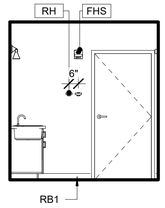
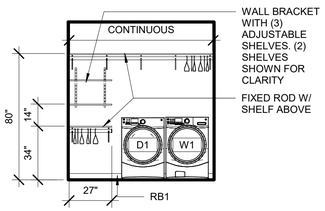
INTERIOR ELEVATION GENERAL NOTES

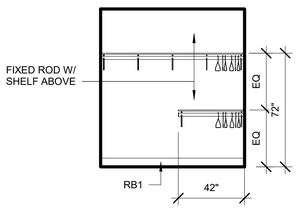
1. REFER TO A5.00 FOR MATERIAL, APPLIANCE AND TOILET ACCESSORY SCHEDULE.
2. REFER TO A8.00 FOR STANDARD MOUNTING HEIGHTS.
3. ALL WALLS AND GWB CEILINGS IN COMMON AREAS TO RECEIVE P4, UNLESS OTHERWISE NOTED.
4. ALL WALLS AND GWB CEILINGS IN UNITS TO RECEIVE P6, UNLESS OTHERWISE NOTED.
5. ALL FLOORING SHALL EXTEND UNDER CASEWORK WHERE NO FIXED BASE CABINETS ARE PROVIDED. FLOORING SHALL EXTEND UNDER ALL SINK BASES WITH RETRACTABLE DOORS AND REMOVABLE BASES.
6. NO RUBBER BASE SEAM SHALL OCCUR WITHIN 12" OF A WALL CORNER.
7. ALL CHANGES IN FLOOR MATERIAL SHALL OCCUR AT THE CENTER LINE OF DOOR UNLESS OTHERWISE NOTED.
8. ALL ACCESS PANELS TO MATCH ADJACENT SURFACE PAINT COLOR.
9. 'FE' NOTATION ON CASEWORK ELEVATION INDICATES FINISHED END PANEL ON EXPOSED SIDE OF CABINET.
10. ALL FULL HEIGHT END PANELS TO BE 24" DEEP AND FINISHED ON BOTH SIDES.
11. CABINET DOOR AND DRAWER PULL BASIS OF DESIGN: 4" WIRE PULLS, BRUSHED OR SATIN NICKEL.
12. ALL CASEWORK TO HAVE 2" MINIMUM FILLER PANEL TO MATCH CASEWORK AT EDGES ADJACENT TO PERPENDICULAR WALLS.
13. WHERE 34" HEIGHT IS NOTED, THE 34" HEIGHT SHALL BE MEASURED FROM THE FINISHED FLOOR TO THE TOP OF FLOOD RIM OF THE FIXTURE OR THE SINK, WHICHEVER IS GREATER.
14. ALL CASEWORK TO BE WD AND ALL COUNTERTOPS/WORKSURFACES TO BE PL1 UNO.
15. CLOSET ANT STORAGE SHELVING MAY BE PAINTED MDF OR WHITE MELAMINE FINIHS, MINIMUM SHELF DEPTH IS 15". CLOSET SHALL HAVE WHITE MELAMINE SHELF AND ROD COMBINATION. PANTRIES AND LINEN CLOSETS ARE TO HAVE A MINIMUM OF (5) FIXED SHELVES, SHELVES CAN REST ON LEADER BOARDS OR BE PART OF A CLOSET SYSTEM.
16. INSULATE PIPES AT SINK LOCATIONS WITH EXPOSED PIPING IF SHROUD IS NOT PROVIDED. INSULATE PIPES AT ALL SINK BASES WITH RETRACTABLE DOORS.
17. REFER TO FINISH PLANS FOR EXTENT OF FLOORING, ACCENT PAINT, WALL COVERINGS AND CORNER GUARD LOCATIONS.
18. CONTRACTOR SHALL BACK CHECK APPLIANCE CUT SHEETS WITH ALL CASEWORK TO CONFIRM ADEQUATE CLEARANCE IS PROVIDED. REFRIGERATORS SHALL BE LOCATED TO ALLOW BINS TO BE REMOVED WITHOUT MOVING THE REFRIGERATOR.
19. CONTRACTOR SHALL PROVIDE AND INSTALL BLOCKING FOR ALL WALL MOUNTED ITEMS, FUTURE GRAB BARS, SIGNAGE, ETC.



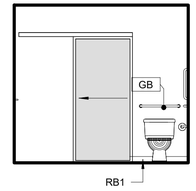
15 UNIT B- BATH- AT ENTRY
1/4" = 1'-0"



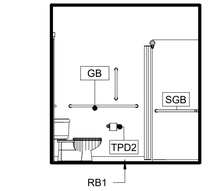
14 UNIT B- CLOSET- LAUNDRY
1/4" = 1'-0"



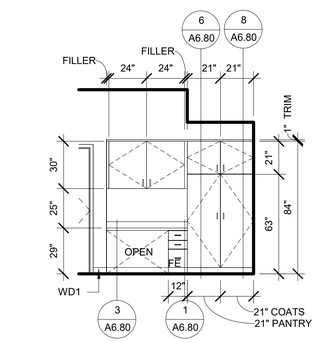
13 UNIT B- CLOSET
1/4" = 1'-0"



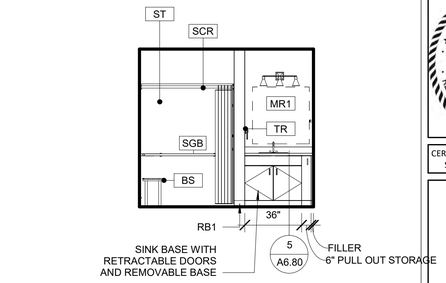
18 UNIT B- BATH- AT TOILET
1/4" = 1'-0"



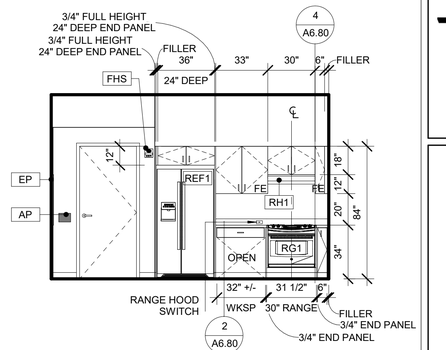
17 UNIT B- BATH- SHOWER
1/4" = 1'-0"



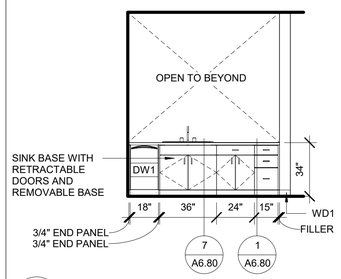
12 UNIT B- AT PANTRY
1/4" = 1'-0"



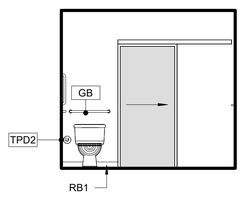
16 UNIT B- BATH- AT SINK
1/4" = 1'-0"



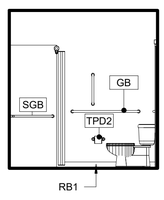
11 UNIT B- KITCHEN- AT OVEN
1/4" = 1'-0"



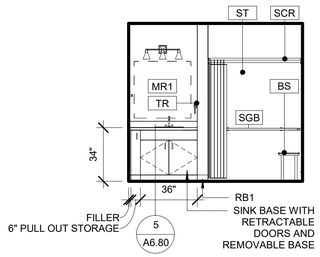
10 UNIT B- KITCHEN- AT SINK
1/4" = 1'-0"



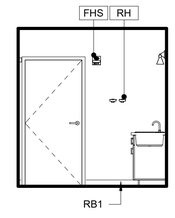
9 UNIT A- BATH- AT TOILET
1/4" = 1'-0"



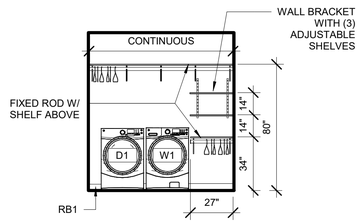
8 UNIT A- BATH- SHOWER
1/4" = 1'-0"



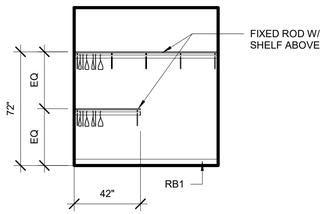
7 UNIT A- BATH- AT SINK
1/4" = 1'-0"



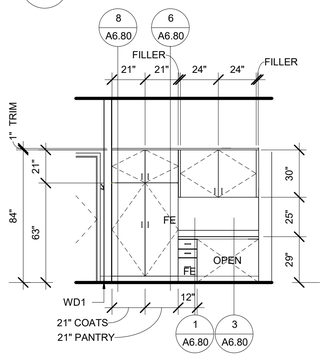
6 UNIT A- BATH- AT ENTRY
1/4" = 1'-0"



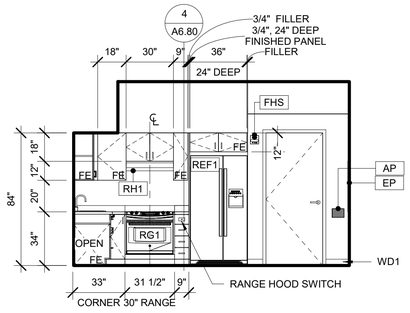
5 UNIT A- CLOSET- LAUNDRY
1/4" = 1'-0"



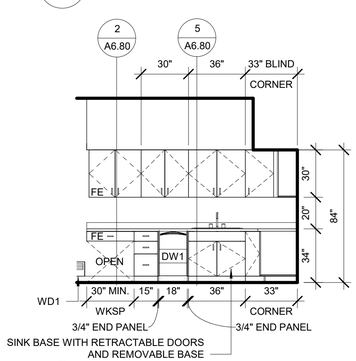
4 UNIT A- CLOSET
1/4" = 1'-0"



3 UNIT A- AT PANTRY
1/4" = 1'-0"



2 UNIT A- KITCHEN-OVEN
1/4" = 1'-0"



1 UNIT A- KITCHEN- AT SINK
1/4" = 1'-0"

STATE OF ALASKA
49TH
DEANNA T. WLAD
AELA 10622
REGISTERED PROFESSIONAL ARCHITECT
03.06.2023

CERTIFICATE OF AUTHORIZATION NO:
SPARK DESIGN, LLC AAEC1394

spark design,llc
architecture • interiors • design-build
5401 cordova street, suite 301
anchorage, alaska 99518
p. 907.344.3424 f. 907.771.9776

ASPEN HOUSE
SENIOR APARTMENTS
WASILLA, ALASKA

REVISION SCHEDULE

#	DESCRIPTION	DATE

JOB NO.	20-024
DATE	03.06.2023
DRAWN	CF
REVIEWED	DTW

SHEET NAME
INTERIOR ELEVATIONS

SHEET NO.
A8.01

PERMIT DOCUMENTS

HALF SCALE WHEN PRINTED AT 11x17

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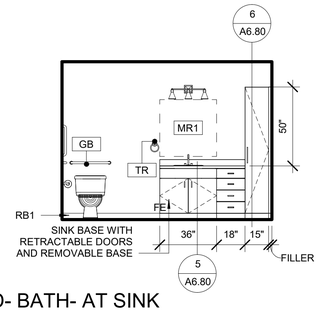
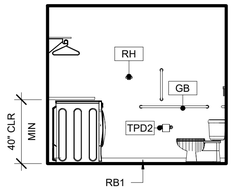
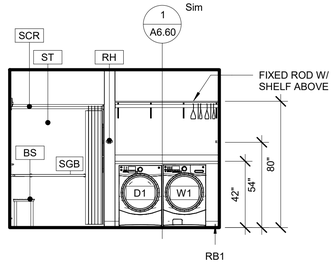


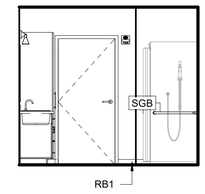
12 UNIT D- BATH- AT SINK
1/4" = 1'-0"



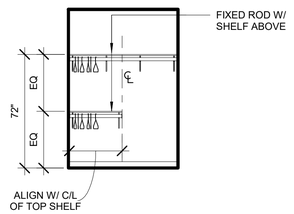
11 UNIT D- BATH- AT BACK WALL
1/4" = 1'-0"



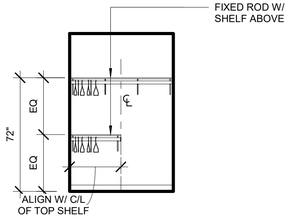
10 UNIT D- BATH- AT LAUNDRY
1/4" = 1'-0"



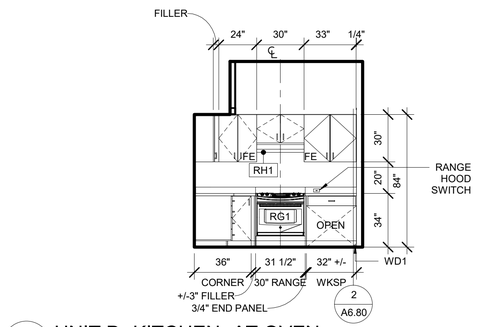
9 UNIT D- BATH- AT ENTRY
1/4" = 1'-0"



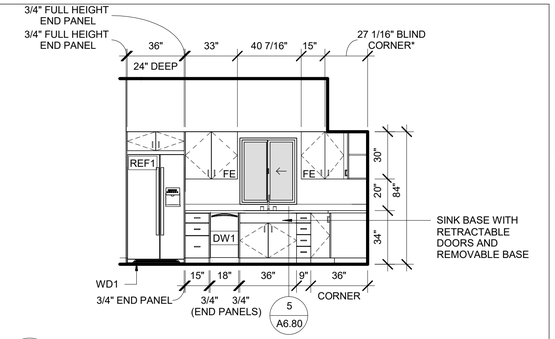
8 UNIT D - CLOSET
1/4" = 1'-0"



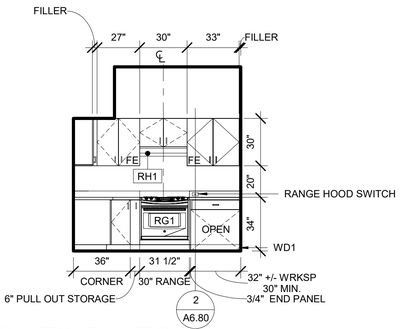
7 UNIT C - CLOSET
1/4" = 1'-0"



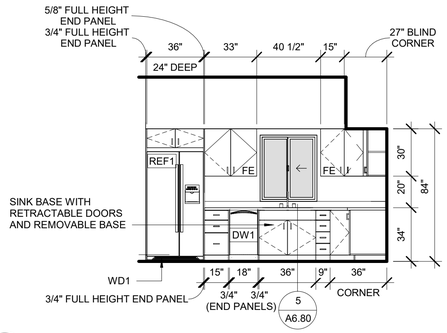
14 UNIT D- KITCHEN- AT OVEN
1/4" = 1'-0"



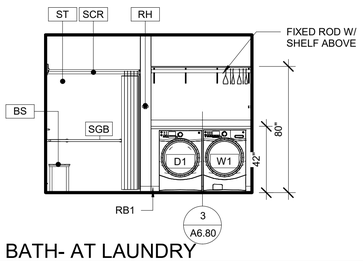
13 UNIT D- KITCHEN- SINK
1/4" = 1'-0"



6 UNIT C- KITCHEN- AT OVEN
1/4" = 1'-0"



5 UNIT C- KITCHEN- AT SINK
1/4" = 1'-0"



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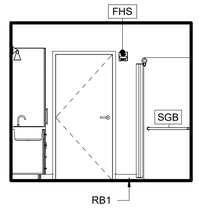

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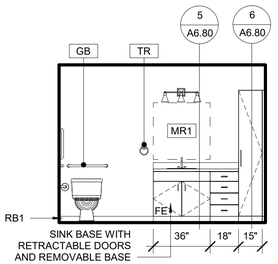

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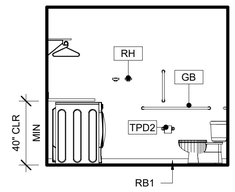

1 UNIT C- BATH- AT BACK WALL
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49TH
DEANNA T. WLAD
AELA 10622
REGISTERED PROFESSIONAL ARCHITECT
03.06.2023

CERTIFICATE OF AUTHORIZATION NO:
SPARK DESIGN, LLC #AECL1394

spark design,llc
architecture • interiors • design-build
5401 cordova street, suite 301
anchorage, alaska 99518
p. 907.344.3424 f. 907.771.9776

ASPEN HOUSE
SENIOR APARTMENTS
WASILLA, ALASKA

REVISION SCHEDULE

#	DESCRIPTION	DATE

JOB NO.	20-024
DATE	03.06.2023
DRAWN	AKG
REVIEWED	DTW

SHEET NAME
INTERIOR ELEVATIONS

SHEET NO.
A8.02

HALF SCALE WHEN PRINTED AT 11x17

PERMIT DOCUMENTS

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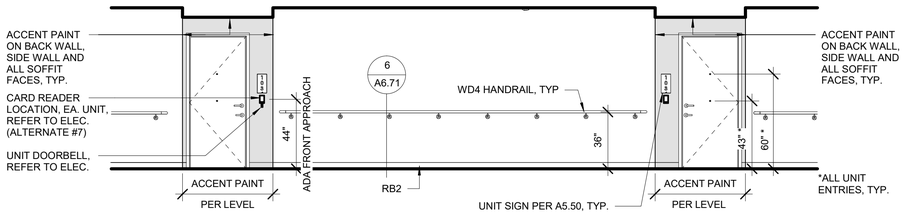
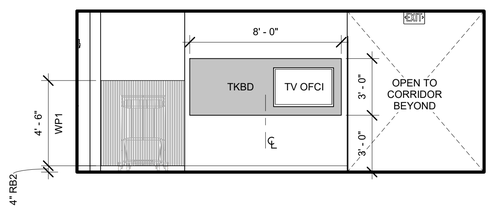
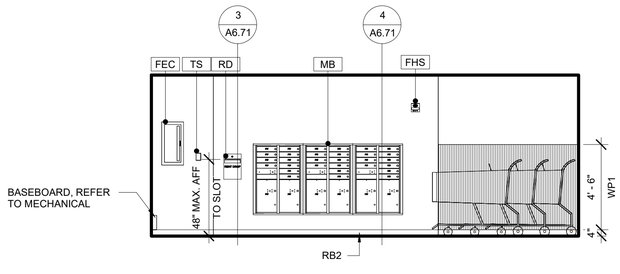


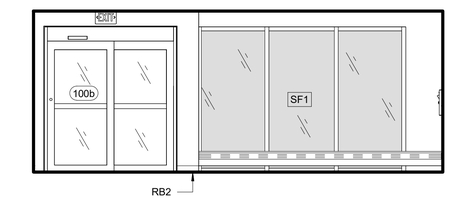
13 TYPICAL CORRIDOR
1/4" = 1'-0"



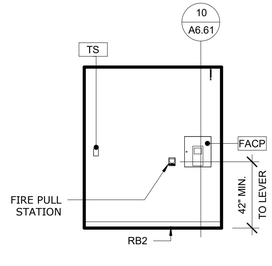
14 LOBBY - TV
1/4" = 1'-0"



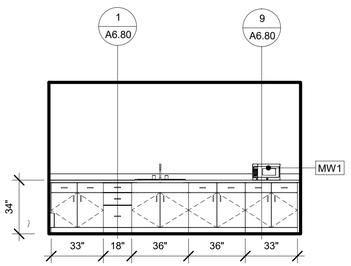
11 LOBBY - MAIL
1/4" = 1'-0"



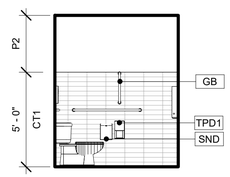
12 LOBBY - ENTRY
1/4" = 1'-0"



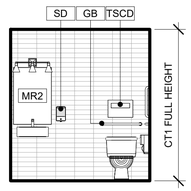
10 VESTIBULE - WEST
1/4" = 1'-0"



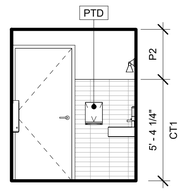
9 COMMON AREA KITCHEN
1/4" = 1'-0"



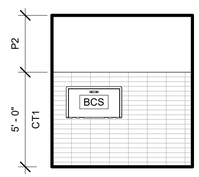
8 LVL 2 RESTROOM BACK WALL
1/4" = 1'-0"



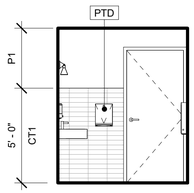
7 LVL 2 RESTROOM TOILET
1/4" = 1'-0"



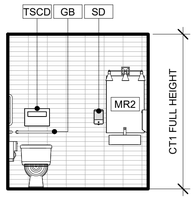
6 LVL 2 RESTROOM DOOR
1/4" = 1'-0"



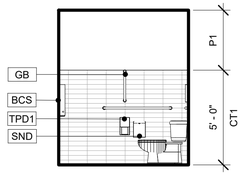
5 LVL 2 RESTROOM BABY CHANGING STATION
1/4" = 1'-0"



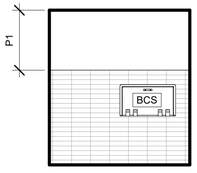
4 LVL 1 RESTROOM DOOR
1/4" = 1'-0"



3 LVL 1 RESTROOM TOILET
1/4" = 1'-0"



2 LVL 1 RESTROOM BACK WALL
1/4" = 1'-0"



1 LVL 1 RESTROOM BABY CHANGING STATION
1/4" = 1'-0"

PERMIT DOCUMENTS

HALF SCALE WHEN PRINTED AT 11x17

STATE OF ALASKA
49TH
DEANNA T. WLAD
AELA 10622
REGISTERED PROFESSIONAL ARCHITECT
03.06.2023

CERTIFICATE OF AUTHORIZATION NO:
SPARK DESIGN, LLC #AECL1394

spark design,llc
architecture • interiors • design-build
5401 cordova street, suite 301
anchorage, alaska 99518
p. 907.344.3424 f. 907.771.9776

ASPEN HOUSE
SENIOR APARTMENTS
WASILLA, ALASKA

REVISION SCHEDULE

#	DESCRIPTION	DATE

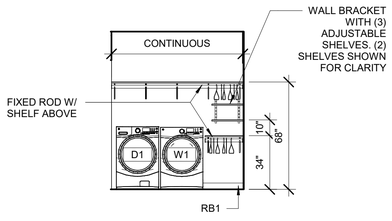
JOB NO.	20-024
DATE	03.06.2023
DRAWN	Author
REVIEWED	DTW

SHEET NAME
INTERIOR ELEVATIONS

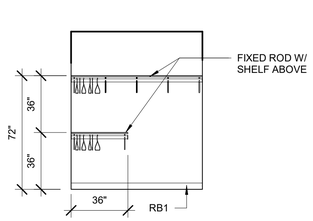
SHEET NO.
A8.03

INTERIOR ELEVATION GENERAL NOTES

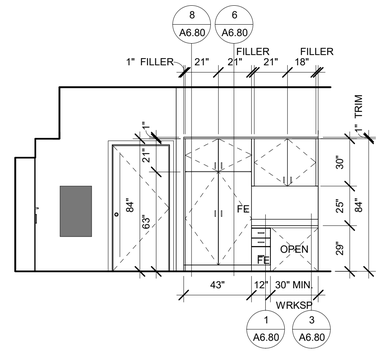
1. REFER TO A5.00 FOR MATERIAL, APPLIANCE AND TOILET ACCESSORY SCHEDULE.
2. REFER TO A8.00 FOR STANDARD MOUNTING HEIGHTS.
3. ALL WALLS AND GWB CEILINGS IN COMMON AREAS TO RECEIVE P4, UNLESS OTHERWISE NOTED.
4. ALL WALLS AND GWB CEILINGS IN UNITS TO RECEIVE P6, UNLESS OTHERWISE NOTED.
5. ALL FLOORING SHALL EXTEND UNDER CASEWORK WHERE NO FIXED BASE CABINETS ARE PROVIDED. FLOORING SHALL EXTEND UNDER ALL SINK BASES WITH RETRACTABLE DOORS AND REMOVABLE BASES.
6. NO RUBBER BASE SEAM SHALL OCCUR WITHIN 12" OF A WALL CORNER.
7. ALL CHANGES IN FLOOR MATERIAL SHALL OCCUR AT THE CENTER LINE OF DOOR UNLESS OTHERWISE NOTED.
8. ALL ACCESS PANELS TO MATCH ADJACENT SURFACE PAINT COLOR.
9. 'FE' NOTATION ON CASEWORK ELEVATION INDICATES FINISHED END PANEL ON EXPOSED SIDE OF CABINET.
10. ALL FULL HEIGHT END PANELS TO BE 24" DEEP AND FINISHED ON BOTH SIDES.
11. CABINET DOOR AND DRAWER PULL BASIS OF DESIGN: 4" WIRE PULLS, BRUSHED OR SATIN NICKEL.
12. ALL CASEWORK TO HAVE 2" MINIMUM FILLER PANEL TO MATCH CASEWORK AT EDGES ADJACENT TO PERPENDICULAR WALLS.
13. WHERE 34" HEIGHT IS NOTED, THE 34" HEIGHT SHALL BE MEASURED FROM THE FINISHED FLOOR TO THE TOP OF FLOOD RIM OF THE FIXTURE OR THE SINK, WHICHEVER IS GREATER.
14. ALL CASEWORK TO BE WD AND ALL COUNTERTOPS/WORKSURFACES TO BE PL1 UNO.
15. CLOSET ANT STORAGE SHELVING MAY BE PAINTED MDF OR WHITE MELAMINE FINIHS, MINIMUM SHELF DEPTH IS 15". CLOSET SHALL HAVE WHITE MELAMINE SHELF AND ROD COMBINATION. PANTRIES AND LINEN CLOSETS ARE TO HAVE A MINIMUM OF (5) FIXED SHELVES, SHELVES CAN REST ON LEADER BOARDS OR BE PART OF A CLOSET SYSTEM.
16. INSULATE PIPES AT SINK LOCATIONS WITH EXPOSED PIPING IF SHROUD IS NOT PROVIDED. INSULATE PIPES AT ALL SINK BASES WITH RETRACTABLE DOORS.
17. REFER TO FINISH PLANS FOR EXTENT OF FLOORING, ACCENT PAINT, WALL COVERINGS AND CORNER GUARD LOCATIONS.
18. CONTRACTOR SHALL BACK CHECK APPLIANCE CUT SHEETS WITH ALL CASEWORK TO CONFIRM ADEQUATE CLEARANCE IS PROVIDED. REFRIGERATORS SHALL BE LOCATED TO ALLOW BINS TO BE REMOVED WITHOUT MOVING THE REFRIGERATOR.
19. CONTRACTOR SHALL PROVIDE AND INSTALL BLOCKING FOR ALL WALL MOUNTED ITEMS, FUTURE GRAB BARS, SIGNAGE, ETC.



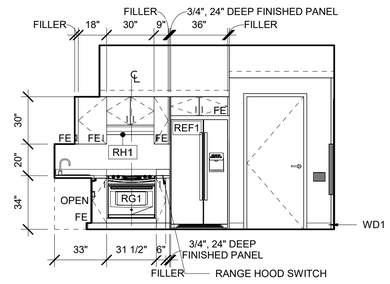
5 UNIT A - (ADA) CLOSET-LAUNDRY
1/4" = 1'-0"



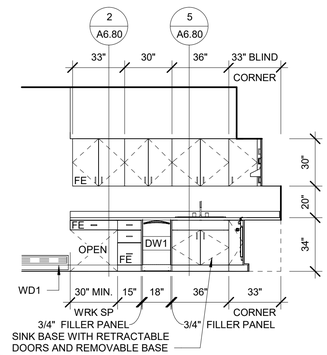
4 UNIT A - (ADA) CLOSET
1/4" = 1'-0"



3 UNIT A (ADA) AT PANTRY
1/4" = 1'-0"



2 UNIT A - (ADA) KITCHEN OVEN
1/4" = 1'-0"



1 UNIT A - (ADA) AT SINK
1/4" = 1'-0"

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REVISION SCHEDULE

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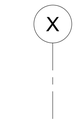
A8.04

ABBREVIATIONS

&	AND
@	AT
A&B	ABOVE & BELOW
AB	ANCHOR BOLT
ACI	AMERICAN CONCRETE INSTITUTE
ADD'L	ADDITIONAL
ADJ	ADJACENT, ADJUSTABLE
AFF	ABOVE FINISHED FLOOR
AISC	AMERICAN INSTITUTE OF STEEL CONSTRUCTION
AISI	AMERICAN IRON AND STEEL INSTITUTE
ALT	ALTERNATE
ALUM	ALUMINUM
ANCH	ANCHOR, ANCHORAGE
APA	AMERICAN PLYWOOD ASSOCIATION
APPROX	APPROXIMATE
AR	ANCHOR ROD
ARCH	ARCHITECT, ARCHITECTURAL
ARND	AROUND
ASCE	AMERICAN SOCIETY OF CIVIL ENGINEERS
ASSY	ASSEMBLY
ASTM	AMERICAN SOCIETY FOR TESTING AND MATERIALS
AWS	AMERICAN WELDING SOCIETY
B/	BOTTOM OF
BAL	BALANCE
BF	BRACED FRAME
BLDG	BUILDING
BLKG	BLOCKING
BM	BEAM
BOD	BOTTOM OF DECK
BOT	BOTTOM
BRG	BEARING
BSMT	BASEMENT
BTWN	BETWEEN
BU	BUILT-UP
C	CAMBER, CHANNEL
CANT	CANTILEVER
CAP	CAPACITY
CC	CENTER-TO-CENTER
CDF	CONTROL DENSITY FILL
CF	COLD-FORMED
CG	CENTER OF GRAVITY
CIP	CAST-IN-PLACE
CJ	CONTROL JOINT, CONSTRUCTION JOINT
CJP, CP	COMPLETE JOINT PENETRATION
CL	CENTERLINE
CLG	CEILING
CLR	CLEAR
CMU	CONCRETE MASONRY UNIT
COL	COLUMN
CONC	CONCRETE
CONN	CONNECTION
CONST	CONSTRUCTION
CONT	CONTINUE, CONTINUOUS
CONTR	CONTRACTOR
COORD	COORDINATE
CP	COMPLETE PENETRATION
CRSI	CONCRETE REINFORCED STEEL INSTITUTE
CTR	CENTER, CENTERED
CY	CUBIC YARD
d	PENNYWEIGHT (NAILS)
DB	DIVIDER BEAM, DROPPED BEAM
DBA	DEFORMED BAR ANCHOR
DBL	DOUBLE
DBN	DIAPHRAGM BOUNDARY NAILING
DEG, °	DEGREE
DEMO	DEMOLISH, DEMOLITION
DF	DOUGLAS FIR
DFL	DOUGLAS FIR-LARCH
DIA, Ø	DIAMETER
DIAG	DIAGONAL
DIAPH	DIAPHRAGM
DIM	DIMENSION
DL	DEAD LOAD
DN	DOWN
DO	DITTO
DP	DEEP
DTL	DETAIL
DWG	DRAWING
DWL	DOWEL
(E)	EXIST EXISTING
EA	EACH
EE	EACH END
EF	EACH FACE
EJ	EXPANSION JOINT
EL	ELEVATION
EMB, EMBED	EMBEDMENT
ENGR	ENGINEER
EQ	EARTHQUAKE, EQUAL
EQUIP	EQUIPMENT
ES	EACH SIDE
ETC	ET CETERA
E-W	EAST-WEST
EXP	EXPANSION
EXT	EXTERIOR
FD	FLOOR DRAIN
FDN	FOUNDATION
FEMA	FEDERAL EMERGENCY MANAGEMENT AGENCY
FF	FAR FACE, FINISH FLOOR
FIN	FINISH
FLR	FLOOR
FLG	FLANGE
FOW	FACE OF WALL
FS	FAR SIDE
FT, '	FEET
FTG	FOOTING
GA	GAUGE
GALV	GALVANIZED
GB	GRADE BREAK
GEN	GENERAL
GL, GLULAM	GLUED LAMINATED MEMBER
GLB	GLUED LAMINATED BEAM
GR	GRADE
GRND	GROUND
GWB	GYPSUM WALL BOARD
HF	HEM-FIR
HGR	HANGER
HK	HOOK
HKP	HOUSE KEEPING PAD
HORIZ, H	HORIZONTAL
HP	HIGH POINT
HSB	HIGH STRENGTH BOLT
HSS	HOLLOW STRUCTURAL SECTION
HT	HEIGHT
IBC	INTERNATIONAL BUILDING CODE
ID	INSIDE DIAMETER
IF	INSIDE FACE
IN, "	INCH
INCL	INCLUDE
INFO	INFORMATION
INT	INTERIOR
IJ	ISOLATION JOINT
JST	JOIST
JT	JOINT
K	KIP (1,000 LB)
KSF	KIPS PER SQUARE FOOT
KSI	KIPS PER SQUARE INCH
L	LENGTH, ANGLE
LB, #	POUND
LF	LINEAL FOOT
LL	LIVE LOAD
LLBB	LONG LEGS BACK TO BACK
LLH	LONG LEG HORIZONTAL
LLV	LONG LEG VERTICAL
LOC	LOCATION, LOCATE
LONGIT	LONGITUDINAL
LP	LOW POINT
LSH	LONG SLOTTED HOLE
LSL	LAMINATED STRAND LUMBER
LVL	LEVEL, OR LAMINATED VENEER LUMBER
MATL	MATERIAL
MAX	MAXIMUM
MB	MACHINE BOLT
MECH	MECHANICAL
MF	MOMENT FRAME
MFR	MANUFACTURER
MIN	MINIMUM
MISC	MISCELLANEOUS
MPH	MILES PER HOUR
MTL	METAL
NF	NEAR FACE
NIC	NOT IN CONTRACT
NOM	NOMINAL
NO, #	NUMBER
N-S	NORTH-SOUTH
NS	NEAR SIDE, NONSHRINK
NTS	NOT TO SCALE
OC	ON CENTER
OD	OUTSIDE DIAMETER
OF	OUTSIDE FACE
OPNG	OPENING
OPP	OPPOSITE
OH	OPPOSITE HAND
OSH	OVERSIZED HOLE
OWJ	OPEN WEB JOIST
PC	PIECE, PRECAST
PCF	POUNDS PER CUBIC FOOT
PEN	PENETRATION
PERP	PERPENDICULAR
PL	PLATE, PROPERTY LINE
PLCS	PLACES
PLF	POUNDS PER LINEAR FOOT
PLWD	PLYWOOD
PNL	PANEL
PJP, PP	PARTIAL JOINT PENETRATION
PREFAB	PREFABRICATED
PS	PRESTRESS
PSF	POUNDS PER SQUARE FOOT
PSI	POUNDS PER SQUARE INCH
PSL	PARALLEL STRAND LUMBER
PT	POINT, PRESSURE TREATED
P-T	POST-TENSIONED
PVC	POLYVINYL CHLORIDE
R	RAD RADIUS
RD	ROOF DRAIN
REF	REFERENCE
REINF	REINFORCING
REM	REMAINDER
REQD	REQUIRED
RND	ROUND
RO	ROUGH OPENING
RTN	RETURN
SBN	SHEAR WALL BOUNDARY NAILING
SC	SLIP CRITICAL
SCHED	SCHEDULE
SECT	SECTION
SHT	SHEET
SIM	SIMILAR
SJI	STEEL JOIST INSTITUTE
SOG	SLAB ON GRADE
SPC	SPACE, SPACED, SPACING
SPEC	SPECIFICATION
SQ	SQUARE
SS	STAINLESS STEEL
SSH	SHORT SLOTTED HOLE
STAG	STAGGER, STAGGERED
STD	STANDARD
STIFF	STIFFENER
STIR	STIRRUP
STL	STEEL
STRUC	STRUCTURAL
SUPP	SUPPORT
SYM	SYMMETRICAL, SYMMETRY
SW	SHEAR WALL
T/	TOP OF
T&B	TOP AND BOTTOM
T&G	TONGUE AND GROOVE
TEMP	TEMPERATURE
THK	THICK, THICKNESS
THRU	THROUGH
TOC	TOP OF CONCRETE
TOF	TOP OF FOOTING
TOS	TOP OF STEEL
TR	THREADED ROD
TRANS	TRANSVERSE
TYP	TYPICAL
TWS	THREADED WELDED STUD
UON	UNLESS OTHERWISE NOTED
VERT	VERTICAL
W	WIDTH, WIDE FLANGE
w/	WITH
WD	WOOD
WHS	WELDED HEADED STUD
W/O	WITHOUT
WP	WORK POINT
WT	WEIGHT
WWR	WELDED WIRE REINFORCEMENT

SYMBOLS

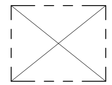
GENERAL SYMBOLS

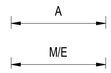

GRID BUBBLE

GRID LINE


NORTH ARROW


SOIL


OPENING IN FLOOR OR WALL



DIMENSION PER ARCHITECT

DIMENSION PER MECHANICAL OR ELECTRICAL

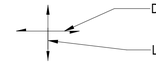
X'-X" TOP OF SLAB RELATIVE TO DATUM

(X'-X") TOP OF FOOTING RELATIVE TO DATUM

[X'-X"] TOP OF WALL OR BEAM ELEVATION

ELEVATION RELATIVE TO DATUM

WORK POINT


DIRECTION OF SPAN

LIMIT OF SPAN

SLOPE

SURFACE - SLOPE UP

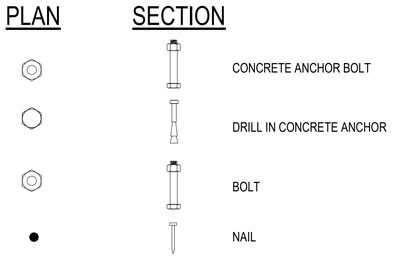
SURFACE - SLOPE DOWN

SURFACE - SLOPE TWO WAYS

X" SURFACE - STEPPED

X" SURFACE - STEPPED AND SLOPED

CONNECTORS



CONCRETE ANCHOR BOLT

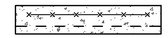
DRILL IN CONCRETE ANCHOR

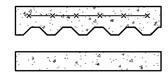
BOLT

NAIL

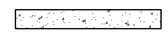
CONCRETE SYMBOLS

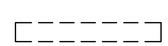
F1 FOOTING TYPE PER SCHEDULE

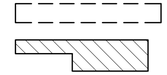

CONCRETE OVER STEEL FLOOR DECK- LONGITUDINAL

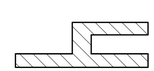

CONCRETE OVER STEEL FLOOR DECK- TRANSVERSE


CONCRETE WALL IN SECTION

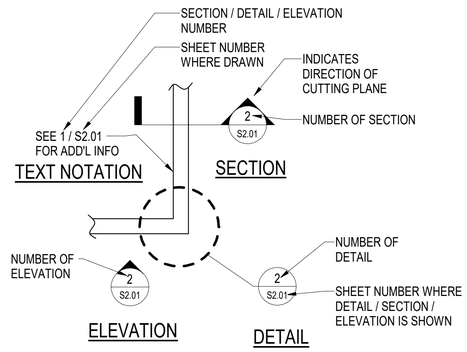

CONCRETE CURB/PARTIAL HEIGHT WALL


CONCRETE WALL BELOW THIS LEVEL

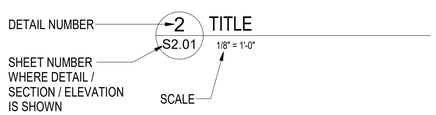

CHANGE OF SLAB THICKNESS


RAISED SLAB

DETAIL IDENTIFIERS



DETAIL LABEL



STEEL SYMBOLS

BEAM/GIRDER

COLUMN

BEAM/COLUMN SPLICE

BRACING DIAGONAL BRACING

STEEL IN CROSS SECTION

CANTILEVER MOMENT CONNECTION PER 3 / S5.03

STATE OF ALASKA
49 TH
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REGISTERED PROFESSIONAL ENGINEER
3/6/23

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ASPEN HOUSE LIMITED PARTNERSHIP
ASPEN HOUSE SENIOR APARTMENTS
WASILLA, ALASKA

REVISION SCHEDULE

#	DESCRIPTION	DATE

JOB NO.	402023.006
DATE	03.06.2023
DRAWN	TM
REVIEWED	EH

SHEET NAME
ABBREVIATIONS & SYMBOLS

SHEET NO.
S0.01

HALF SCALE WHEN PRINTED AT 11x17

GENERAL
THE CONTRACTOR SHALL VERIFY AND COORDINATE ALL DIMENSIONS AMONG THE DRAWINGS BEFORE STARTING ANY WORK OR FABRICATION. IN CASE OF DISCREPANCIES BETWEEN DRAWINGS, SPECIFICATIONS, REFERENCE STANDARDS, SITE CONDITIONS OR GOVERNING CODE, THE MORE STRINGENT REQUIREMENTS SHALL GOVERN. CONTRACTOR SHALL NOTIFY THE ENGINEER OF DISCREPANCIES AND OBTAIN DIRECTION PRIOR TO PROCEEDING. NOTES ON INDIVIDUAL STRUCTURAL DRAWINGS SHALL TAKE PRIORITY OVER GENERAL STRUCTURAL NOTES. NOTED DIMENSIONS TAKE PRECEDENCE OVER SCALED DIMENSIONS. DO NOT SCALE DRAWINGS. TYPICAL DETAILS MAY NOT NECESSARILY BE INDICATED AS TYP ON THE PLANS, BUT SHALL APPLY AS SHOWN OR DESCRIBED IN THE DETAILS.

ALL CONSTRUCTION SHALL COMPLY WITH THE 2021 INTERNATIONAL BUILDING CODE (IBC).

SAFETY - THE CONTRACTOR IS RESPONSIBLE FOR MEETING ALL FEDERAL, STATE AND LOCAL SAFETY STANDARDS. THE CONTRACTOR IS IN CHARGE OF ALL SAFETY MATTERS ON AND AROUND THE JOB SITE.

STRUCTURAL DESIGN DATA
STRUCTURAL DESIGN IS IN ACCORDANCE WITH THE IBC. OCCUPANCY CATEGORY IS II IN ACCORDANCE WITH IBC SECTION 1604.5.

REFER TO ARCHITECTURAL DRAWINGS FOR ELEVATIONS, SLOPES, DEPRESSIONS, NON-BEARING WALLS, FIRE-PROOFING, FASCIA, CURBS, DRAINS, RAILINGS, WATERPROOFING, FINISHES, ETC.

THE STRUCTURE HAS BEEN DESIGNED FOR THE FOLLOWING OPERATIONAL LOADS ON THE COMPLETED STRUCTURES. CONTRACTOR IS RESPONSIBLE FOR TEMPORARY SHORING AND BRACING DURING CONSTRUCTION.

LIVE LOADS: RESIDENTIAL AREAS AND CORRIDORS = 40 PSF
PUBLIC ROOMS AND CORRIDORS = 100 PSF
STORAGE AREAS (LIGHT) = 125 PSF
MECHANICAL ROOMS = 125 PSF

ROOF SNOW: 40 PSF FLAT + DRIFT
Is=1.0, Pg=50 PSF, Ct=1.0, Ce=1.0

WIND LOADS: BASIC WIND SPEED (3-SECOND GUST, Vult)=121 MPH,
EXPOSURE B, INTERNAL PRESSURE GCpi=±0.18 (ENCLOSED)

SEISMIC LOADS: SITE CLASS D, DESIGN CATEGORY D,
Ss=1.586, S1=0.831, Sds=1.057, Sd1=0.942, Ie=1.0, R=6.5 (LIGHT FRAMED WOOD SHEARWALLS), Ωo=3, Cd=4, ρ=1.0, Cs=0.163, BASE SHEAR=255.3 KIPS (LRFD).

LATERAL ANALYSIS IS LINEAR STATIC. LATERAL FORCES ARE CARRIED BY FLEXIBLE ROOF AND FLEXIBLE FLOOR DIAPHRAGMS TO THE SHEAR WALLS. MOMENTS, SHEARS, AND ROTATIONAL FORCES ARE DELIVERED TO THE FOUNDATION BY THE SHEAR WALLS IN PROPORTION TO THEIR TRIBUTARY AREA.

FOUNDATIONS
FOUNDATIONS ARE DESIGNED FOR A MAXIMUM SOIL BEARING PRESSURE OF 4700 PSF UNDER SUSTAINED LOADING AND 6260 PSF UNDER SHORT TERM LOADING.

FOUNDATION SOILS SHALL BE PREPARED IN ACCORDANCE WITH THE IBC AND "GEOTECHNICAL ENGINEERING REPORT FOR PHASE 1 OF THE PROPOSED WASILLA AREA SENIORS HOUSING DEVELOPMENT, WASILLA, AK", DATED MARCH 2020 BY NORTHERN GEOTECHNICAL ENGINEERING.

WARM FOOTINGS SHALL BE FOUNDED AT LEAST 42-INCHES BELOW LOWEST ADJACENT EXTERIOR FINISHED GRADE. FOOTING DEPTHS AND ELEVATIONS SHOWN ARE MINIMUM AND FOR GUIDANCE ONLY; CONTRACTOR SHALL ESTABLISH ACTUAL ELEVATIONS IN FIELD.

ALL ORGANIC, FROZEN, OR OTHER UNSUITABLE MATERIALS SHALL BE REMOVED FROM SUB-GRADE AND REPLACED WITH COMPACTED GRANULAR NON-FROST SUSCEPTIBLE (NFS) FILL. ALL FOOTINGS SHALL BE FOUNDED UPON UNDISTURBED, NATURAL SUB-GRADE OR COMPACTED NFS FILL WITH A MINIMUM ALLOWABLE BEARING CAPACITY OF 4700 PSF.

SUB-GRADES BENEATH FOOTINGS AND SLABS SHALL BE COMPACTED TO A MINIMUM OF 95 PERCENT OF THE MAXIMUM DRY DENSITY AS MEASURED BY ASTM D1557. BACKFILL AROUND AND ABOVE ALL FOUNDATION ELEMENTS SHALL BE COMPACTED TO A MINIMUM OF 90 PERCENT OF MAXIMUM DRY DENSITY.

SPECIAL INSPECTION
THE OWNER SHALL ENGAGE A SPECIAL INSPECTOR PER CHAPTER 17 OF THE IBC 2012. SEE STATEMENT OF SPECIAL INSPECTIONS ON SHEET S0.04 & S0.05. COPIES OF INSPECTION REPORTS SHALL BE AVAILABLE TO THE CONSTRUCTION SITE FOR REVIEW BY THE STATE FIRE MARSHAL.

DEFERRED SUBMITTALS
THE FOLLOWING ITEMS ARE NOT INCLUDED IN THESE DRAWINGS AND REQUIRE STRUCTURAL DESIGN TO BE FURNISHED BY THE CONTRACTOR:
1. CURTAIN WALL SYSTEM
2. ROOFING ATTACHMENT
3. SEISMIC ANCHORAGE OF MECHANICAL & ELECTRICAL EQUIPMENT
4. PREFABRICATED WOOD TRUSSES
5. WALL MOUNTED SOLAR PANEL ANCHORAGE AND BLOCKING
6. GUARDRAIL AND RAILING DESIGN AND ANCHORAGE

DRAWINGS AND CALCULATIONS FOR BUILDER-DESIGNED COMPONENTS, SEALED BY THE ALASKA STATE REGISTERED PROFESSIONAL ENGINEER RESPONSIBLE FOR THE DESIGN, SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW FOR GENERAL CONFORMANCE TO THE CONTRACT DOCUMENTS PRIOR TO SUBMITTING TO THE STATE FIRE MARSHAL FOR REVIEW. SUBMITTALS OF BUILDER-DESIGNED ITEMS SHALL INCLUDE LOCATIONS, MAGNITUDES, AND DIRECTIONS OF ALL FORCES TRANSFERRED TO THE STRUCTURE. DEFERRED SUBMITTALS MUST BE REVIEWED AND APPROVED BY THE STATE FIRE MARSHAL PRIOR TO INSTALLATION/CONSTRUCTION.

SUBMITTALS
THE CONTRACTOR SHALL REVIEW, STAMP WITH HIS APPROVAL, DATE AND SIGN ALL SHOP DRAWINGS AND SUBMITTALS REQUIRED BY THE CONTRACT DRAWINGS PRIOR TO SUBMITTAL TO THE ENGINEER. AT THE TIME OF SUBMISSION, THE CONTRACTOR SHALL INFORM THE ENGINEER IN WRITING OF ANY DEVIATION IN THE SHOP DRAWINGS FROM THE REQUIREMENTS OF THE CONTRACT DRAWINGS. DIMENSIONS AND QUANTITIES ARE CONTRACTOR'S RESPONSIBILITY AND WILL NOT BE REVIEWED.

STRUCTURAL CONCRETE
ALL CONCRETE CONSTRUCTION SHALL CONFORM TO ACI 301, STANDARD SPECIFICATION FOR STRUCTURAL CONCRETE, AS MODIFIED BY IBC SECTION 1905 AND LOCAL ADOPTED AMENDMENTS.

ALL CAST-IN-PLACE CONCRETE:
1. EXPOSURE F2, S0, W0, C0 (ACI 318-14, 19.3)
2. MINIMUM 28-DAY COMPRESSIVE STRENGTH = 4,500 PSI
3. MAXIMUM AGGREGATE SIZE = 3/4"
4. MAXIMUM WATER-CEMENT RATIO = 0.45
5. MAXIMUM CHLORIDE ION CONTENT = 1.00%
6. TARGET AIR CONTENT = 6% (+/-1%), EXCEPT FOR TROWELED INTERIOR SLABS WHICH SHALL NOT EXCEED 3% AIR ENTRAINMENT

CONCRETE SHALL BE PROPORTIONED TO ACHIEVE A WORKABLE MIX THAT CAN BE PLACED WITHOUT SEGREGATION OR EXCESS FREE SURFACE WATER.

APPLICABLE ASTM STANDARDS:
PORTLAND CEMENT = ASTM C150
AGGREGATE = ASTM C33, NORMAL WEIGHT
WATER = ASTM C94, SECTION 5.4 OR ASTM C1602
WATER REDUCING ADMIXTURE = ASTM C494, TYPE A

CONCRETE PLACED DURING COLD WEATHER SHALL CONFORM TO ACI 306. ALL COLD WEATHER CONCRETE AND CONCRETE EXPOSED TO WEATHER SHALL CONTAIN AIR ENTRAINMENT PER ACI 318 TABLE 19.3.3.1.

THE FOLLOWING MINIMUM CONCRETE COVER SHALL BE PROVIDED FOR REINFORCEMENT FOR CAST-IN-PLACE CONCRETE:

A. CONCRETE CAST AGAINST EARTH	3-INCHES
B. CONCRETE EXPOSED TO EARTH OR WEATHER	
-#6 AND LARGER	2-INCHES
-#5 AND SMALLER	1 ½-INCHES
C. CONCRETE NOT EXPOSED TO EARTH OR WEATHER	3/4-INCH

ALL CONCRETE REINFORCING SHALL BE DETAILED, FABRICATED, LABELED, SUPPORTED AND SPACED IN FORMS AND SECURED IN PLACE IN ACCORDANCE WITH THE LATEST EDITIONS OF ACI 315, ACI 318, CRSI MSP-1 AND ACI SP-66. DOWELS SHALL MATCH SIZE AND NUMBER OF MAIN REINFORCING.

TYPICAL REINFORCING BARS SHALL BE ASTM A615, GRADE 60. LAP SPLICES SHALL BE CLASS B LAPS PER ACI (63 X BAR DIAMETER). LAP SPLICES MAY ALSO ACCOMPLISHED USING MECHANICAL DEVICES THAT DEVELOP 125% OF THE STRENGTH OF THE REBAR.

ALL WELDED WIRE REINFORCEMENT (WWR) MUST CONFORM TO ASTM A185 OR ASTM A497. USE 6x6-W1.4xW1.4 SHEETS UON, IN SLABS ON GRADE, SUPPORTED ON APPROVED CHAIRS AND LAPPED 12-INCHES MINIMUM. FIBER REINFORCEMENT, CONFORMING TO ASTM C1116, TYPE III MAY BE USED IN LIEU OF SLAB ON GRADE REINFORCEMENT. USE RECOMMENDED DOSAGE OF MFR, MINIMUM OF 2.5 LB/CU. YD.

SEE ARCHITECTURAL FOR CONCRETE FINISH AND ARCHITECTURALLY EXPOSED CONCRETE REQUIREMENTS.

CHECKED SHOP DRAWINGS SHOWING REINFORCING DETAILS, INCLUDING STEEL SIZES, SPACING AND PLACEMENT SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW PRIOR TO FABRICATION.

EMBEDDED ITEMS (CONDUIT AND SLEEVES) SHALL NOT BE EMBEDDED IN OR PASS THROUGH CONCRETE WITHOUT APPROVAL. ALUMINUM ITEMS SHALL NOT BE EMBEDDED IN CONCRETE. SUBMIT CONDUIT LAYOUT AND EMBEDDED ITEM PLANS FOR REVIEW PRIOR TO PLACING CONCRETE.

NON-SHRINK GROUT SHALL BE NON-METALLIC, CONFORMING TO ASTM C1107.

POST-INSTALLED ANCHORS
INSTALLATION SHALL CONFORM TO MANUFACTURER'S INSTRUCTIONS AND REQUIREMENTS OF ICC-ES REPORT. ALL POST-INSTALLED ANCHORS SHALL HAVE A CURRENT ICC-ES REPORT AND BE AUTHORIZED FOR USE IN SEISMIC DESIGN CATEGORY D. PERIODIC SPECIAL INSPECTION IS REQUIRED FOR ALL POST-INSTALLED ANCHORS, UON. INSTALLATION OF ADHESIVE ANCHORS HORIZONTALLY OR UPWARDLY INCLINED SHALL BE PERFORMED BY ACI/CRSI CERTIFIED PERSONNEL ONLY AND REQUIRES CONTINUOUS SPECIAL INSPECTION.

THREADED ROD SHALL BE ASTM A307, UON (OR ISO898 CLASS 5.8), TENSILE STRENGTH OF 60 KSI MIN, AND GALVANIZED WHERE EXPOSED TO THE WEATHER.

ADHESIVE ANCHORS FOR THREADED ROD AND REBAR MUST BE ONE OF THE FOLLOWING (OR AN APPROVED EQUIVALENT):
CONCRETE:
-DEWALT "PURE110+" (ESR-3298)
-HILTI "HIT-HY 200 SAFE SET" (ESR-3187)
-EPCON "A7+" (ESR-3903)
-SIMPSON "SET-XP" (ESR-2508)

EXPANSION ANCHORS MUST BE ONE OF THE FOLLOWING (OR AN APPROVED EQUIVALENT):
CONCRETE:
-HILTI "KWIK BOLT TZ2" (ESR-4266)
-SIMPSON "STRONG-BOLT 2" (ESR-3037) – 1/4" ANCHORS EXCLUDED
-DEWALT "POWER-STUD+SD2" (ESR-2502) – 1/4" ANCHORS EXCLUDED

SCREW ANCHORS IN CONCRETE MUST BE ONE OF THE FOLLOWING (OR AN APPROVED EQUIVALENT):
-HILTI "KH-EZ" (ESR-3027 CONC, ESR-3056 CMU)
-SIMPSON "TITEN HD" (ESR-2713 CONC, ESR-1056 CMU)
-ITW "TAPCON+" (ESR-3699 CONC ONLY)
-ITW "TAPCON" (ESR-1671 CMU ONLY)
-DEWALT "SCREW-BOLT+" (ESR-3889 CONC, ESR-4042 CMU)

POWDER- OR POWDER-ACTUATER FASTENERS (PAF) SHALL NOT BE USED TO RESIST ANY LATERAL LOAD INDUCED BY AN EARTHQUAKE. PAF SHALL BE 0.148-INCHES IN DIAMETER AND THE ANCHOR TYPE AND POWDER LOAD SHALL BE SUITED TO THE MATERIAL BEING FASTENED AND THE SUBSTRATE MATERIAL. PRODUCT SHALL BE ITW RAMSET/RED HEAD (ESR-1799, 1955 OR 2579) OR APPROVED EQUAL. SPECIAL INSPECTION IS NOT REQUIRED FOR PAF INSTALLATION.

GYPCRETE
THE WOOD FRAMED PORTIONS OF LEVELS 1, 2, AND 3 WILL BE COVERED WITH A 1" LAYER OF GYPCRETE PER ARCHITECTURAL. GYPCRETE SHALL BE PLACED AFTER THE BUILDING IS FRAMED AND NECESSARY INPSPECTIONS ARE COMPLETE. THE 3RD FLOOR MUST BE POURED BEFORE THE 2ND FLOOR IS POURED, AND THE 2ND FLOOR BEFORE THE 1ST.

STRUCTURAL STEEL
MATERIALS:

WIDE-FLANGE SHAPES:	ASTM A992
STRUCTURAL STEEL TUBES (HSS):	ASTM A500, GRADE C
ALL OTHER SHAPES & PLATE:	ASTM A36
BOLTS, WASHERS & NUTS:	ASTM A3125, F436 & A563
HARDENED WASHERS:	ASTM F436
WELDED STEEL STUDS:	ASTM A108
ANCHOR RODS:	ASTM F1554, GRADE 36 OR 105 AS NOTED

ALL DETAILING, FABRICATION AND ERECTIONS SHALL CONFORM TO AISC SPECIFICATIONS AND CODES, LATEST EDITION. FABRICATOR MUST PARTICIPATE IN THE AISC QUALITY CERTIFICATION PROGRAM OR SPECIAL INSPECTIONS, AT THE CONTRACTOR'S EXPENSE, MUST BE PROVIDED IN THE FABRICATION SHOP.

ALL WELDING SHALL BE DONE BY QUALIFIED WELDERS AND SHALL CONFORM TO THE AWS D1.1 AND D1.8, LATEST EDITIONS. ALL WELDING ELECTRODES SHALL BE PROPERLY CONDITIONED 70 KSI MINIMUM TENSILE STRENGTH, WITH DIFFUSED HYDROGEN LEVELS OF 16ml/g (H16) OR LESS IN ACCORDANCE WITH AWS A4.3.

WELDS NOT SPECIFIED SHALL BE SHOP-PERFORMED CONTINUOUS OR ALL-AROUND 3/16" FILLET WELDS.

THERE SHALL BE NO FIELD CUTTING OF STRUCTURAL STEEL MEMBERS FOR THE WORK OF OTHER TRADES WITHOUT THE PRIOR APPROVAL OF THE ENGINEER.

ALL CONNECTIONS SHALL BE SIMPLE, SINGLE PLATE SHEAR CONNECTIONS USING HIGH-STRENGTH BEARING TYPE BOLTS WITH THREADS INCLUDED IN THE SHEAR PLANE, A325-N, UON. NUTS SHALL BE SNUG-TIGHT, UON. ONE PLY OF THE CONNECTION SHALL USE SHORT-SLOTTED HOLES ORIENTED HORIZONTALLY.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE CONTROL OF ALL ERECTION PROCEDURES AND SEQUENCES. CONSIDERATION SHOULD BE GIVEN TO TEMPERATURE DIFFERENTIALS, ESPECIALLY WITH RESPECT TO STRUCTURAL STEEL FRAMING INTO CONCRETE WALLS, BEAMS, OR COLUMNS.

ALL STEEL SHALL BE CLEANED BY METHODS COMPLYING WITH THE STEEL STRUCTURES PAINTING COUNCIL METHOD SSPC-SP3, POWER TOOL CLEANING. REMOVE OIL, GREASE, AND SIMILAR CONTAMINANTS. EXCEPT FOR MEMBERS TO BE WELDED, APPLY STRUCTURAL STEEL PRIMER PAINT IN ACCORDANCE WITH THE MANUFACTURERS INSTRUCTIONS TO A UNIFORM DRY FILM THICKNESS OF 2.0 MILS. AFTER FINAL STEEL INSTALLATION, WIRE BRUSH EXPOSED STEEL SURFACES AND CLEAN WITH SOLVENTS BEFORE TOUCH-UP PAINTING. TOUCH-UP PAINT SHALL BE THE SAME AS SHOP PAINT. STRUCTURAL STEEL TO RECEIVE SPRAY-APPLIED FIRE-PROOFING MAY BE SUPPLIED AS BARE STEEL.

STEEL EXPOSED TO WEATHER OR INDICATED AS GALV SHALL BE HOT-DIP GALVANIZED PER ASTM A123. TOUCH-UP AND REPAIR GALVANIZATION SHALL CONFORM TO ASTM A780. FASTENERS SHALL COMPLY WITH ASTM A153.

THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS TO THE ENGINEER FOR REVIEW. THESE DRAWINGS SHALL BE CHECKED BY THE CONTRACTOR BEFORE SUBMITTAL AND SHALL SHOW SHOP FABRICATION DETAILS, FIELD ASSEMBLY DETAILS, AND ERECTION DIAGRAMS FOR ALL STRUCTURAL STEEL. ALSO SUBMIT WELDERS QUALIFICATIONS.

ALL STRUCTURAL STEEL EXPOSED TO VIEW SHALL BE CONSIDERED ARCHITECTURALLY EXPOSED STRUCTURAL STEEL (AESS) AS DESCRIBED IN THE SPECIFICATIONS AND IN ACCORDANCE WITH AISC 303, SECTION 10.

WOOD I-JOISTS
WOOD I-JOIST SIZES AND SPACING BASED ON RED-BUILT I-45, I-65 & I-90HS SERIES. IF ALTERNATE PRODUCT USED, PROVIDE MANUFACTURER LOAD TABLES AND ICBO REPORTS TO ENGINEER FOR APPROVAL. SIZE FOR TOTAL DEAD LOAD OF 24 PSF. DEFLECTION UNDER TOTAL LOAD NOT TO EXCEED L/360. SUBMIT SHOP DRAWINGS FOR REVIEW. PROVIDE CALCULATIONS FOR ANY JOIST SUBSTITUTIONS.

STRUCTURAL TIMBER
MATERIALS:

DIMENSIONAL LUMBER:	HEM-FIR NO. 2 OR BETTER
GLUE-LAMINATED TIMBER:	DF/DF, 24F-V4 FOR SIMPLE SPANS DF/DF, 24F-V8 FOR CANTILEVERS OR MULTIPLE CONTINUOUS SPANS; INDUSTRIAL GRADE
ENGINEERED LUMBER:	1.9E LVL, 2.0E PSL
POST AND HEAVY TIMBERS:	DOUG-FIR NO. 1
FLOOR SHEATHING:	APA RATED SHEATHING, EXPOSURE 1, SPAN RATED 40/20, 19/32-INCH THICK
ROOF SHEATHING:	APA RATED SHEATHING, EXTERIOR, SPAN RATED 40/20, 19/32-INCH THICK
WALL SHEATHING:	APA RATED SHEATHING, EXPOSURE 1, SPAN RATED 32/16, 1/2-INCH THICK

INSTALL FLOOR AND ROOF SHEATHING WITH THE LONG DIMENSION ACROSS SUPPORTS. ALLOW 1/8-INCH SPACING AT PANEL ENDS AND PANEL EDGES, UNLESS OTHERWISE RECOMMENDED BY THE PANEL MANUFACTURER.

INSTALL WALL SHEATHING VERTICALLY OR HORIZONTALLY. ALLOW 1/8-INCH SPACING AT PANEL ENDS AND PANEL EDGES, UNLESS OTHERWISE RECOMMENDED BY THE PANEL MANUFACTURER.

SHEATHING SHALL BE USED IN ACCORDANCE WITH THE RECOMMENDATIONS OF APA, THE ENGINEERED WOOD ASSOCIATION. PLACE NAILS 3/8-INCH FROM EDGE OF PANELS

ALL FLOOR AND ROOF DIAPHRAGMS SHALL BE NAILED:
PANEL EDGES: 8d NAILS AT 6-INCHES ON-CENTER
INTERMEDIATE SUPPORTS: 8d @ 12-INCHES ON-CENTER
BLOCKING IS NOT REQUIRED

STRUCTURAL TIMBER (CONTINUED)
THERE SHALL BE NO FIELD CUTTING OF STRUCTURAL TIMBER MEMBERS FOR THE WORK OF OTHER TRADES WITHOUT THE PRIOR REVIEW OF THE ENGINEER.

ALL NAILS SHALL BE COMMON WIRE NAILS, UNLESS NOTED OTHERWISE. NAILING SHALL CONFORM TO TABLE 2304.9.1 OF THE IBC. MINIMUM NAIL DIMENSIONS ARE AS FOLLOWS:

NAIL SIZE	LENGTH	DIAMETER	HEAD DIAMETER
8d	2-1/2"	0.131"	0.281"
10d	3"	0.148"	0.312"
16d	3-1/2"	0.162"	0.344"

NAILS OR STAPLES SHALL BE DRIVEN FLUSH; HEADS SHALL NOT BE DRIVEN BEYOND TIMBER SURFACE. STANDARD ASTM A307 BOLTS SHALL BE USED IN STD HOLES. WASHERS SHALL BE USED UNDER ALL BOLT HEADS AND NUTS CONTACTING WOOD.

WOOD PLATES OR SILLS SHALL BE AWW 2X DIMENSIONAL LUMBER BOLTED TO FOUNDATIONS WITH 1/2-INCH DIAMETER SCREW ANCHORS. MAXIMUM SPACING SHALL BE 4-FEET ON-CENTER.

SEE SCHED FOR SILL PLATE AND SILL BOLT REQUIREMENTS AT SHEARWALLS. SHEARWALL ANCHOR BOLTS SHALL HAVE 3 INCH X 3 INCH X 0.229 INCH THICK GALV PLATE WASHERS BETWEEN THE SILL PLATE AND THE NUT.

ALL AWW SHEATHING AND LUMBER MUST BE PRESSURE TREATED IN ACCORDANCE WITH AWPA U1 STANDARD:
CAT UC2 FOR INTERIOR CONST NOT IN CONTACT WITH GROUND
CAT UC3b FOR EXTERIOR CONST NOT IN CONTACT WITH GROUND
CAT UC4a FOR ITEMS IN CONTACT WITH GROUND

MEMBERS MORE THAN 8-INCHES ABOVE GROUND NEED NOT HAVE THIS SPECIAL PRESERVATIVE TREATMENT, UON. TIMBER FASTENERS USED TO FASTEN SILL PLATES SHALL BE HOT-DIP GALVANIZED, STAINLESS STEEL, SILICON BRONZE OR COPPER.

ALLOW A GAP OF 3/4-INCHES BETWEEN THE TOP OF NON-BEARING PARTITIONS AND JOISTS ABOVE. ALLOW THE JOIST7 /IS5.02FLECT UNDER LIVE LOAD WITHOUT TOUCHING THE NON-BEARING PARTITION. SEE

PRE-MANUFACTURED HARDWARE SHALL BE SIMPSON OR APPROVED EQUAL.

IN-WALL POSTS SHALL BEAR ON WALL BOTTOM PLATE AND STOP BELOW DOUBLE TOP PLATE. WHERE POSTS OCCUR ON MULTIPLE FLOORS, PROVIDE EQUAL SIZE, VERTICALLY ORIENTED, BLOCKING WITHING JOIST CAVITY TO ENSURE COMPLETE LOAD PATH.

IF WALL SECTIONS ARE BUILT IN PANELS, WALL SHEATHING MAY END AT THE FACE OF A STUD. AN EQUAL STUD SHALL BE PLACED AT THE END OF THE ADJACENT PANEL. THE TWO END STUDS SHALL BE NAILED TOGETHER WITH 16d NAILS AT THE SAME SPACING AS IS REQUIRED FOR THE EDGE NAILING OF THE SHEATHING TO THE STUDS. ALTERNATE NAILING DIRECTION SO ONE-HALF OF NAILS PENETRATE EACH END STUD.

SHEARWALL ACCEPTANCE
PER APA, IF LESS THAN 20% OF THE FASTENERS ON AN EDGE NAILED STUD ARE OVERDRIVEN LESS THAN 1/8-INCH, THEY MAY BE IGNORED. IF MORE THAN 20% OF THE FASTENERS ARE OVERDRIVEN BY MORE THAN 1/8-INCH ON EDGE NAILED STUD, ADD ONE NAIL FOR EVERY TWO THAT ARE OVERDRIVEN.

WHERE EDGE NAILS AT 2-INCHES OC, WHEN MORE THAN FIVE FASTENERS IN A ROW ARE OVERDRIVEN MORE THAN 1/8-INCH, A 2x STUD SHALL BE SISTERED ALONG SIDE AND NAILED TO THE SHEATHING WITH THE SAME NAILING. THIS 2x ONLY NEED EXTEND OVER THE LENGTH OF THE OVERDRIVEN FASTENERS. AGAIN, ADD ONE NAIL FOR EVERY TWO THAT ARE OVERDRIVEN.

THE INTERIOR PANEL NAILING IS ACCEPTABLE AS-IS, EVEN IF 100% OF THE NAILING IS OVERDRIVEN.

SHOP-FABRICATED WOOD TRUSSES
WOOD TRUSSES SHALL MEET THE ANSI / TPI 1 NATIONAL DESIGN STANDARD FOR METAL PLATE CONNECTED WOOD TRUSS CONSTRUCTION. TRUSSES SHALL BE HANDLED, INSTALLED, AND BRACED (TEMPORARILY AND PERMANENTLY) IN ACCORDANCE WITH TRUSS PLATE INSTITUTE DSB, "RECOMMENDED DESIGN SPECIFICATION FOR TEMPORARY BRACING OF METAL-PLATE-CONNECTED WOOD TRUSSES," AND BCSI, "BUILDING COMPONENT SAFETY INFORMATION: GUIDE TO GOOD PRACTICE FOR HANDLING, INSTALLING, RESTRAINING & BRACING METAL-PLATE-CONNECTED WOOD TRUSSES."

TRUSSES SHALL BE SUPPLIED BY THE MANUFACTURER WITH PLAN, DETAILS, AND ELEVATIONS DEPICTING REQUIRED TEMPORARY AND PERMANENT LATERAL RESTRAINT AND DIAGONAL BRACING SPECIFIC TO THIS PROJECT INCLUDING SPACING, LOCATIONS, SIZES AND CONNECTIONS.

TRUSS DESIGN DRAWINGS SHALL CONFORM TO IBC 2012 SECTION 2303.4. DESIGN TRUSSES FOR THE FOLLOWING LOADS IN ADDITION TO THOSE LISTED IN STRUCTURAL DESIGN DATA:
SEE S0.13 FOR TRUSS PROFILES
DEAD LOADS: TOP CHORD = 10 PSF
BOTTOM CHORD = 5 PSF
SNOW LOAD & WIND UPLIFT PER GENERAL NOTES & WIND UPLIFT MAP.

LIMIT DEFLECTION UNDER TOTAL LOAD TO L/180 AND DEFLECTION UNDER SNOW LOAD TO L/240.

IN ADDITION TO THE ABOVE, THE END TRUSSES SHALL BE DESIGNED FOR A LATERAL WIND LOAD (OUT-OF-PLANE) OF 37 PSF.

THE DURATION FACTOR FOR SNOW LOADS SHALL BE 1.0.

EACH TRUSS SHALL BE MARKED WITH NOTES SPECIFYING THE DESIGN SNOW LOADING, MAXIMUM SPACING, AND MAXIMUM SPAN.

MANUFACTURER TO PROVIDE TRUSSES & DETAILS THAT CAN ACCOMMODATE OPENINGS LARGER THAN THE TRUSS SPACING. ALSO PROVIDE TRUSSES TO ALLOW FOR SIDE ACCESS, PER ARCH. SEE PLANS FOR SPECIFIC LOCATIONS & DIMENSIONS.

STATE OF ALASKA
49 TH
Ellen Hamel
ELLEN E. HAMEL
No. T13259
REGISTERED PROFESSIONAL ENGINEER
3/6/23

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WASILLA, ALASKA

REVISION SCHEDULE

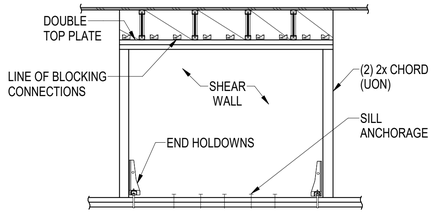
#	DESCRIPTION	DATE

JOB NO.	402023.006
DATE	03.06.2023
DRAWN	TM
REVIEWED	EH

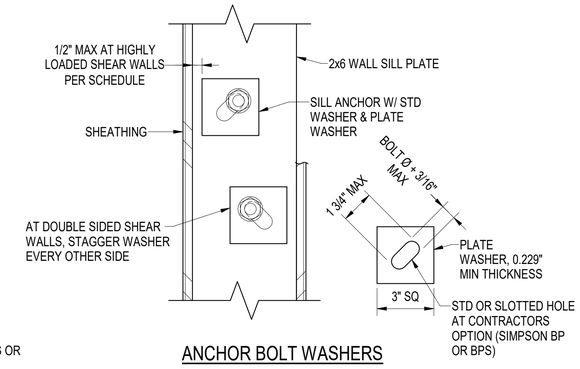
SHEET NAME
GENERAL NOTES

SHEET NO.
S0.02

HALF SCALE WHEN PRINTED AT 11x17



SHEAR WALL FRAMING



ANCHOR BOLT WASHERS

SHEAR WALL SCHEDULE NOTES:
1. NAIL SPACING AT INTERIOR SUPPORTS SHALL BE 12" O.C.
2. PANELS SHALL BE APPLIED WITH LONG DIMENSION ACROSS STUDS.
3. USE MANUFACTURER RECOMMENDED FASTENERS IN ALL ANCHORS. FILL ALL HOLES WITH NAILS OR BOLTS AS RECOMMENDED.
4. BLOCK ALL PANEL EDGES IN SHEAR WALLS.
5. WHERE WALL REQUIRE SHEATHING BUT ARE NOT SHEAR WALLS, PANELS MAY BE APPLIED WITH LONG DIMENSION VERTICAL AND PANEL EDGES BLOCKING IS NOT REQUIRED.
6. WHERE INDICATED IN DETAILS THIS NAILING CALLED OUT AS "SBN".
7. 3X STUDS REQUIRED ONLY AT VERTICAL EDGES OF PLYWOOD PANELS. MAY USE (2) 2x STUDS NAILED TOGETHER IN LIEU OF 3X.
8. HIGHLY LOADED SHEAR WALL: SILL ANCHOR WASHER MUST BE LOCATED WITHIN 1/2" OF THE PLYWOOD

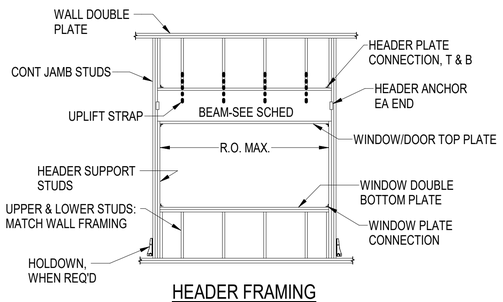
SHEAR WALL SCHEDULE

SHEAR WALL	MINIMUM SHEATHING	SINGLE / DOUBLE SIDED	NAILING REQ'D @ PLWD EDGES (NOTE 6)	SILL ANCHORAGE INTO CONC	SILL ANCHORAGE INTO FLR BLKG BLW	BLOCKING CONNECTION	REMARKS
SW6	15/32"	SINGLE	8d @ 6" O.C.	1/2"Ø TITEN HD EMBED 3-1/4" @ 32" OC	16d @ 8"	A34 @ 16" O.C.	
SW4	15/32"	SINGLE	8d @ 4" O.C.	1/2"Ø TITEN HD EMBED 3-1/4" @ 24" OC	16d @ 4"	A34 @ 16" O.C.	
SW3	15/32"	SINGLE	8d @ 3" O.C.	1/2"Ø TITEN HD EMBED 3-1/4" @ 16" OC	16d @ 4"	A34 @ 12" O.C.	3x STUDS (NOTE 7), NOTE 8
SW2	15/32"	SINGLE	10d @ 2" O.C.	1/2"Ø TITEN HD EMBED 3-1/4" @ 8" OC	16d @ 3"	A34 @ 8" O.C.	3x STUDS (NOTE 7), NOTE 8
SWD2	15/32"	DOUBLE	10d @ 2" O.C.	1/2"Ø TITEN HD EMBED 3-1/4" @ 4" OC	(2) ROWS 16d @ 3"	A34 @ 4" O.C.	3x STUDS (NOTE 7), NOTE 8
NON SHEAR WALLS	15/32"	SINGLE	8d @ 6" O.C.	1/2"Ø TITEN HD EMBED 3-1/4" @ 48" OC	16d @ 16"	NONE REQUIRED	SEE NOTE 5

HEADER SCHEDULE

MEMBER ID	BEAM SIZE	BEAM HEADER SUPPORT	JAMB STUD	UPLIFT STRAP (NOTE 4)	HEADER ANCHORS (NOTE 4)	UPPER HDR PL CONN	WINDOW PL CONN	REMARKS
H1	(2) 2x12	(1) 2x6	(1) 2x6	H2.5 T	(2) LTP4	(2) A34	(2) A34	
H2	(2) 2x12	(2) 2x6	(3) 2x6	H2.5 T	(2) LTP4	(2) A34	(2) A34	
H3	(2) 2x12	(3) 2x6	(1) 2x6	H2.5 T	(2) LTP4	(2) A34	(2) A34	
H4	5-1/8x9 GLB	(1) 2x6	(2) 2x6	H2.5 T	LSTA18	(2) A34	(2) A34	
H4B	5-1/8x9 GLB	(2) 2x6	(1) 2x6	H2.5 T	LSTA18	(2) A34	(2) A34	INFILL 2X4 WALL BELOW HEADER
H5	5-1/8x18 GLB	(3) 2x6	(4) 2x6	H2.5 T	LSTA18	(2) A34	(2) A34	

MULTIPLE HEADER LAYOUT

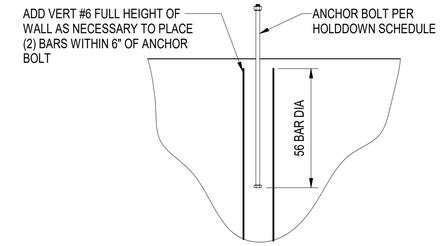


HEADER FRAMING

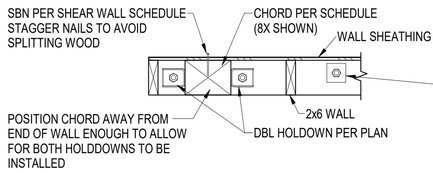
HEADER SCHEDULE NOTES:
1. METAL CONNECTOR DESIGNATED AS PER SIMPSON.
2. JAMB STUD TO PLATE & UPPER STUD ANCHORS SHALL BE THE SAME AS TYP STUD FOR WALL UNLESS OTHERWISE NOTED.
3. WHERE HEADER SIZE NOT CALLED OUT, USE H2 FOR SPANS LESS THAN 5', H4 FOR ALL OTHER SPANS.
4. UPLIFT STRAPS & HEADER ANCHORS ARE NOT REQUIRED AT LOCATIONS WHERE THERE IS A STORY ABOVE THE HEADER, UON.
5. IF HEADER SUPPORT COINCIDES WITH SHEAR WALL CHORD LOCATION, USE THE LARGER QUANTITY OF STUDS REQUIRED BETWEEN THE HOLDOWN SCHEDULE AND THE HEADER SCHEDULE.

HOLDOWN SCHEDULE

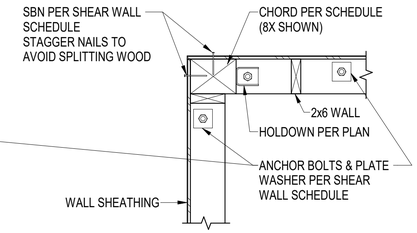
MARK	SIMPSON HOLDOWN	CHORD SIZE	ANCHOR BOLT	EMBED INTO TOP OF 8" CONC WALL	EMBED INTO FOOTING
8	HDU8-SDS2.5	(3) 2X	7/8"	16"	7"
19	HD19	8X DF	1-1/8"	38" + (2) #6 BARS @ EA ANCHOR	14"
2-19	(2) HD19	8X DF	1-1/8"	38" + (2) #6 BARS @ EA ANCHOR	16"



REINFORCEMENT AROUND ANCHOR BOLTS



DOUBLE HOLDDOWN LAYOUT

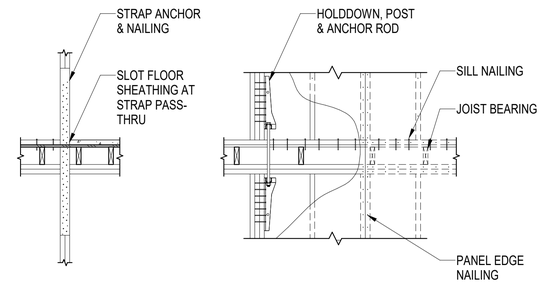


SHARED CORNER HOLDOWN

FLOOR-TO- FLOOR STRAP SCHEDULE

MARK	SIMPSON STRAP	HDU ALTERNATE/EQUIVALENT	
37	MST 37	2	HDU2-SDS2.5
14	CMST 14	11	HDU11-SDS2.5
2-12	(2) CMST 12	2-11	(2) HDU11-SDS2.5

FLOOR-TO-FLOOR STRAP SCHEDULE NOTES:
1. STRAPS RUN VERTICALLY FROM SHEAR WALL CHORDS ABOVE TO IDENTICAL CHORDS PLACED IN LEVEL BELOW.
2. STRAPS MAY BE LOCATED OVER TOP OF PLYWOOD. INCREASE NAIL SIZE ONE STEP (E.G. 8d CHANGES TO 10d).
3. CENTER STRAPS OVER FLOOR DEPTH.
4. WHERE STRAP IS INDICATED AND HDU IS PREFERRED BY CONTRACTOR, IT IS ACCEPTABLE TO SUBSTITUTE EQUIVALENT SHOWN ABV WITHOUT NOTIFICAITON. SAME IS TRUE WHERE HDU IS INDICATED AND STRAP IS PREFERRED.



STRAP ANCHOR
TYP SHOWN AT EXT LOC
NOTE 4

HDU ALTERNATE / EQUIVALENT
TYP SHOWN AT INT LOC
NOTE 4

FLOOR TO FLOOR HOLDDOWN

LAP SPLICE SCHEDULE

BAR SIZE	CLASS A SPLICE	CLASS B SPLICE	CLASS B TOP BAR
#3	15"	19"	25"
#4	19"	25"	33"
#5	24"	31"	40"
#6	29"	37"	48"
#7	42"	54"	70"
#8	48"	62"	81"
#9	54"	70"	91"
#10	61"	79"	103"

NOTES:
1. PROVIDE CLASS B LAP SPLICE FOR ALL HORIZONTAL AND VERTICAL REINFORCEMENT, INCLUDING DOWELS, UNLESS OTHERWISE NOTED.
2. PROVIDE CLASS B TOP BAR SPLICES IN ALL HORIZONTAL REINFORCEMENT WITH MORE THAN 12-INCHES OF CONCRETE CAST BELOW IT.

WALL SCHEDULE

MARK	FRAMING
24	2x6 WOOD STUD @ 24" OC
16	2x6 WOOD STUD @ 16" OC
12	2x6 WOOD STUD @ 12" OC
8	(2) 2x6 WOOD STUDS @ 16" OC

FOOTING SCHEDULE

MARK	SIZE	REINFORCEMENT
STRIP FTG	16"w x 7.25"h	(2) #5 CONT
THICKENED SLAB	16"w x 12"h	(2) #5 CONT
F6	6'-0"x6'-0"x1'-8"	(7) #6 EA WAY T&B

STATE OF ALASKA
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ELLEN E. HAMEL
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REGISTERED PROFESSIONAL ENGINEER
3/6/23

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ASPEN HOUSE LIMITED PARTNERSHIP
ASPEN HOUSE SENIOR APARTMENTS
WASILLA, ALASKA

REVISION SCHEDULE

#	DESCRIPTION	DATE

JOB NO.	402023.006
DATE	03.06.2023
DRAWN	TM
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SHEET NAME
SCHEDULES

SHEET NO
S0.03

HALF SCALE WHEN PRINTED AT 11x17

SPECIAL INSPECTION & TESTING SCHEDULE				
ITEM	**C.I.**	**P.I.**	**REFERENCE STANDARD**	**REMARKS**
PREFABRICATED ITEMS	X	X	IBC 1704.2.5	REQUIRED FOR STRUCTURAL, LOAD-BEARING, OR LATERAL LOAD-RESISTING MEMBERS OR ASSEMBLIES UNLESS OTHERWISE APPROVED BY BUILDING OFFICIAL
SOILS			IBC 1705.6, TABLE 1705.6	
VERIFY: - MATERIAL BELOW FOUNDATIONS ARE ADEQUATE FOR BEARING CAPACITY - EXCAVATION DEPTH AND PROPER MATERIAL REACHED BY DEPTH - PRIOR TO COMPACTED FILL, OBSERVE SUBGRADE AND SITE PREPERATION		X		PRIOR TO REQUESTING A BUILDING DEPARTMENT FOUNDATION INSPECTION, THE SOILS ENGINEER SHALL INSPECT AND APPROVE THE FOUNDATION EXCAVATIONS
VERIFY USE OF PROPER MATERIALS DENSITIES AND LIFT THICKNESSES DURING PLACEMENT AND COMPACTION OF COMPACTED FILL	X			
PERFORM CLASSIFICATION AND TESTING OF CONTROLLED FILL MATERIALS	T			ONLY IF TOTAL CONTROLLED FILL DEPTH IS MORE THAN 12-INCHES
CONCRETE:			ACI 318-19, 301-20, 302.1R-15, ACI 311.1R-15; ACI 311.4R-05; IBC 1705.3, TABLE 1705.3	NO CONCRETE SPECIAL INSPECTION REQUIRED FOR BUILDINGS 3-STORIES OR LESS FOR: -ISOLATED SPREAD FOOTINGS -CONTINUOUS FOOTINGS FOR LIGHT FRAME CONST -f'c USED FOR DESIGN DOES NOT EXCEED 2500 PSI -FOUNDATION WALLS -SLABS-ON-GRADE
REINFORCING MATERIALS AND PLACEMENT		X	ACI 318: Ch.20, 25.2, 25.3, 26.6.1-26.6.3	C.I. REQUIRED FOR SHEAR AND BOUNDARY REINFORCING LOCATIONS
INSPECTION OF FORMWORK FOR SHAPE, LOCATION & DIMENSIONS		X	ACI 318 26.11.2(b)	
ANCHOR RODS, EMBEDDED BOLTS & INSERTS		X	ACI 318 1.9	PRIOR TO AND DURING CONCRETE PLACEMENT FOR ANCHORS FOR LIGHT FRAMED CONSTRUCTION WITH 7-INCHES OR LESS OF EMBEDMENT MAY BE FIELD PLACED WHILE CONCRETE IS STILL PLASTIC
USE OF REQUIRED MIX DESIGN		X	ACI 318: Ch.19, 26.4.3, 26.4.4; ACI 304R-00; IBC 1904.1, 1904.2	
CONCRETE SLUMP, AIR CONTENT, TEMPERATURE & PREPARATION OF STRENGTH TEST SPECIMENS	T		ASTM: C172, C31; ACI 318: 26.5, 26.12; ACI 311.5-04	PROVIDE TEST ONCE EVERY 150 CY, OR EACH 5,000 SQ-FT OF SLABS OR WALLS, BUT AT LEAST ONCE A DAY DURING PLACEMENT. SEE NOTE 4
CONCRETE PLACEMENT	X		ACI 318 26.5; ACI 304.2R-17	
CONCRETE CURING		X	ACI 318 26.5; ACI 308R-16	MAINTAIN PROPER TEMPERATURE AND CURING TECHNIQUE
PROTECTION OF CONCRETE DURING COLD WEATHER (TEMPERATURE BELOW 40° F) OR HOT WEATHER (TEMPERATURE ABOVE 90° F)		X	ACI 318 26.5.4, 26.5.5; ACI 306R-16; ACI 305R-20	
IN-SITU CONCRETE STRENGTH FOR FORM REMOVAL		T	ACI 318 26.11.2	
POST-INSTALLED ANCHORS; VERIFY CERTIFICATION PRIOR TO INSTALLING HORIZONTAL OR INCLINED ADHESIVE ANCHORS	X (SEE NOTE)	X	ACI 318 1.9, 26.7.1(i); ICC-ES REPORT	PER MANUFACTURER REQUIREMENTS, INCLUDES THE DRILLING & CLEANING OUT OF THE HOLES & THE INSTALLATION OF THE ANCHORS. INSTALLATION OF ADHESIVE ANCHORS HORIZONTALLY OR UPWARDLY INCLINED SHALL BE PERFORMED BY ACI/CRSI CERTIFIED PERSONNEL ONLY AND REQUIRE CONTINUOUS INSPECTION.
WELDING OF REINFORCING BARS:		X	ACI 318 26.6.4; AWS D1.4; IBC 1705.3.2	TO VERIFY WELDABILITY, CHEMICAL TESTS SHALL BE SUBMITTED AND REVIEWED FOR ANY REINFORCING BARS OTHER THAN A706 TO BE WELDED
REINFORCING STEEL RESISTING FLEXURAL AND AXIAL FORCES IN INTERMEDIATE AND SPECIAL MOMENT FRAMES, BOUNDARY ELEMENTS OF SPECIAL STRUCTURAL WALLS OF CONCRETE AND SHEAR REINFORCEMENT.	X		ACI 318 26.6.4; IBC 1705.3.1; AWS D1.4	
SHEAR REINFORCEMENT	X			
OTHER REINFORCING STEEL		X		
GROUTING OF BASE PLATES	X			CONFIRM PROPER MIX, NO VOIDS, GROUT FULLY SUPPORTS BASE PLATE.
FLOOR FLATNESS, LEVELNESS	X		ACI 302.1R-15, ASTM E 1155	SLABS ON GRADE SHALL HAVE A FLOOR FLATNESS ≥ 28, FLOOR LEVELNESS ≥ 20;
WOOD:			2018 NDS; 2015 SDPWS; 2018 IBC: 1705.5, 1705.11.1, 1705.12.2	PER MOA POLICY S.01, NO WOOD SPECIAL INSPECTION REQUIRED IN THE MOA FOR CATEGORY I OR II BUILDINGS, 2-STORIES OR LESS IN HEIGHT, AND UNDER 6,000 SQ FT
GRADE STAMPS ON LUMBER & SHEATHING		X		INCLUDING ENG. LUMBER, I-JOISTS, PREFAB TRUSSES, ETC
DETAILS OF WOOD FRAMING		X		BLOCKING, CONNECTIONS, BRIDGING, BEARING, HANGERS
NAILING OF ALL SHEAR WALLS AND ROOF DIAPHRAGMS		X	IBC 1705.11.1	INCLUDING SIZE OF FRAMING AT PANEL EDGES. SEE NOTE 5 FOR EXCEPTIONS.
SIZES AND LOCATIONS OF ALL HOLDOWNS		X		
SIZES, LOCATIONS OF ALL STRAPS		X		
SIZES, SPACINGS OF SILL BOLTING		X		
NAILING ALONG DRAG STRUTS		X		
ADDITIONAL SPECIAL INSPECTIONS FOR WIND RESISTANCE (REQUIRED IF V(asd)=120 MPH IN EXP B; OR V(asd)=110 MPH IN EXP C & D)			IBC 1705.11	
STRUCTURAL WOOD : NAILING, BOLTING, ANCHORING, & OTHER FASTENINGS WITHIN THE LATERAL FORCE RESISTING SYSTEM (LFRS) INCLUDING WOOD SHEAR WALLS, WOOD DIAPHRAGMS, DRAG STRUTS, BRACES, & HOLDOWNS		X	IBC 1705.11.1	SEE NOTE 5 FOR EXCEPTIONS. CONTINUOUS INSPECTION REQUIRED DURING FIELD-GLUING OPERATIONS OF ELEMENTS IN THE LFRS.
ROOF CLADDING AND WALL CLADDING		X	IBC 1705.11.3	
FABRICATION AND INSTALLATION OF WIND-BORNE DEBRIS RESISTANT GLAZING		X	IBC 202,1609.1.2	SEE IBC SECTION 202 FOR DEFINITION OF "WIND-BORNE DEBRIS REGION". COMPLIANCE WITH ASTM E 1996

SCHEDULE NOTES:

1. ITEMS MARKED WITH AN "X" REQUIRE INSPECTION BY A SPECIAL INSPECTOR, ITEMS INDICATED WITH A "T" REQUIRE THE SPECIAL INSPECTOR TO OBSERVE QUALITY CONTROL TESTING BY THE CONTRACTOR.
2. C.I. = CONTINUOUS SPECIAL INSPECTION DURING PROGRESS OF WORK.
3. P.I. = PERIODIC SPECIAL INSPECTION DURING PROGRESS OF WORK.
4. WHEN TOTAL QUANTITY OF A GIVEN CLASS OF CONCRETE IS LESS THAN 5 CY, STRENGTH TESTS ARE NOT REQUIRED.
5. SPECIAL INSPECTION NOT REQUIRED FOR SHEAR WALLS OR DIAPHRAGMS, INCLUDING BOLTING, HOLDOWNS AND OTHER FASTENINGS, WHEN SHEATHING IS ON ONE SIDE ONLY AND SPACING OF NAILS IS MORE THAN 4-INCHES ON-CENTER.
6. NOT USED
7. NOT USED
8. NOT USED
9. SPECIAL INSPECTION & TESTING SCHEDULE CONTINUED ON NEXT SHEET

STATEMENT OF SPECIAL INSPECTIONS
THE FOLLOWING STRUCTURAL SYSTEMS ARE PART OF THE DESIGNATED LATERAL FORCE RESISTING SYSTEMS IN THE BUILDING AND HENCE ARE SUBJECT TO THE REQUIREMENTS OF THIS STATEMENT OF SPECIAL INSPECTIONS AND THE STRUCTURAL SPECIAL INSPECTION AND TESTING SCHEDULE IN ACCORDANCE WITH IBC SECTION 1704.3.

- CONCRETE FOUNDATIONS
- WOOD DIAPHRAGMS
- WOOD SHEAR WALLS

SPECIAL INSPECTIONS AND TESTING
THE OWNER SHALL ENGAGE A SPECIAL INSPECTOR PER CHAPTER 17 OF THE IBC. SPECIAL INSPECTION AND TESTING OF THE DESIGNATED SEISMIC SYSTEMS AND OTHER BUILDING STRUCTURE COMPONENTS SHALL BE AS OUTLINED IN THE SPECIAL INSPECTIONS AND TESTING SCHEDULE. WHERE REQUIREMENTS OVERLAP, THE MORE STRINGENT IS TO BE USED.

SPECIAL INSPECTION IS NOT REQUIRED FOR COMPONENTS FABRICATED IN A SHOP APPROVED BY THE MUNICIPALITY OF ANCHORAGE TO PERFORM SUCH WORK WITHOUT SPECIAL INSPECTION. SPECIAL INSPECTION ON STEEL ELEMENTS THAT ARE PART OF THE LATERAL FORCE RESISTING SYSTEM MARKED WITH AN "O" SHALL BE OBSERVED ON A RANDOM DAILY BASIS PER AISC 341-16 J5.

DISTRIBUTION OF REPORTS
COPIES OF THE SPECIAL INSPECTION AND TEST REPORTS SHALL BE DISTRIBUTED TO THE MUNICIPALITY OF ANCHORAGE BUILDING SAFETY DIVISION, THE GENERAL CONTRACTOR, THE ENGINEER OF RECORD, AND THE ARCHITECT OF RECORD. REPORTS SHALL BE COMPLETED DAILY AND DISTRIBUTED ON A WEEKLY BASIS AND SHALL BE DISTRIBUTED BY THE MONDAY FOLLOWING THE WEEK IN WHICH THE INSPECTION OR TEST WAS COMPLETED. A COPY OF ALL SPECIAL INSPECTION REPORTS, DEFICIENCIES, AND CORRECTIVE ACTIONS SHALL BE MAINTAINED AT THE JOB SITE.

STRUCTURAL OBSERVATIONS
STRUCTURAL OBSERVATIONS ARE REQUIRED PER IBC 1704.6. SITE VISITS BY THE ENGINEER OF RECORD OR A REGISTERED ENGINEER APPROVED BY THE ENGINEER OF RECORD SHALL BE MADE ON A PERIODIC BASIS AT CRITICAL STAGES OF CONSTRUCTION TO MAKE VISUAL OBSERVATIONS OF THE CONSTRUCTION FOR GENERAL CONFORMANCE TO THE CONSTRUCTION DOCUMENTS. COPIES OF THE OBSERVATION REPORTS SHALL BE DISTRIBUTED WITHIN 2 WORKING DAYS OF THE SITE VISIT TO THE GENERAL CONTRACTOR, THE ARCHITECT OF RECORD, AND TO THE SPECIAL INSPECTOR INVOLVED IN ANY ISSUES RAISED IN THE REPORT.

CONTRACTOR STATEMENT OF RESPONSIBILITY
CONTRACTOR SHALL SUBMIT A WRITTEN STATEMENT OF RESPONSIBILITY TO THE OWNER AND THE MOA, IN ACCORDANCE WITH IBC 1704.4. THE STATEMENT SHALL ACKNOWLEDGE AWARENESS OF THE SPECIAL REQUIREMENTS OF THE QUALITY ASSURANCE PLAN; ACKNOWLEDGE THAT CONTROL WILL BE EXERCISED TO OBTAIN CONFORMANCE WITH THE CONSTRUCTION DOCUMENTS; IDENTIFY PROCEDURES FOR EXERCISING CONTROL; THE METHOD AND FREQUENCY OF REPORTING, AND THE DISTRIBUTION OF REPORTS; AND IDENTIFY PERSONS THAT WILL EXERCISE CONTROL AND THEIR QUALIFICATIONS.

STATE OF ALASKA
49 TH
Ellen Hamel
ELLEN E. HAMEL
No. 713259
REGISTERED PROFESSIONAL ENGINEER
3/6/23

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ASPEN HOUSE SENIOR APARTMENTS
WASILLA, ALASKA

REVISION SCHEDULE

#	DESCRIPTION	DATE

JOB NO.	402023.006
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DRAWN	TM
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SHEET NAME
SPECIAL INSPECTION

SHEET NO.
S0.04

HALF SCALE WHEN PRINTED AT 11x17

	ITEM	QC (NOTE 12) TASK	QC DOC	QA (NOTE 13) TASK	QA DOC	REFERENCE STANDARD	REMARKS
	STEEL:					AISC: 360-16, 341-16, 348-14, 303-16, 358-16; 2018 IBC: 1705.2	
SPECIAL INSPECTION REQUIREMENTS AT AISC APPROVED SHOPS ARE EXEMPTED. IBC 1704.2.5.1	VISUAL INSPECTION PRIOR TO WELDING:					AISC: 341-16 TABLE J6.1; 360-16 TABLE N5.4-1; AWS D1.1	
	WELDING PROCEDURE SPECIFICATIONS (WPS's) AVAILABLE	P	-	P	-		
	MANUFACTURER CERTIFICATIONS FOR WELDING CONSUMABLES AVAILABLE	P	-	P	-		
	MATERIAL IDENTIFICATION (TYPE/GRADE)	O	-	O	-		
	WELDER IDENTIFICATION SYSTEM	O	-	O	-		
	FIT-UP OF GROOVE WELDS (INCLUDING JOINT GEOMETRY)	P/O	-	O	-		JOINT PREPARATION, DIMENSIONS (ALIGNMENT, ROOT OPENING, ROOT FACE, BEVEL), CLEANLINESS (CONDITION OF STEEL SURFACES), TACKING (TACK WELD QUALITY AND LOCATION), AND BACKING TYPE AND FIT (IF APPLICABLE) - NOTE 15
	CONFIGURATION AND FINISH OF ACCESS HOLES	O	-	O	-		
	FIT-UP OF FILLET WELDS	P/O	-	O	-		DIMENSIONS (ALIGNMENT, GAPS AT ROOT), CLEANLINESS (CONDITION OF STEEL SURFACES), TACKING (TACK WELD QUALITY AND LOCATION) - NOTE 15
	CHECK WELDING EQUIPMENT	O	-	-	-		
	VISUAL INSPECTION DURING WELDING:					AISC: 341-16 TABLE J6.2, 360-16 TABLE N5.4-2; AWS D1.1	
	WPS FOLLOWED	O	-	O	-		SETTINGS ON WELDING EQUIPMENT, TRAVEL SPEED, SELECTED WELDING MATERIALS, SHIELDING GAS TYPE / FLOW RATE, PREHEAT APPLIED, INTERPASS TEMPERATURE MAINTAINED (MIN/MAX), PROPER POSITION (F, V, H, OH), INTERMIX OF FILLER MATERIALS AVOIDED UNLESS APPROVED
	USE OF QUALIFIED WELDERS	O	-	O	-		
	CONTROL AND HANDLING OF WELDING CONSUMABLES	O	-	O	-		PACKAGING, EXPOSURE CONTROL
	ENVIRONMENTAL CONDITIONS	O	-	O	-		WIND SPEED WITHIN LIMITS, PRECIPITATION AND TEMPERATURE
	WELDING TECHNIQUES	O	-	O	-		INTERPASS AND FINAL CLEANING, EACH PASS WITHIN PROFILE LIMITATIONS, EACH PASS MEETS QUALITY REQUIREMENTS
	NO WELDING OVER CRACKED TACK WELDS	O	-	O	-		
	VISUAL INSPECTION AFTER WELDING:					AISC: 341-16 TABLE J6.3, 360-16 TABLE N5.4-3	
	WELDS CLEANED	O	-	O	-		
	SIZE, LENGTH AND LOCATION OF WELDS	P	-	P	-		
	WELDS MEET VISUAL ACCEPTANCE CRITERIA	P	D	P	D		CRACK PROHIBITION, WELD/BASE-METAL FUSION, CRATER CROSS SECTION, WELD PROFILES AND SIZE, UNDERCUT, POROSITY
	ARC STRIKES	P	-	P	-		
	PLACEMENT OF REINFORCING OR CONTOURING FILLET WELDS (IF REQUIRED)	P	D	P	D		
	BACKING REMOVED, WELD TABS REMOVED AND FINISHED, AND FILLED WELDS ADDED (IF REQUIRED)	P	D	P	D		
	REPAIR ACTIVITIES	P	-	P	D		
	ACCEPTANCE OR REJECTION OF WELDED JOINT OR MEMBER	P	D	P	D		
	NONDESTRUCTIVE TESTING (NDT) OF WELDED JOINTS:						NDT IS REQUIRED ON ALL QUALIFYING WELDS REGARDLESS IF SHOP IS AISC APPROVED
	K-AREA	P	-	T	D	AISC: 341-16 TABLE J6.3; AWS: D1.1; ASTM: E709-15 MAG PARTICLE, YOKE METHOD	WHEN WELDING OF DOUBLER PLATES, CONTINUITY PLATES, OR STIFFENERS HAS BEEN PERFORMED IN THE k-AREA, VISUALLY INSPECT THE WEB k-AREA FOR CRACKS WITHIN 3-INCHES OF WELD & MAG-PARTICLE TEST
	COMPLETE JOINT PENETRATION GROOVE WELDS	-	-	T	D	AISC: 341-16 J6.2a; AWS: D1.1, ULTRASONIC, QUALIFIED PROCEDURES PER SECTION 6, PART F (INCLUDING PARAGRAPH K3 OF ANNEX K)	100 PERCENT OF WELDS IN MATERIAL GREATER THAN 5/16-INCH THICKNESS, NOTE 14
	BASE METAL THICKER THAN 1.5-INCHES	-	-	T	D	AISC: 341-16 J6.2c; AWS D1.1	ULTRASONIC TEST WHERE THE WELDED MATERIAL IS GREATER THAN 3/4", NOTE 14
	WELD TAB REMOVAL SITES	-	-	T	D	AISC: 341-16, J6.2f; AWS D1.1	MAG PARTICLE TEST
	INSPECTION PRIOR TO BOLTING:					AISC: 341-16 TABLE J7.1; 360-16 TABLE N5.6-1	
	MANUFACTURER'S CERTIFICATIONS AVAILABLE FOR FASTENER MATERIALS	O	-	P	-		
	FASTENERS MARKED IN ACCORDANCE WITH ASTM REQUIREMENTS	O	-	O	-		
	PROPER FASTENERS SELECTED FOR THE JOINT DETAIL	O	-	O	-		GRADE, TYPE, BOLT LENGTH IF THREADS ARE TO BE EXCLUDED FROM SHEAR PLANE
	PROPER BOLTING PROCEDURE SELECTED FOR JOINT DETAIL	O	-	O	-		
	CONNECTING ELEMENTS, INCLUDING THE APPROPRIATE FAYING SURFACE CONDITION AND HOLE PREPARATION, IF SPECIFIED, MEET APPLICABLE REQUIREMENTS	O	-	O	-		
	PRE-INSTALLATION VERIFICATION TESTING BY INSTALLATION PERSONNEL OBSERVED FOR FASTENER ASSEMBLIES AND METHODS USED	P	D	O	D		
	PROPER STORAGE PROVIDED FOR BOLTS, NUTS, WASHERS AND OTHER FASTENER COMPONENTS	O	-	O	-		
	INSPECTION DURING BOLTING:					AISC: 341-16 TABLE J7.2; 360-16 TABLE N5.6-2	
	FASTENER ASSEMBLIES, OF SUITABLE CONDITION, PLACED IN ALL HOLES AND WASHERS (IF REQUIRED) ARE POSITIONED AS REQUIRED	O	-	O	-		
	JOINT BROUGHT TO THE SNUG TIGHT CONDITION PRIOR TO THE PRETENSIONING OPERATION	O	-	O	-		
	FASTENER COMPONENT NOT TURNED BY THE WRENCH PREVENTED FROM ROTATING	O	-	O	-		
	BOLTS ARE PRETENSIONED PROGRESSING SYSTEMATICALLY FROM THE MOST RIGID POINT TOWARD THE FREE EDGES	O	-	O	-		FASTENERS PRETENSIONED IN ACCORDANCE WITH RCSC SPECIFICATION
	INSPECTION AFTER BOLTING:					AISC: 341-16 TABLE J7.3; 360-16 TABLE N5.6-3	
	DOCUMENT ACCEPTED AND REJECTED CONNECTIONS	P	D	P	D		
	OTHER INSPECTION TASKS:					AISC: 341-16 TABLE J8.1	
	PROTECTED ZONE	P	D	P	D		NO HOLES OR UNAPPROVED ATTACHMENTS MADE BY FABRICATOR OR ERECTOR OR OTHER TRADES, AS APPLICABLE
	FIREPROOFING (SPRAY APPLIED)	D	D	-	-	2018 IBC: 1705.14; ASTM: E605, E736	SURFACE PREPARATION, TEMPERATURE, VENTILATION, AVERAGE THICKNESS, DENSITY, BOND STRENGTH

SCHEDULE NOTES:

10. ITEMS INDICATED WITH A "T" REQUIRE TESTING, WITH A "D" REQUIRE SPECIFIC DOCUMENTATION, WITH AN "O" SHALL BE OBSERVED ON A RANDOM BASIS, AND WITH A "P" SHALL BE PERFORMED ON EACH CONNECTION AS DESCRIBED IN AISC 360 N.5.4.
11. QUALITY CONTROL (QC) IS PERFORMED BY THE CONTRACTOR PER AISC 360 N.5.1.
12. QUALITY ASSURANCE (QA) IS PERFORMED BY THE SPECIAL INSPECTOR PER AISC 360 N.5.2.
13. THE AMOUNT OF ULTRASONIC TESTING MAY BE REDUCED TO 25 PERCENT OF THE WELDS IF THE REQUIREMENTS OF AISC 341 J6.2g & AISC 360 N5.5e ARE MET. THE AMOUNT OF MAG-PARTICLE TESTING MAY BE REDUCED TO 10 PERCENT OF THE WELDS IF THE REQUIREMENTS OF AISC 341 J6.2h ARE MET. EXCEPTIONS: REDUCTION IS PROHIBITED AT WELDS IN K-AREAS, REPAIR SITES, BACKING REMOVAL SITES, ACCESS HOLES, AND DEMAND-CRITICAL WELDS.)
14. THE "PERFORM" REQUIREMENT MAY BE REDUCED TO "OBSERVE" IF AFTER 10 WELDS, A GIVEN WELDER HAS DEMONSTRATED UNDERSTANDING OF THESE REQUIREMENTS. IF THE WELDER'S PERFORMANCE IS DISCONTINUED, IT SHALL BE RETURNED TO A "PERFORM" QUALITY CONTROL INSPECTION.
15. WHERE A TASK IS STIPULATED TO BE PERFORMED BY BOTH QC AND QA, COORDINATION OF THE INSPECTION FUNCTION BETWEEN QC AND QA IS PERMITTED. WHEN QA RELIES UPON INSPECTIONS PERFORMED BY QC, THE APPROVAL OF THE EOR IS REQUIRED.

STATE OF ALASKA
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SHEET NAME
SPECIAL INSPECTION CONTINUED

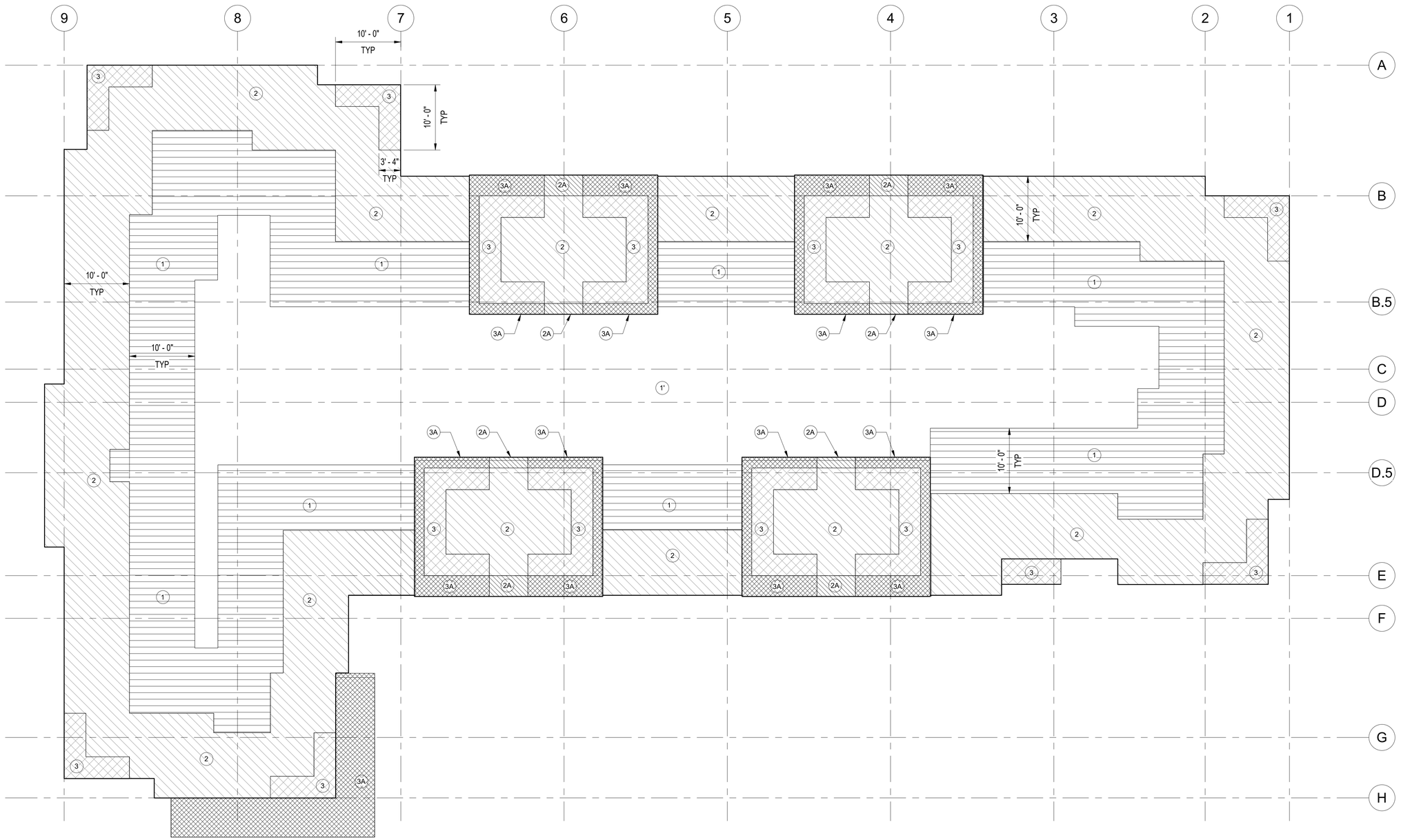
SHEET NO.
S0.05

HALF SCALE WHEN PRINTED AT 11x17

NOTES:
1. THE WIND LOADS LISTED IN THE COMPONENTS & CLADDING WIND LOADS TABLE ARE GROSS ULTIMATE AND ARE TO BE USED WITH LOAD COMBINATIONS IN ASCE 7-16.
2. DEAD LOAD FOR JOISTS & TRUSSES RESISTING UPLIFT SHALL BE 10 PSF.
3. THE DISTANCE 'a' LISTED IS EQUAL TO 10'-0" AS SHOWN IN THE COMPONENTS AND CLADDING FIGURES IN ASCE 7-16.

COMPONENTS & CLADDING WIND LOADS

ZONE	10 SF	20 SF	50 SF	100 SF
1 - MAIN INTERIOR ROOF	-43 PSF	-40 PSF	-36 PSF	-33 PSF
1A - INTERIOR OVERHANG	-39 PSF	-38 PSF	-37 PSF	-36 PSF
1' - CENTRAL INTERIOR ROOF	-24 PSF	-24 PSF	-24 PSF	-24 PSF
1'A - CENTRAL INTERIOR OVERHANG	-39 PSF	-38 PSF	-37 PSF	-36 PSF
2 - EDGE ZONE	-56 PSF	-53 PSF	-48 PSF	-44 PSF
2A - EDGE ZONE OVERHANG	-52 PSF	-47 PSF	-41 PSF	-36 PSF
3 - CORNER ZONE	-77 PSF	-69 PSF	-60 PSF	-53 PSF
3A - CORNER OVERHANG	-73 PSF	-64 PSF	-53 PSF	-45 PSF
4 - INTERIOR ZONE WALL	-27 PSF	-25 PSF	-24 PSF	-23 PSF
5 - END ZONE WALL	-33 PSF	-30 PSF	-28 PSF	-25 PSF



1 WIND UPLIFT MAP
1/8" = 1'-0"

N

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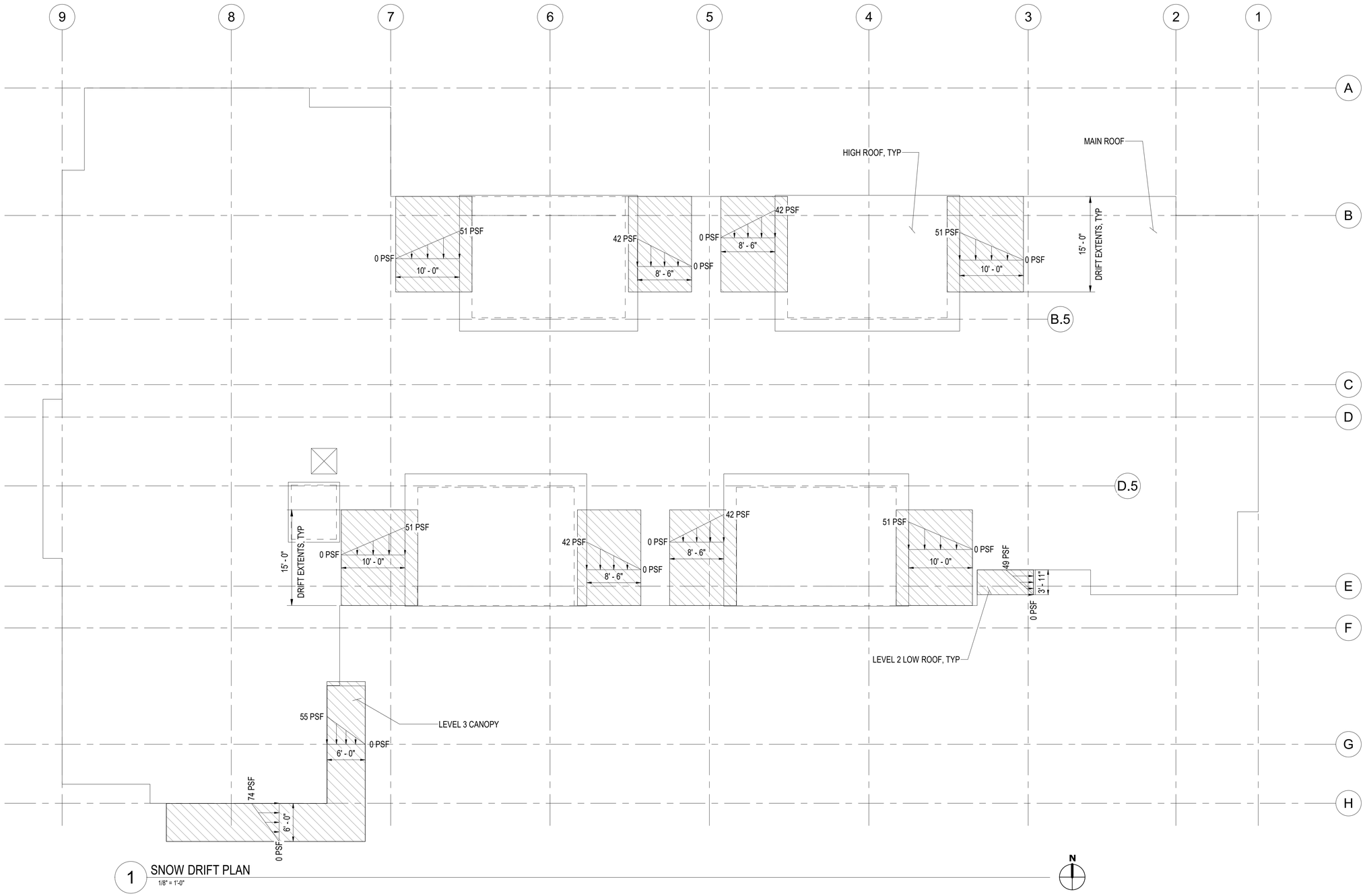
SHEET NAME
WIND UPLIFT PLAN

SHEET NO.
S0.11

HALF SCALE WHEN PRINTED AT 11x17

NOTE:
1. NO SNOW DRIFT ON RESIDENTIAL ROOM BALCONIES DUE TO PROTECTION FROM OVERHANGING ROOFS ABOVE.



1 SNOW DRIFT PLAN
1/8" = 1'-0"

N

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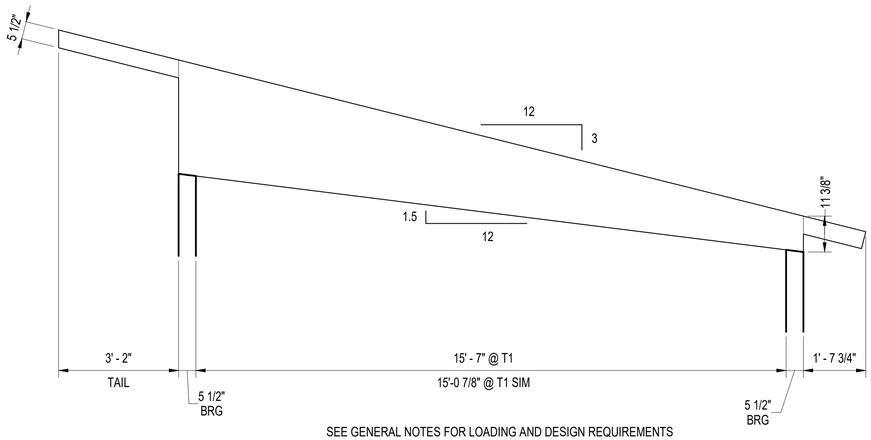
SHEET NAME
SNOW DRIFT PLAN

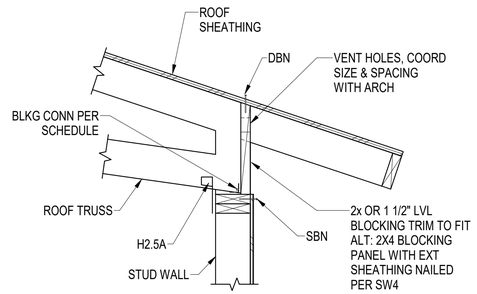
SHEET NO.
S0.12

HALF SCALE WHEN PRINTED AT 11x17



SEE GENERAL NOTES FOR LOADING AND DESIGN REQUIREMENTS

1 S0.13 TRUSS T1 PROFILE
1/2" = 1'-0"



2 S0.13 TRUSS EAVE DETAIL
1" = 1'-0"

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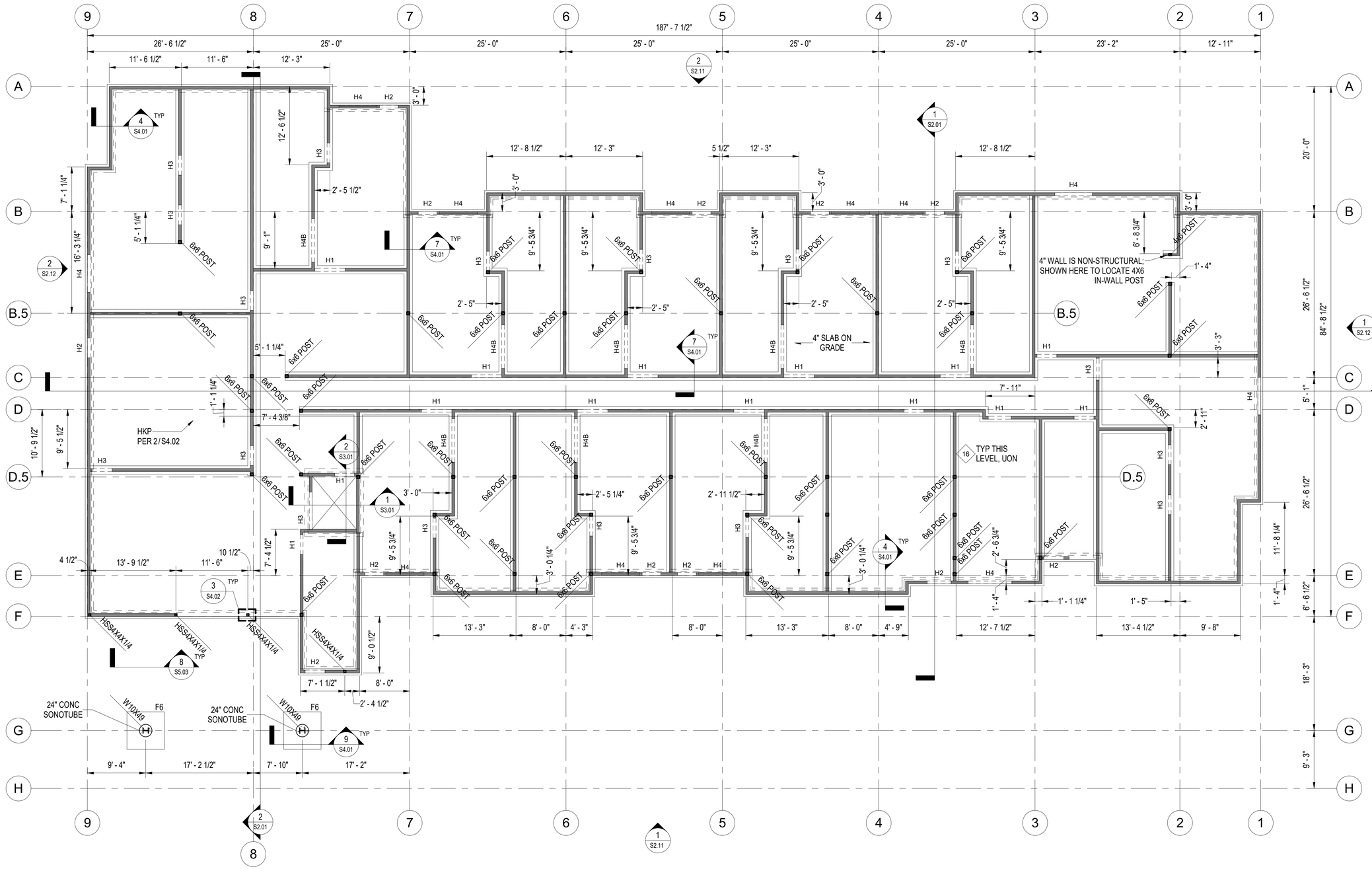
SHEET NAME
TRUSS PROFILES

SHEET NO
S0.13

HALF SCALE WHEN PRINTED AT 11x17



1 FOUNDATION & SLAB PLAN
1/8" = 1'-0"

N

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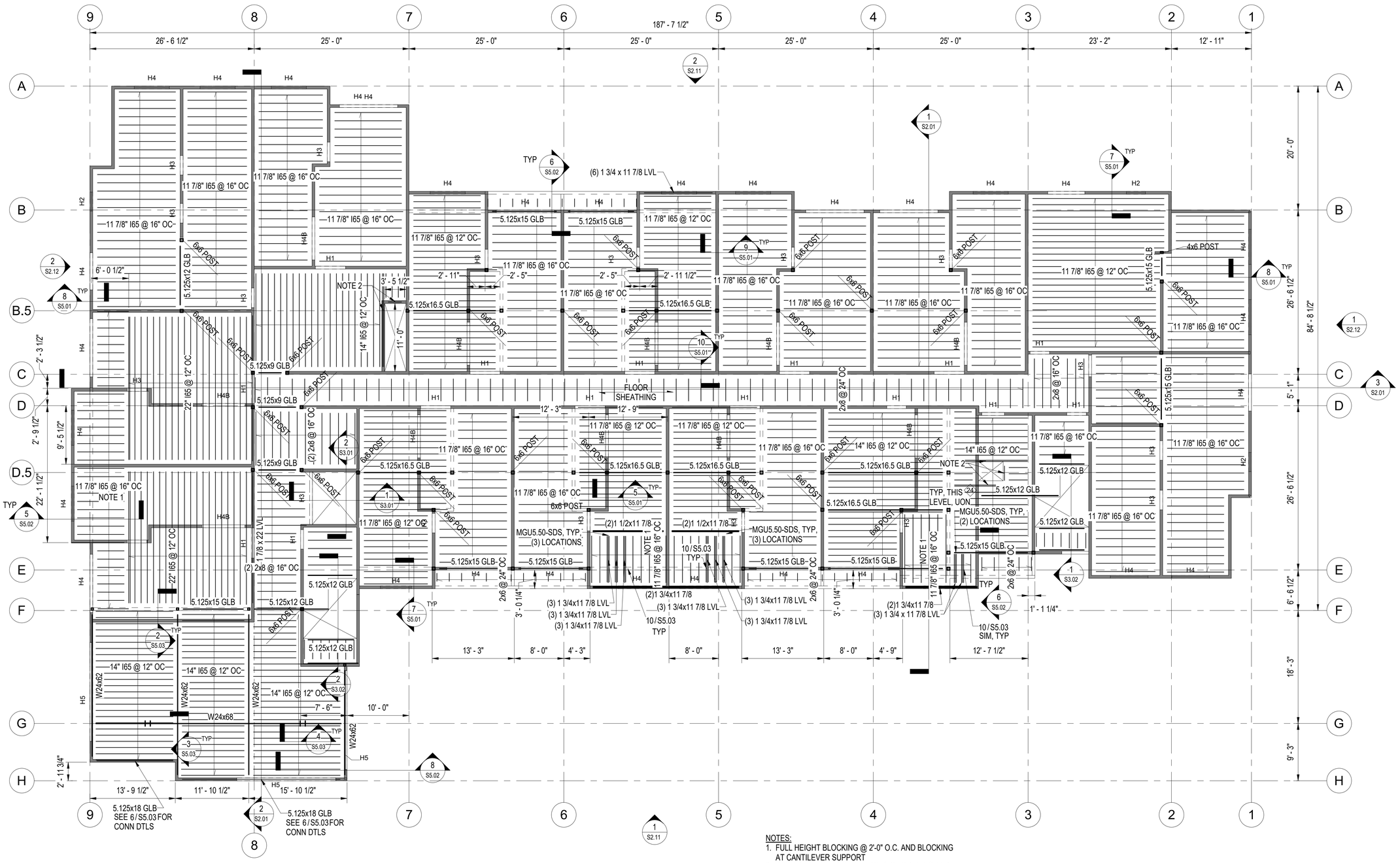
SHEET NAME
FOUNDATION & SLAB PLAN

SHEET NO.
S1.01

HALF SCALE WHEN PRINTED AT 11x17



NOTES:
1. FULL HEIGHT BLOCKING @ 2'-0" O.C. AND BLOCKING AT CANTILEVER SUPPORT
2. PROVIDE 3" LVL JOIST AT EDGES OF OPENING AND HEADER TO SUPPORT CUT JOISTS, SIM TO 3/S5.01

1 LEVEL 2 FRAMING PLAN
1/8" = 1'-0"

STATE OF ALASKA
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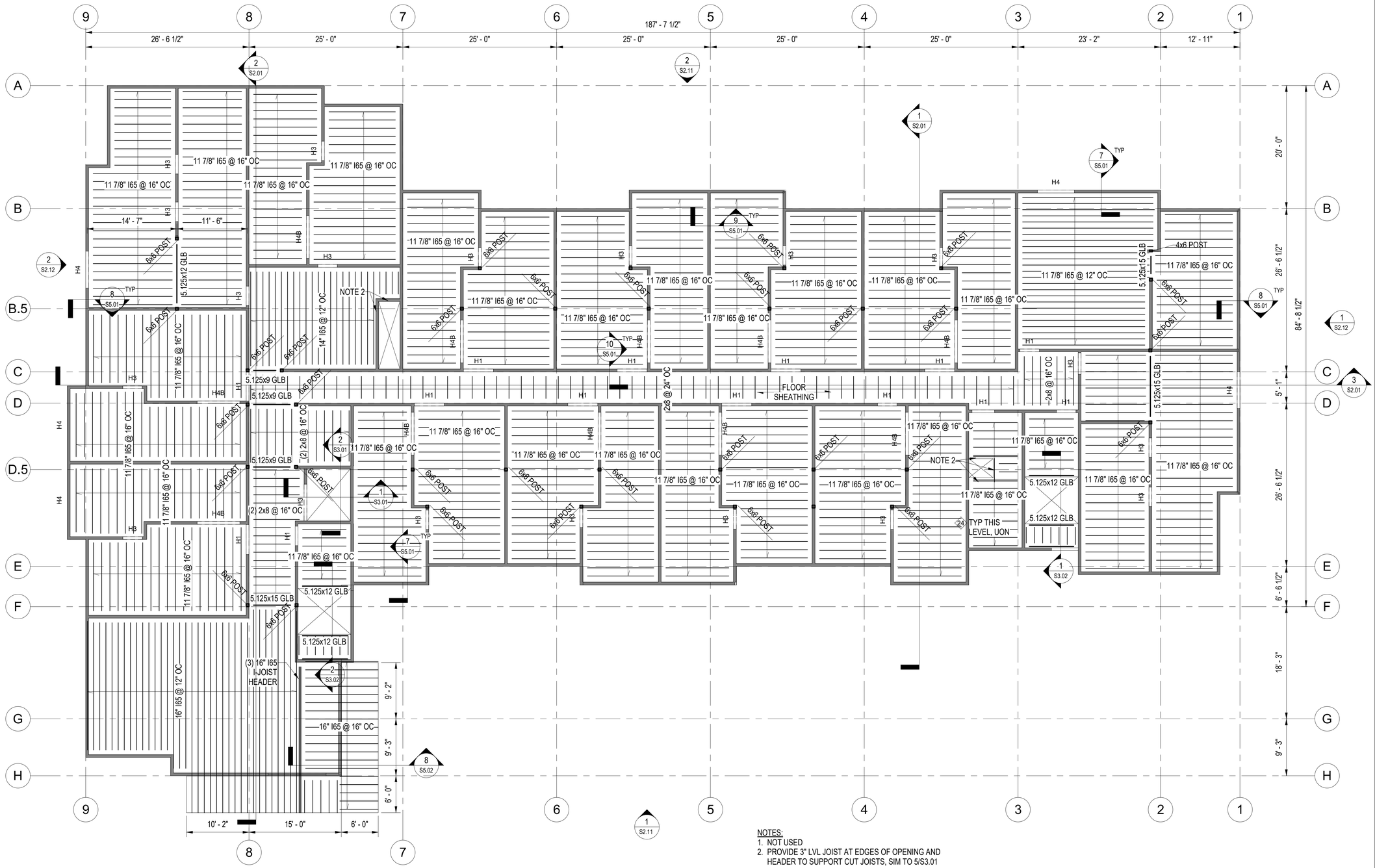
SHEET NAME
LEVEL 2 FRAMING PLAN

SHEET NO.
S1.02

HALF SCALE WHEN PRINTED AT 11x17



NOTES:
1. NOT USED
2. PROVIDE 3" LVL JOIST AT EDGES OF OPENING AND HEADER TO SUPPORT CUT JOISTS, SIM TO 5/S3.01

1 LEVEL 3 FRAMING PLAN
1/8" = 1'-0"

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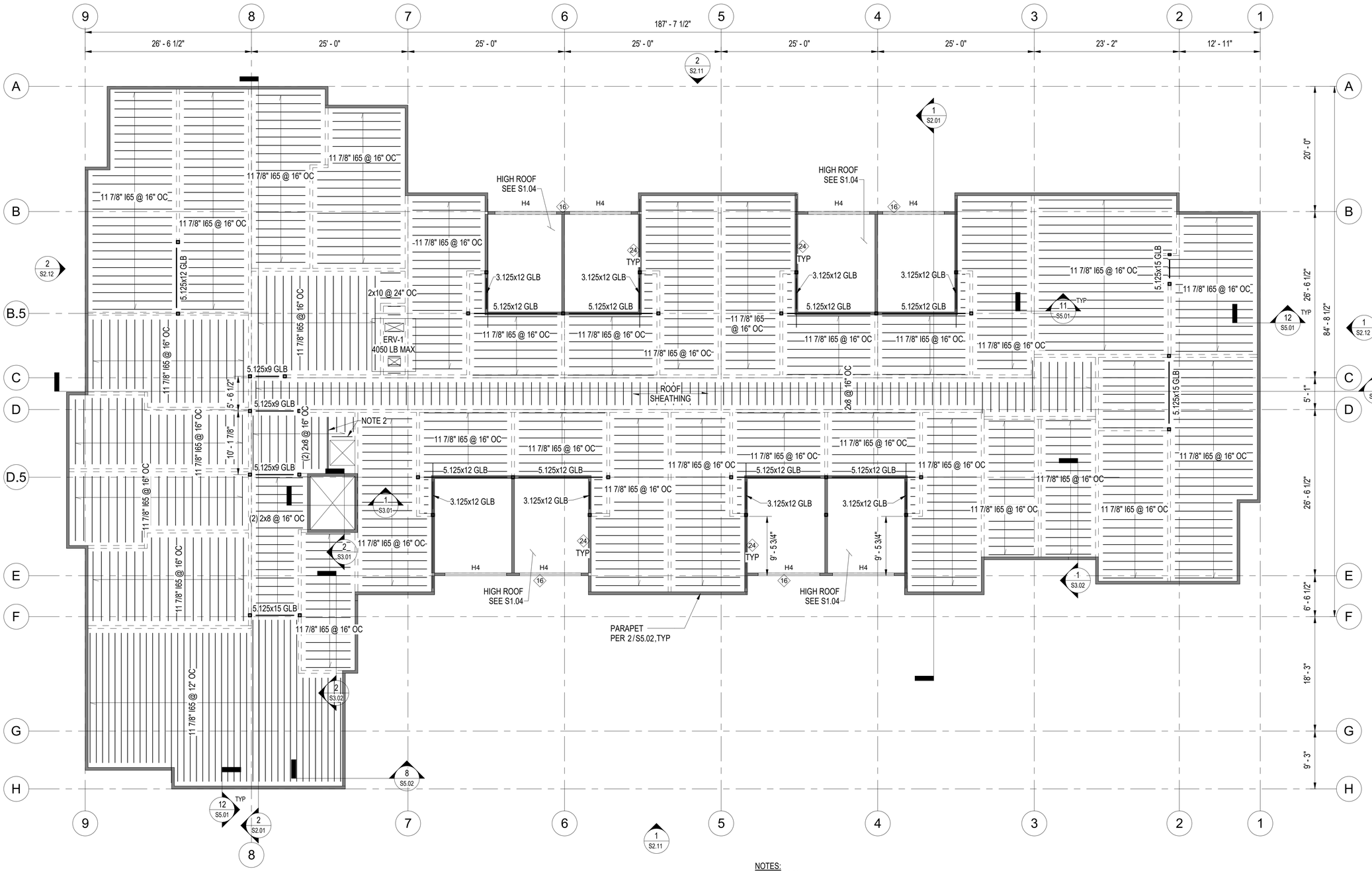
SHEET NAME
LEVEL 3 FRAMING PLAN

SHEET NO
S1.03

HALF SCALE WHEN PRINTED AT 11x17



NOTES:
1. NOT USED
2. PROVIDE 3" LVL JOIST AT EDGES OF OPENING AND HEADER TO SUPPORT CUT JOISTS, SIM TO 5/S3.01

1 MAIN ROOF FRAMING PLAN
1/8" = 1'-0"

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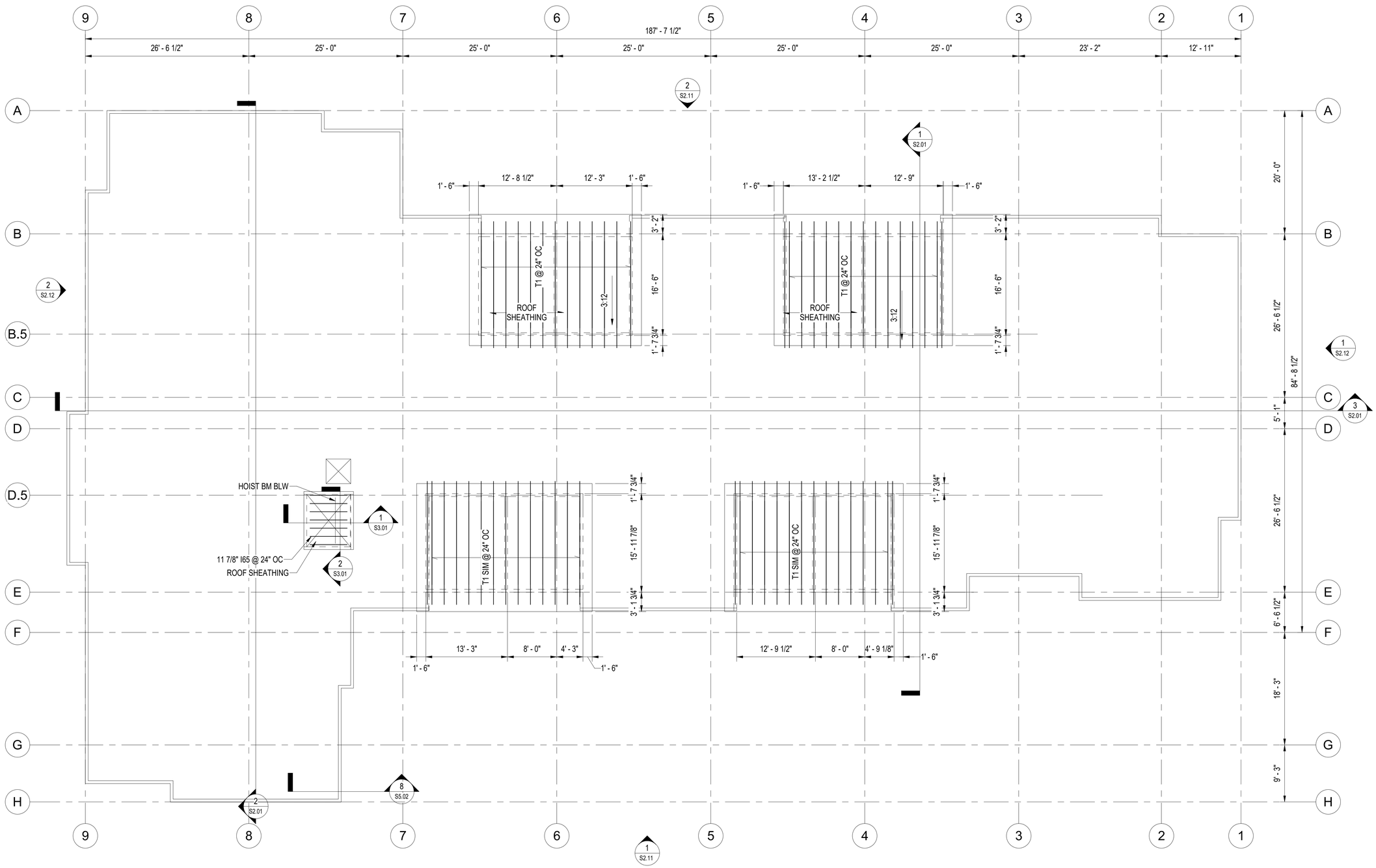
SHEET NAME
MAIN ROOF FRAMING PLAN

SHEET NO.
S1.04

HALF SCALE WHEN PRINTED AT 11x17



1 HIGH ROOF FRAMING PLAN

1/8" = 1'-0"

N

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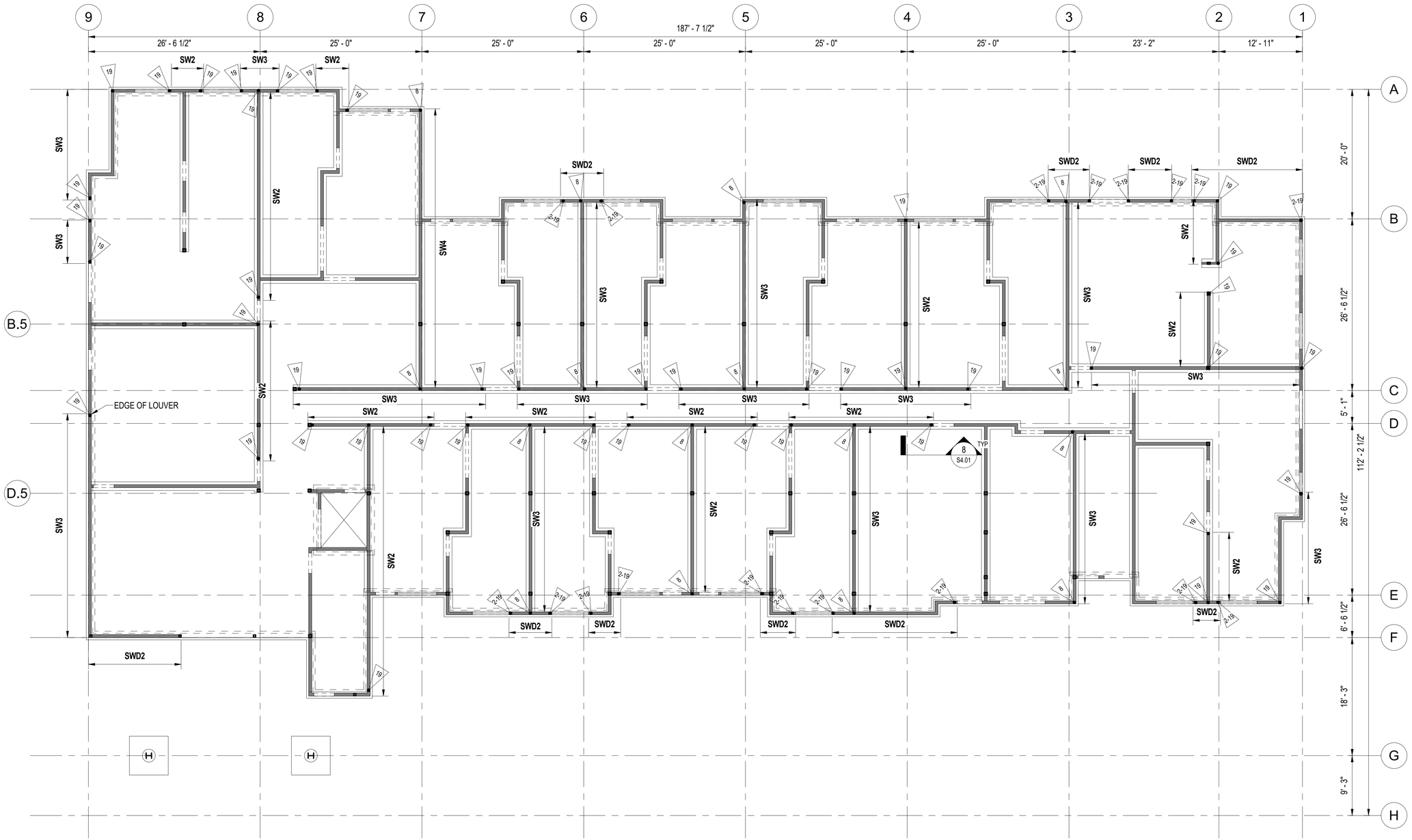
SHEET NAME
HIGH ROOF FRAMING PLAN

SHEET NO.
S1.05

HALF SCALE WHEN PRINTED AT 11x17



1 LEVEL 1 LATERAL PLAN

1/8" = 1'-0"

N

STATE OF ALASKA
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Ellen Hamel
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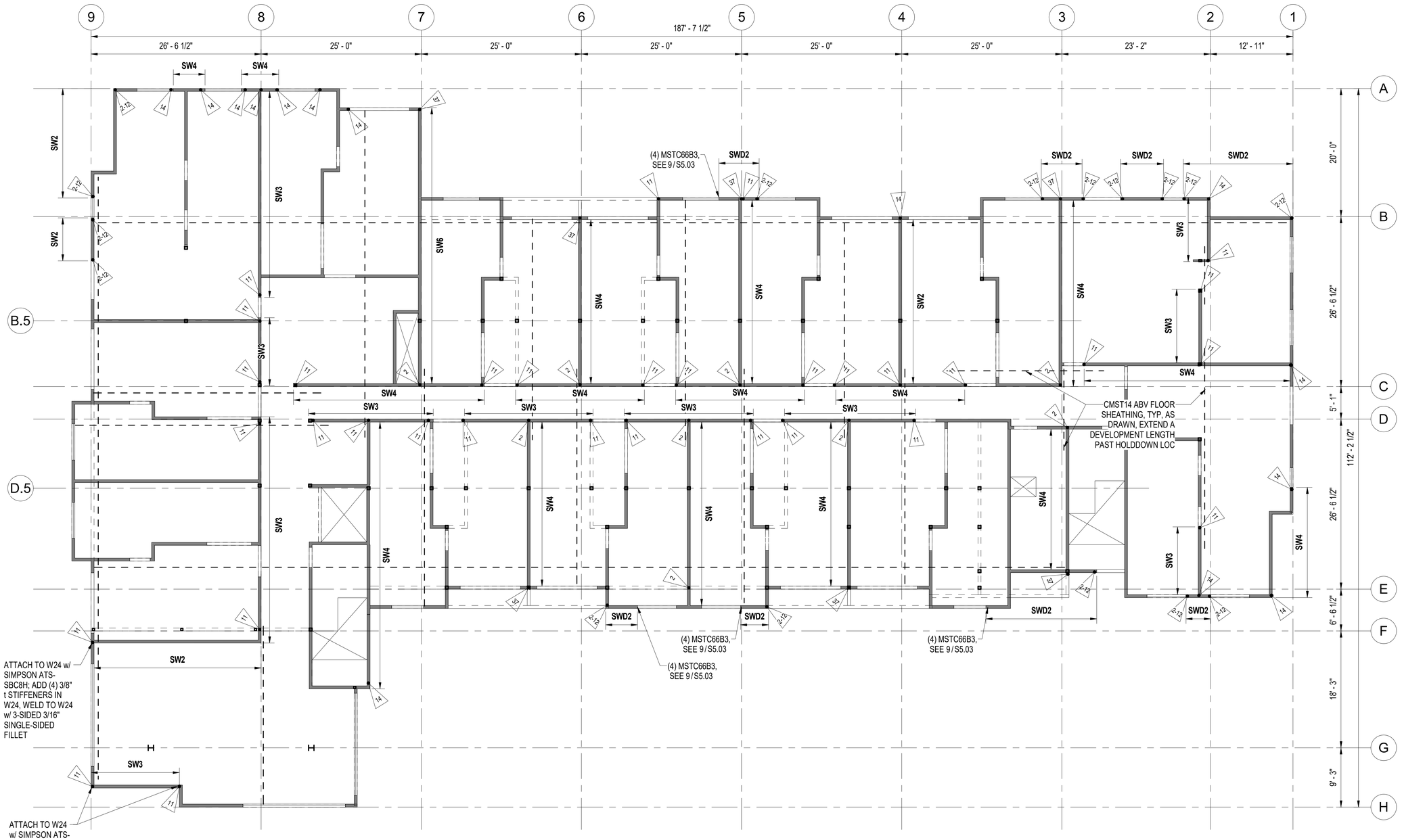
SHEET NAME
LEVEL 1 LATERAL PLAN

SHEET NO.
S1.11

HALF SCALE WHEN PRINTED AT 11x17



1 LEVEL 2 LATERAL PLAN
1/8" = 1'-0"

N

STATE OF ALASKA
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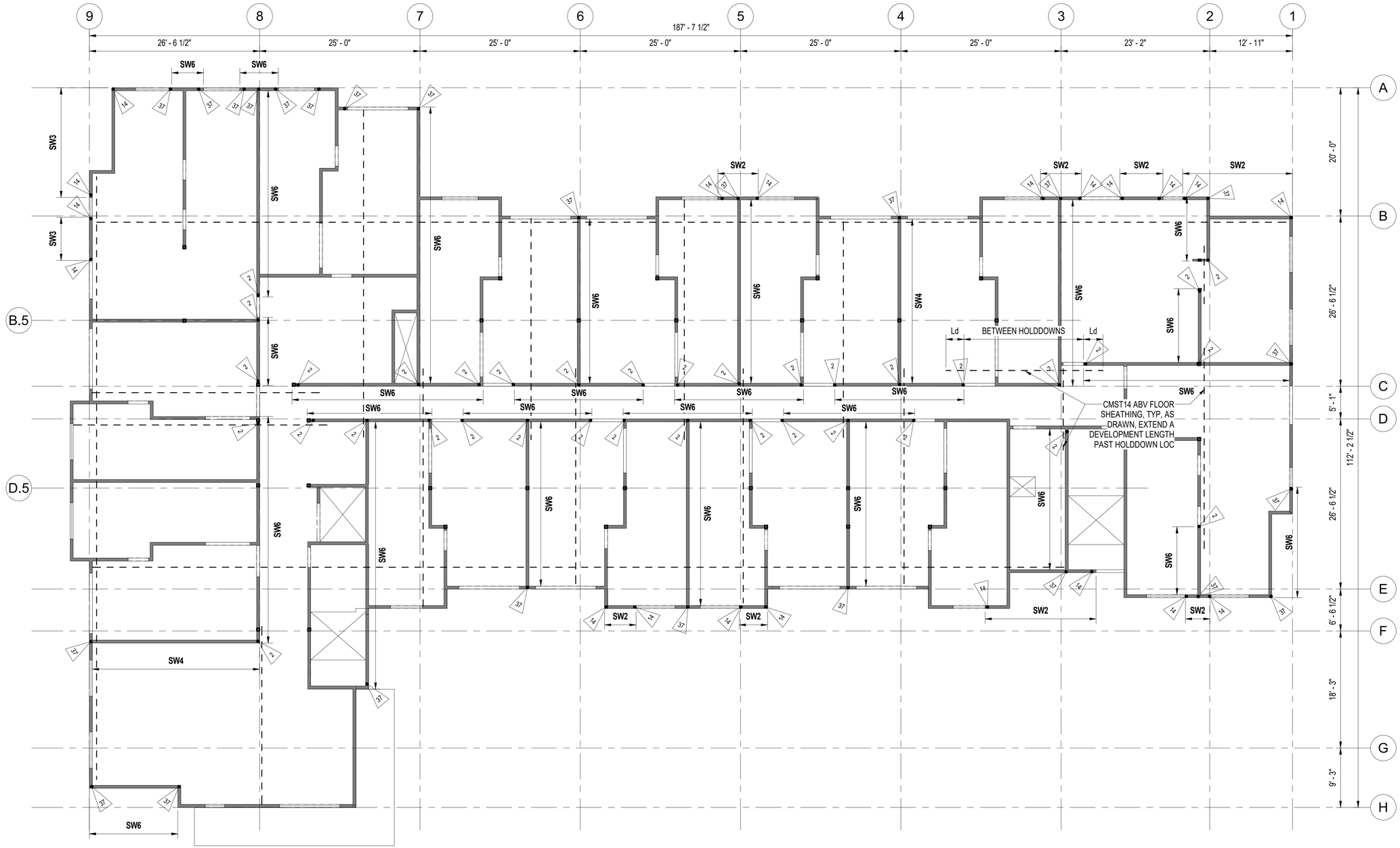
SHEET NAME
LEVEL 2 LATERAL PLAN

SHEET NO
S1.12

HALF SCALE WHEN PRINTED AT 11x17



1 LEVEL 3 LATERAL PLAN

1/8" = 1'-0"

STATE OF ALASKA
49 TH
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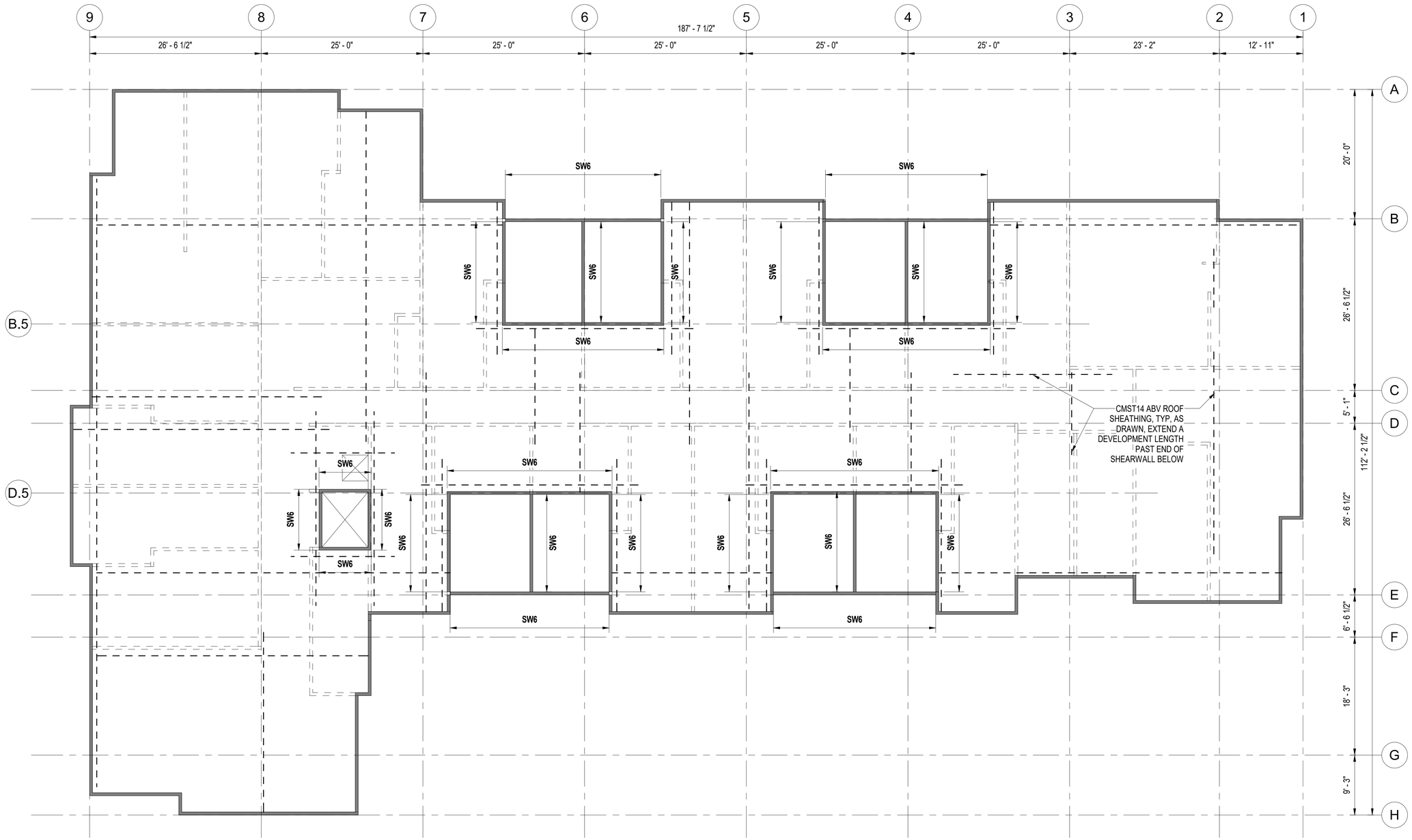
SHEET NAME
LEVEL 3 LATERAL PLAN

SHEET NO.
S1.13

HALF SCALE WHEN PRINTED AT 11x17



1 MAIN ROOF LATERAL PLAN

1/8" = 1'-0"

N

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ELLEN E. HAMEL
No. T13259
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3/6/23

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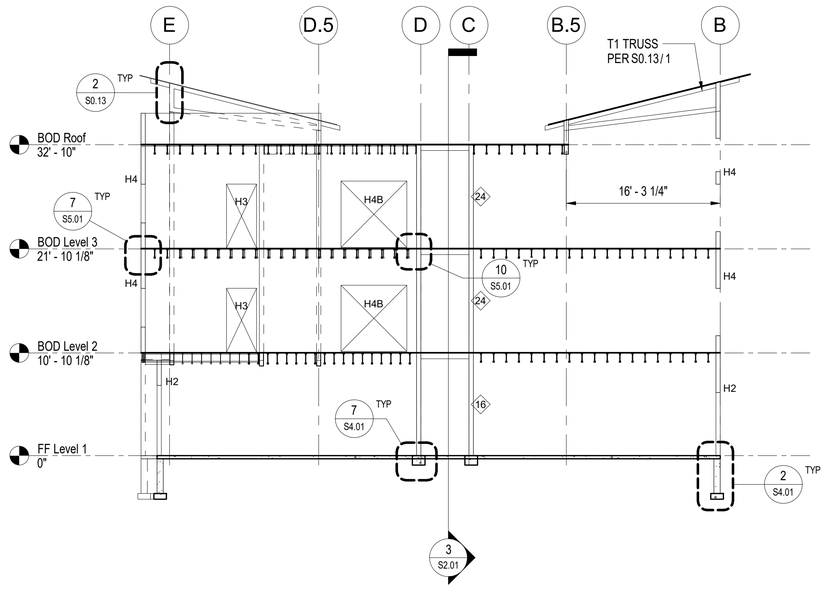
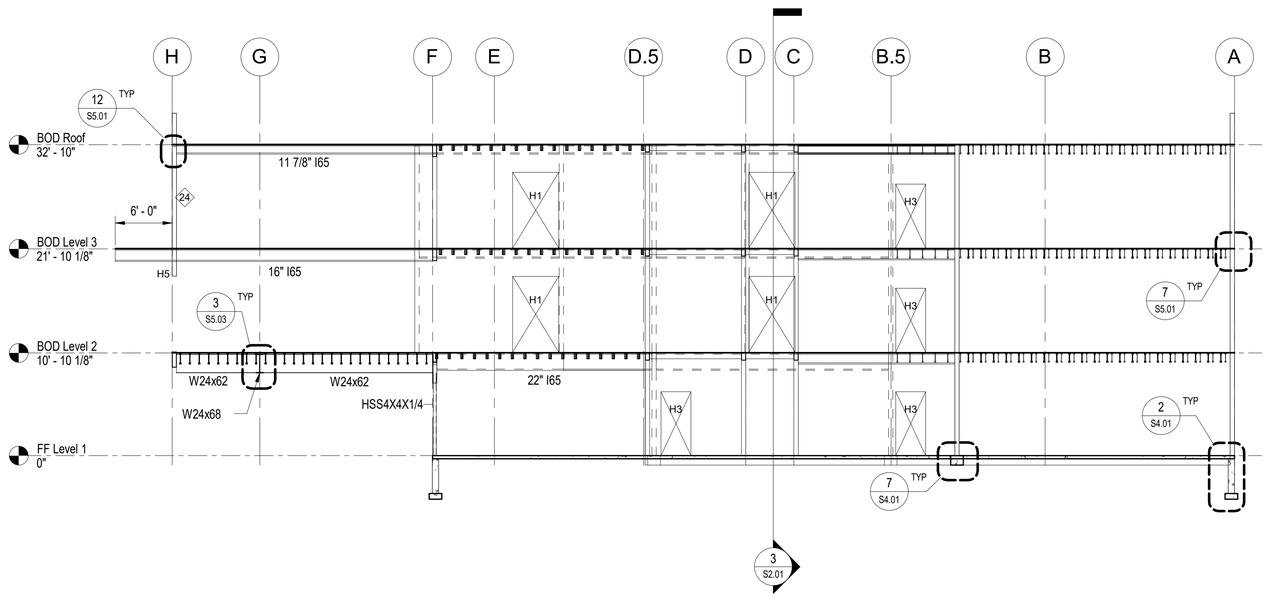
SHEET NAME
MAIN ROOF LATERAL PLAN

SHEET NO.
S1.14

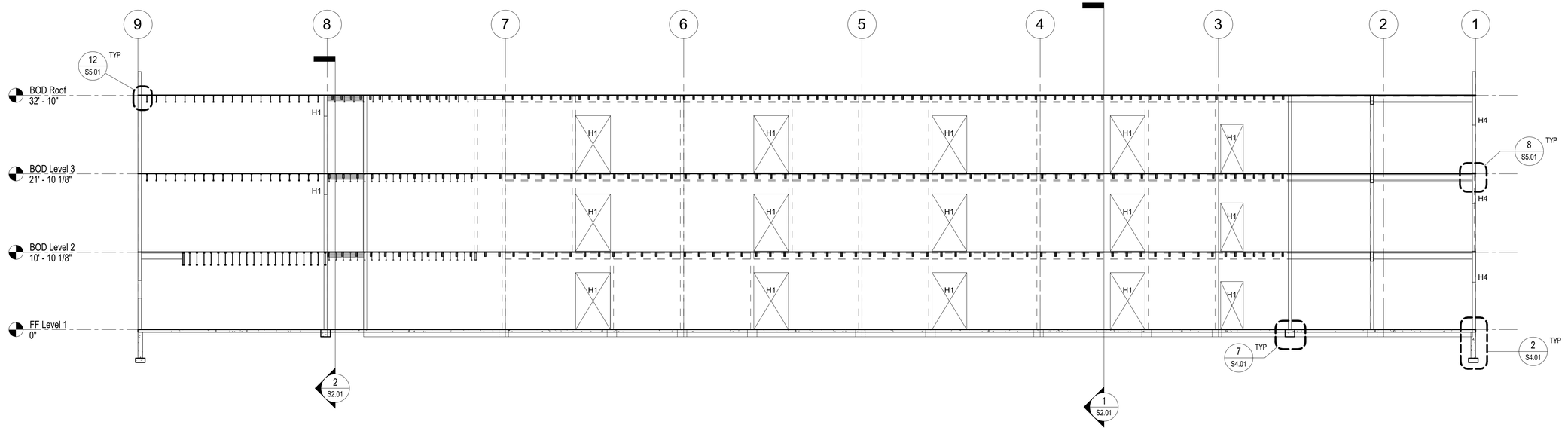
HALF SCALE WHEN PRINTED AT 11x17



1 S2.01 BUILDING SECTION @ HIGH ROOF
1/8" = 1'-0"



2 S2.01 BUILDING SECTION AT ENTRY & OVERHANG
1/8" = 1'-0"



3 S2.01 BUILDING SECTION, LONGITUDINAL AT HALLWAY
1/8" = 1'-0"

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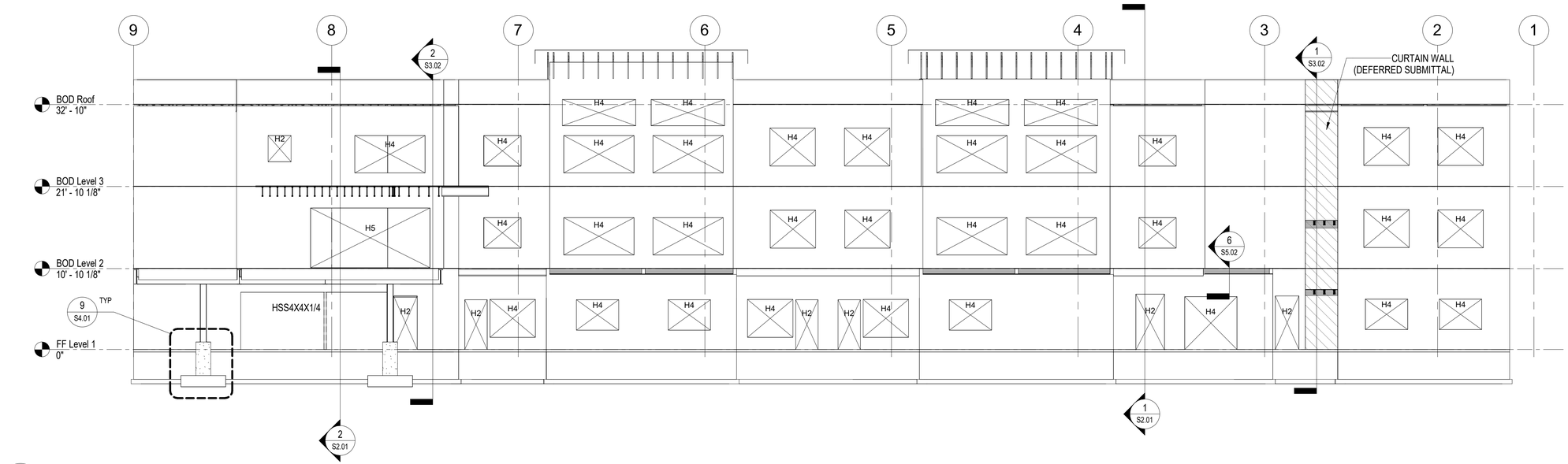
SHEET NAME
BUILDING SECTIONS

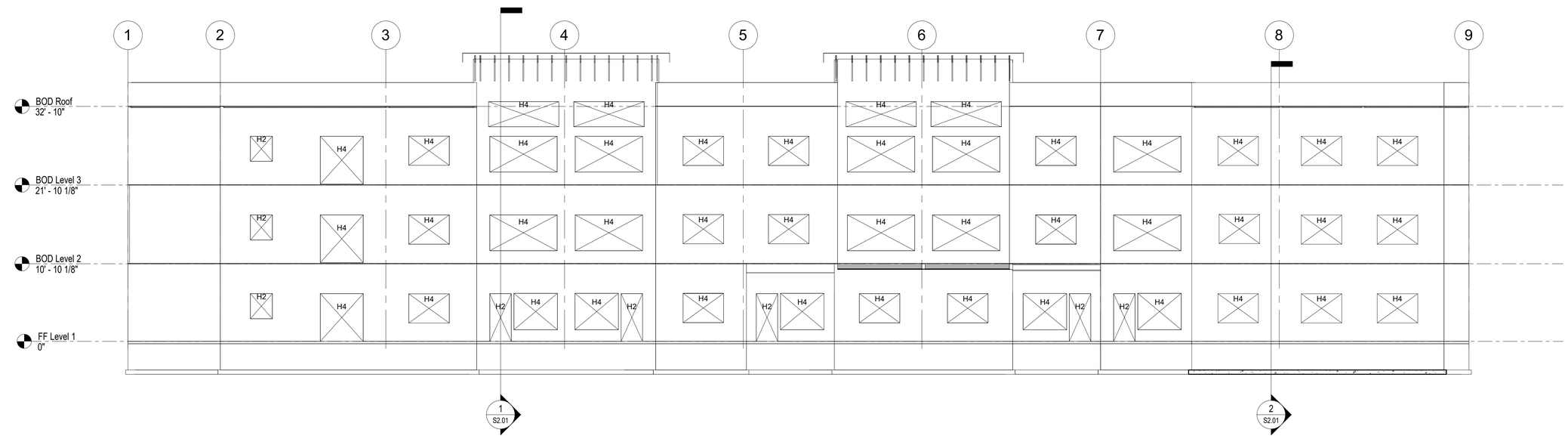
SHEET NO
S2.01

HALF SCALE WHEN PRINTED AT 11x17



1 S2.11 ELEVATION - GRID F/G/H

1/8" = 1'-0"



2 S2.11 ELEVATION - GRID A/B

1/8" = 1'-0"

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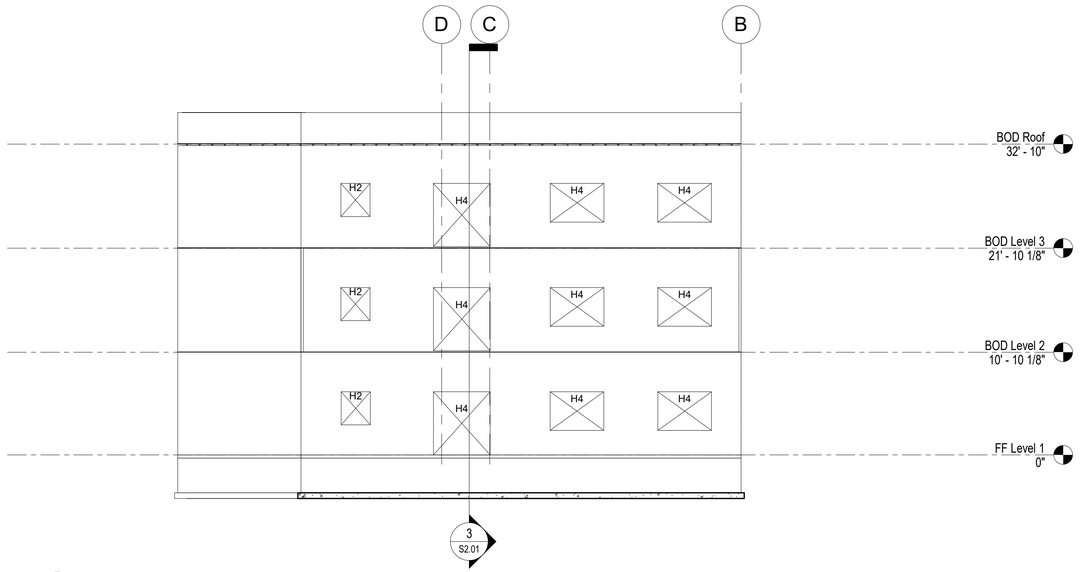
SHEET NAME
BUILDING EXTERIOR ELEVATIONS

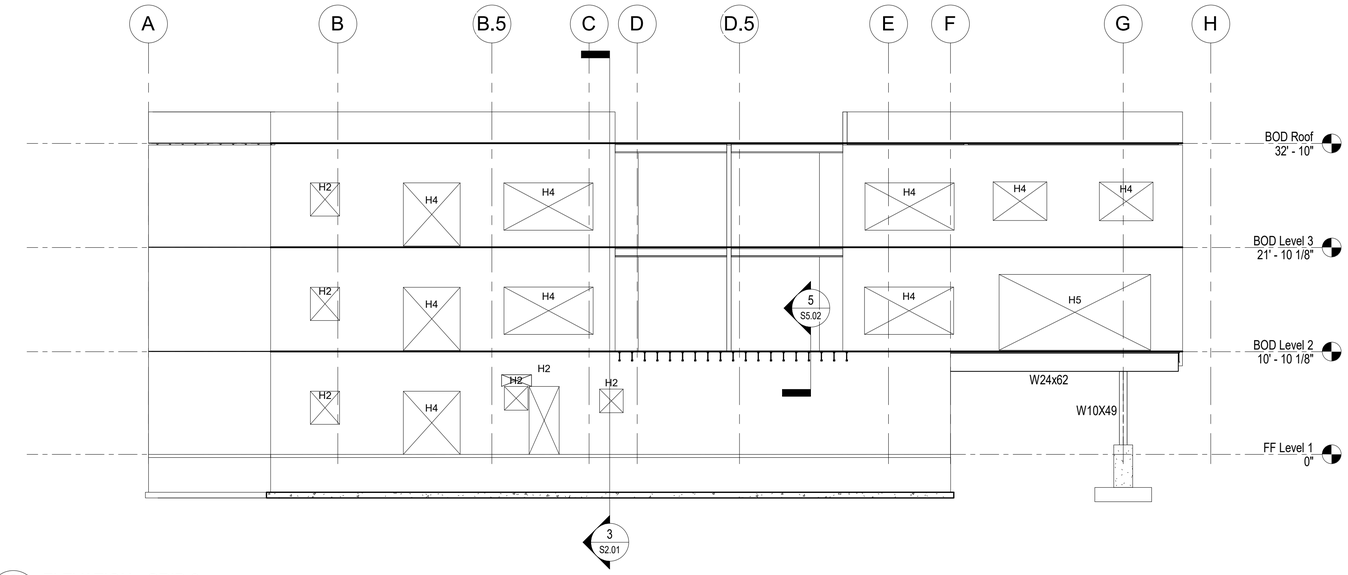
SHEET NO
S2.11

HALF SCALE WHEN PRINTED AT 11x17



1 S2.12 ELEVATION - GRID 1

1/8" = 1'-0"



2 S2.12 ELEVATION - GRID 9

1/8" = 1'-0"

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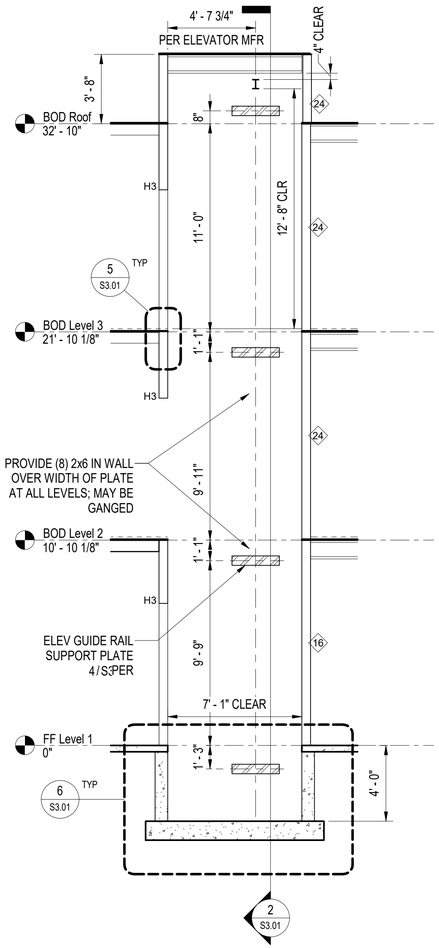
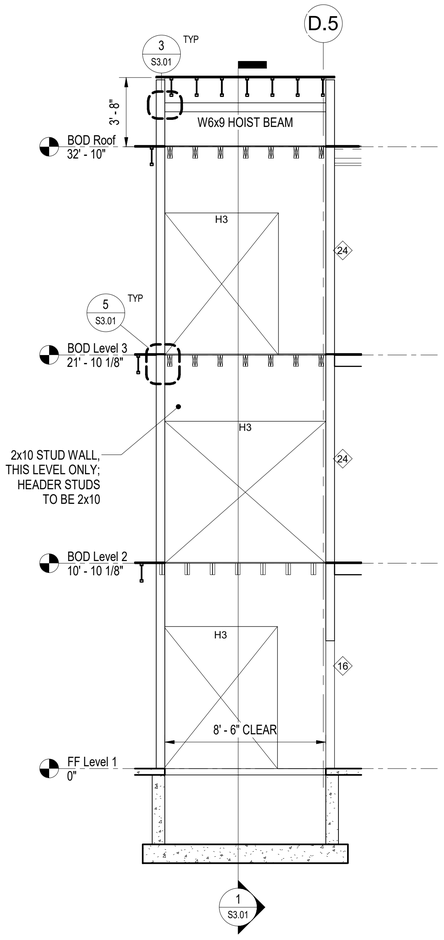
SHEET NO.
S2.12

HALF SCALE WHEN PRINTED AT 11x17



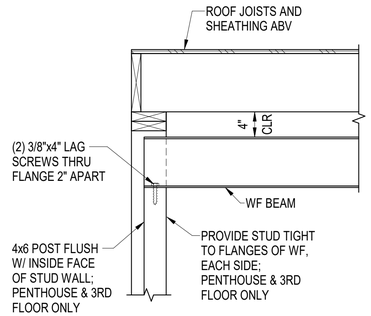
1 S3.01 ELEVATOR SECTION W/ GUIDE PLATES

1/4" = 1'-0"



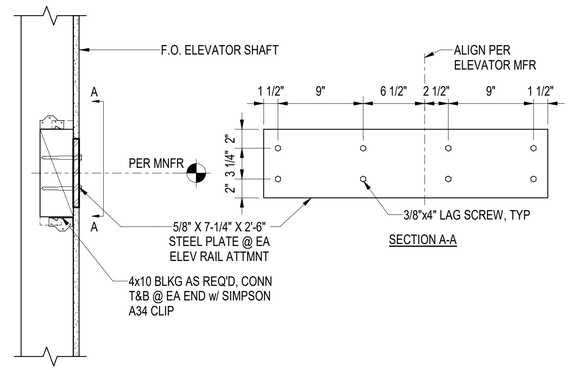
2 S3.01 ELEVATOR SECTION

1/4" = 1'-0"



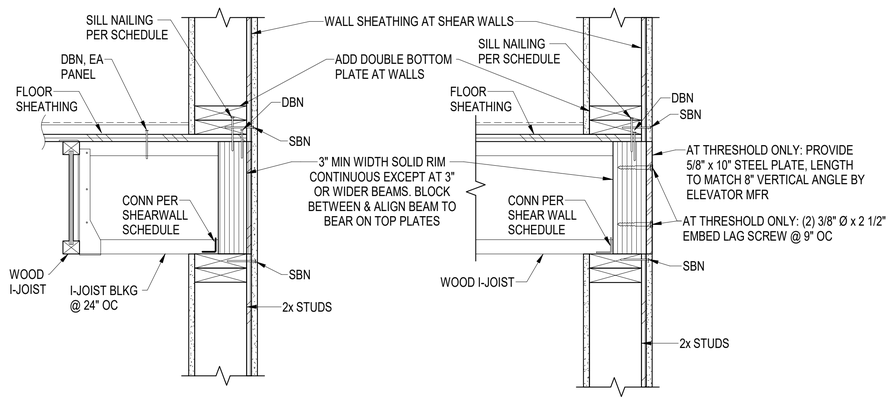
3 S3.01 ELEVATOR HOIST BEAM SUPPORT

1" = 1'-0"



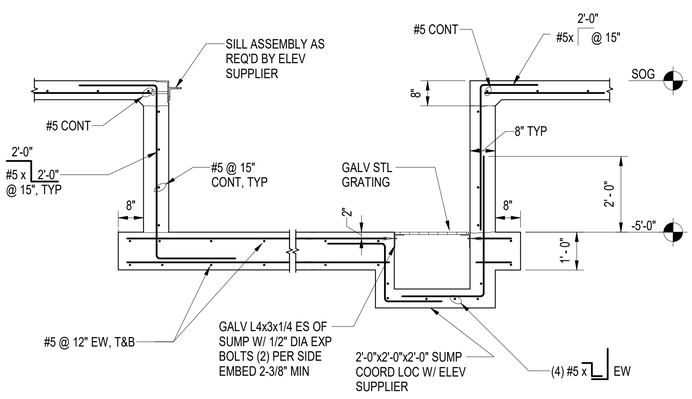
4 S3.01 ELEVATOR GUIDE RAIL SUPPORT CONN

1 1/2" = 1'-0"



5 S3.01 TYP 1-HOUR RATED SHAFT FRAMING

1 1/2" = 1'-0"



6 S3.01 ELEVATOR PIT SECTION

1/2" = 1'-0"

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ELEVATOR SHAFT

SHEET NO.
S3.01

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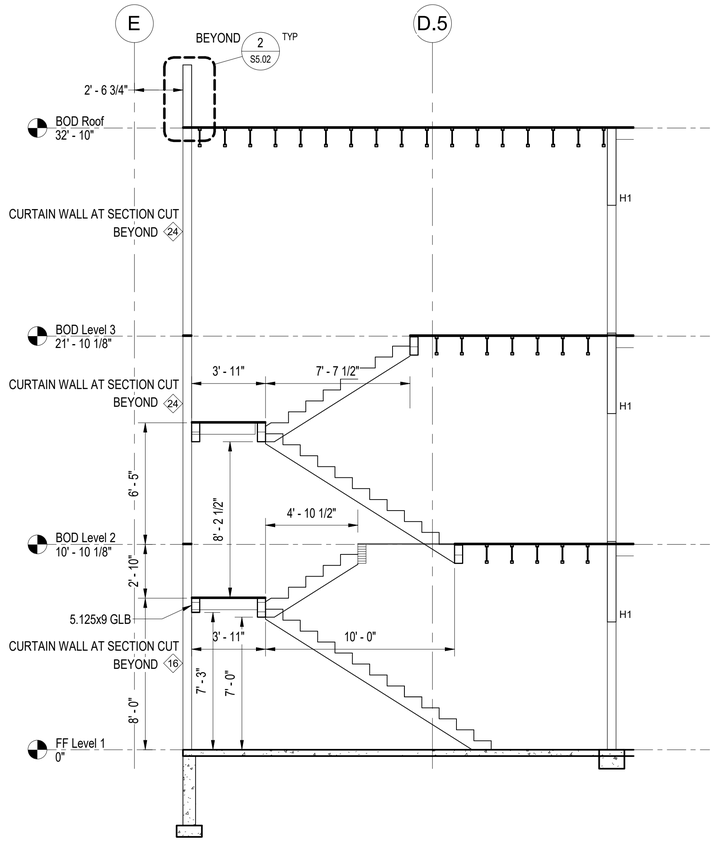
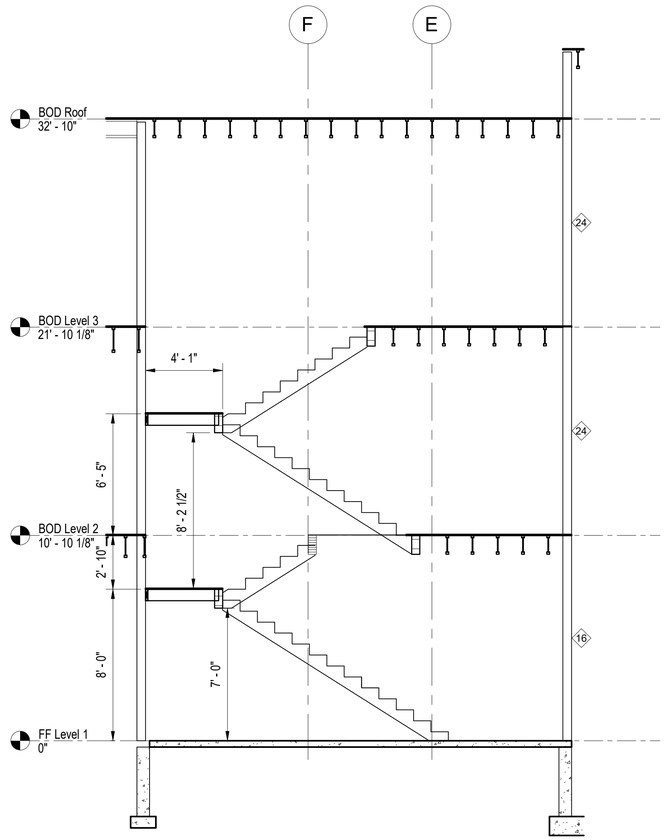
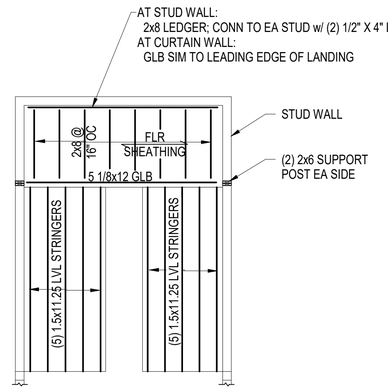


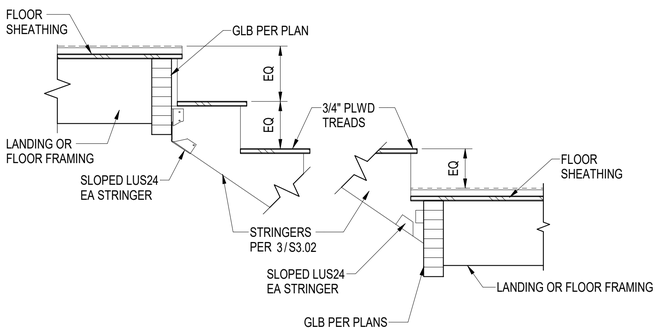
1 S3.02 WEST STAIR SECTION
1/4" = 1'-0"



2 S3.02 EAST STAIR SECTION
1/4" = 1'-0"



3 S3.02 TYP STAIR FRAMING
1/4" = 1'-0"



4 S3.02 TYP STAIRS
1" = 1'-0"

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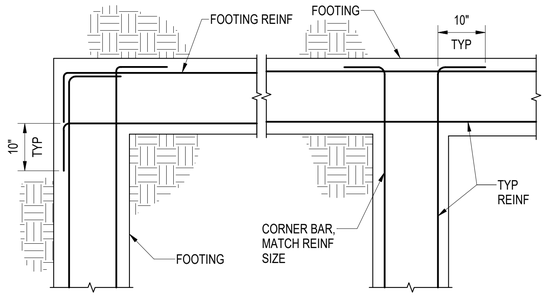
STAIR SECTIONS

SHEET NO
S3.02

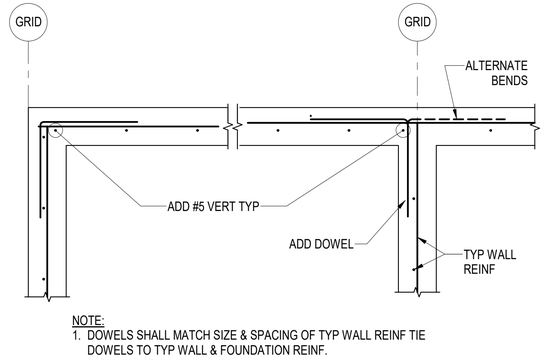
HALF SCALE WHEN PRINTED AT 11x17



PLAN VIEW

1 S4.01 TYP CONC FOOTING CORNERS

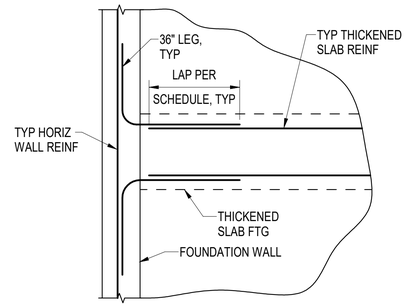
3/4" = 1'-0"



NOTE:
1. DOWELS SHALL MATCH SIZE & SPACING OF TYP WALL REINF TIE DOWELS TO TYP WALL & FOUNDATION REINF.

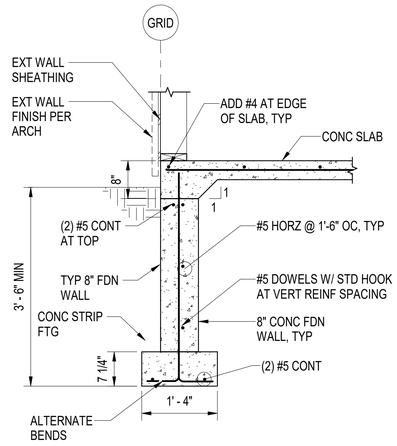
2 S4.01 TYP CONC FDN WALL CORNERS

3/4" = 1'-0"



3 S4.01 TYP THICKENED SLAB FTG TO FDN WALL

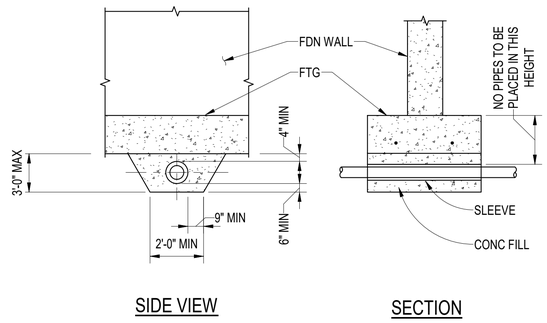
3/4" = 1'-0"



4 S4.01 TYP CONC FDN WALL

3/4" = 1'-0"

NOTE:
ALL PIPES TO CLEAR SLEEVES BY 1/2"Ø ALL AROUND. CAULK AS REQ'D NEVER TO BE MORE THAN 2'-6" BELOW BOTTOM OF FOOTING, STEP FOOTING IF REQ'D

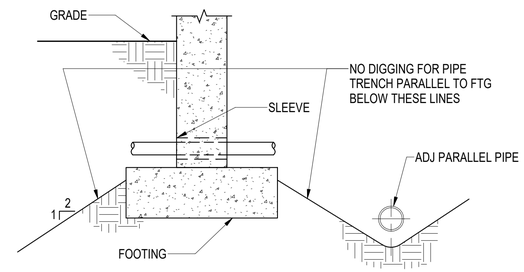


SIDE VIEW SECTION

5 S4.01 TYP UTILITY BELOW FDN WALL

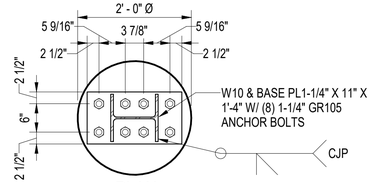
3/4" = 1'-0"

NOTES:
1. ALL PIPES TO CLEAR SLEEVES BY 1/2"Ø CAULK AS REQ'D.
2. SIM FOR VERT SLEEVED HOLES IN FTGS.

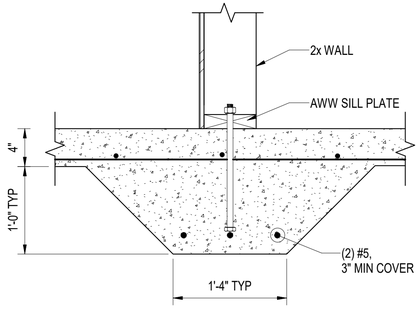


6 S4.01 TYP FDN WALL PENETRATION & EXCAVATION

1" = 1'-0"

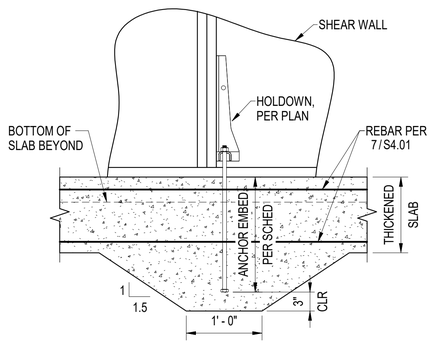


PLAN



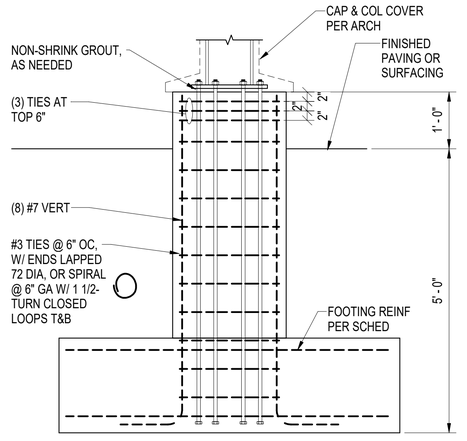
7 S4.01 TYP THICKENED SLAB

1 1/2" = 1'-0"



8 S4.01 TYP THICKENED SLAB AT HOLDOWN

1" = 1'-0"



ELEVATION

9 S4.01 PIER FOUNDATION

3/4" = 1'-0"

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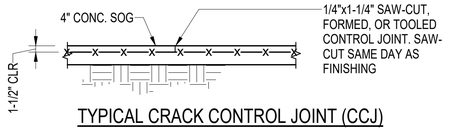
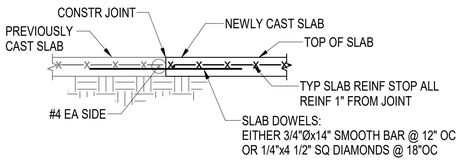


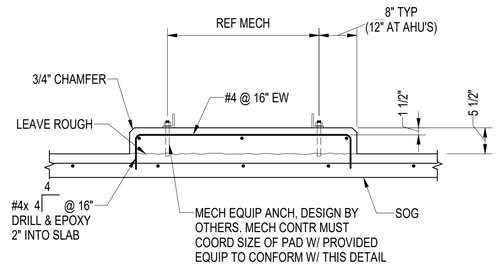
TYPICAL CRACK CONTROL JOINT (CCJ)



TYPICAL CONSTRUCTION JOINT (CJ)

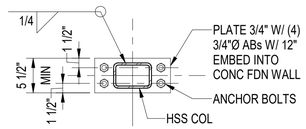
NOTES:
1. CONSTRUCTION JOINTS MAY BE USED AT ANY CONTROL JOINT.
2. LOCATE JOINTS BTWN 24x & 36x SLAB THICKNESS "t" IN BOTH DIRECTIONS.
3. CREATE SQUARE OR REGTANGULAR SPACES BTWN JOINTS (NOT TRIANGULAR). DO NOT EXCEED 1.5:1 ASPECT RATIO IN RECTANGULAR PORTIONS. DO NOT CREATE T- OR L-SHAPED PORTIONS. LOCATE JOINTS AT EACH RE-ENTRANT CORNER OR REINF W/ #4x4'-0" DIAG BAR.

1 S4.02 TYP SOG JOINT DETAILS
3/4" = 1'-0"

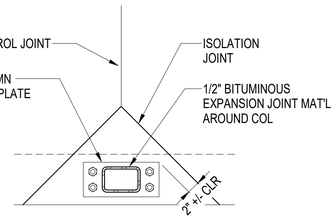


2 S4.02 TYP HOUSEKEEPING PAD
3/4" = 1'-0"

ELEVATION



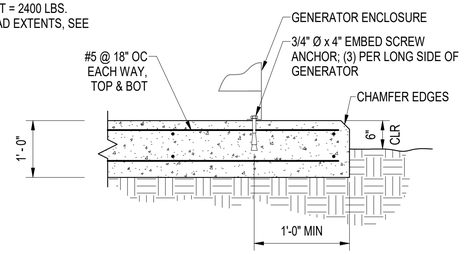
PERIMETER BASE PLATE ON FDN WALL



SLAB BLOCK-OUT

3 S4.02 PERIMETER STEEL COL BASE PL
1" = 1'-0"

NOTE:
1. MAXIMUM GENERATOR WEIGHT = 2400 LBS.
2. FOR PAD EXTENTS, SEE ARCH.



4 S4.02 GENERATOR PAD
3/4" = 1'-0"

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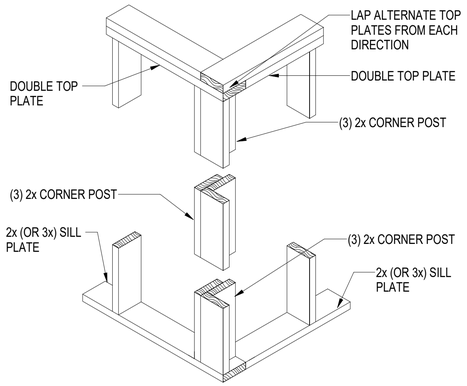
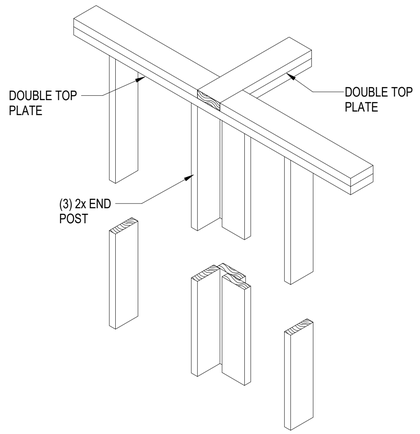
S4.02

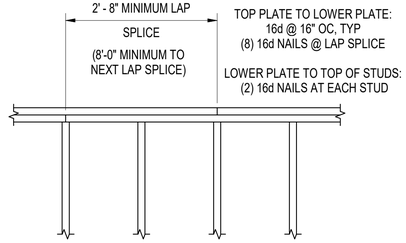
HALF SCALE WHEN PRINTED AT 11x17



1 S5.01 TYP STUD WALL OUTSIDE CORNER
3/4" = 1'-0"

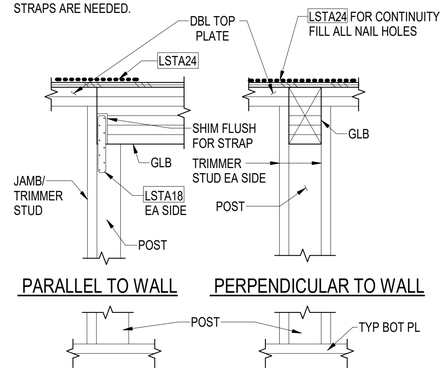


2 S5.01 TYP STUD WALL INTERSECTION
3/4" = 1'-0"

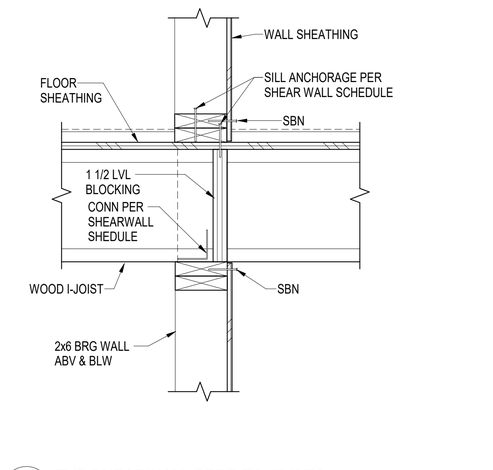


3 S5.01 TYP TOP PLATE DETAIL
3/4" = 1'-0"

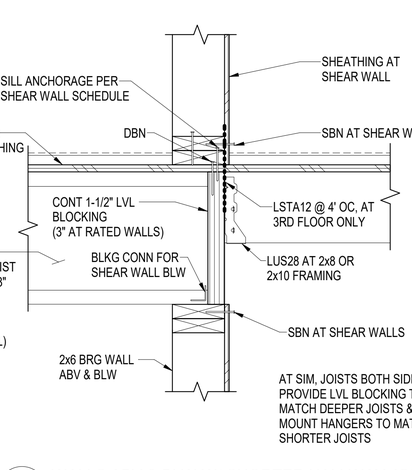
NOTE: LSTA24 STRAPS INDICATED BELOW ONLY REQUIRED WHERE DOUBLE TOP PLATE IS INTERUPTED. IF TOP PLATE IS CONTINUOUS OVER GLB, NO STRAPS ARE NEEDED.



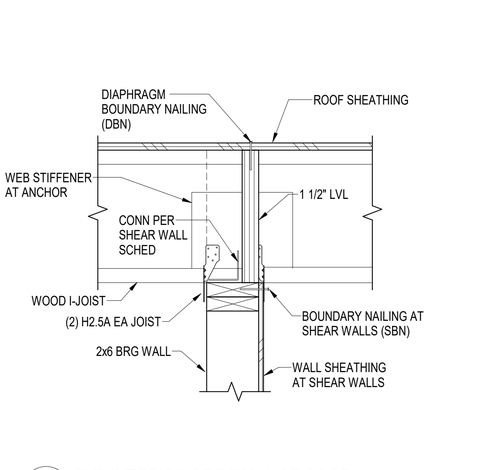
4 S5.01 TYP IN-WALL POST/GLB CONNECTIONS
1" = 1'-0"



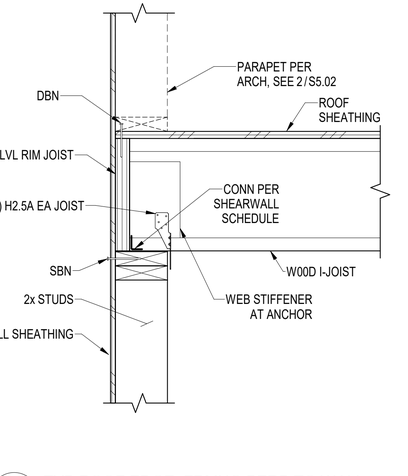
5 S5.01 TYP BRG/SHEAR WALL, PERP TO JOISTS
1 1/2" = 1'-0"



6 S5.01 TYP BRG/SHEAR WALL OVER BEAM, PRL TO JOISTS
1 1/2" = 1'-0"



7 S5.01 TYP FLR EDGE, FRMNG PRL TO WALL
1 1/2" = 1'-0"



8 S5.01 TYP FLOOR EDGE, FRMNG PERP TO WALL
1 1/2" = 1'-0"

9 S5.01 TYP SHEARWALL PERP TO JOISTS
1 1/2" = 1'-0"

10 S5.01 WALLS ABV & BLW W/ SHORTER HALLWAY JOISTS
1 1/2" = 1'-0"

11 S5.01 TYP INTERIOR BRG WALL AT ROOF
1 1/2" = 1'-0"

12 S5.01 TYP ROOF EDGE, FRMNG PERP TO WALL
1 1/2" = 1'-0"

STATE OF ALASKA
49 TH
ELLEN E. HAMEL
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ASPEN HOUSE LIMITED PARTNERSHIP
ASPEN HOUSE SENIOR APARTMENTS
WASILLA, ALASKA

REVISION SCHEDULE

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JOB NO.	402023.006
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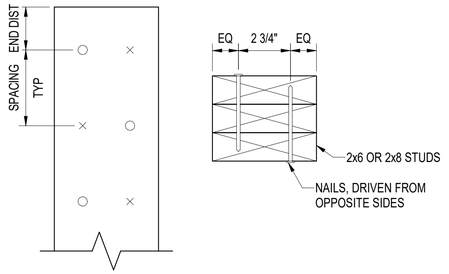
REVIEWED	EH

SHEET NAME
FRAMING DETAILS

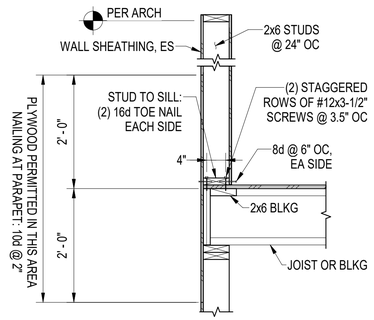
SHEET NO.
S5.01

HALF SCALE WHEN PRINTED AT 11x17

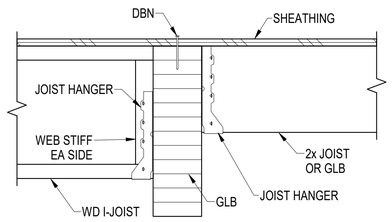
QUANITITY 2x STUDS	NAIL SIZE			END DIST	SPACING
	NAIL	LENGTH	DIAMETER		
(2)	8d OR 10d	3"	0.131" OR 0.148"	2 1/2"	8"
(3)	30d	4 1/2"	0.207"	3 1/2"	8"



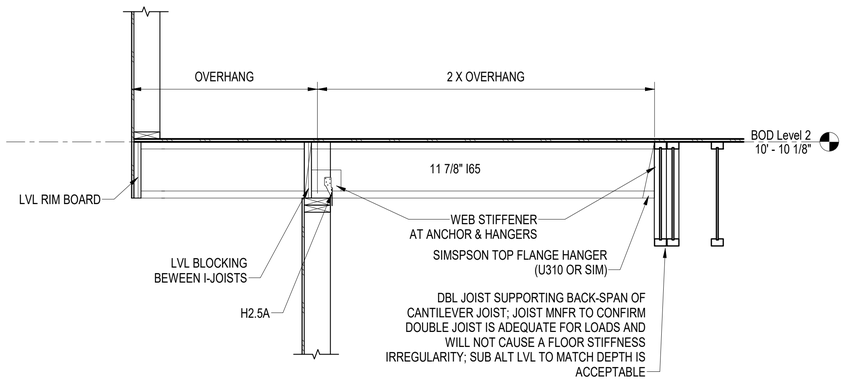
1 S5.02 BUILT UP 2x6 OR 2x8 STUD CONNECTIONS
3" = 1'-0"



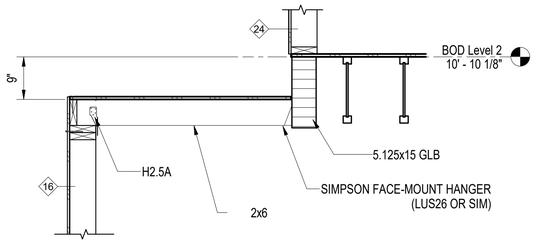
2 S5.02 TYP PARAPET
3/4" = 1'-0"



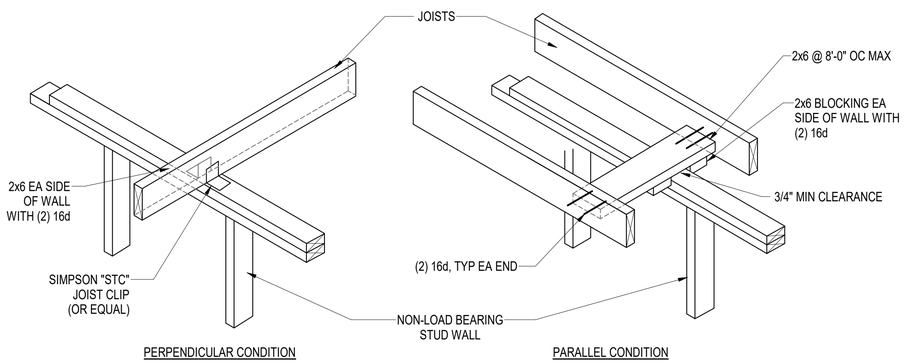
3 S5.02 TYP I-JOIST TO GLB
1 1/2" = 1'-0"



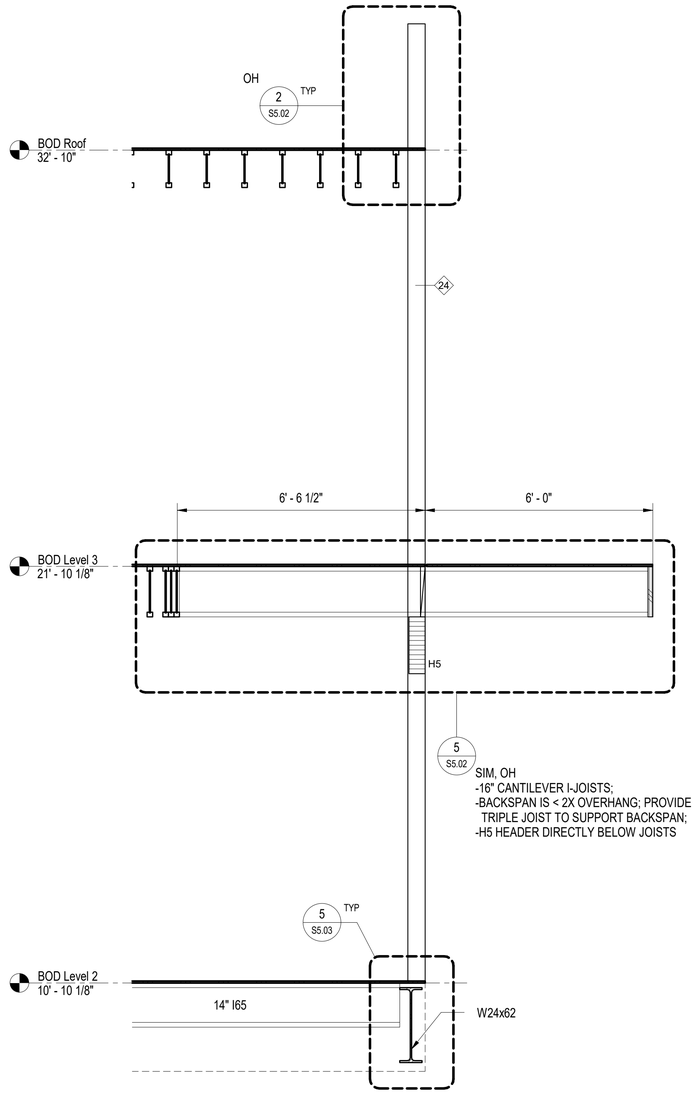
5 S5.02 WALL STEP, CANTILEVER JOISTS
3/4" = 1'-0"



6 S5.02 WALL STEP
3/4" = 1'-0"



7 S5.02 NON-LOAD BEARING WALL BRACING - WOOD ROOF TRUSSES
NTS



8 S5.02 CANOPY AND OVERHANG SECTION
1/2" = 1'-0"

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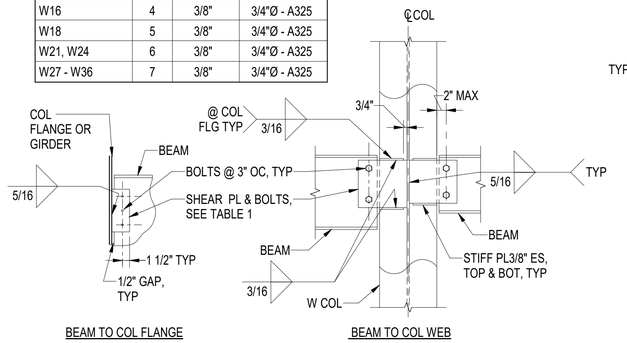
FRAMING DETAILS

SHEET NO.
S5.02

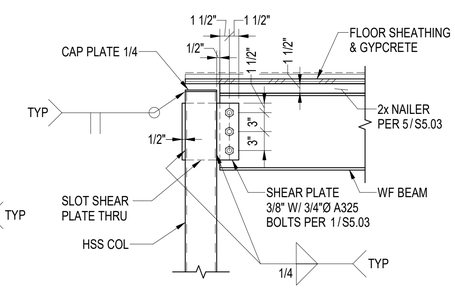
HALF SCALE WHEN PRINTED AT 11x17

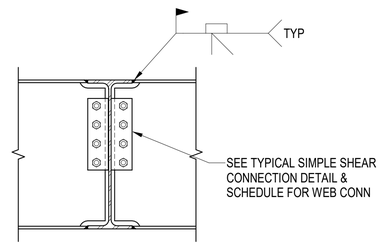
TABLE 1 - SINGLE-PLATE SHEAR CONNS			
BEAM SIZES	BOLTS REQ'D	SHEAR PL THICKNESS	BOLT SIZE & TYPE
W8, W10, C8	2	3/8"	3/4"Ø - A325
W12, W14, C12	3	3/8"	3/4"Ø - A325
W16	4	3/8"	3/4"Ø - A325
W18	5	3/8"	3/4"Ø - A325
W21, W24	6	3/8"	3/4"Ø - A325
W27 - W36	7	3/8"	3/4"Ø - A325

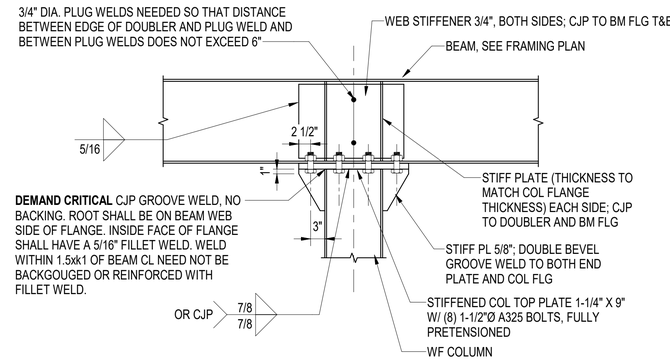
NOTES:
1. ALL BOLTS TO BE SNUG TIGHT, UON.
2. FABRICATE SHEAR PLATES OR BEAMS WITH HORIZ SHORT SLOTTED HOLES.



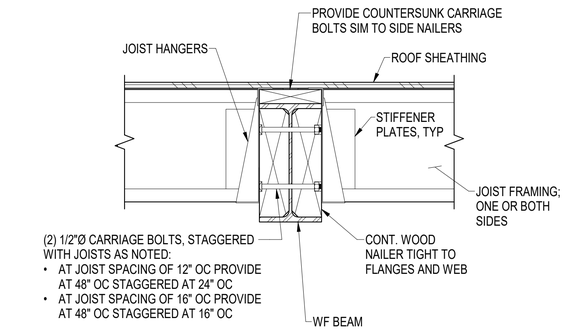
BEAM TO COL FLANGE BEAM TO COL WEB



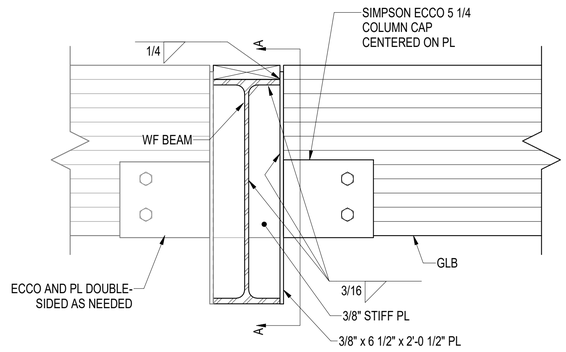




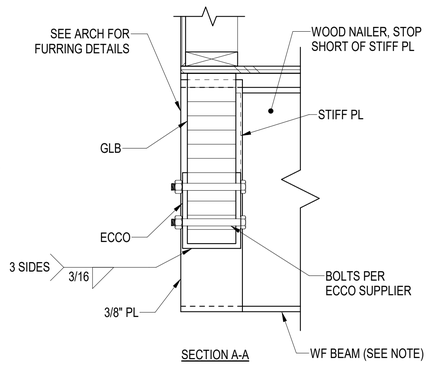
1 S5.03 TYP SIMPLE SHEAR CONNS
3/4" = 1'-0"



2 S5.03 TYP WF BM TO HSS COL
1" = 1'-0"

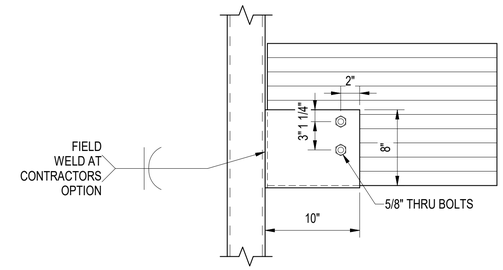


3 S5.03 CANTILEVER BEAM MOMENT CONN
1" = 1'-0"



NOTE: WF BEAM CONTINUOUS AT LOCATIONS SHOWN ON PLAN

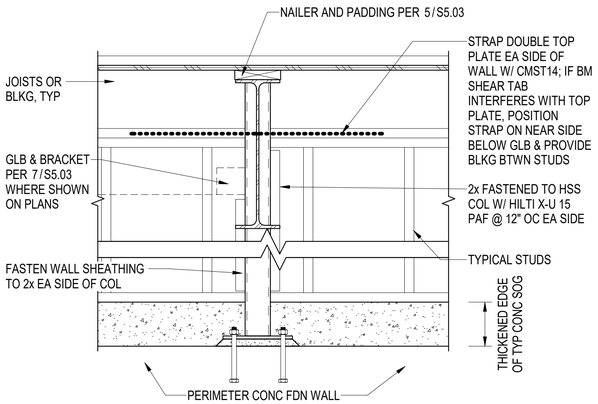
4 S5.03 BEAM OVER WF COL CONN, MOMENT FRAME
3/4" = 1'-0"



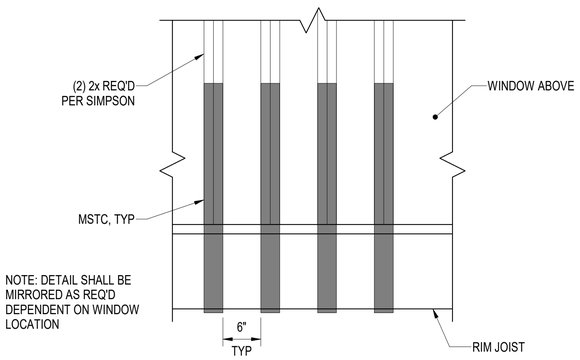
5 S5.03 STEEL BEAM NAILERS
1 1/2" = 1'-0"

6 S5.03 GLB BUCKET TO SIDE OF WF BEAM
1 1/2" = 1'-0"

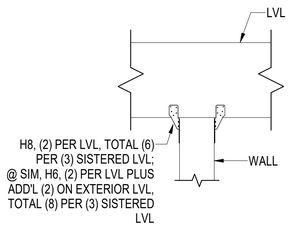
7 S5.03 GLB BUCKET TO SIDE OF HSS COL
1 1/2" = 1'-0"



8 S5.03 STEEL COLUMN IN WOOD WALL
1" = 1'-0"



9 S5.03 PRE-BENT STRAP @ RIM JOIST
1" = 1'-0"



10 S5.03 LVL OVER WALL CONNECTION
1" = 1'-0"

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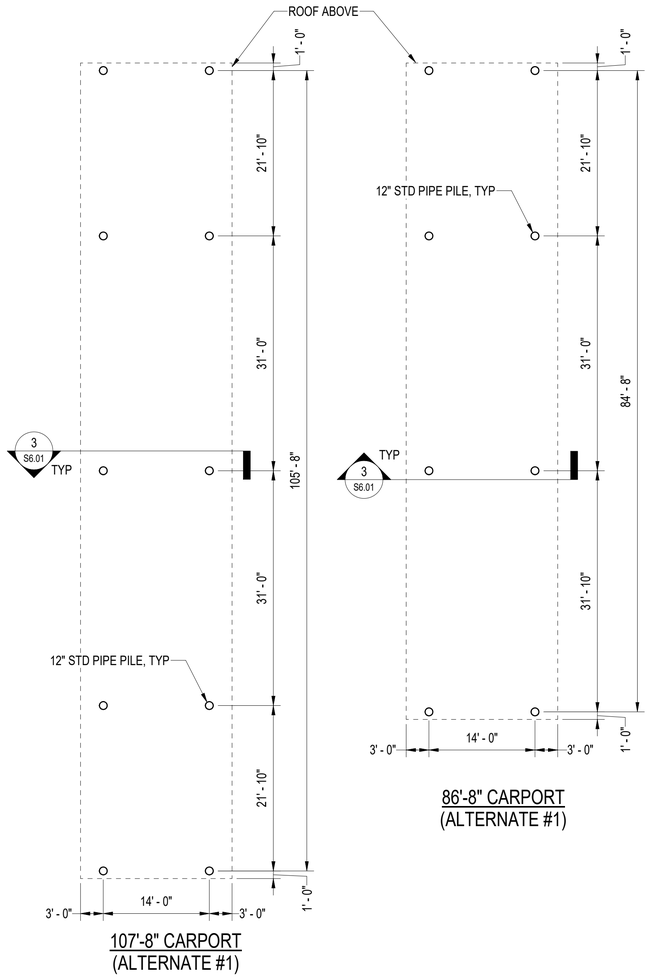
FRAMING DETAILS

SHEET NO.
S5.03

HALF SCALE WHEN PRINTED AT 11x17

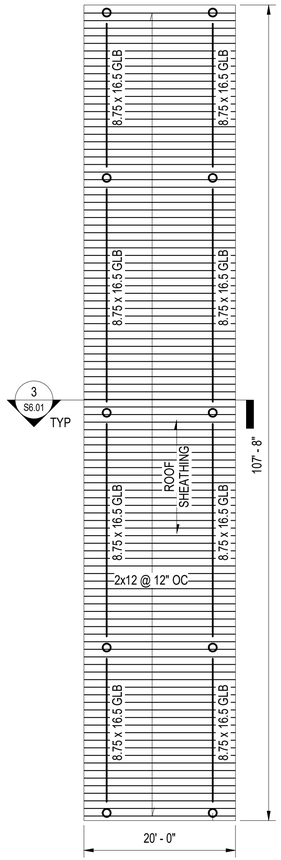


107'-8" CARPORT
(ALTERNATE #1)

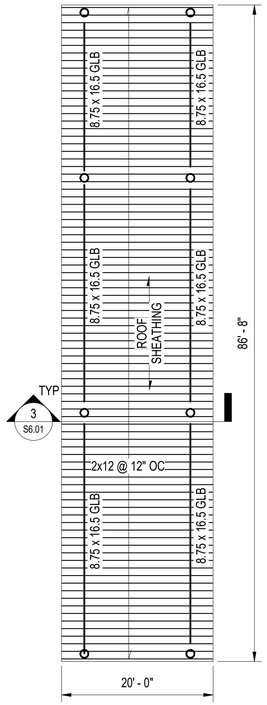
86'-8" CARPORT
(ALTERNATE #1)

NOTE:
1. SEE ARCH FOR CARPORT LOCATIONS AND ORIENTATION.

1 CARPORT FOUNDATION PLANS
S6.01 — 1" = 10'-0"



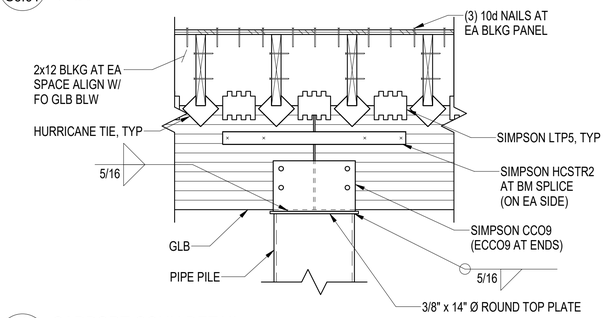
107'-8" CARPORT
(ALTERNATE #1)



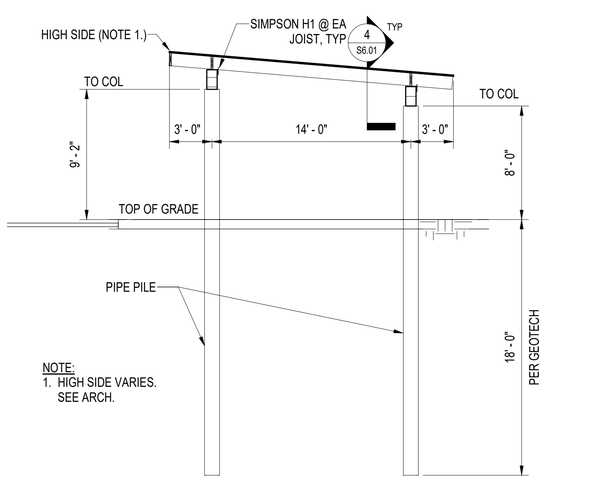
86'-8" CARPORT
(ALTERNATE #1)

NOTE:
1. SEE ARCH FOR CARPORT LOCATIONS AND ORIENTATION.

2 CARPORT ROOF FRAMING PLANS
S6.01 — 1" = 10'-0"



4 CARPORT CONN DETAIL
S6.01 — 1" = 1'-0"



NOTE:
1. HIGH SIDE VARIES. SEE ARCH.

3 SECTION THRU CARPORT
S6.01 — 3/16" = 1'-0"

STRUCTURAL DESIGN DATA
CARPORTS HAVE BEEN DESIGNED FOR THE FOLLOWING OPERATIONAL LOADS ON THE COMPLETED STRUCTURES. CONTRACTOR IS RESPONSIBLE FOR TEMPORARY SHORING AND BRACING DURING CONSTRUCTION.

SNOW LOAD:
FLAT-ROOF SNOW LOAD, Pf=42 PSF
Is = 1.0, Pg=50 PSF, Ct=1.2, Ce=1.0

BASIC FORCE RESISTING SYSTEM:
CANTILEVER STEEL COLUMNS, SPECIAL, R=2.5, Cs=0.423, Omega=1.25

ANALYSIS PROCEDURE IS LINEAR STATIC. LATERAL FORCES ARE TRANSFERRED TO THE CANTILEVER COLUMNS BY FLEXIBLE DIAPHRAGMS.

FOUNDATIONS
PILE FOUNDATIONS ARE DESIGNED PER GEOTECHNICAL RECOMMENDATION BY NORTHERN GEOTECHNICAL ENGINEERING ON AUGUST 7, 2020.

MAXIMUM PILE LOADS:
DEAD LEAD = 6,500 LBS
SNOW LOAD = 13,500 LBS
NET WIND UPLIFT = 12,000 LBS
SEISMIC SHEAR = 4,000 LBS

STRUCTURAL STEEL
MATERIALS:
PLATES ASTM A36
PIPE ASTM A53

STEEL SHALL BE PRIMED WITH A ZINC RICH PRIMER AND PAINTED WITH AN EXTERIOR GRADE PAINT.

STRUCTURAL TIMBER NOTES
CARPORT ROOF SHEATHING SHALL BE APA RATED, EXTERIOR, SPAN RATED 40/20, 3/4-INCH MINIMUM THICKNESS.

INSTALL ROOF SHEATHING WITH THE LONG DIMENSION ACROSS SUPPORTS. ALLOW 1/8 INCH SPACING AT PANEL ENDS AND PANEL EDGES, UNLESS OTHERWISE RECOMMENDED BY THE PANEL MANUFACTURER. BLOCKING OF ROOF PANEL EDGES IS NOT REQUIRED. FASTEN ROOF SHEATHING TO SUPPORTING MEMBERS WITH 10d COMMON NAILS AT 6-INCHES ON CENTER AT PANEL EDGES AND 12-INCHES ON CENTER AT INTERMEDIATE SUPPORTS.

DO NOT USE A NAIL GUN TO BLOW HOLES IN THE STRUCTURE.

PENETRATIONS FOR UTILITIES THROUGH GLB AND JOISTS SHALL NOT EXCEED 1.5" DIAMETER AND MUST BE LOCATED WITHIN THE CENTER 1/3 OF THE SPAN OF THE BEAM/JOIST AND WITHIN THE CENTER 1/3 OF THE DEPTH OF THE BEAM/JOIST.

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SHEET NAME
CARPORT

SHEET NO.
S6.01

HALF SCALE WHEN PRINTED AT 11x17

MECHANICAL LEGEND

- COLD WATER PIPING
- HOT WATER PIPING
- HOT WATER RECIRCULATED PIPING
- WASTE PIPING
- VENT PIPING
- XXX — PIPING, SEE ABBREVIATIONS FOR MEDIA
- DIRECTION OF FLOW
- PIPE ANCHOR
- PIPE GUIDE
- PIPE UP
- PIPE DOWN
- TEE UP
- TEE DOWN
- CAP
- UNION
- ISOLATION VALVE
- CLEANOUT
- HOSE BIBB
- BALANCE/SHUT-OFF VALVE
- CHECK VALVE
- STRAINER WITH BLOWDOWN
- FLEXIBLE PIPING CONNECTOR
- 2-WAY CONTROL VALVE
- 3-WAY CONTROL VALVE
- PRESSURE REDUCING VALVE
- PRESSURE/TEMPERATURE RELIEF VALVE
- THERMOMETER
- PRESSURE GAUGE WITH ISOLATION COCK
- WATER HAMMER ARRESTOR
- X — LETTER INDICATES PDI SIZE
- PUMP
- FLOOR CLEANOUT
- FLOOR DRAIN
- SUPPLY AIR UP & DOWN (SQUARE)
- RETURN AIR UP & DOWN (SQUARE)
- EXHAUST AIR UP & DOWN (SQUARE)
- ROUND DUCT UP & DOWN
- VOLUME DAMPER
- MOTORIZED CONTROL DAMPER
- SOUND LINED DUCTWORK
- 28/14 — DUCT SIZE (FIRST NUMBER - SIDE SHOWN) (SECOND NUMBER - SIDE NOT SHOWN)
- INSULATED DUCTWORK
- TURNING VANES
- FLEXIBLE DUCT CONNECTION
- FSD — FIRE SMOKE DAMPER
- DIFFUSER WITH FLEXIBLE DUCT
- THERMOSTAT OR SENSOR
- THERMOSTAT OR SENSOR WITH LOCKING COVER
- SP — STATIC PRESSURE SENSOR
- X — KEY NOTE
- SX:CFM — SERVICE: S = SUPPLY, R = RETURN, E = EXHAUST; CFM; DIFFUSER OR GRILLE TAG
- X / MX — DETAIL NUMBER; SHEET LOCATED ON
- BB-x; X.X / X' — BASEBOARD DESIGNATION; ACTIVE FINTUBE LENGTH; GPM

PLUMBING FIXTURE SCHEDULE

TAG	FIXTURE	MINIMUM CONNECTION SIZE CW	HW	TRAP	VENT	WASTE	MANUFACTURER	MODEL	COLOR	TRIM / REMARKS
WC-1	WATER CLOSET - FLOOR MOUNT - ADA	1/2"	---	---	2"	3"	KOHLER	CIMARRON K-3619 (-RA)	WHITE	ONE PIECE, ELONGATED BOWL, CLOSED RIM SEAT WITH COVER, TRIP LEVER ON ACCESSIBLE SIDE
WC-2	WATER CLOSET - FLOOR MOUNT - ADA	1/2"	---	---	2"	3"	KOHLER	CIMARRON K-3619 (-RA)	WHITE	ONE PIECE, ELONGATED BOWL, OPEN RIM SEAT WITH COVER, TRIP LEVER ON ACCESSIBLE SIDE
LV-1	LAVATORY - COUNTER MOUNT - ADA	1/2"	1/2"	1-1/4"	1-1/4"	1-1/2"	KOHLER	PENNINGTON K-2196-4	WHITE	DELTA FAUCET 520-MPU-DST WITH POP-UP DRAIN
LV-2	LAVATORY - WALL MOUNT - ADA	1/2"	1/2"	1-1/4"	1-1/4"	1-1/2"	KOHLER	KINGSTON K-2005	WHITE	DELTA FAUCET 516LF-HDF, GRID STRAINER, CONCEALED ARM SUPPORTS, WALL CARRIER FOR ADA HEIGHT
SK-1	SINK - DOUBLE COMPARTMENT - ADA	1/2"	1/2"	2"	1-1/2"	1-1/2"	JUST	DL-ADA-2233-A-GR	STAINLESS	6-1/2" BOWL DEPTH, REAR CENTER DRAIN, BASKET STRAINERS, DELTA FAUCET B4310LF (ADA), AIR GAP FITTING FOR DISHWASHER, HOLE PUNCH AS REQUIRED FOR TRIM
SK-2	SINK - DOUBLE COMPARTMENT - COMMONS	1/2"	1/2"	2"	1-1/2"	1-1/2"	JUST	DL-ADA-2233-A-GR	STAINLESS	6-1/2" BOWL DEPTH, REAR CENTER DRAIN, BASKET STRAINERS, DELTA FAUCET B4310LF (ADA), HOLE PUNCH AS REQUIRED FOR TRIM
SK-3	SINK - JANITOR	1/2"	1/2"	3"	2"	3"	FIAT	MSB-2424	WHITE	FIAT FAUCET 830-AA, 832-AA HOSE AND BRACKET, E-77-AA VINYL BUMPERGUARD, 889-CC MOP HANGER
SH-1	SHOWER STALL - UFAS	1/2"	1/2"	2"	1-1/2"	1-1/2"	FREEDOM	APFQ6233BFF875	WHITE	GRAB BARS, HAND-HELD SHOWER ASSEMBLY WITH SLIDE BAR AND AUXILIARY SLIDE BAR, REMOVABLE SEAT, PRESSURE BALANCED MIX VALVE, DELTA T13091 SHOWER FAUCET WITH
										RPW324HDF SHOWER HEAD 60" STRETCHABLE METAL HOSE, FIELD CUT OUT SURROUND FOR VALVE, SLIDE BARS, GRAB BARS, ETC. OR CUSTOM FACTORY SURROUND CUT OUTS - COORDINATE
										WITH ARCHITECTURAL SHOWER ELEVATIONS AND DETAILS, LEFT HAND OR RIGHT HAND AS REQUIRED, COLLAPSIBLE WATER DAM - DUZZY 67 OR EQUAL
WB-1	WASHER BOX	1/2"	1/2"	2"	1-1/2"	2"	OATEY	QUADTRO	WHITE	DRAIN ADAPTOR, 1/4 TURN VALVES, WATER HAMMER ARRESTORS
RB-1	RECESSED WATER CONNECTION BOX	1/2"	---	---	---	---	OATEY	FR-ICE MAKER BOX	WHITE	1/4 TURN VALVE, NSF 61 COMPLIANT, FIRE RATED
FD-1	FLOOR DRAIN	---	---	2"	1-1/2"	2"	J.R. SMITH	2005-A	---	ROUND TOP, TRAP PRIMER CONNECTION
RD-1	ROOF DRAIN	---	---	3"	---	---	J.R. SMITH	1010	---	CAST IRON DOME STRAINER
OD-1	OVERFLOW DRAIN	---	---	3"	---	---	J.R. SMITH	1080	---	2" DAM, CAST IRON DOME STRAINER
HB-1	HOSE BIBB - FROST PROOF	3/4"	---	---	---	---	WOODFORD	MODEL B65	---	WITH VACUUM BREAKER, RECESSED LOCKABLE BOX, LOOSE TEE KEY
HB-2	HOSE BIBB	3/4"	---	---	---	---	WOODFORD	MODEL 24	---	INTEGRAL VACUUM BREAKER

EXPANSION TANK SCHEDULE

TAG	MFGR / MODEL	FUNCTION	FLUID	TOTAL VOLUME (GALLONS)	ACCEPTANCE VOLUME (GALLONS)	DIMENSIONS	MATERIAL	LABEL	REMARKS
ET-1	AMTROL / EXTROL 300-L	HYDRONIC EXPANSION	50% P.G.	80.0	80.0	24"Ø x 51"	STEEL/BUTYL	ASME	PRECHARGE TO 15 PSIG
ET-2	AMTROL / THERM-X-TROL ST-120V-C	DOMESTIC HOT WATER EXPANSION	WATER	66.0	34.7	24"Ø x 44"	STEEL/BUTYL	ASME/NSF	PRECHARGE TO WATER SUPPLY STATIC PRESSURE

GLYCOL MAKE-UP TANK SCHEDULE

TAG	MFGR / MODEL	FUNCTION	FLUID	STORAGE (GALLONS)	DIMENSIONS	MATERIAL	ELECTRICAL DATA AMPS/WATTS	VOLTS/PH	LABEL	REMARKS
GT-1	AXIOM / MF300	BUILDING HYDRONIC HEAT SYSTEM	50% P.G.	17.0	17" x 17" x 36"H	PLASTIC	50 WATTS	120/1	UL	WITH PACKAGED PUMP, CONTROLS, LOW LEVEL ALARM AND REMOTE MONITORING CONTACTS AND MOUNTING SHELF

TANK SCHEDULE

TAG	MFGR / MODEL	FUNCTION	FLUID	ACTUAL STORAGE (GALLONS)	DIMENSIONS	MATERIAL	LABEL	REMARKS
WST-1	BOCK / VIJ-397-125	DOMESTIC HOT WATER STORAGE	WATER	360	40"Ø x 98"H	STEEL	ASME	DESIGNED FOR POTABLE HOT WATER STORAGE, VERTICAL TANK, 2" MINIMUM INSULATION WITH STEEL JACKET, GLASS LINED, ANODE RODS, MANWAY, AQUASTAT

WATER HEATER SCHEDULE

TAG	MFGR / MODEL	STORAGE (GALLONS)	FUEL TYPE	INPUT (MBH)	RECOVERY AT 100°F RISE (GPH)	ELECTRICAL DATA AMPS/WATTS	VOLTS/PH	LABEL	REMARKS
WH-1	LOCHNIVAR / ARMOR AWN801PM	4.9	NATURAL GAS	800	931	15.0 AMPS	120/1	ASME	TEMPERATURE AND PRESSURE RELIEF VALVE
WH-2	LOCHNIVAR / ARMOR AWN801PM	4.9	NATURAL GAS	800	931	15.0 AMPS	120/1	ASME	TEMPERATURE AND PRESSURE RELIEF VALVE

TEMPERING VALVE SCHEDULE

TAG	MFGR / MODEL	INLETS SIZE	OUTLET SIZE	FLOW RATE AT 5 PSI (GPM)	CV	CONSTRUCTION	ELECTRICAL DATA AMPS	VOLTS/PH	LABEL	REMARKS
TV-1	HEAT TIMER / ETV-PLUS	2"	2"	103	46	STAINLESS STEEL	0.23 AMPS	120/1	ASSE 1017, NSF	SET OUTLET TEMPERATURE FOR 120°F, LEAD FREE, CONTROL MODULE, COLD WATER PROBE, HOT WATER PROBE AND MIX WATER PROBE

TRAP PRIMER SCHEDULE

TAG	MFGR / MODEL	INLET SIZE	NUMBER OF DRAINS SERVED	ELECTRICAL DATA AMPS	VOLTS/PH	LABEL	REMARKS
TP-1	PPP / P-1	1/2"	PER DWGS	---	---	UPC	PRESSURE DROP ACTIVATED, PPP MODEL DU-U DISTRIBUTION UNIT AS REQUIRED

STATE OF ALASKA 49 TH
ALEC C. THOMSON
ME-8694
03/06/2023
REGISTERED PROFESSIONAL ENGINEER

CERTIFICATE OF AUTHORIZATION NO: T3 ALASKA, LLC AECL #: 1625

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ASPEN HOUSE LIMITED PARTNERSHIP
ASPEN HOUSE SENIOR APARTMENTS
WASILLA, ALASKA

REVISION SCHEDULE

#	DESCRIPTION	DATE

JOB NO.	2023.007.0
DATE	03/06/2023
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REVIEWED	ACT

SHEET NAME
MECHANICAL SCHEDULES

SHEET NO.
M0.01

PERMIT DOCUMENTS

ABBREVIATIONS

ADA	AMERICANS WITH DISABILITIES ACT
AAV	AUTOMATIC AIR VENT
AFF	ABOVE FINISHED FLOOR
AFT	AVERAGE FLUID TEMPERATURE
AHU	AIR HANDLING UNIT
ALT	ALTERNATE
AMPS	AMPERES
APD	AIR PRESSURE DROP
ARCH	ARCHITECTURAL
BDD	BACKDRAFT DAMPER
BLDG	BUILDING
BOB	BOTTOM OF BEAM
BOD	BOTTOM OF DUCT
BTUH	BRITISH THERMAL UNIT PER HOUR
C/A	COMBUSTION AIR
CFM	CUBIC FEET PER MINUTE
CLG	CEILING
CONT	CONTINUED
CO	CLEANOUT
CP	CIRCULATION PUMP
CUH	CABINET UNIT HEATER
CW	COLD WATER
Ø	DIAMETER
dB	DECIBELS
DEG	DEGREE
DN	DOWN
DWG	DRAWING
E/A	EXHAUST AIR
EAT	ENTERING AIR TEMPERATURE
EF	EXHAUST FAN
EFT	ENTERING FLUID TEMPERATURE
ET	EXPANSION TANK
EXH	EXHAUST
ESP	EXTERNAL STATIC PRESSURE
EXIST	EXISTING
FT	FEET
FPM	FEET PER MINUTE
FPF	FINS PER FOOT
FC	FORWARD CURVE
F	FAHRENHEIT
FCO	FLOOR CLEAN OUT
FD	FIRE DAMPER, FLOOR DRAIN
FDC	FIRE DEPARTMENT CONNECTION
FSD	FIRE SMOKE DAMPER
G	NATURAL GAS
GPH	GALLONS PER HOUR
GPM	GALLONS PER MINUTE
GT	GLYCOL TANK
HB	HOSE BIBB
HC	HEATING COIL
HD	HEAD
HGR	HEATING GLYCOL RETURN
HGS	HEATING GLYCOL SUPPLY
HW	HOT WATER
HWC	HOT WATER CIRCULATED
HP	HORSEPOWER
HWR	HEATING WATER RETURN
HWS	HEATING WATER SUPPLY
ID	INSIDE DIAMETER
IE	INVERT ELEVATION
IN	INCHES
LAT	LEAVING AIR TEMPERATURE
LF	LINEAL FEET
LFT	LEAVING FLUID TEMPERATURE
LPG	LIQUID PROPANE GAS
MAX	MAXIMUM
MBH	THOUSAND BTU PER HOUR
MFGR	MANUFACTURER
MIN	MINIMUM
MTD	MOUNTED
NC	NOISE CRITERIA
N.C.	NORMALLY CLOSED
N.O.	NORMALLY OPEN
NSF	NATIONAL SANITARY FOUNDATION
NTS	NOT TO SCALE
O/A	OUTSIDE AIR
OD	OUTSIDE DIAMETER
OSD	OVERFLOW STORM DRAIN
PD	PRESSURE DROP
PG	PROPYLENE GLYCOL
PH	PHASE
PSI	POUNDS PER INCH
PSIA	PSI ABSOLUTE
PSIG	PSI GAUGE
R/A	RETURN AIR
RPM	REVOLUTIONS PER MINUTE
S/A	SUPPLY AIR
SD	STORM DRAIN
SP	STATIC PRESSURE
SS	STAINLESS STEEL
STR	SOLAR THERMAL RETURN
STS	SOLAR THERMAL SUPPLY
TSP	TOTAL STATIC PRESSURE
TSTAT	THERMOSTAT
TYP	TYPICAL
UH	UNIT HEATER
V	VENT
VEL	VELOCITY
VF	VENTILATION FAN
VFD	VARIABLE FREQUENCY DRIVE
VTR	VENT THROUGH ROOF
WC	WATER COLUMN
WG	WATER GAGE
WCO	WALL CLEAN OUT
WHA	WATER HAMMER ARRESTOR
WH	WATER HEATER
W	WASTE
WB	WET BULB
WPD	WATER PRESSURE DROP
YCO	YARD CLEAN OUT

PUMP SCHEDULE

TAG	MFGR / MODEL	SERVICE	FLUID	FLOW RATE (GPM)	HEAD (FEET)	MOTOR DATA			REMARKS
						RPM	HP	VOLTS/PH	
BC-1	TACO / 1915	BOILER CIRCULATION	50% P.G.	38	31'	1,760	3/4	120/1	---
BC-2	TACO / 1915	BOILER CIRCULATION	50% P.G.	38	31'	1,760	3/4	120/1	---
CP-1A	TACO / 1911	BUILDING HEAT	50% P.G.	102.3	52'	3,500	3	208/3	PREMIUM MOTOR, VFD
CP-1B	TACO / 1911	BUILDING HEAT	50% P.G.	102.3	52'	3,500	3	208/3	PREMIUM MOTOR, VFD, BACKUP PUMP TO CP-1A
CP-2	TACO / 0010	SNOWMELT INJECTION	50% P.G.	14.0	6'	3,250	1/8	120/1	---
CP-3	TACO / 1919	SNOWMELT CIRCULATION	50% P.G.	35.1	57'	1,760	2	208/3	---
CP-4	TACO / 1911	HOT WATER CIRCULATION	WATER	67	40'	1,760	1-1/2	208/3	STAINLESS STEEL BODY, NSF 61, ALL STAINLESS STEEL BODY, RATED FOR OPEN SYSTEMS, LEAD FREE
CP-5	TACO / 1911	HOT WATER CIRCULATION	WATER	67	40'	1,760	1-1/2	208/3	STAINLESS STEEL BODY, NSF 61, ALL STAINLESS STEEL BODY, RATED FOR OPEN SYSTEMS, LEAD FREE
CP-6	TACO / 0011SF	DOMESTIC HOT WATER CIRCULATION	WATER	4.3	19'	3,250	1/8	120/1	RATED FOR OPEN SYSTEMS, LEAD FREE, NSF LABELED
SP-1	GOULDS / LSP07	ELEVATOR PIT SUMP	WATER	50	15'	3,450	3/4	120/1	WITH FLOAT SWITCH

AIR SEPARATOR SCHEDULE

TAG	MFGR / MODEL	SERVICE	FLUID	FLOW RATE (GPM)	WPD (FT HD)	INLET/OUTLET SIZE	DIMENSIONS	LABEL	REMARKS
AS-1	SPIROTHERM / VDT-300	HEATING SYSTEM	50% P.G.	92	<1.0'	3"	31.4"H x 8.6"Ø	ASME	COMBINATION AIR AND DIRT SEPARATOR WITH AUTO AIR VENT

BOILER SCHEDULE

TAG	MFGR / MODEL	TYPE	FLUID	FUEL	BURNER INPUT (MBH)	OUTPUT (MBH)	ELECTRICAL DATA		LABEL	REMARKS
							AMPS/WATTS	VOLTS/PH		
B-1	LOCHINVAR / KBN601	CONDENSING	50% P.G.	NATURAL GAS	600	564	0.7 AMPS	120/1	ASME	WITH TRIM PER INTERNATIONAL MECHANICAL CODE CHAPTER 10, 180°F OPERATING SETPOINT
B-2	LOCHINVAR / KBN601	CONDENSING	50% P.G.	NATURAL GAS	600	564	0.7 AMPS	120/1	ASME	WITH TRIM PER INTERNATIONAL MECHANICAL CODE CHAPTER 10, 180°F OPERATING SETPOINT

BASEBOARD SCHEDULE

TAG	MFGR / MODEL	OUTPUT (BTU/LF)	FLUID	EFT	LFT	TUBE SIZE	ELEMENT FIN SIZE	FIN PER FOOT	FIN THICKNESS	NUMBER OF TIERS	MOUNTING HEIGHT	ENCLOSURE THICKNESS	REMARKS
BB-1	STERLING / SENIOR SR-3/4-60	550	50% P.G.	170°F	150°F	3/4"Ø Cu	2-3/4" x 2-1/2"	60	0.011" AL	1	10"	18 GA	VANE DAMPER ON ENCLOSURE, BRACKET FOR RETURN PIPING WHERE REQUIRED
BB-2	STERLING / JVA-S14-C3/4-35	760	50% P.G.	170°F	150°F	3/4"Ø Cu	3-1/4" SQ.	50	0.020" AL	1	18"	16 GA	---
BB-3	STERLING / JVB-PM-C45	920	50% P.G.	170°F	150°F	1"Ø Cu	4-1/4" SQ.	50	0.020" AL	1	10-3/4"	16 GA	---
BB-4	STERLING / JVB-2PM-C3/4-435	1,240	50% P.G.	170°F	150°F	3/4"Ø Cu	4-1/4" x 3-5/8"	50	0.020" AL	1	10-3/4"	16 GA	---

UNIT HEATER SCHEDULE

TAG	MFGR / MODEL	CAPACITY (MBH)	FLUID	FLOW RATE (GPM)	FPD (FT HD)	EFT	LFT	AIRFLOW (CFM)	MOTOR DATA		REMARKS
									HP	VOLTS/PH	
UH-1	MODINE / HC-18	8.5	50% P.G.	1.3	<1'	170°F	150°F	340	1/60	120/1	---
UH-2	MODINE / HC-121	62.9	50% P.G.	9.7	<1'	170°F	150°F	1,775	1/5	120/1	---
UH-3	MODINE / HC-24	10.9	50% P.G.	1.7	<1'	170°F	150°F	370	1/25	120/1	---
UH-4	MODINE / HC-121	62.9	50% P.G.	9.7	<1'	170°F	150°F	1,775	1/5	120/1	---
CUH-1	MODINE / CW-03	14.9	50% P.G.	2.2	<1'	170°F	150°F	330	1/30	120/1	HORIZONTAL RECESSED CEILING MOUNTED ARRANGEMENT 58, FRAME
CUH-2	MODINE / CW-06	29.9	50% P.G.	4.4	<1'	170°F	150°F	620	1/20	120/1	FLOOR MOUNTED ARRANGEMENT 06
CUH-3	MODINE / CW-06	29.9	50% P.G.	4.4	<1'	170°F	150°F	620	1/20	120/1	FLOOR MOUNTED ARRANGEMENT 06

FAN SCHEDULE

TAG	MFGR / MODEL	SERVICE	AIRFLOW (CFM)	ESP (IN WG)	DRIVE	HVI SONES RATING	ELECTRICAL DATA		REMARKS
							HP/AMPS	VOLTS/PH	
EF-1	PANASONIC / FV-0511VKSL2	BATH ROOM EXHAUST	80	0.25"	DIRECT	<0.5	0.19 AMPS	120/1	EC MOTOR, INTEGRAL VARIABLE SPEED CONTROLS, MOTION SENSOR, NIGHT LIGHT, SWITCHED LED AREA LIGHT, SET CONTINUOUS AIR FLOW LEVEL AT 30 CFM, BOOST MODE AIR FLOW AS SCHEDULED
EF-2	PANASONIC / FV-0511VKSL2	PUBLIC TOILET ROOM EXHAUST	80	0.25"	DIRECT	<0.5	0.19 AMPS	120/1	EC MOTOR, INTEGRAL VARIABLE SPEED CONTROLS, MOTION SENSOR, NIGHT LIGHT, SWITCHED LED AREA LIGHT, SET CONTINUOUS AIR FLOW LEVEL AT 30 CFM, BOOST MODE AIR FLOW AS SCHEDULED
EF-3	PANASONIC / FV-0511VKS2	JANITOR'S ROOM EXHAUST	50	0.50"	DIRECT	<0.3	0.27 AMPS	120/1	EC MOTOR, INTEGRAL VARIABLE SPEED CONTROLS, ON-OFF CONTROL VIA LOCAL WALL SWITCH, SET CONTINUOUS AIR FLOW LEVEL AT 0 CFM, BOOST MODE AIR FLOW AS SCHEDULED
EF-4	PANASONIC / FV-1115VK2	REFUSE ACCESS ROOM EXHAUST	130	0.25"	DIRECT	<0.5	0.33 AMPS	120/1	EC MOTOR, INTEGRAL VARIABLE SPEED CONTROLS, ON-OFF CONTROL VIA LOCAL WALL SWITCH, SET CONTINUOUS AIR FLOW LEVEL AT 30 CFM, BOOST MODE AIR FLOW AS SCHEDULED
EF-5	GREENHECK / SQ-90-VG	REFUSE COLLECTION EXHAUST	500	0.25"	DIRECT	<7.0	1/4 HP	120/1	INLINE FAN, UNIT MOUNTED SPEED CONTROLLER FOR BALANCING
VF-1	GREENHECK / SS1-12-432-D	MECHANICAL ROOM COOLING	1,000	0.325"	DIRECT	<7.0	1/8 HP	120/1	SUPPLY AIRFLOW CONFIGURATION, OSHA MOTOR GUARD
DF-1	FANTECH / DBF-110	DRYER EXHAUST BOOSTER	150	0.325"	DIRECT	---	0.54 AMPS	120/1	ETL LISTED, PRESSURE SWITCH

RANGE HOOD SCHEDULE

TAG	MFGR / MODEL	SERVICE	NORMAL SPEED AIRFLOW (CFM)	DIMENSIONS LENGTH x WIDTH x HEIGHT	ELECTRICAL DATA		LABEL	REMARKS
					AMPS	VOLTS/PH		
RH-1	BROAN / CLSC130** - ADA	DOMESTIC RANGE EXHAUST	250	30" x 21" x 5"	1.4	120/1	UL	WITH REMOVABLE GREASE FILTER, TWO SPEED FAN ROCKER SWITCH, LIGHT SWITCH, AUXILIARY REMOTE SWITCH, COLOR/FINISH PER ARCHITECT

PERMIT DOCUMENTS

STATE OF ALASKA 49 TH
ALEC C. THOMSON
ME-8694
03/06/2023
REGISTERED PROFESSIONAL ENGINEER

CERTIFICATE OF AUTHORIZATION NO:
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ASPEN HOUSE LIMITED PARTNERSHIP
ASPEN HOUSE SENIOR APARTMENTS
WASILLA, ALASKA

REVISION SCHEDULE

#	DESCRIPTION	DATE

JOB NO. 2023.007.0
DATE 03/06/2023
DRAWN DBS/MDP
REVIEWED ACT

SHEET NAME
MECHANICAL SCHEDULES

SHEET NO.
M0.02

LOUVER SCHEDULE

TAG	MFGR / MODEL	SERVICE	MATERIAL	FINISH	FACE SIZE (INCHES)	FREE AREA (SQ. FT.)	REMARKS
L-1	RUSKIN / ELF6375DX	VF-1 INTAKE AIR	ALUMINUM	PER ARCH	20"W X 24"H	1.55	DRAINABLE
L-2	RUSKIN / ELF6375DX	RELIEF AIR	ALUMINUM	PER ARCH	30"W X 28"H	2.92	DRAINABLE

GRILLE - REGISTER - DIFFUSER SCHEDULE

TAG	MFGR / MODEL	TYPE	SERVICE	MATERIAL	FINISH	FACE SIZE (INCHES)	NECK SIZE (INCHES)	THROW	NC	REMARKS
SA	TITUS / TMSA-AA	DIFFUSER	S/A	ALUMINUM	WHITE	24/24	8"	4-WAY	<30	FRAME FOR GWB OR T-BAR CEILING AS REQUIRED, WITH 24/24 MODULE AT GWB CEILINGS
SB	TITUS / TMSA-AA	DIFFUSER	S/A	ALUMINUM	WHITE	24/24	6"	4-WAY	<30	FRAME FOR GWB OR T-BAR CEILING AS REQUIRED, WITH 24/24 MODULE AT GWB CEILINGS
SC	TITUS / S300FL	DIFFUSER	S/A	ALUMINUM	WHITE	18/4	---	---	<20	DUCT MOUNTED, SHALL BE PAINTED TO MATCH EXPOSED DUCT, AIR SCOOP REQUIRED
RA	TITUS / 50F	GRILLE	R/A	ALUMINUM	WHITE	22/22	---	---	<30	FRAME FOR GWB OR T-BAR CEILING AS REQUIRED, WITH 24/24 MODULE AT GWB CEILINGS

ENERGY RECOVERY VENTILATION UNIT SCHEDULE

			SUPPLY SIDE			RETURN SIDE			ELECTRICAL DATA			
TAG	MFGR / MODEL	SERVICE	FAN TYPE	AIRFLOW (CFM)	ESP (IN WG)	FAN TYPE	AIRFLOW (CFM)	ESP (IN WG)	MCA	MOP	VOLTS/PH	REMARKS
ERV-1	RENEWAIRE / DN-3-JRTAV133	CORE AREA BUILDING VENTILATON	CENTRIFUGAL	3,100	1.1"	CENTRIFUGAL	3,100	1.1"	19.4	25	208/3	PROVIDE WITH AIR-AIR HEAT EXCHANGER, O/A DAMPER, RECOVERY BYPASS DAMPER, HEAT COIL, O/A FILTERS, R/A FILTERS, CONTROL PANEL,
												CONDENSATE DRAIN, HINGED ACCESS PANELS

HEATING COIL SCHEDULE

TAG	MFGR	SIZE	LOCATION	AIRFLOW (CFM)	AIR PD (IN WC)	VELOCITY (FPM)	EAT	LAT	FLUID	FLOW RATE (GPM)	WPD (FT HD)	EFT	LFT	REMARKS
HC-1	BY ERV MANUFACTURER	PER MFGR	ERV-1	3,100	<0.08"	<375	32°F	75°F	50% P.G.	9.3	<7.9'	170°F	140°F	---

SNOWMELT HEATING SCHEDULE

ZONE	MANIFOLD	AREA (SQ. FT.)	BTUH PER SQ. FT.	NO. OF LOOPS	ACTIVE LOOP LENGTH	FLUID	LOOP FLOW RATE (GPM)	TOTAL ZONE FLOW RATE (GPM)	MINIMUM MANIFOLD SIZE	ON CENTER TUBE SPACING	TUBE SIZE	LOOP PRESS. DROP (FT HD)	LOOP ARRANGEMENT	SYSTEM TEMP.	TEMP. DROP	REMARKS
A	SN-1	1,082	145	7	207'	50% P.G.	2.1	14.7	1-1/2"	9"	5/8"	<15'	COUNTERFLOW	145°F	25°F	FRONT ENTRY
B	SN-2	895	145	6	199'	50% P.G.	1.9	11.4	1-1/4"	9"	5/8"	<15'	COUNTERFLOW	145°F	25°F	WEST SIDEWALL
C	SN-3	668	145	5	223'	50% P.G.	1.8	9.0	1-1/4"	9"	5/8"	<15'	COUNTERFLOW	145°F	25°F	EAST SIDEWALL

SEQUENCE OF OPERATIONS

GENERAL

UNLESS OTHERWISE INDICATED, ALL CONTROL FUNCTIONS SHALL BE THROUGH STANDALONE DIRECT DIGITAL CONTROLS (DDC) SYSTEMS WITH APPROPRIATE USER INTERFACE TO MONITOR AND CONTROL SYSTEMS. EQUIPMENT WITH INTEGRAL CONTROLS DO NOT NEED TO BE CONTROLLED THROUGH SEPARATE DDC CONTROLS SYSTEMS. THE CONTRACTOR SHALL PROVIDE A COMPLETE AND OPERATIONAL CONTROL SYSTEM AS REQUIRED TO PROVIDE EQUIPMENT CONTROL AS SPECIFIED UNDER THE SEQUENCE OF OPERATION. THE CONTRACTOR SHALL PROVIDE ALL LABOR, MATERIALS, EQUIPMENT, POWER, WIRING, CONDUIT, CONTROLLERS, ACTUATORS, AND ASSOCIATED CONTROL COMPONENTS FOR A COMPLETE AND OPERATIONAL SYSTEM.

GLYCOL MAKE UP TANK (GT-1)

INTEGRAL CONTROLS SHALL OPERATE PUMP TO MAINTAIN SYSTEM PRESSURE AND PROVIDE ALARMS.

ELEVATOR SUMP PUMP (SP-1)

INTEGRAL CONTROLS SHALL CYCLE PUMP ON-OFF.

HYDRONIC HEATING PUMPS (CP-1A AND CP-1B)

PUMPS SHALL OPERATE CONTINUOUSLY IN A LEAD - STANDBY CONFIGURATION WHEN OUTSIDE AIR TEMPERATURE IS AT THE ON-OFF SETPOINT OR LESS. IF PUMP FAILS TO START AS COMMANDED, SIGNAL ALARM AND STANDBY PUMP SHALL OPERATE. PUMP VFD SHALL MODULATE TO MAINTAIN HYDRONIC SYSTEM DIFFERENTIAL PRESSURE SETPOINT. DETERMINE THE APPROPRIATE DIFFERENTIAL PRESSURE SETPOINT DURING BALANCING OF SYSTEM. LEAD - STANDBY PUMP DESIGNATION SHALL ROTATE AFTER PUMP ROTATION SETPOINT HAS BEEN MET.

CONTROL AND MONITORING BY A DDC SYSTEM.

- SYSTEM SETTINGS
- OUTSIDE AIR TEMPERATURE ON-OFF SETPOINT (65°F, ADJUSTABLE)
- FREQUENCY OF ROTATION (168 HOURS, ADJUSTABLE)
- PUMP EXERCISING (OFF DURING HEATING SEASON)
- PROOF OF FLOW DELAY (30 SECONDS, ADJUSTABLE)

SNOWMELT SYSTEM CIRCULATION PUMPS (CP-2 AND CP-3)

PACKAGED SNOWMELT HEAT CONTROLLER OR EQUAL WITH TWO (2) MOISTURE/SLAB TEMPERATURE DETECTOR SHALL CONTROL THE SNOWMELT INJECTION PUMP, CP-2, AND SNOWMELT SYSTEM CIRCULATION PUMP, CP-3. SEE MANUFACTURER'S LITERATURE FOR COMPLETE SEQUENCE OF OPERATION. THE CONTROLLER SHALL HAVE BUT NOT LIMITED TO THE FOLLOWING CAPABILITIES, MELT MODE, IDLE MODE, EQUIPMENT EXERCISING, MANUAL OVERRIDE, COLD WEATHER AND WARM WEATHER SHUT DOWN. PROVIDE ALL SENSORS AS REQUIRED BY MANUFACTURER.

TEKMAR 670 CONTROLLER OR EQUAL.

INITIAL SNOWMELT CONTROLLER SETTINGS (670)

MELTING:	38°F.
IDLING:	32°F.
STORM:	OFF.
MANUAL MELT TIME	4 HR
ADD MELT:	0:30 HR.
STORM RUN TIME	8 HR
SENSITIVITY:	AUTO.
WWSD:	AUTO.
CWCO:	0°F.
MIX MAX:	145°F.
BOIL SENS:	RETURN.

DOMESTIC HOT WATER SYSTEM (WH-1, WH-2, WST-1, TV-1, CP-4 AND CP-5)

ON CALL FOR HEAT AT WATER STORAGE TANK, WST-1, WATER HEATERS SHALL OPERATED. WATER HEATER INTEGRAL CONTROLS SHALL CONTROL UNIT'S BURNER AND ASSOCIATED CIRCULATION PUMP.

WATER STORAGE TANK, WST-1. TEMPERATURE SHALL BE SET AT 140°F (ADJUSTABLE). TEMPERING VALVE, TV-1, SHALL BE SET AT 120°F (ADJUSTABLE) OUTLET TEMPERATURE. TV-1's INTEGRAL CONTROLS SHALL MODULATE VALVE AS REQUIRED TO MAINTAIN OUTLET TEMPERATURE SETPOINT.

NO CONTROL OR MONITORING BY A DDC SYSTEM.

DOMESTIC HOT WATER CIRCULATION PUMP (CP-6)

PUMP SHALL OPERATE CONTINUOUSLY.

BOILERS AND BOILER CIRCULATION PUMPS (B-1, BC-1, B-2 AND BC-2)

BOILER'S INTEGRAL CONTROLS SHALL BE CAPABLE OF OPTIMIZING BOILER PLANT ENERGY EFFICIENCY AND SHALL BE CAPABLE OF PROVIDING CONTROL AS FOLLOWS.

BOILER SHALL MAINTAIN BUILDING SUPPLY TEMPERATURE SETPOINT. THE BUILDING SUPPLY TEMPERATURE SETPOINT SHALL RESET LINEARLY BETWEEN 85°F AND 170°F BASED ON AN OUTDOOR AIR RESET SCHEDULE BETWEEN 65°F AND 10°F RESPECTIVELY. ALL RESET TEMPERATURE SETPOINTS SHALL BE ADJUSTABLE. BOILER CONTROLLER SHALL DISABLE THE BOILER ON OUTSIDE AIR TEMPERATURES OF 65°F AND HIGHER.

BOILER'S INTEGRAL CONTROLS SHALL MODULATE ITS BURNER AND OPERATE THE BOILER CIRCULATION PUMP TO MAINTAIN INTERNAL AQUASTAT TEMPERATURE. THE INTERNAL AQUASTAT TEMPERATURE SETPOINT SHALL RESET LINEARLY BETWEEN 95°F AND 180°F BASED ON AN OUTDOOR AIR RESET SCHEDULE BETWEEN 65°F AND 10°F RESPECTIVELY. ALL RESET TEMPERATURE SETPOINTS SHALL BE ADJUSTABLE.

PROVIDE ALL TRIM AS REQUIRED BY THE INTERNATIONAL MECHANICAL CODE CHAPTER 10.

PROVIDE EMERGENCY BOILER SHUTDOWN SWITCHES AT BOILER ROOM DOORS AS INDICATED ON DRAWINGS. EMERGENCY SWITCHES SHALL BE IN COMPLIANCE WITH ASME SECTION IV AND SHUT DOWN DOWN POWER TO BOILERS. COORDINATE WITH ELECTRICAL. SWITCHES SHALL BE PROVIDE WITH CLEAR FLIP COVER TO PREVENT ACCIDENTAL ACTIVATION AND PROPERLY LABELED.

BASEBOARD (BB-1, BB-2, BB-3 AND BB-4)

ON CALL FOR HEAT FROM LOCAL THERMOSTAT THE CONTROL VALVE SHALL OPEN.

CABINET UNIT HEATERS (CUH-1 THROUGH CUH-3)

ON CALL FOR HEAT FROM LOCAL THERMOSTAT THE CONTROL VALVE SHALL OPEN AND FAN SHALL OPERATE.

UNIT HEATERS (UH-1 THROUGH UH-4)

ON CALL FOR HEAT FROM LOCAL THERMOSTAT FAN SHALL OPERATE. COIL TO RUN WILD.

ENERGY RECOVERY VENTILATORS (ERV-1 AND HC-1)

UNIT SHALL RUN CONTINUOUSLY. WHEN OUTSIDE AIR TEMPERATURE IS 65°F (ADJUSTABLE) OR LOWER SUPPLY AIR TEMPERATURE SHALL BE 70°F (ADJUSTABLE). HEAT COIL'S, HC-1'S, THREE WAY VALVE SHALL MODULATE TO MAINTAIN SUPPLY AIR TEMPERATURE WHEN UNIT'S HEAT RECOVERY CORE CAN NOT MEET SETPOINT. INTEGRAL CONTROLS SHALL CONTROL UNITS INTERNAL OPERATIONS AND DEFROST. COORDINATE UNIT'S CONTROLS WITH DDC SYSTEM REQUIRED INTERFACE/CONTROL.

BATHROOM EXHAUST FAN (EF-1)

INTEGRAL CONTROLS SHALL SWITCH FAN FROM CONTINUOUS MODE (30 CFM) TO OCCUPIED BOOST MODE VIA INTEGRAL OCCUPANCY SENSOR. SET BOOST MODE TO LAST 30 MINUTES. INTEGRAL AREA LIGHT SHALL BE CONTROLLED VIA LOCAL ON-OFF WALL SWITCH.

TOILET EXHAUST FAN (EF-2)

INTEGRAL CONTROLS SHALL SWITCH FAN FROM CONTINUOUS MODE (30 CFM) TO OCCUPIED BOOST MODE VIA INTEGRAL OCCUPANCY SENSOR. SET BOOST MODE TO LAST 30 MINUTES. INTEGRAL AREA LIGHT SHALL BE CONTROLLED VIA LOCAL ON-OFF WALL SWITCH.

JANITOR'S ROOM EXHAUST FAN (EF-3)

ON-OFF WALL SWITCH SHALL SWITCH FAN FROM CONTINUOUS MODE SETTING (0 CFM) TO BOOST MODE. SET BOOST MODE TO LAST 30 MINUTES.

REFUSE ROOM EXHAUST FAN (EF-4)

INTEGRAL CONTROLS SHALL SWITCH FAN FROM CONTINUOUS MODE (30 CFM) TO OCCUPIED BOOST MODE VIA INTEGRAL OCCUPANCY SENSOR. SET BOOST MODE TO LAST 30 MINUTES.

REFUSE COLLECTION ROOM EXHAUST FAN (EF-5)

FAN SHALL RUN CONTINUOUSLY. PROVIDE COLD TEMPERATURE SHUT OFF. ON SPACE TEMPERATURE OF 40°F (ADJUSTABLE) OR COLDER FAN SHALL SHUT OFF.

MECHANICAL ROOM VENTILATION FAN (VF-1)

FAN SHALL OPERATE ON TEMPERATURE RISE BASED ON ADJUSTABLE ROOM THERMOSTAT SETPOINT. THE OUTSIDE AIR AND RETURN AIR DAMPERS SHALL MODULATE TO MAINTAIN SUPPLY AIR TEMPERATURE. RELIEF ASSEMBLY'S CONTROL DAMPER SHALL OPEN WHEN FAN OPERATES.

STATE OF ALASKA 49 TH
ALEC C. THOMSON
ME-8694
03/06/2023
REGISTERED PROFESSIONAL ENGINEER

CERTIFICATE OF AUTHORIZATION NO:
T3 ALASKA, LLC AECL #: 1625

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ASPEN HOUSE LIMITED PARTNERSHIP
ASPEN HOUSE SENIOR APARTMENTS
WASILLA, ALASKA

REVISION SCHEDULE

#	DESCRIPTION	DATE

JOB NO.	2023.007.0
DATE	03/06/2023
DRAWN	DBS/MDP
REVIEWED	ACT

SHEET NAME
MECHANICAL SCHEDULES

SHEET NO.
M0.03

PERMIT DOCUMENTS

MECHANICAL SPECIFICATIONS

GENERAL

.01 THE CONTRACTOR SHALL PROVIDE ALL MATERIALS, EQUIPMENT, APPURTENANCES, AND LABOR NECESSARY FOR THE INSTALLATION OF COMPLETE AND OPERABLE MECHANICAL SYSTEMS SHOWN OR DESCRIBED IN THE CONTRACT DOCUMENTS.

.02 THE PLANS ARE PARTLY DIAGRAMMATIC, NOT NECESSARILY SHOWING ALL OFFSETS AND FITTINGS OR EXACT LOCATIONS OF PIPING AND DUCTS UNLESS SPECIFICALLY DIMENSIONED. PROVIDE FITTINGS, OFFSETS, AND ACCESSORIES AS REQUIRED TO INSTALL THE WORK.

CODES AND STANDARDS

.01 ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE LATEST ADOPTED EDITION OF THE FOLLOWING CODES AND AMENDMENTS:

- INTERNATIONAL BUILDING CODE (IBC), 2021 EDITION.
- INTERNATIONAL MECHANICAL CODE (IMC), 2021 EDITION.
- INTERNATIONAL FUEL GAS CODE (IFGC), 2012 EDITION.
- INTERNATIONAL FIRE CODE (IFC), 2021 EDITION.
- INTERNATIONAL ENERGY CONSERVATION CODE (IECC), 2021 EDITION.
- UNIFORM PLUMBING CODE (UPC), 2018 EDITION.
- NATIONAL ELECTRICAL CODE (NEC), 2020 EDITION.

.02 SHEET METAL WORK SHALL BE DONE IN ACCORDANCE WITH THE LATEST SMACNA STANDARDS.

.03 NATIONAL FIRE PROTECTION ASSOCIATION, NFPA 13 - 2022: STANDARD FOR THE INSTALLATION OF SPRINKLER SYSTEMS.

.04 AMERICANS WITH DISABILITIES ACT ACCESSIBILITY GUIDELINES (ADA).

.05 ASHRAE STANDARD 62.2-2010: VENTILATION AND ACCEPTABLE INDOOR AIR QUALITY IN LOW-RISE RESIDENTIAL BUILDINGS WITH AHFC'S ALASKA SPECIFIC AMENDMENTS DATED JUNE 18, 2014.

.06 2018 ALASKA BUILDING ENERGY EFFICIENCY STANDARD (ALASKA BEES).

.07 AMERICAN SOCIETY OF CIVIL ENGINEERS, ASCE/SEI 7-10: MINIMUM DESIGN LOADS FOR BUILDINGS AND OTHER STRUCTURES.

PERMITS

.01 THE CONTRACTOR SHALL SECURE AND PAY FOR ALL NECESSARY PERMITS AND FEES.

WARRANTY

.01 ALL WORK PERFORMED UNDER THIS CONTRACT TO BE FREE FROM DEFECTS IN MATERIALS AND WORKMANSHIP FOR A PERIOD OF ONE YEAR FROM ACCEPTANCE.

.02 ANY FAULTY MATERIALS OR WORKMANSHIP SHALL BE REPAIRED OR REPLACED TO THE SATISFACTION OF THE OWNER DURING THE GUARANTEE PERIOD.

PRODUCTS

.01 ALL PRODUCTS SHALL BE NEW AND UNUSED, INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S DIRECTIONS AND IN THE BEST PRACTICE OF THE CRAFT.

.02 PRODUCTS SHALL BE SPECIFICALLY DESIGNED AND LISTED FOR THE TYPE OF OPERATION OR SERVICE FOR THE SYSTEMS IN WHICH THEY ARE BEING INSTALLED.

.03 ALL PRODUCTS SHALL BE ASBESTOS FREE AND LEAD FREE.

.04 OBTAIN OWNER'S APPROVAL OF ALL PRODUCTS PRIOR TO ORDERING OR INSTALLING ANY PART OF ANY SYSTEM.

PRODUCTS SUBSTITUTIONS

.01 ALL EQUIPMENT LISTED IS REPRESENTATIVE OF THE STANDARD OF QUALITY AND PERFORMANCE REQUIRED.

.02 SUBSTITUTED EQUIPMENT, SUCH AS PUMPS AND FANS, SHALL BE SELECTED IN THE MIDDLE OF THE EQUIPMENT'S RECOMMENDED OPERATION RANGE, TO ALLOW INCREASE OR DECREASE FIELD ADJUSTMENTS OF UNIT'S OPERATION IF NEEDED.

.03 "APPROVED EQUAL" SUBSTITUTIONS WILL BE CONSIDERED IF THE SUBSTITUTES ARE SHOWN TO BE EQUAL OR BETTER QUALITY, INCLUDING EFFICIENCY OF PERFORMANCE, SIZE AND WEIGHT.

.04 WHERE ACCEPTED SUBSTITUTED EQUIPMENT VARIES IN SIZE AND/OR CONFIGURATION, THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING THE CHANGES.

SUBMITTALS

.01 THE CONTRACTOR SHALL SUBMIT THE MECHANICAL SYSTEM'S EQUIPMENT, MATERIALS, AND PRODUCT DATA AS AN ELECTRONIC PDF FILE FOR REVIEW. THE PDF SHALL BE ARRANGED IN BASIC CSI CATEGORIES AND BOOKMARKED SEPARATING CATEGORIES, EQUIPMENT, AND DRAWINGS UNDER BASIC CATEGORIES. THE PDF SHALL BE LIMITED ONLY TO PRODUCT DATA RELEVANT FOR REVIEW.

.02 THE PRODUCT DATA SHALL BE APPROPRIATELY MARKED TO INDICATE PROPOSED PRODUCT.

.03 INCLUDE COLOR SELECTION CHARTS WITH PRODUCTS REQUIRING COLOR SELECTION.

.04 ALL PRODUCT DATA SHALL BE SUBMITTED AT ONE TIME. PARTIAL SUBMITTALS WILL BE RETURNED WITHOUT REVIEW.

OPERATION AND MAINTENANCE MANUAL

.01 PROVIDE THE OWNER WITH AN OPERATION AND MAINTENANCE MANUAL.

.02 INCLUDE MANUFACTURER'S SPECIFICATIONS, OPERATING AND MAINTENANCE INSTRUCTIONS, WARRANTY INFORMATION ON EACH PIECE OF EQUIPMENT, START-UP REPORTS, TESTING REPORTS, BALANCE REPORT AND SCHEMATIC DIAGRAMS OF CONTROL SYSTEMS AS-BUILT AND A SOURCE OF SUPPLY FOR SPARE PARTS AND SERVICE.

EQUIPMENT INSTALLATION

.01 INSTALL EQUIPMENT IN ACCORDANCE WITH THE MANUFACTURER'S REQUIREMENTS AND RECOMMENDED SERVICE CLEARANCES.

.02 PROVIDE ALL MISCELLANEOUS MATERIALS, APPURTENANCES, ACCESSORIES, SUPPORTS, AND CONTROL CONNECTIONS AS REQUIRED FOR A COMPLETE AND OPERATING PIECE OF EQUIPMENT.

.03 PROVIDE WORKABLE ACCESS TO ALL SERVICEABLE AND/OR OPERABLE EQUIPMENT.

.04 PROVIDE ACCESS DOOR OF REQUIRED RATING FOR ACCESS TO ALL SERVICEABLE AND/OR OPERABLE EQUIPMENT LOCATED ABOVE HARD CEILINGS OR IN WALLS.

PENETRATIONS

.01 PIPING SLEEVES THROUGH NON FIRE RATED ASSEMBLIES SHALL BE 18 GAUGE MINIMUM GALVANIZED STEEL.

.02 PIPING PENETRATIONS THROUGH FIRE RATED ASSEMBLIES SHALL BE PREMANUFACTURED, UL LISTED ASSEMBLIES.

.03 PENETRATIONS THROUGH SMOKE BARRIERS AND/OR SMOKE PARTITIONS SHALL BE SMOKE TIGHT.

.04 DUCT PENETRATIONS THROUGH FIRE RATED ASSEMBLIES SHALL BE PROVIDED WITH AN APPROPRIATELY RATED FIRE DAMPER OR FIRE SMOKE DAMPER.

.05 PROVIDE ESCUTCHEONS ON PIPE AND DUCT PENETRATIONS IN NORMALLY OCCUPIED AREAS WHERE EXPOSED TO VIEW.

SUPPORTS AND ANCHORS

.01 PIPING, DUCTWORK, AND EQUIPMENT SHALL BE ADEQUATELY SUPPORTED IN ACCORDANCE WITH CODE REQUIREMENTS, SEISMIC REQUIREMENTS AND GOOD PRACTICE.

.02 PIPING SUPPORTS SHALL BE CARBON STEEL, ADJUSTABLE SWIVEL HANGERS WITH THREADED ROD SUPPORT.

.03 INSULATED PIPING SHALL BE ROUTED THROUGH HANGERS AND PROVIDED WITH SHEET METAL INSULATION PROTECTION SADDLES.

.04 ALL SUPPORTS SHALL BE SECURED TO BUILDING STRUCTURAL ELEMENTS.

.05 EQUIPMENT CURB SUPPORTS SHALL BE PREMANUFACTURED OR CONTRACTOR FABRICATED WITH APPROPRIATE FLASHING IN ACCORDANCE WITH ROOFING SYSTEM MANUFACTURER'S REQUIREMENTS.

.06 PIPE ANCHORS SHALL BE CONTRACTOR FABRICATED AND SECURED TO BUILDING STRUCTURE TO RESIST PIPING MOVEMENT.

SEISMIC RESTRAINT

.01 EQUIPMENT, PIPING, AND DUCTWORK SYSTEMS SHALL BE SEISMICALLY RESTRAINED IN ACCORDANCE WITH THE INTERNATIONAL BUILDING CODE AND ASCE 7-10, CHAPTER 13.

.02 THE CONTRACTOR SHALL BE RESPONSIBLE FOR SEISMIC RESTRAINT DESIGN FOR ALL PIPING, DUCTWORK, AND EQUIPMENT USING PREMANUFACTURED SYSTEMS, AMBER BOOTH OR APPROVED EQUAL, OR BY RETAINING THE SERVICES OF A PROFESSIONAL STRUCTURAL ENGINEER LICENSED BY THE STATE OF ALASKA.

.03 THE CONTRACTOR SHALL PROVIDE STRUCTURAL ENGINEERING CALCULATIONS AND SHOP DRAWINGS OF THE PROPOSED RESTRAINT SYSTEMS FOR REVIEW AND APPROVAL BASED ON ACTUAL PIPING LAYOUT, ACTUAL DUCT LAYOUT, AND ACTUAL EQUIPMENT TO BE USED ON THE PROJECT TO THE OWNER'S REPRESENTATIVE.

MECHANICAL IDENTIFICATION

.01 PIPING SHALL BE PROVIDED WITH IDENTIFICATION.

.02 EQUIPMENT IN NORMALLY NON-OCCUPIED SPACES OR CONCEALED IN NORMALLY OCCUPIED SPACES SHALL BE PROVIDED WITH IDENTIFICATION.

.03 PIPING, CONCEALED OR EXPOSED, SHALL BE LABELED WITH ADHESIVE BACKED WRAP AROUND PIPE MARKERS OR PAINTED STENCIL, INDICATING SERVICE AND FLOW DIRECTION. LABELS SHALL READABLE FROM FLOOR, AT LEAST ONCE IN EVERY ROOM, NOT MORE THAN 20 FEET ON CENTER AND AT EACH SIDE OF WALL, FLOOR, AND CEILING PENETRATIONS. COLOR SCHEME IN ACCORDANCE WITH ANSI A13.1.

.04 EQUIPMENT SHALL BE LABELED WITH HEAT RESISTANT LAMINATED THREE LAYER PLASTIC NAMEPLATES. PROVIDE WITH ENGRAVED BLACK LETTERS ON LIGHT CONTRACTING BACKGROUND COLOR.

INSULATION

.01 ALL INSULATION INSTALLED INSIDE BUILDING SHALL HAVE 25 OR LESS FLAME SPREAD, 50 OR LESS SMOKE DEVELOPED RATING.

.02 FIBERGLASS PIPING INSULATION, ASTM C547, SHALL HAVE A MAXIMUM K VALUE OF 0.23 AT 75°F MEAN TEMPERATURE, ASTM C1045.

.03 FLEXIBLE CLOSED CELL ELASTOMERIC PIPING INSULATION, ASTM C534 - TYPE 1 - GRADE 1, SHALL HAVE A MAXIMUM K VALUE OF 0.25 AT 75°F MEAN TEMPERATURE, ASTM C177 AND PERMEABILITY OF 0.05 PERMS - INCH, ASTM E96.

.04 FLEXIBLE FIBERGLASS DUCT INSULATION, ASTM C553, SHALL HAVE A MAXIMUM K VALUE OF 0.29 AT 75°F MEAN TEMPERATURE, ASTM C518.

.05 RIGID FIBERGLASS DUCT INSULATION, ASTM C612, SHALL HAVE A MAXIMUM K VALUE OF 0.24 AT 75°F MEAN TEMPERATURE, ASTM C518.

.06 UNDERGROUND FLEXIBLE COLD WATER PIPING SHALL BE INSULATED WITH 1" FLEXIBLE CLOSED CELL ELASTOMERIC INSULATION.

.07 ABOVEGROUND DOMESTIC COLD WATER, HOT WATER AND HOT WATER CIRCULATING PIPING SHALL BE INSULATED WITH PRE-FORMED FIBERGLASS INSULATION WITH FACTORY APPLIED VAPOR BARRIER ALL SERVICE JACKET AND PREMANUFACTURED PLASTIC FITTING INSULATION. FOR COLD WATER PIPING DIAMETERS 1" AND SMALLER USE 1/2" INSULATION THICKNESS. FOR HOT WATER PIPING DIAMETERS 1" AND SMALLER USE 1" INSULATION THICKNESS. FOR COLD WATER PIPING DIAMETERS 1-1/2" AND LARGER USE 1" INSULATION THICKNESS. FOR HOT WATER PIPING DIAMETERS 1-1/2" AND LARGER USE 1-1/2" INSULATION THICKNESS.

.08 INTERIOR HEATING GLYCOL PIPING SHALL BE INSULATED WITH PRE-FORMED FIBERGLASS INSULATION WITH FACTORY APPLIED VAPOR BARRIER ALL SERVICE JACKET AND PREMANUFACTURED PLASTIC FITTING INSULATION. 1-1/2" INSULATION THICKNESS FOR PIPE DIAMETERS 1-1/4" AND SMALLER. 2" INSULATION THICKNESS FOR 1-1/2" AND LARGER PIPE DIAMETER.

.09 EXTERIOR HEATING GLYCOL PIPING SHALL BE INSULATED WITH PRE-FORMED FIBERGLASS INSULATION WITH FACTORY APPLIED VAPOR BARRIER ALL SERVICE JACKET AND PREMANUFACTURED PLASTIC FITTING INSULATION ALL COVERED WITH A WEATHERPROOF METAL OUTER JACKET. 1-1/2" INSULATION THICKNESS FOR PIPE DIAMETERS 1" AND SMALLER. 2" INSULATION THICKNESS FOR 1-1/2" AND LARGER PIPE DIAMETER.

.10 ABOVEGROUND STORM DRAINAGE PIPING SHALL BE INSULATED WITH 1" PRE-FORMED FIBERGLASS INSULATION WITH FACTORY APPLIED VAPOR BARRIER ALL SERVICE JACKET AND PREMANUFACTURED PLASTIC FITTING INSULATION.

.11 PLUMBING VENT THROUGH ROOFS SHALL BE INSULATED WITH 1" PRE-FORMED FIBERGLASS INSULATION WITH FACTORY APPLIED VAPOR BARRIER ALL SERVICE JACKET DOWN TO 3' WITHIN THE BUILDING.

.12 MECHANICAL ROOM DUCTWORK SHALL BE INSULATED WITH 2" RIGID FIBERGLASS INSULATION WITH FACTORY APPLIED VAPOR BARRIER WITH CANVAS COVERING.

.13 SUPPLY AND RETURN AIR DUCTWORK SHALL BE INTERNALLY INSULATED WITH 1" THICK FIBERGLASS DUCT LINER WITH SMOOTH COATED AIRSTREAM SURFACE AND EDGES WHERE INDICATED ON THE PLANS TO PROVIDE SOUND ATTENUATION.

.14 EXHAUST AIR DUCTWORK AND RELIEF AIR DUCTWORK SHALL BE INSULATED WITH 1" FIBERGLASS INSULATION WITH FACTORY APPLIED VAPOR BARRIER WITH FOIL SCRIM FACING, TO A POINT 10 FEET MINIMUM WITHIN THE BUILDING OR AS INDICATED ON DRAWINGS.

PIPING

.01 UNDERGROUND SANITARY WASTE AND VENT PIPING SHALL BE ASTM A74 HUB AND SPIGOT CAST IRON, ASTM A888/CISPI 301 NO-HUB CAST IRON WITH HEAVY DUTY COUPLINGS (HUSKY HD 2000 OR APPROVED EQUAL), ASTM D2661 ABS DWV OR ASTM D2665 PVC DWV. SLOPE PIPING AT A MINIMUM OF 1/4" PER FOOT UNLESS OTHERWISE NOTED.

.02 ABOVEGROUND SANITARY WASTE AND VENT PIPING SHALL BE ASTM A888/CISPI 301 NO-HUB CAST IRON, ASTM B1785 COPPER DWV, ASTM D2661 ABS DWV OR ASTM D2665 PVC DWV. SLOPE PIPING AT A MINIMUM OF 1/4" PER FOOT UNLESS OTHERWISE NOTED. NO PLASTIC PIPING ALLOWED IN PLENUMS. NO EXPOSED PLASTIC PIPING ALLOWED IN FINISHED AREAS OR WITHIN CABINETRY.

.03 PRESSURE WASTE PIPING SHALL BE ASTM B306 COPPER DWV OR ASTM D1785 PVC DWV. JOINTS FOR COPPER PIPES SHALL BE SOLDER ASTM B32 95-5 TA OR LEAD-FREE OR BRAZED ANSI/AWS A5.8 BCUP. NO PLASTIC PIPING ALLOWED IN PLENUMS. NO EXPOSED PLASTIC PIPING ALLOWED IN FINISHED AREAS.

.04 UNDERGROUND STORM DRAINAGE PIPING SHALL BE ASTM A74 HUB AND SPIGOT CAST IRON, ASTM A888/CISPI 301 NO-HUB CAST IRON WITH HEAVY DUTY COUPLINGS (HUSKY HD 2000 OR APPROVED EQUAL), SCHEDULE 40 ABS DWV ASTM D2661 OR SCHEDULE 40 PVC DWV ASTM D2665. SLOPE PIPING AT A MINIMUM OF 1/8" PER FOOT UNLESS OTHERWISE NOTED.

.05 ABOVEGROUND STORM DRAINAGE PIPING SHALL BE ASTM A888/CISPI 301 NO HUB CAST IRON, ASTM D2661 SCHEDULE 40 ABS DWV OR ASTM D2665 SCHEDULE 40 PVC DWV. SLOPE PIPING AT A MINIMUM OF 1/8" PER FOOT UNLESS OTHERWISE NOTED. NO PLASTIC PIPING ALLOWED IN PLENUMS. NO EXPOSED PLASTIC PIPING ALLOWED IN FINISHED AREAS.

.06 UNDERGROUND WATER SERVICE MAINS SHALL BE COORDINATE WITH CIVIL.

.07 UNDERGROUND TRAP PRIMER PIPING SERVING FLOOR DRAINS SHALL BE CONTINUOUS WITH NO JOINTS. ASTM B88 TYPE K ANNEALED COPPER OR PEX PIPING.

.08 ABOVEGROUND DOMESTIC WATER PIPING SHALL BE ASTM B88 TYPE L COPPER, HARD DRAWN. CROSS-LINKED POLYETHYLENE, TYPE PEX-A, PIPING LISTED FOR POTABLE WATER APPLICATIONS ALLOWED FOR BRANCH CONNECTION TO INDIVIDUAL FIXTURES. JOINTS FOR COPPER PIPES SHALL BE SOLDER ASTM B32 95-5 TA OR LEAD-FREE OR BRAZED ANSI/AWS A5.8 BCUP. PIPING SHALL COMPLY WITH ANSI/NSF 61 AS SUITABLE FOR POTABLE WATER USE. NO PLASTIC PIPING ALLOWED IN PLENUMS. NO EXPOSED PLASTIC PIPING ALLOWED IN FINISHED AREAS OR WITHIN CABINETRY.

.09 PROVIDE NSF 61 AND UPC CERTIFIED BRAIDED STAINLESS STEEL FLEXIBLE PIPING FOR FINAL CONNECTIONS AT FAUCETS, APPLIANCES, ETC. LENGTH AS REQUIRED.

.10 UNDERGROUND HEAT PIPING SHALL BE A CROSS-LINKED POLYETHYLENE, TYPE PEX-A, WITH AN OXYGEN DIFFUSION BARRIER AND A MAXIMUM WORKING PRESSURE OF 80 PSI AT 200°F, MANUFACTURED IN ACCORDANCE WITH ASTM F876. WIRSBO OR APPROVED EQUAL.

.11 HEATING GLYCOL PIPING SHALL BE ASTM B88 TYPE L COPPER FOR SIZES 3" AND SMALLER AND ASTM A53 SCHEDULE 40 STEEL FOR SIZES 4" AND LARGER. JOINTS FOR COPPER PIPING SHALL BE SOLDER ASTM B32 95-5 TA OR LEAD-FREE OR BRAZED ANSI/AWS A5.8 BCUP AND FOR STEEL PIPING SCHEDULE 40 STEEL WELDED FITTINGS. PROPRESS ALLOWED. VICTAULIC NOT ALLOWED.

.12 INSLAB SNOWMELT HEAT PIPING SHALL BE A CROSS-LINKED POLYETHYLENE, TYPE PEX-A, WITH AN OXYGEN DIFFUSION BARRIER AND A MAXIMUM WORKING PRESSURE OF 80 PSI AT 200°F, MANUFACTURED IN ACCORDANCE WITH ASTM F876. WIRSBO OR APPROVED EQUAL.

.13 ABOVEGROUND NATURAL GAS PIPING SHALL BE ASTM A53 SCHEDULE 40 STEEL, THREADED FITTINGS FOR LOW PRESSURE OR VIEGA MEGAPRESS-G SYSTEM.

.14 ROUTE PIPES PARALLEL WITH BUILDING LINES UNLESS OTHERWISE INDICATED. CONCEAL ALL PIPING IN FINISHED AREAS UNLESS AUTHORIZED BY OWNER.

.15 DO NOT ROUTE ANY PIPING IN STAIRWELLS OR STAIRWELL WALLS UNLESS PIPING SERVES EQUIPMENT SUPPORTING THE STAIRWELL.

.16 PROVIDE CHROME PLATED SPRING CLIP TYPE ESCUTCHEON PLATES AT EXPOSED WALL, FLOOR AND CEILING PIPE PENETRATIONS AND AT PENETRATIONS WITHIN CABINETS.

.17 PROVIDE DIELECTRIC UNIONS OR NIPPLES AT PIPING JOINTS BETWEEN DISSIMILAR METALS.

VALVES

.01 ISOLATION VALVES SHALL BE BALL VALVES OR BUTTERFLY VALVES. GATE VALVES AND GLOBE VALVES ARE NOT ACCEPTABLE.

.02 ISOLATION VALVES SHALL BE FULL LINE SIZE AND FULL PORT.

.03 VALVES FOR DOMESTIC WATER SYSTEMS SHALL MEET LOW-LEAD CODES AND REGULATIONS.

.04 STOPS AT FIXTURES SHALL BE LOW LEAD BRASS BODY AND STEM, CHROME PLATED, QUARTER TURN, STRAIGHT OR ANGLED.

.05 VALVES FOR GAS SERVICE SHALL BE AGA APPROVED.

.06 BALANCE VALVES SHALL BE B&G CIRCUIT SETTER, OR APPROVED EQUAL. BALANCING VALVES ON DOMESTIC WATER SYSTEMS SHALL BE LOW-LEAD, NSF-61.

.07 AUTOMATIC FLOW LIMITING VALVES SHALL BE GRISWOLD, OR APPROVED EQUAL. AUTOMATIC FLOW LIMITING VALVES ON DOMESTIC WATER SYSTEMS SHALL BE LOW-LEAD, NSF-61.

.08 CONTROL VALVES SHALL BE BRONZE BODY AND SEAT WITH STAINLESS STEEL STEM AND SCREWED ENDS. ANSI CLASS 250 BODY. SUITABLE FOR FLUID TEMPERATURES OF UP TO 300°F. CONTROL VALVES SHALL BE CORRECTLY SELECTED FOR SERVICE AND FLOW OF SYSTEM SERVED. A PRESSURE DROP OF 3 PSI SHALL BE USED FOR SIZING OF MODULATING VALVES. TWO POSITION SHUTOFF VALVES SHALL BE LINE SIZE AND FULL PORT. PROVIDE ELECTRONIC ACTUATORS WITH SUFFICIENT CLOSE-OFF PRESSURE TO CLOSE VALVE AGAINST SYSTEM PUMP PRESSURE.

.09 DIFFERENTIAL PRESSURE CONTROL VALVES SHALL BE HONEYWELL BRAUKMANN D146M OR EQUAL.

.10 PROVIDE ISOLATION VALVES AT EACH FIXTURE GROUP, PUMPS, TERMINAL HEATING UNITS AND AS INDICATED ON DRAWINGS.

.11 PROVIDE GAS ISOLATION VALVES AT EACH GAS APPLIANCE.

.12 PROVIDE BALANCE VALVES AT EACH PUMP, TERMINAL HEATING UNITS AND WHERE INDICATED ON PLANS. INSTALL PER MANUFACTURER'S REQUIREMENTS.

.13 PROVIDE AUTOMATIC FLOW LIMITING VALVES AT TERMINAL HEATING UNITS AND WHERE INDICATED ON PLANS. PSID RANGE OF FLOW LIMITING CARTRIDGES SHALL BE SELECTED BY MANUFACTURER BASED ON THEIR REVIEW OF THE SYSTEM LAYOUT(S) AND ASSOCIATED PUMP(S). CARTRIDGES FOUND OUT OF RANGE DURING BALANCING SHALL BE CORRECTED BY MANUFACTURER, REPLACED AND INSTALLED AT NO COST. INSTALL PER MANUFACTURER'S REQUIREMENTS.

.14 PRESSURE GAUGES SHALL MEET ASME B40.1 GRADE 1A WITH METAL CASING, BLACK SCALE ON WHITE BACKGROUND AND PSI SCALE. THE INDICATION RANGE SHALL BE SUITABLE FOR APPLICATION.

PLUMBING

.01 PLUMBING EQUIPMENT SHALL BE COMMERCIAL GRADE WITH MANUFACTURER AND MODEL AS INDICATED ON THE EQUIPMENT SCHEDULES OR APPROVED EQUAL.

.02 PLUMBING FIXTURES SHALL BE AS INDICATED ON THE PLUMBING FIXTURE SCHEDULE, OR APPROVED EQUAL.

.03 COORDINATE WITH ARCHITECTURAL PLANS AND ELEVATIONS, CODE REQUIREMENTS AND MANUFACTURER'S INSTALLATION REQUIREMENTS FOR FINAL PLUMBING FIXTURE AND TRIM LOCATIONS.

.04 PLUMBING FIXTURES WITH A LEFT HAND OR RIGHT HAND CONFIGURATION OPTION SHALL BE COORDINATED WITH THE PLANS.

.05 ADA ACCESSIBLE LAVATORY'S AND SINK'S P-TRAP, ANGLE STOPS, COLD AND HOT WATER PIPING SHALL BE PROVIDED WITH PREMANUFACTURED SAFETY COVER SYSTEM, ADA 4.19.4, AND THE UPC. TRUEBRO OR APPROVED EQUAL.

.06 PROVIDE WATER HAMMER ARRESTOR DEVICES AS INDICTED ON THE DRAWINGS AND AS REQUIRED BY THE UNIFORM PLUMBING CODE. PROVIDE ARRESTORS APPROVED FOR INSTALLATIONS WITH NO ACCESS PANEL REQUIRED.

HEATING

.01 HEATING EQUIPMENT SHALL BE COMMERCIAL GRADE WITH MANUFACTURER AND MODEL AS INDICATED ON THE EQUIPMENT SCHEDULES OR APPROVED EQUAL.

.02 AUTOMATIC AIR VENTS SHALL BE PROVIDED AT ALL HIGH POINTS OF THE PIPING SYSTEM, HEATING COILS, UNIT HEATERS AND FAN COIL UNITS. MANUAL AIR VENTS SHALL BE PROVIDED AT BASEBOARD.

.03 LOW POINT DRAINS SHALL BE PROVIDED AT ALL LOW POINTS OF THE PIPING SYSTEMS.

.04 VENTING PER EQUIPMENT MANUFACTURER'S INSTRUCTIONS. FLUE PIPING SHALL BE LISTED FOR USE WITH CATEGORY IV CONDENSING APPLIANCES AND AS APPROVED BY EQUIPMENT MANUFACTURER.

GLYCOL

.01 PROVIDE PRE-MIXED HYDRONIC GRADE PROPYLENE GLYCOL AT A RATE OF 50% GLYCOL TO 50% WATER FOR A -20°F PROTECTION OR BETTER. DOWFROST HD OR APPROVED EQUAL.

.02 PROVIDE AN ADDITIONAL 30 GALLONS OF MIX AT THE END OF THE PROJECT IN GLYCOL MAKE-UP TANK.

.03 TEST GLYCOL AT PROJECT COMPLETION. TESTING SHALL BE BY THE GLYCOL MANUFACTURER OR AN INDEPENDENT TESTING FACILITY APPROVED BY THE GLYCOL MANUFACTURER. PROVIDE ANY CORRECTIVE ACTIONS RECOMMENDED BY THE TESTING AND RETEST. SUBMIT ALL TEST REPORT(S) TO OWNER AND PROVIDE A RECOMMENDED TESTING SCHEDULE FOR THE OWNER TO FOLLOW.

VENTILATION

.01 VENTILATION SYSTEM SHALL BE PROTECTED DURING CONSTRUCTION PER SMACNA RECOMMENDATIONS. DUCT OPENINGS SHALL BE COVERED DURING CONSTRUCTION TO PREVENT ENTRANCE OF DUST AND DEBRIS.

.02 VENTILATION EQUIPMENT SHALL BE COMMERCIAL GRADE WITH MANUFACTURER AND MODEL AS INDICATED ON THE EQUIPMENT SCHEDULES OR APPROVED EQUAL.

.03 COORDINATE DIFFUSER AND GRILLE LOCATIONS WITH ARCHITECTURAL REFLECTED CEILING PLANS, SPRINKLER PLANS AND ELECTRICAL LIGHTING PLANS TO AVOID CONFLICT.

.04 DUCT SIZES INDICATED ON THE DRAWINGS REPRESENT THE INSIDE DIMENSIONS. FOR INTERIOR LINED DUCTWORK THE DUCT SHALL BE UPSIZED TO MAINTAIN INSIDE DIMENSIONS.

.05 DUCTWORK SHALL BE CONSTRUCTED AND INSTALLED, IN ACCORDANCE WITH SMACNA STANDARDS. APPLY DUCT MASTIC AT DUCT CONNECTIONS, PLENUM EDGES AND CORNERS.

.06 DUCTWORK SHALL BE GALVANIZED SHEET METAL, RECTANGULAR OR ROUND AS INDICATED ON PLANS.

.07 ROUND DUCTWORK IN EXPOSED LOCATIONS SHALL BE SPIRAL TYPE.

.08 TRANSITION DUCT SIZES GRADUALLY, NOT EXCEEDING 20° DIVERGENCE AND 30° CONVERGENCE.

.09 TURNING VANES SHALL BE PROVIDED AT SQUARE DUCTWORK ELBOWS. ACOUSTICAL TURNING VANES SHALL BE PROVIDED AT SOUND LINED SQUARE DUCTWORK ELBOWS.

.10 PROVIDE 6' MAXIMUM INSULATED FLEXIBLE DUCT CONNECTION BETWEEN LOW PRESSURE DUCT AND DIFFUSER OR GRILLE AND PROVIDE ELBOW SUPPORT.

.11 PROVIDE FLEXIBLE DUCT CONNECTIONS ON ALL ROTATING EQUIPMENT.

.12 PROVIDE VOLUME DAMPERS AT EACH DIFFUSER BRANCH DUCT UNLESS DIFFUSER IS SCHEDULED TO BE PROVIDED WITH INTEGRAL DAMPER.

.13 PROVIDE REMOTE OPERATORS WHERE VOLUME DAMPERS ARE LOCATED ABOVE HARD CEILING.

.14 INSULATED CONTROL DAMPERS SHALL BE MULTI BLADE OPPOSED ACTION FOR MODULATING APPLICATIONS AND PARALLEL ACTION FOR OPEN/SHUT APPLICATIONS. FRAMES SHALL BE EXTRUDED ALUMINUM, WELDED OR RIVETED WITH CORNER REINFORCEMENTS AND TWO THERMAL ISOLATION BREAKS FILLED WITH POLYURETHANE AND DEBRIDGED. BLADES SHALL BE EXTRUDED ALUMINUM WITH AIRFOIL SHAPED INJECTED WITH HIGH DENSITY POLYURETHANE CFC FREE FOAM, MAXIMUM 6" BLADE WIDTH, FIELD REPLACEABLE -50°F TO 250°F OPERATION VINYL BLADE SEALS. R-VALUE SHALL NOT BE LESS THAN 0.549 HR-SQ.FT.-°F/BTU. LEAKAGE SHALL BE LESS THAN 6 CFM/SQ. FT. AT 4" W.G., TESTED PER AMCA 500-D-97.

.15 CLOTHES DRYER CONNECTION BOX SHALL BE PRE-MANUFACTURED AND INSTALLED PER MANUFACTURER'S REQUIREMENTS. UL LISTED WHEN INSTALLED IN FIRE RATED WALLS. COORDINATE INSTALLATION LOCATION WITH DRYER EXHAUST OUTLET LOCATION.

.16 WALL CAPS FOR TOILET EXHAUST FANS, RANGE HOOD EXHAUSTS AND DRYER EXHAUSTS SHALL BE ALUMINUM WITH ANODIZED FINISH AND SPRING LOADED BACKDRAFT DAMPER. SEIHO MODEL CFXC OR EQUAL. DRYER UNITS SHALL BE LESS LOUVER GRILLE.

.17 FIRE DAMPERS AND COMBINATION FIRE/SMOKE DAMPERS SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS AND THEIR LISTINGS. COORDINATE COMBINATION FIRE/SMOKE DAMPER'S ELECTRIC MOTOR CONNECTION AND VOLTAGE REQUIREMENTS WITH ELECTRICAL.

.18 PROVIDE REMOTE SMOKE DETECTOR MONITORING STATIONS WITH VISUAL AND AUDIBLE SIGNALING AS REQUIRED BY IMC 606.4.1 FOR AIR HANDLING UNITS SCHEDULED OR REQUIRED TO HAVE SMOKE DETECTION SHUT-DOWN.

FIRE PROTECTION

.01 THE ENTIRE BUILDING SHALL BE PROVIDED WITH A SPRINKLER SYSTEM IN ACCORDANCE WITH NFPA 13 REQUIREMENTS.

.02 PROVIDE COMPLETE INTERFACE WITH THE BUILDING SMOKE AND FIRE ALARM SYSTEM.

.03 PROVIDE VALVE SUPERVISION AND WATER FLOW ALARMS AND A TROUBLE SIGNAL MONITORING SYSTEM AUTOMATICALLY TRANSMITTED TO AN APPROVED STATION.

.04 THE CONTRACTOR SHALL HAVE THE SYSTEM DESIGN BY A NICET LEVEL III OR IV CERTIFIED DESIGNER OR A STATE OF ALASKA REGISTERED FIRE PROTECTION ENGINEER.

.05 THE CONTRACTOR SHALL SUBMIT DRAWINGS, CUTSHEETS AND CALCULATIONS IN ACCORDANCE WITH NFPA 13R REQUIREMENTS TO THE AUTHORITY HAVING JURISDICTION AND THE OWNER.

.06 NO WET PIPING SHALL BE INSTALLED OUTSIDE THE THERMAL ENVELOPE OF THE BUILDING.

.07 PLASTIC PIPING IS NOT ALLOWED IN MECHANICAL ROOMS OR DRY PIPE SYSTEMS..

.08 DRY PIPE SYSTEMS IF REQUIRED SHALL BE SCHEDULE 40 GALVANIZED STEEL, NO SUBSTITUTIONS.

.09 METALLIC PIPE FITTINGS SHALL BE VICTAULIC OR APPROVED EQUAL.

.10 VESTIBULE AREAS AND SIMILAR AREAS SHALL BE PROVIDED WITH DRY PENDANT HEADS.

CONTROLS

.01 THE CONTRACTOR SHALL PROVIDE A COMPLETE AND OPERATIONAL CONTROL SYSTEM AS REQUIRED TO PROVIDE EQUIPMENT CONTROL AS SPECIFIED UNDER THE SEQUENCE OF OPERATIONS.

.02 THE CONTRACTOR SHALL PROVIDE ALL LABOR, MATERIALS, EQUIPMENT, POWER, WIRING, CONDUIT, CONTROLLERS, THERMOSTATS, ACTUATORS, TRANSFORMERS, AND ASSOCIATED CONTROL COMPONENTS FOR A COMPLETE AND OPERATIONAL SYSTEM.

.03 CONTROL WIRING EXPOSED IN ROOMS SHALL BE ROUTED IN CONDUIT. 24V AND LESS CONTROL WIRING ABOVE HARD OR OTHERWISE INACCESSIBLE CEILINGS SHALL BE ROUTED IN CONDUIT. 24V AND LESS CONTROL WIRING NOT IN CONDUIT SHALL BE PLENUM RATED.

.04 THERMOSTATS IN RESIDENTIAL UNITS SHALL BE LOW VOLTAGE, HEATING ONLY, NIGHT SETBACK, SEVEN DAY PROGRAMMABLE WITH DIGITAL DISPLAY. HONEYWELL TL8100 OR EQUAL.

.05 THERMOSTATS IN PUBLIC SPACES SHALL BE LOW VOLTAGE, HEATING ONLY WITH DIGITAL DISPLAY. HONEYWELL TH1100DV OR EQUAL. PROVIDE LOCKING COVERS.

.06 LINE VOLTAGE THERMOSTATS SHALL BE COORDINATED WITH THE ELECTRICAL CONTRACTOR. PROVIDE QUANTITY AND LOCATIONS OF ANY LINE VOLTAGE THERMOSTATS TO ELECTRICAL. ELECTRICAL CONTRACTOR TO INSTALL.

.07 PROVIDE INSULATED BASE FOR THERMOSTATS/SENSORS MOUNTED ON EXTERIOR WALLS

.08 MOUNT THERMOSTATS/SENSORS AT 48" ABOVE FINISH FLOOR UNLESS OTHERWISE INDICATED.

TEST AND START-UP

.01 TEST ALL PLUMBING PIPING SYSTEMS IN ACCORDANCE WITH THE UNIFORM PLUMBING CODE.

.02 TEST ALL GAS PIPING SYSTEMS IN ACCORDANCE WITH THE INTERNATIONAL FUEL GAS CODE.

.03 TEST ALL HYDRONIC PIPING SYSTEMS IN ACCORDANCE WITH THE INTERNATIONAL MECHANICAL CODE.

.04 TEST SNOWMELT PIPING PER TUBING MANUFACTURER'S RECOMMENDATIONS PRIOR TO AND DURING CONCRETE POUR.

.05 FLUSH AND DISINFECT THE DOMESTIC POTABLE WATER PIPING SYSTEMS IN ACCORDANCE WITH THE UNIFORM PLUMBING CODE.

.06 FLUSH AND CLEAN HYDRONIC PIPING SYSTEMS IN ACCORDANCE WITH GLYCOL MANUFACTURER'S REQUIREMENTS, WATER TREATMENT RECOMMENDATIONS AND GOOD PRACTICE.

.07 PROVIDE BOILER START-UP WITH THE SERVICES OF BOILER MANUFACTURER'S AUTHORIZED REPRESENTATIVE. PERFORM PROCEDURES AND TESTS REQUIRED BY THE MANUFACTURER AND PROVIDE THE OWNER WITH A COPY OF THE START-UP REPORT AT END OF PROJECT.

TESTING, ADJUSTING, AND BALANCING (TAB)

.01 TEST, ADJUST, AND BALANCE THE ENTIRE AIR AND HYDRONIC SYSTEMS.

.02 AIR AND HYDRONIC FLOWS ARE TO BE BALANCED TO WITHIN +-10% OF DESIGN VALUES. BALANCING PROCEDURES SHALL BE IN ACCORDANCE WITH NEBB OR AABC REQUIREMENTS.

.03 PRIOR TO START OF TAB, ADJUST ALL AIR PATTERN CONTROLLERS, GRILLES AND REGISTER BLADES FOR PROPER AIR DIFFUSION PATTERNS.

.04 PRIOR TO START OF TAB, VERIFY THE SYSTEMS AND EQUIPMENT ARE READY FOR THIS WORK.

.05 CORRECT ANY AIR AND/OR HYDRONIC DEFICIENCIES FOUND DURING INITIAL TESTING PRIOR TO FINAL TESTING.

.06 NOTIFY THE ENGINEER OF ANY PROBLEMS ENCOUNTERED DURING THE BALANCING PROCEDURE.

.07 PERMANENTLY MARK THE FINAL SETTING OF VALVES, DAMPERS AND OTHER ADJUSTMENT DEVICES.

.08 COMPLETE AND SUBMIT NEBB OR AABC OR SIMILAR TEST REPORT FORMS AT CONCLUSION OF TAB FOR REVIEW AND APPROVAL. REPORT SHALL INCLUDE A "% OF DESIGN" VALUE FOR EACH AIR AND HYDRONIC DEVICE BALANCED.

RECORD DRAWINGS

.01 MAINTAIN ACCURATE PROJECT RECORD DRAWINGS INDICATING ALL FIELD CHANGES IN RED INK FROM THE ORIGINAL PLANS MADE DURING INSTALLATION OF WORK.

.02 SUBMIT RECORD DRAWINGS TO OWNER AT COMPLETION OF PROJECT.

TRAINING

.01 PROVIDE ON-SITE INSTRUCTION FOR THE OWNER'S PERSONNEL IN THE OPERATION, CARE AND MAINTENANCE OF ALL SYSTEMS AND EQUIPMENT.

STATE OF ALASKA
49TH
ALEC C. THOMSON
ME-8694
03/06/2023
REGISTERED PROFESSIONAL ENGINEER

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ASPEN HOUSE LIMITED PARTNERSHIP
ASPEN HOUSE SENIOR APARTMENTS
WASILLA, ALASKA

REVISION SCHEDULE

#	DESCRIPTION	DATE

JOB NO.	2023.007.0
DATE	03/06/2023
DRAWN	ACT/MDP
REVIEWED	ACT

SHEET NAME
MECHANICAL SPECIFICATIONS

SHEET NO.
M0.04

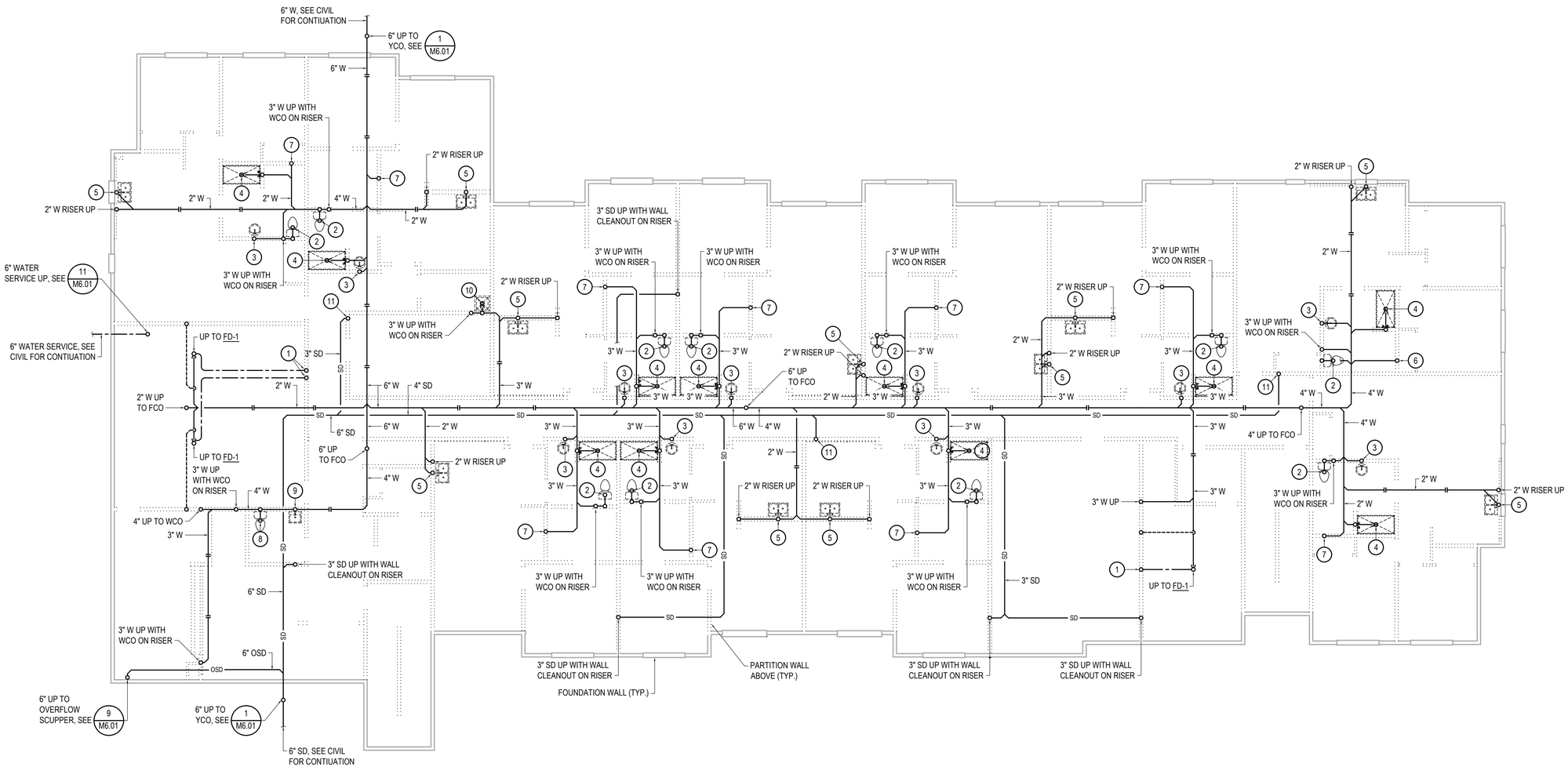
PERMIT DOCUMENTS

SHEET NOTES

1. BRANCH PIPING TO INDIVIDUAL PLUMBING FIXTURES SHALL EQUAL THE SIZE INDICATED ON THE PLUMBING FIXTURE SCHEDULE UNLESS OTHERWISE INDICATED.
2. PROVIDE CLEANOUT ON ALL INDIVIDUAL SINK RISERS.
3. STORM DRAIN PIPING SHALL BE SLOPED AT 1/8" PER LINEAR FOOT MINIMUM.

KEY NOTES

1. PROVIDE 1/2" COLD WATER UP TO TRAP PRIMER CONNECTION, SEE 2/M6.01.
2. UP TO WATER CLOSET, WC-1.
3. UP TO LAVATORY, LV-1.
4. UP TO SHOWER, SH-1.
5. UP TO SINK, SK-1.
6. UP TO WASHER BOX, WB-1
7. UP TO WASHER BOX, WB-1 WITH 2" WALL CLEANOUT ON RISER, SEE 4/M6.01.
8. UP TO WATER CLOSET, WC-2.
9. UP TO LAVATORY, LV-2.
10. UP TO SINK, SK-3.
11. 3" STORM DRAIN UP WITH WALL CLEANOUT ON RISER, SEE 7/M6.01.



1 UNDERSLAB PLUMBING PLAN

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

PERMIT DOCUMENTS

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REVISION SCHEDULE

#	DESCRIPTION	DATE

JOB NO.	2023.007.0
DATE	03/06/2023
DRAWN	STH/DBS/MDP
REVIEWED	ACT

SHEET NAME
UNDERSLAB PLUMBING PLAN

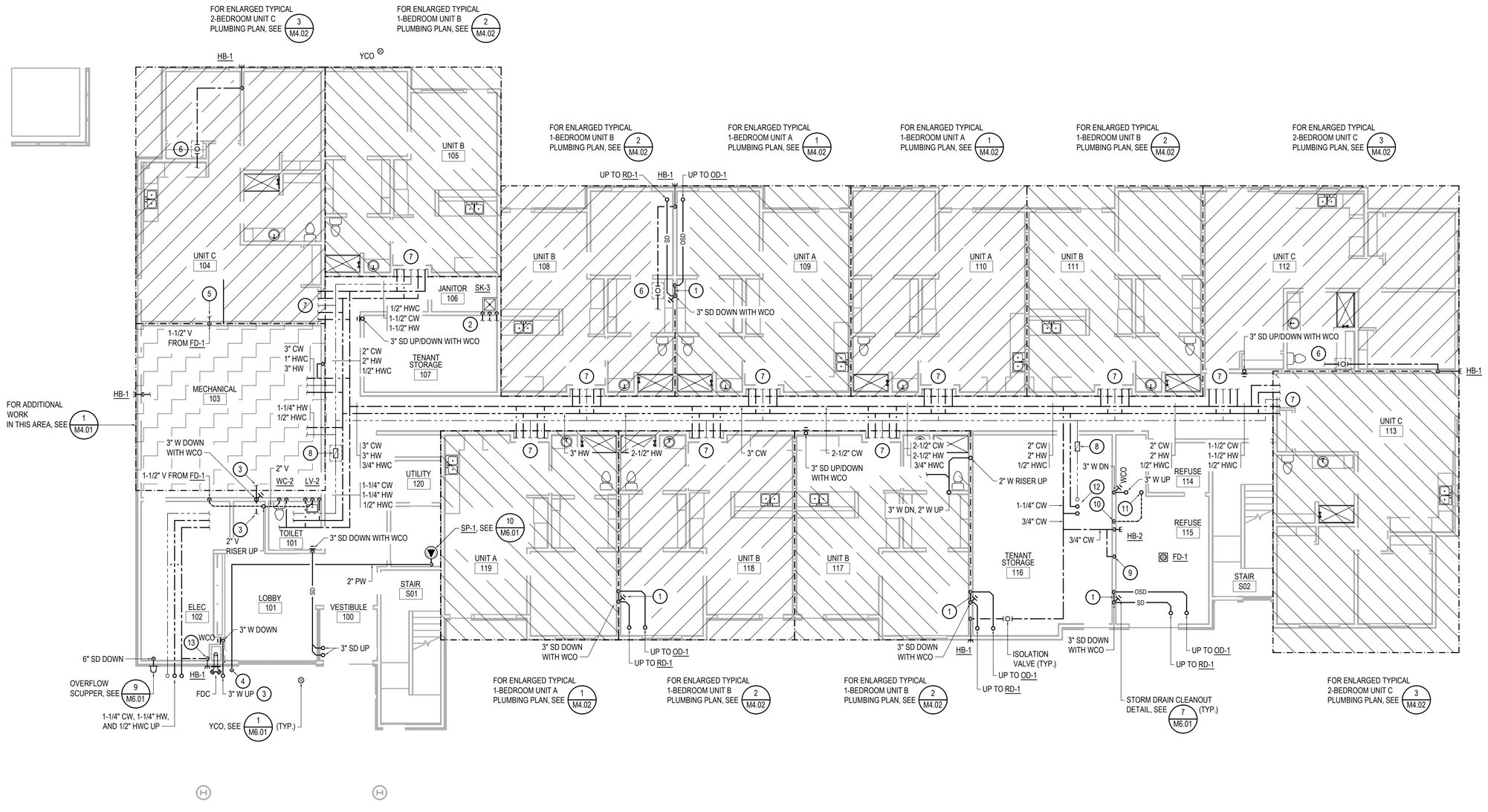
SHEET NO.
M1.01

SHEET NOTES

1. BRANCH PIPING TO INDIVIDUAL PLUMBING FIXTURES SHALL EQUAL THE SIZE INDICATED ON THE PLUMBING FIXTURE SCHEDULE UNLESS OTHERWISE INDICATED.
2. PROVIDE CLEANOUT ON ALL INDIVIDUAL SINK RISERS.
3. STORM DRAIN PIPING SHALL BE SLOPED AT 1/8" PER LINEAR FOOT MINIMUM.

KEY NOTES

1. CONNECT OVERFLOW STORM DRAIN INTO VERTICAL STORM DRAIN PIPING. FOR STORM DRAIN TIE-IN DETAIL, SEE 8/M6.01.
2. CONNECT 1/2" COLD AND HOT WATER INTO NEAREST 3/4" OR LARGER COLD AND HOT WATER PIPING. CONNECT 2" VENT INTO NEAREST 2" OR LARGER VENT PIPING.
3. 3" WASTE SERVING LEVEL 2 UNIT ABOVE. FOR CONTINUATION, SEE 1/M4.02.
4. ELEVATOR SUMP PUMP DISCHARGE. PROVIDE 45° TURN DOWN ELBOW THROUGH CANOPY WITH 1/2" SCREEN OVER OPENING. PROVIDED PERMANENT LABELING.
5. CONNECT 1-1/2" VENT INTO NEAREST 2" OR LARGER VENT PIPING.
6. CONNECT 3/4" CW INTO NEAREST 3/4" OR LARGER COLD WATER PIPING. ISOLATION VALVE WITH FIRE RATED LOCKABLE ACCESS DOOR IN CLOSET.
7. 1-1/4" COLD WATER, 1-1/4" HOT WATER, 1/2" HOT WATER CIRCULATED TO LEVELS 2 AND 3, AND 1" COLD WATER AND 1" HOT WATER TO LEVEL 1.
8. PROVIDE AUTOMATIC FLOW LIMITING VALVE WITH 0.33 GPM CARTRIDGE.
9. PROVIDE 1/2" COLD WATER DOWN TO TRAP PRIMER, SEE 2/M6.01.
10. 1-1/2" VENT FROM FLOOR DRAIN, FD-1.
11. 2" VENT RISER UP.
12. 1/2" HOT WATER CIRCULATED, 1-1/4" HOT WATER, AND 1-1/4" COLD WATER UP TO LEVELS 2 AND 3.
13. 3/4" COLD WATER DOWN TO HOSE BIBB, HB-1 WITH ISOLATION VALVE ON RISER.



1 LEVEL 1 PLUMBING PLAN

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

PERMIT DOCUMENTS

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REVISION SCHEDULE

#	DESCRIPTION	DATE

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REVIEWED	ACT

SHEET NAME
LEVEL 1
PLUMBING PLAN

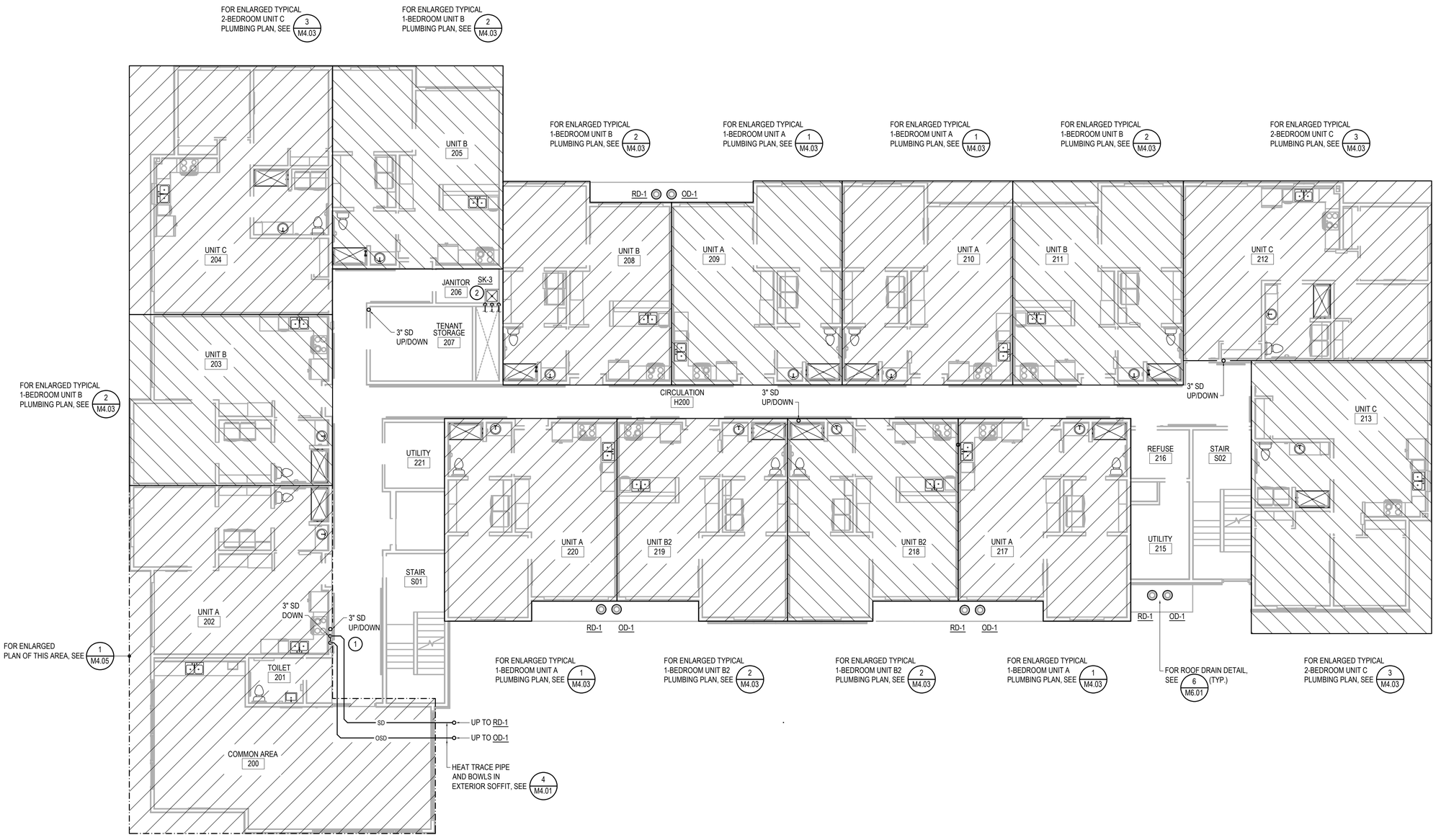
SHEET NO.
M1.02

SHEET NOTES

1. BRANCH PIPING TO INDIVIDUAL PLUMBING FIXTURES SHALL EQUAL THE SIZE INDICATED ON THE PLUMBING FIXTURE SCHEDULE UNLESS OTHERWISE INDICATED.
2. PROVIDE CLEANOUT ON ALL INDIVIDUAL SINK RISERS.
3. STORM DRAIN PIPING SHALL BE SLOPED AT 1/8" PER LINEAR FOOT MINIMUM.

KEY NOTES

1. CONNECT OVERFLOW STORM DRAIN INTO VERTICAL STORM DRAIN PIPING. FOR STORM DRAIN TIE-IN DETAIL, SEE 8/M6.01.
2. CONNECT 1/2" COLD AND HOT WATER INTO NEAREST 3/4" OR LARGER COLD AND HOT WATER PIPING.



1 LEVEL 2 PLUMBING PLAN

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

PERMIT DOCUMENTS

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REVIEWED	ACT

SHEET NAME
LEVEL 2
PLUMBING PLAN

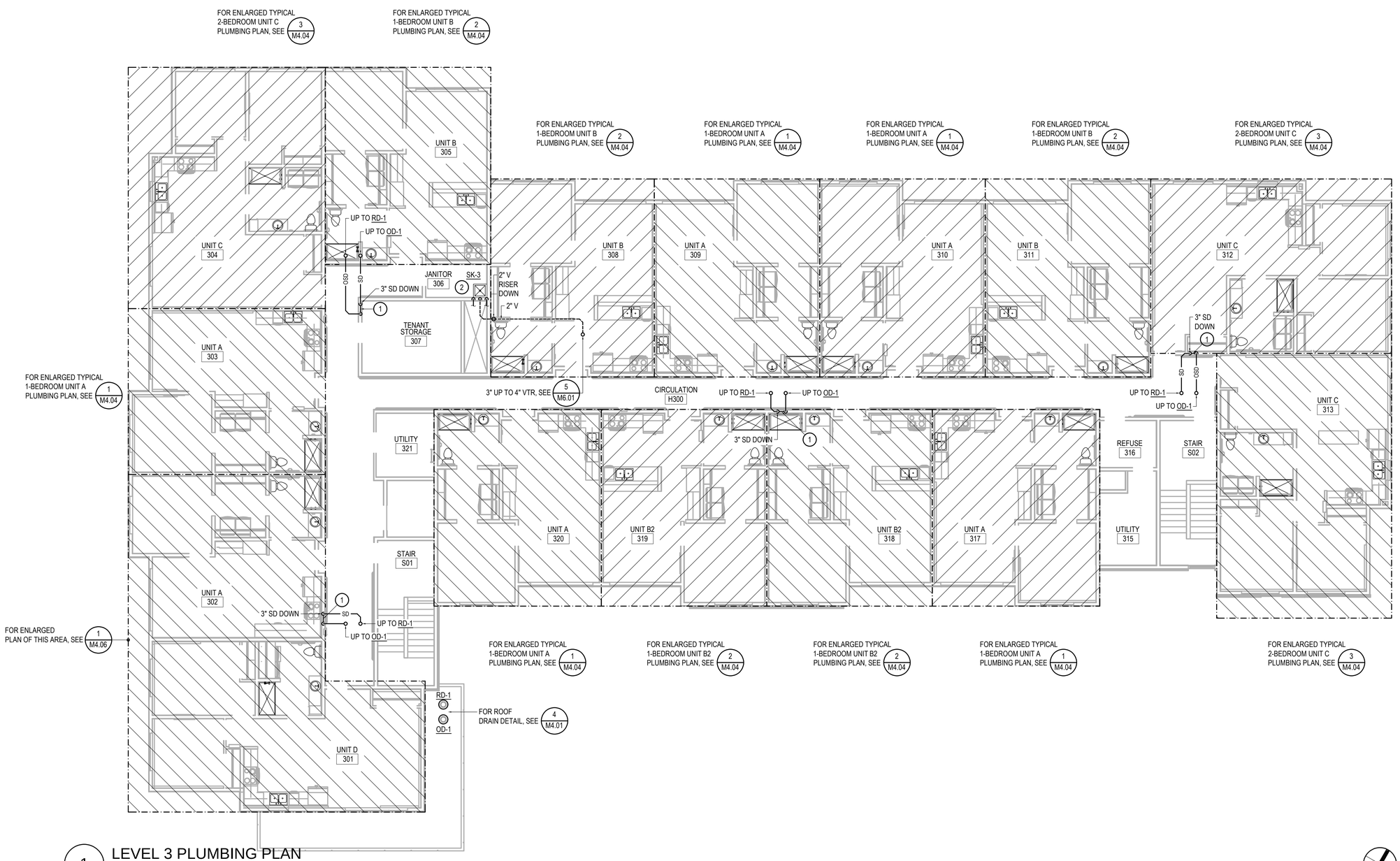
SHEET NO.
M1.03

SHEET NOTES

1. BRANCH PIPING TO INDIVIDUAL PLUMBING FIXTURES SHALL EQUAL THE SIZE INDICATED ON THE PLUMBING FIXTURE SCHEDULE UNLESS OTHERWISE INDICATED.
2. PROVIDE CLEANOUT ON ALL INDIVIDUAL SINK RISERS.
3. STORM DRAIN PIPING SHALL BE SLOPED AT 1/8" PER LINEAR FOOT MINIMUM.

KEY NOTES

1. CONNECT OVERFLOW STORM DRAIN INTO VERTICAL STORM DRAIN PIPING. FOR STORM DRAIN TIE-IN DETAIL, SEE 8/M6.01.
2. CONNECT 1/2" COLD AND HOT WATER INTO NEAREST 3/4" OR LARGER COLD AND HOT WATER PIPING.



1 LEVEL 3 PLUMBING PLAN

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

PERMIT DOCUMENTS

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#	DESCRIPTION	DATE

JOB NO.	2023.007.0
DATE	03/06/2023
DRAWN	STH/MSH/MDP
REVIEWED	ACT

SHEET NAME
LEVEL 3
PLUMBING PLAN

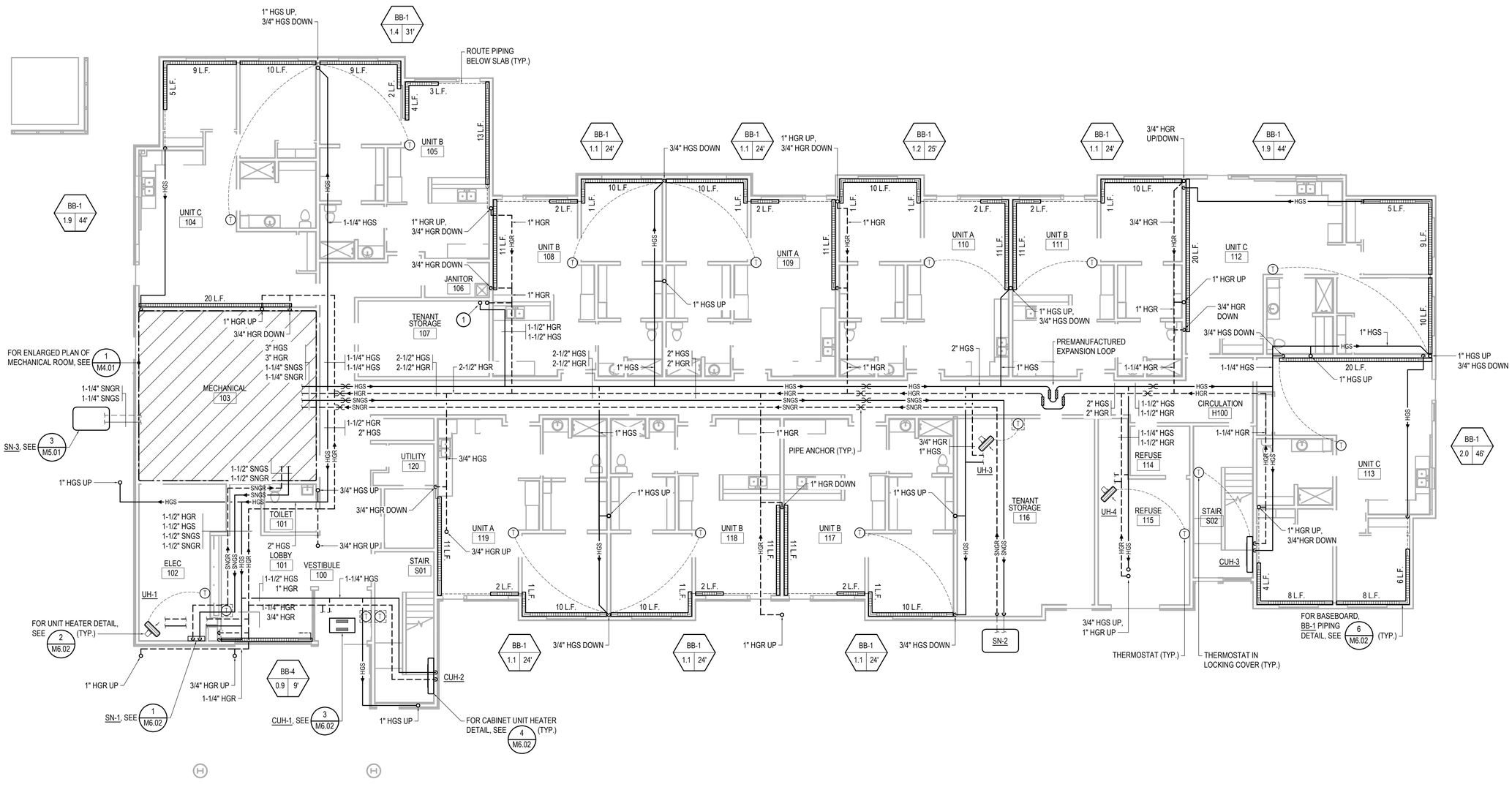
SHEET NO.
M1.04

SHEET NOTES

1. BRANCH PIPING TO INDIVIDUAL TERMINAL HEATING UNITS SHALL BE 3/4" UNLESS OTHERWISE INDICATED ON PLANS OR SCHEDULES.
2. PROVIDE PIPE GUIDES PER EXPANSION LOOP MANUFACTURER'S RECOMMENDATIONS.

KEY NOTES

(1) 1-1/2" HEATING GLYCOL RETURN AND SUPPLY UP TO ROOF.



1 LEVEL 1 HEATING PLAN

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

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DRAWN	DBS/STH/MDP
REVIEWED	ACT

SHEET NAME
LEVEL 1
HEATING PLAN

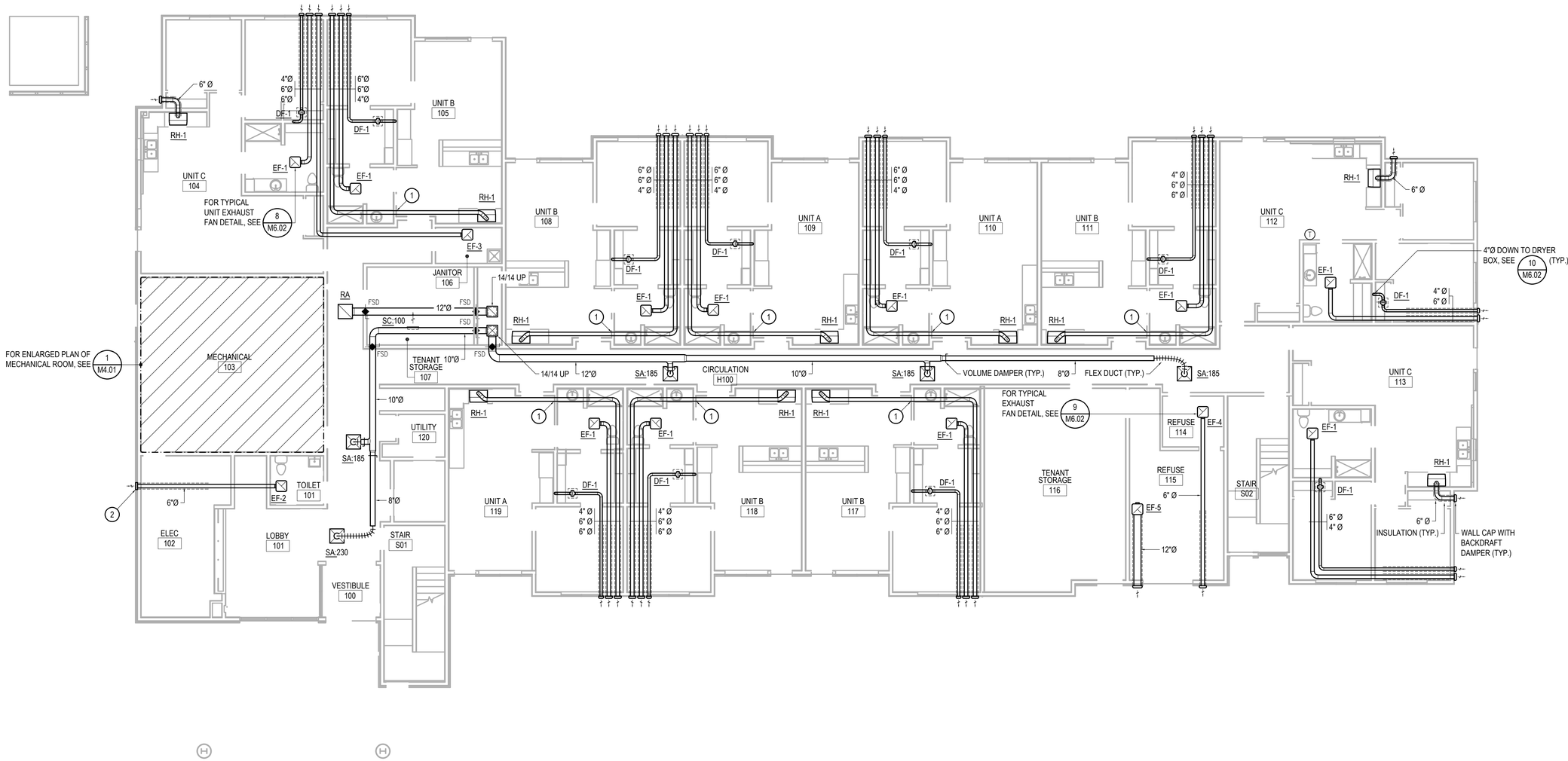
SHEET NO.
M2.01

SHEET NOTES

1. BRANCH PIPING TO INDIVIDUAL TERMINAL HEATING UNITS SHALL BE 3/4" UNLESS OTHERWISE INDICATED ON PLANS OR SCHEDULES.
2. PROVIDE PIPE GUIDES PER EXPANSION LOOP MANUFACTURER'S RECOMMENDATIONS.

KEY NOTES

1. COORDINATE WITH ELECTRICAL SUCH THAT THE ELECTRICAL PANEL IS NOT LOCATED BELOW DUCT.
2. PROVIDE LOUVERED WALL CAP FLUSH WITH WALL OVER ELECTRICAL EQUIPMENT.



1 LEVEL 1 VENTILATION PLAN

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

PERMIT DOCUMENTS

STATE OF ALASKA 49 TH
ALEC C. THOMSON
ME-8694
03/06/2023
REGISTERED PROFESSIONAL ENGINEER

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ASPEN HOUSE LIMITED PARTNERSHIP
ASPEN HOUSE SENIOR APARTMENTS
WASILLA, ALASKA

REVISION SCHEDULE

#	DESCRIPTION	DATE

JOB NO.	2023.007.0
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REVIEWED	ACT

SHEET NAME
LEVEL 1
VENTILATION PLAN

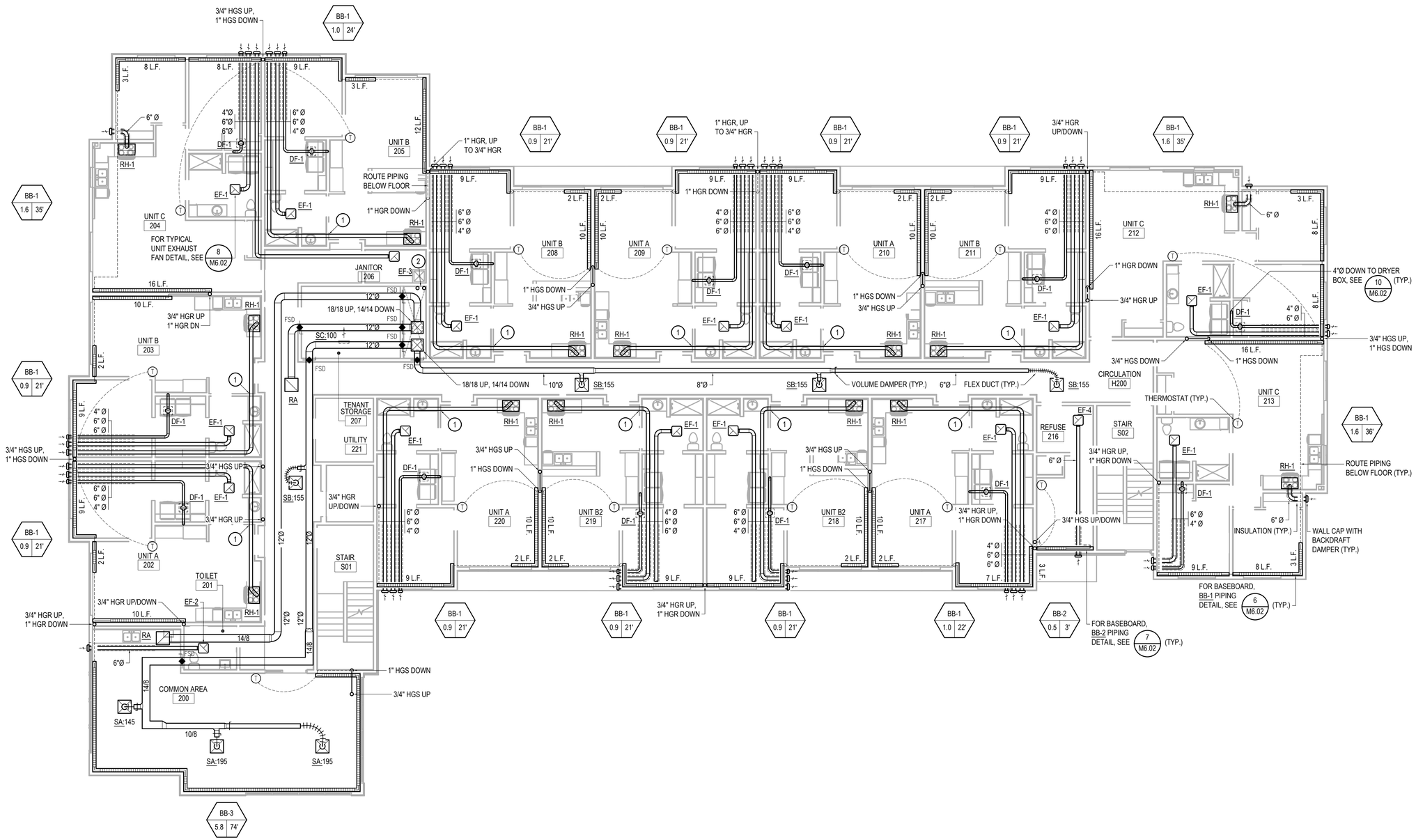
SHEET NO.
M2.02

SHEET NOTES

1. BRANCH PIPING TO INDIVIDUAL TERMINAL HEATING UNITS SHALL BE 3/4" UNLESS OTHERWISE INDICATED ON PLANS OR SCHEDULES. BRANCH PIPING FOR BB-3 SHALL BE 1".

KEY NOTES

1. COORDINATE WITH ELECTRICAL SUCH THAT THE ELECTRICAL PANEL IS NOT LOCATED BELOW DUCT.
2. 1-1/2" HEATING GLYCOL RETURN AND SUPPLY UP TO ROOF.



1 LEVEL 2 HEATING AND VENTILATION PLAN

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

PERMIT DOCUMENTS

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SHEET NAME
LEVEL 2
HEATING AND
VENTILATION PLAN

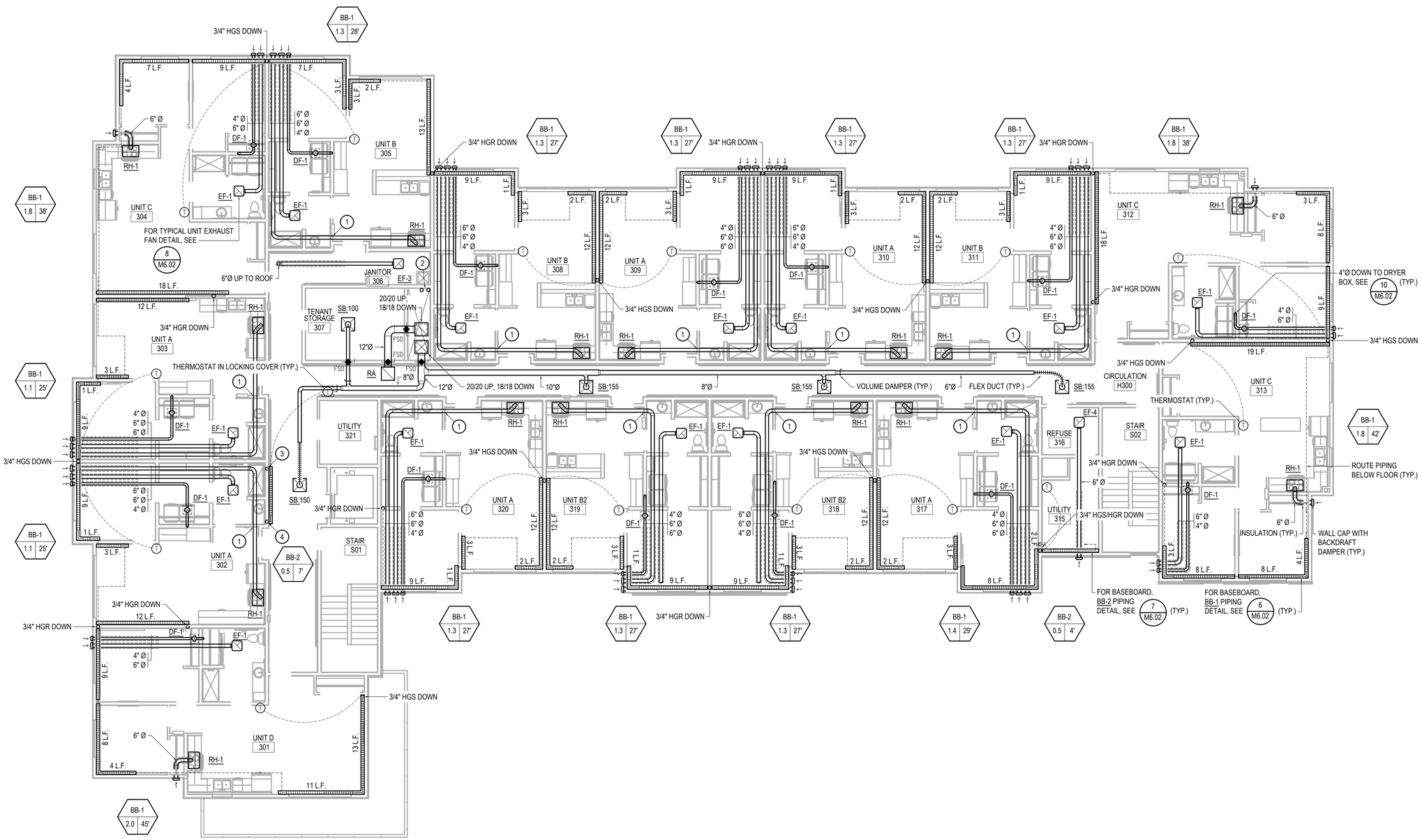
SHEET NO.
M2.03

SHEET NOTES

1. BRANCH PIPING TO INDIVIDUAL TERMINAL HEATING UNITS SHALL BE 3/4" UNLESS OTHERWISE INDICATED ON PLANS OR SCHEDULES.
2. PROVIDE PIPE GUIDES PER EXPANSION LOOP MANUFACTURER'S RECOMMENDATIONS.

KEY NOTES

1. COORDINATE WITH ELECTRICAL SUCH THAT THE ELECTRICAL PANEL IS NOT LOCATED BELOW DUCT.
2. 1-1/2" HEATING GLYCOL RETURN AND SUPPLY UP TO ROOF.
3. 3/4" HEATING GLYCOL SUPPLY DOWN.
4. 3/4" HEATING GLYCOL RETURN DOWN.



1 LEVEL 3 HEATING AND VENTILATION PLAN

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

PERMIT DOCUMENTS

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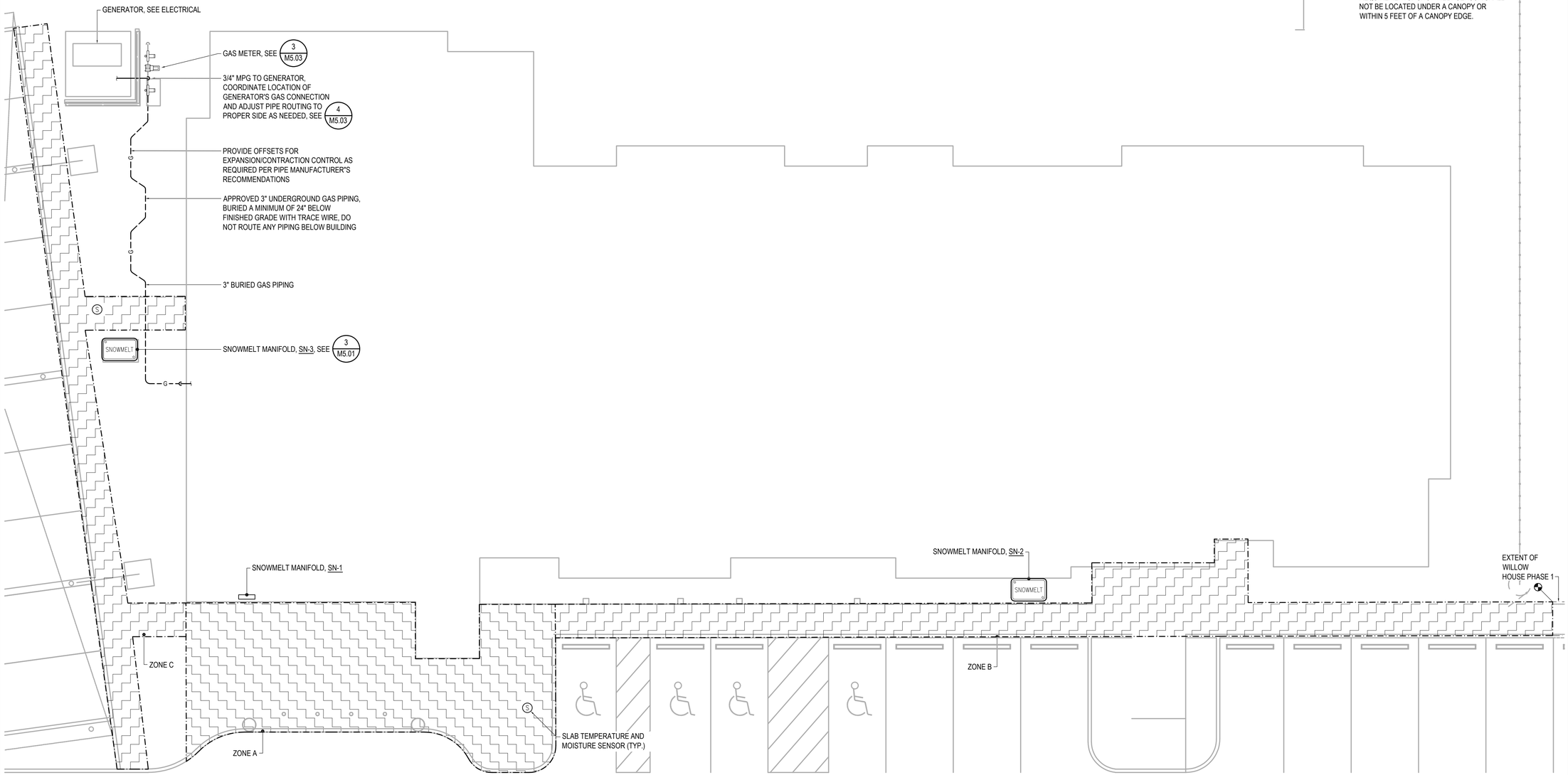
SHEET NAME
LEVEL 3
HEATING AND
VENTILATION PLAN

SHEET NO.
M2.04



1 SNOWMELT AND EXTERIOR GAS PIPING PLAN

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

SHEET NOTES

1. SNOWMELT AREA AND ADJACENT AREAS SHALL BE PROVIDED WITH INSULATION BELOW SLAB. COORDINATE WITH TUBING MANUFACTURER'S RECOMMENDATIONS AND CIVIL.
2. SEE 2/M5.01 FOR SNOWMELT TUBING REQUIREMENTS AT CONCRETE SLAB EXPANSION JOINT PENETRATIONS. COORDINATE NUMBER AND LOCATION OF EXPANSION JOINTS WITH CIVIL.
3. INSTALL MOISTURE/SLAB TEMPERATURE SENSOR PER MANUFACTURER'S REQUIREMENTS. SNOWMELT SENSOR SHALL NOT BE LOCATED UNDER A CANOPY OR WITHIN 5 FEET OF A CANOPY EDGE.

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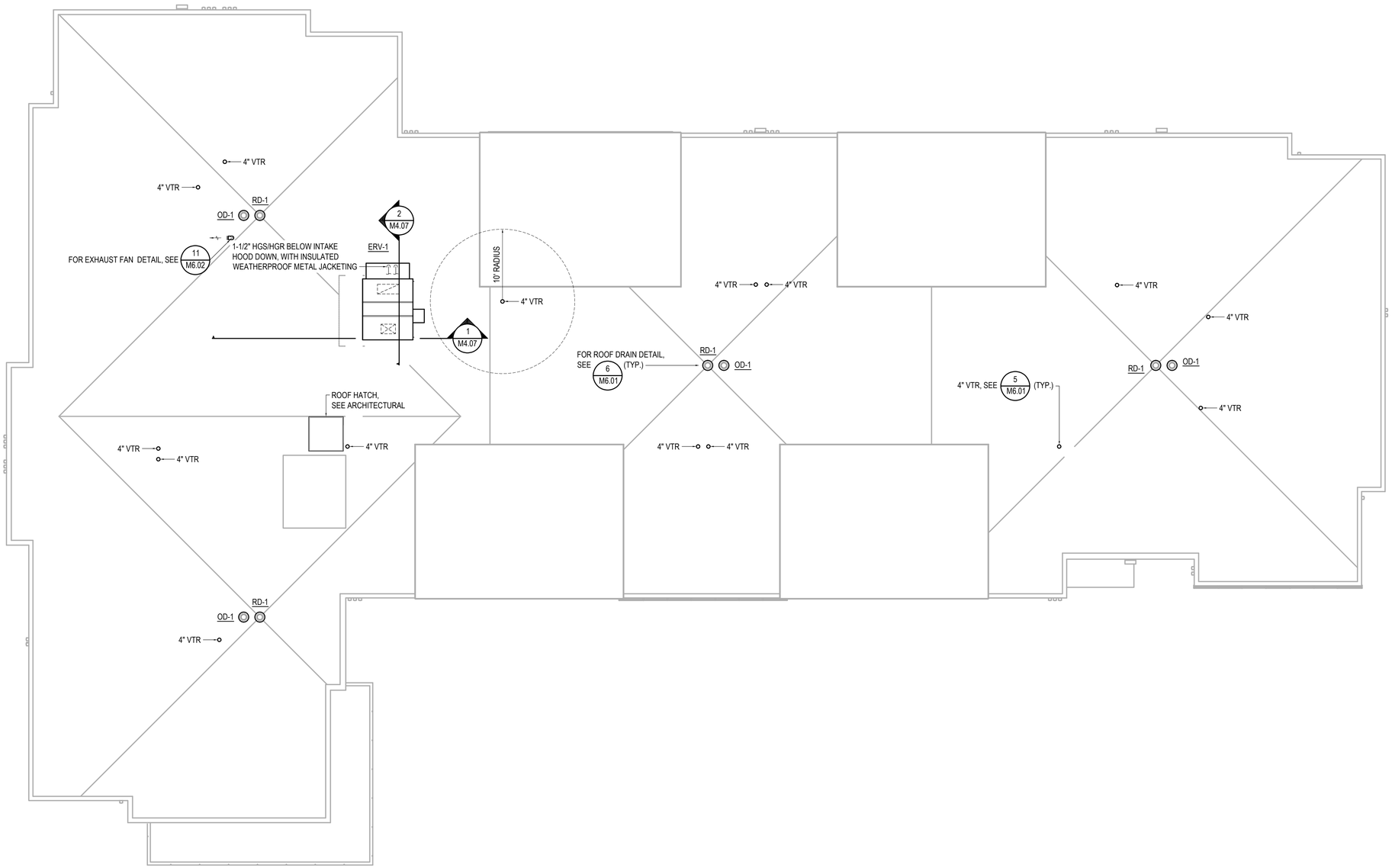
SHEET NAME
SNOWMELT PLAN AND EXTERIOR GAS PIPING

SHEET NO.
M2.05

PERMIT DOCUMENTS

SHEET NOTES

1. BRANCH PIPING TO INDIVIDUAL PLUMBING FIXTURES SHALL EQUAL THE SIZE INDICATED ON THE PLUMBING FIXTURE SCHEDULE UNLESS OTHERWISE INDICATED.
2. STORM DRAIN PIPING SHALL BE SLOPED AT 1/8" PER LINEAR FOOT MINIMUM.



1 MECHANICAL ROOF PLAN

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

PERMIT DOCUMENTS

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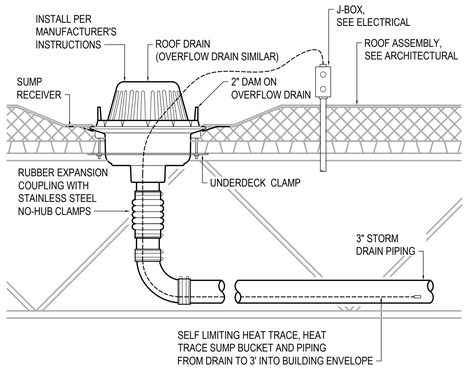
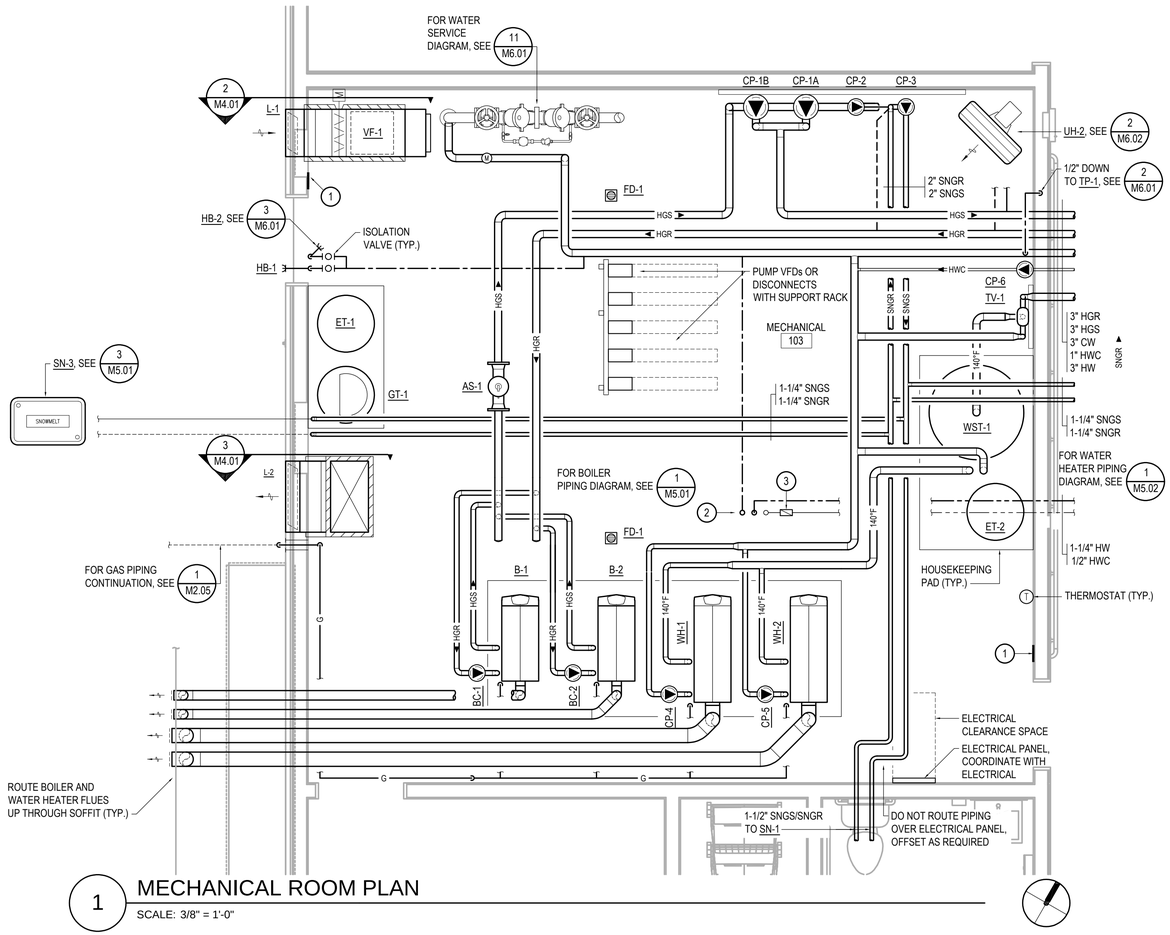
SHEET NAME
MECHANICAL ROOF PLAN

SHEET NO.
M3.01



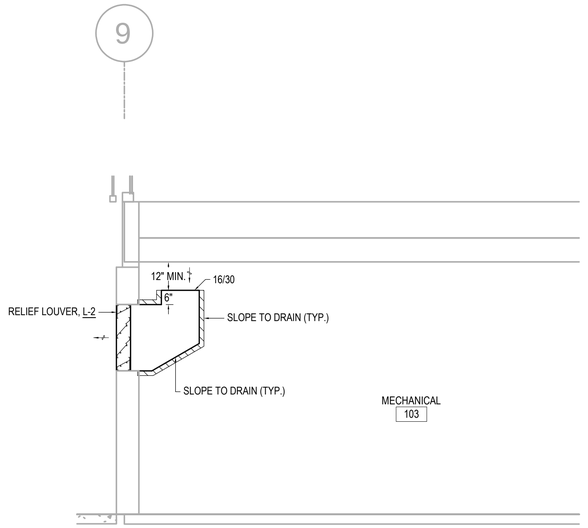
4 CANOPY DRAIN DETAIL

SCALE: NONE



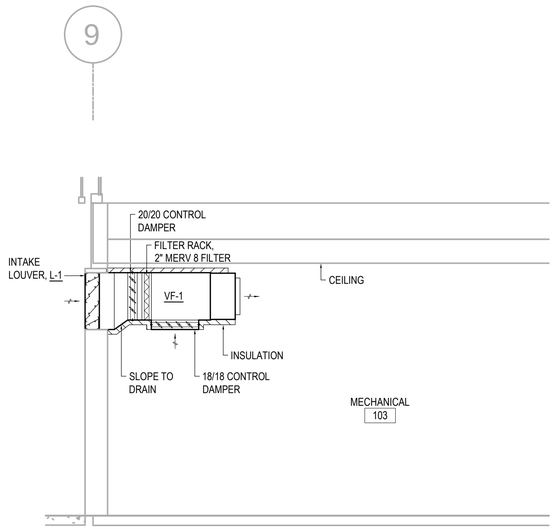
1 MECHANICAL ROOM PLAN

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



2 MECHANICAL ROOM COMBUSTION / RELIEF AIR SECTION

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



3 MECHANICAL ROOM VENTILATON FAN SECTION

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

SHEET NOTES

1. AIR SEPARATORS ARE TO BE SUPPORTED AND RESTRAINED FOR UNIT WEIGHT AND FULL WATER CAPACITY.

KEY NOTES

1. ASME IV EMERGENCY BOILER SHUTDOWN SWITCH. PROVIDE WITH CLEAR FLIP COVER TO PROTECT AGAINST ACCIDENTAL ACTIVATION. LABEL SWITCH "EMERGENCY BOILER SHUTDOWN". COORDINATE WITH ELECTRICAL.
2. 1/2" HOT WATER CIRCULATED, 1-1/4" HOT WATER, AND 1-1/4" COLD WATER UP TO LEVELS 2 AND 3.
3. PROVIDE AUTOMATIC FLOW LIMITING VALVE WITH 0.33 GPM CARTRIDGE.

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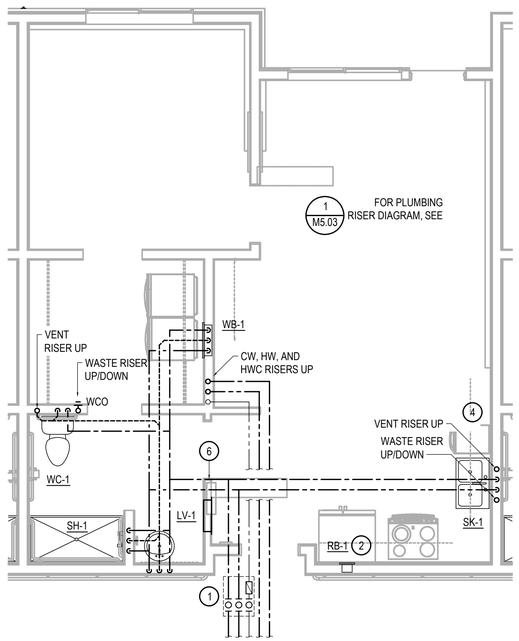
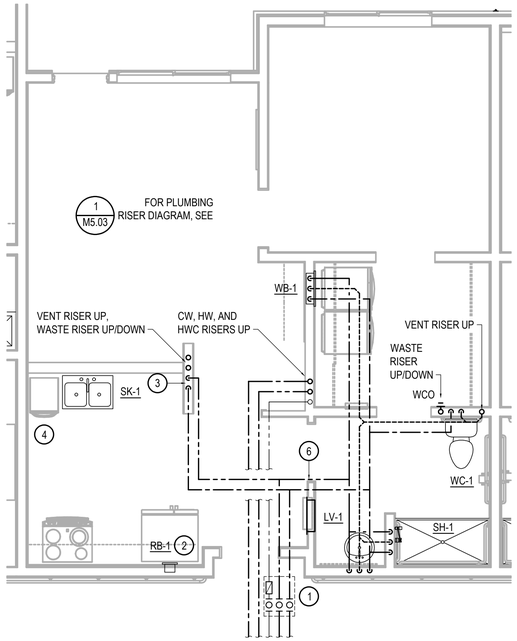
SHEET NAME
MECHANICAL ROOM PLAN AND SECTIONS

SHEET NO.
M4.01

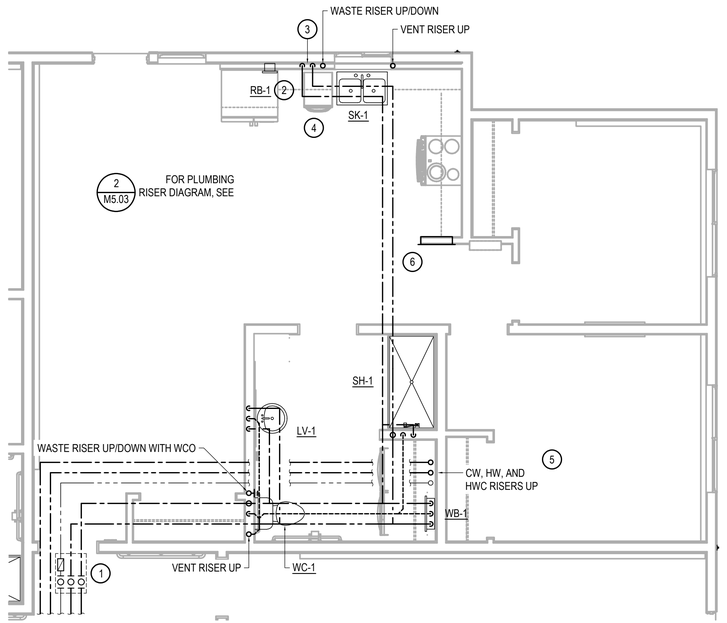
PERMIT DOCUMENTS



PLUMBING PLAN



PLUMBING PLAN



PLUMBING PLAN

SHEET NOTES

1. BRANCH PIPING TO INDIVIDUAL PLUMBING FIXTURES SHALL EQUAL THE SIZE INDICATED ON THE PLUMBING FIXTURE SCHEDULE UNLESS OTHERWISE INDICATED.
2. PROVIDE CLEANOUT ON ALL INDIVIDUAL SINK RISERS.
3. DO NOT ROUTE ANY PIPING IN EXTERIOR WALLS. PIPING SHOWN CLOSE TO EXTERIOR WALLS ARE TO BE ROUTED IN FURRED OUT WALL CAVITIES, SEE ARCHITECTURAL.
4. INSTALL WASHER BOX BEHIND WASHER. COORDINATE WASHER/DRYER ARRANGEMENT WITH ARCHITECTURAL INTERIOR ELEVATIONS.

KEY NOTES

1. PROVIDE ACCESS DOOR TO VALVES LOCATED IN GWB CEILING.
2. PROVIDE 1/2" COLD WATER LINE TO RECESSED WATER CONNECTION BOX, RB-1, TO SERVE REFRIGERATOR. PROVIDE CONNECTION BETWEEN RB-1 AND APPLIANCE PER APPLIANCE MANUFACTURER'S RECOMMENDATIONS.
3. ROUTE 1/2" COLD WATER AND 1/2" HOT WATER DOWN WALL AND THROUGH CABINETRY OR PONY WALL TO SINK, SK-1.
4. PROVIDE WATER LINE TO DISHWASHER PER MANUFACTURER'S RECOMMENDATION. PROVIDE AIR GAP FITTING AT ADJACENT SINK FOR DISHWASHER DRAIN. CONNECT PER EQUIPMENT MANUFACTURER'S REQUIREMENTS. COORDINATE WITH ARCHITECTURAL DRAWINGS FOR LOCATION.
5. PIPING RISERS SHOWN AT THIS LOCATION FOR CLARITY. COORDINATE FINAL LOCATION AS REQUIRED TO AVOID CONFLICT WITH DRYER DUCT.
6. COORDINATE WITH ELECTRICAL SUCH THAT THE ELECTRICAL PANEL IS NOT LOCATED BELOW PIPING.

1 TYPICAL LEVEL 1
UNIT A PLUMBING PLANS
SCALE: 1/4" = 1'-0"

2 TYPICAL LEVEL 1
UNIT B, B2 PLUMBING PLANS
SCALE: 1/4" = 1'-0"

3 TYPICAL LEVEL 1
UNIT C PLUMBING PLANS
SCALE: 1/4" = 1'-0"

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SHEET NAME
ENLARGED
PLUMBING PLANS

SHEET NO.
M4.02

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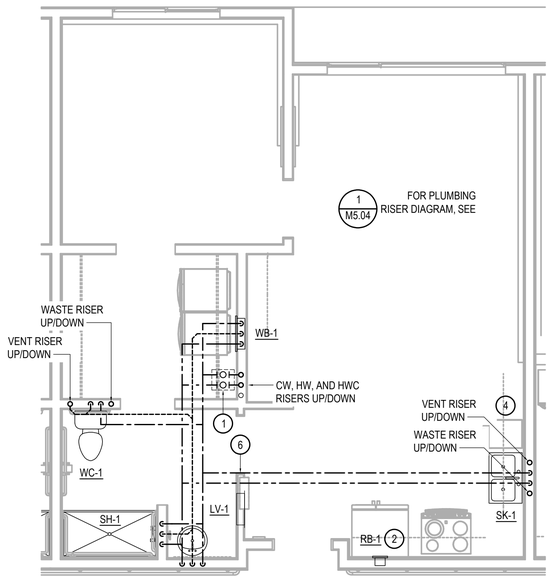
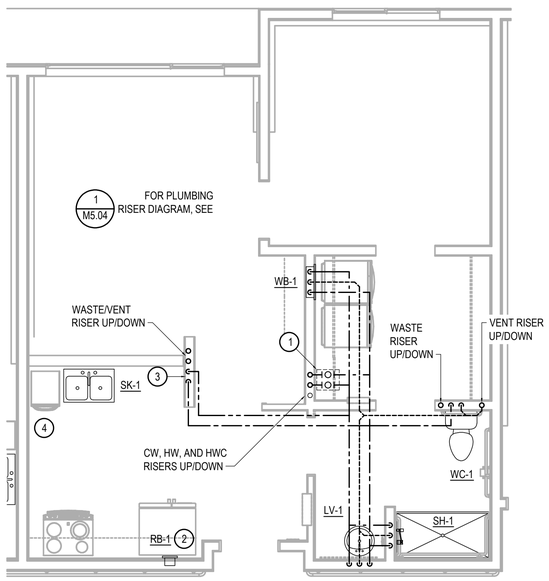


PLUMBING PLAN



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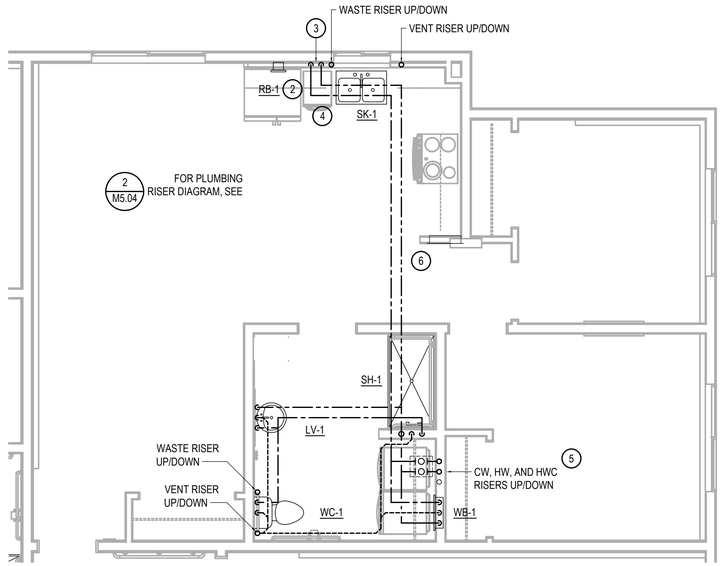

PLUMBING PLAN

SHEET NOTES

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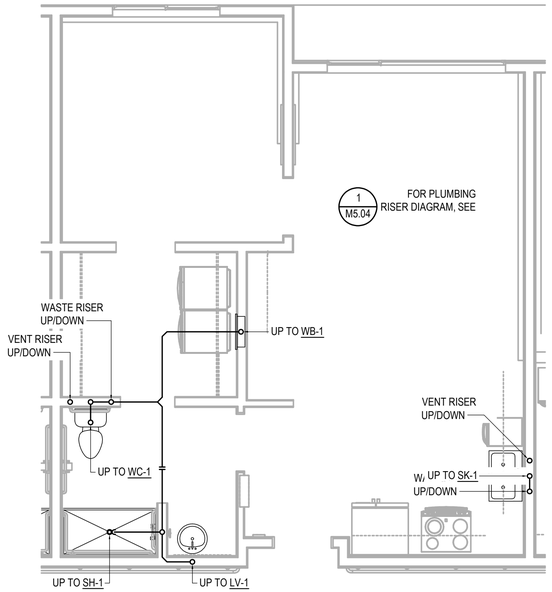
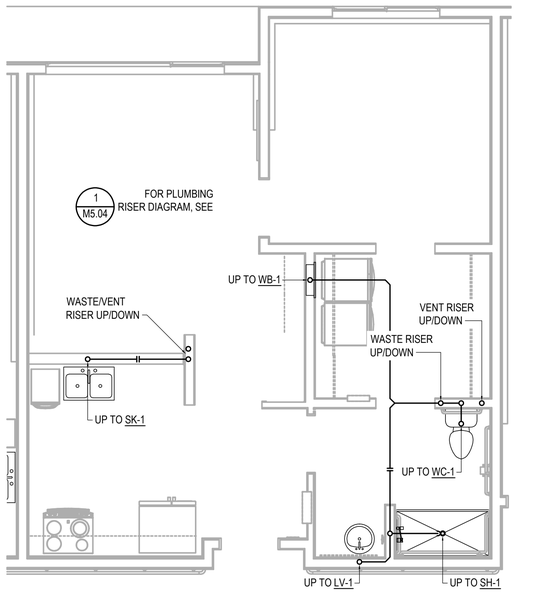
2. PROVIDE CLEANOUT ON ALL INDIVIDUAL SINK RISERS.
3. DO NOT ROUTE ANY PIPING IN EXTERIOR WALLS. PIPING SHOWN CLOSE TO EXTERIOR WALLS ARE TO BE ROUTED IN FURRED OUT WALL CAVITIES, SEE ARCHITECTURAL.
4. INSTALL WASHER BOX BEHIND WASHER. COORDINATE WASHER/DRYER ARRANGEMENT WITH ARCHITECTURAL INTERIOR ELEVATIONS.

KEY NOTES

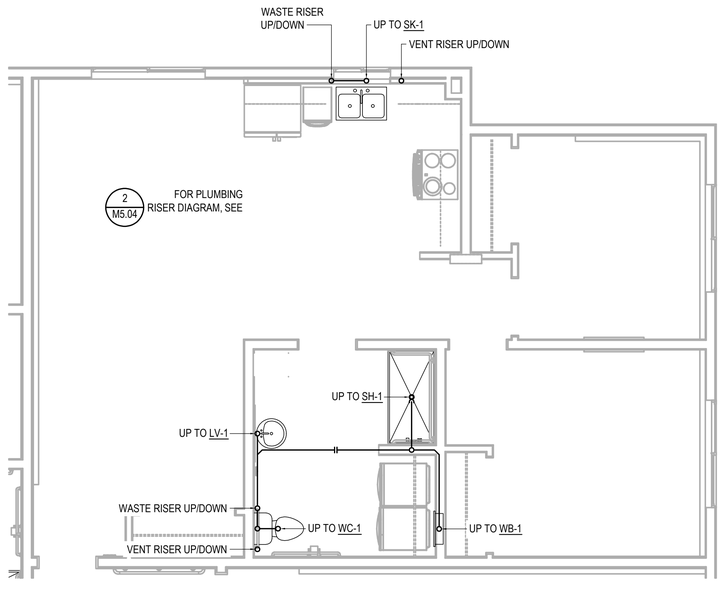
1. PROVIDE ACCESS DOOR TO VALVES LOCATED IN CEILING OR WALL.
2. PROVIDE 1/2" COLD WATER LINE TO RECESSED WATER CONNECTION BOX, RB-1, TO SERVE REFRIGERATOR. PROVIDE CONNECTION BETWEEN RB-1 AND APPLIANCE PER APPLIANCE MANUFACTURER'S RECOMMENDATIONS.
3. ROUTE 1/2" COLD WATER AND 1/2" HOT WATER DOWN WALL AND THROUGH CABINETRY OR PONY WALL TO SINK, SK-1.
4. PROVIDE WATER LINE TO DISHWASHER PER MANUFACTURER'S RECOMMENDATION. PROVIDE AIR GAP FITTING AT ADJACENT SINK FOR DISHWASHER DRAIN. CONNECT PER EQUIPMENT MANUFACTURER'S REQUIREMENTS. COORDINATE WITH ARCHITECTURAL DRAWINGS FOR LOCATION.
5. PROVIDE ACCESS DOOR TO VALVES LOCATED IN CEILING OR WALL. PIPING RISERS SHOWN AT THIS LOCATION FOR CLARITY. COORDINATE FINAL LOCATION AS REQUIRED TO AVOID CONFLICT WITH DRYER DUCT.
6. COORDINATE WITH ELECTRICAL SUCH THAT THE ELECTRICAL PANEL IS NOT LOCATED BELOW PIPING.



FIXTURES PIPING LOCATED IN LEVEL BELOW CEILING



FIXTURES PIPING LOCATED IN LEVEL BELOW CEILING



FIXTURES PIPING LOCATED IN LEVEL BELOW CEILING

1 TYPICAL LEVEL 2
UNIT A PLUMBING PLANS
SCALE: 1/4" = 1'-0"

2 TYPICAL LEVEL 2
UNIT B, B2 PLUMBING PLANS
SCALE: 1/4" = 1'-0"

3 TYPICAL LEVEL 2
UNIT C PLUMBING PLANS
SCALE: 1/4" = 1'-0"

PERMIT DOCUMENTS

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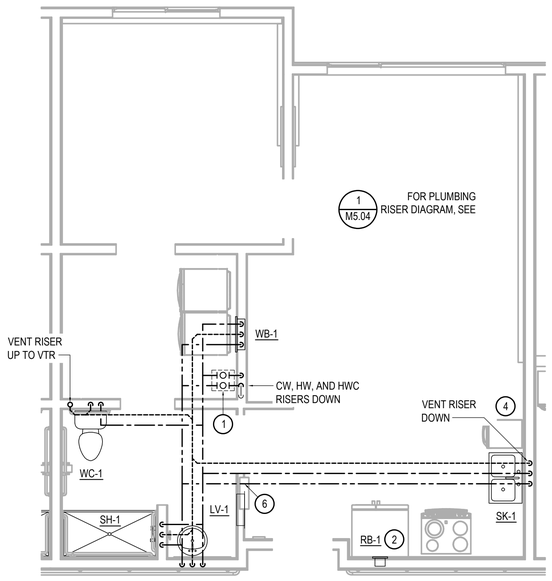
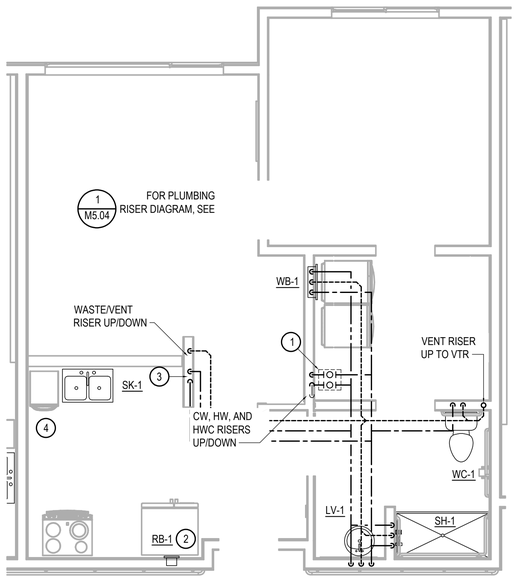
SHEET NAME
ENLARGED
PLUMBING PLANS

SHEET NO.
M4.03



PLUMBING PLAN



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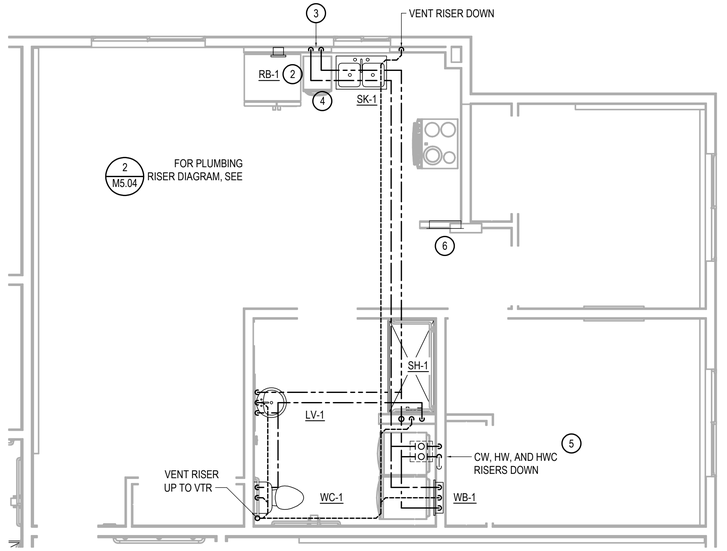
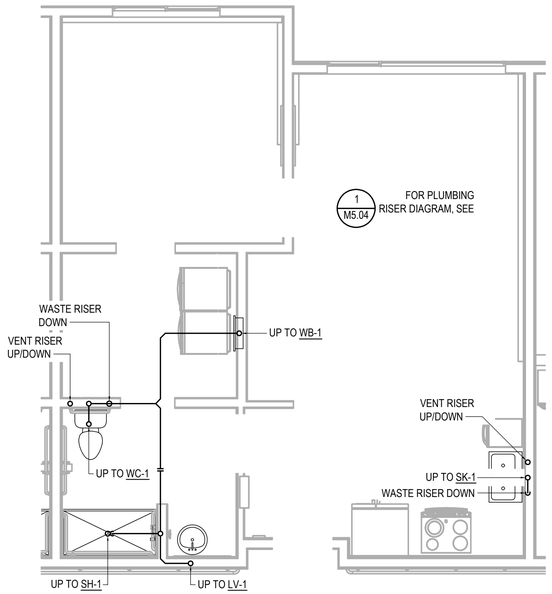
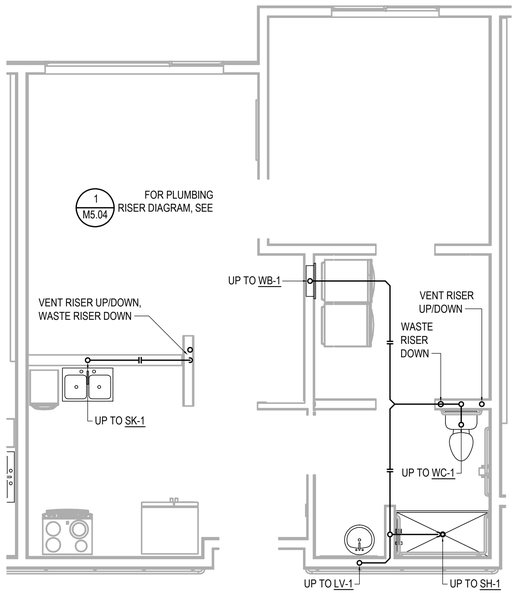


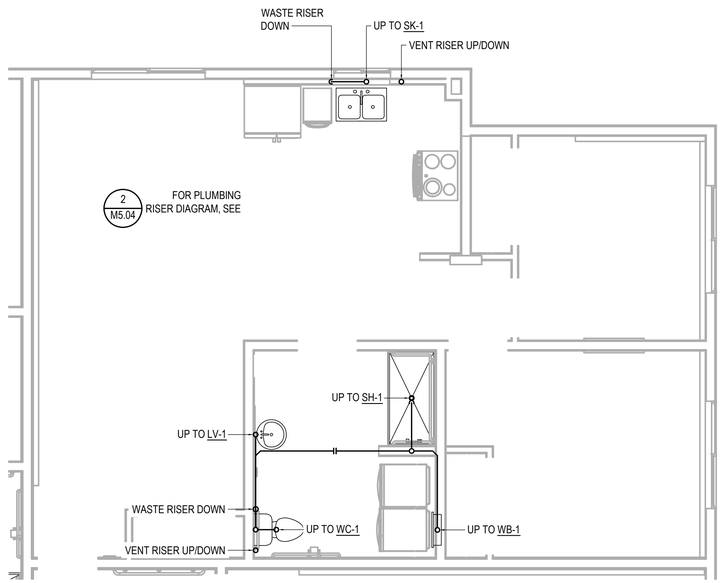
PLUMBING PLAN



FIXTURES PIPING LOCATED IN LEVEL BELOW CEILING



FIXTURES PIPING LOCATED IN LEVEL BELOW CEILING



FIXTURES PIPING LOCATED IN LEVEL BELOW CEILING

SHEET NOTES

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2. PROVIDE CLEANOUT ON ALL INDIVIDUAL SINK RISERS.
3. DO NOT ROUTE ANY PIPING IN EXTERIOR WALLS. PIPING SHOWN CLOSE TO EXTERIOR WALLS ARE TO BE ROUTED IN FURRED OUT WALL CAVITIES, SEE ARCHITECTURAL.
4. INSTALL WASHER BOX BEHIND WASHER. COORDINATE WASHER/DRYER ARRANGEMENT WITH ARCHITECTURAL INTERIOR ELEVATIONS.

KEY NOTES

1. PROVIDE ACCESS DOOR TO VALVES LOCATED IN CEILING OR WALL.
2. PROVIDE 1/2" COLD WATER LINE TO RECESSED WATER CONNECTION BOX, RB-1, TO SERVE REFRIGERATOR. PROVIDE CONNECTION BETWEEN RB-1 AND APPLIANCE PER APPLIANCE MANUFACTURER'S RECOMMENDATIONS.
3. ROUTE 1/2" COLD WATER AND 1/2" HOT WATER DOWN WALL AND THROUGH CABINETRY OR PONY WALL TO SINK, SK-1.
4. PROVIDE WATER LINE TO DISHWASHER PER MANUFACTURER'S RECOMMENDATION. PROVIDE AIR GAP FITTING AT ADJACENT SINK FOR DISHWASHER DRAIN. CONNECT PER EQUIPMENT MANUFACTURER'S REQUIREMENTS. COORDINATE WITH ARCHITECTURAL DRAWINGS FOR LOCATION.
5. PROVIDE ACCESS DOOR TO VALVES LOCATED IN CEILING OR WALL. PIPING RISERS SHOWN AT THIS LOCATION FOR CLARITY. COORDINATE FINAL LOCATION AS REQUIRED TO AVOID CONFLICT WITH DRYER DUCT.
6. COORDINATE WITH ELECTRICAL SUCH THAT THE ELECTRICAL PANEL IS NOT LOCATED BELOW PIPING.

1 TYPICAL LEVEL 3 UNIT A PLUMBING PLANS
SCALE: 1/4" = 1'-0"

2 TYPICAL LEVEL 3 UNIT B, B2 PLUMBING PLANS
SCALE: 1/4" = 1'-0"

3 TYPICAL LEVEL 3 UNIT C PLUMBING PLANS
SCALE: 1/4" = 1'-0"

STATE OF ALASKA 49 TH
ALEC C. THOMSON
ME-8694
03/06/2023
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ASPEN HOUSE LIMITED PARTNERSHIP
ASPEN HOUSE SENIOR APARTMENTS
WASILLA, ALASKA

REVISION SCHEDULE

#	DESCRIPTION	DATE

JOB NO.	2023.007.0
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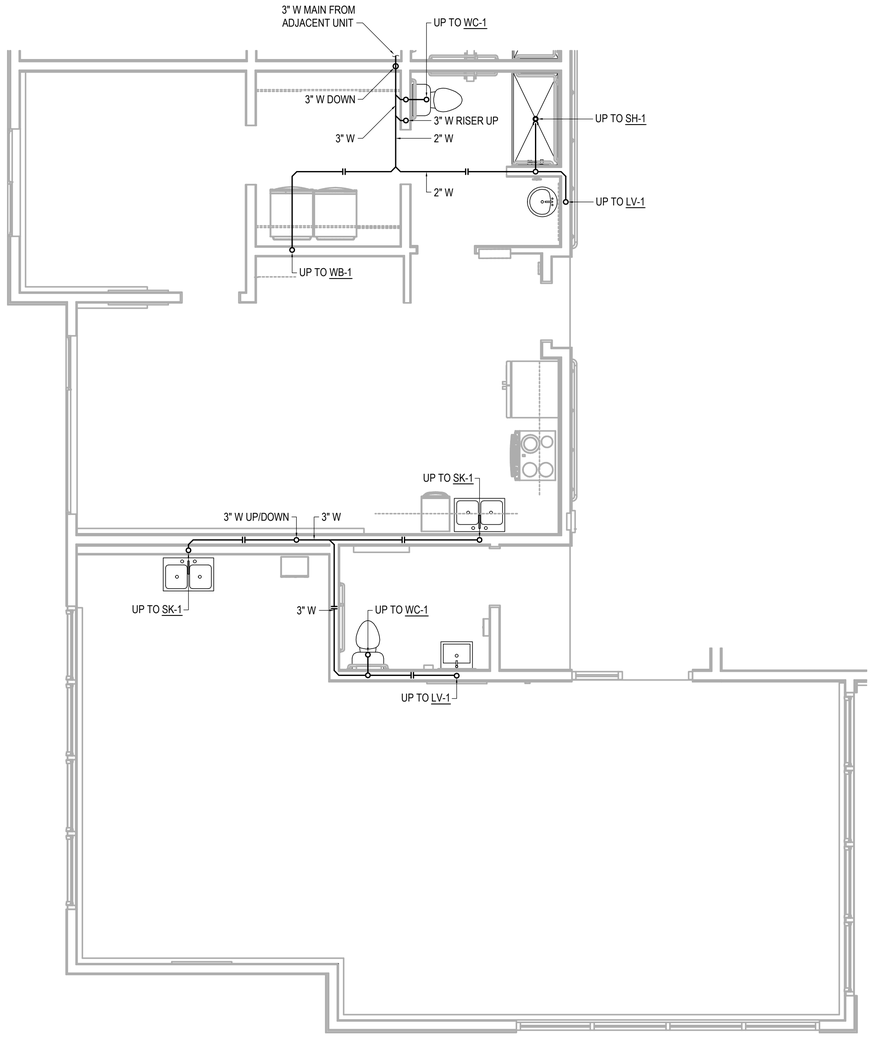
REVIEWED	ACT

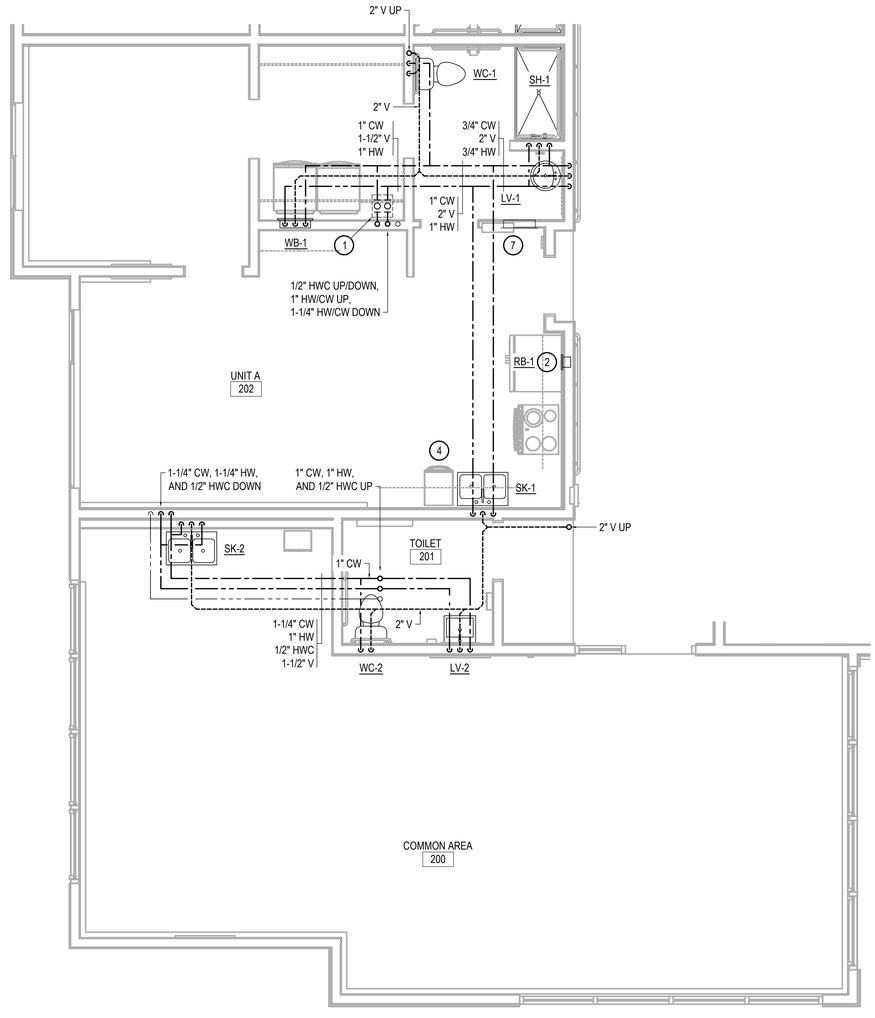
SHEET NAME
ENLARGED PLUMBING PLANS

SHEET NO.
M4.04

PERMIT DOCUMENTS



FIXTURES PIPING LOCATED IN LEVEL BELOW CEILING



PLUMBING PLAN

SHEET NOTES

1. BRANCH PIPING TO INDIVIDUAL PLUMBING FIXTURES SHALL EQUAL THE SIZE INDICATED ON THE PLUMBING FIXTURE SCHEDULE UNLESS OTHERWISE INDICATED.
2. PROVIDE CLEANOUT ON ALL INDIVIDUAL SINK RISERS.

KEY NOTES

1. PROVIDE ACCESS DOOR TO VALVES LOCATED IN CEILING OR WALL.
2. PROVIDE 1/2" COLD WATER LINE TO RECESSED WATER CONNECTION BOX, RB-1, TO SERVE REFRIGERATOR. PROVIDE CONNECTION BETWEEN RB-1 AND APPLIANCE PER APPLIANCE MANUFACTURER'S RECOMMENDATIONS.
3. COLD WATER, HOT WATER, AND HOT WATER CIRCULATED RISERS UP/DOWN.
4. ROUTE 1/2" COLD WATER AND 1/2" HOT WATER DOWN WALL AND THROUGH CABINETRY TO SINK, SK-1.
5. WASTE AND VENT RISER UP/DOWN.
6. PROVIDE WATER LINE TO DISHWASHER PER MANUFACTURER'S RECOMMENDATION. PROVIDE AIR GAP FITTING AT ADJACENT SINK FOR DISHWASHER DRAIN. CONNECT PER EQUIPMENT MANUFACTURER'S REQUIREMENTS. COORDINATE WITH ARCHITECTURAL DRAWINGS FOR LOCATION.
7. COORDINATE WITH ELECTRICAL SUCH THAT THE ELECTRICAL PANEL IS NOT LOCATED BELOW PIPING.

1 LEVEL 2 PLUMBING PLANS

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

PERMIT DOCUMENTS

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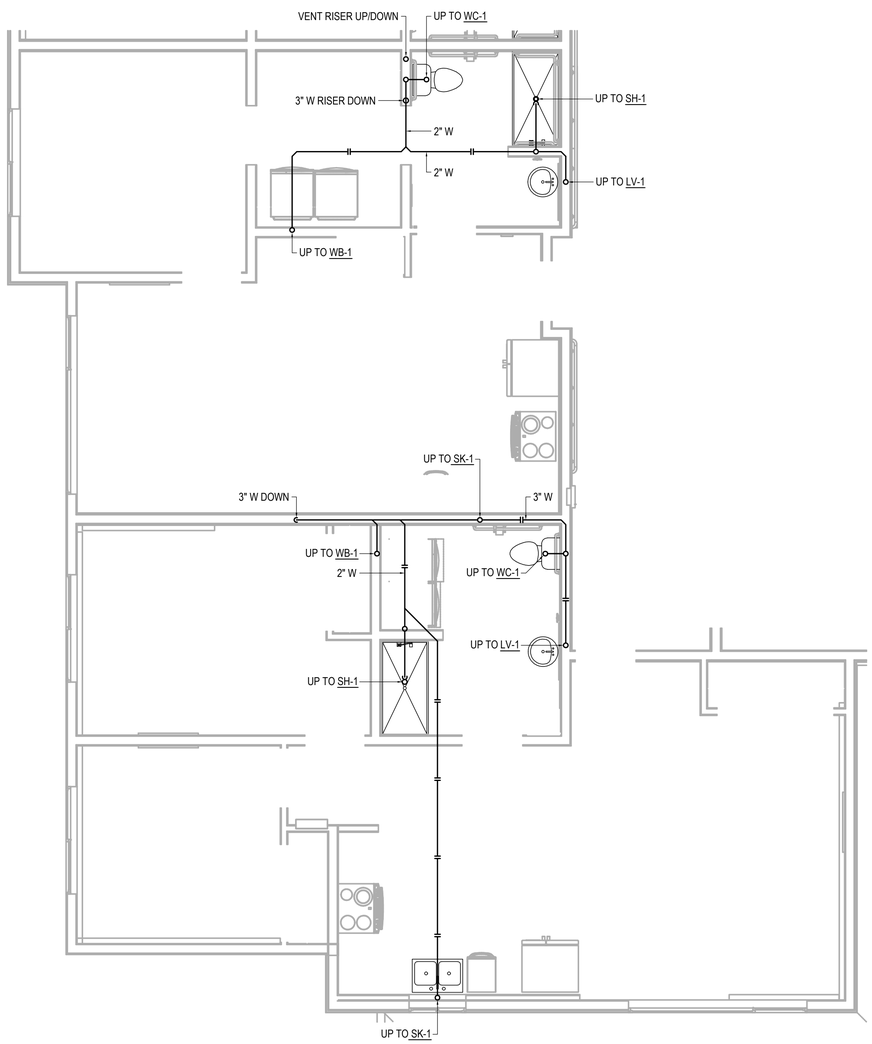
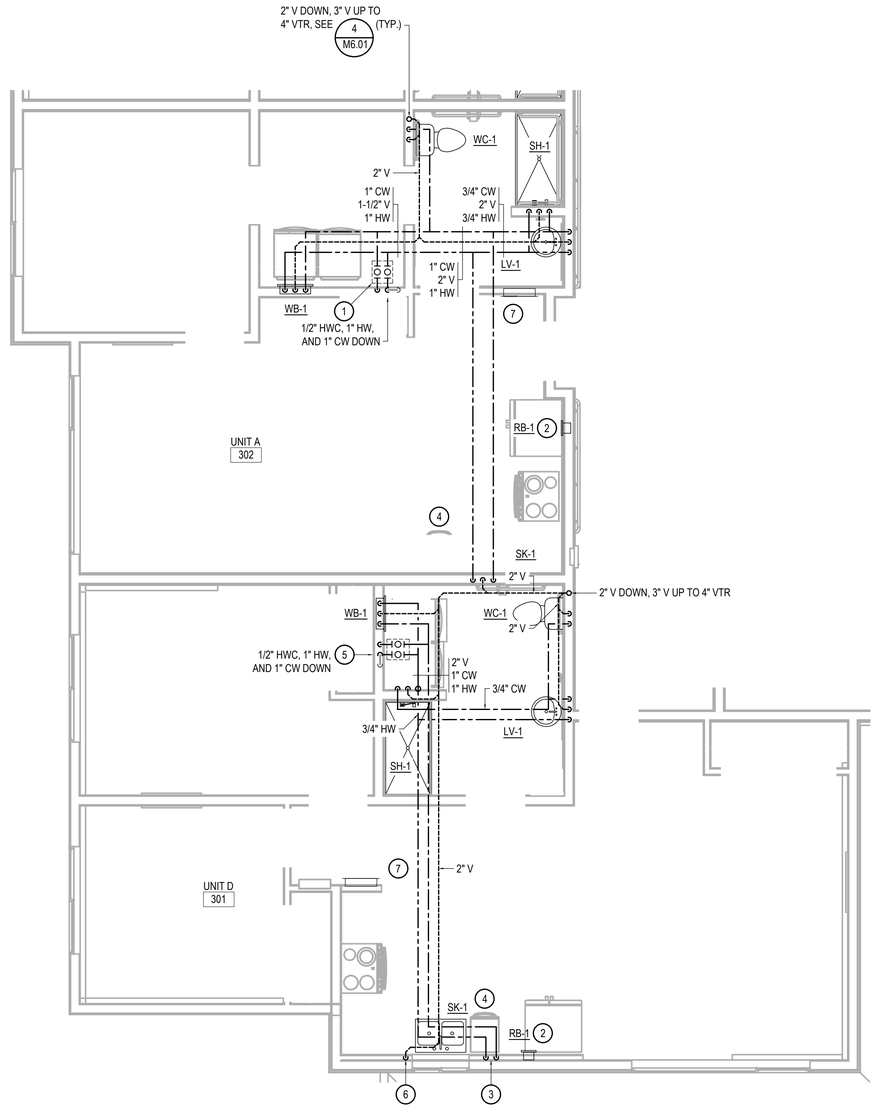
SHEET NAME
ENLARGED
PLUMBING PLANS

SHEET NO.
M4.05



FIXTURES PIPING LOCATED IN LEVEL BELOW CEILING



PLUMBING PLAN

SHEET NOTES

1. BRANCH PIPING TO INDIVIDUAL PLUMBING FIXTURES SHALL EQUAL THE SIZE INDICATED ON THE PLUMBING FIXTURE SCHEDULE UNLESS OTHERWISE INDICATED.
2. PROVIDE CLEANOUT ON ALL INDIVIDUAL SINK RISERS.

KEY NOTES

1. PROVIDE ACCESS DOOR TO VALVES LOCATED IN CEILING OR WALL.
2. PROVIDE 1/2" COLD WATER LINE TO RECESSED WATER CONNECTION BOX, RB-1, TO SERVE REFRIGERATOR. PROVIDE CONNECTION BETWEEN RB-1 AND APPLIANCE PER APPLIANCE MANUFACTURER'S RECOMMENDATIONS.
3. ROUTE 1/2" COLD WATER AND 1/2" HOT WATER DOWN WALL AND THROUGH CABINETRY OR PONY WALL TO SINK, SK-1.
4. PROVIDE WATER LINE TO DISHWASHER PER MANUFACTURER'S RECOMMENDATION. PROVIDE AIR GAP FITTING AT ADJACENT SINK FOR DISHWASHER DRAIN. CONNECT PER EQUIPMENT MANUFACTURER'S REQUIREMENTS. COORDINATE WITH ARCHITECTURAL DRAWINGS FOR LOCATION.
5. PROVIDE ACCESS DOOR TO VALVES LOCATED IN CEILING OR WALL. PIPING RISERS SHOWN AT THIS LOCATION FOR CLARITY. COORDINATE FINAL LOCATION AS REQUIRED TO AVOID CONFLICT WITH DRYER DUCT.
6. ROUTE 1-1/2" VENT DOWN WALL AND THROUGH CABINETRY OR PONY WALL TO SINK, SK-1.
7. COORDINATE WITH ELECTRICAL SUCH THAT THE ELECTRICAL PANEL IS NOT LOCATED BELOW PIPING.

1 LEVEL 3 PLUMBING PLANS

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

PERMIT DOCUMENTS

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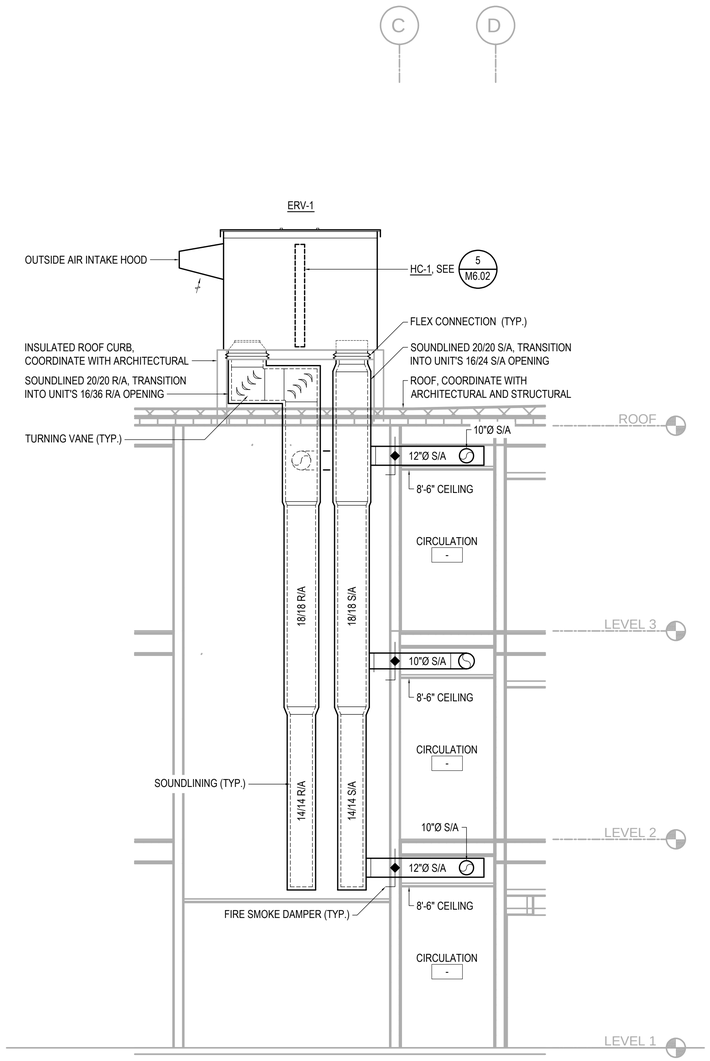
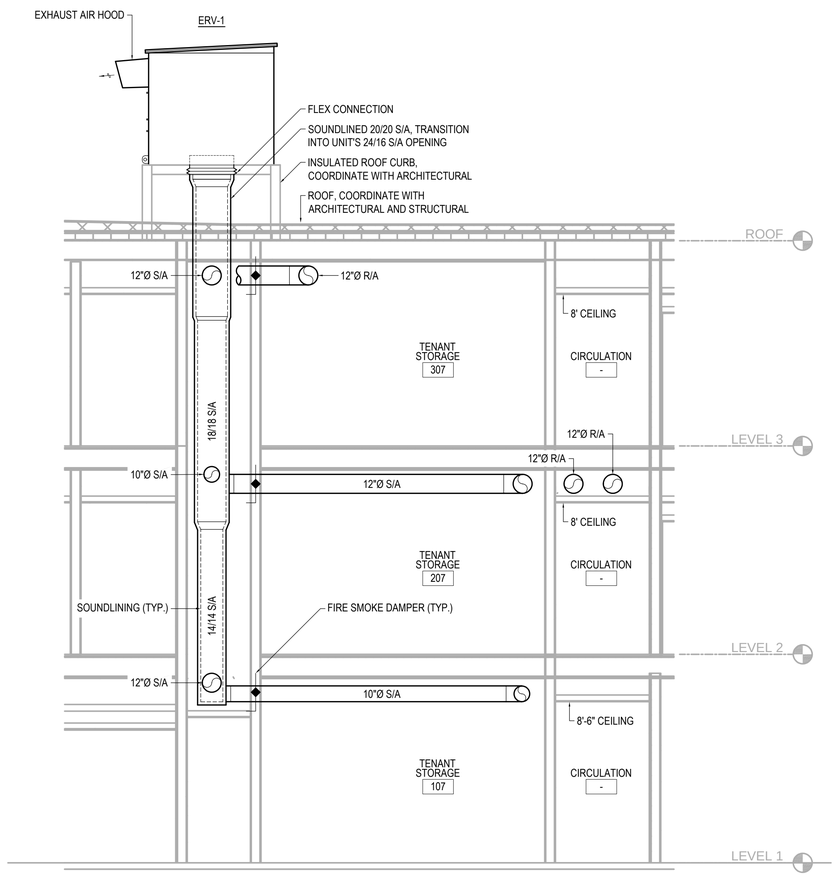
SHEET NAME
ENLARGED PLUMBING PLANS

SHEET NO.
M4.06



1 ERV-1 SECTION

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



2 ERV-1 SECTION

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

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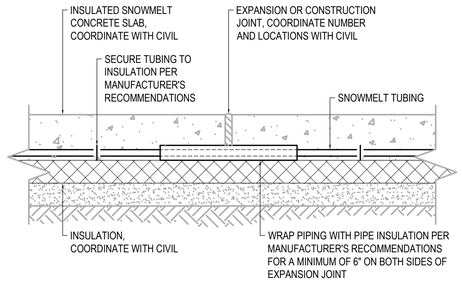
SHEET NAME
MECHANICAL SECTIONS

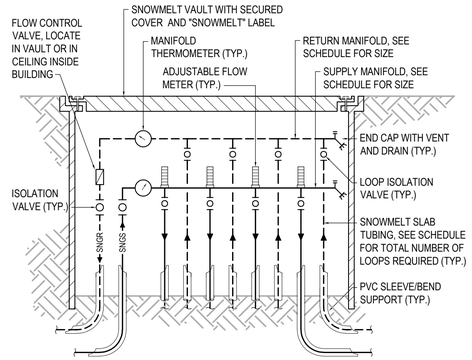
SHEET NO.
M4.07

PERMIT DOCUMENTS



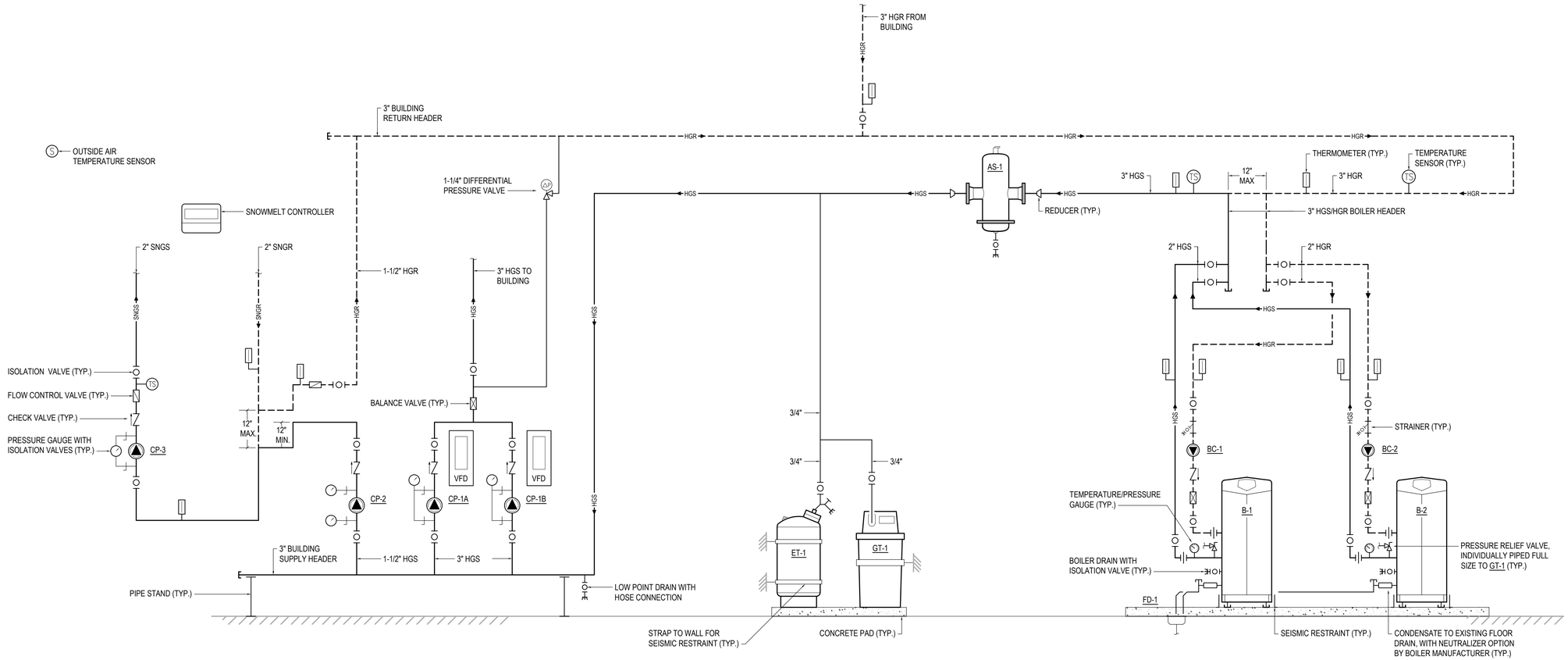
2 SNOWMELT TUBING JOINT DETAIL

SCALE: NONE



3 SNOWMELT MANIFOLD DETAIL

SCALE: NONE



1 BOILER PIPING DIAGRAM

SCALE: NONE

PERMIT DOCUMENTS

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SHEET NAME
BOILER PIPING DIAGRAM

SHEET NO.
M5.01

1 DOMESTIC HOT WATER PIPING DIAGRAM

SCALE: NONE

PERMIT DOCUMENTS

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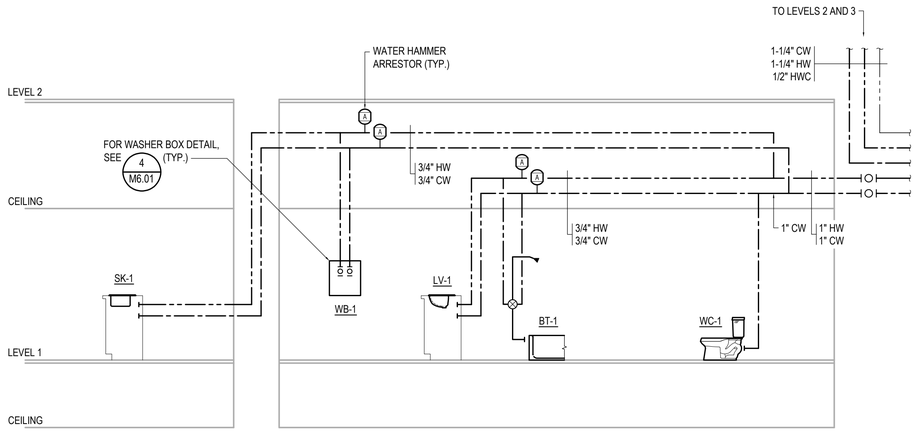
SHEET NAME
HOT WATER
PIPING DIAGRAM

SHEET NO.
M5.02

SHEET NOTES

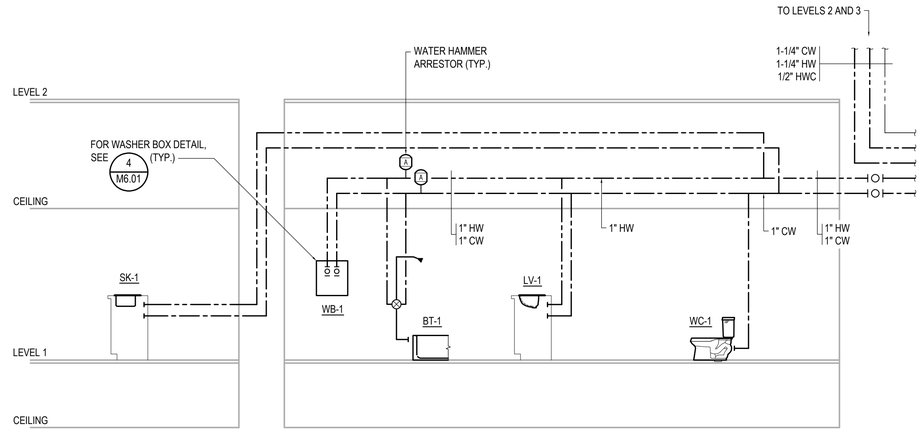
1. BRANCH PIPING TO INDIVIDUAL PLUMBING FIATURES SHALL EQUAL THE SIZE INDICATED ON THE PLUMBING FIATURE SCHEDULE UNLESS OTHERWISE INDICATED.
2. PROVIDE CLEANOUT ON ALL INDIVIDUAL SINK RISERS.



COLD AND HOT WATER PIPING

1 LEVEL 1 TYPICAL PLUMBING RISER DIAGRAM - UNIT A, B, B2

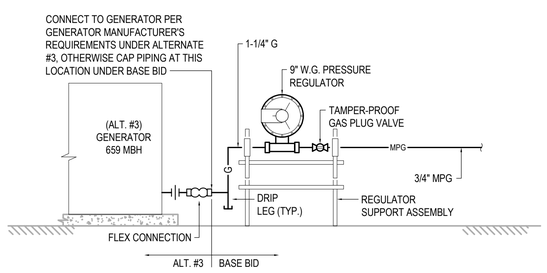
SCALE: 1/4" = 1'-0"



COLD AND HOT WATER PIPING

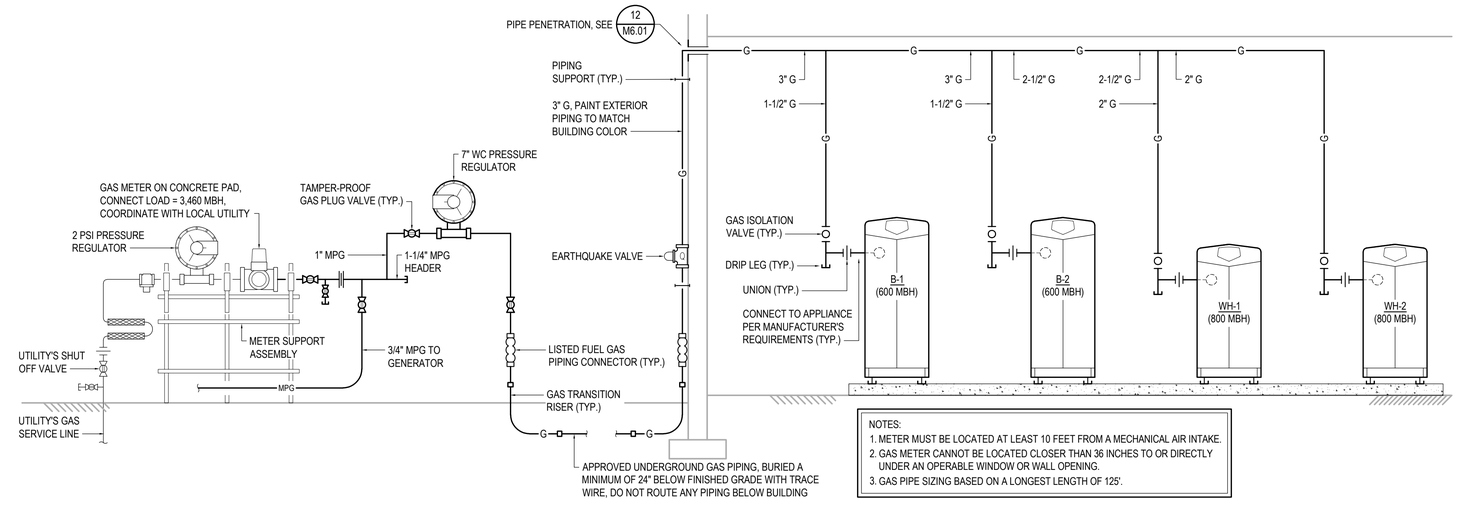
2 LEVEL 1 TYPICAL PLUMBING RISER DIAGRAM - UNIT C

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



4 GAS AT GENERATOR DETAIL

SCALE: NONE



NOTES:
1. METER MUST BE LOCATED AT LEAST 10 FEET FROM A MECHANICAL AIR INTAKE.
2. GAS METER CANNOT BE LOCATED CLOSER THAN 36 INCHES TO OR DIRECTLY UNDER AN OPERABLE WINDOW OR WALL OPENING.
3. GAS PIPE SIZING BASED ON A LONGEST LENGTH OF 125'.

3 GAS PIPING DIAGRAM

SCALE: NONE

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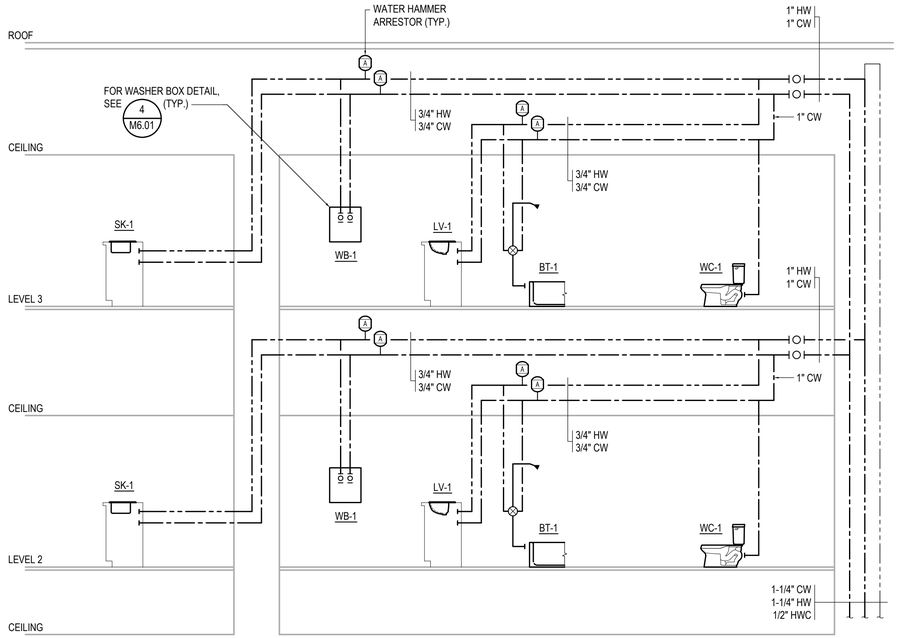
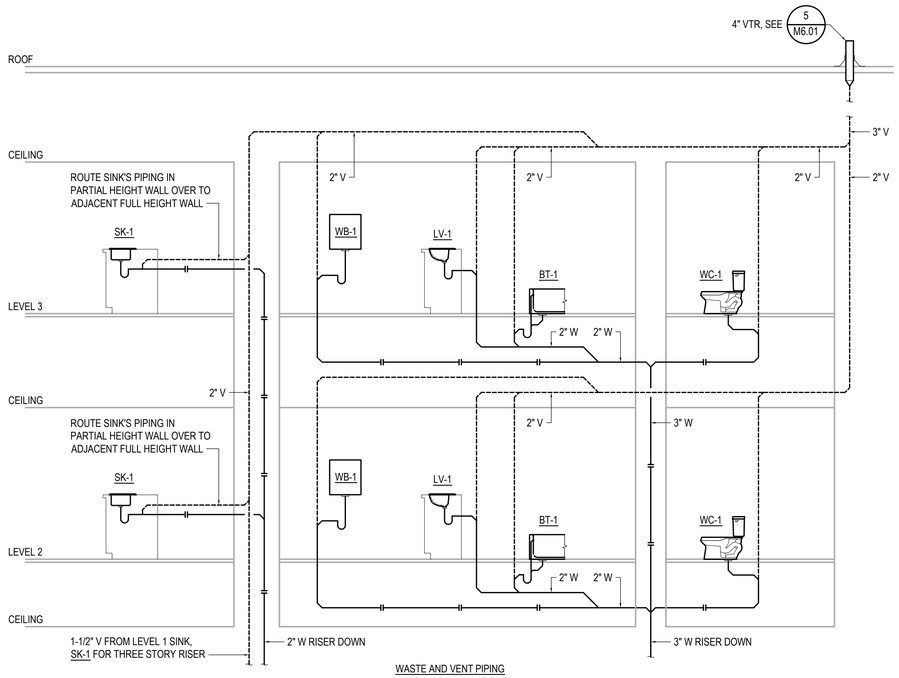
SHEET NAME
PLUMBING RISER DIAGRAM

SHEET NO.
M5.03

PERMIT DOCUMENTS



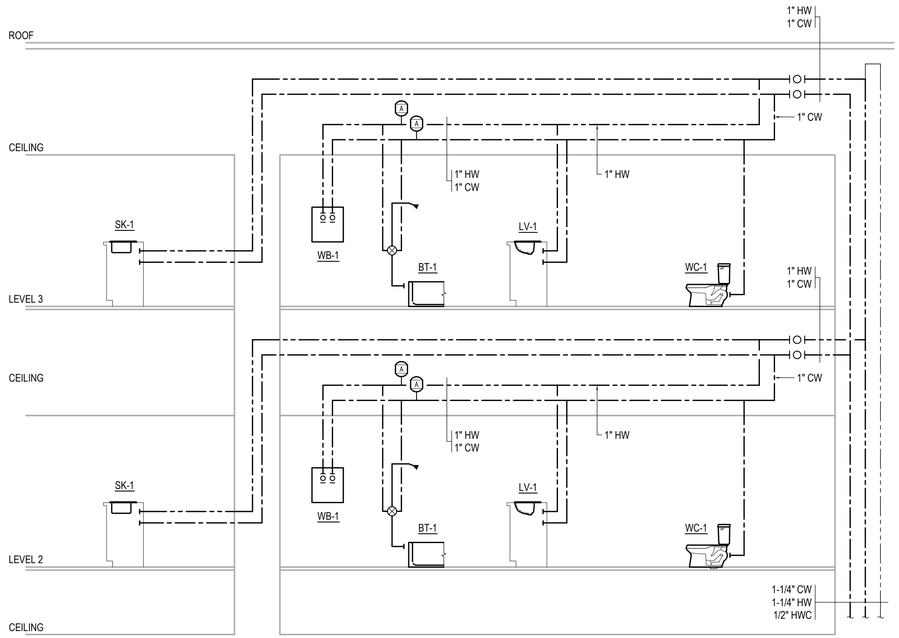
COLD AND HOT WATER PIPING



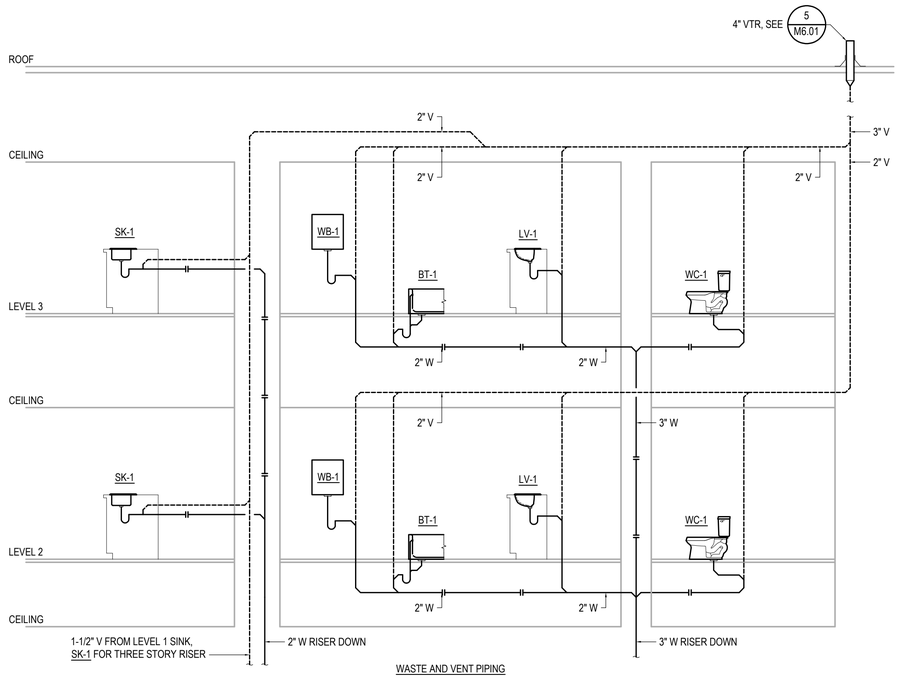
WASTE AND VENT PIPING

1 TYPICAL PLUMBING RISER DIAGRAM - UNIT A, B, B2

SCALE: NONE



COLD AND HOT WATER PIPING



WASTE AND VENT PIPING

2 TYPICAL PLUMBING RISER DIAGRAM - UNIT C

SCALE: NONE

SHEET NOTES

1. BRANCH PIPING TO INDIVIDUAL PLUMBING FIATURES SHALL EQUAL THE SIZE INDICATED ON THE PLUMBING FIATURE SCHEDULE UNLESS OTHERWISE INDICATED.
2. PROVIDE CLEANOUT ON ALL INDIVIDUAL SINK RISERS.

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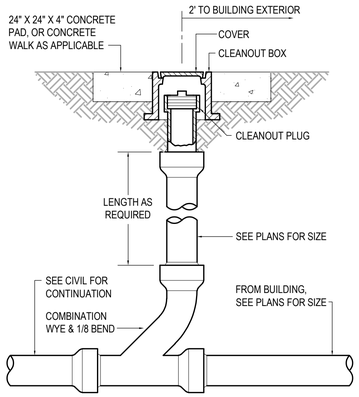
PLUMBING RISER DIAGRAM

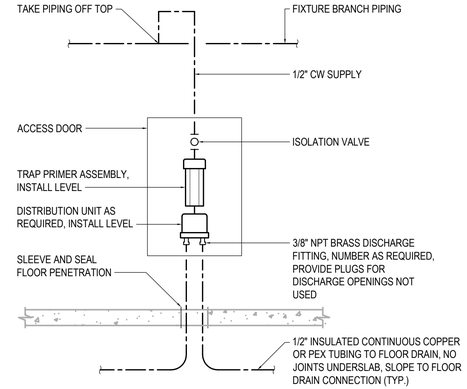
SHEET NO.
M5.04

PERMIT DOCUMENTS



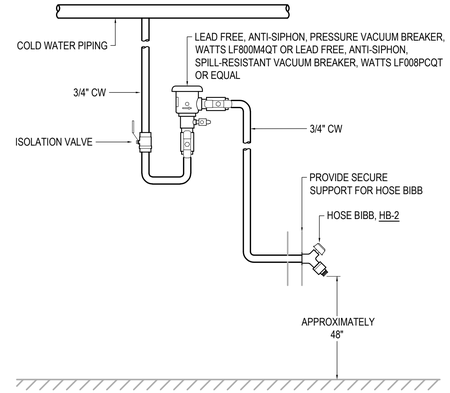
1 YARD CLEANOUT DETAIL

SCALE: NONE



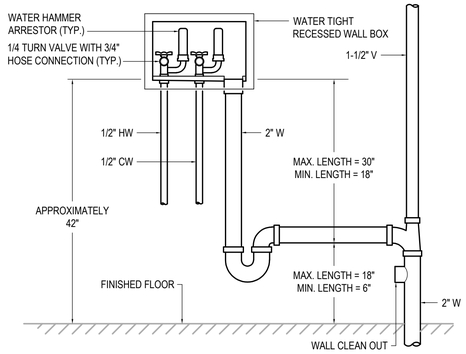
2 TRAP PRIMER DETAIL

SCALE: NONE



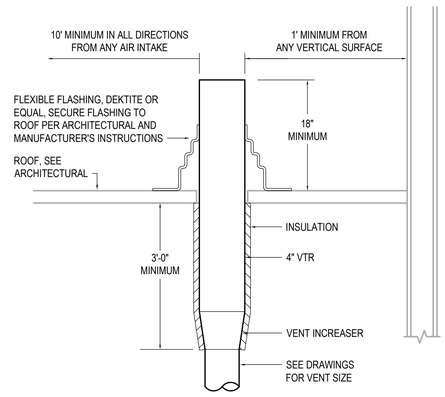
3 INTERIOR HOSE BIBB DETAIL

SCALE: NONE



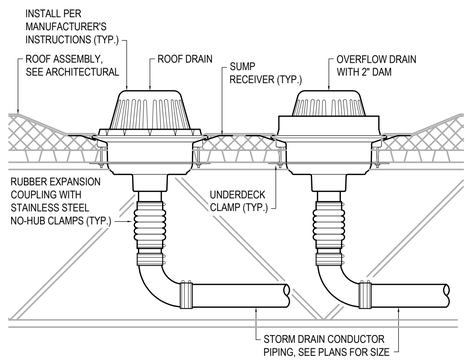
4 WASHER BOX PIPING DETAIL

SCALE: NONE



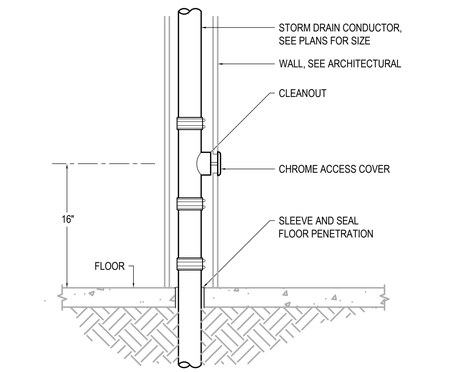
5 VENT THROUGH ROOF DETAIL

SCALE: NONE



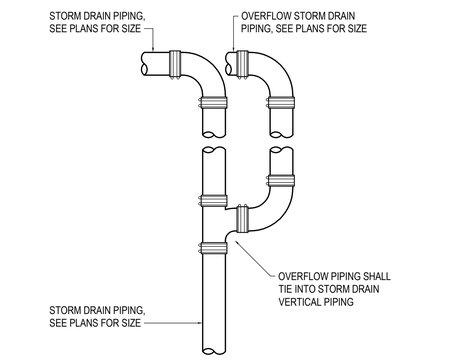
6 ROOF / OVERFLOW DRAIN DETAIL

SCALE: NONE



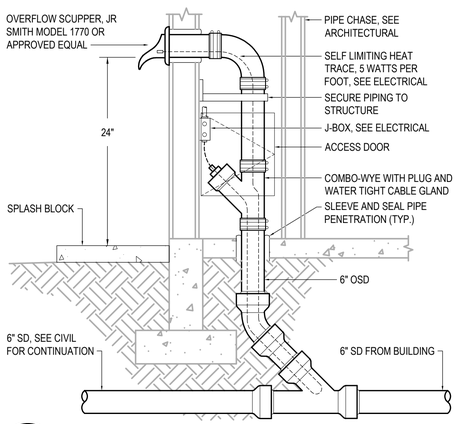
7 STORM DRAIN CLEANOUT DETAIL

SCALE: NONE



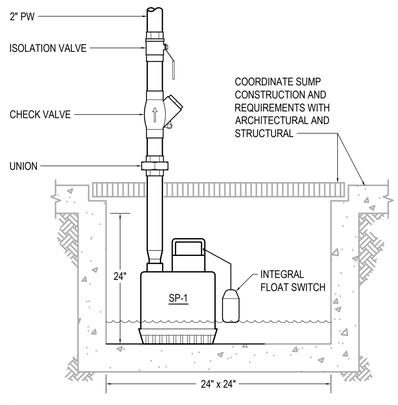
8 STORM DRAIN TIE-IN DETAIL

SCALE: NONE



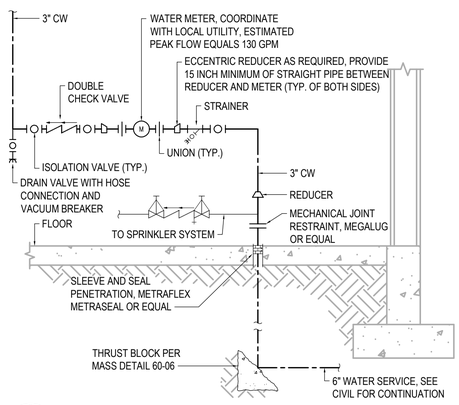
9 OVERFLOW SCUPPER DETAIL

SCALE: NONE



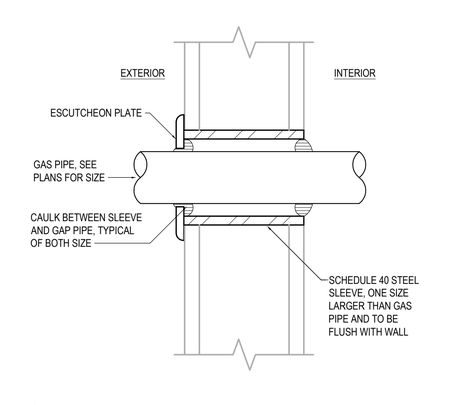
10 ELEVATOR SUMP PUMP DETAIL

SCALE: NONE



11 WATER SERVICE DETAIL

SCALE: NONE



12 GAS PIPE PENTRATION DETAIL

SCALE: NONE

PERMIT DOCUMENTS

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REVISION SCHEDULE

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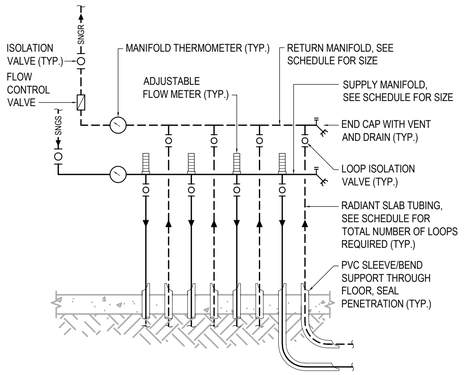
JOB NO.	2023.007.0
DATE	03/06/2023
DRAWN	DBS/MDP
REVIEWED	ACT

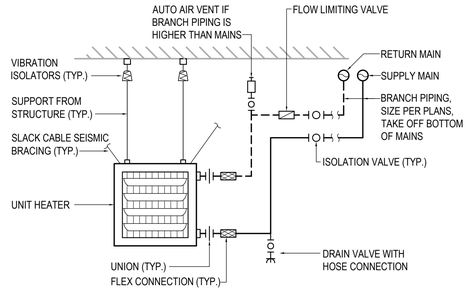
SHEET NAME
MECHANICAL DETAILS

SHEET NO.
M6.01



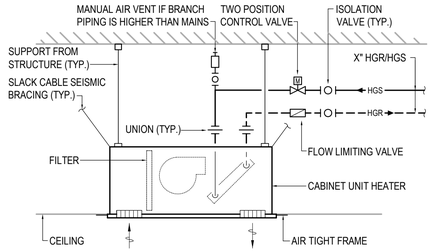
1 SNOWMELT MANIFOLD DETAIL

SCALE: NONE



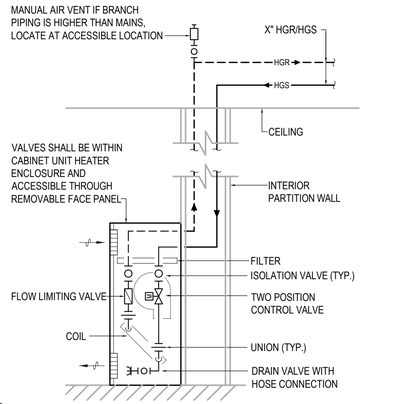
2 UNIT HEATER DETAIL

SCALE: NONE



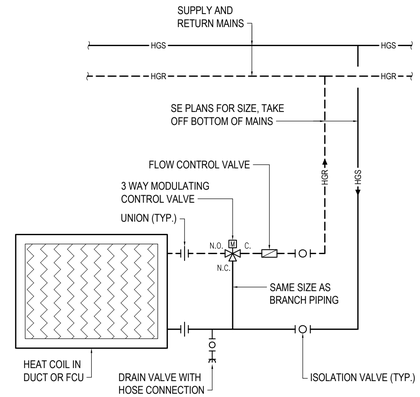
3 CABINET UNIT HEATER DETAIL

SCALE: NONE



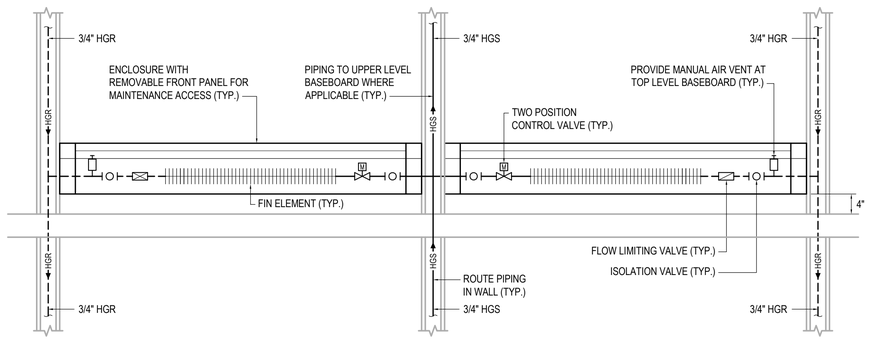
4 CABINET UNIT HEATER DETAIL

SCALE: NONE



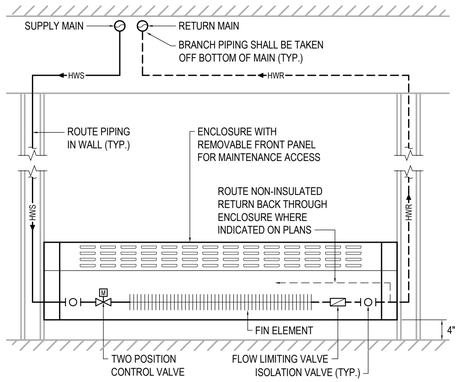
5 HEAT COIL PIPING DETAIL

SCALE: NONE



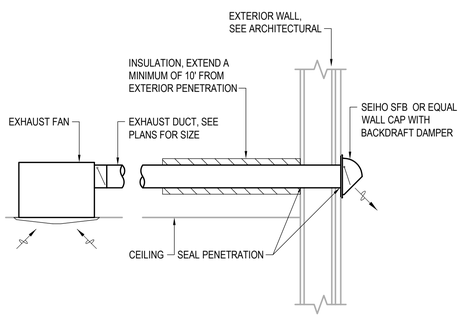
6 RESIDENTIAL BASEBOARD DETAIL: BB-1

SCALE: NONE



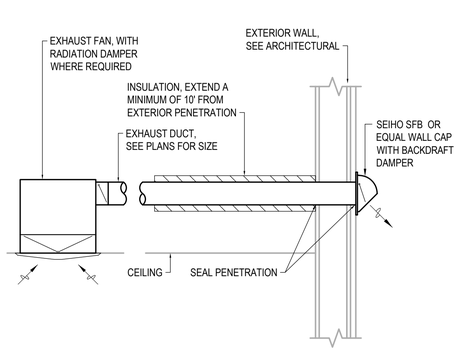
7 BASEBOARD DETAIL: BB-2

SCALE: NONE



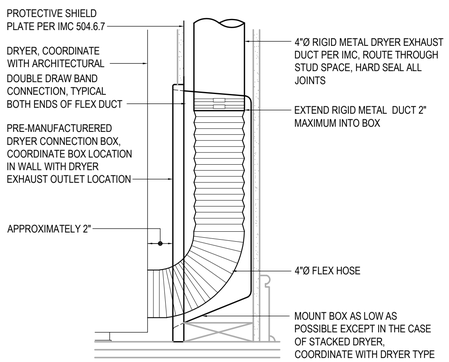
8 EXHAUST FAN DETAIL

SCALE: NONE



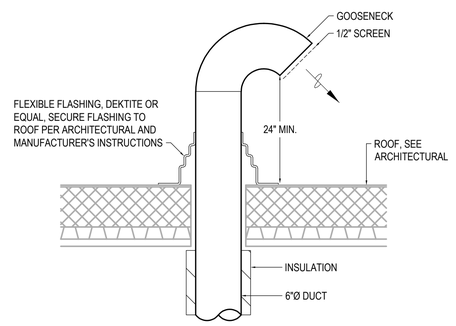
9 EXHAUST FAN DETAIL

SCALE: NONE



10 DRYER DUCT BOX DETAIL

SCALE: NONE



11 GOOSENECK ROOF OUTLET DETAIL

SCALE: NONE

PERMIT DOCUMENTS

STATE OF ALASKA
49 TH
ALEC C. THOMSON
ME-8694
03/06/2023
REGISTERED PROFESSIONAL ENGINEER

CERTIFICATE OF AUTHORIZATION NO: T3 ALASKA, LLC AECL #: 1625

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ASPEN HOUSE LIMITED PARTNERSHIP
ASPEN HOUSE SENIOR APARTMENTS
WASILLA, ALASKA

REVISION SCHEDULE

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ELECTRICAL ABBREVIATIONS

AC	ABOVE COUNTER
AFF	ABOVE FINISHED FLOOR
AFCI	ARC FAULT CIRCUIT INTERRUPTER
AIC	AMPERES INTERRUPTING CAPACITY
AMP, A	AMPERE
ARCH	ARCHITECTURAL
ATS	AUTOMATIC TRANSFER SWITCH
AWG	AMERICAN WIRE GAUGE
C	CONDUIT
°C	CELSIUS
CB	CIRCUIT BREAKER
CKT	CIRCUIT
CLG	CEILING
CO	CONDUIT ONLY
COMM	COMMUNICATIONS
DW	DISH WASHER
EF	EXHAUST FAN
E,EX, EXIST	EXISTING
EM	EMERGENCY
EMT	ELECTRICAL METALLIC TUBING
FA	FIRE ALARM
FACP	FIRE ALARM CONTROL PANEL
FLA	FULL LOAD AMPS
G, GRD	GROUND
GFCI	GROUND FAULT CURRENT INTERRUPTER
GF	GROUND FAULT PROTECTION
HP	HORSE POWER
IN, "	INCHES
K	DEGREE KELVIN
KCMIL, MCM	THOUSAND CIRCULAR MILS
KVA	KILOVOLT AMPERES
KW	KILOWATT
LC	LIGHTING CONTACTOR
MAX	MAXIMUM
MCB	MAIN CIRCUIT BREAKER
MECH	MECHANICAL
MLO	MAIN LUGS ONLY
MW	MICROWAVE
N	NEUTRAL
NC	NORMALLY CLOSED
NEC	NATIONAL ELECTRIC CODE
NIC	NOT IN CONTRACT
NO	NORMALLY OPEN
NO., #	NUMBER
OFCI	OWNER FURNISHED/ CONTRACTOR INSTALLED
PA	PUBLIC ADDRESS
PC	PHOTO CELL
PH, Ø	PHASE
RECPT, REC	RECEPTACLE
REF	REFRIGERATOR
REQ, REQD	REQUIRED
R	RELOCATED
TELECOM	TELECOMMUNICATIONS
TV	TELEVISION
TYP	TYPICAL
UC	UNDER COUNTER
UG	UNDERGROUND
UON	UNLESS OTHERWISE NOTED
UPS	UNINTERRUPTIBLE POWER SUPPLY
UTP	UNSHIELDED TWISTED PAIR
V	VOLTS
VA	VOLT AMPERES
VFD	VARIABLE FREQUENCY DRIVE
W	WATT
WP	WEATHERPROOF
WR	WEATHER RESISTANT
XFMR	TRANSFORMER

MOUNTING HEIGHT SCHEDULE

*SWITCHES	4'-0"
*RECEPTACLES	1'-6"
*WEATHERPROOF RECEPTACLES	2'-0"
BRANCH PANELS (TOP)	6'-6"
DISCONNECT SWITCHES (TOP)	5'-6"

MOUNTING HEIGHTS SHALL PREVAIL ON ALL NEW CONSTRUCTION UNLESS OTHERWISE NOTED.

MOUNTING HEIGHTS ARE TO CENTER OF DEVICE AND ABOVE FINISHED FLOOR UNLESS OTHERWISE NOTED.

COORDINATE FINAL MOUNTING HEIGHTS FOR DEVICES ABOVE COUNTERS WITH ARCHITECTURAL ELEVATIONS.

COORDINATE FINAL MOUNTING HEIGHTS FOR DEVICES FOR EQUIPMENT WITH ARCHITECTURAL ELEVATIONS.

MOUNTING FOR DEVICES SHOWN ABOVE BASEBOARD HEATERS, 4" ABOVE HEATER, MOUNTED VERTICALLY.

THESE ARE TYPICAL MOUNTING HEIGHTS. NOT ALL DEVICES ARE NECESSARILY APPLICABLE TO THIS PROJECT.

*MOUNTING HEIGHTS COMPLY WITH ICC/ANSI A117.1-09

ELECTRICAL SYMBOLS

LIGHTING FIXTURES

- SURFACE LIGHT FIXTURE
- RECESSED LIGHT FIXTURE
- EMERGENCY LIGHT FIXTURE
- WALL LIGHT FIXTURE - LINEAR
- STRIP LIGHT FIXTURE
- RECESSED CAN LIGHT FIXTURE
- SURFACE LIGHT FIXTURE
- PENDANT LIGHT FIXTURE
- TRACK LIGHT FIXTURE HEAD
- WALL LIGHT FIXTURE
- SELF CONTAINED EMERGENCY LIGHT
- EMERGENCY LIGHT - SINGLE HEAD
- EXIT LIGHT - WALL MOUNTED
- EXIT LIGHT - CEILING MOUNTED
- EXIT LIGHT DIRECTIONAL ARROWS
- FAN & LIGHT COMBINATION
- POLE MOUNTED AREA LIGHT FIXTURE
- FLOOD LIGHT
- WALL MOUNTED AREA LIGHT FIXTURE
- CEILING MOUNTED FAN

LIGHTING CONTROLS

- SINGLE POLE SWITCH
- DIMMER SWITCH
- OCCUPANCY SENSOR SWITCH
- THREE & FOUR WAY SWITCH
- KEY OPERATED SWITCH
- PHOTOCELL
- MOTION SENSOR (WALL & CEILING)
- OCCUPANCY SENSOR (WALL & CEILING)

CONDUITS AND CONDUCTORS

- CONDUIT OR CABLE, CONCEALED U.N.O.
- #10 — NUMBER AND SIZE OF WIRES (NO SLASHES INDICATES 3#12)
- P-# — CONDUIT HOMERUN TO PANEL (PANEL & CIRCUIT NUMBER)

LIGHT FIXTURE NOMENCLATURE

- FIXTURE TYPE PER SCHEDULE
- ASSOCIATED SWITCH OR CONTROL ZONE (NO ID = CONTROL VIA SINGLE ROOM SWITCH) (nl = NIGHT LIGHT)
- PANEL & CIRCUIT #

FIRE ALARM DEVICES

- FIRE ALARM PANEL
- 135° — HEAT DETECTOR (FIXED TEMP. AS NOTED)
- SMOKE DETECTOR
- CO — SMOKE/CO DETECTOR COMBO
- HORN
- HORN & STROBE
- STROBE
- FIRE ALARM PULL STATION
- MAGNETIC DOOR HOLDER

POWER DEVICES AND EQUIPMENT

- DUPLEX RECEPTACLE / QUADRAPLEX RECEPTACLE
- DUPLEX / QUADRAPLEX ABOVE COUNTER RECEPTACLE
- GFCI PROTECTED RECEPTACLE
- AC — GFCI PROTECTED ABOVE COUNTER RECEPTACLE
- SPLIT WIRED RECEPTACLE
- SIMPLEX RECEPTACLE
- SPECIAL PURPOSE RECEPTACLE, 3Ø & 1Ø AS NOTED
- A — DUPLEX SMALL APPLIANCE RECEPTACLE
- D — DRYER RECEPTACLE, NEMA 14-30R
- R — ELECTRIC RANGE RECEPTACLE, NEMA 14-50R
- FLOOR MOUNTED DEVICE (RECEPTACLE SHOWN)
- CEILING MOUNTED DEVICE (RECEPTACLE SHOWN)
- POWER RECEPTACLE DROP
- J — JUNCTION BOX
- ELECTRIC MOTOR
- T — ELECTRIC MOTOR WITH STARTER SWITCH
- EF — EXHAUST FAN
- UH — UNIT HEATER
- CH — CABINET UNIT HEATER
- FLUSH MOUNT ELECTRICAL PANEL - 208V & 480V
- SURFACE MOUNT ELECTRICAL PANEL - 208V & 480V
- NON-FUSED DISCONNECT SWITCH
- FUSED DISCONNECT SWITCH
- COMBINATION MOTOR/STARTER DISCONNECT SWITCH
- VFD DISCONNECT
- PB, AC — PUSH BUTTON OR ACCESS CONTROL JUNCTION BOX
- PB, AC — PUSH BUTTON OR ACCESS CONTROL BOX
- J — TRAFFIC CONTROL JUNCTION BOX
- MP W, MP F — WALL / FLOOR MOUNTED MODULAR FURNITURE POWER

TELECOMMUNICATION DEVICES

- TELECOMMUNICATIONS OUTLET
- TELEPHONE (VOICE) OUTLET
- FLOOR MOUNTED DEVICE (TELECOMM SHOWN)
- CEILING MOUNTED DEVICE (TELECOMM SHOWN)
- S — SPEAKER (WALL & CEILING)
- TV — TELEVISION OUTLET (WALL & CEILING)
- TD — TELEVISION/DATA COMBO OUTLET (WALL & CEILING)
- CK, CL — CLOCK (DIGITAL & ANALOG)
- CL, S — CLOCK & SPEAKER COMBINATION
- OP — OVERHEAD PROJECTOR

SECURITY SYSTEM DEVICES

- AC — INTERCOM / ACCESS CONTROL MASTER STATION
- IC — INTERCOM / ACCESS CONTROL DOOR ENTRY STATION
- ES — ACCESS CONTROL ELECTRIC STRIKE/LOCK
- PS — POWER SUPPLY
- DOOR CHIME
- KEYPAD
- CR — CARD READER
- GB — GLASS BREAK SENSOR
- SURVEILLANCE CAMERA
- VARIABLE DIRECTION SURVEILLANCE CAMERA
- DOOR BELL BUTTON

LIGHTING FIXTURE SCHEDULE

TYPE ID	MANUFACTURER MODEL NUMBER	FIXTURE DESCRIPTION	LAMP TYPE	LAMP QTY	LED LUMENS	LED WATTS	MOUNTING TYPE	MOUNTING HEIGHT
A	JLC TECH #TBSL-MN-4-24-D-U-W	4' LINEAR T-BAR FIXTURE WITH 4000K COLOR TEMPERATURE, DIFFUSING LENS, AND WHITE FINISH. PROVIDE 24VDC POWER SUPPLIES FOR EVERY 12' FIXTURE LENGTH AND CONTROL WIRING AS REQUIRED.	LED		2,277	32	RECESSED	CEILING
					71 lm/w			
B	GOTHAM #EVO6-40/10-AR-MD-LSS-MVOLT-GZ10	6" LED RECESSED DOWNLIGHT WITH 4000K COLOR TEMPERATURE, 0-10V DIMMING CAPABILITIES, WET LISTING, AND SEMI-SPECULAR FINISH.	LED		1,074	12	RECESSED	CEILING
					91 lm/w			
C	LITHONIA #ZL1N-L48-SMR-5000LM-FST-MVOLT-40K-80CRI-WH (#HC36)	4' LINEAR STRIPLIGHT WITH 4000K COLOR TEMPERATURE AND WHITE FINISH. PROVIDE HANGER CHAIN FOR SUSPENDED FIXTURES, SEE DRAWINGS FOR LOCATIONS.	LED		4,585	34	SURFACE / SUSPENDED	CEILING / WALL
					135 lm/w			
D	LITHONIA LIGHTING #WL4-40L-EZ1-LP840-N100-NES7ADCX-DIM50	4' STAIRWELL FIXTURE WITH INTEGRAL OCCUPANCY SENSOR AND PHOTOCELL. SEE LIGHTING CONTROL SCHEDULE FOR STAIRWELL CONTROL.	LED		4,325	40	SURFACE	WALL "+86" AFF
					108 lm/w			
F	LITHONIA LIGHTING #FMVCCLS -24IN-MVOLT-30K35K40K-90CRE-BN	24" WIDE 'BASIS' VANITY FIXTURE WITH BRUSHED NICKEL FINISH AND SATIN ETCHED WHITE SHADES.	LED		1,052	24	WALL	6'6" TO BOTTOM
					44 lm/w			
G	LITHONIA LIGHTING #LBL4W-8000LM-80CRI-30K-NODIM-MVOLT	16"X4' MODULAR LINEAR LED WITH 3000K COLOR TEMPERATURE WHITE ACRYLIC SOFT CLOUD DIFFUSER.	LED		7,840	64	SURFACE	CEILING
					123 lm/w			
H6	MARK ARCHITECTURAL LIGHTING #SL4L-LOP-6FT-FLP-FL-80CRI-40K-400LMF-NODIM-120-WL	4"X6' LINEAR EXTERIOR RECESSED FIXTURE WITH 4000K COLOR TEMPERATURE, FLUSH SATIN ACRYLIC LENS, FLANGE MOUNTING, AND WET LISTING. CONFIRM MOUNTING TYPE SPECIFIED WITH FINAL CANOPY DETAILS PRIOR TO ORDERING.	LED		1,896	24	RECESSED	CANOPY
					79 lm/w			
H8	MARK ARCHITECTURAL LIGHTING #SL4L-LOP-8FT-FLP-FL-80CRI-40K-400LMF-NODIM-120-WL	4"X8' LINEAR EXTERIOR RECESSED FIXTURE WITH 4000K COLOR TEMPERATURE, FLUSH SATIN ACRYLIC LENS, FLANGE MOUNTING, AND WET LISTING. CONFIRM MOUNTING TYPE SPECIFIED WITH FINAL CANOPY DETAILS PRIOR TO ORDERING.	LED		2,528	32	RECESSED	CANOPY
					79 lm/w			
I	JUNO LIGHTING #JSF-13IN 18LM-30K-90CRI-MVOLT-ZT-WH	SLIM FORM SURFACE MOUNT WITH 13" DIAMETER, 3000K COLOR TEMPERATURE, AND WHITE FINISH.	LED		1,800	20	SURFACE	CEILING
					90 lm/w			
J	BRUCK LIGHTING #MLED-30K-90-300-MC-P	CYLINDRICAL PENDANT WITH 'WHITE' FINISH, FIELD ADJUSTABLE CORD, AND 3000K COLOR TEMPERATURE.	LED		389	6	PENDANT	7'6" TO BOTTOM
					65 lm/w			
K	NORA LIGHTING #NLOPAC-R6509-30A-N	DIMMABLE 6" AREA LIGHT WITH 3000K COLOR TEMPERATURE, NATURAL METAL FINISH, AND WET LISTING.	LED		1,050	15	RECESSED	CEILING
					70 lm/w			
L	LITHONIA LIGHTING #OWP LED-40K-120-PE-DDB-M4	EXTERIOR WALL SCONCE WITH 4000K COLOR TEMPERATURE AND BRONZE FINISH.	LED		1,242	14	SURFACE	WALL
					89 lm/w			
P	LITHONIA LIGHTING #CNY LED-P0-40K-MVOLT-DDB	10" X 10" EXTERIOR CANOPY FIXTURE WITH 4000K COLOR TEMPERATURE AND DARK BRONZE FINISH.	LED		3,500	27	SURFACE	CANOPY
					130 lm/w			
SW	LITHONIA LIGHTING #WDGE3 LED-P3-70 CRI-4000K-R3-MVOLT-SRM-DBLXD	EXTERIOR ARCHITECTURAL WALL SCONCE WITH 4000K COLOR TEMPERATURE, TYPE 3 DISTRIBUTION, AND BLACK FINISH.	LED		10,054	71	SURFACE	WALL
					142 lm/w			
EM	LITHONIA LIGHTING #AFF-QEL-DBLBXD-UVOLT-WT-CW	EXTERIOR WALL MOUNTED REMOTE EMERGENCY FIXTURE WITH BLACK TEXTURED FINISH AND WET LISTING.	LED		N/A	11	SURFACE	WALL
					- lm/w			
EX	LITHONIA LIGHTING #EDG-1/2-R	EDGE LIT EXIT SIGN WITH BRUSHED ALUMINUM HOUSING, RED LETTERING. PROVIDE SINGLE OR DOUBLE FACED FIXTURE AS INDICATED ON DRAWINGS.	LED		N/A	4	SURFACE	CEILING OR WALL AT 90°
					- lm/w			

NOTE: ALL FIXTURE TYPES, COLORS, & FINISHES ARE TO BE REVIEWED AND APPROVED BY OWNER/PROJECT MANAGER PRIOR TO ORDERING.

LIGHTING CONTROL SCHEDULE

ROOM TYPE	CONTROL ZONE(S)	LIGHTING CONTROL NOTE
CORRIDORS	a, b, c	1
STAIRWELLS	d, e	2
EXTERIOR SITE	N/A	3

LIGHTING CONTROL SCHEDULE NOTES

NOTE	CONTROL TYPE
1	MOTION SENSORS, AUTO-ON TO 100%. AUTOMATICALLY REDUCE LIGHT OUTPUT BY 50% WHEN OCCUPANCY IS NOT DETECTED. AUTO-OFF WITH 15-MINUTE TIME DELAY. PROVIDE CONTROL ACCESSORIES AS REQUIRED TO CONTROL NORMAL AND INVERTER-POWERED FIXTURES UNDER SAME CONTROL SEQUENCE.
2	OCCUPANCY/PHOTOCELL COMBINATION UNIT INTEGRAL TO FIXTURE. AUTO-ON TO PHOTOCELL CONTROLLED LIGHTING LEVEL WHEN OCCUPANCY IS DETECTED. MULTILEVEL PHOTOCONTROL ZONE AS SHOWN ON LIGHTING PLAN. AUTO-DIM TO 50% WHEN OCCUPNACY IS NOT DETECTED FOR 5-MINUTES. AUTO FULL-OFF WITH 15-MINUTE TIME DELAY.
3	EXTERIOR PHOTOCELL, AUTO-ON / AUTO-OFF.

STATE OF ALASKA 49 TH
THOMAS C. ALLEN
EE-9877
03/06/23
REGISTERED PROFESSIONAL ENGINEER

CERTIFICATE OF AUTHORIZATION NO: T3 ALASKA, LLC AECL #: 1625

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ASPEN HOUSE LIMITED PARTNERSHIP
ASPEN HOUSE SENIOR APARTMENTS
WASILLA, ALASKA

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REVIEWED	TCA

SHEET NAME
SYMBOLS, LEGENDS, & ABBREVIATIONS

SHEET NO.
E0.01

PERMIT DOCUMENTS

ELECTRICAL SPECIFICATIONS

SECTION 26 05 00 - COMMON WORK RESULTS FOR ELECTRICAL

1. PROVIDE MATERIALS AND EQUIPMENT THAT ARE PRODUCTS OF MANUFACTURERS REGULARLY ENGAGED IN THE PRODUCTION OF SUCH PRODUCTS. ALL MATERIALS SHALL BE LISTED AND LABELED FOR THE APPLICATION WITH A NATIONALLY RECOGNIZED TESTING LABORATORY IN ACCORDANCE WITH NFPA 70.
2. MATERIALS AND EQUIPMENT SHALL BE INSTALLED IN ACCORDANCE WITH ALL REQUIREMENTS OF THE LATEST EDITION OF THE NATIONAL ELECTRIC CODE, STATE, MUNICIPAL, AND FEDERAL LAWS, AND AMENDMENTS GOVERNING THE PROJECT. INSTALLATION OF EQUIPMENT SHALL BE ACCORDANCE WITH THE WRITTEN INSTRUCTIONS RECOMMENDATIONS OF THE MANUFACTURER.
3. THE CONTRACTOR SHALL BECOME FAMILIAR WITH ALL DETAILS OF WORK AND VERIFY ALL DIMENSIONS IN THE FIELD SO THAT ALL OUTLETS AND EQUIPMENT ARE PROPERLY LOCATED AND READILY ACCESSIBLE.
4. LIGHTING FIXTURES, OUTLETS, AND OTHER EQUIPMENT AND MATERIALS SHALL BE COORDINATED WITH STRUCTURAL FEATURES AND ALL OTHER TRADES PRIOR TO INSTALLATION. IF ANY CONFLICTS OCCUR NECESSITATING DEPARTURES FROM THE DRAWINGS, DETAILS OF, AND REASONS FOR DEPARTURES SHALL BE SUBMITTED AND ACCEPTED PRIOR TO IMPLEMENTING ANY CHANGE.
5. THE LISTED PUBLICATIONS BELOW ESTABLISH MINIMUM REQUIREMENTS FOR MATERIALS, SYSTEMS AND EXECUTION THAT MAY BE SPECIFIED IN THIS SECTION AND UTILIZED FOR THIS PROJECT.
   A. NATIONAL ELECTRICAL CONTRACTORS ASSOCIATION (NECA): NECA 1 - STANDARD PRACTICES FOR GOOD WORKMANSHIP IN ELECTRICAL CONSTRUCTION
   B. NATIONAL FIRE PROTECTION ASSOCIATION (NFPA): NFPA 70 NATIONAL ELECTRICAL CODE, NFPA 70E STANDARD FOR ELECTRICAL SAFETY IN THE WORKPLACE.

SECTION 26 05 19 - POWER CONDUCTORS AND CABLES

1. PROVIDE WIRING, CABLES AND ASSOCIATED SPLICES, CONNECTORS, AND TERMINATIONS FOR WIRING SYSTEMS RATED 600 VOLTS AND LESS. CONDUCTOR AMPACITY SHALL BE BASED ON TABLE 310-16 OF THE NEC UTILIZING THE 60-DEGREE C. RATING COLUMN FOR CIRCUITS TERMINATING ON DEVICES RATED BELOW 100 AMPS AND THE 75-DEGREE C RATING COLUMN FOR CIRCUITS TERMINATING ON DEVICES AND IN ENCLOSURES RATED 100 AMPS AND GREATER.
2. ALL CONDUCTORS SHALL BE COPPER UNLESS NOTED OTHERWISE. ALL CONDUCTORS INSTALLED IN UNHEATED SPACES WITHIN THE BUILDING, UNDERGROUND, OR LOCATED OUTSIDE OF THE BUILDING SHALL HAVE TYPE XHHW 90 DEGREE C INSULATION. ALL CONDUCTORS INSTALLED WITHIN HEATED SPACES MAY HAVE XHHW OR THHN 90 DEGREE C INSULATION.
3. CONDUCTORS NO. 8 AWG AND LARGER DIAMETER SHALL BE STRANDED. CONDUCTORS NO. 12 AWG AND SMALLER SHALL BE SOLID, EXCEPT THAT CONDUCTORS FOR REMOTE CONTROL, ALARM, AND SIGNAL CIRCUITS, CLASSES 1, 2, AND 3 SHALL BE STRANDED.
4. BRANCH CIRCUITS: CONDUCTORS SHALL BE NOT SMALLER THAN NO. 12 AWG. CONDUCTORS FOR BRANCH CIRCUITS OF 120 VOLTS MORE THAN 100 FEET LONG AND OF 277 VOLTS MORE THAN 200 FEET LONG FROM PANEL TO FARTHEST DEVICE OR LOAD, SHALL BE NO SMALLER THAN NO. 10 AWG. CONDUCTORS FOR BRANCH CIRCUITS OF 120 VOLTS MORE THAN 150 FEET LONG AND OF 277 VOLTS MORE THAN 300 FEET LONG FROM PANEL TO FARTHEST DEVICE OR LOAD, SHALL BE NO SMALLER THAN NO. 8 AWG.
5. TYPE NM CABLE IS ACCEPTABLE FOR USE IN THE RESIDENTIAL AREAS AS ALLOWED BY THE NATIONAL ELECTRICAL CODE.
6. INSTALL CONDUCTORS IN COMPLIANCE WITH NEC REQUIREMENTS FOR TEMPERATURE AND CONDUIT FILL DERATING AND BOX FILL LIMITATIONS.
7. COLOR CODE CONDUCTORS AS FOLLOWS:
   A. 120/208 VOLT, 1 PHASE, 3 WIRE: BLACK, RED, WHITE
   B. 120/208 VOLT, 3 PHASE, 4 WIRE: BLACK, RED, BLUE, WHITE
8. NEUTRAL (GROUNDED) CONDUCTOR: PROVIDE AN UNSHARED DEDICATED NEUTRAL FOR EACH CIRCUIT UNLESS SPECIFICALLY NOTED OTHERWISE. IDENTIFY GROUNDED CONDUCTORS PER NEC FOR ALL CIRCUITS
9. GROUNDING CONDUCTORS: PROVIDE A GREEN EQUIPMENT GROUNDING CONDUCTOR IN EACH NEW RACEWAY, SIZED IN ACCORDANCE WITH NFPA 70, REGARDLESS OF THE TYPE OF CONDUIT.

SECTION 26 05 33 - RACEWAYS AND BOXES FOR ELECTRICAL SYSTEMS

1. PROVIDE RACEWAYS AND BOXES LISTED AND SUITABLE FOR THE PROPOSED APPLICATION. PROVIDE AN EFFICIENTLY LAID OUT SYSTEM THAT ALLOWS FOR FUTURE GROWTH. COORDINATE RACEWAYS WITH THE WORK OF OTHER TRADES, AND COORDINATE LAYOUT AND CONSTRUCTION WITH OTHER CONSTRUCTION ELEMENTS TO ENSURE MAXIMUM HEADROOM, WORKING CLEARANCE, AND ACCESS.
2. UTILIZE RACEWAY SYSTEMS LISTED AND SUITABLE FOR THE ENVIRONMENT INSTALLED AS DEFINED BELOW:
   A. OUTDOORS (EXPOSED): WEATHERPROOF RIGID STEEL CONDUIT OR EMT SYSTEM.
   B. INDOORS (NOT SUBJECT TO PHYSICAL DAMAGE): EMT, MC OR NM CABLE.
   C. CONNECTION TO VIBRATING EQUIPMENT: FLEXIBLE METAL CONDUIT, LIQUID-TIGHT IN DAMP AND WET LOCATIONS.

SECTION 26 24 16 PANELBOARDS & LOAD CENTERS

1. ALL PANELBOARDS SHALL BE FACTORY ASSEMBLED OF THE BOLTED CIRCUIT BREAKERS TYPE WITH SOLID COPPER BUSSING, FULL SIZED NEUTRAL, 100% GROUND BUSSING, AND OVERALL HINGED/LOCKABLE DOOR. ALL CIRCUIT BREAKERS SHALL BE OF THE QUICK-MAKE AND QUICK-BREAK DESIGN, THERMAL-MAGNETIC TYPE, TRIP FREE AND TRIP-INDICATING. ALL PANELS SHALL BE DEAD FRONT AND FLUSH OR SURFACE MOUNTED AS SHOWN AND SHALL BE FURNISHED WITH A TYPEWRITTEN DIRECTORY CARD OF THE CIRCUITS AND AN ENGRAVED NAMEPLATE. RESIDENTIAL STYLE PANELS MAY BE USED IN THE RESIDENTIAL UNITS.
2. CIRCUIT BREAKER PANELBOARDS SHALL HAVE FULL LENGTH NON-TAPERED BUS BARS ARRANGED AND DRILLED FOR SEQUENCE PHASING.
3. ALL PANELS SHALL HAVE DOORS FLUSH WITH THE TRIM, EQUIPPED WITH LOCKS, AND KEYED ALIKE. ALL MULTI-POLE BREAKERS SHALL BE COMMON TRIP.
4. ALL PANELBOARDS PHASE AMPERAGE SHALL BE BALANCED TO WITHIN 10 PERCENT MAX. TO MIN. REARRANGE BRANCH CIRCUITS AS REQUIRED AND NOTE CHANGES ON RECORD DRAWINGS.
5. PANELS SHALL BE AS INDICATED ON THE DRAWINGS. ALL BRANCH CIRCUIT BREAKERS (C/B) SHALL BE RATED 20 AMPERES SINGLE POLE MINIMUM, EXCEPT AS NOTED OR REQUIRED BY LOCAL CODES.
6. PROVIDE LOCKOUT CLIPS ON CIRCUIT BREAKERS WHERE INDICATED ON PANEL SCHEDULE.
7. PROVIDE ONE SPARE 1" CONDUIT FOR EACH SIX SPACES OR SPARE CIRCUIT BREAKERS IN EACH RECESSED MOUNTED PANEL. MINIMUM 1- SPARE CONDUIT PER PANEL. RUN CONDUIT TO A LOCATION JUST ABOVE CEILING.
8. CIRCUIT BREAKERS SERVING HEATING, VENTILATION, AND/OR AIR CONDITIONING (HVAC) EQUIPMENT SHALL BE RATED AND MARKED "HACR", IF FUSING IS NOT PROVIDED AT PIECE OF HVAC EQUIPMENT. FIELD VERIFY EXACT "HACR" BREAKER REQUIREMENTS WITH HVAC EQUIPMENT NAMEPLATE AND MANUFACTURER'S REQUIREMENTS PRIOR TO INSTALLATION.
9. IN SERVICE ENTRANCE APPLICATIONS, PANELS SHALL BEAR THE MANUFACTURER'S LABEL INDICATING THE EQUIPMENT IS RATED FOR "SERVICE ENTRANCE" APPLICATION IN ACCORDANCE WITH THE NEC AND AS INDICATED ON DRAWINGS.
10. PANELBOARDS SHALL HAVE A MINIMUM SHORT CIRCUIT CURRENT RATING AS INDICATED ON THE DRAWINGS.
11. VERIFY ACTUAL AIC SHORT CIRCUIT CURRENT REQUIREMENTS WITH OWNER OR UTILITY COMPANY PRIOR TO ORDERING EQUIPMENT.
12. AFTER COMPLETION, ALL PANELBOARDS SHALL BE CLEANED BOTH INSIDE AND OUTSIDE.
13. MANUFACTURER SHALL BE SQUARE "D" OR EQUAL BY GENERAL ELECTRIC, CUTLER HAMMER OR APPROVED EQUAL.

SECTION 26 27 26 - WIRING DEVICES

1. PROVIDE RECEPTACLES, CONNECTORS, SWITCHES, AND FINISH PLATES OF TYPES AND QUANTITIES SUITABLE FOR THE PROJECT AND INTENDED USE. WIRING DEVICES SHALL MEET NEMA WD 1 AND NEMA WD 6. WIRING TERMINALS SHALL BE OF THE SCREW TYPE OR OF THE SOLDERLESS PRESSURE TYPE HAVING SUITABLE CONDUCTOR-RELEASE ARRANGEMENT. WIRING DEVICES SHALL BE IMPACT RESISTANT NYLON WITH WHITE COLOR UNLESS NOTED OTHERWISE.
2. DEVICE PLATES ON UNFINISHED WALLS MAY BE OF ZINC-COATED SHEET STEEL, OR CAST METAL HAVING ROUNDED OR BEVELED EDGES. DEVICE PLATES ON FINISHED WALLS SHALL MATCH DEVICE COLOR. SCREWS SHALL BE OF METAL WITH COUNTERSUNK HEADS, IN A COLOR TO MATCH THE FINISH OF THE PLATE.
3. SINGLE AND DUPLEX RECEPTACLES SHALL BE RATED 20 AMPERES, 125 VOLTS, 2-POLE, 3-WIRE, GROUNDING TYPE WITH POLARIZED PARALLEL SLOTS, BACK AND SIDE WIRED.
4. TOGGLE SWITCHES SHALL BE RATED 120-277 VOLT AC GROUNDING TYPE, TOTALLY ENCLOSED, GENERAL USE.

SECTION 26 51 00- INTERIOR LIGHTING

1. PROVIDE AND INSTALL ALL LIGHTING EQUIPMENT AS SHOWN ON THE DRAWINGS AND SPECIFIED IN THE LIGHTING FIXTURE SCHEDULE. PROVIDE WITH ALL OPTIONS AND ACCESSORIES AS REQUIRED FOR A COMPLETE INSTALLATION IN COMPLIANCE WITH THE MANUFACTURER'S INSTALLATION INSTRUCTIONS.
2. PAINT ALL EXPOSED RACEWAYS AND BOXES TO MATCH ADJACENT SURFACES.

SECTION 28 31 11 - DIGITAL FIRE ALARM SYSTEM

1. GENERAL: PROVIDE A COMPLETE, NON-CODED ADDRESSABLE, MICROPROCESSOR-BASED FIRE ALARM SYSTEM WITH INITIATING DEVICES, NOTIFICATION APPLIANCES, AND MONITORING AND CONTROL DEVICES AS SPECIFIED HEREIN. FURNISH AND INSTALL A COMPLETE FIRE ALARM SYSTEM AS DESCRIBED HEREIN AND AS SHOWN ON THE PLANS. INCLUDE SUFFICIENT CONTROL UNIT(S), ANNUNCIATOR(S), MANUAL STATIONS, AUTOMATIC FIRE DETECTORS, SMOKE DETECTORS, AUDIBLE AND VISIBLE NOTIFICATION APPLIANCES, WIRING, TERMINATIONS, ELECTRICAL BOXES, ETHERNET DROPS, AND ALL OTHER NECESSARY MATERIAL FOR A COMPLETE OPERATING SYSTEM. PLEASE NOTE: THE DEVICE LAYOUT AS INDICATED ON THE DRAWINGS IS DIAGRAMMATIC IN NATURE AND IS NOT INTENDED TO INDICATE A FULL INSTALLATION. RATHER IT IS INTENDED TO INDICATE SCOPE AND EXTEND OF DESIRED LAYOUTS. IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO PROVIDE A FULLY CODE COMPLIANT SYSTEM.
2. UFAS - ALL UNITS MUST COMPLY WITH THE UNIFORM FEDERAL ACCESSIBILITY STANDARDS (UFAS). UNITS AND SHALL BE PROVIDED WITH FIRE ALARM DEVICES AND CONNECTIONS AS REQUIRED TO BE CODE COMPLIANT WITH SAID ACT,
3. PROVIDE SUBMITTAL AS FOLLOWS: PRODUCT DATA SHEETS FOR SYSTEM COMPONENTS HIGHLIGHTED TO INDICATE THE SPECIFIC PRODUCTS, FEATURES, OR FUNCTIONS REQUIRED TO MEET THIS SPECIFICATION. WIRING DIAGRAMS FROM MANUFACTURER. SHOP DRAWINGS SHOWING SYSTEM DETAILS INCLUDING LOCATION OF FACU, ALL DEVICES, CIRCUITING AND DETAILS OF GRAPHIC ANNUNCIATOR. SYSTEM POWER AND BATTERY CALCULATIONS AND VOLTAGE DROP CALCULATIONS TO ASSURE THAT THE SYSTEM WILL OPERATE IN ACCORDANCE WITH THE PRESCRIBED BACKUP TIME PERIODS AND UNDER ALL VOLTAGE CONDITIONS PER UL AND NFPA STANDARDS
4. SUBMISSION TO AUTHORITY HAVING JURISDICTION: IN ADDITION TO ROUTINE SUBMISSION OF THE ABOVE MATERIAL, MAKE AN IDENTICAL SUBMISSION TO THE AUTHORITY HAVING JURISDICTION. INCLUDE COPIES OF SHOP DRAWINGS AS REQUIRED TO DEPICT COMPONENT LOCATIONS TO FACILITATE REVIEW. UPON RECEIPT OF COMMENTS FROM THE AUTHORITY, MAKE RESUBMISSIONS, IF REQUIRED, TO MAKE CLARIFICATIONS OR REVISIONS TO OBTAIN APPROVAL.
5. THE FIRE ALARM SYSTEM SHALL CONSIST OF ALL NECESSARY HARDWARE EQUIPMENT AND SOFTWARE PROGRAMMING TO PERFORM THE FOLLOWING FUNCTIONS:
6. FIRE ALARM SYSTEM DETECTION AND NOTIFICATION OPERATIONS. CONTROL AND MONITORING OF ELEVATORS, DOOR HOLD-OPEN DEVICES, FIRE SUPPRESSION SYSTEMS, AND OTHER EQUIPMENT AS INDICATED IN THE DRAWINGS AND SPECIFICATIONS. SYSTEM OPERATION DESCRIPTION INCLUDING METHOD OF OPERATION AND SUPERVISION OF EACH TYPE OF CIRCUIT AND SEQUENCE OF OPERATIONS FOR ALL MANUALLY AND AUTOMATICALLY INITIATED SYSTEM INPUTS AND OUTPUTS. A LIST OF ALL INPUT AND OUTPUT POINTS IN THE SYSTEM SHALL BE PROVIDED WITH A LABEL INDICATING LOCATION OR USE OF IDC, SLC, NAC, RELAY, SENSOR, AND AUXILIARY CONTROL CIRCUITS. OPERATING INSTRUCTIONS FOR FACU.
7. OPERATION AND MAINTENANCE DATA FOR INCLUSION IN OPERATING AND MAINTENANCE MANUAL. INCLUDE DATA FOR EACH TYPE PRODUCT, INCLUDING ALL FEATURES AND OPERATING SEQUENCES, BOTH AUTOMATIC AND MANUAL. PROVIDE THE NAMES, ADDRESSES, AND TELEPHONE NUMBERS OF SERVICE ORGANIZATIONS.
8. THE SYSTEM AS INDICATED IS BASED ON A SIMPLEX SYSTEM. APPROVED EQUALS WILL BE CONSIDERED.
9. INSTALL SYSTEM COMPONENTS AND ALL ASSOCIATED DEVICES IN ACCORDANCE WITH APPLICABLE NFPA STANDARDS AND MANUFACTURER'S RECOMMENDATIONS. INSTALLATION PERSONNEL SHALL BE SUPERVISED BY PERSONS WHO ARE QUALIFIED AND EXPERIENCED IN THE INSTALLATION, INSPECTION, AND TESTING OF FIRE ALARM SYSTEMS. INSTALLATION SHALL BE BY PERSONNEL LICENSED OR CERTIFIED BY STATE OF ALASKA.
10. SEQUENCING: CONTRACTOR SHALL COORDINATE WITH THE OWNER FOR PROPER SEQUENCING FOR ALARM CONDITIONS FOR ALL ELEMENTS OF THE BUILDING AND SPECIFICALLY HOW DWELLING UNIT ALARMS ARE SEQUENCED TO COMMON AREA ALARMS.
11. TRAINING: PROVIDE THE SERVICES OF A FACTORY-AUTHORIZED SERVICE REPRESENTATIVE TO DEMONSTRATE THE SYSTEM AND TRAIN OWNER'S MAINTENANCE PERSONNEL. PROVIDE A MINIMUM OF 4 HOURS' TRAINING. SCHEDULE TRAINING WITH THE OWNER AT LEAST SEVEN DAYS IN ADVANCE.

SECTION 28 13 53 - TENANT ENTRY SYSTEM

1. INSTALL TENANT ENTRY SYSTEM IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS AT LOCATIONS INDICATED ON THE DRAWINGS. THE SYSTEM AS SHOWN ON THE DRAWINGS IS DIAGRAMMITIC IN NATURE AND IS INTENDED TO SHOW THE LAYOUT, INTENT AND LEVEL OF SYSTEM INSTALLATION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING A COMPLETE DESIGN AND SUBMITTING FOR APPROVAL. DEVICE OR LAYOUT OMMISSIONS DOES NOT RELEAVE THE CONTRACTOR FROM PROVIDING A COMPLETE SYSTEM.
2. MOUNT EQUIPMENT PLUMB, LEVEL, SQUARE, AND SECURE. FOR VIDEO ENTRANCE STATIONS AND VIDEO DOOR STATIONS, COMPLY WITH MANUFACTURER'S DESIGN REQUIREMENTS TO PROVIDE OPTIMUM PICTURE QUALITY OF STATION MONITORING.
3. PROVIDE ALL CONDUIT, WIRING AND ACCESSORIES AS NECESSARY TO PROVIDE A COMPLETE INSTALLATION AND OPERATION IN ACCORDANCE WITH MANUFACTURER'S INSTALLATION REQUIREMENTS.
4. SET-UP AND ADJUSTING: ADJUST INTEGRATED SECURITY AND COMMUNICATION SYSTEM FOR PROPER OPERATION IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS
5. DEMONSTRATE THAT SYSTEM FUNCTIONS PROPERLY.
6. PROVIDE INSTRUCTION AND TRAINING OF OWNER'S PERSONNEL AS REQUIRED.

SECTION 28 13 54 - ACCESS CONTROL

1. SEPARATE ACCESS CONTROL SYSTEM SHALL BE PROVIDED IN ADDITION TO THE AUDIO/VIDEO ENTRY SYSTEM WITH ACCESS CONTROL AS INDICATED ON THE DRAWINGS. THE SYSTEM AS SHOWN ON THE DRAWINGS IS DIAGRAMMITIC IN NATURE AND IS INTENDED TO SHOW THE LAYOUT, INTENT AND LEVEL OF SYSTEM INSTALLATION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING A COMPLETE DESIGN AND SUBMITTING FOR APPROVAL. DEVICE OR LAYOUT OMMISSIONS DOES NOT RELEAVE THE CONTRACTOR FROM PROVIDING A COMPLETE SYSTEM.
2. BASIS OF DESIGN IS A LENEL ONGUARD SYSTEM, ALTERNATES WILL BE CONSIDERED PRIOR TO CONSTRUCTION AND MUST MEET OR EXCEED THE BASIS OF DESIGN AND BE APPROVED BY THE OWNER PRIOR TO CONSTRUCTION COMMENCEMENT.
3. THE SYSTEM AS SHOWN ON THE DRAWINGS IS DIAGRAMMITIC IN NATURE AND IS INTENDED TO SHOW THE LAYOUT, INTENT AND LEVEL OF SYSTEM INSTALLATION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING A COMPLETE DESIGN AND SUBMITTING FOR APPROVAL. DEVICE OR LAYOUT OMMISSIONS DO NOT RELEAVE THE CONTRACTOR FROM PROVIDING A COMPLETE SYSTEM.
4. SEPARATE ACCESS CONTROL SYSTEM SHALL BE PROVIDED IN ADDITION TO THE AUDIO/VIDEO ENTRY SYSTEM WITH ACCESS CONTROL AS INDICATED ON THE DRAWINGS.
5. THE SECURITY MANAGEMENT SYSTEM (SYSTEM) SHALL PROVIDE A NUMBER OF FUNCTIONS INCLUDING THE ABILITY TO REGULATE ACCESS THROUGH SPECIFIC DOORS AND GATES TO SECURED AREAS OF THE CUSTOMER FACILITY AND PROVIDE COMPUTER GENERATED COLOR EMPLOYEE AND VISITOR CREDENTIALS FOR THAT USE. THE SYSTEM SHALL ALSO RECORD AND STORE DIGITAL VIDEO OF ACTIVITIES OCCURRING IN THE FACILITY AS WELL AS MANAGE AND TRACK CORPORATE ASSETS. THE SYSTEM MUST UTILIZE A SINGLE SEAMLESSLY INTEGRATED RELATIONAL DATABASE FOR ALL FUNCTIONALITY. THIS INTEGRATION SHALL BE PROVIDED WITH ONE OPERATING ENVIRONMENT. THE SYSTEM'S OPERATING ENVIRONMENT SHALL BE THE FULLY MULTI-TASKING MULTI-THREADING MICROSOFT® WINDOWS 10 OPERATING SYSTEM. THE SYSTEM SHALL BE WRITTEN SO THAT ALL SYSTEM MODULES (ACCESS CONTROL, ALARM MONITORING, CREDENTIAL MANAGEMENT, DIGITAL VIDEO, VISITOR MANAGEMENT, INTRUSION DETECTION, ASSET MANAGEMENT, ETC.) ARE DEVELOPED AND BUILT FROM A UNIFIED 64-BIT SOURCE CODE SET. THERE ABSOLUTELY SHALL NOT BE SEPARATE SOURCE CODE BASES FOR THE INDIVIDUAL MODULES OF THE SYSTEM.
6. THE SYSTEM SHALL ALLOW THE CONFIGURATION OF AN ENROLLMENT AND BADGING CLIENT WORKSTATION, AN ALARM MONITORING CLIENT WORKSTATION, AN ADMINISTRATIVE CLIENT WORKSTATION, AN ASSET MANAGEMENT CLIENT WORKSTATION, A DIGITAL VIDEO MANAGEMENT CLIENT WORKSTATION, AN INTRUSION DETECTION CLIENT WORKSTATION, A VISITOR ENROLLMENT CLIENT WORKSTATION, A REMOTE ACCESS LEVEL MANAGEMENT CLIENT WORKSTATION, AND AN INTEGRATED CLIENT WORKSTATION (WHICH SHALL INCLUDE ANY COMBINATION OF THE ABOVE CLIENT WORKSTATIONS). THE SYSTEM SHALL BE EXPANDABLE TO SUPPORT AN UNLIMITED NUMBER OF INDIVIDUAL MODULE OR INTEGRATED CLIENT WORKSTATIONS. ALL ACCESS CONTROL FIELD HARDWARE, INCLUDING INTELLIGENT SYSTEM CONTROLLERS (ISCS), SHALL BE CONNECTED TO EVERY/ANY WINDOWS 10 BASED ACCESS CONTROL SYSTEM WORKSTATION ON THE NETWORK.
7. THE ALARM MONITORING CLIENT WORKSTATION MUST BE ABLE TO CONNECT TO, AND MONITOR, FIELD HARDWARE DEVICES, SUCH AS CARD READERS AND ISCS. ADMINISTRATIVE TASKS INCLUDING DEFINING ASSET INFORMATION, ACCESS GROUPS, TIMEZONES, INTRUSION DETECTION DEVICES, CONFIGURING DIGITAL VIDEO DEVICES, GENERATING REPORTS, CREATING MAPS, ETC. SHALL BE PROVIDED FROM ANY CLIENT WORKSTATION ON THE NETWORK THAT IS LICENSED TO DO SO. THE ENROLLMENT AND BADGING CLIENT WORKSTATION SHALL SERVE AS BOTH THE CREDENTIAL CREATION AND DATA INPUT CLIENT WORKSTATION FOR THE CREDENTIAL MANAGEMENT MODULE OF THE SYSTEM. THE VISITOR MANAGEMENT CLIENT WORKSTATION SHALL ALLOW FOR THE ENROLLMENT OF VISITORS AND THE SCHEDULING OF VISITS. THE INTEGRATED CLIENT WORKSTATION SHALL ALLOW FOR ANY COMBINATION OF FUNCTIONS OF THE SYSTEM TO BE AVAILABLE FROM THE SINGLE CLIENT WORKSTATION. ALL SYSTEM DATA MUST RESIDE ON A SINGLE DATABASE ON THE NETWORK AND MUST BE ACCESSIBLE IN REAL TIME TO EVERY/ANY SYSTEM WORKSTATION CONNECTED TO THE NETWORK. THIS SHALL ALLOW FOR AUTOMATIC CHANGE PROPAGATION TO ALL CLIENT WORKSTATIONS ON THE SYSTEM AS WELL AS A COMMON DATABASE TO CONSOLIDATE ALL INFORMATION AND ALLOW FOR BETTER DISASTER RECOVERY.
8. THE SYSTEM MUST BE DESIGNED TO PERFORM A WIDE VARIETY OF FEATURE RICH FUNCTIONS. THESE SYSTEM FUNCTIONS ARE CATEGORIZED INTO 19 PRIMARY "SYSTEM MODULES" WHICH SHALL INCLUDE:
   8.1. ACCESS CONTROL
   8.2. ALARM MONITORING
   8.3. CREDENTIAL MANAGEMENT
   8.4. DIGITAL VIDEO MANAGEMENT
   8.5. INTRUSION DETECTION MANAGEMENT
   8.6. ASSET MANAGEMENT
   8.7. VISITOR MANAGEMENT
   8.8. REMOTE ACCESS LEVEL MANAGEMENT
   8.9. THIRD-PARTY INTERFACES
   8.10. SYSTEM ADMINISTRATION
   8.11. MOBILE ENTERPRISE SOLUTIONS
   8.12. BADGE LAYOUT CREATION
   8.13. SCREEN/FORMS CREATION
   8.14. GRAPHICAL MAP CREATION
   8.15. BI-DIRECTIONAL DATA EXCHANGE
   8.16. SERVER REDUNDANCY
9. PROVIDE THREE TIME THE NUMBER OF UNITS OF SPARE CARDS FOR FUTURE USE BY OWNER AT PROJECT COMPLETION.

SECTION 33 00 10 - SURVEILLANCE CAMERA SYSTEM

1. SYSTEM DESCRIPTION - VIDEO SURVEILLANCE AND MONITORING AT POINTS AS INDICATED ON THE DRAWINGS. PROVIDE CAMERAS WITH HD QUALITY PICTURES AND SURVEILLANCE CAPABILITIES CONNECTED TO DVR WITH A MINIMUM OF 1 TB of MEMORY. SYSTEM SHALL BE PROVIDED AS A COMPLETE TURN KEY SYSTEM AND SHALL INCLUDE AS A MINIMUM CAMERAS, MONITOR, SWITCHING EQUIPMENT, DVR, POWER SUPPLIES, ETC AS NECESSARY FOR A COMPLETE SYSTEM. THE SYSTEM SHALL BE PROVIDED AND DESIGNED BY THE SPECIALITY CONTRACTOR THAT PROVIDES THE SYSTEM. THE BASIS OF DESIGN IS A HANWHA TECHWIN SYSTEM WITH #SNV-6013 2 MEGAPIXEL FULL HD VANDAL RESISTANT INTERIOR CAMERA'S, XNV-L6080R 2 MEGAPIXEL EXTERIOR FULL HD CAMERAS AND XRN-1610S NETWORK VIDEO RECORDER. ALTERNATES MAY BE PROVIDED WITH PRIOR APPROVAL BY THE OWNER AND IF THEY MEET OR EXCEED THE BASIS OF DESIGN AND ARE APPROVED BEFORE A COMPLETE DESIGN OR INSTALLATION IS PROVIDED.
2. A COMPLETE SUBMITTAL SHALL BE PROVIDED THAT INCLUDES AS MINIMUM THE FOLLOWING: SIGNAL AND CONTROL DRAWINGS INDICATING DEVICE LOCATIONS, WIRING, RACEWAYS, PULL BOXES, CONTROL CABINETS AND DVR LOCATION. PRODUCT DEVICE SUBMITTALS SHALL INCLUDE CAMERAS, DVR, CONTROL EQUIPMENT, CABLING, POWER SUPPLIES, ETC AS NECESSARY TO PROVIDE A COMPLETE DESIGN OF THE SYSTEM. AT PROJECT COMPLETION, ANY APPROVED CHANGES TO THE APPROVED SUBMITTAL DRAWINGS SHALL BE PROVIDED AS AS-BUILT DRAWINGS TO THE OWNER.
3. FIELD QUALITY CONTROL - AFTER INSTALLATION, INSPECT AND TEST FOR PROPER OPERATION. EQUIPMENT ACCEPTANCE: ADJUST, REPAIR, MODIFY, OR REPLACE COMPONENTS FAILING TO PERFORM AS SPECIFIED AND RERUN TESTS.
4. DEMONSTRATION- DEMONSTRATE EQUIPMENT STARTUP, SHUTDOWN, ROUTINE MAINTENANCE, AND EMERGENCY REPAIR PROCEDURES TO OWNER'S PERSONNEL.
5. WARRANTY - PROVIDE SERVICE AND MAINTENANCE OF SECURITY ACCESS EQUIPMENT FOR ONE YEAR FROM DATE OF SUBSTANTIAL COMPLETION.

STATE OF ALASKA 49 TH
THOMAS C. ALLEN
EE-9877
03/06/23
REGISTERED PROFESSIONAL ENGINEER

CERTIFICATE OF AUTHORIZATION NO:
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ASPEN HOUSE LIMITED PARTNERSHIP
ASPEN HOUSE SENIOR APARTMENTS
WASILLA, ALASKA

REVISION SCHEDULE

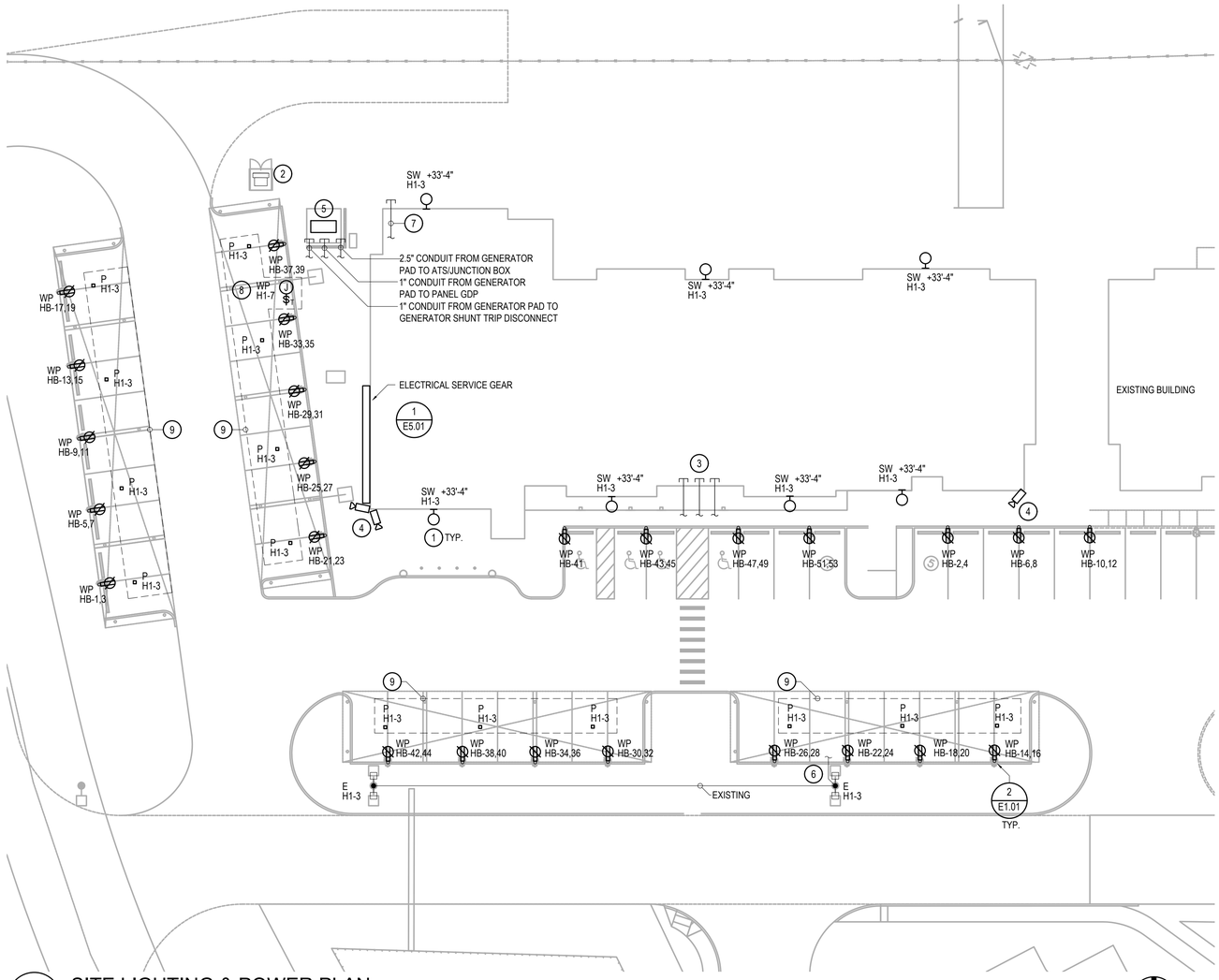
#	DESCRIPTION	DATE

JOB NO.	2023.007.0
DATE	03/06/2023
DRAWN	MJM
REVIEWED	TCA

SHEET NAME
SPECIFICATIONS

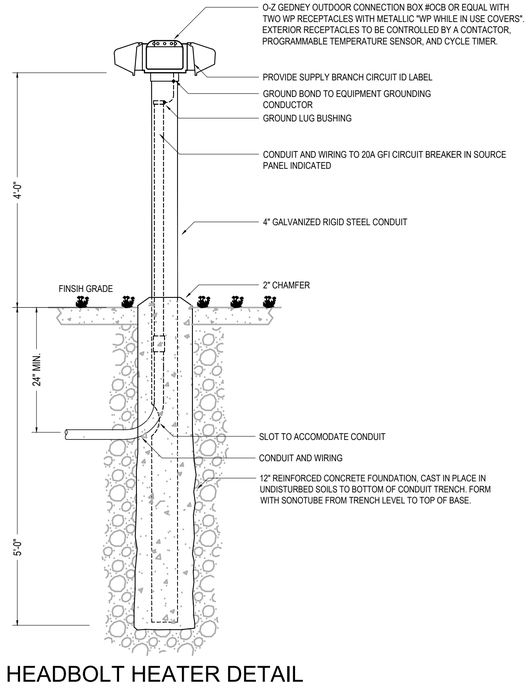
SHEET NO.
E0.02

PERMIT DOCUMENTS



1 SITE LIGHTING & POWER PLAN

SCALE: 1" = 20'



2 HEADBOLT HEATER DETAIL

SCALE: NTS

GENERAL NOTES

1. MINIMUM BURIAL DEPTH OF LIGHTING & POWER SYSTEM CONDUIT SHALL BE 24" MINIMUM UNLESS SPECIFICALLY NOTED OTHERWISE. REFERENCE ALSO CIVIL DRAWINGS AND SPECIFICATIONS FOR ADDITIONAL TRENCHING AND BACKFILL REQUIREMENTS.
2. ALL EXTERIOR FEEDER AND BRANCH CIRCUITS SHALL UTILIZE CONDUCTORS WITH TYPE XHHW INSULATION.
3. MINIMUM BURIAL DEPTH OF TELECOMMUNICATIONS SYSTEM CONDUITS SHALL BE 36" MINIMUM UNLESS SPECIFICALLY NOTED OTHERWISE. REFERENCE ALSO CIVIL DRAWINGS AND SPECIFICATIONS FOR ADDITIONAL TRENCHING AND BACKFILL REQUIREMENTS.

SHEET NOTES

INDICATED BY: (#)

1. ROUTE SITE LIGHTING CIRCUIT H1-3 THROUGH PHOTOCELL, FIELD LOCATE. SEE FIRST FLOOR LIGHTING PLAN FOR ADDITIONAL EXTERIOR FIXTURES ON CIRCUIT.
2. PROPOSED LOCATION FOR UTILITY PADMOUNT TRANSFORMER.
3. PROVIDE TWO 4" PVC CONDUITS FOR COMMERCIAL TELEPHONE AND TELECOMMUNICATIONS SERVICE AND ONE 2" PVC CONDUIT FOR COMMERCIAL TELEVISION SERVICE. EXTEND CONDUITS TO UTILITY EASEMENT, COORDINATE EXACT TERMINATION LOCATION WITH APPROPRIATE UTILITY. CAP AND PROVIDE LOCATES FOR FUTURE USE. STUB UP CONDUITS BELOW TELECOMMUNICATIONS BACKBOARD IN ELECTRICAL ROOM AS INDICATED ON FLOOR PLANS.
4. MOUNT CAMERA'S AT ROOF LEVEL TO MONITOR PARKING AREAS. COORDINATE WITH OWNER AND ARCHITECT FOR EXACT LOCATION PRIOR TO ROUGH-IN. CAMER'S SHALL BE PROVIDED WITH PARAPET OR WALL MOUNTED ACCESSORIES BASED ON INSTALLATION.
5. ADDITIVE ALTERNATE #3: GENERATOR LOCATION, PROVIDE 3/4", 1" AND 2.25" CONDUIT FROM GENERATOR PAD TO GENERATOR DISCONNECT, PANEL GDP AND ATS FOR CONNECTION TO GENERATOR POWER PANEL AND ATS. IF FUNDING DOES NOT ALLOW FOR ALTERNATE, PROVIDE INFRASTRUCTURE FOR FUTURE INSTALLATION SUCH AS CONDUITS TO GENERATOR AND GENERATOR SHUNT TRIP DISCONNECT AS PART OF THE BASE BID.

SHEET NOTES

INDICATED BY: (#)

6. EXISTING SITE LIGHTING POLES & FIXTURES ARE EXISTING TO BE RE-CIRCUITED FROM NEW BUILDING. CAPTURE EXISTING 1" EMPTY CONDUIT FROM EAST SITE LIGHTING FIXTURE TO NEW BUILDING.
7. STUB 2-1" CONDUITS FROM BELOW PANEL 'H1' TO BUILDING EXTERIOR FOR FUTURE CONNECTIONS. PROVIDE LOCATION OR LABELING AT BUILDING CORNER TO LOCATE STUBS.
8. PROVIDE SELF LIMITING HEAT TRACE (RAYCHEM GM-1X OR EQUAL) AT BOTTOM OF CARPORT ROOF LINE, DOWNSPOUT, AND PIPING TO DRY WELLS. 250 SQUARE-FEET OF CARPORT ROOF & 40 LINEAR FEET OF DRAINS TO DRY WELLS. PROVIDE LOCAL WEATHERPROOF CONTROL SWITCH FOR HEAT TRACE AND CAP PER MANUFACTURER'S INSTRUCTIONS.
9. DEDUCTIVE ALTERNATE #1: CARPORTS AND ASSOCIATED LIGHTING AND HEAT TRACE ARE A DEDUCTIVE ALTERNATE, OMIT FROM DESIGN IF FUNDING DOES NOT ALLOW.

PERMIT DOCUMENTS

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WASILLA, ALASKA

REVISION SCHEDULE

#	DESCRIPTION	DATE

JOB NO.	2023.007.0
DATE	03/06/2023
DRAWN	MJM
REVIEWED	TCA

SHEET NAME
SITE ELECTRICAL PLAN
& HEADBOLT HEATER DETAIL

SHEET NO.
E1.01

1 FIRST FLOOR LIGHTING PLAN

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

GENERAL NOTES

1. CONNECT EXIT SIGNS TO UNSWITCHED LEG OF INVERTER EMERGENCY LIGHTING CIRCUIT INDICATED.
2. ALL FIXTURES ARE CIRCUITED TO PANEL 'GDP' UNLESS OTHERWISE NOTED.

SHEET NOTES

INDICATED BY: (#)

1. BATHROOM LIGHT SWITCH SHALL CONTROL LIGHT COMPONENT OF FAN/LIGHT COMBINATION UNIT SPECIFIED BY MECHANICAL. FAN COMPONENT CONTROLLED BY OCCUPANCY SENSOR.
2. FIELD LOCATE ELEVATOR PIT LIGHT SWITCH & FIXTURES TO ACCESSIBLE LOCATIONS AND TO AVOID MAJOR ELEVATOR & STRUCTURAL MEMBERS.
3. EXTERIOR FIXTURES ON CIRCUIT H1-3 ARE TO BE CONTROLLED BY PHOTOCELL. SEE SITE PLAN FOR ADDITIONAL EXTERIOR FIXTURES ON CIRCUIT.
4. TYPE 'C' FIXTURES TO BE SUSPENDED IN THIS ROOM, PROVIDE HANGER CHAIN AS SPECIFIED IN FIXTURE SCHEDULE. COORDINATE FIXTURE LOCATIONS WITH MECHANICAL DUCTWORK PRIOR TO ROUGH IN.

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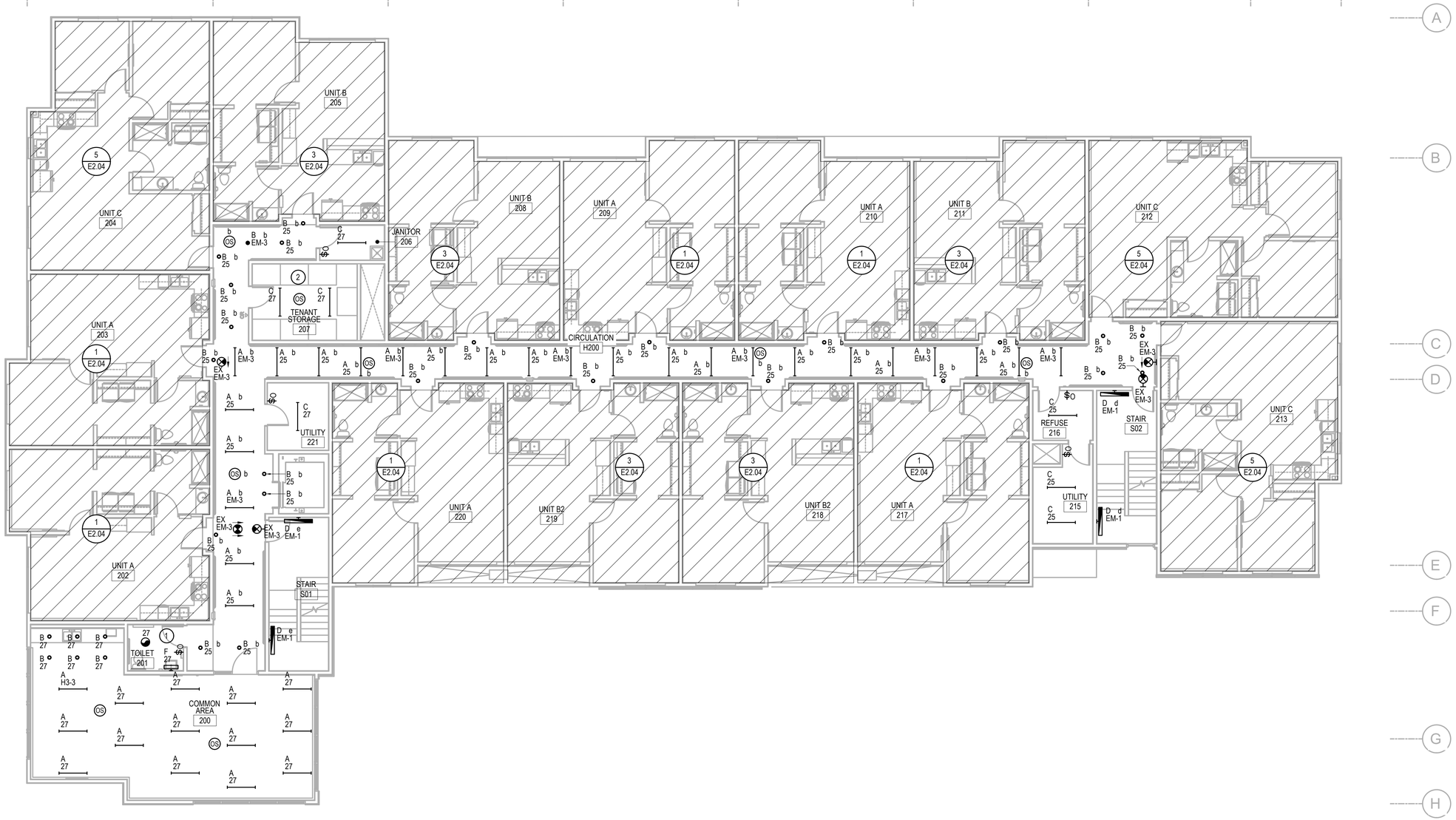
DRAWN	MJM
REVIEWED	TCA

SHEET NAME
FIRST FLOOR
LIGHTING PLAN

SHEET NO.
E2.01

PERMIT DOCUMENTS



1 SECOND FLOOR LIGHTING PLAN

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

GENERAL NOTES

1. CONNECT EXIT SIGNS TO UNSWITCHED LEG OF INVERTER EMERGENCY LIGHTING CIRCUIT INDICATED.
2. ALL FIXTURES ARE CIRCUITED TO PANEL 'GDP' UNLESS OTHERWISE NOTED.

SHEET NOTES

INDICATED BY: (#)

1. BATHROOM LIGHT SWITCH SHALL CONTROL LIGHT COMPONENT OF FAN/LIGHT COMBINATION UNIT SPECIFIED BY MECHANICAL. FAN COMPONENT CONTROLLED BY OCCUPANCY SENSOR.
2. TYPE 'C' FIXTURES TO BE SUSPENDED IN THIS ROOM, PROVIDE HANGER CHAIN AS SPECIFIED IN FIXTURE SCHEDULE. COORDINATE FIXTURE LOCATIONS WITH MECHANICAL DUCTWORK PRIOR TO ROUGH IN.

PERMIT DOCUMENTS

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03/06/23
REGISTERED PROFESSIONAL ENGINEER

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ASPEN HOUSE LIMITED PARTNERSHIP
ASPEN HOUSE SENIOR APARTMENTS
WASILLA, ALASKA

REVISION SCHEDULE

#	DESCRIPTION	DATE

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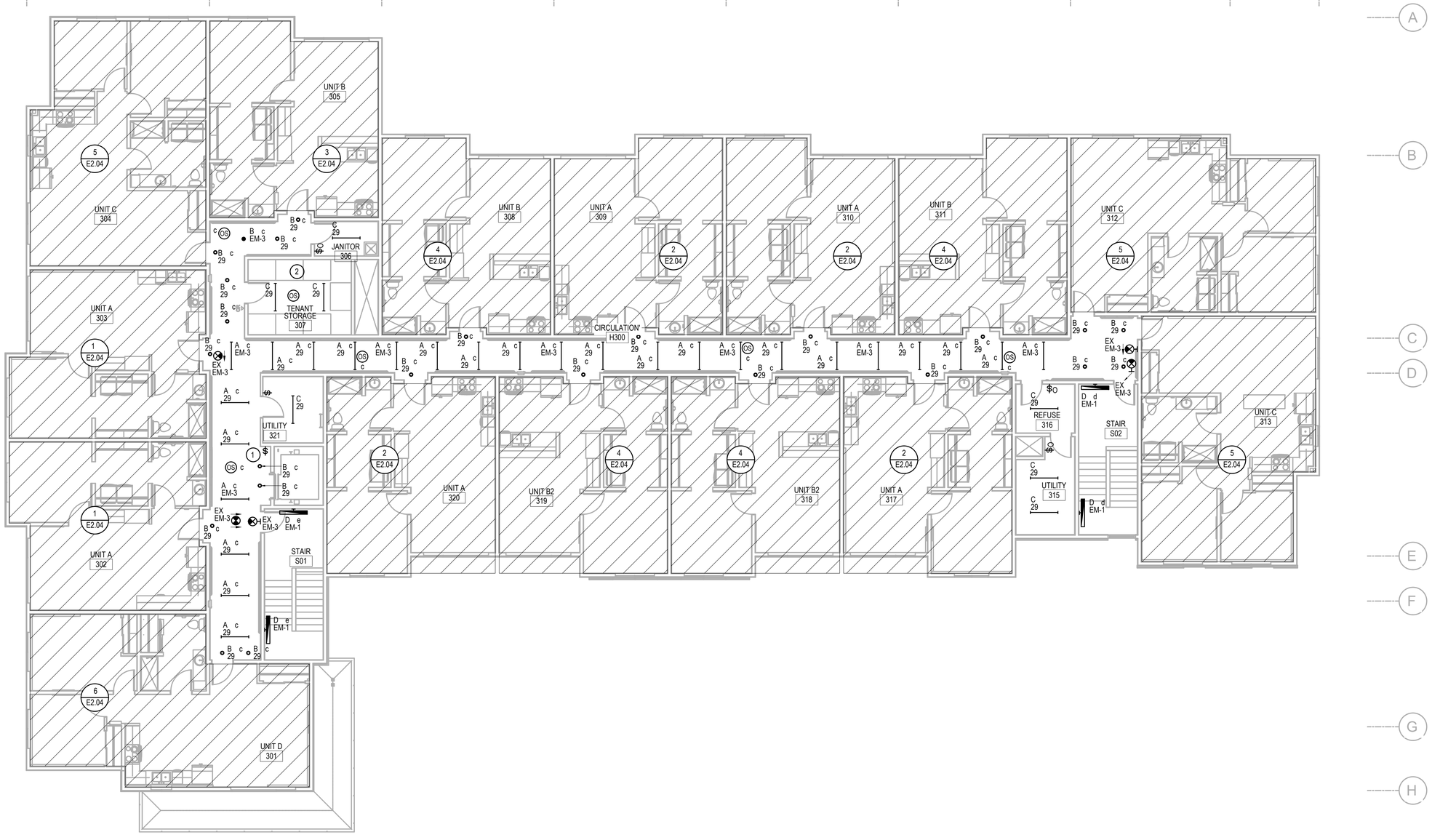
REVIEWED	TCA

SHEET NAME
SECOND FLOOR LIGHTING PLAN

SHEET NO.
E2.02



1 THIRD FLOOR LIGHTING PLAN

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

GENERAL NOTES

1. CONNECT EXIT SIGNS TO UNSWITCHED LEG OF INVERTER EMERGENCY LIGHTING CIRCUIT INDICATED.
2. ALL FIXTURES ARE CIRCUITED TO PANEL 'GDP' UNLESS OTHERWISE NOTED.

SHEET NOTES

INDICATED BY: (#)

1. PROVIDE LOCAL SWITCH TO OVERRIDE RECESSED DOWNLIGHTS IN ELEVATOR CONTROL AREA TO 100% ON. PROVIDE LABELING TO READ 'ELEVATOR CONTROL AREA LIGHT SWITCH'.
2. TYPE 'C' FIXTURES TO BE SUSPENDED IN THIS ROOM, PROVIDE HANGER CHAIN AS SPECIFIED IN FIXTURE SCHEDULE. COORDINATE FIXTURE LOCATIONS WITH MECHANICAL DUCTWORK PRIOR TO ROUGH IN.

PERMIT DOCUMENTS

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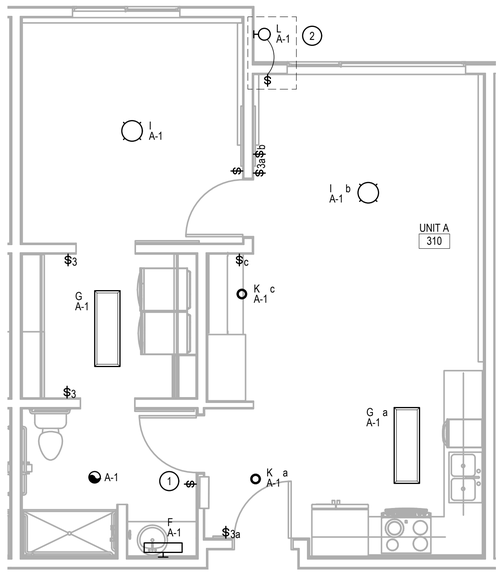
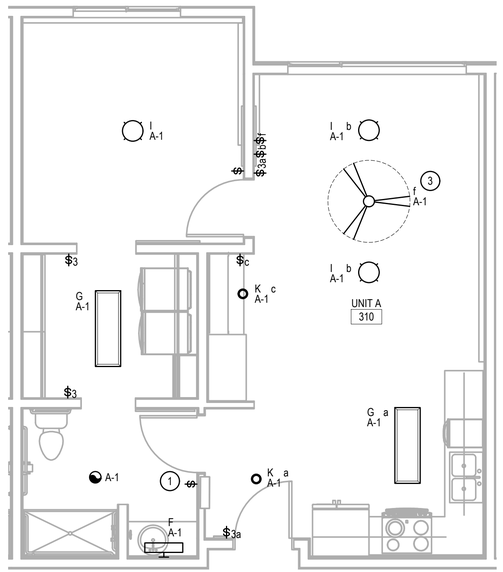
SHEET NAME
THIRD FLOOR LIGHTING PLAN

SHEET NO.
E2.03



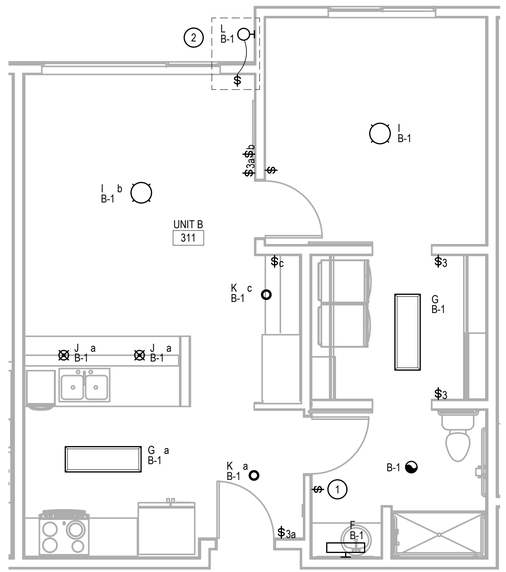
1 ENLARGED LIGHTING PLAN - TYPICAL UNIT A

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



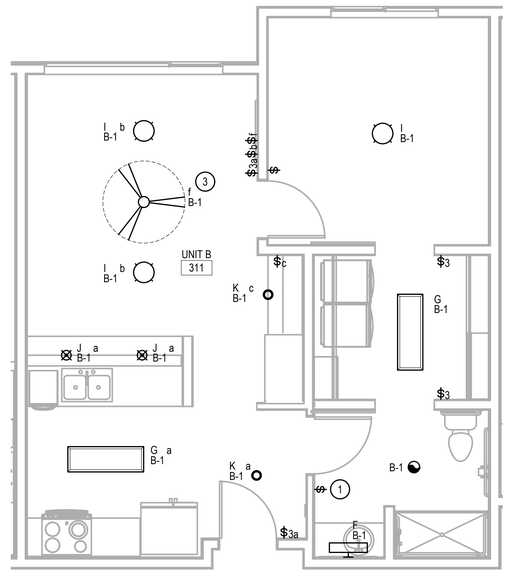
2 ENLARGED LIGHTING PLAN
TYPE A UNITS 309, 310, 317, & 320 ONLY

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



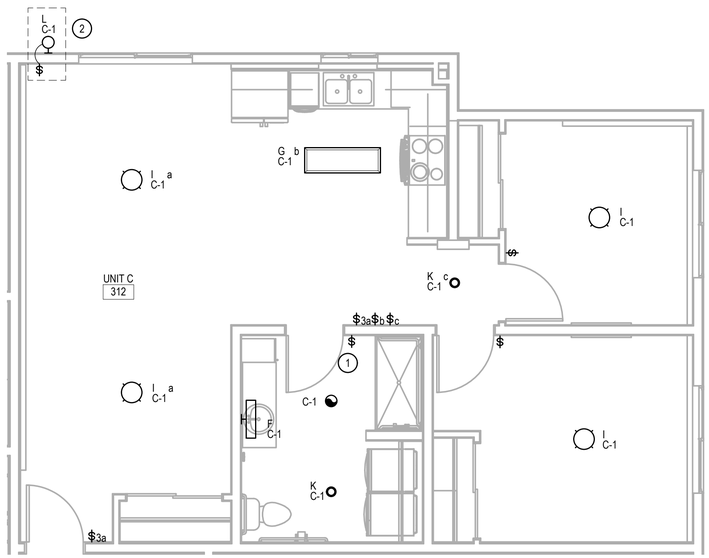
3 ENLARGED LIGHTING PLAN - TYPICAL UNIT B

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



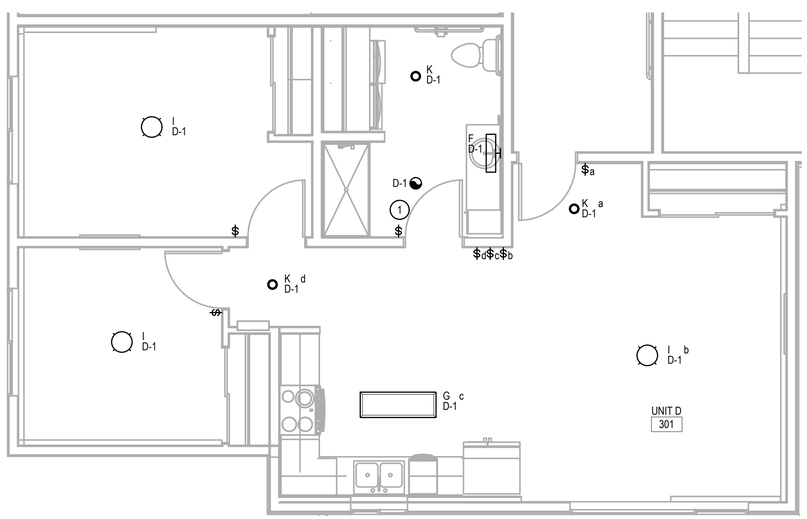
4 ENLARGED LIGHTING PLAN
TYPE B UNITS 308, 311, 318, & 319 ONLY

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



5 ENLARGED LIGHTING PLAN - TYPICAL UNIT C

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



6 ENLARGED LIGHTING PLAN - TYPICAL UNIT D

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

SHEET NOTES

INDICATED BY: (#)

1. BATHROOM LIGHT SWITCH SHALL CONTROL LIGHT COMPONENT OF FAN/LIGHT COMBINATION UNIT SPECIFIED BY MECHANICAL. FAN COMPONENT CONTROLLED BY OCCUPANCY SENSOR.
2. EXTERIOR FIXTURE TO BE INSTALLED IN FIRST FLOOR UNITS ONLY AT EXTERIOR PATIO.
3. CEILING FAN, "BIG ASS FANS HAIKU #MK-HK4-05-2406-01-A470-F222-I32" (21.3W, 120V) AS A BASIS OF DESIGN. PROVIDE FIXED WALL CONTROL.

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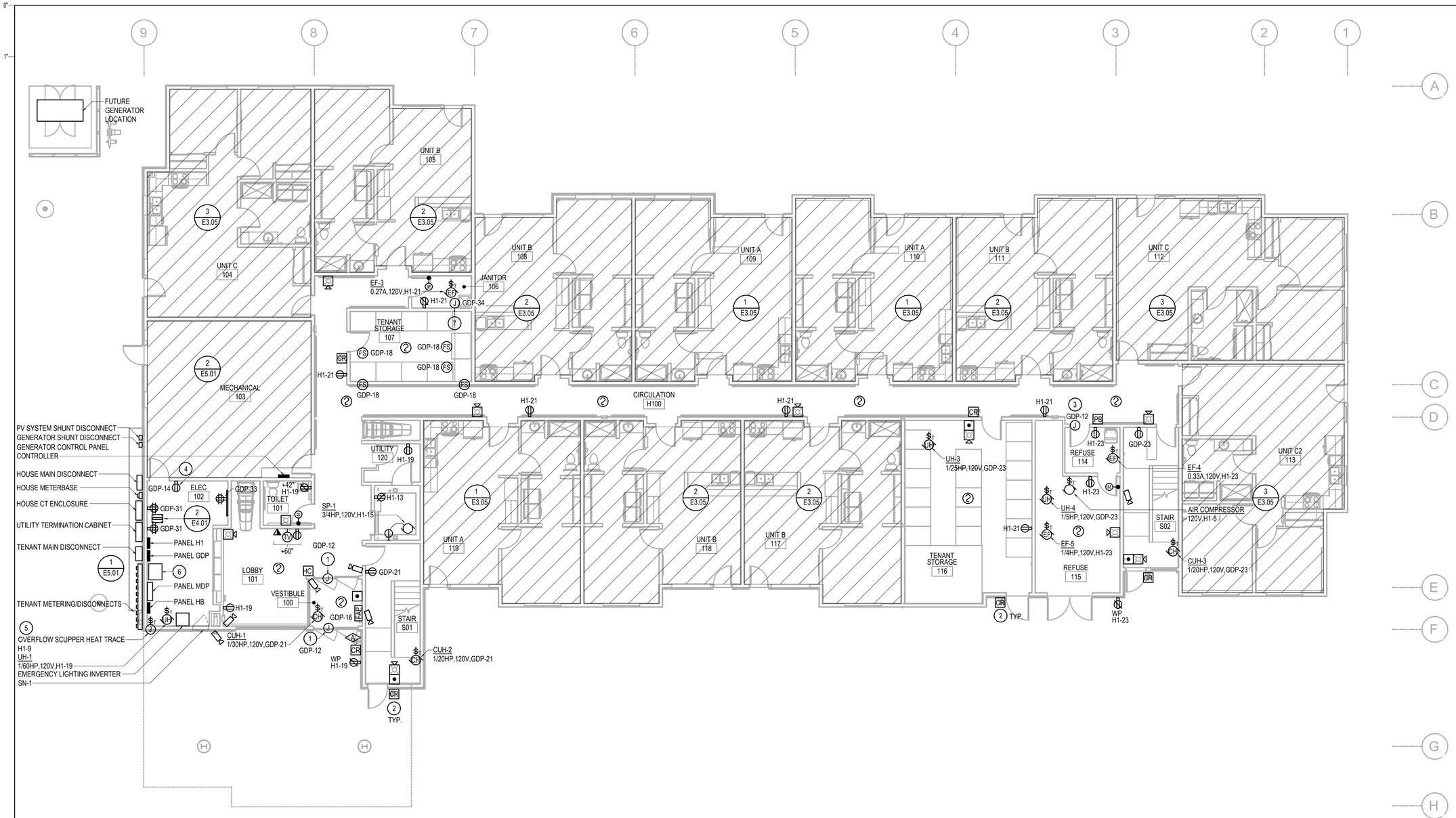
SHEET NAME
UNIT ENLARGED LIGHTING PLANS

SHEET NO.
E2.04

PERMIT DOCUMENTS



1 FIRST FLOOR POWER & SIGNAL PLAN

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

GENERAL NOTES

1. SEE DETAIL 1/E4.01 FOR <A> VISITOR ENTRY SYSTEM.
2. THE ELECTRICAL CONTRACTOR SHALL COORDINATE WITH THE MECHANICAL CONTRACTOR FOR QUANTITIES, LOCATION AND INSTALLATION OF ANY LINE VOLTAGE THERMOSTATS OR DEVICES THAT THE MECHANICAL CONTRACTOR SHALL PROVIDE.ELECTRICAL CONTRACTOR TO INSTALL ALL LINE VOLTAGE THERMOSTATS/DEVICES.

SHEET NOTES

INDICATED BY: (#)

1. PROVIDE POWER TO AUTOMATIC DOOR CONTROLS. ALL DOOR CONTROLS TO BE CIRCUITED TO GDP-12. COORDINATE WITH ARCHITECTURAL AND SUPPLIED EQUIPMENT FOR EXACT CONNECTION LOCATIONS AND REQUIREMENTS.
2. PROVIDE POWER TO ACCESS CONTROLS. ALL ACCESS CONTROLS TO BE CIRCUITED TO GDP-14. COORDINATE WITH ARCHITECTURAL AND SUPPLIED EQUIPMENT FOR EXACT CONNECTION LOCATIONS AND REQUIREMENTS.
3. POWER AND PUSH BUTTON FOR AUTOMATIC DOOR CONTROLS. COORDINATE WITH ARCHITECTURAL AND SUPPLIED EQUIPMENT FOR EXACT CONNECTION LOCATIONS AND REQUIREMENTS.
4. POWER AND CONNECTION FOR ACCESS CONTROL AND TENANT ENTRY SYSTEMS.

SHEET NOTES

INDICATED BY: (#)

5. PROVIDE 5 WATTS PER FOOT SELF LIMITING HEAT TRACE (RAYCHEM GM-1X OR EQUAL) AT OVERFLOW SCUPPER. PROVIDE CONTROL FOR HEAT TRACE IN ELECTRICAL ROOM 102 AND ENTER DRAIN PIPING UTILIZING SUITABLE STRAIN RELIEF GASKET CONNECTOR AT THREADED "Y" FITTING PROVIDED UNDER MECHANICAL DESIGN. EXTEND HEAT TRACE TO OUTFALL LIP OF SCUPPER AND CAP PER MANUFACTURER'S INSTRUCTIONS. CIRCUIT TO H1-9. SEE MECHANICAL DETAIL 9/M6.01.
6. JUNCTION BOX INTENDED FOR FUTURE REPLACEMENT WITH 225A AUTOMATIC TRANSFER SWITCH, ENSURE PROPER CLEARANCES FOR FUTURE ATS.
7. PROVIDE 120V POWER FOR LOW VOLTAGE TRANSFORMER SERVING UNIT THERMOSTAT AND ZONE VALVES. COORDINATE EXACT LOCATION WITH MECHANICAL PRIOR TO ROUGH IN.

PERMIT DOCUMENTS

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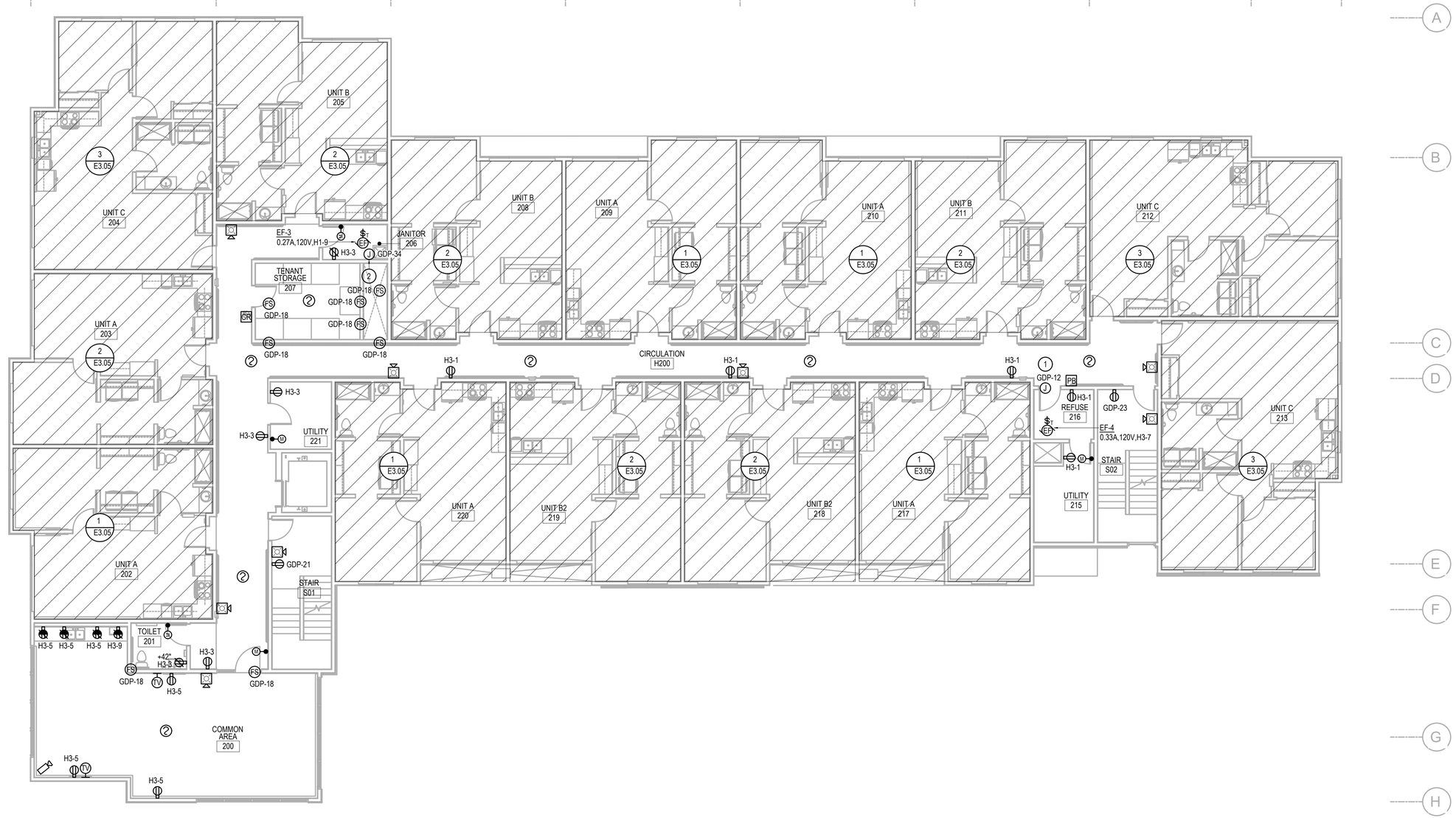
SHEET NAME
FIRST FLOOR POWER PLAN

SHEET NO.
E3.01



1 SECOND FLOOR POWER & SIGNAL PLAN

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

GENERAL NOTES

1. THE ELECTRICAL CONTRACTOR SHALL COORDINATE WITH THE MECHANICAL CONTRACTOR FOR QUANTITIES, LOCATION AND INSTALLATION OF ANY LINE VOLTAGE THERMOSTATS OR DEVICES THAT THE MECHANICAL CONTRACTOR SHALL PROVIDE.ELECTRICAL CONTRACTOR TO INSTALL ALL LINE VOLTAGE THERMOSTATS/DEVICES.

SHEET NOTES

INDICATED BY: (#)

1. POWER AND PUSH BUTTON FOR AUTOMATIC DOOR CONTROLS. COORDINATE WITH ARCHITECTURAL AND SUPPLIED EQUIPMENT FOR EXACT CONNECTION LOCATIONS AND REQUIREMENTS.
2. PROVIDE 120V POWER FOR LOW VOLTAGE TRANSFORMER SERVING UNIT THERMOSTAT AND ZONE VALVES. COORDINATE EXACT LOCATION WITH MECHANICAL PRIOR TO ROUGH IN.

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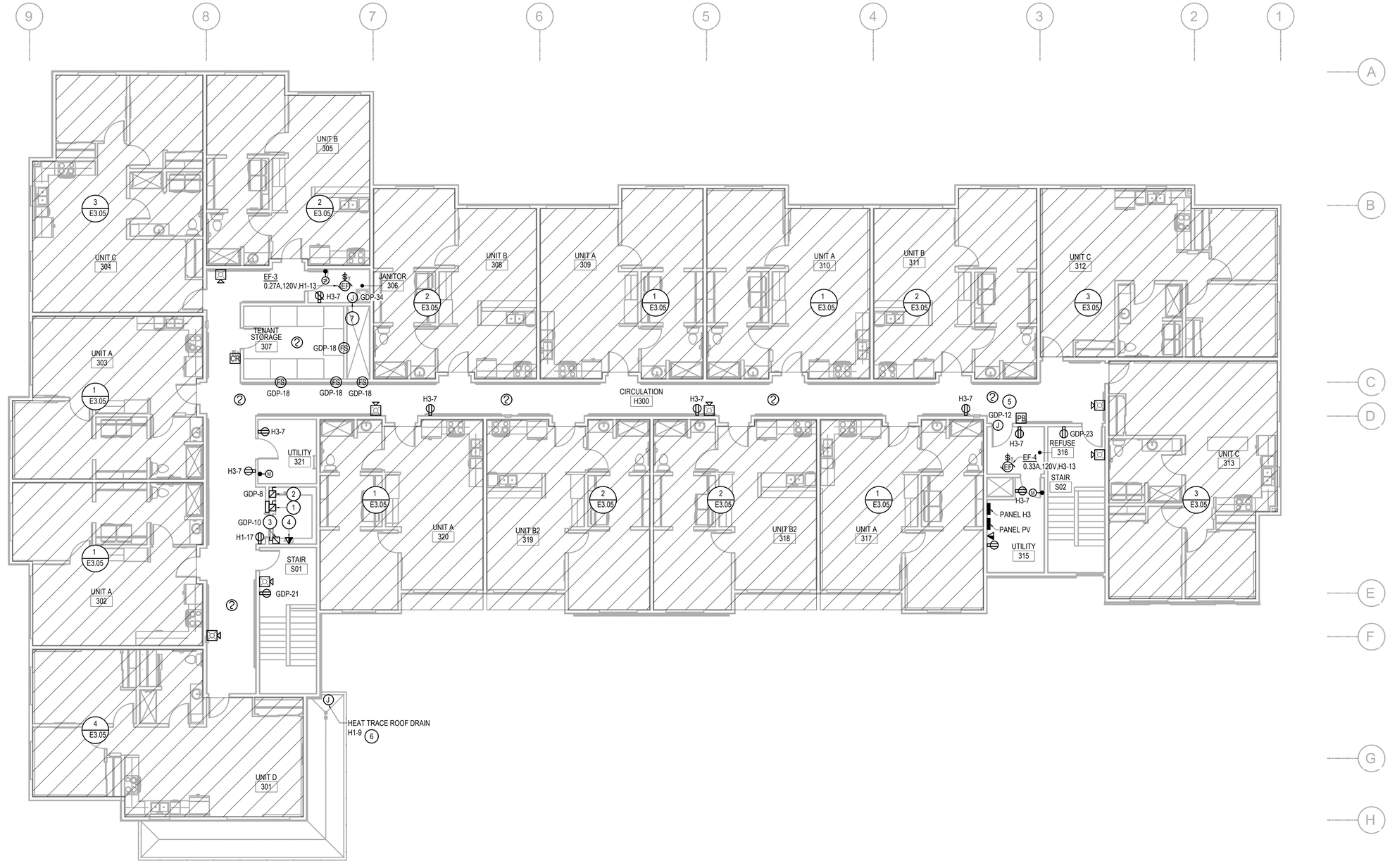
SHEET NAME
SECOND FLOOR POWER PLAN

SHEET NO.
E3.02

PERMIT DOCUMENTS



1 THIRD FLOOR POWER & SIGNAL PLAN

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

GENERAL NOTES

1. .THE ELECTRICAL CONTRACTOR SHALL COORDINATE WITH THE MECHANICAL CONTRACTOR FOR QUANTITIES, LOCATION AND INSTALLATION OF ANY LINE VOLTAGE THERMOSTATS OR DEVICES THAT THE MECHANICAL CONTRACTOR SHALL PROVIDE.ELECTRICAL CONTRACTOR TO INSTALL ALL LINE VOLTAGE THERMOSTATS/DEVICES.

SHEET NOTES

INDICATED BY: (#)

1. ELEVATOR: 65A, 208V, 3Ø, GDP-2,4,6. DISCONNECT AND CONNECTION TO ELEVATOR CONTROLLER. SEE SINGLE LINE DIAGRAM AND FEEDER SCHEDULE FOR FEEDER & CONDUIT SIZE.
2. DEDICATED 20A CIRCUIT AND FUSED DISCONNECT CAPABLE OF BEING LOCKED IN THE OPEN POSITION FOR CONNECTION OF CAR LIGHTS, CAR TOP RECEPTACLE, AUXILIARY LIGHTING POWER SOURCE, AND CAR VENTILATION. COORDINATE CONNECTION LOCATION WITH ELEVATOR EQUIPMENT PRIOR TO ROUGH IN.
3. LOCKABLE 125V, 15A FUSED DISCONNECT FOR REMOTE ELEVATOR MONITORING (REM). COORDINATE CONNECTION LOCATION WITH ELEVATOR EQUIPMENT PRIOR TO ROUGH IN.
4. PROVIDE TELEPHONE/DATA CONNECTION FOR ELEVATOR CONTROL.

SHEET NOTES

INDICATED BY: (#)

5. POWER AND PUSH BUTTON FOR AUTOMATIC DOOR CONTROLS. COORDINATE WITH ARCHITECTURAL AND SUPPLIED EQUIPMENT FOR EXACT CONNECTION LOCATIONS AND REQUIREMENTS.
6. JUNCTION BOX FOR ROOF DRAIN HEAT TRACE, INSTALL WEATHERPROOF JUNCTION BOX ON PARAPET WALL AND PROVIDE 5 WATTS PER FOOT SELF LIMITING HEAT TRACE (RAYCHEM GM-1X OR EQUAL) TO ROOF DRAIN. PROVIDE CONTROL FOR HEAT TRACE IN ELECTRICAL ROOM 102 AND INSTALL HEAT TRACE INSIDE OF DRAIN PIPING TO INTERIOR OF THE BUILDING (APPROXIMATELY 20'. CAP PER MANUFACTURER'S INSTRUCTIONS. CIRCUIT TO H1-9. SEE MECHANICAL DETAIL 4/M4.01.
7. PROVIDE 120V POWER FOR LOW VOLTAGE TRANSFORMER SERVING UNIT THERMOSTAT AND ZONE VALVES. COORDINATE EXACT LOCATION WITH MECHANICAL PRIOR TO ROUGH IN.

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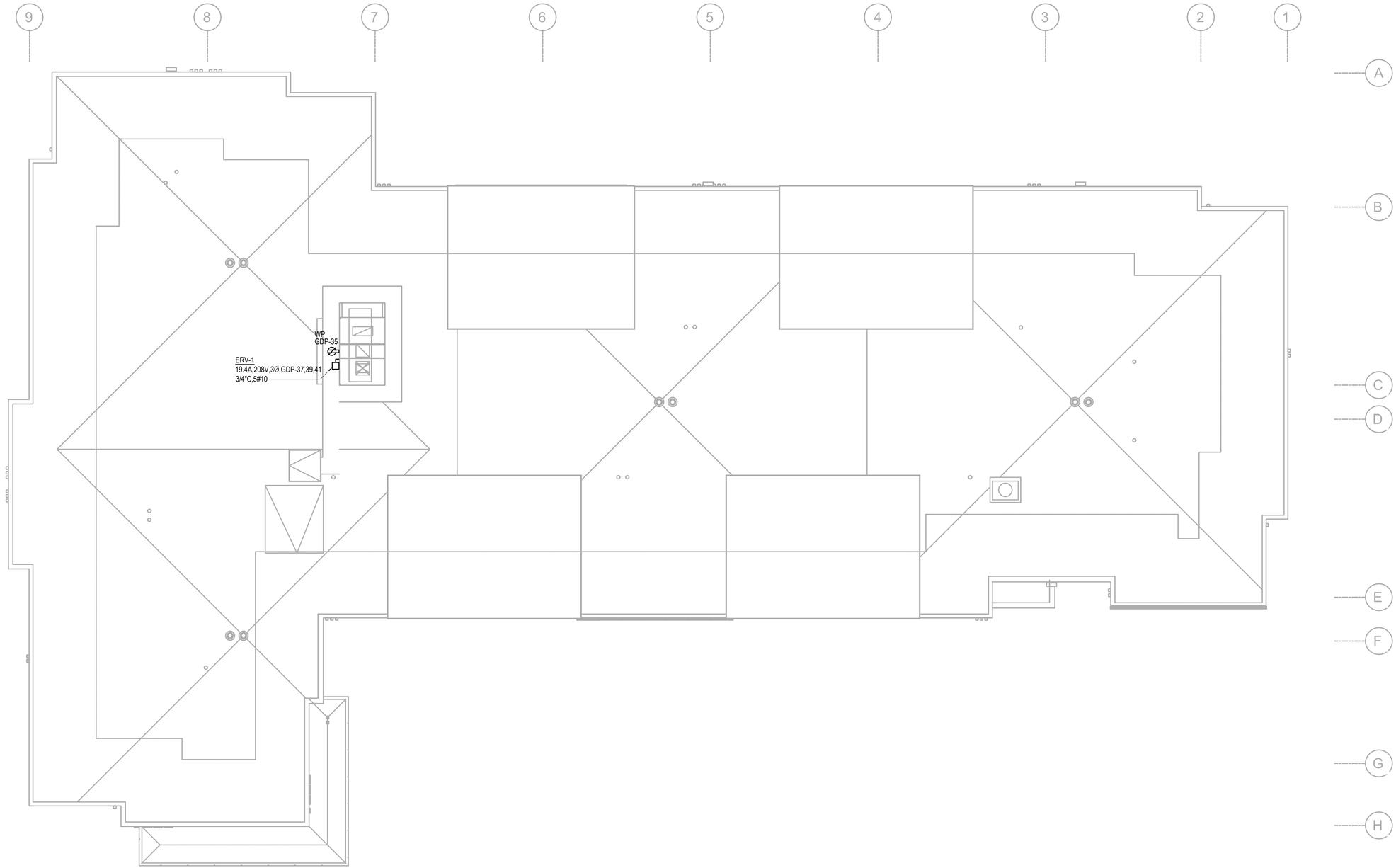
SHEET NAME
THIRD FLOOR POWER PLAN

SHEET NO.
E3.03

PERMIT DOCUMENTS



1 ROOF LEVEL POWER PLAN

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

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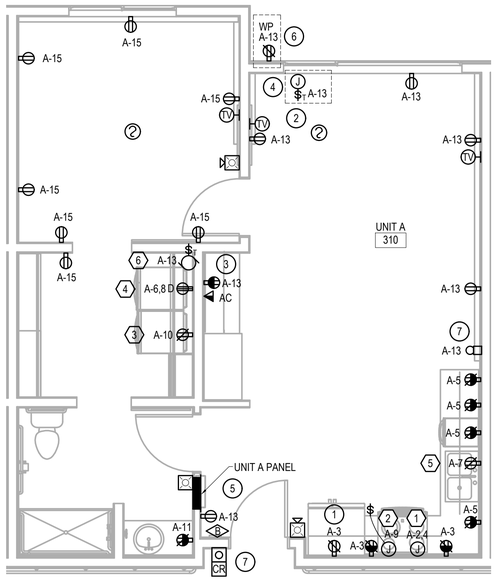
SHEET NAME
ROOF POWER PLAN

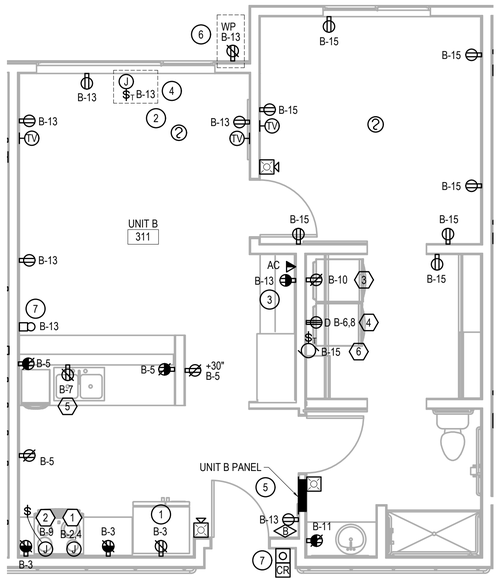
SHEET NO.
E3.04

PERMIT DOCUMENTS



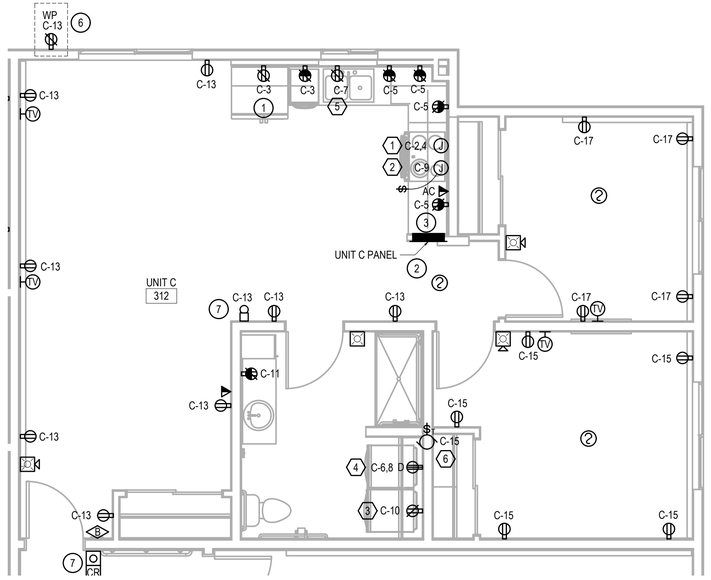
1 ENLARGED POWER & SIGNAL PLAN - TYPICAL UNIT A

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



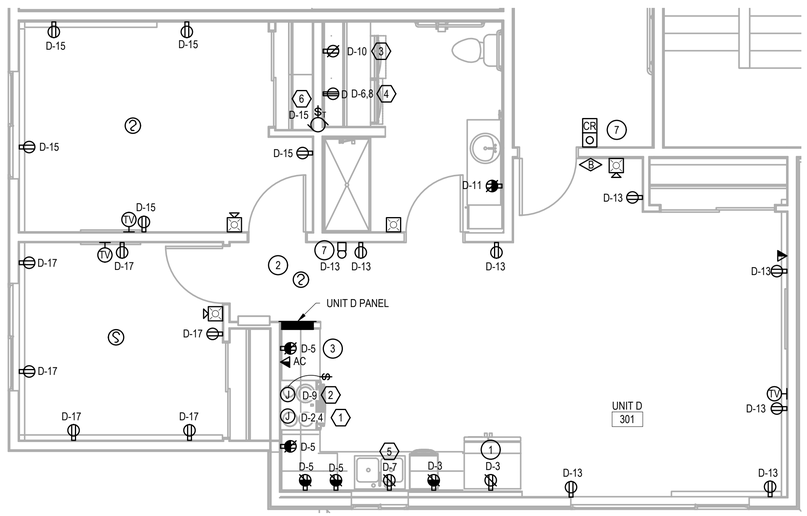
2 ENLARGED POWER & SIGNAL PLAN - TYPICAL UNIT B

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



3 ENLARGED POWER & SIGNAL PLAN - TYPICAL UNIT C

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



4 ENLARGED POWER & SIGNAL PLAN - TYPICAL UNIT D

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

GENERAL NOTES

1. SEE DETAIL 2/E4.01 FOR (B) VISITOR ENTRY SYSTEM.
2. ALL 120V, 20A RECEPTACLES IN UNITS SHALL BE LISTED TAMPER RESISTANT TYPE.

ACOUSTICAL NOTES

1. SEE ARCHITECTURAL FOR ADDITIONAL REQUIREMENTS.
2. PROVIDE 2 LAYERS OF PUTTY PADS BEHIND EACH BACK BOX FOR ALL DEVICE BOXES, INCLUDING BUT NOT LIMITED TO POWER, SIGNAL AND TELECOM.

SHEET NOTES

INDICATED BY: (#)

1. PROVIDE GFCI PROTECTION FOR REFRIGERATOR RECEPTACLE VIA NEAREST ACCESSIBLE ABOVE COUNTER RECEPTACLE.
2. SYSTEM DETECTORS AND STROBES / HORN STROBES, TYPICAL ALL UNITS.
3. INSTALL RECEPTACLE WITH DUAL INTEGRAL USB OUTLETS.
4. PROVIDE JUNCTION BOX AND LOCAL SWITCH FOR MOTORIZED SHADES IN THIRD FLOOR TYPE A UNITS 309, 310, 317, & 320 & TYPE B UNITS 308, 311, 318, & 319 ONLY. COORDINATE JUNCTION BOX LOCATION WITH SHADE MANUFACTURER'S INSTRUCTIONS PRIOR TO ROUGH IN. COORDINATE CONTROL LOCATION WITH ARCHITECTURAL PRIOR TO ROUGH IN.
5. COORDINATE EXACT PANELBOARD LOCATION TO AVOID RANGE HOOD DUCTING ABOVE.
6. WEATHERPROOF RECEPTACLE TO BE INSTALLED IN FIRST FLOOR UNITS ONLY AT EXTERIOR PATIO.
7. ALTERNATE #7: PROVIDE CARD READERS & DOOR BELL SWITCH, CHIMES, & TRANSFORMER AS NECESSARY. IQ AMERICA #PC-7520 OR APPROVED EQUAL.

EQUIPMENT SCHEDULE

INDICATED BY: (#)

1. RANGE: 8,900W, 208V, 1Ø. 1"C, 4#8.
2. RANGE HOOD RH-1: 1.4A, 120V, 1Ø. COORDINATE REMOTE RANGE HOOD CONNECTION WITH ARCHITECTURAL AND MECHANICAL.
3. WASHER: 1500W, 120V, 1Ø.
4. DRYER: 4,400W, 208V, 1Ø. 3/4"C, 4#10.
5. DISHWASHER: 6.7A, 120V, 1Ø.
6. DRYER BOOSTER FAN DF-1: 0.54A, 120V, 1Ø.

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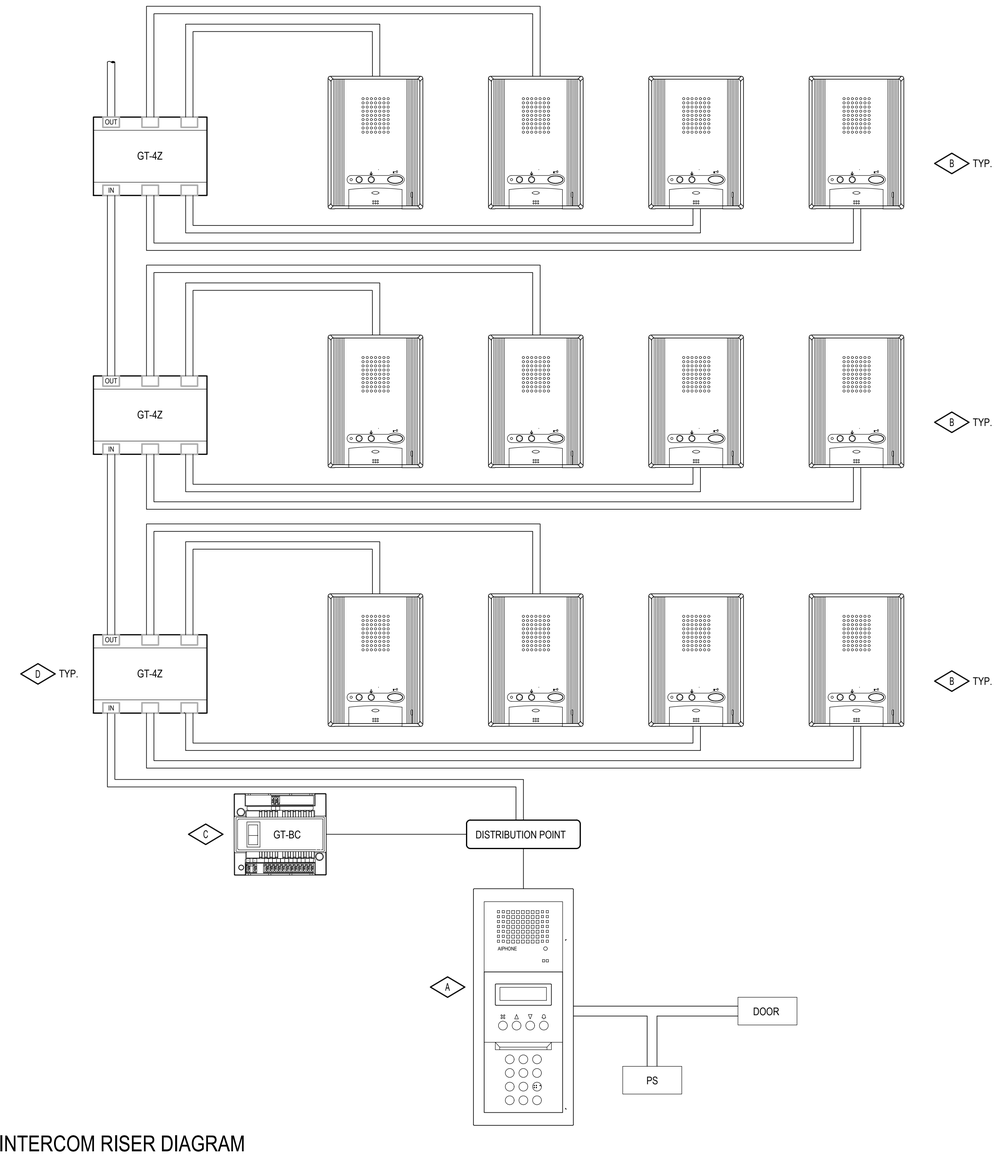
SHEET NAME
UNIT ENLARGED POWER PLANS

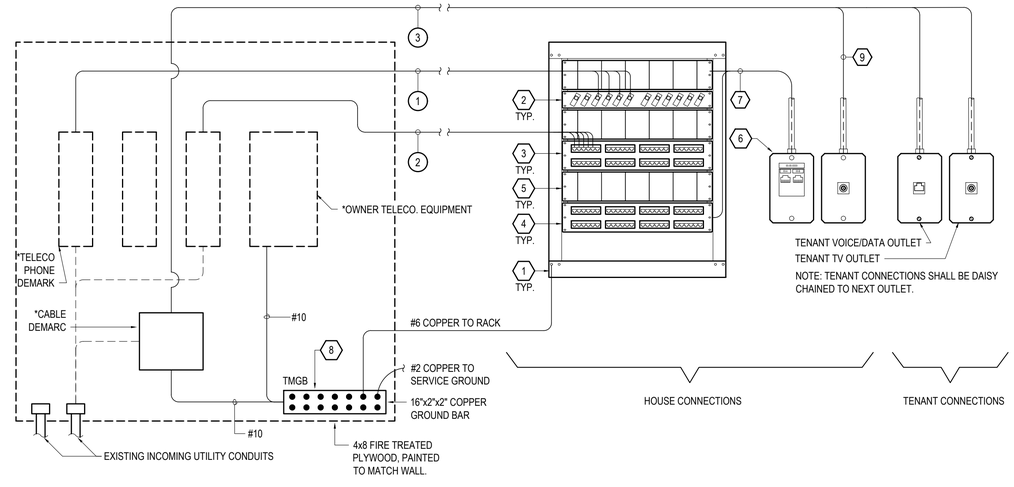
SHEET NO.
E3.05

PERMIT DOCUMENTS



1 ENTRY INTERCOM RISER DIAGRAM

SCALE: NTS



2 COMM RISER DIAGRAM

SCALE: NTS

INTERCOM RISER DIAGRAM NOTES

1. RISER SHOWN IS A CONCEPTUAL SCHEMATIC DIAGRAM ONLY. SUPPLIER TO PROVIDE AN INSTALLATION SHOP DRAWING & SUBMITTAL FOR APPROVAL DETAILING EQUIPMENT LAYOUT WITH WIRING DIAGRAMS AND SHOWING ALL NECESSARY EQUIPMENT, CABLING, & ACCESSORIES REQUIRED FOR A COMPLETE INSTALLATION.
2. SUPPLIER TO PROVIDE SYSTEM SET-UP, PROGRAMMING, TESTING, COMMISSIONING, & TRAINING SERVICES AS DIRECTED BY THE OWNER'S REPRESENTATIVE TO PROVIDE FOR A FULLY OPERATIONAL SYSTEM.
3. PROVIDE ELECTRICAL CONNECTIONS AND FUNCTIONALITY TO ACTIVATE ENTRY DOORS STRIKE RELEASE FUNCTIONS FROM ENTRY PANELS AND TENANT STATIONS.
4. SYSTEM DESIGN BASED ON AIPHONE GT SERIES, WITH ONE MASTER STATION AND 40 TENANT STATIONS.

SYSTEM EQUIPMENT SCHEDULE

INDICATED BY: <X>

- <A> 10-KEY AUDIO ENTRANCE PANEL: AIPHONE #GTA-DESB.
- <B> AUDIO OPEN VOICE TENANT STATION: AIPHONE #GT-1A.
- <C> AUDIO BUS CONTROL UNIT: AIPHONE #GT-BC.
- <D> 4-WAY DISTRIBUTION: AIPHONE #GT-4Z.

COMM RISER EQUIPMENT

INDICATED BY: (#)

1. 4 STRAND (2-PAIR) SM FIBER CABLES FROM MDF.
2. 5-CATEGORY 6 CABLES FROM MDF.
3. RG-6 COAX CABLE, PLENUM RATED.

COMM EQUIPMENT SCHEDULE

INDICATED BY: <#>

1. WALL MOUNTED EQUIPMENT RACK
2. 12 PORT FIBER OPTIC PATCH PANELS AT MDF WITH TYPE SC CONNECTOR PORTS
3. CAT 6 UTP PATCH PANEL - VOICE BACKBONE
4. CAT 6 UTP PATCH PANEL - HORIZONTAL CABLE
5. WIRE MANAGEMENT PANEL
6. TELECOMMUNICATIONS OUTLET: PROVIDE WITH TWO CAT 6 8P8C JACKS PER OUTLET UNLESS NOTED OTHERWISE. INSTALL IN 4 11/16"x4 11/16"x2 1/8"d BACK BOX WITH SINGLE GANG DEVICE RING.
7. CAT 6 CABLE, TWO PER JACK, TYPICAL
8. 12"x4"x1/4" GROUNDING BAR ON ISOLATORS WITH GROUNDING CONDUCTOR BACK TO MAIN CER GROUNDING BAR AND ACCESSIBLE BUILDING STEEL
9. RG-6 COAX TO VIDEO JACK, ONE PER JACK, TYPICAL.

PERMIT DOCUMENTS

STATE OF ALASKA 49 TH
THOMAS C. ALLEN
EE-9877
03/06/23
REGISTERED PROFESSIONAL ENGINEER

CERTIFICATE OF AUTHORIZATION NO:
T3 ALASKA, LLC AECL #: 1625

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T3 ALASKA LLC
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ASPEN HOUSE LIMITED PARTNERSHIP
ASPEN HOUSE SENIOR APARTMENTS
WASILLA, ALASKA

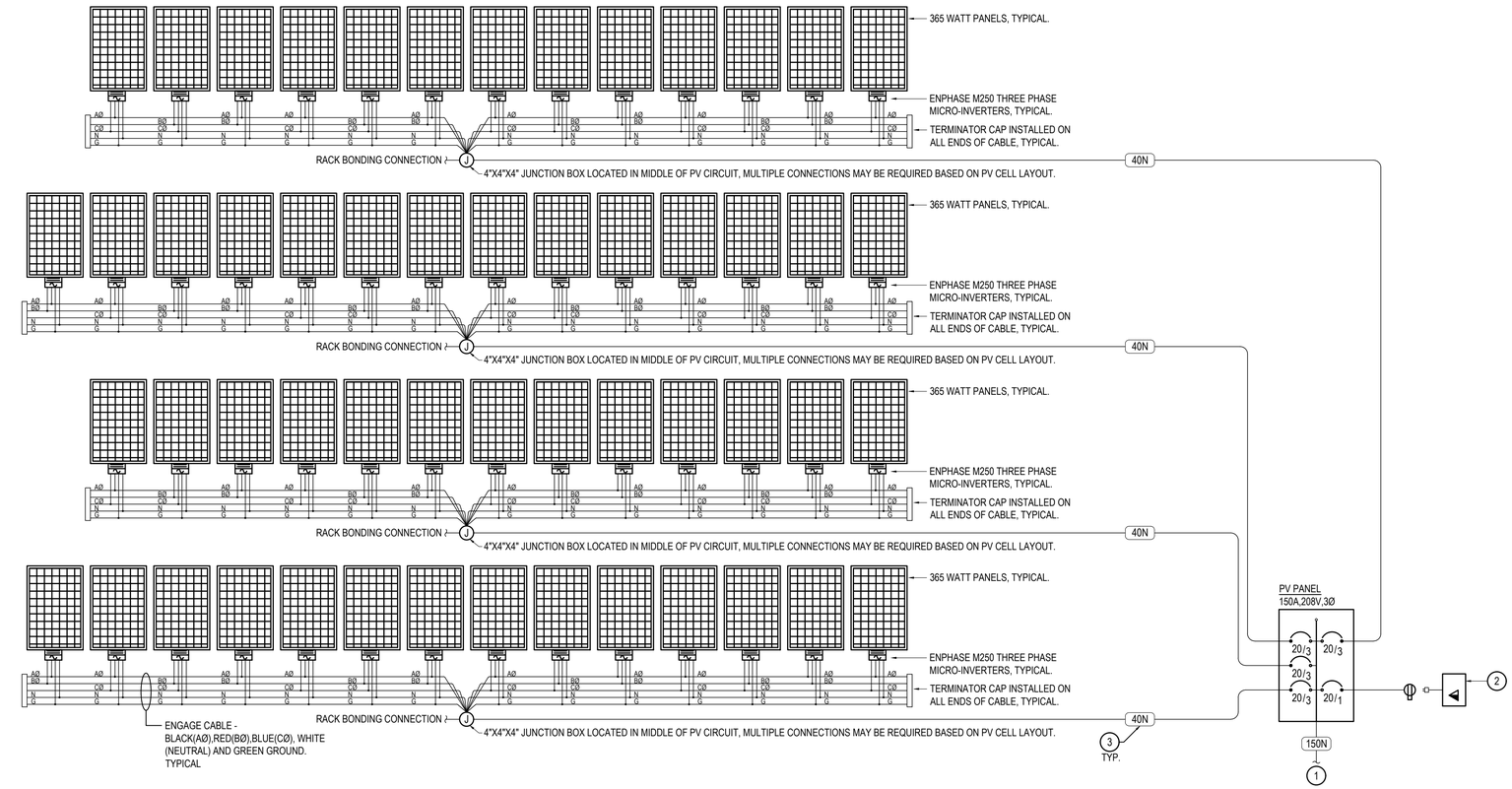
REVISION SCHEDULE

#	DESCRIPTION	DATE

JOB NO.	2023.007.0
DATE	03/06/2023
DRAWN	MJM
REVIEWED	TCA

SHEET NAME
TELECOMMUNICATIONS & INTERCOM RISER DIAGRAMS

SHEET NO.
E4.01



1 PHOTOVOLTAIC RISER DIAGRAM

SCALE: NTS

PV SYSTEM GENERAL NOTES

1. TOTAL OF 54 PV MODULES, (19.7KW SYSTEM), LAYOUT AS SHOWN IS GENERIC THE CONTRACTOR SHALL PROVIDE A BALANCED LAYOUT AND CONNECTION PER MANUFACTURER RECOMMENDATIONS. BRANCH POWER CONNECTIONS SHALL ALWAYS BE MADE IN THE MIDDLE OF THE PV CIRCUITS TO ENSURE BALANCED DISTRIBUTION.
2. PV SYSTEM SHALL MEET UL 1741/IEEE 1574 AND NEC REQUIREMENTS.
3. PROVIDE AND COMPLY WITH ALL NEC REQUIREMENTS INCLUDING BUT NOT LIMITED TO THE FOLLOWING:
   3.a. LABELING PER NEC 690.13, 690.18, &690.51

PV SYSTEM GENERAL NOTES

4. RAPID SHUTDOWN AS REQUIRED BY 690.12 IS PROVIDED AS AN INTEGRAL PART OF THE MICROINVERTERS (ENPHASE M250).
5. THE ENPHASE MICROINVERTER HAS INTEGRATED GROUND AND NO GEC IS REQUIRED. THE DC CIRCUIT IS ISOLATED AND INSULATED FROM GROUND AND MEETS THE REQUIREMENTS OF NEC 690.35. GROUNDING CONNECTION AS SHOWN IS FOR EQUIPMENT GROUNDING.
6. ALL CIRCUIT BREAKERS ASSOCIATED WITH THE PV SYSTEM AND BACK TO THE MDP SHALL BE RATED FOR BACK-FEEDING.

SHEET NOTES

INDICATED BY: (#)

1. SEE E5.01 FOR ELECTRICAL RISER DIAGRAM.
2. ENVOY COMMUNICATIONS GATEWAY, PLUGGED INTO DEDICATED RECEPTACLE, LOCATED NEXT TO PANEL. PROVIDE COMMUNICATION OUTLET/CONNECTION.
3. REFERENCE FEEDER SCHEDULE, E5.01.

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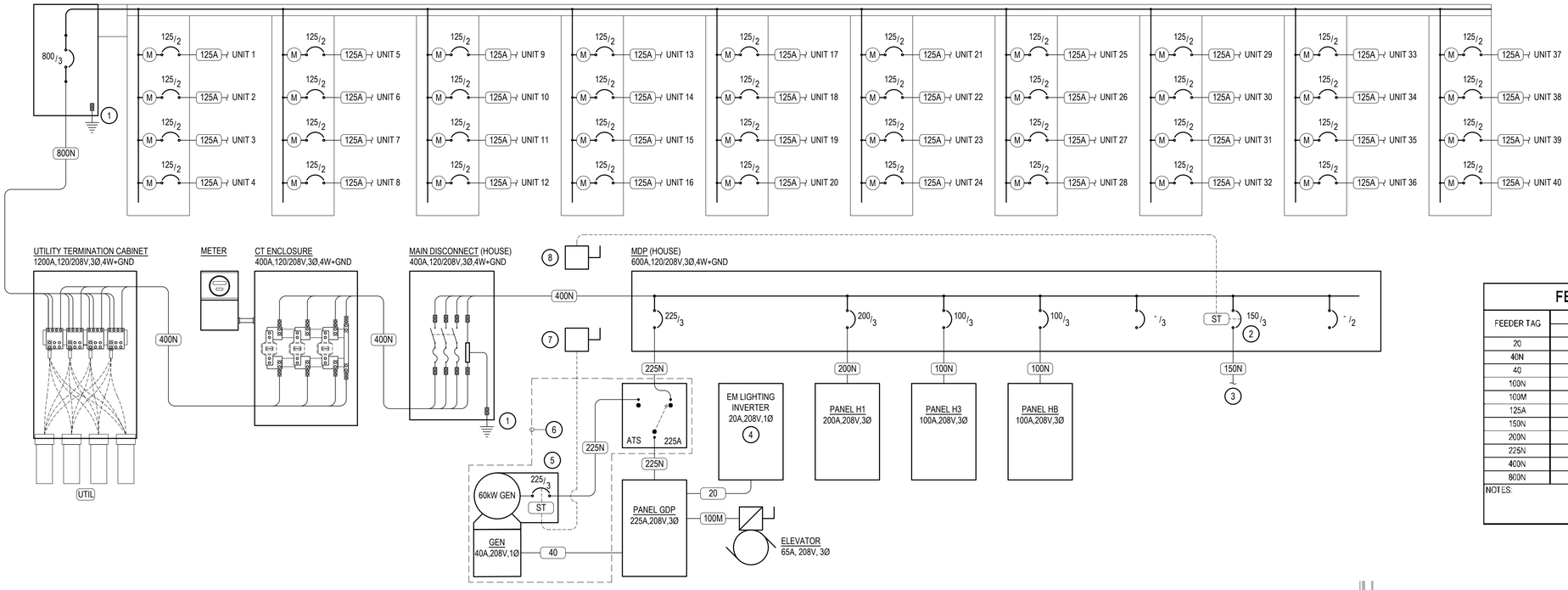
SHEET NAME
PHOTOVOLTAIC RISER DIAGRAM

SHEET NO.
E4.02

PERMIT DOCUMENTS



RISER DIAGRAM GENERAL NOTES

1. IMMEDIATELY UPON PROJECT INCEPTION THE CONTRACTOR SHALL COORDINATE WITH MEA FOR THE INSTALLATION OF A NEW ELECTRICAL SERVICE. EQUIPMENT LAYOUT AS SHOWN IS DIAGRAMMATIC. THE CONTRACTOR SHALL SUBMIT DETAILED INFORMATION REGARDING THE PROPOSED SERVICE ENTRANCE EQUIPMENT TO THE UTILITY COMPANY AND OWNER/ARCHITECT FOR APPROVAL PRIOR TO ORDERING ANY EQUIPMENT. ALL EQUIPMENT AND INSTALLATION SHALL COMPLY WITH CHUGACH STANDARDS AND THE LATEST ADOPTED NEC INCLUDING REQUIREMENTS FOR PV SYSTEM INSTALLATION.
2. METERS AND DISCONNECTS SHALL BE LABELED WITH ENGRAVED PLACARDS, IDENTIFYING EACH TENANT WITH THE ADDRESS OR OTHER MEANS AND BUSSED TERMINATION ENCLOSURES SHALL HAVE PROVISIONS TO BE SEALED. EXTERIOR EQUIPMENT WILL BE PROVIDED IN NEMA 3R ENCLOSURES.

RISER DIAGRAM DETAIL NOTES

INDICATED BY: (#)

1. PROVIDE GROUNDING ELECTRODE SYSTEM AS FOLLOW: #3/0 CU. TO WATER MAIN, #3/0 CU. TO BUILDING STEEL, 20' OF #3/0 CU. ENCASED IN FOOTING CONCRETE AND BONDED TO REBAR. AND #4 CU. TO DRIVEN ROD ELECTRODE.
2. PROVIDE A 150A/3-POLE BACK-FED CIRCUIT BREAKER FOR THE SOLAR PV SYSTEM. INSTALL ACCORDING TO SUPPLIER FURNISHED SHOP DRAWINGS & SUBMITTALS, COMPLY WITH 2015 NEC 690.
3. SEE E4.02 FOR PV SYSTEM DETAILS.
4. MYERS POWER PRODUCTS, INC. ILLUMINATOR SERIES 1.5kW MODEL #3-IE-1-S-BA2002-Z OR EQUIVALENT. 208V,1Ø INPUT; 120V,1Ø OUTPUT VIA TWO NORMALLY "ON" BRANCH CIRCUIT BREAKERS.
5. PROVIDE 'ASCO 5101' (OR APPROVED EQUAL) GENERATOR ENGINE START MODULE AND ATS ENGINE START MODULE FOR ATS ENGINE START CIRCUIT MONITORING. INCLUDE ALL CONTROL WIRING AND ADDITIONAL ACCESSORIES REQUIRED FOR COMPLETE INSTALLATION.
6. ADDITIVE ALTERNATE #3: PROVIDE GENERATOR & AUTOMATIC TRANSFER SWITCH AS A LINE ITEM ALTERNATE. PROVIDE JUNCTION BOX IN PLACE OF ATS AND CONDUIT FOR ATS AND GENERATOR PANEL FOR FUTURE INSTALLATION SHOULD ALTERNATE NOT BE SELECTED. SEE GENERATOR AND ATS BASIS OF DESIGN REQUIREMENTS, THIS SHEET.
7. PROVIDE LOCKABLE KNIFE SWITCH STYLE DISCONNECT AT ELECTRICAL SERVICE LOCATION AND CONNECT TO PROVIDE FOR SHUNT TRIP OPERATION OF GENERATOR OUTPUT CIRCUIT BREAKER. LOCATE NEXT TO SERVICE ENTRANCE GEAR. PROVIDE LAMINATED ENGRAVED PLACARD, RED WITH WHITE 1" LETTERING TO READ "GENERATOR DISCONNECT SHUNT TRIP SWITCH".
8. PROVIDE LOCKABLE KNIFE SWITCH STYLE DISCONNECT AT ELECTRICAL SERVICE LOCATION AND CONNECT TO PROVIDE FOR SHUNT TRIP OPERATION OF PV PANEL CIRCUIT BREAKER. LOCATE NEXT TO SERVICE ENTRANCE GEAR. PROVIDE LAMINATED ENGRAVED PLACARD, RED WITH WHITE 1" LETTERING TO READ "PV SYSTEM DISCONNECT SHUNT TRIP SWITCH".

GENERATOR & ATS GENERAL NOTES

GENERATOR IS A STANDBY GENERATOR ONLY. PROVIDE GENERATOR AND ATS AS FOLLOWS:

GENERATOR: BASIS OF DESIGN MTU GS60. THIS LIST IS NOT INCLUSIVE AND REPRESENTS THE MINIMUM REQUIREMENTS. GENERATOR AND ATS SET SHALL BE PROVIDE IN WHOLE AND AS A TURN KEY SYSTEM.

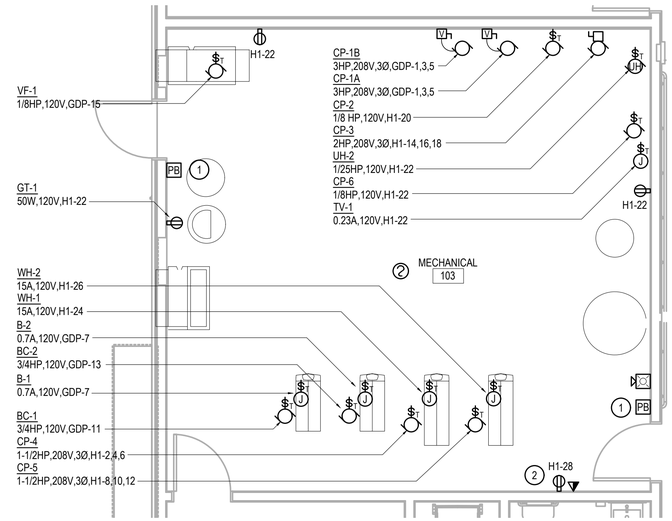
1. 60KW NATURAL GAS GENERATOR - 208V 3PHASE, 60HZ, 1800 RPM
2. LEVEL 2 SELF-CONTAINED HEATED ENCLOSURE, WITH SOUND ATTENUATION, INTERIOR LIGHTING, ETC.
3. 225A 100% RATED CIRCUIT BREAKER WITH SHUNT TRIP.
4. BATTERY AND BATTERY CHARGERS, SPACE HEATER, CONVIENIENCE RECEPTCLE, COOLANT HEATER, HOUSING LIGHTS, BATTERY PAD HEATER, BLOCK HEATER, ETC.
5. GENERATOR CONTROLLER WITH REMOTE MONITORING AND START FUNCTIONS.
6. GENERATOR PANEL WITH
   - 6.1. HOUSING SPACE HEATER
   - 6.2. BLOCK HEATER
   - 6.3. GENERATOR STRIP HEATER
   - 6.4. BATTERY CHARGER
   - 6.5. CONVIENIENCE RECEPTACLES
   - 6.6. COOLANT HEATER
   - 6.7. HOUSING LIGHTS
   - 6.8. BATTER PAD HEATER

ATS: 225A, OPEN TRANSITION, 3 POLE IN A NEMA 1 ENLCOSURE. 120/208V,3 PHASE. WIRE. 50KAIC MINIMUM. STANDARD CONTROL FEATURES.

FEEDER SCHEDULE

FEEDER TAG	COPPER CONDUCTORS		
	CONDUCTORS	RACEWAY	NOTES
20	3#12, 1#12 EGC	0.75"	
40N	4#8, 1#10 EGC	1"	
40	3#8, 1#10 EGC	1"	
100N	4#2, 1#8 EGC	1.5"	
100M	3#2, 1#8 EGC	1.5"	
125A	3#1, 1#6 EGC	1.25"	
150N	4#1/0, 1#6 EGC	2"	
200N	4#3/0, 1#6 EGC	2"	
225N	4#4/0, 1#4 EGC	2.5"	
400N	2 x 4#3/0, 1#3 EGC	2 x 2"	
800N	3 x 4#250, 1#1/0 EGC	3 x 2.5"	

NOTES:



1 ELECTRICAL SINGLE LINE DIAGRAM

SCALE: NTS

2 ENLARGED MECHANICAL ROOM POWER & SINGAL PLAN

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

ENLARGED PLAN NOTES

INDICATED BY: (#)

1. PROVIDE PUSHBUTTON FOR EMERGENCY BOILER SHUTOFF. CONNECT TO BOILER SHUNT TRIP BREAKERS.
2. DEDICATED CIRCUIT FOR MECHANICAL EQUIPMENT CONTROLS (DDC), COORDINATE LOCATION WITH MECHANICAL PRIOR TO ROUGH IN.

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ASPEN HOUSE SENIOR APARTMENTS
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REVISION SCHEDULE

#	DESCRIPTION	DATE

JOB NO.	2023.007.0
DATE	03/06/2023
DRAWN	MJM
REVIEWED	TCA

SHEET NAME
ELECTRICAL SINGLE LINE DIAGRAM & ENLARGED MECHANICAL PLAN

SHEET NO.
E5.01

PERMIT DOCUMENTS

MDP

VOLTAGE : 120/208V,3PH,4W | AMPERE RATING: 600 A
MOUNTING: SURFACE | MAIN CIRCUIT BREAKER RATING: MLO
SUPPLIED FROM: HOUSE SERVICE DISCONNECT | SHORT CIRCUIT CURRENT RATING (SCCR): 30,000 A

CKT	AMP	POLE	LOAD DESCRIPTION	PHASE A VA	PHASE B VA	PHASE C VA	LOAD DESCRIPTION	POLE	AMP	CKT
1	200			7,628	19,545				225	2
3			PANEL H1		7,912	17,876	PANEL GDP VIA ATS			4
5		3				7,080	20,925		3		6
7	100			2,920					150	8
9			PANEL H3		2,100		PV SYSTEM			10 S
11		3				1,080		3		12
13	100			9,600			SPACE	1	-	14
15			PANEL HB		9,600		SPACE	1	-	16
17		3				9,000		SPACE	1	- 18
19	-	1	SPACE				SPACE	1	-	20
21	-	1	SPACE				SPACE	1	-	22
23	-	1	SPACE				SPACE	1	-	24
25	-	1	SPACE				SPACE	1	-	26
27	-	1	SPACE				SPACE	1	-	28
29	-	1	SPACE				SPACE	1	-	30
CONNECTED LOAD (VA)				39,693	37,487	38,085	115,265 VA			
CONNECTED LOAD (AMPERES)				331	312	317	320 A			
DEMAND LOAD (VA) *				39,693	37,487	38,085	115,265 VA			
DEMAND LOAD (AMPERES) *				331	312	317	320 A			

S - PROVIDE SHUNT TRIP TYPE CIRCUIT BREAKER, * - DEMAND LOAD CALCULATED WITH LARGEST MOTOR LOAD AT 125%

PANEL HB

VOLTAGE : 120/208V,3PH,4W | AMPERE RATING: 100 A
MOUNTING: SURFACE | MAIN CIRCUIT BREAKER RATING: MLO
SUPPLIED FROM: MDP | SHORT CIRCUIT CURRENT RATING (SCCR): 30,000 A

CKT	AMP	POLE	LOAD DESCRIPTION	PHASE A VA	PHASE B VA	PHASE C VA	LOAD DESCRIPTION	POLE	AMP	CKT
1	20	1	REC - HEADBOLT HEATER SPOT 1 WEST	600	600		REC - HEADBOLT HEATER SPOT 28 NORTH	1	20	2
3	20	1	REC - HEADBOLT HEATER SPOT 2 WEST		600	600	REC - HEADBOLT HEATER SPOT 29 NORTH	1	20	4
5	20	1	REC - HEADBOLT HEATER SPOT 3 WEST			600	600 REC - HEADBOLT HEATER SPOT 30 NORTH	1	20	6
7	20	1	REC - HEADBOLT HEATER SPOT 4 WEST	600	600		REC - HEADBOLT HEATER SPOT 31 NORTH	1	20	8
9	20	1	REC - HEADBOLT HEATER SPOT 5 WEST		600	600	REC - HEADBOLT HEATER SPOT 32 NORTH	1	20	10
11	20	1	REC - HEADBOLT HEATER SPOT 6 WEST			600	600 REC - HEADBOLT HEATER SPOT 33 NORTH	1	20	12
13	20	1	REC - HEADBOLT HEATER SPOT 7 WEST	600	600		REC - HEADBOLT HEATER SPOT 34 SOUTH	1	20	14
15	20	1	REC - HEADBOLT HEATER SPOT 8 WEST		600	600	REC - HEADBOLT HEATER SPOT 35 SOUTH	1	20	16
17	20	1	REC - HEADBOLT HEATER SPOT 9 WEST			600	600 REC - HEADBOLT HEATER SPOT 36 SOUTH	1	20	18
19	20	1	REC - HEADBOLT HEATER SPOT 10 WEST	600	600		REC - HEADBOLT HEATER SPOT 37 SOUTH	1	20	20
21	20	1	REC - HEADBOLT HEATER SPOT 11 WEST		600	600	REC - HEADBOLT HEATER SPOT 38 SOUTH	1	20	22
23	20	1	REC - HEADBOLT HEATER SPOT 12 WEST			600	600 REC - HEADBOLT HEATER SPOT 39 SOUTH	1	20	24
25	20	1	REC - HEADBOLT HEATER SPOT 13 WEST	600	600		REC - HEADBOLT HEATER SPOT 40 SOUTH	1	20	26
27	20	1	REC - HEADBOLT HEATER SPOT 14 WEST		600	600	REC - HEADBOLT HEATER SPOT 41 SOUTH	1	20	28
29	20	1	REC - HEADBOLT HEATER SPOT 15 WEST			600	600 REC - HEADBOLT HEATER SPOT 42 SOUTH	1	20	30
31	20	1	REC - HEADBOLT HEATER SPOT 16 WEST	600	600		REC - HEADBOLT HEATER SPOT 43 SOUTH	1	20	32
33	20	1	REC - HEADBOLT HEATER SPOT 17 WEST		600	600	REC - HEADBOLT HEATER SPOT 44 SOUTH	1	20	34
35	20	1	REC - HEADBOLT HEATER SPOT 18 WEST			600	600 REC - HEADBOLT HEATER SPOT 45 SOUTH	1	20	36
37	20	1	REC - HEADBOLT HEATER SPOT 19 WEST	600	600		REC - HEADBOLT HEATER SPOT 46 SOUTH	1	20	38
39	20	1	REC - HEADBOLT HEATER SPOT 20 WEST		600	600	REC - HEADBOLT HEATER SPOT 47 SOUTH	1	20	40
41	20	1	REC - HEADBOLT HEATER SPOT 21 NORTH			600	REC - HEADBOLT HEATER SPOT 48 SOUTH	1	20	42
43	20	1	REC - HEADBOLT HEATER SPOT 22 NORTH	600			REC - HEADBOLT HEATER SPOT 49 SOUTH	1	20	44
45	20	1	REC - HEADBOLT HEATER SPOT 23 NORTH		600		SPACE	1	-	46
47	20	1	REC - HEADBOLT HEATER SPOT 24 NORTH			600	SPACE	1	-	48
49	20	1	REC - HEADBOLT HEATER SPOT 25 NORTH	600			SPACE	1	-	50
51	20	1	REC - HEADBOLT HEATER SPOT 26 NORTH		600		SPACE	1	-	52
53	20	1	REC - HEADBOLT HEATER SPOT 27 NORTH			600	SPACE	1	-	54
CONNECTED LOAD (VA)				9,600	9,600	9,000	28,200 VA			
CONNECTED LOAD (AMPERES)				80	80	75	78 A			
DEMAND LOAD (VA) *				9,750	9,750	9,150	28,650 VA			
DEMAND LOAD (AMPERES) *				81	81	76	80 A			

PANEL GDP

VOLTAGE : 120/208V,3PH,4W | AMPERE RATING: 225 A
MOUNTING: SURFACE | MAIN CIRCUIT BREAKER RATING: MLO
SUPPLIED FROM: MDP | SHORT CIRCUIT CURRENT RATING (SCCR): 30,000 A

CKT	AMP	POLE	LOAD DESCRIPTION	PHASE A VA	PHASE B VA	PHASE C VA	LOAD DESCRIPTION	POLE	AMP	CKT
1	20			1,320	7,800				100	2
3			CP-1A, CP-1B - MECH 103		1,320	7,800	ELEVATOR			4
5		3				1,320	7,800		3		6
S 7	20	1	B-1, B-2	84	500		ELEVATOR CAB LIGHTING & POWER	1	20	8
9	-	1	BOILER SHUNT TRIP BREAKER			500	ELEVATOR REMOTE MONITORING	1	20	10
11	25	1	BC-1 - MECH 103			1,656	200 DOOR CONTROLS	1	20	12
13	25	1	BC-2 - MECH 103	1,656	200		ACCESS CONTROLS	1	20	14
15	20	1	VF-1 - MECH 103		300	500	FIRE ALARM	1	20	16 L
17	20	1	LTG - 1ST FLR CORRIDOR, REFUSE, STORAGE 116			1,056	500 FIRE SMOKE DAMPERS	1	20	18
19	20	1	LTG - 1ST FLR MECH, ELEC, STORAGE 107, JAN, UTILITY	556			SPACE	1	-	20
21	20	1	LTG/PWR - STAIR 1 EAST, CUH VESTIBULE		980		SPACE	1	-	22
23	20	1	LTG/PWR - STAIR 2 WEST, CUH STOR., REFUSE			1,180	SPACE	1	-	24
25	20	1	LTG - SECOND FLOOR CORRIDOR, SOUTH	1,456			SPACE	1	-	26
27	20	1	LTG - SECOND FLOOR COMMON, NORTH		554		SPACE	1	-	28
29	20	1	LTG - THIRD FLOOR COMMON & CORRIDOR			1,376	SPACE	1	-	30
31	20	1	REC - COMM	720			SPACE	1	-	32
33	20	1	REC - TTB		360	900	THERMOSTAT POWER SUPPLIES	1	20	34
35	20	1	REC - ERV MAINTENANCE (ON ROOF)			180	740 EM LIGHTING INVERTER		20	36
37	30			2,328	472			2		38
39			ERV-1 (ON ROOF)		2,328		GENERATOR PANEL (FUTURE)		40	40
41		3				2,328		2		42
CONNECTED LOAD (VA)				17,092	15,542	18,336	50,970 VA			
CONNECTED LOAD (AMPERES)				142	130	153	142 A			
DEMAND LOAD (VA) *				19,545	17,876	20,925	58,346 VA			
DEMAND LOAD (AMPERES) *				163	149	174	162 A			

* - DEMAND LOAD CALCULATED WITH LIGHTING & LARGEST MOTOR LOAD AT 125%.
S - PROVIDE SHUNT TRIP TYPE BREAKER, L - PROVIDE RED LOCKABLE CIRCUIT BREAKER, GP - PROVIDE CLASS B EPD TYPE CIRCUIT BREAKER (30mA)

PANEL H1

VOLTAGE : 120/208V,3PH,4W | AMPERE RATING: 200 A
MOUNTING: SURFACE | MAIN CIRCUIT BREAKER RATING: MLO
SUPPLIED FROM: MDP | SHORT CIRCUIT CURRENT RATING (SCCR): 30,000 A

CKT	AMP	POLE	LOAD DESCRIPTION	PHASE A VA	PHASE B VA	PHASE C VA	LOAD DESCRIPTION	POLE	AMP	CKT
1	20	1	SPARE	828					20	2
3	20	1	LTG - EXTERIOR/SITE		1,511	828	CP-4 - MECH ROOM			4
5	20	1	TRASH CHUTE AIR COMPRESSOR			1,500	828	3		6
GP 7	20	1	CARPORT HEAT TRACE	1,500	828				20	8
GP 9	20	1	OVERFLOW SCUPPER HEAT TRACE		45	828	CP-5 - MECH ROOM			10
11	20	1	LTG - ELEVATOR PIT			68	828	3		12
13	20	1	REC - ELEVATOR PIT	180	936				15	14
15	25	1	SP-1 - ELEVATOR PIT		1,656	936	CP-3 - MECH ROOM			16
17	20	1	REC - ELEVATOR CONTROL AREA (3RD FLR)			180	936	3		18
19	20	1	REC - EXT, VEST, LOBBY, UTILITY, TOILET, ELEC RM UH	1,100	456			1	20	20
21	20	1	REC - JAN., CORRIDOR, TENANT STORAGE		900	1,158	CP-6, TV-1, UH, GT-1, CONV. REC - MECH ROOM	1	20	22
23	20	1	REC - EXT. WEST, REFUSE			940	1,800	WATER HEATER 1 - MECH ROOM	1	20	24
25	20	1	SPARE	1,800				WATER HEATER 2 - MECH ROOM	1	20	26
27	20	1	SPARE		50			MECHANICAL CONTROLS	1	20	28
29	20	1	SPARE					SPACE	1	-	30
31	20	1	SPARE					SPACE	1	-	32
33	20	1	SPARE					SPACE	1	-	34
35	20	1	SPARE					SPACE	1	-	36
37	-	1	SPACE					SPACE	1	-	38
39	-	1	SPACE					SPACE	1	-	40
41	-	1	SPACE					SPACE	1	-	42
CONNECTED LOAD (VA)				7,628	7,912	7,080	22,620 VA			
CONNECTED LOAD (AMPERES)				64	66	59	63 A			
DEMAND LOAD (VA) *				8,042	8,326	7,287	23,655 VA			
DEMAND LOAD (AMPERES) *				67	69	61	66 A			

* - DEMAND LOAD CALCULATED WITH LIGHTING & LARGEST MOTOR LOAD AT 125%
S - PROVIDE SHUNT TRIP TYPE BREAKER, L - PROVIDE RED LOCKABLE CIRCUIT BREAKER, GP - PROVIDE CLASS B EPD TYPE CIRCUIT BREAKER (30mA)

PANEL H3

VOLTAGE : 120/208V,3PH,4W | AMPERE RATING: 100 A
MOUNTING: SURFACE | MAIN CIRCUIT BREAKER RATING: MLO
SUPPLIED FROM: MDP | SHORT CIRCUIT CURRENT RATING (SCCR): 10,000 A

CKT	AMP	POLE	LOAD DESCRIPTION	PHASE A VA	PHASE B VA	PHASE C VA	LOAD DESCRIPTION	POLE	AMP	CKT
1	20	1	REC - SECOND FLOOR 215, 216, CORRIDOR WEST	1,100			SPACE	1	-	2
3	20	1	REC - SECOND FLOOR 201, 206, 221, CORRIDOR EAST		900		SPACE	1	-	4
5	20	1	REC - SECOND FLOOR COMMON 200			1,080	SPACE	1	-	6
7	20	1	REC - THIRD FLOOR 315, 316, CORRIDOR WEST	1,820			SPACE	1	-	8
9	20	1	REC - COMMON AREA 200 MICROWAVE		1,200		SPACE	1	-	10
11	20	1	SPARE				SPACE	1	-	12
13	20	1	SPARE				SPACE	1	-	14
15	20	1	SPARE				SPACE	1	-	16
17	20	1	SPARE				SPACE	1	-	18
19	20	1	SPARE				SPACE	1	-	20
21	20	1	SPARE				SPACE	1	-	22
23	-	1	SPACE				SPACE	1	-	24
25	-	1	SPACE				SPACE	1	-	26
27	-	1	SPACE				SPACE	1	-	28
29	-	1	SPACE				SPACE	1	-	30
31	-	1	SPACE				SPACE	1	-	32
33	-	1	SPACE				SPACE	1	-	34
35	-	1	SPACE				SPACE	1	-	36
37	-	1	SPACE				SPACE	1	-	38
39	-	1	SPACE				SPACE	1	-	40
41	-	1	SPACE				SPACE	1	-	42
CONNECTED LOAD (VA)				2,920	2,100	1,080	6,100 VA			
CONNECTED LOAD (AMPERES)				24	18	9	17 A			
DEMAND LOAD (VA) *				2,920	2,100	1,080	6,100 VA			
DEMAND LOAD (AMPERES) *				24	18	9	17 A			

* - DEMAND LOAD CALCULATED WITH LIGHTING & LARGEST MOTOR LOAD AT 125%
S - PROVIDE SHUNT TRIP TYPE BREAKER, L - PROVIDE RED LOCKABLE CIRCUIT BREAKER, GP - PROVIDE CLASS B EPD TYPE CIRCUIT BREAKER (30mA)

STATE OF ALASKA 49 TH
THOMAS C. ALLEN
EE-9877
03/06/23
REGISTERED PROFESSIONAL ENGINEER

CERTIFICATE OF AUTHORIZATION NO:
T3 ALASKA, LLC AECL #: 1625

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ASPEN HOUSE LIMITED PARTNERSHIP
ASPEN HOUSE SENIOR APARTMENTS
WASILLA, ALASKA

REVISION SCHEDULE

#	DESCRIPTION	DATE

JOB NO. 2023.007.0
DATE 03/06/2023
DRAWN MJM
REVIEWED TCA

SHEET NAME
SCHEDULES

SHEET NO.
E5.02

PERMIT DOCUMENTS

TYPICAL UNIT A PANEL

VOLTAGE: 120/208V,1PH,3W | AMPRERE RATING: 125 A
MOUNTING: SURFACE | MAIN CIRCUIT BREAKER RATING: MLO
SUPLIED FROM: SERVICE DISC. | SHORT CIRCUIT CURRENT RATING (SCCR): 10,000 A

	CKT	AMP	POLE	LOAD DESCRIPTION	PHASE A VA		PHASE B VA		LOAD DESCRIPTION	POLE	AMP	CKT	
A	1	20	1	LIGHTING	456	4,450			RANGE		50	2	L
A	3	20	1	REC - SMALL APPLIANCE & REF			1,500	4,450		2		4	
A	5	20	1	REC - SMALL APPLIANCE	1,500	2,200			REC - DRYER		30	6	G
A	7	20	1	REC - DISHWASHER			804	2,200		2		8	
A	9	20	1	RANGE HOOD	168	1,500			REC - WASHER	1	20	10	AG
A	11	20	1	REC - BATHROOM			180		SPARE	1	20	12	A
A	13	20	1	REC - LIVING ROOM, (MOTORIZED SHADE**)	900				SPARE	1	20	14	A
A	15	20	1	REC - BEDROOM & CLOSET CONV.			1,260		SPACE	1	-	16	
A	17	20	1	SMOKE & CO DETECTORS	50				SPACE	1	-	18	
	19	-	1	SPACE					SPACE	1	-	20	
	21	-	1	SPACE					SPACE	1	-	22	
	23	-	1	SPACE					SPACE	1	-	24	
	25	-	1	SPACE					SPACE	1	-	26	
	27	-	1	SPACE					SPACE	1	-	28	
	29	-	1	SPACE					SPACE	1	-	30	
CONNECTED LOAD (VA)					11,224		10,394		21,618 VA				
CONNECTED LOAD (AMPERES)					94		87		104 A				
DEMAND LOAD (VA) *					10,652		9,591		20,593 VA				
DEMAND LOAD (AMPERES) *					89		83		99 A				

A - PROVIDE ARC-FAULT TYPE CIRCUIT BREAKER, AG - PROVIDE ARC FAULT/GFCI COMBINATION TYPE CIRCUIT BREAKER, L - PROVIDE LOCKABLE CIRCUIT BREAKER

* - SEE SINGLE UNIT WORST CASE DEMAND LOAD CALCULATION, E5.03, ** - MOTORIZED SHADE ONLY TO BE INSTALLED ON 3RD FLOOR TYPE 1A UNITS 309, 310, 317, & 320. OMIT FROM ALL OTHER PANEL SCHEDULES.

TYPICAL UNIT B PANEL

VOLTAGE: 120/208V,1PH,3W | AMPRERE RATING: 125 A
MOUNTING: SURFACE | MAIN CIRCUIT BREAKER RATING: MLO
SUPLIED FROM: SERVICE DISC. | SHORT CIRCUIT CURRENT RATING (SCCR): 10,000 A

	CKT	AMP	POLE	LOAD DESCRIPTION	PHASE A VA		PHASE B VA		LOAD DESCRIPTION	POLE	AMP	CKT	
A	1	20	1	LIGHTING	468	4,450			RANGE		50	2	L
A	3	20	1	REC - SMALL APPLIANCE & REF			1,500	4,450		2		4	
A	5	20	1	REC - SMALL APPLIANCE	1,500	2,200			REC - DRYER		30	6	G
A	7	20	1	REC - DISHWASHER			804	2,200		2		8	
A	9	20	1	RANGE HOOD	168	1,500			REC - WASHER	1	20	10	AG
A	11	20	1	REC - BATHROOM			180		SPARE	1	20	12	A
A	13	20	1	REC - LIVING ROOM, (MOTORIZED SHADE**)	1,080				SPARE	1	20	14	A
A	15	20	1	REC - BEDROOM & CLOSET CONV.			1,260		SPACE	1	-	16	
A	17	20	1	SMOKE & CO DETECTORS	50				SPACE	1	-	18	
	19	-	1	SPACE					SPACE	1	-	20	
	21	-	1	SPACE					SPACE	1	-	22	
	23	-	1	SPACE					SPACE	1	-	24	
	25	-	1	SPACE					SPACE	1	-	26	
	27	-	1	SPACE					SPACE	1	-	28	
	29	-	1	SPACE					SPACE	1	-	30	
CONNECTED LOAD (VA)					11,416		10,394		21,810 VA				
CONNECTED LOAD (AMPERES)					95		87		105 A				
DEMAND LOAD (VA) *					10,779		9,814		20,593 VA				
DEMAND LOAD (AMPERES) *					90		82		99 A				

A - PROVIDE ARC-FAULT TYPE CIRCUIT BREAKER, AG - PROVIDE ARC FAULT/GFCI COMBINATION TYPE CIRCUIT BREAKER, G - PROVIDE GFCI TYPE CIRCUIT BREAKER, L - PROVIDE LOCKABLE CIRCUIT BREAKER

* - SEE SINGLE UNIT WORST CASE DEMAND LOAD CALCULATION, E5.03, ** - MOTORIZED SHADE ONLY TO BE INSTALLED ON 3RD FLOOR TYPE 1B UNITS 308, 311, 318, & 319. OMIT FROM ALL OTHER PANEL SCHEDULES.

ELECTRICAL TENANT LOAD CALCULATION

GENERAL LIGHTING DEMAND LOAD (NEC 220.42)			
GENERAL LIGHTING (TOTAL TENANT AREA)			
28,197 FT^2 @ 3 VA/FT^2	=	84,591 VA	
SMALL APPLIANCE LOAD			
80 CKTS @ 1,500 VA/CKT	=	120,000 VA	
LAUNDRY LOAD			
40 CKTS @ 1,500 VA/CKT	=	60,000 VA	
SUB-TOTAL		264,591 VA	
FIRST 3000 VA OR LESS AT 100%	=	3,000 VA	
FROM 3001 TO 120,000 VA AT 35%	=	40,950 VA	
REMAINDER OVER 120,000 VA AT 25%	=	36,148 VA	
TOTAL GENERAL LIGHTING DEMAND LOAD	=		**80,098 VA**
ELECTRIC CLOTHES DRYER DEMAND LOAD (NEC 220.54)			
40 @ 5,000 VA EACH	=	200,000 VA	
DEMAND FACTOR PER NEC T220.54	=	26.5%	
TOTAL DRYER DEMAND LOAD	=		**53,000 VA**
ELECTRIC RANGE DEMAND LOAD (NEC 220.55)			
40 @ 8,900 VA EACH	=	356,000 VA	
DEMAND FACTOR PER NEC T220.55	=	15kW + 1kW EACH	
TOTAL RANGE DEMAND LOAD	=		**55,000 VA**
APPLIANCE DEMAND LOAD (NEC 220.54)			
DISHWASHERS 40 @ 804 VA EACH	=	32,160 VA	
MICROWAVES 40 @ 1,200 VA EACH	=	48,000 VA	
DISPOSALS 0 @ 1,200 VA EACH	=	0 VA	
GAS DRYERS 0 @ 500 VA EACH	=	0 VA	
RANGE HOODS 40 @ 216 VA EACH	=	8,640 VA	
DEMAND FACTOR PER NEC 220.53	=	75%	
TOTAL FIXED APPLIANCE DEMAND LOAD	=		**66,600 VA**
TOTAL CALCULATED ELECTRICAL DEMAND LOAD			**254,698 VA**
			707 AMPS @120/208v,3PH

DWELLING FACILITY
SINGLE UNIT WORST CASE DEMAND LOAD CALCULATION

GENERAL LIGHTING DEMAND LOAD (NEC 220.52)			
GENERAL LIGHTING (WORST CASE)			
903 FT^2 @ 3 VA/FT^2	=	2,709 VA	
SMALL APPLIANCE LOAD			
2 CKTS @ 1,500 VA/CKT	=	3,000 VA	
LAUNDRY LOAD			
1 CKTS @ 1,500 VA/CKT	=	1,500 VA	
SUB-TOTAL		7,209 VA	
FIRST 3000 VA OR LESS AT 100%	=	3,000 VA	
FROM 3001 TO 120,000 VA AT 35%	=	1,473 VA	
REMAINDER OVER 120,000 VA AT 25%	=	0 VA	
TOTAL GENERAL LIGHTING DEMAND LOAD	=		**4,473 VA**
ELECTRIC CLOTHES DRYER DEMAND LOAD (NEC 220.54)			
1 @ 5000 VA EACH			
DEMAND FACTOR PER NEC T220.54	=	100%	
TOTAL DRYER DEMAND LOAD	=		**5,000 VA**
ELECTRIC RANGE DEMAND LOAD (NEC 220.55)			
1 @ 8900 VA EACH	=	8,900 VA	
DEMAND FACTOR PER NEC T220.55	=	100%	
TOTAL RANGE DEMAND LOAD	=		**8,900 VA**
APPLIANCE DEMAND LOAD (NEC 220.54)			
DISHWASHERS 1 @ 804 VA EACH	=	804 VA	
MICROWAVES 1 @ 1,200 VA EACH	=	1,200 VA	
DISPOSALS 0 @ 1,200 VA EACH	=	0 VA	
GAS DRYERS 0 @ 500 VA EACH	=	0 VA	
RANGE HOODS 1 @ 216 VA EACH	=	216 VA	
DEMAND FACTOR PER NEC 220.53	=	100%	
TOTAL FIXED APPLIANCE DEMAND LOAD	=		**2,220 VA**
TOTAL CALCULATED ELECTRICAL DEMAND LOAD			**20,593 VA**
			99 AMPS @120/208v,1PH

FAULT CURRENT CALCULATION SUMMARY

ASSUMED UTILITY CONFIGURATION
UTILITY CONTRIBUTION: INFINITE
TRANSFORMER RATING: 300kVA
TRANSFORMER IMPEDENCE: 2.52%z

EQUIPMENT	SUPPLY FEEDER RATING AND LENGTH	FAULT CURRENT L-L	FAULT CURRENT L-N	BUS RATING	
UTILITY TRANS SECONDARY	N/A	33,045 A	N/A	N/A	
UTILITY TERMINATION CABINET	4 EA. #500 AL PER PHASE 70'	26,973 A	22,218 A	30,000 A	
HOUSE CT ENCLOSURE	2 EA. #3/0 CU PER PHASE 5'	25,843 A	20,351 A	30,000 A	
HOUSE MAIN DISCONNECT	2 EA. #3/0 CU PER PHASE 5'	24,804 A	18,773 A	30,000 A	
MDP	2 EA. #3/0 CU PER PHASE 25'	20,653 A	13,529 A	30,000 A	
(FUTURE) ATS	1 EA. #4/0 CU PER PHASE 5'	19,539 A	12,172 A	30,000 A	
PANEL GDP	1 EA. #4/0 CU PER PHASE 5'	18,539 A	11,062 A	30,000 A	
ELEVATOR	1 EA. #2 CU PER PHASE 60'	7,220 A	3,105 A	10,000 A	*
ERV-1	1 EA. #10 CU PER PHASE 90'	1,224 A	708 A	5,000 A	
PANEL H1	1 EA. #3/0 CU PER PHASE 10'	18,214 A	10,773 A	30,000 A	
PANEL H3	1 EA. #2 CU PER PHASE 170'	3,471 A	1,368 A	10,000 A	
PANEL HB	1 EA. #2 CU PER PHASE 5'	18,028 A	10,724 A	30,000 A	
PANEL PV	1 EA. #1/0 CU PER PHASE 170'	4,830 A	1,975 A	10,000 A	
TENANT MAIN DISCONNECT	3 EA. #250 CU PER PHASE 5'	26,374 A	21,321 A	30,000 A	
TENANT MULTI-METER GEAR	3 EA. #250 CU PER PHASE 5'	25,801 A	20,493 A	30,000 A	
TENANT PANEL (WORST CASE)	1 EA. #1 CU PER PHASE 60'	9,323 A	4,405 A	10,000 A	

CONTRACTOR TO CONFIRM UTILITY ASSUMPTIONS UTILIZED FOR THIS CALCULATION AS WELL AS INSTALLED CONDUCTOR CONFIGURATIONS AND LENGTHS DURING CONSTRUCTION. REPORT ANY DECREASE IN TRANSFORMER IMPEDENCE AND INSTALLED CABLE LENGTHS AS WELL AS ANY INCREASE IN TRANSFORMER KVA RATING AND CONDUCTOR RATINGS TO ENGINEER FOR RE-EVALUATION PRIOR TO DISTRIBUTION EQUIPMENT PROCUREMENT.

* - CONFIRM ELEVATOR SHORT CIRCUIT CURRENT RATING WITH FINAL EQUIPMENT SUPPLIED PRIOR TO ROUGH IN.

TYPICAL UNIT C PANEL

VOLTAGE: 120/208V,1PH,3W | AMPRERE RATING: 125 A
MOUNTING: SURFACE | MAIN CIRCUIT BREAKER RATING: MLO
SUPLIED FROM: SERVICE DISC. | SHORT CIRCUIT CURRENT RATING (SCCR): 10,000 A

	CKT	AMP	POLE	LOAD DESCRIPTION	PHASE A VA		PHASE B VA		LOAD DESCRIPTION	POLE	AMP	CKT	
A	1	20	1	LIGHTING	412	4,450			RANGE		50	2	L
A	3	20	1	REC - SMALL APPLIANCE & REF			1,500	4,450		2		4	
A	5	20	1	REC - SMALL APPLIANCE	1,500	2,200			REC - DRYER		30	6	G
A	7	20	1	REC - DISHWASHER			804	2,200		2		8	
A	9	20	1	RANGE HOOD	168	1,500			REC - WASHER	1	20	10	AG
A	11	20	1	REC - BATHROOM			180		SPARE	1	20	12	A
A	13	20	1	REC - LIVING ROOM	1,260				SPARE	1	20	14	A
A	15	20	1	REC - BEDROOM 1			900		SPACE	1	-	16	
A	17	20	1	REC - BEDROOM 2	720				SPACE	1	-	18	
A	19	20	1	SMOKE & CO DETECTORS			50		SPACE	1	-	20	
	21	-	1	SPACE					SPACE	1	-	22	
	23	-	1	SPACE					SPACE	1	-	24	
	25	-	1	SPACE					SPACE	1	-	26	
	27	-	1	SPACE					SPACE	1	-	28	
	29	-	1	SPACE					SPACE	1	-	30	
CONNECTED LOAD (VA)					12,210		10,084		22,294 VA				
CONNECTED LOAD (AMPERES)					102		84		107 A				
DEMAND LOAD (VA) *					11,278		9,315		20,593 VA				
DEMAND LOAD (AMPERES) *					94		78		99 A				

A - PROVIDE ARC-FAULT TYPE CIRCUIT BREAKER, AG - PROVIDE ARC FAULT/GFCI COMBINATION TYPE CIRCUIT BREAKER, G - PROVIDE GFCI TYPE CIRCUIT BREAKER, L - PROVIDE LOCKABLE CIRCUIT BREAKER

* - SEE SINGLE UNIT WORST CASE DEMAND LOAD CALCULATION, E5.03

TYPICAL UNIT D PANEL

VOLTAGE: 120/208V,1PH,3W | AMPRERE RATING: 125 A
MOUNTING: SURFACE | MAIN CIRCUIT BREAKER RATING: MLO
SUPLIED FROM: SERVICE DISC. | SHORT CIRCUIT CURRENT RATING (SCCR): 10,000 A

	CKT	AMP	POLE	LOAD DESCRIPTION	PHASE A VA		PHASE B VA		LOAD DESCRIPTION	POLE	AMP	CKT	
A	1	20	1	LIGHTING	393	4,450			RANGE		50	2	L
A	3	20	1	REC - SMALL APPLIANCE & REF			1,500	4,450		2		4	
A	5	20	1	REC - SMALL APPLIANCE	1,500	2,200			REC - DRYER		30	6	G
A	7	20	1	REC - DISHWASHER			804	2,200		2		8	
A	9	20	1	RANGE HOOD	168	1,500			REC - WASHER	1	20	10	AG
A	11	20	1	REC - BATHROOM			180		SPARE	1	20	12	A
A	13	20	1	REC - LIVING ROOM	1,260				SPARE	1	20	14	A
A	15	20	1	REC - BEDROOM 1			900		SPACE	1	-	16	
A	17	20	1	REC - BEDROOM 2	1,080				SPACE	1	-	18	
A	19	20	1	SMOKE & CO DETECTORS					SPACE	1	-	20	
	21	-	1	SPACE					SPACE	1	-	22	
	23	-	1	SPACE					SPACE	1	-	24	
	25	-	1	SPACE					SPACE	1	-	26	
	27	-	1	SPACE					SPACE	1	-	28	
	29	-	1	SPACE					SPACE	1	-	30	
CONNECTED LOAD (VA)					12,551		10,034		22,585 VA				
CONNECTED LOAD (AMPERES)					105		84		109 A				
DEMAND LOAD (VA) *					11,444		9,149		20,593 VA				
DEMAND LOAD (AMPERES) *					95		76		99 A				

A - PROVIDE ARC-FAULT TYPE CIRCUIT BREAKER, AG - PROVIDE ARC FAULT/GFCI COMBINATION TYPE CIRCUIT BREAKER, G - PROVIDE GFCI TYPE CIRCUIT BREAKER, L - PROVIDE LOCKABLE CIRCUIT BREAKER

* - SEE SINGLE UNIT WORST CASE DEMAND LOAD CALCULATION, E5.03

EM LIGHTING INVERTER

VOLTAGE: 120/208V,1PH,3W | AMPRERE RATING: 20 A
MOUNTING: SURFACE | MAIN CIRCUIT BREAKER RATING: MLO
SUPPLIED FROM: PANEL GDP | SHORT CIRCUIT CURRENT RATING: 10,000 A

CKT	AMP	POLE	LOAD DESCRIPTION	PHASE A VA		PHASE B VA		LOAD DESCRIPTION	POLE	AMP	CKT
1	20	1	LTG - STAIRS, FIRST FLOOR EM	740				SPACE	1	-	2
3	20	1	LTG - SECOND & THIRD FLOOR EM			472		SPACE	1	-	4
CONNECTED LOAD (VA)				740		472		1,212 VA			
CONNECTED LOAD (AMPERES)				6		4		6 A			
DEMAND LOAD (VA)				740		472		1,212 VA			
DEMAND LOAD (AMPERES)				6		4		6 A			

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03/06/23
REGISTERED PROFESSIONAL ENGINEER

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WASILLA, ALASKA

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