECONDARY = 16040 AMPS
LENGTH TO MAIN SERVICE = 15 FT
"C" (WIRE CONSTANT) = 22737
OF PARALLEL WIRES = 3

CALCULATE "F" FACTOR

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

F= 0.012728 M= $\frac{1}{1+F}$
M= 0.987432

NEW SCA = SCA X M
SCA AT MAIN SERVICE = 15838.41 AMPS

PANEL OR LOAD CENTER - L1

LOAD TYPE	CKT. NO.	DESCRIPTION	NOTES	AMPS	POLE	LOAD KVA	A	B	C	LOAD KVA	POLE	AMPS	NOTES	DESCRIPTION	CKT. NO.	LOAD TYPE
LT	1	WALK-IN COOLER LIGHTING		20	1	0.6	1.8			1.2	1	20		ED/EDR 120V RCPT.	2	RE
OT	3	EUR-SP SYSTEM		20	1	1.2		2.4		1.2	1	20		SOLAR CONCENTRATOR	4	OT
RE	5	EXISTING RELOCATED HOOD		20	1	0.6			1.2	0.6	1	20		VAC MEMBRANE DIST.	6	OT
OT	7	RO UNIT 120V RCPT.		20	1	0.6	1.8			1.2	1	20		AS+MF EQUIPMENT	8	OT
RE	9	EQUIP. RM 117 RCPTS.		20	1	0.4		1		0.6	1	20		IX-AA EQUIPMENT	10	OT
RE	11	2 STAGE UHPRO RCPT.		20	1	0.6			1.2	0.6	1	20		WALK-IN COOLER EVAPORATOR	12	OT
RE	13	EQUIP RM 117 DEDICATED RCPTS.		20	1	0.6	0.6				1	20		SPARE	14	
RE	15	EQUIP RM 117 DEDICATED RCPTS.		20	1	0.4		1		0.6	1	20		ROOF RCPT.	16	RE
	17	SPARE		20	1				0.6	0.6	1	20		VAC MEMBRANE PUMP	18	RE
	19	SPARE		20	1		2.8			2.8	3	100		PANEL 'L2'	20	OT
	21	SPARE		20	1			3		3				208V, 3 PHASE	22	OT
	23	SPARE		20	1				4	4				4 WIRE	24	OT
	25	SPARE		20	1		6.2			6.2	3	100		PANEL 'L3'	26	OT
OT	27	FO-RO		30	2	0.6		6.7		6.1				208V, 3 PHASE	28	OT
OT	29	240V, 1 PHASE				0.6			7.5	6.9				4 WIRE	30	OT
OT	31	ROOL OVER DOOR		20	2	0.8	2.4			1.6	2	20		WALK-IN COOLER COND.	32	OT
OT	33	240V, 1 PHASE, 1 HP				0.8		2.4		1.6				208V, 1 PHASE, 15 MCA	34	OT
RE	35	RO UNIT 220V RCPT.		30	2	2.0			4	2.0	2	30		2 STAGE UHPRO 220V RCPT.	36	RE
RE	37	220V, 1 PHASE				2.0	4			2.0				220V, 1 PHASE	38	RE
	39	SPACE			1			2		2.0	2	30		ED/EDR SYSTEM 220V RCPT	40	RE
	41	SPACE			1				1.2	1.2				220V, 1 PHASE	42	RE
						TOTAL KVA	19.6	18.5	19.7							
						TOTAL AMPS	163.3	154.2	164.2							

PANELBOARD INFORMATION	
DESIGNATION	L1
MAIN SIZE	225A
MAIN TYPE	200A MAIN C.B.
VOLTS	120/208
PHASE	3
Wire	4
AIC RATING	12kAIC
NEMA TYPE	INTERIOR
MOUNTING	SURFACE
SERVED FROM	75 KVA TRANSFORMER

LOAD TYPE	CONNECTED KVA	CONNECTED AMPS	DESIGN FACTOR	DESIGN LOAD KVA	DESIGN LOAD AMPS
LIGHTS	0.60	1.7	1.25	0.75	2.1
RECEPTACLES	16.20	45.0	1.0	16.20	45.0
MOTOR	0.00	0.0	NEC	0.00	0.0
AC	0.00	0.0	1.25	0.00	0.0
KITCHEN	0.00	0.0	1.0	0.00	0.0
OTHER	41.00	113.9	NEC	41.00	113.9
TOTAL	57.80	160.6		57.95	161.0

	kVA
PHASE A	19.6
PHASE B	18.5
PHASE C	19.7
UNBALANCE %	6.09

NOTES:

PANEL OR LOAD CENTER - L2

LOAD TYPE	CKT. NO.	DESCRIPTION	NOTES	AMPS	POLE	LOAD KVA	A	B	C	LOAD KVA	POLE	AMPS	NOTES	DESCRIPTION	CKT. NO.	LOAD TYPE
RE	1	ELEC. COORD REEL		20	1	0.8	1.6			0.8	1	20		HOOD 3 RCPT.	2	RE
RE	3	ELEC. COORD REEL		20	1	0.6		1.2		0.6	1	20		STUDENT AREA RCPTS.	4	RE
RE	5	ELEC. COORD REEL		20	1	0.4			1	0.6	1	20		STUDENT AREA PROJECTOR	6	RE
	7	SPARE		20	1		0				1	20		SPARE	8	
	9	SPARE		20	1			0			1	20		SPARE	10	
OT	11	COMPRESSOR		30	2	1.2			1.2		1			SPACE	12	
OT	13	220V, 1 PHASE, 1.5 HP				1.2	1.2				1			SPACE	14	
OT	15	CVD EQUIPMENT		30	2	1.8		1.8			1			SPACE	16	
OT	17	220V, 1 PHASE, 18 MCA				1.8			1.8		1			SPACE	18	
						TOTAL KVA	2.8	3	4							
						TOTAL AMPS	23.3	25.0	33.3							

PANELBOARD INFORMATION	
DESIGNATION	L2
MAIN SIZE	125A
MAIN TYPE	100A MAIN C.B.
VOLTS	120/208
PHASE	3
Wire	4
AIC RATING	10kAIC
NEMA TYPE	INTERIOR
MOUNTING	SURFACE
SERVED FROM	100A, 3 POLE C.B. IN PANEL 'L1'

LOAD TYPE	CONNECTED KVA	CONNECTED AMPS	DESIGN FACTOR	DESIGN LOAD KVA	DESIGN LOAD AMPS
LIGHTS	0.00	0.0	1.25	0.00	0.0
RECEPTACLES	3.80	10.6	1.0	3.80	10.6
MOTOR	0.00	0.0	NEC	0.00	0.0
AC	0.00	0.0	1.25	0.00	0.0
KITCHEN	0.00	0.0	1.0	0.00	0.0
OTHER	6.00	16.7	NEC	6.00	16.7
TOTAL	9.80	27.2		9.80	27.2

	kVA
PHASE A	2.8
PHASE B	3
PHASE C	4
UNBALANCE %	30.00

NOTES:

PANEL OR LOAD CENTER - L3 - GREENHOUSE

LOAD TYPE	CKT. NO.	DESCRIPTION	NOTES	AMPS	POLE	LOAD KVA	A	B	C	LOAD KVA	POLE	AMPS	NOTES	DESCRIPTION	CKT. NO.	LOAD TYPE
LT	1	GREENHOUSE LIGHTING		20	1	0.4	1.2			0.8	1	20		WKRM 118 RCPTS.	2	RE
LT	3	EXTERIOR LIGHTING		20	1	0.2		0.6		0.4	1	20		WINDOW SHADE POWER	4	OT
RE	5	RR 119 DEDICATED GFI RCPT.		20	1	0.6			1.2	0.6	1	20		GREENHOUSE 120V RCPT.	6	RE
RE	7	IDU-2 CONDENSATE PUMP		20	1	0.6	1.4			0.8	1	20		GREENHOUSE 120V RCPT.	8	RE
RE	9	ROOF RCPT.		20	1	0.8		1.6		0.8	1	20		GREENHOUSE 120V RCPT.	10	RE
	11	SPARE		20	1				0.6	0.6	1	20		GREENHOUSE 120V RCPT.	12	RE
	13	SPARE		20	1		0				1	20		SPARE	14	
	15	SPACE			1			0			1	20		SPARE	16	
	17	SPACE			1				0		1			SPACE	18	
RE	19	GREENHOUSE 220V RCPT.		20	2	1.2	2.7			1.5	2	30		WATER HEATER	20	OT
RE	21	220V, 1 PH.				1.2		2.7		1.5				240V, 1 PH, 1.5/1.5 KW	22	OT
RE	23	GREENHOUSE 220V RCPT.		20	2	1.2			2.4	1.2	2	20		GREENHOUSE 220V RCPT.	24	RE
RE	25	220V, 1 PH.				1.2	2.4			1.2				220V, 1 PH.	26	RE
AC	27	CU-2		20	2	1.5		2.7		1.2	2	20		GREENHOUSE 220V RCPT.	28	RE
AC	29	208V, 1 PHASE, 14 MCA				1.5			2.7	1.2				220V, 1 PH.	30	RE
						TOTAL KVA	7.7	7.6	6.9							
						TOTAL AMPS	64.2	63.3	57.5							

PANELBOARD INFORMATION	
DESIGNATION	L3 - GREENHOUSE
MAIN SIZE	125A
MAIN TYPE	100A MAIN C.B.
VOLTS	120/208
PHASE	3
Wire	4
AIC RATING	10kAIC
NEMA TYPE	INTERIOR
MOUNTING	SURFACE
SERVED FROM	100A DISC. FUSED AT 100A

LOAD TYPE	CONNECTED KVA	CONNECTED AMPS	DESIGN FACTOR	DESIGN LOAD KVA	DESIGN LOAD AMPS
LIGHTS	0.60	1.7	1.25	0.75	2.1
RECEPTACLES	15.20	42.2	1.0	15.20	42.2
MOTOR	0.00	0.0	NEC	0.00	0.0
AC	3.00	8.3	1.25	3.75	10.4
KITCHEN	0.00	0.0	1.0	0.00	0.0
OTHER	3.40	9.4	NEC	3.40	9.4
TOTAL	22.20	61.7		23.10	64.2

	kVA
PHASE A	7.7
PHASE B	7.6
PHASE C	6.9
UNBALANCE %	10.39

NOTES:

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5/27/2026

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PARTIAL REMODEL & ADDITION

GENESIS CNTR. BUILDING 'A'

3655 Research Dr. Bldg. A
NMSU Campus
Las Cruces, New Mexico

REVISION	DATE

Project no: 25.25
Date: May 2026
Sheet:

ELECTRICAL PANEL SCHEDULES

E700