PAGNANI BUILDING ADDITION

2321 NORTH 400 EAST
TOOELE, UTAH

CODE ANALYSIS

APPLICABLE CODES

	YEAR		YEAR
INTERNATIONAL BUILDING CODE	2024	NATIONAL ELECTRICAL CODE	2023
INTERNATIONAL MECHANICAL CODE	2024	UNIFORM CODE FOR	
INTERNATIONAL FUEL GAS CODE	2024	BUILDING CONSERVATION	2024
INTERNATIONAL PLUMBING CODE	2024	ADA ACCESSIBILITY	
INTERNATIONAL FIRE CODE	2024	GUIDELINES	ANSI A117.1 2017
INTERNATIONAL ENERGY CODE	2024		
CONSERVATION CODE	2024		

A. OCCUPANCY AND GROUP: B

CHANGE IN USE: YES ____ NO X
SPECIAL USE AND OCCUPANCY (E.G. HIGH RISE, COVERED MALL) N/A

B. SEISMIC DESIGN CATEGORY: D

C. TYPE OF CONSTRUCTION (CIRCLE ONE):

I/A I/B II/A II/B III/A III/B IV/HT V/A (V/B)

D. FIRE RESISTANCE RATING REQUIREMENTS FOR THE EXTERIOR WALLS BASED ON THE FIRE SEPARATION DISTANCE (IN HOURS):
NORTH: N/A SOUTH: N/A EAST: N/A WEST: N/A

E. MIXED OCCUPANCIES: N/A NON-SEPARATED USES: N/A

F. SPRINKLERS:

REQUIRED: N/A PROVIDED: N/A

TYPE OF SPRINKLER SYSTEM (IBC 903.3.1.): N/A

G. NUMBER OF STORIES: 1 BUILDING HEIGHT: 24'-0"

H. ACTUAL AREA PER FLOOR (SQUARE FEET): EXISTING BLDG = 10,539 SQ. FT. NORTH ADDITION = 2,646 SQ. FT.
SOUTH ADDITION = 2,715 SQ. FT. TOTAL = 15,900 SQ. FT.

I. TABULAR AREA: (TABLE 506.2): 52,500 SQ. FT.

J. AREA MODIFICATIONS:

a. $A_a = \{A_t + [A_2 \times I_f] + [A_1 \times I_f]\}$ $I_f = [F/P - 0.25]$ W/30

b. SUM OF THE RATIO CALCULATIONS OF MIXED OCCUPANCIES:

$\frac{\text{ACTUAL AREA}}{\text{ALLOWABLE AREA}} \leq 1$

c. TOTAL ALLOWABLE AREA FOR:
1. ONE STORY: ____ SQ. FT.
2. TWO STORY: A_a (2) ____ SQ. FT.
3. THREE STORY: A_a (3) ____

d. UNLIMITED AREA BUILDING: YES ____ NO X CODE SELECTION: ____

K. FIRE RESISTANCE RATING REQUIREMENTS FOR BUILDING ELEMENTS (HOURS):

ELEMENT	HOURS	ASSEMBLY/ LISTING	ELEMENT	HOURS	ASSEMBLY/ LISTING
EXTERIOR BEARING WALLS	0		FLOORS - CEILING FLOORS	N/A	
INTERIOR BEARING WALLS	N/A		ROOFS - CEILING ROOFS	0	
EXTERIOR NON-BEARING WALLS			EXTERIOR DOORS AND WINDOWS		
STRUCTURAL FRAME			SHAFT ENCLOSURES		
PARTITIONS - PERMANENT			FIRE WALLS		
FIRE BARRIERS			FIRE PARTITIONS		
			SMOKE PARTITIONS		

L. DESIGN OCCUPANT LOAD: 106

EXIT WIDTH REQUIRED: 36 EXIT WIDTH PROVIDED: 48

M. MINIMUM NUMBER OF REQUIRED PLUMBING FACILITIES:
a. WATER CLOSETS - REQUIRED (ext.) 6 (addition) 4
b. URINALS - REQUIRED (m) 0 PROVIDED (m) 0
c. LAVATORIES - REQUIRED (ext.) 6 (addition) 4
d. BATH TUBS OR SHOWERS: 0
e. DRINKING FOUNTAINS: (2) DUEL HT ADA SERVICE SINKS: 1

FOOTNOTES:

1. IN CASE OF CONFLICT WITH THE U.S. DEPARTMENT OF JUSTICE FEDERAL REGISTERS PARTS I THROUGH V - ADA GUIDELINES AND SPECIFIC REFERENCE TO THE INTERNATIONAL BUILDING CODE ACCESSIBILITY CHAPTERS, THE MORE RESTRICTIVE REQUIREMENT SHALL GOVERN.
2. ADDITIONAL CODE INFORMATION SHALL BE PROVIDED AT THE DISCRETION OF THE BUILDING OFFICIAL FOR COMPLEX BUILDINGS. INCLUDING, BUT NOT LIMITED TO:
   a. HIGH RISE REQUIREMENTS.
   b. ATRIUMS.
   c. PERFORMANCE BASED CRITERIA.
   d. MEANS OR EGRESS ANALYSIS.
   e. FIRE ASSEMBLY LOCATOR SHEET.
   f. EXTERIOR AND INTERIOR ACCESSIBILITY ROUTE.
   g. FIRE STOPPING, INCLUDING TESTED DESIGN NUMBER.

CONSULTANTS

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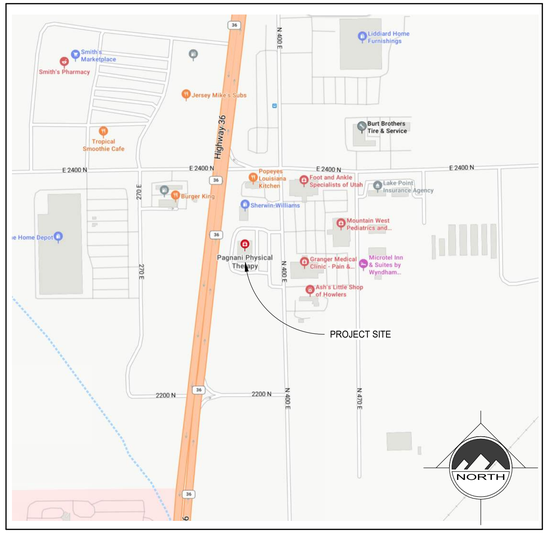
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VICINITY MAP



SHEET INDEX

GENERAL		
A000	COVER SHEET	
CIVIL		
C-100	SITE PLAN	
ARCHITECTURAL		
A001	SCHEDULES & NOTES	
A100	FLOOR PLAN	
A110	ENLARGED FLOOR PLAN & BLDG. SECTIONS	
A200	EXTERIOR ELEVATIONS	
A300	REFLECTED CEILING PLAN	
A301	ROOF PLAN	
A400	EGRESS PLAN	
A500	CONSTRUCTION DETAILS	
A510	ADA DETAILS	
STRUCTURAL		
S001	GENERAL STRUCTURAL NOTES	
S002	GENERAL STRUCTURAL NOTES	
S003	SPECIAL INSPECTION	
S021	STRUCTURAL SCHEDULES	
S111	STRUCTURAL PLAN - LEVEL 01	
S121	STRUCTURAL PLAN - LEVEL 02	
S501	STRUCTURAL DETAILS - FOUNDATION	
S521	STRUCTURAL DETAILS - ROOF	
MECHANICAL		
M001	TITLE SHEET	
M002	MECHANICAL NOTES	
M003	MECHANICAL SPECIFICATIONS	
M100	MAIN LEVEL MECHANICAL ZONE PLAN	
M101	MAIN LEVEL MECHANICAL PLAN	
M102	ROOF MECHANICAL PLAN	
M401	ENLARGED MECHANICAL PLAN	
M402	ENLARGED MECHANICAL PLAN	
M501	MECHANICAL DETAILS	
M601	MECHANICAL SCHEDULES	
PLUMBING		
P001	PLUMBING NOTES & SPECIFICATIONS	
P100	UNDERGROUND PLUMBING PLAN	
P101	MAIN LEVEL PLUMBING PLAN	
P102	ROOF PLUMBING PLAN	
P401	ENLARGED PLUMBING PLAN	
P402	ENLARGED PLUMBING PLAN	
P501	PLUMBING DETAILS	
P601	PLUMBING SCHEDULES	
ELECTRICAL		
E100	LEGEND & GENERAL NOTES	
E200	EXISTING ONE-LINE DIAGRAM	
E201	PANEL SCHEDULES	
E300	SUITE 400 & 450 POWER PLANS	
E301	SUITE 500 POWER PLAN	
E302	SUITE 400 & 450 LIGHTING PLAN	
E303	SUITE 500 LIGHTING PLAN	
E304	SITE LIGHTING ELEVATION	
E400	DETAILS	
E500	COMCHECK	

SCOPE OF WORK: NORTH AND SOUTH ADDITIONS TO EXISTING MEDICAL OFFICE BUILDING. MEDICAL TENANT IMPROVEMENTS IN BOTH ADDITIONS.

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PAGNANI BUILDING ADDITION
2321 NORTH 400 EAST
TOOELE, UTAH

STATE OF UTAH
STEVEN N. WARR
114912-6301
REGISTERED ARCHITECT
08/04/2026

NO.	DATE	REVISION

COVER SHEET

PROJECT NUMBER T1869G
DATE 07-28-2026
PROJECT MANAGER JMC
DESIGNED BY DMP

A000

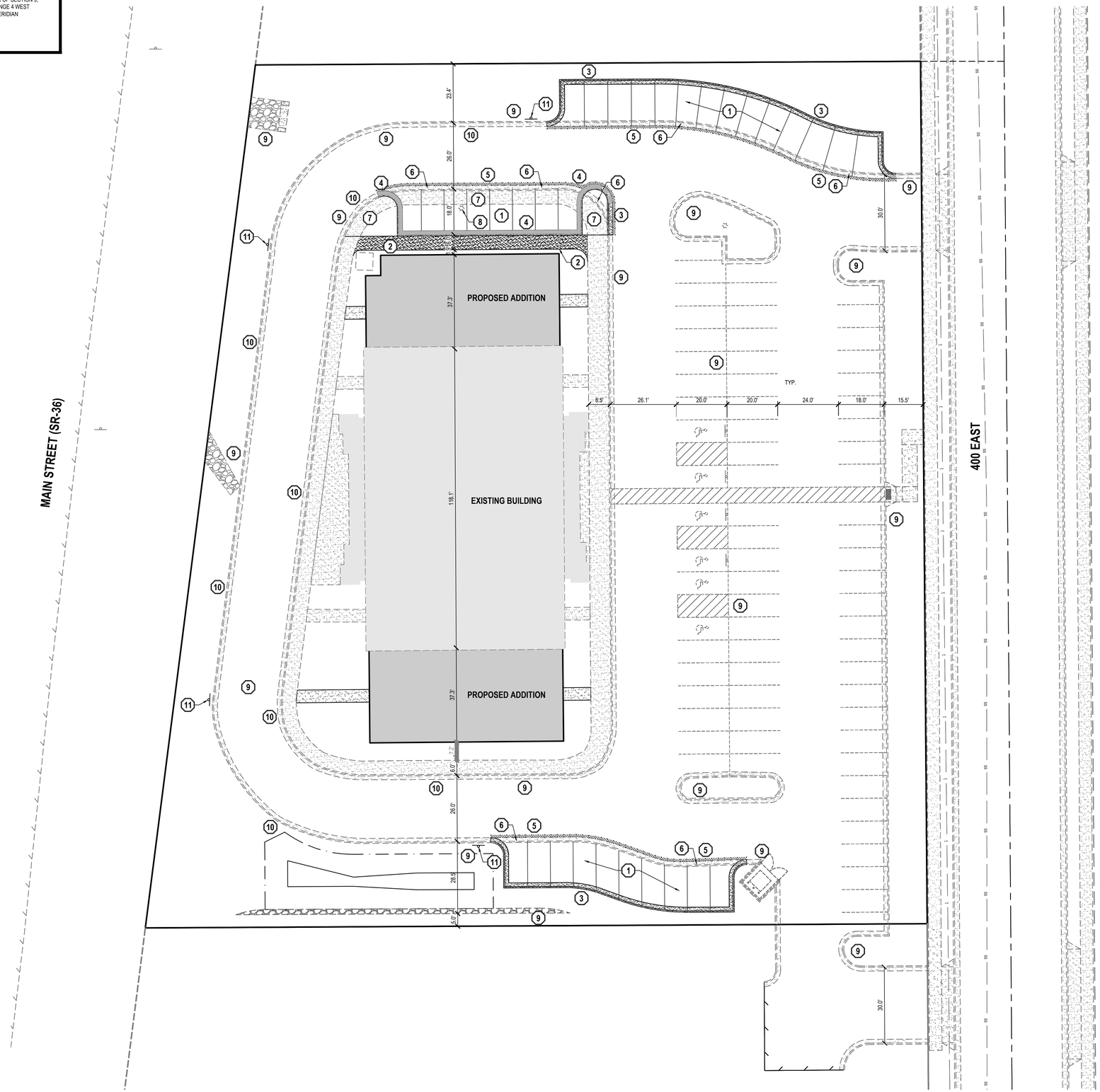
811 Know what's below. Call before you dig.

CALL BLUESTAKES @ 811 AT LEAST 48 HOURS PRIOR TO THE COMMENCEMENT OF ANY CONSTRUCTION.

BENCHMARK

EAST QUARTER CORNER OF SECTION 9, TOWNSHIP 3 SOUTH, RANGE 4 WEST SALT LAKE BASE AND MERIDIAN

ELEV = 4685.00'



GENERAL NOTES

1. ALL WORK TO COMPLY WITH THE GOVERNING AGENCY'S STANDARDS AND SPECIFICATIONS.
2. ALL IMPROVEMENTS MUST COMPLY WITH ADA STANDARDS AND RECOMMENDATIONS.
3. SEE LANDSCAPE/ARCHITECTURAL PLANS FOR CONCRETE MATERIAL, COLOR, FINISH, AND SCORE PATTERNS THROUGHOUT SITE.
4. ALL PAVEMENT MARKINGS SHALL CONFORM TO THE LATEST EDITION OF THE M.U.T.C.D. (MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES).
5. ALL SURFACE IMPROVEMENTS DISTURBED BY CONSTRUCTION SHALL BE RESTORED OR REPLACED, INCLUDING TREES AND DECORATIVE SHRUBS, SOD, FENCES, WALLS AND STRUCTURES, WHETHER OR NOT THEY ARE SPECIFICALLY SHOWN ON THE CONTRACT DOCUMENTS.
6. NOTIFY ENGINEER OF ANY DISCREPANCIES IN DESIGN OR STAKING BEFORE PLACING CONCRETE OR ASPHALT.
7. THE CONTRACTOR IS TO PROTECT AND PRESERVE ALL EXISTING IMPROVEMENTS, UTILITIES, AND SIGNS, ETC. UNLESS OTHERWISE NOTED ON THESE PLANS.

SCOPE OF WORK:

PROVIDE, INSTALL AND/OR CONSTRUCT THE FOLLOWING PER THE SPECIFICATIONS GIVEN OR REFERENCED, THE DETAILS NOTED, AND/OR AS SHOWN ON THE CONSTRUCTION DRAWINGS:

1. ASPHALT PAVEMENT
2. 4" THICK CONCRETE SIDEWALK PER APWA STANDARD PLAN NO. 231.
3. 24" COLLECTION CURB AND GUTTER PER APWA STANDARD PLAN NO. 205.
4. 24" REVERSE PAN CURB AND GUTTER PER DETAIL 5/C-400.
5. SAWCUT EXISTING ASPHALT PAVEMENT TO PROVIDE A CLEAN EDGE FOR THE TRANSITION BETWEEN EXISTING AND PROPOSED ASPHALT PAVEMENT.
6. SAWCUT, REMOVE, AND PROPERLY DISPOSE OF EXISTING CONCRETE CURB AND GUTTER.
7. SAWCUT, REMOVE, AND PROPERLY DISPOSE OF EXISTING CONCRETE SIDEWALK.
8. REMOVE AND PROPERLY DISPOSE OF EXISTING LIGHT POLE AND BASE.
9. PROTECT AND PRESERVE ALL EXISTING IMPROVEMENTS, UTILITIES, SIGNS, ETC. (TYPICAL UNLESS OTHERWISE NOTED).
10. FIRE LANE PAINT CURB RED.
11. INSTALL FIRE LANE SIGN.

SITE SUMMARY TABLE

DESCRIPTION	AREA (SF)	PERCENTAGE
PAVEMENT	55,070	57%
ROOF	15,850	16%
LANDSCAPING	26,388	27%
TOTAL SITE	97,308 2.23 ACRES	100%

PARKING DATA TABLE

STANDARD PARKING STALLS PROVIDED	96
STANDARD PARKING STALLS REQUIRED*	96
HANDICAP STALLS PROVIDED	6
HANDICAP STALLS REQUIRED**	5
TOTAL STALLS PROVIDED	102

- 16,000 SQ. FT. PROF. OFFICE / 200 = 80 + 16 STALLS FOR MEDICAL STAFF & EMPLOYEES = 96
- 96 STANDARDS STALLS / 25 = 5 (ROUNDED UP)

NORTH

HORIZONTAL GRAPHIC SCALE

20 0 10 20 40

(IN FEET)

HORZ: 1 inch = 20 ft.

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FOR:

DOUGLAS MOB ADDITION

2321 NORTH 400 EAST
TOOELE, UTAH

LICENSED PROFESSIONAL ENGINEER
JACOB M. CLEGG
12/5/2022
STATE OF UTAH

SITE PLAN

PROJECT NUMBER T1869E
PRINT DATE 12/1/22
DRAWN BY J.CID
CHECKED BY J. CLEGG
PROJECT MANAGER J. CLEGG

C-100

ROOM SCHEDULE

NUMBER	NAME	FLOOR FINISH	BASE FINISH	WALL FINISHES				CEILINGS		COMMENTS
				NORTH	EAST	SOUTH	WEST	HEIGHTS	FINISH	
501	WAITING ROOM	CARPET	RUBBER	PAINT	PAINT	PAINT	PAINT	10' - 0"	ACOUSTIC TILE	
502	FRONT DESK	CARPET	RUBBER	PAINT	PAINT	PAINT	PAINT	10' - 0"	ACOUSTIC TILE	
504	EXAM 4	VCT	RUBBER	PAINT	PAINT	PAINT	PAINT	10' - 0"	ACOUSTIC TILE	
503	ADMIN.	CARPET	RUBBER	PAINT	PAINT	PAINT	PAINT	10' - 0"	ACOUSTIC TILE	
505	PROCEDURE	VCT	RUBBER	PAINT	PAINT	PAINT	PAINT	10' - 0"	ACOUSTIC TILE	
506	OFFICE	CARPET	RUBBER	PAINT	PAINT	PAINT	PAINT	10' - 0"	ACOUSTIC TILE	
507	BREAK ROOM	VCT	RUBBER	PAINT	PAINT	PAINT	PAINT	10' - 0"	ACOUSTIC TILE	
518	UTILITY	VCT	RUBBER	PAINT	PAINT	PAINT	PAINT	10' - 0"	ACOUSTIC TILE	
516	BAY 4	VCT	RUBBER	PAINT	PAINT	PAINT	PAINT	10' - 0"	ACOUSTIC TILE	
515	BAY 3	VCT	RUBBER	PAINT	PAINT	PAINT	PAINT	10' - 0"	ACOUSTIC TILE	
514	BAY 2	VCT	RUBBER	PAINT	PAINT	PAINT	PAINT	10' - 0"	ACOUSTIC TILE	
513	BAY 1	VCT	RUBBER	PAINT	PAINT	PAINT	PAINT	10' - 0"	ACOUSTIC TILE	
512	REST.	CERAMIC TILE	CERAMIC TILE	PAINT/TILE	PAINT/TILE	PAINT/TILE	PAINT/TILE	10' - 0"	PAINTED GYP.	48" TILE WAINSCOT
511	EXAM 3	VCT	RUBBER	PAINT	PAINT	PAINT	PAINT	10' - 0"	ACOUSTIC TILE	
510	EXAM 2	VCT	RUBBER	PAINT	PAINT	PAINT	PAINT	10' - 0"	ACOUSTIC TILE	
509	EXAM 1	VCT	RUBBER	PAINT	PAINT	PAINT	PAINT	10' - 0"	ACOUSTIC TILE	
517	NURSE STATION	CARPET	RUBBER	PAINT	PAINT	PAINT	PAINT	10' - 0"	ACOUSTIC TILE	
517	REST.	CERAMIC TILE	CERAMIC TILE	PAINT/TILE	PAINT/TILE	PAINT/TILE	PAINT/TILE	10' - 0"	PAINTED GYP.	48" TILE WAINSCOT
402	REST.	CERAMIC TILE	CERAMIC TILE	PAINT/TILE	PAINT/TILE	PAINT/TILE	PAINT/TILE	10' - 0"	PAINTED GYP.	48" TILE WAINSCOT
451	REST.	CERAMIC TILE	CERAMIC TILE	PAINT/TILE	PAINT/TILE	PAINT/TILE	PAINT/TILE	10' - 0"	PAINTED GYP.	48" TILE WAINSCOT

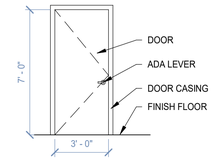
WALL SCHEDULE

MARK	DESCRIPTION	COMMENTS
WB-2	2x6 WOOD FRAMED WALL @ 16" o.c. w/ 5/8" GYP. BOARD INSIDE - SHEATHING, VAPOR BARRIER & FACE BRICK EXTERIOR	
WE-1	2x4 WOOD FRAMED WALL @ 16" o.c. w/ 5/8" GYP. BOARD INSIDE - SHEATHING, VAPOR BARRIER & EIFS EXTERIOR	
WW-1	2x4 WOOD FRAMED WALL @ 16" o.c. w/ 5/8" GYP. BOARD ONE SIDE	
WW-2	2x4 WOOD FRAMED WALL @ 16" o.c. w/ 5/8" GYP. BOARD EA. SIDE	
WW-3	2x6 WOOD FRAMED WALL @ 16" o.c. w/ 5/8" GYP. BOARD EA. SIDE	

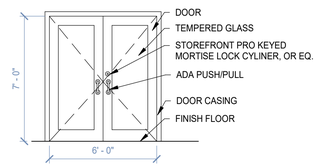
DOOR SCHEDULE

MARK	WIDTH	HEIGHT	FRAME TYPE	FINISH	FIRE RATING	HARDWARE	COMMENTS
400A	6' - 6"	7' - 0"	STOREFRONT	ALUM.		PUSH/PULL, LOCKSET	SEE DETAIL 4, A001
400B	6' - 6"	7' - 0"	STOREFRONT	ALUM.		PUSH/PULL, LOCKSET	SEE DETAIL 4, A001
401A	3' - 0"	7' - 0"	HOLLOW METAL	MATCH EXISTING		PASSAGE	
402A	3' - 0"	7' - 0"	HOLLOW METAL	MATCH EXISTING		PRIVACY	
451A	3' - 0"	7' - 0"	HOLLOW METAL	MATCH EXISTING		PRIVACY	
500A	6' - 6"	7' - 0"	STOREFRONT	ALUM.		PUSH/PULL, LOCKSET	SEE DETAIL 4, A001
500B	6' - 6"	7' - 0"	STOREFRONT	ALUM.		PUSH/PULL, LOCKSET	SEE DETAIL 4, A001
501A	3' - 0"	7' - 0"	HOLLOW METAL	MATCH EXISTING		PASSAGE	
502A	3' - 0"	7' - 0"	HOLLOW METAL	MATCH EXISTING		COMMERCIAL LEVER SET KEYED - ENTRY FUNCTION	
503A	3' - 0"	7' - 0"	HOLLOW METAL	MATCH EXISTING		LOCKSET	
504A	3' - 0"	7' - 0"	HOLLOW METAL	MATCH EXISTING		PASSAGE	
505A	3' - 0"	7' - 0"	HOLLOW METAL	MATCH EXISTING		PASSAGE	
506A	3' - 0"	7' - 0"	HOLLOW METAL	MATCH EXISTING		COMMERCIAL LEVER SET KEYED - ENTRY FUNCTION	
506B	3' - 0"	7' - 0"	HOLLOW METAL	MATCH EXISTING		COMMERCIAL LEVER SET KEYED - ENTRY FUNCTION	
507A	3' - 0"	7' - 0"	HOLLOW METAL	MATCH EXISTING		PASSAGE	
509A	3' - 0"	7' - 0"	HOLLOW METAL	MATCH EXISTING		PASSAGE	
510A	3' - 0"	7' - 0"	HOLLOW METAL	MATCH EXISTING		PASSAGE	
511A	3' - 0"	7' - 0"	HOLLOW METAL	MATCH EXISTING		PASSAGE	
512A	3' - 0"	7' - 0"	HOLLOW METAL	MATCH EXISTING		PRIVACY	
517A	3' - 0"	7' - 0"	HOLLOW METAL	MATCH EXISTING		PRIVACY	
518A	3' - 0"	7' - 0"	HOLLOW METAL	MATCH EXISTING		PASSAGE	
Grand total: 21							

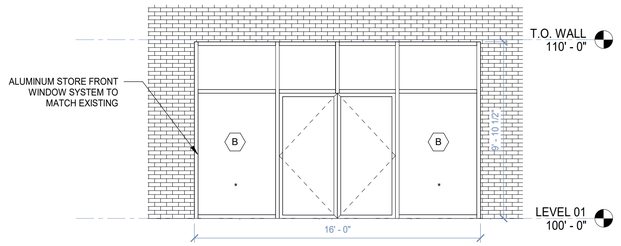
1. DOOR THRESHOLDS TO BE LESS THAN 1/2" ABOVE FINISH FLOOR.
2. ALL DOOR HARDWARE TO BE ADA LEVER TYPE.
3. EXIT DOORS ARE TO BE OPENABLE FROM THE INSIDE WITHOUT THE USE OF A KEY, SPECIAL KNOWLEDGE OR EFFORT.
4. DOORS TO MEET THE REQUIREMENTS OF IBC 1010.
5. DOOR HARDWARE TO BE LOCATED IN DOOR PER 1010.2.3
6. ALL LOCKSETS SHALL COMPLY WITH 1010.2.4 AND 1010.2.5



1 36" MANDOOR
SCALE: 1/4" = 1'-0"



2 72" MANDOOR
SCALE: 1/4" = 1'-0"



4 ENTRY DOORS
SCALE: N.T.S.

WINDOW SCHEDULE

MARK	WIDTH	HEIGHT	HEAD HEIGHT	TYPE	COMMENTS
A	5' - 0"	6' - 0"	9' - 0"	60"X72"	U-0.38 SHGC 0.38
Grand total: 8					

1. PROVIDE WEATHER PROOFING AROUND ALL DOORS AND WINDOWS PER MANUFACTURERS RECOMMENDATIONS
2. U-FACTORS FOR WINDOWS SHALL BE CERTIFIED BY AN INDEPENDENT LABORATORY PER NFRC 100 AND LABELED AS SUCH BY THE MANUFACTURER.

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PAGNANI BUILDING ADDITION

2321 NORTH 400 EAST
TOOELE, UTAH

STATE OF UTAH
STEVEN N. WEBB
12-8301
LICENSED ARCHITECT
08/04/2026

NO.	DATE	REVISION

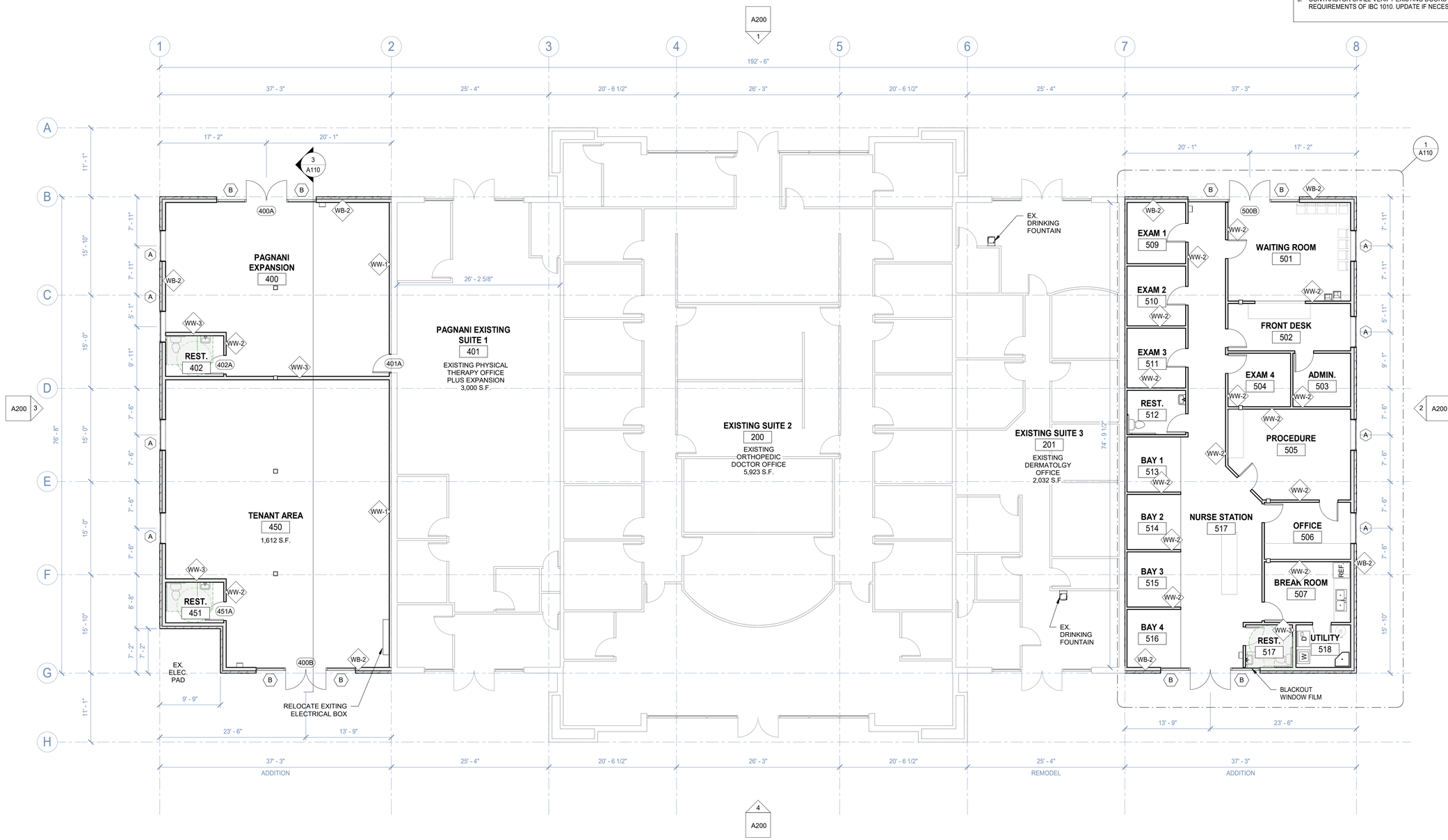
SCHEDULES & NOTES

PROJECT NUMBER T1869G
DATE 07-28-2026
PROJECT MANAGER JMC
DESIGNED BY DMP

A001

NOTES:

1. CONTRACTOR SHALL FIELD VERIFY THAT EXISTING RESTROOMS COMPLY WITH THE REQUIREMENTS OF CHAPTER 6 OF ICC A117.1-09. IF RESTROOMS FAIL TO MEET REQUIREMENTS CONTRACTOR SHALL UPDATE THEM AS REQUIRED.
2. ALL EXISTING DOORS AND WINDOWS TO REMAIN.
3. CONTRACTOR SHALL VERIFY EXISTING DOORS AND HARDWARE COMPLY WITH THE REQUIREMENTS OF IBC 1010. UPDATE IF NECESSARY.



1 LEVEL 01 - FLOOR PLAN - 15,900 SQ. FT.
SCALE: 1/8" = 1'-0"

NORTH

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TOOELE, UTAH

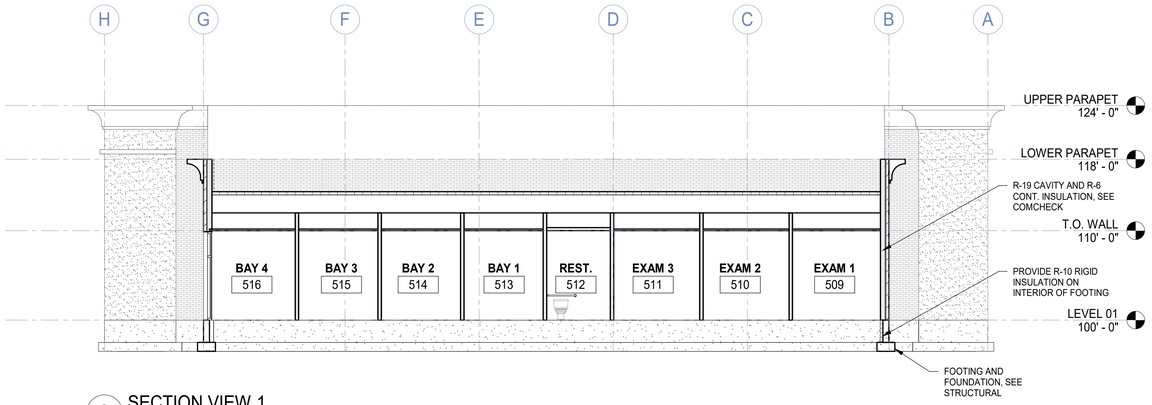
STATE OF UTAH
DYLAN N. WARD
8114812-0301
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LICENSED ARCHITECT

NO.	DATE	REVISION

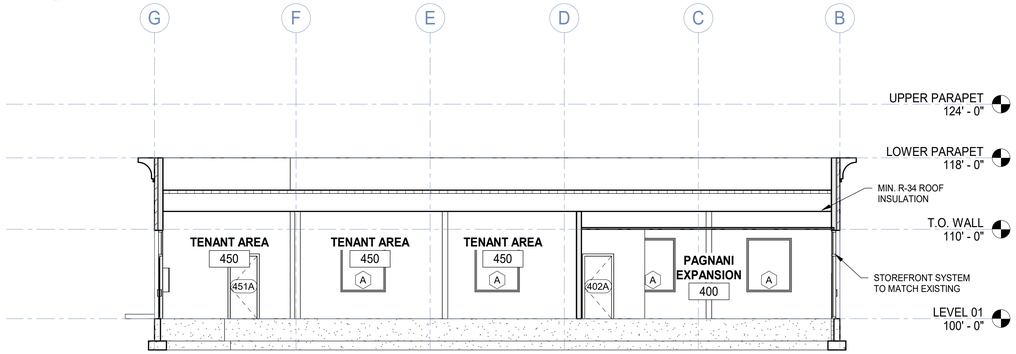
FLOOR PLAN

PROJECT NUMBER T1869G
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PROJECT MANAGER JMC
DESIGNED BY DMP

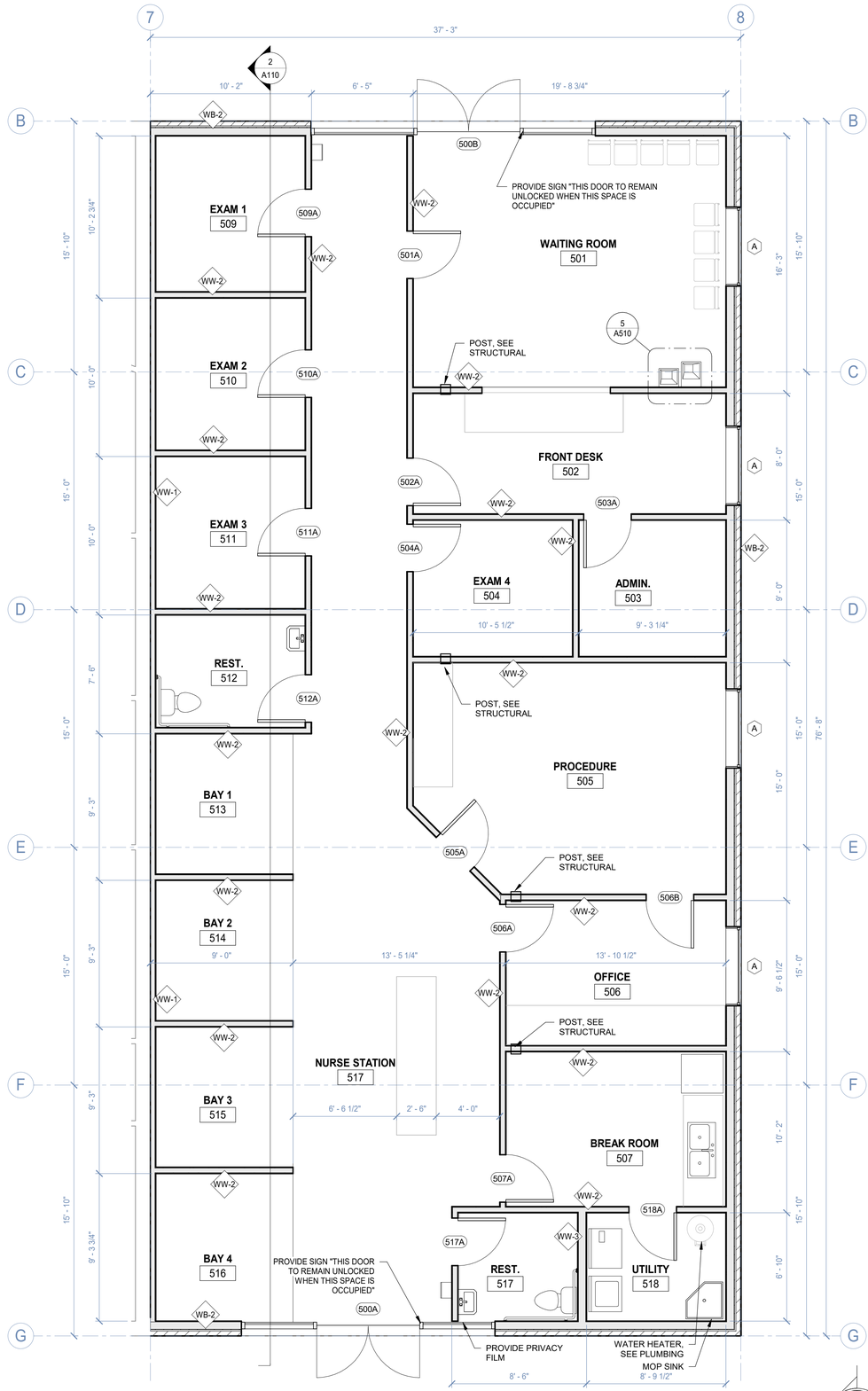
A100



2 SECTION VIEW 1
SCALE: 1/8" = 1'-0"



3 SECTION VIEW 2
SCALE: 1/8" = 1'-0"



1 LEVEL 01 - SOUTH ADDITION TENANT IMPROVEMENT - 2,716 SQ. FT.
SCALE: 1/4" = 1'-0"

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Phone: 801.255.0529

LAYTON
Phone: 801.547.1100

TOOELE
Phone: 435.843.3590

CEDAR CITY
Phone: 435.865.1453

RICHFIELD
Phone: 435.896.2983

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FOR:
ROBERT PAGNANI
7497 BELMONT COURT
STANSBURY PARK, UT 84074
801-850-7255

PAGNANI BUILDING ADDITION

2321 NORTH 400 EAST
TOOELE, UTAH

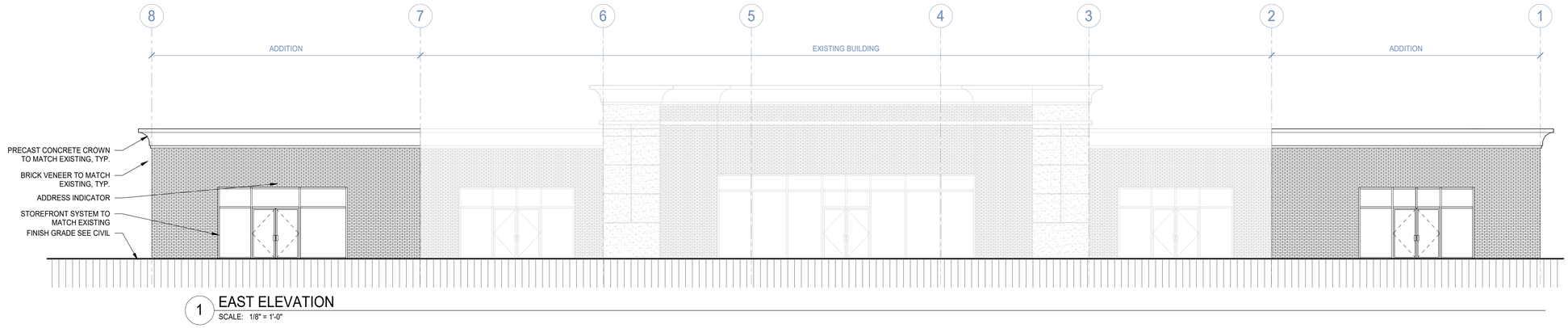
STATE OF UTAH
DYLAN N. WARD
22-114812-0301
08/04/2026
LICENSED ARCHITECT

NO. DATE REVISION

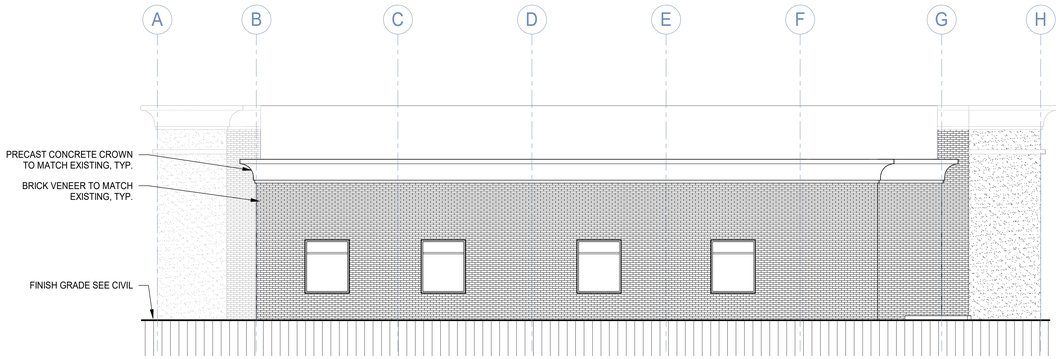
ENLARGED FLOOR PLAN & BLDG. SECTIONS

PROJECT NUMBER T1869G
DATE 07-28-2026
PROJECT MANAGER JMC
DESIGNED BY DMP

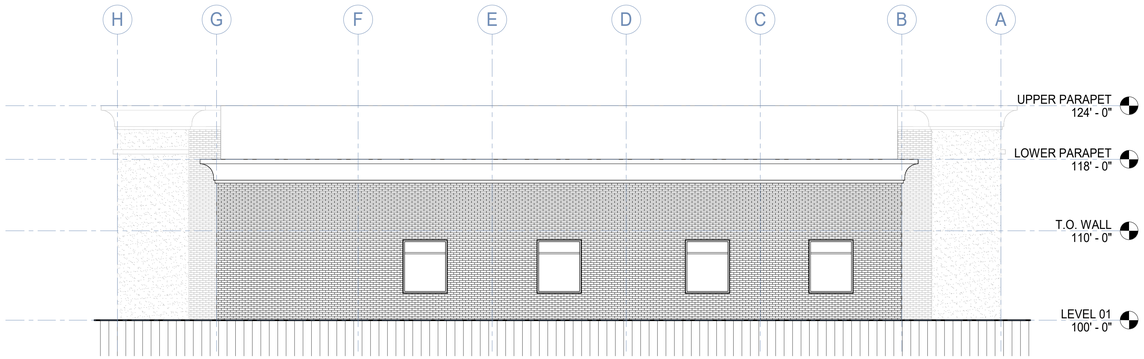
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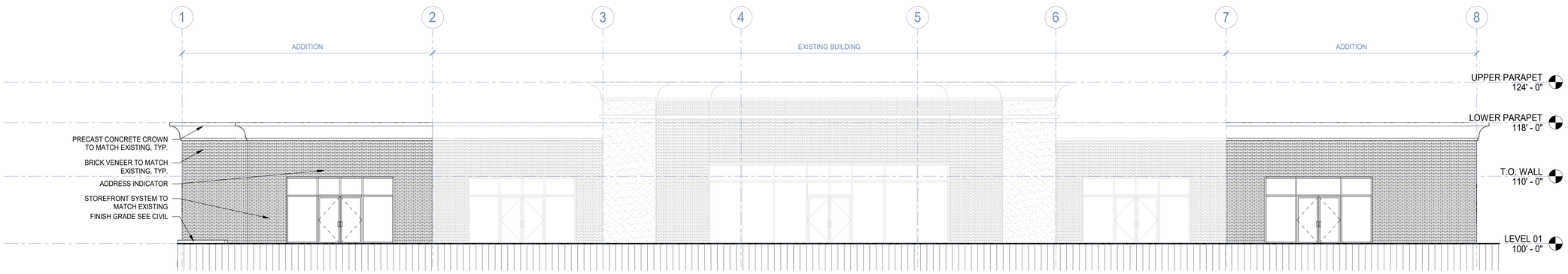
1 EAST ELEVATION
SCALE: 1/8" = 1'-0"



3 SOUTH ELEVATION
SCALE: 1/8" = 1'-0"



2 NORTH ELEVATION
SCALE: 1/8" = 1'-0"



4 WEST ELEVATION
SCALE: 1/8" = 1'-0"

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PAGNANI BUILDING ADDITION

2321 NORTH 400 EAST
TOOELE, UTAH

STATE OF UTAH
STEVEN N. WARD
12141812-6301
REGISTERED
LICENSED ARCHITECT
08/04/2026

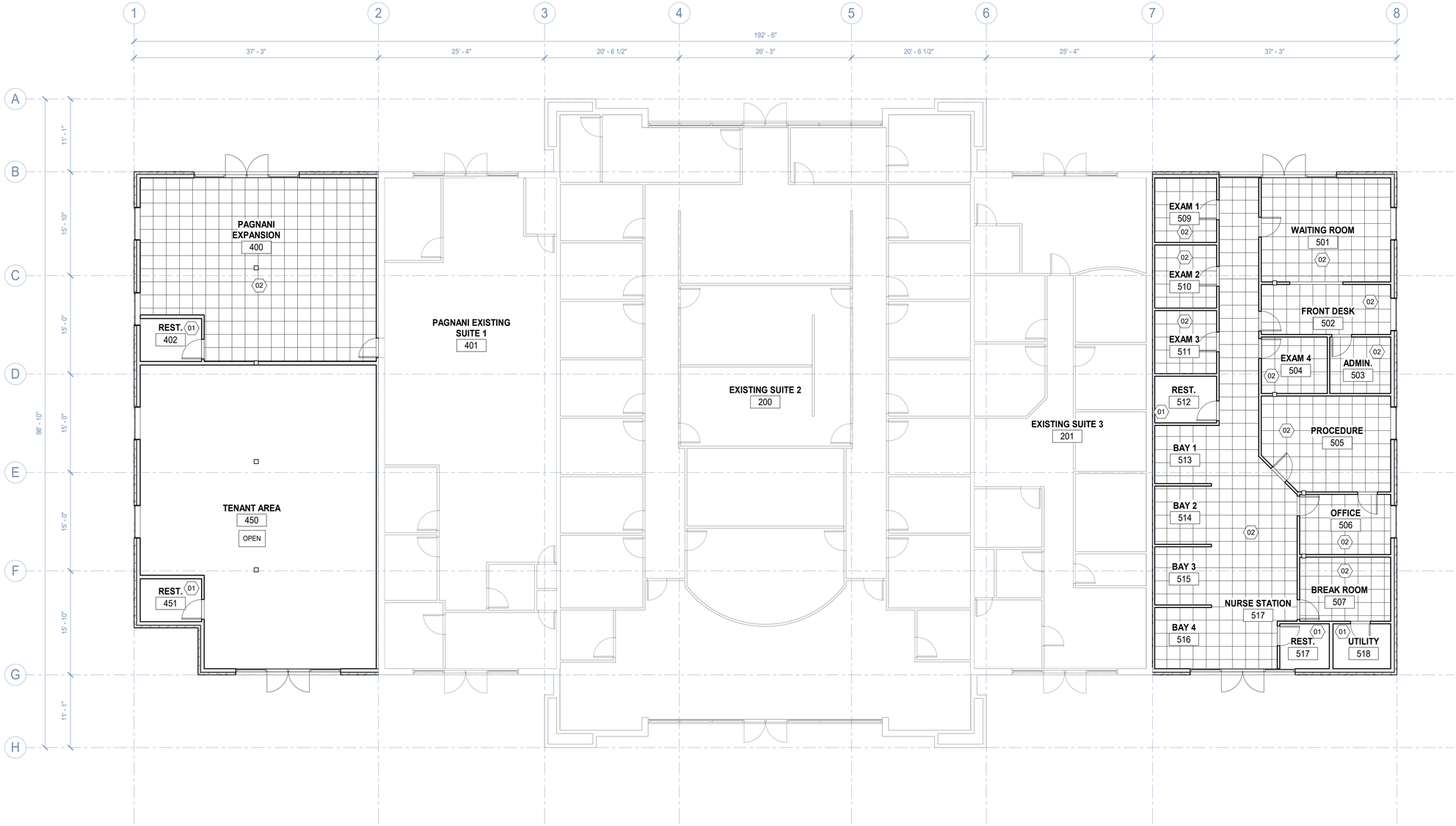
NO.	DATE	REVISION

EXTERIOR ELEVATIONS

PROJECT NUMBER T1869G
DATE 07-28-2026
PROJECT MANAGER JMC
DESIGNED BY DMP

A200

KEYED NOTES - REFLECTED CEILING PLAN
01 GYP. BOARD CEILING
02 2x2 ACOUSTICAL GRID CEILING*
* SEE MECHANICAL AND ELECTRICAL PLANS FOR COORDINATION



1 LEVEL 01 - REFLECTED CEILING PLAN
SCALE: 1/8" = 1'-0"

NORTH

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801-850-7255

PAGNANI BUILDING ADDITION

2321 NORTH 400 EAST
TOOELE, UTAH

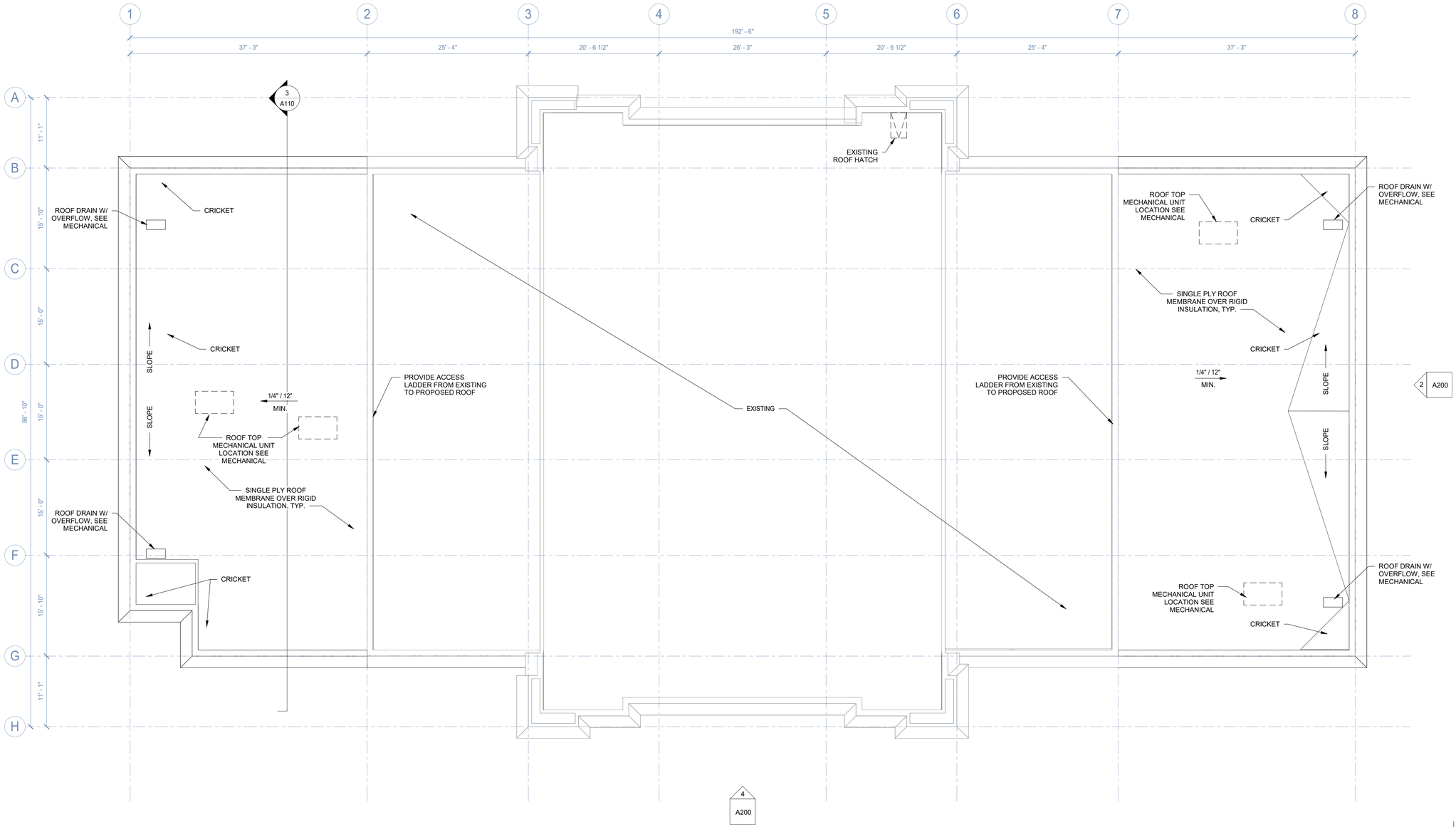
STATE OF UTAH · DUSTEN N. WARD · 12-11481-2001 · 08/04/2026 · LICENSED ARCHITECT

NO.	DATE	REVISION

REFLECTED CEILING PLAN

PROJECT NUMBER T1869G
DATE 07-28-2026
PROJECT MANAGER JMC
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A300



1 LEVEL 02
SCALE: 1/8" = 1'-0"

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PAGNANI BUILDING ADDITION

2321 NORTH 400 EAST
TOOELE, UTAH

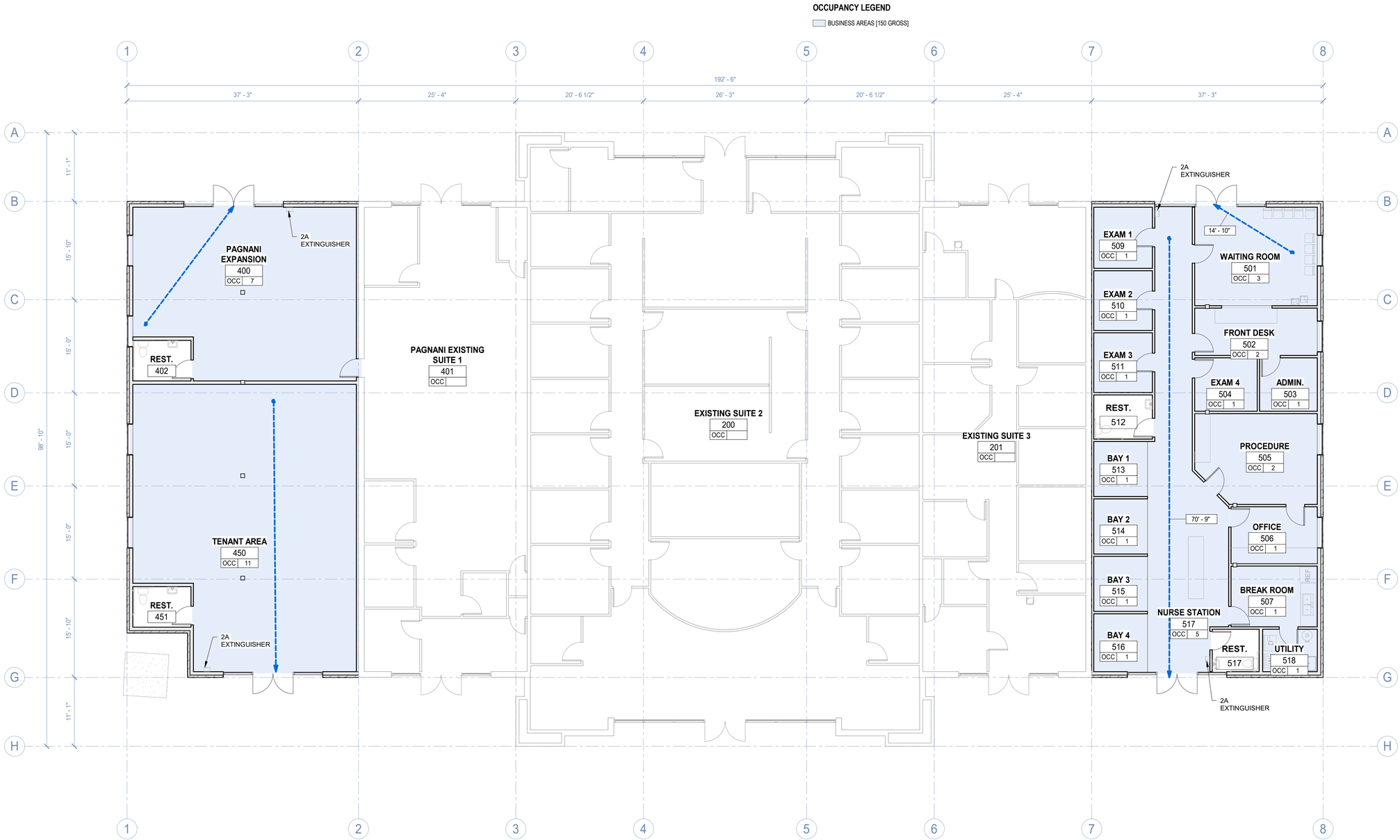
STATE OF UTAH
STEVEN N. WARR
12-114812-2301
REGISTERED
LICENSED ARCHITECT
08/04/2026

NO.	DATE	REVISION

ROOF PLAN

PROJECT NUMBER T1869G
DATE 07-28-2026
PROJECT MANAGER JMC
DESIGNED BY DMP

A301



1 LEVEL 01 - EGRESS PLAN
SCALE: 1/8" = 1'-0"

NORTH

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7497 BELMONT COURT
STANSBURY PARK, UT 84074
801-850-7255

PAGNANI BUILDING ADDITION

2321 NORTH 400 EAST
TOOELE, UTAH

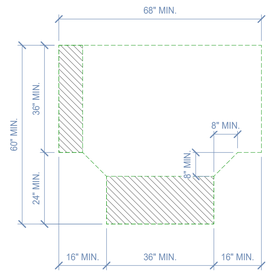
STATE OF UTAH
STEVEN N. WARR
12114812-0301
REGISTERED
LICENSED ARCHITECT
08/04/2026

NO.	DATE	REVISION

EGRESS PLAN

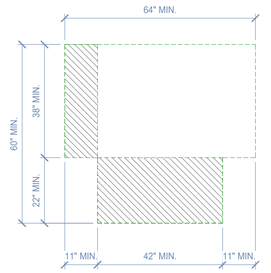
PROJECT NUMBER T1869G
DATE 07-28-2026
PROJECT MANAGER JMC
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A400



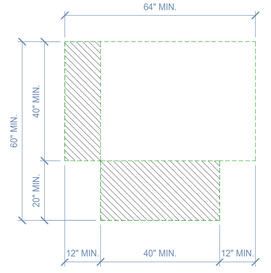
OPTION 1

▨ = OVERLAP OF KNEE AND TOE CLEARANCE (EITHER BASE OR ARM - NOT BOTH)



OPTION 2

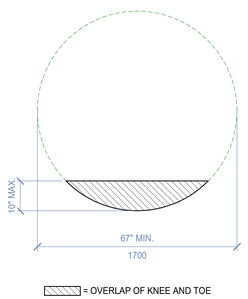
▨ = OVERLAP OF KNEE AND TOE CLEARANCE (EITHER BASE OR ARM - NOT BOTH)



OPTION 3

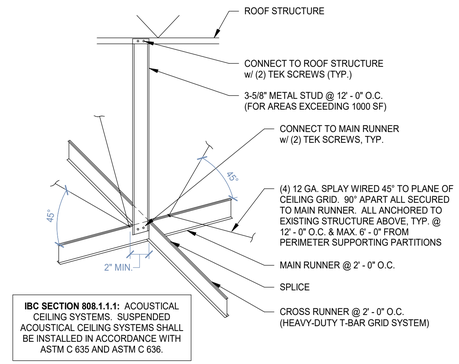
▨ = OVERLAP OF KNEE AND TOE CLEARANCE (EITHER BASE OR ARM - NOT BOTH)

17 T-SHAPE TURNING SPACE - NEW CONST.
SCALE: 1/2" = 1'-0"



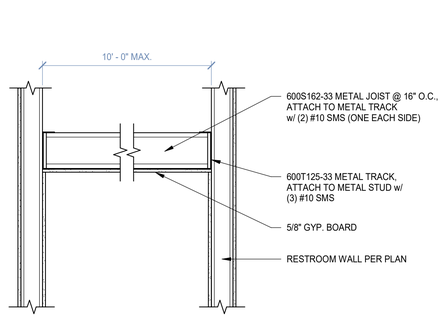
▨ = OVERLAP OF KNEE AND TOE

18 TURNING RADIUS - NEW CONSTRUCTION
SCALE: 1/2" = 1'-0"

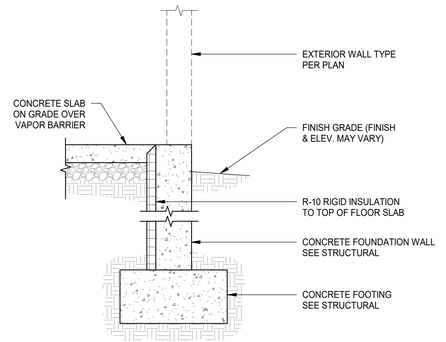


IBC SECTION 808.1.1.1: ACOUSTICAL CEILING SYSTEMS. SUSPENDED ACOUSTICAL CEILING SYSTEMS SHALL BE INSTALLED IN ACCORDANCE WITH ASTM C 635 AND ASTM C 636.

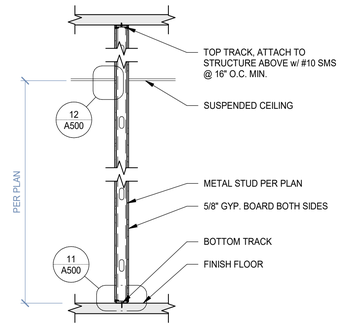
13 SIESMIC BRACING DETAIL
SCALE: 1/2" = 1'-0"



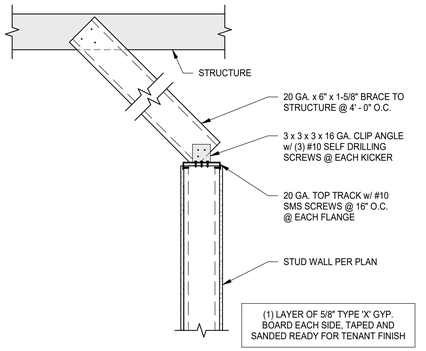
14 CEILING DETAIL GYP. BOARD
SCALE: 1" = 1'-0"



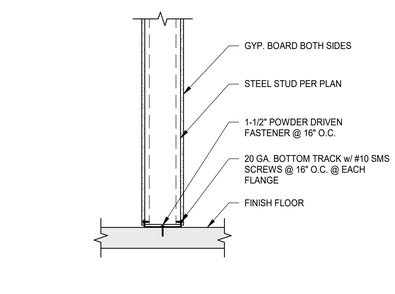
19 EXTERIOR FOUNDATION INSULATION
SCALE: 3/4" = 1'-0"



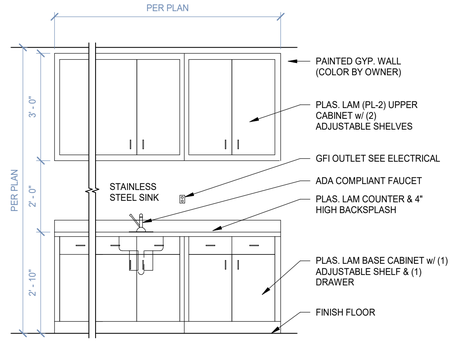
5 WALL SECTION NEW
SCALE: 1/2" = 1'-0"



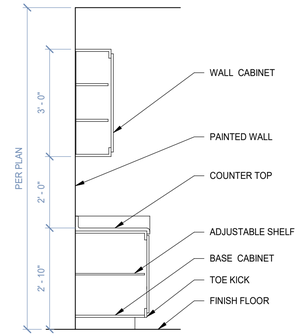
10 TOP TRACK DETAIL
SCALE: 1" = 1'-0"



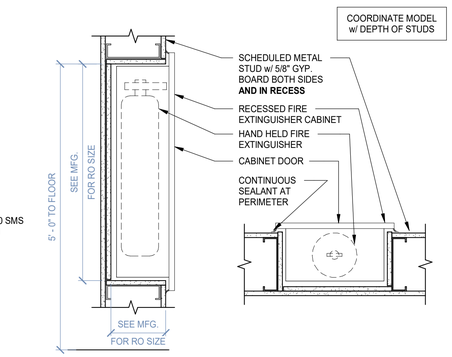
11 TRACK TO FLOOR DETAIL
SCALE: 1" = 1'-0"



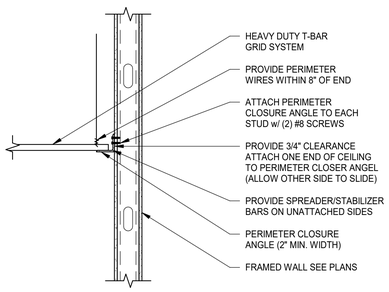
1 CABINET ELEVATION
SCALE: 1/2" = 1'-0"



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



3 FIRE EXTINGUISHER CABINET
SCALE: 1 1/2" = 1'-0"



12 PERIMETER CONNECTION DETAIL
SCALE: 1" = 1'-0"

FRAMED WALL BRACING NOTES:

1. ALL WALLS SHALL BE BRACED @ A MAX. OF 48" O.C., EITHER TO THE ROOF STRUCTURE AS SHOWN ON THE APPROVED DRAWINGS, OR ALTERNATIVELY, ACROSS ADJOINING WALLS, THEN FINALLY TO THE EXTERIOR CONCRETE WALLS. THIS BRACING MAY CONSIST OF A SINGLE 3-5/8" x 20 GA. STUD, 6" x 20 GA. STUD, OR A DOUBLE 3-5/8" x 25 GA. STUD. NOTE THAT NO MORE THAN (3) INTERIOR WALLS SHOULD TRANSFER THROUGH THE SAME CONNECTION AT THE EXTERIOR WALLS.
2. ADDITIONAL BRACING MAY BE PROVIDED TO CONNECT TOP OF WALLS TO STIFFER PREP.. WALLS ACROSS HALLWAYS OR ROOM AREAS.
3. IT IS ACCEPTABLE TO PROVIDE BRACING ACROSS INTERSECTING WALLS @ 48" AWAY FROM THE CORNER.
4. PROVIDE A MINIMUM OF TWO SCREWS AT EACH CONNECTION OF BRACE TO WALL OR ROOF STRUCTURE. ALL SCREWS SHOULD RUN THROUGH THE THINNER MATERIAL FIRST, WHERE DIFFERENT MATERIAL OCCURS.
5. WHERE BOTH MATERIAL THICKNESS ARE 25 GA., PROVIDE MINIMUM THREE SCREWS PER CONNECTION.
6. BRACING SHOULD BE ATTACHED TO CONNECT OVER WALL IN LIEU OF END OF CANTILEVERED TRACKS.
7. IN ALL LOCATIONS, NO WALL SHOULD BE LEFT UNBRACED FOR ANY LENGTH GREATER THAT 5'-0".
8. ALL BRACING SHALL BE TO ROOF STRUCTURE, AND NOT ATTACHED DIRECTLY TO ROOF DECK.
9. ALL WALL STUDS SHALL RECEIVE GYP. BOARD SHEATHING ON BOTH SIDES OR HORIZONTAL. BRIDGING SHALL BE INSTALLED NOT MORE THAN 54" APART. BRIDGING MAY CONSIST OF EITHER COLD ROLLED CHANNEL MECHANICALLY FASTENED TO WEBS OF PUNCHED STUDS OR A COMBINATION OF FLAT STRAPS AND STUD-TRACK SOLID BLOCKING OF WIDTH AND THICKNESS TO MATCH STUDS.

4 WALL BRACING NOTES
SCALE: N.T.S.

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FOR:
ROBERT PAGNANI
7497 BELMONT COURT
STANSBURY PARK, UT 84074
801-850-7255

PAGNANI BUILDING ADDITION

2321 NORTH 400 EAST
TOOELE, UTAH

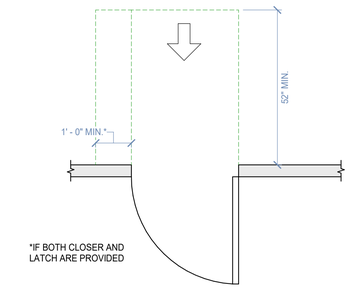
STATE OF UTAH
STEVEN N. WARD
22-11412-0301
08/04/2026
LICENSED ARCHITECT

NO.	DATE	REVISION

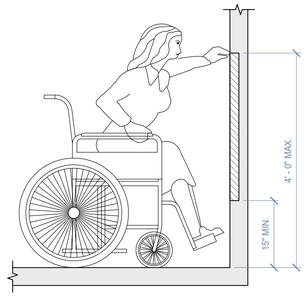
CONSTRUCTION DETAILS

PROJECT NUMBER T1869G
DATE 07-28-2026
PROJECT MANAGER JMC
DESIGNED BY DMP

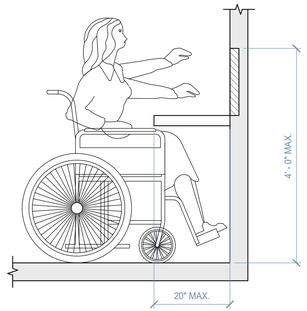
A500

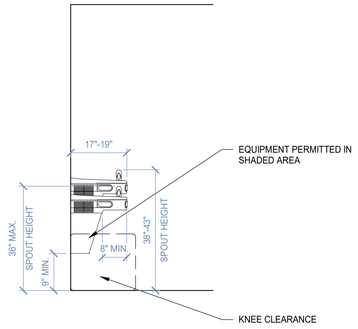


15 CLEARANCE AT FRONT APPROCH, PUSH SIDE
SCALE: 1/2" = 1'-0"

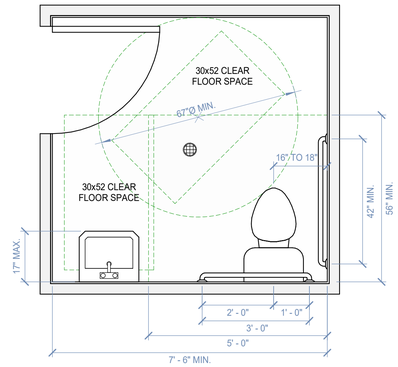


11 ADA UNOBSTRUCTED FORWARD REACH
SCALE: 3/4" = 1'-0"

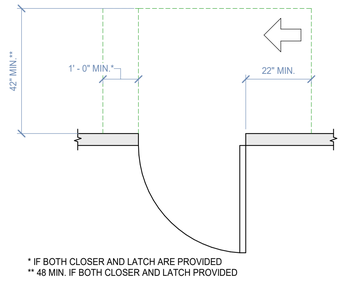




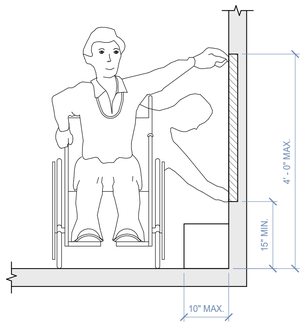
5 ADA WATER FOUNTAIN
SCALE: 1/2" = 1'-0"



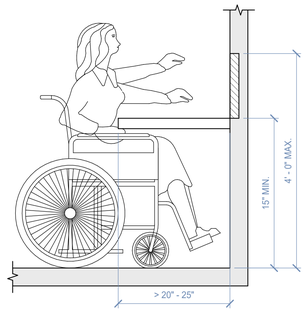
1 ADA RESTROOM
SCALE: 1/2" = 1'-0"



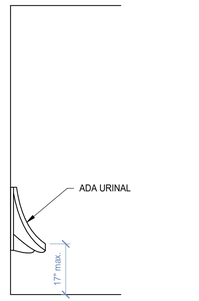
16 CLEARANCE AT HINGE APPROACH, PUSH SIDE
SCALE: 1/2" = 1'-0"



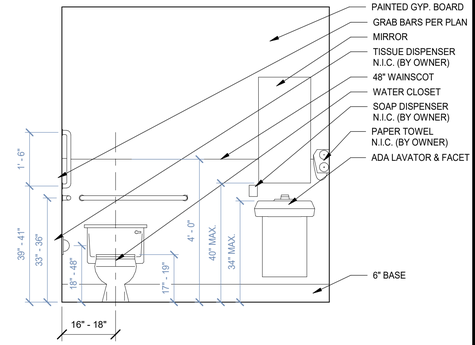
12 ADA UNOBSTRUCTED SIDE REACH
SCALE: 3/4" = 1'-0"



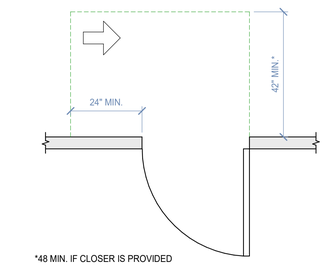
9 OBSTRUCTED HIGH FORWARD REACH
SCALE: 3/4" = 1'-0"



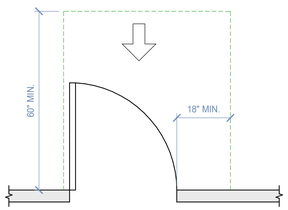
6 ADA URINAL DETAIL
SCALE: 1/2" = 1'-0"



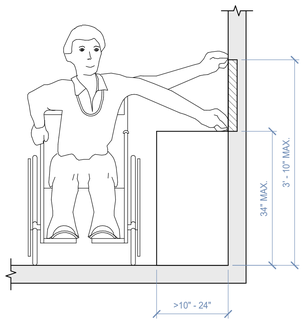
2 ADA RESTROOM ELEVATION
SCALE: 1/2" = 1'-0"

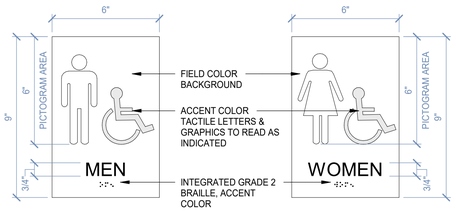


17 CLEARANCE AT LATCH APPROACH, PUSH SIDE
SCALE: 1/2" = 1'-0"

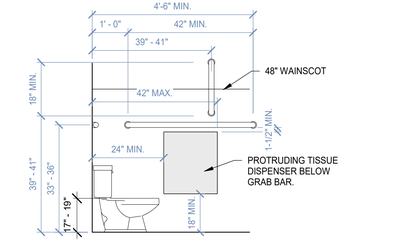


13 CLEARANCE AT FRONT APPROCH, PULL SIDE
SCALE: 1/2" = 1'-0"

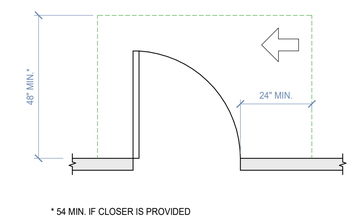




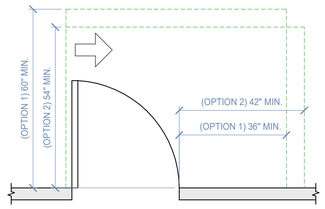
7 ADA RESTROOM SIGNS
SCALE: 3" = 1'-0"



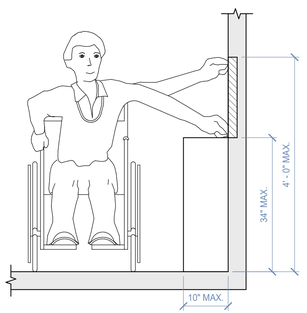
3 ADA RESTROOM SIDEWALL
SCALE: 1/2" = 1'-0"



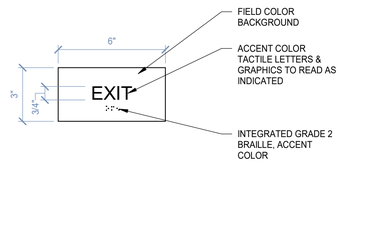
18 CLEARANCE AT LATCH APPROACH, PULL SIDE
SCALE: 1/2" = 1'-0"



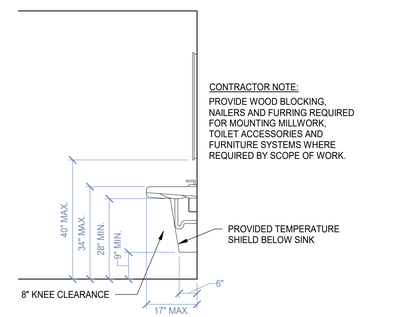
14 CLEARANCE AT HINGE APPROACH, PULL SIDE
SCALE: 1/2" = 1'-0"



10 OBSTRUCTED HIGH SIDE REACH
SCALE: 3/4" = 1'-0"



8 ADA EXIT SIGN
SCALE: 3" = 1'-0"



4 ADA SINK ELEV.
SCALE: 1/2" = 1'-0"

ENSIGN
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FOR:
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PAGNANI BUILDING ADDITION

2321 NORTH 400 EAST
TOOELE, UTAH

STATE OF UTAH
STEVEN N. WARD
12-114812-2201
08/04/2026
LICENSED ARCHITECT

NO. DATE REVISION

ADA DETAILS

PROJECT NUMBER T1869G
DATE 07-28-2026
PROJECT MANAGER JMC
DESIGNED BY DMP

A510

DESIGN CRITERIA

1. GOVERNING BUILDING CODE: **2024 IBC**
   A. RISK CATEGORY = **II**

2. ROOF LOADING:
   A. ROOF LIVE LOAD = 20 PSF
   B. ROOF DEAD LOAD = 20 PSF
      a. TOP CHORD DEAD LOAD = 13 PSF
      b. BOTTOM CHORD DEAD LOAD = 7 PSF
   C. ROOF SNOW LOAD (FLAT), p_f = 37 PSF
      a. GROUND SNOW LOAD, p_g = 45 PSF
      b. ASD GROUND SNOW LOAD, $p_{g(asd)}$ = 32 PSF
      c. SNOW EXPOSURE FACTOR, C_e = 1.0
      d. THERMAL FACTOR, C_t = 1.19
      e. SNOW LOAD IMPORTANCE FACTOR, I_s = 1.0
      f. SLOPE FACTOR, C_s = 1.0
      g. WINTER WIND PARAMETER, W_2 = 0.25
      h. DRIFT SURCHARGE LOADS = (SEE ROOF PLANS)
   D. RAIN LOADS:
      a. RAIN INTENSITY, I = 1.5 IN/HR

3. SEISMIC LOADING:
   A. S_S = 0.78g
   B. S_1 = 0.25g
   C. S_{DS} = 0.65g
   D. S_{D1} = 0.43g
   E. BASIC SEISMIC FORCE RESISTING SYSTEM = BEARING WALL SYSTEM: LIGHT-FRAME (WOOD) WALLS SHEATHED WITH WOOD STRUCTURAL PANELS RATED FOR SHEAR RESISTANCE
   F. ANALYSIS PROCEDURE = EQUIVALENT LATERAL FORCE PROCEDURE (MULTI-PERIOD)
   G. RESPONSE MODIFICATION FACTOR, R = 6.5
   H. DESIGN BASE SHEAR = 0.173W
   I. SEISMIC RESPONSE COEFFICIENT, C_S = 0.173
   J. SEISMIC DESIGN CATEGORY = D
   K. SITE CLASS = DEFAULT
   L. IMPORTANCE FACTOR, I_e = 1.0

4. WIND LOADING:
   A. BASIC WIND SPEED, V = 102 MPH - 3 SEC GUST
   B. ASD WIND SPEED, V_{asd} = 80 MPH - 3 SEC GUST
   C. EXPOSURE = C
   D. INTERNAL PRESSURE COEFFICIENT, GC_{pi} = ± 0.18
   E. WIND DIRECTIONALITY FACTOR, K_d = 0.85
   F. WIND TOPOGRAPHIC FACTOR, K_{zt} = 1.0
   G. COMP. & CLADDING WIND PRESSURE:

COMPONENTS & CLADDING DESIGN WIND PRESSURE (PSF)

LOCATION			EFFECTIVE WIND AREA (FT^2)				
			< 10	20	50	100	>500
WALLS	ZONE 5: WITHIN 8-FT OF BUILDING CORNER		-24.3	-22.8	-20.5	-19.0	-16.0
	ZONE 4: ALL OTHER AREAS		-19.7	-19.0	-18.2	-17.1	-16.0
	ZONE 4 & 5: POSITIVE PRESSURES		16.0	16.0	16.0	16.0	16.0
ROOF	ZONE 3: L-SHAPE (11-FT LEG LENGTHS & 4-FT LEG THICKNESS) AT BUILDING CORNERS		-57.0	-52.0	-44.4	-39.3	-26.7
	ZONE 2: WITHIN 11-FT OF BUILDING EDGE		-41.9	-39.3	-35.9	-33.4	-26.7
	ZONE 1: BETWEEN 11-FT & 22-FT OF BUILDING EDGE		-31.7	-30.0	-26.7	-25.0	-19.9
	ZONE 1': ROOF FIELD STARTING 22-FT AWAY FROM BUILDING EDGE		-18.2	-18.2	-18.2	-18.2	-16.0
	ZONE 1', 1, 2 & 3: POSITIVE PRESSURES		16.0	16.0	16.0	16.0	16.0
	N/A		-	-	-	-	-
PARAPETS	WITHIN 11-FT OF BUILDING CORNER	LOAD CASE A	71.1	65.1	56.5	50.1	35.2
		LOAD CASE B	-37.4	-35.1	-32.0	-29.2	-23.4
	ALL OTHER AREAS	LOAD CASE A	55.5	52.1	47.8	44.1	35.2
		LOAD CASE B	-32.8	-31.2	-29.6	-27.3	-23.4

5. SERVICEABILITY CRITERIA:

		TOTAL	LIVE / SNOW
A.	DEFLECTION LIMITS:		
	a. FLOOR	L/360	L/480
	b. ROOF	L/240	L360
B.	ALLOWABLE STORY DRIFT:		
	a. SEISMIC	0.020 x STORY HEIGHT	

GENERAL

1. ALL CONSTRUCTION SHALL BE IN CONFORMANCE WITH THE GOVERNING BUILDING CODE AND SUPPLEMENTS UNLESS HIGHER STANDARD IS REQUIRED BY LOCAL BUILDING OFFICIAL.

2. THE CONTRACTOR SHALL FURNISH AND INSTALL ALL ELEMENTS AS SHOWN ON THE CONTRACT DOCUMENTS UNLESS SPECIFICALLY NOTED OTHERWISE.

3. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND CONDITIONS AT THE SITE.

4. THE CONTRACTOR IS RESPONSIBLE FOR MEETING ALL APPLICABLE OSHA SAFETY REQUIREMENTS DURING CONSTRUCTION AND SHALL BE RESPONSIBLE FOR SAFETY AND PROTECTION WITHIN AND ADJACENT TO THE SITE.

5. AT ANY GIVEN TIME DURING AND AFTER CONSTRUCTION, THE CONTRACTOR AND/OR OWNER SHALL ENSURE THE LOADS ON THE STRUCTURE DO NOT EXCEED THE SPECIFIED DESIGN LOADS. CONSTRUCTION MATERIAL SHALL BE SPREAD OUT IF PLACED ON FRAMED FLOORS OR ROOF.

6. DO NOT SCALE DRAWINGS. IF DIMENSIONS ARE IN QUESTION, THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING CLARIFICATION FROM THE ENGINEER BEFORE CONTINUING WITH CONSTRUCTION.

7. THE TYPICAL DETAILS SHALL BE USED WHEREVER APPLICABLE UNLESS OTHERWISE NOTED ON THE DRAWINGS. SPECIFIC NOTES AND DETAILS ON DRAWINGS SHALL TAKE PRECEDENCE OVER GENERAL NOTES AND TYPICAL DETAILS.

8. ALL OMISSIONS OR CONFLICTS BETWEEN THE VARIOUS ELEMENTS OF THE WORKING DRAWINGS AND/OR SPECIFICATIONS SHALL BE BROUGHT TO THE ATTENTION OF THE STRUCTURAL ENGINEER BEFORE PROCEEDING WITH ANY WORK INVOLVED. IN CASE OF CONFLICT, FOLLOW MOST STRINGENT REQUIREMENT AS DETERMINED BY STRUCTURAL ENGINEER WITHOUT COST TO OWNER.

9. THE CONTRACT STRUCTURAL DRAWINGS AND SPECIFICATIONS REPRESENT THE FINISHED STRUCTURE. THEY DO NOT INDICATE THE METHOD OF CONSTRUCTION. THE CONTRACTOR IS RESPONSIBLE FOR CONSTRUCTION MEANS, METHODS, TECHNIQUES, SHORING, SEQUENCES, AND PROCEDURES.

10. WHERE REFERENCE IS MADE TO VARIOUS TEST STANDARDS FOR MATERIALS, SUCH STANDARDS SHALL BE THE LATEST EDITION AND/OR ADDENDUM.

11. ESTABLISH AND VERIFY ALL OPENINGS AND INSERTS FOR ARCHITECTURAL, MECHANICAL, ELECTRICAL, AND PLUMBING WITH APPROPRIATE TRADES, DRAWINGS, AND SUBCONTRACTORS PRIOR TO CONSTRUCTION.

12. **DO NOT PENETRATE ANY STRUCTURAL ELEMENTS** (BEAMS, COLUMNS, WALLS, SLABS, STEEL DECKS, ETC.) WITHOUT PRIOR WRITTEN APPROVAL OF STRUCTURAL ENGINEER THROUGH ARCHITECT.

13. ANY ENGINEERING DESIGN PROVIDED BY OTHERS AND SUBMITTED FOR REVIEW SHALL BEAR THE SEAL OF A CIVIL OR STRUCTURAL ENGINEER REGISTERED IN THE STATE IN WHICH THE PROJECT IS LOCATED.

PRE-CONSTRUCTION MEETINGS

1. A PRE-CONSTRUCTION MEETING IS RECOMMENDED PRIOR TO THE START OF CONSTRUCTION OF THE STRUCTURE. AT THE CONTRACTOR'S OPTION, THE PRE-CONSTRUCTION MEETING MAY TAKE PLACE PRIOR TO THE START OF SHOP DRAWING PRODUCTION.

2. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO SCHEDULE THE PRE-CONSTRUCTION MEETING WITH ALL APPLICABLE PARTIES INCLUDING (BUT NOT LIMITED TO) THE CONTRACTOR, SUB-CONTRACTORS, ARCHITECT, STRUCTURAL ENGINEER, AND SPECIAL INSPECTOR.

DEFERRED SUBMITTALS

1. DEFERRED SUBMITTALS ARE THOSE PORTIONS OF THE DESIGN WHICH ARE NOT SUBMITTED AT THE TIME OF PERMIT APPLICATION AND WHICH ARE TO BE SUBMITTED TO THE BUILDING OFFICIAL WITHIN A SPECIFIED PERIOD.

2. SUBMITTAL DOCUMENTS FOR DEFERRED SUBMITTAL ITEMS SHALL BE SUBMITTED TO THE ENGINEER OF RECORD THROUGH THE ARCHITECT AND GENERAL CONTRACTOR WITHIN 6 WEEKS OF AWARD OF CONTRACT TO THE GENERAL CONTRACTOR. ONCE THE SUBMITTAL DOCUMENTS HAVE BEEN FOUND TO BE IN GENERAL CONFORMANCE TO THE CONTRACT DOCUMENTS, THE ENGINEER OF RECORD WILL FORWARD THEM TO THE ARCHITECT WITH A NOTATION INDICATING THAT THEY ARE IN GENERAL CONFORMANCE WITH THE DESIGN OF THE BUILDING. THE ARCHITECT WILL FORWARD THE DEFERRED SUBMITTAL DOCUMENTS TO THE GENERAL CONTRACTOR WHO WILL MAINTAIN ONE SET ON SITE FOR REFERENCE BY THE CITY INSPECTOR. THE DEFERRED SUBMITTAL ITEMS SHALL NOT BE INSTALLED UNTIL THE SUBMITTAL DOCUMENTS HAVE BEEN APPROVED BY THE BUILDING OFFICIAL.

3. ITEMS THAT ARE SUBMITTED FOR CONSIDERATION AS DEFERRED SUBMITTALS ARE AS FOLLOWS:
   A. PRE-ENGINEERED WOOD TRUSSES
   B. SEISMIC BRACING OF ALL ARCHITECTURAL, MECHANICAL, PLUMBING, AND ELECTRICAL ITEMS WHERE REQUIRED PER ASCE 7 AND THE PROJECT SPECIFICATIONS

SHOP DRAWINGS

1. SHOP DRAWINGS SHALL BE SUBMITTED TO THE GENERAL CONTRACTOR PRIOR TO FABRICATION OR ERECTION FOR THE FOLLOWING ITEMS:
   A. CONCRETE MIX DESIGNS
   B. REINFORCING STEEL
   C. MISCELLANEOUS METALS (INCLUDING BUT NOT LIMITED TO PREFABRICATED STEEL STAIRS, HANDRAILS, GUARDRAILS, LADDERS, ETC.)
   D. PRE-ENGINEERED WOOD TRUSSES

2. THE GENERAL CONTRACTOR SHALL SUBMIT ELECTRONIC COPIES OF ALL SHOP DRAWINGS TO THE STRUCTURAL ENGINEER FOR REVIEW PRIOR TO FABRICATION OR ERECTION. FIVE (5) WORKING DAYS (MINIMUM) SHALL BE ALLOWED FOR THE REVIEW OF THESE SHOP DRAWINGS BY THE STRUCTURAL ENGINEER.

3. THE GENERAL CONTRACTOR WILL REVIEW AND STAMP ALL SHOP DRAWINGS AND PRODUCT DATA FOR CONFORMANCE WITH THE CONSTRUCTION DOCUMENTS PRIOR TO SUBMISSION. ANY SHOP DRAWINGS OR PRODUCT DATA NOT REVIEWED AND STAMPED BY THE GENERAL CONTRACTOR WILL BE RETURNED WITHOUT REVIEW.

4. ANY SHOP DRAWING NOT CHECKED AND INITIALED BY THE SUPPLIER/DETAILER PRIOR TO SUBMITTING FOR ARCHITECTURAL AND ENGINEERING REVIEW, WILL BE RETURNED WITHOUT REVIEW.

5. THE CONSTRUCTION DOCUMENTS MAY NOT BE REPRODUCED AND USED TO CREATE SHOP DRAWINGS WITHOUT THE PERMISSION FROM THE ARCHITECT OR ENGINEER.

FOUNDATIONS

1. GEOTECHNICAL CONSULTANT: GHS GEOTECHNICAL, INC.
   REPORT NUMBER: 1263-003-15
   REPORT DATE: April 15, 2015

   ANY ADDENDUMS, ALTERATIONS, OR FIELD CHANGES TO THE ABOVE REFERENCED GEOTECHNICAL REPORT SHALL BE SUBMITTED TO THE STRUCTURAL ENGINEER OF RECORD FOR REVIEW AND INCORPORATION INTO THE STRUCTURAL DESIGN. ANY CONSTRUCTION COMPLETED BEFORE THE REVIEW IS COMPLETED IS PERFORMED AT THE CONTRACTOR'S RISK.

2. SPREAD FOOTINGS SHALL BEAR ON **UNDISTURBED, UNIFORM, NATIVE SOILS OR ENTIRELY ON PROPERLY PLACED AND COMPACTED STRUCTURAL FILL**, AS SPECIFIED IN THE GEOTECHNICAL REPORT. DESIGN SOIL BEARING VALUE IS **4000 PSF**. BOTTOM OF FOOTINGS SHALL BEAR AT A MINIMUM OF **30-INCHES** BELOW LOWEST ADJACENT FINAL GRADE EXCEPT THAT BOTTOM OF INTERIOR FOOTINGS NOT SUBJECT TO ANY FREEZING MAY BEAR AT A MINIMUM OF **18-INCHES** BELOW TOP OF INTERIOR SLAB.

3. A **1.33** ALLOWABLE SOIL BEARING PRESSURE INCREASE IS ALLOWED FOR WIND & SEISMIC LOADING.

4. ANY FILL TO BE PLACED UNDER THE BUILDING AND FOOTINGS SHALL MEET THE SOIL PROPERTY AND COMPACTION REQUIREMENTS SPECIFIED IN THE GEOTECHNICAL REPORT. EXTENT OF THE FILL BEYOND THE EDGE OF THE FOOTINGS SHALL BE PLACED IN ACCORDANCE WITH THE GEOTECHNICAL REPORT.

5. ALL FILL AND BACK FILL SHALL BE COMPACTED AS REQUIRED BY THE GEOTECHNICAL ENGINEER OF RECORD.

6. ALL WATER SHALL BE REMOVED FROM FOUNDATION EXCAVATION PRIOR TO PLACING OF CONCRETE. DO NOT PLACE CONCRETE UNDER WATER OR ON FROZEN GROUND.

7. ANY UNUSUAL SOIL CONDITIONS (WATER, SOFT LAYERS, ROCK OUTCROPPINGS, ETC.) ENCOUNTERED DURING EXCAVATION FOR FOOTINGS SHOULD BE IMMEDIATELY BROUGHT TO THE ATTENTION OF THE STRUCTURAL AND GEOTECHNICAL ENGINEERS PRIOR TO PROCEEDING.

STEEL REINFORCING

1. TYPICAL REINFORCING BAR STRENGTHS:
   A. REINFORCING (NON-WELDABLE) = ASTM A615, DEFORMED, Fy = 60 KSI (420 MPa)
   B. REINFORCING (WELDABLE) = ASTM A706, DEFORMED, Fy = 60 KSI (420 MPa)

2. TYPICAL CLEAR CONCRETE COVERAGES:
   A. CONCRETE CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH = 3"
   B. FORMED CONCRETE WATER RETENTION STRUCTURES OR OTHERWISE COVERED UNDER ACI 350 = 2"
   C. FORMED CONCRETE EXPOSED TO EARTH OR WEATHER = 2" (#6 AND LARGER); = 1-1/2" (#5 AND SMALLER)
   D. ALL OTHERS PER LATEST EDITION OF ACI 318.

3. TYPICAL CLEAR MASONRY COVERAGES:
   A. MASONRY FACE EXPOSED TO EARTH OR WEATHER: = 2" (#6 AND LARGER); = 1-1/2" (#5 AND SMALLER)
   B. MASONRY NOT EXPOSED TO EARTH OR WEATHER: = 1-1/2"

4. ALL BARS PER CRSI SPECIFICATIONS AND HANDBOOK. LATEST ACI CODE AND DETAILING MANUAL APPLY. SECURELY TIE ALL BARS IN LOCATION BEFORE PLACING CONCRETE OR MASONRY. REINFORCING BAR SPACINGS GIVEN ARE MAXIMUM ON CENTERS.

5. ALL REINFORCING TO BE WELDED SHALL BE WELDED IN ACCORDANCE WITH AWS D1.4. NO TACK WELDING OF REINFORCING BARS IS ALLOWED WITHOUT PRIOR REVIEW OF PROCEDURE BY STRUCTURAL ENGINEER.

6. ASTM A706 BARS ARE REQUIRED IN CONCRETE SPECIAL MOMENT FRAMES, SPECIAL STRUCTURAL WALLS, AND PEDESTALS FOR SPECIAL SEISMIC SYSTEMS IN SEISMIC DESIGN CATEGORIES C, D, E, AND F. ASTM A615 BARS ARE PERMITTED IF MILL TESTS SHOW THAT THE REINFORCEMENT MEETS THE REQUIREMENTS OF ACI 318-19, SECTION 20.0.0.5(b).

DRYPACK / FLOWABLE GROUT

1. THE SPACE BENEATH ALL BASE PLATES AND BEARING PLATES SHALL BE THOROUGHLY CLEANED BEFORE DRYPACKING OR GROUTING. DRYPACK / GROUT SOLID BENEATH ALL BASE PLATES AND BEARING PLATES. NO VOIDS ARE PERMISSIBLE. USE OF DRYPACK OR FLOWABLE GROUT IS AT THE CONTRACTORS OPTION UNLESS SPECIFICALLY NOTED ON THE PLANS OR DETAILS. DRYPACK / GROUT PER THE FOLLOWING:

   A. DRYPACK: PORTLAND CEMENT, ASTM C150, TYPE I; AND CLEAN, NATURAL SAND, ASTM C404, SIZE NO. 2. MIX AT RATIO OF 1 PART CEMENT TO 2-1/2 PARTS SAND, BY VOLUME, WITH MINIMUM WATER REQUIRED FOR PLACEMENT AND HYDRATION. MINIMUM COMPRESSIVE STRENGTH SHALL BE 5,000 PSI AT 28 DAYS WHEN TESTED IN ACCORDANCE WITH ASTM C1107.

   B. FLOWABLE GROUT: PREMIXED, NONMETALLIC, NONCORROSIVE, NONSTAINING GROUT CONTAINING SELECTED SILICA SANDS, PORTLAND CEMENT, SHRINKAGE COMPENSATING AGENTS, PLASTICIZING AND WATER-REDUCING AGENTS, COMPLYING WITH ASTM C1107. OF CONSISTENCY SUITABLE FOR APPLICATION, AND A 30-MINUTE WORKING TIME. MINIMUM COMPRESSIVE STRENGTH SHALL BE 5000 PSI AT 28 DAYS WHEN TESTED IN ACCORDANCE WITH ASTM C1107.

CONCRETE

1. CONCRETE SHALL CONFORM TO ALL REQUIREMENTS OF ACI 318 (LATEST EDITION) "BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE", EXCEPT AS MODIFIED BY THE SUPPLEMENTAL REQUIREMENTS BELOW:

   NO WATER TO BE ADDED TO CONCRETE ON SITE EITHER BEFORE OR AFTER PLACEMENT

ELEMENT TYPE	MINIMUM COMP. STRENGTH, f'c (psi)	EXPOSURE CLASSES F	S	W	C	CEMENT TYPE	MAX. W/C RATIO	AIR CONTENT %	MAX. AGG. SIZE	MAX. FLY ASH %	APPLICABLE *SPECIFIC INSTRUCTION NOTES
FOOTINGS	3000	F0	S0	W0	C1	II OR IL	0.45	--	3/4"	25	
FOUNDATION WALLS	3000	F0	S0	W0	C1	II OR IL	0.45	5	3/4"	25	
INTERIOR SLAB ON GRADE	4000	F0	S0	W0	C0	II OR IL	0.45	--	1 1/2"	25	

2. CONCRETE SHALL ATTAIN THE LISTED MINIMUM COMPRESSIVE STRENGTH AT 28 DAYS.

3. AIR CONTENT TOLERANCE IS +/- 1-1/2% AT THE TIME OF FINAL PLACEMENT.

4. AIR ENTRAINMENT SHALL BE ADJUSTED FOR THE USE OF ADMIXTURES AND FLY ASH.

5. SUPERPLASTICIZER MAY BE ADDED TO INCREASE SLUMP AS REQUIRED FOR PLACEMENT.

6. CALCIUM CHLORIDE SHALL NOT BE ADDED TO THE CONCRETE MIX.

7. FOR EXPOSURE CLASS F3, THE MAXIMUM PERCENTAGE OF POZZOLAN IN CONCRETE MIX SHALL BE IN ACCORDANCE WITH SECTION 26.4.2.2 (B) OF ACI 318-19.

8. USE TYPE V OR TYPE IL (HS) CEMENT WHEN HIGH SULFATE RESISTANCE IS REQUIRED BY THE GEOTECHNICAL REPORT OR WHEN THE 'S' EXPOSURE CLASS IS DESIGNATED AS S2 OR S3. IF S3 IS REQUIRED, POZZOLAN OR SLAG CEMENT IN ACCORDANCE WITH ASTM C1012 IS ALSO REQUIRED.

9. MATERIAL DESIGNATIONS:
   A. CEMENT = ASTM C150 OR ASTM C595
   B. NORMAL WEIGHT AGGREGATES = ASTM C33
   C. LIGHTWEIGHT AGGREGATES = ASTM C330
   D. FLY ASH, CLASS F POZZOLAN = ASTM C618
   E. DEFORMED BAR ANCHORS (DBA) = ASTM A496
   F. HEADED STUD ANCHORS (HSA) = ASTM A108
   G. AIR ENTRAINMENT ADMIXTURES = ASTM C260
   H. WATER REDUCING ADMIXTURES = ASTM C494, TYPE 'A'
   I. RETARDING ADMIXTURES = ASTM C494, TYPE 'B'
   J. WATER REDUCING & RETARDING ADMIXTURES = ASTM C494, TYPE 'D'
   K. HIGH RANGE WATER REDUCING ADMIXTURES = ASTM C494, TYPE 'F'
   L. HIGH RANGE WATER REDUCING & RETARDING ADMIXTURES = ASTM C494, TYPE 'G'
   M. ADMIXTURES ARE TO COME FROM AN ISO9001 QUALITY CERTIFIED MANUFACTURER. ALL ADMIXTURES ARE TO COME FROM THE SAME MANUFACTURER TO ENSURE COMPATIBILITY.
   N. NO ALUMINUM CONDUIT OR PRODUCTS CONTAINING ALUMINUM OR ANY OTHER PRODUCTS THAT REACT ADVERSELY WITH THE CONCRETE SHALL BE EMBEDDED IN THE CONCRETE.

10. A STATEMENT OF MIX DESIGN FOR ALL CONCRETE SHALL BE SUBMITTED AND APPROVED BY THE ENGINEER PRIOR TO COMMENCING WORK.

11. PLACEMENT, CURING, AND PROTECTION OF CONCRETE SHALL CONFORM TO ACI 318. THE USE OF CHEMICALS OR ADDITIVES TO PREVENT FREEZING SHOULD NOT BE PERMITTED, REFER TO SPECIFICATIONS AND TO DIRECTIVES BY STRUCTURAL ENGINEER FOR ADDITIONAL COLD WEATHER REQUIREMENTS. ALL CONCRETE SHALL BE PROPERLY VIBRATED IN PLACE USING INTERNAL VIBRATING RODS (MECHANICAL OR ELECTRICAL).

12. ALL SLABS ON GRADE SHALL BE PLACED WITH CONTROL JOINTS OR SAW CUTS AT NO MORE THAN 30 TIMES THE SLAB THICKNESS ON CENTER (MAXIMUM) OR AS SHOWN/NOTED ON DRAWINGS. LENGTH TO WIDTH RATIO OF THE SLAB BETWEEN CONTROL JOINTS EACH WAY SHALL BE NO MORE THAN 1.25. COMPLETE CONTROL JOINTS WITHIN 12 HOURS OF CONCRETE PLACEMENT. TOOLED CONTROL JOINTS ARE TO BE AT MINIMUM 1/4 OF THE SLAB THICKNESS AND NO MORE THAN 1/3 OF THE SLAB THICKNESS. FOR SAW CUT CONTROL JOINTS, SEE THE TYPICAL SLAB ON GRADE JOINT DETAILS.

13. SLAB ON GRADE CONSTRUCTION JOINTS SHALL NOT EXCEED 125' - 0" O.C. IN ANY DIRECTION. CONSTRUCTION JOINTS MAY BE EITHER A DOWEL TYPE CONSTRUCTION JOINT OR A KEYWAY TYPE CONSTRUCTION JOINT. SEE THE SLAB JOINT TYPICAL DETAILS FOR MORE INFORMATION.

14. CONCRETE TESTS WILL BE MADE ON MAJOR POURS AND AT SUCH OTHER TIMES AS MAY BE REQUIRED BY THE ENGINEER. EACH TEST SHALL CONSIST OF (4) CYLINDERS OF WHICH ONE SHALL BE TESTED AT SEVEN DAYS, TWO TESTED AT TWENTY-EIGHT DAYS AND ONE RETAINED IN RESERVE FOR LATER TESTS, IF REQUIRED. IN GENERAL, ONE TEST SHALL BE MADE FOR EACH 150 CUBIC YARDS OF CONCRETE OR EVERY 5000 SQUARE FEET OF SURFACE AREA FOR SLABS OR WALLS ON EACH DAY'S POUR. SPECIMENS SHALL BE MADE AND TESTED IN ACCORDANCE WITH ASTM C31 & C39 STANDARDS. SLUMP AND AIR ENTRAINMENT TESTS SHALL ALSO BE MADE WITH EACH SET OF CYLINDERS TAKEN.

15. BEFORE CONCRETE IS POURED, CHECK WITH ALL TRADES TO INSURE PROPER PLACEMENT OF ALL OPENINGS, SLEEVES, CURBS, CONDUITS, BOLTS, INSERTS, ETC., RELATED TO THE WORK.

16. THE CONTRACTOR IS RESPONSIBLE FOR THE PLACEMENT, REMOVAL, AND DESIGN OF ALL FORMWORK AND SHORING.

17. SUSPENDED CONCRETE STRUCTURAL MEMBERS SHALL NOT BE STRIPPED OF FORMS UNTIL CONCRETE HAS REACHED ITS DESIGN STRENGTH.

18. FOR LAP SPLICE LENGTH, SEE CONCRETE REINFORCING LAP SPLICE LENGTH SCHEDULE.

19. SEE CIVIL DRAWINGS FOR SITE CONCRETE REQUIREMENTS.

SHEET INDEX

S001	GENERAL STRUCTURAL NOTES
S002	GENERAL STRUCTURAL NOTES
S003	SPECIAL INSPECTION
S021	STRUCTURAL SCHEDULES
S111	STRUCTURAL PLAN - LEVEL 01
S121	STRUCTURAL PLAN - LEVEL 02
S501	STRUCTURAL DETAILS - FOUNDATION
S521	STRUCTURAL DETAILS - ROOF
TOTAL: 8	

ADHESIVE ANCHORING SYSTEMS

1. ACCEPTABLE MANUFACTURER'S (UNLESS NOTED OTHERWISE ON PLANS, ALL ADHESIVE SHALL BE APPROVED AND RATED FOR CRACKED CONCRETE):
   A. SIMPSON STRONG-TIE:
      a. SET-3G, SEE ESR-4057 REPORT FOR CONCRETE SPECIFICATIONS
      b. AT-XP, SEE IAPMO 263 REPORT FOR CONCRETE SPECIFICATIONS OR IAPMO 281 REPORT FOR MASONRY SPECIFICATIONS
   B. HILTI:
      a. HIT-RE 500 V3, SEE ESR-3814 REPORT FOR CONCRETE SPECIFICATIONS
      b. HIT-HY 200 V3, SEE ESR-4868 REPORT FOR CONCRETE SPECIFICATIONS
   C. DEWALT:
      a. PURE 220+, SEE ESR-5144 REPORT FOR CONCRETE SPECIFICATIONS
      b. PURE 110+, SEE ESR-3298 REPORT FOR CONCRETE SPECIFICATIONS
      c. AC 200+, SEE ESR-4027 FOR CONCRETE SPECIFICATIONS
      d. AC 100+ GOLD, SEE ESR-2582 REPORT FOR CONCRETE SPECIFICATIONS

2. ANCHOR INSTALLATION:
   A. INSTALL ANCHORS PER MANUFACTURER'S REQUIREMENTS. THESE REQUIREMENTS INCLUDE, BUT ARE NOT LIMITED TO, HOLE PREPARATION, HOLE SIZE, EPOXY PROPORTIONS AND QUANTITIES, INSTALLATION TEMPERATURE, AND CURE TIMES.

3. INSTALLATION OF ADHESIVE ANCHORS THAT ARE TO BE UNDER SUSTAINED TENSION LOADING HORIZONTAL TO VERTICALLY OVERHEAD INSTALLATION SHALL BE DONE BY A CERTIFIED ADHESIVE ANCHOR INSTALLER (AAI) AS CERTIFIED THROUGH ACI AND IN ACCORDANCE WITH ACI 318. PROOF OF CURRENT CERTIFICATION SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PRIOR TO COMMENCEMENT OF INSTALLATION.

4. PER ACI 318, ADHESIVE ANCHORS SHALL BE INSTALLED IN CONCRETE HAVING A MINIMUM AGE OF 21 DAYS AT TIME OF ANCHOR INSTALLATION. FOR INSTALLATIONS SOONER THAN 21 DAYS CONSULT ADHESIVE MANUFACTURER.

5. IF TEMPERATURE OF BASE MATERIAL AT TIME OF ADHESIVE INSTALLATION IS AT 45 DEGREES (FAHRENHEIT) OR LESS, AN ACRYLIC ADHESIVE (DEWALT AC200+, HILTI HIT-HY 200 V3, SIMPSON AT-XP) IS REQUIRED.

WOOD

1. ALL STRUCTURAL WOOD SHALL CONFORM WITH STANDARDS OUTLINED IN THE LATEST EDITION OF THE ANSI "NATIONAL DESIGN SPECIFICATION (NDS) FOR WOOD CONSTRUCTION", THE ANSI "NDS SUPPLEMENT, DESIGN VALUES FOR WOOD CONSTRUCTION", THE ANSI "SPECIAL DESIGN PROVISIONS FOR WIND & SEISMIC (SDPWS)", AND ASTM STANDARDS.

2. STRUCTURAL WOOD MATERIALS SHALL CONFORM TO THE FOLLOWING UNLESS NOTED OTHERWISE:
   A. WALL STUDS, SOLE PLATES, TOP PLATES = DOUGLAS FIR-LARCH (NORTH) No. 2 OR BETTER
   B. BLOCKING, BRIDGING = DOUGLAS FIR-LARCH (NORTH) No. 2 OR BETTER
   C. SILL PLATES = PRESSURE-TREATED DOUGLAS FIR-LARCH (NORTH) No. 2 OR BETTER
   D. DIMENSIONAL LUMBER (BUILT-UP POSTS & BEAMS) = DOUGLAS FIR-LARCH (NORTH) No. 2 OR BETTER
   E. SOLID SAWN LUMBER (SOLID POSTS & BEAMS) = DOUGLAS FIR-LARCH (NORTH) No. 1 OR BETTER
   F. ENGINEERED LUMBER
      a. BUILT-UP BEAMS = 2.0E MICROLLAM LVL
      b. SOLID POSTS
         • MAXIMUM DIMENSION ≤ 7" = 1.8E PARALLAM PSL
         • MAXIMUM DIMENSION > 7" = 2.0E PARALLAM PSL
      c. GLUED LAMINATED TIMBER:
         • SINGLE SPAN BEAMS = 24F-V4 DF/DF
         • CONTINUOUS OR CANTILEVERED BEAMS = 24F-V8 DF/DF
   G. SHEATHING PANELS (WALLS, FLOOR, ROOF) = SEE BELOW

3. INSTALL BRIDGING ON ALL SOLID-SAWN RECTANGULAR LUMBER MEMBERS PER SECTION 2308.8.6 OF THE 2024 IBC.

4. ALL POSTS SHALL MAINTAIN A CONTINUOUS LOAD PATH DOWN TO THE FOUNDATION. SQUASH BLOCKS (SIZE & GRADE OF SQUASH BLOCK TO MATCH POST IN LEVEL BELOW) ARE REQUIRED IN STACK FRAMED CONSTRUCTION.

5. ALL EXTERIOR WOOD WALLS SHALL BE INSTALLED AS SHEAR WALL TYPE SW-1 UNLESS NOTED OTHERWISE ON THE DRAWINGS.

6. FRAMING CONNECTORS:
   A. ALL SPECIFIED HARDWARE IS SIMPSON STRONG-TIE. ALL HARDWARE SUBSTITUTION REQUESTS SHALL BE SUBMITTED TO THE ENGINEER OF RECORD FOR REVIEW AND APPROVAL PRIOR TO INSTALLATION.
   B. INSTALL ALL HARDWARE PER MANUFACTURER'S SPECIFICATIONS.
   C. ALL MEMBERS FRAMING INTO SIDE OF BEAMS OR FACE OF WALLS SHALL BE ATTACHED USING METAL JOIST HANGERS.

7. FASTENERS:
   A. ALL NAILING OF FRAMING LUMBER AND PLYWOOD SHALL CONFORM TO THE STANDARDS OUTLINED IN TABLE 2304.10.2 OF THE 2024 IBC UNLESS NOTED OTHERWISE.
   B. ALL BOLTS FOR CONNECTIONS SHALL HAVE WASHERS PLACED UNDER NUTS AND HEADS. BOLT HOLES SHALL BE DRILLED 1/16" LARGER THAN BOLT DIAMETERS.
   C. ALL FASTENERS, INCLUDING NUTS AND WASHERS INSTALLED IN PRESERVATIVE-TREATED WOOD OR FIRE-TREATED WOOD SHALL BE HOT-DIPPED ZINC-COATED GALVANIZED STEEL, STAINLESS STEEL, SILICONE BRONZE, OR COPPER. THESE FASTENERS SHALL MEET THE REQUIREMENTS OF SECTION 2304.10.6 OF THE 2024 IBC.
      a. EXCEPTION: PLAIN CARBON STEEL FASTENERS, INCLUDING NUTS AND WASHERS IN SBX/DOT AND ZINC BORATE PRESERVATIVE-TREATED WOOD IN AN INTERIOR, DRY ENVIRONMENT ARE PERMITTED PER SECTION 2304.10.6.1 OF THE 2024 IBC.

8. WOOD STRUCTURAL PANEL SHEATHING:
   A. ALL WOOD STRUCTURAL PANELS SHALL BE APA RATED AND SHALL BE IDENTIFIED WITH THE APPROPRIATE APA TRADEMARK.
   B. ALL WOOD STRUCTURAL PANELS SHALL MEET THE REQUIREMENTS OF THE LATEST EDITION OF VOLUNTARY PRODUCT STANDARD PS 1, VOLUNTARY PRODUCT STANDARD PS 2, OR APA PRP-108 PERFORMANCE STANDARDS.
   C. PANEL THICKNESS, GRADE, AND GROUP NUMBER OR SPAN INDEX RATING SHALL BE AT LEAST EQUAL TO THAT SHOWN ON THE DRAWINGS.
   D. APPLICATIONS SHALL BE IN ACCORDANCE WITH THE RECOMMENDATIONS OF APA.

9. STRUCTURAL GLUED LAMINATED TIMBER:
   A. STRUCTURAL GLUED LAMINATED TIMBER OF SOFTWOOD SPECIES SHALL BE IN CONFORMANCE WITH ANSI STANDARD A190.1, AMERICAN NATIONAL STANDARD FOR STRUCTURAL GLUED LAMINATED TIMBER, OR OTHER CODE-APPROVED DESIGN, MANUFACTURING AND/OR QUALITY ASSURANCE PROCEDURES.
   B. ALL MEMBERS SHALL BE MARKED WITH THE ENGINEERED WOOD SYSTEMS APA EWS TRADEMARK INDICATING CONF

STRUCTURAL ABBREVIATIONS

AB.	ANCHOR BOLT(S)	E.J.	EXPANSION JOINT (SEISMIC SEPARATION JOINT)	JT.	JOINT	REINF.	REINFORCING
ABV.	ABOVE	JST.	JOIST	RBS	REDUCED BASE STUD
ADD.	ADDITION (AL)	ELEV.	ELEVATION	R.D.	ROOF DRAIN
@	AT	ELEC.	ELECTRICAL	KLF	KIPS PER LINEAL FOOT	REQ'D.	REQUIRED
ALT.	ALTERNATE	EQUIP.	EQUIPMENT	KSF	KIPS PER SQUARE FOOT
APPROX.	APPROXIMATE	EQ.	EQUAL	KSI	KIPS PER SQUARE INCH	SHT.	SHEET
ARCH.	ARCHITECT (URAL)	EXIST.	EXISTING	K	KIPS	SHT'G.	SHEATHING
		EXP.	EXPANSION / EXPOSED			SI	SPECIAL INSPECTION
BM.	BEAM	EXT.	EXTERIOR	LF.	LINEAL FOOT	S.O.G.	SLAB ON GRADE
BLK'G.	BLOCKING	E.F.	EACH FACE	LBS	POUNDS	STD.	STANDARD
BLW.	BELOW	E.W.	EACH WAY	LLH	LONG LEG HORIZONTAL	STIFF.	STIFFENER
BPL.	BASE PLATE			LLV	LONG LEG VERTICAL	STL.	STEEL
BRG.	BEARING	F.D.	FLOOR DRAIN			SQ.	SQUARE
BTWN.	BETWEEN	FDTN.	FOUNDATION	MAS.	MASONRY	SIM.	SIMILAR
BLDG.	BUILDING	F.F.	FINISH FLOOR	MAX.	MAXIMUM	STRC.	STRUCTURAL
BOT.	BOTTOM	FIN.	FINISH	MCJ.	MASONRY CONTROL JOINT	STAG.	STAGGERED
		FL.	FLOOR	MECH.	MECHANICAL		
CFS	COLD-FORMED STEEL	FT.	FOOT	MFR.	MANUFACTURER	T&B	TOP AND BOTTOM
C.J.	CONSTRUCTION JOINT OR CONTROL JOINT	FTG.	FOOTING	MIN.	MINIMUM	TEMP.	TEMPORARY
		FV.	FIELD VERIFY	MISC.	MISCELLANEOUS	T.O.	TOP OF
CJP.	COMPLETE JOINT PENETRATION					T.O.C.	TOP OF CONCRETE
CMU	CONCRETE MASONRY UNIT	GA.	GAUGE	N.I.C.	NOT IN CONTRACT	T.O.F.	TOP OF FOOTING
COL.	COLUMN	GALV.	GALVANIZED	N.T.S.	NOT TO SCALE	T.O.S.	TOP OF SLAB
CONC.	CONCRETE	GFRC	GLASS FIBER REINFORCED CONCRETE			T.O.W.	TOP OF WALL
CONST.	CONSTRUCTION	GLB.	GLU-LAMINATED BEAM	OPN'G.	OPENING	TYP.	TYPICAL
CONT.	CONTINUOUS	GR.	GRADE	OPP.	OPPOSITE		
CTR.	CENTER	GSN	GENERAL STRUCTURAL NOTES	O.C.	ON CENTER	U.N.O.	UNLESS NOTED OTHERWISE
				O.F.	OUTSIDE FACE	VERT.	VERTICAL
DB.	DECK BEARING	HB.	HORIZONTAL BRIDGING	OWSJ.	OPEN WEB STEEL JOIST	w/	WITH
DBA	DEFORMED BAR ANCHORS	HT.	HEIGHT			WWF	WELD WIRE FABRIC
DBL.	DOUBLE	HORIZ.	HORIZONTAL	PAF	POWDER ACTUATED FASTENER	WWM	WELD WIRE MESH
DET.	DETAIL	HSA	HEADED STUD ANCHORS	PCF	POUNDS PER CUBIC FOOT	WT.	WEIGHT
DF	DOUGLAS FIR-LARCH			PEMB	PRE-ENGINEERED METAL BUILDING	WP	WOOD POST
DIA.	DIAMETER	IBC	INTERNATIONAL BUILDING CODE	PL.	PLATE		
DIM.	DIMENSION	ICBO	INTERNATIONAL CONFERENCE OF BUILDING OFFICIALS	PNL	PANEL		
DWG.	DRAWING			PSF	POUNDS PER SQUARE FOOT		
DWL.	DOWEL	IN.	INCH	PSI	POUNDS PER SQUARE INCH		
		INSUL.	INSULATION	PT	POST-TENSIONED		
EA.	EACH	INT.	INTERIOR				
		I.F.	INSIDE FACE				

SHEAR WALL SCHEDULE

MARK	SHEATHING THICKNESS	SHEATHING TYPE	SHEATHING # OF SIDES	PANEL EDGE FASTENER REQUIREMENTS OPTION #1 SIZE	OPTION #1 SPACING	OPTION #2 SIZE	OPTION #2 SPACING	PANEL FIELD FASTENER REQUIREMENTS OPTION #1 SIZE	OPTION #1 SPACING	OPTION #2 SIZE	OPTION #2 SPACING	FRAMING MEMBERS SOLE / SILL PLATE SIZE	TOP PLATE MIN. SIZE	ABUTTING EDGES SIZE
SW-1	7/16"	24/16 APA RATED OSB	1	0.131"x2-1/2" NAILS	6"	0.113"x2-1/2" NAILS	4-1/2"	0.131"x2-1/2" NAILS	12"	0.113"x2-1/2" NAILS	9"	2x	(2) 2x	2x
SW-2	7/16"	24/16 APA RATED OSB	1	0.131"x2-1/2" NAILS	4"	0.113"x2-1/2" NAILS	3"	0.131"x2-1/2" NAILS	12"	0.113"x2-1/2" NAILS	9"	2x	(2) 2x	2x
SW-3	7/16"	24/16 APA RATED OSB	1	0.131"x2-1/2" NAILS	4"	0.113"x2-1/2" NAILS	3"	0.131"x2-1/2" NAILS	12"	0.113"x2-1/2" NAILS	9"	2x	(2) 2x	3x
SW-4	7/16"	24/16 APA RATED OSB	1	0.131"x2-1/2" NAILS	3"	0.113"x2-1/2" NAILS	2"	0.131"x2-1/2" NAILS	12"	0.113"x2-1/2" NAILS	9"	2x	(2) 2x	3x
SW-5	7/16"	24/16 APA RATED OSB	1	0.131"x2-1/2" NAILS	2"	N/A	N/A	0.131"x2-1/2" NAILS	12"	N/A	N/A	2x	(2) 2x	3x
SW-6	15/32"	24/16 APA RATED OSB	1	0.148"x3" NAILS	2"	N/A	N/A	0.148"x3" NAILS	12"	N/A	N/A	2x	(2) 2x	3x
SW-7	7/16"	24/16 APA RATED OSB	2	0.131"x2-1/2" NAILS	3"	0.113"x2-1/2" NAILS	2"	0.131"x2-1/2" NAILS	12"	0.113"x2-1/2" NAILS	9"	(2) 2x OR 3x	(2) 2x	3x
SW-8	7/16"	24/16 APA RATED OSB	2	0.131"x2-1/2" NAILS	2"	N/A	N/A	0.131"x2-1/2" NAILS	12"	N/A	N/A	(2) 2x OR 4x	(2) 2x	3x
SW-9	15/32"	24/16 APA RATED OSB	2	0.148"x3" NAILS	2"	N/A	N/A	0.148"x3" NAILS	12"	N/A	N/A	(2) 2x OR 4x	(2) 2x	3x
SW-10	15/32"	STRUCTURAL 1 OSB	2	0.148"x3" NAILS	2"	N/A	N/A	0.148"x3" NAILS	12"	N/A	N/A	(2) 2x OR 4x	(2) 2x	3x

SHEAR WALL GENERAL NOTES:

1. CONTRACTOR TO CONFIRM ALL SHEAR WALL DIMENSIONS WITH ARCHITECTURAL PLANS PRIOR TO COMMENCING CONSTRUCTION.
2. SHEAR WALL MARK (SW-xx) REFERENCES SHEAR WALL **AT DESIGNATED LEVEL**.
3. APPLY SHEATHING TO THE SIDE OF THE WALL IN WHICH SHEAR WALL CALLOUT OCCURS ON PLANS.
4. BLOCK ALL EDGES, USING 3x BLOCKING FOR SW-3 THROUGH SW-10.
5. SHEATH CONTINUOUSLY FROM FOUNDATION SILL PLATE TO TOP PLATE.
6. NAILS TO BE FLUSH WITH SHEATHING & NOT FRACTURE THE SURFACE.
7. SILL PLATE NAILING/FASTENING ONLY REQUIRED WHERE FLOOR OCCURS.
8. STAGGER ROWS AT SILL PLATE NAILING/FASTENING FOR SW-3 THROUGH SW-10.
9. SW-7 THROUGH SW-10 ANCHOR BOLTS SHALL HAVE PROJECTION LENGTH LONG ENOUGH TO ENGAGE FULL SILL PLATE THICKNESS NOTED IN SCHEDULE.
10. WHERE PANELS ARE APPLIED ON BOTH FACES OF A WALL, OFFSET PANEL JOINTS TO DIFFERENT FRAMING MEMBERS.
11. PROVIDE HOT DIPPED ZINC COATED GALVANIZED STEEL, STAINLESS STEEL, SILICON BRONZE, OR COPPER NAILS AND SCREWS AT PRESERVATIVE TREATED & FIRE RETARDANT TREATED WOOD LOCATIONS.
12. **FOR EXTERIOR WALLS & APPLICATIONS WHERE THE SHEATHING IS CONTINUOUS OVER THE RIM BOARD & HAS EDGE NAILING ATTACHING IT TO THE DOUBLE TOP PLATE OF THE WALL BELOW, USE THE "PLATFORM FRAMED EXTERIOR / CONTINUOUS SHEATHING DETAIL." THE CONTINUOUS SHEATHING DETAIL IS ONLY VALID IF THE SHEATHING FOR THE SHEAR WALL ABOVE CONTINUES (UNINTERRUPTED) DOWN TO THE DOUBLE TOP PLATE. OTHERWISE, PROVIDE CONNECTIONS PER THE "DISCONTINUOUS SHEATHING DETAIL". WHERE SHEATHING IS STOPPED AT THE SOLE PLATE OF THE WALL ABOVE (SUCH AS DISCONTINUOUS SHEATHING AND PARTY WALL SITUATIONS), USE THE "PLATFORM FRAMED PARTY WALL / DISCONTINUOUS SHEATHING DETAIL." FOR SEMI-BALLOON FRAMED APPLICATIONS USE THE "SEMI-BALLOON FRAMED DETAIL."**
13. PROVIDE 1/8" GAP WHERE 2x SILL PLATE OCCURS & 1/4" GAP WHERE 3x SILL PLATE OCCURS FROM TOP OF CONCRETE TO EDGE OF SHEATHING.
14. IF STUDS ARE SPACED AT MORE THAN 16" O.C., PANELS MUST BE APPLIED WITH THE LONG DIMENSION ACROSS STUDS.
15. RIM BOARDS DESIGNATED IN DETAIL SCHEDULES BELOW ARE DEFINED AS FOLLOWS:
    - 1-1/4" LSL = 1-1/4" 1.3E TIMBERSTRAND LSL
    - 1-3/4" LSL = 1-3/4" 1.55E TIMBERSTRAND LSL
    - 3-1/2" LSL = 3-1/2" 1.55E TIMBERSTRAND LSL

MINIMUM SHEAR WALL COMPRESSION POSTS

WALL TYPE	MINIMUM QUANTITY OF REQUIRED STUDS @ END OF EACH SHEAR WALL: TOP LEVEL OF SW STACK 2x4	TOP LEVEL OF SW STACK 2x6	2nd LEVEL FROM TOP 2x4	2nd LEVEL FROM TOP 2x6	3rd LEVEL FROM TOP 2x4	3rd LEVEL FROM TOP 2x6	4th LEVEL FROM TOP 2x4	4th LEVEL FROM TOP 2x6	5th LEVEL FROM TOP 2x4	5th LEVEL FROM TOP 2x6
SW-1	2	2	2	2	2	2	2	2	3	2
SW-2	2	2	2	2	2	2	3	3	3	3
SW-3	2	2	2	2	3	2	3	3	3	3
SW-4	2	2	3	2	3	3	4	3	4	4
SW-5	2	2	3	3	4	4	5	4	6	5
SW-6	3	3	4	4	5	4	6	5	7	6
SW-7	4	3	5	4	6	5	7	6	8	7
SW-8	4	4	6	6	8	7	9	8	11	10
SW-9	5	5	7	7	9	8	11	10	13	11
SW-10	6	5	8	7	10	9	12	11	14	13

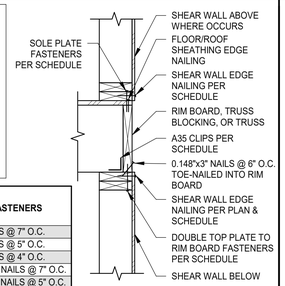
NOTES:

1. USE LARGER POST SPECIFIED IN EITHER THE MINIMUM SHEAR WALL COMPRESSION POSTS SCHEDULE, OR THE HOLDOWN OR FLOOR-TO-FLOOR TIE POSTS SCHEDULES.
2. THE STUD QUANTITIES SPECIFIED HERE MAY BE REDUCED BY (1) STUD FOR EVERY 12-FEET OF CONTINUOUS SHEAR WALL, BUT MAY NOT BE REDUCED TO FEWER THAN (2) COMPRESSION STUDS.
3. THE TABULATED LEVELS ARE BASED ON THE NUMBER OF STACKED SHEAR WALLS AND MAY NOT CORRELATE DIRECTLY TO THE FLOOR LEVEL OF THE BUILDING.
4. WHERE HOLDOWN OR FLOOR-TO-FLOOR TIE OCCURS, COMPRESSION STUDS MAY EITHER BE INSTALLED ON ONE SIDE OF THE HOLDOWN OR SPLIT BETWEEN SIDES OF THE HOLDOWN.
5. MAXIMUM WALL HEIGHTS PERMITTED FOR USE WITH THIS SCHEDULE:
    - 2x4 WALLS: 8-FEET TALL
    - 2x6 WALLS: 12-FEET TALL
6. AT ATS SYSTEMS, COMPRESSION POSTS SHALL BE DETERMINED BY THE ATS MANUFACTURER.

NOTES:

1. NOT ALL ELEMENTS (INCLUDING ADJACENT PARTY WALLS) ARE CALLED OUT IN THIS DETAIL. SEE PLAN FOR ADDITIONAL DETAIL CALLOUTS.
2. SOLE PLATE NAILING/FASTENERS ARE BASED ON SHEAR WALL ABOVE.
3. RIM BOARD, TRUSS BLOCKING OR TRUSS CONNECTION TO DOUBLE TOP PLATE IS ACCORDING TO THE SHEAR WALL BELOW.
4. SDWS SCREWS SHALL PENETRATE 2" MIN. INTO RIM BOARD.
5. SDWS SCREWS REQUIRE 5/8" EDGE DISTANCE, 6" END DISTANCE AND 6" O.C. MIN. SPACING BETWEEN FASTENERS IN A ROW.
6. ALL FASTENER ROWS SHALL BE STAGGERED.
7. CONNECT RIM BOARD AND DOUBLE TOP PLATE WITH A35 CLIPS & "DOUBLE TOP PLATE TO RIM BOARD FASTENERS" AS SPECIFIED IN THE SCHEDULE BELOW, OR AT CONTRACTORS OPTION FOR SW-7 THROUGH SW-10, INSTALL THE SAME FASTENERS AS LISTED IN "SOLE PLATE FASTENERS" THROUGH DOUBLE TOP PLATE INTO RIM BOARD AND OMIT SPECIFIED A35 CLIP & "DOUBLE TOP PLATE TO RIM BOARD FASTENERS" PER THE SCHEDULE.

WALL TYPE	MIN. RIM BOARD	A35 CLIP MAX. SPACING	DOUBLE TOP PLATE TO RIM BOARD FASTENERS	SOLE PLATE FASTENERS
SW-1	1-1/4" LSL	16" O.C.	N/A	0.162"x3-1/2" NAILS @ 7" O.C.
SW-2	1-1/4" LSL	15" O.C.	N/A	0.162"x3-1/2" NAILS @ 5" O.C.
SW-3	1-1/4" LSL	14" O.C.	N/A	0.162"x3-1/2" NAILS @ 4" O.C.
SW-4	1-3/4" LSL	11" O.C.	N/A	(2) ROWS 0.162"x3-1/2" NAILS @ 7" O.C.
SW-5	1-3/4" LSL	8" O.C.	N/A	(2) ROWS 0.162"x3-1/2" NAILS @ 5" O.C.
SW-6	1-3/4" LSL	7" O.C.	N/A	(2) ROWS 0.162"x3-1/2" NAILS @ 4" O.C.
SW-7	3-1/2" LSL	11" O.C.	(1) ROW SDWS SCREWS @ 7" O.C.	(2) ROWS SDWS SCREWS @ 7" O.C.
SW-8	3-1/2" LSL	8" O.C.	(2) ROWS SDWS SCREWS @ 11" O.C.	(3) ROWS SDWS SCREWS @ 8" O.C.
SW-9	3-1/2" LSL	7" O.C.	(2) ROWS SDWS SCREWS @ 9" O.C.	(3) ROWS SDWS SCREWS @ 7" O.C.
SW-10	3-1/2" LSL	6" O.C.	(2) ROWS SDWS SCREWS @ 8" O.C.	(3) ROWS SDWS SCREWS @ 6" O.C.

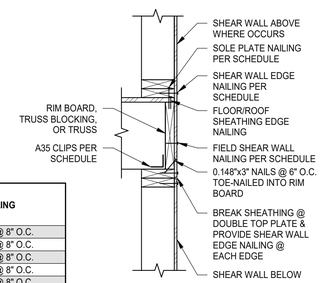


PLATFORM FRAMED PARTY WALL / DISCONTINUOUS SHEATHING DETAIL

NOTES:

1. NOT ALL ELEMENTS ARE CALLED OUT IN THIS DETAIL. SEE PLAN FOR ADDITIONAL DETAIL CALLOUTS.
2. SOLE PLATE NAILING IS BASED ON SHEAR WALL ABOVE.
3. RIM BOARD, TRUSS BLOCKING, OR TRUSS CONNECTION TO DOUBLE TOP PLATE IS BASED ON THE SHEAR WALL BELOW.
4. ALL FASTENER ROWS SHALL BE STAGGERED.

WALL TYPE	MIN. RIM BOARD	A35 CLIP MAX. SPACING	SOLE PLATE NAILING
SW-1	1-1/4" LSL	32" O.C.	0.162"x3-1/2" NAILS @ 8" O.C.
SW-2	1-1/4" LSL	32" O.C.	0.162"x3-1/2" NAILS @ 8" O.C.
SW-3	1-1/4" LSL	32" O.C.	0.162"x3-1/2" NAILS @ 8" O.C.
SW-4	1-1/4" LSL	32" O.C.	0.162"x3-1/2" NAILS @ 8" O.C.
SW-5	1-1/4" LSL	32" O.C.	0.162"x3-1/2" NAILS @ 8" O.C.
SW-6	1-1/4" LSL	32" O.C.	0.162"x3-1/2" NAILS @ 8" O.C.
SW-7	1-3/4" LSL	11" O.C.	(2) ROWS 0.162"x3-1/2" NAILS @ 7" O.C.
SW-8	1-3/4" LSL	8" O.C.	(2) ROWS 0.162"x3-1/2" NAILS @ 5" O.C.
SW-9	1-3/4" LSL	7" O.C.	(2) ROWS 0.162"x3-1/2" NAILS @ 4" O.C.
SW-10	1-3/4" LSL	6" O.C.	(2) ROWS 0.162"x3-1/2" NAILS @ 4" O.C.



PLATFORM FRAMED EXTERIOR / CONTINUOUS SHEATHING DETAIL

SYMBOLS & MARKS LEGEND

- CONTINUOUS CONCRETE FOOTING
- SPOT / MAT CONCRETE FOOTING
- FOOTING STEP
- STEP IN TOP OF CONCRETE
- BLOCK OUT AT COLUMN
- HAIRPIN TENSION BAR
- TIE ROD
- CONCRETE WALL
- CONCRETE WALL BLOCKOUT
- CONCRETE COLUMN IN WALL
- BEAM IN WALL BELOW
- MASONRY WALL
- MASONRY COLUMN IN WALL
- BEAM IN WALL BELOW
- WOOD SHEAR WALL
- WOOD POST IN WALL
- BEAM IN WALL BELOW
- WOOD WALL (NON-SHEAR WALL)
- COLD-FORMED STEEL WALL
- BEAM IN WALL BELOW
- WALL THAT STOPS AT BOTTOM OF FLOOR OR ROOF (FLOOR OR ROOF STRUCTURE BEARS ON WALL)
- BEAM IN WALL THAT STOPS AT BOTTOM OF FLOOR OR ROOF
- CONCRETE OR MASONRY BEAM (NOT WITHIN A WALL) AT OR BELOW FLOOR OR ROOF
- NON-STRUCTURAL WALL THAT STOPS BELOW BOTTOM OF FLOOR OR ROOF (AIR GAP OCCURS BETWEEN WALL AND FLOOR OR ROOF STRUCTURE)
- COLUMN THAT STOPS AT BOTTOM OF FLOOR OR ROOF
- COLUMN THAT EITHER STARTS AT OR CONTINUES THROUGH FLOOR OR ROOF STRUCTURE
- WOOD POST (SOLID OR BUILT-UP)
- HSS TUBE STEEL COLUMN
- WIDE FLANGE STEEL COLUMN
- PIPE/ROUND HSS STEEL COLUMN
- CONCRETE OR MASONRY COLUMN

STEEL COLUMN TAG:
- STEEL COLUMN MARK
- STEEL COLUMN CAP PLATE MARK
- STEEL COLUMN BASE PLATE MARK

STEEL BEAM TAG:
- BEAM SIZE
- HSA QUANTITY ON BEAM
- PRE-CAMBER AT MID-SPAN OF BEAM

SIZE (##) C=##"

- MOMENT CONNECTION (SFRS)
- MOMENT CONNECTION (GRAVITY)
- COLLECTOR CONNECTION IDENTIFICATION (SFRS)
- BEAM SPLICE
- BRACED FRAME ELEMENT
- KICKER BRACE
- MFB — MOMENT FRAME BEAM
- MFC — MOMENT FRAME COLUMN
- SFRS — INDICATES MEMBER IS PART OF SEISMIC FORCE RESISTING SYSTEM

- OPENING
- CONCRETE SUSPENDED SLAB, SEE KEYED NOTES FOR REQUIREMENTS
- SLAB REINFORCING, SEE PLAN OR KEYED NOTES FOR ADDITIONAL REQUIREMENTS
- CONCRETE OVER STEEL DECK, SEE PLAN FOR ORIENTATION, AND GSN & SCHEDULE FOR REQUIREMENTS
- STEEL DECK, SEE PLAN FOR ORIENTATION, AND GSN & SCHEDULE FOR REQUIREMENTS
- HORIZONTAL BRIDGING
- CROSS BRIDGING
- WOOD SHEATHING (FLOOR OR ROOF), SEE PLAN FOR ORIENTATION & REQUIREMENTS
- STRAPPING
- SNOW DRIFT, SEE SCHEDULE
- XX'-XX" — ELEVATION
- INDICATES SPAN DIRECTION OF CONCRETE ELEMENTS
- EXTENT OF CONDITION SPECIFIED
- CONTINUATION OF CONDITION SPECIFIED
- ## — DETAIL #
- S### — SHEET #
- X — KEYED NOTE
- AB# — ANCHOR BOLT
- AT-# — ANCHOR TIE DOWN SYSTEM
- B-# — STEEL COLUMN BASE PLATE
- BRGPL-# — STEEL BEARING PLATE
- C-# — STEEL COLUMN CAP PLATE
- CB-# — CONCRETE BEAM
- CC-# — CONCRETE COLUMN
- CFSB-# — COLD-FORMED STEEL BEAM
- CP-# — CONCRETE PEDESTAL
- CTW-# — CONCRETE TILT WALL
- CW-# — CONCRETE WALL
- FC# — CONTINUOUS FOOTING
- FS# — SPOT FOOTING
- FTAO-# — FORCE TRANSFER AROUND OPENING
- GB-# — GRADE BEAM
- H-# — HOLDOWN
- HCMC-# — HOLLOW CLAY MASONRY COLUMN
- HCML-# — HOLLOW CLAY MASONRY LINTEL
- HCMW-# — HOLLOW CLAY MASONRY WALL
- HP-# — HAIRPIN TENSION BAR
- L-# — STEEL LEDGER
- MC-# — MASONRY COLUMN
- ML-# — MASONRY LINTEL
- MW-# — MASONRY WALL
- RW-# — RETAINING WALL
- SC-# — STEEL COLUMN
- SD-# — STEEL DECK
- SW-# — WOOD SHEAR WALL
- T-# — FLOOR-TO-FLOOR TIE
- WB-# — WOOD BEAM
- WL-# — WOOD LEDGER
- WP-# — WOOD POST
- WW-# — WOOD WALL

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PAGNANI BUILDING ADDITION

2321 NORTH 400 EAST
TOOELE, UTAH

LICENSED PROFESSIONAL ENGINEER — 11427 — JACOB M. CLEGG — 7/28/2026 — STATE OF UTAH

NO.	DATE	REVISION

GENERAL STRUCTURAL NOTES

PROJECT NUMBER	DATE
T1869G	07-08-2026
PROJECT MANAGER	DESIGNED BY
JMC	FK

S002

SPECIAL INSPECTION

SPECIAL INSPECTIONS:

1. SPECIAL INSPECTIONS ARE REQUIRED AS DESCRIBED IN CHAPTER 17 OF THE 2024 IBC. THE OWNER OR OWNER'S AGENT, OTHER THAN THE CONTRACTOR, SHALL EMPLOY ONE OR MORE APPROVED AGENCIES TO PROVIDE SPECIAL INSPECTIONS AND TESTS DURING CONSTRUCTION ON THE TYPES OF WORK SPECIFIED IN SECTION 1705 AND IDENTIFY THE APPROVED AGENCIES TO THE BUILDING OFFICIAL. THESE SPECIAL INSPECTIONS AND TESTS ARE IN ADDITION TO THE INSPECTIONS BY THE BUILDING OFFICIAL THAT ARE IDENTIFIED IN SECTION 110.

2. THE SPECIAL INSPECTION REQUIREMENTS OF THIS SECTION OF THE GENERAL STRUCTURAL NOTES SERVE AS THE ENGINEER OF RECORD'S STATEMENT OF SPECIAL INSPECTIONS REQUIRED BY CHAPTER 17 OF THE 2024 IBC.

SPECIAL INSPECTOR QUALIFICATIONS & RESPONSIBILITIES:

1. PRIOR TO THE START OF CONSTRUCTION, THE APPROVED AGENCIES SHALL PROVIDE WRITTEN DOCUMENTATION TO THE BUILDING OFFICIAL DEMONSTRATING THE COMPETENCE AND RELEVANT EXPERIENCE OR TRAINING OF THE SPECIAL INSPECTORS WHO WILL PERFORM THE SPECIAL INSPECTIONS AND TESTS DURING CONSTRUCTION.

2. APPROVED AGENCIES SHALL KEEP RECORDS OF ALL SPECIAL INSPECTIONS AND TESTS. THE APPROVED AGENCY SHALL SUBMIT REPORTS OF SPECIAL INSPECTIONS AND TEST TO THE BUILDING OFFICIAL AND TO THE ARCHITECT / ENGINEER OF RECORD.
   A. REPORTS SHALL INDICATE THAT WORK INSPECTED OR TESTED WAS OR WAS NOT COMPLETED IN CONFORMANCE TO THE APPROVED CONSTRUCTION DOCUMENTS.
   B. ANY DISCREPANCIES SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE CONTRACTOR FOR CORRECTION.
   C. ANY DISCREPANCIES THAT ARE NOT CORRECTED SHALL BE BROUGHT TO THE ATTENTION OF THE BUILDING OFFICIAL AND THE ARCHITECT/ENGINEER OF RECORD PRIOR TO COMPLETION OF THAT PHASE OF WORK.
   D. THE INSPECTOR SHALL KEEP A MARKED-UP SET OF DRAWINGS SHOWING THE EXTENT AND TIME OF ALL INSPECTIONS AND TESTING.
   E. A FINAL SIGNED REPORT DOCUMENTING ALL REQUIRED SPECIAL INSPECTIONS AND CORRECTION OF ANY DISCREPANCIES NOTED IN THE INSPECTIONS SHALL BE SUBMITTED TO THE BUILDING OFFICIAL AND ARCHITECT/ENGINEER OF RECORD AT A POINT IN TIME AGREED UPON PRIOR TO THE START OF WORK BY THE OWNER OR OWNER'S AGENT. THE REPORT SHALL INCLUDE THE MARKED-UP SET OF DRAWINGS OUTLINED ABOVE.

CONTRACTOR RESPONSIBILITIES:

1. EACH CONTRACTOR RESPONSIBLE FOR THE CONSTRUCTION OF A MAIN WIND/SEISMIC FORCE RESISTING SYSTEM, DESIGNATED WIND/SEISMIC SYSTEM, OR A WIND/SEISMIC FORCE RESISTING COMPONENT SHALL SUBMIT A WRITTEN STATEMENT OF RESPONSIBILITY TO THE BUILDING OFFICIAL AND THE OWNER PRIOR TO THE COMMENCEMENT OF WORK ON THAT SYSTEM OR COMPONENT. THIS STATEMENT SHALL CONTAIN ACKNOWLEDGEMENT OF AWARENESS OF THE SPECIAL INSPECTION REQUIREMENTS.

2. THE CONTRACTOR SHALL COORDINATE AND COOPERATE WITH ALL REQUIRED INSPECTIONS, TESTING AND STRUCTURAL OBSERVATIONS. THE CONTRACTOR SHALL NOT PROCEED WITH SUBSEQUENT WORK UNTIL REQUIRED INSPECTIONS, TESTING AND STRUCTURAL OBSERVATIONS HAVE BEEN COMPLETED.

3. ALL WORK REQUIRING SPECIAL INSPECTION SHALL REMAIN ACCESSIBLE AND EXPOSED UNTIL COMPLETION OF THE REQUIRED SPECIAL INSPECTIONS.

4. THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF RECORD AT LEAST (2) DAYS PRIOR TO ANY REQUIRED STRUCTURAL OBSERVATIONS.

SPECIAL INSPECTION OF FABRICATED ITEMS:

1. ALL FABRICATION OF STRUCTURAL, LOAD-BEARING OR LATERAL LOAD-RESISTING MEMBERS OR ASSEMBLIES PERFORMED OFFSITE SHALL BE SPECIAL INSPECTED PER SECTION 1704.2.5.

2. WHERE THE FABRICATOR IS REGISTERED AND APPROVED IN ACCORDANCE WITH SECTION 1704.2.5.1, THEY SHALL SUBMIT A CERTIFICATE OF COMPLIANCE TO THE OWNER OR THE OWNER'S AGENT FOR SUBMITTAL TO THE BUILDING OFFICIAL AT THE COMPLETION OF FABRICATION STATING THE WORK WAS PERFORMED IN ACCORDANCE WITH THE APPROVED CONSTRUCTION DOCUMENTS.

SUBMITTALS TO THE BUILDING OFFICIAL:

1. IN ADDITION TO THE SUBMITTAL OF REPORTS OF SPECIAL INSPECTIONS AND TESTS IN ACCORDANCE WITH SECTION 1704.2.4, REPORTS AND CERTIFICATES SHALL BE SUBMITTED BY THE OWNER OR OWNER'S AGENT TO THE BUILDING OFFICIAL FOR EACH OF THE FOLLOWING:
   A. CERTIFICATES OF COMPLIANCE FOR APPROVED FABRICATORS.
   B. CERTIFICATES OF COMPLIANCE FOR SEISMIC QUALIFICATIONS OF NON-STRUCTURAL COMPONENTS, SUPPORTS, AND ATTACHMENTS.
   C. CERTIFICATES OF COMPLIANCE FOR DESIGNATED SEISMIC SYSTEMS.
   D. REPORTS OF PRE-CONSTRUCTION TESTS FOR SHOTCRETE.
   E. CERTIFICATES OF COMPLIANCE FOR OPEN-WEB STEEL JOISTS AND JOIST GIRDERS.
   F. REPORTS OF MATERIAL COMPLIANCE FOR WELDABILITY OF REINFORCING BARS IN CONCRETE.
   G. REPORTS OF MILL TESTS FOR REINFORCING BARS USED IN SPECIAL CONCRETE MOMENT FRAMES, SPECIAL STRUCTURAL WALLS OR COUPLING BEAMS.

STRUCTURAL OBSERVATIONS:

1. STRUCTURAL OBSERVATIONS ARE NOT REQUIRED FOR THIS PROJECT. HOWEVER, STRUCTURAL OBSERVATIONS MAY BE PERFORMED BY A REPRESENTATIVE FROM ENSIGN ENGINEERING AS DEEMED NECESSARY.

–OR—

1. STRUCTURAL OBSERVATIONS ARE REQUIRED PER SECTION 1704.6.1 OF THE 2024 IBC. STRUCTURAL OBSERVATIONS SHALL BE PERFORMED BY A REPRESENTATIVE FROM ENSIGN ENGINEERING AS REQUIRED FOR CRITICAL PHASES OF CONSTRUCTION. THE STRUCTURAL OBSERVER SHALL VISUALLY OBSERVE REPRESENTATIVE LOCATIONS OF STRUCTURAL SYSTEMS, DETAILS, AND LOAD PATHS FOR GENERAL CONFORMANCE TO THE APPROVED CONSTRUCTION DOCUMENTS. THIS INCLUDES, BUT IS NOT LIMITED TO, MAT FOUNDATIONS, FOOTINGS, FOUNDATION WALLS AND PIERS, MASONRY SHEAR WALLS, CONCRETE SHEAR WALLS, MOMENT FRAMES, BRACED FRAMES, AND STEEL ROOF/FLOOR DECKING.

2. COPIES OF THE STRUCTURAL OBSERVATION REPORT WILL BE DISTRIBUTED TO THE OWNER, ARCHITECT, CONTRACTOR AND BUILDING OFFICIAL.

3. STRUCTURAL OBSERVATION DOES NOT INCLUDE OR WAIVE THE SPECIAL INSPECTIONS REQUIRED BY THE 2024 IBC AND SHALL NOT BE CONSTRUED AS APPROVAL OF CONSTRUCTION.

REQUIRED SPECIAL INSPECTION OR TESTING:

THE FOLLOWING MATERIALS, SYSTEMS AND COMPONENTS REQUIRE SPECIAL INSPECTION OR TESTING PER CHAPTER 17 OF THE 2024 IBC:

1. SPECIAL CASES (SECTION 1705.1.1)
   A. SPECIAL INSPECTION AND TESTING SHALL BE PROVIDED FOR POST INSTALLED ANCHORS PER THE ICC OR IAPMO REPORT.

2. CONCRETE CONSTRUCTION (SECTION 1705.3):
   A. SPECIAL INSPECTION AND TESTS FOR CONCRETE CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE CONCRETE CONSTRUCTION SPECIAL INSPECTION TABLE AND SECTION 1705.3 OF THE 2024 IBC.
   B. SEE TABLE 1705.3 OF THE 2024 IBC FOR APPLICABLE REFERENCE STANDARDS.
   C. WELDING OF REINFORCING BARS: SPECIAL INSPECTION OF WELDING AND QUALIFICATIONS OF SPECIAL INSPECTORS FOR REINFORCING BARS SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF AWS D1.4 FOR SPECIAL INSPECTION AND FOR SPECIAL INSPECTOR QUALIFICATIONS.
   D. IN THE ABSENCE OF SUFFICIENT DATA OR DOCUMENTATION PROVIDING EVIDENCE OF CONFORMANCE TO QUALITY STANDARDS FOR MATERIAL IN CHAPTERS 19 AND 20 OF ACI 318, THE BUILDING OFFICIAL SHALL REQUIRE TESTING OF MATERIALS IN ACCORDANCE WITH THE APPROPRIATE STANDARDS AND CRITERIA FOR THE MATERIAL IN CHAPTERS 19 AND 20 OF ACI 318.

3. MASONRY CONSTRUCTION (SECTION 1705.4):
   A. THE QUALITY ASSURANCE PROGRAM SHALL BE IN ACCORDANCE WITH THE MASONRY CONSTRUCTION SPECIAL INSPECTION TABLE.

4. WOOD CONSTRUCTION (SECTION 1705.5):
   A. SPECIAL INSPECTIONS OF THE PREFABRICATED WOOD STRUCTURAL ELEMENTS AND ASSEMBLIES SHALL BE IN ACCORDANCE WITH SECTION 1704.2.5 OF THE 2024 IBC AND THE SPECIAL INSPECTION OF FABRICATORS SECTION OF THE SPECIAL INSPECTION GENERAL STRUCTURAL NOTES.
   B. SPECIAL INSPECTIONS OF SITE-BUILT ASSEMBLIES SHALL BE IN ACCORDANCE WITH THE WOOD CONSTRUCTION SPECIAL INSPECTION TABLE AND THE FOLLOWING:
      a. METAL-PLATE-CONNECTED WOOD TRUSS SPANNING 60 FEET OR GREATER: WHERE A TRUSS CLEAR SPAN IS 60 FEET OR GREATER, THE SPECIAL INSPECTOR SHALL VERIFY THAT THE TEMPORARY INSTALLATION RESTRAINT/ BRACING AND THE PERMANENT INDIVIDUAL TRUSS MEMBER RESTRAINT/BRACING ARE INSTALLED IN ACCORDANCE WITH THE APPROVED TRUSS SUBMITTAL PACKAGE.

5. SOILS (SECTION 1705.6):
   A. SPECIAL INSPECTIONS AND TESTS OF EXISTING SITE SOIL CONDITIONS, FILL PLACEMENT AND LOAD-BEARING REQUIREMENTS SHALL BE IN ACCORDANCE WITH THE SOILS SPECIAL INSPECTION TABLE AND THE FOLLOWING:
      a. THE APPROVED GEOTECHNICAL REPORT AND APPROVED CONSTRUCTION DOCUMENTS SHALL BE USED TO DETERMINE COMPLIANCE.
      b. DURING FILL PLACEMENT, THE SPECIAL INSPECTOR SHALL DETERMINE THAT PROPER MATERIALS AND PROCEDURES ARE USED IN ACCORDANCE WITH THE PROVISIONS OF THE APPROVED GEOTECHNICAL REPORT.
      c. WHERE A GEOTECHNICAL REPORT IS NOT PROVIDED, THE SPECIAL INSPECTOR SHALL VERIFY THAT THE IN-PLACE DRY DENSITY OF THE COMPACTED FILL IS NOT LESS THAN 90 PERCENT OF THE MAXIMUM DRY DENSITY AT OPTIMUM MOISTURE CONTENT DETERMINED IN ACCORDANCE WITH ASTM D 1557.

SPECIAL INSPECTION (CONTINUED)

REQUIRED SPECIAL INSPECTION OR TESTING (CONTINUED):

6. SPECIAL INSPECTION FOR WIND-RESISTANCE (SECTION 1705.12):
   A. PERIODIC SPECIAL INSPECTION IS REQUIRED FOR THE FOLLOWING SYSTEMS AND COMPONENTS:
      a. ROOF COVERING, ROOF DECK, AND ROOF FRAMING CONNECTIONS.
      b. EXTERIOR WALL COVERING AND WALL CONNECTIONS TO ROOF AND FLOOR DIAPHRAGMS AND FRAMING.

7. SPECIAL INSPECTION FOR SEISMIC-RESISTANCE (SECTION 1705.13):
   A. DESIGNATED SEISMIC SYSTEMS FOR STRUCTURES ASSIGNED TO SEISMIC DESIGN CATEGORY C, D, E,OR F, THE SPECIAL INSPECTOR SHALL EXAMINE DESIGNATED SEISMIC SYSTEMS REQUIRING SEISMIC QUALIFICATIONS IN ACCORDANCE WITH SECTION 13.2.2 OF ASCE 7 AND VERIFY THAT THE LABEL, ANCHORAGE, AND MOUNTING CONFORM TO THE CERTIFICATE OF COMPLIANCE.
   B. ARCHITECTURAL COMPONENTS: PERIODIC SPECIAL INSPECTION IS REQUIRED FOR THE ERECTION AND FASTENING OF EXTERIOR CLADDING, INTERIOR AND EXTERIOR NON-BEARING WALLS AND INTERIOR AND EXTERIOR VENEER IN STRUCTURES ASSIGNED TO SEISMIC DESIGN CATEGORY D, E, OR F.
   C. MECHANICAL AND ELECTRICAL COMPONENTS: PERIODIC SPECIAL INSPECTION OF MECHANICAL AND ELECTRICAL COMPONENTS SHALL BE PERFORMED IN ACCORDANCE WITH SECTION 1705.13.6 OF THE 2024 IBC.
   D. STORAGE RACKS: STEEL STORAGE RACKS & STEEL CANTILEVERED STORAGE RACKS THAT ARE 8 FEET IN HEIGHT OR GREATER AND ASSIGNED TO SEISMIC DESIGN CATEGORY D, E, OR F SHALL BE PROVIDED WITH PERIODIC SPECIAL INSPECTION AS REQUIRED BY TABLE 1705.13.7.

8. TESTING AND QUALIFICATION FOR SEISMIC RESISTANCE (SECTION 1705.14):
   A. TESTING FOR SEISMIC RESISTANCE SHALL BE REQUIRED AS SPECIFIED IN SECTIONS 1705.14.1 THROUGH 1705.14.4 OF THE 2024 IBC.

DEFINITIONS:

1. THE FOLLOWING DEFINITIONS APPLY TO ALL SPECIAL INSPECTION TABLES (WHERE APPLICABLE) UNLESS SPECIFICALLY NOTED OTHERWISE:
   A. CONTINUOUS – FULL-TIME OBSERVATION OF WORK REQUIRING SPECIAL INSPECTION BY AN APPROVED SPECIAL INSPECTOR.
   B. PERIODIC – AN APPROVED SPECIAL INSPECTOR MUST OBSERVE THE WORK REQUIRING SPECIAL INSPECTION PRIOR TO COMMENCEMENT OF WORK, INTERMITTENTLY DURING THE WORK, AND AT COMPLETION OF THE WORK.

CONCRETE CONSTRUCTION SPECIAL INSPECTION PER SECTION 1705.3 OF 2024 IBC

VERIFICATION AND INSPECTION	CONTINUOUS	PERIODIC
REINFORCEMENT, INCLUDING PRE-STRESSING TENDONS AND VERIFYING PLACEMENT		X
REINFORCING BAR WELDING:		
VERIFICATION OF WELDABILITY OF REINFORCING BARS OTHER THAN ASTM A706		X
INSPECT SINGLE-PASS FILLET WELDS, MAXIMUM 5/16"		X
INSPECT ALL OTHER WELDS	X	
CAST-IN-PLACE ANCHORS		X
POST-INSTALLED ANCHORS IN HARDENED CONCRETE MEMBERS[NOTE 1]		
ADHESIVE ANCHORS INSTALLED IN HORIZONTALLY OR UPWARDLY INCLINED ORIENTATIONS TO RESIST SUSTAINED TENSION LOADS	X	
MECHANICAL ANCHORS AND ADHESIVE ANCHORS NOT DEFINED ABOVE		X
USE OF REQUIRED MIX DESIGN		X
PRIOR TO CONCRETE PLACEMENT, FABRICATE SPECIMENS FOR STRENGTH TEST, PERFORM SLUMP AND AIR CONTENT TESTS, AND DETERMINE CONCRETE TEMPERATURE	X	
CONCRETE AND SHOTCRETE PLACEMENT FOR PROPER APPLICATION TECHNIQUES	X	
MAINTENANCE OF SPECIFIED CURING TEMPERATURE AND TECHNIQUES		X
INSPECT PRE-STRESSED CONCRETE FOR:		
APPLICATION OF PRE-STRESSING FORCES	X	
GROUTING OF BONDED PRE-STRESSING TENDONS	X	
ERECTION OF PRECAST CONCRETE		X
FOR PRECAST CONCRETE DIAPHRAGM CONNECTIONS OR REINFORCEMENT AT JOINTS CLASSIFIED AS MODERATE OR HIGH DEFORMABILITY ELEMENTS (MDE OR HDE) IN STRUCTURES ASSIGNED TO SEISMIC DESIGN CATEGORY C, D, E, OR F, INSPECT SUCH CONNECTIONS AND REINFORCEMENT IN THE FIELD FOR:		
INSTALLATION OF THE EMBEDDED PARTS	X	
COMPLETION OF THE CONTINUITY OF REINFORCEMENT ACROSS JOINTS	X	
COMPLETION OF CONNECTIONS IN THE FIELD	X	
INSPECT INSTALLATION TOLERANCES OF PRECAST CONCRETE DIAPHRAGM CONNECTIONS FOR COMPLIANCE WITH ACI 550.5		X
IN-SITU CONCRETE STRENGTH, PRIOR TO STRESSING OF TENDONS IN POST-TENSIONED CONCRETE AND PRIOR TO REMOVAL OF SHORES AND FORMS FROM BEAMS AND STRUCTURAL SLABS		X
FORMWORK FOR SHAPE, LOCATION, AND DIMENSIONS OF CONCRETE MEMBER BEING FORMED		X

NOTES:

1. SPECIFIC REQUIREMENTS FOR SPECIAL INSPECTION SHALL BE INCLUDED IN THE RESEARCH REPORT FOR THE ANCHOR ISSUED BY AN APPROVED SOURCE IN ACCORDANCE WITH SECTION 17.8.2 OF ACI 318, OR OTHER QUALIFICATION PROCEDURES. WHERE SPECIFIC REQUIREMENTS ARE NOT PROVIDED, SPECIAL INSPECTION REQUIREMENTS SHALL BE SPECIFIED BY THE REGISTERED DESIGN PROFESSIONAL AND SHALL BE APPROVED BY THE BUILDING OFFICIAL PRIOR TO COMMENCEMENT OF THE WORK.

WOOD CONSTRUCTION SPECIAL INSPECTION PER SECTION 1705.5 OF 2024 IBC

VERIFICATION AND INSPECTION	CONTINUOUS	PERIODIC
HIGH-LOAD DIAPHRAGMS DESIGNED IN ACCORDANCE WITH SECTION 2306.2 SHALL BE INSTALLED WITH SPECIAL INSPECTIONS AS INDICATED IN SECTION 1704.2:		
WOOD STRUCTURAL PANEL SHEATHING (GRADE / THICKNESS)		X
NOMINAL SIZE OF FRAMING MEMBERS AT ADJOINING PANEL EDGES		X
NAIL OR STAPLE DIAMETER AND LENGTH		X
NUMBER OF FASTENER LINES		X
SPACING BETWEEN FASTENERS IN EACH LINE AND AT EDGE MARGINS		X
FIELD GLUING OPERATIONS OF WOOD SHEAR WALLS, WOOD DIAPHRAGMS, DRAG STRUTS, BRACES, AND HOLD-DOWNS	X	
NAILING, BOLTING, ANCHORING, AND OTHER FASTENING COMPONENTS WITHIN THE FOLLOWING ELEMENTS: WOOD SHEAR WALLS, WOOD DIAPHRAGMS, DRAG STRUTS, BRACES, AND HOLD-DOWNS		X

NOTES:

1. SPECIAL INSPECTION IS NOT REQUIRED FOR WOOD SHEAR WALLS, SHEAR PANELS AND DIAPHRAGMS, INCLUDING NAILING, BOLTING, ANCHORING AND OTHER FASTENING TO OTHER COMPONENTS OF THE WOOD SHEAR WALLS, SHEAR PANELS AND DIAPHRAGMS WHERE THE FASTENER SPACING OF THE SHEATHING IS MORE THAN 4 INCHES ON CENTER.

SOIL SPECIAL INSPECTION PER SECTION 1705.6 OF 2024 IBC

VERIFICATION AND INSPECTION	CONTINUOUS	PERIODIC
VERIFY MATERIALS BELOW SHALLOW FOUNDATIONS ARE ADEQUATE TO ACHIEVE DESIGN BEARING CAPACITY		X
VERIFY EXCAVATIONS ARE EXTENDED TO PROPER DEPTH AND HAVE REACHED PROPER MATERIAL		X
PERFORM CLASSIFICATION AND TESTING OF COMPACTED FILL MATERIALS		X
DURING FILL PLACEMENT, VERIFY PROPER MATERIALS AND PROCEDURES IN ACCORDANCE w/ THE PROVISIONS OF THE APPROVED GEOTECHNICAL REPORT. VERIFY DENSITIES AND LIFT THICKNESSES DURING PLACEMENT AND COMPACTION OF COMPACTED FILL.	X	
PRIOR TO PLACEMENT OF COMPACTED FILL, INSPECT SUBGRADE AND VERIFY SITE HAS BEEN PREPARED PROPERLY		X

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PAGNANI BUILDING ADDITION

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TOOELE, UTAH

LICENSED PROFESSIONAL ENGINEER
JACOB M. CLEGG
7/28/2026
STATE OF UTAH

NO.	DATE	REVISION

SPECIAL INSPECTION

PROJECT NUMBER T1869G
DATE 07-08-2026
PROJECT MANAGER JMC
DESIGNED BY FK

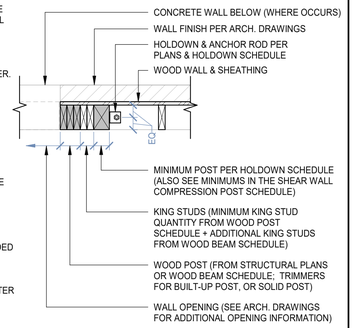
S003

HOLDOWN SCHEDULE -- WOOD

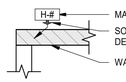
MARK	REQUIRED HOLDOWN & ATTACHMENT TO POST	MINIMUM POST SIZE	MINIMUM POST GRADE	ANCHOR ROD DIAMETER	ANCHOR ROD EMBEDMENT INTO FOOTING	EDGE DISTANCE	COMMENTS
H-1	HTT4 - (18) 0.148"x1-1/2" NAILS	3" x 3-1/2"	DF #2	5/8"	6-1/2" MIN.	10"	--

NOTES:

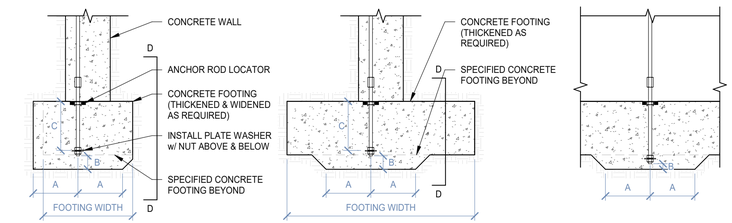
1. ALL HOLDOWN ANCHOR RODS SHALL BE INSTALLED INTO CONCRETE FOOTINGS BELOW THE CONCRETE WALLS, TYPICAL U.N.O. INCREASE FOOTING WIDTH & DEPTH AS REQUIRED TO ENSURE MINIMUM EDGE DISTANCE & MINIMUM CLEAR COVER REQUIREMENTS ARE MET (REFERENCE STEEL REINFORCING GSN SECTION FOR CLEAR COVER REQUIREMENTS).
2. HOLDOWNS ARE ONLY REQUIRED WHEN/WHERE NOTED ON THE PLANS.
3. FOR HOLDOWN ATTACHMENTS TO CONCRETE FOOTINGS, MINIMUM ANCHOR ROD STRENGTH IS ASTM F1554, GRADE 36, TYPICAL UNLESS NOTED OTHERWISE. FOR BOLTED HOLDOWN ATTACHMENTS TO WOOD POSTS FOR HD19, STUD BOLTS SHALL BE ASTM A307 GRADE A OR BETTER.
4. INSTALL PLATE WASHER w/ NUT TOP & BOTTOM OF WASHER AT BOTTOM OF EACH ANCHOR ROD, TYPICAL U.N.O. PLATE WASHER SIZES ARE AS FOLLOWS:
   - 1/2" x 1-3/4" x 1-3/4" PLATE WASHER FOR 5/8"Ø ANCHORS,
   - 1/2" x 2-1/2" x 2-1/2" PLATE WASHER FOR 7/8"Ø ANCHORS,
   - 5/8" x 3" x 2-3/4" PLATE WASHER FOR 1"Ø ANCHORS,
   - 5/8" x 3-1/2" x 3-1/4" PLATE WASHER FOR 1-1/8"Ø ANCHORS, AND
   - 3/4" x 3-1/2" x 3-1/2" PLATE WASHER FOR 1-1/4"Ø ANCHORS.
5. WHERE HOLDOWN ANCHOR RODS ARE INSTALLED INTO THE TOP OF CONCRETE WALLS, THE FOLLOWING ANCHOR ROD SUBSTITUTIONS ARE PERMITTED:
   - FOR HTT4, HTT5, AND HDUE5 HOLDOWN ANCHORS INSTALLED INTO THE TOP OF CONCRETE WALLS, INSTALL SIMPSON SABR 5/8"Ø x 24" ANCHOR RODS EMBEDDED 18" MINIMUM INTO CONCRETE WALL.
   - FOR HDUE9 HOLDOWN ANCHORS INSTALLED AT **MIDWALL CONDITIONS** INTO THE TOP OF CONCRETE WALLS, INSTALL SIMPSON SABR 7/8"Ø x 28" ANCHOR RODS EMBEDDED 24" MINIMUM INTO CONCRETE WALL. WHERE HDUE9 HOLDOWNS OCCUR AT ENDWALL OR CORNER CONDITIONS, THE ANCHOR RODS SPECIFIED IN THE SCHEDULE MUST BE EMBEDDED IN THE CONCRETE FOOTING BELOW THE CONCRETE WALL.
6. WHERE HOLDOWNS OCCUR IN SHEAR WALL TYPES SW-4 THROUGH SW-10, INSTALL SHEAR WALL PANEL EDGE NAILING AT 4" O.C. FOR HEIGHT OF HOLDOWN HARDWARE.
7. HOLDOWNS SHALL BE CENTERED ON THE WOOD WALL WHICH MAY NOT COINCIDE WITH THE CENTER OF THE CONCRETE WALL BELOW (WHERE OCCURS), VERIFY ALL WALL GEOMETRY WITH THE ARCHITECTURAL DRAWINGS.
8. IF PERPENDICULAR SHEAR WALLS SHARE A COMMON CORNER AND THE SHEATHING FOR BOTH WALLS IS FASTENED TO THE SAME HOLDOWN POST, IT IS ACCEPTABLE TO ONLY INSTALL THE LARGER HOLDOWN (AND LARGER MINIMUM POST) OF THE TWO WALLS. IF THE SHEATHING FOR SHEAR WALLS CANNOT BE ATTACHED TO THE SAME HOLDOWN POST, BOTH HOLDOWNS AND BOTH MINIMUM POSTS MUST BE INSTALLED.
9. MINIMUM POSTS SPECIFIED IN THIS SCHEDULE SHALL BE INSTALLED IN ADDITION TO THE TYPICAL WALL FRAMING STUDS OR WOOD POSTS SPECIFIED ON THE STRUCTURAL PLANS.
10. PLAN MARK INDICATES THE SHEAR WALL THAT REQUIRES THE HOLDOWN WITH A SOLID FILLED ARROW MARKER. INSTALL HOLDOWN AT THE END OF THE INDICATED WALL.



HOLDOWN PLACEMENT GUIDELINES



HOLDOWN PLAN MARK GUIDELINES



EDGE DISTANCE ≥ FOOTING WIDTH | EDGE DISTANCE < FOOTING WIDTH | SECTION D-D

A. MINIMUM EDGE DISTANCE PER SCHEDULE
B. MINIMUM CLEAR COVER PER STEEL REINFORCING GSN SECTION
C. EMBEDMENT DEPTH PER SCHEDULE

THICKENED FOOTING REQUIREMENTS

IF ANCHOR ROD IS NOT INSTALLED PROPERLY WHEN FOOTING IS PLACED, A NEW ANCHOR MUST BE INSTALLED PER THE ANCHOR ROD RETROFIT DETAIL

ANCHOR BOLT SCHEDULE

MARK	ANCHOR DIAMETER	ANCHOR EMBEDMENT DEPTH	GRADE	SPACING	COMMENTS
AB32	5/8"	7" MIN.	A307	32"	TYPICAL U.N.O.

NOTES:

1. INSTALL 1/4" x 3" x 3" PLATE WASHERS ON ALL ANCHOR BOLTS. EDGE OF WASHER MUST BE WITHIN 1/2" OF SHEAR WALL SHEATHING.
2. (2) ANCHOR BOLTS MINIMUM PER SHEAR WALL.
3. (1) ANCHOR BOLT SHALL BE INSTALLED WITHIN 12" FROM END OF SHEAR WALL.
4. ALL ANCHOR BOLT TYPES MAY NOT BE USED. SEE PLAN FOR REQUIREMENTS.
5. ANCHOR BOLTS ARE TO BE 1-3/4" MIN. FROM EDGE OF CONCRETE.
6. ALL ANCHOR BOLTS SHALL BE CAST-IN-PLACE, TYPICAL U.N.O.
7. ANCHOR BOLTS SHALL BE LOCATED NO CLOSER THAN 15 ANCHOR DIAMETERS AWAY FROM EDGE PERPENDICULAR TO SHEAR WALL.
8. CONTRACTOR SHALL COORDINATE ALL ANCHOR BOLT EXTENSIONS & THREAD LENGTHS.

WOOD BUILT-UP POST SCHEDULE

MARK	TRIMMER QUANTITY	STUD SIZE	GRADE	BUILT-UP FASTENERS PER LAMINATION SIZE	ROWS	SPACING	COMMENTS
WP-1	(1)	2 x 4	DFLN #2	--	--	--	
WP-2	(2)	2 x 4	DFLN #2	0.148"x3" NAILS	(1)	9"	
WP-3	(3)	2 x 4	DFLN #2	0.148"x3" NAILS	(1)	9"	
WP-4	(4)	2 x 4	DFLN #2	0.148"x3" NAILS	(1)	9"	
WP-5	(5)	2 x 4	DFLN #2	0.148"x3" NAILS	(1)	9"	
WP-6	(6)	2 x 4	DFLN #2	0.148"x3" NAILS	(1)	9"	
WP-7	(1)	2 x 6	DFLN #2	--	--	--	
WP-8	(2)	2 x 6	DFLN #2	0.148"x3" NAILS	(2)	9"	
WP-9	(3)	2 x 6	DFLN #2	0.148"x3" NAILS	(2)	9"	
WP-10	(4)	2 x 6	DFLN #2	0.148"x3" NAILS	(2)	9"	
WP-11	(5)	2 x 6	DFLN #2	0.148"x3" NAILS	(2)	9"	
WP-12	(6)	2 x 6	DFLN #2	0.148"x3" NAILS	(2)	9"	

WOOD SOLID POST SCHEDULE

MARK	POST SIZE	GRADE	COMMENTS
WP-21	4 x 4	DFLN #1	
WP-22	4 x 6	DFLN #1	
WP-23	6 x 6	DFLN #1	
WP-24	6 x 8	DFLN #1	
WP-25	8 x 8	DFLN #1	
WP-26	3-1/2" x 3-1/2"	1.8E PARALLAM PSL	
WP-27	3-1/2" x 5-1/4"	1.8E PARALLAM PSL	
WP-28	3-1/2" x 7"	1.8E PARALLAM PSL	
WP-29	5-1/4" x 5-1/4"	1.8E PARALLAM PSL	
WP-30	5-1/4" x 7"	1.8E PARALLAM PSL	
WP-31	7" x 7"	1.8E PARALLAM PSL	
WP-32	5-1/4" x 9-1/4"	2.0E PARALLAM PSL	
WP-33	5-1/4" x 11-1/4"	2.0E PARALLAM PSL	

NOTES:

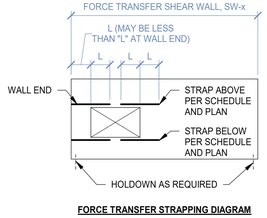
1. PROVIDE KING STUDS BASED ON THE FOLLOWING CRITERIA:
   - EXTERIOR OPENINGS UP TO 5'-0" WIDE = (1) KING STUD
   - EXTERIOR OPENINGS UP TO 10'-0" WIDE = (2) KING STUDS
   - EXTERIOR OPENINGS UP TO 16'-0" WIDE = (3) KING STUDS
   - EXTERIOR OPENINGS LARGER THAN 16'-0" WIDE = SEE PLANS
   - INTERIOR OPENINGS = (1) KING STUD
   - WHERE BEAM BEARS ABOVE WALL = (0) KING STUDS
2. PROVIDE TRIMMER STUDS PER POST SCHEDULE.
3. STAGGER ALL ROWS OF FASTENERS. IF SINGLE ROW OCCURS, STAGGER NAILS IN SINGLE ROW.
4. MINIMUM POST SIZE IS SPECIFIED IN BEAM SCHEDULE. ALTERNATE POST SIZE MAY BE REQUIRED ON PLANS.
5. ALL POSTS LISTED MAY NOT BE USED. SEE PLAN FOR REQUIREMENTS.
6. ADJACENT NAILS SHALL BE DRIVEN FROM OPPOSITES SIDE OF THE BUILT-UP POST WHERE POSSIBLE.
7. PROVIDE ONE SET OF FASTENERS PER THE REQUIREMENTS LISTED FOR EACH ADDITIONAL LAMINATION.
8. WHERE (2) ROWS ARE REQUIRED, SPACE ROWS A MINIMUM 3" APART & ALLOW A 3/4" MINIMUM EDGE DISTANCE ON ALL NAILS.

FORCE TRANSFER AROUND OPENING STRAPPING SCHEDULE

MARK	STRAP ABOVE / BELOW	FASTENERS (EACH END OF STRAP)	STRAP END LENGTH, L (SEE NOTE 3)	COMMENTS
FTAO-1	CS16	(11) 0.131"x2-1/2" NAILS	1' - 3"	--

NOTES:

1. ALL STRAPS ARE SIMPSON STRONG TIE.
2. INSTALL ALL STRAPS PER THE MANUFACTURER'S SPECIFICATIONS.
3. WHERE LENGTH OF WALL BETWEEN EDGE OF OPENING AND END OF THE DESIGNATED SHEAR WALL IS **LESS THAN** THE SCHEDULED STRAP END LENGTH (L_s), EXTEND STRAP TO END OF SHEAR WALL.
4. PROVIDE 2x BLOCK UNDER STRAP IN WALL. PROVIDE (2) 2x SILL WHERE REQUIRED.
5. INSTALL SHEAR WALL SHEATHING ABOVE & BELOW OPENINGS MATCHING SHEAR WALL DESIGNATION ON EITHER SIDE OF OPENING.
6. CONTACT ENGINEER FOR ALL HARDWARE SUBSTITUTIONS.
7. FTAO STRAPS ARE ONLY USED WHEN/WHERE NOTED ON THE PLANS.



FORCE TRANSFER STRAPPING DIAGRAM

WOOD WALL SCHEDULE

MARK	SIZE	GRADE	SPACING	HEIGHT LIMITS	COMMENTS
WW-1	2 x 4	DFLN #2	16" O.C.	12'-0" MAX	TYP. @ ALL NON-BEARING INTERIOR WALLS, U.N.O.
WW-2	2 x 6	DFLN #2	16" O.C.	12'-0" MAX	TYP. @ ALL EXTERIOR WALLS, U.N.O.

NOTES:

1. INTERIOR PARTITION (NON-STRUCTURAL) WALLS ARE 2 x 4 STUD GRADE STUDS @ 24" O.C. U.N.O. PER ARCHITECTURAL.
2. STUDS REQUIRED FOR HOLDOWNS, FLOOR-TO-FLOOR TIES, OR ANCHOR TIE DOWN SYSTEMS ARE IN ADDITION TO THE TYPICAL STUD REQUIREMENTS SHOWN HERE.

CONCRETE CONTINUOUS FOOTING SCHEDULE

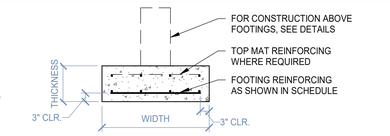
MARK	FOOTING TYPE	WIDTH	THICKNESS	LONGITUDINAL REINFORCING QUANTITY	LONGITUDINAL REINFORCING SIZE	TRANSVERSE REINFORCING SIZE	TRANSVERSE REINFORCING SPACING	COMMENTS
FC2.0	CONTINUOUS	2' - 0"	12"	(2)	#5	--	--	--

CONCRETE SPOT FOOTING SCHEDULE

MARK	FOOTING TYPE	WIDTH	LENGTH	THICKNESS	LONGITUDINAL REINFORCING QUANTITY	LONGITUDINAL REINFORCING SIZE	TRANSVERSE REINFORCING QUANTITY	TRANSVERSE REINFORCING SIZE	COMMENTS
FS2.5	SPOT	2' - 6"	2' - 6"	12"	(2)	#5	(2)	#5	

NOTES:

1. CONTRACTOR TO DETERMINE REQUIRED DEPTH OF FOOTINGS TO MEET FROST PROTECTION. SEE FOUNDATION SECTION OF GSN FOR MINIMUM REQUIREMENTS.
2. AT CONTINUOUS FOOTINGS, SPACE LONGITUDINAL REINFORCING EVENLY, TYPICAL UNLESS NOTED OTHERWISE.
3. AT SPOT FOOTINGS, SPACE LONGITUDINAL & TRANSVERSE REINFORCING EVENLY, TYPICAL UNLESS NOTED OTHERWISE.
4. WHERE TOP & BOTTOM REINFORCING MATS ARE REQUIRED, BAR QUANTITIES NOTED IN SCHEDULE MUST BE INSTALLED IN EACH MAT.
5. SEE GENERAL STRUCTURAL NOTES FOR ADDITIONAL REQUIREMENTS.



CONCRETE WALL SCHEDULE

MARK	WALL THICKNESS	REINFORCING VERTICAL SIZE	VERTICAL SPACING	VERTICAL LOCATION	HORIZONTAL SIZE	HORIZONTAL SPACING	HORIZONTAL LOCATION	COMMENTS
CW-8A	8"	#5	12" O.C.	CENTER	#5	16" O.C.	CENTER	TYPICAL U.N.O.

NOTES:

1. EXTEND VERTICAL BARS FROM THE FOOTING TO WITHIN 3" OF TOP OF WALL.
2. DOWELS MATCHING VERTICAL REINFORCING SIZE & SPACING SHALL EXTEND INTO FOOTING & TERMINATE WITH A 90-DEGREE STANDARD HOOK. ENSURE VERTICAL DOWEL HOOKS AROUND BOTTOM MAT OF FOOTING REINFORCING.
3. EXTEND VERTICAL LEG OF DOWEL MIN. LAP SPLICE LENGTH INTO WALL.
4. ALTERNATE DIRECTION OF STANDARD HOOK AT EVERY OTHER BAR.
5. INSTALL SCHEDULED HORIZONTAL REINFORCING WITHIN 4" OF TOP & BOTTOM OF WALL, U.N.O.
6. INSTALL CORNER REINFORCING SO AS TO LAP HORIZONTAL REINFORCING. SEE "TYPICAL CONCRETE WALL INTERSECTION REINFORCING" STRUCTURAL DETAIL.
7. INSTALL (2) REBAR ABOVE, (1) REBAR @ EACH SIDE, & (1) REBAR BELOW ALL OPENINGS. PLACE STEEL WITHIN 2" OF OPENINGS, VERTICAL BARS AROUND OPENINGS SHALL EXTEND FROM THE FOOTING TO WITHIN 3" OF TOP OF WALL & EXTEND HORIZONTAL BARS MIN. LAP SPLICE LENGTH BEYOND EDGE OF OPENINGS.
8. ALL CONCRETE WALL TYPES MAY NOT BE USED, SEE PLAN FOR REQUIREMENTS.
9. SEE GENERAL STRUCTURAL NOTES FOR ADDITIONAL REQUIREMENTS.

CONCRETE REINFORCING LAP SPLICE LENGTH SCHEDULE

BAR SIZE	BAR DIAMETER (IN.)	f'c = 3,000 PSI TYPICAL SPLICE (IN) CLASS A	f'c = 3,000 PSI TYPICAL SPLICE (IN) CLASS B	f'c = 3,000 PSI TOP BAR SPLICE (IN) CLASS A	f'c = 3,000 PSI TOP BAR SPLICE (IN) CLASS B	f'c = 4,000 PSI TYPICAL SPLICE (IN) CLASS A	f'c = 4,000 PSI TYPICAL SPLICE (IN) CLASS B	f'c = 4,000 PSI TOP BAR SPLICE (IN) CLASS A	f'c = 4,000 PSI TOP BAR SPLICE (IN) CLASS B	f'c = 5,000 PSI TYPICAL SPLICE (IN) CLASS A	f'c = 5,000 PSI TYPICAL SPLICE (IN) CLASS B	f'c = 5,000 PSI TOP BAR SPLICE (IN) CLASS A	f'c = 5,000 PSI TOP BAR SPLICE (IN) CLASS B
3	0.375	17	22	22	29	15	20	20	25	13	17	17	22
4	0.500	22	29	29	38	19	25	25	33	17	23	23	30
5	0.625	28	36	36	47	24	31	31	40	22	29	29	36
6	0.750	33	43	43	56	29	38	38	48	26	34	34	44
7	0.875	48	63	63	82	42	55	55	70	38	49	49	64
8	1.000	55	72	72	94	48	62	62	81	43	56	56	73
9	1.128	62	81	81	105	54	70	70	91	48	63	63	82
10	1.270	70	91	91	118	61	79	79	103	54	71	71	92
11	1.410	78	101	101	131	67	87	87	113	60	78	78	101

NOTES:

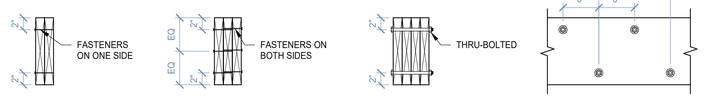
1. ALL LAP SPLICE LENGTHS ARE CLASS B UNLESS NOTED OTHERWISE ON PLANS.
2. HORIZONTAL BARS ARE CLASSIFIED AS TOP BARS WHERE 12" OR MORE OF FRESH CONCRETE IS CAST BELOW THE LAP SPLICE.
3. FOR ALL EPOXY-COATED BARS, LAP SPLICE LENGTHS SHALL BE MULTIPLIED BY:
   - 1.5 WHEN CLEAR COVER IS LESS THAN 3 BAR DIAMETERS & CLEAR SPACING IS LESS THAN 6 BAR DIAMETERS, OR
   - 1.2 FOR ALL OTHER EPOXY-COATED BARS.
4. FOR ALL LIGHT-WEIGHT CONCRETE, LAP SPLICE LENGTHS SHALL BE MULTIPLIED BY 1.33.

WOOD BEAM SCHEDULE

MARK	QUANTITY	SIZE	TYPE	BUILT-UP FASTENERS SIZE	BUILT-UP FASTENERS ROWS	BUILT-UP FASTENERS SPACING	MINIMUM POST STANDARD POST SIZE 2x4	MINIMUM POST STANDARD POST SIZE 2x6	ADDITIONAL KING STUDS LEVEL iv	ADDITIONAL KING STUDS LEVEL iii	ADDITIONAL KING STUDS LEVEL ii	ADDITIONAL KING STUDS LEVEL i	COMMENTS
WB-4	(3)	2 x 10	DFLN #2	0.148"x3" NAILS	(2)	12"	--	WP-8	0	0	0	1	
WB-17	(3)	1-3/4" x 14"	2.0E MICROLLAM LVL	0.162"x3-1/2" NAILS	(3)	12"	--	WP-9	0	1	2	3	

NOTES:

1. FASTENERS ARE FROM ONE SIDE FOR (2) PLY BEAMS, BOTH SIDES FOR (3) PLY BEAMS AND THRU-BOLTED FOR (4) PLY BEAMS.
2. STAGGER ALL ROWS OF FASTENERS.
3. ALL POSTS ARE TO MATCH WIDTH AND MATERIAL OF WALL IN WHICH POST OCCURS. IF STRONGER MATERIAL IS DESIGNATED HERE OR ON THE PLANS,THE STRONGER MATERIAL GOVERNS.
4. "ADDITIONAL KING STUDS" ARE DEFINED AS KING STUDS THAT ARE REQUIRED IN ADDITION TO WHAT IS REQUIRED BY THE "STANDARD POST SIZE".
5. THE "LEVEL 1" LOCATION IS DEFINED AS THE BOTTOM MOST LEVEL OF WOOD FRAMED WALLS.
6. ALL BEAMS MAY NOT BE USED, SEE PLAN FOR REQUIREMENTS.



(2) PLY | **(3) PLY** | **(4) PLY** | **(4) PLY ELEVATION**

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PAGNANI BUILDING ADDITION

2321 NORTH 400 EAST
TOOELE, UTAH

LICENSED PROFESSIONAL ENGINEER
JACOB M. CLEGG
7/28/2026
STATE OF UTAH

NO.	DATE	REVISION

STRUCTURAL SCHEDULES

PROJECT NUMBER T1869G | DATE 07-08-2026
PROJECT MANAGER JMC | DESIGNED BY FK

S021

WALL PLAN KEYED NOTES

A	EXISTING BRICK VENEER, SW-1 SHEATHING AND ANCHORAGE TO REMAIN.

WALL PLAN GENERAL NOTES

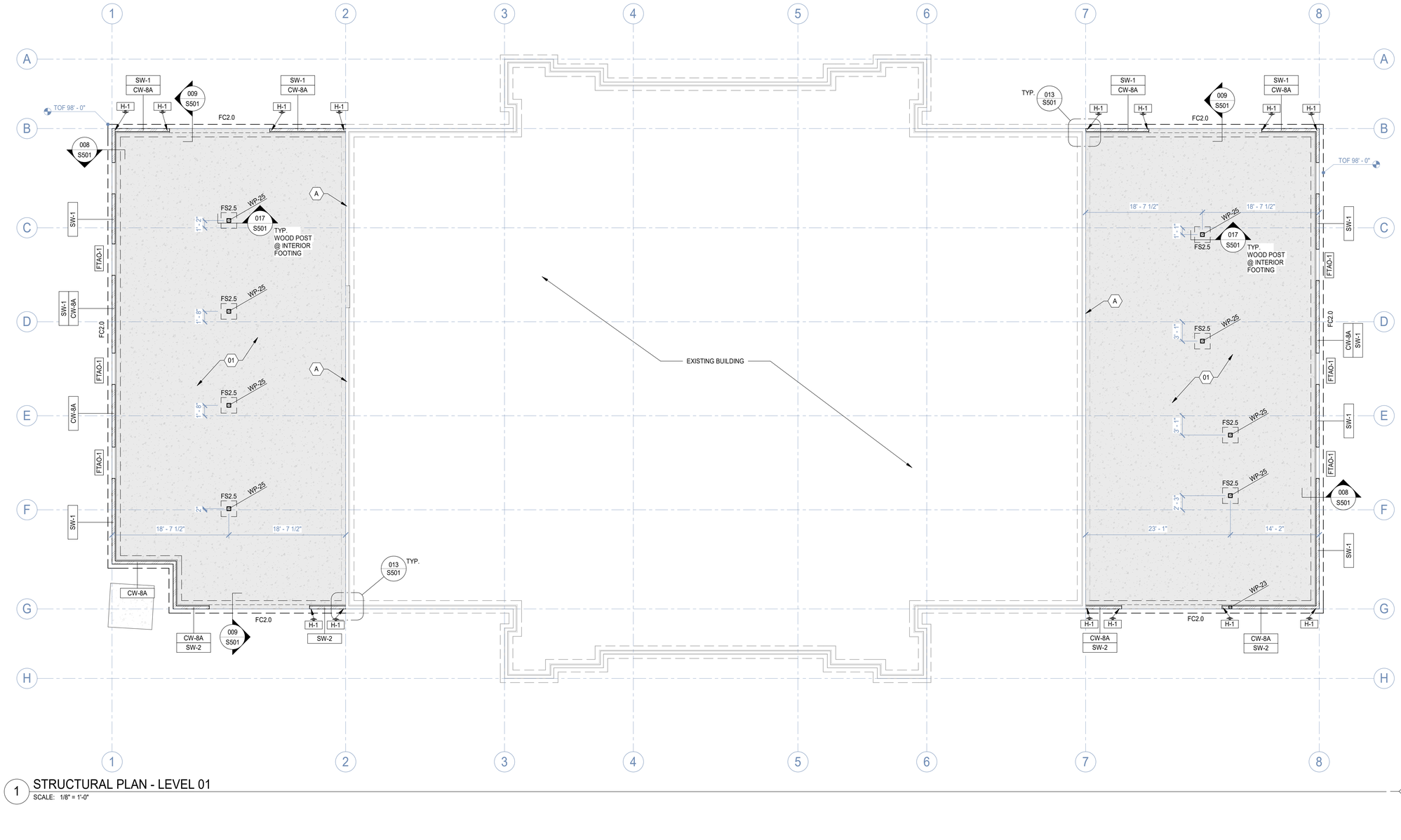
1. REFER TO ARCHITECTURAL PLANS FOR ALL DIMENSIONS. CONTRACTOR TO VERIFY ALL DIMENSIONS BEFORE STARTING CONSTRUCTION. DO NOT SCALE DRAWINGS. RESOLVE ANY DISCREPANCY WITH THE ARCHITECT. NOTIFY STRUCTURAL ENGINEER THROUGH THE ARCHITECT OF ANY VARIATIONS FROM DIMENSIONS AND CONDITIONS SHOWN BY THIS DRAWING.
2. ALL SPECIFIED HARDWARE IS SIMPSON STRONG-TIE. INSTALL ALL HARDWARE PER MANUFACTURER'S SPECIFICATIONS (VERIFY PROPER SIZE, SEAT SLOPE, AND SKEW). CONTACT ENGINEER FOR ALL HARDWARE SUBSTITUTIONS.
3. FOR DIAPHRAGM STRAPPING KEYED NOTES, THE DASHED AND DIMENSIONED LINE REPRESENTS A DRAG / COLLECTOR LOCATION. INSTALL BLOCKING WHERE JOISTS OR BEAMS DO NOT OCCUR. SPLICE BETWEEN THESE BLOCKS. JOISTS AND BEAMS ALONG FULL LENGTH SHOWN AND TO WALL(S) WHERE LINE TERMINATES. SPLICE BETWEEN EACH BLOCK, JOIST, BEAM AND TERMINATING WALL AS NEEDED TO CREATE THE CONTINUOUS DRAG / COLLECTOR. USE EITHER INDIVIDUAL STRAPS BETWEEN ELEMENTS OR CONTINUOUS STRAPS.
4. WHERE ANCHORS ARE TO ATTACH TO STEEL BEAMS USE THE FOLLOWING:
   - HTT4, HTT5, HDUE5, & HDUE7 WELD DIRECTLY TO STEEL BEAM OR WELD COUPLER NUT TO STEEL BEAM WITH 5/16" FILLET WELD ALL AROUND.
   - HDUE9, HDUE13, & HDUE17, INSTALL PER "HOLDOWN TO STEEL ANGLE CONNECTION" STRUCTURAL DETAIL.
   - WHERE 'ATS' ANCHORAGE OCCURS OVER STEEL BEAM, ATTACH 'ATS' SYSTEM WITH SIMPSON ATS-SBC PER THE ATS SYSTEM MANUFACTURER'S REQUIREMENTS.
5. WHERE DOUBLE TOP PLATE IS INTERRUPTED BY BEAM, COLUMN, OR OTHER ELEMENT IN SHEAR WALL LINE, INSTALL MST60 STRAP TO SPLICE DOUBLE TOP PLATE.
6. IT IS THE REQUIREMENT OF PLUMBING, ELECTRICAL, MECHANICAL, AND ARCHITECTURAL GROUPS TO ENSURE THAT THEIR DESIGNS & COMPONENTS ARE NOT ADVERSELY AFFECTED BY 0.25" OF VERTICAL DISPLACEMENT PER FLOOR.
7. NOT ALL OPENINGS THROUGH FLOORS AND WALLS ARE SHOWN. COORDINATE PENETRATION REQUIREMENTS (ADDITIONAL FRAMING ELEMENTS OR REINFORCING) AND LOCATIONS WITH ARCHITECTURAL, MECHANICAL, ELECTRICAL, AND TYPICAL STRUCTURAL DETAILS.
8. FOR STEEL COLUMNS IN EXTERIOR WALLS THAT EXTEND THROUGH DOUBLE TOP PLATE, SEE "TYPICAL STEEL COLUMN THROUGH DOUBLE TOP PLATE" STRUCTURAL DETAIL. FOR STEEL COLUMNS THE PENETRATE FLOOR SYSTEMS, SEE "TYPICAL STEEL COLUMN THROUGH FLOOR" STRUCTURAL DETAIL. FOR STEEL COLUMNS THAT OCCUR IN WOOD SHEAR WALLS, INSTALL TRIMMER AND REDUCED BASE STUDS AS SHOWN IN "STEEL COLUMN IN EXTERIOR/INTERIOR SHEAR WALL" STRUCTURAL DETAILS.

FOUNDATION GENERAL NOTES

1. REFER TO ARCHITECTURAL PLANS FOR ALL DIMENSIONS. CONTRACTOR TO VERIFY ALL DIMENSIONS BEFORE STARTING CONSTRUCTION. DO NOT SCALE DRAWINGS. RESOLVE ANY DISCREPANCY WITH THE ARCHITECT. NOTIFY STRUCTURAL ENGINEER THROUGH THE ARCHITECT OF ANY VARIATIONS FROM DIMENSIONS AND CONDITIONS SHOWN BY THIS DRAWING.
2. COORDINATE STRUCTURAL REQUIREMENTS AT WALLS AND FOOTINGS WITH TYPICAL STRUCTURAL DETAILS.
3. COORDINATE LOCATIONS OF UTILITY TRENCHES (IF APPLICABLE) WITH RESPECTIVE DRAWINGS AND SUB-CONTRACTORS. SLAB REINFORCING SHALL BE CONTINUOUS OVER TRENCH.
4. ALL TOP OF FOOTING ELEVATIONS ARE BASED ON FINISH FLOOR = 100'-0". VERIFY WITH ARCHITECTURAL PLANS.
5. PROVIDE MINIMUM FROST DEPTH PER GENERAL STRUCTURAL NOTES. COORDINATE FOOTING STEPS (IF APPLICABLE) WITH CIVIL AND ARCHITECTURAL PLANS. SEE TYPICAL CONCRETE STEPPED FOOTING DETAIL IN STRUCTURAL DETAILS.
6. CONTRACTOR SHALL COORDINATE FLOOR SLAB DEPRESSIONS AND SLAB SLOPES WITH ARCHITECTURAL PLANS.
7. NOT ALL OPENINGS THROUGH FLOORS AND WALLS ARE SHOWN. COORDINATE PENETRATION REQUIREMENTS (ADDITIONAL FRAMING ELEMENTS OR REINFORCING) AND LOCATIONS WITH ARCHITECTURAL, MECHANICAL, ELECTRICAL, AND TYPICAL STRUCTURAL DETAILS.
8. PROVIDE CONTROL JOINTS IN ALL SLABS PER THE GENERAL STRUCTURAL NOTES AND TYPICAL SLAB JOINT DETAIL.
9. CENTER ALL SPOT FOOTINGS UNDER COLUMNS AS SHOWN ON PLAN, TYPICAL U.N.O. SEE ARCHITECTURAL DRAWINGS FOR DIMENSIONS TO ALL STEEL COLUMNS.
10. IF NO ANCHOR BOLT DESIGNATION IS SPECIFIED ON PLANS, INSTALL ANCHOR BOLTS AB32, TYPICAL U.N.O.
11. SEE GENERAL STRUCTURAL NOTES FOR ADDITIONAL INFORMATION.

FOUNDATION KEYED NOTES

01	6" CONCRETE SLAB OVER 4" LAYER OF FREE-DRAINING STRUCTURAL FILL. REINFORCE SLAB w/ #4 REBAR @ 18" O.C. EACH WAY, CENTERED IN SLAB.
02	HOLDOWN TO BE POST-INSTALLED. DRILL & EPOXY (SEE GSN FOR ACCEPTABLE EPOXIES) THREADED ROD 12" INTO EXISTING FOUNDATION.



1 STRUCTURAL PLAN - LEVEL 01
SCALE: 1/8" = 1'-0"

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PAGNANI BUILDING ADDITION

2321 NORTH 400 EAST
TOOELE, UTAH

LICENSED PROFESSIONAL ENGINEER
12427-2202
JACOB M. CLEGG
7/28/2026
STATE OF UTAH

NO.	DATE	REVISION

STRUCTURAL PLAN - LEVEL 01

PROJECT NUMBER	DATE
T1869G	07-08-2026
PROJECT MANAGER	DESIGNED BY
JMC	FK

S111

ROOF FRAMING KEYED NOTES

70 FRAME WOOD BEAM FLUSH TO DOUBLE TOP PLATES OR PROVIDE MIN. WP-12 TO SUPPORT PERPENDICULAR GLULAM BEAM

71 ORIENTATION OF ROOF SHEATHING (PANEL SIZE NOT DRAWN TO SCALE), PANEL EDGES SHALL ALIGN w/ FRAMING, LONG DIRECTION OF PANEL SHALL BE PERPENDICULAR TO FRAMING DIRECTION.

72 INSTALL CS16 CHORD STRAPPING OVER SHEATHING TO 2x BLOCKING BETWEEN TRUSSES. LAP 24" ONTO UPPER BLOCKING BETWEEN TRUSSES OVER WALL (SEE DETAIL 22 / S501).

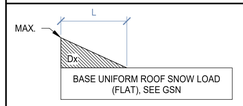
73 RTU PER MECHANICAL PLANS. DESIGN TRUSSES TO SUPPORT 650 LBS DISTRIBUTED ACROSS EACH UNIT. REFER TO MECHANICAL DRAWINGS FOR EXACT LOCATIONS.

74 GIRDER TRUSS CONNECTION TO WOOD POST PER TRUSS MANUFACTURER, WOOD BEAM TO POST CONNECTION TO BE w/ CS16 STRAP FULLY WRAPPED AROUND WOOD BEAM w/ MIN. 20" END LENGTH EACH SIDE OF POST, CONNECTED w/ MIN. (30) 0.131"x2-1/2" NAILS EACH END LENGTH

ROOF SHEATHING GENERAL NOTES

1. INSTALL 5/8" 40/20 APA RATED SHEATHING.
2. NAIL PANELS w/ 0.148"x3" NAILS @ 6" EDGE / 12" FIELD.
3. INSTALL H CLIPS AT ALL UNSUPPORTED PANEL EDGES.
4. PROVIDE 1/8" GAP BETWEEN PANELS AT INSTALLATION.
5. SHEATH COMPLETELY UNDER ALL OVERBUILD AREAS.

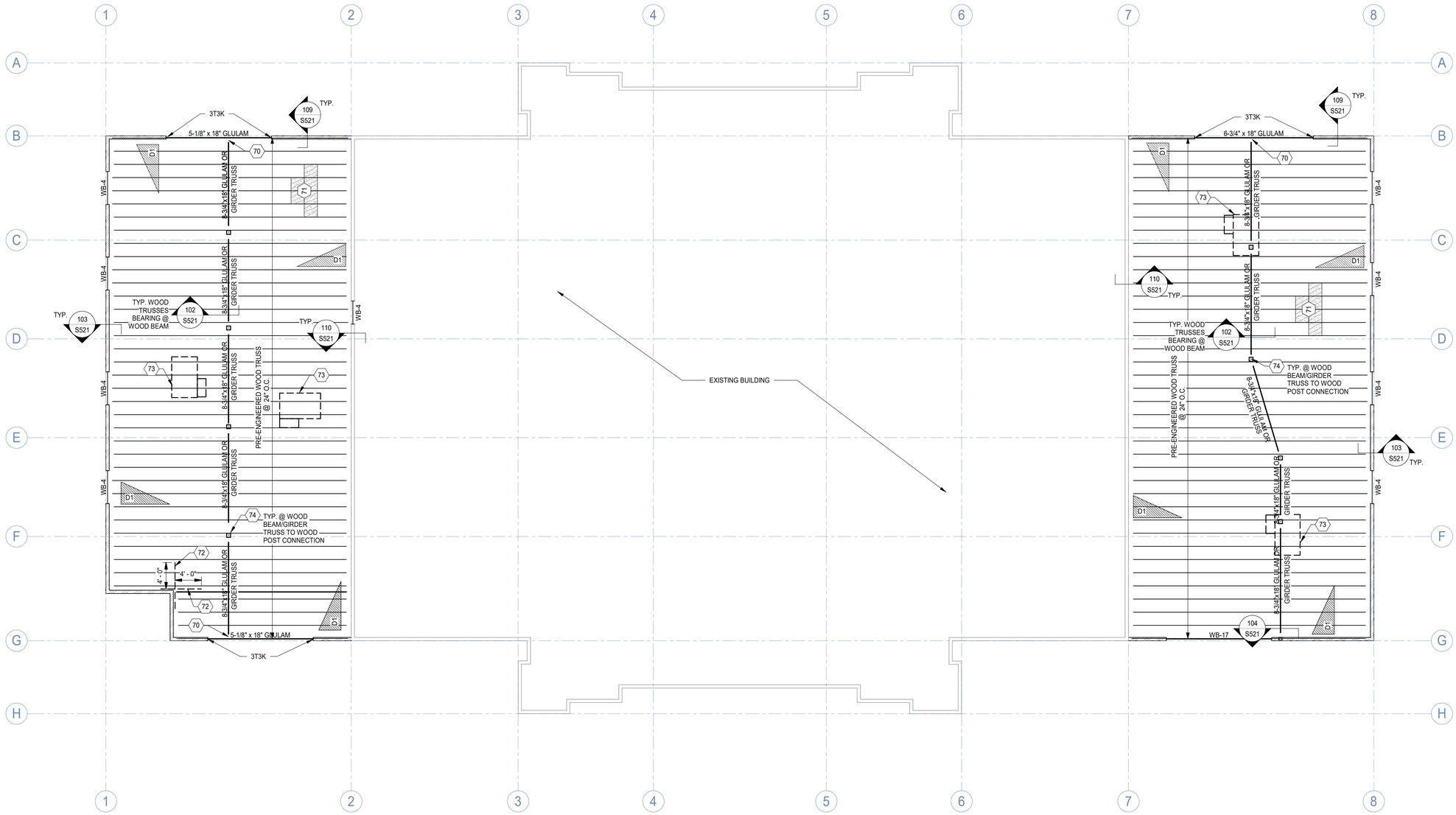
SNOW DRIFT LOAD DIAGRAM



D1 MAX = 30 psf + BASE
L = 12 ft

ROOF FRAMING GENERAL NOTES

1. REFER TO ARCHITECTURAL PLANS FOR ALL DIMENSIONS. CONTRACTOR TO VERIFY ALL DIMENSIONS BEFORE STARTING CONSTRUCTION. DO NOT SCALE DRAWINGS. RESOLVE ANY DISCREPANCY WITH THE ARCHITECT. NOTIFY STRUCTURAL ENGINEER THROUGH THE ARCHITECT OF ANY VARIATIONS FROM DIMENSIONS AND CONDITIONS SHOWN BY THIS DRAWING.
2. INSTALL SIMPSON H1A CLIP EACH TRUSS BEARING LOCATION.
3. SUPPORT ALL GIRDER TRUSSES w/ (3) 2x6 POST MINIMUM, TYPICAL U.N.O.
4. ALL SPECIFIED HARDWARE IS SIMPSON STRONG-TIE. INSTALL ALL HARDWARE PER MANUFACTURER'S SPECIFICATIONS (VERIFY PROPER SIZE, SEAT SLOPE, AND SKEW). CONTACT ENGINEER FOR ALL HARDWARE SUBSTITUTIONS.
5. TRUSSES OR TRUSS BLOCKING INSTALLED PARALLEL TO & OVER TOP OF SHEAR WALLS SHALL BE DESIGNED TO TRANSFER THE LOADS SHOWN BELOW FROM THEIR TOP CHORD TO THEIR BOTTOM CHORD. LOADS SHOWN ARE ASD LOADS. SEE DETAILS FOR TRUSS TO WALL ATTACHMENT.
   - 260 PLF FOR SW-1,
   - 350 PLF FOR SW-2.
6. ALL STRUCTURAL WALLS OCCURRING FULLY PARALLEL TO ROOF TRUSSES THAT ARE NOT BRACED BY PERPENDICULAR TRUSSES OR BY OTHER MEANS SHALL BE BRACED BY ONE OF THE FOLLOWING METHODS:
   - FLAT ROOFS: FULL DEPTH TRUSS BLOCKING (DESIGNED BY TRUSS MANUFACTURER) @ 48" O.C. IN THE FIRST TWO BAYS, NAIL SHEATHING TO BLOCKING w/ 0.148"x3" NAILS @ 4" O.C., OR
   - PITCHED ROOFS: **2x6 DIAGONAL BRACING @ 48" O.C.** PER STRUCTURAL WOOD WALL BRACING DETAIL.
7. FOR POSTS NOT SHOWN ON PLAN, REFER TO WOOD BEAM SCHEDULE.
8. ALL POSTS SHALL MAINTAIN A CONTINUOUS LOAD PATH DOWN TO THE FOUNDATION. SQUASH BLOCKS MATCHING POST SIZE AND GRADE ARE REQUIRED IN STACK FRAMED CONSTRUCTION.
9. INSTALL FULL DEPTH TRUSS BLOCKING AT ALL TRUSS BEARING LOCATIONS.
10. SEE GENERAL STRUCTURAL NOTES FOR ADDITIONAL INFORMATION.



1 STRUCTURAL PLAN - LEVEL 02
SCALE: 1/8" = 1'-0"

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PAGNANI BUILDING ADDITION

2321 NORTH 400 EAST
TOOELE, UTAH

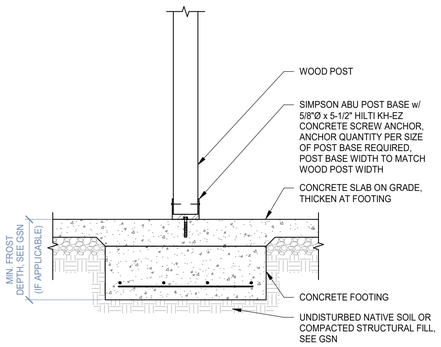
LICENSED PROFESSIONAL ENGINEER
JACOB H. CLEGG
7/28/2026
STATE OF UTAH

NO.	DATE	REVISION

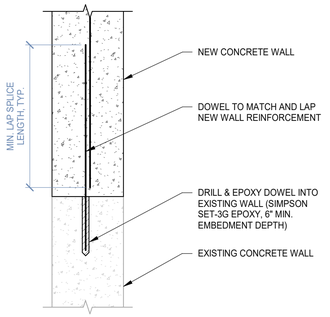
STRUCTURAL PLAN - LEVEL 02

PROJECT NUMBER T1869G
DATE 07-08-2026
PROJECT MANAGER JMC
DESIGNED BY FK

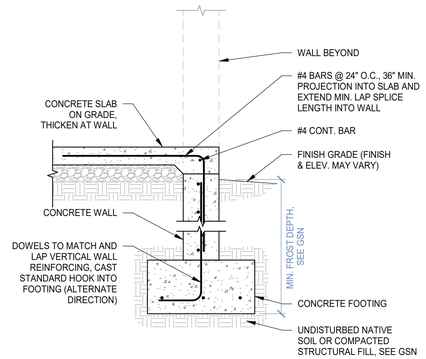
S121



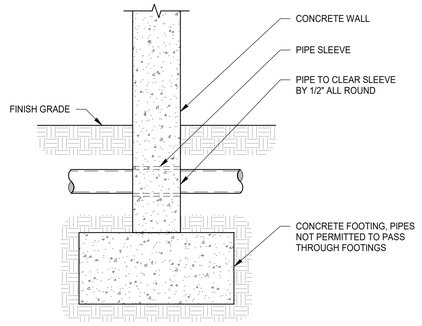
017 WOOD POST @ INTERIOR FOOTING
SCALE: N.T.S.



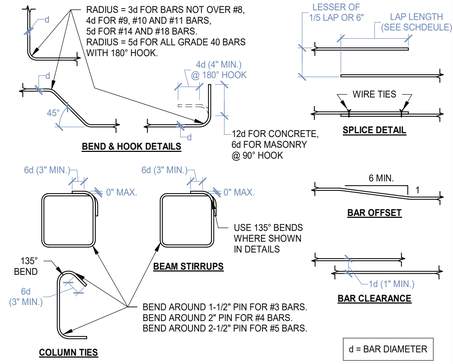
013 NEW CONCRETE WALL TO EXIST. CONC. WALL
SCALE: N.T.S.



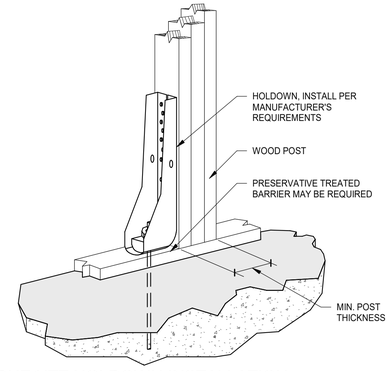
009 CONCRETE WALL @ WALL OPENING
SCALE: N.T.S.



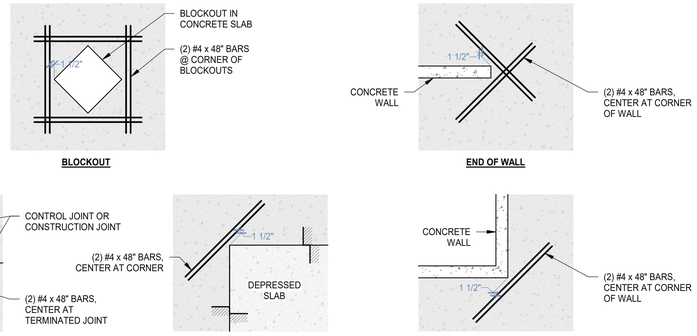
005 TYPICAL PIPE PENETRATION THRU FDTN.
SCALE: N.T.S.



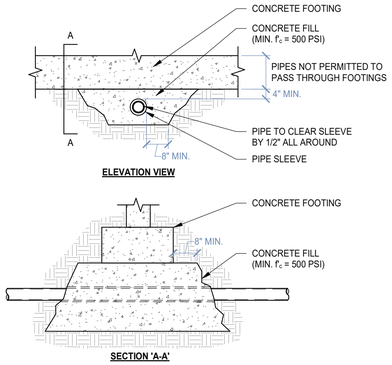
0001 TYPICAL REINFORCING BAR DETAILS
SCALE: N.T.S.



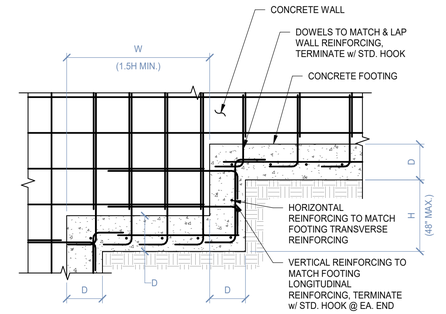
018 HDUE/HTT HOLDOWN INSTALLATION
SCALE: N.T.S.



014 TYPICAL ADDITIONAL REINFORCING IN SLAB ON GRADE
SCALE: N.T.S.



006 TYPICAL PIPE PASSING BELOW FOOTING
SCALE: N.T.S.

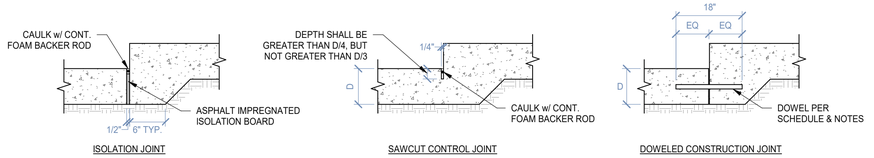


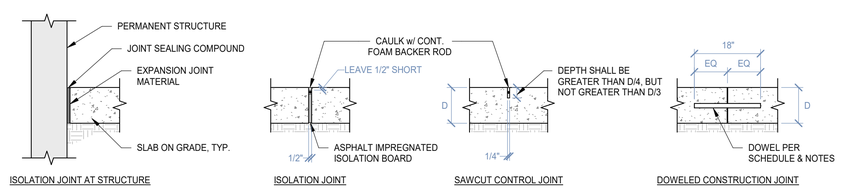
002 TYPICAL CONCRETE STEPPED FOOTING
SCALE: N.T.S.

DOWELED CONSTRUCTION JOINT - DOWEL REQUIREMENTS	
SLAB THICKNESS	**DOWEL DIAMETER**
UP TO 6"	3/4"
6" < D ≤ 8"	1"
8" < D ≤ 10"	1-1/4"

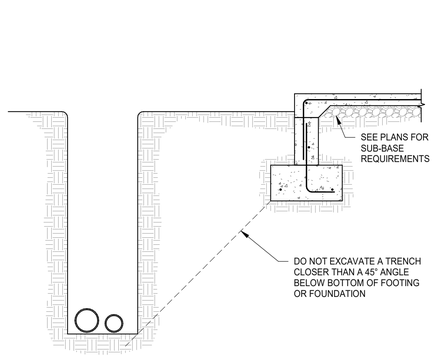
NOTES:

1. DOWELS SHALL BE SPACED AT 12" O.C.
2. DOWELS SHALL BE SMOOTH AND ROUND. AT CONTRACTOR'S OPTION, DIAMOND DOWELS ARE PERMITTED FOR USE IN LIEU OF ROUND DOWELS.
3. INSTALL DOWELS USING A POCKET FORMER, THIN BOND BREAKER, COAT OR GREASE AT ONE END OF EACH DOWEL TO PREVENT BOND.
4. ALIGN DOWELS STRAIGHT AND TRUE. MISALIGNED DOWELS MAY CAUSE CRACKING.
5. STAINLESS STEEL OR EPOXY COATED DOWELS SHALL BE USED IN EXTERIOR OR CORROSIVE ENVIRONMENTS.
6. WHEN DOWELS ARE USED IN EXPANSION JOINTS, EXPANSION END CAPS SHALL BE USED AT EACH DOWEL END.

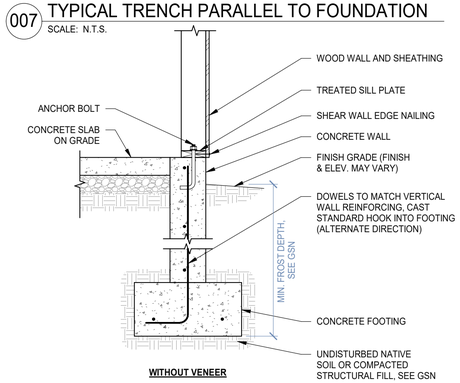




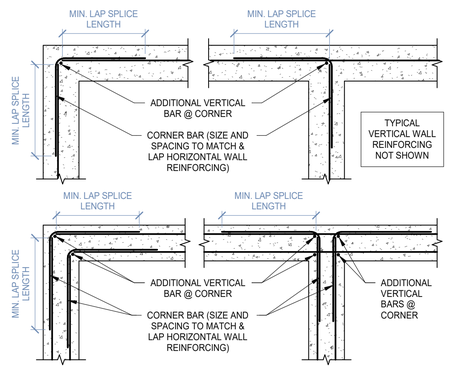
016 TYPICAL SLAB ON GRADE JOINT DETAILS
SCALE: N.T.S.



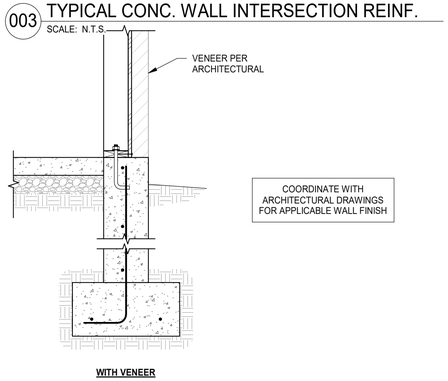
007 TYPICAL TRENCH PARALLEL TO FOUNDATION
SCALE: N.T.S.



008 SHEAR WALL @ EXTERIOR FOOTING
SCALE: N.T.S.



003 TYPICAL CONC. WALL INTERSECTION REINF.
SCALE: N.T.S.



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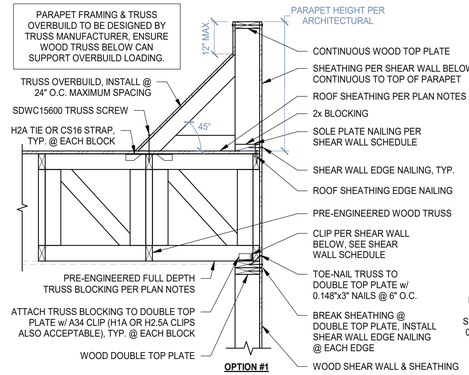
NO.	DATE	REVISION

STRUCTURAL DETAILS - FOUNDATION

PROJECT NUMBER T1869G
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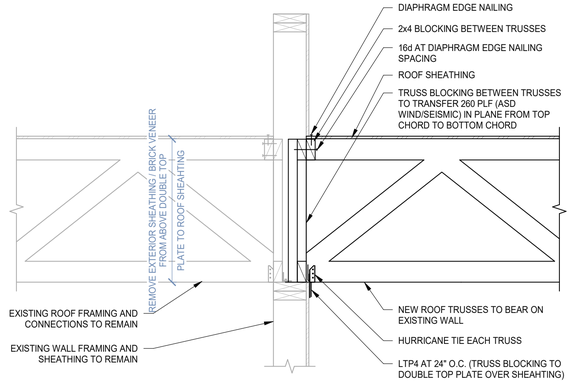
S501

PARAPET FRAMING & TRUSS OVERBUILD TO BE DESIGNED BY TRUSS MANUFACTURER. ENSURE WOOD TRUSS BELOW CAN SUPPORT OVERBUILD LOADING.



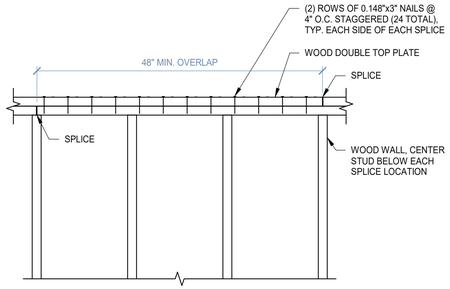
109 WOOD TRUSS WITH PARAPET @ PARALLEL SHEAR WALL

SCALE: N.T.S.



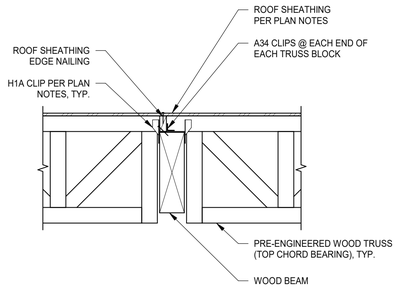
110 TRUSS BEARING AT EXISTING WALL

SCALE: N.T.S.



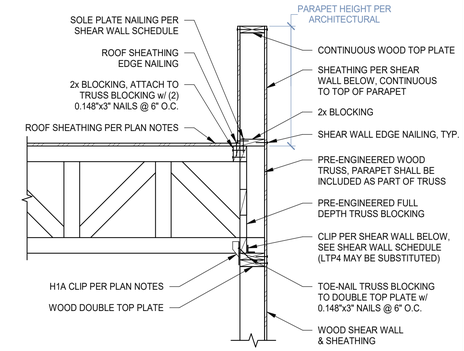
101 TYPICAL DOUBLE TOP PLATE SPLICE

SCALE: N.T.S.



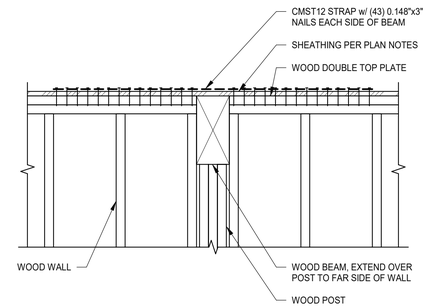
102 WOOD TRUSSES BEARING @ WOOD BEAM / GIRDER TRUSS

SCALE: N.T.S.



103 WOOD TRUSS WITH PARAPET @ SHEAR WALL

SCALE: N.T.S.



104 WOOD BEAM INTERRUPTING DBL. TOP PLATE

SCALE: N.T.S.

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LICENSED PROFESSIONAL ENGINEER
JACOB M. CLEGG
7/28/2026
STATE OF UTAH

NO.	DATE	REVISION

STRUCTURAL DETAILS - ROOF

PROJECT NUMBER	DATE
T1869G	07-08-2026
PROJECT MANAGER	DESIGNED BY
JMC	FK

S521

DRAWING INDEX

SHEET #	SHEET NAME	REV.	REV. NAME	DATE
M001	TITLE SHEET (Legend & Abbreviations)	0	PERMIT SET	07-22-2026
M002	MECHANICAL NOTES	0	PERMIT SET	07-22-2026
M003	MECHANICAL SPECIFICATIONS	0	PERMIT SET	07-22-2026
M100	MAIN LEVEL MECHANICAL ZONE PLAN	0	PERMIT SET	07-22-2026
M101	MAIN LEVEL MECHANICAL PLAN	0	PERMIT SET	07-22-2026
M102	ROOF MECHANICAL PLAN	0	PERMIT SET	07-22-2026
M401	ENLARGED MECHANICAL PLAN	0	PERMIT SET	07-22-2026
M402	ENLARGED MECHANICAL PLAN	0	PERMIT SET	07-22-2026
M501	MECHANICAL DETAILS	0	PERMIT SET	07-22-2026
M601	MECHANICAL SCHEDULES	0	PERMIT SET	07-22-2026
P001	PLUMBING NOTES & SPECIFICATIONS	0	PERMIT SET	07-22-2026
P100	UNDERGROUND PLUMBING PLAN	0	PERMIT SET	07-22-2026
P101	MAIN LEVEL PLUMBING PLAN	0	PERMIT SET	07-22-2026
P102	ROOF PLUMBING PLAN	0	PERMIT SET	07-22-2026
P401	ENLARGED PLUMBING PLAN	0	PERMIT SET	07-22-2026
P402	ENLARGED PLUMBING PLAN	0	PERMIT SET	07-22-2026
P501	PLUMBING DETAILS	0	PERMIT SET	07-22-2026
P601	PLUMBING SCHEDULES	0	PERMIT SET	07-22-2026

ABBREVIATIONS

(NOTE: ALL ABBREVIATIONS MAY NOT BE USED)

(E)	EXISTING
(F)	FUTURE
AAV	AIR ADMITTANCE VALVE
AD	ACCESS DOOR
AD	AREA DRAIN
AFF	ABOVE FINISHED FLOOR
AHJ	AUTHORITY HAVING JURISDICTION
AHU	AIR HANDLER UNIT
AP	ACCESS PANEL
APD	AIR PRESSURE DROP
ATC	AUTO TEMPERATURE CONTROL
AUTO	AUTOMATIC
AW	AIR WASHER
B	BOILER
B	BOTTOM
BAS	BUILDING AUTOMATION SYSTEM
BB	BASEBOARD
BC	BRANCH CONTROLLER
BD	BALANCING DAMPER
BDD	BACKDRAFT DAMPER
BHP	BRAKE HORSE POWER
BOD	BOTTOM OF DUCT
BOE	BOTTOM OF EQUIPMENT
BOP	BOTTOM OF PIPE
BP	BOOSTER PUMP
BS	BRANCH SELECTOR
BT	BATH TUB
BTH	BTU PER HOUR
BTU	BRITISH THERMAL UNITS
CA	COMBUSTION AIR
CA	COMPRESSED AIR LINE
CAV	CONSTANT AIR VOLUME
CC	COOLING COIL
CD	CONDENSATE DRAIN
CFH	CUBIC FEET PER HOUR
CFM	CUBIC FEET PER MINUTE
CH	CHILLER
CHWR	CHILLED WATER RETURN
CHWS	CHILLED WATER SUPPLY
CI	CAST IRON
CL	CENTER LINE ELEVATION
CLG	CEILING
CLG	COOLING
CO	CLEAN OUT
COMP	COMPONENT
COND	CONDENS(-ER, -ING, -ATION)
CONN	CONNECTION
CT	COOLING TOWER
CU	CONDENSING UNIT
CU	COPPER
CV	CONTROL VALVE
CWR	CONDENSER WATER RETURN
CWS	CONSDENSER WATER SUPPLY
DB	DRY BULB TEMPERATURE
DCW	DOMESTIC COLD WATER
DCWS	DOMESTIC COLD WATER SOFTENED
DF	DRINKING FOUNTAIN
DH	DUCT HEATER
DHW	DOMESTIC HOT WATER
DHWR	DOMESTIC HOT WATER RETURN
DIA	DIAMETER
DN	DOWN THROUGH FLOOR
DP	DIFFERENTIAL PRESSURE
DSN	DOWN SPOUT NOZZLE
DTW	DOMESTIC TEMPERED WATER
DV	DRYER VENT
EA	EXHAUST AIR
EAT	ENTERING AIR TEMPERATURE

ABBREVIATIONS

(NOTE: ALL ABBREVIATIONS MAY NOT BE USED)

EC	ELECTRICAL CONTRACTOR
EC	EVAPORATIVE COOLER
EER	ENERGY EFFICIENCY RATIO
EF	EXHAUST FAN
EFF	EFFICIENCY
EG	ETHYLENE CLYCOL
EH	ELECTRIC HEATER
EL	ELEVATION
ELEC	ELECTRIC
ELEV	ELEVATION
ENT	ENTERING
EOR	ENGINEER OF RECORD
ES	EMERGENCY SHOWER
ESP	EXTERNAL STATIC PRESSURE
ET	EXPANSION TANK
EVAP	EVAPORAT(-E, -ING, -ED, -OR)
EW	EMERGENCY EYE WASH
EWC	ELECTRIC WATER COOLER
EWT	ENTERING WATER TEMPERATURE
EX	EXISTING
EXT	EXTERNAL
F	FAHRENHEIT
F	FURNACE
FC	FAN COIL UNIT
FD	FIRE DAMPER
FD	FLOOR DRAIN
FDR	FLOOR DRAIN ROUND
FDS	FLOOR DRAIN SQUARE
FH	FIRE HYDRANT
FL	FILTER
FLA	FULL LOAD AMPERAGE
FLR	FLOOR
FOB	FLAT ON BOTTOM
FOS	FLAT ON SIDE
FOT	FLAT ON TOP
FPI	FINS PER INCH
FPM	FEET PER MINUTE
FPS	FEET PER SECOND
FS	FLOOR SINK
FSD	FIRE SMOKE DAMPER
FT	FOOT/FEET
FU	FIXTURE UNIT
GA	GAUGE
GAL	GALLON(S)
GC	GENERAL CONTRACTOR
GD	GARBAGE DISPOSAL
GE	GREASE EXHAUST
GPH	GALLONS PER HOUR
GPM	GALLONS PER MINUTE
GRD	GRADE
GV	GREASE VENT
GW	GREASE WASTE
HB	HOSE BIBB
HD	HEAD
HDR	HEADER
HG	MERCURY
HHWR	HEATING HOT WATER RETURN
HHWS	HEATING HOT WATER SUPPLY
HP	HIGH PRESSURE
HP	HORSE POWER
HR	HOUR
HT	HEIGHT
HTG	HEATING
HTR	HEATER
HU	HUMIDIFIER
HVAC	HEATING, VENTILATING & AIR CONDITIONING
HX	HEAT EXCHANGER
HZ	HERTZ (FREQUENCY)

ABBREVIATIONS

(NOTE: ALL ABBREVIATIONS MAY NOT BE USED)

ID	INSIDE DIAMETER
IE	INVERT ELEVATION
IEER	INTEGRATED ENERGY EFFICIENCY RATIO
IM	ICE MAKER BOX
IN	INCHES
INSUL	INSULATION
JS	JANITOR SINK
KS	KITCHEN SINK
kW	KILOWATT
LAT	LEAVING AIR TEMPERATURE
LAV	LAVATORY
LBS	POUNDS
LH	LATENT HEAT
LI	LIQUID
LI/SU	LIQUID/SUCTION
LP	LOW PRESSURE
LRA	LOCKED ROTOR AMPS
LVG	LEAVING
LWT	LEAVING WATER TEMPERATURE
MA	MAKE UP AIR
MAU	MAKE UP AIR UNIT
MAX	MAXIMUM
MBH	THOUSAND BTU PER HOUR
MC	MECHANICAL CONTRACTOR
MCA	MINIMUM CIRCUIT AMPS
MD	MANUAL DAMPER
MFR	MANUFACTUR(-ER, -ED)
MH	MANHOLE
MIN	MINIMUM
MP	MEDIUM PRESSURE
N/A	NOT APPLICABLE
N/C	NOT CONDITIONED
NC	NOISE CRITERION
NC	NORMALLY CLOSED
NEBB	NATIONAL ENVIRONMENTAL BALANCING BUREAU
NEG	NEGATIVE
NEUT	NEUTRAL
NG	NATURAL GAS
NIC	NOT IN CONTRACT
NPSH	NET POSITIVE SUCTION HEAD
NTS	NOT TO SCALE
OA	OUTSIDE AIR
OD	OUTSIDE DIAMETER
ORD	OVERFLOW ROOF DRAIN
OS	OIL/SAND
OST	OUNCES PER SQUARE INCH
OZ	OUNCE
P	PUMP
P&TV	PRESSURE & TEMPERATURE VALVE
PD	PRESSURE DROP OF DIFFERENCE
PG	PROPOLENE GLYCOL
PH	PHASE
POS	POSITIVE
PPM	PARTS PER MILLION
PRESS	PRESSURE
PRV	PRESSURE REDUCING VALVE
PSF	POUNDS PER SQUARE FOOT
PSI	POUNDS PER SQUARE INCH
PSIA	PSI ABSOLUTE
PSIG	PSI GAUGE
PVC	POLYVINYL CHLORIDE
QD	QUICK DISCONNECT
R	THERMAL RESISTANCE
RA	RETURN AIR
RD	ROOF DRAIN
RF	RELIEF AIR
RH	RELATIVE HUMIDITY
RH	RELIEF HOOD

ABBREVIATIONS

(NOTE: ALL ABBREVIATIONS MAY NOT BE USED)

RI	ROUGH-IN
RLA	RATED LOAD AMPS
RP	RECIRCULATION PUMP
RPM	REVOLUTIONS PER MINUTE
RQD	REQUIRED
RTU	ROOF TOP UNIT
RV	RELIEF VENT
SA	SUPPLY AIR LOW PRESSURE
SA-MP	SUPPLY AIR MEDIUM PRESSURE
SC	SHADING COEFFICIENT
SCFM	STANDARD CUBIC FEET PER MINUTE
SD	STORM DRAIN
SF	SQUARE FOOTAGE
SF	SUPPLY FAN
SH	SENSIBLE HEAT
SH	SHOWER
SHWR	SNOWMELT HOT WATER RETURN
SHWS	SNOWMELT HOT WATER SUPPLY
SL	SEA LEVEL
SP	STATIC PRESSURE
SPEC(S)	SPECIFICATION(S)
SQ	SQUARE
SS	SANITARY SEWER
SS	STAINLESS STEEL
ST	SOUND TRAP
ST	STORAGE TANK
STD	STANDARD
SU	SUCTION
SW	SOIL, WASTE
TA	TRANSFER AIR
TAB	TESTING, ADJUSTING, AND BALANCING
TD	TEMP. DROP OR DIFF.
TD	TRENCH DRAIN
THERM	THERMAL
TMV	TEMPERATURE MIXING VALVE
TOD	TOP OF DUCT
TP	TRAP PRIMER ASSEMBLY
TRW	TEMPERED RECIRC WATER
TSTAT	THERMOSTAT
TWU	THROUGH WALL UNIT
TYP	TYPICAL
UH	UNIT HEATER
UP	UP THROUGH FLOOR
UR	URINAL
V	VENT, VENTALTION
VAC	VACUUM
VAV	VARIABLE AIR VOLUME
VB	VACUUM BREAKER
VEL	VELOCITY
VERT	VERTICAL
VFD	VARIABLE FREQUENCY DRIVE
VRF	VARIABLE REFRIGERANT FLOW
VRV	VARIABLE REFRIGERANT VOLUME
VTR	VENT THROUGH ROOF
W/	WITH
WB	WET BULB TEMPERATURE
WC	WATER CLOSET
WC	WATER COLUMN
WCO	WALL CLEAN OUT
WF	WASH FOUNTAIN
WG	INCHES WATER GAUGE
WG	WATER GAUGE
WH	WATER HEATER
WHA	WATER HAMMER ARRESTER
WM	WASHING MACHINE
WPD	WATER PRESSURE DROP
WT	WEIGHT

DEFINITIONS

NOTE: ALL DEFINITIONS MAY NOT BE USED

INDICATED: THE TERM "INDICATED" REFERS TO GRAPHIC REPRESENTATIONS, NOTES, OR SCHEDULES ON THE DRAWINGS, OTHER PARAGRAPHS OR SCHEDULES IN THE SPECIFICATIONS, AND SIMILAR REQUIREMENTS IN THE CONTRACT DOCUMENTS. WHERE TERMS SUCH AS "SHOWN", "NOTED", "SCHEDULED", AND "SPECIFIED" ARE USED, IT IS TO HELP THE READER LOCATE THE REFERENCE, NO LIMITATION ON LOCATION IS INTENDED.

DIRECTED: TERMS SUCH AS "DIRECTED", "REQUESTED", AUTHORIZED", "SELECTED", "APPROVED", "REQUIRED", AND "PERMITTED" MEAN "DIRECTED BY THE ENGINEER", "REQUESTED BY THE ENGINEER", AND SIMILAR PHRASES.

APPROVED: THE TERM "APPROVED", WHERE USED IN CONJUNCTION WITH THE ENGINEER'S ACTION ON THE CONTRACTOR'S SUBMITTALS, APPLICATIONS, AND REQUESTS, IS LIMITED TO THE ENGINEER'S DUTIES AND RESPONSIBILITIES AS STATED IN GENERAL AND SUPPLEMENTARY CONDITIONS.

FURNISH: THE TERM "FURNISH" IS USED TO MEAN "SUPPLY AND DELIVER TO THE PROJECT SITE, READY FOR UNLOADING, UNPACKING, ASSEMBLY, INSTALLATION, AND SIMILAR OPERATIONS."

INSTALL: THE TERM "INSTALL" IS USED TO DESCRIBE OPERATIONS AT PROJECT SITE INCLUDING THE ACTUAL "UNLOADING, UNPACKING, ASSEMBLY, ERECTION, PLACING, ANCHORING, APPLYING, WORKING TO DIMENSION, FINISHING, CURING, PROTECTING, CLEANING, AND SIMILAR OPERATIONS."

PROVIDE: THE TERM "PROVIDE" MEANS "TO FURNISH AND INSTALL, COMPLETE AND READY FOR THE INTENDED USE."

INSTALLER: AN "INSTALLER" IS THE CONTRACTOR OR AN ENTITY ENGAGED BY THE CONTRACTOR, EITHER AS AN EMPLOYEE, SUBCONTRACTOR, OR SUB-SUBCONTRACTOR, FOR PERFORMANCE OF A PARTICULAR CONSTRUCTION ACTIVITY, INCLUDING INSTALLATION, ERECTION, APPLICATION, AND SIMILAR OPERATIONS. INSTALLERS ARE REQUIRED TO BE EXPERIENCED IN THE OPERATIONS THEY ARE ENGAGED TO PERFORM.

LEGEND

- AØ — ROUND DUCT
- AxB — RECTANGULAR DUCT, SIDE SHOWN IS "A" DIMENSION
- INSULATED DUCT
- LINED DUCT
- SUPPLY DIFFUSER
- (15°) — DUCT DIFFUSER
- LINEAR SLOT DIFFUSER
- SIDE WALL DIFFUSER
- EXHAUST/RETURN GRILLE
- U-TRANSFER
- GRILLE, REGISTER, & DIFFUSER TAG
  - SERVICE: S-SUPPLY, E-EXHAUST, RETURN, OR TRANSFER
  - SURFACE TYPE: L-LAY IN, G-GYPSUM, D-DUCT, W-WALL, S-LINEAR SLOT
  - SC-XXXX-2 — GRD IDENTIFIER
  - 1000 CFM — AIRFLOW, RAG, OR TAG
- AIRFLOW ARROW
- U.C. 1/2" — TRANSFER AIR DOOR UNDERCUT INDICATOR
- WC-10 — PLUMBING FIXTURE TAG
- PIPE FLOW ARROW
- 1/8" / 1'-0" — PIPE SLOPE INDICATOR
- RTU-301 — MECHANICAL EQUIPMENT TAG
- Room name 101 — ROOM TAG
- 1 A101 SIM — DETAIL INDICATOR
- B.1 — REVISION INDICATOR
- 1 — KEYNOTE INDICATOR
- NEW CONNECTION POINT TO EXISTING
- DEMO EXISTING SERVICES
- T — THERMOSTAT
- S — SWITCH
- LC — LIGHTING CONTROL OVERRIDE SWITCH
- C — CO2 SENSOR
- DP — DIFFERENTIAL PRESSURE SENSOR
- SP — STATIC PRESSURE SENSOR
- J — JUNCTION BOX
- H — HUMIDISTAT

CONTRACTOR TO PROVIDE SIESMIC DESIGN, DETAILS, AND CALCULATIONS STAMPED BY PROFESSIONAL SIESMIC/STRUCTURAL ENGINEER AS DEFFERED SUBMITTAL WHERE REQUIRED BY AHJ.

HVAC BASIS OF DESIGN

CLIMATE ZONE: 5B

OUTSIDE DESIGN TEMPS.: 98°F Db SUMMER, 63°F Wb SUMMER, 11°F Db WINTER — DESIGN ALTITUDE: 4225 FT.

INTERIOR DESIGN DATA	SUMMER		WINTER	
	T DB (°F)	MAX RH (%)	T DB (°F)	MIN RH (%)
ALL	75	65	70	5

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TOOELE, UTAH**

PROFESSIONAL ENGINEER — THOMAS BRADLEY SHAKESPEARE — 10361455 — STATE OF UTAH

PERMIT SET

NO.	DATE	REVISION
0	07-22-2026	PERMIT SET

TITLE SHEET (Legend & Abbreviations)

PROJECT NUMBER	DATE
26207	07-22-2026
DRAWN BY: IH	CHECKED BY: LB
APPROVED BY: BS	DESIGNED BY: MT

M001

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TEST ADJUST & BALANCE NOTES

1. THE MINIMUM REQUIRMENT FOR TESTING, ADJUSTING, AND BALANCING (TAB) OF THE HEATING, VENTILATION, AND AIR CONDITIONING (HVAC) DISTRIBUTION SYSTEMS AND DOMESTIC HOT WATER RECIRCULATION SYSTEMS SHALL BE AS FOLLOWS.
2. CONTRACTOR SHALL BE RESPONSIBLE TO PROVIDE TESTING ADJUSTING AND BALANCING FOR THIS PROJECT
3. THE SYSTEMS SHALL BE TESTED, ADJUSTED AND BALANCED (WHERE APPLICABLE): SUPPLY AIR SYSTEM, RETURN AIR SYSTEM, EXHAUST AIR SYSTEM, OUTSIDE AIR SYSTEM, ,HYDRONIC SYSTEM, REFRIGERANT SYSTEM, DOMESTIC HOT WATER RECIRCULATION SYSTEM, AND ALL ASSOCIATED EQUIPMENT.
4. CONTRACTOR PERFORMING TESTING ADJUSTING AND BALANCING WORK SHALL BE EITHER AABC OR NEBB CERTIFIED.
5. TESTING ADJUSTING AND BALANCING SHALL BE PERFORMED IN ACCORDANCE WITH THE NEBB OR AABC TEST PROCEDURES.
6. TESTING ADJUSTING AND BALANCING REPORT FORMS SHALL BE STANDARD FORMS FROM EITHER AABC OR NEBB.
7. CONTRACTOR SHALL VERIFY QUANTITIES AND LOCATIONS OF ALL BALANCING DEVICES. CONTRACTOR SHALL VERIFY THAT THESE BALANCING DEVICES ARE ACCESSIBLE AN APPROPRIATE FOR BALANCING AND FOR EFFICIENT SYSTEM AND EQUIPMENT OPERATION PRIOR TO COMMENCING WORK.
8. MECHANICAL AND HYDRONIC SYSTEMS SHALL BE ADJUSTED TO WITHIN THE FOLLOWING TOLERANCES.
9. | | |
   |---|---|
   | SUPPLY AIR AND RETURN AIR: | (-)10% TO (+)10% |
   | EXHAUST FANS: | (-)5% TO (+)10% |
   | EQUIPMENT WITH FANS: | (-)5% TO (+)5% |
   | AIR OUTLETS AND INLETS: | (-)10% TO (+)10% |
   | PUMPS: | (-)10% TO (+)10% |
   | HYDRONIC BALANCE DEVICES : | (-)10% TO (+)10% |
10. FINAL BALANCE REPORT SHALL INCLUDE THE FOLLOWING (WHERE APPLICABLE): TEST CONDITIONS FOR FANS, SYSTEM DIAGRAMS, AIR CONDITIONING UNIT TEST REPORTS, FAN TEST REPORTS, AIR TERMINAL DEVICE REPORTS, PUMP REPORTS, AND HYDRONIC BALANCE DEVICE REPORTS.
11. SUBMIT FINAL BALANCING REPORT TO THE DESIGN ENGINEER AND OWNER. IF INCLUDED IN PROJECT SCOPE, CONTRACTOR SHALL REQUEST THAT A FINAL INSPECTION BE MADE BY THE DESIGN ENGINEER. DURING THE FINAL INSPECTION, DESIGN ENGINEER MAY SELECT MEASUREMENTS DOCUMENTED IN THE FINAL REPORT TO BE VERIFIED BY THE CONTRACTOR.
12. APPROXIMATELY 90 DAYS AFTER SUBMISSION OF THE FINAL BALANCING REPORT, CONTRACTOR SHALL PERFORM ADDITIONAL TESTING ADJUSTING AND BALANCING TO VERIFY THAT BALANCED CONDITIONS ARE BEING MAINTAINED THROUGHOUT EACH SYSTEM AND TO CORRECT UNUSUAL CONDITIONS.
13. ADDITIONAL TESTING ADJUSTING AND BALANCING SHALL BE MADE AS DIRECTED BY THE DESIGN ENGINEER TO CORRECT UNUSUAL CONDITIONS. ADDITIONAL TESTING WILL NOT EXCEED THREE (3) DAYS DURING THE FIRST SIX MONTHS OF OPERATION.
14. IF INITIAL TESTING ADJUSTING AND BALANCING PROCEDURES WERE NOT PERFORMED DURING NEAR-PEAK SUMMER AND WINTER CONDITIONS, PERFORM ADDITIONAL TESTING ADJUSTING AND BALANCING DURING NEAR PEAK SUMMER AND WINTER CONDITIONS.

DUCT CONSTRUCTION NOTES

1. ALL DUCTWORK SHALL BE GALVANIZED SHEET METAL, EXCEPT WHERE INDICATED OTHERWISE.
2. SHEET METAL DUCT STATIC PRESSURE CLASSIFICATION:

SUPPLY AIR DUCT:	2" W.C.
RETURN AIR DUCT:	2" W.C. (NEGATIVE)
EXHAUST AIR DUCT:	2" W.C. (NEGATIVE)
OUTSIDE AIR DUCT:	2" W.C.

3. SEAL ALL TRANSVERSE JOINTS AND LONGITUDINAL SEAMS TO SMACNA SEAL CLASS B.
4. DO NOT USE GRAY DUCT TAPE, FOIL BACKED TAPE, OIL BASED CAULKING AND GLAZING COMPOUNDS TO SEAL METAL DUCTS.
5. CROSS-BREAK DUCT SURFACES 19" THROUGH 60". USE ANGLE REINFORCING FOR DUCTS SURFACES OF 60".
6. ALL METAL LONGITUDINAL SEAMS SHALL BE PITTSBURGH OR OTHER LISTED SMACNA LISTED SEAM. DO NOT USE BUTTON PUNCH SNAP-BACK SEAMS.
7. SUSPEND METAL DUCTWORK NOT EXCEEDING 30" LONGEST SIDE AT EVERY JOINT. DO NOT EXCEED 10'-0" HANGER SPACING. USE 1" X 18 GAGE GALVANIZED STRAPS (MINIMUM) ATTACHED TO BOTTOM AND SIDES OF DUCT.
8. SUSPEND METAL DUCTWORK EXCEEDING 30" LONGEST SIDE AT MAXIMUM 8'-0" SPACING USING ANGLES AND RODS.
9. SUPPORT DUCTWORK FROM STRUCTURAL MEMBERS. ATTACHMENT TO ROOF DECK IS NOT ACCEPTABLE.
10. DUCT SIZES SHALL BE VERIFIED FOR CLEARANCES AT THE JOB SITE PRIOR TO FABRICATION. DIMENSIONS MAY BE CHANGED TO ACCOMMODATE CONSTRUCTION CLEARANCES. FREE AREA OF DUCT SHALL BE MAINTAINED.
11. DUCT TRANSITIONS SHALL BE CONSTRUCTED WITH SLOPE OF 1/4.
12. PROVIDE ELBOWS AND CHANGES IN DIRECTION WITH SINGLE VANE TURNING VANES.
13. ALL JOINTS SHALL BE MADE AIRTIGHT BY APPROVED METHODS, INCLUDING TAPES, MASTICS, GASKETING OR OTHER APPROVED CLOSURE SYSTEMS.
14. TAPE ALONE CANNOT BE SUBSTITUTED FOR MECHANICAL FASTENERS.
15. TAPES AND MASTICS USED TO SEAL DUCTWORK MUST BE LISTED AND LABELED IN ACCORDANCE WITH UL 181A AND SHALL BE MARKED "181A-P" FOR PRESSURE-SENSITIVE TAPE, "181A-M" FOR MASTIC OR "181A-H" FOR HEAT SENSITIVE TAPE.
16. TAPES AND MASTICS USED TO SEAL FLEXIBLE AIR DUCTS SHALL COMPLY WITH UL 181B AND SHALL BE MARKED "181B-FX" FOR PRESSURE SENSITIVE TAPE, OR "181B-M" FOR MASTIC.
17. MECHANICAL FASTENERS USED WITH FLEXIBLE NON-METALLIC AIR DUCTS SHALL COMPLY WITH UL 181 AND SHALL BE MARKED "181B-".
18. FLEXIBLE CONNECTORS SHALL NOT BE USED.
19. HIGH EFFICIENCY TAKE-OFF FITTINGS WITH MANUAL DAMPER SHALL HAVE 2" STAND OFF BRACKET.
20. ALL BRANCH TAKE-OFFS TO INDIVIDUAL AIR INLET OR AIR OUTLET SHALL BE PROVIDED WITH MANUAL DAMPER.
21. ALL DUCTWORK SHALL BE A MINIMUM 26 GAUGE GALVANIZED SHEET METAL.

GENERAL EQUIPMENT NOTES

1. ALL CAPACITES ARE AT JOB SITE CONDITIONS AND ARE MINIMUM CAPACITY.
2. ALL AIR CONDITIONING EQUIPMENT SHALL BE A.R.I. CERTIFIED AND U.L. LISTED.
3. ALL MECHANICAL EQUIPMENT SHALL BE INSTALLED TO CONFORM WITH LOCAL SEISMIC REQUIREMENTS AND THE REQUIREMENTS OF THESE CONSTRUCTION DOCUMENTS.
4. VERIFY ALL REQUIRED SERVICE CONNECTIONS, INCLUDING ELECTRICAL CHARACTERISTICS FOR ALL EQUIPMENT PRIOR TO ORDERING EQUIPMENT.
5. ALL EQUIPMENT SHALL BE INDEPENDENTLY SUPPORTED FROM STRUCTURAL MEMBERS.
6. ALL EQUIPMENT SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S WRITTEN INSTALLATION INSTRUCTIONS.
7. ALL SIMILAR EQUIPMENT SHALL BE OF THE SAME MANUFACTURER.
8. AIR INLETS AND OUTLETS SHALL BE OF THE SAME MANUFACTURER.
9. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE HVAC EQUIPMENT CHECK-IN, SAFEKEEPING, AND DAMAGE.
10. ALL SYSTEM COMPONENTS, WHERE REQUIRED, SHALL BE CERTIFIED AND LISTED BY A THIRD PARTY.
11. SEE ARCHITECTRURAL ADA DRAWINGS/DETAILS FOR WALL SWITCHES OR CONTROL SENSORS (I.E. THERMOSTATS) MOUNTING HEIGHTS, BUT NOT GREATER THAN 48" AFF.
12. THERMOSTAT SENSORS TO BE LOCATED TO AVOID DIRECT SUNLIGHT AND DIRECT AIRFLOW FROM AIR DEVICES. THERMOSTATS LOCATED ON BUILDING EXTERIOR WALLS TO HAVE ALL WIRING HOLES SEALED AND TO BE THERMALLY INSULATED FROM WALL SYSTEM.

GENERAL MECHANICAL NOTES

1. MECHANICAL DRAWINGS SHOW GENERAL DESIGN, ARRANGEMENT AND EXTENT OF MECHANICAL SYSTEMS. DRAWINGS DO NOT SHOW ALL OFFSETS, BENDS OR ELBOWS NECESSARY FOR COMPLETE INSTALLATION IN SPACE PROVIDED. CONTRACTOR SHALL MAKE SUCH SLIGHT ALTERATIONS AS MAY BE NECESSARY TO MAKE SYSTEMS COMPLETE AND OPERATIONAL IN ACCORDANCE WITH THE DESIGN INTENT. MAJOR DEVIATIONS SUCH AS CHANGES IN COMPONENT SIZES, WEIGHTS, QUANTITIES OR MATERIAL REQUIRE PRIOR APPROVAL BY DESIGN ENGINEER.
2. DRAWINGS AND SPECIFICATIONS HAVE BEEN PREPARED TO SUPPLEMENT EACH OTHER AND SHALL BE INTERPRETED AS IN INTEGRAL UNIT WITH ITEMS SHOWN ON ONE AND NOT OTHER BEING FURNISHED AND INSTALLED AS THOUGH SHOWN AND CALLED OUT IN BOTH.
3. ENTIRE MECHANICAL INSTALLATION SHALL CONFORM TO THE REQUIREMENTS OF THE MOST RECENTLY ADOPTED BUILDING CODES, MECHANICAL CODE, PLUMBING CODE, ELECTRICAL CODE, AND ALL OTHER APPLICABLE CITY, COUNTY, STATE, AND FEDERAL CODES AND REGULATIONS IN EFFECT.
4. ENTIRE MECHANICAL INSTALLATION SHALL CONFORM TO ANY CODES, RULES, REGULATIONS AND REQUIREMENTS OF OWNER.
5. PRIOR TO FABRICATION AND INSTALLATION OF ANY MECHANICAL COMPONENT, CONTRACTOR SHALL COORDINATE INSTALLATION OF ALL MECHANICAL WORK WITH ALL OTHER BUILDING TRADES. INCLUDING BUILDING TRADES HIRED DIRECTLY BY OWNER. WHERE CONFLICTS MAY OCCUR, THEY SHALL BE RESOLVED PRIOR TO INSTALLATION.
6. SPACE ABOVE ALL CEILINGS IS LIMITED. CAREFUL COORDINATION IS REQUIRED WITH ALL TRADES BEFORE ANY PIPE, DUCT, OR EQUIPMENT IS ORDERED AND OR INSTALLED. ANY CONFLICTS AND OR CHANGES FOUND DURING INSTALLATION THAT RESULT FROM LACK OF COORDINATION BY THE CONTRACTORS DURING SHOP DRAWING PROCESS ARE THE RESPONSIBILITY OF THE CONTRACTOR.
7. CONTRACTOR SHALL BE RESPONSIBLE TO REVIEW AND USE, WHERE APPROPRIATE, ALL MECHANICAL DETAILS SHOWN ON THE DRAWINGS. DETAILS MAY OR MAY NOT BE CALLED OUT ON DRAWINGS WITH SYMBOLS OR KEYED NOTES. ANY CHANGES RESULTING FROM FAILURE TO INSTALL MECHANICAL SYSTEM WITHOUT USING THE INCLUDED DETAILS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
8. STRUCTURE SHOWN ON DETAILS MAY OR MAY NOT PERTAIN TO A PORTION OR ANY PORTION OF THE BUILDING. COORDINATE ALL MOUNTING REQUIREMENTS WITH ARCHITECTURAL AND STRUCTURAL DRAWINGS.
9. ANY PART OF THE MECHANICAL INSTALLATION THAT FAILS, IS UNFIT, OR BECOMES DAMAGED DURING CONSTRUCTION SHALL BE REPAIRED OR REPLACED BY CONTRACTOR AT NO ADDITIONAL EXPENSE TO OWNER.
10. SEE ARCHITECTURAL REFLECTED CEILING PLAN FOR EXACT LOCATION OF ALL CEILING DIFFUSERS AND GRILLES.
11. CONTRACTOR SHALL OPERATE SYSTEMS AND DEMONSTRATE ALL ASPECTS OF SYSTEMS TO ENGINEER AND OR OWNER TO PROVE ALL SYSTEMS ARE OPERATIONAL.
12. DURING CONSTRUCTION, CONTRACTOR SHALL MAINTAIN A SET OF AS-BUILT REDLINED RECORD DRAWINGS AT THE PROJECT SITE. ALL CHANGES IN LAYOUT, ROUTING, EQUIPMENT, COMPONENTS, AND ACCESSORIES SHALL BE RECORDED. THESE REDLINED DRAWINGS SHALL BE GIVEN TO THE ARCHITECT/ENGINEER AFTER FINAL INSPECTION IN ACCORDANCE WITH SPECIFICATIONS.

PENETRATION FIRESTOP NOTES

1. FIRE RATED PENETRATIONS DETAILS SHOWN ON THE CONSTRUCTIONS DOCUMENTS SHOW GENERAL METHOD OF MECHANICAL (HVAC) AND PLUMBING PENETRATION FIRESTOPPING.
2. CONTRACTOR SHALL REVIEW CONSTRUCTION DOCUMENTS AND PROVIDE SPECIFIC FIRESTOPPING DETAILS FROM A SPECIFIC FIRESTOPPING MANUFACTURER FOR EACH MECHANICAL (HVAC) AND PLUMBING PIPE OR DUCT PENETRATION FOR EACH FIRE RATED ASSEMBLY.
3. PROVIDE PENETRATION FIRESTOPPING THAT IS PRODUCED AND INSTALLED TO RESIST SPREAD OF FIRE ACCORDING TO REQUIREMENTS INDICATED, RESIST PASSAGE OF SMOKE AND OTHER GASES, AND MAINTAIN ORIGINAL FIRE-RESISTANCE RATING OF CONSTRUCTION PENETRATED.
4. PENETRATION FIRESTOPPING SYSTEMS SHALL BE COMPATIBLE WITH ONE ANOTHER, WITH THE SUBSTRATES FORMING OPENINGS, AND WITH PENETRATING ITEMS IF ANY.
5. PENETRATIONS IN FIRE-RESISTANCE-RATED WALLS: PROVIDE PENETRATION FIRESTOPPING WITH RATINGS DETERMINED PER ASTM E 814 OR UL 1479, BASED ON TESTING AT A POSITIVE PRESSURE DIFFERENTIAL OF 0.01-INCH W.G.
6. PENETRATION FIRESTOPPING PRODUCTS SHALL BEAR UL, ETL OR FM GLOBAL CLASSIFICATION MARKING OF QUALIFIED TESTING AND INSPECTING AGENCY.
7. DO NOT INSTALL PENETRATION FIRESTOPPING WHEN AMBIENT OR SUBSTRATE TEMPERATURES ARE OUTSIDE LIMITS PERMITTED BY PENETRATION FIRESTOPPING MANUFACTURERS OR WHEN SUBSTRATES ARE WET BECAUSE OF RAIN, FROST, CONDENSATION, OR OTHER CAUSES.
8. COORDINATE CONSTRUCTION OF OPENINGS AND PENETRATING ITEMS TO ENSURE THAT PENETRATION FIRESTOPPING IS INSTALLED ACCORDING TO SPECIFIED REQUIREMENTS.
9. COORDINATE SIZING OF SLEEVES, OPENINGS, CORE-DRILLED HOLES, OR CUT OPENINGS TO ACCOMMODATE PENETRATION FIRESTOPPING.
10. INSTALL PENETRATION FIRESTOPPING TO COMPLY WITH MANUFACTURER'S WRITTEN INSTALLATION INSTRUCTIONS AND PUBLISHED DRAWINGS FOR PRODUCTS AND APPLICATIONS INDICATED.
11. INSTALL FORMING MATERIALS AND OTHER ACCESSORIES OF TYPES REQUIRED TO SUPPORT FILL MATERIALS DURING THEIR APPLICATION AND IN THE POSITION NEEDED TO PRODUCE CROSS-SECTIONAL SHAPES AND DEPTHS REQUIRED TO ACHIEVE FIRE RATINGS INDICATED.
12. IDENTIFY PENETRATION FIRESTOPPING WITH PREPRINTED METAL OR PLASTIC LABELS. ATTACH LABELS PERMANENTLY TO SURFACES ADJACENT TO AND WITHIN 6 INCHES OF FIRESTOPPING EDGE SO LABELS WILL BE VISIBLE TO ANYONE SEEKING TO REMOVE PENETRATING ITEMS OR FIRESTOPPING.

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FOR:

PAGNANI BUILDING ADDITION

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TOOELE, UTAH



PERMIT SET

NO.	DATE	REVISION
0	07-22-2026	PERMIT SET

MECHANICAL NOTES

PROJECT NUMBER **26207**	DATE **07-22-2026**
DRAWN BY **IH**	CHECKED BY **LB**
APPROVED BY **BS**	DESIGNED BY **MT**

M002

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MECHANICAL SPECIFICATIONS

230010 - BASIC MECHANICAL REQUIREMENTS

1. COORDINATE LOCATIONS OF ALL NEW ROOF OPENINGS AND ROOF MOUNTED EQUIPMENT WITH STRUCTURAL AND ARCHITECTURAL PLANS PRIOR TO ANY INSTALLATION.
2. V-BELT DRIVES SHALL BE OF FABRIC AND RUBBER CONSTRUCTION. BELT GUARDS SHALL BE PROVIDED FOR ALL EXPOSED BELTS AND DRIVES.
3. PROVIDE 4" THICK CONCRETE HOUSEKEEPING PADS UNDER ALL FLOOR MOUNTED EQUIPMENT.
4. PROPERLY LUBRICATE ALL PIECES OF EQUIPMENT BEFORE TURNING THE SYSTEM OVER TO OWNER.
5. INSTALL DUCT MOUNTED SUPPLY AND RETURN AIR SMOKE DETECTORS IN ALL ROOFTOP, FAN-COIL, AIR-HANDLING, AND OTHER SUPPLY AIR SYSTEMS WITH CAPACITY GREATER THAN 2000 CFM. SMOKE DETECTORS ARE PURCHASED AND WIRED BY DIVISION 26 CONTRACTOR.

230011 - BASIC PIPING MATERIALS & METHODS

1. CORE CUT ALL PIPE PENETRATION OF MASONRY OR CONCRETE WALLS AND FLOORS. SLEEVE ALL PENETRATIONS THROUGH NEW WALLS AND FLOORS. SEAL ALL PENETRATIONS WATER TIGHT WITH SILICONE SEALANT. USE FIRE RATED SEALANT (3M "FIRE BARRIER" OR EQUAL) FOR 1 HOUR OR 2 HOUR PENETRATIONS.
2. CAULK AROUND ALL PIPING THAT PASSES THROUGH FIRE-RATED PARTITIONS WITH A NON-HARDENING CAULKING SIMILAR TO 3M "FIRE BARRIER".
3. SEAL ALL PIPING THROUGH WALLS AIR TIGHT.

230523 - VALVES

1. PROVIDE VALVES OF TYPE AND QUANTITY SHOWN ON DRAWINGS. VALVES OF THE SAME TYPE SHALL BE BY ONE MANUFACTURER.

230593 - TESTING, ADJUSTING AND BALANCING

1. OBTAIN SERVICES OF AN INDEPENDENT TESTING AND BALANCING AGENCY TO BALANCE AND ADJUST SYSTEMS. THIS SHALL BE DONE BY PERSONS FULLY FAMILIAR WITH SYSTEMS OF THIS TYPE. BALANCING SHALL BE DONE IN ACCORDANCE WITH AABC OR NEBB STANDARDS. ALL DATA SHALL BE RECORDED AND A REPORT SUBMITTED TO THE ENGINEER PRIOR TO JOB CLOSE OUT.

MECHANICAL SPECIFICATIONS

230700 - MECHANICAL INSULATION

1. PIPE INSULATION TO BE SNAP-ON GLASS FIBER TYPE WITH VAPOR JACKET. SEAL ALL ENDS AND JOINTS TO PROVIDE A COMPLETELY SEALED SYSTEM. ALTERNATIVELY, USE FLEXIBLE UNICELLULAR ASTM 534 TYPE 1 INSULATION. ALL PIPE INSULATION SHALL BE LISTED AND LABELED.
2. INDOOR PIPE INSULATION AND RELATED MATERIALS SHALL HAVE A FLAME-SPREAD INDEX OF 25 OR LESS, AND SMOKE-DEVELOPED INDEX OF 50 OR LESS WHEN TESTED TO ASTM E 84.
3. ALL PIPE INSULATION SHALL NOT FLAME, GLOW, SMOLDER OR SMOKE WHEN TESTED IN ACORDANCE WITH ASTM C411.
4. PIPING SERVING AS PART OF A HEATING OR COOLING SYSTEM SHALL BE THERMALLY INSULATED IN ACCORDANCE WITH THE MINIMUM PIPE INSULATION THICKNESS TABLE.

MINIMUM PIPE INSULATION THICKNESS (INCHES)

FLUID OPERATING TEMPERATURE RANGE AND USAGE (°F)	INSULATION CONDUCTIVITY		NOMINAL PIPE OR TUBE SIZE (inches)				
	CONDUCTIVITY Btu x in./(h x ft^2 x °F)	Mean Rating Temperature, °F	< 1	1 to < 1 1/2	1 1/2 to < 4	4 to < 8	> 8
>350	0.32-0.34	250	4.5	5	5	5	5
251-350	0.29-0.32	200	3	4	4.5	4.5	4.5
201-250	0.27-0.30	150	2.5	2.5	2.5	3	3
141-200	0.25-0.29	125	1.5	1.5	2	2	2
105-140	0.21-0.28	100	1	1	1.5	1.5	1.5
40-60	0.21-0.27	75	0.5	0.5	1	1	1
< 40	0.20-0.26	50	0.5	1	1	1	1.5

NOTE: FOR PIPING SMALLER THAN 1 1/2 INCHES AND LOCATED IN PARTITIONS WITHIN CONDITIONED SPACES, REDUCTION OF THESE THICKNESSES BY 1 INCH SHALL BE PERMITTED BUT NOT TO A THICKNESS LESS THAN 1 INCH.

5. WRAP ALL SUPPLY AND RETURN DUCTWORK WITH FOIL FACED FIBERGLASS INSULATION. WRAP INSULATION TIGHTLY ON THE DUCT WITH ALL CIRCUMFERENTIAL JOINTS BUTTED AND LONGITUDINAL JOINTS OVERLAPPED A MIN. OF 2". COVER ALL JOINTS WITH FOIL-REINFORCED 'KRAFT' TAPE, 3" WIDE.
6. DUCT INSULATION IN CONDITIONED AREAS IS NOT REQUIRED IN CLIMATES B OR C.
7. DUCT INSULATION IN EXPOSED CONDITIONED AREAS IS NOT REQUIRED IN CLIMATES 4-7 A.
8. DUCT INSULATION SHALL BE MECHANICALLY FASTENED TO DUCT WIDER THAN 24" AND SHALL BE AFFIXED TO BOTTOM OF DUCT WITH WELDED METAL PINS AND 2" WASHERS AT 18" MAXIMUM SPACING.
9. OUTDOOR DUCTWORK EXPOSED TO THE WEATHER SHALL HAVE THE REQUIRED WRAP INSULATION TO MEET THE MINIMUM THERMAL RESISTANCE OF THE CLIMATE AND SHALL BE FITTED WITH 0.016 EMBOSSED ALUMINUM JACKET MECHANICALLY FASTENED FOR A TIGHT WEATHERPROOF FIT.
10. INDOOR DUCT INSULATION AND RELATED MATERIALS SHALL HAVE A FLAME-SPREAD INDEX OF 25 OR LESS, AND SMOKE-DEVELOPED INDEX OF 50 OR LESS WHEN TESTED TO ASTM E 84.
11. OUTDOOR DUCT INSULATION AND RELATED MATERIALS SHALL HAVE A FLAME-SPREAD INDEX OF 75 OR LESS, AND SMOKE-DEVELOPED INDEX OF 150 OR LESS WHEN TESTED TO ASTM 84.
12. ALL DUCT COVERINGS AND LININGS SHALL NOT FLAME, GLOW, SMOLDER OR SMOKE WHEN TESTED IN ACORDANCE WITH ASTM C411.
13. ALL DUCT INSULATION SHALL BE LISTED AND LABELED.
14. INSULATE DUCTWORK PER MINIMUM THERMAL RESISTANCE REQUIREMENTS, SEE BASIS OF DESIGN ON SHEET M001 FOR PROJECT CLIMATE ZONE.

DUCT SYSTEM	DUCT LOCATION	MINIMUM THERMAL RESISTANCE ("R")
SUPPLY, RETURN, & OUTSIDE AIR	BUILDING INTERIOR, (CONDITIONED)	4
	BUILDING INTERIOR, (UNCONDITIONED)	6
	BUILDING EXTERIOR (OUTSIDE BUILDING INSULATION)	8 (CLIMATE ZONES 1-4)
		12 (CLIMATE ZONES 5-8)
EXHAUST AIR	ALL	0

15. SEE 233113 FOR LINED RECTANGULAR DUCTWORK.

MECHANICAL SPECIFICATIONS

233113 - METAL DUCTWORK

1. ALL DUCTWORK SHALL BE CONSTRUCTED, ERECTED, AND TESTED IN ACCORDANCE WITH THE MOST RESTRICTIVE OF LOCAL REGULATIONS AND PROCEDURES DETAILED IN THE ASHRAE HANDBOOK OF FUNDAMENTALS, OR THE APPLICABLE STANDARDS ADOPTED BY THE SHEET METAL AND AIR CONDITIONING CONTRACTOR'S NATIONAL ASSOCIATION, (SMACNA).
2. TRANSITION ALL DUCTWORK TO CONNECT WITH EQUIPMENT SIZES AS REQUIRED.
3. DUCTWORK SHALL BE GALVANIZED STEEL THROUGHOUT, FABRICATED AND INSTALLED SO THAT NO VIBRATION OR NOISE RESULTS. IT SHALL BE MADE FROM THE BEST GRADE OF GALVANIZED MILLED STEEL SHEETS OF U.S. STANDARD GAUGE AND BE FREE FROM BLISTERS, SLIVERS, AND PITS. ALL SEAMS SHALL BE AIRTIGHT, THE CONSTRUCTION OF ALL DUCTWORK, INCLUDING GAUGES OF METAL, BRACING LAYOUT, ETC., SHALL BE IN ACCORDANCE WITH SMACNA. SLEEVES FOR FIRE DAMPERS AND DUCT SECTIONS FORMING AN EXTENSION OF THE FIRE WALL SHALL BE 10 GAUGE STEEL.
4. SEAL DUCTWORK ACCORDING TO THE FOLLOWING SMACNA DUCT SEALING CLASS:

DUCT LOCATION	DUCT TYPE			
	SUPPLY		EXH.	RET.
	<2in. Wg.	>2in. Wg.		
OUTDOORS	A	A	A	A
UNCONDITIONED SPACES	B	A	B	B
CONDITIONED SPACES	C	B	B	B
(CONCEALED DUCTWORK) CONDITIONED SPACES (EXPOSED DUCTWORK)	A	A	B	B

5. HANGERS FOR DUCTS UP TO 18" IN WIDTH OR DIAMETER SHALL BE PLACED ON NOT MORE THAN 8 FOOT CENTERS. DUCTS 19" AND OVER IN WIDTH OR DIAMETER SHALL BE SUPPORTED ON NOT MORE THAN 4 FOOT CENTERS. DUCT HANGERS SHALL BE CONSTRUCTED OF GALVANIZED BAND IRON 1-1/8" FOR DUCTS UP TO 36" IN WIDTH OR DIAMETER. HANGERS SHALL EXTEND DOWN SIDES AND A MINIMUM OF 1" UNDER RECTANGULAR DUCTS, AND WRAP COMPLETELY AROUND ROUND DUCTS. ALL DUCTS SHALL BE RIGIDLY SUPPORTED.
6. ALL DUCTWORK SHALL BE CLEANED PRIOR TO THE INSTALLATION OF CEILING AND DIFFUSERS. OPERATE FANS TO BLOW OUT DUCTWORK.
7. RECTANGULAR LOW-PRESSURE SUPPLY AND RETURN AIR DUCTWORK SHALL BE LINED WITH 1" FACED FIBERGLASS INSULATION SECURELY BUTTONED OR LAPPED AND SEALED. INSULATION SHALL BE 1-1/2 POUND DENSITY.
8. DUCT LINER MAY BE SUBSTITUTED FOR DUCT WRAP INSULATION IF THE REQUIRED MINIMUM THERMAL RESISTANCE IS SATISFIED WITH THE LINER.
9. DUCT DIMENSIONS SHOWN ON DRAWINGS ARE INSIDE CLEAR AREA AND SHALL BE INCREASED TO ACCOMMODATE INSULATION. DUCT LINER TO BE BY KNAUF GmbH, JOHN-MANSVILLE OR SCHULLER INTERNATIONAL.
10. ALL MATERIALS USED AS INTERNAL LINER AND EXPOSED TO THE AIR STREAM IN DUCTS SHALL BE SHOWN TO BE DURABLE WHEN TESTED IN ACCORDANCE WITH UL 181.

MECHANICAL SPECIFICATIONS

233300 - DUCTWORK ACCESSORIES

1. FLEXIBLE DUCTWORK:THE FINAL 5 FOOT CONNECTION TO GRILLES AND DIFFUSERS IN LAY-IN CEILINGS, OR TO FLOOR MOUNTED GRILLES, MAY BE MADE WITH FLEXIBLE DUCT, FLEXMASTER TYPE 5M ONLY. ENDS SHALL BE SEALED.
2. SQUARE AND/OR RECTANGULAR ELBOWS SHALL BE PROVIDED WITH TURNING VANES.
3. PROVIDE FLEXIBLE CONNECTIONS NOT LESS THAN 4" WIDE CONSTRUCTED OF HEAVY, WATERPROOF, WOVEN PLASTIC COATED GLASS FABRIC AT SUPPLY AND RETURN CONNECTIONS TO FURNACES, AIR HANDLING, ROOFTOP, MAKE-UP AIR OR FAN-COIL UNITS. CORNERS SHALL BE SEWN TIGHT. CONNECTIONS SHALL BE 20 OUNCE VENTFABRICS OR EQUAL.
4. COMBINATION FIRE AND SMOKE DAMPERS OR FIRE DAMPERS IN DUCTWORK THROUGH ALL FLOORS AND FIRE WALLS SHALL BE FURNISHED AND INSTALLED AS REQUIRED TO CONFORM TO THE LATEST NFPA BULLETIN CONCERNING THIS TYPE OF BUILDING AND SHALL BEAR THE UL LABEL. DAMPERS, COMPLETE WITH MOUNTING ANGLES, SHALL BE MULTI-BLADE, FUSIBLE LINK, SPRING ACTING WITH 11 GAUGE SLEEVE. FUSIBLE LINK SHALL BE RATED AT 165°F.
5. DUCT MOUNTED BALANCING DAMPERS SHALL BE USED TO CONTROL SUPPLY AIR TO EACH DIFFUSER AND GRILLE. AN OPERATING HEAD SHALL BE PLACED ON THE SIDE OF THE DUCT WITH A POSITIVE LOCKING QUADRANT. DAMPERS SHALL BE PROVIDED IN RETURN AND EXHAUST AIR DUCTS WHERE SHOWN ON DRAWINGS. COORDINATE THE LOCATION OF CEILING ACCESS PANELS.
6. PROVIDE CEILING ACCESS DOORS AT ALL LOCATIONS OF BALANCING DAMPERS, FIRE DAMPERS, FIRE/SMOKE DAMPERS, VALVES, ETC., WHERE THERE IS NOT A LIFT-OUT TYPE CEILING. ACCESS DOORS SHALL BE HINGED OF METAL CONSTRUCTION WITH SCREWDRIVER LATCHES.
7. AT FIRE DAMPERS, A DUCT MOUNTED SHEET METAL HINGED DOOR SHALL BE PROVIDED AND INSTALLED WITH POSITIVE LOCKING HANDLE. WHERE DUCTS ARE INSULATED, COVERS SHALL BE INSULATED.
8. GRAVITY OR BACKDRAFT DAMPERS SHALL BE ALL ALUMINUM CONSTRUCTION, INTERCONNECTED AND BLADED, PRESSURE DROP THROUGH DAMPERS SHALL NOT EXCEED 0.04 INCH W.G.

233423 - FANS AND ROOF HOODS

1. ROOF MOUNTED EXHAUST FANS SHALL BE COMPLETE WITH BACKDRAFT DAMPERS. A DISCONNECT SWITCH SHALL BE PROVIDED AT FAN LOCATIONS. PROVIDE FAN ASSEMBLY COMPLETE WITH INSECT SCREEN AND PREFABRICATED ROOF CURB MATCHING THE FAN SIZE AND ROOF SLOPE.
2. CEILING MOUNTED EXHAUST FANS SHALL BE COMPLETE WITH LOUVERED GRILLE, BACKDRAFT DAMPER, AND WALL CAP OR ROOF CAP, SEE PLANS.
3. ROOF MOUNTED HOODS SHALL BE COMPLETE WITH BACKDRAFT DAMPERS, INSECT SCREEN AND PREFABRICATED ROOF CURB MATCHING THE HOOD SIZE AND ROOF SLOPE.

236300 - CONDENSING UNITS

1. FACTORY ASSEMBLED AND TESTED AIR COOLED CONDENSING UNITS, CONSISTING OF CASING, COMPRESSOR, CONDENSER COIL, CONDENSER FAN AND MOTOR, REFRIGERANT RESERVOIR, AND OPERATING CONTROLS. UNITS TO BE COMPLETE WITH HIGH AND LOW PRESSURE CUTOUTS, SERVICE SHUTOFF VALVES, AND HAVE 5 YEAR COMPRESSOR WARRANTY.

MECHANICAL SPECIFICATIONS

233713 - GRILLES, DIFFUSERS AND LOUVERS

1. ALL DIFFUSERS, REGISTERS AND GRILLES SHALL BE COMPLETE WITH FRAMES AND RUBBER GASKETS. FINISH FOR ALL DIFFUSERS, REGISTERS AND GRILLES SHALL BE WHITE.
2. COORDINATE LOCATIONS OF ALL CEILING DIFFUSERS, REGISTERS, AND GRILLES WITH ARCHITECTURAL REFLECTED CEILING PLAN, ELECTRICAL LIGHTING LAYOUT, AND ARCHITECTURAL ELEVATIONS.
3. LOUVERS SHALL HAVE MINIMUM FREE AREA AND MAXIMUM PRESSURE DROP AS LISTED IN THE SCHEDULES. LOUVERS SHALL HAVE FRAME AND SILLS COMPATIBLE WITH ADJACENT SUBSTRATE AND FIT ACCURATELY FOR WEATHERPROOF INSTALLATION. LOUVERS SHALL BE COMPLETE WITH 1/2" MESH ANODIZED ALUMINUM BIRD SCREEN.

238126 - SPLIT SYSTEM A/C UNITS

1. PROVIDE FACTORY ASSEMBLED AND TESTED SPLIT TYPE AIR CONDITIONING UNIT WITH INDOOR UNIT CONSISTING OF CASING, EVAPORATOR COIL, EVAPORATOR FAN, AND DRAIN PAN: AND OUTDOOR UNIT CONSISTING OF COMPRESSOR, CONDENSER COIL, AND CONDENSER FAN. PROVIDE UNIT COMPLETE WITH CONDENSATE PUMP, MICROPROCESSOR CONTROLS AND 5 YEAR COMPRESSOR WARRANTY.

235400 - FORCED AIR FURNACES

1. FACTORY ASSEMBLED CONDENSING GAS FURNACE WITH 100% OUTDOOR COMBUSTION AIR, SEALED COMBUSTION MINIMUM 90% AFUE. FURNACE SHALL CONSIST OF CASING, HEAT EXCHANGERS, BLOWER, AIR FILTER, REDUNDANT GAS VALVE, HOT SURFACE IGNITOR, AND CONTROLS. UNITS TO HAVE 20 YEAR HEAT EXCHANGER WARRANTY.
2. PIPING FOR FURNACE VENT/INTAKE AIR AND FOR CONDENSATE DRAINS SHALL BE PVC SCHEDULE 40, SECURELY SUPPORTED AT NO MORE THAN 5 FT CENTERS. INSULATE ALL VENTS AND AIR INTAKES LOCATED IN TRUSS SPACES AND IN ATTICS.
3. PROVIDE FURNACE MANUFACTURER'S STANDARD A-FRAME OR N- FRAME DX COOLING COIL. COIL TO BE COMPLETE WITH GALVANIZED DRAIN PAN WITH DRAIN CONNECTION, DX EXPANSION VALVE, LIQUID SOLENOID VALVE, AND LIQUID LINE SIGHT GLASS/MOISTURE INDICATOR. MOUNT COOLING COIL IN FURNACE SUPPLY PLENUM IN LOCATION SHOWN ON DRAWINGS.
4. INSTALL 3/4" COPPER CONDENSATE DRAIN LINE FROM COOLING COIL DRAIN PAN AT INDOOR UNIT OF SPLIT SYSTEMS AND EXTEND TO OUTSIDE. TIE TO TAILPIECE OF NEAREST SINK, RUN TO NEAREST FAN ROOM FLOOR DRAIN OR RUN TO NEAREST SERVICE SINK.

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FOR:

PAGNANI BUILDING ADDITION

**2321 NORTH 400 EAST
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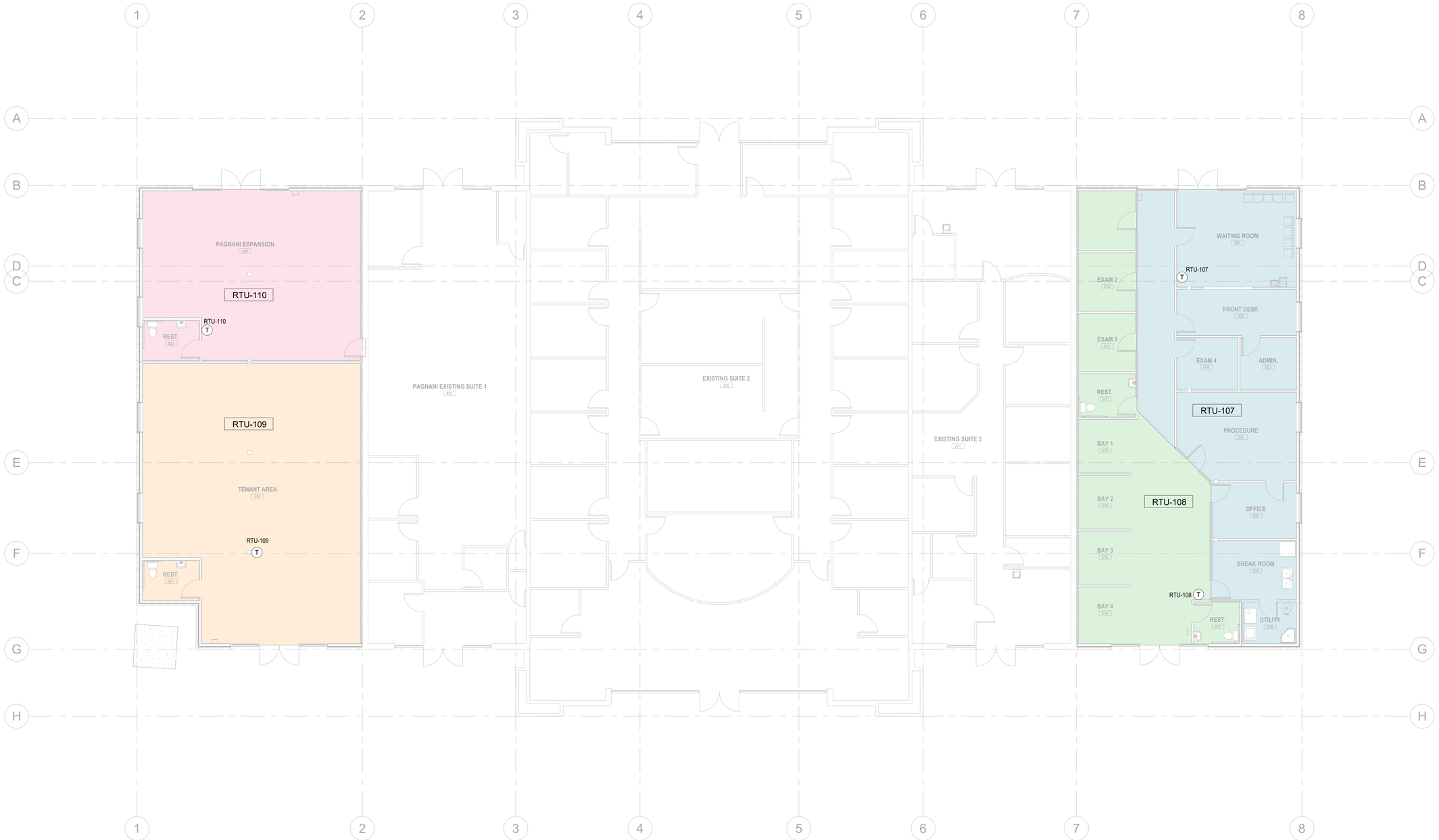
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HVAC ZONES

- RTU-107
- RTU-108
- RTU-109
- RTU-110



NORTH

1 **MAIN LEVEL MECHANICAL ZONE PLAN**

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

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THOMAS WADLEY SHAKESPEARE
10361455
STATE OF UTAH

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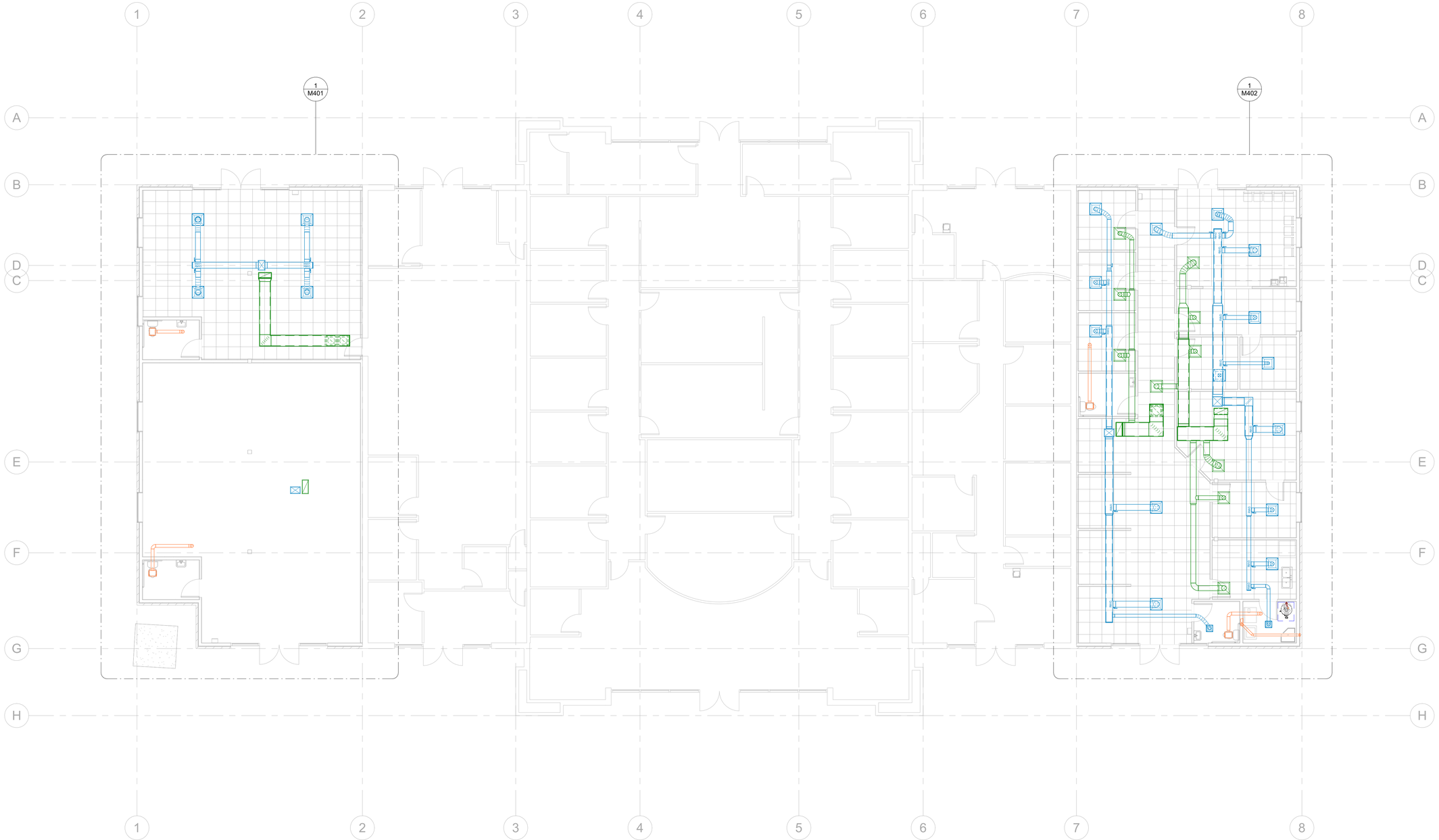
MAIN LEVEL MECHANICAL ZONE PLAN

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SHEET KEYNOTES



NORTH

1 **MAIN LEVEL MECHANICAL PLAN**

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

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MAIN LEVEL MECHANICAL PLAN

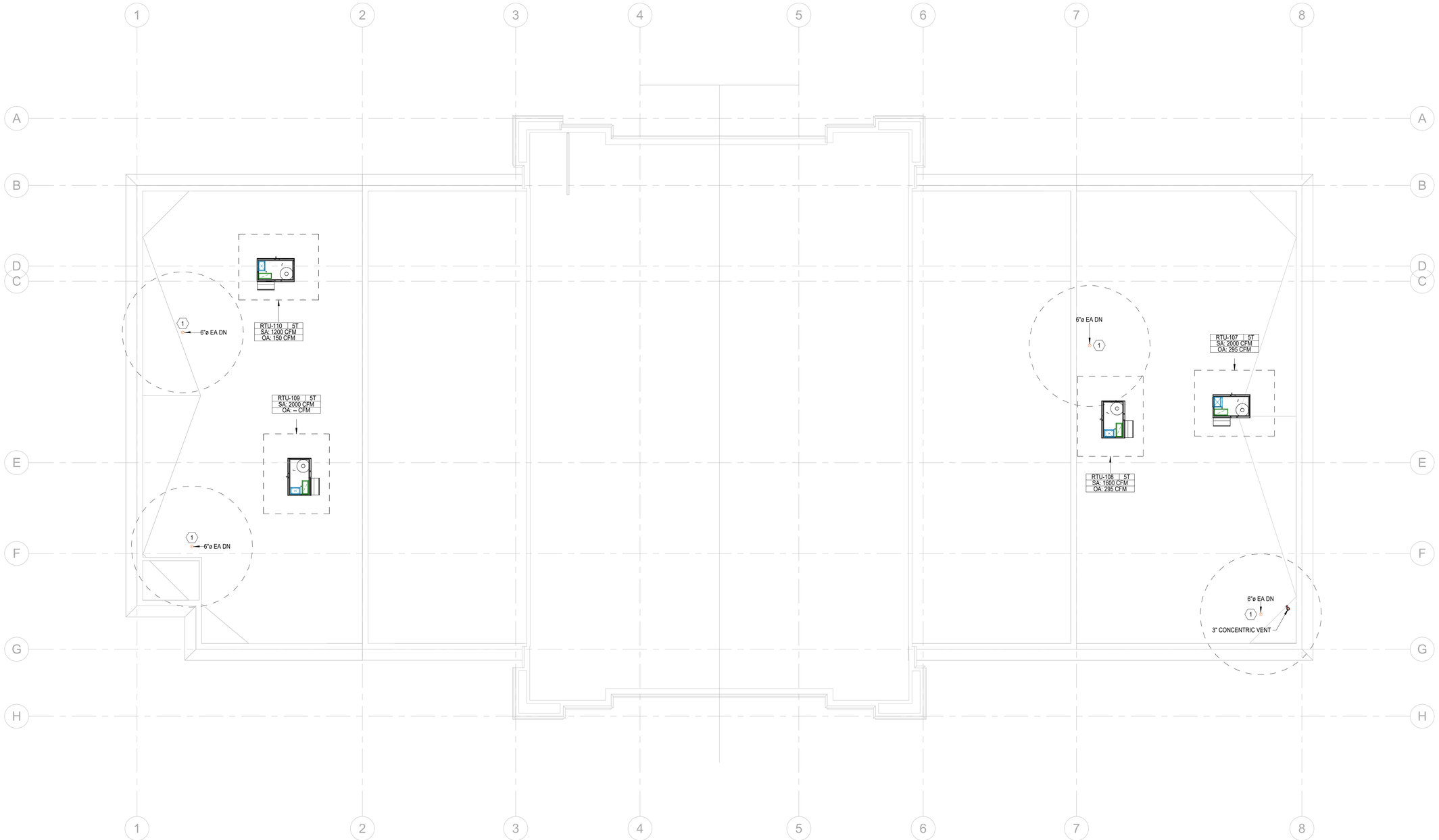
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SHEET KEYNOTES

1 KEEP EA TERMINATION POINT AT MIN 10' AWAY FROM FRESH AIR INTAKES. TERMINATE WITH WEATHER CAP, BIRD SCREEN.



NORTH

1 **ROOF MECHANICAL PLAN**

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

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STATE OF UTAH

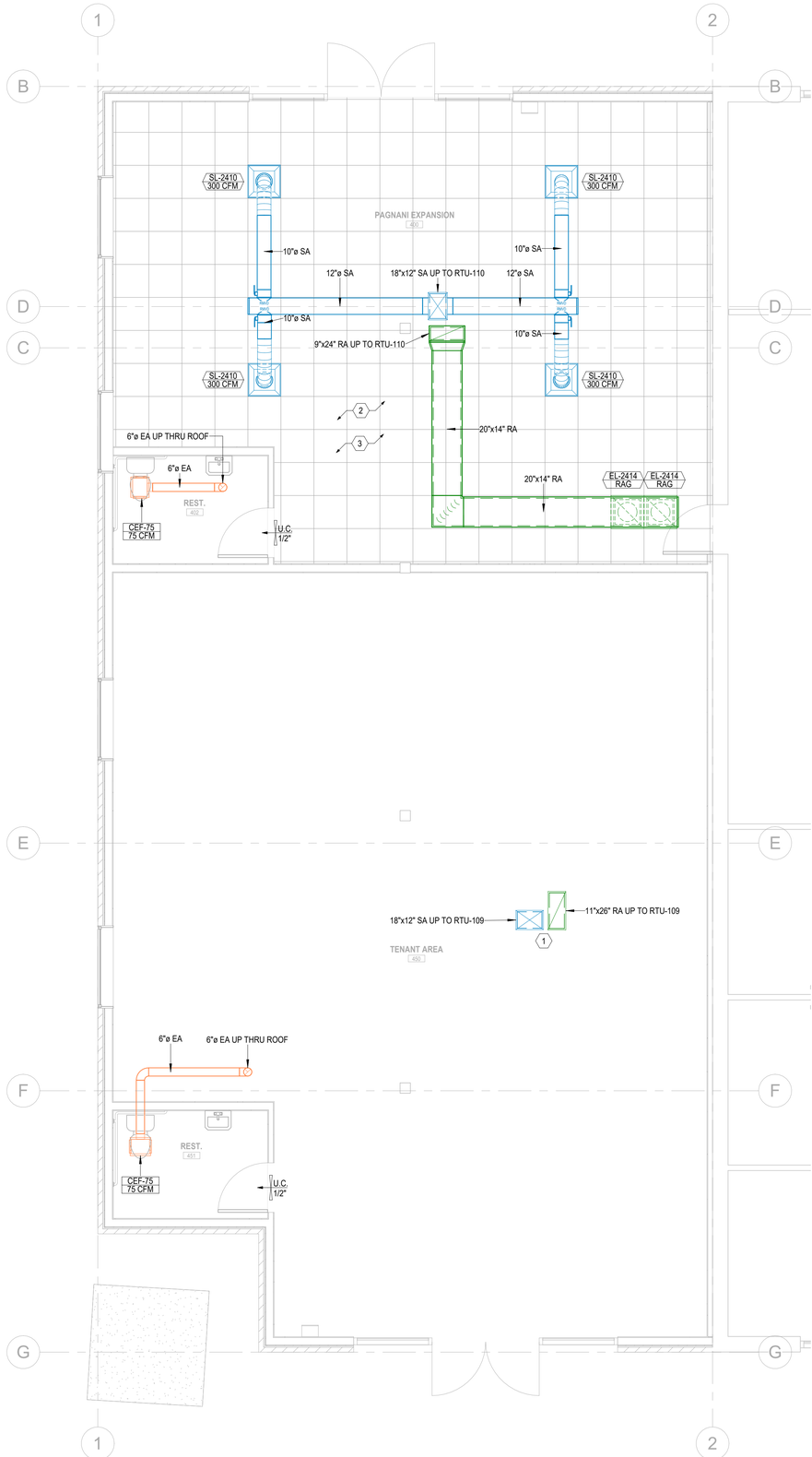
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ROOF MECHANICAL PLAN

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NORTH

1 ENLARGED MECHANICAL PLAN 1

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

SHEET KEYNOTES

1. STUB SUPPLY AND RETURN DUCT INTO SPACE. LEAVE OPEN TO SPACE AND PROVIDE THERMOSTAT WITH 100' OF CABLE FOR FUTURE TENANT IMPROVEMENTS.
2. AIR DIFFUSER COLOR TO MATCH CEILING COLOR, SEE ARCHITECTURAL RCP (TYP ALL)
3. ROUTE DUCT TIGHT TO STRUCTURE, TYPICAL.

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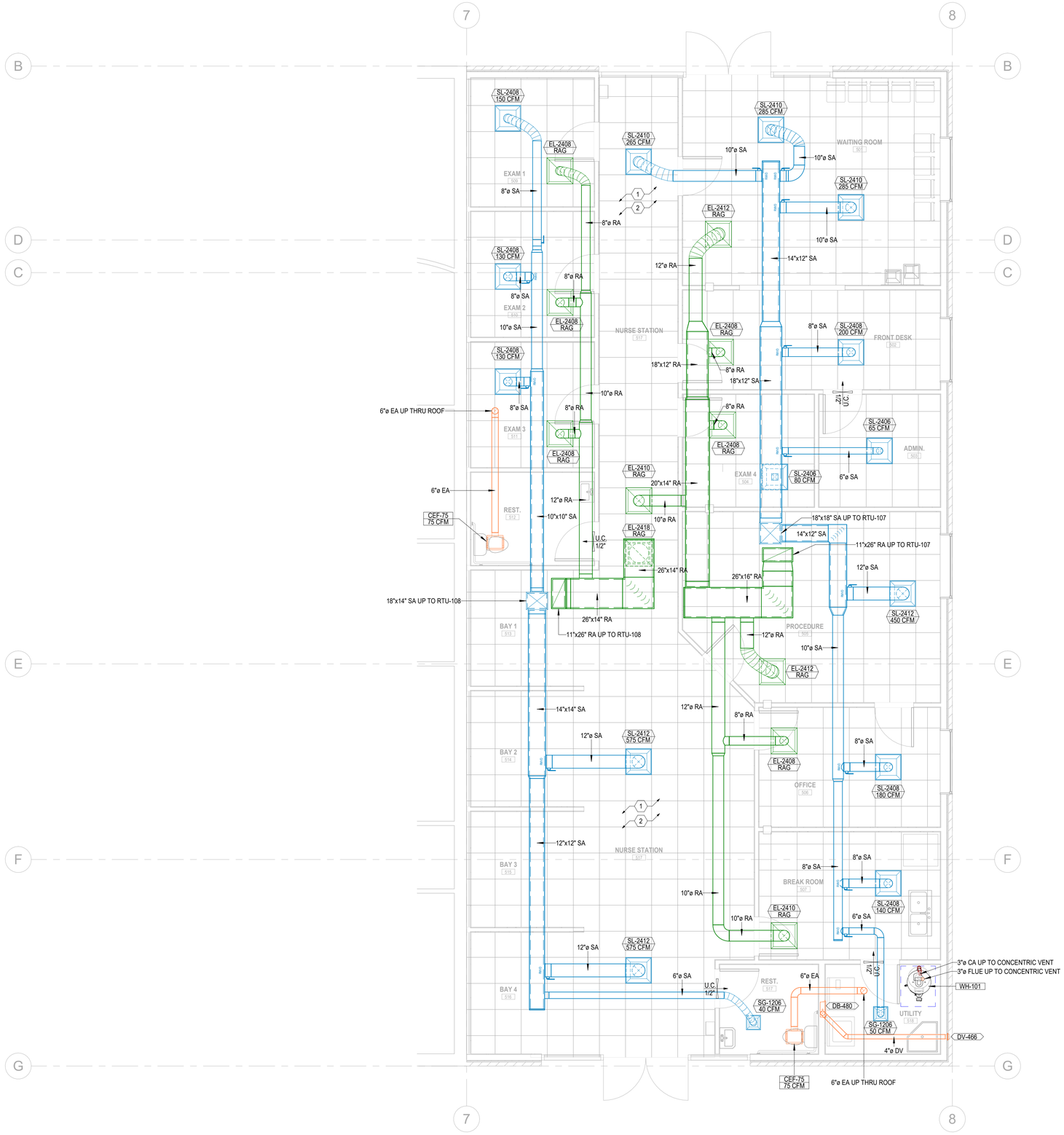
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SHEET KEYNOTES

1 AIR DIFFUSER COLOR TO MATCH CEILING COLOR, SEE ARCHITECTURAL RCP (TYP ALL)
2 ROUTE DUCT TIGHT TO STRUCTURE, TYPICAL.

NORTH

1 ENLARGED MECHANICAL PLAN 2

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

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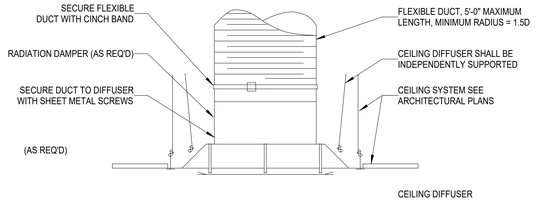
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ENLARGED MECHANICAL PLAN

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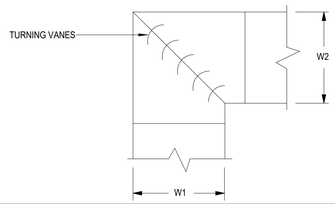
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NOTE: BALANCING DAMPER TO BE PROVIDED FOR EACH DIFFUSER

1 DIFFUSER - CEILING MOUNT

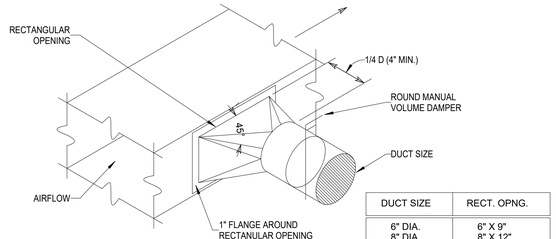
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NOTES:
1. ALL TURNING VANES SHALL BE SINGLE VANE TYPE REGARDLESS OF DIMENSION.
2. ALL SINGLE VANES SHALL HAVE A 2 INCH RADIUS, 1 INCH MAXIMUM SPACE BETWEEN VANES AND A 3/4 INCH TRAILING EDGE.

2 DUCT ELBOW - SQUARE

NTS

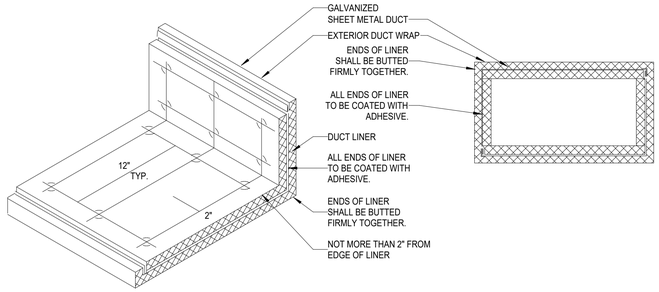


NOTE:
CONSTRUCT FITTING PER SMACNA HVAC DUCT CONSTRUCTION STANDARDS METAL AND FLEXIBLE FIGURE 2-6.

DUCT SIZE	RECT. OPNG.
6" DIA.	6" X 9"
8" DIA.	8" X 12"
10" DIA.	10" X 14"
12" DIA.	12" X 16"
14" DIA.	14" X 18"

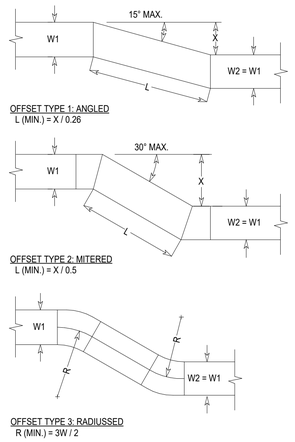
3 DUCT HIGH EFFICIENCY TAKE-OFF

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4 DUCT LINER AND INSULATION

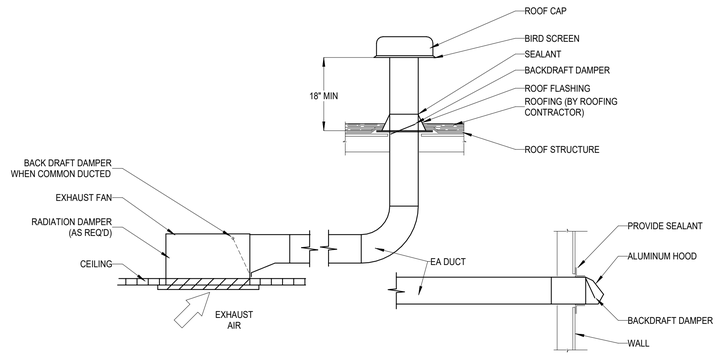
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NOTES:
1. UNLESS OTHERWISE INDICATED ON PLANS, MAXIMUM ANGLES SHOWN SHALL APPLY.
2. ALL OFFSETS SHOWN ON DRAWINGS MADE BE MADE WITH ANY OF THE 3 OFFSET TYPES ABOVE.

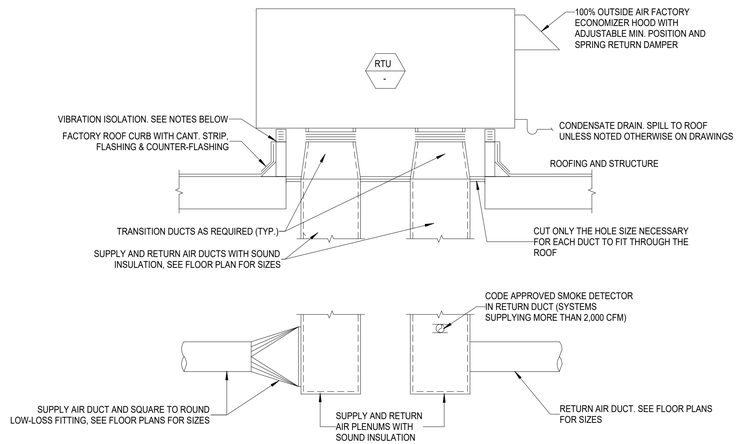
5 DUCT OFFSETS

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6 EXHAUST FAN - CEILING

NTS



NOTES:

1. COORDINATE EXACT LOCATION AND FRAMING OF ROOF OPENINGS WITH GENERAL CONTRACTOR.
2. VIBRATION ISOLATION SHALL BE FACTORY FURNISHED NEOPRENE GASKET.
3. EQUIPMENT ANCHORAGE SHALL BE COORDINATED WITH SEISMIC CONTRACTOR. SEISMIC ANCHORAGE SHALL BE DEFERRED SUBMITTAL.

7 ROOF TOP UNIT

NTS

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FOR:

PAGNANI BUILDING ADDITION

2321 NORTH 400 EAST TOOELE, UTAH

PROFESSIONAL ENGINEER — THOMAS MEALEY SHAKESPEARE — 10361458 — STATE OF UTAH

PERMIT SET

NO.	DATE	REVISION
0	07-22-2026	PERMIT SET

MECHANICAL DETAILS

PROJECT NUMBER	DATE
26207	07-22-2026
DRAWN BY	CHECKED BY
IH	LB
APPROVED BY	DESIGNED BY
BS	MT

M501

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PACKAGED ROOFTOP UNIT SCHEDULE

ACCEPTABLE MANUFACTURERS:	ACCESSORIES AND REMARKS:			
CARRIER DAIKIN YORK TRANE AAON	GENERAL 1) SEE HVAC BASIS OF DESIGN CRITERIA 2) HINGED ACCESS DOORS 3) 2" PLEATED MERV 8 FILTERS 4) LPG/PROPANE CONVERSION KIT- FIELD INSTALLED 5) HAIL GUARDS - FIELD INSTALLED 6) BELT AUTO TENSIONER 7) DRAIN PAN OVERFLOW SWITCH 8) VERTICAL VENT EXTENSION – FIELD INSTALLED 9) COMBUSTION AIR EXTENSION – FIELD INSTALLED 10) CORROSION PROTECTION COATING 11) BOTTOM GAS PIPING KIT – FIELD INSTALLED 12) CONDENSATE DRAIN TRAP (COPPER) – FIELD INSTALLED 13) STAINLESS STEEL HEAT EXCHANGER 14) BI-POLAR ION GENERATOR(S), SEE SEPARATE SCHEDULE – FIELD INSTALLED, 24V AC FROM FAN CONTROL TERMINALS 15) DEHUMIDIFICATION (HOT GAS REHEAT) SYSTEM	CURB 20) 14" HIGH STANDARD INSULATED CURB 21) 24" HIGH STANDARD INSULATED CURB 22) 24" HIGH VIBRATION ISOLATION CURB 23) HORIZONTAL INSULATED CURB (13-20T: 37" HIGH, 25-30T: 41" HIGH) 24) 14" HIGH ADJUSTABLE PITCH CURB 25) ADATOR CURB, FIELD COORDINATE EXISTING CURB DIMENSIONS 26) SEISMIC RATED CURB RESTRAINTS 27) WIND RATED CURB RESTRAINTS, PER STRUCTURAL DESIGN REQUIREMENTS 28) SLAB MOUNT CURB APPLICATION.	ELECTRICAL 30) BOTTOM ELECT. SERVICE CONNECTION 31) NON-FUSED DISCONNECT - FAC INSTALLED 32) SINGLE POINT WIRING 33) CONVENIENCE OUTLET (NEMA 4) - FAC INSTALLED, FAC WIRED 34) DUCT SMOKE DETECTOR (RA (>2,000 CFM) - FIELD INSTALLED) 35) ANTI-CYCLE RELAY	SENSORS AND CONTROLS 40) CO2 SENSOR – WALL-MOUNT WITH LCD DISPLAY 41) HUMIDISTAT - WALL-MOUNT LCD DISPLAY (HOT GAS REHEAT DEHUMIDIFICATION) 42) THERMOSTAT – WALL-MOUNT PROGRAMMABLE LCD DISPLAY (1H, 1C) 43) THERMOSTAT – WALL-MOUNT PROGRAMMABLE SMART WIFI ENABLED LCD DISPLAY (1H, 1C) 44) BACNET MODULE AND SENSORS NTERFACE WITH CENTRAL BAS CONTROLS 45) INTEGRATE WITH BAS (BY CONTROLS CONTRACTOR) AND ASSOCIATED SENSORS 46) BUILDING PRESSURE CONTROL - FIELD INSTALLED 47) DEMAND CONTROL VENTILATION (DCV) CONTROLS AND SENSORS	ECONOMIZERS AND DAMPERS 50) MOTORIZED OUTSIDE AIR DAMPER WITH HOOD – FACTORY INSTALLED 51) ECONOMIZER WITH DUAL ENTHALPY CONTROL 52) ECONOMIZER WITH DIFFERENTIAL SENSIBLE CONTROL 53) HIGH PERFORMANCE ECONOMIZER WITH CONTROL MODULE (TITLE 24 COMPLIANT) 54) POWER EXHAUST (STATIC) FAN – FACTORY INSTALLED 55) POWER EXHAUST FAN (100%) WITH VFD AND BYPASS (30-50T UNITS) – FIELD INSTALLED 56) BAROMETRIC RELIEF DAMPER WITH EXHAUST HOOD – FACTORY INSTALLED 57) HORIZONTAL LOW-PROFILE BAROMETRIC RELIEF DAMPER WITH EXHAUST HOOD – FIELD INSTALLED

SYMBOL	AREA SERVED	MANUFACTURER	MODEL	FAN SELECTION (1)										DESIGN DX COOLING CAPACITY (1)							DESIGN HEATING CAPACITY (1)								ELECTRICAL				BI-POLAR ION GENERATOR (14)	PHYSICAL		ACCESSORIES AND REMARKS
				DUCT DISCHARGE	MODUL-ATION	AIRFLOW (CFM)	MIN. OA (CFM)	ESP (WG)	MOTOR QTY.	MOTOR DRIVE TYPE	MOTOR SIZE (HP/BHP)	MOTOR SPEED (RPM)	NOM. (TONS)	TOTAL (MBH)	SENSIBLE (MBH)	LAT DB (°F)	REFR.	EER	SEER2	IEER	GAS FIRED TYPE	GAS FIRED STAGES	GAS FIRED INPUT/ OUTPUT (MBH)	GAS FIRED AFUE (%)	HEAT PUMP OUTPUT (MBH)	HEAT PUMP (COP)	HSPF	AUXILARY RESISTANCE INPUT (kW)	AUXILARY RESISTANCE OUTPUT (MBH)	FLA	MCA	MOCP	POWER		OPERATING WEIGHT (LBS)	DIMENSIONS (L x W x H) (IN)	
RTU-107	WAITING/PROCEDURE/BREAK	CARRIER	48FEDB06J2A5	DOWN	CAV	2000	295	0.8	1	DIRECT	1.44	2300	5	57.47	41.55	55	R454B	11.4	13.4	--	NATURAL GAS	1	67 / 54	0.81	--	--	--	--	--	--	36	50	208/3/60	IG-2	1100	74-3/8"x46-5/8"x33-3/8"	1,3,7,12,20,26,30,31,32,33,35,42,50,56
RTU-108	WAITING/PROCEDURE/BREAK	CARRIER	48FEDB06J2A5	DOWN	CAV	1600	295	0.8	1	DIRECT	1.44	2300	5	57.47	41.55	55	R454B	11.8	13.4	--	NATURAL GAS	1	67 / 54	0.81	--	--	--	--	--	--	36	50	208/3/60	IG-2	1100	74-3/8"x46-5/8"x33-3/8"	1,3,7,12,20,26,30,31,32,33,35,42,50,56
RTU-109	TENANT AREA	CARRIER	48FEDB06J2A5	DOWN	CAV	2000	--	0.8	1	DIRECT	1.44	2300	5	57.47	41.55	55	R454B	11.4	13.4	--	NATURAL GAS	1	67 / 54	0.81	--	--	--	--	--	--	36	50	208/3/60	IG-2	1100	74-3/8"x46-5/8"x33-3/8"	1,3,7,12,20,26,30,31,32,33,35,42,50,56
RTU-110	WAITING/PROCEDURE/BREAK	CARRIER	48FEDB06J2A5	DOWN	CAV	1200	150	0.8	1	DIRECT	1.44	2300	5	57.47	41.55	55	R454B	11.8	13.4	--	NATURAL GAS	1	67 / 54	0.81	--	--	--	--	--	--	36	50	208/3/60	IG-2	1100	74-3/8"x46-5/8"x33-3/8"	1,3,7,12,20,26,30,31,32,33,35,42,50,56

EXHAUST FAN SCHEDULE

ACCEPTABLE MANUFACTURERS:	CONTROLS:	ACCESSORIES AND REMARKS:	
PENN BARRY LOREN COOK TWIN CITY GREENHECK	A) WALL SWITCH (BY DIVISION 26) B) RUN CONTINUOUSLY DURING OCCUPIED HOURS (8A-5P ADJ.). C) INTERLOCK FAN WITH POOL DEHUMIDIFIER D) LINE VOLTAGE THERMOSTAT, ENERGIZE <85°F WITH 5°F DEADBAND E) CONSTANT PRESSURE CONTROL WITH INTEGRAL PRESSURE TRANSDUCER. F) INTERLOCK WITH LIGHTING	1) ALL ALUMINUM CONSTRUCTION 2) BACKDRAFT DAMPER 3) RADIANT DAMPER 4) INTEGRAL THERMAL OVERLOAD PROTECTION 5) SPRING CEILING MOUNTED VIBRATION ISOLATOR	6) DIRECT DRIVE MOTOR WITH SPEED CONTROLLER 7) 14" TALL ROOF CURB WITH DAMPER TRAY 8) CAPACITY AT JOB SITE ELEVATION

SYMBOL	AREA SERVED	MANUFACTURER	MODEL	TYPE	AIRFLOW (CFM)	ESP (WG)	FAN SPEED (RPM)	ELECTRICAL HP	ELECTRICAL WATTS	ELECTRICAL POWER	SOUND dB	SOUND SONES	WEIGHT (LBS)	CONTROLS	ACCESSORIES AND REMARKS	QTY
CEF-75	RESTROOM	GREENHECK	SP-A50-90-VG	CEILING	75	0.3	887	-	6	120-1-60	-	2	12	A	1,2,4,5,6,8	4

AIR DEVICE SCHEDULE

ACCEPTABLE MANUFACTURERS:	ACCESSORIES AND REMARKS:		
ANEMOSTAT TITUS KRUEGER TUTTLE AND BAILEY	1) VAV THERMOSTATIC DIFFUSER WITH RELIEF AIR COLLAR AND INTEGRAL THERMOSTAT 2) LONGEST LENGTH FRONT LOUVER 3) AIR BALANCE DEFLECTOR 4) OPPOSED BLADE DAMPER 5) BUTTERFLY DAMPER	6) THERMAL BLANKET 7) 1HR RADIATION DAMPER 8) PLENUM BOX-INSULATED 9) AIR VOLUME CONTROL VANE 10) DRYER VENT HOSE RECEPTACLE 11) 2 3/4" CURB FOR FLAT ROOF ELEMENTS PROTECTION	12) WATERTIGHT EXTENDED COLLAR FOR SECURE DOCKING 13) HIGH PROFILE 14) LOW PROFILE 15) RECESSED GRAVITY DAMPER & INTEGRATED MAGNETS 16) BUILT-IN DRIP EDGE

SYMBOL	SERVICE	SURFACE TYPE	MOUNTING LOCATION	NECK SIZE	FACE SIZE	FACE TYPE	MATERIAL	FINISH	MANUFACTURER - MODEL	ACCESSORIES AND REMARKS	QTY
EL-2408	EA, RA, TA	LAY-IN	CEILING	8Ø	24x24	PERFORATED	STEEL	WHITE ENAMEL	ANEMOSTAT - 3PDL		6
EL-2410	EA, RA, TA	LAY-IN	CEILING	10Ø	24x24	PERFORATED	STEEL	WHITE ENAMEL	ANEMOSTAT - 3PDL		2
EL-2412	EA, RA, TA	LAY-IN	CEILING	12Ø	24x24	PERFORATED	STEEL	WHITE ENAMEL	ANEMOSTAT - 3PDL		2
EL-2414	EA, RA, TA	LAY-IN	CEILING	14Ø	24x24	PERFORATED	STEEL	WHITE ENAMEL	ANEMOSTAT - 3PDL		2
EL-2418	EA, RA, TA	LAY-IN	CEILING	18Ø	24x24	PERFORATED	STEEL	WHITE ENAMEL	ANEMOSTAT - 3PDL		1
SG-1206	SA	GYP	CEILING	6Ø	12x12	PLAQUE	STEEL	WHITE ENAMEL	ANEMOSTAT - PGF-11	5	2
SL-2406	SA	LAY-IN	CEILING	6Ø	24x24	PLAQUE	STEEL	WHITE ENAMEL	ANEMOSTAT - PGL		2
SL-2408	SA	LAY-IN	CEILING	8Ø	24x24	PLAQUE	STEEL	WHITE ENAMEL	ANEMOSTAT - PGL		6
SL-2410	SA	LAY-IN	CEILING	10Ø	24x24	PLAQUE	STEEL	WHITE ENAMEL	ANEMOSTAT - PGL		7
SL-2412	SA	LAY-IN	CEILING	12Ø	24x24	PLAQUE	STEEL	WHITE ENAMEL	ANEMOSTAT - PGL		3

DRYER VENT DEVICE SCHEDULE

ACCEPTABLE MANUFACTURERS:	ACCESSORIES AND REMARKS:	
DRYERJACK	1) DRYER VENT HOSE RECEPTACLE 2) 2 3/4" CURB FOR FLAT ROOF ELEMENTS PROTECTION 3) WATERTIGHT EXTENDED COLLAR SECURE DOCKING 4) HIGH PROFILE 5) LOW PROFILE	6) RECESSED GRAVITY DAMPER & INTEGRATED MAGNETS 7) BUILT-IN DRIP EDGE 8) HINGED 1" FILTER GRILLE WITH 1/4-TURN LATCH

SYMBOL	SERVICE	SURFACE TYPE	MOUNTING LOCATION	NECK SIZE	FACE SIZE	FACE TYPE	MATERIAL	FINISH	MANUFACTURER - MODEL	ACCESSORIES AND REMARKS	QTY
DB-480	DV	GYP	WALL	4Ø	18x24	-	STEEL	WHITE ENAMEL	THE DRYER BOX DB-480		1
DV-466	DV	EXTERNAL	WALL	4Ø	6x6	-	GALVALUME	ARCH COLOR	DRYER WALL VENT DWV4		1

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FOR:

PAGNANI BUILDING ADDITION

2321 NORTH 400 EAST TOOELE, UTAH



PERMIT SET

NO.	DATE	REVISION
0	07-22-2026	PERMIT SET

MECHANICAL SCHEDULES

PROJECT NUMBER **26207**
DATE **07-22-2026**
DRAWN BY **IH**
CHECKED BY **LB**
APPROVED BY **BS**
DESIGNED BY **MT**

M601

PLUMBING GENERAL NOTES

1. THE DRAWINGS SHOW GENERAL DESIGN, ARRANGEMENT AND EXTENT OF PLUMBING SYSTEMS. BECAUSE OF THE SMALL SCALE, THE DRAWINGS DO NOT SHOW ALL OFFSETS, BENDS OR ELBOWS NECESSARY FOR COMPLETE INSTALLATION IN SPACES PROVIDED. THIS CONTRACTOR SHALL MAKE SUCH MINOR ALTERATIONS AS MAY BE NECESSARY TO MAKE PLUMBING SYSTEMS COMPLETE AND OPERATIONAL IN ACCORDANCE WITH DESIGN INTENT.
2. MAJOR DEVIATIONS SUCH AS CHANGES IN COMPONENT SIZES, WEIGHTS, QUANTITIES OR MATERIAL REQUIRE PRIOR APPROVAL BY DESIGN ENGINEER.
3. DRAWINGS AND SPECIFICATIONS HAVE BEEN PREPARED TO SUPPLEMENT EACH OTHER AND SHALL BE INTERPRETED AS AN INTEGRAL UNIT WITH ITEMS SHOWN ON ONE AND NOT THE OTHER BEING FURNISHED AND INSTALLED AS THOUGH SHOWN AND CALLED OUT IN BOTH.
4. ENTIRE PLUMBING INSTALLATION SHALL CONFORM TO THE REQUIREMENTS OF THE MOST RECENTLY ADOPTED BUILDING CODES, MECHANICAL CODE, PLUMBING CODE, ELECTRICAL CODE, AND ALL OTHER APPLICABLE CITY, COUNTY, STATE, AND FEDERAL CODES AND REGULATIONS IN EFFECT.
5. PRIOR TO FABRICATION AND INSTALLATION OF ANY PLUMBING COMPONENTS THE CONTRACTOR SHALL COORDINATE ALL PLUMBING WORK WITH ALL OTHER BUILDING TRADES, INCLUDING BUILDING TRADES HIRED DIRECTLY BY OWNER. WHERE CONFLICTS MAY OCCUR, THEY SHALL BE RESOLVED PRIOR TO INSTALLATION.
6. CONTRACTOR SHALL BE RESPONSIBLE TO REVIEW AND USE, WHERE APPROPRIATE, ALL PLUMBING DETAILS SHOWN ON THE DRAWINGS. DETAILS MAY OR MAY NOT BE CALLED OUT ON THE DRAWINGS WITH SYMBOLS OR KEYED NOTES. ANY CHANGES RESULTING FROM FAILURE TO INSTALL PLUMBING SYSTEMS WITHOUT USING THE INCLUDED DETAILS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
7. ANY PART OF THE PLUMBING INSTALLATION THAT FAILS, IS UNFIT, OR BECOMES DAMAGED DURING CONSTRUCTION SHALL BE REPAIRED OR REPLACED BY THE CONTRACTOR AT NO ADDITIONAL EXPENSE TO OWNER.

PLUMBING FIXTURE NOTES

1. SIMILAR EQUIPMENT SHALL BE OF THE SAME MANUFACTURER.
2. ALL EQUIPMENT SHALL PROVIDE SCHEDULED PERFORMANCE AT JOB SITE ELEVATION.
3. FIXTURE AND EQUIPMENT MODEL NUMBERS SHOWN IN PLUMBING FIXTURE SCHEDULE AND PLUMBING EQUIPMENT SCHEDULES ARE SHOWN TO ESTABLISH TYPE OF PRODUCT THAT SHALL BE USED. SUBMITTED PRODUCTS SHALL MEET SCHEDULED PERFORMANCE DATA SHOWN ON THE DRAWINGS EVEN IF A DIFFERENT MODEL IS SUPPLIED.
4. ALL EQUIPMENT SHALL BE INSTALLED IN STRICT ACCORDANCE WITH THE EQUIPMENT MANUFACTURER'S INSTALLATION INSTRUCTIONS. PROVIDE ALL NECESSARY FITTINGS, TRANSITIONS, VALVES AND OTHER DEVICES AND ACCESSORIES REQUIRED FOR A COMPLETE, WORKABLE INSTALLATION.
5. ALL MOTOR STARTING EQUIPMENT, NOT PROVIDED AS A PART OF THE PLUMBING EQUIPMENT, SHALL BE PROVIDED BY DIVISION 26.
6. SEE "PLUMBING FIXTURE SCHEDULE" FOR INDIVIDUAL TRAPS, WASTE, VENT, AND DOMESTIC WATER PIPING SIZES FOR INDIVIDUAL FIXTURES.
7. ALL PLUMBING EQUIPMENT SHALL BE LISTED AND LABELED BY AN APPROVED THIRD PARTY TESTING AGENCY.
8. FIXTURES, EQUIPMENT AND PIPING INSTALLATION SHALL MEET NSF STANDARDS.
9. PROVIDE WATER HAMMER ARRESTERS (WHA) AT ALL PIPING CONNECTIONS TO PLUMBING FIXTURES AND PLUMBING EQUIPMENT PROVIDED WITH QUICK CLOSING VALVES AND INSTALLATIONS WHICH RESULT IN EXCESS PIPE VIBRATION OR MOVEMENT.
10. ALL OWNER FURNISHED EQUIPMENT WITH DIRECT CONNECTION TO THE DOMESTIC WATER SYSTEM SHALL BE PROVIDED WITH AN APPROVED BACKFLOW DEVICE.
11. INSTALLATION AND FINAL CONNECTION OF ALL OWNER FURNISHED EQUIPMENT SHALL BE BY DIVISION 22.

PLUMBING PIPING GENERAL NOTES

1. PROVIDE PROPER PROVISIONS FOR EXPANSION, CONTRACTION, OR MOVEMENT OF ALL PIPING.
2. INSTALL PIPING WITHOUT FORCING OR SRINGING.
3. INSTALL PIPING TO CLEAR DOORS AND WINDOWS.
4. PROVIDE LARGE ENOUGH PIPE SLEEVES THROUGH WALL OR FLOOR TO ALLOW FOR ANTICIPATED DIFFERENTIAL MOVEMENT.
5. ALL EXPOSED PIPING SHALL INSTALLED NEATLY; ARRANGED PARALLEL TO BUILDING STRUCTURAL ELEMENTS.
6. COPPER PIPING SHALL NOT COME IN CONTACT WITH FIRE TREATED LUMBER. PROVIDE ½" THICK SLIP-ON CLOSED CELL INSULATION WHERE COPPER PIPING IS ADJACENT TO FIRE TREATED LUMBER. CLOSED CELL INSULATION SHALL EXTEND A MINIMUM OF 1-1/2" PAST LUMBER.
7. INSTALL EXTERIOR WATER PIPING, SEWER AND WASTE PIPING AND ROOF DRAINAGE BELOW FROST LEVEL (4'-0" MINIMUM). VERIFY EXACT LOCAL REQUIREMENTS WITH AND CIVIL ENGINEER AND SITE UTILITY DRAWINGS PRIOR TO INSTALLATION.

PIPE HANGERS GENERAL NOTES

1. SUPPORT ALL PIPING WITH CLEVIS OR LOOP HANGERS (MSS TYPE 1). PERFORATED METAL STRAPS OR PLASTIC STRAPPING (PLUMBER TAPE) SHALL NOT BE USED TO SUPPORT OR BRACE ANY PIPE.
2. PROVIDE PIPE HANGERS WITHIN 18 INCHES OF ALL CHANGES OF DIRECTION.
3. ALL STEEL HANGERS USED TO SUPPORT COPPER PIPING SHALL BE COPPER PLATED OR PLASTIC COATED.
4. ALL STEEL HANGERS USED TO SUPPORT PLASTIC PIPING SHALL BE PLASTIC COATED.
5. PROVIDE ELASTOMERIC CUSHION (COOPER B-LINE B1999 "VIBRA CUSHION") BETWEEN COPPER PIPING AND GALVANIZED CHANNEL SUPPORT CLAMPS. PLASTIC PIPE WRAP TAPE IS NOT ACCEPTABLE.
6. PROVIDE ELASTOMERIC INSERT (COOPER B-LINE BVP "VIBRA- CLAMPS") BETWEEN PLASTIC PIPE AND GALVANIZED CHANNEL SUPPORT CLAMPS. PLASTIC PIPE WRAP TAPE IS NOT ACCEPTABLE.
7. PROVIDE SWAY BRACING FOR ALL PIPING 4" AND LARGER AT ALL CHANGES IN DIRECTION GREATER THAN 45 DEGREES.

DISINFECT POTABLE WATER

1. DOMESTIC COLD WATER AND DOMESTIC HOT WATER SYSTEMS (I.E. POTABLE WATER) SHALL BE PURGED OF DELETEROUS MATTER AND DISINFECTED PRIOR TO UTILIZATION.
2. FOLLOW METHOD PRESCRIBED THE LOCAL HEALTH AUTHORITY OR WATER PURVEYOR HAVING JURISDICTIONS.
3. IN THE ABSENCE OF A PRESCRIBED METHOD, THE PROCEDURE DESCRIBED IN EITHER AWWA C651 OR AWWA C652 OR AS DESCRIBED SHALL BE FOLLOWED.
4. THESE PROCEDURES SHALL APPLY TO "ON-SITE" OR "IN-PLANT" FABRICATION OF A SYSTEM OR TO A MODULAR PORTION OF A SYSTEM.
5. DISINFECTION PROCEDURE:
   a. THE PIPING SYSTEM, INCLUDING FIXTURES AND EQUIPMENT, SHALL BE FLUSHED WITH CLEAR, POTABLE WATER UNTIL DIRTY WATER DOES NOT APPEAR AT THE POINTS OF OUTLET.
   b. THE SYSTEM OR PARTS THEREOF SHALL BE FILLED WITH A WATER/CHLORINE SOLUTION CONTAINING NOT LESS THAN 50 PARTS PER MILLION OF CHLORINE, AND THE SYSTEM OR PART THEREOF SHALL BE VALVES OFF AND ALLOWED TO STAND FOR 24-HOURS;

      OR

   c. THE SYSTEM OR PART THEREOF SHALL BE FILLED WITH A WATER/CHLORINE SOLUTION CONTAINING NOT LESS THAN 200 PARTS PER MILLION OF CHLORINE AND ALLOWED TO STAND FOR 3-HOURS
   d. FOLLOWING THE REQUIRED STANDING TIME, THE SYSTEM SHALL BE FLUSHED WITH CLEAN POTABLE WATER UNTIL THE CHLORINE IS PURGED FROM THE SYSTEM.
   e. THE PROCEDURE SHALL BE REPEATED WHERE SHOWN BY A BACTERIOLOGICAL EXAMINATION THAT CONTAMINATION REMAINS PRESENT IN THE SYSTEM.
   f. DURING THE DISINFECTION PROCEDURE, WARNING SIGNS SHALL BE PLACED AT BUILDING ENTRANCES, ROOM ENTRANCES AND WATER OUTLETS INDICATING THAT POTABLE WATER HAS A HIGH CONCENTRATION OF CHLORINE AND IS NOT SAFE TO DRINK OR USE.

DOMESTIC WATER GEN. NOTES

1. ALL EXPOSED DOMESTIC WATER PIPE IN OCCUPIED SPACES SHALL BE POLISHED CHROME PLATED.
2. PROVIDE ISOLATION VALVES IN DOMESTIC WATER PIPING TO EACH SET OF RESIDENT ROOMS OR BATHROOM GROUPS..
3. INSTALL PIPING SO THAT VALVES, STRAINERS, UNIONS, TRAPS, FLANGES, AND ALL OTHER APPURTENANCES REQUIRING ACCESS ARE ACCESSIBLE.
4. VALVES (EXCEPT CONTROL VALVES) AND STRAINERS SHALL BE FULL SIZE OF PIPE BEFORE REDUCING PIPE SIZE TO MAKE CONNECTIONS TO EQUIPMENT.
5. VALVES SHALL BE INSTALLED SO THAT VALVE REMAINS IN SERVICE WHEN EQUIPMENT OR PIPING ON EQUIPMENT SIDE OF VALVE IS REMOVED.
6. PROVIDE DOMESTIC WATER BOOSTER PUMP IF WATER PRESSURE FROM LOCAL UTILITY IS INADEQUATE TO SERVE BUILDING. BOOSTER PUMP SHALL BE INCLUDED IF REQUIRED.
7. PROVIDE MANIFOLD PIPING AT WATER HEATERS PER MANUFACTURER'S WRITTEN RECOMMENDATIONS. BALANCE WATER FLOW THROUGH WATER HEATERS AFTER INSTALLATION.
8. INSTALL DOMESTIC WATER PIPING ABOVE OR BEHIND WATER HEATERS TO ALLOW FOR WATER HEATER REMOVAL.
9. SOFTENED WATER SHALL SERVE DOMESTIC COLD WATER SERVICE TO WATER HEATERS ONLY.

DRAIN, WASTE & VENT NOTES

1. ALL EXPOSED DRAINAGE PIPING ON OCCUPIED SPACES INCLUDING TRAPS UNDER SINKS SHALL BE POLISHED CHROME PLATED.
2. DRAWINGS SHOW GENERAL ARRANGEMENT OF DRAIN, WASTE AND VENT SYSTEM. CONTRACTOR SHALL PROVIDE ALL ADDITIONAL CLEANOUTS AS REQUIRED BY PLUMBING CODE.
3. INVERT ELEVATIONS AS SHOWN ON DRAWINGS ARE REFERENCED FROM FINISHED FLOOR ELEVATION. COORDINATE ALL INVERTS WITH BOTH CIVIL AND ARCHITECTURAL DRAWINGS PRIOR TO INSTALLATION.
4. ALL VENTS THROUGH ROOF SHALL BE A MINIMUM OF 10 FEET FROM ANY AIR INTAKES.
5. SLOPE VENT SYSTEM TOWARDS DRAINAGE SYSTEM.
6. INSTALL ALL SANITARY DRAINAGE PIPING 3" AND LARGER WITH SLOPE IN DIRECTION OF FLOW OF 1/8" PER FOOT MINIMUM.
7. INSTALL ALL SANITARY DRAINAGE PIPING 2-1/2" AND SMALLER AND ALL GREASE WASTE PIPING WITH SLOPE IN DIRECTION OF FLOW AT 1/4" PER FOOT.
8. DRAINAGE PATTERN FITTINGS SHALL BE USED ON ALL VENT PIPING LOCATED BELOW THE FLOOD LEVEL RIM OF FIXTURES.

FUEL GAS PIPING GEN. NOTES

1. NATURAL GAS PIPING IS SIZED AT 2.0 PSI.
2. PROVIDE GAS SHUT OFF VALVES AT ALL GAS FIRED EQUIPMENT.
3. ALL EXTERIOR FUEL GAS PIPING SHALL BE PAINTED WITH TWO COATS OF PAINT:
   a. ONE COAT: 2.5 MIL (DRY) 5.0 MIL (WET) 4160-7100 (RED) DEVGUARD EXTERIOR, MULTI-PURPOSE TANK & STRUCTURAL ALKYD PRIMER. SEE SPEC. 15195.
   b. ONE COAT: 1486-XXXX (GRAY) UNIGRIP WATER BASED AQUACRYLIC DRY FALL SEMI-GLOSS PAINT.
4. FUEL GAS PIPING SHALL BE PURGED OF ALL AIR PRIOR TO THE PIPING SYSTEM BEING PUT INTO OPERATION.
5. THE OPEN END OF FUEL GAS PIPING SYSTEM BEING PURGED SHALL DISCHARGE TO THE OUTDOORS.
6. THE OPEN END OF THE GAS PIPING SYSTEM SHALL BE CONTINUOUSLY MONITORED DURING PURGING.

PLUMBING PIPE MATERIAL SPECIFICATIONS

SERVICE	PIPE MATERIAL	FITTINGS	JOINTS	NOTES
DOMESTIC WATER (BELOW GRADE)	ASTM 88 TYPE "K" COPPER TUBING	ASME B16.18 CAST COPPER-ALLOY SOLDER JOINT OR ASME B16.22 WROUGHT COPPER SOLDER JOINT	ASTM B32 SILVER SOLDER BRAZE	PERMITTED FOR 1/2" THROUGH 3" TUBING
	UL/FM APPROVED 304 SST STAILNESS STEEL RISER	PRE-FABFRICATED SINGLE EXTENDED 90 DEGREE BUTT WELDED RISER.	AWWA C900 (INLET) AWWA C606 (OUTLET)	PERMITTED FOR 4" THROUGH 10" TUBING
DOMESTIC WATER (ABOVE GRADE)	ASTM B88 TYPE 'L' COPPER TUBING	ASME B16.18 CAST COPPER-ALLOY SOLDER JOINT OR ASME B16.22 WROUGHT COPPER SOLDER JOINT	ASTM B32 LEAD FREE SOLDER	
	ASTM F876 AND OR F877 CROSS-LINKED POLYETHYLENE (PEX) SDR 9	ASTM F877 LEAD FREE BRASS INSERT OR ASTM F 1960 ENG. PLASTIC INSERT	ASTM F877 COPPER CRIMP RING OR ASTM F1960 COLD EXPANSION	NOT PERMITTED IN RETURN AIR PLENUMS FITTING AND JOINING METHOD APPROVED BY PIPE MANUFACTURER PROVIDE A 2-FT. X 3-FT. THERMAL EXPANSION LOOP FOR EVERY 60 FT. OF LINEAR HOT WATER PIPE SECTION.
	ASTM F2389 POLYPROPYLENE (PP-R) TUBING AQUATHERM "GREENPIPE" SDR 11	ASME F 2389 POLYPROPYLENE (PP-R) AQUATHERM "GREENPIPE" SOCKET FUSION WELD	SOCKET FUSION WELD OR BUT FUSION WELD	NOT PERMITTED IN RETURN AIR PLENUMS FITTING AND PIPE BY SAME MANUFACTURER PROVIDE A 2-FT. X 3-FT. THERMAL EXPANSION LOOP FOR EVERY 60 FT. OF LINEAR HOT WATER PIPE SECTION.
	ASTM D2646 CHLORINATED POLYVINYL CHLORIDE (CPVC) CTS (SDR 11)	ASTM D2846 CTS FITTINGS	LISTED PRIMER & SOLVENT CEMENT OR ASTM F 493 YELLOW ONE-STEP SOLVENT CEMENT	SINGLE STEP SOLVENT CEMENT PERMITTED FOR 1/2" THROUGH 2" PIPE SIZES. PROVIDE A 2-FT. X 3-FT. THERMAL EXPANSION LOOP FOR EVERY 60 FT. OF LINEAR HOT WATER PIPE SECTION.
DRAIN WASTE AND VENT (BELOW GRADE)	ASTM D1785 SCHEDULE 40 SOLID CORE PVC	ASTM AD 2665 DRAINAGE PATTERN	ASTM D 2564 SOLVENT CEMENT	
DRAIN WASTE AND VENT (ABOVE GRADE)	ASTM F 891 SCHEDULE 40 CELLULAR CORE PVC	ASTM AD 2665 DRAINAGE PATTERN	ASTM D 2564 SOLVENT CEMENT	NOT PERMITTED IN RETURN AIR PLENUMS
	ASTM A 74 STANDARD WEIGHT CAST IRON NO-HUB	ASTM A74 STANDARD WEIGHT CAST IRON NO-HUB, DRAINAGE PATTERN.	ASTM C 1277 COMPRESSION TYPE NEOPRENE GASKETS, STAINLESS STEEL BANDS.	
NATURAL GAS (BELOW GRADE)	ASTM D2513 POLYETHYLENE (PE) MEDIUM DENSITY	ASTM D3350	FUSION (SOCKET, BUTT, SADDLE, OR ELECTRO) OR MECHANICAL RATED FOR DIRECT BURIAL	BURY NOT LESS THAN 24" BELOW GRADE CONTINUOUS LINE TRACE WIRE CONTINIOUS WARNING LABEL 12" ABOVE
NATURAL GAS (ABOVE GRADE)	ASTM A53 SCHEDULE 40 BLACK STEEL	ASTM B16.3 CLASS 150 MALLEABLE IRON OR ASTM B16.9 BUTT WELDED STEEL	THREADED TEFLON TAPE	
CONDENSATE DRAIN	ASTM D 1785 SCHEDULE 40 POLYVINYL CHLORIDE (PVC)	ASTM D 2466 PVC SOCKET JOINT	ASTM F 656 PURPLE PRIMER ASTM D 2664 SOLVENT CEMENT	NOT PERMITTED IN RETURN AIR PLENUMS
	ASTM B88 TYPE 'M' COPPER TUBING	ASME B16.18 CAST COPPER-ALLOY SOLDER JOINT OR ASME B16.22 WROUGHT COPPER SOLDER JOINT	ASTM B32 LEAD FREE SOLDER	
ROOF DRAIN (BELOW GRADE)	ASTM D1785 SCHEDULE 40 SOLID CORE PVC	ASTM AD 2665 DRAINAGE PATTERN	ASTM D 2564 SOLVENT CEMENT	
ROOF DRAIN (ABOVE GRADE)	ASTM F 891 SCHEDULE 40 CELLULAR CORE PVC	ASTM AD 2665 DRAINAGE PATTERN	ASTM D 2564 SOLVENT CEMENT	NOT PERMITTED IN RETURN AIR PLENUMS
	ASTM A 74 STANDARD WEIGHT CAST IRON NO-HUB	ASTM A74 STANDARD WEIGHT CAST IRON NO-HUB, DRAINAGE PATTERN.	ASTM C 1277 COMPRESSION TYPE NEOPRENE GASKETS, STAINLESS STEEL BANDS.	

PLUMBING SPECIFICATIONS

220500 - BASIC PIPING MATERIALS AND METHODS

1. CORE CUT ALL PIPE PENETRATIONS OF MASONRY OR CONCRETE WALLS AND FLOORS. SLEEVE ALL PENETRATIONS THROUGH NEW WALLS AND FLOORS. SEAL ALL PENETRATIONS WATER TIGHT WITH SILICONE SEALANT. USE FIRE RATED SEALANT (3M "FIRE BARRIER" OR EQUAL) FOR 1 HOUR OR 2 HOUR PENETRATIONS.
2. CAULK AROUND ALL PIPING THAT PASSES THROUGH FIRE-RATED PARTITIONS WITH A NON-HARDENING CAULKING SIMILAR TO 3M "FIRE BARRIER".
3. SEAL ALL PIPING THROUGH WALLS AIR TIGHT.

220700 - PLUMBING INSULATION

1. PIPE INSULATION: SNAP-ON GLASS FIBER TYPE WITH VAPOR JACKET. SEAL ALL ENDS AND JOINTS TO PROVIDE A COMPLETELY SEALED SYSTEM. ALTERNATIVELY, FOR INTERIOR WATER PIPING, USE FLEXIBLE UNICELLULAR ASTM 534 TYPE 1 INSULATION. USE THE FOLLOWING MIN. PIPE INSULATION THICKNESS BY SERVICE AND SIZE:
   - DCW: ALL SIZES (1/2")
   - DHW: 1/2"-1-1/4" (1")
   - DHW: 1-1/2"+ (1-1/2")
2. FOR PIPING SMALLER THAN 1-1/2" AND LOCATED IN PARTITIONS WITHIN CONTIDIONED SPACES, REDUCTION OF THESE THICKNESSES BY 1" SHALL BE PERMITTED BUT NOT TO A THICKNESS LESS THAN 1".
3. INDOOR PIPE INSULATION AND RELATED MATERIALS SHALL HAVE A FLAME-SPREAD INDEX OF 25 OR LESS, AND SMOKE-DEVELOPED INDEX OF 50 OR LESS WHEN TESTED TO ASTM E 84.
4. ALL PIPE INSULATION SHALL NOT FLAME, GLOW, SMOLDER OR SMOKE WHEN TESTED IN ACORDANCE WITH ASTM C411.
5. PROVIDE ADA COMPLIANT FIXTURES WITH SNAP ON ADA ARTICLE 4.19 22FF COMPLIANT WHITE INSULATION. TRUEBRO LAV GUARD, BASIN GUARD OR LAV SHIELD.

221116 - WATER DISTRIBUTION PIPING

1. INSTALL PIPE HANGERS WITH MINIMUM ROD SIZES AND MAXIMUM SPACING AS SHOWN IN DRAWING SCHEDULES.
2. ALL PIPE HANGERS AND EQUIPMENT SUPPORTS SHALL BE LOCATED A MINIMUM OF 2" FROM ANY REFRIGERANT PIPE.
3. ALL PLUMBING FIXTURES CONNECTED TO THE POTABLE WATER SYSTEM WITH HOSE CONNECTIONS ON THE OUTLET SIDE SHALL BE PROVIDED WITH BACKFLOW PREVENTION.

221316 - DRAINAGE AND VENT SYSTEMS

1. INSTALL SANITARY DRAIN LINES 2-1/2" AND SMALLER WITH A MIN. SLOPE OF 2%. INSTALL SANITARY DRAIN LINES 3" AND LARGER WITH A MIN. SLOPE OF 1%.
2. PROVIDE ACCESSIBLE WALL CLEAN-OUT WITH FLAT CHROME COVER PLATE AT ALL SEWER STACKS AND URINAL FIXTURES.

221416 - NATURAL GAS SYSTEMS

1. SEE GAS UTILITY CALUCLATIONS AND/OR ISOMETRIC FOR SYSTEM PRESSURE. WHERE GREATER THAN 1/2" PSIG (7" W.C.), LOCATE PRESSURE REGULATORS AS SHOWN ON THE DRAWINGS TO REDUCE PRESSURE TO 7" W.C. PROVIDE FULL SIZE VENT LINES FROM GAS PRESSURE REGULATORS AND EXTEND TO OUTSIDE OR THROUGH ROOF (AS REQUIRED). FLASH PENETRATIONS AND MAKE WATER TIGHT.
2. PROVIDE GAS SHUT OFF VALVE AT EACH PIECE OF GAS UTILIZING EQUIPMENT.
3. THE EQUIPMENT INSTALLER SHALL APPLY AND SIGN A CERTIFICATION LABEL TO EACH GAS-FIRED APPLIANCE, STATING THE APPLIANCE HAS BEEN ADJUSTED OR MODIFIED PER MANUFACTURER'S REQUIREMENTS FOR OPERATION AT THE PROJECT ALTITUDE AND WITH THE BTU-CONTENT OF THE AVAILABLE FUEL-GAS.

223400 - WATER HEATERS

1. INSTALL UNITS PLUMB AND LEVEL AND FIRMLY ANCHORED PER SEISMIC REQUIREMENTS. MAINTAIN MANUFACTURER'S RECOMMENDED CLEARANCES. ORIENT SO CONTROLS AND DEVICES NEEDING SERVICING ARE ACCESSIBLE.
2. CONNECT HOT AND COLD WATER PIPING TO UNITS WITH SHUT-OFF VALVES AND UNIONS. CONNECT HOT WATER CIRCULATING PIPING TO UNIT WITH SHUT-OFF VALVE, CHECK VALVE AND UNION.
3. USE DIELECTRIC FITTINGS AND UNIONS WHERE PIPING CONNECTIONS ARE DISSIMILAR METALS.
4. INSTALL VACUUM RELIEF VALVE IN COLD WATER INLET PIPING. EXTEND RELIEF VALVE DISCHARGE TO CLOSEST FLOOR DRAIN. INSTALL DRAIN AS INDIRECT WASTE TO SPILL INTO OPEN DRAIN OR OVER FLOOR DRAIN.
5. PROVIDE AND INSTALL EXPANSION TANK AS SCHEDULED IN DRAWINGS. EXPANSION TANK: DIAPHRAGM TYPE, PRE- PRESSURIZED STEEL TANK WITH RELIEF VALVE SETTING @ 120 PSI MAXIMUM PRESSURE.
6. CONNECT GAS SUPPLY PIPING TO BURNER WITH DRIP LEG, TEE, GAS COCK, AND UNION, MINIMUM SIZE SAME AS INLET CONNECTION. INSTALL GAS PRESSURE REGULATORS WHERE INDICATED.
7. ELECTRICAL CONNECTIONS: POWER WIRING AND DISCONNECT SWITCHES ARE SPECIFIED IN DIVISION 26. CONNECT UNIT COMPONENTS TO GROUND IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE.
8. VENT CONNECTIONS: CONNECT GAS FIRED WATER HEATER DRAFT HOOD TO VENT SYSTEM. UNLESS OTHERWISE INDICATED, PROVIDE VENT SAME SIZE AS OUTLET ON HEATER. COMPLY WITH GAS UTILITY REQUIREMENTS.
9. PROVIDE SEALED COMBUSTION SYSTEMS WITH CONNECTIONS FOR OUTSIDE COMBUSTION AIR.
10. PROVIDE CONCENTRIC VENT TERMINATION KIT FOR ROOF OR WALL APPLICATIONS.
11. PROVIDE PVC COMBUSTION AIR AND VENT PIPING FROM WATER HEATER TO TERMINATION KIT.
12. PROVIDE CONDENSATE DRAIN FROM WATER HEATER OR VENT AS REQUIRED.

224213 - PLUMBING FIXTURES

1. PROVIDE CARRIERS AS REQUIRED FOR FLOOR OR WALL MOUNTED PLUMBING FIXTURES. INSTALL ALL FIXTURES WITH ACCESSORIES AS REQUIRED TO PROVIDE A COMPLETE, WORKABLE INSTALLATION.
2. PLUMBING FIXTURES SHALL INCLUDE COMPRESSION STOPS ABOVE FLOOR IN SUPPLIES TO ALL FIXTURES AND A MINIMUM 17 GAUGE P- TRAP.
3. ALL LAVATORIES AND HAND SINKS WILL HAVE A COMBINATION FAUCET OR PREMIXING FAUCET CAPABLE OF SUPPLYING WARM WATER FOR A MINIMUM OF 10 SECONDS.
4. ALL JANITORIAL SINK FAUCETS MUST BE PROVIDED WITH AN APPROVED BACKFLOW PREVENTION DEVICE.
5. FLOOR DRAINS AND FLOOR SINKS ARE SHOWN IN THE APPROXIMATE LOCATION. COORDINATE FINAL LOCATION WITH EQUIPMENT AND DRAINAGE REQUIREMENTS. PROVIDE BLOCKOUTS AS NECESSARY.
6. SEE REFRIGERATION OR ARCHITECTURAL DRAWINGS FOR EXACT LOCATION OF FLOOR DRAINS AND FLOOR SINKS.

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FOR:

PAGNANI BUILDING ADDITION

2321 NORTH 400 EAST TOOELE, UTAH

PROFESSIONAL ENGINEER — THOMAS MEALEY SHAKESPEARE — 10361455 — STATE OF UTAH

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PLUMBING NOTES & SPECIFICATIONS

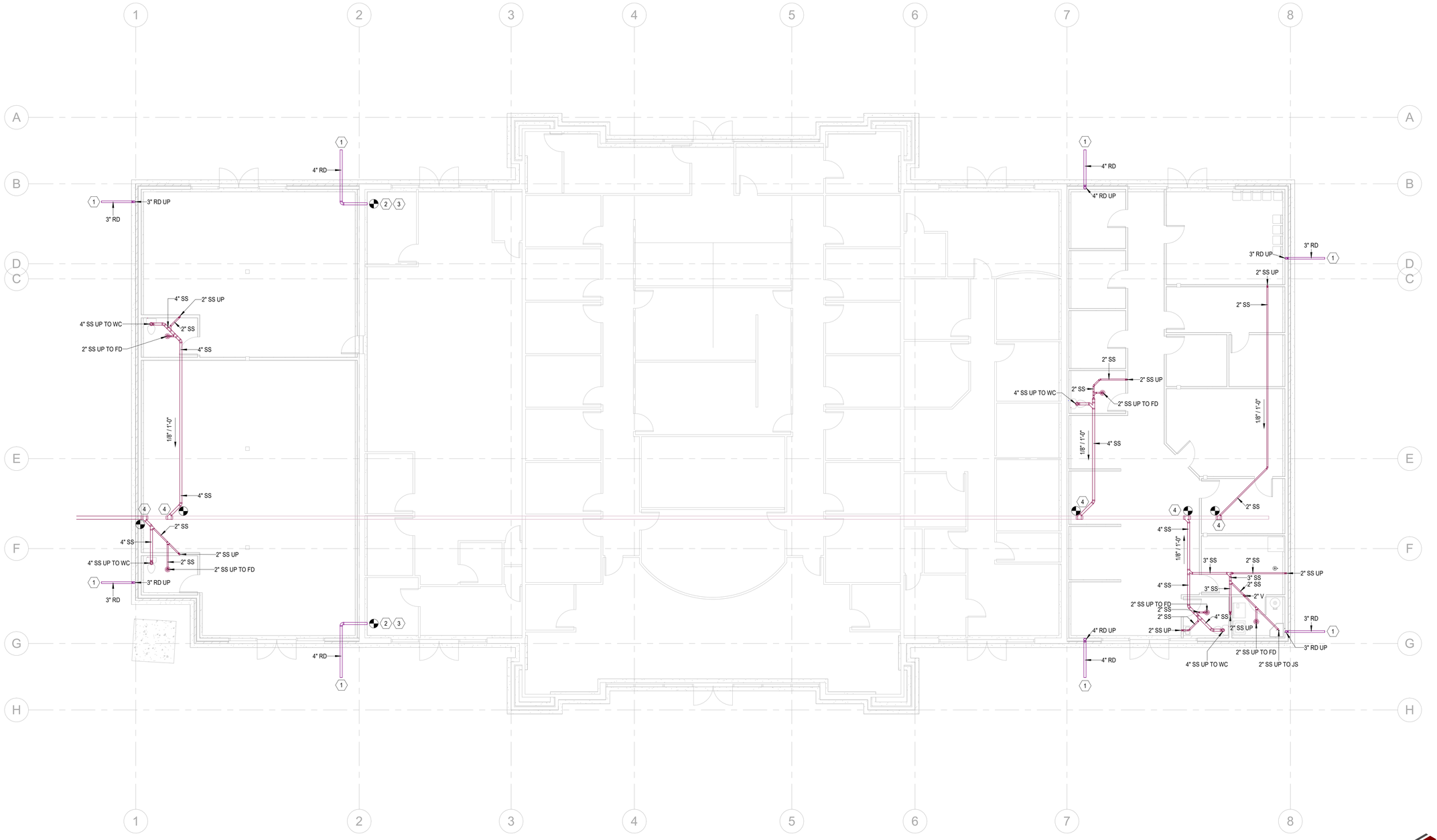
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SHEET KEYNOTES

1. CD TO INDRECTLY DRAIN INTO FD/FS/US.
2. SEE KITCHEN/CAFE DESIGN ON ARCHITECTURAL DRAWINGS WITH LAYOUT AND PLUMBING FIXTURE SELECTIONS.
3. DAYLIGHT 24" AFF WITH TURNED DOWN ELBOW INTO LANDSCAPE AREA, FIELD VERIFY.
4. CONNECT TO EXISTING IN THIS APPROXIMATE LOCATION. FIELD VERIFY EXISTING POINT OF CONNECTION HAS AVAILABLE GRADE TO ALLOW FOR CONNECTION BEFORE SAWCUTTING.



NORTH

1 **UNDERGROUND PLUMBING PLAN**

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

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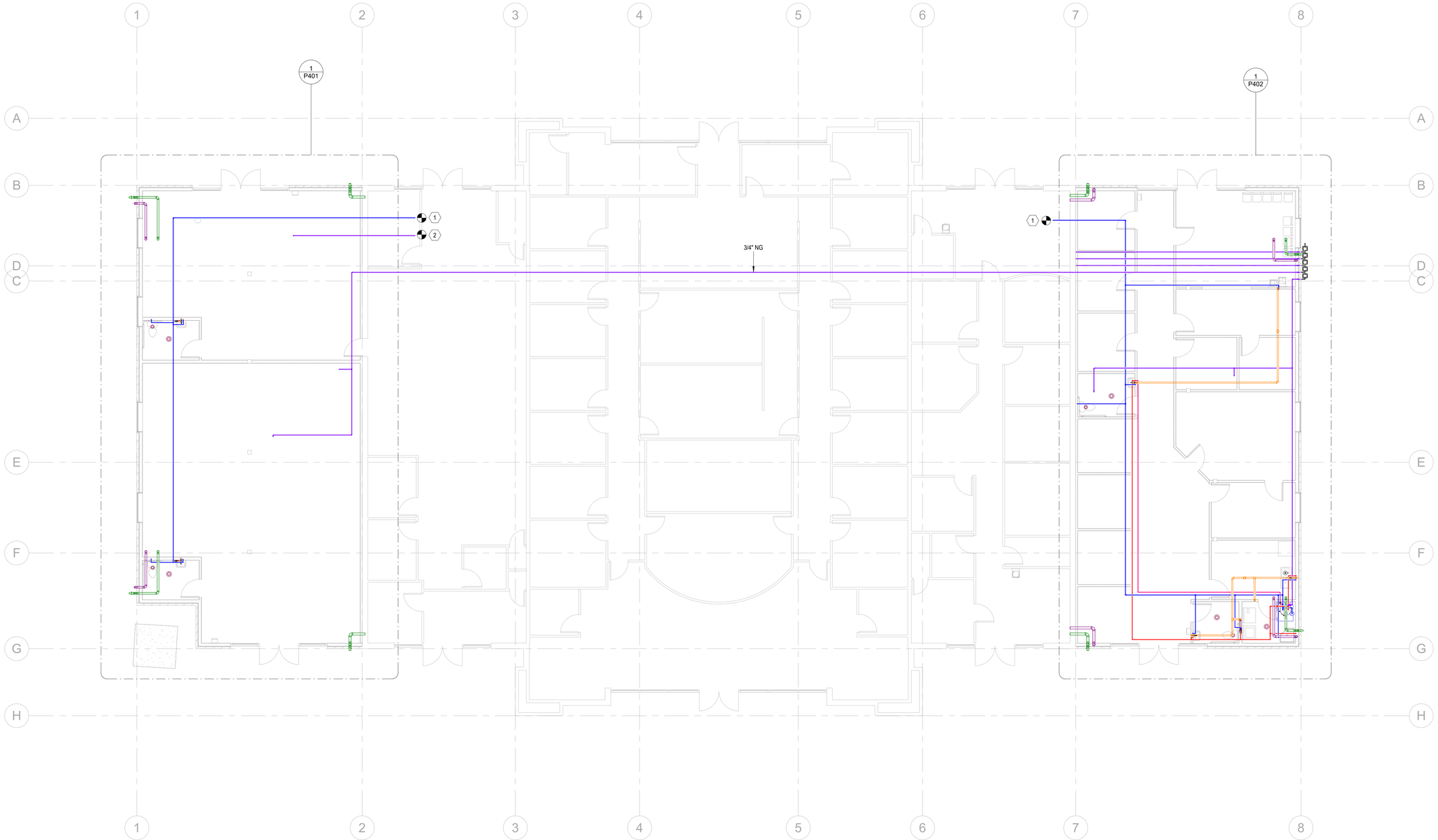
UNDERGROUND PLUMBING PLAN

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SHEET KEYNOTES

1 CONNECT TO EXISTING 1-1/2" DCW AT THIS APPROX LOCATION. FIELD VERIFY EXACT
2 CONNECT TO EXISTING NG FOR SUITE 1 TENANT AT THIS APPROX LOCATION. FIELD VERIFY EXACT



NORTH

1 **MAIN LEVEL PLUMBING PLAN**

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

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MAIN LEVEL PLUMBING PLAN

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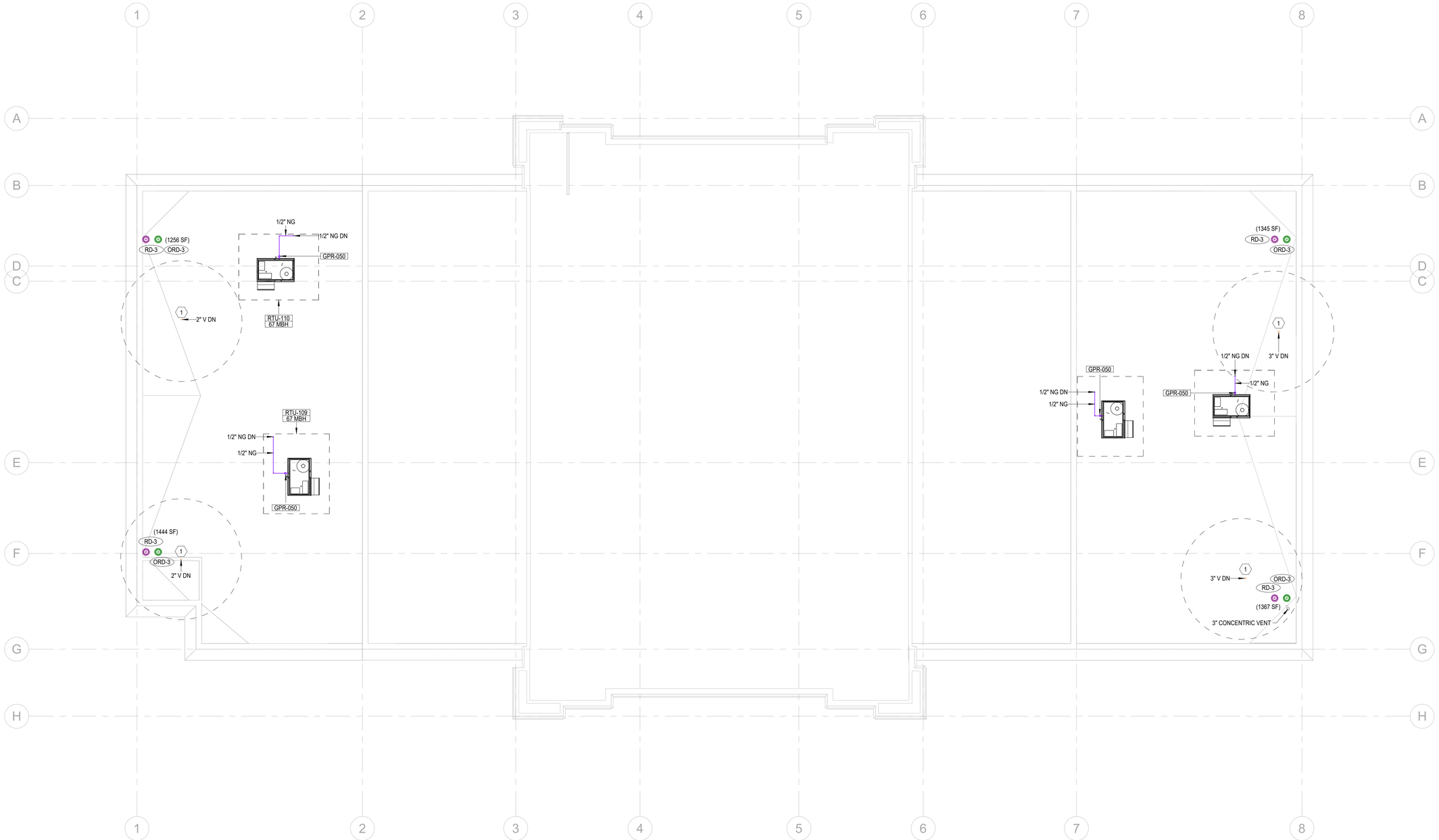
PIPE SIZE (inches)	CAPACITY (GPM)				
	SLOPE OF HORIZONTAL DRAIN				
	VERTICAL	1/16" / FT	1/8" / FT	1/4" / FT	1/2" / FT
2	34	15	22	31	44
3	87	39	55	79	111
4	180	81	115	163	231
5	311	117	165	234	331
6	538	243	344	487	689
8	1,117	505	714	1,010	1,429
10	2,050	927	1,311	1,855	2,623
12	3,272	1,480	2,093	2,960	4,187
15	5,543	2,508	3,546	5,016	7,093

PIPE SIZE (inches)	ROOF AREA (FT2)				
	SLOPE OF HORIZONTAL DRAIN				
	VERTICAL	1/16" / FT	1/8" / FT	1/4" / FT	1/2" / FT
2	34	1,108	1,625	2,289	3,249
3	87	2,880	4,062	5,834	8,197
4	180	5,982	8,492	12,037	17,058
5	311	8,640	12,185	17,280	24,443
6	538	17,945	25,403	35,963	50,880
8	1,117	37,292	52,726	74,585	105,526
10	2,050	68,455	96,812	136,985	193,698
12	3,272	109,292	154,560	218,585	309,194
15	5,543	185,206	261,858	370,412	523,791

1.3	Rain Fall Rate (Inches / Hour)
0.0135	GPM / SF

SHEET KEYNOTES

1 KEEP V TERMINATION POINT AT MIN 10' AWAY FROM FRESH AIR INTAKES. TERMINATE WITH WEATHER CAP, BIRD SCREEN.



NORTH

1 **ROOF PLUMBING PLAN**

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

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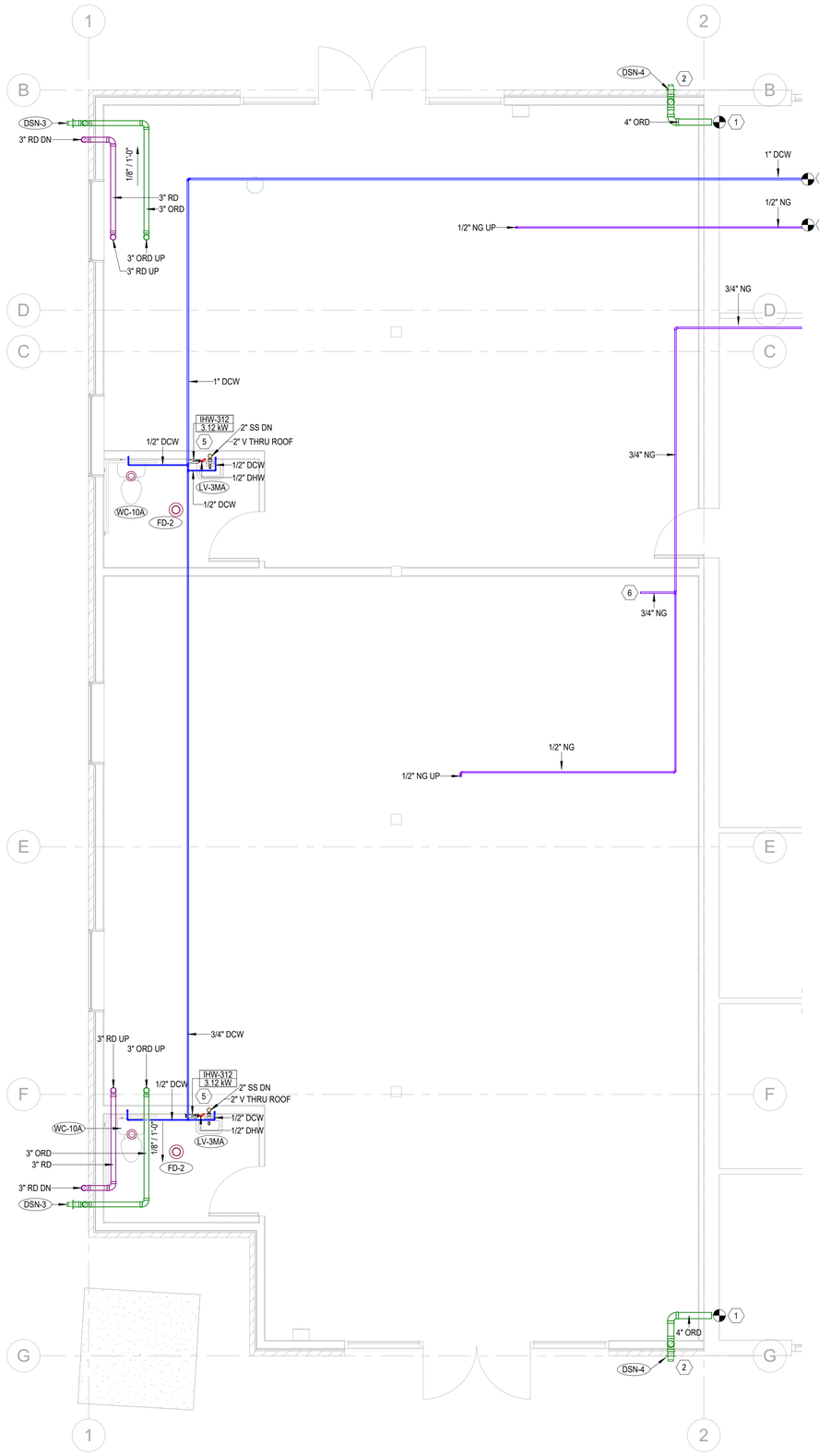
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ROOF PLUMBING PLAN

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NORTH

1 DR. GARG'S TI - PLUMBING PLAN

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

SHEET KEYNOTES

1. SEE KITCHEN/CAFE DESIGN ON ARCHITECTURAL DRAWINGS WITH LAYOUT AND PLUMBING FIXTURE SELECTIONS.
2. ABANDON EXISTING UNDERGROUND WATER SERVICE.
3. CONNECT TO EXISTING 1-1/2" DCW AT THIS APPROX LOCATION. FIELD VERIFY EXACT
4. CONNECT TO EXISTING NG FOR SUITE 1 TENANT AT THIS APPROX LOCATION. FIELD VERIFY EXACT
5. CONNECT HOT WATER FROM IHW TO LAV PER MANUFACTURER INSTRUCTIONS
6. STUB AND CAP NG WITH ISOLATION FOR FUTURE USE (UP TO 400 MBH).

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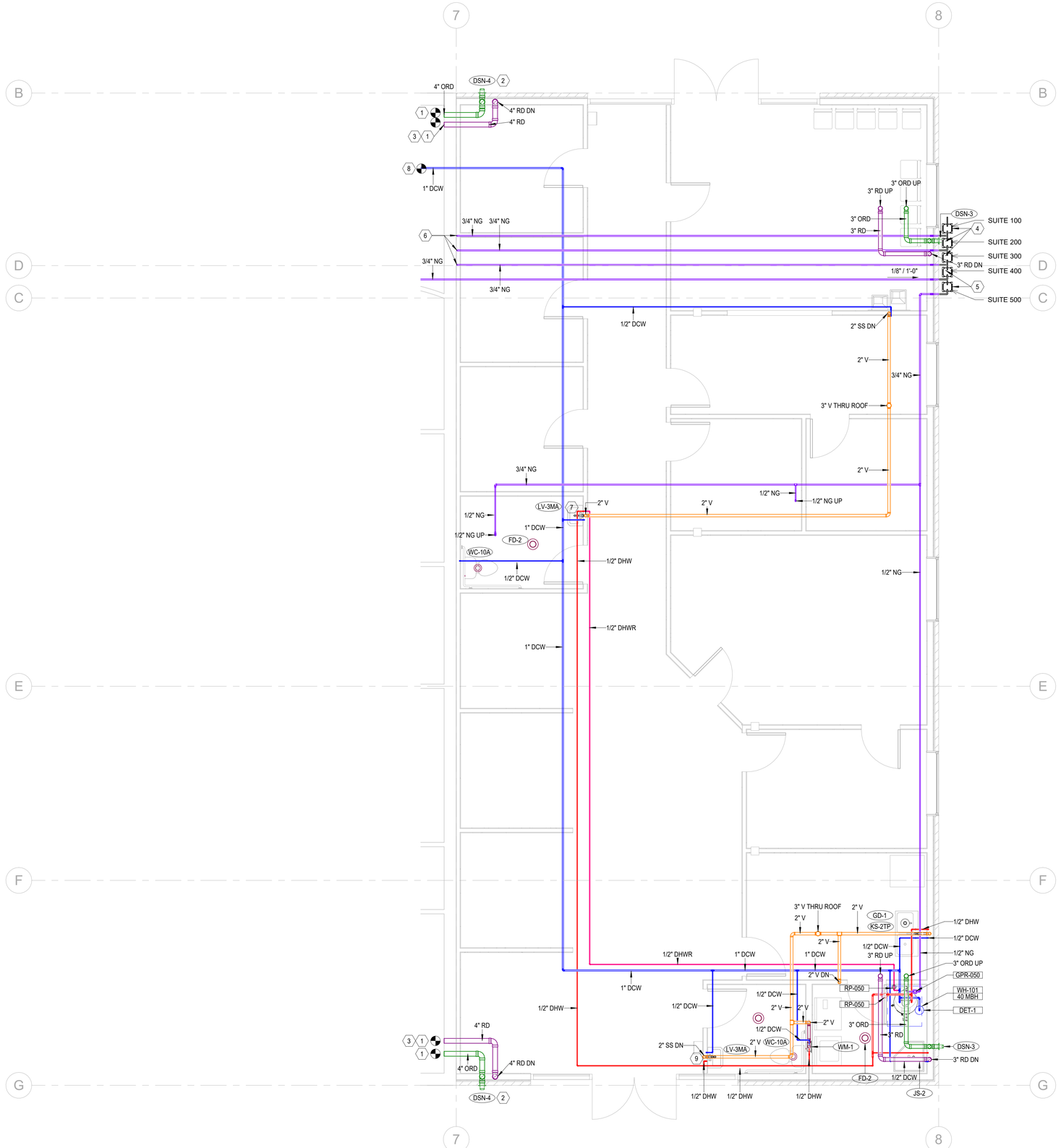
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ENLARGED PLUMBING PLAN

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NORTH

1 DR. PETERSON'S TI - PLUMBING PLAN

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

SHEET KEYNOTES

1. SEE KITCHEN/CAFE DESIGN ON ARCHITECTURAL DRAWINGS WITH LAYOUT AND PLUMBING FIXTURE SELECTIONS.
2. ABANDON EXISTING UNDERGROUND WATER SERVICE.
3. DAYLIGHT 24" AFF WITH TURNED DOWN ELBOW INTO LANDSCAPE AREA. FIELD VERIFY.
4. EXISTING TENANT GAS METER RELOCATED BY GAS SUPPLY COMPANY.
5. NEW GAS METER BY GAS SUPPLY COMPANY.
6. EXTEND/RECONNECT NG PIPING FOR EXISTING TENANTS TO NEW METER LOCATIONS. FIELD VERIFY EXACT LOCATION AND DETERMINE BEST ROUTING.
7. EXTEND HOT WATER LOOP FULL SIZE DOWN WALL WITHIN 24" OF PLUMBING FIXTURE
8. CONNECT TO EXISTING 1-1/2" DCW AT THIS APPROX LOCATION. FIELD VERIFY EXACT
9. EXTEND HOT WATER LOOP FULL SIZE DOWN WALL WITHIN 24" OF PLUMBING FIXTURE

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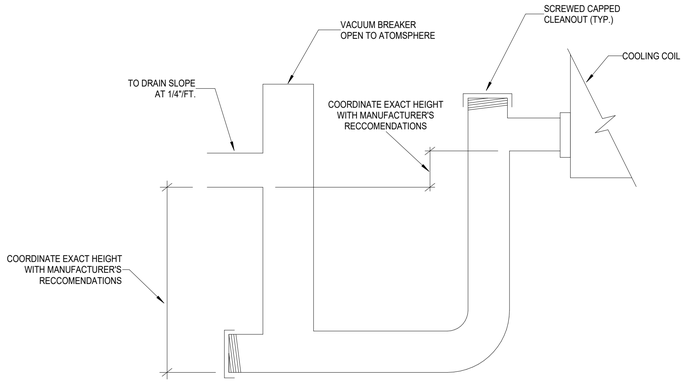
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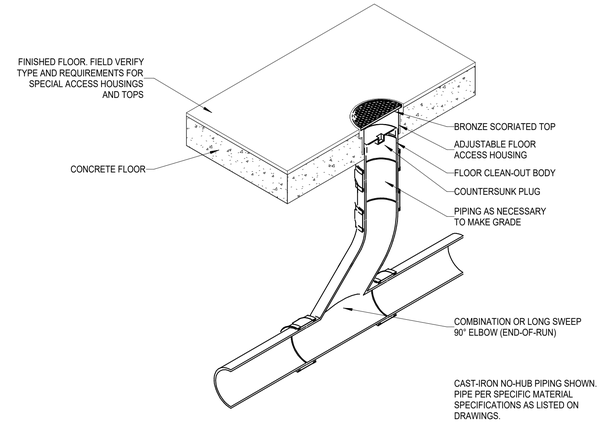
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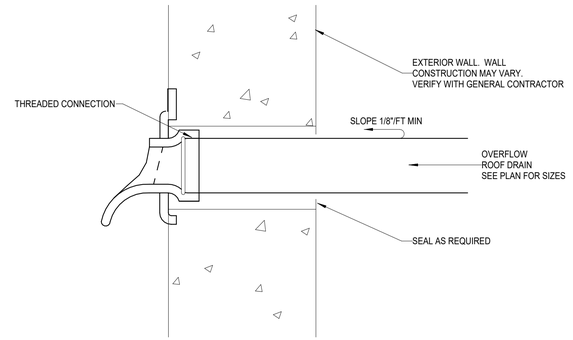
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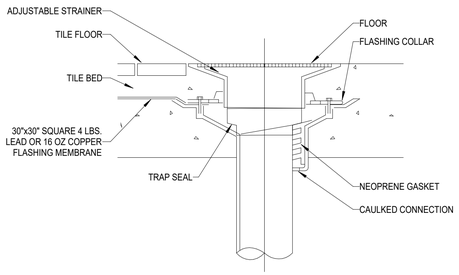
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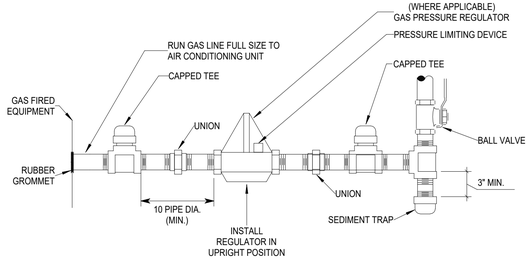
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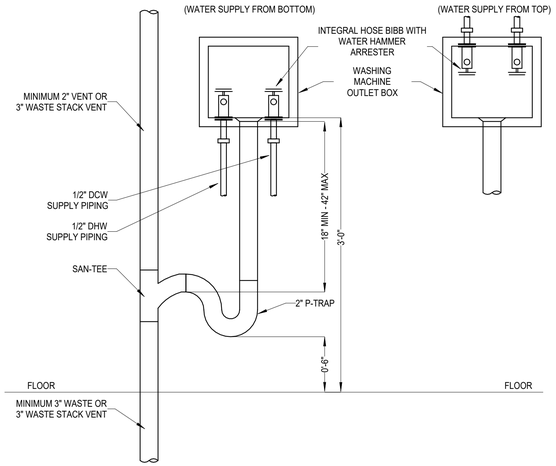
3 DOWN SPOUT NOZZEL
NTS



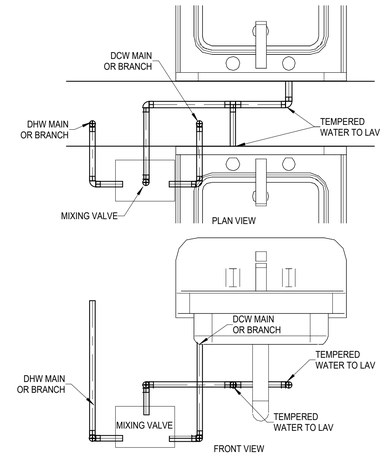
4 FLOOR DRAIN - TRAP SEAL
NTS



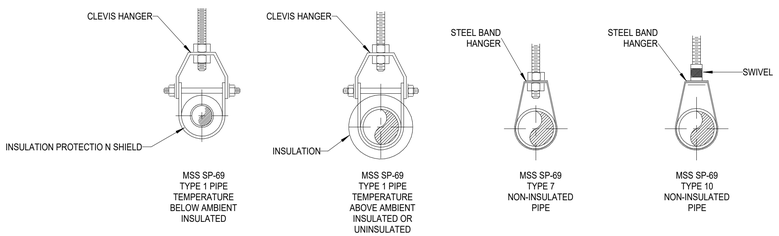
5 GAS PRES. REG.
NTS



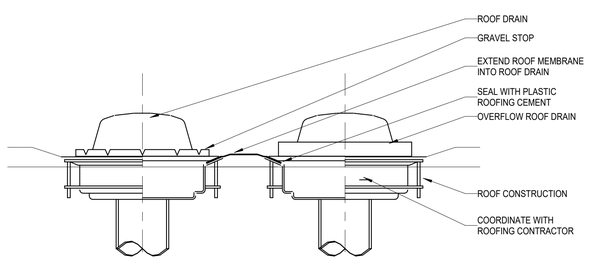
6 WASHING MACHINE PIPING
NTS



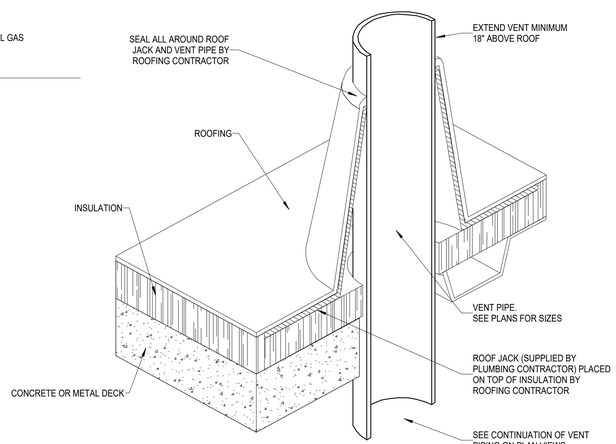
7 MIXING VALVE PIPING - LAV
NTS



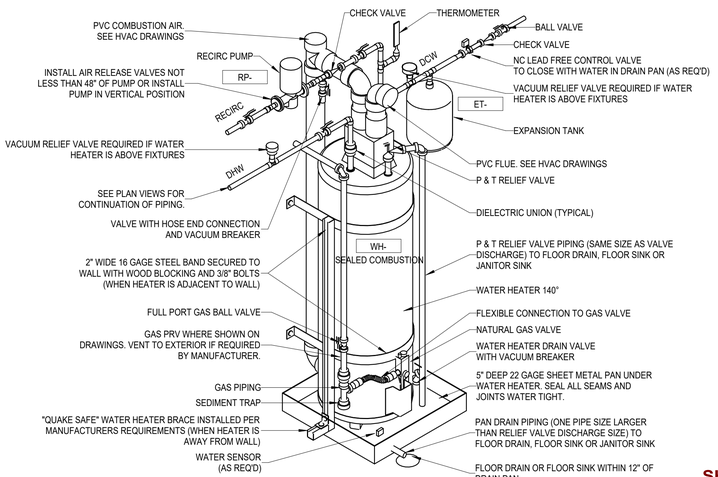
8 PIPE HANGERS
NTS



9 ROOF DRAIN
NTS



10 VENT THROUGH ROOF
NTS



11 WATER HEATER - SEALED, GAS W/RECIRC
NTS

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FOR:

PAGNANI BUILDING ADDITION

2321 NORTH 400 EAST
TOOELE, UTAH

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10361459
STATE OF UTAH

PERMIT SET

NO.	DATE	REVISION
0	07-22-2026	PERMIT SET

PLUMBING DETAILS

PROJECT NUMBER	DATE
26207	07-22-2026
DRAWN BY	CHECKED BY
IH	LB
APPROVED BY	DESIGNED BY
BS	MT

P501

BUILDING WATER & SEWER UTILITY CALCULATIONS

Fixture	Quantity	Waste Fixture Units (A)	Total Waste Fixture Units	Water Fixture Units (A)	Total Water Fixture Units
Water Closet (Private Valve)	2	3.0	6.0	6.0	12.0
Lavatory (Private)	2	1.0	2.0	0.7	1.4
Sink (Kitchen)	2	2.0	4.0	1.4	2.8
Sink (Janitor)	1	2.0	2.0	3.0	3.0
Emergency Floor Drain 2"	2	0.0	0.0	0.0	0.0
Floor Drain 2"	1	2.0	2.0	0.0	0.0
Washing Machine (8lb Private)	1	2.0	2.0	1.4	1.4
		DFU:	**18.0**	WSFU:	**20.6**
		Slope (In/Ft):	**1/8**	GPM:	**20**
Recommended Water Meter Size (in):	3/4"	SIZE:	**3"**	SIZE:	**1 1/4"**

(A) Based on IPC 2018 Edition.

SUITES 3 & 4 NATURAL GAS BUILDING UTILITY

Equipment Serving Building:

TAG	QTY	INPUT (MBH)	TOTAL (MBH)	TAG	QTY	INPUT (MBH)	TOTAL (MBH)	TAG	QTY	INPUT (MBH)	TOTAL (MBH)
RTU-EX	2	180	360	FUT	1	966	966	-	-	-	-
RTU 4T	1	67	67	-	-	-	-	-	-	-	-
RTU 5T	1	67	67	-	-	-	-	-	-	-	-
WH	1	40	40	-	-	-	-	-	-	-	-

TOTAL BUILDING INPUT (MBH): **1500** NG Heating Value (BTU/CF): **890**

MAX NATURAL GAS LINE LENGTH (FT): **250**

BUILDING MAIN SYSTEM PRESSURE (PSI): **2** BUILDING MAIN SYSTEM SIZE (IN): **1 1/4**

HIGH-PRESSURE GAS PIPING (1.5 PSI AND ABOVE) CALCULATIONS

Elevation =	6000	feet	Elevation	Y =	0.9992		Flow factor (0.9992)
L =	250	feet	Length of branch in feet	Cr =	0.6094		Specific Gravity factor (0.6094)
P =	2	psi	Regulator pressure in psi	P1 =	13.9	psi	Upstream pressure, absolute
DP =	1	psi	Maximum allowable pressure drop in psi	P2 =	12.9	psi	Downstream pressure, absolute
Q =	1685	cfh	Max flow rate at allowed pressure drop	p =	11.9	psi	Altitude pressure in psi

Pipe Size	**1/4**	**3/8**	**1/2**	**3/4**	**1**	**1 1/4**	**1 1/2**	**2**	**2 1/2**	**3**	**4**	**5**	**6**	**8**	**10**
***Inside Diam.**	0.364	0.493	0.622	0.824	1.049	1.380	1.610	2.067	2.469	3.068	4.026	5.047	6.065	7.981	10.020
Max CFH	**62**	**138**	**253**	**529**	**998**	**2,049**	**3,071**	**5,918**	**9,435**	**16,685**	**34,047**	**61,619**	**99,807**	**205,158**	**372,764**
						^									
Actual DP (psi)					2.8	0.7	0.3	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0

*Inside Diameter shown used as 'D' in the equations for diameter

2018 IFGC A.4-1 (Equation 4-2)

SUITE 5 NATURAL GAS BUILDING UTILITY

Equipment Serving Building:

TAG	QTY	INPUT (MBH)	TOTAL (MBH)	TAG	QTY	INPUT (MBH)	TOTAL (MBH)	TAG	QTY	INPUT (MBH)	TOTAL (MBH)
RTU 4T	2	67	134	-	-	-	-	-	-	-	-
WH	1	40	40	-	-	-	-	-	-	-	-
FUT	1	250	250	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-

TOTAL BUILDING INPUT (MBH): **424** NG Heating Value (BTU/CF): **890**

MAX NATURAL GAS LINE LENGTH (FT): **300**

BUILDING MAIN SYSTEM PRESSURE (PSI): **2** BUILDING MAIN SYSTEM SIZE (IN): **3/4**

HIGH-PRESSURE GAS PIPING (1.5 PSI AND ABOVE) CALCULATIONS

Elevation =	6000	feet	Elevation	Y =	0.9992		Flow factor (0.9992)
L =	300	feet	Length of branch in feet	Cr =	0.6094		Specific Gravity factor (0.6094)
P =	2	psi	Regulator pressure in psi	P1 =	13.9	psi	Upstream pressure, absolute
DP =	1	psi	Maximum allowable pressure drop in psi	P2 =	12.9	psi	Downstream pressure, absolute
Q =	476	cfh	Max flow rate at allowed pressure drop	p =	11.9	psi	Altitude pressure in psi

Pipe Size	**1/4**	**3/8**	**1/2**	**3/4**	**1**	**1 1/4**	**1 1/2**	**2**	**2 1/2**	**3**	**4**	**5**	**6**	**8**	**10**
***Inside Diam.**	0.364	0.493	0.622	0.824	1.049	1.380	1.610	2.067	2.469	3.068	4.026	5.047	6.065	7.981	10.020
Max CFH	**56**	**125**	**229**	**480**	**904**	**1,857**	**2,783**	**5,362**	**8,549**	**15,119**	**30,851**	**55,835**	**90,437**	**185,899**	**337,771**
				^											
Actual DP (psi)			4.4	1.0	0.3	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

*Inside Diameter shown used as 'D' in the equations for diameter

2018 IFGC A.4-1 (Equation 4-2)

GAS PRESSURE REGULATOR SCHEDULE

ACCEPTABLE MANUFACTURERS:	ACCESSORIES AND REMARKS:
PEITRO FIORENTINI MAXITROL	(1) 2.0 PSIG INLET PRESSURE, 850 BTU PER CF (2) 4 OZ.(7" W.C.) OULET PRESSURE (3) DIE CAST ALUMINUM BODY, NITRILE DIAPHRAGM (4) NPT THREADED INLET & OUTLET (5) BALL CHECK AUTOMATIC VENT LIMITING DEVICE

SYMBOL	LOCATION	MANUFACTURER	MODEL	REGULATOR SIZE (INCHES)	RATED CAPACITY (BTUH)	ACCESSORIES AND REMARKS	QTY
GPR-050		PF REGULATOR	F30051	1/2	928	1,2,3,4,5	5

PLUMBING FIXTURE SCHEDULE

SYMBOL	FIXTURE	CONNECTION SIZES (IN) TRAP	WASTE	VENT	DCW	DHW	DESCRIPTION	MODEL	QTY
DF-2	WATER COOLER (BI-LEVEL) WALL MOUNT (ADA)	1 1/2	2	2	1/2	-	COOLER: LIGHT GRAY GRANITE, NON-FILTERED, 8.0 GPH CHILLING CAPACITY WITH ADJUSTABLE THERMOSTAT, R-134A, BUBLER, FRONT PUSHBAR ACTIVIATION, UL 399 LISTED, LEAD FREE, (120-1-60, W, 72 LBS) FITTINGS: STOPS, TRAP, TAILPIECE, MOUNTING BRACKET	370 ELKAY EZSTL8LC	1
DSN-3	Downspout Nozzle	-	3	-	-	-	NICKEL BRONZE BODY AND THREADED OUTLET, WALL ANCHOR FLANGE WITH CONTERSUNK HOLDER AND DECORATIVE OUTLET NOZZEL. STAINLESS STEEL HINGED PERFORATED COVER	Mifab R1940-84	4
DSN-4	Downspout Nozzle	-	4	-	-	-	NICKEL BRONZE BODY AND THREADED OUTLET, WALL ANCHOR FLANGE WITH CONTERSUNK HOLDER AND DECORATIVE OUTLET NOZZEL. STAINLESS STEEL HINGED PERFORATED COVER	Mifab R1940-84	4
FD-2	Floor Drain-Round	2	2	2	-	-	POLYVINYL CHLORIDE (PVC) BODY, ADJUSTABLE, ANCHOR FLANGE, 6" ROUND NICKEL BRONZE STRAINER, LIGHT DUTY BARRIER TYPE FLOOR DRAIN TRAP SEAL PROTECTION DEVICE, ASSE STANDARD 1072 PVC P-TRAP WITH SOLVENT WELD JOINTS.	JR SMITH 212 (DRAIN) PROSET (TRAPGUARD)	5
GD-1	Garbage Disposal - 1/2 HP	1 1/2	2	-	-	-	CONTINIOUS FEED TYPE, WALL SWITH CONTROL, DISHWASHER DRAIN CONNECTION, (1/2 HP 120-1-60)	Insinkerator Badger 5	1
JS-2	Janitor Sink, FLOOR MOUNT	2	2	2	1/2	1/2	BODY: WHITE, 24"x24"x10", COMPOSIT FAUCET: CHROME, 8" CENTERSET, INTEGRAL STOPS, 3/4" HOSE END, VACUUM BREAKER, PAIL HOOK FITTINGS: STRAINER.	Mustee 63M (BASIN) Mainline XD-141RC (FAUCET)	1
KS-2TP	Kitchen Sink (1.8 GPM) 2 COMP TOP MOUNT, PULLDOWN	1 1/2	2	2	1/2	1/2	BODY: SATIN, 13-1/2"x22"x10" (BOWL 1), 13-1/2"x22"x10" (BOWL 2), 18GA, STAINLESS STEEL, CENTER DRAINS, SOUND PADS; FAUCET: BRUSHED NICKEL, PULL DOWN, SINGLE HOLE, LEVER HANDLE, LEAD FREE, WATER SENSE FITTINGS: TAIL PIECE, TRAP, STOP/SUPPLY, TRAP PROTECTOR, STRAINER	ELKAY DLR3322103 (BASIN) LUXART AERRO-BN (FAUCET)	1
LV-3MA	Lavatory (0.5 GPM) WALL MOUNT-MANUAL VALVE (ADA)	1 1/4	2	2	1/2	1/2	BODY: WHITE, 20"x18" ,6 1/2" DEEP, VITREOUS CHINA, OVERFLOW DRAIN; FAUCET: POLISHED CHROME, 4" CENTERSET, SINGLE CONTROL, 5" SPOUT, LEVEL HANDLE, LEAD FREE, WATER SENSE; FITTINGS: TAIL PIECE, TRAP, STOP/SUPPLY, TRAP PROTECTOR.	ZURN Z5340 (Basin), ZURN Z7440-XL (FAUCET)	4
ORD-3	Overflow Roof Drain	-	3	-	-	-	LACQUERED CAST IRON BODY, DEEP SUMP, 15" DIAMETER ANCHOR FLANGE, CAST IRON WEATHERPROOFING MEMBRANE CLAMP RING WITH INTEGRAL GRAVEL STOP, SELF LOCKING POLYETHYLENE DOME STRAINER, 24"x24" SUMP RECEIVER, UNDERDECK CLAMP 2" EXTERNAL WATER DAM	Mifab R1200-R	4
RD-3	Roof Drain	-	3	-	-	-	LACQUERED CAST IRON BODY, DEEP SUMP, 15" DIAMETER ANCHOR FLANGE, CAST IRON WEATHERPROOFING MEMBRANE CLAMP RING WITH INTEGRAL GRAVEL STOP, SELF LOCKING POLYETHYLENE DOME STRAINER, 24"x24" SUMP RECEIVER, UNDERDECK CLAMP	Mifab R1200	4
WC-10A	Water Closet (1.28 GPF) Floor Mount-Manual Tank (ADA)	INT	4	2	1/2	-	BODY: WHITE, VITREOUS CHINA, ELONGATED BOWL, COMBINATION TOILET, CHROME LEVER, EXTRA HEAVY DUTY OPEN FRONT SEAT, ASME A112.19.2M, WATER SENSE FITTINGS: BEDPAN LUGS, WAX RING, WALL ESCUTCHEON, STOP, BRAIDED HOSE CONNECTOR	ZURN Z5555-K	4
WM-1	Washing Machine Box	2	2	2	1/2	1/2	WHITE, 8 1/4"x6"x3-3/4", PVC, RECESSED WALL BOX, DUAL DRAIN, QUARTER TURN HAMMER ARRESTER VALVES, SNAP-ON FRAME	Water-Tite 857**	1

WATER HEATER SCHEDULE (GAS FIRED STORAGE)

ACCEPTABLE MANUFACTURERS:	ACCESSORIES AND REMARKS:
ANY EQUAL	1) SEALED COMBUSTION, 90% MINIMUM THERMAL EFFICIENCY. 2) GLASS LINED STORAGE TANK. 3) CONCENTRIC VENT KIT AND 3" PVC PIPE. 4) AGA/ASME TEMPERATURE & PRESSURE RELIEF VALVE. 5) INTEGRATED SOLID-STATE TEMPERATURE AND IGNITION CONTROLS. 6) ULTRA LOW NOX. 7) SCHEDULE 40 ASTM F-411 CPVC VENT PIPE. 8) SCHEDULE 40 ASTM D-2241 PVC AIR INTAKE PIPE.

SYMBOL	MANUFACTURER	MODEL	FUEL	CAPACITY BURNER (MBH)	CAPACITY STORAGE (GAL)	VENT TYPE	RECOVERY CAPACITY RATE (GPH)	RECOVERY CAPACITY TEMPERATURE (°F) IN	RECOVERY CAPACITY TEMPERATURE (°F) OUT	EFFICIENCY (UEF)	ELECTRICAL POWER	ELECTRICAL AMPS	WEIGHT (LBS)	ACCESSORIES AND REMARKS	QTY
WH-101	BRADFORD WHITE	URG2PDV40S6N	NG	40	40	POWER DIRECT	43	50	130	0.64	120-1-60	3.1	550	1,2,3,4,5,6,7,8	1

WATER HEATER SCHEDULE (ELECTRIC TANKLESS)

ACCEPTABLE MANUFACTURERS:	ACCESSORIES AND REMARKS:
ANY EQUAL	1) DIGITAL MICROPROCESSOR TEMPERATURE CONTROL 2) FACTORY PRESET TEMPERATURE 3) ADJUSTABLE TEMPERATURE CONTROL. 4) PRESSURE & TEMP RELIEF VALVE ASSEMBLY 5) 3/8" COMPRESSION FITTING CONNECTION 6) 1/2" MALE NPT CONNECTION 7) DISCONNECT SWITCH, ROTARY 40A-LOCKABLE NEMA 4X 8) FREEZE PROTECTION CONTROL 9) SATIN FINISH STAINLESS STEEL HOUSING 10) DISCONNECT (FAC)

SYMBOL	MANUFACTURER	MODEL	ACTIVATION FLOW RATE (GPM)	TEMPERATURE RISE FLOW RATE (GPM)	TEMPERATURE RISE (°F)	LWT (°F)	THERMAL EFFICIENCY (%)	ELECTRICAL kW	ELECTRICAL AMPS	ELECTRICAL POWER	WEIGHT (LBS)	ACCESSORIES AND REMARKS	QTY
IHW-312	CHRONOMITE	CM-15L/208	0.2	0.35	61	104	99	3.12	15	208-1-60	5	1,3,4,6,10	2

DOMESTIC WATER CIRCULATING PUMP

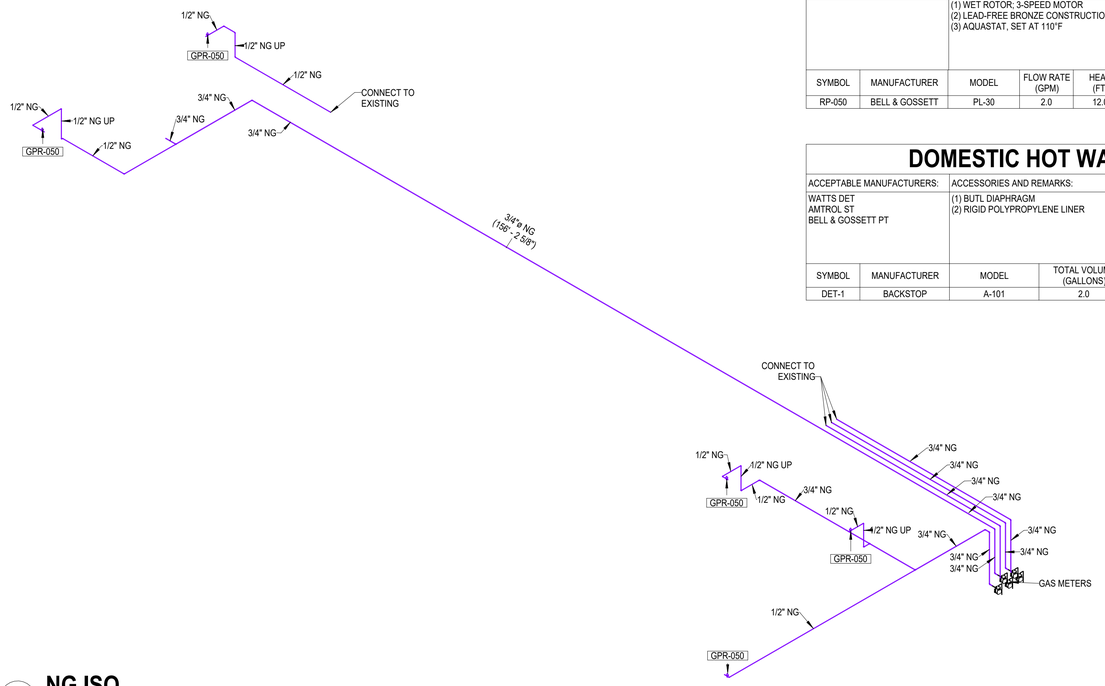
ACCEPTABLE MANUFACTURERS:	NOTES:
	(1) WET ROTOR; 3-SPEED MOTOR (2) LEAD-FREE BRONZE CONSTRUCTION (3) AQUASTAT, SET AT 110°F

SYMBOL	MANUFACTURER	MODEL	FLOW RATE (GPM)	HEAD (FT)	MOTOR SPEED (RPM)	ELECTRICAL WATTS	ELECTRICAL POWER	NOTES
RP-050	BELL & GOSSETT	PL-30	2.0	12.0	2650	1/12	120-1-60	1,2,3

DOMESTIC HOT WATER EXPANSION TANK

ACCEPTABLE MANUFACTURERS:	ACCESSORIES AND REMARKS:
WATTS DET AMTROL ST BELL & GOSSETT PT	(1) BUTL DIAPHRAGM (2) RIGID POLYPROPYLENE LINER

SYMBOL	MANUFACTURER	MODEL	TOTAL VOLUME (GALLONS)	INITAL ACCEPTANCE VOLUME (GALLONS)	INITAL FILL PRESSURE (PSIG)	ACCESSORIES AND REMARKS
DET-1	BACKSTOP	A-101	2.0	1.2	55	1,2



4 NG ISO

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FOR:

PAGNANI BUILDING ADDITION

2321 NORTH 400 EAST TOOELE, UTAH

PROFESSIONAL ENGINEER THOMAS BRADLEY SHAKESPEARE 10361455 STATE OF UTAH

PERMIT SET

NO.	DATE	REVISION
0	07-22-2026	PERMIT SET

PLUMBING SCHEDULES

PROJECT NUMBER	DATE
26207	07-22-2026
DRAWN BY	CHECKED BY
IH	LB
APPROVED BY	DESIGNED BY
BS	MT

P601

GENERAL DRAWING SYMBOLS AND REFERENCES

THIS IS A STANDARD LEGEND NOT ALL SYMBOLS MAY BE USED ON THIS PROJECT

①	REFERENCE NOTE
1	DEMOLITION NOTE
NO.	REVISION NOTE
1	IDENTIFICATION NOTE
NO	PHOTO REFERENCE
XX–XX / HPE	HPE DETAIL BUBBLE
XX / XX	EQUIPMENT REFERENCE
WIRE	WIRE SIZE REFERENCE
PHOTO XX XXXX	PHOTO REFERENCE
A	SECTION/ELEVATION REFERENCE
XXX–XXX	EQUIPMENT ID TAG

LIGHTING SYMBOLS

THIS IS A STANDARD LEGEND NOT ALL SYMBOLS MAY BE USED ON THIS PROJECT

F1	DESIGNATES FIXTURE NUMBER – REFER TO FIXTURE SCHEDULE
LED FIXTURES	
	SURFACE OR RECESSED 2X4 FIXTURE SHADED AREA INDICATES EMERGENCY BATTERY PACK
	CHAIN HUNG 1X4 FIXTURE SHADED AREA INDICATES EMERGENCY BATTERY PACK
	SURFACE OR RECESSED 2X2 FIXTURE SHADED AREA INDICATES EMERGENCY BATTERY PACK
EXIT FIXTURES	
	EXISTING EXIT SIGN WITH BUGEYES.
	EXIT SIGN
	TWO DIRECTIONAL EXIT SIGN

PLAN SYMBOLS

THIS IS A STANDARD LEGEND NOT ALL SYMBOLS MAY BE USED ON THIS PROJECT

EQUIPMENT	
	CIRCUIT DISTRIBUTION PANELBOARD SURFACE MOUNTED
	CIRCUIT DISTRIBUTION PANELBOARD RECESSED
	POWER DISTRIBUTION PANELBOARD SURFACE OR FLOOR MOUNTED DOORS DESIGNATE FRONT OF PANEL MDP DESIGNATES MAIN DISTRIBUTION PANEL
	CONTROL PANEL ENCLOSURE
	LIGHTING CONTROL PANEL
	DISCONNECT
HVAC EQUIPMENT	
	UNIT HEATER, WALL MOUNTED
	UNIT HEATER, CEILING MOUNTED
	CONDENSING UNIT, PAD MOUNTED, SIDE DISCHARGE
	CONDENSING UNIT, PAD MOUNTED, UP FLOW
	ROOFTOP MOUNTED EQUIPMENT

LIGHT SWITCHES

THIS IS A STANDARD LEGEND NOT ALL SYMBOLS MAY BE USED ON THIS PROJECT

$	SINGLE POLE SWITCH
$$	GANGED SWITCHES IN COMMON BOX WITH COMMON COVER PLATE
$ᵃ	SWITCH SUPERSCRIPT MODIFIER, LOWER CASE LETTER INDICATES CIRCUIT CONTROLLER -- a,b,c ETC. MAY BE COMBINED WITH CIRCUIT NUMBER. EXAMPLE: 1a, 3b
$₃	SWITCH SUBSCRIPT MODIFIER, UPPER CASE LETTER OR NUMBER: 2 = DOUBLE POLE 3 = THREE WAY 4 = FOUR WAY K = KEY OPERATED M = HORSEPOWER RATED MANUAL STARTER MC = MOMENTARY CONTACT, THREE POSITION MS = MANUAL (STARTER) OR SWITCH D = DIMMER S = SURFACE F = FLUSH OS = COMBINATION OCCUPANCY SENSOR AND SWITCH
(OS)	CEILING = OCCUPANCY SENSOR

WIRING DEVICES

THIS IS A STANDARD LEGEND NOT ALL SYMBOLS MAY BE USED ON THIS PROJECT

	20 AMP RATED RECEPTACLE SINGLE STROKE = SINGLE DOUBLE STROKE = DUPLEX RECEPTACLE MODIFIERS: X–X = CIRCUIT NUMBER AF = ARC FAULT CIRCUIT INTERRUPTER S = SURFACE MOUNTED IG = ISOLATED GROUND WP = WEATHER PROOF
	EXISTING RECEPTACLE
	GANGED RECEPTACLES IN COMMON BOX WITH COMMON COVER PLATE
	GFCI GANGED RECEPTACLES IN COMMON BOX WITH COMMON COVER PLATE
	220V RECEPTACLE
	GFCI RECEPTACLE
	SPLIT–WIRED RECEPTACLE – ANY RECEPTACLE WITH OUTSIDE PORTION SHADED
	TABLE MOUNTED DUPLEX RECEPTACLE
	CEILING MOUNTED DUPLEX RECEPTACLE
	RECESSED FLOOR DUPLEX RECEPTACLE
	RECESSED FLOOR QUAD RECEPTACLE
	SURFACE FLOOR RECEPTACLE – ANY RECEPTACLE INSIDE TRIANGLE
	SEE DETAIL SHEET.
TV	CABLE TELEVISION COAX CABLE CONNECTION
	DATA JACK ONLY
	VOICE JACK ONLY
	PUBLIC TELEPHONE JACK
	ETHERNET 2 DATA – CONDUIT ONLY
	RECESSED FLOOR DATA/VOICE JACK
J	PHOTOELECTRIC CONTROL UNIT
T	THERMOSTAT LOCATION
SP	SPEAKER
	SECURITY CAMERA LOCATION
	PUSH BUTTON
J	PLUGMOLD
CR	CARD READER

FIRE ALARM SYMBOLS

THIS IS A STANDARD LEGEND NOT ALL SYMBOLS MAY BE USED ON THIS PROJECT

DD	DUCT DETECTOR
FR	FAN RELAY
F	FLOW SWITCH
H XXX°	FIXED TEMPERATURE HEAT DETECTOR
H	HEAT DETECTOR
M	MAGNETIC DOOR HOLD
F	MANUAL PULL STATION
S	STROBE ONLY
T	TAMPER SWITCH
	FIRE ALARM CABINET (FACP)
	REMOTE ANNUNCIATOR FIRE ALARM PANEL
B	WATER GONG
HORN/STROBES	
	CEILING MOUNTED HORN/STROBE
	WALL MOUNTED HORN/STROBE
SMOKE DETECTORS	
S CO	SMOKE DETECTOR/CO
S R	SMOKE DETECTOR W/ELEVATOR RECALL

ONE–LINE SYMBOLS

THIS IS A STANDARD LEGEND NOT ALL SYMBOLS MAY BE USED ON THIS PROJECT

POWER SOURCE	POWER SOURCE
M	EXISTING METER
	EXISTING CIRCUIT BREAKER
PNL B1	NEW PANELBOARD
430	WIRE ID SEE CONDUIT/CONDUCTOR SCHEDULE

EQUIPMENT GROUNDING CONDUCTORS

FUSE OR CB SIZE	SIZE (COPPER)
15	14
20	12
30	10
40	10
60	10
100	8
200	6
300	4
400	3
500	2
600	1
800	1/0
1000	2/0
1200	3/0
1600	4/0
2000	250
2500	350

CONDUIT/CONDUCTOR SCHEDULE *

THHN, THWN, THWN–2

AMP RATING	WIRE ID.	CONDUCTOR QTY.	CONDUCTOR SIZE	MIN. CONDUIT SIZE	EXCEPTIONS
20	212	2	#12	3/4"	
	312	3		3/4"	
	412	4		3/4"	
30	20	2	#10	3/4"	
	30	3		3/4"	
	40	4		3/4"	
50	28	2	#8	3/4"	
	38	3		3/4"	
	48	4		3/4"	
65	26	2	#6	3/4"	
	36	3		3/4"	
	46	4		3/4"	1"(C9)
85	24	2	#4	3/4"	1"(C2,C9)
	34	3		1"	3/4"(C4),1–1/4"(C9)
	44	4		1"	1–1/4"(C9)
115	22	2	#2	1"	
	32	3		1"	1–1/4"(C9)
	42	4		1–1/4"	
130	21	2	#1	1–1/4"	1"(C3,C4)
	31	3		1–1/4"	1"(C3)
	41	4		1–1/4"	1–1/2"(C2,C9,C10)
150	210	2	1/0	1–1/4"	
	310	3		1–1/4"	1–1/2"(C3,C9)
	410	4		1–1/2"	2"(C9)
175	220	2	2/0	1–1/4"	1–1/2"(C3,C4,C9)
	320	3		1–1/2"	
	420	4		2"	
200	230	2	3/0	1–1/2"	1–1/4(C4)
	330	3		1–1/2"	2"(C3,C9)
	430	4		2"	
230	240	2	4/0	1–1/2"	2"(C3)
	340	3		2"	
	440	4		2"	2–1/2"(C9)
255	225	2	250 KCMIL	2"	1–1/2"(C4)
	325	3		2"	2–1/2"(C1,C8)
	425	4		2–1/2"	2"(C4)
310	235	2	350 KCMIL	2"	2–1/2"(C9)
	335	3		2–1/2"	2"(C4)
	435	4		3"	2–1/2"(C1,C4)
380	250	2	500 KCMIL	2–1/2"	2"(C4)
	350	3		3"	2–1/2"(C1,C4)
	450	4		3"	3–1/2"(C9)
475	275	2	750 KCMIL	3"	
	375	3		3–1/2"	3"(C1,C7,C8)
	475	4		4"	3–1/2"(C1,C4,C8)

* CONDUCTOR QUANTITY DOES NOT INCLUDE GROUNDING CONDUCTOR. SEE EQUIPMENT GROUNDING CONDUCTORS FOR WIRE SIZE.

WHERE: C1 = ELECTRICAL METALLIC TUBING
C2 = ELECTRICAL NON–METALLIC TUBING
C3 = FLEXIBLE STEEL CONDUIT
C4 = INTERMEDIATE METALLIC CONDUIT
C7 = LIQUIDTIGHT FLEXIBLE METAL CONDUIT
C8 = RIGID METALLIC CONDUIT
C9 = PVC SCHEDULE 80 CONDUIT
C10 = PVC SCHEDULE 40 CONDUIT

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HPE PROJECT:**26.041**
FOR INFORMATION ABOUT THIS JOB, PLEASE CONTACT: **BEN SORENSON**

GENERAL NOTES:

1. VERIFY ALL EQUIPMENT DIMENSIONS AND LOCATIONS BEFORE BEGINNING ROUGH–IN. CONSULT ALL APPLICABLE CONTRACT DRAWINGS AND SHOP DRAWINGS TO ENSURE NEC CODE CLEARANCE REQUIRED AROUND ALL ELECTRICAL EQUIPMENT.
2. CONTRACTOR SHALL VERIFY ALL ELECTRICAL LOADS (VOLTAGE, PHASE, CONNECTION REQUIREMENTS, ETC.) OF EQUIPMENT FURNISHED BEFORE BEGINNING ROUGH–IN.
3. SEE APPLICABLE SHOP DRAWINGS FOR ROUGH–IN LOCATION OF ALL EQUIPMENT, WIRING DEVICES, ETC.
4. THE ELECTRICAL CONTRACTOR SHALL NOTIFY AND COOPERATE WITH THE MECHANICAL CONTRACTOR SUCH THAT NO PIPING, OR EQUIPMENT FOREIGN TO THE OPERATION OF THE ELECTRICAL EQUIPMENT SHALL BE PERMITTED TO BE INSTALLED IN, ENTER OR PASS THROUGH ELECTRICAL ROOMS OR SPACES; OR ABOVE OR BELOW ELECTRICAL EQUIPMENT IN THE OTHER AREAS.
5. ALL PENETRATIONS OF FLOORS, WALLS AND CEILINGS SHALL BE SEALED WITH APPROVED MATERIAL.
6. THE CONTRACTOR SHALL PROVIDE A DEFERRED SUBMITTAL ON THE FIRE ALARM, PROVIDING ALL THE NECESSARY HORN, STROBES AND FAN CONTROL REPLAYS AS REQUIRED BY THE NFPA 72 AND THE NEC. THE CONTRACTOR IS RESPONSIBLE TO ADD ANY ADDITIONAL DEVICES AS REQUIRED BY THE NFPA 72 OR THE LOCAL AHJ. HORN STROBES SHALL BE 15 DB ABOVE AMBIENT NOISE LEVEL. ALL DEVICES HORN/STROBES, STROBE ONLY, DUCT DETECTORS AND FAN SHUTDOWN RELAYS, SHALL BE CONNECTED BACK TO THE MAIN FIRE ALARM PANEL IN THE FIRE RISER ROOM.

Sheet List Table

Sheet Number	Sheet Title
E100	LEGEND & GENERAL NOTES
E200	EXISTING ONE–LINE DIAGRAM
E201	PANEL SCHEDULES
E300	SUITE 400 & 450 POWER PLANS
E301	SUITE 500 POWER PLAN
E302	SUITE 400 & 450 LIGHTING PLAN
E303	SUITE 500 LIGHTING PLAN
E304	SITE LIGHTING ELEVATION
E400	DETAILS
E500	COMCHECK

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PAGNANI BUILDING ADDITION
2321 NORTH 400 EAST
TOOELE, UTAH

REGISTERED PROFESSIONAL ENGINEER
NO. 86–171214–2202
KEITH B. HEGERHORST
07/XX/2026
STATE OF UTAH

NO. DATE REVISION

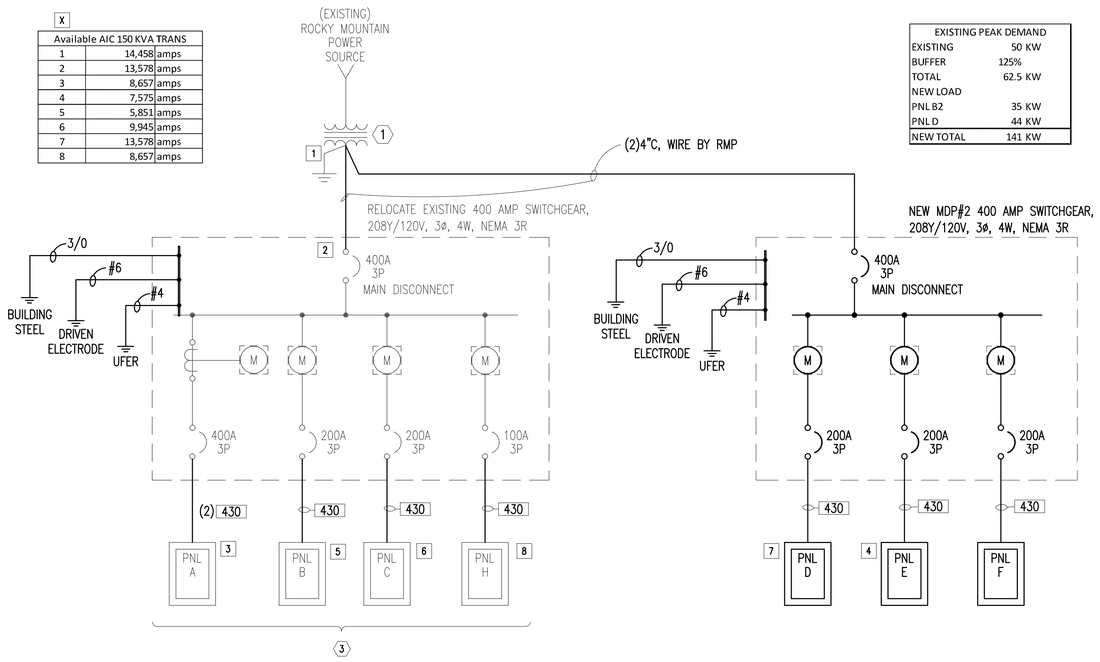
LEGEND & GENERAL NOTES

PROJECT NUMBER **T1869E** DATE **07/XX/2026**
DRAWN BY **G. Sorenson** CHECKED BY **B. Sorenson**
APPROVED BY **K. Hegerhosrt** DESIGNED BY **B. Sorenson**

E100

X	Available AIC 150 KVA TRANS
1	14,458 amps
2	13,578 amps
3	8,657 amps
4	7,575 amps
5	5,851 amps
6	9,945 amps
7	13,578 amps
8	8,657 amps

EXISTING PEAK DEMAND	
EXISTING	50 KW
BUFFER	125%
TOTAL	62.5 KW
NEW LOAD	
PNL B2	35 KW
PNL D	44 KW
NEW TOTAL	141 KW



1 ONE-LINE DIAGRAM
SCALE: NTS

FIXTURE SCHEDULE

TYPE	DESCRIPTION	MANUFACTURER NAME	MANUFACTURER CATALOG NO.	FIXTURE VA	LAMP	LUMENS	TEMP	MOUNTING	NOTES:
F1	2' x 2' FLAT PANEL TROFFER	METALUX	22FPSL2SCT3 (MED)	21.6	LED	2460	4000 K	T-BAR GRID	
F2	24" WALL MOUNTED LED MIRROR LIGHT	METALUX	2-BCLED-LD4-28SL-F-UNV-EL14W-L840	29	LED	2800	4000 K	WALL	
F3	WALL SCONCE (MATCH EXISTING)	ECLIPSE	SM-LE-XL1-4K-90CRI-UNV-SGR	15	LED		4000 K	WALL	EM=EL20W
F4	EGRESS LIGHT	LUMARK	AXCS3A-CBP	27	LED	3537	4000 K	WALL	WITH BATTERY PACK
F5	4' LED STRIP	METALUX	4-WNLED-LD4-36SL-F-UNV-EL14W-L840	25.6	LED	3600	4000 K	CEILING	
EX	EXIT LIGHT	SURE-LITES	APC-7-R-SQ	3.7	LED			WALL	

MPD #2

LOCATION: OUTSIDE SERVICE GEAR — MFGR: SQ D — 400 AMPS — VOLTS: 208Y/120
DIMENSIONS: 20" W X 5.75 D X 53" H — TYPE: SERVICE — PHASE: 3
MOUNTING: SURFACE — NEMA: 3R — 400 MAIN BREAKER — WIRES: 4
6,500 A.I.C.

BRKR A	P	DESCRIPTION	WIRE SIZE	CONT. WATTS	N.CONT. WATTS	NO	A CONT.	A N.CONT.	B CONT.	B N.CONT.	C CONT.	C N.CONT.
		PHASE LOADS										
200	3	PANEL D		18,793	19,548	1	6,696	7,176	5,572	5,436	6,525	6,936
200	3	PANEL E		12,058	1,440	2	3,366	360	4,346	360	4,346	720
200	3	PANEL F		12,275	2,160	3	3,583	720	4,346	720	4,346	720
		TOTAL WATTS PANEL B2C		43,127	23,148		13,645	8,256	14,264	6,516	15,217	8,376
		CONTINUOUS LOAD:		43,127								
		CONTINUOUS LOAD * 125%:		53,908								
		NON-CONTINUOUS LOAD:		23,148								
		DESIGN WATTS:		77,056								
		MIN. RATING (AMPS):		214								

HVAC EQUIPMENT SCHEDULE

ITEM	DESCRIPTION	LOCATION	EQUIPMENT RATING VOLTS	PH	WATTS	CFM	HP	FLA	MCA	MCB	CIRCUIT	DISCONNECT AMPS	VOLTS	POLES	NEMA	FUSE	CONNECTION	STARTER TYPE	STARTER NEMA SIZE	NOTES
RTU-107	PACKAGED ROOFTOP UNIT	ROOF SUITE 500	208	3	8358	2000		23.2	29.0	40	D-24,26,28	60	240	3	3R	*	HARDWIRED	INC		1,2
RTU-108	PACKAGED ROOFTOP UNIT	ROO SUITE 500	208	3	8358	1600		23.2	29.0	40	D-30,32,34	60	240	3	3R	*	HARDWIRED	INC		1
RTU-109	PACKAGED ROOFTOP UNIT	ROOF SUITE 450	208	3	9799	2000		27.2	34.0	45	F-36,48,40	60	240	3	3R	*	HARDWIRED	INC		1,2
RTU-110	PACKAGED ROOFTOP UNIT	ROOF SUITE 400	208	3	8358	1600		23.2	29.0	40	E-38,40,42	60	240	3	3R	*	HARDWIRED	INC		1
CEF-75A &B	EXHAUST FAN	RESTROOM CEILING SUITE 500	120	1	6			0.1	0.1	20	LTS	20	120	1	1	N/A	HARDWIRED	SWITCH		1
CEF-75C	EXHAUST FAN	RESTROOM CEILING SUITE 450	120	1	6			0.1	0.1	20	LTS	20	120	1	1	N/A	HARDWIRED	SWITCH		1
CEF-75D	EXHAUST FAN	RESTROOM CEILING SUITE 400	120	1	6			0.1	0.1	20	LTS	20	120	1	1	N/A	HARDWIRED	SWITCH		1
IHW-312A	ELECTRIC TANKLESS WATER HEATER	RESTROOM SUITE 450	208	1	3120			15.0	18.8	30	F-39,41	30	240	2	1	N/A	HARDWIRED	TSTAT		1
IHW-312B	ELECTRIC TANKLESS WATER HEATER	RESTROOM SUITE 400	208	1	3120			15.0	18.8	30	E-39,41	30	240	2	1	N/A	HARDWIRED	TSTAT		1
WH-101	WATER HEATER	LAUNDRY ROOM 408	120	1	372			3.1	3.9	20	D-27	20	120	1	1	N/A	HARDWIRED	SWITCH		1
RP-050	DOMESTIC WATER PUMP	LAUNDRY ROOM 408	120	1	264		1/12	2.2	2.8	20	D-27	20	120	1	1	N/A	PLUG & CORD	SWITCH		1

NOTES: 1. Internal disconnects may be provided with this unit verify with mechanical before ordering a manual starter for a disconnect.
2. Provide Duct Smoke detectors and Fan shut down relays, Coordinate with Mechanical.

*=FUSE AS PERMANUFACTORS RECOMMENDATION

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HPE PROJECT: 26.041
FOR INFORMATION ABOUT THIS JOB, PLEASE CONTACT: BEN SORENSON

GENERAL NOTES:

1. CONTRACTOR TO RE-FEED ALL EXISTING PANELS FROM NEW SWITCHGEAR LOCATION. VERIFY EXISTING CONDUIT AND WIRE SIZES PRIOR TO PURCHASE. DO NOT SPICE THEY SHALL ALL BE HOME RUNS FROM MAIN BREAKER TO PANEL. CONTRACTOR SHALL COORDINATE WITH THE OWNER AND TENANTS PRIOR TO ANY OUTAGE AND KEEP THE OUTAGE TO A MINIMUM.
2. COMPLETED WIRING INSTALLATION SHALL BE FREE FROM SHORT CIRCUITS AND GROUND FAULTS BEFORE ENERGIZING NEC 110.7
3. EXISTING SWITCH GEAR TO BE RELOCATED AS SHOWN ON SHEET E300. INSTALL NEW WIRES TO EACH PANEL AS SHOWN, EXTEND EXISTING CONDUIT AS REQUIRED.

SHEET KEYNOTES:

1. EXISTING TRANSFORMER AT 150KW SHALL REMAIN AS IS.

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2321 NORTH 400 EAST
TOOELE, UTAH

REGISTERED PROFESSIONAL ENGINEER
No. 86-171214-2202
KEITH B. HEGERHORST
07/27/2026
STATE OF UTAH

NO. DATE REVISION

EXISTING ONE-LINE DIAGRAM

PROJECT NUMBER T1869E
DATE 07/27/2026
DRAWN BY G. Sorenson
CHECKED BY B. Sorenson
APPROVED BY K. Hegerhorst
DESIGNED BY B. Sorenson

E200

NEW PANELBOARD D (UNIT 500)

LOCATION: BACK WALL OF WAREHOUSE | MFGR: SQ D | 200 AMPS | VOLTS: 208Y/120
DIMENSIONS: 20" W X 5.75 D X 53" H | TYPE: QO | PHASE: 3
MOUNTING: SURFACE | NEMA: 1 | X M.L.O. | WIRES: 4
10,000 A.I.C.

PHASE LOADS

BRKR A	P	DESCRIPTION	WIRE SIZE	CONT. WATTS	N.CONT. WATTS	NO	A CONT.	A N.CONT.	B CONT.	B N.CONT.	C CONT.	C N.CONT.	NO	N.CONT. WATTS	CONT. WATTS	WIRE SIZE	DESCRIPTION	BRKR A	P
20	1	REC FRONT DESK	212		540	1	0	1,440					2	900		212	REC WAITING	20	1
20	1	REC FRONT DESK	212		540	3			0	1,080			4	540		212	REC EXAM 2	20	1
20	1	REC ADMIN	212		720	5					0	1,260	6	540		212	REC EXAM 3	20	1
20	1	REC EXAM 4	212		720	7	0	1,260					8	540		212	REC EXAM 4	20	1
20	1	REC PROCEDURE	212		540	9			0	1,080			10	540		212	REC BAY 1	20	1
20	1	REC PROCEDURE	212		360	11					0	900	12	540		212	REC BAY 2	20	1
20	1	REC OFFICE	212		720	13	0	1,260					14	540		212	REC BAY 3	20	1
20	1	REC BREAK ROOM	212		1,200	15			0	900			16	540		212	REC BAY 4	20	1
20	1	REC BREAK ROOM	212		1,200	17					0	1,920	18	720		212	REC NURSE STATION	20	1
20	1	REC BREAK ROOM	212		360	19	0	720					20	360		212	REC NURSE STATION	20	1
20	1	REC LAUNDRY WASHER	212		1,200	21			0	1,740			22	540		212	REC HALL	20	1
30*	2	REC LAUNDRY DRYER	30		2,496	23					2,786	2,496	24		2,786	40	RTU-107	40	3
-	-	-	-		2,496	25	2,786	2,496					26		2,786	-	-	-	-
20*	1	WH-101 & RP-050 WATER HEATER	212		636	27			2,786	636			28		2,786	-	-	-	-
20	1	LTS & CEF-75A	212	953		29					3,739	0	30		2,786	40	RTU-108	40	3
20	1	LTS & CEF-75A	212	1,124		31	3,910	0					32		2,786	-	-	-	-
20	1	SPACE				33			2,786	0			34		2,786	-	-	-	-
20	1	SPACE				35					0	360	36	360		212	REC ROOF TOP SERVICE	20	1
20	1	SPACE				37	0	0					38				SPARE	20	1
20	1	SPACE				39			0	0			40				SPARE	20	1
20	1	SPACE				41					0	0	42				SPARE	20	1
		TOTAL WATTS PANEL B2C		2,077	13,728		6,696	7,176	5,572	5,436	6,525	6,936		6,660	16,716				
		CONTINUOUS LOAD:		18,793															
		CONTINUOUS LOAD * 125%:		23,492															
		NON-CONTINUOUS LOAD:		20,388															

*= PROVIDE GFCI RECEPTICAL OR BREAKER

	DESIGN WATTS:	43,880
	MIN. RATING (AMPS):	122

NEW PANELBOARD E (UNIT 400)

LOCATION: BACK WALL OF WAREHOUSE | MFGR: SQ D | 200 AMPS | VOLTS: 208Y/120
DIMENSIONS: 20" W X 5.75 D X 53" H | TYPE: QO | PHASE: 3
MOUNTING: SURFACE | NEMA: 1 | X M.L.O. | WIRES: 4
10,000 A.I.C.

PHASE LOADS

BRKR A	P	DESCRIPTION	WIRE SIZE	CONT. WATTS	N.CONT. WATTS	NO	A CONT.	A N.CONT.	B CONT.	B N.CONT.	C CONT.	C N.CONT.	NO	N.CONT. WATTS	CONT. WATTS	WIRE SIZE	DESCRIPTION	BRKR A	P
20	1	LTS	212	580		1	580	360					2	360		212	REC OPEN OFFICE	20	1
20	1	SPARE				3			0	360			4	360		212	REC OPEN OFFICE	20	1
20	1	SPARE				5					0	540	6	540		212	REC OPEN OFFICE	20	1
20	1	SPARE				7	0	0					8				SPARE	20	1
20	1	SPARE				9			0	0			10				SPARE	20	1
20	1	SPARE				11					0	0	12				SPARE	20	1
20	1	SPARE				13	0	0					14				SPARE	20	1
		SPACE				15			0	0			16				SPARE	20	1
		SPACE				17					0	0	18				SPACE		
		SPACE				19	0	0					20				SPACE		
		SPACE				21			0	0			22				SPACE		
		SPACE				23					0	0	24				SPACE		
		SPACE				25	0	0					26				SPACE		
		SPACE				27			0	0			28				SPACE		
		SPACE				29					0	0	30				SPACE		
		SPACE				31	0	0					32				SPACE		
		SPACE				33			0	0			34				SPACE		
		SPACE				35					0	180	36	180		212	ROOF TOP SERVICE REC	20	1
		SPACE				37	2,786	0					38		2,786	40	RTU-110	40	3
30	2	IHW-312B	30	1,560		39			4,346	0			40		2,786	-	-	-	-
-	-	-	-	1,560		41					4,346	0	42		2,786	-	-	-	-
		TOTAL WATTS PANEL B2C		3,700	0		3,366	360	4,346	360	4,346	720		1,440	8,358				
		CONTINUOUS LOAD:		12,058															
		CONTINUOUS LOAD * 125%:		15,073															
		NON-CONTINUOUS LOAD:		1,440															

	DESIGN WATTS:	16,513
	MIN. RATING (AMPS):	46

NEW PANELBOARD F (UNIT 450)

LOCATION: BACK WALL OF WAREHOUSE | MFGR: SQ D | 200 AMPS | VOLTS: 208Y/120
DIMENSIONS: 20" W X 5.75 D X 53" H | TYPE: QO | PHASE: 3
MOUNTING: SURFACE | NEMA: 1 | X M.L.O. | WIRES: 4
10,000 A.I.C.

PHASE LOADS

BRKR A	P	DESCRIPTION	WIRE SIZE	CONT. WATTS	N.CONT. WATTS	NO	A CONT.	A N.CONT.	B CONT.	B N.CONT.	C CONT.	C N.CONT.	NO	N.CONT. WATTS	CONT. WATTS	WIRE SIZE	DESCRIPTION	BRKR A	P
20	1	LTS	212	797		1	797	360					2	360		212	REC OPEN OFFICE	20	1
20	1	SPARE				3			0	360			4	360		212	REC OPEN OFFICE	20	1
20	1	SPARE				5					0	360	6	360		212	REC OPEN OFFICE	20	1
20	1	SPARE				7	0	360					8	360		212	REC OPEN OFFICE & RESTROOM	20	1
20	1	SPARE				9			0	360			10	360		212	REC OPEN OFFICE	20	1
20	1	SPARE				11					0	0	12				SPARE	20	1
20	1	SPARE				13	0	0					14				SPARE	20	1
20	1	SPARE				15			0	0			16				SPARE	20	1
		SPACE				17					0	0	18				SPARE	20	1
		SPACE				19	0	0					20				SPARE	20	1
		SPACE				21			0	0			22				SPACE		
		SPACE				23					0	0	24				SPACE		
		SPACE				25	0	0					26				SPACE		
		SPACE				27			0	0			28				SPACE		
		SPACE				29					0	0	30				SPACE		
		SPACE				31	0	0					32				SPACE		
		SPACE				33			0	0			34				SPACE		
		SPACE				35					2,786	0	36		2,786	40	RTU-109	45	3
		SPACE				37	2,786	0					38		2,786	-	-	-	-
30	2	IHW-312A	30	1,560		39			4,346	0			40		2,786	-	-	-	-
-	-	-	-	1,560		41					1,560	360	42	360		212	REC ROOF TOP SERVICE	20	1
		TOTAL WATTS PANEL B2C		3,917	0		3,583	720	4,346	720	4,346	720		2,160	8,358				
		CONTINUOUS LOAD:		12,275															
		CONTINUOUS LOAD * 125%:		15,344															
		NON-CONTINUOUS LOAD:		2,160															

	DESIGN WATTS:	17,504
	MIN. RATING (AMPS):	49

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GENERAL NOTES:

1. NOT USED.

SHEET KEYNOTES:

1. NOT USED.

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FOR:
ROBERT PAGNANI
7497 BELMONT COURT
STANSBURY PARK, UT
801-850-7255

PAGNANI BUILDING ADDITION

2321 NORTH 400 EAST
TOOELE, UTAH

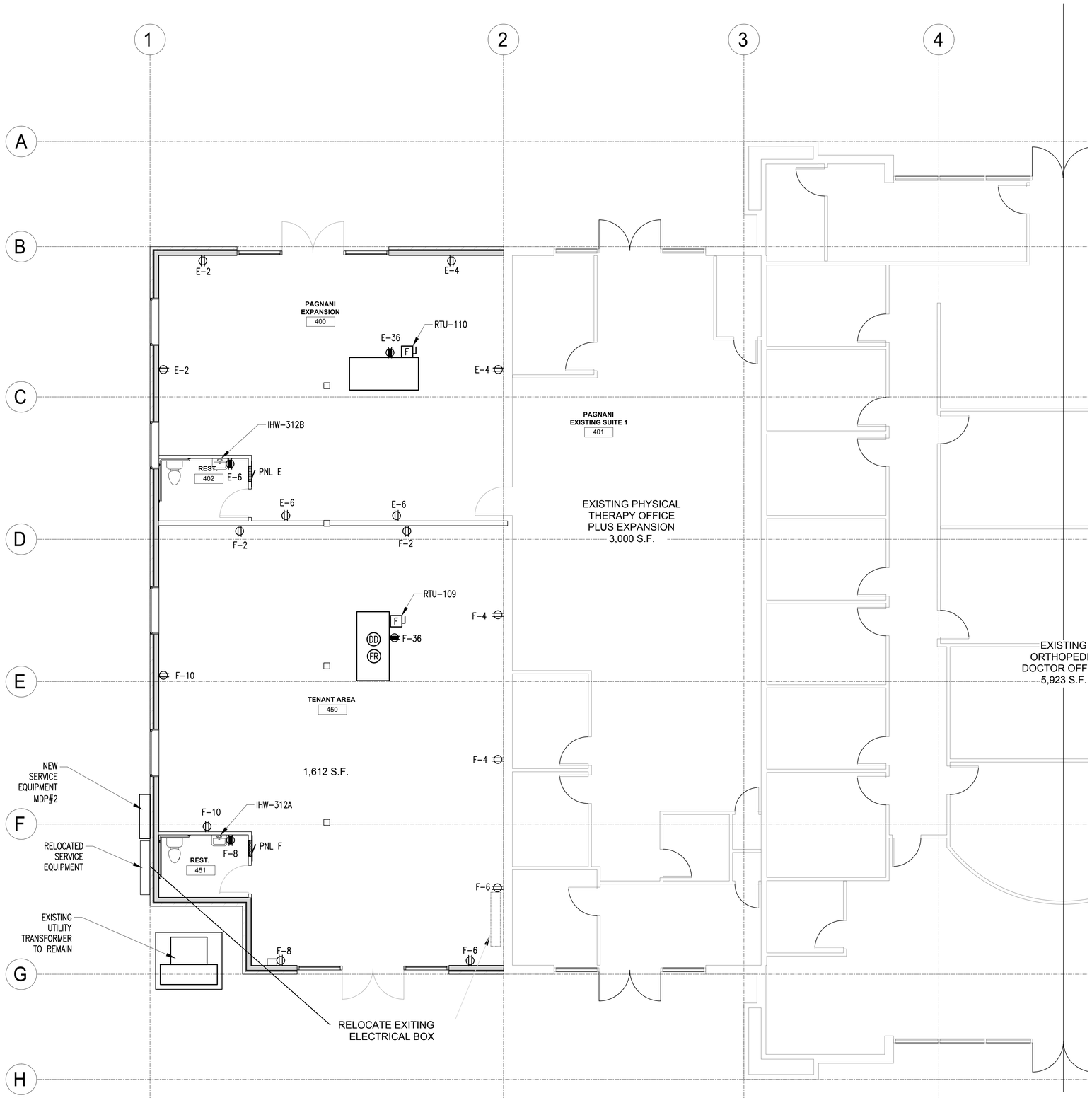
REGISTERED PROFESSIONAL ENGINEER
NO. 86-171214-2202
KEITH B. HEGERHORST
07/27/2026
STATE OF UTAH

NO. DATE REVISION

PANEL SCHEDULES

PROJECT NUMBER T1869E | DATE 07/27/2026
DRAWN BY G. Sorenson | CHECKED BY B. Sorenson
APPROVED BY K. Hegerhosrt | DESIGNED BY B. Sorenson

E201



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HPE PROJECT:26.041
FOR INFORMATION ABOUT THIS JOB, PLEASE CONTACT: BEN SORENSON

GENERAL NOTES:

1. CONTRACTOR SHALL SEE HVAC EQUIPMENT SCHEDULE FOR HVAC CIRCUITS AND DISCONNECT REQUIREMENTS.

SHEET KEYNOTES:

1. NOT USED

POWER PLAN
SCALE:0 4' 8' 16'
3/16"=1'-0"

NORTH

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LAYTON
P: 801.547.1100
TOOELE
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CEDAR CITY
P: 435.865.1453
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FOR:
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801-850-7255

PAGNANI BUILDING ADDITION
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TOOELE, UTAH

REGISTERED PROFESSIONAL ENGINEER
NO. 86-171214-2202
KEITH B. HEGERHORST
07/XX/2026
STATE OF UTAH

NO. DATE REVISION

SUITE 400 & 450 POWER PLANS

PROJECT NUMBER T1869E
DATE 07/XX/2026
DRAWN BY G. Sorenson
CHECKED BY B. Sorenson
APPROVED BY K. Hegerhosrt
DESIGNED BY B. Sorenson

E300

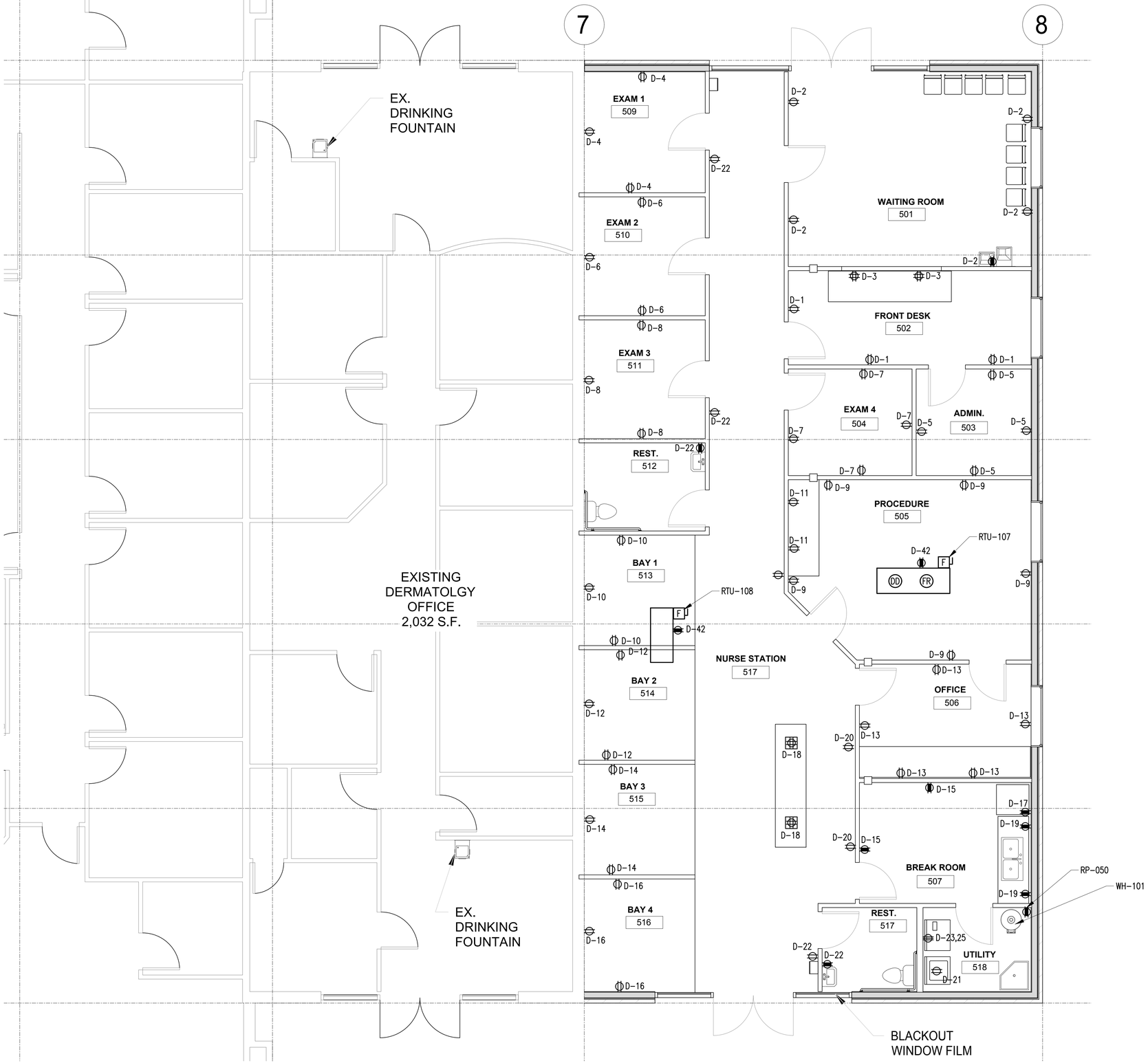
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GENERAL NOTES:

1. CONTRACTOR SHALL SEE HVAC EQUIPMENT SCHEDULE FOR HVAC CIRCUITS AND DISCONNECT REQUIREMENTS.

SHEET KEYNOTES:

1. NOT USED



1 POWER PLAN
SCALE: 0 4' 8' 12'
1/4"=1'-0"

NORTH

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PAGNANI BUILDING ADDITION

2321 NORTH 400 EAST
TOOELE, UTAH

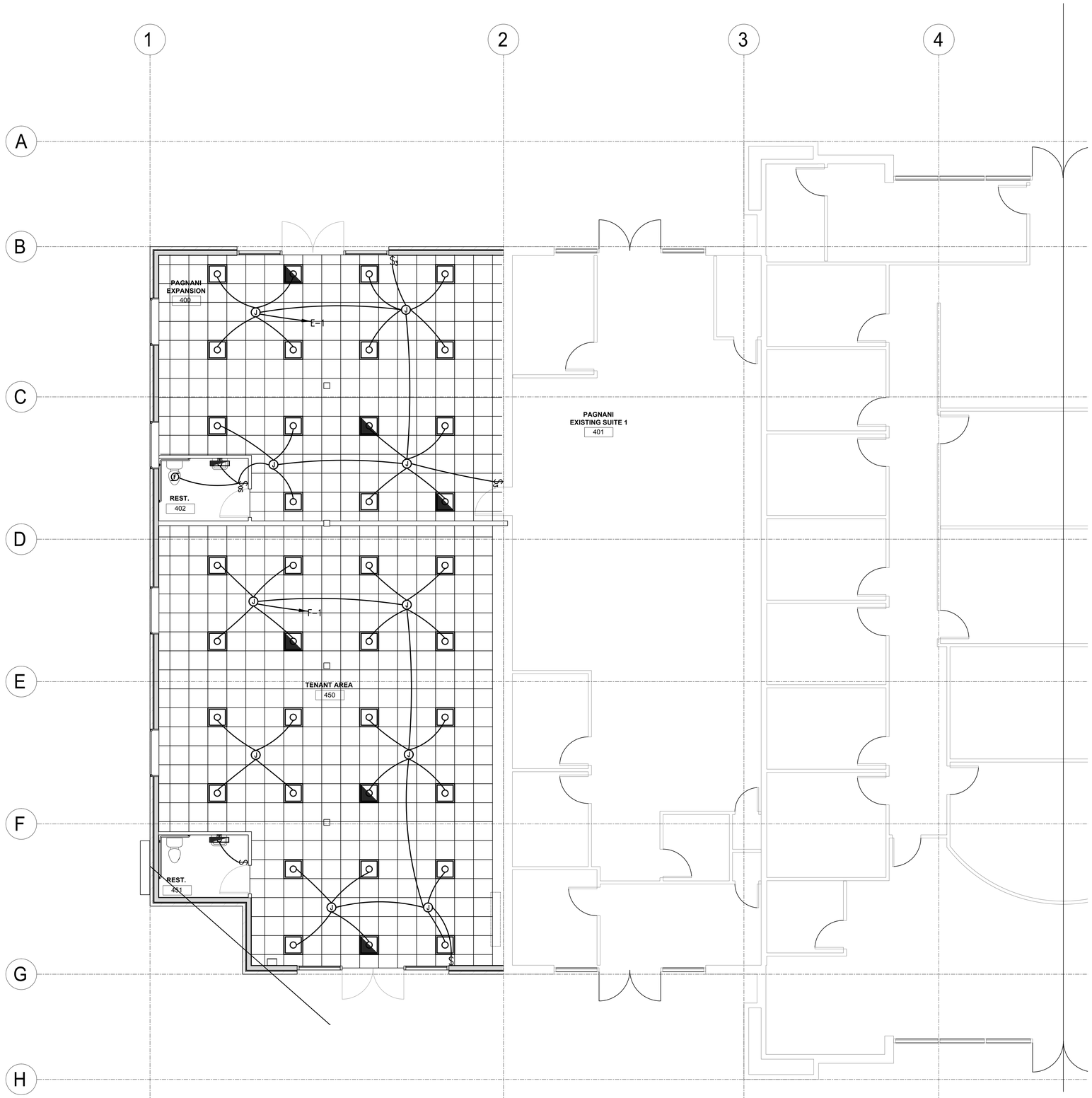
REGISTERED PROFESSIONAL ENGINEER
86-
171214-2202
KEITH B. HEGERHORST
07/XX/2026
STATE OF UTAH

NO.	DATE	REVISION

SUITE 500
POWER PLAN

PROJECT NUMBER	DATE
T1869E	07/XX/2026
DRAWN BY	CHECKED BY
G. Sorenson	B. Sorenson
APPROVED BY	DESIGNED BY
K. Hegerhorst	B. Sorenson

E301



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HPE PROJECT:26.041
FOR INFORMATION ABOUT THIS JOB, PLEASE CONTACT: BEN SORENSON

GENERAL NOTES:

1. INSTALL CIRCUIT LABELS ON ALL DEVICES AND UPDATE THE PANEL SCHEDULES WITH NEW TYPED SCHEDULES.
2. RECONNECT REMAINING RECEPTACLES ON THE EXISTING WALLS MAINTAINING CIRCUIT INTEGRITY.

SHEET KEYNOTES:

1. CONNECT TO EXISTING CIRCUITS.

SUITE 400 & 450 POWER PLANS
SCALE:0 4' 8' 16'
3/16"=1'-0"

NORTH

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FOR:
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7497 BELMONT COURT
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801-850-7255

PAGNANI BUILDING ADDITION

2321 NORTH 400 EAST
TOOELE, UTAH

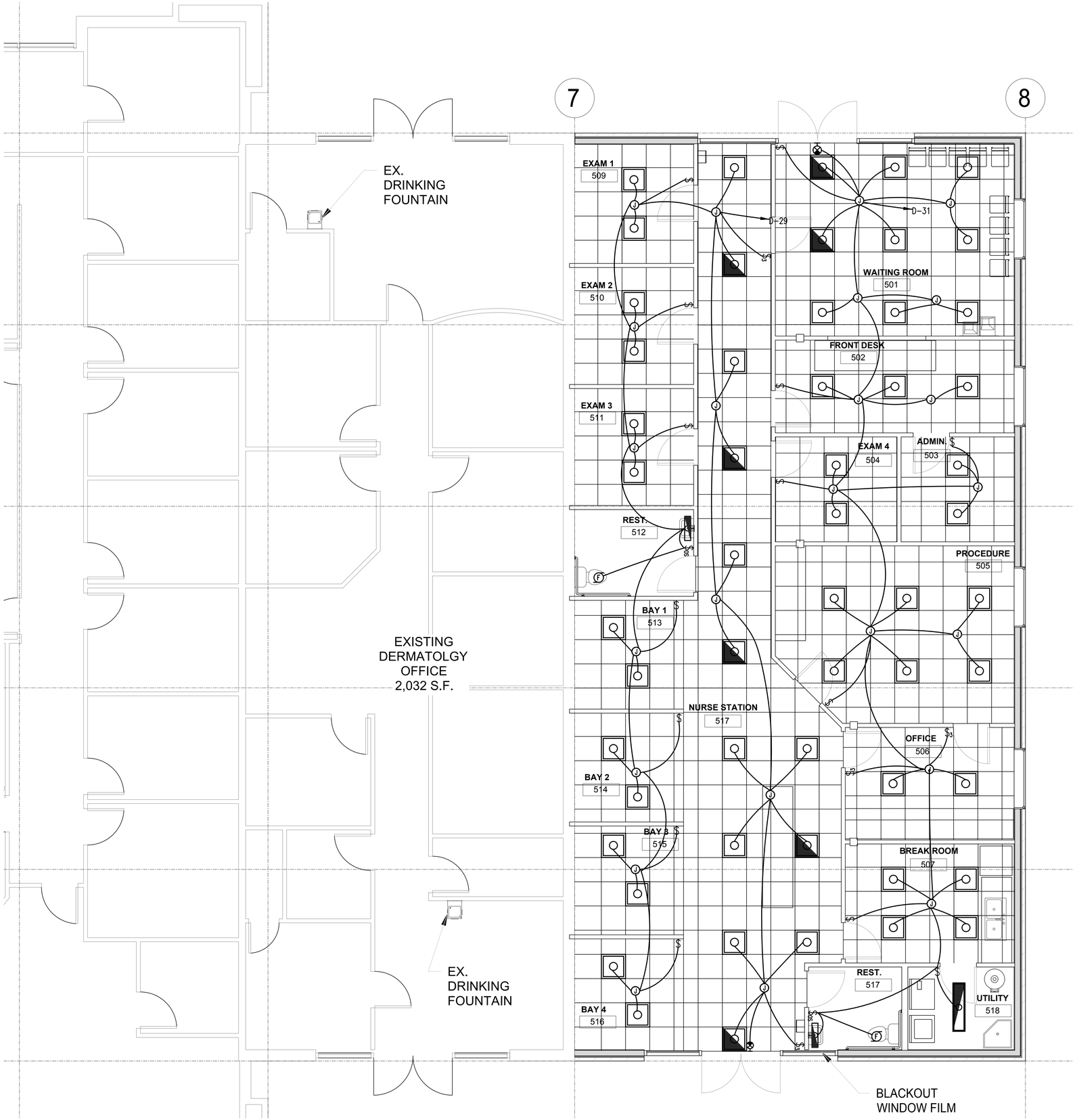
REGISTERED PROFESSIONAL ENGINEER
NO. 86-171214-2202
KEITH B. HEGERHORST
07/XX/2026
STATE OF UTAH

NO. DATE REVISION

SUITE 400 & 450 LIGHTING PLAN

PROJECT NUMBER T1869E
DATE 07/XX/2026
DRAWN BY G. Sorenson
CHECKED BY B. Sorenson
APPROVED BY K. Hegerhosrt
DESIGNED BY B. Sorenson

E302



1 SUITE 500 LIGHTING PLAN
SCALE: 0 4' 8' 12'
1/4"=1'-0"

NORTH

H.P.E. INC. ELECTRICAL ENGINEERS
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GENERAL NOTES:

1. INSTALL CIRCUIT LABELS ON ALL DEVICES AND UPDATE THE PANEL SCHEDULES WITH NEW TYPED SCHEDULES.
2. RECONNECT REMAINING RECEPTACLES ON THE EXISTING WALLS MAINTAINING CIRCUIT INTEGRITY.

SHEET KEYNOTES:

1. CONNECT TO EXISTING CIRCUITS.

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7497 BELMONT COURT
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PAGNANI BUILDING ADDITION

2321 NORTH 400 EAST
TOOELE, UTAH

REGISTERED PROFESSIONAL ENGINEER
STATE OF UTAH
No. 86-171214-2202
KEITH B. HEGERHORST
07/XX/2026

NO.	DATE	REVISION

SUITE 500
LIGHTING PLAN

PROJECT NUMBER: T1869E
DATE: 07/XX/2026
DRAWN BY: G. Sorenson
CHECKED BY: B. Sorenson
APPROVED BY: K. Hegerhosrt
DESIGNED BY: B. Sorenson

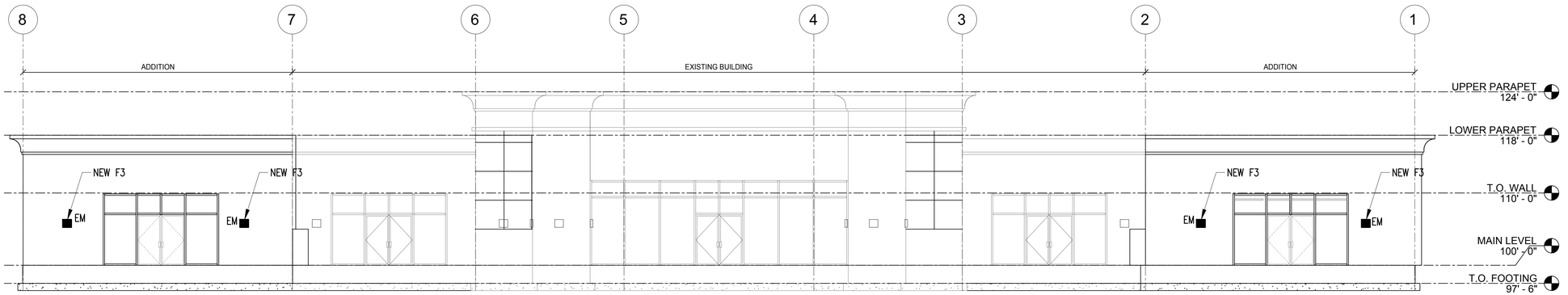
E303

GENERAL NOTES:

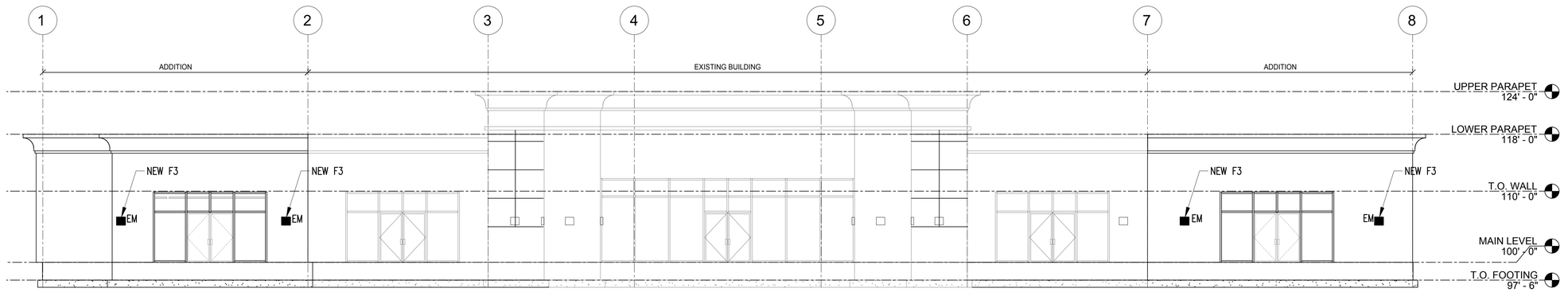
1. ALL EXTERIOR FIXTURES ARE EXISTING UNLESS MARKED OTHERWISE.
2. CONNECT ALL EXTERIOR FIXTURES TO EXISTING CIRCUIT H-6 VIA LCP-1.

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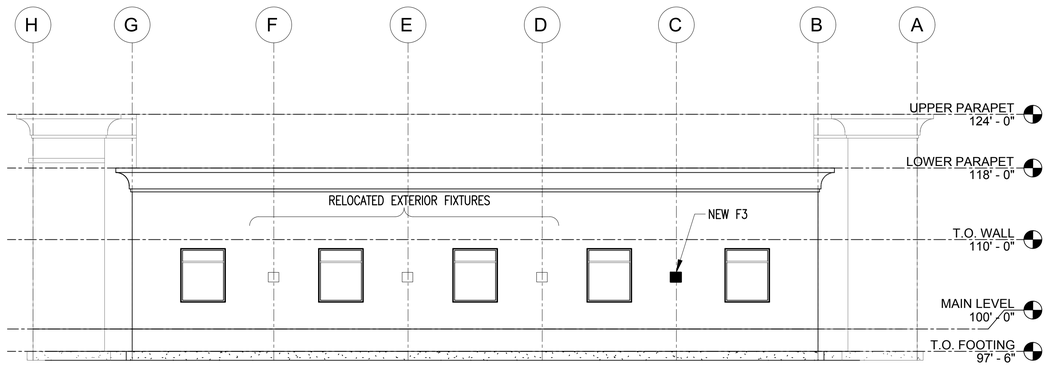
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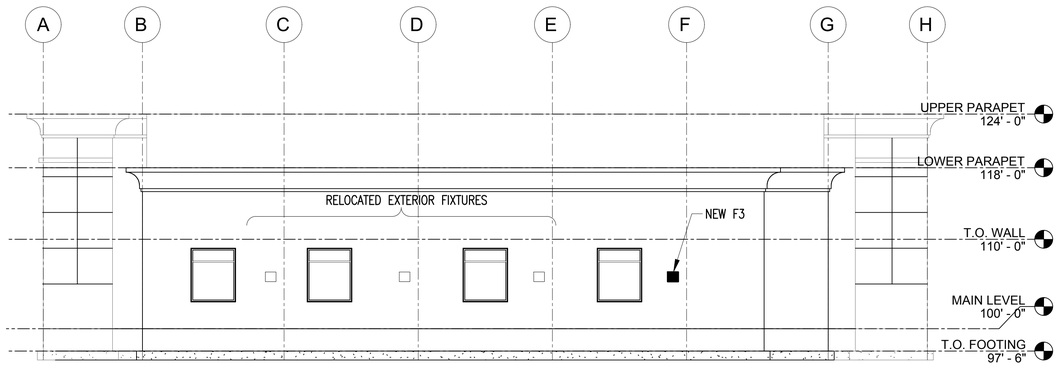
A NORTH ELEVATION
SCALE: 1/8" = 1'-0"



B SOUTH ELEVATION
SCALE: 1/8" = 1'-0"



C EAST ELEVATION
SCALE: 1/8" = 1'-0"



D WEST ELEVATION
SCALE: 1/8" = 1'-0"

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7497 BELMONT COURT
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PAGNANI BUILDING ADDITION

2321 NORTH 400 EAST
TOOELE, UTAH

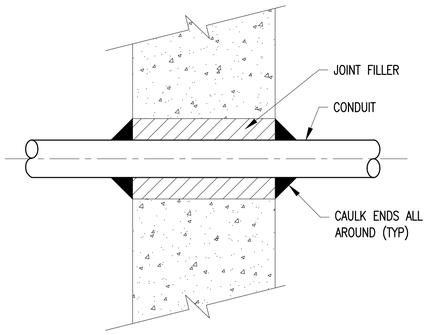
REGISTERED PROFESSIONAL ENGINEER
171214-2202
KEITH B. HEGERHORST
07/27/2026
STATE OF UTAH

NO.	DATE	REVISION

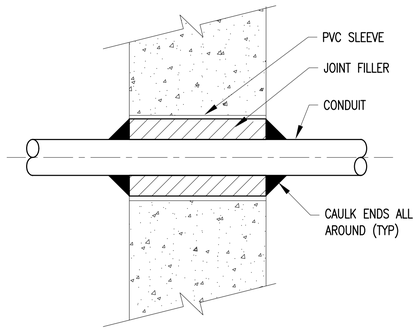
SITE LIGHTING ELEVATION

PROJECT NUMBER	DATE
T1869E	07/27/2026
DRAWN BY: G. Sorenson	CHECKED BY: B. Sorenson
APPROVED BY: K. Hegerhorst	DESIGNED BY: B. Sorenson

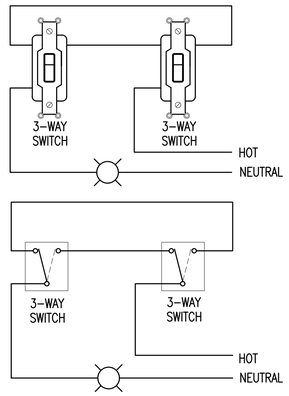
E304



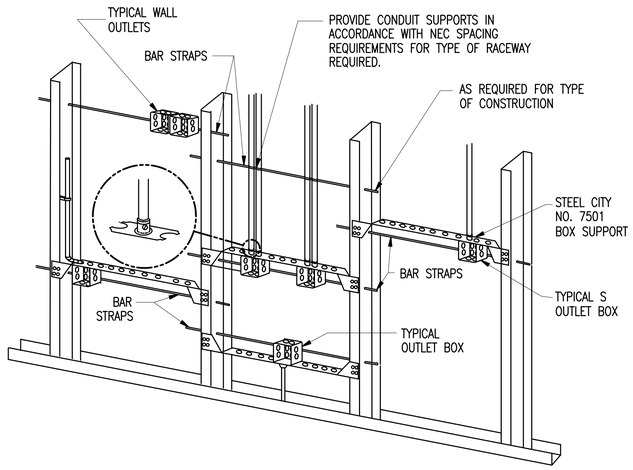
A CONDUIT PENETRATION THRU EXISTING WALL
SCALE: 3" = 1'-0"



B CONDUIT PENETRATION THRU NEW WALL
SCALE: 3" = 1'-0"



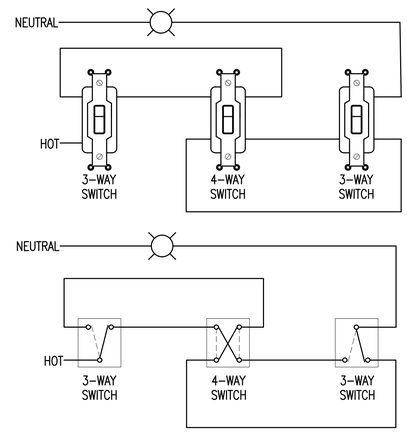
C THREE-WAY SWITCH & WIRING DIAGRAM
SCALE: 1' = 1'-0"



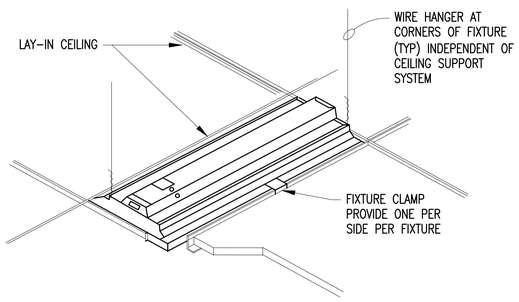
D TYPICAL ROUGH-IN WIRING DETAIL
SCALE: 1' = 1'-0"

NOTES:

1. TYPICAL FOR WOOD AND METAL STUD ROUGH-IN.
2. PLASTER RINGS NOT SHOWN.
3. LOCATE ALL OUTLET BOXES IN ACCORDANCE WITH ARCHITECTURAL AND MECHANICAL DRAWINGS AND WITH ALL APPLICABLE SHOP DRAWINGS.
4. IN ACCORDANCE WITH UBC 4304 OUTLETS ON OPPOSITE SIDES OF WALLS OR PARTITIONS IN THE SAME STUD SPACE MUST BE SEPARATED BY A MINIMUM OF 24" HORIZONTAL DISTANCE.



E FOUR-WAY SWITCH & WIRING DIAGRAM
SCALE: 1' = 1'-0"



F 2 X 4 LAYIN TROFFER INSTALLATION DETAIL
SCALE: 3/4" = 1'-0"

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HPE PROJECT:26.041
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GENERAL NOTES:

1. NOT USED.

SHEET KEYNOTES:

1. NOT USED.

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FOR:
ROBERT PAGNANI
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801-850-7255

PAGNANI BUILDING ADDITION
2321 NORTH 400 EAST
TOOELE, UTAH

REGISTERED PROFESSIONAL ENGINEER
NO. 86-171214-2202
KEITH B. HEGERHORST
07/XX/2026
STATE OF UTAH

NO. DATE REVISION

DETAILS

PROJECT NUMBER T1869E
DATE 07/XX/2026
DRAWN BY G. Sorenson
CHECKED BY B. Sorenson
APPROVED BY K. Hegerhorst
DESIGNED BY B. Sorenson

E400

COMcheck Software Version COMcheckWeb

Interior Lighting Compliance Certificate

Project Information

Energy Code: 2021 IECC
Project Title: Pagnani Building Addition
Project Type: Addition

Construction Site:
2321 North 400 East
Tooele, Utah

Owner/Agent:
Utah

Designer/Contractor:
Hegerhorst Power Engineering
717 North Main Street Suite 207
Springville, Utah 84663-5040
8016422051
bensorenson13@gmail.com

Allowed Interior Lighting Power

A Area Category	B Floor Area (ft2)	C Allowed Watts / ft2	D Allowed Watts
1-Health Care-Clinic	5377	0.81	4355
		Total Allowed Watts =	4355

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-Health Care-Clinic				
LED: F1: 2X2 TROFFER: LED Panel 40W:	1	92	40	3698
LED: F2: VANITY MIRROR LIGHT: LED Panel 19W:	1	3	29	87
LED: F5: 1X4 SURFACE WRAP: LED Panel 19W:	1	1	26	26
			Total Proposed Watts =	3811

Interior Lighting PASSES: Design 12% 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 2021 IECC requirements in COMcheck Version COMcheckWeb and to comply with any applicable mandatory requirements listed in the Inspection Checklist.

Ben Eliot Sorenson — Engineer — Ben Eliot Sorenson — 07/27/2026
Name - Title — Signature — Date

COMcheck Software Version COMcheckWeb

Inspection Checklist

Energy Code: 2021 IECC

Requirements: 0.0% were addressed directly in the COMcheck software

Text in the "Comments/Assumptions" column is provided by the user in the COMcheck Requirements screen. For each requirement, the user certifies that a code requirement will be met and how that is documented, or that an exception is being claimed. Where compliance is itemized in a separate table, a reference to that table is provided.

Section # & Req.ID	Plan Review	Complies?	Comments/Assumptions
C103.2 [PR4][1]	Plans, specifications, and/or calculations provide all information with which compliance can be determined for the interior lighting and electrical systems and equipment and document where exceptions to the standard are claimed. Information provided should include interior lighting power calculations, wattage of bulbs and ballasts, transformers and control devices.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C406 [PR9][1]	Plans, specifications, and/or calculations provide all information with which compliance can be determined for the additional energy efficiency package options.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	

Additional Comments/Assumptions:

1 High Impact (Tier 1) 2 Medium Impact (Tier 2) 3 Low Impact (Tier 3)

Section # & Req.ID	Rough-In Electrical Inspection	Complies?	Comments/Assumptions
C405.2.3.1 [EL22][1]	Spaces required to have light-reduction controls have a manual control that allows the occupant to reduce the connected lighting load in a reasonably uniform illumination pattern >= 50 percent.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C405.2.1, C405.2.1.1 [EL18][1]	Occupancy sensors installed in classrooms/lecture/training rooms, conference/meeting/multipurpose rooms, copy/print rooms, lounges/breakrooms, enclosed offices, open plan office areas, restrooms, storage rooms, locker rooms, corridors, warehouse storage areas, and other spaces <= 300 sqft that are enclosed by floor-to-ceiling height partitions. Reference section language C405.2.1.2 for control function in warehouses and section C405.2.1.3 for open plan office spaces.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C405.2.1.2 [EL19][1]	Occupancy sensors control function in warehouses: In warehouses, the lighting in aisleways and open areas is controlled with occupant sensors that automatically reduce lighting power by 50% or more within 20 minutes of when the areas are unoccupied. The occupant sensors control lighting in each aisleway independently and do not control lighting beyond the aisleway being controlled by the sensor. Lights not turned off by occupant sensors is done so by time-switch.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C405.2.1.3 [EL20][1]	Occupant sensor control function in open plan office areas: Occupant sensor controls in open office spaces >= 300 sq.ft. have controls 1) configured so that general lighting can be controlled separately in control zones with floor areas <= 600 sq.ft. within the space, 2) general lighting in each zone permitted to turn on upon occupancy in control zone, 3) automatically turn off general lighting in all control zones within 20 minutes after all occupants have left the space, 4) are configured so that general lighting power in each control zone is reduced by >= 80% of the full zone general lighting power within 20 minutes of all occupants leaving that control zone.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C405.2.2.1 [EL21][2]	Each area not served by occupancy sensors (per C405.2.1.1) have time-switch controls and functions detailed in sections C405.2.2.1.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	

1 High Impact (Tier 1) 2 Medium Impact (Tier 2) 3 Low Impact (Tier 3)

Section # & Req.ID	Rough-In Electrical Inspection	Complies?	Comments/Assumptions
C405.2.4, C405.2.4.1, C405.2.4.2 [EL23][2]	Daylight zones provided with individual controls that control the lights independent of general area lighting. See code section C405.2.3 Daylight-responsive controls for applicable spaces, C405.2.3.1 Daylight responsive control function and section C405.2.3.2 Sidelit zone.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C405.2.5 [EL27][1]	Additional interior lighting power allowed for special functions per the approved lighting plans and is automatically controlled and separated from general lighting.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C405.7 [EL26][2]	Low-voltage dry-type distribution electric trans/ormers meet the minimum efficiency requirements of Table C405.6.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C405.8 [EL27][2]	Electric motors meet the minimum efficiency requirements of Tables C405.7(1) through C405.7(4). Efficiency verified through certification under an approved certification program or the equipment efficiency ratings shall be provided by motor manufacturer (where certification programs do not exist).	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C405.9.1, C405.9.2 [EL28][2]	Escalators and moving walks comply with ASME A17.1/CSA B44 and have automatic controls configured to reduce speed to the minimum permitted speed in accordance with ASME A17.1/CSA B44 or applicable local code when not conveying passengers.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C405.10 [EL29][2]	Total voltage drop across the combination of feeders and branch circuits <= 5%.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C405.1.1 [EL30][2]	At least 90% of dwelling unit permanently installed lighting shall have lamp efficacy >= 65 lm/W or luminaires with efficacy >= 45 lm/W or comply with C405.2.4 or C405.3.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C405.11, C405.11.1 [EL31][2]	50% of 15/20 amp receptacles installed in enclosed offices, conference rooms, copy rooms, break rooms, classrooms and workstations and > 25% of branch circuit feeders for modular furniture will have automatic receptacle control in accordance with C405.11.1.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	

Additional Comments/Assumptions:

1 High Impact (Tier 1) 2 Medium Impact (Tier 2) 3 Low Impact (Tier 3)

Section # & Req.ID	Final Inspection	Complies?	Comments/Assumptions
C303.3, C408.2.5.2 [FI17][3]	Furnished O&M instructions for systems and equipment to the building owner or designated representative.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C408.1.1 [FI57][1]	Building operations and maintenance documents will be provided to the owner. Documents will cover manufacturers' information, specifications, programming procedures and means of illustrating to owner how building, equipment and systems are intended to be installed, maintained, and operated.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C408.2.5 [FI16][3]	Furnished as-built drawings for electric power systems within 90 days of system acceptance.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C408.3 [FI33][1]	Lighting systems have been tested to ensure proper calibration, adjustment, programming, and operation.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	

Additional Comments/Assumptions:

1 High Impact (Tier 1) 2 Medium Impact (Tier 2) 3 Low Impact (Tier 3)

H.P.E. INC. ELECTRICAL ENGINEERS
POWER SYSTEMS, CONTROL & INSTRUMENTATION SYSTEMS
HEGERHORST POWER ENGINEERING INCORPORATED (801) 642-2051
2331 NORTH 400 EAST FAX (801) 642-2154
SPRINGVILLW, UT 84663
©2026
HPE PROJECT:26.041
FOR INFORMATION ABOUT THIS JOB, PLEASE CONTACT: BEN SORENSON

GENERAL NOTES:

1. NOT USED.

SHEET KEYNOTES:

1. NOT USED.

ENSIGN
THE STANDARD IN ENGINEERING

SANDY
45 W. 10000 S., Suite 500
Sandy, UT 84070
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FOR:
ROBERT PAGNANI
7497 BELMONT COURT
STANSBURY PARK, UT
801-850-7255

PAGNANI BUILDING ADDITION

2321 NORTH 400 EAST
TOOELE, UTAH

REGISTERED PROFESSIONAL ENGINEER
No. 86-171214-2202
KEITH B. HEGERHORST
07/27/2026
STATE OF UTAH

NO. DATE REVISION

COMCHECK

PROJECT NUMBER T1869E
DATE 07/27/2026
DRAWN BY G. Sorenson
CHECKED BY B. Sorenson
APPROVED BY K. Hegerhorst
DESIGNED BY B. Sorenson

E500