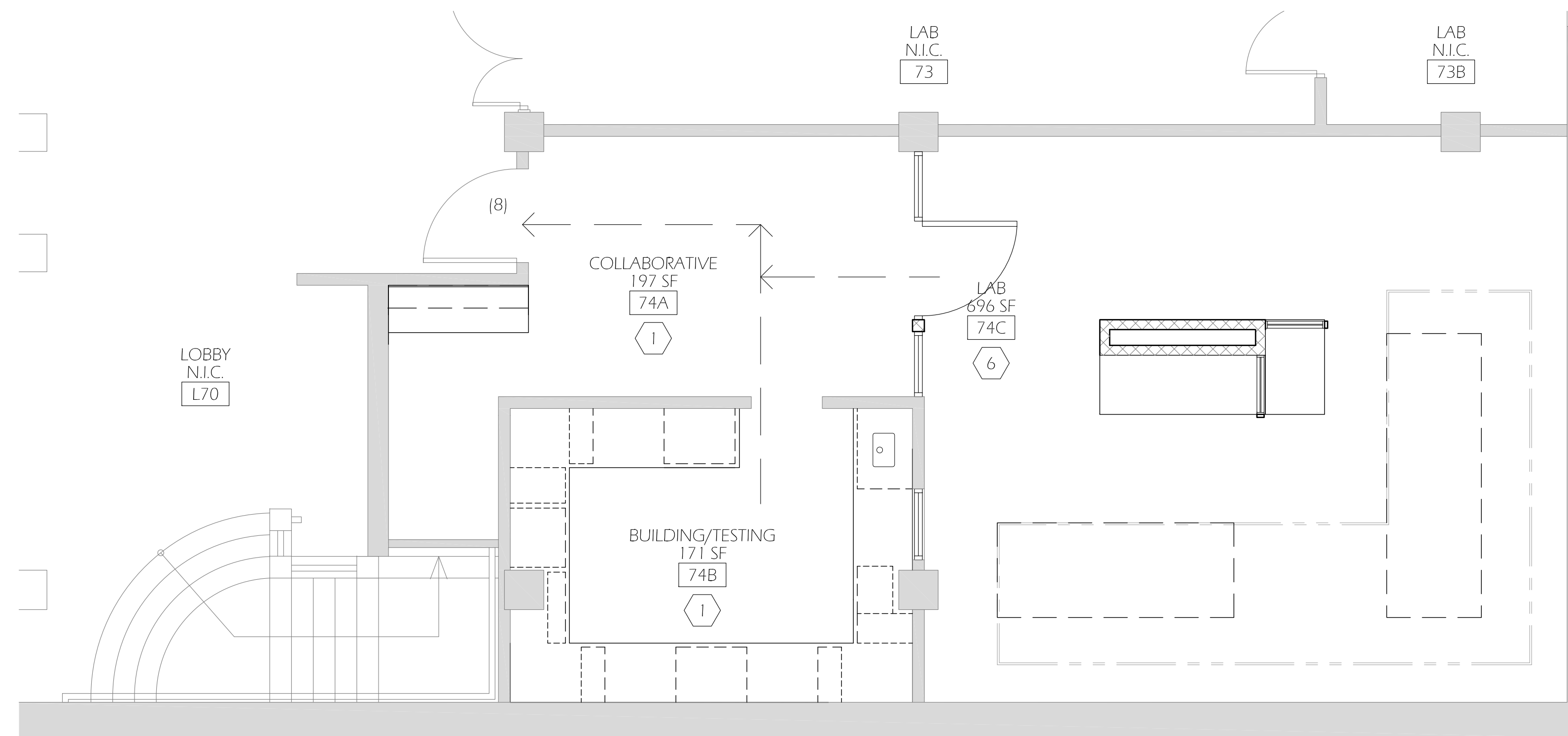


EXISTING FLOOR PLAN - BASEMENT



PROPOSED FLOOR PLAN - BASEMENT

CODE SUMMARY

BUILDING OCCUPANCY
B - EDUCATION ABOVE THE 12TH GRADE (304.1)

CONSTRUCTION TYPE
IIA / FULLY SPRINKLERED

AUTOMATIC SPRINKLER SYSTEM
NFPA 13

OSSC 2010 CODE ANALYSIS INFORMATION

CHAPTER 5 - GENERAL BUILDING HEIGHTS AND AREAS

BASE ALLOWABLE PER IIA CONSTRUCTION
B OCCUPANCY - 6 FLOORS / 25,000 MAX PER FLOOR
ACTUAL FLOORS / AREA:
5 FLOORS + BASEMENT / 25,000 SF PER FLOOR
THIS IS WITHIN ALLOWABLE WITHOUT TAKING INTO ACCOUNT SPRINKLER OR FRONTAGE INCREASES. PROJECT INCLUDES NO BUILDING SQUARE FOOTAGE INCREASE.

CHAPTER 6 - TYPES OF CONSTRUCTION

TYPE IIA CONSTRUCTION PER TABLE 601
STRUCTURAL FRAME 1 HR
BEARING WALLS EXT. 1 HR
BEARING WALLS INT. 1 HR
NON BEARING EXTERIOR WALLS SEE TABLE 602
NON BEARING INTERIOR WALLS 0 HR
FLOOR ASSEMBLIES 2 HR
ROOF ASSEMBLIES 1 HR

NOTE: ALL PROPOSED NEW CONSTRUCTION IS INTERIOR, NON BEARING WALLS. PENETRATIONS AT FLOORS AND ROOF TO BE FIRE STOPPED PER REQUIRED RATING OF ASSEMBLY

CHAPTER 7 - FIRE RESISTANCE-RATED CONSTRUCTION

708 FIRE PENETRATIONS
EXISTING 1 HOUR RATED CORRIDOR WALLS (FIRE PARTITIONS). TO BE REPLACED WITH NEW 1 HOUR RATED CONSTRUCTION WHERE REMOVED.

713 FIRE RESISTANT JOINT SYSTEMS
JOINTS IN OR BETWEEN FIRE RESISTANT RATED WALLS, FLOOR OR FLOOR / CEILING ASSEMBLIES AND ROOFS SHALL BE PROTECTED BY AN APPROVED FIRE RESISTANT JOINT SYSTEM WITH A RATING OF NOT LESS THAN THAT OF THE ASSEMBLY IN WHICH IT IS INSTALLED

717 CONCEALED SPACES
717.2.2 FIRESTOPPING REQUIRED IN SPACES OF STUD WALLS AND FURRED WALLS AT CEILING AND FLOOR LEVELS AND HORIZONTALLY AT INTERVALS NOT EXCEEDING 10 FEET.

717.3.3 DRAFTSTOPPING IN FLR/CLG ASSEMBLIES IS NOT REQUIRED IF SPRINKLERED TO NFPA 13

CHAPTER 8 - INTERIOR FINISHES
IN ACCORDANCE WITH OCCUPANCY AND CONSTRUCTION TYPE

CHAPTER 9 - FIRE PROTECTION SYSTEMS
PROJECT AREA TO BE FULLY SPRINKLERED. ALL WORK TO BE IN ACCORDANCE WITH NFPA 13.

CHAPTER 10 - MEANS OF EGRESS
OCCUPANT LOAD TABLE 1004.1.1
B OCCUPANT LOAD - LABORATORY, OFFICE AND SUPPORT SPACES:
1064 SF / 100 SF OCCUPANT LOAD FACTOR = 10 OCCUPANTS

M1014.3 COMMON PATH OF EGRESS TRAVEL
SHALL NOT EXCEED 75'; BUT EXCEPTION #1 APPLIES TO B AND S OCCUPANCY TO ALLOW 100' MAX WHEN SPRINKLERED TO NFPA 13. SEE DIAGRAMS FOR ILLUSTRATIONS OF LONGEST COMMON PATH IN PROJECT AREA.

1015.1 EXIT AND EXIT ACCESS DOORWAYS
NEW LAB PROJECT AREA PROVIDED WITH ONE EXIT. TABLE 1015.1 ALLOWS 1 MEANS OF EGRESS FOR OCCUPANT LOAD OF 49 OR FEWER.

1016.1 EXIT ACCESS TRAVEL DISTANCE
TABLE 1016.1 WITH SPRINKLER INCREASE ALLOWS WITH FOLLOWING:
B 300'
ACTUAL DISTANCES ARE UNDER 150'

1017.1 CORRIDORS
CORRIDORS ARE 1 HOUR RATED CONSTRUCTION

CHAPTER 11 - ACCESSIBILITY
1106 BUILDING ACCESSIBILITY, NEW CONSTRUCTION
NEW CONSTRUCTION TO BE IN ACCORDANCE WITH ACCESSABILITY REQUIREMENTS.

1108 FACILITY ACCESSIBILITY
BUILDING HAS EXISTING ACCESSIBLE ENTRY, ELEVATORS AND BATHROOMS

CHAPTER 24 - GLAZING
SECTION 2406 NOTES SAFETY GLAZING REQUIREMENTS

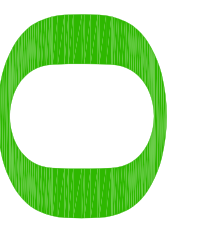
UFC CHAPTER 9, 906 FIRE EXTINGUISHERS
EXTINGUISHER TO BE PROVIDED PROXIMATE TO EACH EXIT FROM LAB PROJECT AREA

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CAPITAL CONSTRUCTION
1276 UNIVERSITY OF OREGON
EUGENE, OREGON 97403-12176

PROJECT NAME:
WILLAMETTE 74
ALEMAN LASER LAB

DRAWING TITLE: CODE ANALYSIS	
PROJECT NO.: CP14-043	
DATE ISSUED: 06/10/2014	
DATE DRAFTED: 05/29/2014	
CHECKED BY: K. SPAHN	DRAWN BY: M. LASALITA
PLOT SCALE: AS NOTED	

DRAWING NO.:
G002

1

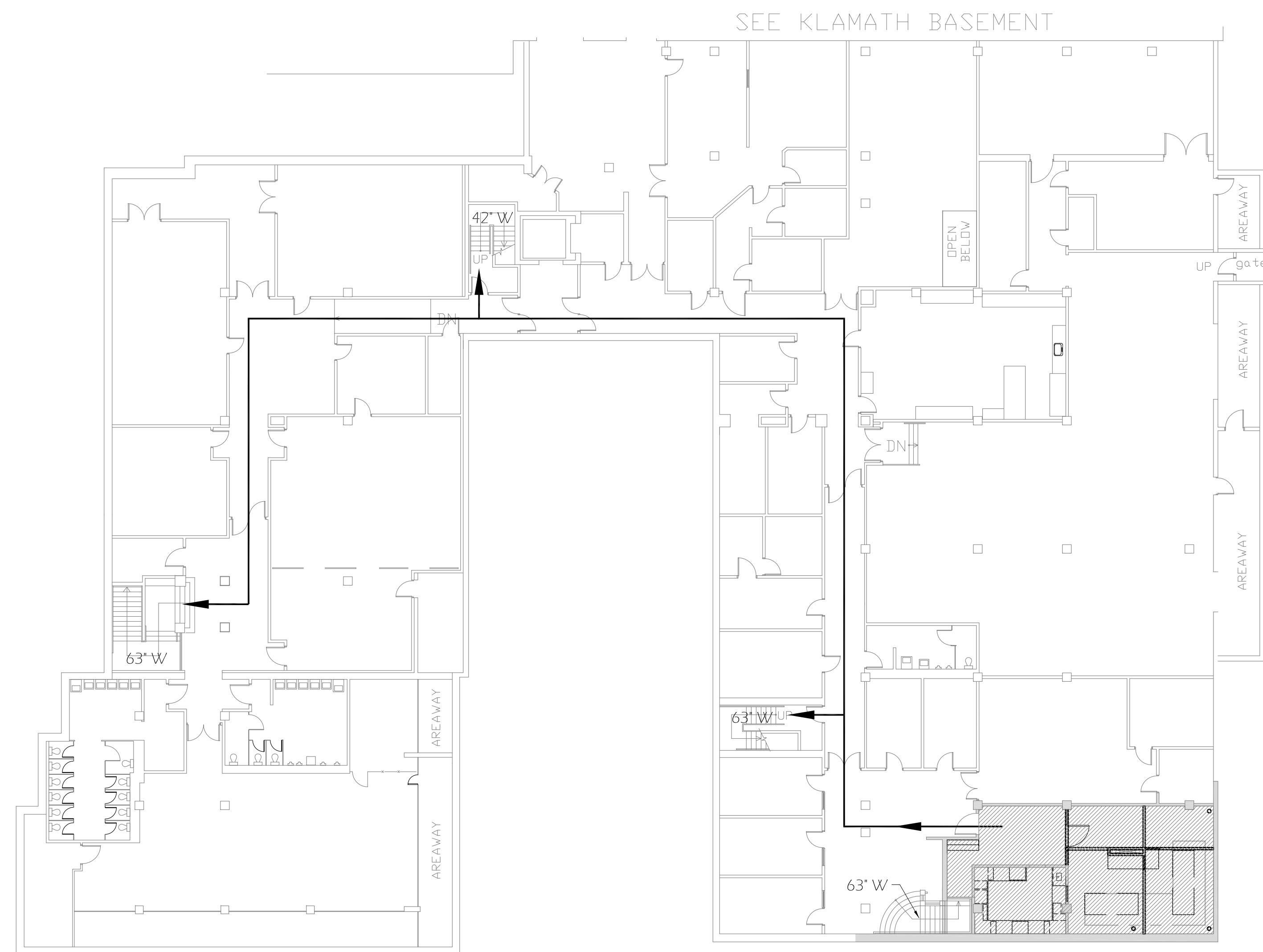
G002

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

2

G002

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



LEGEND

- EGRESS PATH
- ▨ AREA OF WORK

OCCUPANTS

COLLABORATIVE ROOM 74A
 197 S.F.
 100 O.L.F.
 1 OCCUPANTS
 1 EXIT

BUILDING/TESTING ROOM 74B
 171 S.F.
 100 O.L.F.
 1 OCCUPANT
 1 EXIT

LAB ROOM 74C
 696 SF
 100 O.L.F.
 6 OCCUPANT
 1 EXIT

EXITING NOTES:

NO CHANGE IN OCCUPANCY LOAD OR EGRESS CONDITIONS

- AREA PER FLOOR: AVERAGE 25,000 SQ. FT.
- OCCUPANCY LOAD FACTOR: 100 GROSS
- MINIMUM DESIGN OCCUPANCY: : 229 OCCUPANTS
- MIN. CORRIDOR WIDTH: 229 x 0.2 = 46'
- MIN. STAIR WIDTH = 229 x 0.3 = 69 INCHES TOTAL
- 5 STAIRS, SO EACH STAIR NEEDS MIN. 14 INCHES WIDTH. ALL EXISTING STAIR WIDTHS ARE GREATER THAN 14 INCHES, THUS IS COMPLIANT.
- EXISTING COMBINED STAIR WIDTH IS 258 INCHES. CAN ACCOMMODATE UP TO 1193 OCCUPANTS.

EXIT ACCESS TRAVEL DISTANCE:

- B OCCUPANCY, SPRINKLERED
- MAX. DISTANCE: 300 FEET (1016.1)
- MAX. EXISTING TRAVEL DISTANCE TO NEAREST EXIT ACCESS: 114 FEET

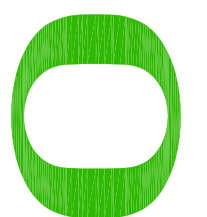
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PROJECT NAME:
 WILLAMETTE 74
 ALEMAN LASER LAB

DRAWING TITLE:
 EXITING DIAGRAM

PROJECT NO:
 CP14-043

DATE ISSUED:
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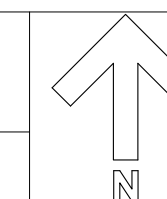
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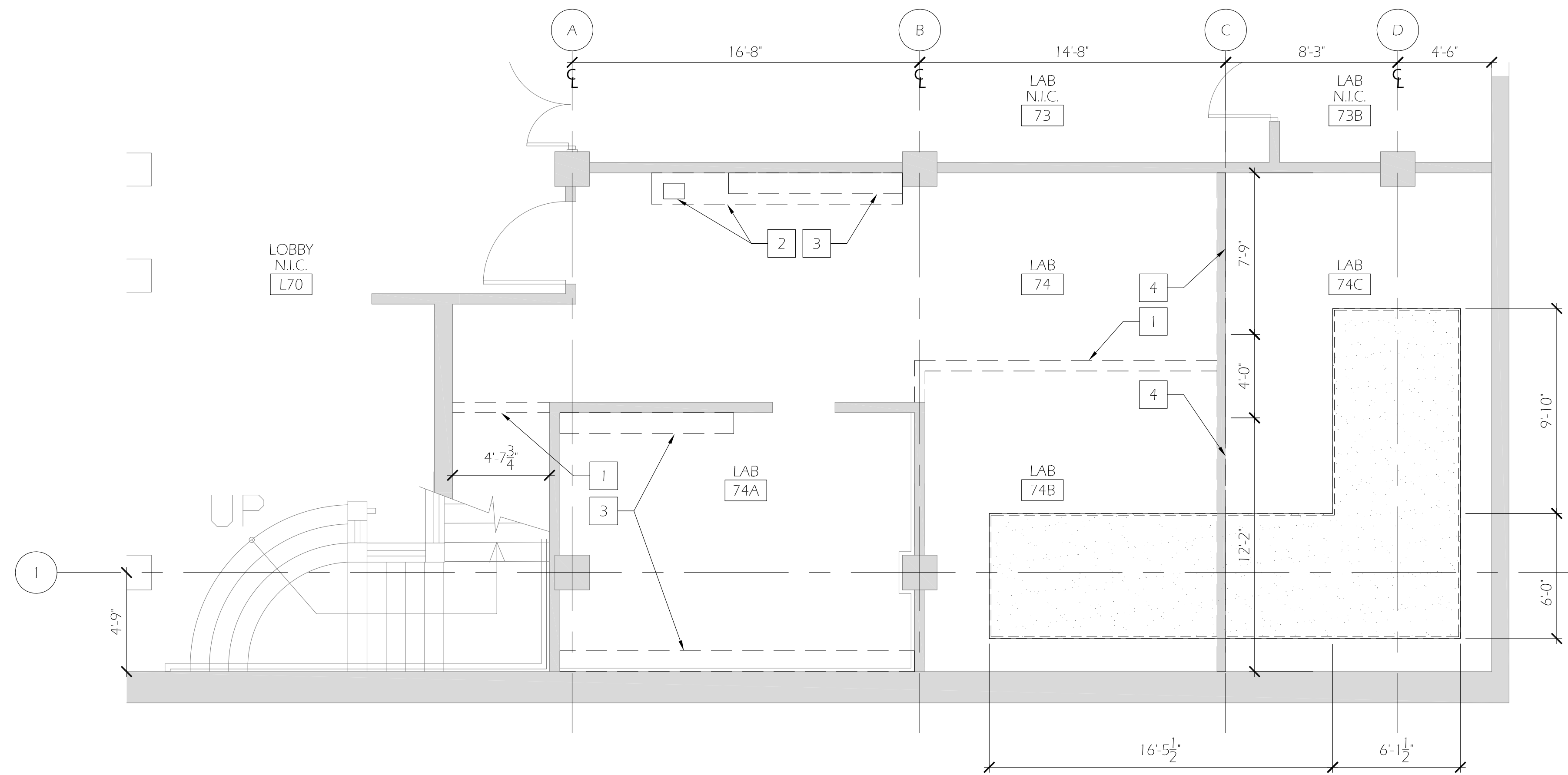
DRAWN BY:
 M. LASALITA

PLOT SCALE:
 AS NOTED

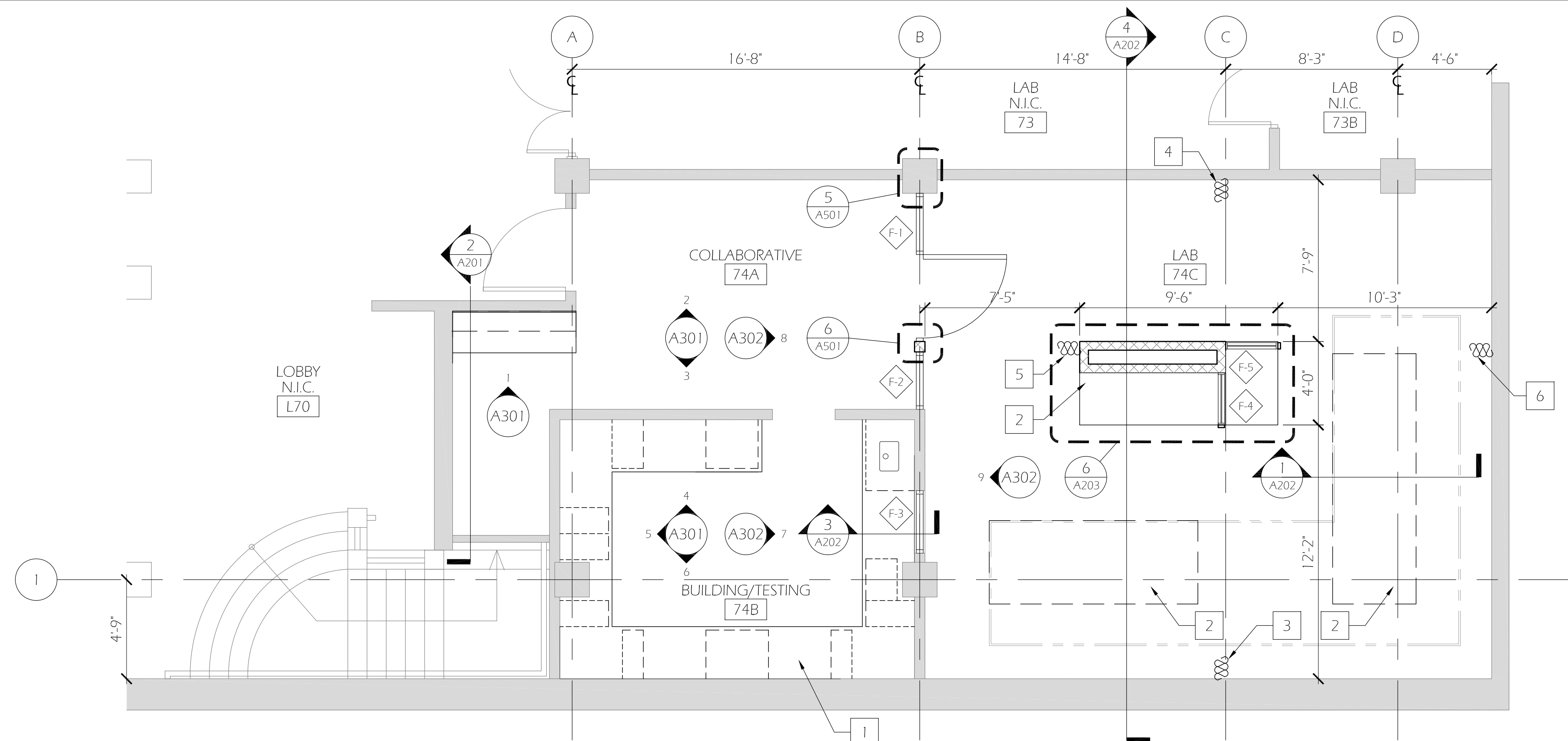
DRAWING NO.:

G003





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



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

GENERAL NOTES

1. PROTECT & PRESERVE ADJACENT (E) FINISHES TO REMAIN FROM DAMAGE CAUSED BY DEMOLITION & CONSTRUCTION. CONTRACTOR TO REPAIR INCIDENTAL DAMAGE AT OWN EXPENSE.
2. AT ALL LOCATIONS WHERE EXPOSED LABORATORY PIPING & PLUMBING EXISTS, DECOMMISSION & CUT/CAP/REMOVE WHEN POSSIBLE.
3. ANY NECESSARY OR DESIRED ABATEMENT TO BE COORDINATED BY OWNER.
4. ALL NEW FIXTURES AND EQUIPMENT TO BE CONTRACTOR FURNISHED, CONTRACTOR INSTALLED UNLESS NEEDED OTHERWISE.
5. CONTRACTOR TO PATCH TO FULL DEPTH WITH GROUT ANY REMAINING HOLES IN FLOOR SLAB OR WALLS AFTER DEMOLITION WHICH ARE NOT TO BE REUSED.
6. ALL DIMENSIONS ARE TO FINISH SURFACES U.N.O.
7. PAINT ALL WALLS, HARD CEILINGS, NEW AND EXISTING UTILITIES IN ALL NEW WORK AREAS. UTILITIES TO BE PAINTED TO INCLUDE ALL SUPPLY AND RETURN DUCTWORKS, PLUMBING AND ELECTRICAL PIPING, ALL SUPPORTING ELEMENTS, EXISTING AND NEW MECHANICAL COMPONENTS.
8. IN WALLS, PROVIDE BLOCKING ATTACHED TO STUDS AS BACKING AND SUPPORT FOR WALL MOUNTED EQUIPMENT. PROVIDE THREE BINDS OF BLOCKING FOR FOR SHELVING BRACKET SUPPORT.

DEMO KEYED NOTES

- 1 WALL TO BE REMOVED, UP TO STRUCTURE ABOVE
- 2 SINK, PIPES AND ASSOCIATED BASE CABINET TO BE REMOVED
- 3 SHELVES TO BE REMOVED
- 4 EXISTING FRAME AND CURTAIN TRACK TO BE REMOVED AS PART OF WALL DEMOLITION
- 5 WALL TO BE REMOVED, UP TO DIMENSION TO ALLOW INSTALLATION OF NEW CURTAIN TRACK AT 8'-6" A.F.F. AS SHOWN ON SECTION 4/A202 AND DETAIL 3/A501
- 6 WALL TO BE REMOVED UP TO DIMENSION TO ALLOW INSTALLATION OF NEW CURTAIN TRACK AT 7'-2" A.F.F., AS SHOWN ON SECTION 4/A202 AND DETAIL 3/A501

LEGEND

- XXX
- REMOVE EXISTING 12 x 12 VCT TILE AND ASSOCIATED RUBBER BASE
- NEW STATIC - DISSIPATIVE RUBBER FLOORING

NEW WORK KEYED NOTES

- 1 FENALIC RESIN COUNTERTOP
- 2 SUSPENDED SHELVING, SEE S101 AND S102
- 3 DARKENING CURTAIN A TO BE INSTALLED IN OPENING, 12'-1" WIDE BY 8'-4" TALL
- 4 DARKENING CURTAIN B TO BE INSTALLED IN OPENING, 7'-8 1/2" WIDE BY 7'-0" TALL
- 5 DARKENING CURTAIN C TO BE INSTALLED IN OPENING, 10'-11 5/8" WIDE BY 7'-0" TALL
- 6 DARKENING CURTAIN D, TO BE INSTALLED IN OPENING, 10'-1 1/2" WIDE BY 7'-0" TALL

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CAPITAL CONSTRUCTION
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PROJECT NAME:
WILLAMETTE 74
ALEMAN LASER LAB

DRAWING TITLE:
DEMO/NEW WORK FP

PROJECT NO.:
CP14-043

DATE ISSUED:
06/10/2014

DATE DRAFTED:
05/29/2014

CHECKED BY:
K. SPAHN

DRAWN BY:
M. LASALITA

PLOT SCALE:
AS NOTED

DRAWING NO.:
A101

GENERAL NOTES

General Notes		
No.	Rev./Issue	Date



DEMO KEYED NOTES

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10

NEW KEYED NOTES

- 11
- 12
- 13
- 14
- 15
- 16
- 17
- 18
- 19
- 20

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PROJECT NAME:
 WILLAMETTE 74
 ALEMAN LASER LAB

DRAWING TITLE:
 DEMO/NEW WORK RCP

PROJECT NO.:
 CP14-043

DATE ISSUED:
 06/10/2014

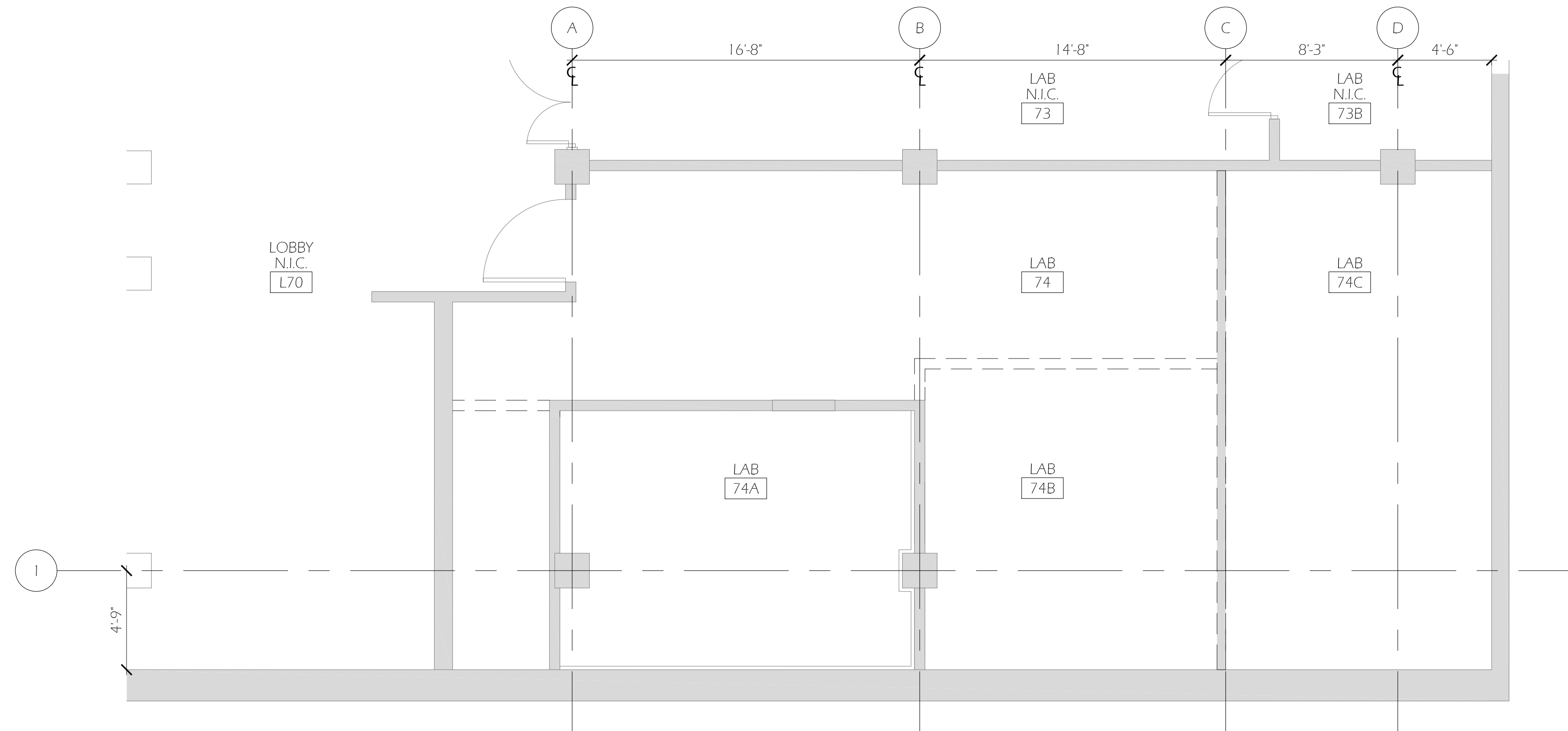
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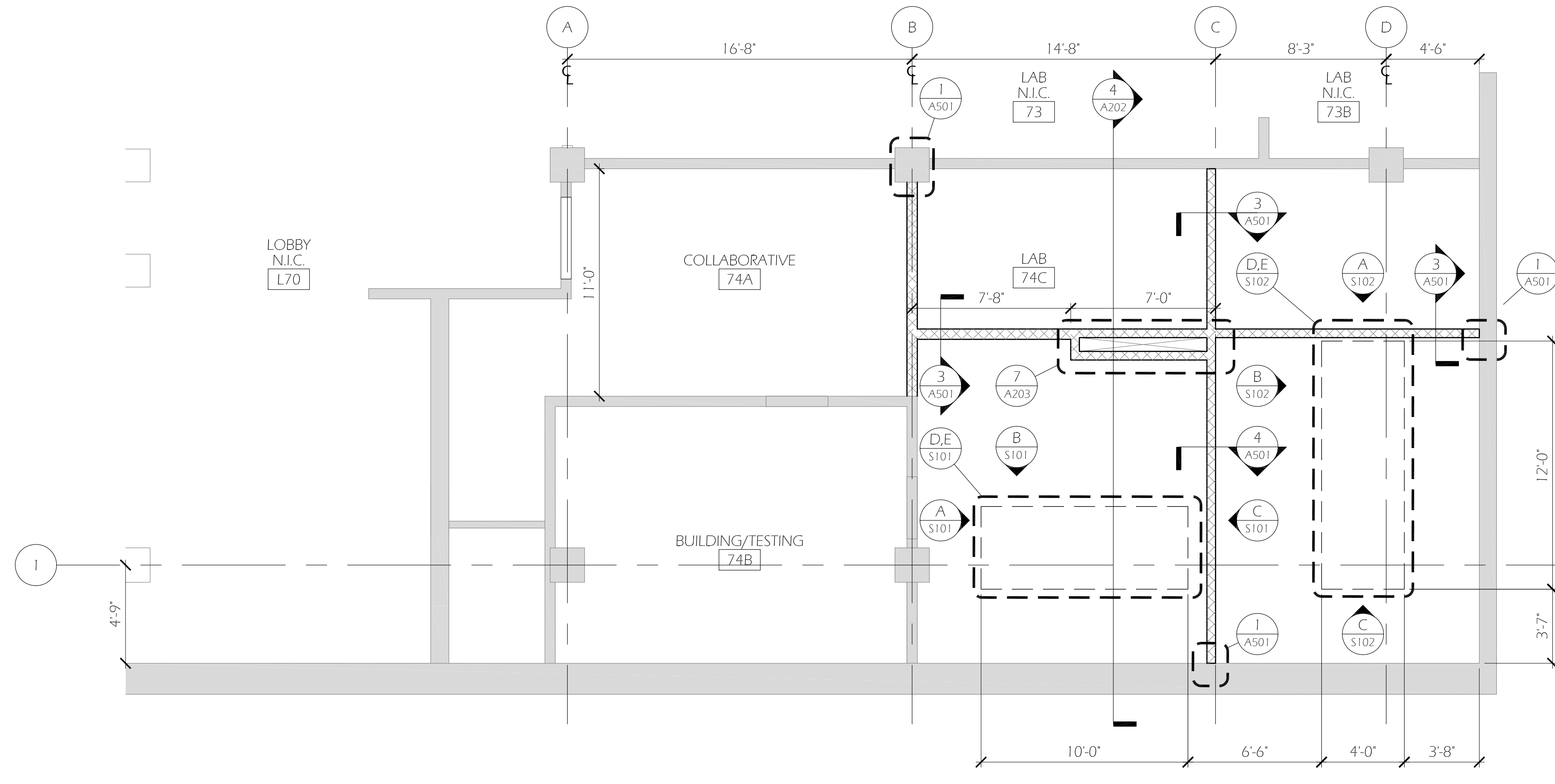
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 M. LASALITA

PLOT SCALE:
 AS NOTED

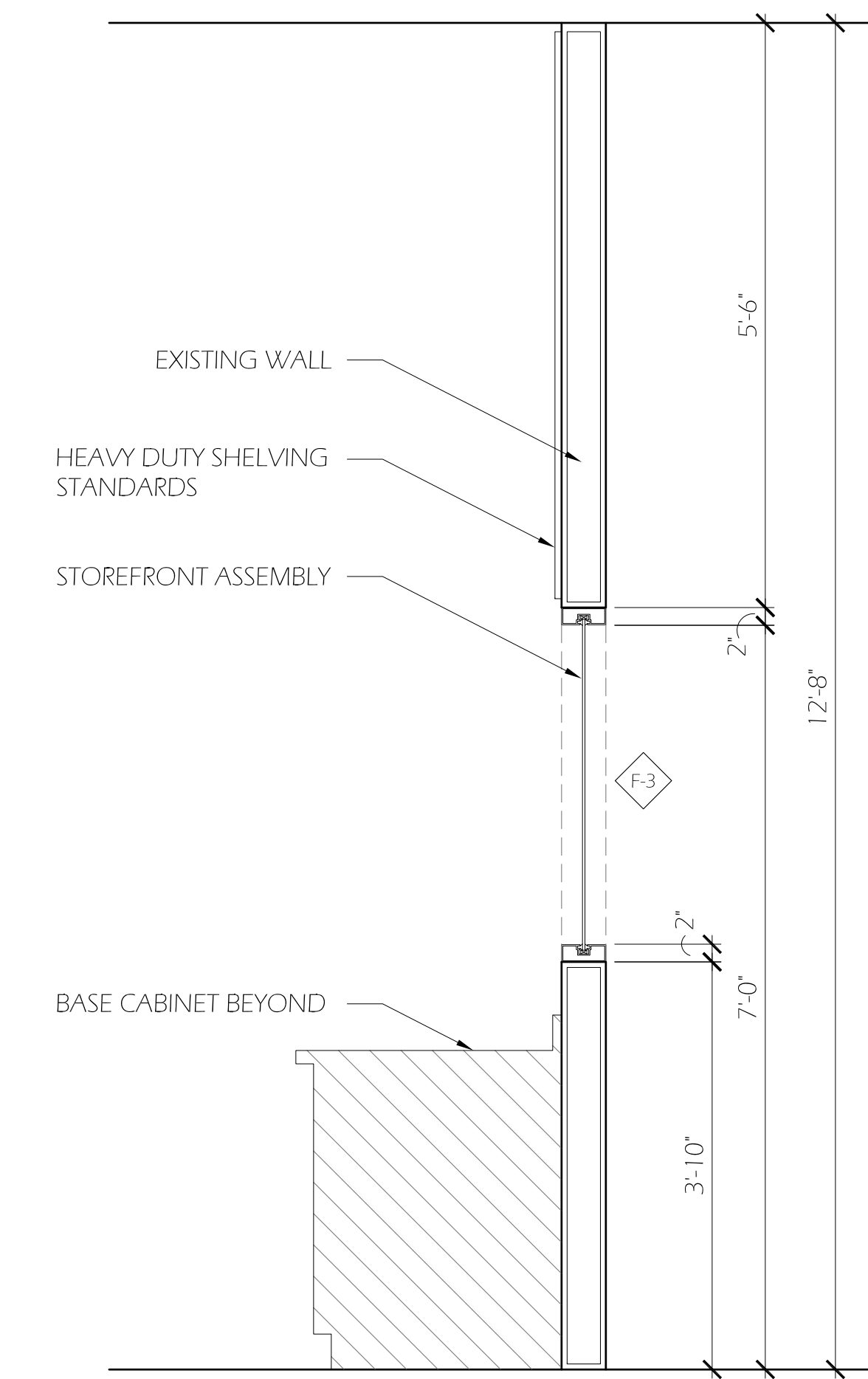
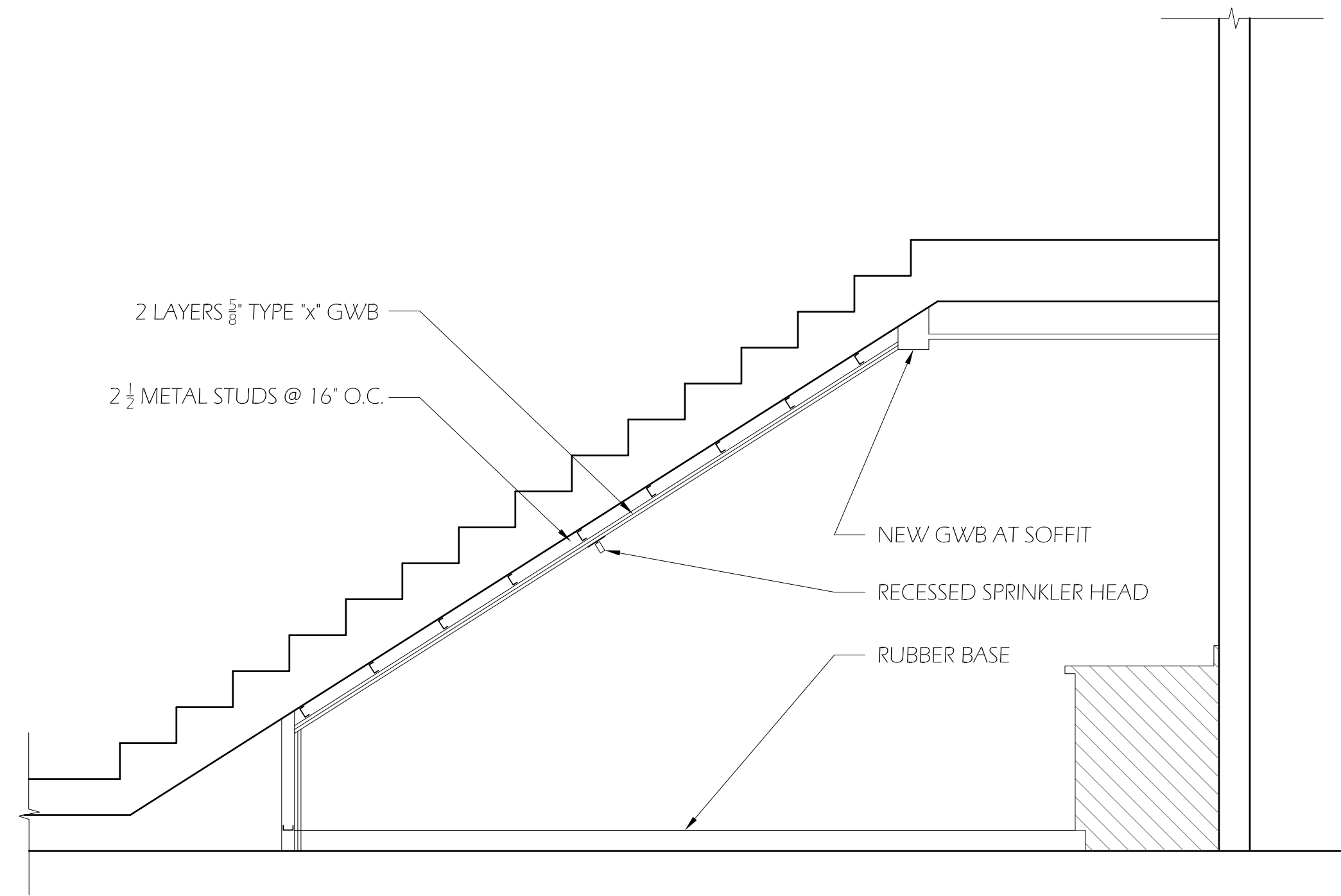
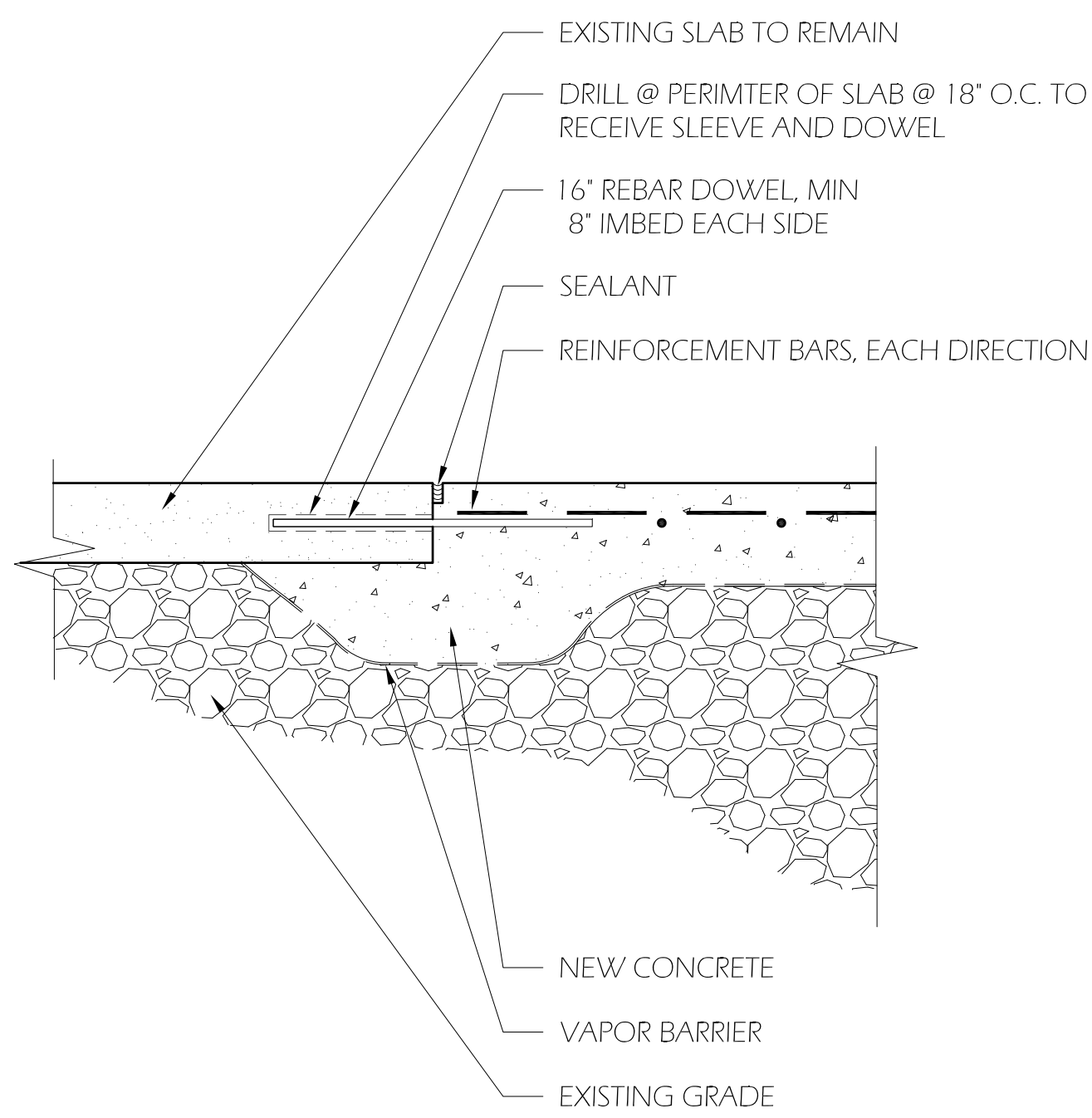
DRAWING NO.:
A102



1 REFLECTED CEILING PLAN - DEMOLITION
 A102 SCALE: 1/4" = 1'-0"



2 REFLECTED CEILING PLAN - NEW WORK
 A102 SCALE: 1/4" = 1'-0"



1 NEW SLAB SECTION

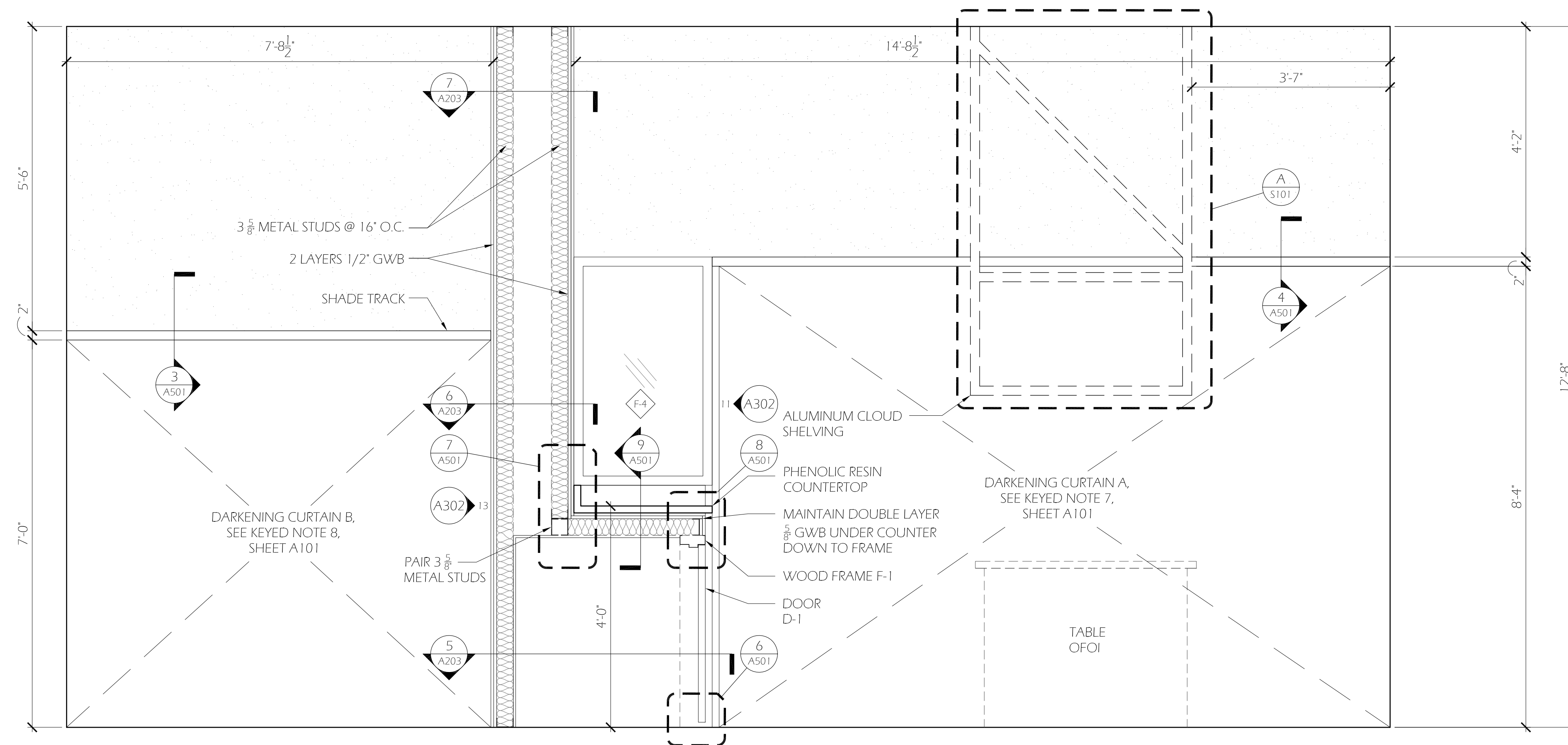
A202 SCALE: 1 1/2" = 1'-0"

2 SECTION AT STAIR

A202 SCALE: 1/2" = 1'-0"

3 SECTION

A202 SCALE: 3/4" = 1'-0"



4 ISLAND SECTION

A202 SCALE: 1 1/2" = 1'-0"

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PROJECT NAME:
WILLAMETTE 74
ALEMAN LASER LAB

DRAWING TITLE:
SECTIONS

PROJECT NO.:
CP14-043

DATE ISSUED:
06/10/2014

DATE DRAFTED:
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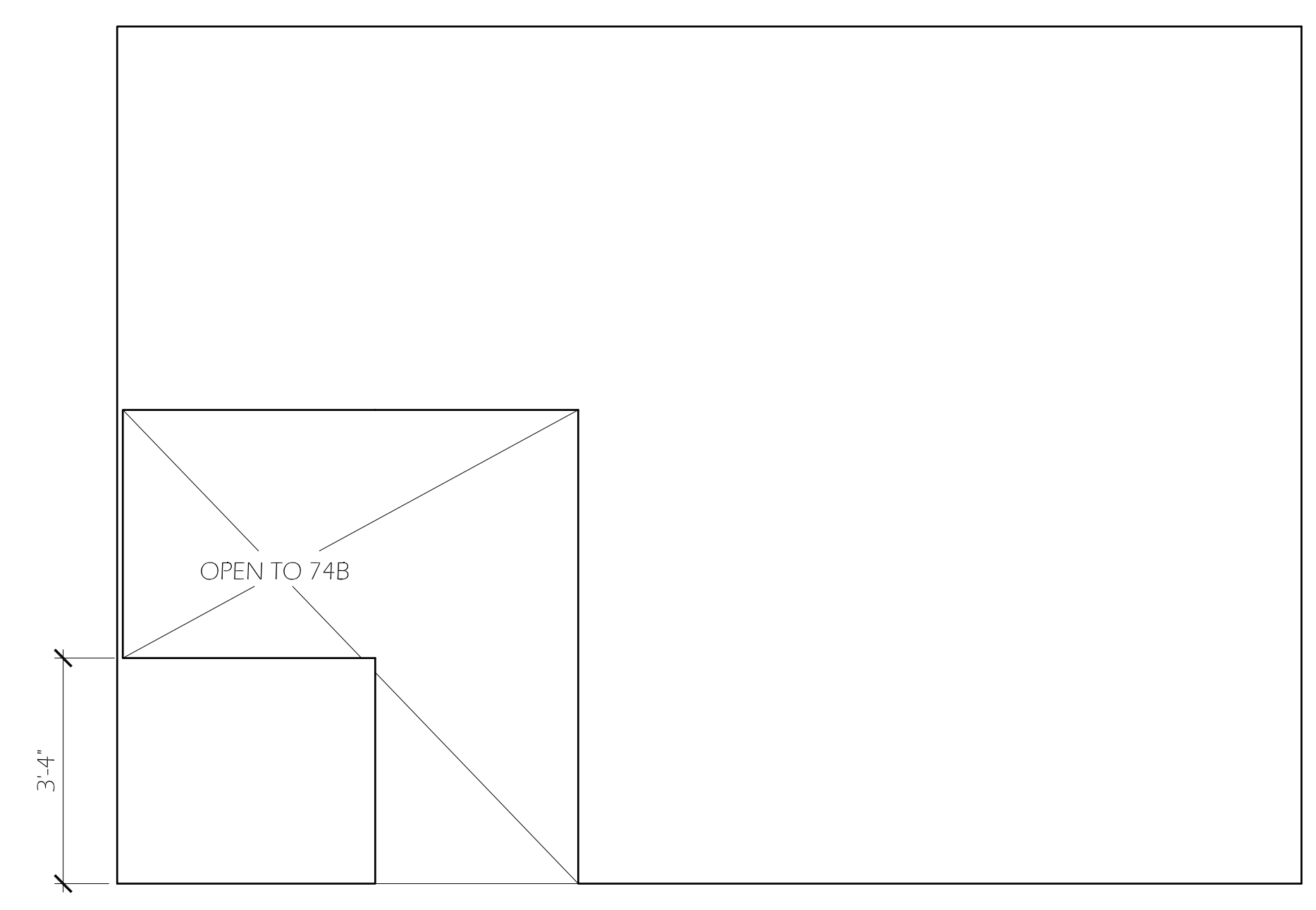
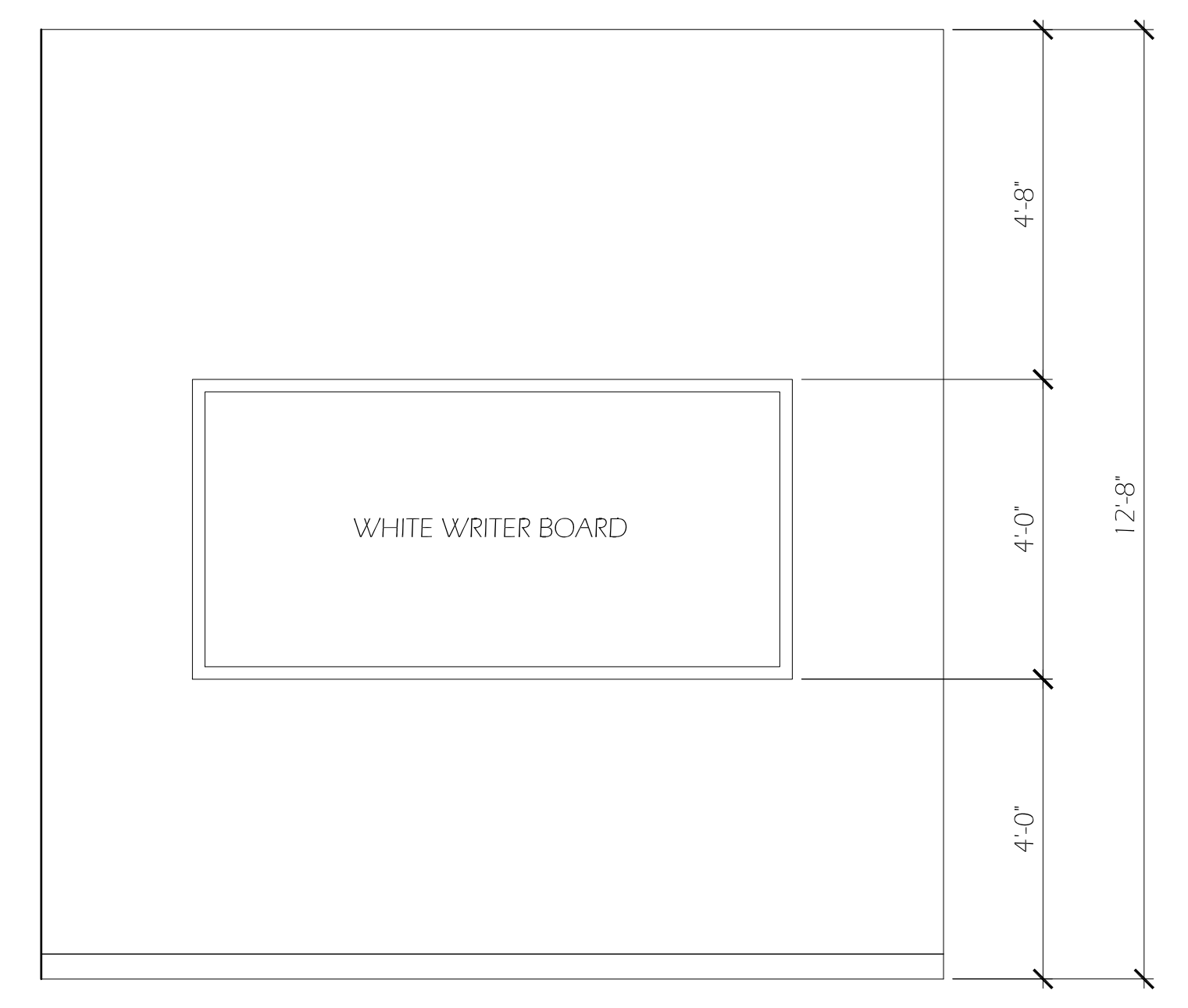
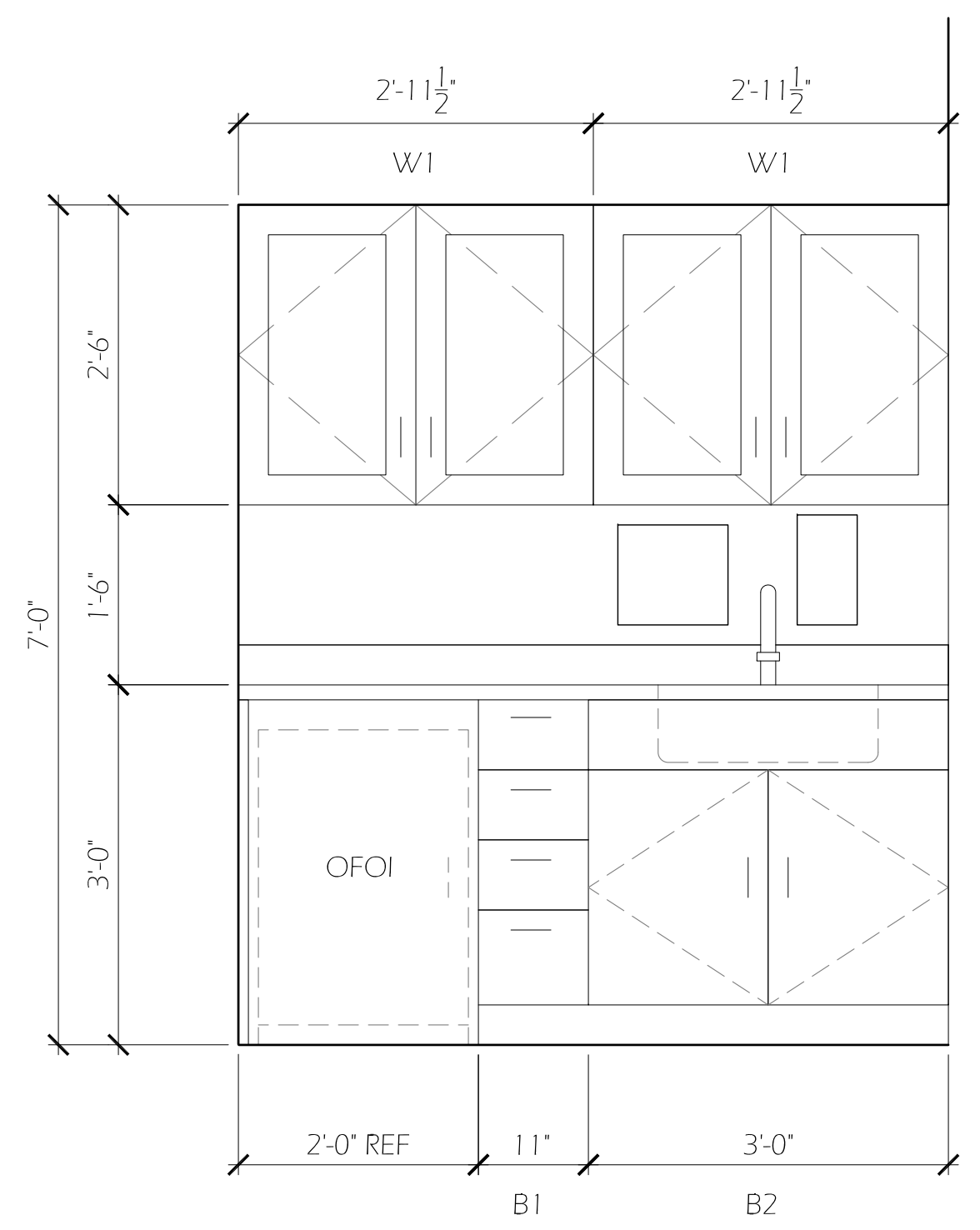
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K. SPAHN

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M. LASALITA

PLOT SCALE:
AS NOTED

DRAWING NO.:

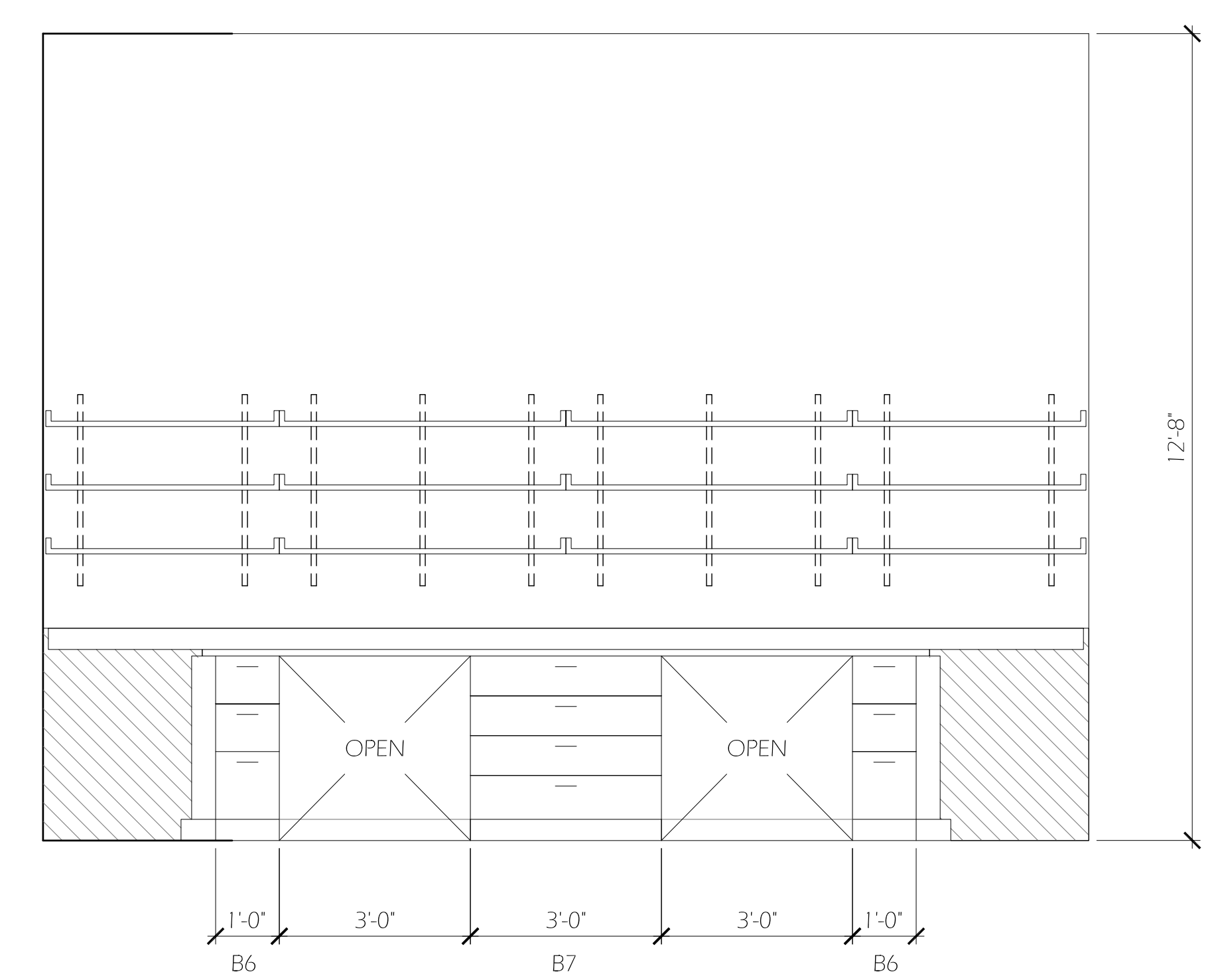
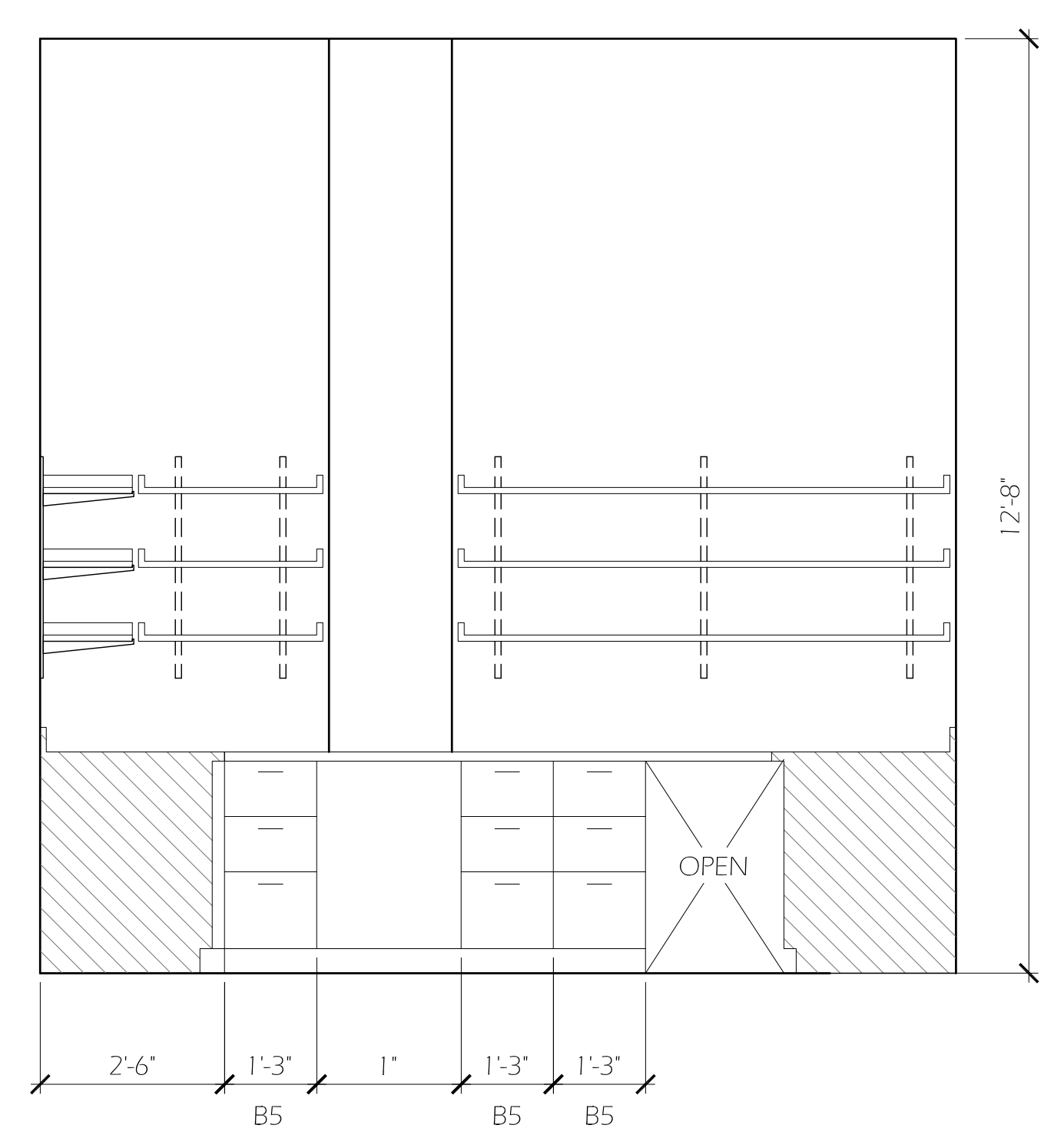
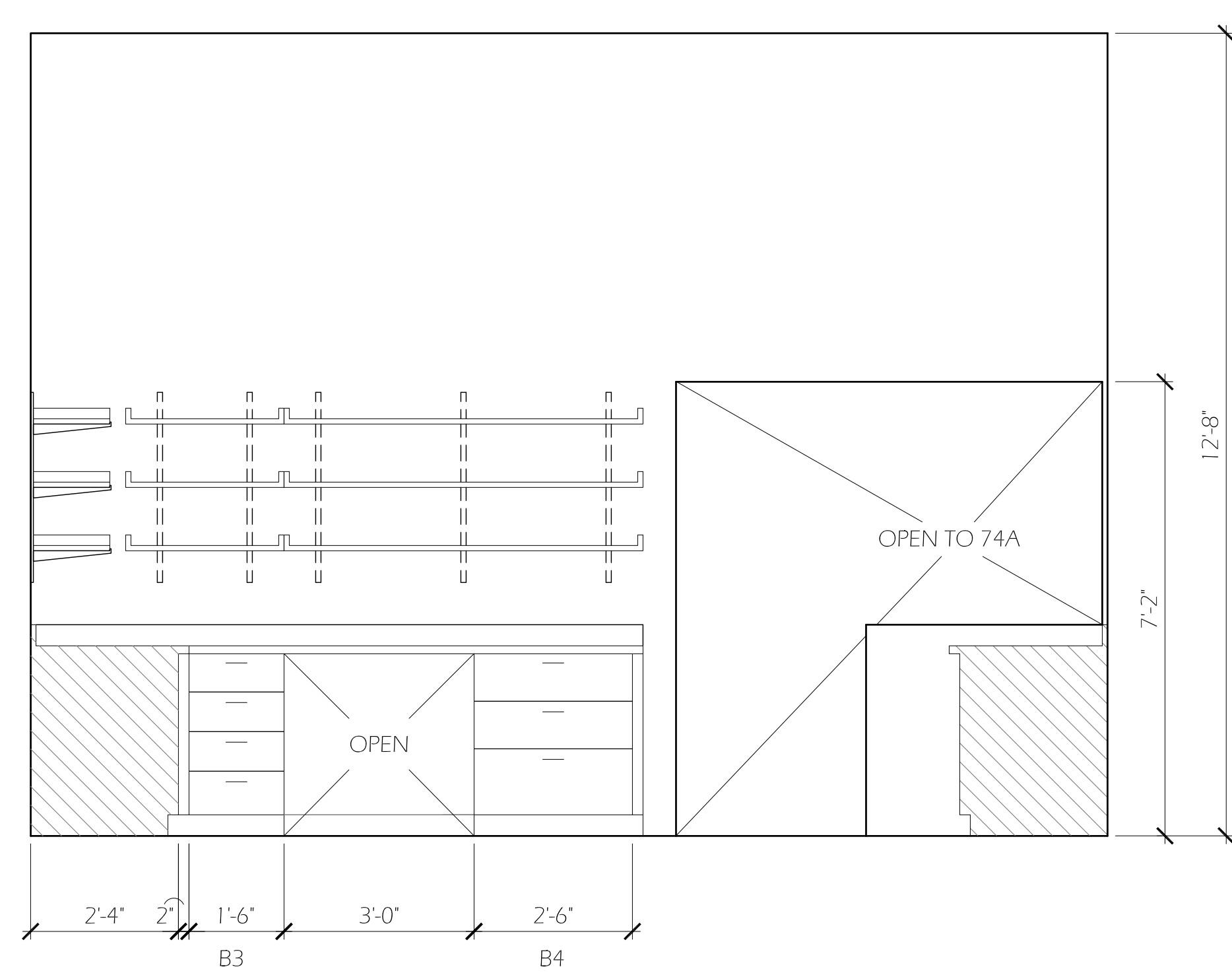
A202



1 KITCHENETTE
A301 SCALE: 3/4" = 1'-0"

2 ELEVATION - 74A COLLABORATIVE - NORTH
A301 SCALE: 1/2" = 1'-0"

3 ELEVATION - 74A
A301 SCALE: 1/2" = 1'-0"



4 BUILDING/TESTING 74B NORTH ELEVATION
A301 SCALE: 1/2" = 1'-0"

5 BUILDING/TESTING 74B WEST ELEVATION
A301 SCALE: 1/2" = 1'-0"

6 BUILDING/TESTING 74B SOUTH ELEVATION
A301 SCALE: 1/2" = 1'-0"

General Notes

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PROJECT NAME:
WILLAMETTE 74
ALEMAN LASER LAB

DRAWING TITLE:
ELEVATIONS

PROJECT NO.:
CP14-043

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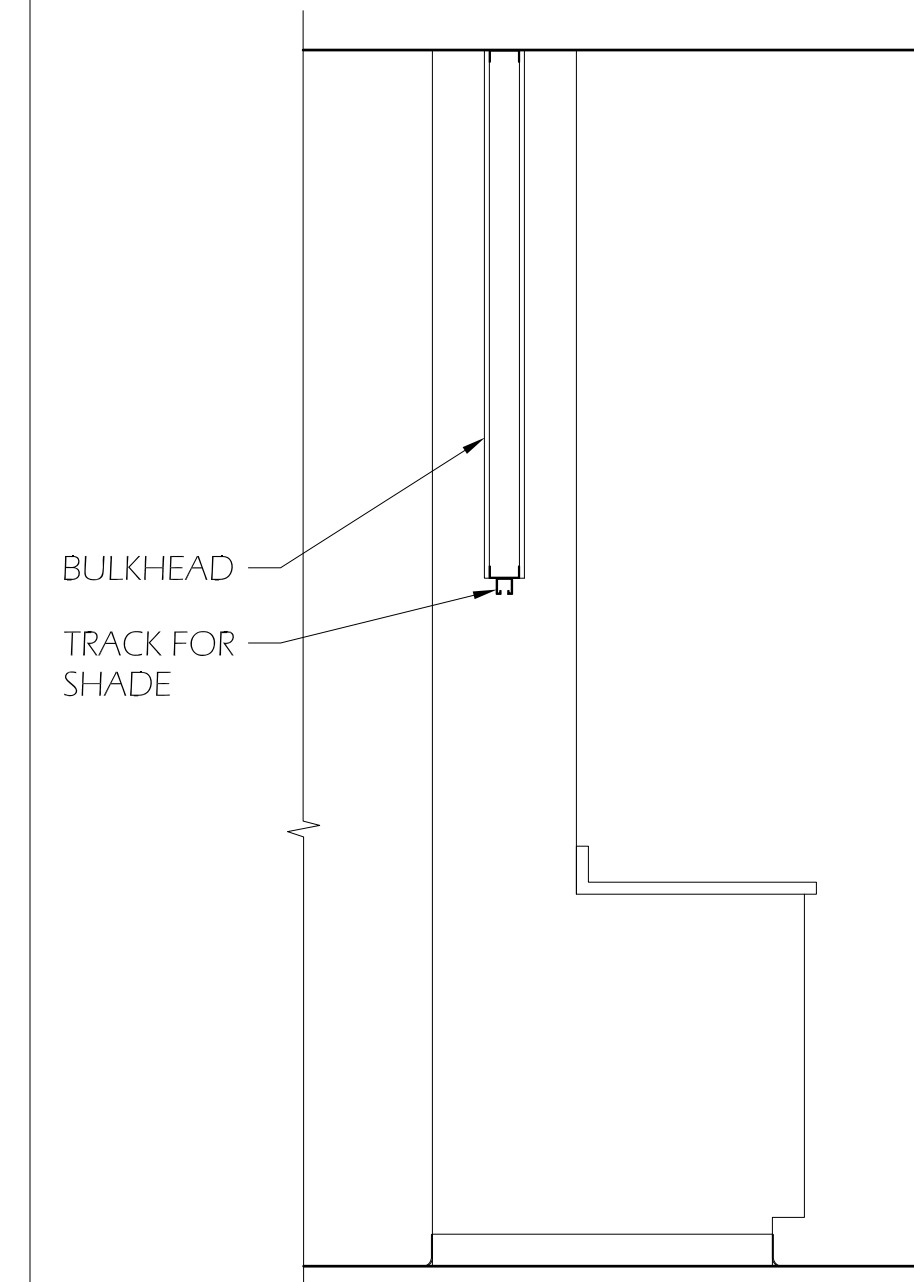
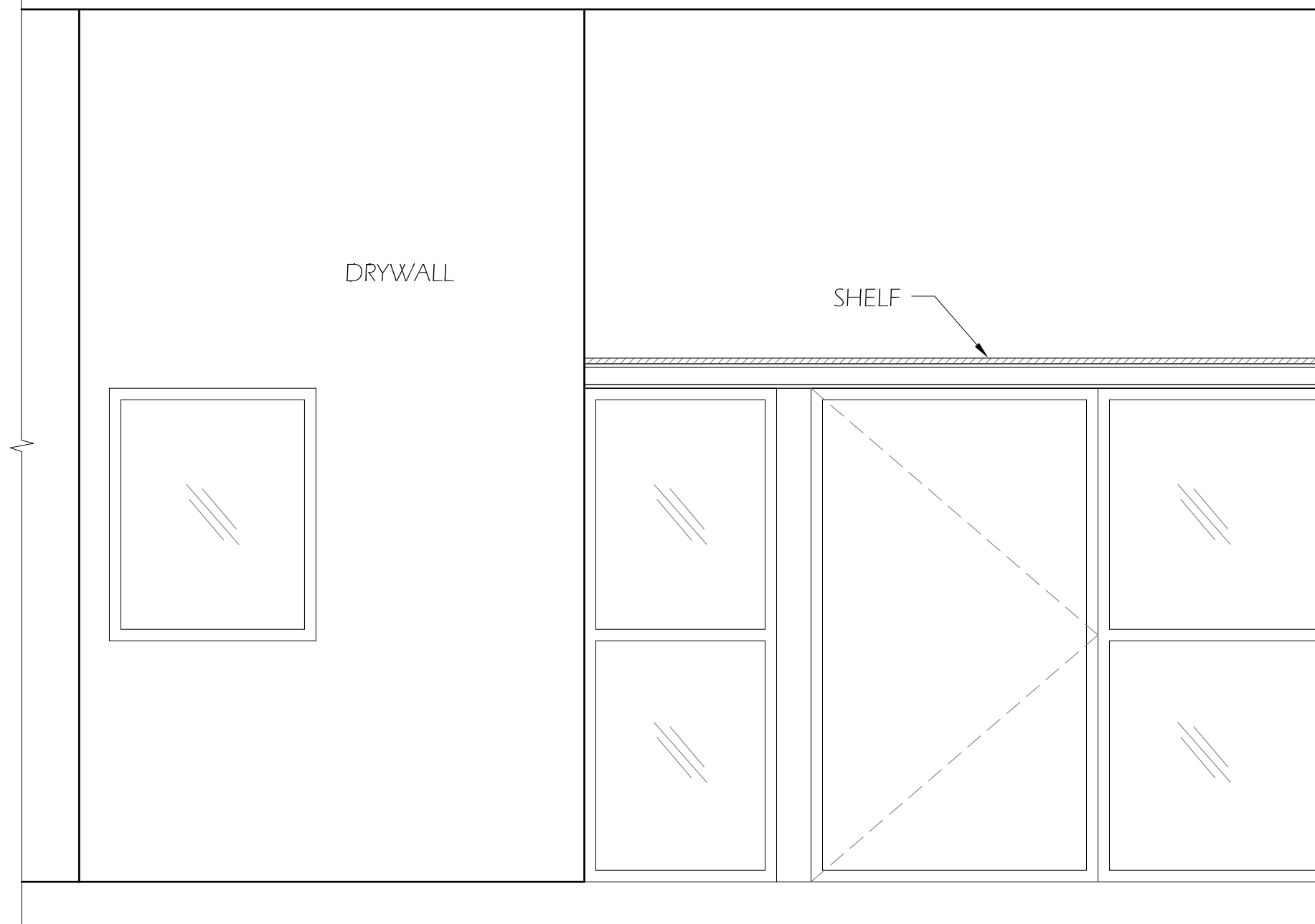
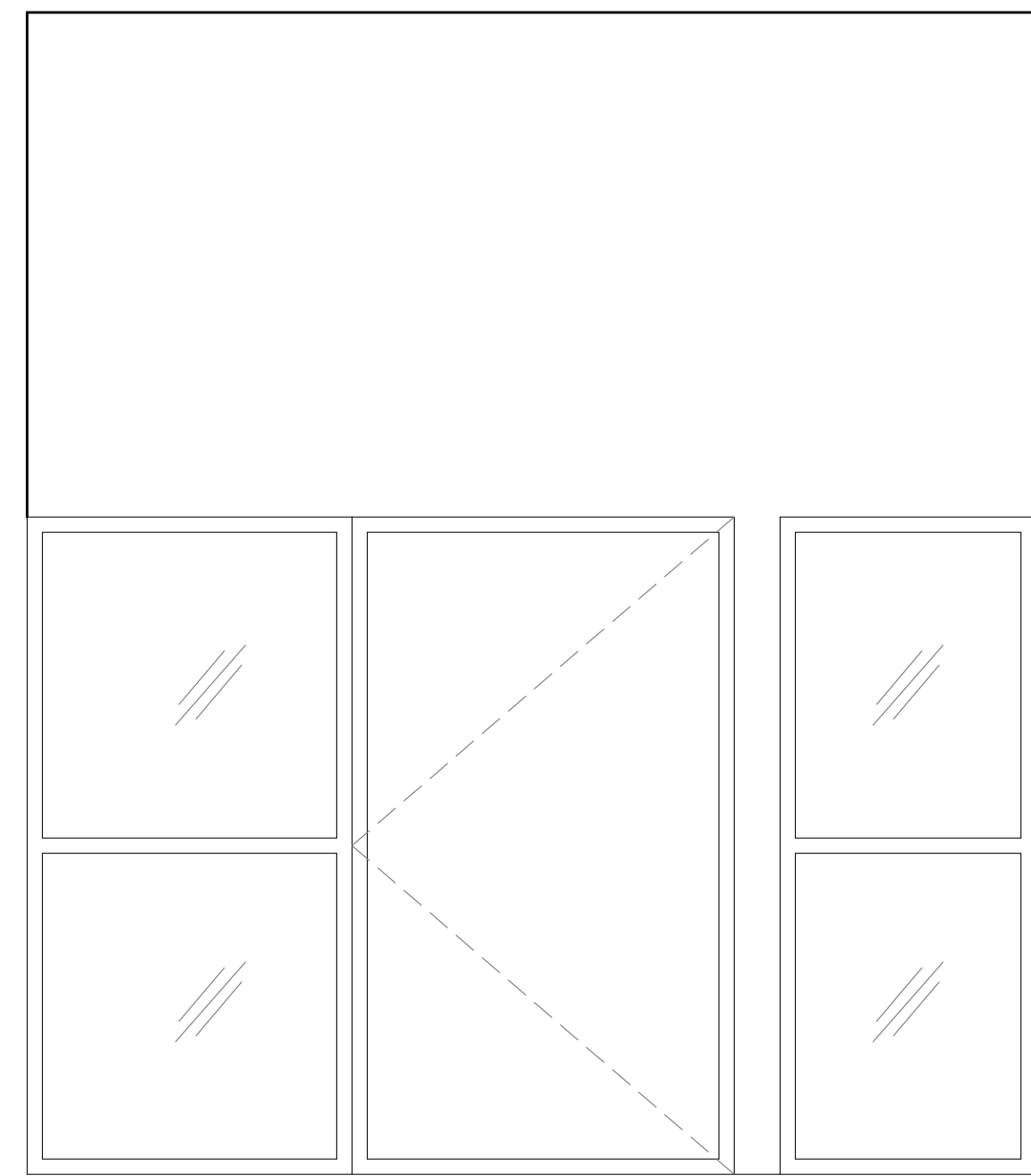
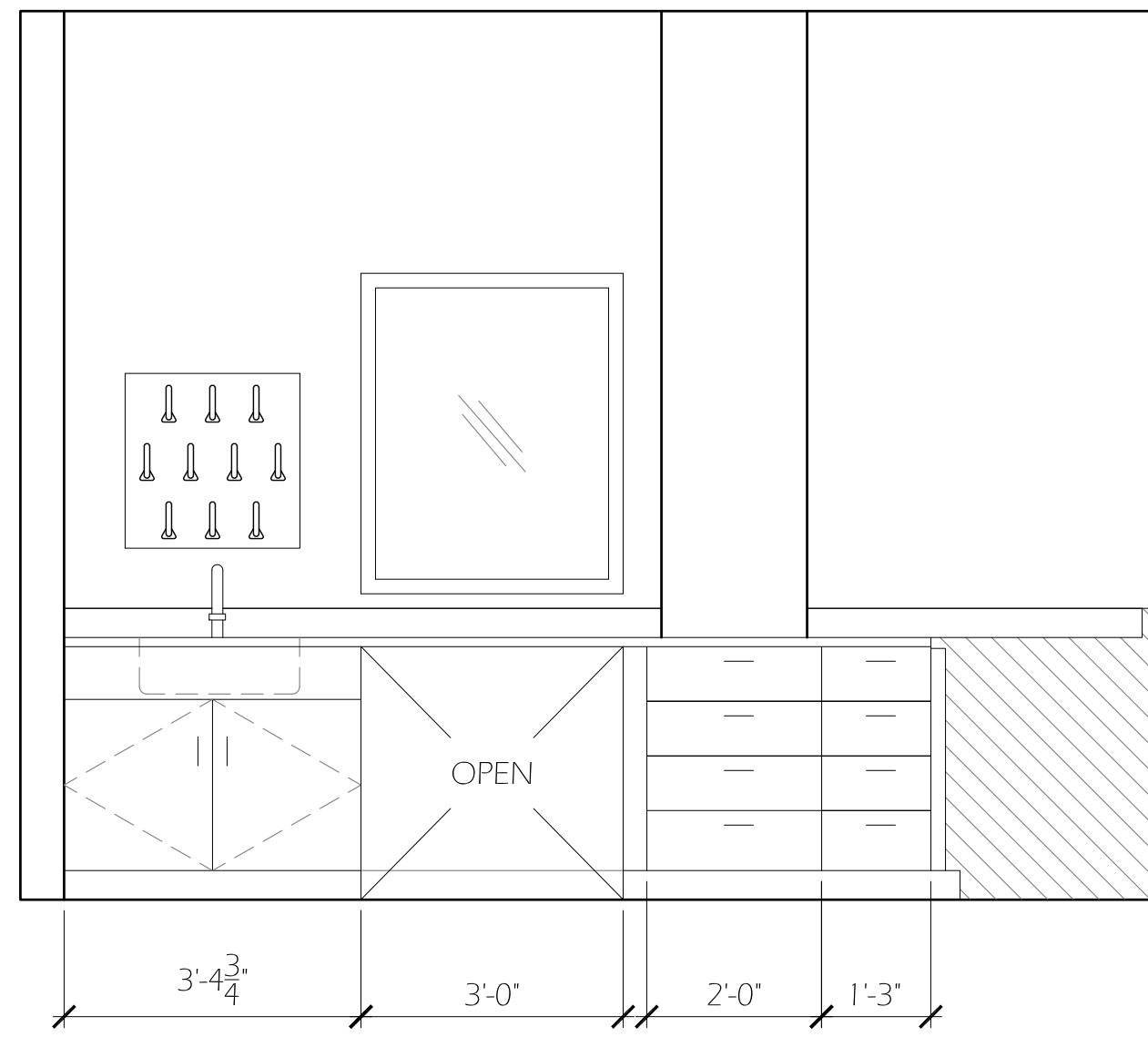
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PLOT SCALE:
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A301



7 ELEVATION

A302 SCALE: 1/2" = 1'-0"

8 ELEVATION - 74A COLLABORATIVE - EAST WALL

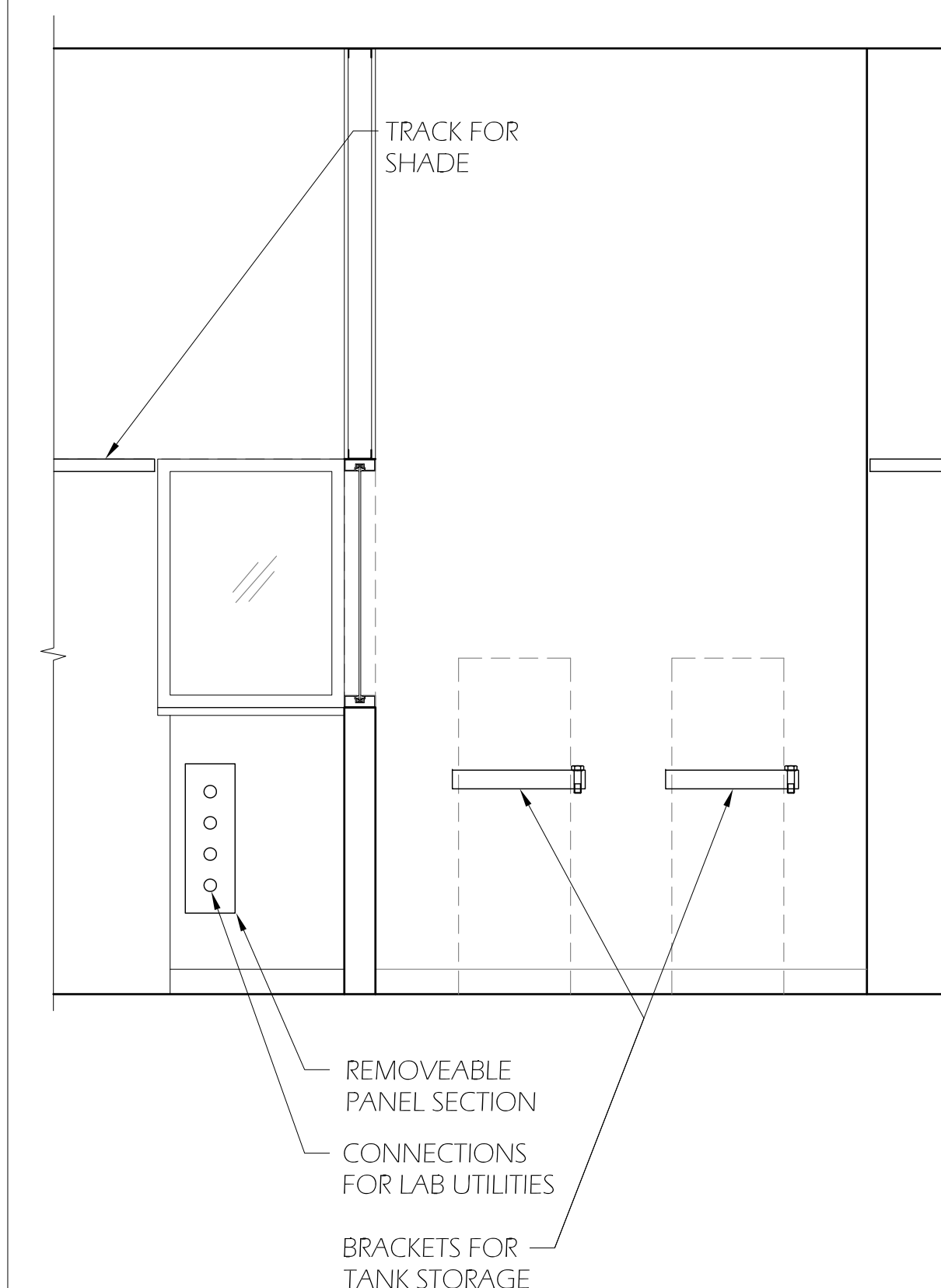
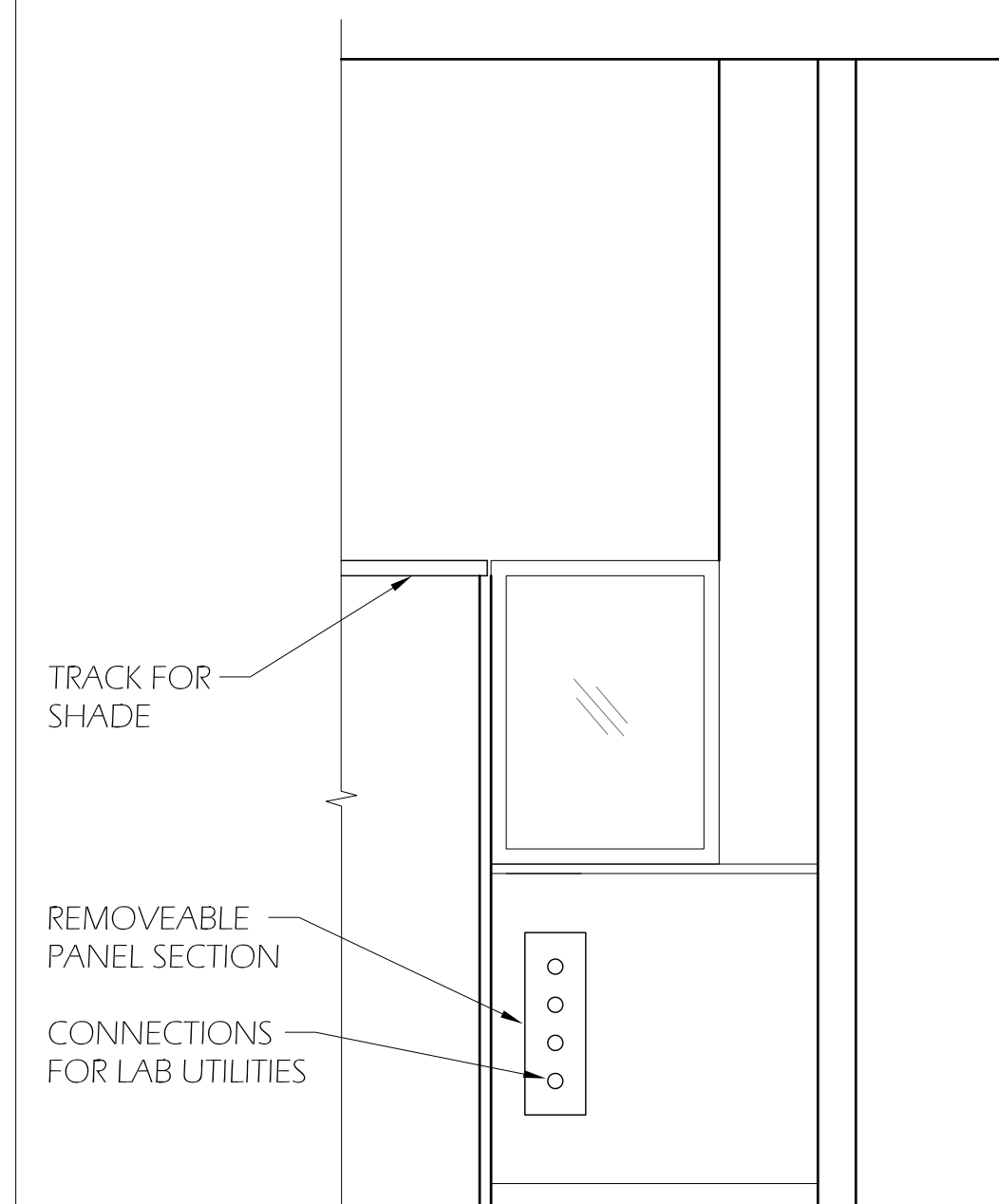
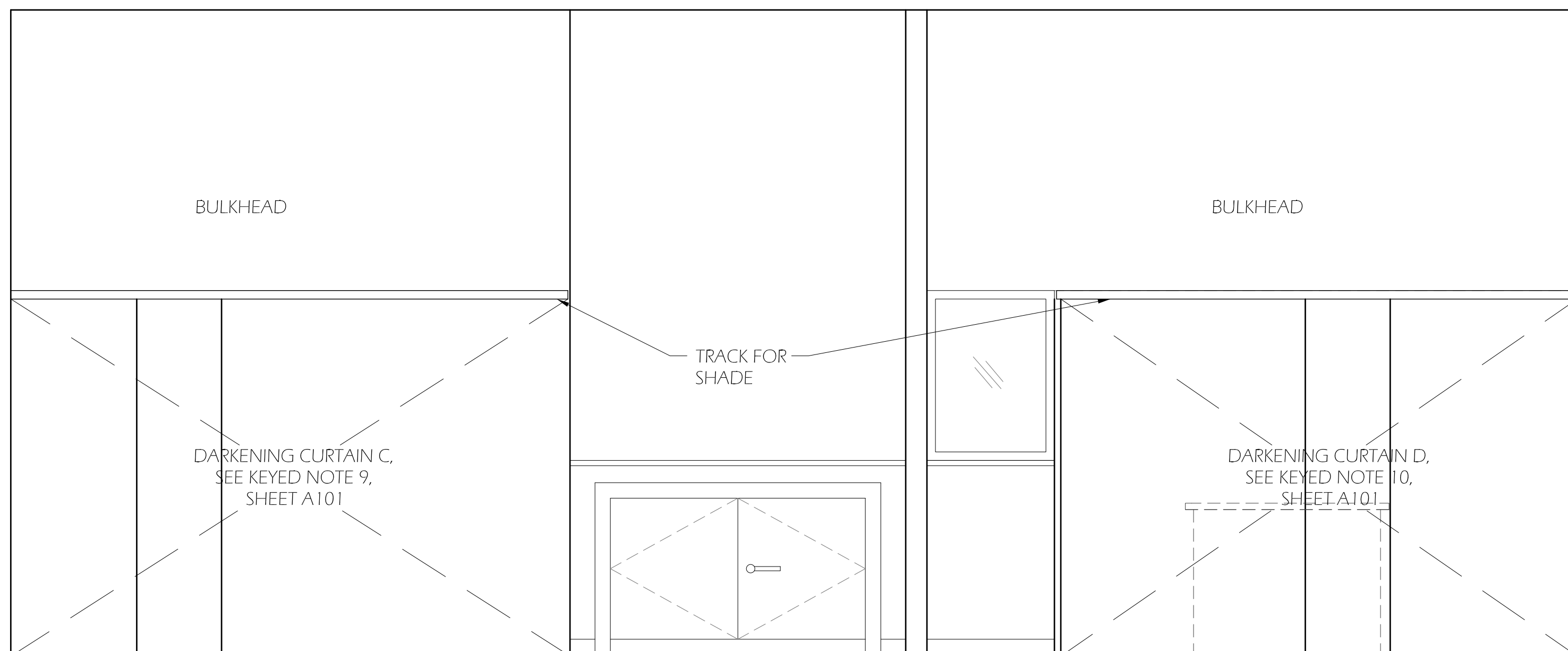
A302 SCALE: 1/2" = 1'-0"

9 ELEVATION

A302 SCALE: 1/2" = 1'-0"

10 PUMP STATION - WEST ELEVATION

A302 SCALE: 1/2" = 1'-0"



11 PUMP STATION - SOUTH ELEVATION

A302 SCALE: 1/2" = 1'-0"

12 PUMP STATION - EAST ELEVATION

A302 SCALE: 1/2" = 1'-0"

13 PUMP STATION - NORTH ELEVATION

A302 SCALE: 1/2" = 1'-0"

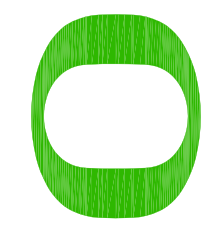
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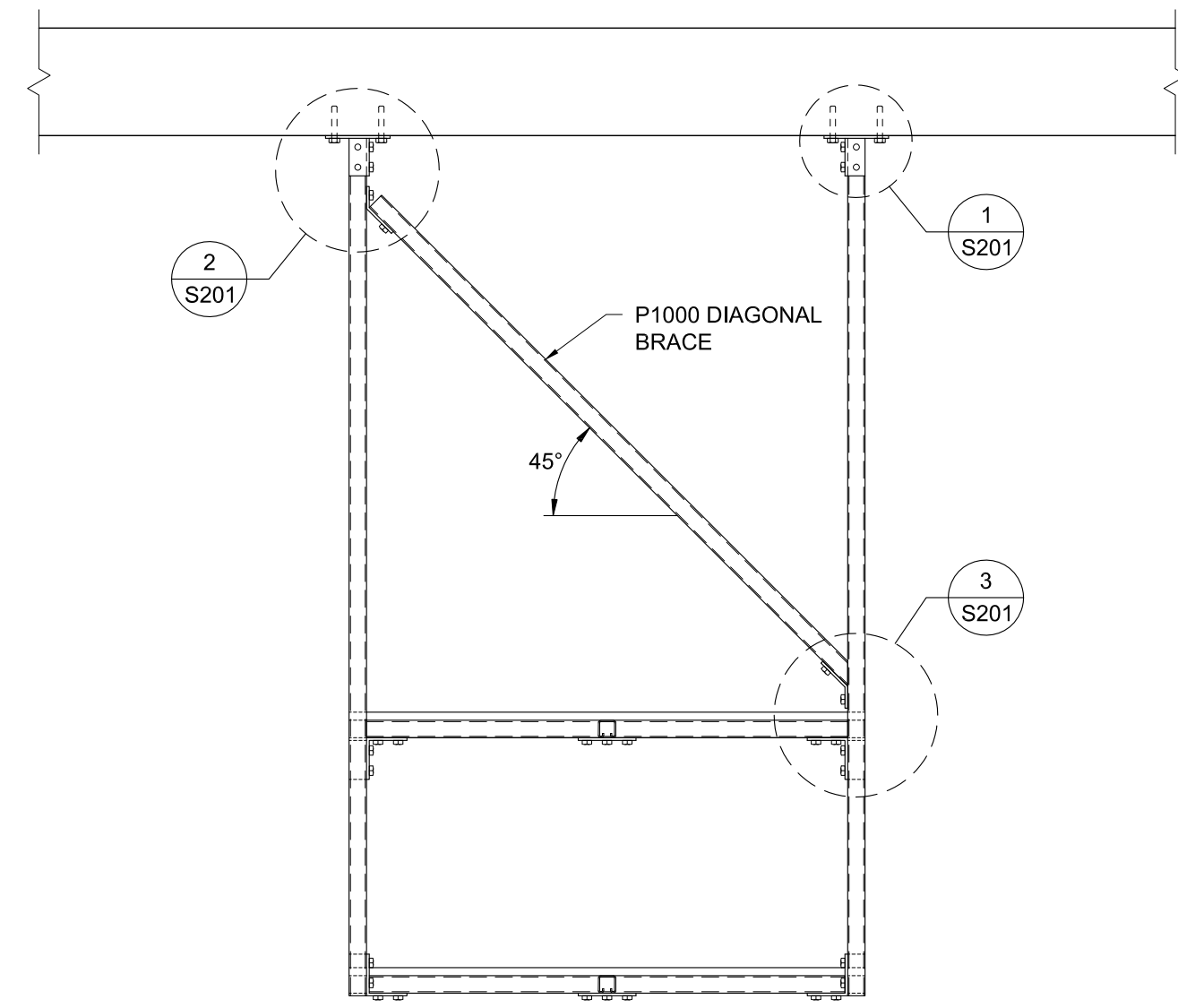


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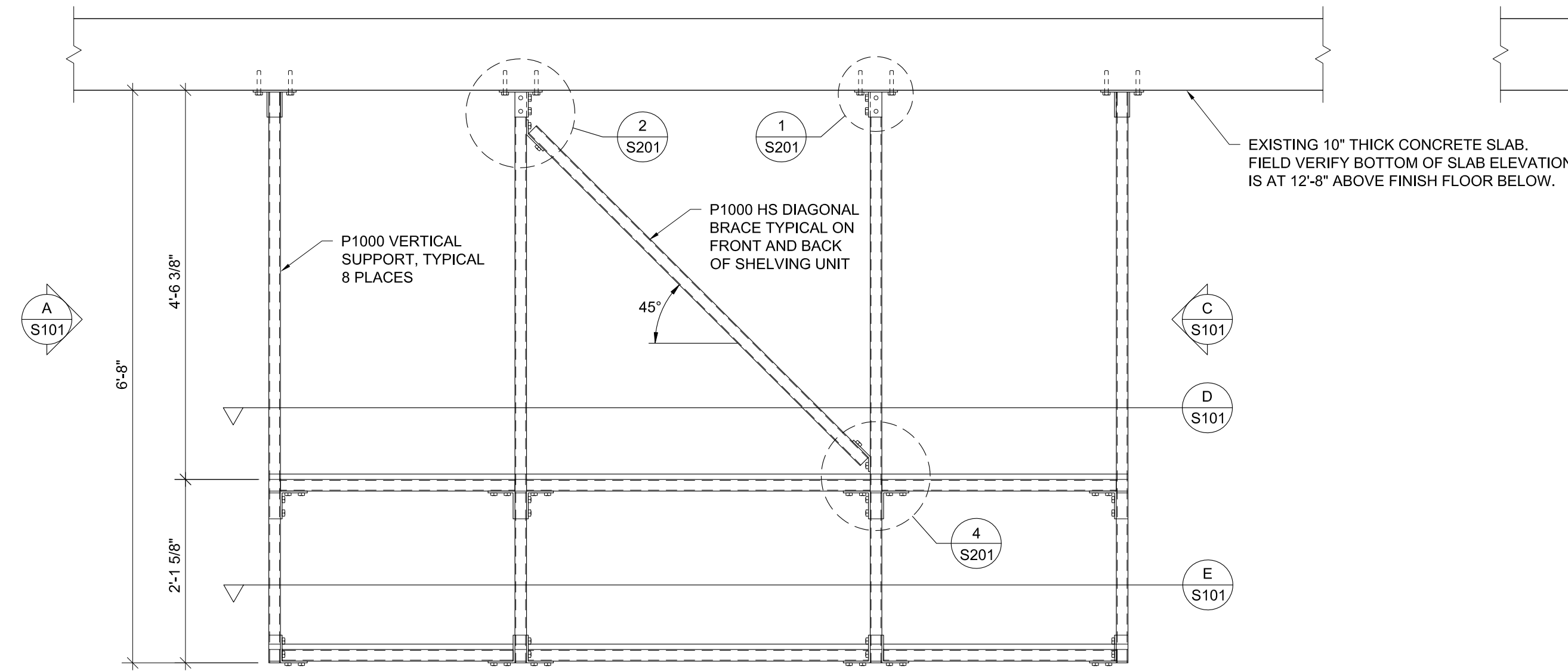
PROJECT NAME:
WILLAMETTE 74
ALEMAN LASER LAB

DRAWING TITLE:
ELEVATIONS
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PLOT SCALE:
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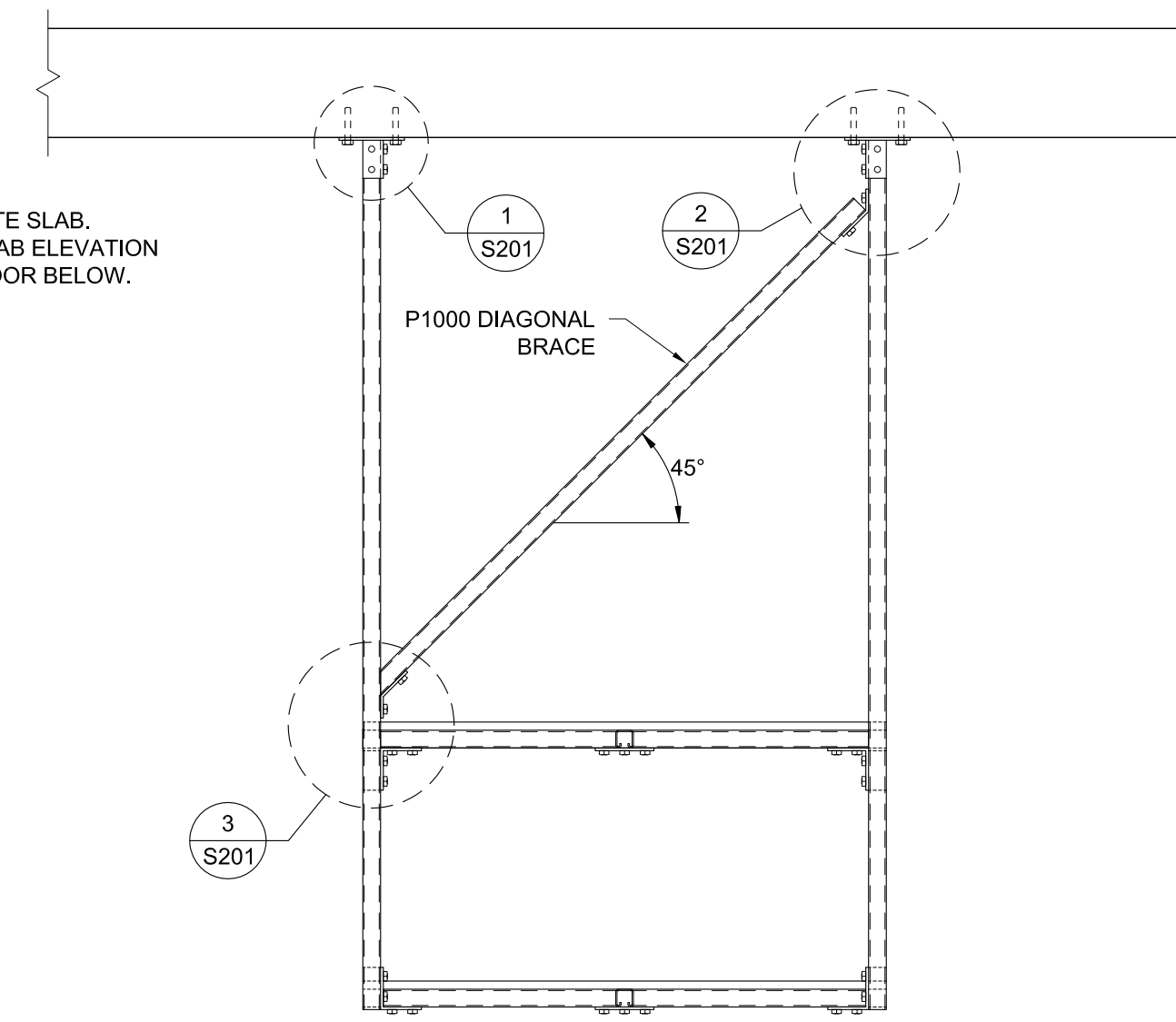
DRAWING NO.:
A302



A SHELF SIDE VIEW
S101



B SHELF FRONT VIEW
(LOOKING SOUTH)
S101



C SHELF SIDE VIEW
S101

STRUCTURAL DESIGN CRITERIA

BASIS OF DESIGN: STRUCTURAL DESIGN IS BASED UPON THE REQUIREMENTS OF THE 2010 EDITION OF THE OREGON STRUCTURAL SPECIALTY CODE AND LOADS DETERMINED IN ACCORDANCE WITH ASCE STANDARD ASCE/SEI 7-05. THE FOLLOWING SUMMARIZES THOSE LOADS:

DEAD LOADS:

SHELVING 5 PSF
MECHANICAL & LAB EQUIPMENT 10 PSF

SEISMIC LOADS:

METHOD OF ANALYSIS: EQUIVALENT LATERAL FORCE PROCEDURE

SEISMIC IMPORTANCE FACTOR: I = 1.25 FOR OCCUPANCY CATEGORY III
SITE CLASS: D (DEFAULT PER ASCE 7-05 SECTION 11.4.2)
SPECTRAL RESPONSE COEFFICIENTS: S_{ds} = 0.56, S_{d1} = 0.38
SEISMIC DESIGN CATEGORY: D

SEISMIC DESIGN FORCE PER ASCE 7-05 SECTION 13.3

$$F_p = 0.4 A_p S_{ds} W_p I_p (1 + 2(z/h)) / R_p$$

A_p = 1.0 FOR LAB EQUIPMENT PER ASCE 7-05 TABLE 13.5-1
S_{ds} = 0.56 FOR U OF O CAMPUS W/ SITE CLASS D
W_p = WEIGHT OF SHELVING UNIT W/ EQUIPMENT LOAD
z/h = 0 FOR BASEMENT BELOW GROUND LEVEL
R_p = 2.5 FOR LAB EQUIPMENT PER ASCE 7-05 TABLE 13.5-1

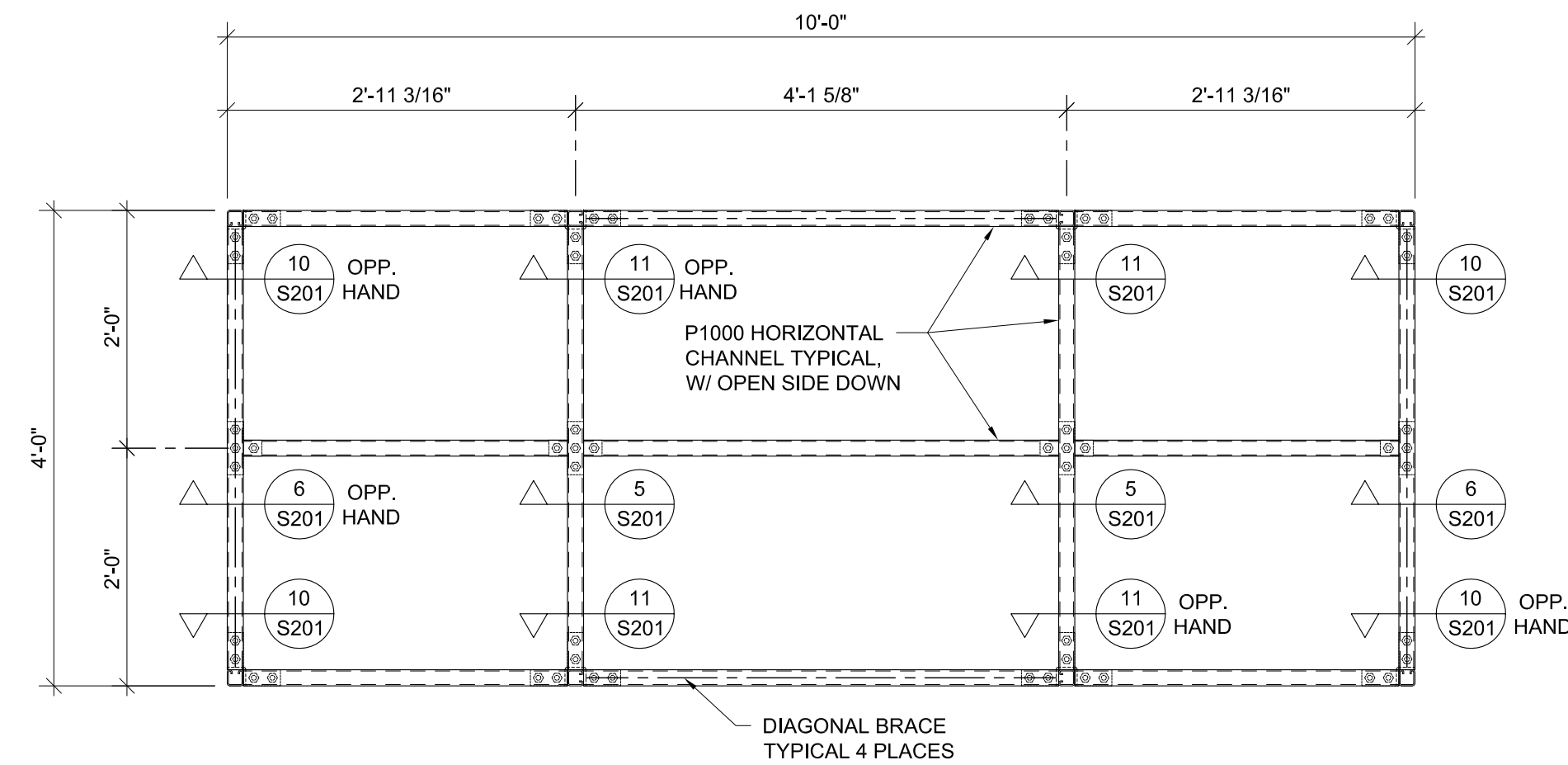
$$F_p = 0.4 (1.0) 0.56 W_p 1.25 (1 + 2(0)) / 2.5 = 0.112 W_p$$

SPECIAL INSPECTION REQUIREMENTS

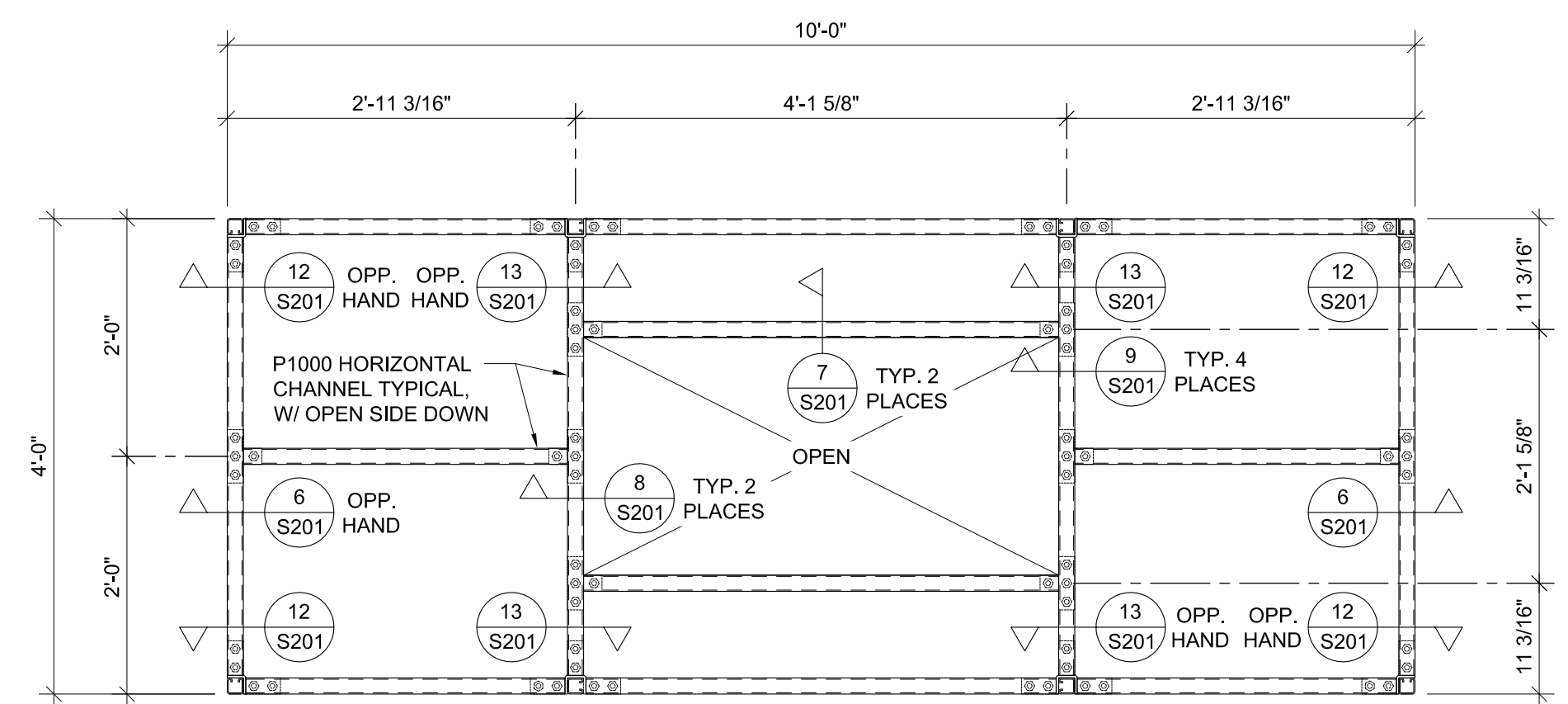
TESTING AND INSPECTION AGENCY: AN INDEPENDENT TESTING AND INSPECTION AGENCY WILL BE RETAINED BY THE OWNER TO PERFORM STRUCTURAL VERIFICATIONS AND INSPECTIONS FOR INSTALLATION OF THE SIMPSON TITEN HD CONCRETE SCREWS. THE CONTRACTOR SHALL PROVIDE THE INSPECTOR ACCESS TO THE WORK AND ASSIST IN PROVIDING THE INSPECTOR WITH SAMPLES NECESSARY FOR THE AGENCY TO PERFORM ITS DUTIES.

REPORT DISTRIBUTION AND NOTIFICATION: THE INSPECTION AGENCY SHALL SUBMIT INSPECTION REPORTS TO THE BUILDING DEPARTMENT, OWNER, ARCHITECT, AND ENGINEER WITHIN A REASONABLE TIME FRAME. NOTIFY THE ARCHITECT IMMEDIATELY IF ANY ITEMS ARE FOUND TO NOT COMPLY WITH THE CONTRACT DOCUMENTS.

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D UPPER SHELF PLAN VIEW
S101



E LOWER SHELF PLAN VIEW
S101

GENERAL NOTES

DEFINITION: THE TERM "ENGINEER" AS USED IN THESE STRUCTURAL DOCUMENTS IS DEFINED AS BEING STRUCTURAL SOURCE, LLC.

GOVERNING CODE: THE 2010 EDITION OF THE OREGON STRUCTURAL SPECIALTY CODE, AS ADOPTED AND AMENDED BY THE CITY OF EUGENE SHALL GOVERN THE DESIGN AND CONSTRUCTION OF THIS PROJECT.

REFERENCE STANDARDS: REFERENCES TO STANDARDS AND CODES SHALL BE TO THE LATEST EDITION AS OF THE BID DATE OR OWNER-CONTRACTOR AGREEMENT UNLESS NOTED OTHERWISE IN THE CONTRACT DOCUMENTS OR DESIGNATED OTHERWISE BY THE GOVERNING JURISDICTION.

ARCHITECTURAL INFORMATION: REFER TO THE ARCHITECTURAL DRAWINGS FOR INFORMATION REGARDING DIMENSIONS, ELEVATIONS, FINISHES, ETC.

OMISSIONS OR CONFLICTS: IN CASE OF DISCREPANCIES BETWEEN THE DRAWINGS, NOTES ON THIS SHEET, REFERENCE STANDARDS, GOVERNING CODE, OR ANY OTHER INFORMATION PERTINENT TO THE PROJECT, WHETHER WRITTEN OR VERBAL, THE MORE-STRINGENT REQUIREMENT SHALL GOVERN. DISCREPANCIES PERTAINING TO STRUCTURAL ELEMENTS SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER FOR EVALUATION PRIOR TO PROCEEDING WITH THE WORK.

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JOBSITE CONDITIONS: THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL DIMENSIONS AND CONDITIONS AT THE SITE. THE CONTRACTOR IS ALSO RESPONSIBLE FOR SAFETY AT THE SITE.

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MATERIALS

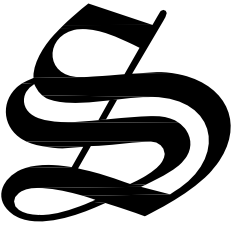
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SHEATHING: LOWER AND UPPER SHELF SHEATHING SHALL BE 3/4" THICK MEDIUM DENSITY FIBERBOARD (MDF) MEETING THE REQUIREMENTS OF NPA 208.2-2009 "MDF OF INTERIOR APPLICATIONS". ATTACH TO ALUMINUM CHANNEL FRAMING W/ NO. 8 BUGLE-HEAD SELF-DRILLING SCREWS AT 6" O.C. INSTALLED FLUSH, CUT PANELS TO MINIMIZE JOINTS AND LOCATE JOINTS DIRECTLY OVER FRAMING MEMBERS PER DETAIL 15/S201.

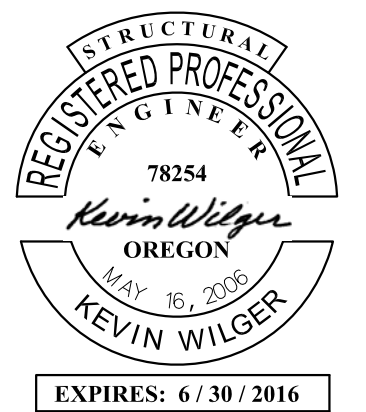
General Notes

No.	Rev./Issue	Date



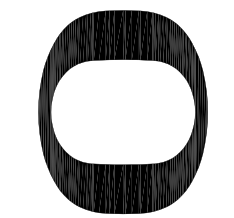
STRUCTURAL SOURCE, LLC

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UNIVERSITY OF OREGON

DESIGN SERVICES GROUP
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EUGENE, OREGON 97403-12176
(541) 346-6959



CAPITAL CONSTRUCTION
1276 UNIVERSITY OF OREGON
EUGENE, OREGON 97403-12176

PROJECT NAME:
WILLAMETTE 74
ALEMAN LASER LAB

DRAWING TITLE:
SHELVING UNIT 1 FRAMING

PROJECT NO.:
CP11-043

DATE ISSUED:
05/26/2014

DATE DRAFTED:
05/26/2014

CHECKED BY:
K. WILGER

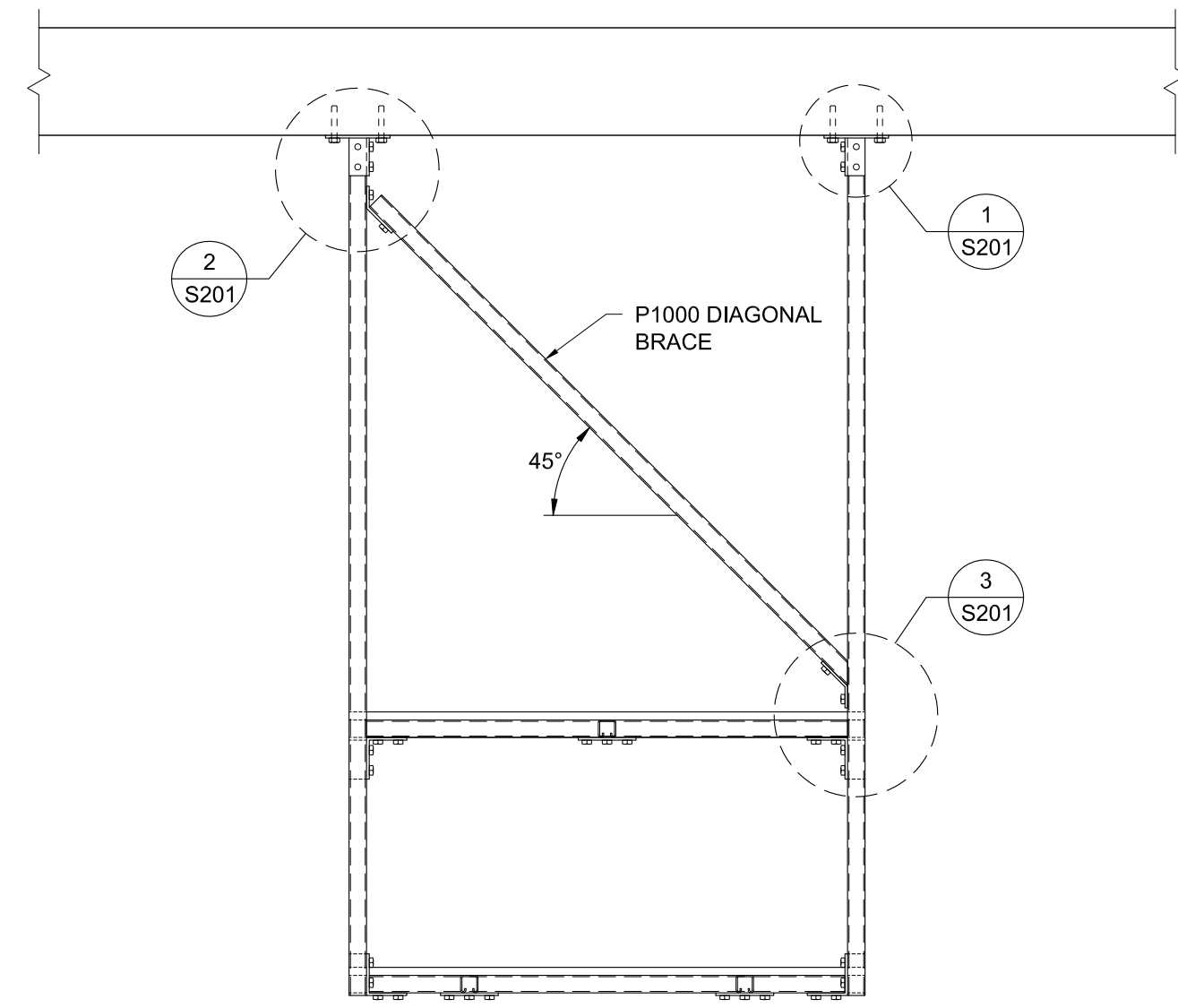
DRAWN BY:
K. WILGER

PLOT SCALE:
AS NOTED

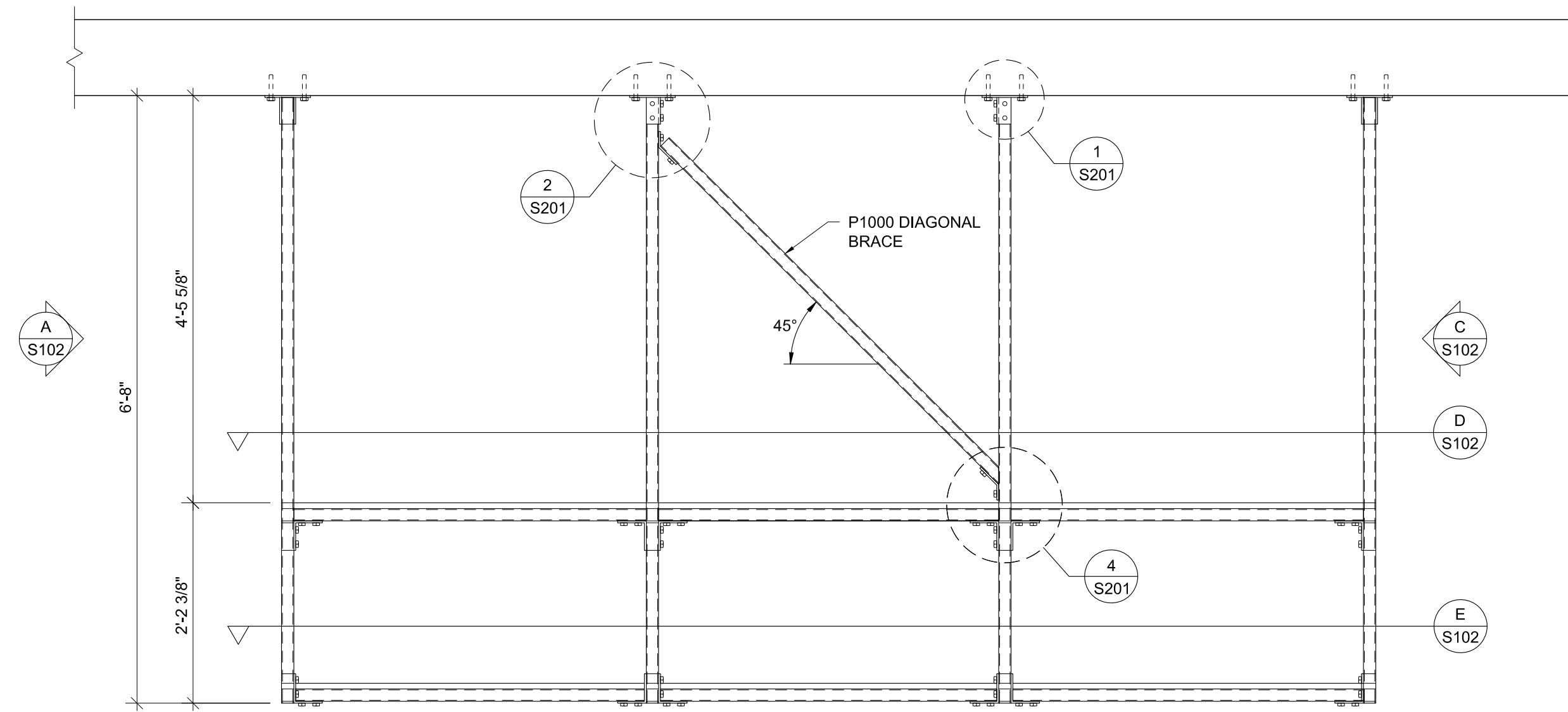
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S101

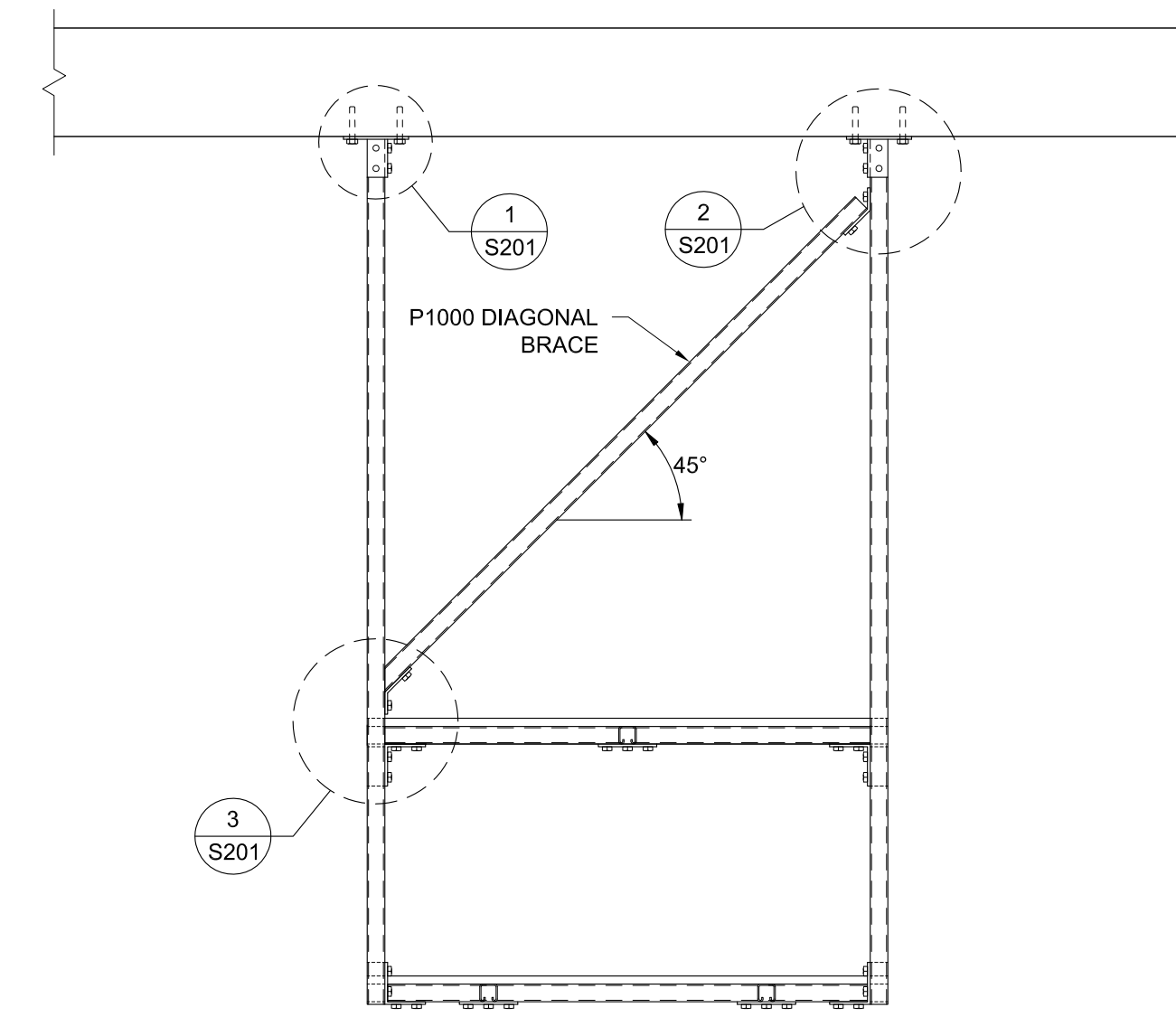
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LAST MODIFIED: 5/26/2014 4:14 PM
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A SHELF SIDE VIEW
S102



B SHELF FRONT VIEW
(LOOKING EAST)
S102



C SHELF SIDE VIEW
S102

STRUCTURAL DESIGN CRITERIA

BASIS OF DESIGN: STRUCTURAL DESIGN IS BASED UPON THE REQUIREMENTS OF THE 2010 EDITION OF THE OREGON STRUCTURAL SPECIALTY CODE AND LOADS DETERMINED IN ACCORDANCE WITH ASCE STANDARD ASCE/SEI 7-05. THE FOLLOWING SUMMARIZES THOSE LOADS:

DEAD LOADS:

SHELVING 5 PSF
MECHANICAL & LAB EQUIPMENT 10 PSF

SEISMIC LOADS:

METHOD OF ANALYSIS: EQUIVALENT LATERAL FORCE PROCEDURE

SEISMIC IMPORTANCE FACTOR: 1 = 1.25 FOR OCCUPANCY CATEGORY III
SITE CLASS: D (DEFAULT PER ASCE 7-05 SECTION 11.4.2)
SPECTRAL RESPONSE COEFFICIENTS: S_{ds} = 0.56, S_{d1} = 0.38
SEISMIC DESIGN CATEGORY: D

SEISMIC DESIGN FORCE PER ASCE 7-05 SECTION 13.3

$$F_p = 0.4 A_p S_{ds} W_p I_p (1 + 2(z/h)) / R_p$$

A_p = 1.0 FOR LAB EQUIPMENT PER ASCE 7-05 TABLE 13.5-1
S_{ds} = 0.56 FOR U OF O CAMPUS W/ SITE CLASS D
W_p = WEIGHT OF SHELVING UNIT W/ EQUIPMENT LOAD
z/h = 0 FOR BASEMENT BELOW GROUND LEVEL
R_p = 2.5 FOR LAB EQUIPMENT PER ASCE 7-05 TABLE 13.5-1

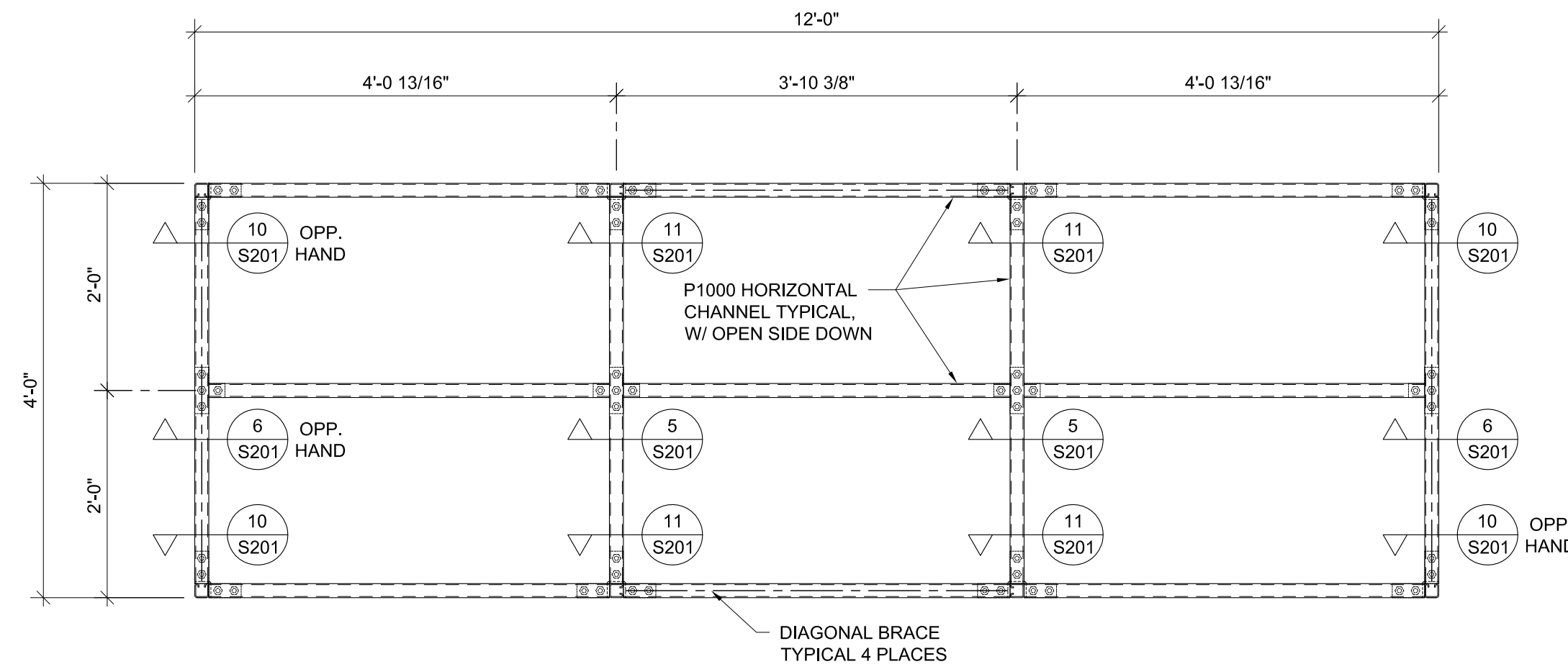
$$F_p = 0.4 (1.0) 0.56 W_p 1.25 (1 + 2(0)) / 2.5 = 0.112 W_p$$

SPECIAL INSPECTION REQUIREMENTS

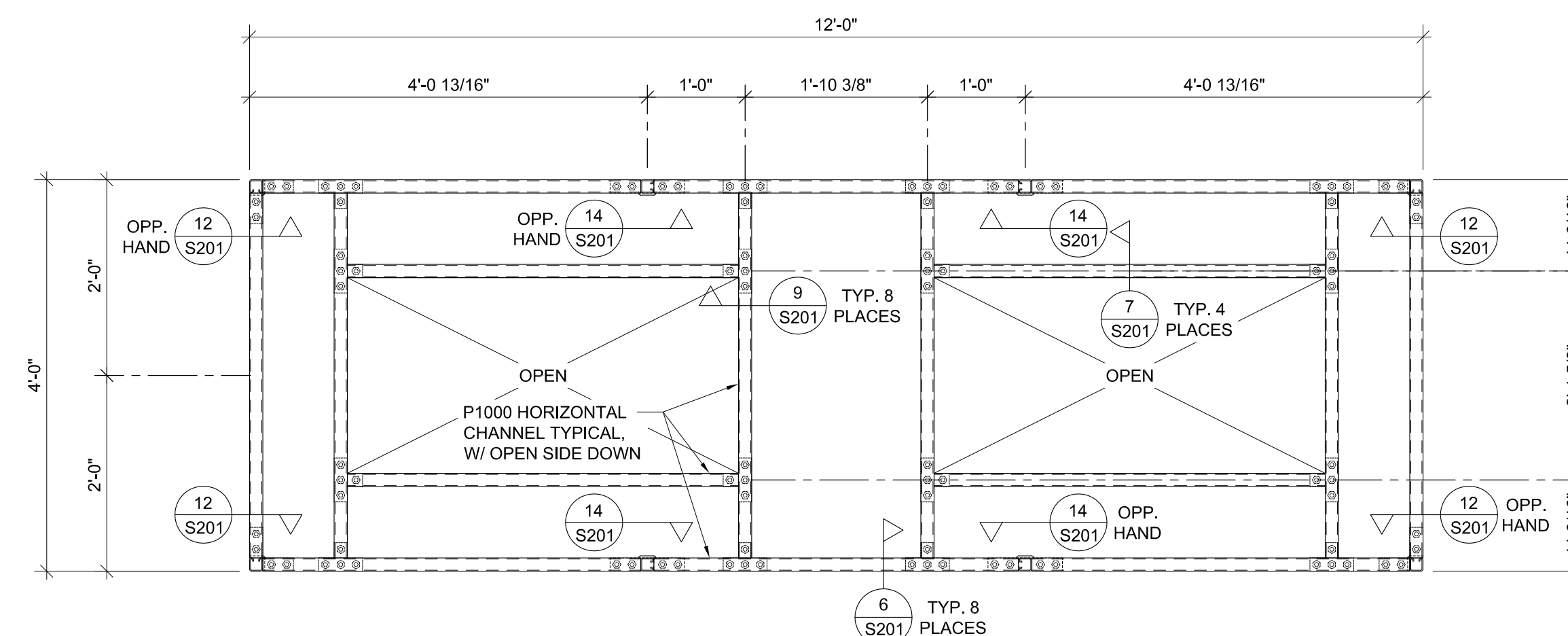
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D UPPER SHELF PLAN VIEW
S102



E LOWER SHELF PLAN VIEW
S102

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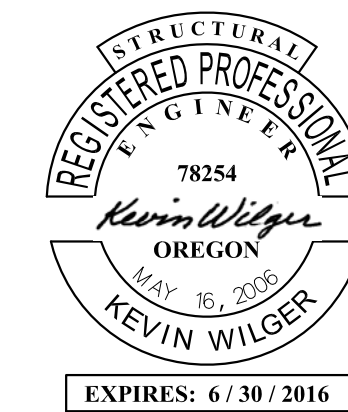
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General Notes		
No.	Rev./Issue	Date

STRUCTURAL SOURCE, LLC

86705 Pine Grove Road
Eugene, Oregon 97402
www.structural-source.com
PHONE: (541) 912-3958



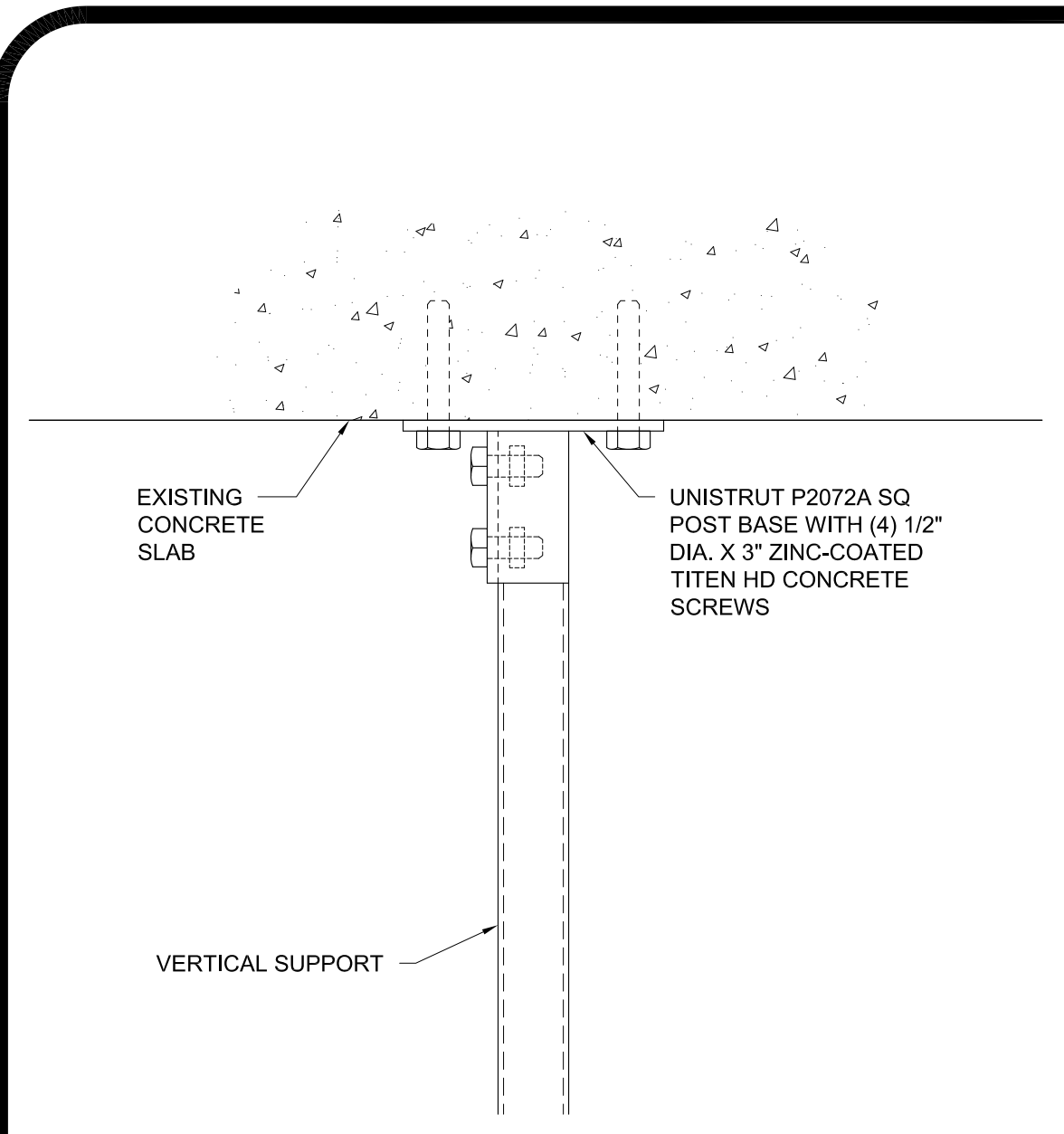
UNIVERSITY OF OREGON
DESIGN SERVICES GROUP
1295 FRANKLIN BOULEVARD
EUGENE, OREGON 97403-12176
(541) 346-6959

PROJECT NAME:
WILLAMETTE 74
ALEMAN LASER LAB

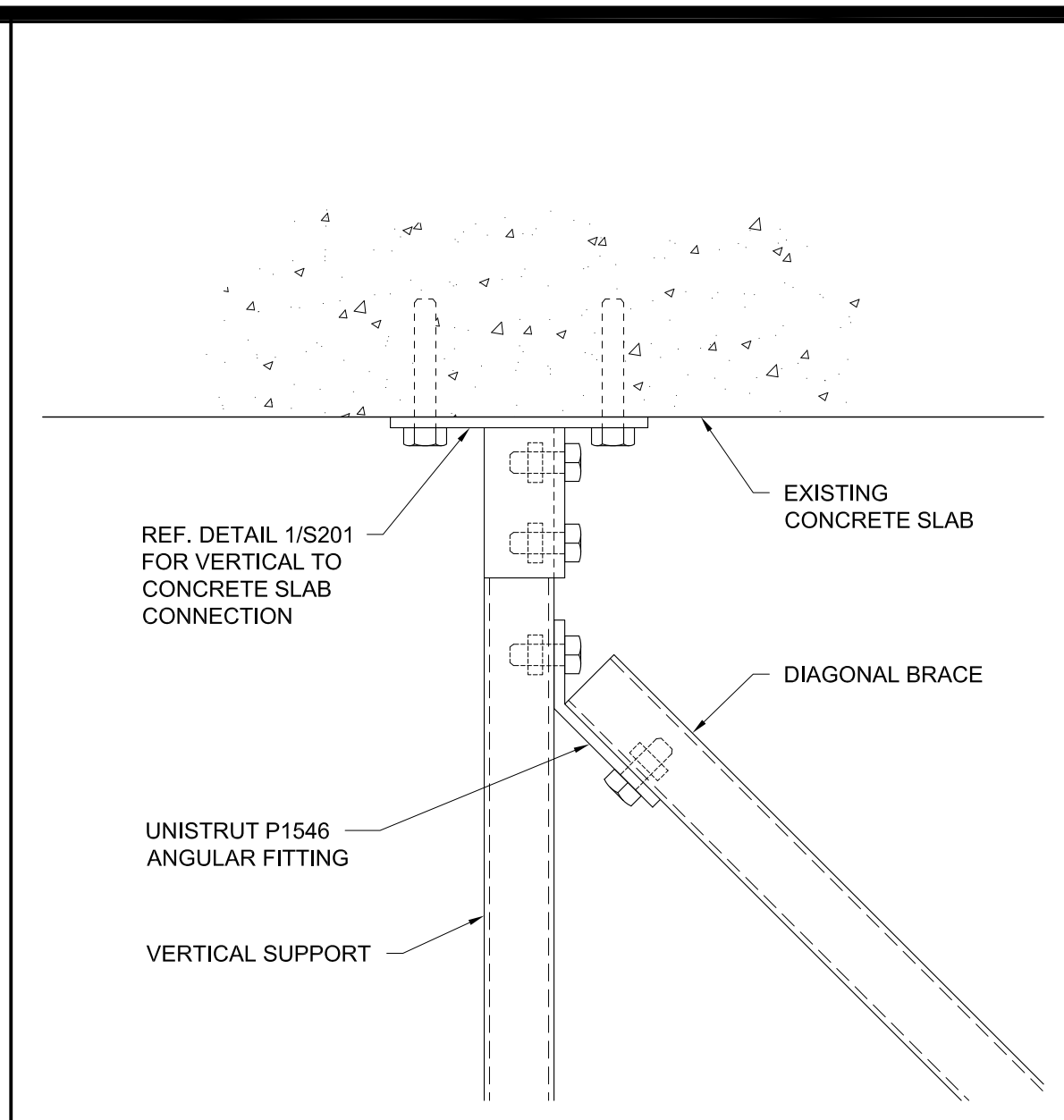
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SHELVING UNIT 2 FRAMING
PROJECT NO.:
CP11-043
DATE ISSUED:
05/26/2014
DATE DRAFTED:
05/26/2014
CHECKED BY:
K. WILGER
DRAWN BY:
K. WILGER
PLOT SCALE:
AS NOTED

DRAWING NO.:
S102

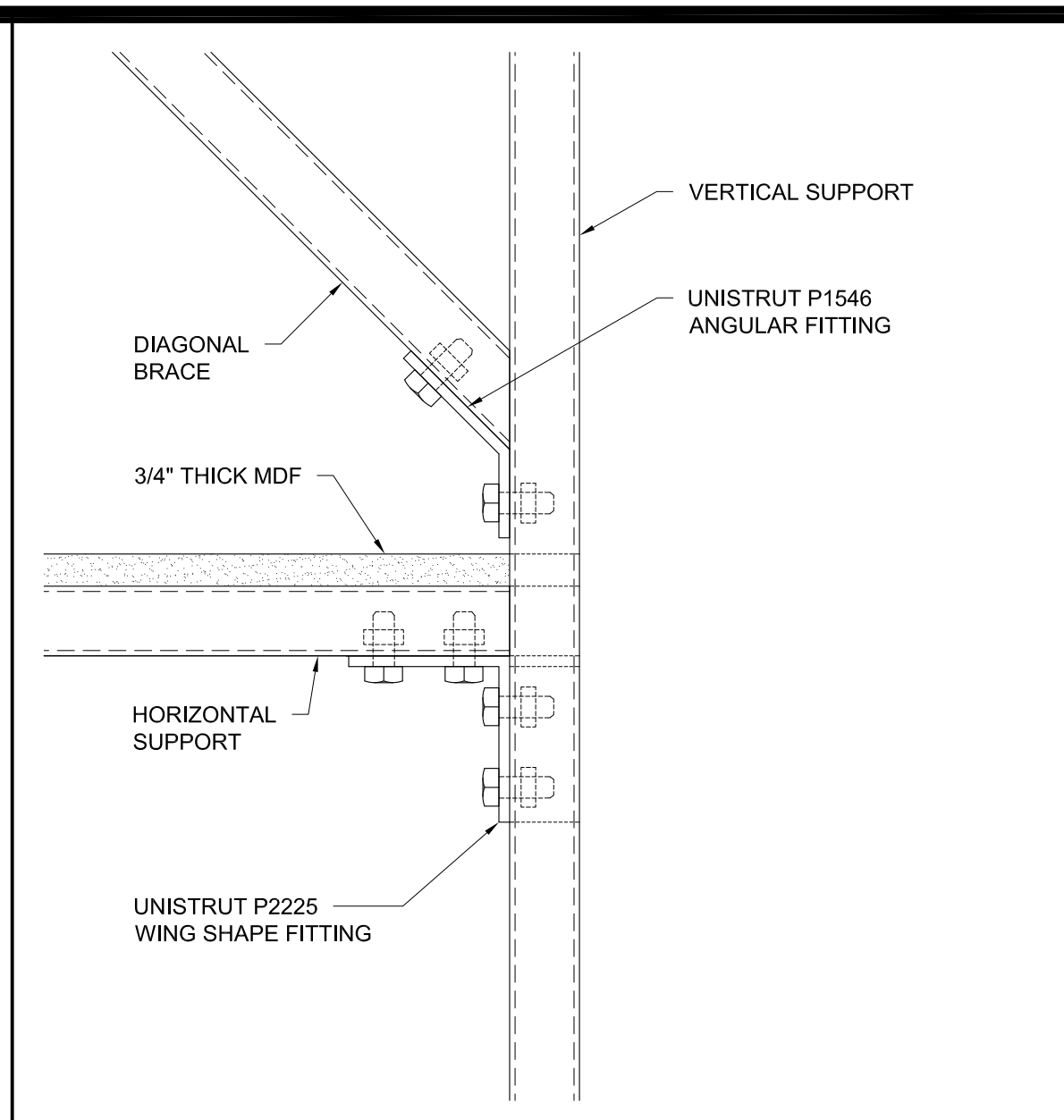
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LAST MODIFIED: 5/26/2014 4:14 PM
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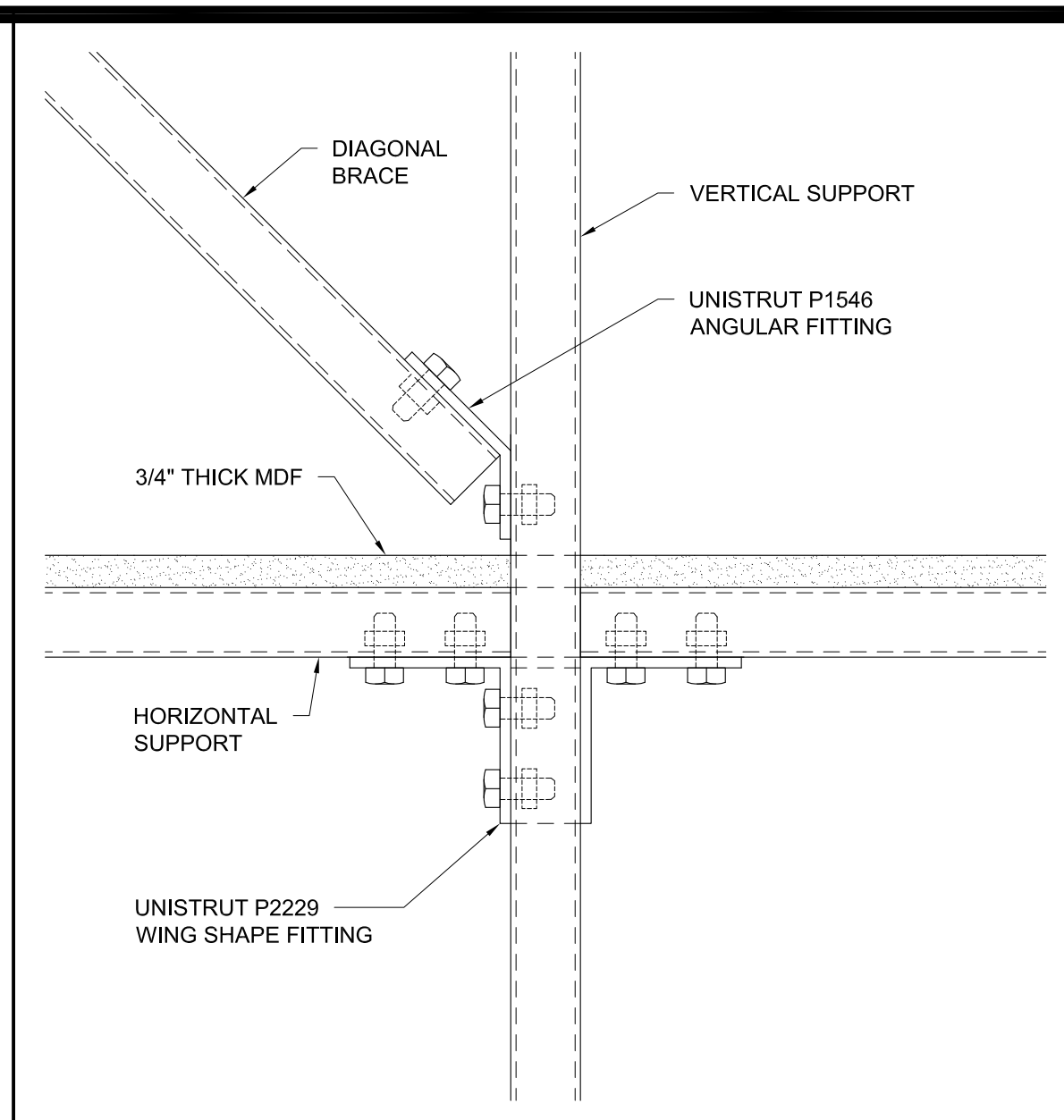
1 VERTICAL TO CONC. SLAB DETAIL
S201 SCALE: 3" = 1'-0"



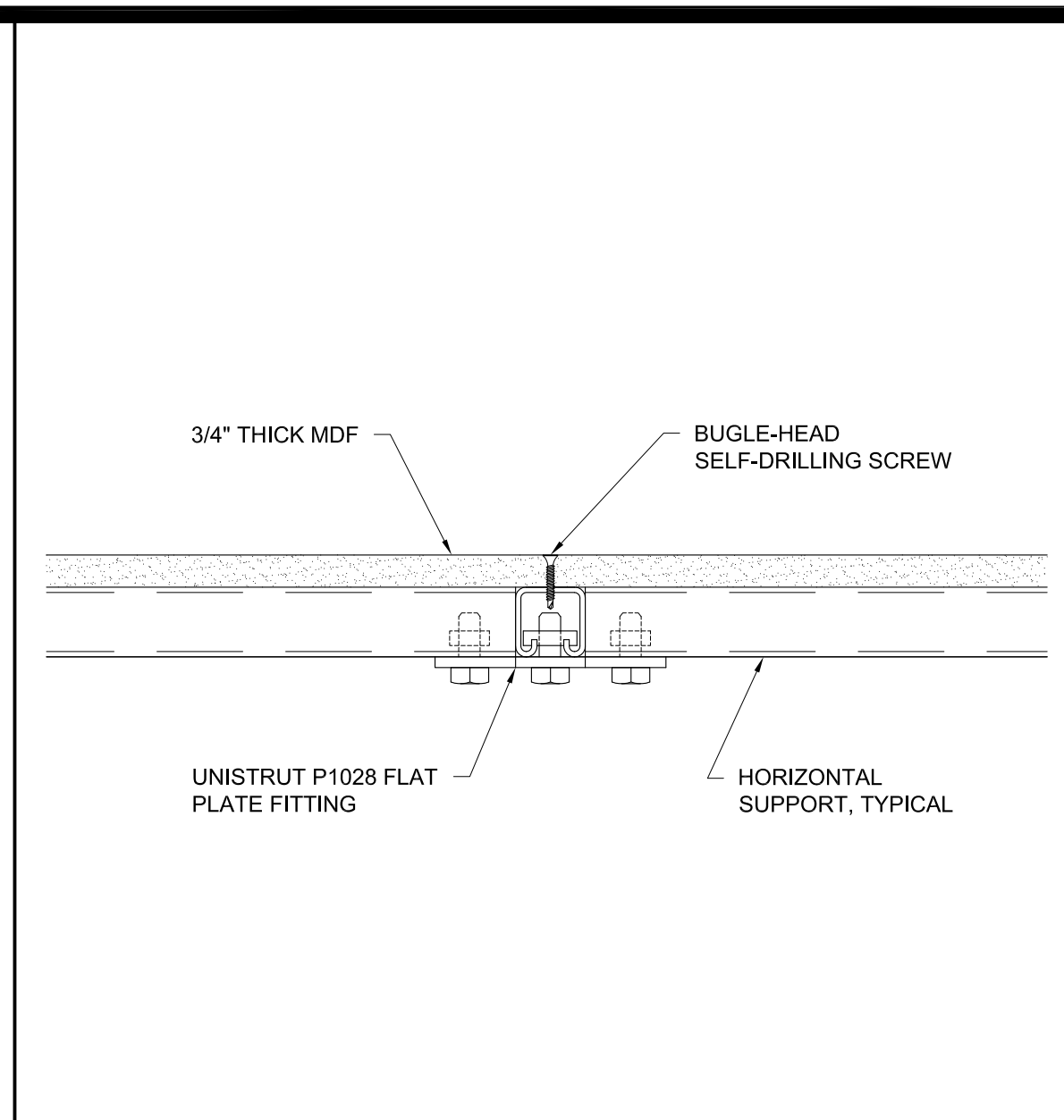
2 DIAG. BRACE TO VERTICAL DETAIL
S201 SCALE: 3" = 1'-0"



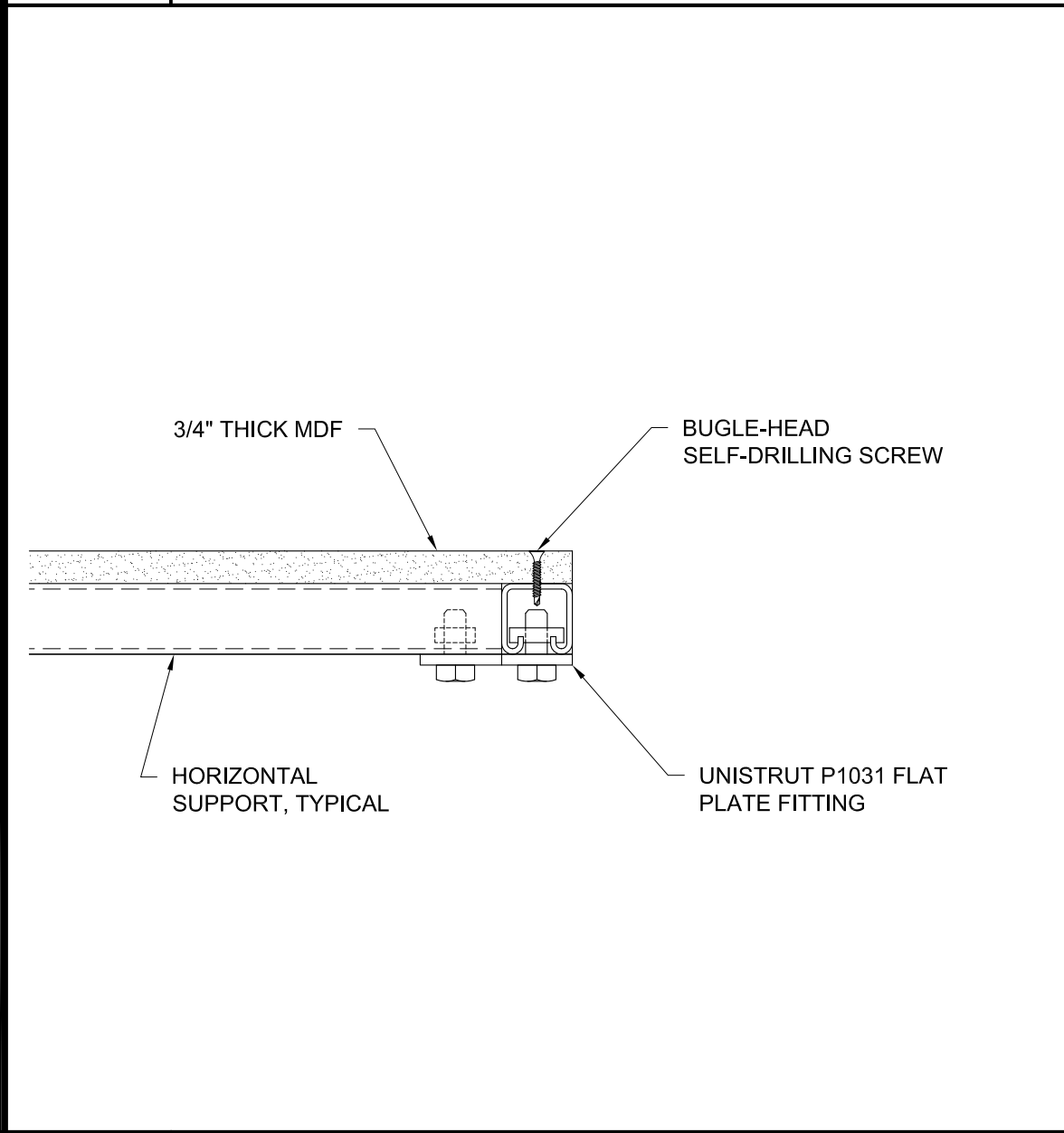
3 DIAG. BRACE TO VERTICAL DETAIL
S201 SCALE: 3" = 1'-0"



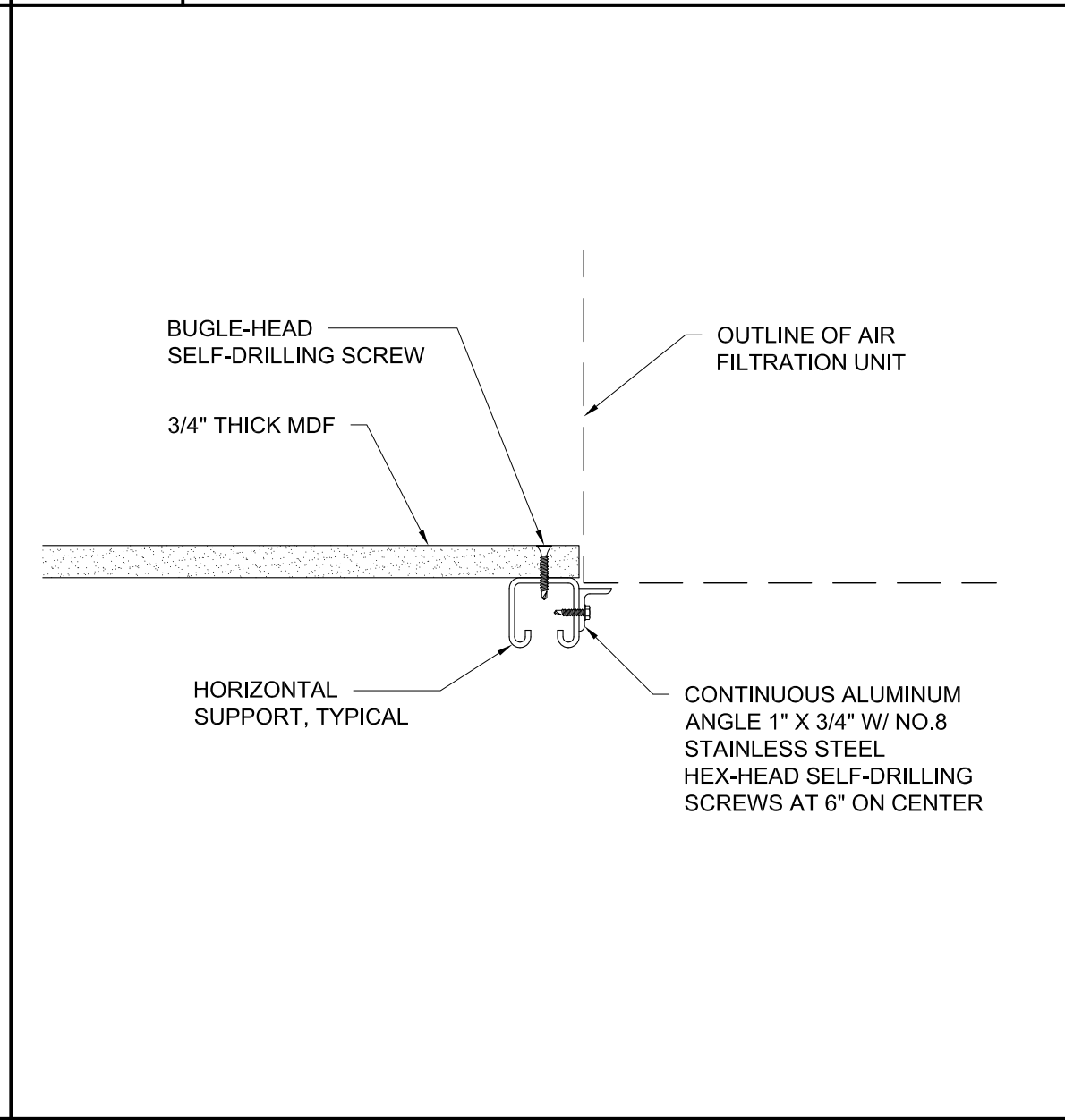
4 DIAG. BRACE TO VERTICAL DETAIL
S201 SCALE: 3" = 1'-0"



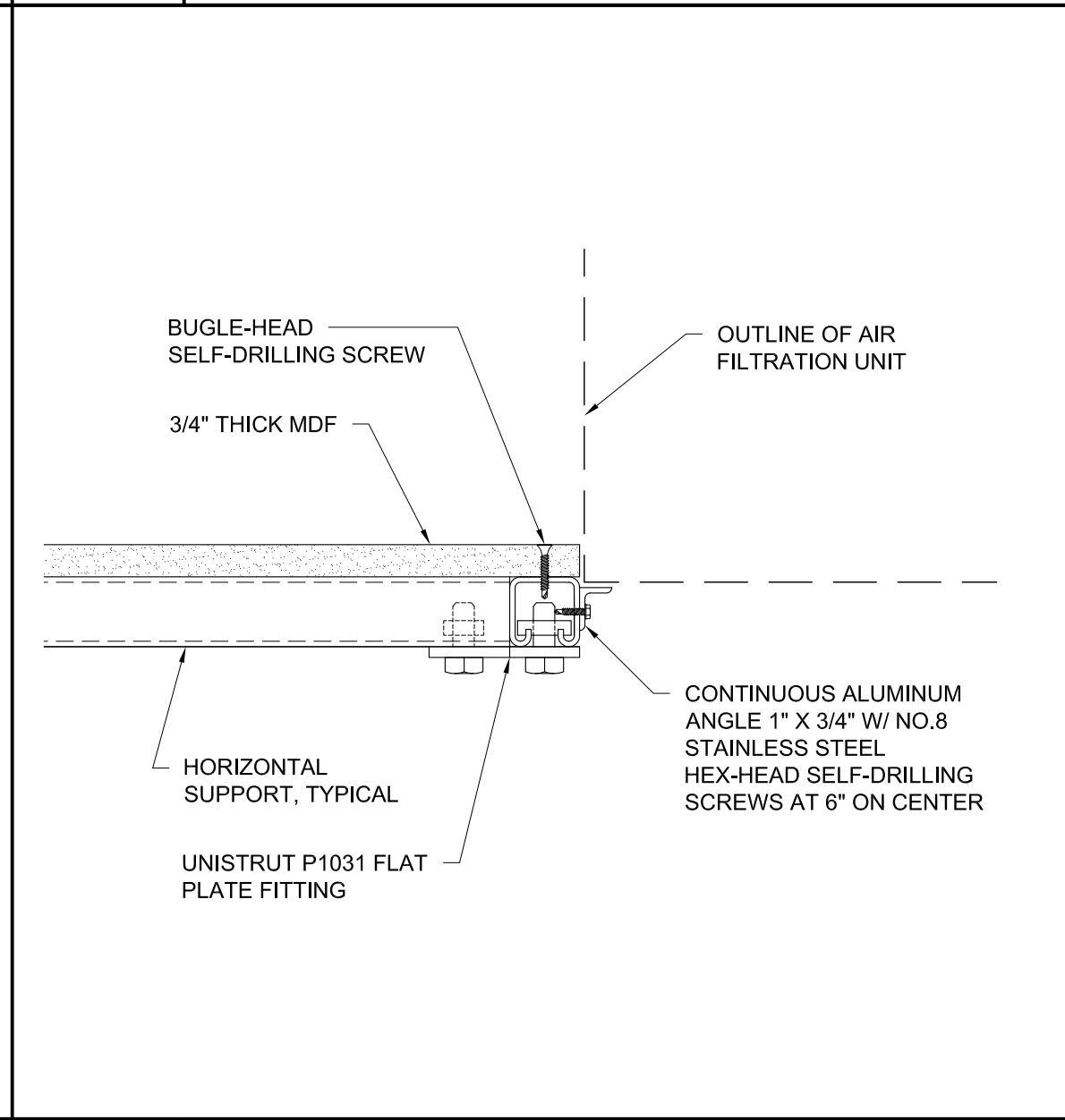
5 HORIZ. TO HORIZ. CONN. DETAIL
S201



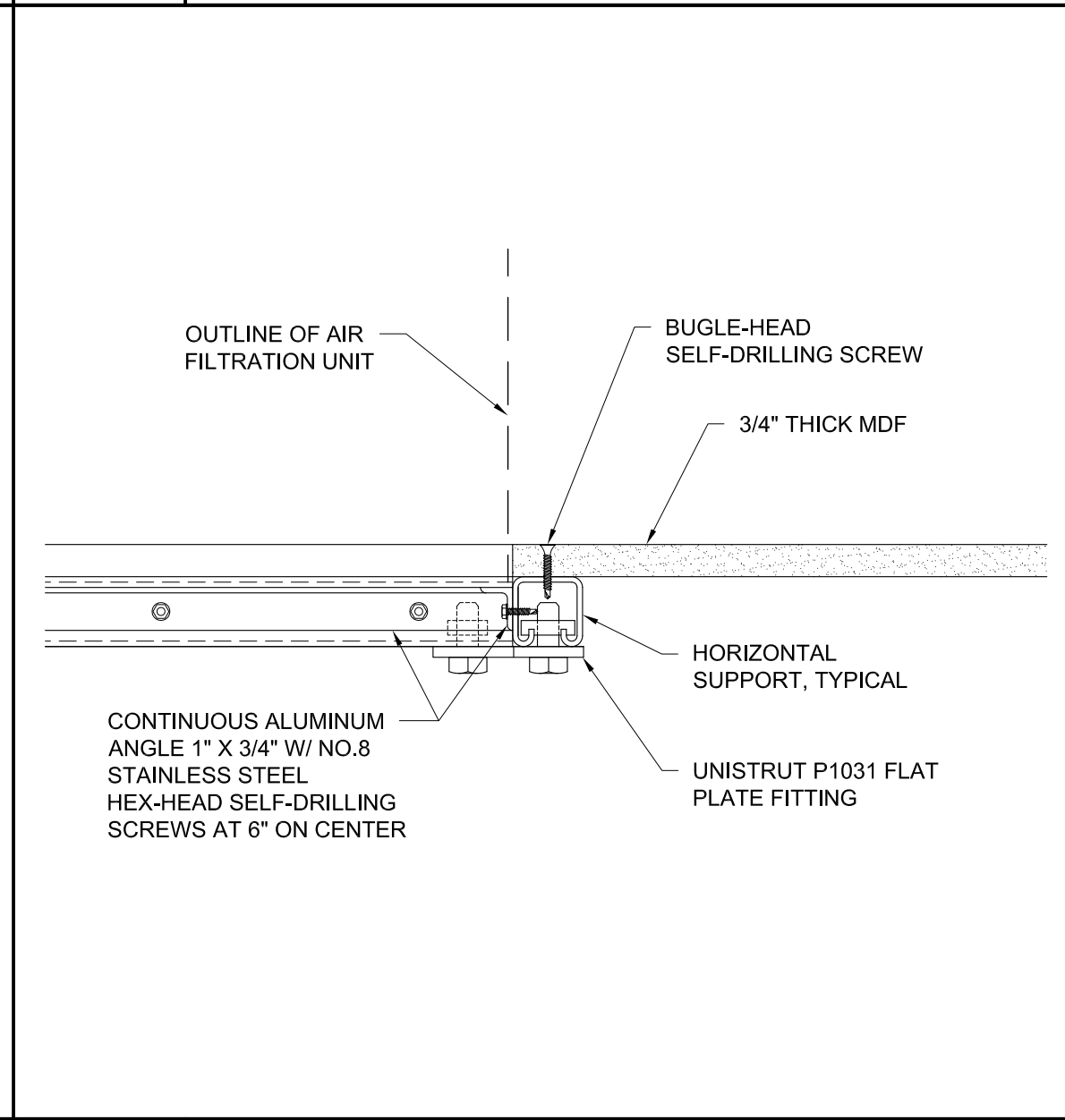
6 HORIZ. TO HORIZ. CONN. DETAIL
S201 SCALE: 3" = 1'-0"



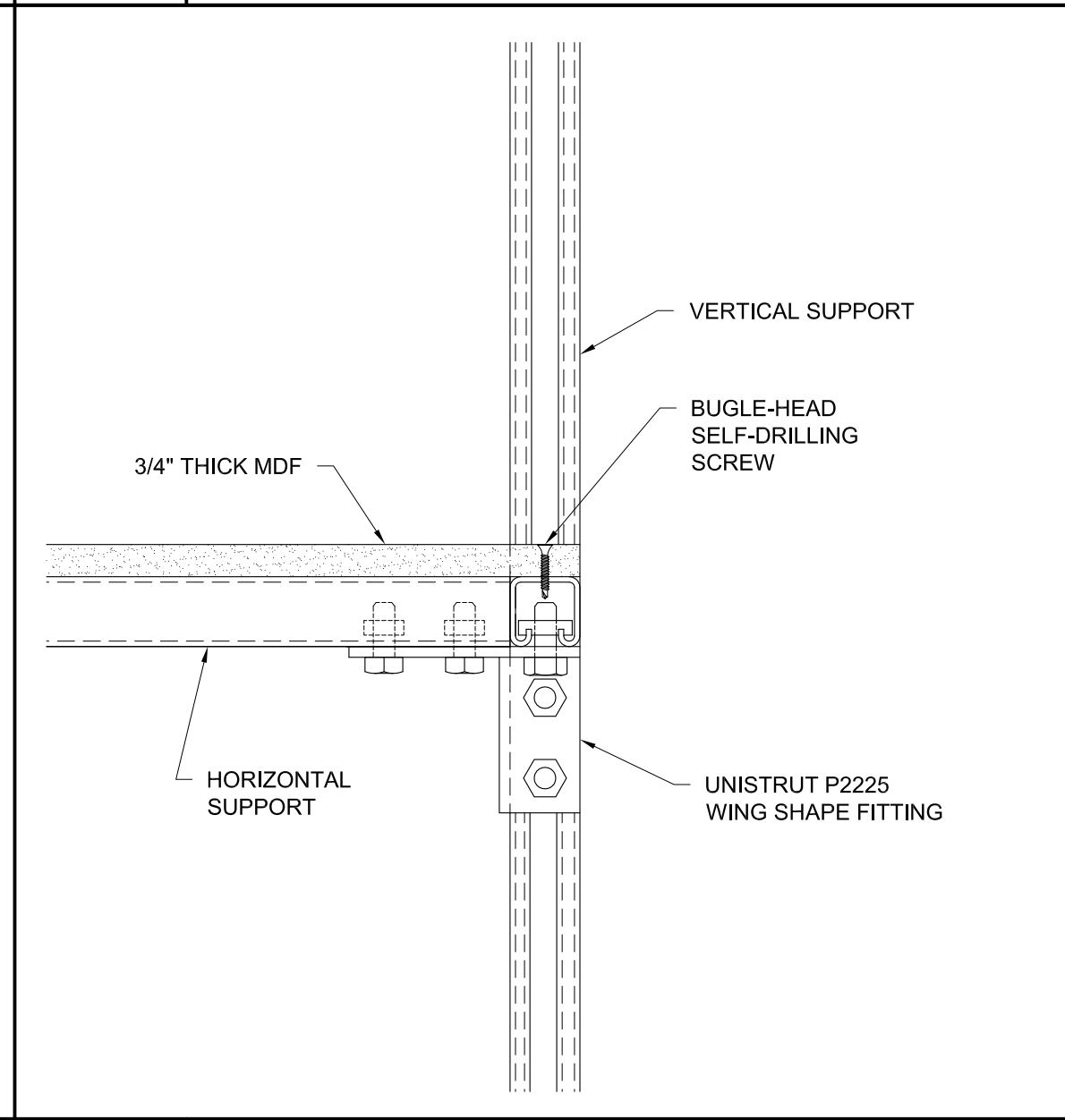
7 FLANGE AT SHELF OPENING DETAIL
S201 SCALE: 3" = 1'-0"



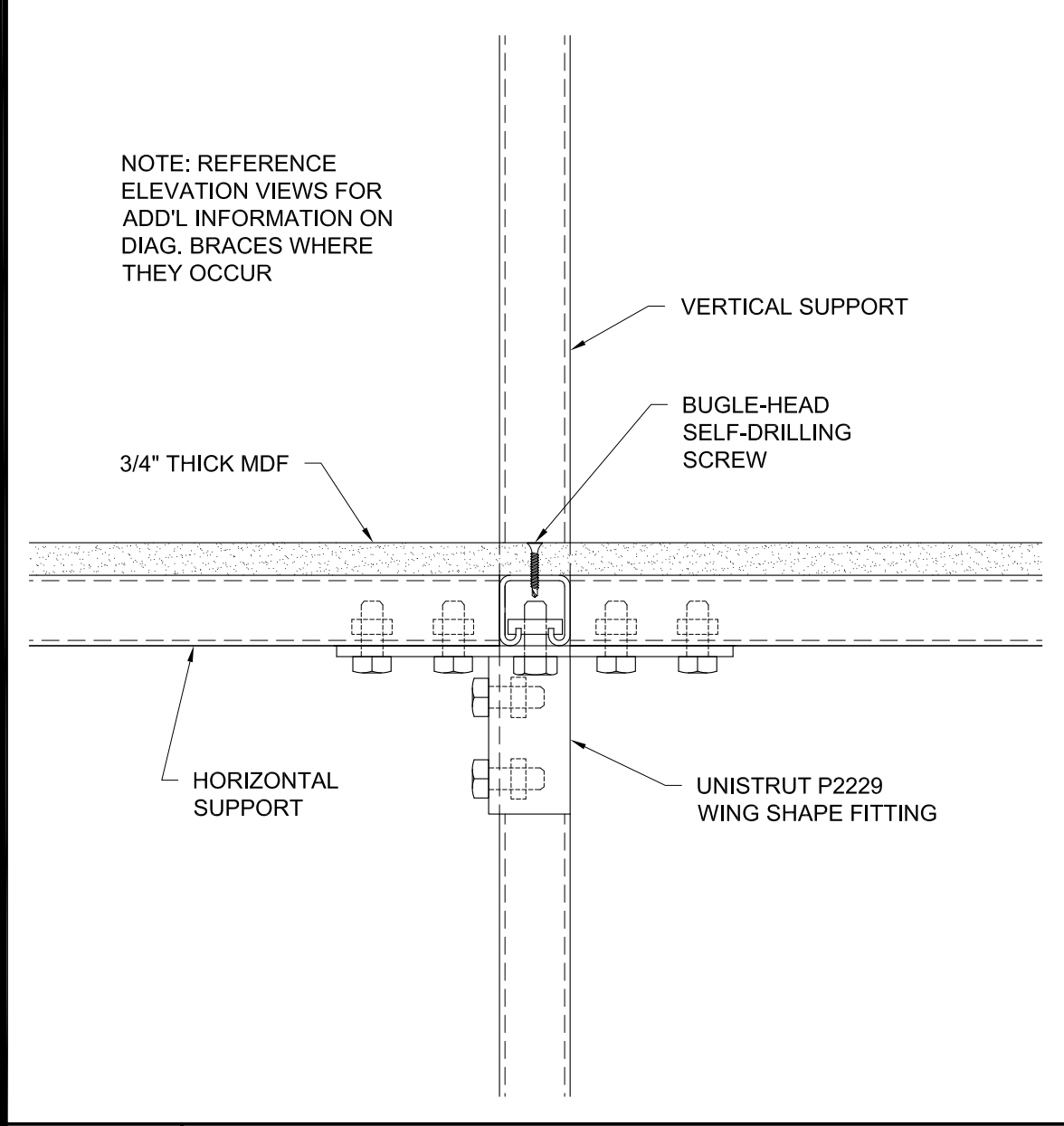
8 CONN. AT SHELF OPENING DETAIL
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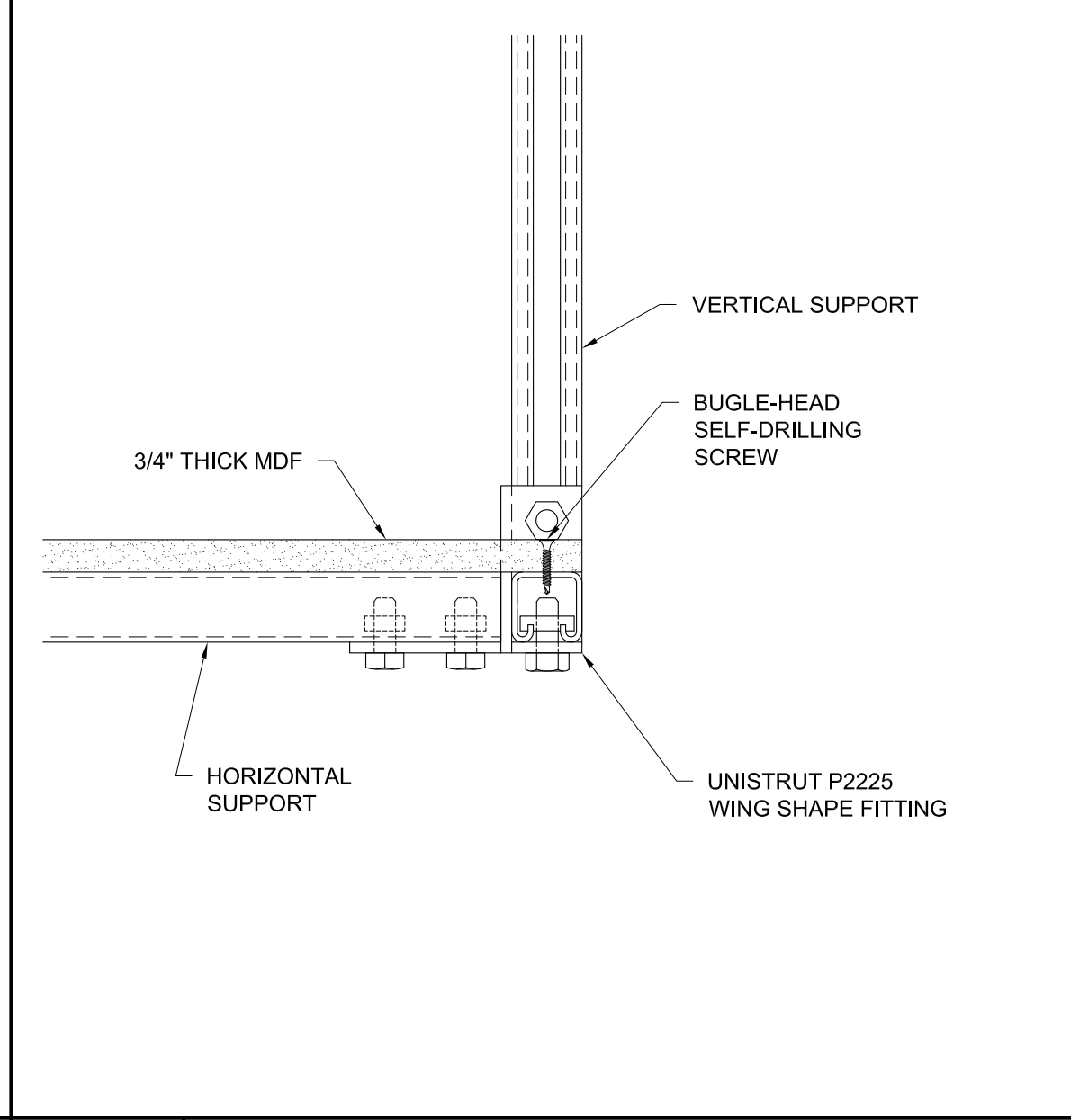
9 CONN. AT SHELF OPENING DETAIL
S201 SCALE: 3" = 1'-0"



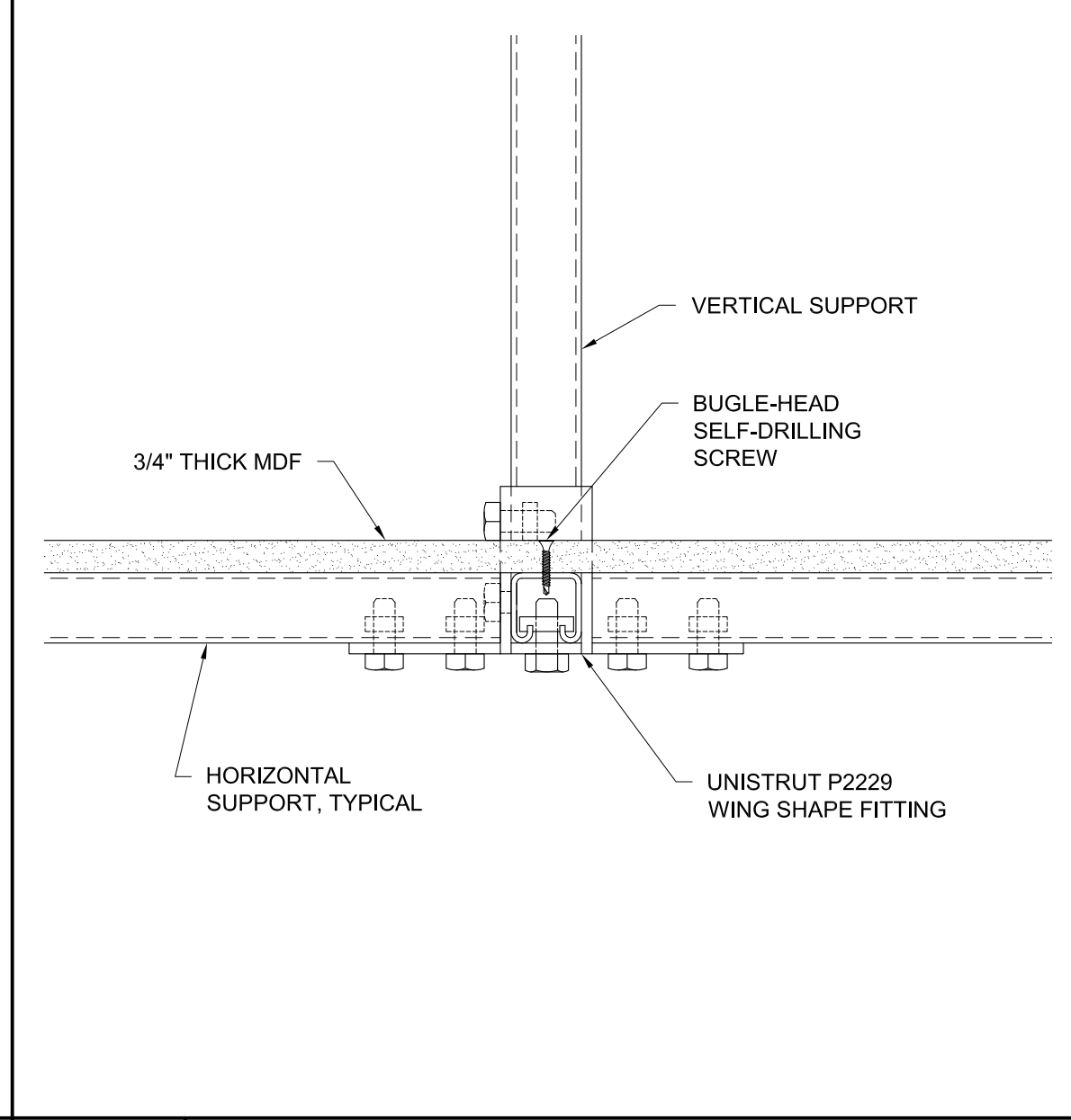
10 HORIZ. TO VERTICAL CONN. DETAIL
S201



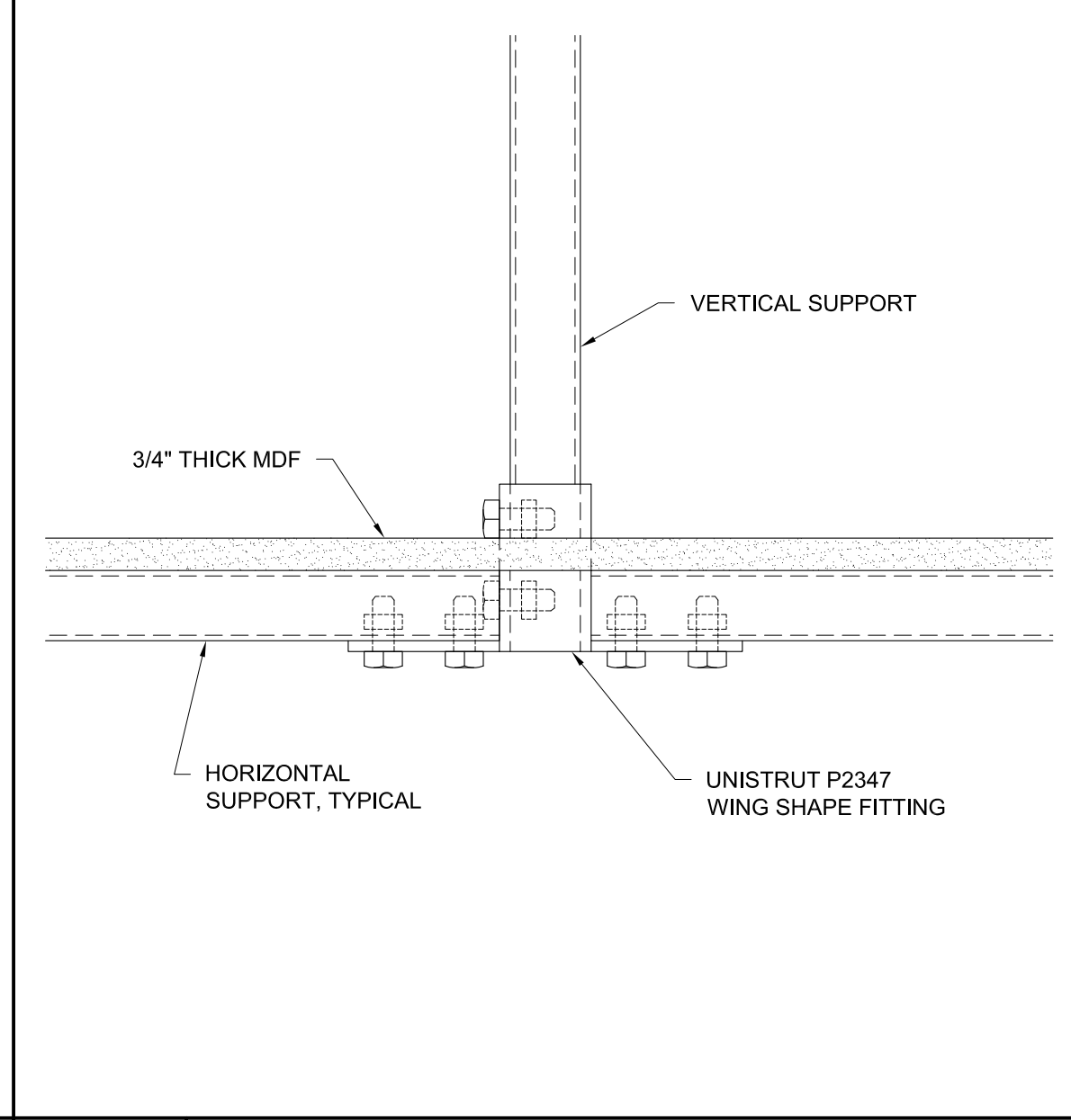
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S201 SCALE: 3" = 1'-0"



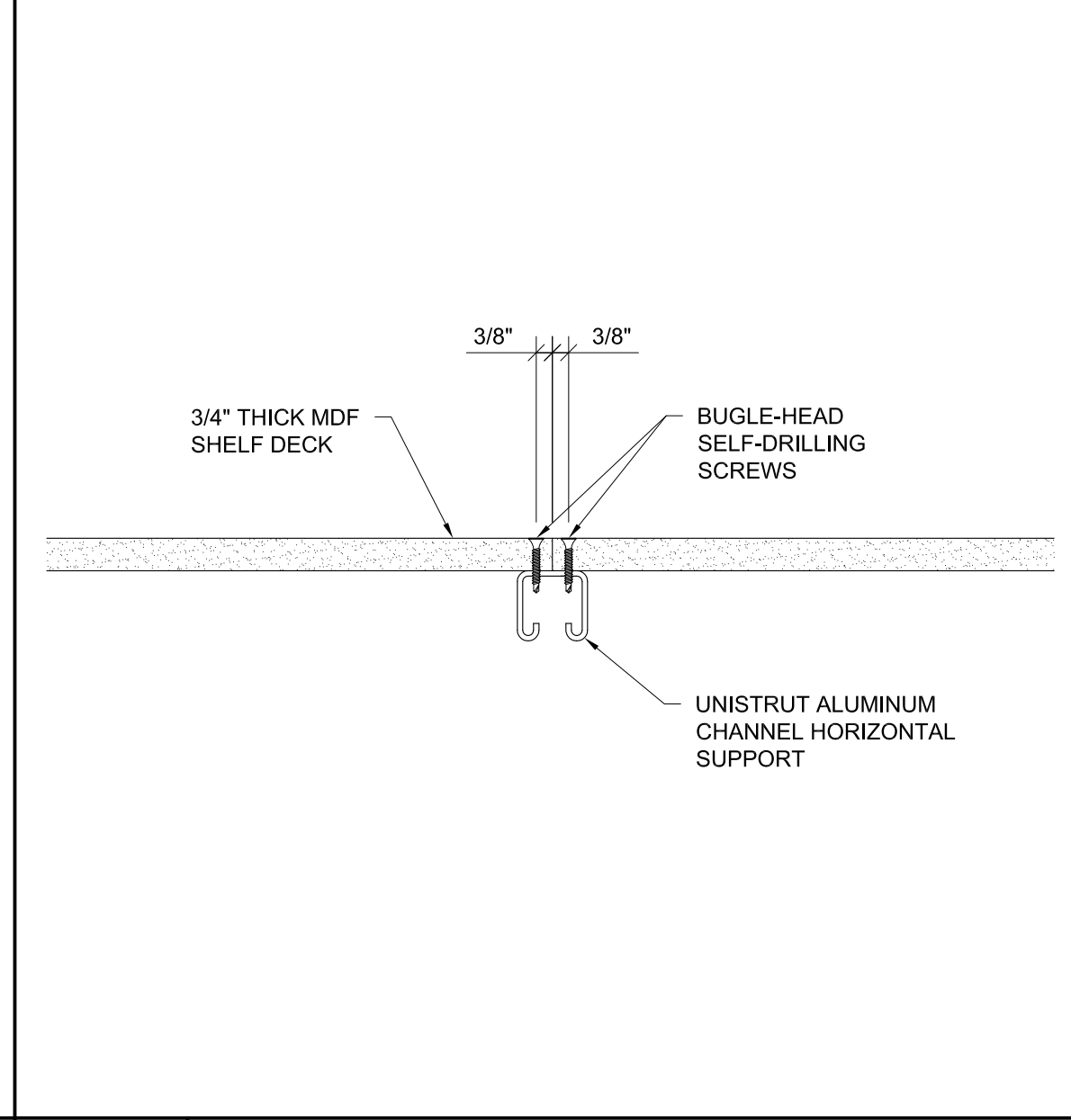
12 HORIZ. TO VERTICAL CONN. DETAIL
S201 SCALE: 3" = 1'-0"



13 HORIZ. TO VERTICAL CONN. DETAIL
S201 SCALE: 3" = 1'-0"



14 DETAIL
S201 SCALE: 3" = 1'-0"



15 MDF SHELF BUTT JOINT DETAIL
S201 SCALE: 3" = 1'-0"

General Notes		
No.	Rev./Issue	Date

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PROJECT NAME:
WILLAMETTE 74
ALEMAN LASER LAB

DRAWING TITLE:
SHELVING DETAILS
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K. WILGER
DRAWN BY:
K. WILGER
PLOT SCALE:
AS NOTED

DRAWING NO.:
S201

REHEAT COILS - HEATING WATER (NEW AND EXISTING)

TAG	ROOMS SERVED	CFM	SIZE (IN)		AREA (SQ. FT.)	FACE VELOCITY (FPM)	ROWS / FPI	MAX APD in. w.g.	EAT (DB)	MIN LAT (DB)	EWT	LWT	GPM	MAX WPD (FT)
			FL	FH										
RHC-1	74C AND LASER BAY W/ SMALLER TABLE	650	16	15	1.67	390	1 / 12 HC	0.1	48.1	80.7	160	140.5	2.5	4.4
RHC-2	74C LASER BAY W/LAGER LASER AND ADJACENT BAY	650	16	15	1.67	390	1 / 12 HC	0.1	48.1	80.7	160	140.5	2.5	4.4
RC-1	74A AND 74B	600	EXISTING REHEAT COIL											

NOTES:
BASIS OF DESIGN: PRICE TERMINAL UNIT REHEAT COIL
TEMPERATURES ARE IN DEGREES F.
FL x FH IS THE COIL FINNED LENGTH (I.E. WIDTH) BY FINNED HEIGHT IN INCHES.

HEPA FAN UNITS

TAG	SERVICE	SIZE	ACTIVE FILTER FACE AREA (SQ.FT)	RATED CFM AT 90 FPM	SOUND LEVEL (dBA)	MOTOR				APPROX WEIGHT (LBS)	NOTES
						WATTS / HP	VOLT	PHASE	FLA		
HFU-1	LASER TABLE	24" x 48"	7.2	650	48	235 / 0.33	120	1	3.4	66	[1]
HFU-2	LASER TABLE	24" x 48"	7.2	650	48	235 / 0.33	120	1	3.4	66	[1]
HFU-3	LASER TABLE	24" x 48"	7.2	650	48	235 / 0.33	120	1	3.4	66	[1]

NOTES:
BASIS OF DESIGN: ENVIRCO MAC 10 IQ "STANDARD" UNIT.
[1] PRE-FILTER ACCESSIBLE FROM TOP SIDE OF UNIT. HEPA FILTER AND MOTOR REPLACEMENT REQUIRES REMOVAL OF UNIT FROM PLATFORM SHELF. FAN MOTOR SHALL BE AN ELECTRONIC COMMUTATED MOTOR (ECM).

DRAINAGE FIXTURE UNIT LOADS (DFU)

PLUMBING FIXTURE	DFU PER FIXTURE	FIXTURES REMOVED	FIXTURES ADDED	TOTAL DFU REMOVED	TOTAL DFU ADDED	NET CHANGE
LAB SINK	1	1	1	1	1	0
CUP SINK (CONDENSATE RECEPTOR)	1	0	1	0	1	1
TOTALS		1	2	1	2	1

NOTES:
FIXTURE UNITS VALUES (DFU) ARE BASED ON OPSC 2011, GENERAL USE, PUBLIC.
NEGATIVE VALUES INDICATE A DECREASED LOAD.
LEGEND: GPF=GALLONS PER FLUSH.

MECHANICAL SYMBOLS LIST

SYMBOL	ABBR.	DESCRIPTION	SYMBOL	ABBR.	DESCRIPTION	SYMBOL	ABBR.	DESCRIPTION
	HS	HEATING WATER SUPPLY PIPE			DIRECTION OF FLOW			TEE DOWN
	HR	HEATING WATER RETURN PIPE		PT	PRESSURE/TEMPERATURE TEST PLUG			DUCT DROP/RISE
	CHS	CHILLED WATER SUPPLY PIPE			SLOPE PIPE DOWN IN DIRECTION OF ARROW			DUCT TO BE REMOVED
	CHR	CHILLED WATER RETURN PIPE			PIPE CAP			MANUAL DAMPER (SINGLE BLADE)
	CW	COLD WATER PIPE			PIPE UNION			AUTOMATIC DAMPER
	ICW	INDUSTRIAL COLD WATER			BREAK IN LINE - SHOWN FOR CLARITY			OPPOSED BLADE DAMPER
	IHW	INDUSTRIAL HOT WATER			FLEXIBLE PIPE CONNECTOR			TEMPERATURE TRANSMITTER
	CD	COOLING COIL CONDENSATE DRAIN			VALVE IN RISER			HEATING COIL
	CA	COMPRESSED AIR PIPE			BALL VALVE			COOLING COIL
	DI	DEIONIZED WATER PIPE			BALANCING VALVE			FAN COIL UNIT
	N2	NITROGEN GAS PIPE			DRAIN VALVE			SUPPLY REGISTER WALL
	VAC	VACUUM PIPE			2-WAY CONTROL VALVE			RETURN REGISTER WALL
	PCWS	PROCESS COOLING WATER SUPPLY PIPE			TEMPERATURE GAUGE			EXHAUST REGISTER WALL
	PCWR	PROCESS COOLING WATER RETURN PIPE			PRESSURE GAUGE			AIR FLOW (CFM) - TYPE / NECK SIZE - PATTERN
	G	LOW PRESSURE GAS PIPE			DIRECTION OF AIR FLOW			ROOM DDC SENSOR
	HER	HELIUM RECOVERY PIPE			SUPPLY DUCT UP AND DOWN			ROOM THERMOSTAT (PNEUMATIC)
	LW	LAB WASTE PIPE			RETURN DUCT UP AND DOWN			ROOM HUMIDITY SENSOR
	LV	LAB VENT PIPE			EXHAUST DUCT UP AND DOWN			ON/OFF WALL SWITCH
	X	PIPE TO BE REMOVED			RECTANGULAR DUCT - 1ST DIMENSION IS SIDE SHOWN			ABOVE FINISHED FLOOR
		STRAINER			ROUND DUCT			ACCESS DOOR
		CONCENTRIC REDUCER			DUCT WITH INTERNAL LINER			EXISTING
		VERTICAL PIPE DROP OR RISER			DUCT WITH RADIUS ELBOW			DETAIL & SHEET NUMBER
		PIPE TAKE OFF - UP			DUCT WITH RECTANGULAR ELBOW AND TURNING VANES			KEYED NOTE REFERENCE
		PIPE TAKE OFF - DOWN			TAKE-OFF WITH 45 DEGREE ENTRY			POINT OF CONNECTION BETWEEN NEW & EXISTING WORK
		90 DEGREE ELBOW DOWN						MAINTENANCE ACCESS AREA
		BRANCH TEE						
		TEE UP						

FAN COIL UNITS

TAG	MODEL NO.	FAN						FILTER	COOLING COIL														WEIGHT	REMARKS		
		CFM	TOTAL E.S.P. (in. w.g.)	HP [1]	FAN SPEED RPM	VOLT	PHASE		EFFICIENCY (%) / (MERV)/THICKNESS	EAT		MIN LAT [2]		TOTAL MBH	SENS MBH	GPM	EWT	LWT	ROWS	FINS / IN	NO. CIRCUITS	APD (IN. W.G.)			WPD (FT)	CONTROL VALVE
FCU-74-1	FNX 12	680	0.61	(2) 1/3	2 @ 1,050	120	1	30% / (8) / 2"	67.4	56.0	47.3	47.2	15.34	14.96	5.0	46.0	52.1	6	12	4	0.14	4.93	X		271	COIL SIZED FOR DEHUMIDIFICATION
FCU-74-2	FNX 12	650	0.63	(2) 1/3	2 @ 1,050	120	1	30% / (8) / 2"	67.4	56.0	47.4	47.2	14.58	14.26	4.5	46.0	52.4	6	12	4	0.13	4.16	X		271	COIL SIZED FOR DEHUMIDIFICATION

SOUND POWER	125HZ	250HZ	500HZ	1KHZ	2KHZ	4KHZ	8KHZ
HIGH SPEED	72	66	62	63	60	57	52

BASIS OF DESIGN: JOHNSON CONTROLS EXPOSED FNX CABINET FAN COIL UNITS
[1] ELECTRONICALLY COMMUTATED (EC) MOTOR USED FOR VARIABLE VOLUME AIRFLOW
[2] MINIMUM LAT REQUIRED FROM THE COIL SIZED FOR THE EWT AND GPM SHOWN.
FAN EXTERNAL STATIC PRESSURE (E.S.P.) = DUCT LOSSES + MIDLIFE FILTER PRESSURE DROP.
COIL APD IS MAXIMUM ALLOWABLE COIL PRESSURE DROP.
WEIGHT DOES NOT INCLUDE ACCESSORIES

VENTILATION AIR COMPLIANCE

TAG	ROOM NUMBER / NAME	SPACE TYPE	USE AREA (SQ. FT.)	ZONE POPULATION	PEOPLE OA RATE - CFM / PERSON	AREA OA RATE - CFM / SF	UNCORRECTED OSA TOTAL - CFM	AIR DISTRIBUTION EFFECTIVENESS	REQUIRED OSA TO ROOM - CFM	OSA AIRFLOW PROVIDED TO ROOM - CFM	SUPPLY AIR PROVIDED TO ROOM - CFM	OSA / SUPPLY AIR %
SF-8,9	74A	CONFERENCE/MEETING	206	4	5	0.06	33	0.8	42	1000	1000	100%
	74B	UNIVERSITY/COLLEGE LABORATORY	189	4	10	0.18	75	0.8	94	300	300	100%
	74C	UNIVERSITY/COLLEGE LABORATORY	723	8	10	0.18	211	0.8	264	300	300	100%

NOTES:

FIXTURE SCHEDULE

TAG	DESCRIPTION	CONNECTION SIZE (INCHES DIAMETER)					REMARKS
		TRAP	LW	LV	CW	DI	
LAB SINK	DISTILLED WATER FACUET	2	2	1-1/2	--	1/2	LAB SINK PROVIDED BY DIVISION 1
EW-1	EMERGENCY EYEWASH	--	--	--	1/2	--	

NOTES:
CONNECTION SIZES SHOWN ARE FOR INDIVIDUAL FIXTURES ONLY.

MECHANICAL SHEET INDEX

SHEET NO.	SHEET TITLE
M001	SYMBOLS LIST, SCHEDULES & SHEET INDEX
M101	MECHANICAL - DEMO / NEW
M201	PLUMBING - DEMO / NEW
M202	PARTIAL BASEMENT PLAN - PLUMBING
M203	FOUNDATION - DEMO / NEW
M301	DETAILS
M302	DETAILS AND SECTIONS

General Notes		
No.	Rev/Issue	Date

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8900-004-13M001.DWG

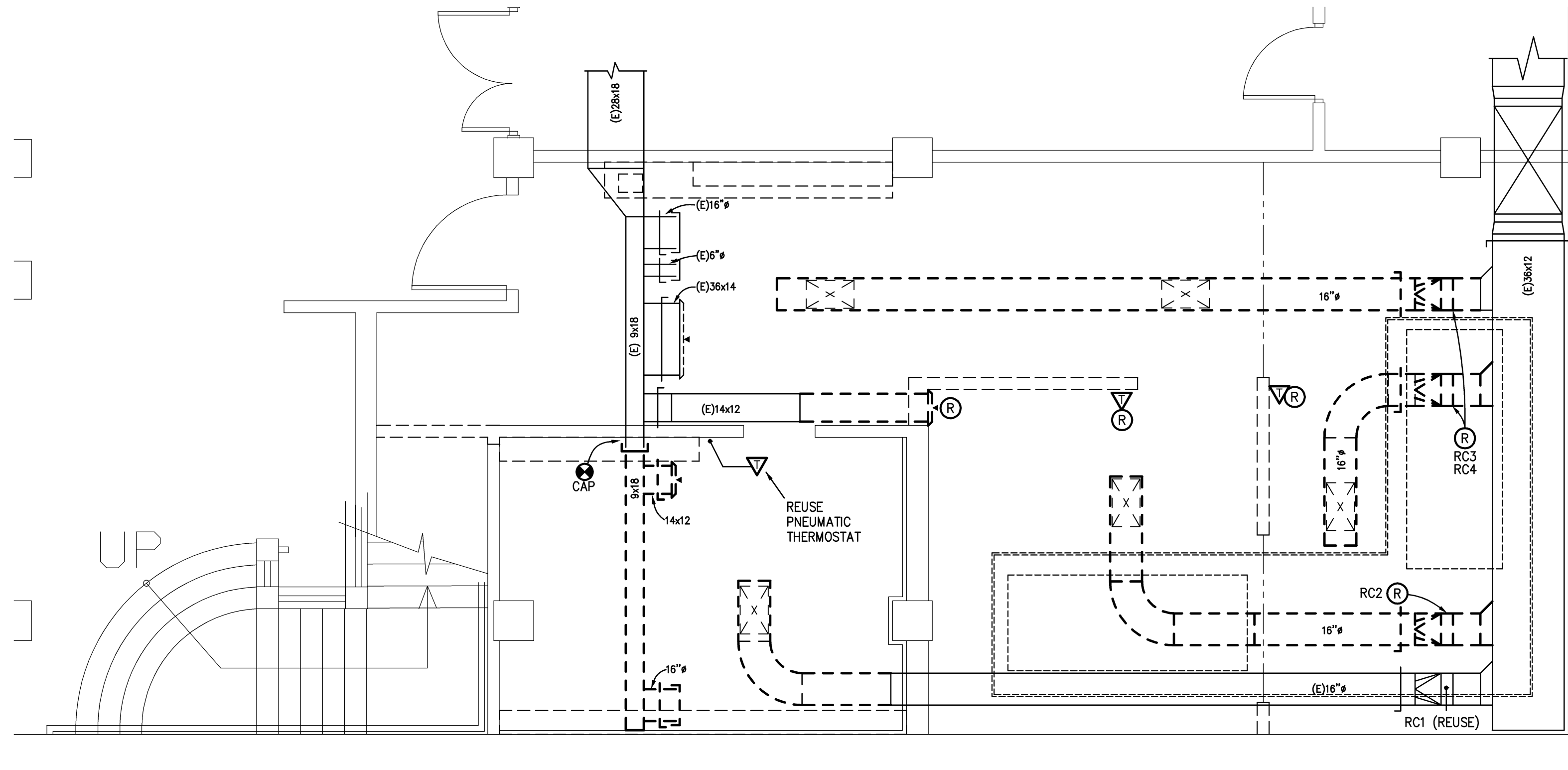
REGISTERED PROFESSIONAL ENGINEER
OREGON
NOV. 19, 1991
DAVID W. KNIGHTON
DIGITAL SIGNATURE
EXPRES 08/30/15

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DESIGN SERVICES GROUP
1275 FRANKLIN BOULEVARD
EUGENE, OREGON 97403-1216
UNIVERSITY OF OREGON
CAPITAL CONSTRUCTION
1276 UNIVERSITY OF OREGON
EUGENE, OREGON 97403-1216

PROJECT NAME:
WILLAMETTE 74
ALEMAN LASER LAB

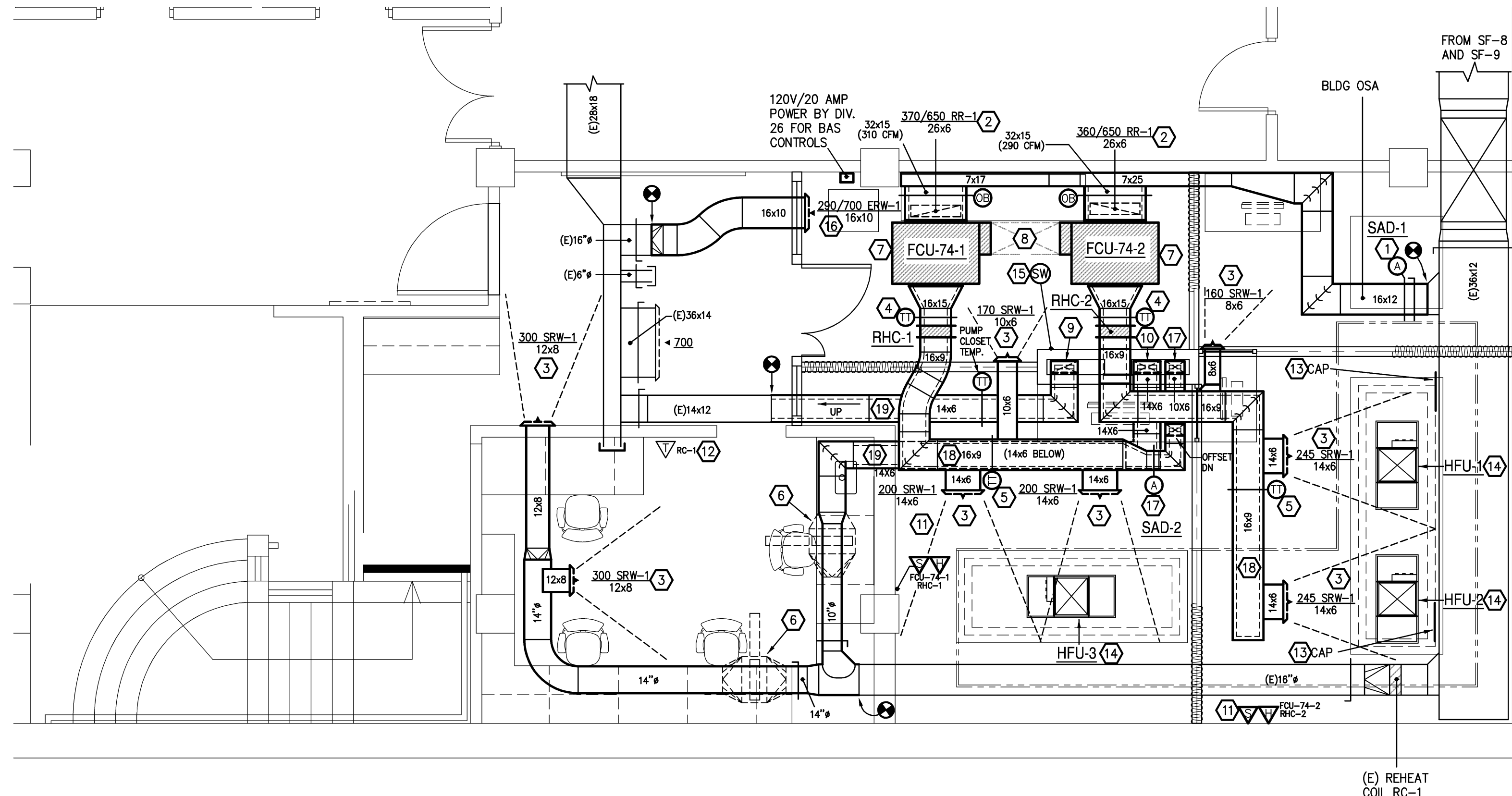
DRAWING TITLE:
SYMBOLS LIST, SCHEDULES
& SHEET INDEX
PROJECT NO.:
CP11-043
DATE ISSUED:
06/10/2014
DATE DRAFTED:
05/29/2014
CHECKED BY:
DWK
DRAWN BY:
CAS
PLOT SCALE:
AS NOTED

DRAWING NO.:
M001



1 FLOOR PLAN - MECHANICAL - DEMO

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



2 FLOOR PLAN - MECHANICAL - NEW

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



- GENERAL NOTES: DWG #1 AND DWG #2**
1. THE LOCATION AND IDENTIFICATION OF DUCTWORK SHOWN ON THE DRAWINGS IS BASED ON EXISTING RECORD DRAWINGS. A FIELD SURVEY OF DUCTWORK HAS NOT BEEN CONFIRMED IN EVERY LOCATION. THE MECHANICAL CONTRACTOR WILL BE REQUIRED TO FIELD VERIFY THE EXACT LOCATION AND IDENTIFICATION OF EACH SERVICE PRIOR TO STARTING DEMOLITION OR NEW WORK IN THIS AREA.
 2. EXISTING CONCRETE FLOORS HAVE CAST-IN-PLACE ELECTRICAL CONDUITS. SECTION 017000 WILL PROVIDE NON-DESTRUCTIVE INVESTIGATION TECHNIQUES TO IDENTIFY CONDUIT LOCATIONS. COORDINATE ANCHOR LOCATIONS WITH SECTION 017000 BEFORE DRILLING FOR PIPING, DUCTWORK AND ELECTRICAL ANCHORS.
 3. REMOVE DUCTWORK APPURTENANCES ASSOCIATED WITH DUCTWORK SHOWN REMOVED: TO INCLUDE INSULATION, SUPPORTS, THERMOSTATS, CONTROLS AND CONTROL TUBING.
 4. INSTALL FAN COIL UNITS AND DUCTWORK AS HIGH AS POSSIBLE WHILE MAINTAINING ACCESS TO ITEMS REQUIRING MAINTENANCE.

- KEYED NOTES: DWG #2**
- 1) BAS CONTROLS CLOSES AUTOMATIC DAMPER WHENEVER BUILDING SUPPLY FANS SF-8 AND SF-9 ARE OFF TO PREVENT AIRFLOW FROM BEING DRAWN INTO LAB 74 THROUGH MAIN SUPPLY DUCT.
 - 2) BALANCE RETURN GRILLE AIRFLOW FOR LOWER CFM SHOWN. GRILLE SIZED FOR FULL RECIRCULATION CFM SHOWN.
 - 3) ADJUST SUPPLY GRILLE LOUVERS TO DISCHARGE HORIZONTALLY AS SHOWN.
 - 4) BAS TEMPERATURE TRANSMITTER CONTROLLING COOLING COIL DISCHARGE TEMPERATURE.
 - 5) BAS TEMPERATURE TRANSMITTER CONTROLLING HEATING COIL DISCHARGE TEMPERATURE.
 - 6) FUTURE FILTER HOUSING. MAINTAIN APPROXIMATELY 3 FT OF STRAIGHT DUCT WHERE SHOWN TO ALLOW FUTURE INSTALLATION.
 - 7) SEE DETAIL 2/M301 FOR FAN COIL SIZE AND CONFIGURATION.
 - 8) ALLOW 36" MINIMUM CODE CLEARANCE BETWEEN CONTROL PANELS.
 - 9) CRYO PUMP CLOSET EXHAUST. BALANCE TO 320 CFM. CLOSE DUCT INLET WITH 1/2" GALV MESH SCREEN. SEE SECTION 3/M302.
 - 10) CRYO PUMP CLOSET BUILDING SUPPLY AIR. BALANCE TO 210 CFM. SEE SECTION 3/M302.
 - 11) DDC TEMPERATURE AND HUMIDITY SENSOR SURFACE MOUNTED ON J-BOX.
 - 12) REUSE EXISTING PNEUMATIC THERMOSTAT.
 - 13) REMOVE BRANCH HEEL TAP FITTING. CLOSE DUCT OPENING AIRTIGHT WITH SHEET METAL SCREWED TO SIDE OF MAIN DUCT AND SEALANT.
 - 14) INSTALL HEPA FAN UNIT IN LOWER SHELF OF OVERHEAD LASER TABLE PLATFORM. SEE STRUCTURAL DRAWINGS FOR PLATFORM ARRANGEMENT. UNIT TO BE REMOVABLE FROM SHELF TO CHANGE HEPA FILTER OR REPAIR FAN.
 - 15) WALL MOUNTED ON/OFF SWITCH FOR FCU-74-1 AND FCU-74-2 BY CONTROL CONTRACTOR.
 - 16) BALANCE EXHAUST GRILLE AIRFLOW FOR LOWER CFM SHOWN. GRILLE SIZED FOR FULL CFM SHOWN.
 - 17) CRYO PUMP CLOSET FCU-74-1 SUPPLY AIR. SET (N.O.) AUTO DAMPER MIN. POSITION TO DELIVER 110 CFM WHEN CLOSET EXHAUST TEMPERATURE IS LESS THAN 85 DEG F. MODULATE DAMPER OPEN FROM 110 TO 310 CFM TO MAINTAIN CLOSET EXHAUST TEMPERATURE AT 85 DEG F. SEE SECTION 3/M302.
 - 18) FCU SUPPLY DUCTS: FIBER FREE LINER FOR INSULATION AND ACOUSTIC ATTENUATION OF NOISE FROM FAN AND PUMP CLOSET.
 - 19) BUILDING SUPPLY AND EXHAUST OVER LASER BAY: FIBERGLASS LINER FOR ACOUSTIC ATTENUATION OF NOISE FROM PUMP CLOSET.

General Notes		
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CAPITAL CONSTRUCTION
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 EUGENE, OREGON 97403-12176

PROJECT NAME:
**WILLAMETTE 74
 ALEMAN LASER LAB**

DRAWING TITLE:
MECHANICAL-DEMO/NEW

PROJECT NO.:
CP11-043

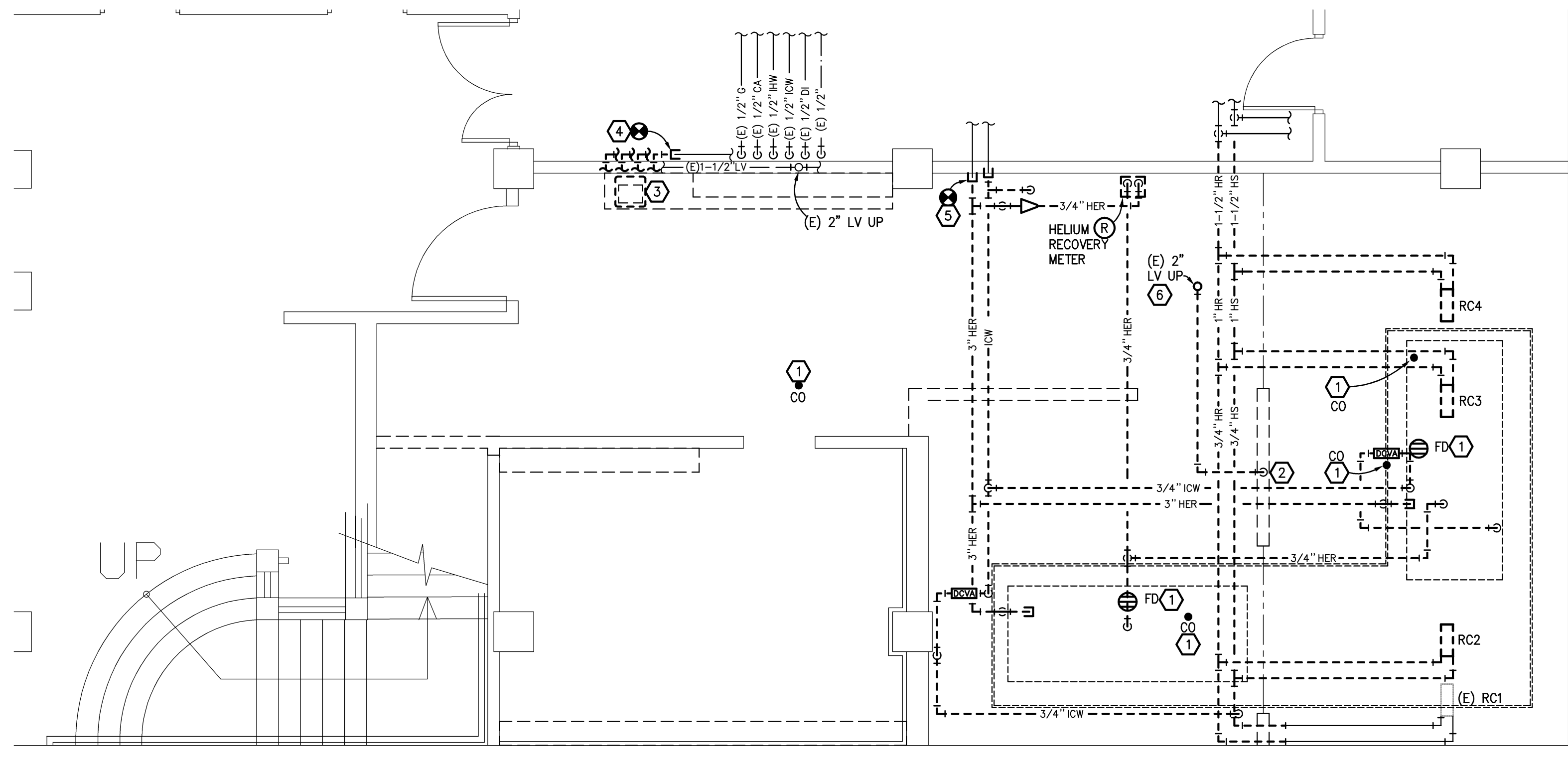
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DATE DRAFTED:
05/29/2014

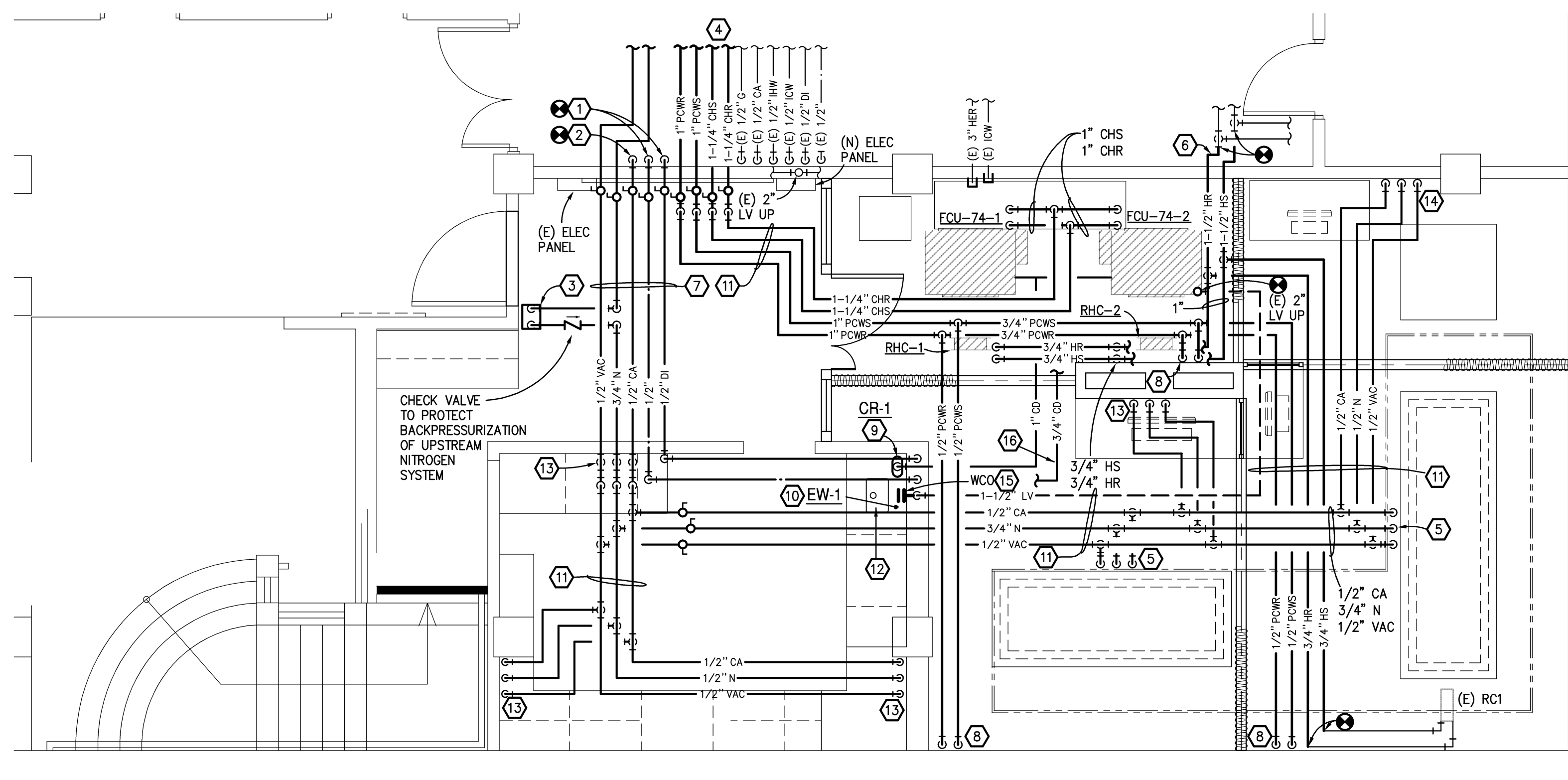
CHECKED BY:
DWK DRAWN BY:
DWK

PLOT SCALE:
AS NOTED

DRAWING NO.:
M101



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



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

- KEYED NOTES: DWG #1**
- 1 SEE 1/M203 FOR BELOW GRADE DEMOLITION WORK.
 - 2 REMOVE VENT IN WALL. SEE 1/M203 FOR FOR BELOW GRADE DEMOLITION WORK.
 - 3 REMOVE SINK IN CASEWORK. CAP WASTE AND VENT PIPING WITHIN WALL.
 - 4 CAP 1/2" ICW AND 1/2" IHW SERVICES AT MAINS IN LAB 73. SEE 2/M201 FOR RECONNECTION OF 1/2" DI AND 1/2" CW PIPING.
 - 5 CAP HER AND ICW PIPING AT WALL.
 - 6 REMOVE 2" LV UP TO RISER AT STRUCTURE. SEE 2/M201 FOR RECONNECTION.

- GENERAL NOTES: DWG #1 AND DWG #2**
1. THE LOCATION AND IDENTIFICATION OF PIPING SHOWN ON THE DRAWINGS IS BASED ON EXISTING RECORD DRAWINGS. A FIELD SURVEY OF PIPING HAS NOT BEEN CONFIRMED IN EVERY LOCATION. THE PLUMBING CONTRACTOR WILL BE REQUIRED TO FIELD VERIFY THE EXACT LOCATION AND IDENTIFICATION OF EACH SERVICE PRIOR TO STARTING DEMOLITION OR NEW WORK IN THIS AREA.
 2. VACUUM SYSTEM INCLUDING VACUUM PUMP AND PIPING INSTALLATION SHOWN ON THESE DRAWINGS TO BE BID IS AN ALTERNATE ON THE PROJECT.
 3. EXISTING CONCRETE FLOORS HAVE CAST-IN-PLACE ELECTRICAL CONDUITS. SECTION 017000 WILL PROVIDE CONCLUSIVE NON-DESTRUCTIVE INVESTIGATION TECHNIQUES TO IDENTIFY CONDUIT LOCATIONS. COORDINATE ANCHOR LOCATIONS WITH SECTION 017000 BEFORE DRILLING FOR PIPING, DUCTWORK AND ELECTRICAL ANCHORS.
 4. REMOVE PIPING APPURTENANCES ASSOCIATED WITH PIPING SHOWN REMOVED: TO INCLUDE INSULATION, PIPING SUPPORTS, CONTROL VALVES, AND HYDRONIC ACCESSORIES.
 5. INSTALL PIPING AS HIGH AS POSSIBLE.

- KEYED NOTES: DWG #2**
- 1 RECONNECT TO 1/2" DI AND 1/2" CW PIPING IN LAB 73.
 - 2 CONNECT TO EXISTING 1/2" CA PIPING ON WALL IN LAB 73.
 - 3 MOUNT NITROGEN METER ON WALL APPROXIMATELY 7'-0" ABOVE FINISHED FLOOR.
 - 4 SEE 1/M202 FOR CONTINUATION.
 - 5 1/2" VAC, 1/2" N AND 1/2" CA DROP TO LASER TABLE UPPER SUSPENDED SHELF. TERMINATE WITH ISOLATION VALVE AND THREADED MALE FITTING. COORDINATE PIPING DROPS WITH DUCTWORK ROUTING. COORDINATE FINAL LOCATION WITH USER.
 - 6 OFFSET HS AND HR PIPING AROUND WALL.
 - 7 ROUTE PIPING RACK ABOVE LIGHTING AND BELOW EXISTING CABLE TRAYS AND EXISTING DUCTWORK. DO NOT BLOCK ACCESS TO EXISTING EXHAUST GRILLE WITH PIPING RACK.
 - 8 1/2" PCWS AND 1/2" PCWR DOWN TO STATION ON WALL. SEE 1/M302 FOR PIPING TERMINATION REQUIREMENTS.
 - 9 SEE DETAIL 9/M301 FOR CONDENSATE DRAIN RECEPTOR.
 - 10 EW-1 ADJACENT TO SINK. COORDINATE LOCATION WITH ARCHITECT.
 - 11 ROUTE PIPING RACK AS HIGH AS POSSIBLE TO STRUCTURE.
 - 12 LAB SINK PROVIDED BY DIVISION 1.
 - 13 1/2" VAC, 1/2" N AND 1/2" CA DROP TO 12 INCHES ABOVE COUNTERTOP. TERMINATE WITH ISOLATION VALVE AND THREADED MALE FITTING. COORDINATE PIPING DROPS WITH DUCTWORK ROUTING. COORDINATE FINAL LOCATION WITH USER.
 - 14 1/2" VAC, 1/2" N AND 1/2" CA DROP TO 6 FEET ABOVE FLOOR. TERMINATE WITH ISOLATION VALVE AND THREADED MALE FITTING. COORDINATE PIPING DROPS WITH DUCTWORK ROUTING. COORDINATE FINAL LOCATION WITH USER.
 - 15 WALL CLEANOUT INSIDE CABINET SPACE.
 - 16 COMBINE 1/2" OVERFLOW DRAINS FROM FCU-74-1 AND FCU-74-2 INTO A 3/4" OVERFLOW DRAIN. TERMINATE OVERFLOW DRAIN HIGH ABOVE NEW SINK IN 748 TO DRIP DIRECTLY INTO MIDDLE OF SINK. PROVIDE SIGNAGE ON WALL: "CALL FACILITIES IF OVERFLOW DRAIN HAS DISCHARGE"

General Notes

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PROJECT NAME:
**WILLAMETTE 74
ALEMAN LASER LAB**

DRAWING TITLE:
PLUMBING-DEMO/NEW

PROJECT NO.:
CP11-043

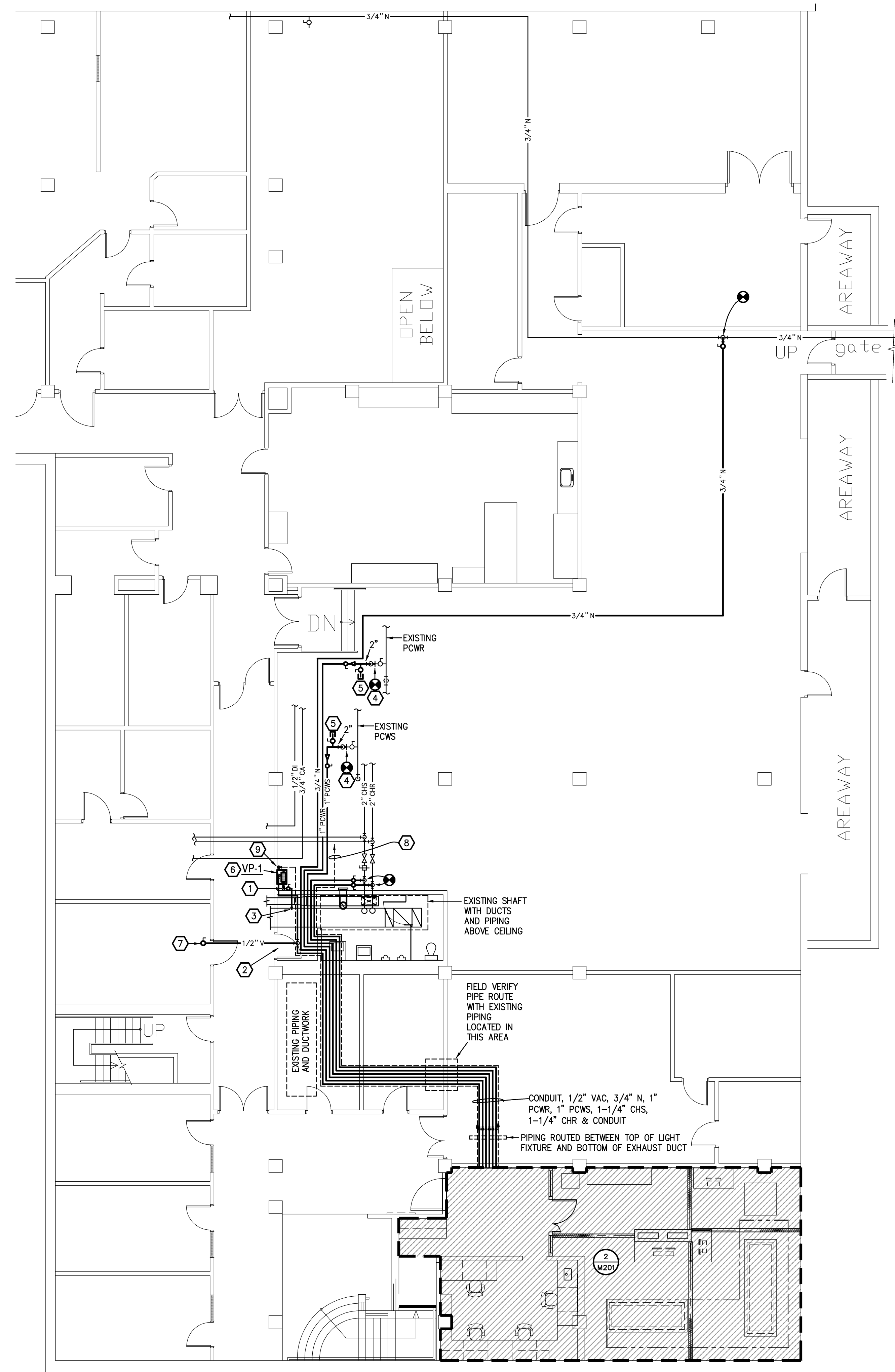
DATE ISSUED:
06/10/2014

DATE DRAFTED:
05/29/2014

CHECKED BY: DWK
DRAWN BY: CAS

PLOT SCALE:
AS NOTED

DRAWING NO.:
M201



- GENERAL NOTES:**
1. THE LOCATION AND IDENTIFICATION OF PIPING SHOWN ON THE DRAWINGS IS BASED ON EXISTING RECORD DRAWINGS. A FIELD SURVEY OF PIPING HAS NOT BEEN CONFIRMED IN EVERY LOCATION. THE PLUMBING CONTRACTOR WILL BE REQUIRED TO FIELD VERIFY THE EXACT LOCATION AND IDENTIFICATION OF EACH SERVICE PRIOR TO STARTING DEMOLITION OR NEW WORK IN THIS AREA.
 2. VACUUM SYSTEM INCLUDING VACUUM PUMP AND PIPING INSTALLATION SHOWN ON THESE DRAWINGS TO BE BID IS AN ALTERNATE ON THE PROJECT.
 3. EXISTING CONCRETE FLOORS HAVE CAST-IN-PLACE ELECTRICAL CONDUITS. SECTION 017000 WILL PROVIDE CONCLUSIVE NON-DESTRUCTIVE INVESTIGATION TECHNIQUES TO IDENTIFY CONDUIT LOCATIONS. COORDINATE ANCHOR LOCATIONS WITH SECTION 017000 BEFORE DRILLING FOR PIPING, DUCTWORK AND ELECTRICAL ANCHORS.

- KEYED NOTES:**
- 1 3/4" DIA SCHEDULE 40 PVC VACUUM PUMP EXHAUST. SUPPORT ON WALL.
 - 2 SEE ARCHITECTURAL DRAWINGS FOR REMOVAL AND REPLACEMENT OF HARD CEILING IN RESTROOM TO ALLOW INSTALLATION OF PIPING.
 - 3 CONNECT VACUUM EXHAUST PVC PIPE INTO EXHAUST DUCT SECURED WITH A FLANGE SCREWED TO DUCT. SEAL PENETRATION AIRTIGHT.
 - 4 CONNECT TO EXISTING 2" PCW VALVED STUB. NEW BRANCH PIPING TO BE TURNED UP IMMEDIATELY AFTER CONNECTION TO MAINTAIN HIGH HEAD CLEARANCE AS POSSIBLE.
 - 5 PROVIDE 1-1/2" VALVED AND CAPPED PCW STUB FOR FUTURE USE.
 - 6 SET VACUUM PUMP ON STEEL SHELF ANCHORED TO WALL WITH TWO HEAVY ANGLE BRACKETS. LOCATE SHELF HEIGHT 5'-0" ABOVE FLOOR. RUN 1/4" DIA. 6FT LONG HOSE FROM PUMP EXHAUST OUTLET STUBBED APPROXIMATELY 6" INTO 3/4" PVC PIPE.
 - 7 COMPLETION OF VACUUM PIPING TO FIXTURES IN LAB BY LAB USER.
 - 8 WIRING TO EXISTING BAS PANEL IN MECHANICAL ROOM BY CONTROL CONTRACTOR.
 - 9 WIRING TO VACUUM PUMP 3-WAY WALL SWITCH BY DIVISION 26.

1 PARTIAL BASEMENT PLAN - PLUMBING
 SCALE: 1/8"=1'-0"

General Notes		
No.	Rev/Issue	Date



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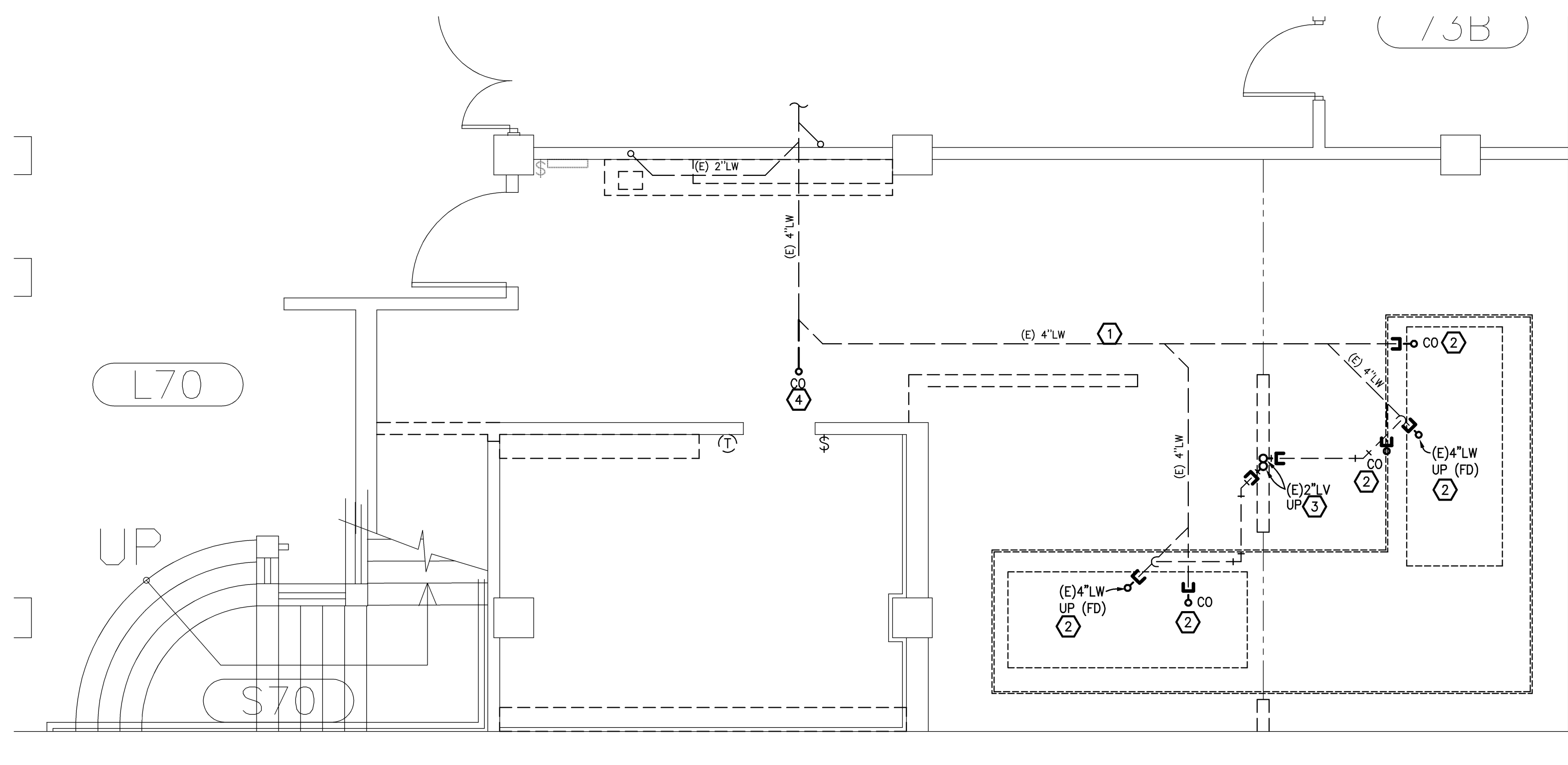


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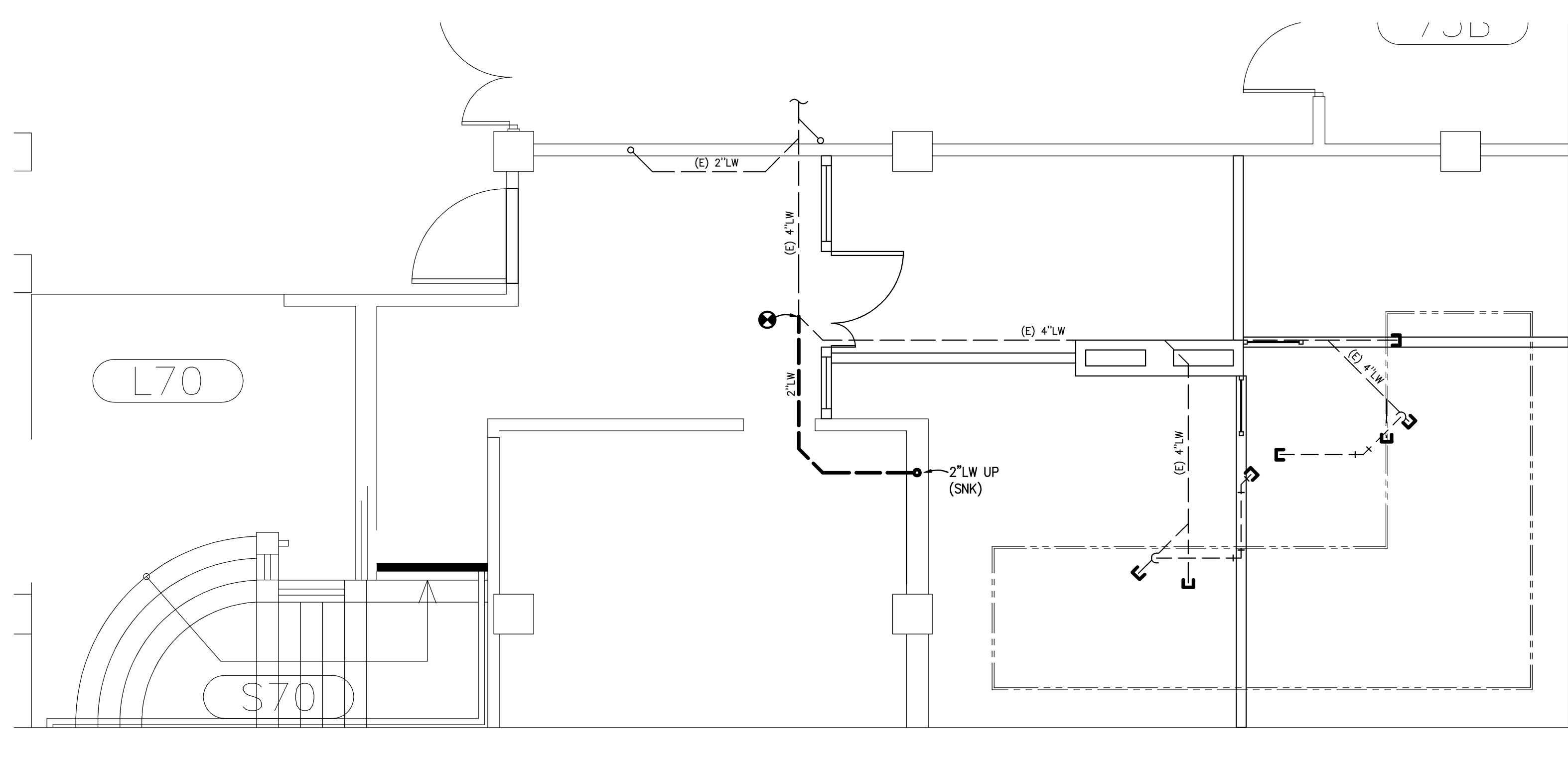
PROJECT NAME:
 WILLAMETTE 74
 ALEMAN LASER LAB

DRAWING TITLE:
 PARTIAL BASEMENT PLAN
 PLUMBING
 PROJECT NO.:
 CP11-043
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 DATE DRAFTED:
 05/29/2014
 CHECKED BY:
 DWK DRAWN BY:
 DWK
 PLOT SCALE:
 AS NOTED

DRAWING NO.:
M202



1 FOUNDATION - PLUMBING - DEMO
SCALE: 1/4"=1'-0" 



2 FOUNDATION - PLUMBING - NEW
SCALE: 1/4"=1'-0" 

GENERAL NOTES: DWG#1 AND DWG#2

1. THE LOCATION AND IDENTIFICATION OF PIPING SHOWN ON THE DRAWINGS IS BASED ON EXISTING RECORD DRAWINGS. A FIELD SURVEY OF PIPING HAS NOT BEEN CONFIRMED IN EVERY LOCATION. THE PLUMBING CONTRACTOR WILL BE REQUIRED TO FIELD VERIFY THE EXACT LOCATION AND IDENTIFICATION OF EACH SERVICE PRIOR TO STARTING DEMOLITION OR NEW WORK IN THIS AREA.

KEYED NOTES: DWG#1

① ABANDON 4\"/>

General Notes		
No.	Rev/Issue	Date

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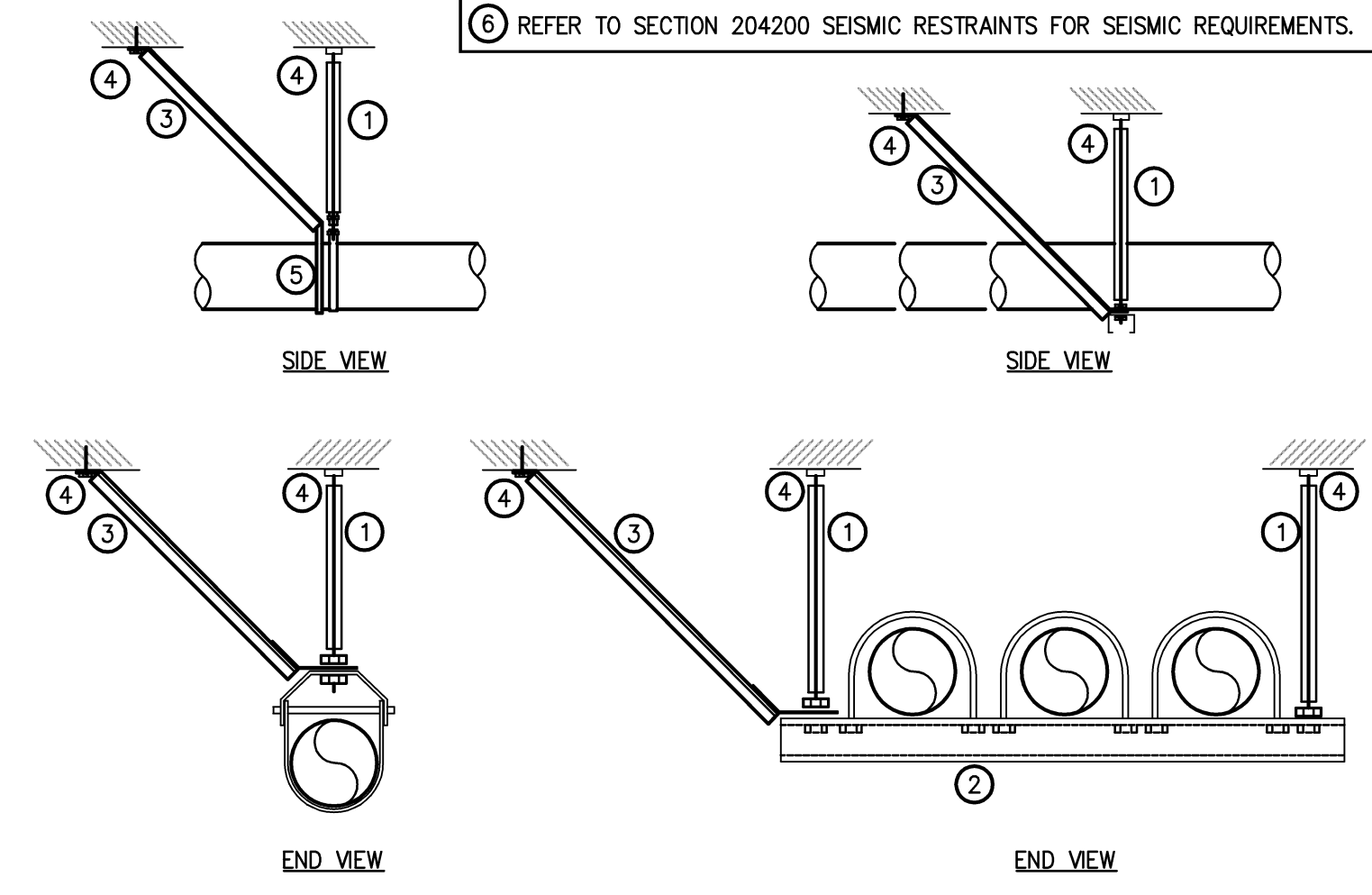
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EUGENE, OREGON 97403-12176
CAPITAL CONSTRUCTION
1276 UNIVERSITY OF OREGON
EUGENE, OREGON 97403-12176

PROJECT NAME:
WILLAMETTE 74
ALEMAN LASER LAB

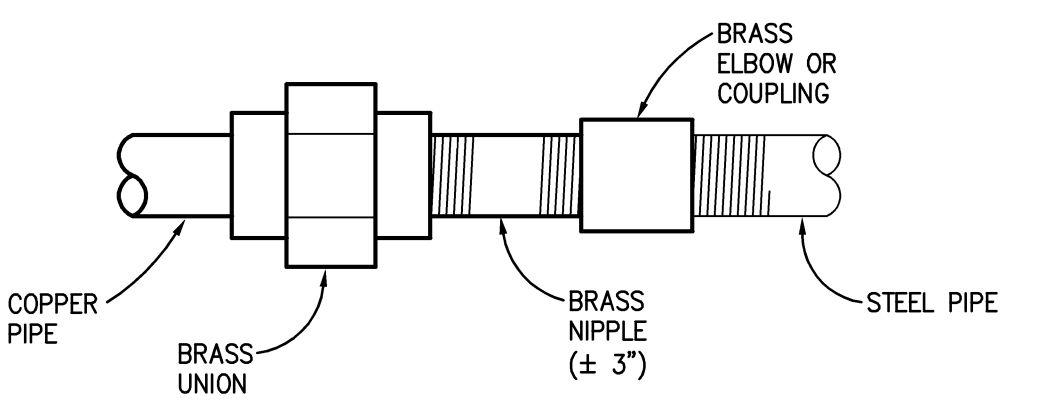
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FOUNDATION-DEMO/NEW
PROJECT NO.:
CP11-043
DATE ISSUED:
06/10/2014
DATE DRAFTED:
05/29/2014
CHECKED BY: DWK **DRAWN BY:** CAS
PLOT SCALE:
AS NOTED

DRAWING NO.:
M203

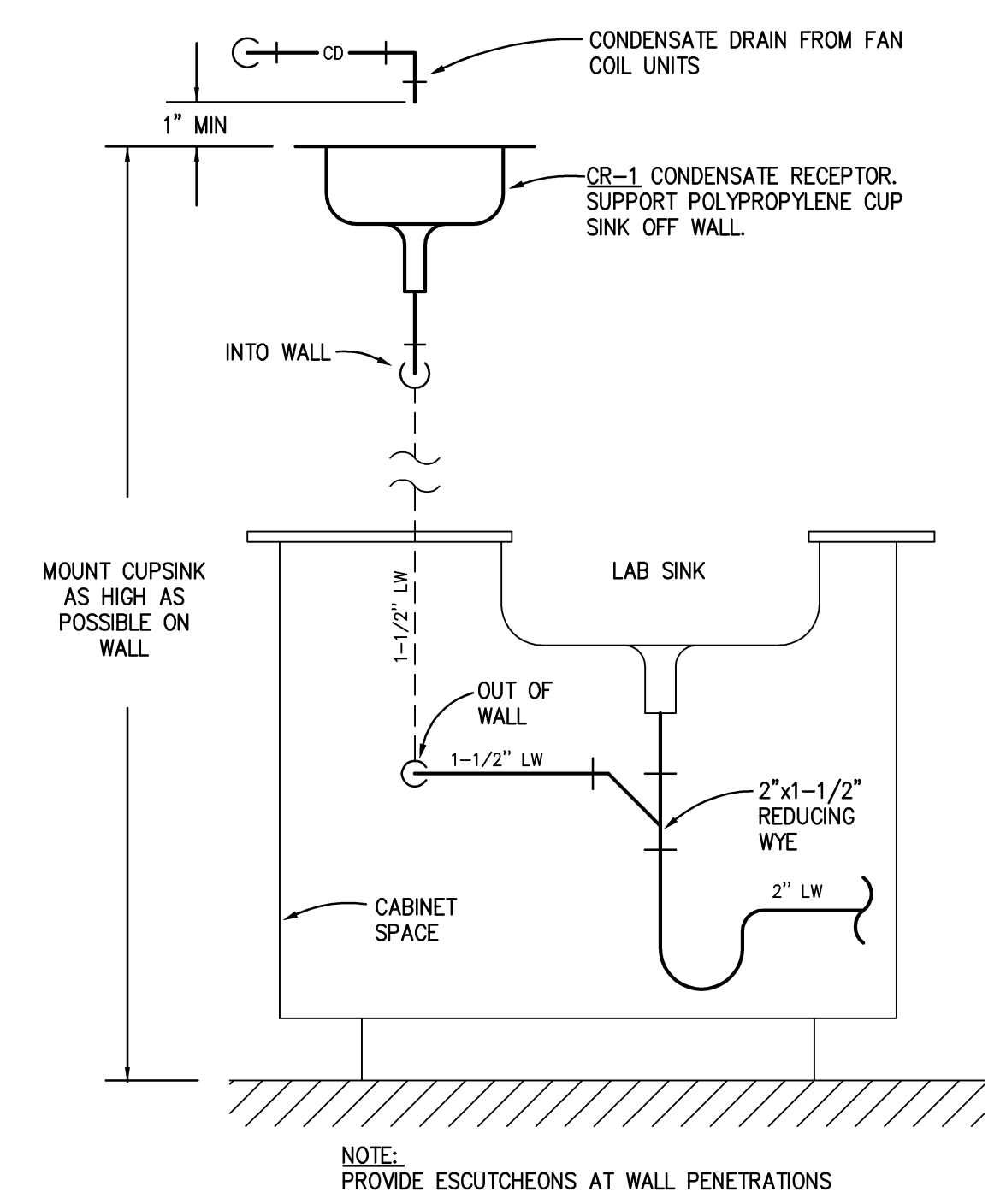
- SUSPENDED PIPING DETAIL NOTES**
- HANGER RODS WITH STIFFENERS.
 - ANGLE IRON OR MANUFACTURED STRUT CROSS MEMBER.
 - RIGID BRACE (SHOWN) OR MULTIPLE CABLE BRACES.
 - ATTACH TO STRUCTURE AS DIRECTED BY SECTION 204200 SEISMIC ENGINEER.
 - SECURE TO PIPE.
 - REFER TO SECTION 204200 SEISMIC RESTRAINTS FOR SEISMIC REQUIREMENTS.



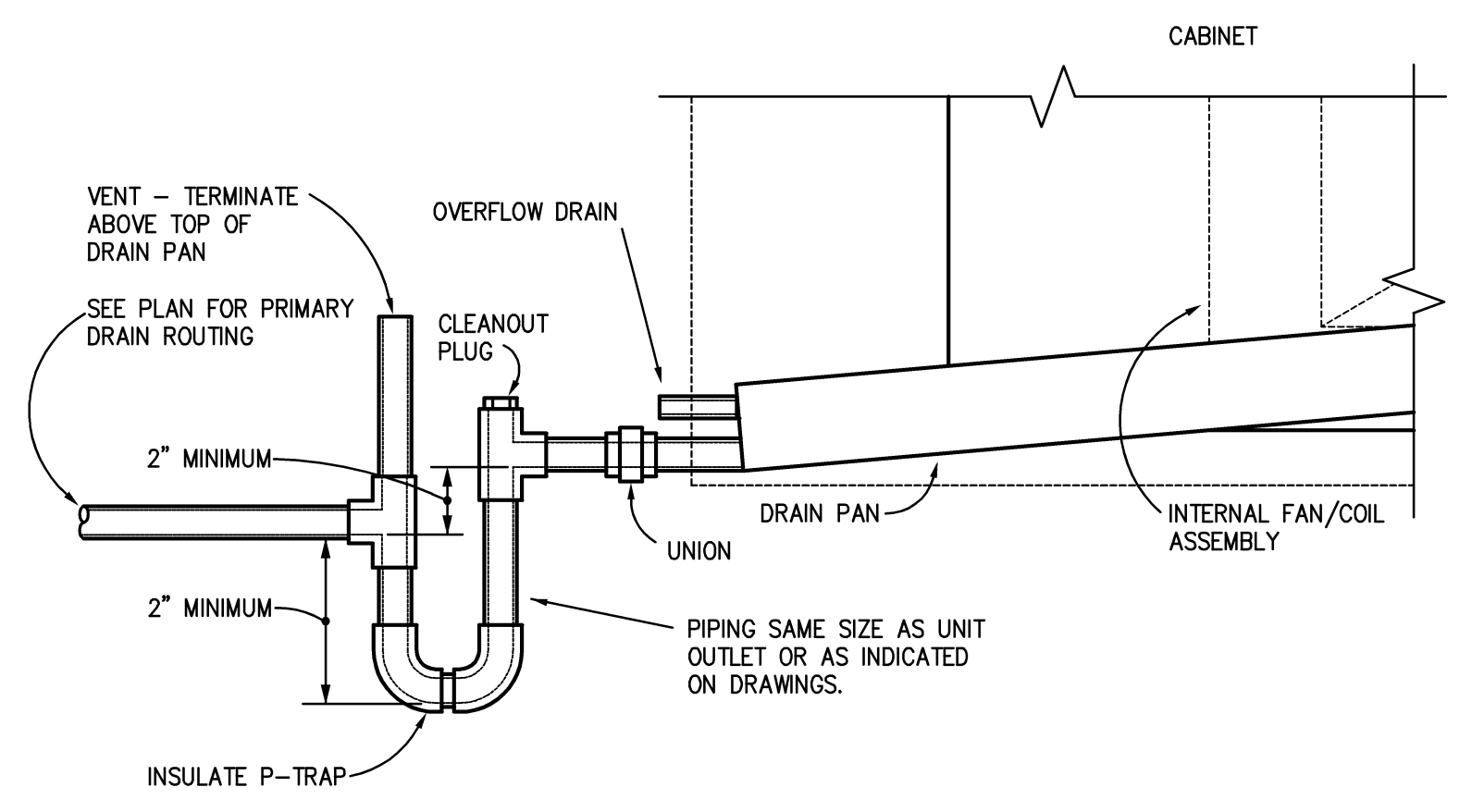
7 SUSPENDED PIPING SEISMIC BRACING - GENERIC DETAIL
NO SCALE



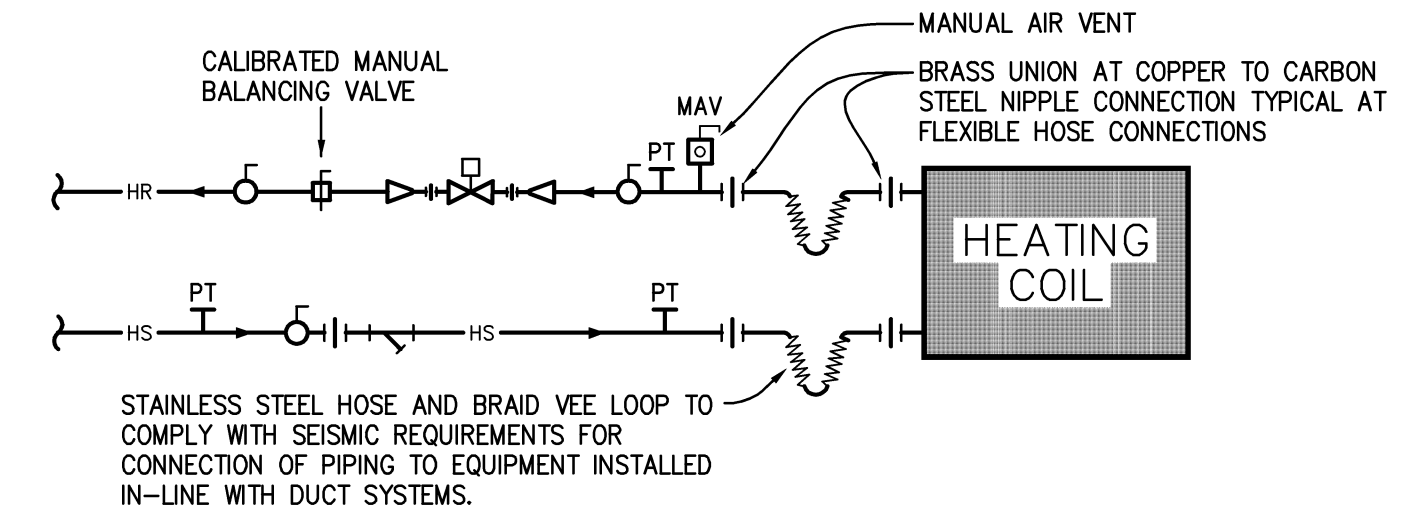
8 TYPICAL STEEL PIPE TO COPPER CONNECTION
NO SCALE



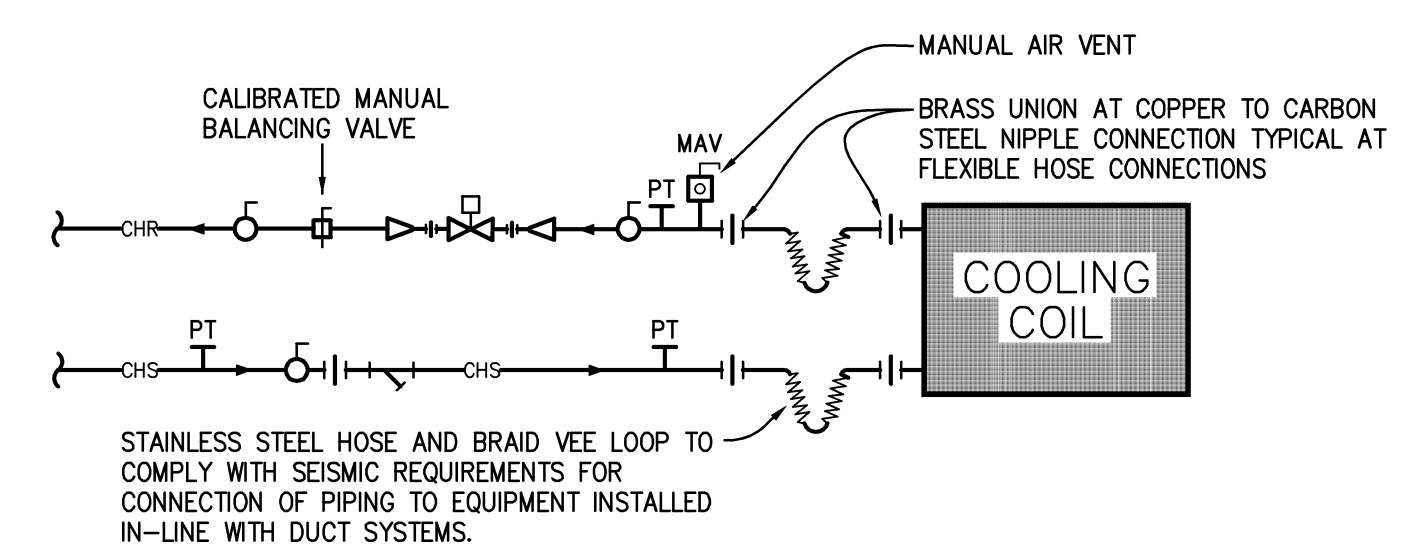
9 CONDENSATE RECEPTOR AT SINK
NO SCALE



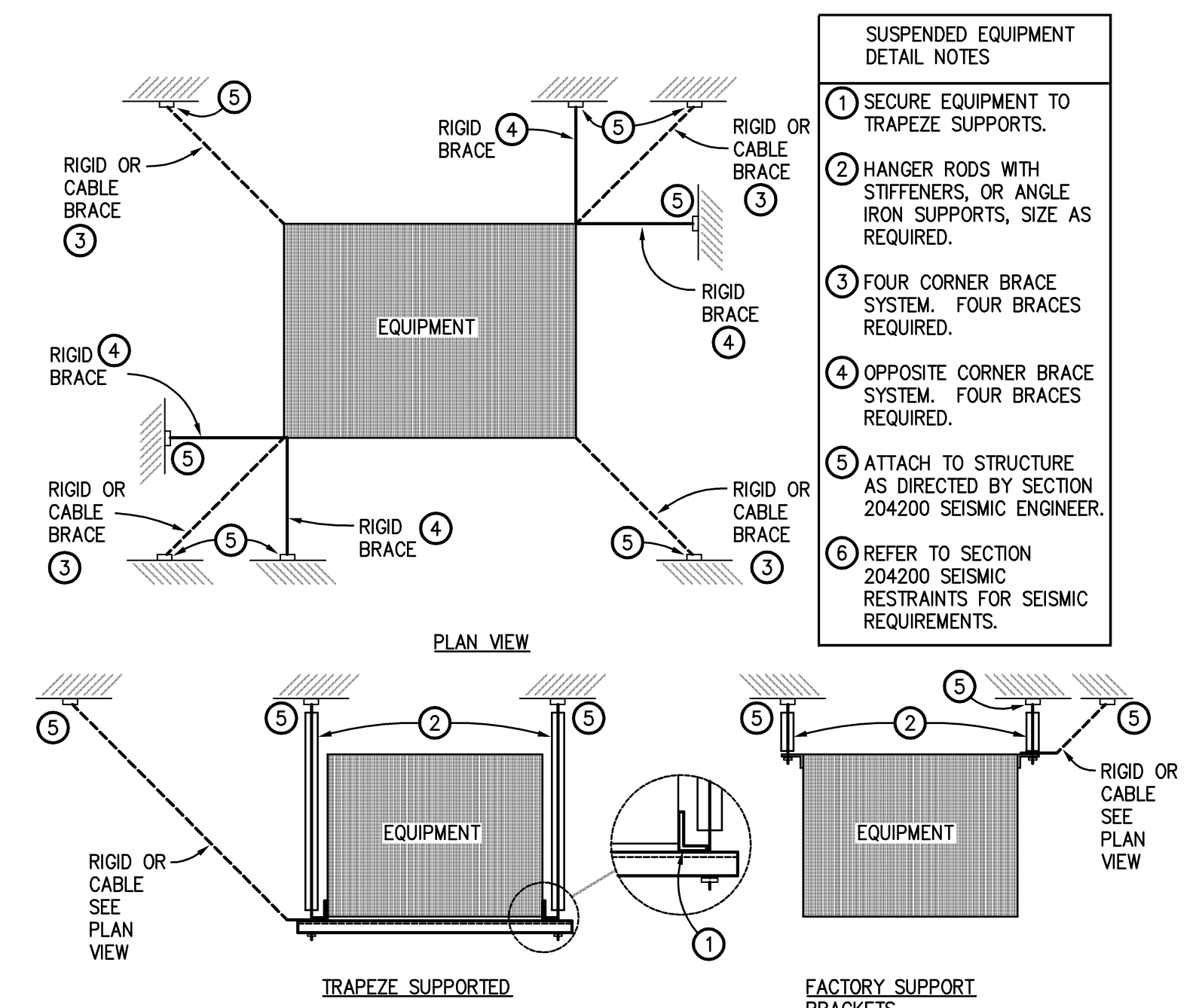
3 FAN COIL UNIT CONDENSATE DRAIN
NO SCALE



4 2-WAY REHEAT COIL PIPING TRAIN
NO SCALE



5 2-WAY FAN COIL UNIT COOLING COIL PIPING TRAIN
NO SCALE

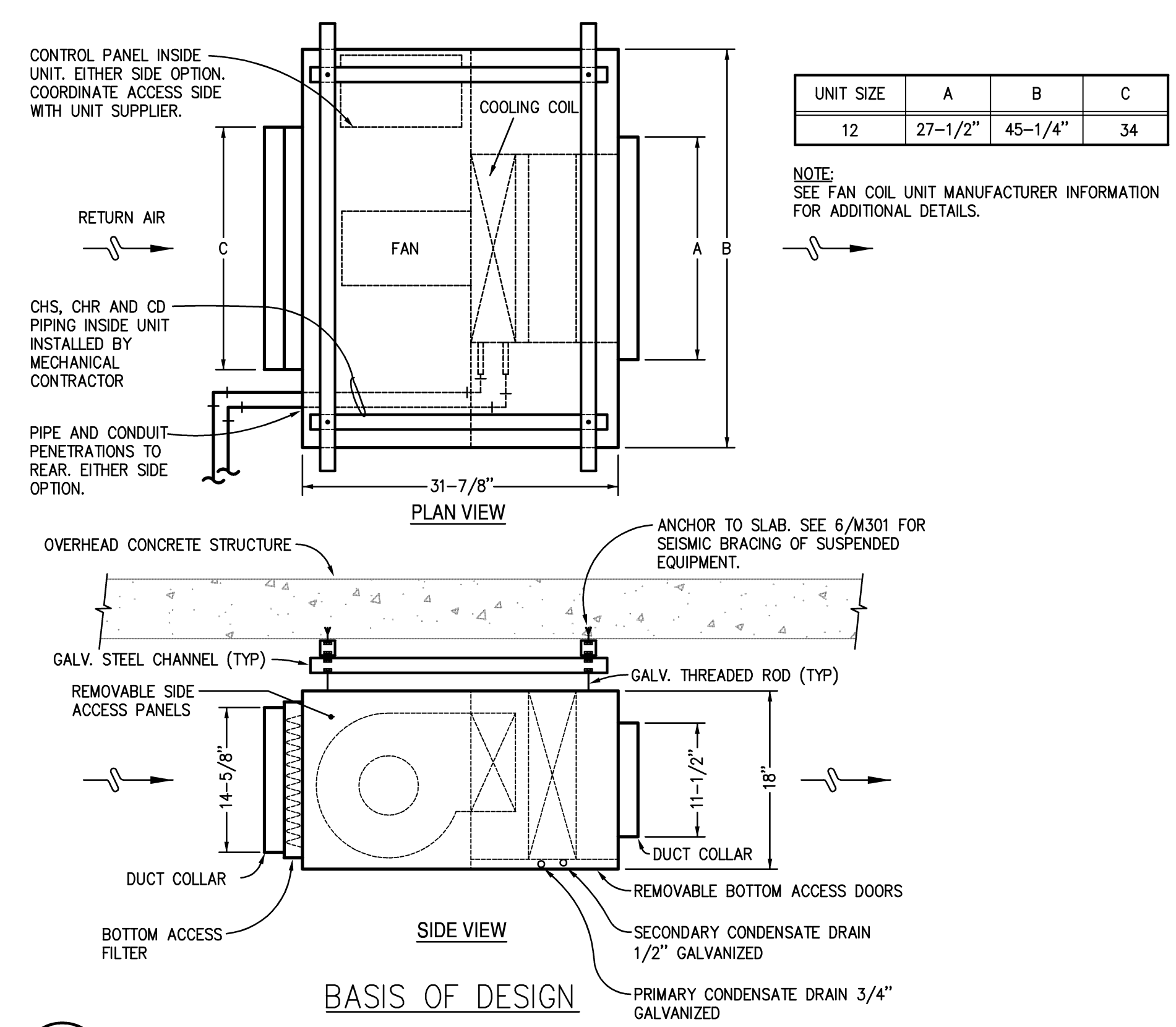


- SUSPENDED EQUIPMENT DETAIL NOTES**
- SECURE EQUIPMENT TO TRAPEZE SUPPORTS.
 - HANGER RODS WITH STIFFENERS, OR ANGLE IRON SUPPORTS, SIZE AS REQUIRED.
 - FOUR CORNER BRACE SYSTEM. FOUR BRACES REQUIRED.
 - OPPOSITE CORNER BRACE SYSTEM. FOUR BRACES REQUIRED.
 - ATTACH TO STRUCTURE AS DIRECTED BY SECTION 204200 SEISMIC ENGINEER.
 - REFER TO SECTION 204200 SEISMIC RESTRAINTS FOR SEISMIC REQUIREMENTS.

6 SUSPENDED EQUIPMENT SEISMIC BRACING - GENERIC
NO SCALE

DESCRIPTION	PLAN VIEW - DOUBLE LINE	DESCRIPTION	PLAN VIEW - DOUBLE LINE
RECTANGULAR TO RECTANGULAR BRANCH WITH 45° ENTRY		SIDE WALL GRILLE OR REGISTER	
RECTANGULAR TO ROUND BRANCH WITH 45° ENTRY		ROUND RADIUS ELBOW	
RECTANGULAR RADIUS ELBOW		ROUND TO ROUND TEE WITH 45° ENTRY - LOW LOSS (FULL BODY)	
RECTANGULAR RADIUS OFFSET		ROUND TO ROUND 45° LATERAL BRANCH (FULL BODY)	
RECTANGULAR OR OVAL MITERED ELBOW WITH TURN VANES		ROUND TO ROUND CONCENTRIC TRANSITION	
RECTANGULAR OR OVAL TO ROUND TRANSITION		ROUND TO ROUND ECCENTRIC TRANSITION	
RECTANGULAR CONCENTRIC TRANSITION			
RECTANGULAR ECCENTRIC TRANSITION			

1 DUCT CONSTRUCTION
NO SCALE



2 FAN COIL UNIT - (FNX) EXPOSED CABINET UNIT
NO SCALE

General Notes

No.	Rev/Issue	Date

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REGISTERED PROFESSIONAL ENGINEER
15,648
DIGITAL SIGNATURE
OREGON
NOV. 19. 1993
DAVID W. KNIGHTON
EXPIRES 08/30/15

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1276 UNIVERSITY OF OREGON
EUGENE, OREGON 97403-12176

PROJECT NAME:
WILLAMETTE 74
ALEMAN LASER LAB

DRAWING TITLE:
DETAILS

PROJECT NO.:
CP11-043

DATE ISSUED:
06/10/2014

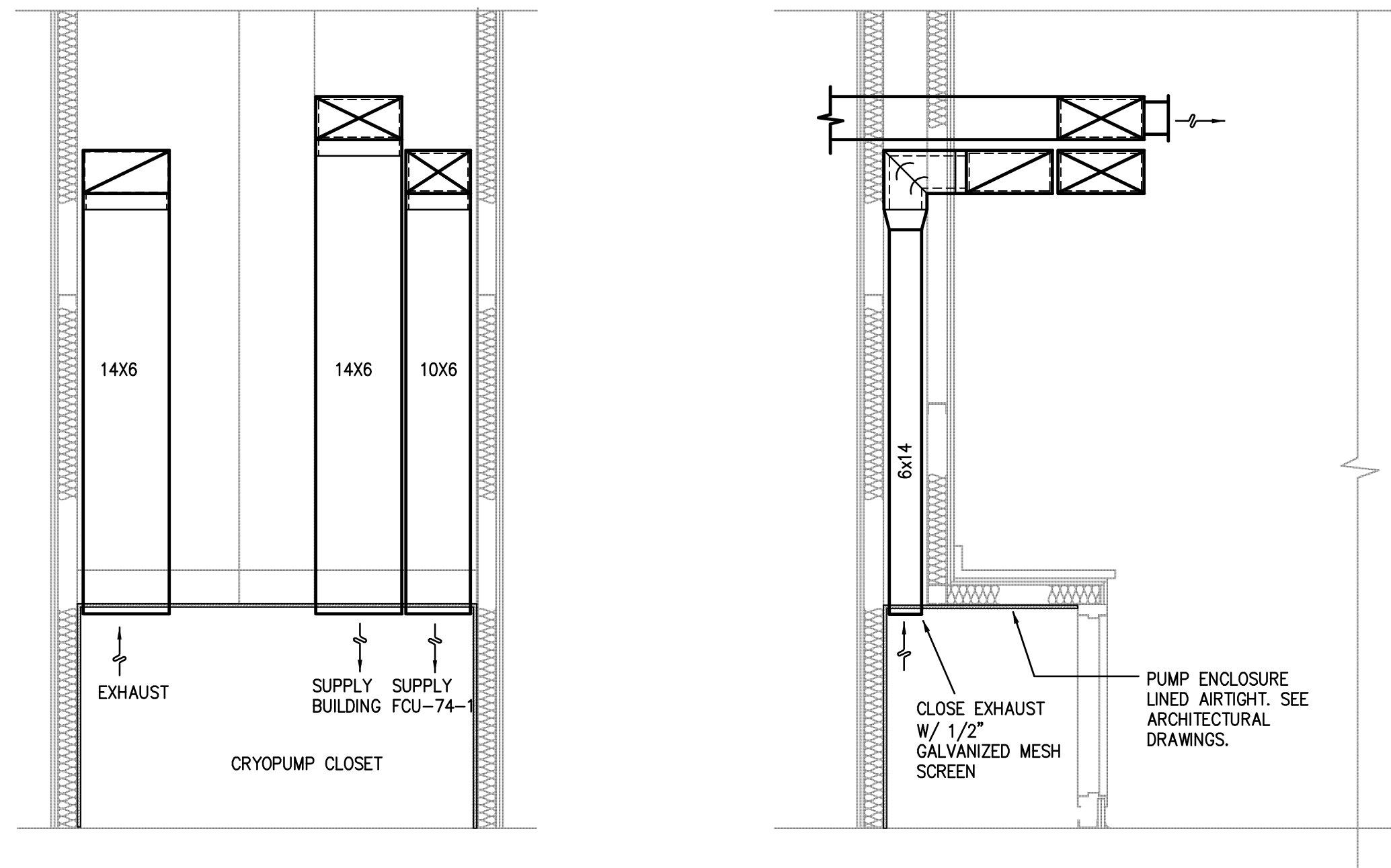
DATE DRAFTED:
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PLOT SCALE:
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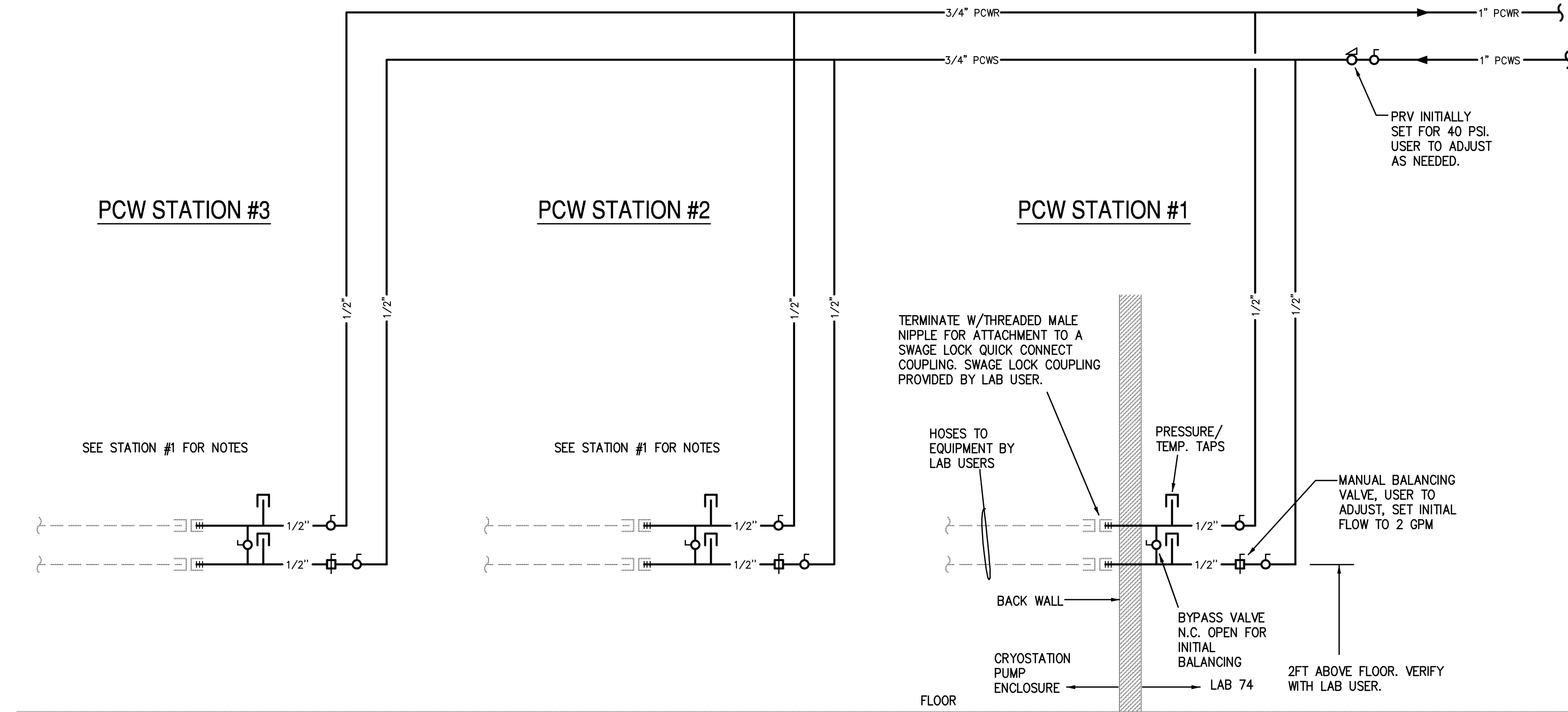
FRONT VIEW

SIDE VIEW

GENERAL NOTES:
1. SEAL DUCT PENETRATIONS INTO CLOSET AIRTIGHT.

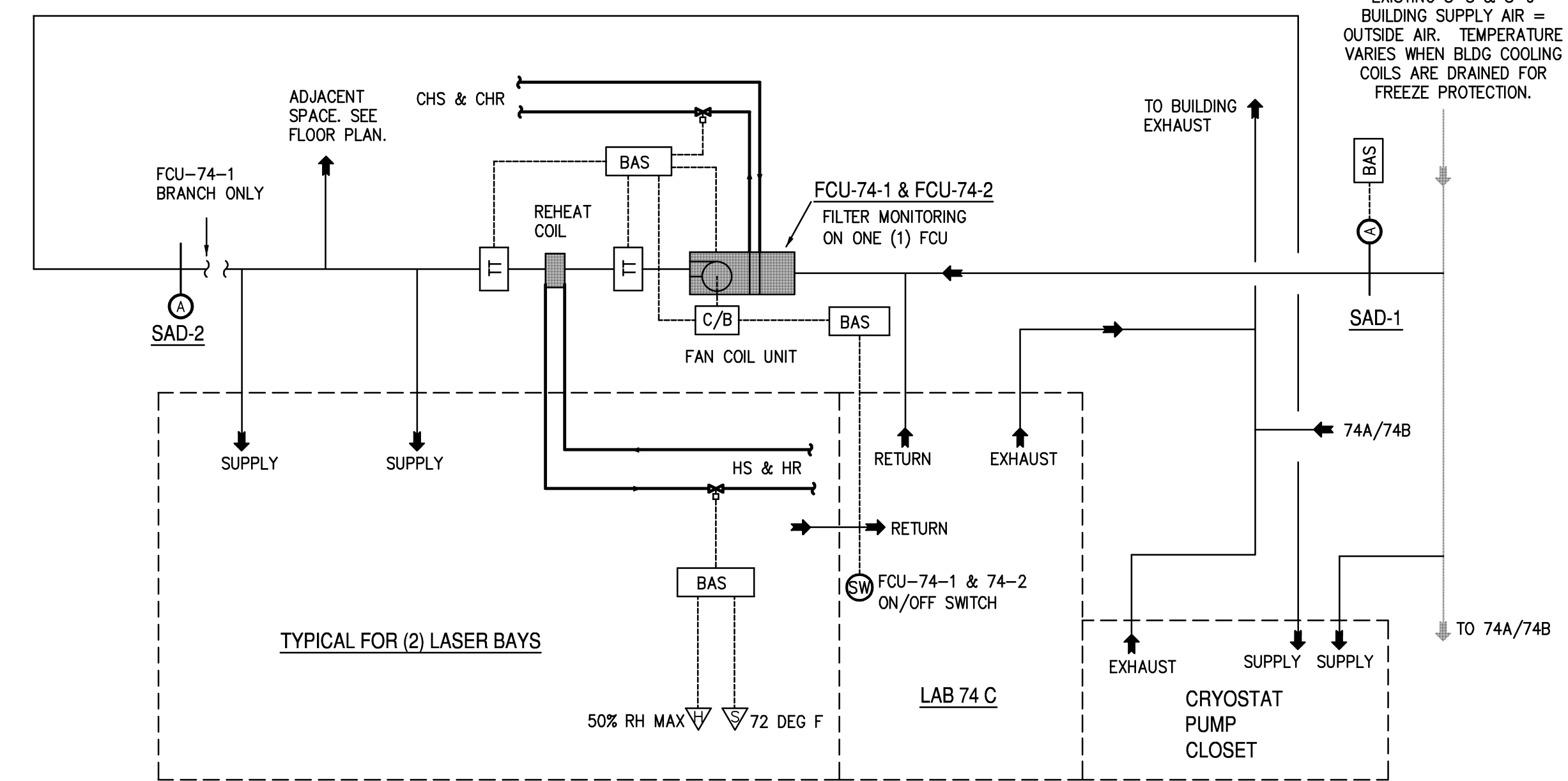
3 SECTION THRU CRYO-PUMP ENCLOSURE
NO SCALE

HVAC OPERATION MATRIX							
CONDITION	BUILDING SUPPLY FANS S-8 & S-9	BUILDING SUPPLY DAMPER SAD-1 SERVING FCU-74-1 & FCU-74-2	BUILDING SUPPLY TO CRYOPUMP CLOSET	FCU-74-1	CRYOPUMP CLOSET SAD-2 DAMPER & AIRFLOW FROM FCU-74-1	FCU-74-2	COMMENTS
NORMAL	ON	OPEN	NORMAL	VAV	SAD-2 DAMPER AT MINIMUM AIRFLOW	VAV	
LOSS OF BUILDING AIRFLOW DUE TO MAINTENANCE OR FAN FAILURE	OFF	CLOSED W/ S-8 & S-9 OFF	OFF	100% DESIGN COOLING CFM	SAD-2 OPENS TO MAX AIRFLOW	OFF	FCU-74-1 RECIRCULATES AIRFLOW WITH ADDITIONAL RETURN AIRFLOW VIA FCU-74-2 RETURN GRILLE
CRYOPUMP CLOSET TEMPERATURE > 85 DEG F	ON OR OFF	OPEN OR CLOSED DEPENDING ON S-8 & S-9 ON/OFF STATUS	NORMAL OR OFF DEPENDING ON S-8 & S-9 STATUS	100% DESIGN COOLING CFM	SAD-2 MODULATES FROM MIN. TO MAX. AIRFLOW TO KEEP CLOSET TEMPERATURE BELOW 85 DEG F	VAV	BAS ALARMS FACILITIES. LAB USER & FACILITIES TO INVESTIGATE HIGH TEMPERATURE CONDITION
FCU-74-1 & FCU-74-2 MANUALLY TURNED OFF AT WALL SWITCH	ON OR OFF	CLOSED W/ FCU-74-1 & FCU-74-2 OFF	NORMAL OR OFF DEPENDING ON S-8 & S-9 STATUS	OFF	SAD-2 DAMPER CLOSED TO PREVENT BUILDING AIRFLOW BYPASSING INTO FCU-74-1 SYSTEM	OFF	LAB USER TO TURN CRYOSTATION PUMPS OFF



GENERAL NOTES:
1. SUPPORT PCW STATION PIPING ON GALVANIZED STEEL CHANNEL ANCHORED TO WALL.
2. COORDINATE FINAL ELEVATION AND TERMINATIONS WITH LAB USER PRIOR TO INSTALLATION.

1 PROCESS COOLING WATER STATIONS
NO SCALE



2 AIRFLOW DIAGRAM AND CONTROL SCHEMATIC
NO SCALE

General Notes

No.	Rev/Issue	Date

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PROJECT NAME:
**WILLAMETTE 74
ALEMAN LASER LAB**

DRAWING TITLE:
DETAILS AND SECTIONS
PROJECT NO.:
CP11-043
DATE ISSUED:
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AS NOTED

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SYMBOLS AND ABBREVIATIONS

ELECTRICAL RISER	
	FEEDER SIZE IDENTIFICATION
	AVAILABLE FAULT CURRENT IDENTIFICATION
	ARRESTOR, SURGE
	ARRESTOR, LIGHTNING
	AUTOMATIC TRANSFER SWITCH
	BUS SPACE
	BUS DUCT
	BUSWAY END TAP BOX
	CABLE TO BUS CONNECTION
	CAPACITOR
	CONTACT, NORMALLY OPEN AND NORMALLY CLOSED
	CIRCUIT BREAKER
	CIRCUIT BREAKER, DRAWOUT
	CIRCUIT BREAKER, DRAWOUT, MEDIUM VOLTAGE
	CIRCUIT BREAKER, GFI
	CIRCUIT BREAKER, GFI WITH DRAWOUT
	CIRCUIT BREAKER, MAGNETIC OVERLOAD
	CIRCUIT BREAKER, NETWORK PROTECTOR
	CIRCUIT BREAKER, THERMAL OVERLOAD
	FUSE OR CURRENT LIMITER
	FUSE (ISOLATING)
	FUSED SWITCH
	GROUND
	PUSHBUTTON
	SPLICE
	STRESS RELIEF, MEDIUM VOLTAGE
	SWITCH, 2-POLE
	SWITCH, 3-POLE
	THERMAL ELEMENT
	TRANSFORMER
	TRANSFORMER, CURRENT
	TRANSFORMER, ELECTROSTATICALLY SHIELDED, MAGNETIC CORE SHOWN
	TRANSFORMER, MAGNETIC CORE SHOWN
	TRANSFORMER, SHIELDED, MAGNETIC CORE SHOWN
	AMMETER
	CONTACTOR
	ENGINE-GENERATOR
	KEY INTERLOCK
	METER
	POWER METER
	RELAY
	RELAY, GFI
	SURGE PROTECTIVE DEVICE
	VOLTMETER
	WATT HOUR METER

CIRCUITS	
	RACEWAY CONCEALED IN CEILING OR WALL, HASH MARKS INDICATE NUMBER OF WIRES. #12 AWG WIRE UNLESS OTHERWISE NOTED. THREE WIRES IF NO HASH MARK SHOWN. EXPOSED RACEWAY IS ALLOWED ONLY WHERE NOTED.
	HOT (SHORT HASH MARK)
	NEUTRAL (LONG HASH MARK)
	GROUND WIRE (JOGGED HASH MARK)
	EXISTING RACEWAY (IF HASH MARKS ARE SHOWN, PULL NEW CONDUCTORS)
	RACEWAY BELOW SLAB OR UNDERGROUND
	RACEWAY UP
	RACEWAY DOWN
	RACEWAY STUB-OUT WITH BUSHING
	CIRCUIT CONTINUATION
	HOME RUN TO PANEL OR LOCATION NOTED
	JUNCTION BOX
	FUSED DISCONNECT SWITCH (FUSE RATING INDICATED)
	DISCONNECT SWITCH
	MOTOR STARTER
	MANUAL MOTOR STARTER
	COMBINATION MOTOR STARTER FUSED DISCONNECT SWITCH
	ENCLOSED CIRCUIT BREAKER
	PUSH BUTTON CONTROL STATION
	AUTO DOOR PUSHPLATE
	EMERGENCY SHUT/DOWN
	MOTOR RATED TOGGLE SWITCH
	CONDUIT
	CONDUIT ONLY
	CONTROL
	COPPER
	DATA
	DEDICATED
	DEVICE
	DOWN
	DISHWASHER
	ELECTRIC WATER COOLER
	FIRE ALARM
	FIRE ALARM FLOOR BOX
	FURNISHED BY OTHERS, INSTALLED BY CONTRACTOR
	FILM ELIMINATOR
	FIBER OPTICAL
	FACE OF COLUMN
	GROUND
	GARBAGE DISPOSAL
	GROUND FAULT CIRCUIT INTERRUPTER
	HAND HOLE
	HORSEPOWER
	INTERMEDIATE DISTRIBUTION FRAME/FACILITY
	INSTA-HOT WATER DISPENSER
	JUNCTION BOX
	MAGNETIC
	EQUIPMENT CONNECTION, E = EMERGENCY POWER
	GROUND BAR, LENGTH TO SCALE
	MOTOR CONNECTION, SINGLE PHASE
	MOTOR CONNECTION, 3 PHASE

WORK DEFINITION	
	REVISION IDENTIFICATION
	EQUIPMENT IDENTIFICATION
	EQUIPMENT IDENTIFICATION
	DETAIL REFERENCE
	DETAIL REFERENCE W/ORIGINATING SHEET REFERENCE
	PROJECT NORTH REFERENCE
	PROJECT NORTH REFERENCE W/TRUE NORTH REFERENCE
	NEW WORK
	EXISTING
	FUTURE
	REMOVE EXISTING ELECTRICAL EQUIPMENT

ABBREVIATIONS			
ABV	ABOVE	MCC	MOTOR CONTROL CENTER
AC	3" ABOVE COUNTER BACKPLASH	MDF	MAIN DISTRIBUTION FRAME/FACILITY
ADH	ABOVE COUNTER HEIGHT	MH	MANHOLE
AF	ABOVE FINISHED FLOOR	MJ	MULTIMODE
AG	ABOVE GRADE	MTD	MOUNTED
A/AMP	AMPERE	MW	MICROWAVE
A/V	AUDIO/VISUAL	N	NEUTRAL
ATS	AUTOMATIC TRANSFER SWITCH	NC	NOT IN CONTRACT
AWG	AMERICAN WIRE GAUGE	OPER	OPERATOR/OPERABLE
CATV	COMMUNITY ACCESS TELEVISION	OPN	OWNER PROVIDED OWNER INSTALLED
CB	CIRCUIT BREAKER	FB	FULLBOX
CCTV	CLOSED CIRCUIT TELEVISION	PNL	PANEL, PANELBOARD
CCT	CIRCUIT	POS	POSITION/POINT OF SALE
CLG	CEILING	PR	PAR
CM	CEILING MOUNTED	PTS	PNEUMATIC TUBE STATION
COMM	COMMUNICATIONS	R	RACEWAY
C	CONDUIT	RO	RACEWAY ONLY
CO	CONDUIT ONLY	RECP	RECEPTACLE
CTRL	CONTROL	REF	REFRIGERATOR
CU	COPPER	SLV	SLEEVE
D	DATA	SM	SINGLEMODE
DED	DEDICATED	SPECS	SPECIFICATIONS
DEV	DEVICE	SW	SWITCH
DW	DOWN	SWBD	SWITCHBOARD
DW	DISHWASHER	TELECOM	TELECOMMUNICATIONS
EW	ELECTRIC WATER COOLER	TGB	TELECOMMUNICATIONS GROUNDING
FA	FIRE ALARM	TSR	TELECOMMUNICATIONS SERVICE
FB	FIRE ALARM FLOOR BOX	TV	TELEVISION
FBOIC	FURNISHED BY OTHERS, INSTALLED BY CONTRACTOR	TYP	TYPICAL
FI	FILM ELIMINATOR	UF	UNDER FLOOR
FD	FIBER OPTICAL	UG	UNDER GROUND
FCC	FACE OF COLUMN	UON	UNDERGROUND UNLESS OTHERWISE NOTED
GND	GROUND	UTP	UNSHIELDED TWISTED PAIR
GD	GARBAGE DISPOSAL	V	VOLT OR VOICE
GFLGFCI	GROUND FAULT CIRCUIT INTERRUPTER	VEL	VELOCITY EXACT LOCATION
HI	HAND HOLE	W	WIRE, WATT, OR WALLPHONE
HP	HORSEPOWER	WAP	WIRELESS ACCESS POINT
IDF	INTERMEDIATE DISTRIBUTION FRAME/FACILITY	WP	WEATHERPROOF
IH	INSTA-HOT WATER DISPENSER	XFR	TRANSFORMER
J-BOX	JUNCTION BOX	#	PHASE
MAG	MAGNETIC		

LIGHTING SYMBOLS LIST		
SYMBOL	ABBR.	DESCRIPTION
		LINEAR FIXTURE, PENDANT MOUNT. QUANTITY AND APPROXIMATE LOCATION OF PENDANTS SHOWN.
		LINEAR FIXTURE, SURFACE MOUNT.
		OCCUPANCY SENSOR. WALL MOUNT.
		DIMMER SWITCH
		LOWER-CASE LETTER NEAR SWITCH DENOTES CIRCUIT CONTROLLED (TYP)
		SINGLE POLE SWITCH
		3 WAY SWITCH

OUTLET MOUNTING HEIGHTS	
RECEPTACLES	18 INCHES (460 mm) VERTICALLY MOUNTED
SWITCHES	43 INCHES (1095 mm) VERTICALLY MOUNTED
CLOCK OUTLET	80 INCHES (2035 mm)
PANELBOARDS	72 INCHES (1830 mm) TO TOP OF PANELBOARD IF BOX < 68 INCHES (1730 mm) HIGH, OTHERWISE PER NEC 404.8
INTERCOM	43 INCHES (1095 mm)
CARD READER	43 INCHES (1095 mm)
TELECOM OUTLET, DESK HANDSET	18 INCHES (460 mm) VERTICALLY MOUNTED
TELECOM OUTLET	43 INCHES (1095 mm) VERTICALLY MOUNTED
VOLUME CONTROLLER	43 INCHES (1220 mm)
FIRE ALARM PULL STATION	43 INCHES (1095 mm)
FIRE ALARM AUDIBLE NOTIFICATION DEVICES	TOP EDGE NOT LESS THAN 90 INCHES (2290 mm) AFF AND NOT LESS THAN 8 INCHES (155 mm) BELOW CEILING. 6 INCHES (155 mm) BELOW CEILING SHALL TAKE PRECEDENCE WHERE CEILING HEIGHT DOES NOT ALLOW BOTH DIMENSIONS
FIRE ALARM VISUAL AND COMBINATION AUDIBLE/VISUAL NOTIFICATION DEVICES	BOTTOM EDGE NOT LESS THAN 80 INCHES (2035 mm) AFF AND TOP EDGE NOT GREATER THAN 66 INCHES (1680 mm) AFF.
FIRE ALARM CONTROL PANEL	72 INCHES (1830 mm) TO TOP OF PANELBOARD

POWER, DATA, FIRE ALARM SYMBOLS LIST		
SYMBOL	ABBR.	DESCRIPTION
		120 VOLT, DUPLEX RECEPTACLE, MOUNTED AT STANDARD HEIGHT.
		120 VOLT, DUPLEX RECEPTACLE, MOUNTED ABOVE STANDARD HEIGHT.
		120 VOLT, CHORD REEL, DUPLEX RECEPTACLE, MOUNTED AT CEILING HEIGHT.
		120 VOLT, DOUBLE DUPLEX RECEPTACLE, MOUNTED AT STANDARD HEIGHT.
		120 VOLT, DOUBLE DUPLEX RECEPTACLE, MOUNTED ABOVE STANDARD HEIGHT.
		SPECIAL POWER OUTLET.
		120 VOLT, DUPLEX RECEPTACLE, MOUNTED AT STANDARD HEIGHT ON GENERATOR POWER.
		COMBINATION DATA/PHONE JACK. 2 DATA, 1 PHONE.
		COMBINATION DATA/PHONE JACK. 2 DATA, 1 PHONE. ABOVE COUNTER.
		NOTE REFERENCE.
		FIRE ALARM STROBE LIGHT, WALL MOUNTED.
		FIRE ALARM HORN/STROBE LIGHT, WALL MOUNTED.
		208V SYSTEM PANELBOARD

- GENERAL NOTES**
- COMPLY WITH THE NATIONAL ELECTRICAL CODE AS ADOPTED AND AMENDED BY THE LOCAL AUTHORITY HAVING JURISDICTION.
 - THE LOCATIONS OF ELECTRICAL DEVICES OR LIGHTING FIXTURES INDICATED ON ARCHITECTURAL PLANS, ELEVATIONS OR SECTIONS TAKE PRECEDENCE OVER LOCATIONS INDICATED ON THE ELECTRICAL DRAWINGS.
 - FOR LIGHTING CONTROLS WHICH INCLUDE DAYLIGHT OR OCCUPANT SENSING AUTOMATIC CONTROLS, AUTOMATIC SHUT-OFF CONTROLS, OCCUPANCY SENSORS, OR AUTOMATIC TIME SWITCHES THE LIGHTING CONTROLS SHALL BE TESTED TO ENSURE THAT CONTROL DEVICES, COMPONENTS, EQUIPMENT, AND SYSTEMS ARE CALIBRATED, ADJUSTED, AND OPERATE IN ACCORDANCE WITH PROJECT PLANS AND SPECIFICATIONS. SEQUENCE OF OPERATION SHALL ALSO BE FUNCTIONALLY TESTED TO ENSURE IT IS OPERATING IN ACCORDANCE WITH PROJECT PLANS AND SPECIFICATIONS. A COMPLETE REPORT OF TEST PROCEDURES AND RESULTS SHALL BE PREPARED AND FILED WITH THE OWNER.

General Notes		
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PROJECT NAME:
**WILLAMETTE 74
ALEMAN LASER LAB**

DRAWING TITLE:
SYMBOLS, ABBREVIATIONS

PROJECT NO.:
CPI11-043

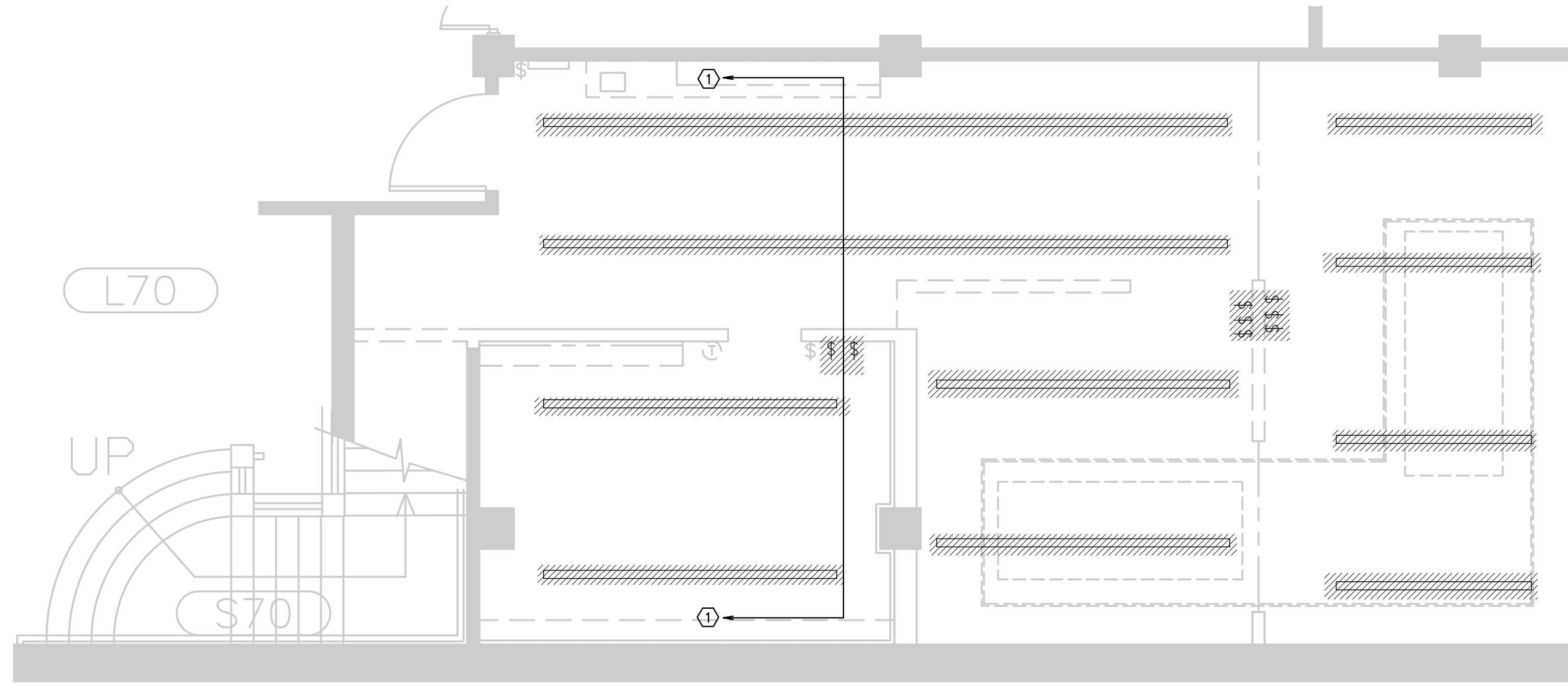
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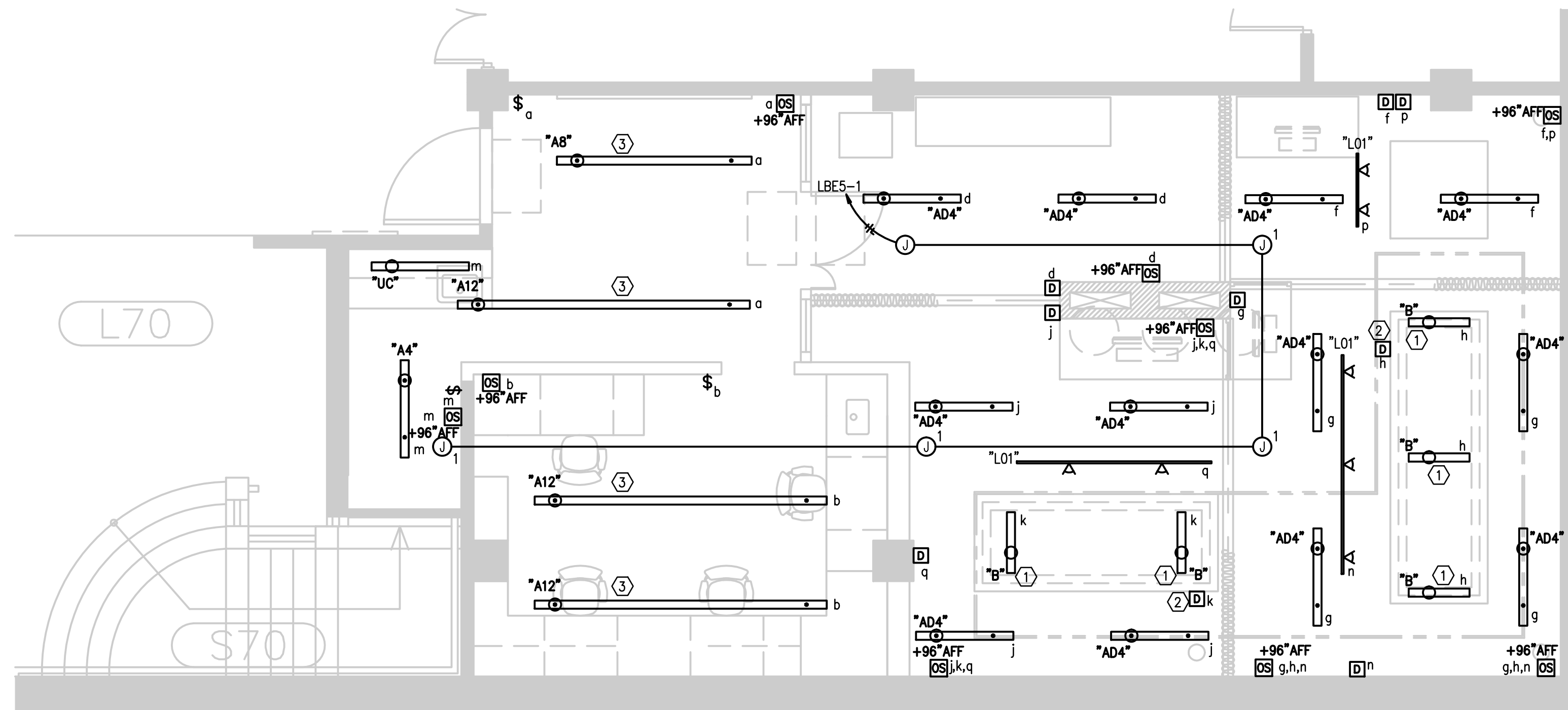
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E1



1 FLOOR PLAN - LIGHTING - DEMOLITION WORK
SCALE: 1/4" = 1'-0"



2 FLOOR PLAN - LIGHTING - NEW WORK
SCALE: 1/4" = 1'-0"

GENERAL NOTES:

1. ALL DEVICES REMOVED ARE TO BE CLEANED AND SALVAGED TO OWNER. CLEAN AND PATCH WALL/CEILING AS NEEDED TO MATCH EXISTING CONDITIONS.
2. EXISTING CONDITIONS TO BE FIELD VERIFIED BY CONTRACTOR PRIOR TO WORK. IF THERE ARE ANY DISCREPANCIES THE CONTRACTOR IS TO CONTACT THE ENGINEER/DESIGNER PRIOR TO INSTALLATION.
3. ALL EXISTING WORK TO REMAIN UNLESS OTHERWISE NOTED.
4. EXISTING CONCRETE FLOORS HAVE CAST-IN-PLACE ELECTRICAL CONDUITS. SECTION 01 7000 WILL PROVIDE CONCLUSIVE NON-DESTRUCTIVE INVESTIGATION TECHNIQUES TO IDENTIFY CONDUIT LOCATIONS. COORDINATE ANCHOR LOCATIONS WITH SECTION 01 7000 BEFORE DRILLING FOR PIPING, DUCTWORK AND ELECTRICAL ANCHORS.
5. OWNER WILL COLLECT AND DISPOSE OF ALL LAMPS AND BALLASTS.

FLAG NOTES:

- ① SUPPORTS AND POWER FEED TO FIXTURES TO REMAIN ON THIS SIDE OF LINE AS NOTED.

GENERAL NOTES:

1. VERIFY AND CONFIRM MOUNTING HEIGHTS OF ALL PENDANT FIXTURES WITH OWNER AND ARCHITECT PRIOR TO INSTALLATION.
2. COORDINATE FIXTURE LOCATIONS IN AREAS WITH EXPOSED CEILINGS WITH DUCTWORK AND PIPING. ADJUST LOCATIONS AS REQUIRED FOR ACTUAL FIELD CONDITIONS.
3. SUPPORT LIGHTS IN ACCORDANCE WITH SEISMIC ZONE REQUIREMENTS.
4. EXISTING CONCRETE FLOORS HAVE CAST-IN-PLACE ELECTRICAL CONDUITS. SECTION 01 7000 WILL PROVIDE CONCLUSIVE NON-DESTRUCTIVE INVESTIGATION TECHNIQUES TO IDENTIFY CONDUIT LOCATIONS. COORDINATE ANCHOR LOCATIONS WITH SECTION 01 7000 BEFORE DRILLING FOR PIPING, DUCTWORK AND ELECTRICAL ANCHORS.

FLAG NOTES:

- ① LIGHT FIXTURE SHALL BE INSTALLED ON BOTTOM SIDE OF LASER CLOUD SHELVING.
- ② MOUNT DIMMER ON TABLE PLATFORM. COORDINATE LOCATION OF DIMMER WITH ARCHITECTURAL PRIOR TO ROUGH-IN.
- ③ RE-USE EXISTING POWER FEEDS AND STRUCTURAL SUPPORTS FOR LUMINAIRES NOTED.

General Notes

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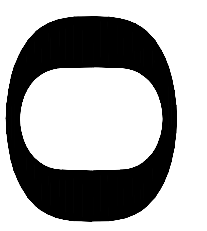
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EUGENE, OREGON 97403-12176

PROJECT NAME:

WILLAMETTE 74
ALEMAN LASER LAB

DRAWING TITLE:
LIGHTING NEW AND DEMO

PROJECT NO.:
CP11-043

DATE ISSUED:
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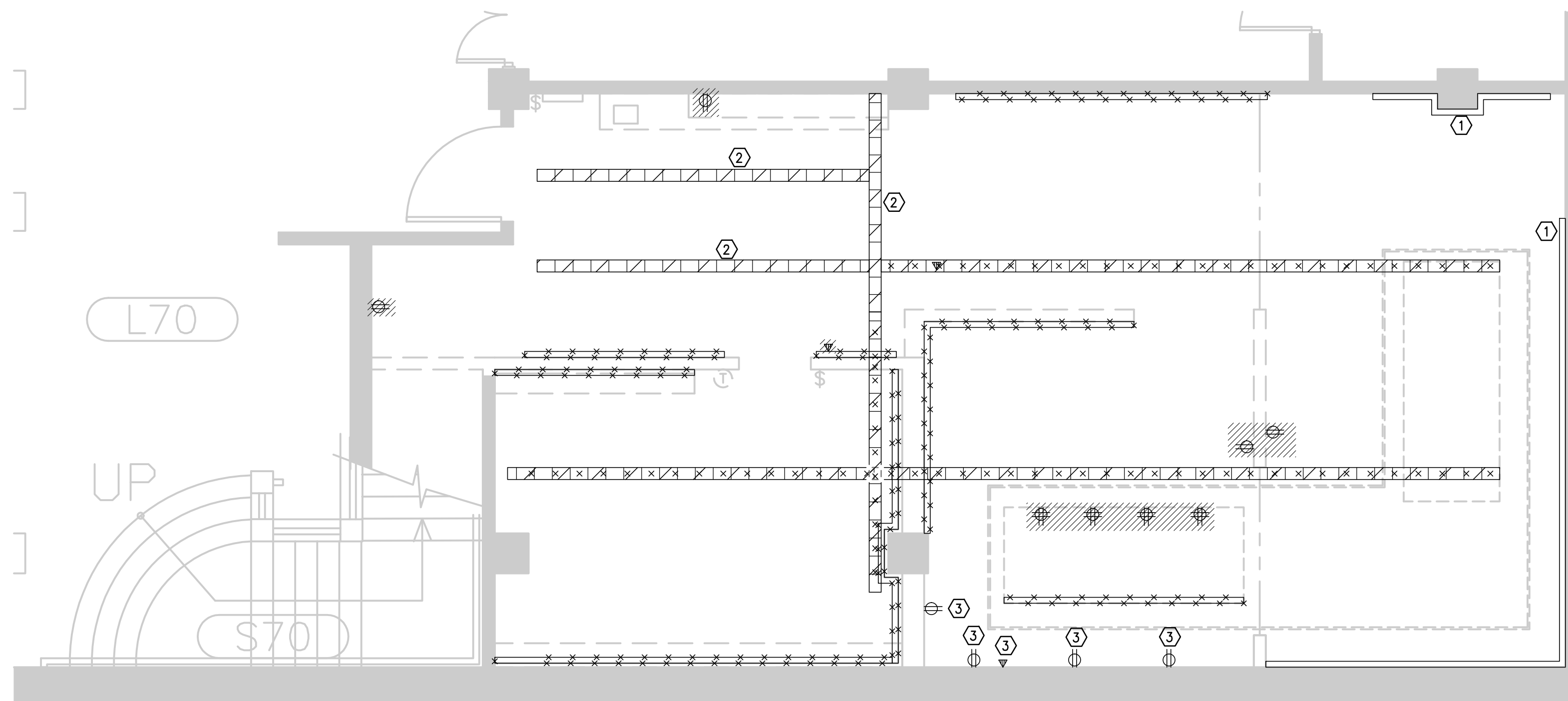
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E2



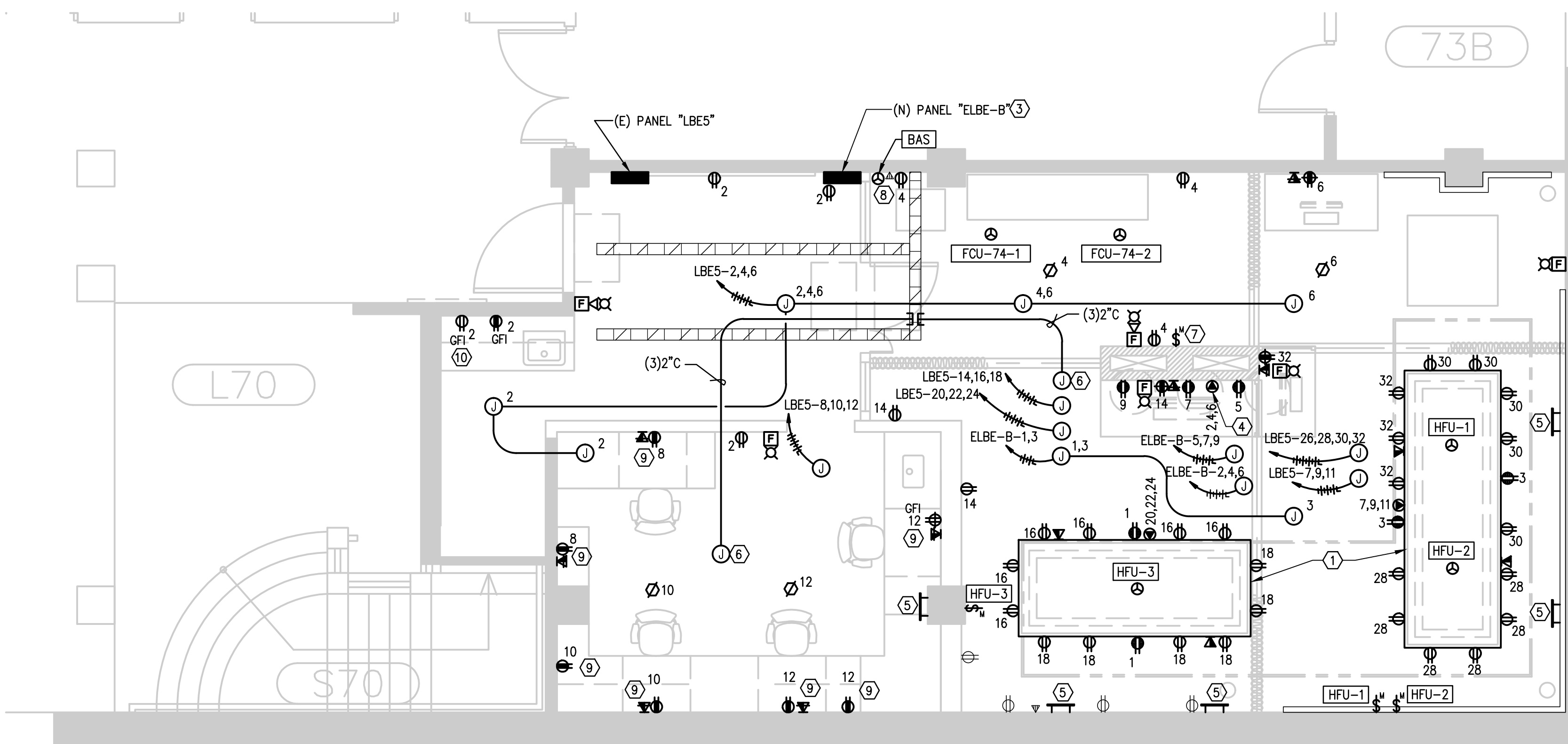
1 FLOOR PLAN - POWER/DATA - DEMOLITION WORK
SCALE: 1/4" = 1'-0"

GENERAL NOTES:

1. ALL DEVICES REMOVED ARE TO BE DISPOSED OF BY THE CONTRACTOR. CLEAN AND PATCH WALL/CEILING AS NEEDED TO MATCH EXISTING CONDITIONS.
2. EXISTING CONDITIONS TO BE FIELD VERIFIED BY CONTRACTOR PRIOR TO WORK. IF THERE ARE ANY DISCREPANCIES THE CONTRACTOR IS TO CONTACT THE ENGINEER/DESIGNER PRIOR TO INSTALLATION.
3. ALL EXISTING WORK TO REMAIN UNLESS OTHERWISE NOTED.
4. EXISTING CONCRETE FLOORS HAVE CAST-IN-PLACE ELECTRICAL CONDUITS. SECTION 01 7000 WILL PROVIDE CONCLUSIVE NON-DESTRUCTIVE INVESTIGATION TECHNIQUES TO IDENTIFY CONDUIT LOCATIONS. COORDINATE ANCHOR LOCATIONS WITH SECTION 01 7000 BEFORE DRILLING FOR PIPING, DUCTWORK AND ELECTRICAL ANCHORS

FLAG NOTES:

- 1 EXISTING DUAL CHANNEL WIREMOLD TO REMAIN.
- 2 EXISTING CABLE TRAY TO REMAIN.
- 3 EXISTING TO REMAIN.



2 FLOOR PLAN - POWER/DATA - NEW WORK
SCALE: 1/4" = 1'-0"

GENERAL NOTES:

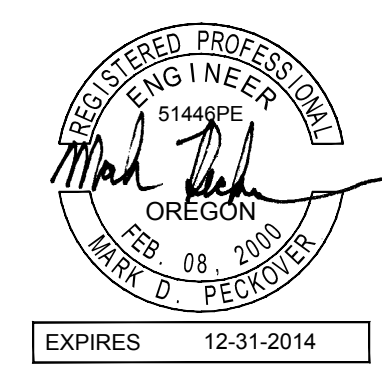
1. SEE ARCHITECTURAL PLANS, SECTIONS AND ELEVATIONS FOR EXACT EQUIPMENT AND DEVICE LOCATIONS.
2. SEE ARCHITECTURAL PLANS FOR LOCATIONS OF SOUND, SMOKE AND FIRE RATED WALLS.
3. SEE DRAWING E6 FOR MECHANICAL AND PLUMBING POWER REQUIREMENTS.
4. EXISTING CONCRETE FLOORS HAVE CAST-IN-PLACE ELECTRICAL CONDUITS. SECTION 01 7000 WILL PROVIDE CONCLUSIVE NON-DESTRUCTIVE INVESTIGATION TECHNIQUES TO IDENTIFY CONDUIT LOCATIONS. COORDINATE ANCHOR LOCATIONS WITH SECTION 01 7000 BEFORE DRILLING FOR PIPING, DUCTWORK AND ELECTRICAL ANCHORS

FLAG NOTES:

- 1 PROVIDE ALUMINUM WIREMOLD 4000 INSTALLED ABOVE LASER TABLE ON LOWER LEVEL OF LASER CLOUD SHELVING. SEE ARCHITECTURAL DETAIL. PROVIDE V4010DFO AND CONNECT WITH 1-1/4" C TO 16X16X8 JUNCTION BOX SHOWN IN ROOM.
- 2 PROVIDE WM5744S DEEP BOX AND 1" EMT TO 16X16X8 JUNCTION BOX OR CABLE TRAY,WHICHEVER IS NEAREST, FOR VOICE/DATA OUTLETS THAT ARE NOT IN DUAL CHANNEL WIREWAY.
- 3 PROVIDE NEW STANDBY PANELBOARD FOR LOADS IN ROOMS 74A, 74B, & 74C. REFER TO DRAWING E5 FOR ADDITIONAL INFORMATION.
- 4 PROVIDE OUTLETS INSTALLED BELOW WORKSTATION SURFACE TO SERVE PUMPS & COMPRESSORS. OUTLETS WILL BE SERVED FROM STANDBY PANEL "ELBE-B".
- 5 PROVIDE #3/0 COPPER GROUND BUS TO GROUND BAR LOCATED IN ROOM #59. TYPICAL OF 5.
- 6 PROVIDE 16"x16"x8" JUNCTION BOX IN ACCESSIBLE CEILING. STUB CONDUITS INTO EXISTING TELECOM CABLE TRAY AS SHOWN.
- 7 PROVIDE 3-WAY MOTOR RATED TOGGLE SWITCH FOR VP-1. REFER TO DRAWING E4 FOR ADDITIONAL INFORMATION.
- 8 LOCATED FOR BAS.
- 9 DEVICES TO BE LOCATED ABOVE COUNTER.
- 10 RECEPTACLE FOR OFOI UNDER COUNTER REFRIGERATOR.

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ALEMAN LASER LAB**

DRAWING TITLE:
POWER NEW AND DEMO

PROJECT NO:
CP11-043

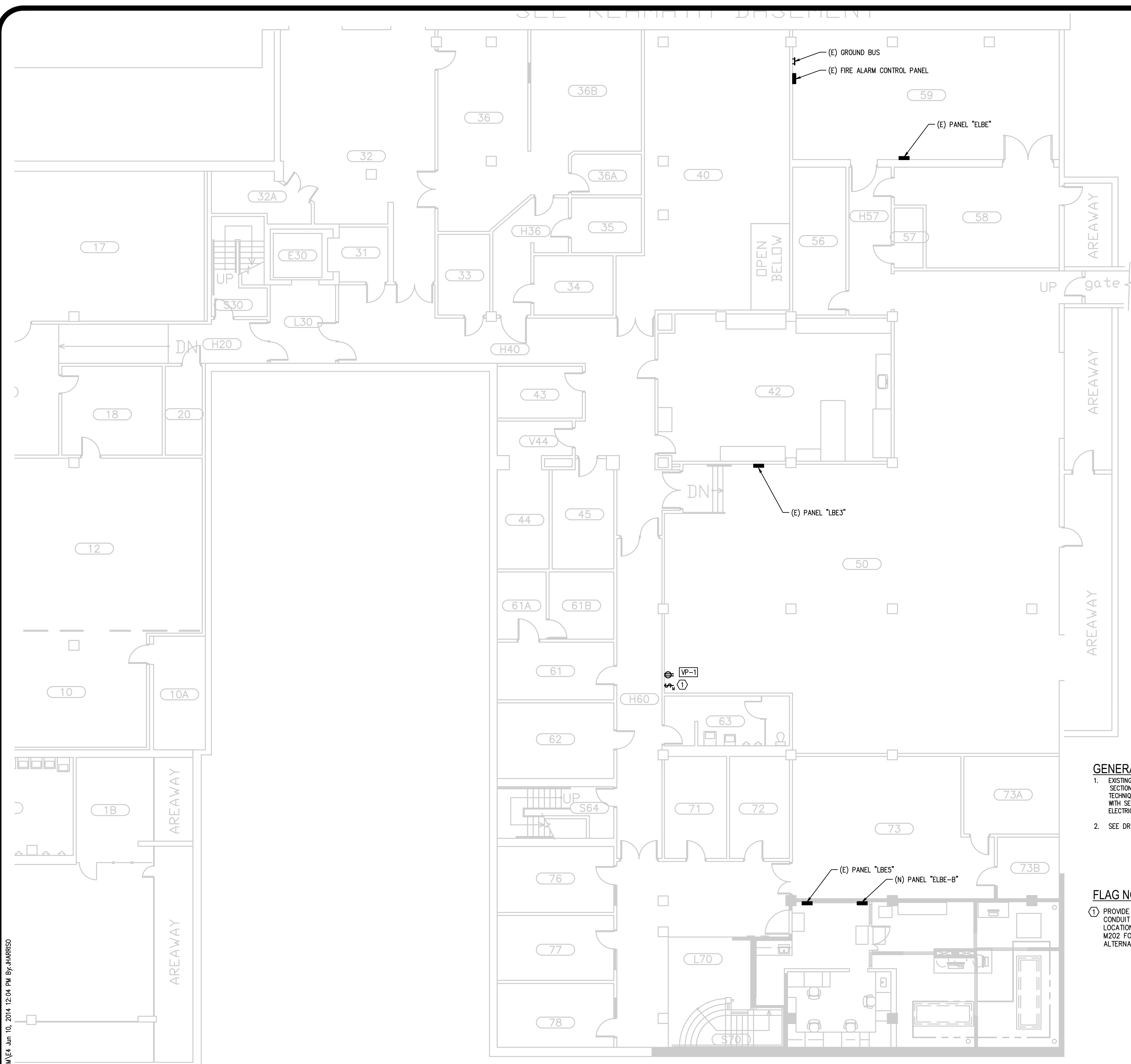
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DRAWING NO:
E3



- GENERAL NOTES:**
- EXISTING CONCRETE FLOORS HAVE CAST-IN-PLACE ELECTRICAL CONDUITS. SECTION 01 7000 WILL PROVIDE CONCLUSIVE NON-DESTRUCTIVE INVESTIGATION TECHNIQUES TO IDENTIFY CONDUIT LOCATIONS. COORDINATE ANCHOR LOCATIONS WITH SECTION 01 7000 BEFORE DRILLING FOR PIPING, DUCTWORK AND ELECTRICAL ANCHORS
 - SEE DRAWING E6 FOR MECHANICAL AND PLUMBING POWER REQUIREMENTS.

- FLAG NOTES:**
- ① PROVIDE 3-WAY MOTOR RATED TOGGLE SWITCH FOR VP-1. ROUTE CONDUIT ALONGSIDE PIPING FOR VP-1 REFER TO DRAWING E3 FOR LOCATION OF SECOND 3-WAY TOGGLE SWITCH. REFER TO DRAWING M202 FOR PIPING ROUTING. VACUUM PUMP SYSTEM WILL BE BID AS AN ALTERNATE.

1 FLOOR PLAN - POWER - OVERALL
SCALE: AS INDICATED
0 4 8 16 24

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UNIVERSITY OF OREGON

DESIGN SERVICES GROUP
1295 FRANKLIN BOULEVARD
(541) 346-6959

CAPITAL CONSTRUCTION
1276 UNIVERSITY OF OREGON
EUGENE, OREGON 97403-12176

PROJECT NAME:
WILLAMETTE 74
ALEMAN LASER LAB

DRAWING TITLE: XXX	
PROJECT NO.:	CP11-043
DATE ISSUED:	06/10/2014
DATE DRAFTED	
CHECKED BY:	DRAWN BY:
PLOT SCALE: AS NOTED	

DRAWING NO.:

E4

N:\B448\CAD-BIM\E4 Jun 10, 2014 12:04 PM By: AHARRIS

GENERAL NOTES:
 1. FULLY RATED AIC INDICATED ON SCHEDULES.

Sparling											Panel	
Name	LBE5		120/208V		3 PH	4W	225A	Main lugs only			Type: Panelboard	
Location	BASEMENT FLOOR - ALEMAN LASER LAB											
Serves:	ALEMAN LASER LAB											
#	Description	Load	CB	*	A	B	C	CB	*	Load	Description	#
1	Lighting RM #74A, #74B, #74C	1.05	20/1	CB	X			20/1	CB	1.22	Recept COLLABORATIVE #74A	2
3	Spare	0.00	20/2	CB	X			20/1	CB	0.72	Spare LAB #74C	4
5	-----	0.00	-----	---	X			20/1	CB	0.90	Recept LAB #74C	6
7	Recept LAB #74C	1.92	20/3	CB	X			20/1	CB	1.08	Recept BUILDING/TESTING #74B	8
9	-----LAB #74C	1.92	-----	---	X			20/1	CB	1.08	Recept BUILDING/TESTING #74B	10
11	-----LAB #74C	1.92	-----	---	X			20/1	CB	1.08	Recept BUILDING/TESTING #74B	12
13	Mech FCU-74-1 - LAB #74C	1.73	20/1	CB	X			20/1	CB	1.08	Recept LAB #74C	14
15	Mech FCU-74-2 - LAB #74C	1.73	20/1	CB	X			20/1	CB	1.08	Recept LAB #74C	16
17	Mech HFU-1, HFU-2, HFU-3 - LAB #74C	1.22	20/1	CB	X			20/1	CB	1.08	Recept LAB #74C	18
19	Mech BAS CONTROLS - LAB #74C	0.20	20/1	CB	X			20/3	CB	1.92	Recept LAB #74C	20
21	Spare	0.00	20/1	CB	X			-----	---	1.92	-----LAB #74C	22
23	Spare	0.00	20/1	CB	X			-----	---	1.92	-----LAB #74C	24
25	Spare	0.00	20/1	CB	X			20/1	CB	0.90	Recept LAB #74C	26
27	Spare	0.00	20/1	CB	X			20/1	CB	1.08	Recept LAB #74C	28
29	Spare	0.00	20/1	CB	X			20/1	CB	0.90	Recept LAB #74C	30
31	Spare	0.00	20/1	CB	X			20/1	CB	0.90	Recept LAB #74C	32
33	Spare	0.00	20/2	CB	X			20/2	CB	0.00	Spare	34
35	-----	0.00	-----	---	X			-----	---	0.00	-----	36
37	Spare	0.00	30/2	CB	X			30/2	CB	0.00	Spare	38
39	-----	0.00	-----	---	X			-----	---	0.00	-----	40
41	Spare	0.00	20/1	CB	X			20/1	CB	0.00	Spare	42

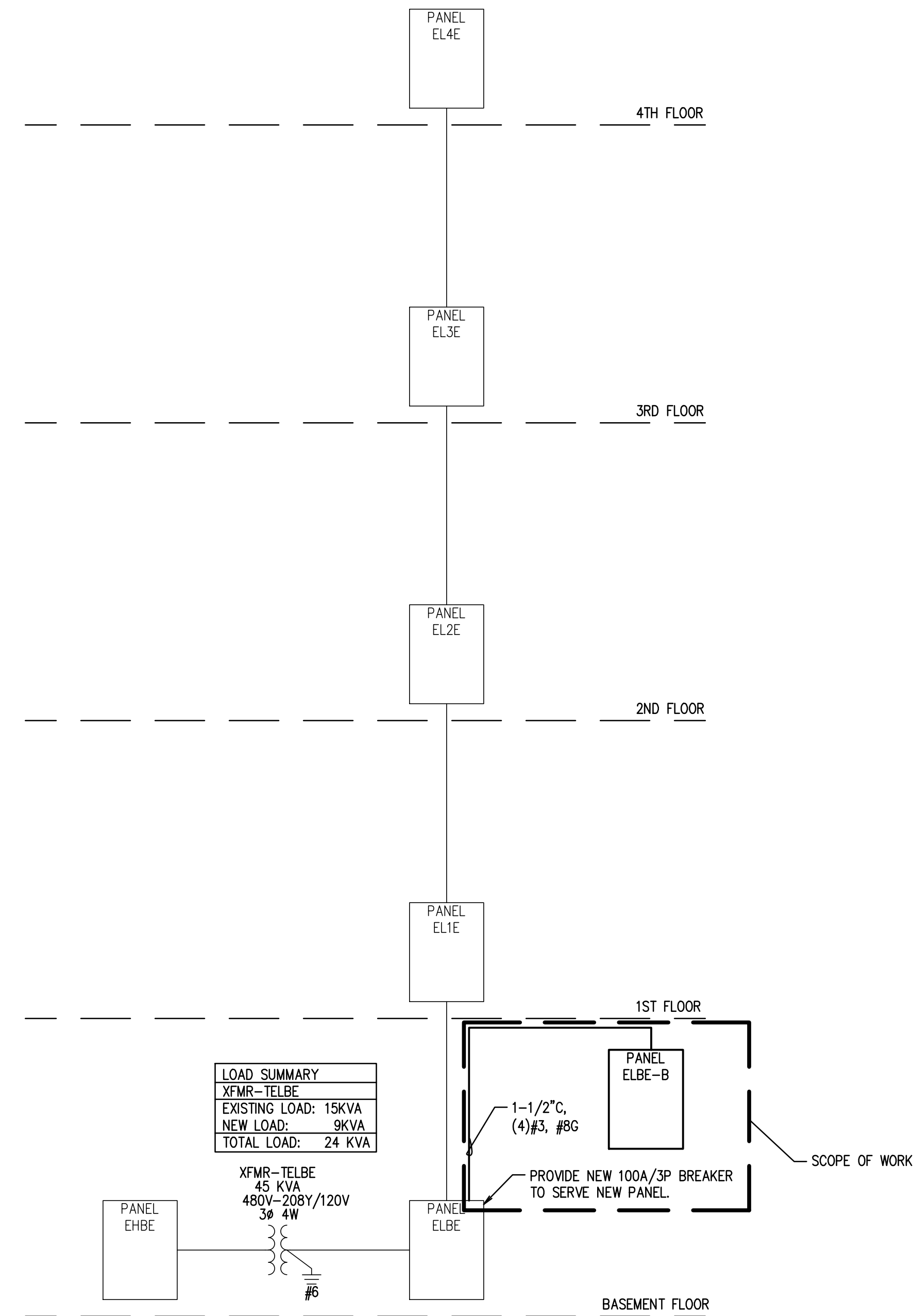
Rev:		PH A	PH B	PH C		* Circuit Breaker Code
Revised Ckts Marked #	Existing Ckts Marked #	Connected KVA	12.00	9.53	9.02	G = GFCI H = HID Rated
B18448						S = Shunt Trip C = HACR Rated
File:	N:\B18448\Design\Sched\Panel Schedules\B18448.PNL					D = Switching Duty # = See Note
						A = AFCI

Notes:						
Load Type	Conn KVA	NEC Demand Factor	Dem.		NEC Feed Amps	
Lighting	1.05 x 100%		KVA	Dem. Amp	NEC Feed %	
Mech	4.88 x 100%		1.05	3 x 125%		4
Recept	23.90 10 KVA @ 100%, rest @ 50%		4.88	14 125% of Largest		15
Spare	0.72 x 100%		16.95	47 x 100%		47
			0.72	2 x 100%		2
	30.55	85 Amps	23.60	66		67

Sparling											Panel	
Name	ELBE-B		120/208V		3 PH	4W	100A	Main lugs only			Type: Panelboard	
Location	BASEMENT FLOOR - ALEMAN LASER LAB											
Serves:	ALEMAN LASER LAB											
#	Description	Load	CB	*	A	B	C	CB	*	Load	Description	#
1	Recept LAB #74C	0.36	20/1	CB	X			20/3		1.67	Equip CRYO PUMP - LAB #74C	2
3	Recept LAB #74C	0.36	20/1	CB	X			-----	---	1.67	-----CRYO PUMP - LAB #74C	4
5	Recept LAB #74C	0.18	20/1		X			-----	---	1.67	-----CRYO PUMP - LAB #74C	6
7	Recept LAB #74C	0.18	20/1		X			30/3	CB	0.00	Spare	8
9	Recept LAB #74C	0.18	20/1		X			-----	---	0.00	-----	10
11	Spare	0.00	20/1	CB	X			-----	---	0.00	-----	12
13	Spare	0.00	20/1	CB	X			20/1	CB	0.00	Spare	14
15	Spare	0.00	20/1	CB	X			20/1	CB	0.00	Spare	16
17	Spare	0.00	20/1	CB	X			20/1	CB	0.00	Spare	18
19	Spare	0.00	20/1	CB	X			20/1	CB	0.00	Spare	20
21	Spare	0.00	20/1	CB	X			20/1	CB	0.00	Spare	22
23	Spare	0.00	20/1	CB	X			20/1	CB	0.00	Spare	24
25	Spare	0.00	20/1	CB	X			20/1	CB	0.00	Spare	26
27	Spare	0.00	20/1	CB	X			20/1	CB	0.00	Spare	28
29	Spare	0.00	20/1	CB	X			20/1	CB	0.00	Spare	30
31	Spare	0.00	20/1	CB	X			20/1	CB	0.00	Spare	32
33	Spare	0.00	20/1	CB	X			20/1	CB	0.00	Spare	34
35	Spare	0.00	20/1	CB	X			20/1	CB	0.00	Spare	36
37	Space	0.00	0/1		X			0/1		0.00	Space	38
39	Space	0.00	0/1		X			0/1		0.00	Space	40
41	Space	0.00	0/1		X			0/1		0.00	Space	42

Rev:		PH A	PH B	PH C		* Circuit Breaker Code
Revised Ckts Marked #	Existing Ckts Marked #	Connected KVA	2.21	2.21	1.85	G = GFCI H = HID Rated
B18448						S = Shunt Trip C = HACR Rated
File:	N:\B18448\Design\Sched\Panel Schedules\B18448.PNL					D = Switching Duty # = See Note
						A = AFCI

Notes:						
Load Type	Conn KVA	NEC Demand Factor	Dem.		NEC Feed Amps	
Equip	5.00 x 100%		KVA	Dem. Amp	NEC Feed %	
Recept	1.26 10 KVA @ 100%, rest @ 50%		5.00	14 x 100%		14
	6.26	17 Amps	1.26	3 x 100%		3
			6.26	17		17



ELECTRICAL - PARTIAL POWER RISER DIAGRAM - GENERATOR
 SCALE: NONE

General Notes		
No.	Rev./Issue	Date

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PROJECT NAME:
 WILLAMETTE 74
 ALEMAN LASER LAB

DRAWING TITLE:
 PARTIAL ONE-LINE DIAGRAM

PROJECT NO.:
 CPI 11-043

DATE ISSUED:
 06/10/2014

DATE DRAFTED

CHECKED BY: DRAWN BY:

PLOT SCALE:
 AS NOTED

DRAWING NO.:
E5

LIGHTING FIXTURE SCHEDULE										
TYPE	DESCRIPTION	MANUFACTURER	ALTERNATE MANUFACTURERS	LAMP		INPUT		COMMENTS		
				#	CODE	WATTS	VOLT*			
AD4	PENDANT MOUNTED DIRECT/INDIRECT FIXTURE NOMINAL 48" X 2 5/8" HIGH X 10 3/8" WIDE. TWO LAMP CROSS SECTION. EXTRUDED ALUMINUM HOUSING WITH EXTRUDED MITERED ALUMINUM ENDCAPS. PROVIDE BALLASTS FOR SWITCHING AS SHOWN ON DRAWINGS. PARABOLIC LOUVER NOMINAL 2 1/4" HIGH WITH 2 1/2" OC SPACING WITH SPECULAR CLEAR ALZAK NON-IRIDESCENT FINISH. AIRCRAFT CABLE SUSPENSION WITH STRAIGHT CORD. MANUFACTURER'S STANDARD FINISH AS SELECTED BY ARCHITECT. ELECTRONIC BALLAST. 0-10V DIMMING BALLAST. FIXTURE TO PROVIDE 80% DOWNLIGHT AND 20% UPLIGHT.	LEDALITE ACHIEVA 8816 SERIES	LINER ECOLITE 310 SERIES; PINNACLE RIDGE SERIES.	2	TWO F32T8	62	120			
A4	SAME AS "AD4", EXCEPT NO DIMMING BALLAST						48			
A8	SAME AS "AD4", EXCEPT 8' LONG AND NO DIMMING BALLAST						96			
A12	SAME AS "AD4", EXCEPT 12' LONG AND NO DIMMING BALLAST.						144			
B	UNDERCABINET TASKLIGHT NOMINAL 30". NOT TO EXCEED 3/4" HIGH. SHALL HAVE A PHOSPHOR LENS ALUMINUM HOUSING WITH STEEL END CAPS. HARDWIRED AND SWITCHED AT WALL. ELECTRONIC BALLAST. COLOR AS SELECTED BY ARCHITECT. 0-10V DIMMING BALLAST	TECH LIGHTING UNILUME LED SLIMLINE SERIES		1	LED W3000K 80+CRI	18	120			
L01	TRACK MOUNTED LED HEAD. NOMINAL 4-3/4" TALL X 6-3/4" WIDE X 3-1/2" DEEP. 18W LED/1000 LUMENS/80 CRI. PROVIDE WITH WIDE BEAM DISTRIBUTION PRISMATIC SPREAD LENS AND HEXCELL LOUVER. PROVIDE SINGLE CIRCUIT TRACK IN LENGTHS AS SHOWN ON DRAWINGS AND ALL ACCESSORIES NEEDED	HALO STASIS SERIES.	OR APPROVED.	1	4000K LED	18	120			FINISH AS SELECTED BY ARCHITECT
UC	UNDERCABINET TASKLIGHT NOMINAL 48". NOT TO EXCEED 1-13/16" HIGH. SHALL HAVE A 45 DEGREE BATWING ACRYLIC PRISMATIC LENS. STEEL HOUSING WITH BAKED WHITE ENAMEL FINISH. HARDWIRED AND SWITCHED AT WALL. ELECTRONIC BALLAST. PROVIDE ROCKER SWITCH.	LITHONIA 2UC SERIES	FAILSAFE MAS SERIES; LITHONIA N2S SERIES; H.E. WILLIAMS 2SF-KSH25 SERIES; DAYBRITE 8UC SERIES; VISTA MGT SERIES	1	ONE F32T8	24	120			

Refer to Specification Sections 265100 and 265600 for complete information.
 * Voltage(s) listed are options available. Refer to electrical drawings for actual voltage.

MECHANICAL EQUIPMENT SCHEDULE															
EQUIP NAME	AREA SERVED	DESCRIPTION	MOTORS		(KVA)	VOLTAGE		# SETS	FEEDER		DISC. AT UNIT	MOTOR STARTER	CIRCUIT	NOTES	
			HP	FLA		VOLTS	PH		SIZE	"C					
FCU-74-1	LAB #74C	FAN COIL UNIT		14.4	1.73	120	1	1.00	2#12	1#12	G 3/4"	SEE NOTES	NO	LBE5-13	1
FCU-74-2	LAB #74C	FAN COIL UNIT		14.4	1.73	120	1	1.00	2#12	1#12	G 3/4"	SEE NOTES	NO	LBE5-15	1
BAS Controls	ALEMAN LASER LAB - ALL AREAS	BAS PANEL		1.7	0.20	120	1	1.00	2#12	1#12	G 3/4"	NONE	NO	LBE5-19	
HFU-1	LAB #74C	HEPA FILTER UNIT		3.4	0.41	120	1	1.00	2#12	1#12	G 3/4"	SWITCH	NO	LBE5-17	
HFU-2	LAB #74C	HEPA FILTER UNIT		3.4	0.41	120	1	1.00	2#12	1#12	G 3/4"	SWITCH	NO	LBE5-17	
HFU-3	LAB #74C	HEPA FILTER UNIT		3.4	0.41	120	1	1.00	2#12	1#12	G 3/4"	SWITCH	NO	LBE5-17	
VP-1	LAB #74C	VACUUM PUMP		4.9	0.60	120	1	1.00	2#12	1#12	G 3/4"	SWITCH	NO	LBE3-13	2

GENERAL NOTES:
 1. ALL EQUIPMENT IS FUSED UNLESS OTHERWISE NOTED. PROVIDE FUSE SIZED PER MANUFACTURER'S RECOMMENDATIONS.
 2. COORDINATE EQUIPMENT LOCATION AND ELECTRICAL REQUIREMENTS WITH MECHANICAL CONTRACTOR PRIOR TO ROUGH-IN.

KEYED NOTES:
 1. FAN COIL UNIT TO BE WIRED TO MOTOR RATED DISCONNECT SWITCH VIA A RELAY. MOTOR RATED DISCONNECT SWITCH AND RELAY PROVIDED BY DIVISION 26. COORDINATE SWITCH AND RELAY LOCATIONS WITH MECHANICAL CONTRACTOR AND OWNER PRIOR TO ROUGH-IN.
 2. VACUUM PUMP TO BE WIRED TO A 3 WAY TOGGLE SWITCH VIA 20A 1P 5-20R RECEPTACLE. REFER TO DRAWINGS E3 AND E4 FOR SWITCH AND RECEPTACLE LOCATIONS. BREAKER IN PANEL IS EXISTING.

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 ALEMAN LASER LAB

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 DETAILS & SCHEDULES

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DRAWING NO:
E6