ATKINSON QUADRANGLE QUAD A-F REROOF AND WINDOW REPLACEMENT - PPA 25-1407

CONSTRUCTION DOCUMENTS

953-999 S 6TH AVE, BOZEMAN, MT 59715

DRAWING INDEX

COVER COVER SHEET

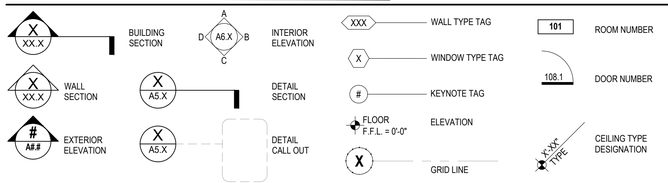
ARCHITECTURAL

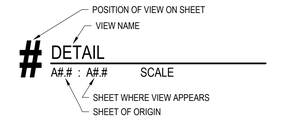
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EXPLANATION OF SYMBOLS





TYPICAL SHEET LAYOUT

1	2	3	4
5	6	7	8
9	10	11	12
13	14	15	16

ARCH D (24"x36")

DEFINITIONS

IN-KIND: NEW MATERIALS INDICATED TO MATCH IN-KIND SHALL REPLICATE EXACTLY, IN EVERY REGARD, THE ORIGINAL DETAIL, MATERIAL, TYPE, & FINISH OF ELEMENT TO BE REPLACED AS DETERMINED BY THE ARCHITECT.

TYPICAL (TYP.): AS USED IN THESE DOCUMENTS SHALL MEAN THE CONDITION IS THE SAME OR REPRESENTATIVE FOR ALL SIMILAR CONDITIONS UNLESS OTHERWISE NOTED.

ALIGN: TO ACCURATELY LOCATE FINISHED FACES IN THE SAME PLANE.

EQUAL / APPROVED EQUAL: ANY EQUIPMENT OR MATERIAL, APPROVED BY THE ARCHITECT, AS EQUAL IN THE SALIENT CHARACTERISTICS TO THE EQUIPMENT OR MATERIAL ORIGINALLY INDICATED, INCLUDING: QUALITY, DURABILITY, APPEARANCE, STRENGTH, DESIGN AND PERFORMANCE.

PROJECT SCOPE

THE FOLLOWING SUMMARIES OF WORK ARE ABBREVIATED IN NATURE. REFER TO THE FULL PACKAGE FOR ADDITIONAL DETAIL.

BASE BID:
EXTERIOR WORK CONSISTS OF REMOVAL AND REPLACEMENT OF ROOF FINISHES AND ACCESSORIES AT MAIN ROOFS AND REMOVAL AND REPLACEMENT OF WINDOWS AS INDICATED.

REMOVE (E) ROOF FINISHES AND ACCESSORIES TO SOLID STRUCTURE. INSPECT WOOD ROOF COMPONENTS, INCLUDING RAFTER TAILS AND RAKE AND EAVE TRIMS, FOR DETERIORATION. REMOVE AND DOCUMENT DETERIORATED COMPONENTS FOR IN-KIND REPLACEMENT IN NEW WORK. ASSUME 30% OF WOOD COMPONENTS REQUIRING REPLACEMENT FOR BIDDING PURPOSES. REMOVE PAINT FROM WOOD ROOF COMPONENTS USING THE GENTLEST MEANS POSSIBLE AND PREPARE FOR REFINISHING IN NEW WORK. PROVIDE (N) SHEATHING AND SUPPLEMENTAL NAILING, CLASS A CEDAR SHINGLE ROOF ASSEMBLY, AND ASSOCIATED FLASHINGS AND TRIMS AS INDICATED. PRIME AND PAINT (E) AND REPLACED WOOD ROOF COMPONENTS TO MATCH (E) FINISH IN-KIND.

REMOVE (E) WINDOWS AND ASSOCIATED COMPONENTS IN THEIR ENTIRETY WITH THE EXCEPTION OF (E) BUCKS. INSPECT BUCKS FOR DETERIORATION AND REPLACE ANY DETERIORATED BUCKS TO MATCH (E) IN-KIND. SALVAGE INTERIOR STOOL AND APRON FOR REFINISHING AND REUSE IN NEW WORK. PREPARE BUCKED OPENINGS FOR REPLACEMENT OF WINDOWS IN NEW WORK. PROVIDE (N) WOOD REPLACEMENT WINDOWS WITH INSECT SCREENS AS INDICATED.

INTERIOR WORK CONSISTS OF INCIDENTAL REPAIRS TO FINISHES RESULTANT FROM REMOVAL AND REPLACEMENT OF (E) WINDOWS INCLUDING REMOVAL, REFINISHING, AND REPLACEMENT OF STOOL AND APRON TRIMS AT LOCATIONS OF WINDOW REMOVAL AND SALVAGE AND REINSTALLATION OF WINDOW BLINDS. PAINTING OF ADJACENT WALLS WILL BE CARRIED OUT BY THE OWNER. PROTECT ADJACENT FINISHES AND COORDINATE ACCESS TO INTERIOR SPACES WITH OWNER.

STRUCTURAL WORK INCLUDES (N) SHEATHING AND FASTENING AT (E) ROOFS AND BRACING OF (E) CHIMNEYS AND PARAPETS.

NOTE: HAZARDOUS MATERIALS ARE SUSPECTED TO BE ENCOUNTERED IN THE WORK AREA, INCLUDING BUT NOT LIMITED TO ASBESTOS CONTAINING ROOF SHINGLES, ASBESTOS CONTAINING GLAZING COMPOUNDS, AND LEAD PAINT. HAZARDOUS MATERIALS TESTING, HANDLING, REMOVAL, ABATEMENT, TRANSPORT, AND DISPOSAL SHALL BE PERFORMED BY LICENSED AND QUALIFIED PERSONNEL.

ALTERNATE 1:
PROVIDE ROOF TO WALL CONNECTIONS AT INTERIOR ATTIC SPACES PER STRUCTURAL.

ALTERNATE 2:
REFINISH EXTERIOR DOORS.

ALTERNATE 3:
REPLACE EXISTING EXTERIOR DOORS IN-KIND. INCLUSIVE OF ELECTRIFIED MORTISE LOCK, SFIC MORTISE HOUSING AND CYLINDER THAT ACCEPTS MEDECO 7-PIN X4 CORES, INCLUSIVE OF REFINISHING EXTERIOR TRIM AND INTERIOR TRIM AS NEEDED. INCLUSIVE OF POWER TRANSFER: 18 WIRING RUNS ON THE HINGE SIDE OF THE DOOR POWERED THROUGH A VON DUPRIN EPT-10 POWER TRANSFER. PROTECT AND SALVAGE ANY EXISTING WIRING AT THE EXTERIOR DOORS FOR FUTURE CONNECTIONS.

ARCHITECTURAL ABBREVIATIONS

AB	ANCHOR BOLT
ABV	ABOVE
A/C	AIR CONDITIONING
ACT	ACOUSTIC CEILING TILE
ADDL	ADDITIONAL
ADJ	ADJUSTABLE
AFF	ABOVE FINISH FLOOR
ALT	ALTERNATE
ALUM	ALUMINUM
ARCH	ARCHITECT(URAL)
AWN	AWNING
B/	BOTTOM OF
BD	BOARD
BLDG	BUILDING
BLKG	BLOCKING
BM	BEAM OR BENCHMARK
BRG	BEARING
BTWN	BETWEEN
BUR	BUILT-UP ROOF
CAB	CABINET
CJ	CONTROL JOINT
CL	CENTERLINE
CLG	CEILING
CMU	CONCRETE MASONRY UNIT
CO	CLEAN OUT
COL	COLUMN
CONC	CONCRETE
CONT	CONTINUOUS
CONST	CONSTRUCTION
CG	CORNERGUARD
CPT	CARPET
CSMT	CASEMENT
CT	CERAMIC TILE
CTOP	COUNTERTOP
D	DEEP
DF	DRINKING FOUNTAIN
DH	DOUBLE HUNG
DIM(S)	DIMENSIONS
DISP	DISPENSER
DN	DOWN
DR	DOOR
DS	DOWNSPOUT
DTL	DETAIL
DWG	DRAWING
E	EAST
(E)	EXISTING
EA	EACH
EC	EXISTING COLUMN
EJ	EXPANSION JOINT
ELEC	ELECTRICAL
EL	ELEVATION
ELEV	ELEVATOR
EQ	EQUAL
EQUIP	EQUIPMENT
EWC	ELECTRIC WATER COOLER
EXH	EXHAUST
EXIST	EXISTING
EXP	EXPANSION OR EXPOSED
EXT	EXTERIOR
FACP	FIRE ALARM CONTROL PANEL
FD	FLOOR DRAIN
FE	FIRE EXTINGUISHER
FEC	FIRE EXTINGUISHER CABINET
FFL	FINISH FLOOR LEVEL
FIN	FINISH
FIXT	FIXTURE
FLR	FLOOR
FND	FOUNDATION
FR	FRAME
FRMG	FRAMING
FT	FEET/FOOT OR FIRE TREATED
FTNG	FOOTING
FRP	FIBERGLASS REINFORCED PANEL
GA	GAUGE OR GAGE
GALV	GALVANIZED
GB	GYPSUM BOARD
GC	GENERAL CONTRACTOR
GL	GLASS, GLAZING
GWB	GYPSUM WALL BOARD
GYP	GYPSUM
HC	HANDICAP
HDR	HEADER
HDW	HARDWARE
HM	HOLLOW METAL
HORIZ	HORIZONTAL
HR	HOUR
HT	HEIGHT
HTD	HEATED
HVAC	HEATING/VENTILATION & AIR CONDITIONING
ID	INSIDE DIAMETER
INFO	INFORMATION
ISO	ISOCYANURATE
INSUL	INSULATE/ INSULATION
INT	INTERIOR
INV	INVERT
JT	JOINT
J-BOX	JUNCTION BOX
KIT	KITCHEN
L	LONG/ LENGTH
LAM	LAMINATE(D)
LAV	LAVATORY
LF	LINEAR FEET
LT	LIGHT
MAS	MASONRY
MATL	MATERIAL
MAX	MAXIMUM
MECH	MECHANICAL
MEZZ	MEZZANINE
MFR	MANUFACTURER
MH	MANHOLE
MIN	MINIMUM
MISC	MISCELLANEOUS
MO	MASONRY OPENING
MTL	METAL
N	NORTH
(N)	NEW
NIC	NOT IN CONTRACT
NOM	NOMINAL
NTS	NOT TO SCALE
OC	ON CENTER
OD	OUTSIDE DIAMETER OR OVERFLOW DRAIN
OPNG	OPENING
OPP	OPPOSITE
OSB	ORIENTED STRAND BOARD
OVHD	OVERHEAD
PL	PLATE
PLAM	PLASTIC LAMINATE
PLUMB	PLUMBING
PLYWD	PLYWOOD
PNL	PANEL
PNT	PAINT
POLY	POLYESTER OR POLYOLEFIN
PSF	POUNDS PER SQUARE FOOT
PSI	POUND PER SQUARE INCH
PT	PRESSURE TREATED OR POINT
PVMT	PAVEMENT
PVT	PRIVATE
QT	QUARRY TILE
QTR	QUARTER
QTY	QUANTITY
R	RADIUS
RA	RETURN AIR
RB	RUBBER BASE
RD	ROOF DRAIN
RECY	RECYCLE(D)
REF	REFERENCE
REFRIG	REFRIGERATOR
REINF	REINFORCE(D)
REQD	REQUIRED
RM	ROOM
RO	ROUGH OPENING
ROW	RIGHT OF WAY
RR	RESTROOM
S	SOUTH
SC	SOLID CORE
SCHED	SCHEDULE
SECT	SECTION
SF	SQUARE FEET
SFRM	SPRAY-APPLIED FIRE RESISTANT MATERIAL
SGL	SINGLE
SHT	SHEET
SHTG	SHEATHING
SIM	SIMILAR
SPECS	SPECIFICATIONS
SOD	SLAB ON DECK
SOG	SLAB ON GRADE
SOH	SAME OPPOSITE HAND
SS	STAINLESS STEEL
ST	STONE TILE
STND	STANDARD
STL	STEEL
STRUCT	STRUCTURAL
TEL	TELEPHONE
TEMP	TEMPERED
THK	THICK
THRESH	THRESHOLD
T.A.	TOP OF
TOBM	TOP OF BEAM
T.A.P.	TOP OF PLATE
T.O.S	TOP OF STEEL
T/	TOP OF
T&G	TONGUE AND GROOVE
TRANS	TRANSOM
TV	TELEVISION
TYP	TYPICAL
UL	UNDERWRITER'S LABORATORY
UNO	UNLESS NOTED OTHERWISE
VB	VINYL BASE
VCT	VINYL COMPOSITION TILE
VERT	VERTICAL
VEST	VESTIBULE
VIF	VERIFY IN FIELD
VP	VENEER PLASTER
VR	VAPOR RETARDER
VRF	VARIABLE REFRIGERANT FLOW
VT	VINYL TILE
VWC	VINYL WALL TILE
W	WIDE OR WEST
W/	WITH
WC	WATER CLOSET
WD	WOOD
WDW	WINDOW
WG	WALL GUARD
WH	WATER HEATER
W/IN	WITHIN
W/O	WITHOUT
WP	WATERPROOF
WR	WATER RESISTANT
WT	WEIGHT
WWF	WELDED WIRE FABRIC
#	NUMBER OR POUND
@	AT

PROJECT TEAM

OWNER

MONTANA STATE UNIVERSITY
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ARCHITECT

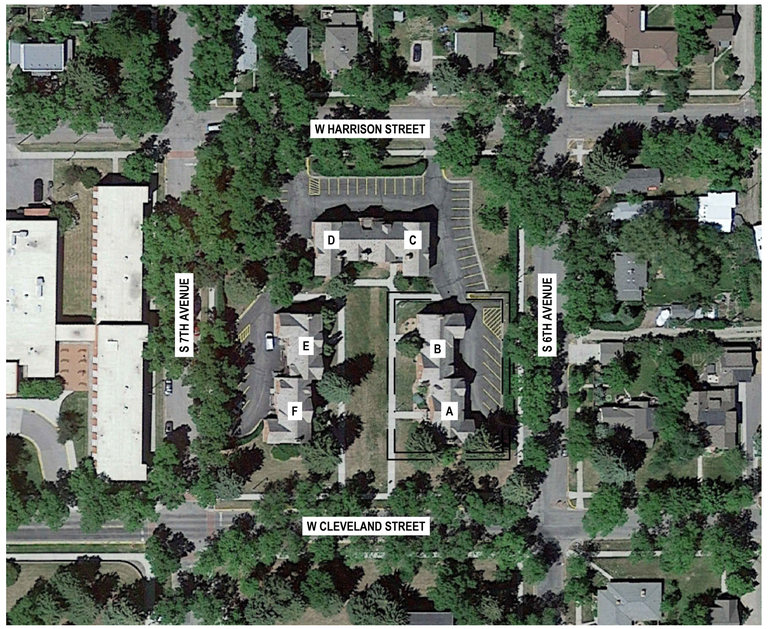
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406.556.8600



VICINITY PLAN



GOOGLE EARTH, 2024

64 0 64 128
SCALE OF FEET

1/64" = 1'-0"

NORTH

STATE OF MONTANA
BILLINGS
DUSTIN W. EATON
3360
MONTANA
LICENSED ARCHITECT

sheet COVER SHEET
project ATKINSON QUADRANGLE REROOF AND WINDOW REPLACEMENT
PPA 25-1407
owner MONTANA STATE UNIVERSITY

project # 23123.10

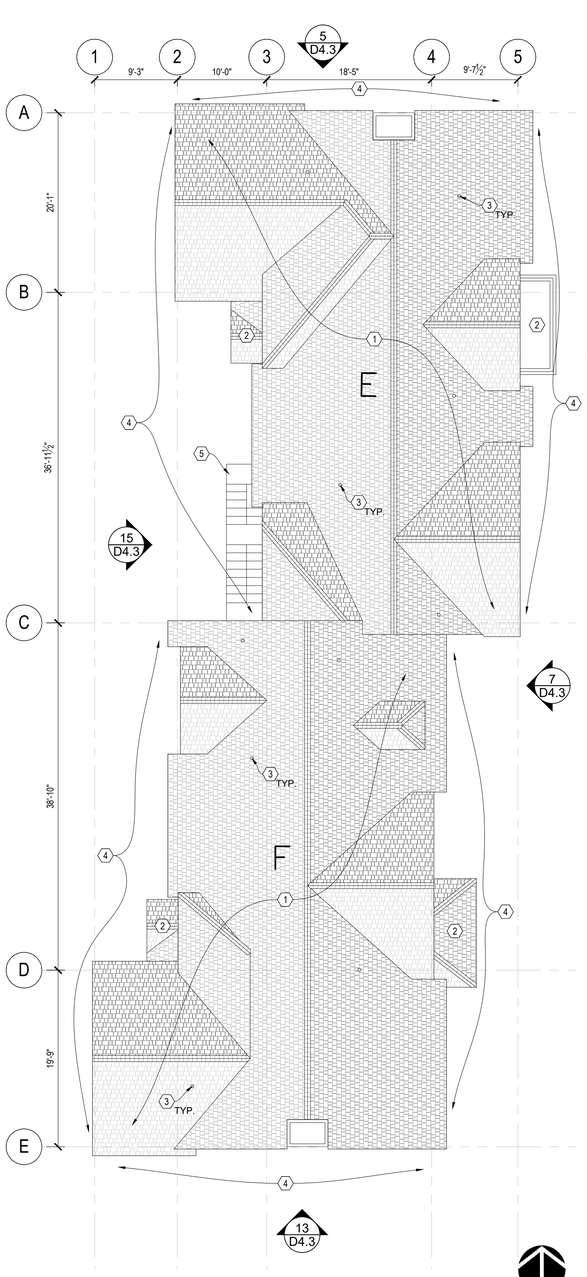
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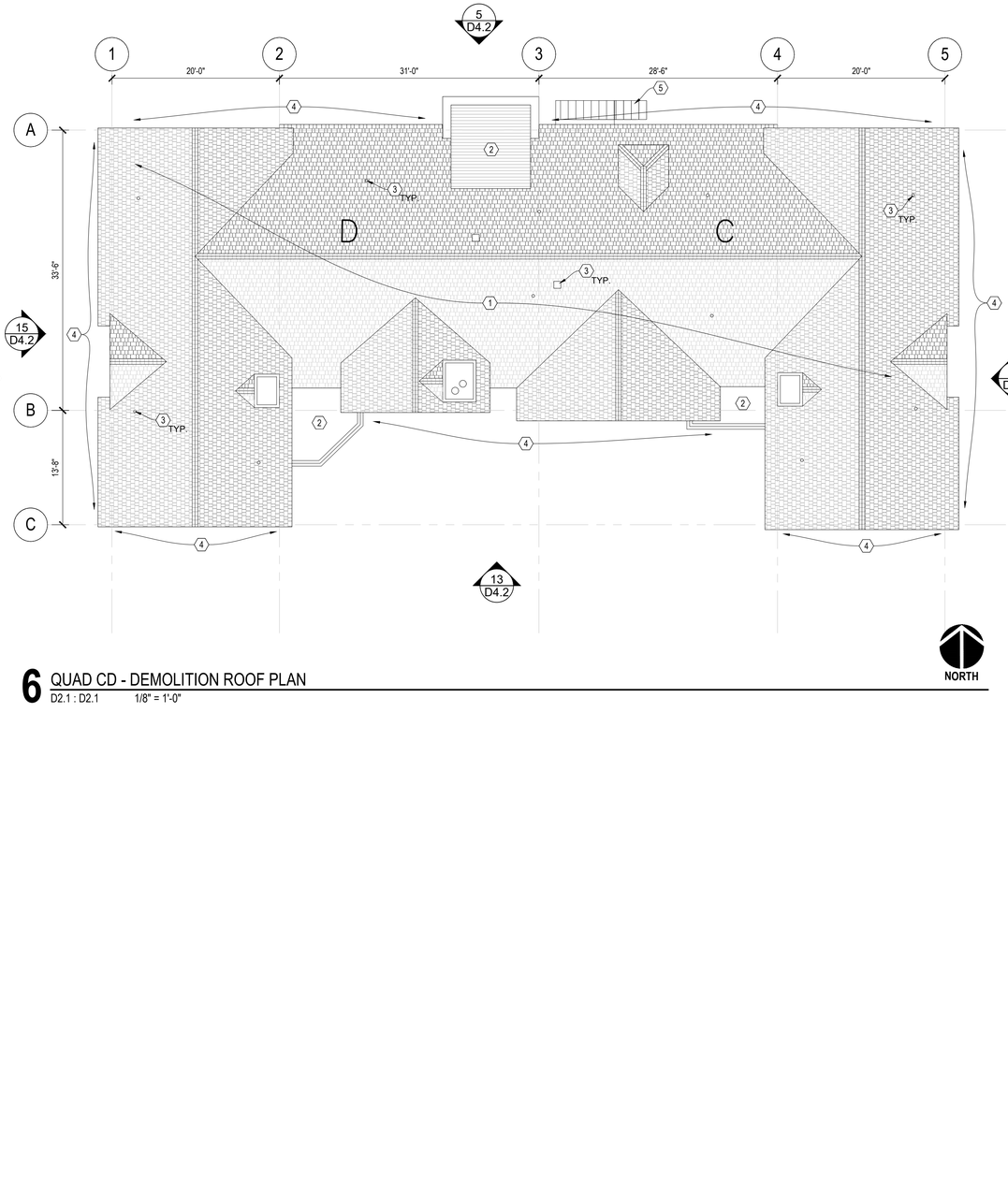
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11.2.2026

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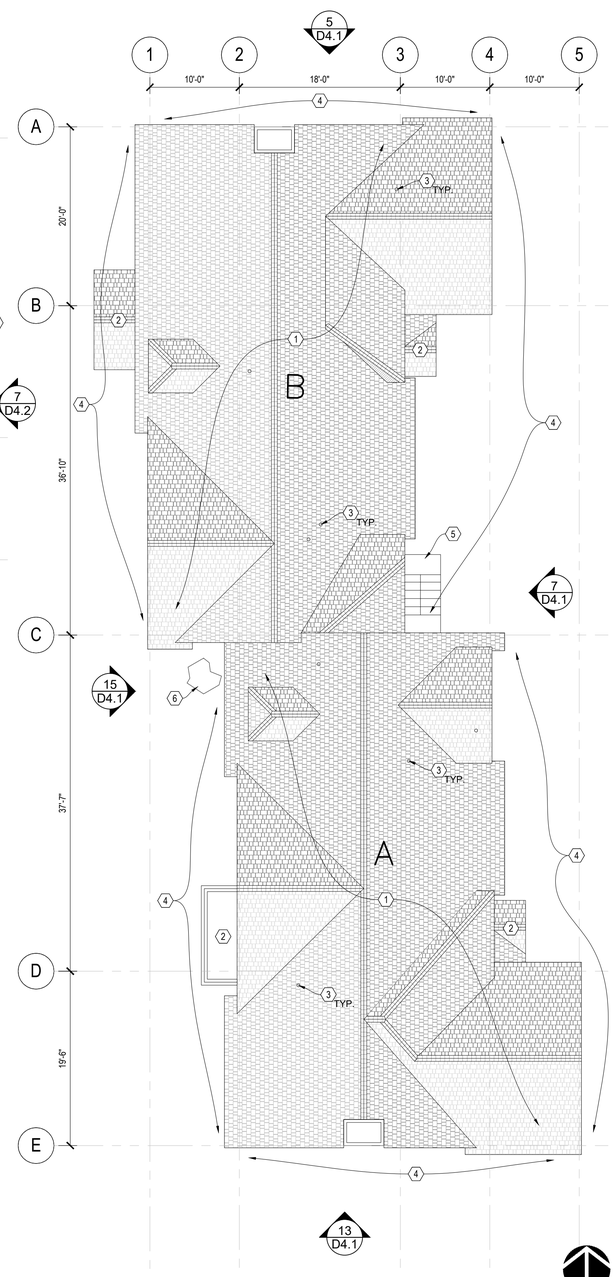
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9 QUAD EF - DEMOLITION ROOF PLAN
D2.1 : D2.1 1/8" = 1'-0"



6 QUAD CD - DEMOLITION ROOF PLAN
D2.1 : D2.1 1/8" = 1'-0"



12 QUAD AB - DEMOLITION ROOF PLAN
D2.1 : D2.1 1/8" = 1'-0"

NORTH

KEYNOTES

1	REMOVE (E) ROOF FINISHES AND ACCESSORIES TO SOLID STRUCTURE. REMOVE ANY DETERIORATED PLANK SHEATHING FOR REPLACEMENT IN NEW WORK.
2	NO WORK AT THIS ROOF, PROTECT IN-PLACE.
3	REMOVE FLASHING AT (E) PENETRATION, PROTECT IN-PLACE.
4	INSPECT WOOD ROOF COMPONENTS, INCLUDING RAFTER TAILS AND RAKE AND EAVE TRIMS, FOR DETERIORATION. REMOVE AND DOCUMENT DETERIORATED COMPONENTS FOR IN-KIND REPLACEMENT IN NEW WORK. ASSUME 30% OF WOOD COMPONENTS REQUIRING REPLACEMENT FOR BIDDING PURPOSES. REMOVE PAINT FROM WOOD ROOF COMPONENTS USING THE GENTLEST MEANS POSSIBLE AND PREPARE FOR REFINISHING IN NEW WORK.
5	NO WORK AT (E) FIRE ESCAPE, PROTECT IN-PLACE.
6	PROTECT (E) SCULPTURE IN-PLACE.

GENERAL NOTES

1. FIELD VERIFY DIMENSIONS. DO NOT SCALE DRAWINGS. NOTIFY ARCHITECT OF ANY DISCREPANCIES PRIOR TO COMMENCING WORK.
2. REFER TO ALL DRAWINGS FOR ADDITIONAL INFORMATION.
3. SEE COVER FOR DESCRIPTION OF BASE BID AND ALTERNATES.
4. PROTECT (E) BUILDING FINISHES AND LANDSCAPING FROM DAMAGE DURING WORK. REPAIR DAMAGED CONDITION TO THE SATISFACTION OF THE OWNER.
5. NOTE THE EXISTENCE OF TUNNELS BELOW THE SHARED COURTYARD. OPERATION OF HEAVY MACHINERY THAT MAY DAMAGE THESE TUNNELS IS PROHIBITED.
6. PROVIDE TEMPORARY PROTECTION TO WINDOW OPENINGS FOLLOWING REMOVAL TO ENSURE WEATHERTIGHTNESS AND BUILDING SECURITY.

8 0 8 16
SCALE OF FEET 1/8" = 1'-0"

STATE OF MONTANA
BILLINGS
DUSTIN W. EATON
2360
LICENSED ARCHITECT
MONTANA

sheet DEMOLITION ROOF PLANS
project ATKINSON QUADRANGLE REROOF AND WINDOW REPLACEMENT
PPA 25-1407
owner MONTANA STATE UNIVERSITY

project # 23123.10

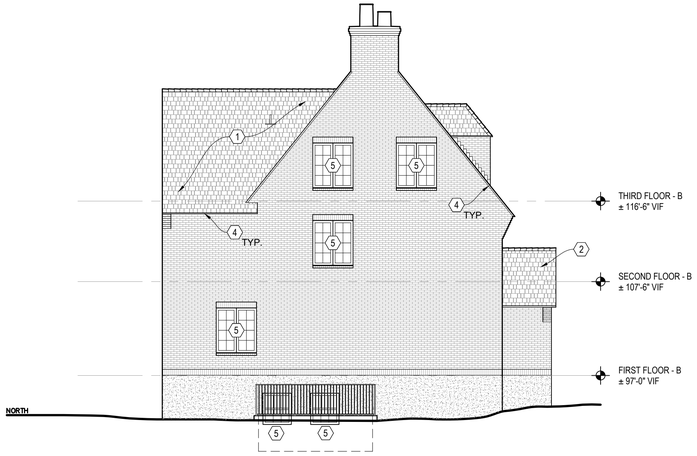
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CONSTRUCTION DOCUMENTS

issue date
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D2.1

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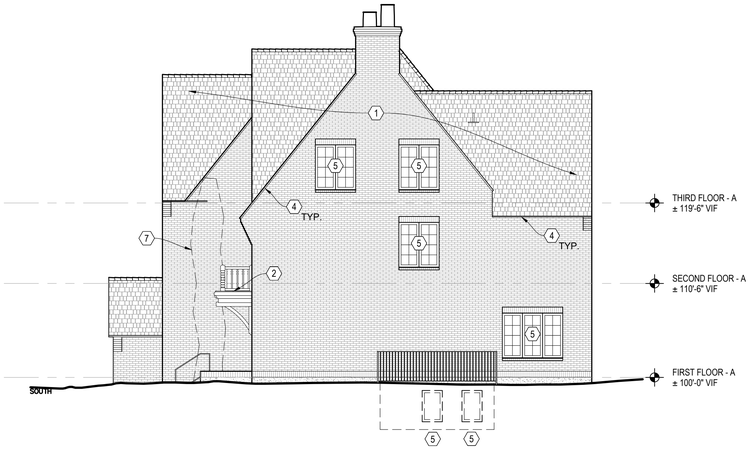
5 QUAD AB - NORTH DEMOLITION ELEVATION

D2.1 : D4.1 1/8" = 1'-0"



7 QUAD AB - EAST DEMOLITION ELEVATION

D2.1 : D4.1 1/8" = 1'-0"



13 QUAD AB - SOUTH DEMOLITION ELEVATION

D2.1 : D4.1 1/8" = 1'-0"



15 QUAD AB - WEST DEMOLITION ELEVATION

D2.1 : D4.1 1/8" = 1'-0"

KEYNOTES

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6	NO WORK AT (E) FIRE ESCAPE, PROTECT IN-PLACE.
7	PROTECT (E) SCULPTURE IN-PLACE.
8	REMOVE AND SALVAGE (E) DOOR. PREP FOR ALTERNATE 2 OR 3.

GENERAL NOTES

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3. SEE COVER FOR DESCRIPTION OF BASE BID AND ALTERNATES.
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8 0 8 16
SCALE OF FEET
1/8" = 1'-0"

STATE OF MONTANA
BILLINGS
DUSTIN W. EATON
2360
MONTANA
LICENSED ARCHITECT

sheet DEMOLITION ELEVATIONS - QUAD AB

project ATKINSON QUADRANGLE REROOF AND WINDOW REPLACEMENT
PPA 25-1407

owner MONTANA STATE UNIVERSITY

project # 23123.10

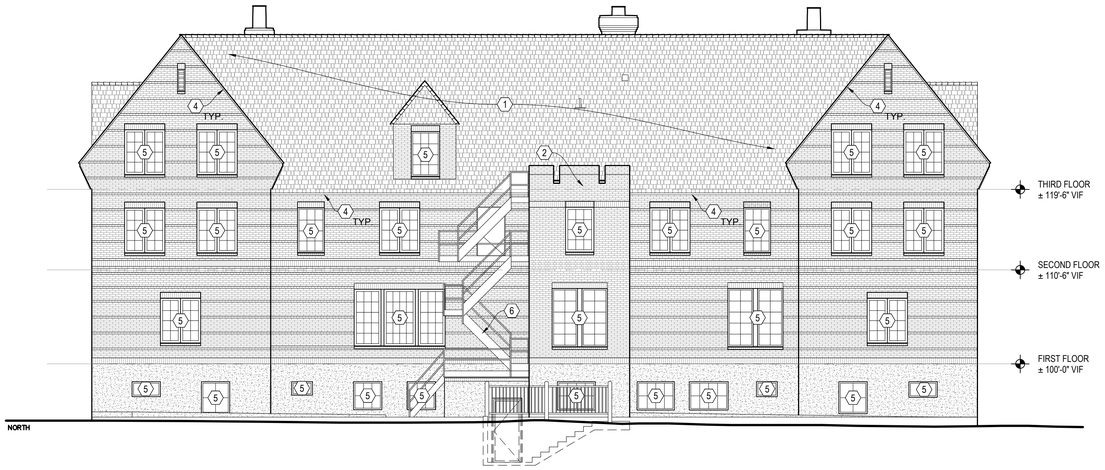
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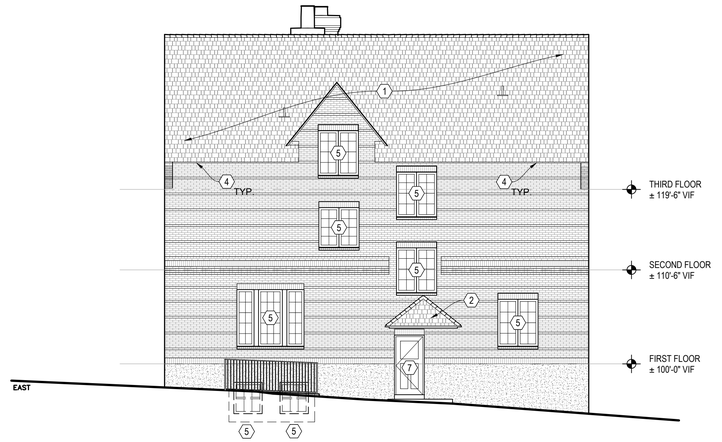
D4.1

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5 QUAD CD - NORTH DEMOLITION ELEVATION

D2.1 : D4.2 1/8" = 1'-0"



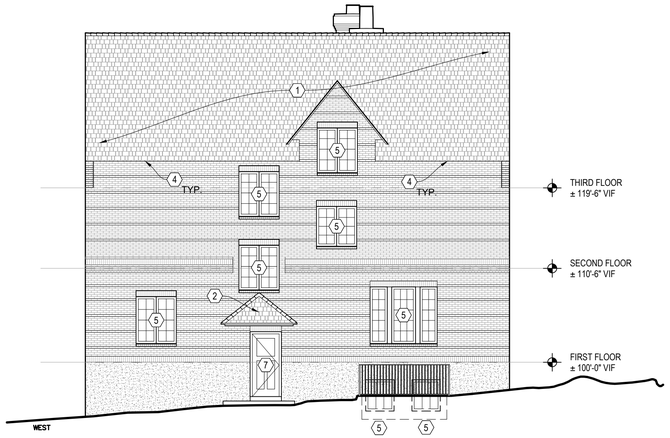
7 QUAD CD - EAST DEMOLITION ELEVATION

D2.1 : D4.2 1/8" = 1'-0"



13 QUAD CD - SOUTH DEMOLITION ELEVATION

D2.1 : D4.2 1/8" = 1'-0"



15 QUAD CD - WEST DEMOLITION ELEVATION

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8 0 8 16

SCALE OF FEET

1/8" = 1'-0"

STATE OF MONTANA
BILLINGS
DUSTIN W. EATON
2360
MONTANA
LICENSED ARCHITECT

sheet DEMOLITION ELEVATIONS - QUAD CD

project ATKINSON QUADRANGLE REROOF AND WINDOW REPLACEMENT
PPA 25-1407

owner MONTANA STATE UNIVERSITY

project # 23123.10

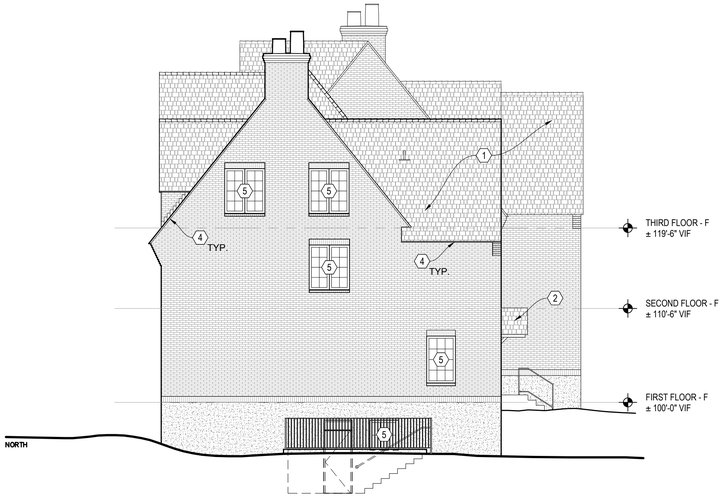
revision date

phase
CONSTRUCTION DOCUMENTS

issue date
11.2.2026

D4.2

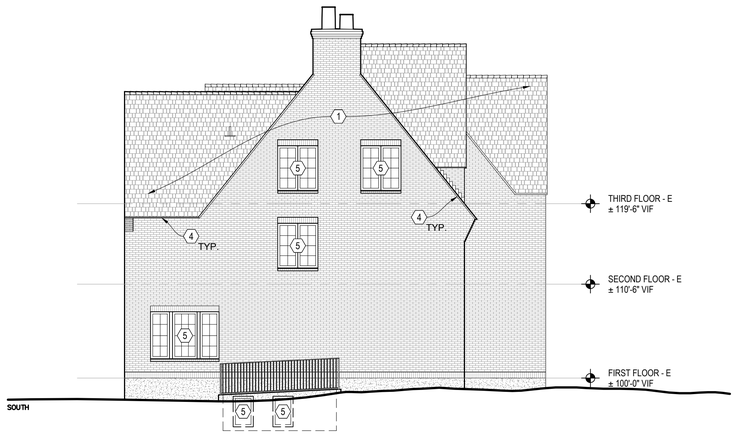
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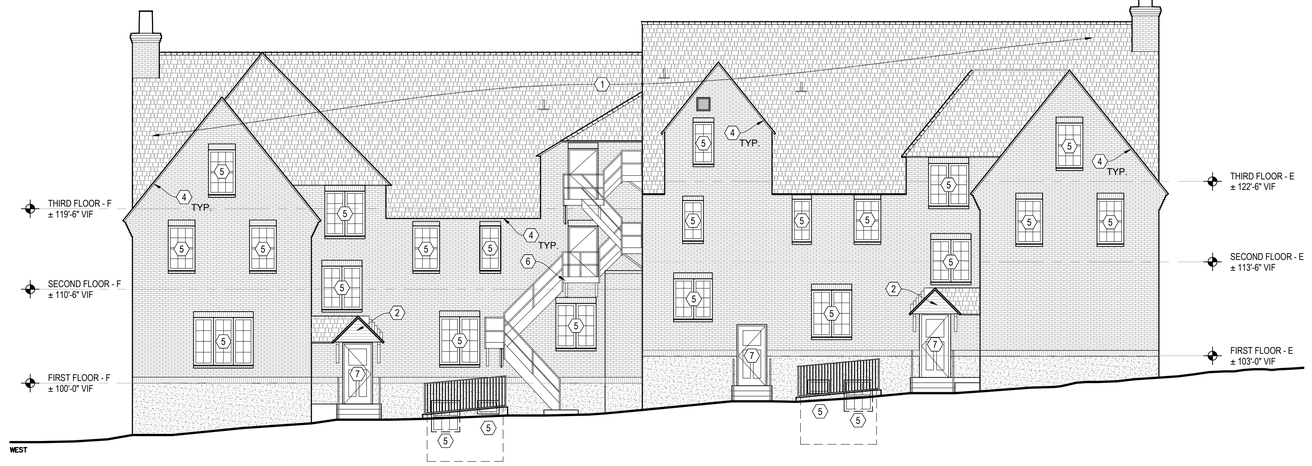
5 QUAD EF - NORTH DEMOLITION ELEVATION
D2.1 : D4.3 1/8" = 1'-0"



7 QUAD EF - EAST DEMOLITION ELEVATION
D2.1 : D4.3 1/8" = 1'-0"



13 QUAD EF - SOUTH DEMOLITION ELEVATION
D2.1 : D4.3 1/8" = 1'-0"



15 QUAD EF - WEST DEMOLITION ELEVATION
D2.1 : D4.3 1/8" = 1'-0"

#	KEYNOTES
1	REMOVE (E) ROOF FINISHES AND ACCESSORIES TO SOLID STRUCTURE. REMOVE ANY DETERIORATED PLANK SHEATHING FOR REPLACEMENT IN NEW WORK.
2	NO WORK AT THIS ROOF, PROTECT IN-PLACE.
3	REMOVE FLASHING AT (E) PENETRATION, PROTECT IN-PLACE.
4	INSPECT WOOD ROOF COMPONENTS, INCLUDING RAFTER TAILS AND RAKE AND EAVE TRIMS, FOR DETERIORATION. REMOVE AND DOCUMENT DETERIORATED COMPONENTS FOR IN-KIND REPLACEMENT IN NEW WORK. ASSUME 30% OF WOOD COMPONENTS REQUIRING REPLACEMENT FOR BIDDING PURPOSES. REMOVE PAINT FROM WOOD ROOF COMPONENTS USING THE GENTLEST MEANS POSSIBLE AND PREPARE FOR REFINISHING IN NEW WORK.
5	REMOVE (E) WINDOWS AND ASSOCIATED COMPONENTS IN THEIR ENTIRETY WITH THE EXCEPTION OF (E) BUCKS. INSPECT BUCKS FOR DETERIORATION AND REPLACE ANY DETERIORATED BUCKS WITH PT BUCK TO MATCH (E) IN-KIND. SALVAGE (E) INTERIOR STOOLS AND APRONS AND HARDWARE INCLUDING SASH LIFTS AND LOCKS FOR REFINISHING AND REUSE IN NEW WORK. DOCUMENT INTERIOR PAINT FINISH AT EACH WINDOW/TRIMS FOR MATCHING IN-KIND IN NEW WORK. REMOVE (E) BLINDS. PREPARE BUCKED OPENINGS FOR REPLACEMENT OF WINDOWS IN NEW WORK. PROTECT ADJACENT FINISHES AND COORDINATE ACCESS TO INTERIOR SPACES WITH OWNER.
6	NO WORK AT (E) FIRE ESCAPE, PROTECT IN-PLACE.
7	REMOVE AND SALVAGE (E) DOOR. PREP FOR ALTERNATE 2 OR 3.

GENERAL NOTES

1. FIELD VERIFY DIMENSIONS. DO NOT SCALE DRAWINGS. NOTIFY ARCHITECT OF ANY DISCREPANCIES PRIOR TO COMMENCING WORK.
2. REFER TO ALL DRAWINGS FOR ADDITIONAL INFORMATION.
3. SEE COVER FOR DESCRIPTION OF BASE BID AND ALTERNATES.
4. PROTECT (E) BUILDING FINISHES AND LANDSCAPING FROM DAMAGE DURING WORK. REPAIR DAMAGED CONDITION TO THE SATISFACTION OF THE OWNER.
5. NOTE THE EXISTENCE OF TUNNELS BELOW THE SHARED COURTYARD. OPERATION OF HEAVY MACHINERY THAT MAY DAMAGE THESE TUNNELS IS PROHIBITED.
6. PROVIDE TEMPORARY PROTECTION TO WINDOW OPENINGS FOLLOWING REMOVAL TO ENSURE WEATHERTIGHTNESS AND BUILDING SECURITY.

8 0 8 16
SCALE OF FEET 1/8" = 1'-0"

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sheet DEMOLITION ELEVATIONS - QUAD EF
project ATKINSON QUADRANGLE REROOF AND WINDOW REPLACEMENT
PPA 25-1407
owner MONTANA STATE UNIVERSITY

project # 23123.10

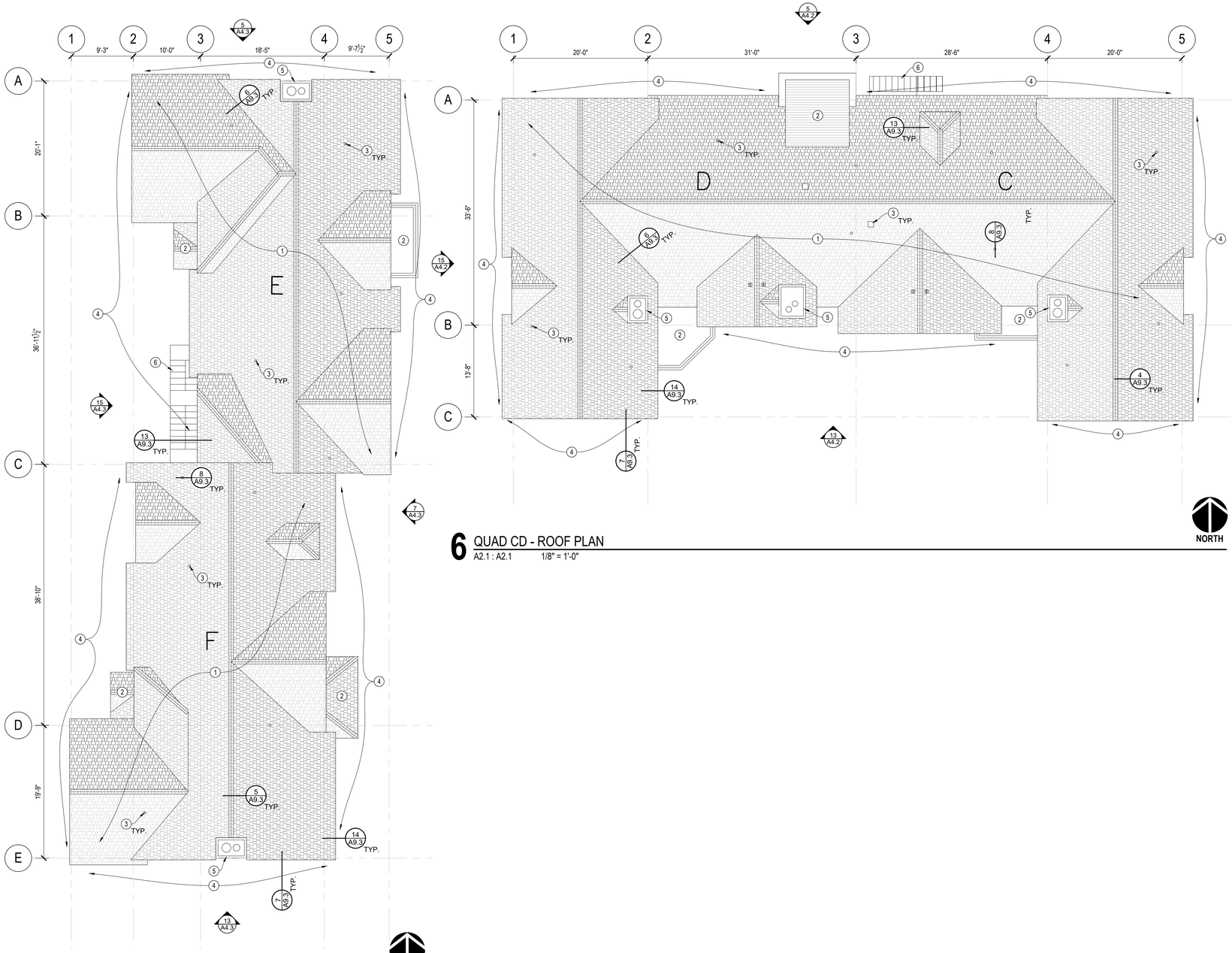
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phase
CONSTRUCTION DOCUMENTS

issue date
11.2.2026

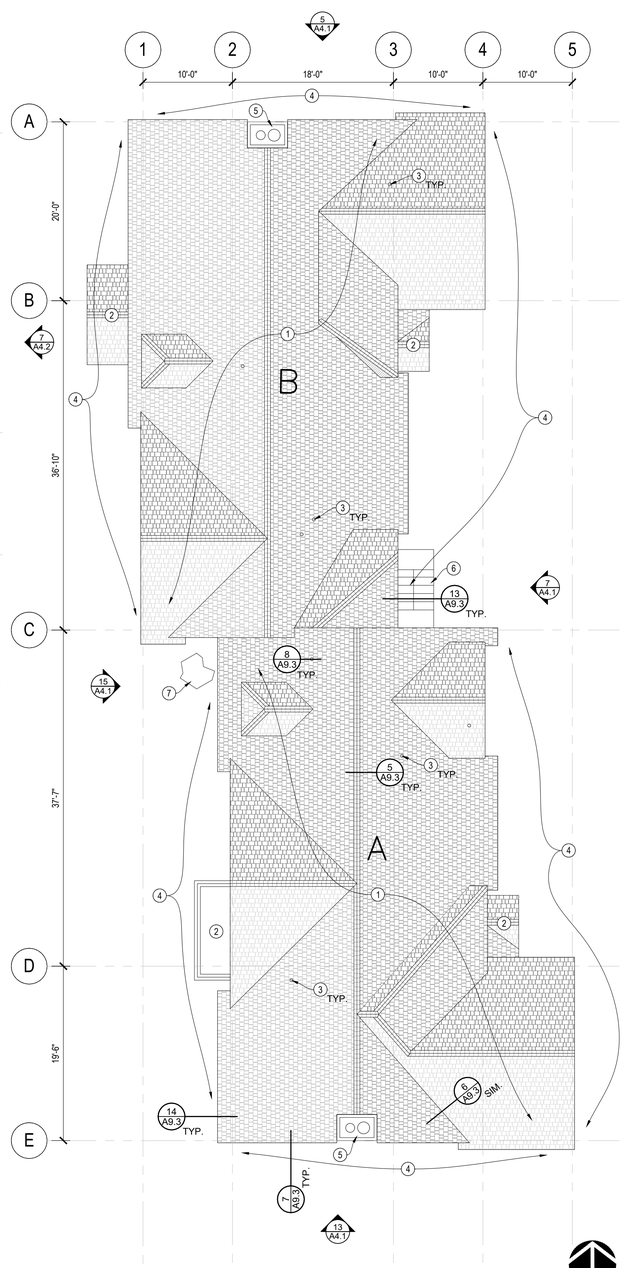
D4.3

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6 QUAD CD - ROOF PLAN
A2.1 : A2.1 1/8" = 1'-0"

9 QUAD EF - ROOF PLAN
A2.1 : A2.1 1/8" = 1'-0"



12 QUAD AB - ROOF PLAN
A2.1 : A2.1 1/8" = 1'-0"

KEYNOTES

1	PROVIDE (N) PLANK SHEATHING AT ANY AREAS OF REMOVAL. (N) SHEATHING AND FASTENING PER STRUCTURAL. CLASS A CEDAR SHINGLE ROOF ASSEMBLY, AND ASSOCIATED FLASHINGS AND ACCESSORIES.
2	NO WORK AT THIS ROOF, PROTECT IN-PLACE.
3	PROVIDE (N) FLASHING AT (E) PENETRATION, SEE 8/A9.3.
4	REPLACE DETERIORATED WOOD ROOF COMPONENTS, INCLUDING RAFTER TAILS AND RAKE AND EAVE TRIMS, IN-KIND. PRIME AND PAINT (N) AND (E) WOOD ROOF COMPONENTS, AND OTHER WOOD ROOF COMPONENTS TO MATCH (E) CONDITION IN-KIND, TYP.
5	BRACE CHIMNEY PER STRUCTURAL.
6	NO WORK AT (E) FIRE ESCAPE, PROTECT IN-PLACE.
7	PROTECT (E) SCULPTURE IN-PLACE.

GENERAL NOTES

1. FIELD VERIFY DIMENSIONS. DO NOT SCALE DRAWINGS. NOTIFY ARCHITECT OF ANY DISCREPANCIES PRIOR TO COMMENCING WORK.
2. REFER TO ALL DRAWINGS FOR ADDITIONAL INFORMATION.
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8 0 8 16
SCALE OF FEET
1/8" = 1'-0"

STATE OF MONTANA
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LICENSED ARCHITECT

sheet ROOF PLANS
project ATKINSON QUADRANGLE REROOF AND WINDOW REPLACEMENT
PPA 25-1407
owner MONTANA STATE UNIVERSITY

project # 23123.10

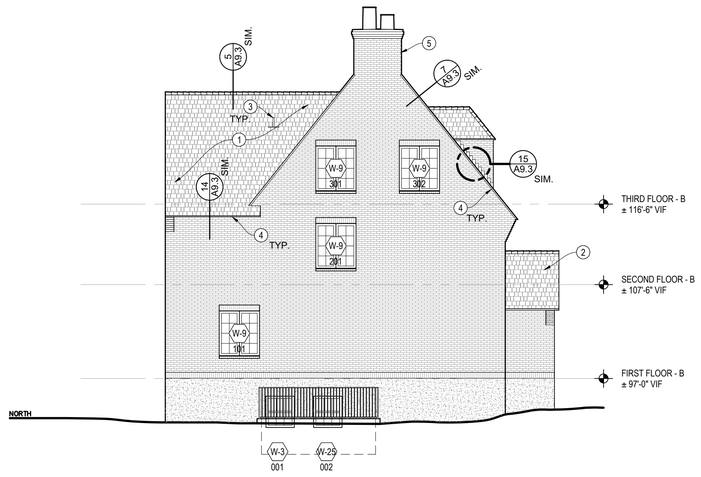
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phase
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11.2.2026

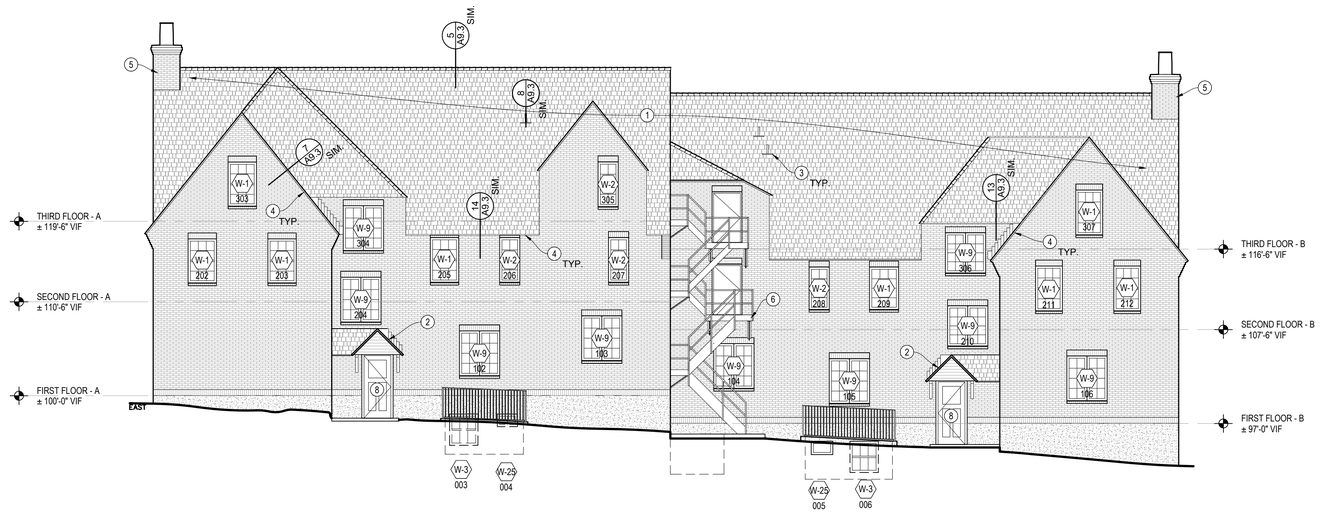
A2.1

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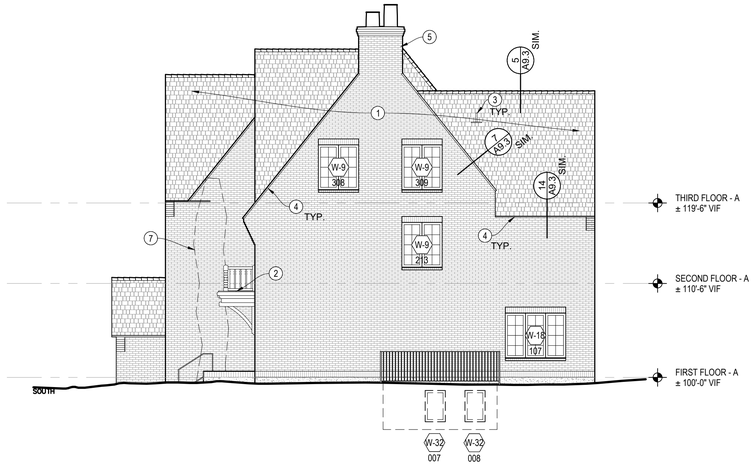
5 QUAD AB - NORTH ELEVATION

A2.1 : A4.1 1/8" = 1'-0"



7 QUAD AB - EAST ELEVATION

A2.1 : A4.1 1/8" = 1'-0"



13 QUAD AB - SOUTH ELEVATION

A2.1 : A4.1 1/8" = 1'-0"



15 QUAD AB - WEST ELEVATION

A2.1 : A4.1 1/8" = 1'-0"

GENERAL WINDOW REPLACEMENT NOTE: PROVIDE (N) WOOD REPLACEMENT WINDOWS WITH INSECT SCREENS AS INDICATED IN WINDOW SCHEDULE. REINSTALL SALVAGED AND REFINISHED STOOL AND APRON AND WINDOW HARDWARE AT LOCATIONS OF WINDOW REPLACEMENT. COORDINATE FINISH OF WINDOW AND TRIMS WITH (E) CONDITIONS DOCUMENTED DURING REMOVAL. INSTALL (N) BLINDS AT EACH WINDOW. PROTECT ADJACENT FINISHES AND COORDINATE ACCESS TO INTERIOR SPACES WITH OWNER.

KEYNOTES

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5	BRACE CHIMNEY PER STRUCTURAL.
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GENERAL NOTES

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8 0 8 16 1/8" = 1'-0"

SCALE OF FEET

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BILLINGS
DUSTIN W. EATON
2360
MONTANA
LICENSED ARCHITECT

sheet ELEVATIONS - QUAD AB

project ATKINSON QUADRANGLE REROOF AND WINDOW REPLACEMENT
PPA 25-1407

owner MONTANA STATE UNIVERSITY

project # 23123.10

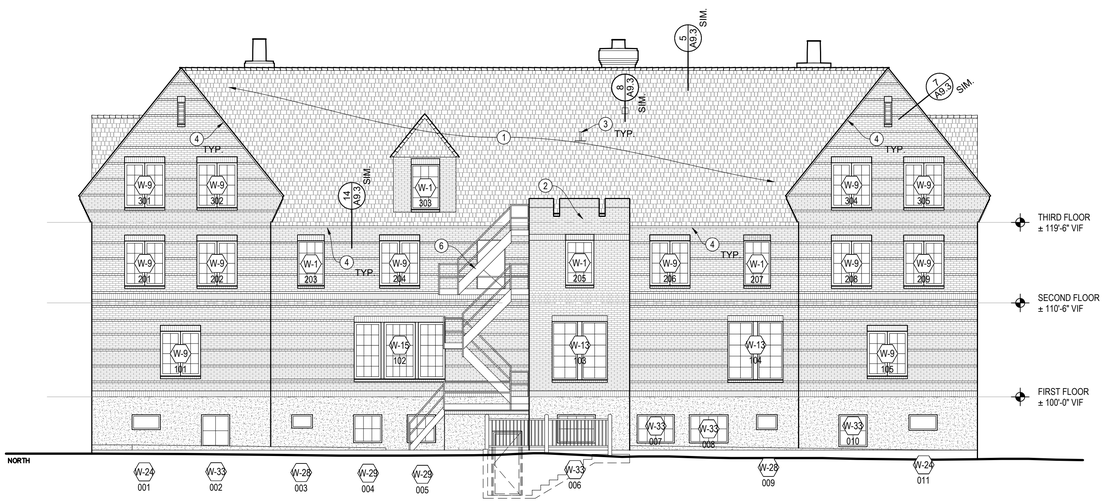
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phase
CONSTRUCTION DOCUMENTS

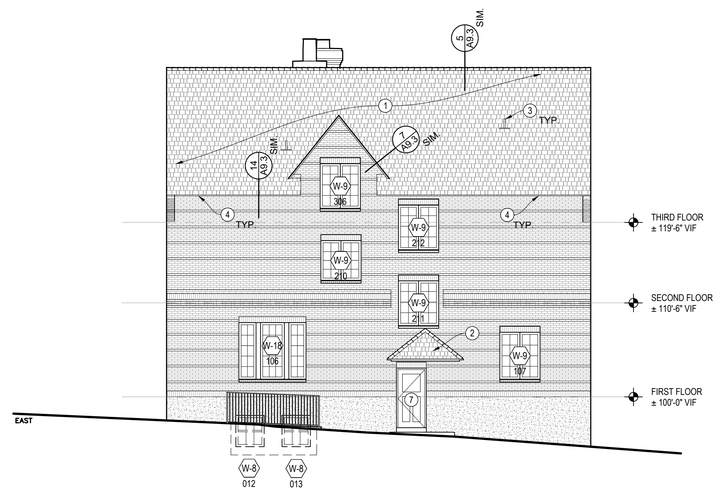
issue date
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A4.1

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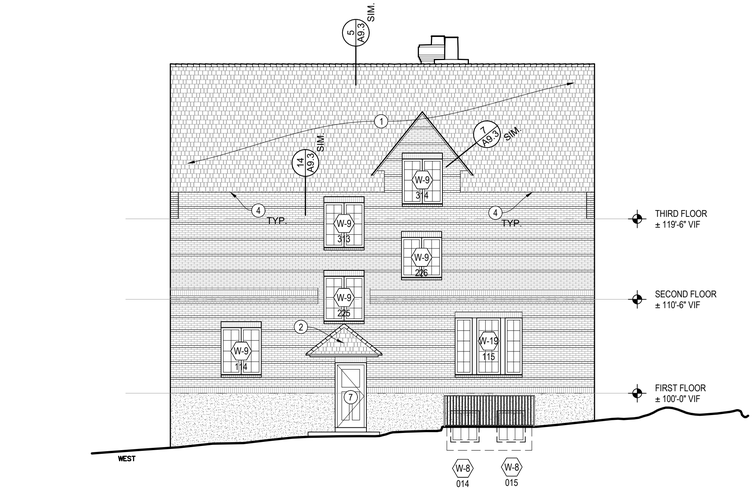
5 QUAD CD - NORTH ELEVATION
A2.1 : A4.2 1/8" = 1'-0"



7 QUAD CD - EAST ELEVATION
A2.1 : A4.2 1/8" = 1'-0"



13 QUAD CD - SOUTH ELEVATION
A2.1 : A4.2 1/8" = 1'-0"



15 QUAD CD - WEST ELEVATION
A2.1 : A4.2 1/8" = 1'-0"

GENERAL WINDOW REPLACEMENT NOTE: PROVIDE (N) WOOD REPLACEMENT WINDOWS WITH INSECT SCREENS AS INDICATED IN WINDOW SCHEDULE. REINSTALL SALVAGED AND REFINISHED STOOL AND APRON AND WINDOW HARDWARE AT LOCATIONS OF WINDOW REPLACEMENT. COORDINATE FINISH OF WINDOW AND TRIMS WITH (E) CONDITIONS DOCUMENTED DURING REMOVAL. INSTALL (N) BLINDS AT EACH WINDOW. PROTECT ADJACENT FINISHES AND COORDINATE ACCESS TO INTERIOR SPACES WITH OWNER.

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8 0 8 16
SCALE OF FEET
1/8" = 1'-0"

STATE OF MONTANA
BILLINGS
DUSTIN W. EATON
21360
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sheet ELEVATIONS - QUAD CD

project ATKINSON QUADRANGLE REROOF AND WINDOW REPLACEMENT
PPA 25-1407

owner MONTANA STATE UNIVERSITY

project # 23123.10

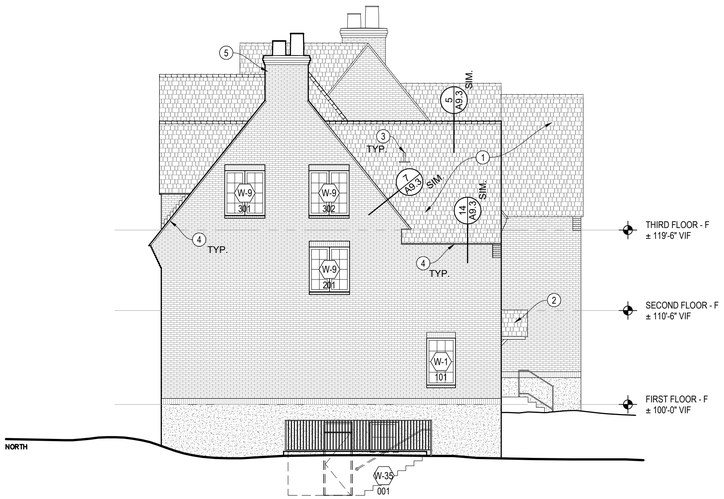
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A4.2

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5 QUAD EF - NORTH ELEVATION

A2.1 : A4.3 1/8" = 1'-0"



7 QUAD EF - EAST ELEVATION

A2.1 : A4.3 1/8" = 1'-0"

13 QUAD EF - SOUTH ELEVATION

A2.1 : A4.3 1/8" = 1'-0"

15 QUAD EF - WEST ELEVATION

A2.1 : A4.3 1/8" = 1'-0"

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SCALE OF FEET
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sheet ELEVATIONS - QUAD EF

project ATKINSON QUADRANGLE REROOF AND WINDOW REPLACEMENT
PPA 25-1407

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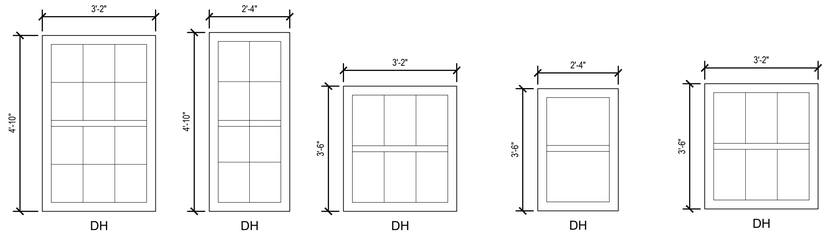
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phase
CONSTRUCTION DOCUMENTS

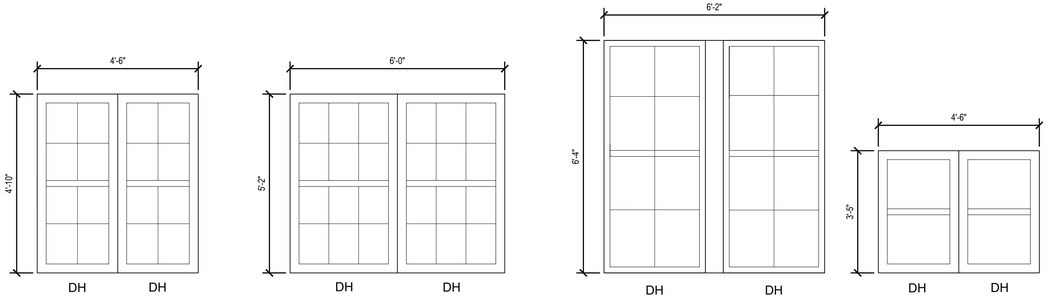
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A4.3

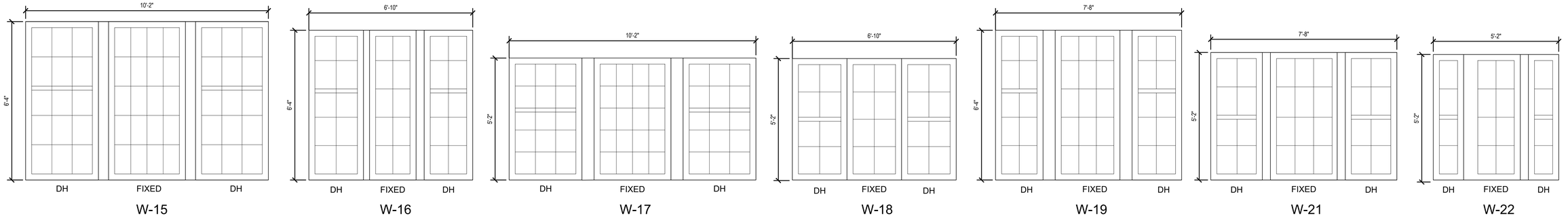
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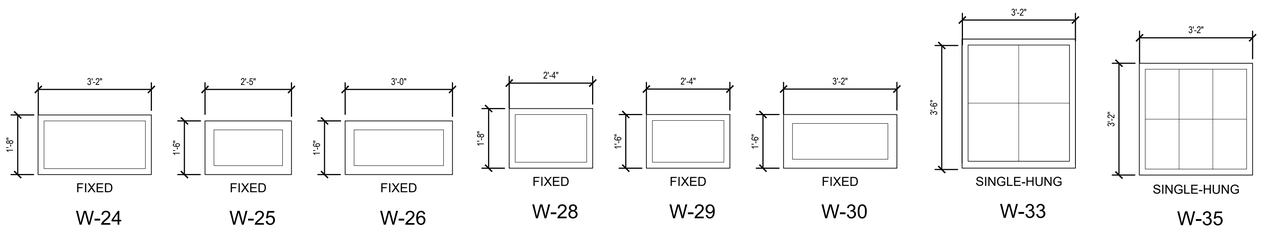
1 DOUBLE HUNG - WINDOW SCHEDULE ELEVATIONS
A9.1 : A9.1 1/2" = 1'-0"



2 DOUBLE UNIT - WINDOW SCHEDULE ELEVATIONS
A9.1 : A9.1 1/2" = 1'-0"



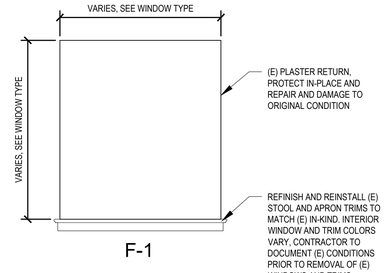
5 TRIPLE UNIT - WINDOW SCHEDULE ELEVATIONS
A9.1 : A9.1 1/2" = 1'-0"



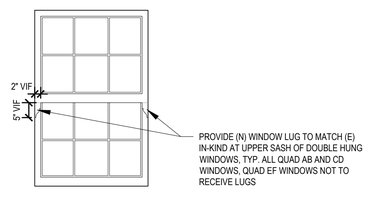
9 BASEMENT - WINDOW SCHEDULE ELEVATIONS (TYPES VARY)
A9.1 : A9.1 1/2" = 1'-0"

GENERAL NOTES

1. PROVIDE (N) INSECT SCREENS AT ALL OPERABLE SASHES.
2. PROVIDE (N) WINDOW BLINDS AT ALL WINDOWS.
3. ALL WINDOWS TO RECEIVE PAINT FINISH TO MATCH (E). EXTERIOR FACE OF WINDOWS IS CONSISTENT THROUGHOUT THE PROJECT. INTERIOR FACE OF WINDOWS AND TRIMS VARY BY LOCATION. CONTRACTOR TO VERIFY AND DOCUMENT DURING REMOVAL.
4. CONTRACTOR TO VERIFY ROUGH OPENING SIZES AND COORDINATE WINDOW SIZES WITH MANUFACTURER PRIOR TO ORDERING.



8 INTERIOR FRAME PROFILES
A9.1 : A9.1 1/2" = 1'-0"



9 HUNG WINDOWS - LUG ELEVATION
A9.1 : A9.1 1/2" = 1'-0"

STATE OF MONTANA
BILLINGS
DUSTIN W. EATON
21360
MONTANA
LICENSED ARCHITECT

sheet **WINDOW TYPES AND SCHEDULE**
project **ATKINSON QUADRANGLE REROOF AND WINDOW REPLACEMENT**
PPA 25-1407
owner MONTANA STATE UNIVERSITY

project # **23123.10**

revision date

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A9.1

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HISTORIC SASH LOCK

HISTORIC SASH LIFT

IMAGES ABOVE INDICATE HISTORIC HARDWARE TO BE CAREFULLY REMOVED, LABELED, CLEANED, AND SALVAGED FOR REUSE. COORDINATE INSTALLATION WITH WINDOW MANUFACTURER. IN CASE OF NON-HISTORIC HARDWARE AT WINDOWS, PROVIDE IN-KIND MATCH WITH NEW WINDOWS.

NOTE: ADDITIONAL NEW WINDOW HARDWARE INCLUDES LIMIT DEVICE, SEE SPECIFICATIONS.

1 WINDOW HARDWARE

A9.2 : A9.2 NTS

QUAD AB – WINDOW SCHEDULE

WINDOW	NEW/EXISTING	WINDOW			
		TYPE	MATERIAL	FRAME	REMARKS
001	NEW	W-3	WOOD	F-1	
002	NEW	W-25	WOOD	F-1	
003	NEW	W-3	WOOD	F-1	
004	NEW	W-25	WOOD	F-1	
005	NEW	W-25	WOOD	F-1	
006	NEW	W-3	WOOD	F-1	
007	NEW	W-32	WOOD	F-1	
008	NEW	W-32	WOOD	F-1	
009	NEW	W-26	WOOD	F-1	
010	NEW	W-26	WOOD	F-1	
011	NEW	W-26	WOOD	F-1	
012	NEW	W-26	WOOD	F-1	
101	NEW	W-9	WOOD	F-1	
102	NEW	W-9	WOOD	F-1	
103	NEW	W-9	WOOD	F-1	
104	NEW	W-9	WOOD	F-1	
105	NEW	W-9	WOOD	F-1	
106	NEW	W-9	WOOD	F-1	
107	NEW	W-18	WOOD	F-1	
108	NEW	W-15	WOOD	F-1	
109	NEW	W-12	WOOD	F-1	
110	NEW	W-12	WOOD	F-1	
111	NEW	W-17	WOOD	F-1	
112	NEW	W-15	WOOD	F-1	
201	NEW	W-9	WOOD	F-1	
202	NEW	W-1	WOOD	F-1	
203	NEW	W-1	WOOD	F-1	
204	NEW	W-9	WOOD	F-1	
205	NEW	W-1	WOOD	F-1	
206	NEW	W-2	WOOD	F-1	
207	NEW	W-2	WOOD	F-1	
208	NEW	W-2	WOOD	F-1	
209	NEW	W-1	WOOD	F-1	
210	NEW	W-9	WOOD	F-1	
211	NEW	W-1	WOOD	F-1	
212	NEW	W-1	WOOD	F-1	
213	NEW	W-9	WOOD	F-1	
214	NEW	W-1	WOOD	F-1	
215	NEW	W-9	WOOD	F-1	
216	NEW	W-1	WOOD	F-1	
217	NEW	W-1	WOOD	F-1	
218	NEW	W-9	WOOD	F-1	
219	NEW	W-1	WOOD	F-1	
220	NEW	W-1	WOOD	F-1	
221	NEW	W-9	WOOD	F-1	
222	NEW	W-1	WOOD	F-1	
223	NEW	W-1	WOOD	F-1	
224	NEW	W-9	WOOD	F-1	
225	NEW	W-1	WOOD	F-1	
301	NEW	W-9	WOOD	F-1	
302	NEW	W-9	WOOD	F-1	
303	NEW	W-1	WOOD	F-1	
304	NEW	W-9	WOOD	F-1	
305	NEW	W-2	WOOD	F-1	
306	NEW	W-9	WOOD	F-1	
307	NEW	W-1	WOOD	F-1	
308	NEW	W-9	WOOD	F-1	
309	NEW	W-9	WOOD	F-1	
310	NEW	W-1	WOOD	F-1	
311	NEW	W-9	WOOD	F-1	
312	NEW	W-9	WOOD	F-1	
313	NEW	W-1	WOOD	F-1	
314	NEW	W-9	WOOD	F-1	
315	NEW	W-1	WOOD	F-1	

QUAD CD – WINDOW SCHEDULE

WINDOW	NEW/EXISTING	WINDOW			
		TYPE	MATERIAL	FRAME	REMARKS
001	NEW	W-24	WOOD	F-1	
002	NEW	W-33	WOOD	F-1	
003	NEW	W-28	WOOD	F-1	
004	NEW	W-29	WOOD	F-1	
005	NEW	W-29	WOOD	F-1	
006	NEW	W-33	WOOD	F-1	
007	NEW	W-33	WOOD	F-1	
008	NEW	W-33	WOOD	F-1	
009	NEW	W-28	WOOD	F-1	
010	NEW	W-33	WOOD	F-1	
011	NEW	W-24	WOOD	F-1	
012	NEW	W-8	WOOD	F-1	
013	NEW	W-8	WOOD	F-1	
014	NEW	W-8	WOOD	F-1	
015	NEW	W-8	WOOD	F-1	
101	NEW	W-9	WOOD	F-1	
102	NEW	W-15	WOOD	F-1	
103	NEW	W-13	WOOD	F-1	
104	NEW	W-13	WOOD	F-1	
105	NEW	W-9	WOOD	F-1	
106	NEW	W-18	WOOD	F-1	
107	NEW	W-9	WOOD	F-1	
108	NEW	W-16	WOOD	F-1	
109	NEW	W-1	WOOD	F-1	
110	NEW	W-9	WOOD	F-1	
111	NEW	W-9	WOOD	F-1	
112	NEW	W-9	WOOD	F-1	
113	NEW	W-19	WOOD	F-1	
114	NEW	W-9	WOOD	F-1	
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204	NEW	W-9	WOOD	F-1	
205	NEW	W-1	WOOD	F-1	
206	NEW	W-9	WOOD	F-1	
207	NEW	W-1	WOOD	F-1	
208	NEW	W-9	WOOD	F-1	
209	NEW	W-9	WOOD	F-1	
210	NEW	W-9	WOOD	F-1	
211	NEW	W-9	WOOD	F-1	
212	NEW	W-9	WOOD	F-1	
213	NEW	W-1	WOOD	F-1	
214	NEW	W-1	WOOD	F-1	
215	NEW	W-1	WOOD	F-1	
216	NEW	W-2	WOOD	F-1	
217	NEW	W-9	WOOD	F-1	
218	NEW	W-1	WOOD	F-1	
219	NEW	W-1	WOOD	F-1	
220	NEW	W-1	WOOD	F-1	
221	NEW	W-2	WOOD	F-1	
222	NEW	W-1	WOOD	F-1	
223	NEW	W-1	WOOD	F-1	
224	NEW	W-1	WOOD	F-1	
225	NEW	W-9	WOOD	F-1	
226	NEW	W-9	WOOD	F-1	
301	NEW	W-9	WOOD	F-1	
302	NEW	W-9	WOOD	F-1	
303	NEW	W-1	WOOD	F-1	
304	NEW	W-9	WOOD	F-1	
305	NEW	W-9	WOOD	F-1	
306	NEW	W-9	WOOD	F-1	
307	NEW	W-1	WOOD	F-1	
308	NEW	W-1	WOOD	F-1	
309	NEW	W-9	WOOD	F-1	
310	NEW	W-9	WOOD	F-1	
311	NEW	W-1	WOOD	F-1	
312	NEW	W-1	WOOD	F-1	
313	NEW	W-9	WOOD	F-1	
314	NEW	W-9	WOOD	F-1	

QUAD AB – WINDOW SCHEDULE

WINDOW	NEW/EXISTING	WINDOW			
		TYPE	MATERIAL	FRAME	REMARKS
001	NEW	W-35	WOOD	F-1	
002	NEW	W-30	WOOD	F-1	
003	NEW	W-25	WOOD	F-1	
004	NEW	W-14	WOOD	F-1	
005	NEW	W-14	WOOD	F-1	
006	NEW	W-5	WOOD	F-1	
007	NEW	W-5	WOOD	F-1	
008	NEW	W-5	WOOD	F-1	
009	NEW	W-25	WOOD	F-1	
010	NEW	W-25	WOOD	F-1	
011	NEW	W-25	WOOD	F-1	
012	NEW	W-3	WOOD	F-1	
101	NEW	W-14	WOOD	F-1	
102	NEW	W-15	WOOD	F-1	
103	NEW	W-1	WOOD	F-1	
104	NEW	W-29	WOOD	F-1	
105	NEW	W-1	WOOD	F-1	
106	NEW	W-12	WOOD	F-1	
107	NEW	W-12	WOOD	F-1	
108	NEW	W-15	WOOD	F-1	
109	NEW	W-21	WOOD	F-1	
110	NEW	W-18	WOOD	F-1	
111	NEW	W-9	WOOD	F-1	
112	NEW	W-9	WOOD	F-1	
113	NEW	W-10	WOOD	F-1	
114	NEW	W-9	WOOD	F-1	
201	NEW	W-9	WOOD	F-1	
202	NEW	W-1	WOOD	F-1	
203	NEW	W-9	WOOD	F-1	
204	NEW	W-1	WOOD	F-1	
205	NEW	W-1	WOOD	F-1	
206	NEW	W-9	WOOD	F-1	
207	NEW	W-1	WOOD	F-1	
208	NEW	W-1	WOOD	F-1	
209	NEW	W-9	WOOD	F-1	
210	NEW	W-1	WOOD	F-1	
211	NEW	W-9	WOOD	F-1	
212	NEW	W-9	WOOD	F-1	
213	NEW	W-1	WOOD	F-1	
214	NEW	W-9	WOOD	F-1	
215	NEW	W-1	WOOD	F-1	
216	NEW	W-1	WOOD	F-1	
217	NEW	W-9	WOOD	F-1	
218	NEW	W-1	WOOD	F-1	
219	NEW	W-2	WOOD	F-1	
220	NEW	W-2	WOOD	F-1	
221	NEW	W-2	WOOD	F-1	
222	NEW	W-1	WOOD	F-1	
223	NEW	W-9	WOOD	F-1	
224	NEW	W-9	WOOD	F-1	
225	NEW	W-1	WOOD	F-1	
226	NEW	W-1	WOOD	F-1	
301	NEW	W-9	WOOD	F-1	
302	NEW	W-9	WOOD	F-1	
303	NEW	W-9	WOOD	F-1	
304	NEW	W-9	WOOD	F-1	
305	NEW	W-1	WOOD	F-1	
306	NEW	W-1	WOOD	F-1	
307	NEW	W-9	WOOD	F-1	
308	NEW	W-1	WOOD	F-1	
309	NEW	W-9	WOOD	F-1	
310	NEW	W-9	WOOD	F-1	
311	NEW	W-1	WOOD	F-1	
312	NEW	W-9	WOOD	F-1	
313	NEW	W-2	WOOD	F-1	
314	NEW	W-1	WOOD	F-1	

GENERAL NOTES

1. PROVIDE (N) INSECT SCREENS AT ALL OPERABLE SASHES.
2. PROVIDE (N) WINDOW BLINDS AT ALL WINDOWS.
3. ALL WINDOWS TO RECEIVE PAINT FINISH TO MATCH (E). EXTERIOR FACE OF WINDOWS IS CONSISTENT THROUGHOUT THE PROJECT. INTERIOR FACE OF WINDOWS AND TRIMS VARY BY LOCATION. CONTRACTOR TO VERIFY AND DOCUMENT DURING REMOVAL.
4. CONTRACTOR TO VERIFY ROUGH OPENING SIZES AND COORDINATE WINDOW SIZES WITH MANUFACTURER PRIOR TO ORDERING.

STATE OF MONTANA
DUSTIN W. EATON
2380
MONTANA
LICENSED ARCHITECT

sheet WINDOW TYPES AND SCHEDULE

project ATKINSON QUADRANGLE REROOF AND WINDOW REPLACEMENT
PPA 25-1407

owner MONTANA STATE UNIVERSITY

project # 23123.10

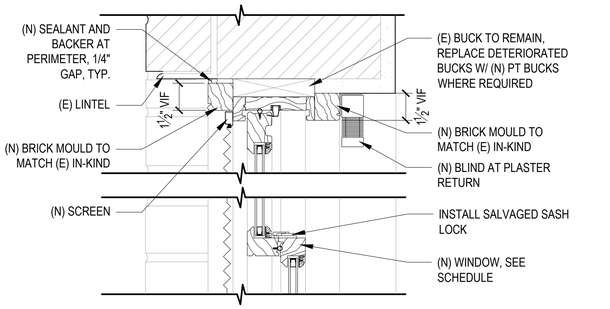
revision date

phase
CONSTRUCTION DOCUMENTS

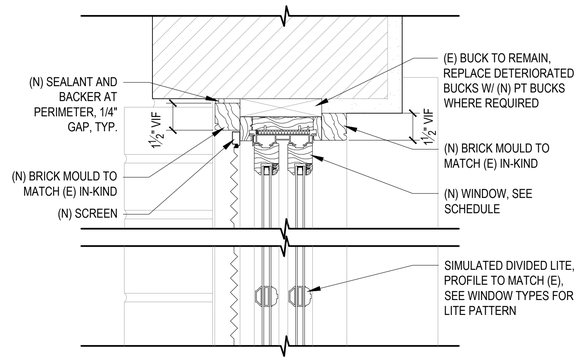
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A9.2

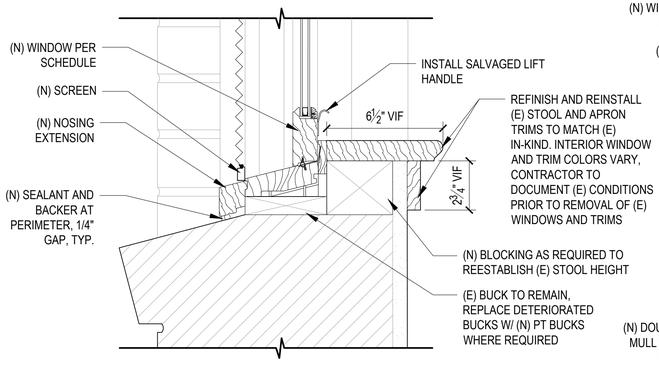
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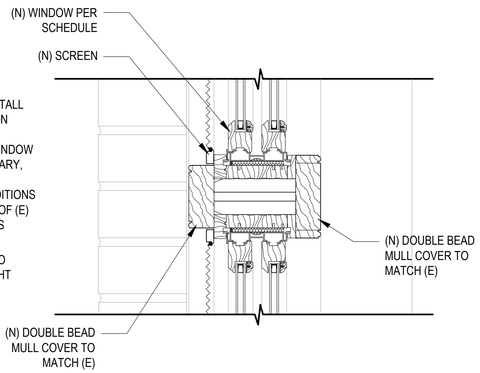
1 TYPICAL WINDOW HEAD AND SASH
A9.3 : A9.3 3" = 1'-0"



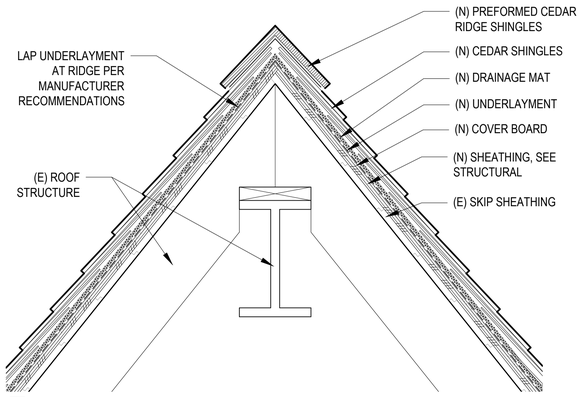
2 TYPICAL WINDOW JAMB AND SIMULATED DIVIDED LITE
A9.3 : A9.3 3" = 1'-0"



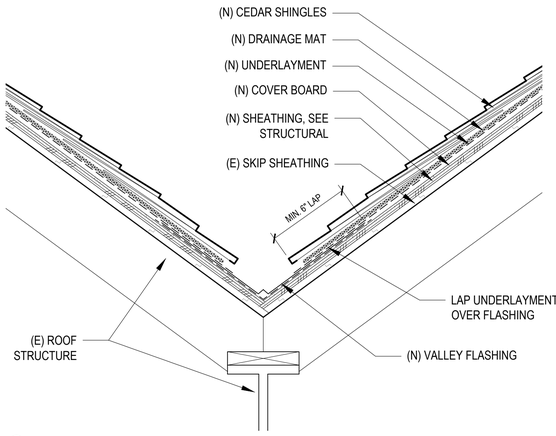
3 TYPICAL WINDOW SILL
A9.3 : A9.3 3" = 1'-0"



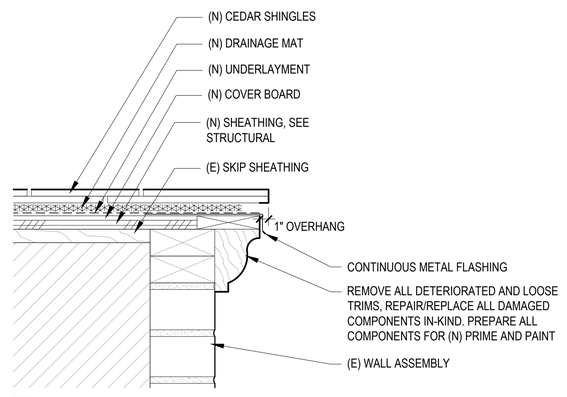
4 TYPICAL WINDOW MULL
A9.3 : A9.3 3" = 1'-0"



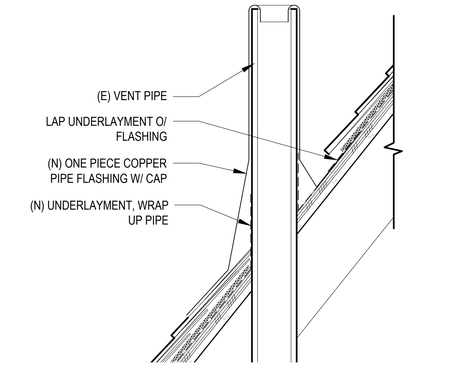
5 TYPICAL ROOF PEAK
A4.1 : A9.3 1 1/2" = 1'-0"



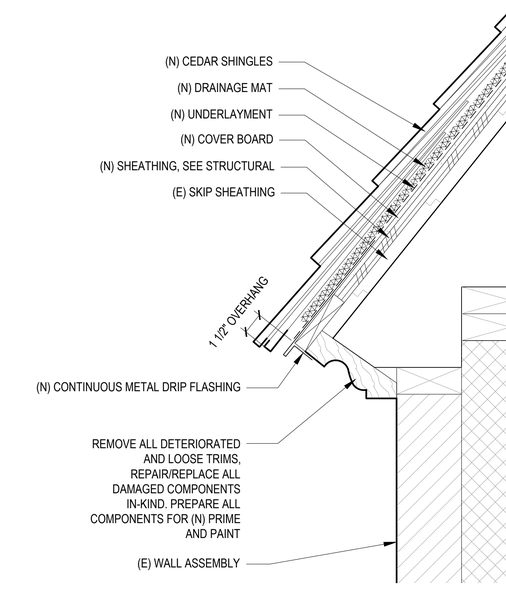
6 TYPICAL ROOF VALLEY
A2.1 : A9.3 1 1/2" = 1'-0"



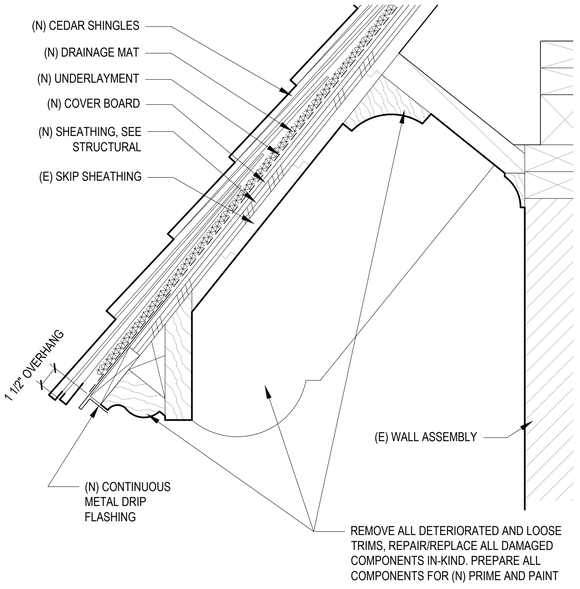
7 TYPICAL ROOF RAKE
A4.1 : A9.3 3" = 1'-0"



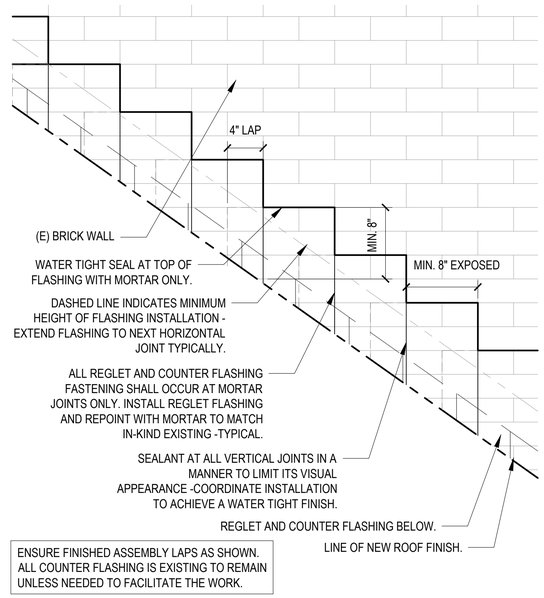
8 TYPICAL ROOF PENETRATION
A2.1 : A9.3 1 1/2" = 1'-0"



13 TYPICAL ROOF EAVE
A4.1 : A9.3 3" = 1'-0"

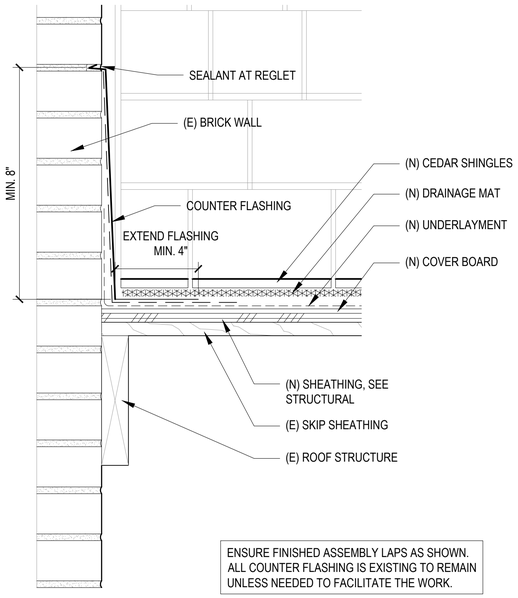


14 TYPICAL ROOF EAVE - EXPOSED RAFTER TAILS
A4.1 : A9.3 3" = 1'-0"



ENSURE FINISHED ASSEMBLY LAPS AS SHOWN. ALL COUNTER FLASHING IS EXISTING TO REMAIN UNLESS NEEDED TO FACILITATE THE WORK.

15 TYPICAL COUNTER FLASHING ELEVATION DETAIL
A9.3 : A9.3 1 1/2" = 1'-0"



ENSURE FINISHED ASSEMBLY LAPS AS SHOWN. ALL COUNTER FLASHING IS EXISTING TO REMAIN UNLESS NEEDED TO FACILITATE THE WORK.

16 TYPICAL COUNTER FLASHING SECTION DETAIL
A9.3 : A9.3 1 1/2" = 1'-0"

0 1 2 — SCALE OF FEET — 1 1/2" = 1'-0"

0 1/2 1 — SCALE OF FEET — 3" = 1'-0"

STATE OF MONTANA
BILLINGS
DUSTIN W. EATON
2360
MONTANA
LICENSED ARCHITECT

sheet DETAILS
project ATKINSON QUADRANGLE REROOF AND WINDOW REPLACEMENT
PPA 25-1407
owner MONTANA STATE UNIVERSITY

project # 23123.10

revision date

phase
CONSTRUCTION DOCUMENTS

issue date
11.2.2026

A9.3

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STRUCTURAL SHEET LIST

SHEET NUMBER	SHEET TITLE
S1.0	STRUCTURAL - COVERSHEET, LEGEND & ABBREVIATIONS
S1.1	STRUCTURAL - GENERAL NOTES
S2.11	STRUCTURAL - QUAD AB - ROOF FRAMING PLAN
S2.12	STRUCTURAL - QUAD CD - ROOF FRAMING PLAN
S2.13	STRUCTURAL - QUAD EF - ROOF FRAMING PLAN
S6.1	STRUCTURAL - FRAMING DETAILS
Sheet Total: 6	

DRAWING LEGEND

MARK	DESCRIPTION	MARK	DESCRIPTION
F2.0	FOOTING SYMBOL (REFER TO SPREAD FOOTING SCHEDULE)	○	INDICATES HOLLOW STRUCTURAL SECTION (HSS) COLUMN OR STEEL PIPE COLUMN
2W4	SHEAR WALL SYMBOL (REFER TO SHEAR WALL SCHEDULE)	⊠	INDICATES WOOD POST
0	REVISION TRIANGLE	■	INDICATES BUNDLED STUDS
T/FTG = X'-X"	ELEVATION SYMBOL (T/ REFERS TO COMPONENT THAT THE ELEVATION REFERENCES)		INDICATES CONCRETE COLUMN
3	STUD BUBBLE (INDICATES NUMBER OF STUDS REQUIRED IF EXCEEDS NUMBER SPECIFIED IN PLAN NOTE)		INDICATES PRECAST CONCRETE COLUMN
	INDICATES STEP IN FOOTING (REFER TO TYPICAL STEP IN FOOTING DETAIL)		INDICATES MOMENT FRAME CONNECTION
X / SX.X	DETAILS OR SECTION CUT (DETAIL NUMBER/SHEET NUMBER)		INDICATES CANTILEVER CONNECTION
00 / S0.0	DETAILS OR SECTION CUT IN PLAN VIEW (DETAIL NUMBER/SHEET NUMBER)		INDICATES DRAG CONNECTION
XX/SXX.XX	INDICATES LOCATION OF CONCRETE WALLS, SHEAR WALLS OR BRACED FRAME ELEVATIONS		INDICATES WOOD OR STEEL STUD BEARING WALL LINE PER KEY ON SHEET
	STRUCTURAL EXTENT SYMBOL SINGLE ARROW - END OF EXTENT DOUBLE ARROW - CONTINUOUS EXTENT ALONG THE ELEMENT LINE UNTIL THE ELEMENT IS INTERRUPTED		INDICATES WOOD OR STEEL STUD SHEAR WALL LINE AND HOLD-DOWNS PER KEY ON SHEET
			INDICATES MASONRY/CMU WALL
	INDICATES DIRECTION OF DECK SPAN		INDICATES CONCRETE/TILT-UP CONCRETE WALL
	INDICATES WIDE FLANGE COLUMN		INDICATES BEARING WALL BELOW
	INDICATES HOLLOW STRUCTURAL SECTION (HSS) COLUMN OR TUBE STEEL (TS) COLUMN		INDICATES EXISTING WALL

ABBREVIATIONS

L	Angle	EXT	Exterior	PREFAB	Prefabricated
AB	Anchor Bolt	FD	Floor Drain	PSF	Pounds per Square Foot
ADDL	Additional	FDN	Foundation	PSI	Pounds Per Square Inch
ADH	Adhesive	FIN	Finish	PSL	Parallel Strand Lumber
ALT	Alternate	FLR	Floor	P-T	Post-Tensioned
ARCH	Architectural	FRT	Fire Retardant Treated	PT	Pressure Treated
B or BOT	Bottom	FTG	Footing	R	Radius
B/	Bottom Of	F/	Face of	RD	Roof Drain
BLDG	Building	GA	Gage	REF	Refer/Reference
BLKG	Blocking	GALV	Galvanized	REINF	Reinforcing
BMU	Brick Masonry Unit	GEOTECH	Geotechnical	REQD	Required
BP	Baseplate	GL	Glue Laminated Timber	RET	Retaining
BRG	Bearing	HDR	Header	SCBF	Special Concentric Braced Frame
BTWN	Between	HF	Hem-Fir	SCHED	Schedule
C	Camber	HGR	Hanger	SER	Structural Engineer of Record
C'BORE	Counterbore	HD	Hold-down	SFRS	Seismic Force-Resisting System
CL or ℄	Centerline	HORIZ	Horizontal	SHTHG	Sheathing
CIP	Cast in Place	HP	High Point	SIM	Similar
CJ	Construction or Control Joint	HSS = TS	(Hollow Structural Section)	SMF	Special Moment Frame
CJP	Complete Joint Penetration	IBC	International Building Code	SOG	Slab on Grade
CLR	Clear	ID	Inside Diameter	SPEC	Specification
CMU	Concrete Masonry Unit	IE	Invert Elevation	SQ	Square
COL	Column	IF	Inside Face	SR	Studrail
CONC	Concrete	INT	Interior	SF	Square Foot
CONN	Connection	k	Kips	SST	Stainless Steel
CONST	Construction	LF	Lineal Foot	STAGG	Stagger/Staggered
CONT	Continuous	LL	Live Load	STD	Standard
C'SINK	Countersink	LLBB	Long Leg Back-to-Back	STIFF	Stiffener
CTRD	Centered	LLH	Long Leg Horizontal	STL	Steel
DIA	Diameter	LLV	Long Leg Vertical	STRUCT	Structural
DB	Drop Beam	LP	Low Point	SYM	Symmetrical
DBA	Deformed Bar Anchor	LONGIT	Longitudinal	T	Top
DBL	Double	LSL	Laminated Strand Lumber	T/	Top Of
DEMO	Demolish	LVL	Laminated Veneer Lumber	T&B	Top & Bottom
DF	Douglas Fir	MAS	Masonry	TDS	Tie Down System
DIAG	Diagonal	MAX	Maximum	T&G	Tongue & Groove
DIST	Distributed	MECH	Mechanical	THKND	Thickened
DL	Dead Load	MEZZ	Mezzanine	THRD	Threaded
DN	Down	MFR	Manufacturer	THRU	Through
DP	Depth/Deep	MIN	Minimum	TRANSV	Transverse
DWG	Drawing	MISC	Miscellaneous	TYP	Typical
(E)	Existing	NIC	Not In Contract	UNO	Unless Noted Otherwise
EA	Each	NTS	Not To Scale	URM	Unreinforced Masonry Unit
EF	Each Face	OC	On Center	VERT	Vertical
EL	Elevation	OCBF	Ordinary Concentric Braced Frame	W	Wide
ELEC	Electrical	OD	Outside Diameter	W/	With
ELEV	Elevator	OF	Outside Face	W/O	Without
EMBED	Embedment	OPNG	Opening	WHS	Welded Headed Stud
EQ	Equal	OPP	Opposite	WP	Working Point
EQUIP	Equipment	PL	Plate	WS	Wall Step
EW	Each Way	PAF	Powder Actuated Fastener	WWF	Welded Wire Fabric
EXP	Expansion	PC	Precast	±	Plus or Minus
EXP JT	Expansion Joint	PERP	Perpendicular		
		PLWD	Plywood		

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CIVIL / STRUCTURAL

sheet STRUCTURAL - COVERSHEET, LEGEND & ABBREVIATIONS

project ATKINSON QUADRANGLE REROOF AND WINDOW REPLACEMENT PPA 25-1407

owner MONTANA STATE UNIVERSITY

project # 23123.10

revision	date

phase
CONSTRUCTION DOCUMENTS

issue date
06.19.2026

S1.0

01.00.00 GENERAL REQUIREMENTS

1. **GOVERNING CODE:** THE DESIGN AND CONSTRUCTION OF THIS PROJECT IS GOVERNED BY THE "INTERNATIONAL BUILDING CODE (IBC)," 2024 EDITION, HEREAFTER REFERRED TO AS THE IBC, AS ADOPTED AND MODIFIED BY THE CITY OF BOZEMAN, MONTANA UNDERSTOOD TO BE THE AUTHORITY HAVING JURISDICTION (AHJ).
2. **REFERENCE STANDARDS:** REFER TO CHAPTER 35 OF THE 2024 IBC. WHERE OTHER STANDARDS ARE NOTED IN THE DRAWINGS, USE THE LATEST EDITION OF THE STANDARD UNLESS A SPECIFIC DATE IS INDICATED. REFERENCE TO A SPECIFIC SECTION IN A CODE DOES NOT RELIEVE THE CONTRACTOR FROM COMPLIANCE WITH THE ENTIRE STANDARD.
3. **DEFINITIONS:** THE FOLLOWING DEFINITIONS COVER THE MEANINGS OF CERTAIN TERMS USED IN THESE NOTES:
   - 3.1. "ARCHITECT/ENGINEER" - THE ARCHITECT OF RECORD AND THE STRUCTURAL ENGINEER OF RECORD.
   - 3.2. "STRUCTURAL ENGINEER OF RECORD" (SER) - THE STRUCTURAL ENGINEER WHO IS LICENSED TO STAMP AND SIGN THE STRUCTURAL DOCUMENTS FOR THE PROJECT. THE SER IS RESPONSIBLE FOR THE DESIGN OF THE PRIMARY STRUCTURAL SYSTEM.
   - 3.3. "SUBMIT FOR REVIEW" - SUBMIT TO THE ARCHITECT/SER FOR REVIEW PRIOR TO FABRICATION OR CONSTRUCTION.
   - 3.4. "PER PLAN" - INDICATES REFERENCES TO THE STRUCTURAL PLANS, ELEVATIONS, AND STRUCTURAL GENERAL NOTES.
   - 3.5. "SEISMIC FORCE RESISTING SYSTEM" (SFRS) - A RECOGNIZED STRUCTURAL SYSTEM OF COMPONENTS (BEAMS, BRACES, DRAGS, STRUTS, COLLECTORS, DIAPHRAGMS, COLUMNS, WALLS, ETC.) OF THE PRIMARY STRUCTURE THAT ARE SPECIALLY DESIGNED AND PROPORTIONED TO RESIST EARTHQUAKE-INDUCED GROUND MOTIONS AND MAINTAIN STABILITY OF THE STRUCTURE. FABRICATION AND INSTALLATION OF COMPONENTS DESIGNATED AS PART OF THE SFRS REQUIRE THE GENERAL CONTRACTOR, SUBCONTRACTOR, OR SUPPLIER WHO IS RESPONSIBLE FOR ANY PORTION OF SFRS FABRICATION OR INSTALLATION TO COMPLY WITH SPECIAL REQUIREMENTS (INCLUDING, BUT NOT LIMITED TO, MATERIAL CONTROL, COMPLIANCE CERTIFICATIONS, PERSONNEL QUALIFICATIONS, DOCUMENTATION, REPORTING REQUIREMENTS, ETC.) AND TO PROVIDE THE REQUIRED QUALITY CONTROL INCLUDING THE REQUIRED COORDINATION OF SPECIAL INSPECTIONS (QUALITY ASSURANCE - QA). SPECIAL PROVISIONS APPLY TO ANY MEMBER DESIGNATED AS PART OF THE SFRS. REFER TO PLANS, ELEVATIONS, DETAILS, DESIGN CRITERIA, AND SYMBOLS AND LEGENDS FOR APPLICABLE MEMBERS AND CONNECTIONS.
4. **SPECIFICATIONS:** REFER TO THE PROJECT SPECIFICATIONS ISSUED AS PART OF THE CONTRACT DOCUMENTS FOR INFORMATION SUPPLEMENTAL TO THESE DRAWINGS.
5. **OTHER DRAWINGS:** REFER TO THE ARCHITECTURAL, MECHANICAL, ELECTRICAL, CIVIL AND PLUMBING DRAWINGS FOR ADDITIONAL INFORMATION INCLUDING, BUT NOT LIMITED TO, DIMENSIONS, ELEVATIONS, SLOPES, DOOR AND WINDOW OPENINGS, NON-BEARING WALLS, STAIRS, FINISHES, DRAINS, WATERPROOFING, RAILINGS, CURTAIN WALLS, ELEVATORS, CURBS, DEPRESSIONS, MECHANICAL UNIT LOCATIONS, AND OTHER NON-STRUCTURAL ITEMS.
6. **STRUCTURAL DETAILS:** THE STRUCTURAL DRAWINGS ARE INTENDED TO SHOW THE GENERAL CHARACTER AND EXTENT OF THE PROJECT AND ARE NOT INTENDED TO SHOW ALL DETAILS OF THE WORK. USE ENTIRE DETAIL SHEETS AND SPECIFIC DETAILS REFERENCED IN THE PLANS AS "TYPICAL" WHEREVER THEY APPLY. SIMILARLY, USE DETAILS ON ENTIRE SHEETS WITH "TYPICAL" IN THE NAME WHEREVER THEY APPLY.
7. **STRUCTURAL RESPONSIBILITIES:** THE SER IS RESPONSIBLE FOR THE STRENGTH AND STABILITY OF THE PRIMARY STRUCTURE IN ITS COMPLETED FORM.
8. **COORDINATION:** THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING DETAILS AND ACCURACY OF THE WORK, CONFIRMING AND CORRELATING ALL QUANTITIES AND DIMENSIONS, SELECTING FABRICATION PROCESSES, TECHNIQUES OF ASSEMBLY, AND PERFORMING WORK IN A SAFE AND SECURE MANNER.
9. **EXISTING CONDITIONS:** INFORMATION SHOWN ON THE DRAWINGS RELATED TO EXISTING CONDITIONS REPRESENT THE PRESENT KNOWLEDGE BUT WITHOUT GUARANTEE OF ACCURACY. REPORT CONDITIONS THAT CONFLICT WITH CONTRACT DOCUMENTS TO THE ARCHITECT OR SER. DO NOT DEVIATE FROM THE CONTRACT DOCUMENTS WITHOUT WRITTEN DIRECTION FROM THE ARCHITECT AND/OR SER. ALL EXISTING DIMENSIONS AND INFORMATION SHALL BE FIELD VERIFIED PRIOR TO FABRICATION AS REQUIRED TO COORDINATE WITH NEW CONSTRUCTION.
10. **NEW CONSTRUCTION:** THE CONTRACTOR SHALL REMOVE ALL INTERFERING ITEMS FOR NEW CONSTRUCTION AND SHALL REPAIR OR REPLACE ALL REMOVED ITEMS TO MATCH THE EXISTING CONDITIONS IN ACCORDANCE WITH THE ARCHITECTURAL DRAWINGS. NEW CONSTRUCTION ELEMENTS SHALL BE DESIGNED AND INSTALLED PER THE CURRENT IBC AS ALLOWED BY THE IBC.
11. **MEANS, METHODS, AND SAFETY REQUIREMENTS:** THE CONTRACTOR IS RESPONSIBLE FOR THE MEANS AND METHODS OF CONSTRUCTION AND ALL JOB-RELATED SAFETY STANDARDS SUCH AS OSHA AND DOSH (DEPARTMENT OF OCCUPATIONAL SAFETY AND HEALTH). THE CONTRACTOR IS RESPONSIBLE FOR MEANS AND METHODS OF CONSTRUCTION RELATED TO THE INTERMEDIATE STRUCTURAL CONDITIONS (I.E., MOVEMENT OF THE STRUCTURE DUE TO MOISTURE AND THERMAL EFFECTS, CONSTRUCTION SEQUENCE, TEMPORARY BRACING, ETC.).
12. **BRACING/SHORING DESIGN ENGINEER:** THE CONTRACTOR SHALL, AT THEIR DISCRETION, EMPLOY AN SSE FOR THE DESIGN OF ANY TEMPORARY BRACING AND SHORING. SUBMIT CONSTRUCTION SEQUENCE TO ARCHITECT/ENGINEER FOR REVIEW.
13. **TEMPORARY SHORING, BRACING:** THE CONTRACTOR IS RESPONSIBLE FOR THE STRENGTH AND STABILITY OF THE STRUCTURE DURING CONSTRUCTION AND SHALL PROVIDE TEMPORARY SHORING, BRACING, AND OTHER ELEMENTS REQUIRED TO MAINTAIN STABILITY UNTIL THE STRUCTURE IS COMPLETE. IT IS THE CONTRACTOR'S RESPONSIBILITY TO BE FAMILIAR WITH THE WORK REQUIRED IN THE CONSTRUCTION DOCUMENTS AND THE REQUIREMENTS FOR EXECUTING IT PROPERLY.
14. **CONSTRUCTION LOADS:** LOADS ON THE STRUCTURE DURING CONSTRUCTION SHALL NOT EXCEED THE DESIGN LOADS AS NOTED IN DESIGN CRITERIA AND LOADS SECTION OF THESE GENERAL NOTES OR THE CAPACITY OF PARTIALLY COMPLETED CONSTRUCTION AS DETERMINED BY THE CONTRACTOR'S SSE FOR BRACING/SHORING.
15. **NOTE PRIORITIES:** PLAN AND DETAIL NOTES AND SPECIFIC LOADING DATA PROVIDED ON INDIVIDUAL PLANS AND DETAIL DRAWINGS SUPPLEMENTS INFORMATION IN THESE GENERAL NOTES.
16. **DISCREPANCIES:** IN CASE OF DISCREPANCIES BETWEEN THE GENERAL NOTES, SPECIFICATIONS, PLANS/DETAILS, OR REFERENCE STANDARDS, THE ARCHITECT/ENGINEER SHALL DETERMINE WHICH SHALL GOVERN. DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT/ENGINEER BEFORE PROCEEDING WITH THE WORK. SHOULD ANY DISCREPANCY BE FOUND IN THE CONTRACT DOCUMENTS, THE CONTRACTOR WILL BE DEEMED TO HAVE INCLUDED IN THE PRICE THE MOST EXPENSIVE WAY OF COMPLETING THE WORK UNLESS PRIOR TO THE SUBMISSION OF THE PRICE, THE CONTRACTOR ASKS FOR A DECISION FROM THE ARCHITECT AS TO WHICH SHALL GOVERN. ACCORDINGLY, ANY CONFLICT IN OR BETWEEN THE CONTRACT DOCUMENTS SHALL NOT BE A BASIS FOR ADJUSTMENT IN THE CONTRACT PRICE.
17. **ALTERNATES:** ALTERNATE PRODUCTS OF SIMILAR STRENGTH, NATURE, AND FORM FOR SPECIFIED ITEMS MAY BE SUBMITTED WITH ADEQUATE TECHNICAL DOCUMENTATION (PROPER TEST REPORT, ETC.) TO THE ARCHITECT/ENGINEER FOR REVIEW. ALTERNATE MATERIALS THAT ARE SUBMITTED WITHOUT ADEQUATE TECHNICAL DOCUMENTATION OR THAT SIGNIFICANTLY DEVIATE FROM THE DESIGN INTENT OF MATERIALS SPECIFIED MAY BE RETURNED WITHOUT REVIEW. ALTERNATES THAT REQUIRE SUBSTANTIAL EFFORT TO REVIEW WILL NOT BE REVIEWED UNLESS AUTHORIZED BY THE OWNER.
18. **ADDITIONS/ALTERATIONS/REPAIRS:**
   - 18.1. ADDITIONS, ALTERATIONS, AND/OR REPAIRS TO THE EXISTING STRUCTURE HAVE BEEN ANALYZED FOR ADDITIONAL LOADING AND/OR MODIFICATION DUE TO THE ADDITION, ALTERATION, OR REPAIR.
   - 18.2. ALL AFFECTED EXISTING MEMBERS HAVE BEEN ANALYZED OR REINFORCED AS REQUIRED PER THE IEBC.
   - 18.3. ALL DEMOLITION OR REMOVAL OF ARCHITECTURAL, MECHANICAL, OR STRUCTURAL ELEMENTS SHALL NOT DAMAGE STRUCTURAL ITEMS TO REMAIN.

01.10.00 DESIGN CRITERIA AND LOADS

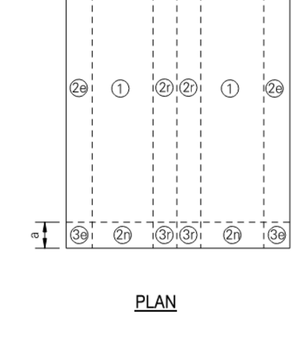
1. **OCCUPANCY:**

RISK CATEGORY OF BUILDING PER IBC TABLE 1604.5	II

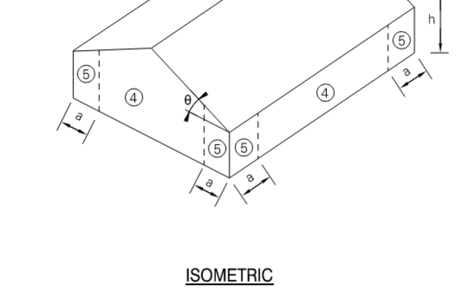
2. **WIND DESIGN: MAIN WIND FORCE RESISTING SYSTEM:**

ULTIMATE DESIGN WIND SPEED, V_{ULT}	115 MPH
EXPOSURE CATEGORY	B
INTERNAL PRESSURE COEFFICIENT, C_{pi}	±0.18
TOPOGRAPHIC FACTOR, K_{zt}	1.0
WIND ANALYSIS PROCEDURE USED	ENVELOPE

3. **WIND DESIGN: COMPONENTS AND CLADDING (C&C) PRESSURES FOR DESIGN (PSF, ULTIMATE):**



PLAN



ISOMETRIC

	EFFECTIVE WIND AREA (FT²)				
a = 4'-0"	10	20	50	100	500
ZONE 1	-34 / +19	-29 / +17	-22 / +16	-17 / +16	-17 / +16
ZONE 2e	-34 / +19	-29 / +17	-22 / +16	-17 / +16	-17 / +16
ZONE 2n	-37 / +19	-33 / +17	-28 / +16	-24 / +16	-20 / +16
ZONE 2r	-34 / +19	-29 / +17	-22 / +16	-17 / +16	-17 / +16
ZONE 3e	-46 / +19	-41 / +17	-34 / +16	-29 / +16	-20 / +16
ZONE 3r	-37 / +19	-33 / +17	-28 / +16	-24 / +16	-20 / +16
ZONE 4	-22 / +20	-21 / +20	-20 / +18	-19 / +17	-17 / +16
ZONE 5	-27 / +20	-25 / +20	-23 / +18	-21 / +17	-17 / +16

   - 3.1. COMPONENTS AND CLADDING WIND PRESSURES ARE BASED ON ASCE 7 CHAPTER 30 PART 1 "LOW-RISE BUILDINGS."
   - 3.2. COMPONENTS AND CLADDING ZONE LOCATIONS ARE BASED ON ASCE 7 FIGURE 30.3-2D FOR GABLE ROOFS 27° < Θ ≤ 45°.
   - 3.3. COMPONENTS AND CLADDING ZONE LOCATIONS ARE BASED ON ASCE 7 FIGURE 30.3-1 FOR WALLS.
   - 3.4. ALL PARAPET COMPONENTS AND CLADDING WIND PRESSURES SHALL BE DETERMINED THROUGH ASCE 7 FIGURE 30.6-1.

4. **SEISMIC DESIGN:**

SEISMIC DESIGN CATEGORY, SDC	D
SITE CLASS PER IBC SECTION 1613.3.2 AND ASCE 7 CHAPTER 20	D
SEISMIC IMPORTANCE FACTOR PER ASCE 7 TABLE 1.5-2, I_e	1.0
SPECTRAL RESPONSE ACCELERATION (SHORT PERIOD), S_S	0.66 g
SPECTRAL RESPONSE ACCELERATION (1-SECOND PERIOD), S_1	0.18 g
DESIGN RESPONSE ACCELERATION (SHORT PERIOD), S_{DS}	0.58 g
DESIGN RESPONSE ACCELERATION (SHORT PERIOD), S_{D1}	0.33 g
SEISMIC ANALYSIS PROCEDURE USED	EQUIVALENT LATERAL FORCE
BASIC STRUCTURAL SYSTEM	BEARING WALL SYSTEMS
SEISMIC FORCE RESISTING SYSTEM	ORDINARY PLAIN MASONRY SHEAR WALLS
BASE SHEAR GOVERNED BY	SEISMIC

5. **SNOW LOAD:**

FLAT ROOF SNOW LOAD, P_f	41 PSF [NOTE 5.1]
SNOW DRIFT LOADING REQUIRED BY AHJ?	YES
SNOW LOAD IMPORTANCE FACTOR, I_s	1.00 [NOTE 5.3]
GROUND SNOW LOAD, P_g	46 PSF
SNOW EXPOSURE FACTOR, C_e	0.9
THERMAL FACTOR, C_t	1.0
SEE ROOF PLAN FOR DRIFT LOADING	

   - 5.1. SNOW LOAD IS UN-REDUCIBLE AND INCLUDES 5 PSF RAIN-ON-SNOW SURCHARGE WHERE GROUND SNOW LOAD IS 20 PSF OR LESS, BUT NOT ZERO, PER ASCE 7 SECTION 7.10.
   - 5.2. SNOW LOAD BASED ON ASCE FIGURE 7-1 AND CITY OF BOZEMAN DESIGN CRITERIA.
   - 5.3. SNOW LOAD IMPORTANCE FACTOR PER ASCE 7 TABLE 1.5-2.

6. **DESIGN LIVE LOADS:** SEE STRUCTURAL LOADING PLANS FOR AREA LOADS AND LINE LOADS. LOADS LISTED BELOW ARE FOR MISCELLANEOUS ITEMS.

AREA	LIVE LOADS
FAÇADE ACCESS EQUIPMENT / LIFELINE SUPPORTS	2.5 * RATED HOIST LOAD (PER IBC SECTIONS 1607.9.3 AND 1607.9.4) AND 3,100 LB IN ANY DIRECTION (LIFELINE)

01.20.00 SUBMITTALS

1. **SUBMIT FOR REVIEW:** SUBMITTALS OF SHOP DRAWINGS AND PRODUCT DATA ARE REQUIRED FOR ITEMS NOTED IN THE INDIVIDUAL MATERIALS SECTIONS OF THESE GENERAL NOTES AND FOR BIDDER-DESIGNED ELEMENTS.
2. **SUBMITTAL REVIEW PERIOD:** SUBMITTALS SHALL BE MADE IN TIME TO PROVIDE A MINIMUM OF TWO WEEKS OR TEN WORKING DAYS FOR REVIEW BY THE ARCHITECT/ENGINEER PRIOR TO THE ONSET OF FABRICATION.
3. **GENERAL CONTRACTOR'S PRIOR REVIEW:** PRIOR TO SUBMISSION TO THE ARCHITECT/ENGINEER, THE CONTRACTOR SHALL REVIEW THE SUBMITTAL FOR COMPLETENESS. DIMENSIONS AND QUANTITIES ARE NOT REVIEWED BY THE SER; THEREFORE, THEY MUST BE VERIFIED BY THE GENERAL CONTRACTOR. THE CONTRACTOR SHALL PROVIDE ANY NECESSARY DIMENSIONAL DETAILS REQUESTED BY THE DETAILER AND PROVIDE THE CONTRACTOR'S REVIEW STAMP AND SIGNATURE BEFORE FORWARDING TO THE ARCHITECT/ENGINEER.
4. **SHOP DRAWING REVIEW:** ONCE THE CONTRACTOR HAS COMPLETED THEIR REVIEW, THE SER WILL REVIEW THE SUBMITTAL FOR GENERAL CONFORMANCE WITH THE DESIGN CONCEPT AND THE CONTRACT DOCUMENTS OF THE BUILDING AND WILL STAMP THE SUBMITTAL ACCORDINGLY. MARKINGS OR COMMENTS SHALL NOT BE CONSTRUED AS RELIEVING THE CONTRACTOR FROM COMPLIANCE WITH THE PROJECT PLANS AND SPECIFICATIONS, NOR DEPARTURES THERE FROM. THE SER WILL RETURN SUBMITTALS IN THE FORM IN WHICH THEY ARE SUBMITTED (EITHER HARD COPY OR ELECTRONIC). FOR HARD COPY SUBMITTALS, THE CONTRACTOR IS RESPONSIBLE FOR SUBMITTING THE REQUIRED NUMBER OF COPIES TO THE SER FOR REVIEW.
5. **SHOP DRAWING DEVIATIONS:** WHEN SHOP DRAWINGS (COMPONENT DESIGN DRAWINGS) DIFFER FROM OR ADD TO THE REQUIREMENTS OF THE STRUCTURAL DRAWINGS, THEY SHALL BE DESIGNED AND STAMPED BY THE RESPONSIBLE SSE.

01.40.00 INSPECTIONS, QUALITY ASSURANCE, AND TEST REQUIREMENTS

1. **INSPECTIONS:** FOUNDATIONS, FOOTINGS, AND UNDER SLAB SYSTEMS AND FRAMING ARE SUBJECT TO INSPECTION BY THE BUILDING OFFICIAL IN ACCORDANCE WITH IBC SECTION 110.3. THE CONTRACTOR SHALL COORDINATE ALL REQUIRED INSPECTIONS WITH THE BUILDING OFFICIAL.
2. **SPECIAL INSPECTIONS, VERIFICATIONS, AND TESTS:** SPECIAL INSPECTIONS, VERIFICATIONS, AND TESTING SHALL BE DONE IN ACCORDANCE WITH IBC CHAPTER 17, THE STATEMENT AND SCHEDULES OF SPECIAL INSPECTIONS LISTED IN THESE DRAWINGS, AND THE AHJ STATEMENT OF SPECIAL INSPECTION AND/OR STATEMENT OF STRUCTURAL OBSERVATIONS.
3. **STRUCTURAL OBSERVATION:**
   - 3.1. STRUCTURAL OBSERVATION FOR THIS PROJECT IS NOT REQUIRED PER IBC SECTION 1704.6.
4. **CONTRACTOR RESPONSIBILITY:** PRIOR TO ISSUANCE OF THE BUILDING PERMIT, THE CONTRACTOR IS REQUIRED TO PROVIDE THE AHJ A SIGNED, WRITTEN ACKNOWLEDGEMENT OF THE CONTRACTOR'S RESPONSIBILITIES ASSOCIATED WITH THE STATEMENT OF SPECIAL INSPECTIONS, PREVIOUSLY REFERENCED, ADDRESSING THE REQUIREMENTS LISTED IN IBC SECTION 1704.4. THE CONTRACTOR IS REFERRED TO IBC SECTIONS 1705.13.5 AND 1705.13.6 FOR ARCHITECTURAL AND MEP BUILDING SYSTEMS THAT MAY BE SUBJECT TO ADDITIONAL INSPECTIONS (BASED ON THE BUILDING'S DESIGNATED SEISMIC DESIGN CATEGORY LISTED IN THE DESIGN CRITERIA AND LOADS SECTION OF THESE GENERAL NOTES), INCLUDING ANCHORAGE OF HVAC DUCTWORK CONTAINING HAZARDOUS MATERIALS, PIPING SYSTEMS AND MECHANICAL UNITS CONTAINING FLAMMABLE, COMBUSTIBLE, OR HIGHLY TOXIC MATERIALS, ELECTRICAL EQUIPMENT USED FOR EMERGENCY OR STANDBY POWER, EXTERIOR WALL PANELS, AND SUSPENDED CEILING SYSTEMS.

05.05.19 POST-INSTALLED ANCHORS (INTO CONCRETE AND MASONRY)

1. **REFERENCE STANDARDS:** CONFORM TO:
   - 1.1. IBC CHAPTER 19 "CONCRETE"
   - 1.2. ACI 318 "BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE"
   - 1.3. IBC CHAPTER 21 "MASONRY"
   - 1.4. TMS 402 "BUILDING CODE REQUIREMENTS FOR MASONRY STRUCTURES"
2. **POST-INSTALLED ANCHORS:** INSTALL ONLY WHERE SPECIFICALLY SHOWN IN THE DETAILS OR ALLOWED BY THE SER. ALL POST-INSTALLED ANCHOR TYPES AND LOCATIONS SHALL BE APPROVED BY THE SER AND SHALL HAVE A CURRENT ICC-ESR THAT PROVIDES RELEVANT DESIGN VALUES NECESSARY TO VALIDATE THE AVAILABLE STRENGTH EXCEEDS THE REQUIRED STRENGTH. SUBMIT CURRENT MANUFACTURER'S DATA AND ICC-ESR TO THE SER FOR APPROVAL REGARDLESS OF WHETHER OR NOT IT IS A PRE-APPROVED ANCHOR. ANCHORS SHALL BE INSTALLED IN STRICT ACCORDANCE WITH ICC-ESR AND THE MANUFACTURER'S PRINTED INSTALLATION INSTRUCTIONS (MPII) IN CONJUNCTION WITH EDGE DISTANCE, SPACING, AND EMBEDMENT DEPTH AS INDICATED ON THE DRAWINGS. THE CONTRACTOR SHALL ARRANGE FOR A MANUFACTURER'S FIELD REPRESENTATIVE TO PROVIDE INSTALLATION TRAINING FOR ALL PRODUCTS TO BE USED PRIOR TO THE COMMENCEMENT OF WORK. ONLY TRAINED INSTALLERS SHALL PERFORM POST-INSTALLED ANCHOR INSTALLATION. A RECORD OF TRAINING SHALL BE KEPT ON SITE AND BE MADE AVAILABLE TO THE SER AS REQUESTED. ADHESIVE ANCHORS INSTALLED IN HORIZONTALLY OR UPWARDLY INCLINED ORIENTATIONS SHALL BE PERFORMED BY A CERTIFIED ADHESIVE ANCHOR INSTALLER (AAI) AS CERTIFIED THROUGH ACI/CRSI OR AN APPROVED EQUIVALENT. PROOF OF CURRENT CERTIFICATION SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PRIOR TO COMMENCEMENT OF INSTALLATION. NO REINFORCING BARS SHALL BE DAMAGED DURING INSTALLATION OF POST-INSTALLED ANCHORS. SPECIAL INSPECTION SHALL BE PER THE TESTS AND INSPECTIONS SECTION OF THESE GENERAL NOTES. ANCHOR TYPE, DIAMETER, AND EMBEDMENT SHALL BE AS INDICATED ON DRAWINGS.
   - 2.1. ADHESIVE ANCHORS: THE FOLLOWING ADHESIVE-TYPE ANCHORING SYSTEMS HAVE BEEN USED IN THE DESIGN AND SHALL BE USED FOR ANCHORAGE TO CONCRETE OR MASONRY AS APPLICABLE AND IN ACCORDANCE WITH THE CORRESPONDING CURRENT ICC ESR REPORT. REFERENCE THE CORRESPONDING ICC-ESR FOR REQUIRED MINIMUM AGE OF CONCRETE, CONCRETE TEMPERATURE RANGE, MOISTURE CONDITION, LIGHT WEIGHT CONCRETE, AND HOLE DRILLING AND PREPARATION REQUIREMENTS. DRILLED-IN ANCHOR EMBEDMENT LENGTHS SHALL BE AS SHOWN ON DRAWINGS OR NOT LESS THAN SEVEN TIMES THE ANCHOR NOMINAL DIAMETER (7D). ADHESIVE ANCHORS ARE TO BE INSTALLED IN CONCRETE AGED A MINIMUM OF 21 DAYS UNLESS OTHERWISE SPECIFIED IN THE ICC-ESR.

     HILTI "HIT-HY 270" - ICC-ESR 4143 FOR ANCHORAGE TO MASONRY ONLY, ICC-ESR 4144 FOR ANCHORAGE TO MULTI-WYTHE BRICK

     SIMPSON "SET-3G" - ICC-ESR 4057 FOR ANCHORAGE TO CONCRETE ONLY AND ICC-ESR 4844 FOR ANCHORAGE TO MASONRY

     SIMPSON "ET-3G" - ICC-ESR XXXX, ANCHORAGE TO UNREINFORCED CONCRETE MASONRY (URM)

     SIMPSON "ET-HP" - ICC-ESR 3638, IAPMO 241 FOR ANCHORAGE TO UNREINFORCED CONCRETE MASONRY (URM)
   - 2.2. SCREW ANCHORS: THE FOLLOWING SCREW TYPE ANCHOR IS PRE-APPROVED FOR ANCHORAGE TO CONCRETE OR MASONRY IN ACCORDANCE WITH CORRESPONDING CURRENT ICC-ESR:

     SIMPSON "TITEN HD" - ICC-ESR 2713 FOR CARBON STEEL TO CONCRETE, ICC-ESR 1056 FOR MASONRY ONLY, IAPMO 493 FOR STAINLESS STEEL TO CONCRETE

     PYTHON "MT ANCHOR" — ICC-ESR 5183 FOR PYTHON MT TO BRICK, UNGROUTED CONCRETE BLOCK (CMU), AND TERRACOTTA HOLLOW CLAY TILE (HCT)

06.11.00 WOOD FRAMING

1. **REFERENCE STANDARDS:** CONFORM TO:
   - 1.1. IBC CHAPTER 23 "WOOD"
   - 1.2. ANSI/AWC NDS "NATIONAL DESIGN SPECIFICATION (NDS) FOR WOOD CONSTRUCTION - WITH NDS SUPPLEMENT"
   - 1.3. ANSI/AWC SDPWS "SPECIAL DESIGN PROVISIONS FOR WIND AND SEISMIC"
   - 1.4. APA PDS "PANEL DESIGN SPECIFICATION"
   - 1.5. TPI 1 "NATIONAL DESIGN STANDARD FOR METAL-PLATE-CONNECTED WOOD TRUSS CONSTRUCTION"
   - 1.6. BCSI B1 "GUIDE TO GOOD PRACTICE FOR HANDLING, INSTALLING, RESTRAINING, AND BRACING OF TRUSSES"
   - 1.7. DSB-89 "RECOMMENDED DESIGN SPECIFICATION FOR TEMPORARY BRACING OF METAL PLATE CONNECTED WOOD TRUSSES"
   - 1.8. APA REPORT TT-045B "MINIMUM NAIL PENETRATION FOR WOOD STRUCTURAL PANEL CONNECTIONS SUBJECT TO LATERAL LOADS"
   - 1.9. APA REPORT TT-061C "1-5/16″ THICK I-JOIST FLANGES AND DIAPHRAGM NAIL PENETRATION"
2. **SUBMITTALS:**
   - 2.1. SOFTWOOD LUMBER, SOFTWOOD PLYWOOD, ORIENTED STRAND BOARD, GLUED LAMINATED TIMBER, LAMINATED VENEER LUMBER, LAMINATED STRAND LUMBER, AND WOOD I-JOISTS. EPDS MUST CONFORM TO ISO 14025 AND EN 15804 OR ISO 21930 AND HAVE AT LEAST A CRADLE-TO-GATE SCOPE. INDUSTRY-WIDE EPDS ARE ACCEPTABLE AS AN ALTERNATE TO FACILITY-SPECIFIC EPDS UPON REQUEST.
3. **DEFERRED SUBMITTALS:** SUBMIT PRODUCT DATA AND PROOF OF ICC APPROVAL FOR FRAMING MEMBERS AND FASTENERS THAT HAVE BEEN DESIGNED BY OTHERS. SUBMIT CALCULATIONS PREPARED BY AN SSE IN THE STATE OF {{provinceCode.1}} FOR ALL MEMBERS AND CONNECTIONS DESIGNED BY OTHERS ALONG WITH SHOP DRAWINGS. ALL NECESSARY BRIDGING, BLOCKING, BLOCKING PANELS, AND WEB STIFFENERS SHALL BE DETAILED AND FURNISHED BY THE SUPPLIER. TEMPORARY AND PERMANENT BRIDGING SHALL BE INSTALLED IN CONFORMANCE WITH THE MANUFACTURER'S SPECIFICATIONS. DEFLECTION LIMITS SHALL BE AS NOTED UNDER THE DEFERRED SUBMITTALS SECTION. PRODUCTS INCLUDED ARE:
4. **IDENTIFICATION:** ALL SAWN LUMBER AND PRE-MANUFACTURED WOOD PRODUCTS SHALL BE IDENTIFIED BY THE GRADE MARK OR A CERTIFICATE OF INSPECTION ISSUED BY THE CERTIFYING AGENCY.
5. **MATERIALS:**
   - 5.1. SAWN LUMBER: CONFORM TO GRADING RULES OF WWPA, WCLIB OR NLGA AND REQUIREMENTS BELOW. FINGER JOINTED STUDS ACCEPTABLE AT INTERIOR WALLS ONLY.

MEMBER USE	SIZE	SPECIES	GRADE
WALL STUD/TOP AND BOTTOM PLATES	2x4, 3x4, 2x6, 3x6	DOUG FIR LARCH	NO. 2
SILL PLATES (AT CONCRETE)	2x4, 3x4, 2x6, 3x6	PT DOUG FIR LARCH	NO. 2
POSTS	4x4, 4x6, 4x8	DOUG FIR LARCH	NO. 2
FLOORS OR ROOF JOISTS	2x6 THROUGH 2x12	DOUG FIR LARCH	NO. 2
BEAMS	4x8 THROUGH 4x12	DOUG FIR LARCH	NO. 2
BEAMS	6x8 THROUGH 6x12	DOUG FIR LARCH	NO. 1
POSTS OR TIMBERS	6x6, 8x8	DOUG FIR LARCH	NO. 1
LIGHT FRAMING/STUDS	2x4	DOUG FIR LARCH	STUD
LIGHT FRAMING/STUDS	2x6	DOUG FIR LARCH	NO. 2
LIGHT FRAMING/STUDS	4x4, 4x6, 4x8	DOUGLAS FIR LARCH	NO. 2
JOISTS AND PLANKS	2x6 THROUGH 2x12	DOUGLAS FIR LARCH	NO. 2
BEAMS AND STRINGERS	4x8 THROUGH 4x12	DOUGLAS FIR LARCH	NO. 2
BEAMS AND STRINGERS	6x8 THROUGH 6x12	DOUGLAS FIR LARCH	NO. 1
POSTS AND TIMBERS	6x6	DOUGLAS FIR LARCH	STUD
POSTS AND TIMBERS	8x8	DOUGLAS FIR LARCH	NO. 1

   - 5.2. GLUED LAMINATED TIMBER: CONFORM TO ANSI 117 AND ANSI A190.1. CAMBER ALL GLUED LAMINATED BEAMS, EXCEPT CANTILEVERED AND CONTINUOUS BEAMS, TO A RADIUS OF 3,000 FT UNLESS SHOWN OTHERWISE ON THE PLANS. FABRICATE CANTILEVERED AND CONTINUOUS BEAMS FLAT UNLESS SHOWN OTHERWISE ON PLANS.
   - 5.3. GLUED LAMINATED TIMBER - REQUIREMENTS:

MEMBER USE	SIZES	SPECIES	COMB. SYMBOL
BEAMS - SIMPLE SPAN	ALL	DF/DF	24F-V4
BEAMS - OTHER	ALL	DF/DF	24F-V8
COLUMNS - POST & TRUSS MEMBER	ALL	DF	L2D

   - 5.4. GLUED LAMINATED TIMBER - PRESERVATIVE TREATMENT (TREATED AFTER GLUING): GLUED LAMINATED TIMBER REQUIRING PRESERVATIVE TREATMENT SHALL BE IN ACCORDANCE WITH AWPA STANDARD U1 AND T1. RETENTIONS SHALL BE:
     - 5.4.1. UC1: INTERIOR CONSTRUCTION, ABOVE GROUND, DRY-INTERIOR CONSTRUCTION AND FURNISHINGS.
     - 5.4.2. UC2: INTERIOR CONSTRUCTION, ABOVE GROUND, DAMP-INTERIOR CONSTRUCTION.
     - 5.4.3. UC3B: EXTERIOR CONSTRUCTION, ABOVE GROUND, UNCOATED OR POOR WATER RUN-OFF-DECKING, DECK JOISTS, RAILINGS, FENCE PICKETS, UNCOATED MILLWORK.
     - 5.4.4. UC4A: GROUND CONTACT OR FRESH WATER, NON-CRITICAL COMPONENTS-FENCE, DECK AND GUARDRAIL POSTS, CROSSTIE AND UTILITY POLES.
   - 5.5. GLUED LAMINATED TIMBER - PRESERVATIVE PENETRATION (PCF) REQUIREMENTS:

USE CATEGORY	PRESERVATIVE SYSTEM		
UC1, UC2, UC3B	PCP-A OR PCP-C	CU-8-Q	CUN
SOUTHERN PINE	0.30 PCF	0.02 PCF	0.04 PCF
COASTAL DOUG FIR	0.30 PCF	N/A	0.04 PCF
WESTERN HEMLOCK, HEM-FIR	0.30 PCF	0.02 PCF	0.04 PCF
UC4A			
SOUTHERN PINE	0.60 PCF	N/A	0.06 PCF
COASTAL DOUG FIR	0.60 PCF	N/A	0.06 PCF
WESTERN HEMLOCK, HEM-FIR	0.60 PCF	N/A	0.06 PCF

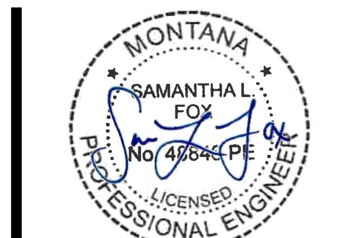
     - 5.5.1. GLULAM THAT IS TO BE PRESERVATIVE-TREATED SHOULD BE TRADEMARKED WITH THE APA EWS STAMP AND MUST BE BONDED WITH WET-USE ADHESIVES CONFORMING TO ANSI A190.1. INCISING IS REQUIRED FOR DOUGLAS-FIR, WESTERN HEMLOCK AND HEM-FIR. MOST GLUED LAMINATED TIMBER TO BE PRESSURE-TREATED WILL BE IN CUSTOM SIZES AND SHOULD BE ORDERED TO EXACT DIMENSIONS, WHEN POSSIBLE, TO AVOID FILED CUTS, WHICH MUST BE RETREATED. IN ADDITION, ALL FABRICATION, CUTTING AND PRE-DRILLING OF HOLES FOR FASTENERS IS RECOMMENDED PRIOR TO PRESERVATIVE-TREATING. FIELD TREATMENT SHOULD BE APPLIED TO SATURATION BY DIPPING, BRUSHING, SPRAYING, SOAKING OR COATING IN ACCORDANCE WITH AWPA STANDARD M4.
     - 5.5.2. FASTENERS USED TO CONNECT PRESERVATIVE-TREATED GLUED LAMINATED TIMBER SHOULD BE CORROSION RESISTANT TO WITHSTAND THE EFFECTS OF THE HIGH-MOISTURE ENVIRONMENT TO WHICH THESE MEMBERS ARE TYPICALLY EXPOSED. ALUMINUM SHOULD NOT BE USED IN DIRECT CONTACT WITH WOOD TREATED WITH COPPER BASED SOLUTIONS.
   - 5.6. WOOD STRUCTURAL SHEATHING (PLYWOOD): WOOD APA-RATED STRUCTURAL SHEATHING INCLUDES: ALL VENEER PLYWOOD, ORIENTED STRAND BOARD, WAFERBOARD, PARTICLEBOARD, T1-11 SIDING, AND COMPOSITES OF VENEER AND WOOD-BASED MATERIAL WITH T&G JOINT. ARCHITECT MAY DISALLOW OSB. CONFIRM WITH ARCHITECT. CONFORM TO "STRUCTURAL PLYWOOD" BASED ON PRODUCT STANDARD PS 1-19 BY THE U.S. DEPT. OF COMMERCE, AND "PERFORMANCE STANDARD FOR WOOD STRUCTURAL PANELS" BASED ON PRODUCT STANDARD PS 2-18 BY THE U.S. DEPT. OF COMMERCE AND "PANEL DESIGN SPECIFICATION" BASED ON APA D510 BY THE ENGINEERED WOOD ASSOCIATION. UNLESS NOTED OTHERWISE, SHEATHING SHALL COMPLY WITH THE FOLLOWING TABLE:
   - 5.7. WOOD STRUCTURAL SHEATHING (PLYWOOD) - MINIMUM THICKNESS AND APA RATING REQUIREMENTS:

LOCATION	THICKNESS	SPAN RATING	PLYWOOD GRADE
ROOF	15/32″	32/16	C-D

     - 5.7.1. ALL EXPOSURES TO BE CATEGORY 1.
     - 5.7.2. UNLESS NOTED OTHERWISE ON PLAN, INSTALL ROOF AND FLOOR PANELS WITH LONG DIMENSION ACROSS SUPPORTS AND WITH PANEL CONTINUOUS OVER TWO OR MORE SPANS. END JOINTS SHALL OCCUR OVER SUPPORTS. HUD MATERIALS BULLETIN 40C GRADE MARKING OF SHEATHING CERTIFICATION IS REQUIRED.
   - 5.8. TIMBER CONNECTORS: SHALL BE "STRONG TIE" BY SIMPSON COMPANY AS SPECIFIED IN THEIR LATEST CATALOG. ALTERNATE CONNECTORS BY OTHER MANUFACTURERS MAY BE SUBSTITUTED PROVIDED THEY HAVE CURRENT ICC APPROVAL FOR EQUIVALENT OR GREATER LOAD CAPACITIES AND ARE REVIEWED AND APPROVED BY THE SER PRIOR TO ORDERING. CONNECTORS SHALL BE INSTALLED PER THE MANUFACTURER'S INSTRUCTIONS. WHERE CONNECTOR STRAPS CONNECT TWO MEMBERS, PLACE HALF OF THE NAILS OR BOLTS IN EACH MEMBER. WHERE CONNECTORS ARE IN EXPOSED EXTERIOR APPLICATIONS IN CONTACT WITH PRESERVATIVE TREATED WOOD (PT) OTHER THAN CCA, CONNECTORS SHALL BE EITHER BATCH HOT-DIPPED GALVANIZED (HDG), MECHANICALLY GALVANIZED (ASTM B695, CLASS 55 MINIMUM) STAINLESS STEEL, OR PROVIDED WITH 1.85 OZ/SF OF ZINC GALVANIZING EQUAL TO OR BETTER THAN SIMPSON ZMAX FINISH.
     - 5.8.1. WHERE STRAPS ARE USED AS HOLD-DOWNS, NAIL STRAPS TO WOOD FRAMING JUST PRIOR TO DRYWALL APPLICATION, AS LATE AS POSSIBLE IN THE FRAMING PROCESS TO ALLOW THE WOOD TO SHRINK AND THE BUILDING TO SETTLE. PREMATURE NAILING OF THE STRAP MAY LEAD TO STRAP BUCKLING AND POTENTIAL FINISH DAMAGE.
   - 5.9. FASTENERS (NAILS, BOLTS, SCREWS, ETC.) ATTACHING TIMBER CONNECTORS (JOIST HANGERS, POST CAPS AND BASES, ETC.) TO PT WOOD SHALL HAVE SIMILAR CORROSION RESISTANCE PROPERTIES (MATCHING PROTECTIVE TREATMENTS) AS THE PROTECTED CONNECTOR. FASTENERS (NAILS, BOLTS, SCREWS, ETC.) ATTACHING SAWN TIMBER MEMBERS OR SHEATHING (SHEAR WALLS) TO PT WOOD SHALL BE CORROSION RESISTANT; NAILS AND LAG BOLTS SHALL BE EITHER HDG (ASTM A153) OR STAINLESS STEEL. VERIFY THE SUITABILITY OF THE FASTENER PROTECTION/COATING WITH THE WOOD TREATMENT CHEMICAL MANUFACTURER/SUPPLIER.
     - 5.9.1. PROVIDE WASHERS UNDER THE HEADS AND NUTS OF ALL BOLTS AND LAG SCREWS BEARING ON WOOD.
   - 5.10. LAG SCREWS/BOLTS: CONFORM TO ASTM A307 AND NDS CHAPTER 12.
     - 5.10.1. LAG SCREW INSTALLATION SHALL CONFORM TO NDS SECTION 12.1.4 INCLUDING REQUIRED DRILLED LEAD AND/OR CLEARANCE HOLES.
   - 5.11. NAILS AND STAPLES: CONFORM TO ASTM F1667 AND IBC SECTIONS 2303.6 AND 2304.10.
   - 5.12. ENGINEERED WOOD PRODUCTS (TRUSJOIST) - REQUIREMENTS:

TYPE	USE	WIDTH(S)	E (10^6 PSI)	F_b (PSI)	F_v (PSI)	F_c // (PSI)
LSL RIMBOARD	RIMBOARD OR STAIR STRINGER	1-1/2″	1.3	1,700	425	1,835
TIMBERSTRAND LSL	HEADER, BEAM OR COLUMN < 9″ DEPTH	3-1/2″	1.3	1,700	424	1,835
TIMBERSTRAND LSL	RIMBOARD, HEADER OR BEAM ≥ 9″ DEPTH	1-3/4″, 3-1/2″	1.55	2,325	310	2,170
MICROLLAM LVL	HEADER, BEAM	1-3/4″	2.0	2,600	285	2,510
PARALLAM PSL	HEADER, BEAM	3-1/2″, 5-1/4″, 7″	2.0	2,900	290	2,900

6. **NAILING REQUIREMENTS:** CONFORM TO IBC SECTION 2304.10. UNLESS NOTED OTHERWISE ON PLAN, NAIL PER IBC TABLE 2304.10.2. NAILING FOR ROOFS/FLOORS AND DIAPHRAGMS/SHEAR WALLS SHALL BE PER DRAWINGS. NAILS SHALL BE DRIVEN FLUSH AND SHALL NOT FRACTURE THE SURFACE OF SHEATHING. ALTERNATE NAILS MAY BE USED BUT ARE SUBJECT TO REVIEW AND APPROVAL BY THE SER. SUBSTITUTION OF STAPLES FOR THE NAILING OF RATED SHEATHING IS SUBJECT TO REVIEW BY THE SER PRIOR TO CONSTRUCTION.
7. **STANDARD LIGHT-FRAME CONSTRUCTION:** UNLESS NOTED OTHERWISE ON PLAN, CONSTRUCTION SHALL CONFORM TO IBC SECTION 2308.
8. **NAILERS ON STEEL COLUMNS AND BEAMS:** WOOD 3x NAILERS ARE GENERALLY REQUIRED ON ALL HSS COLUMNS AND STEEL BEAMS ABUTTING OR EMBEDDED WITHIN WOOD FRAMING. UNLESS NOTED OTHERWISE, ATTACH WITH 5/8″ DIAMETER BOLTS OR WELDED STUDS AT 16″ OC. UNLESS NOTED OTHERWISE, WOOD NAILERS ON BEAMS SUPPORTING JOIST HANGERS SHALL NOT OVERHANG THE BEAM FLANGE BY MORE THAN 1/4″.
9. **WOOD SHRINKAGE AND EXPANSION:** WOOD MATERIALS WILL EXPAND OR CONTRACT BASED ON RELATIVE CHANGES IN MOISTURE. THE CONTRACTOR IS RESPONSIBLE FOR MEANS AND METHODS OF CONSTRUCTION RELATED TO MITIGATING AND MANAGING THE EFFECTS OF CHANGES IN MOISTURE.
10. **MOISTURE CONTENT:** THE CONTRACTOR SHALL MAKE PROVISIONS DURING HANDLING AND CONSTRUCTION TO PREVENT THE STRUCTURAL WOOD MEMBERS FROM EXCEEDING THE APPROPRIATE MOISTURE CONTENT LIMITS. THE MOISTURE CONTENT FOR SOLID SAWN WOOD MATERIAL USED FOR THIS PROJECT SHALL NOT EXCEED 19%. THE MOISTURE CONTENT FOR ENGINEERED WOOD PRODUCTS, LAMINATED LUMBER AND SHEATHING SHALL NOT EXCEED THE LIMITS REQUIRED BY THE MANUFACTURER OR 12%, WHICHEVER IS LESS. THE MOISTURE CONTENT LIMITS MAY BE MORE STRINGENT FOR PARTICULAR PRODUCT REQUIREMENTS (E.G., FINISHES, CLADDING, INSULATION SYSTEMS, ETC.). THE CONTRACTOR SHALL REFER TO THE ARCHITECT'S DRAWINGS, PROJECT SPECIFICATIONS, OR INSTALLER/PRODUCT REQUIREMENTS FOR ADDITIONAL REQUIREMENTS.
11. **SHRINKAGE COMPENSATION FOR MECHANICAL, ELECTRICAL, AND PLUMBING SYSTEMS:** MEP SYSTEMS, INCLUDING DUCTWORK, PIPES, AND OTHER ELEMENTS THAT RUN CONTINUOUSLY BETWEEN LEVELS SHALL BE INSTALLED/DESIGNED IN SUCH A MANNER TO ACCOMMODATE SHRINKAGE IN THE WOOD FRAMING. WOOD SHRINKAGE AMOUNTS WILL VARY DEPENDING ON THE CONSTRUCTION PROCESS AND MATERIALS USED. THE ANTICIPATED SHRINKAGE UNDER TYPICAL CONDITIONS IS EXPECTED TO RANGE BETWEEN 1/8″ AND 1/4″ PER FLOOR.
12. **CLADDING COMPATIBILITY:** THE ARCHITECT/OWNER AND CONTRACTOR SHALL REVIEW THE CLADDING, FINISHES, INSULATION SYSTEMS, OTHER NON-STRUCTURAL COMPONENTS, AND CONSTRUCTION PROCEDURES PROPOSED FOR THE PROJECT WITH RESPECT TO THEIR PERFORMANCE OVER WOOD FRAMING. EIFS SYSTEMS SHOULD BE AVOIDED ON WOOD-FRAMED PROJECTS DUE TO PROBLEMS WITH MOISTURE PROOFING. NOTE THAT DCI IS NOT RESPONSIBLE FOR THE ATTACHMENT OF THE CLADDING TO THE WOOD STUDS WHICH NEEDS TO BE VERIFIED AND PROVIDED BY THE CLADDING SUPPLIER.
13. **STORAGE AND HANDLING:**
    - 13.1. ALL STORAGE AND HANDLING IS TO BE A MEANS AND METHODS PROVIDED BY THE CONTRACTOR. THE CONTRACTOR IS TO DETERMINE THE BEST PRACTICES IN ORDER TO AVOID DAMAGE TO THE MEMBERS DURING STORAGE, SUCH AS FUNGAL GROWTH AND EXPOSURE TO WEATHER CONDITIONS. THE FOLLOWING ARE SUGGESTIONS TO AID THE CONTRACTOR. ALL MATERIALS SHOULD BE STORED LEVEL ON SITE AND MUST BE RAISED OFF THE GROUND A MINIMUM OF 6″ BY MEANS OF BLOCKING AND SEPARATING SPACERS. IT IS RECOMMENDED THAT THE MATERIALS ARE COVERED WITH AN ADDITIONAL OPAQUE WATERPROOF MATERIAL (I.E. GOOD QUALITY TARPAULIN). WHEN MEMBERS ARE WRAPPED IN POLY OR ANOTHER MATERIAL WHICH MAY INHIBIT AIR FLOW, THE MATERIAL SHOULD HAVE SLOTS OR PERFORATIONS TO ALLOW FOR AIR FLOW AND PREVENT THE ACCUMULATION OF WATER AND/OR CONDENSATION. ENSURE THAT ALL EXPOSED MEMBERS ARE PROTECTED. PROTECTIVE MATERIAL SHOULD BE REMOVED ONLY AFTER THE ROOF OR STRUCTURE PROVIDING COVER IS INSTALLED. MEMBERS SHOULD BE CONSTANTLY PROTECTED FROM WEATHER DURING TRANSPORTATION, STORAGE, AND ERECTION.
    - 13.2. FOR INTERIOR GLULAM MEMBERS, THE HEAT IN THE BUILDING SHOULD BE GRADUALLY INCREASED OVER A TWO-TO-THREE-WEEK PERIOD IN ORDER TO PROVIDE A GRADUAL CHANGE IN MOISTURE CONTENT. DO NOT DIRECT ANY FORCED AIR HEATING SYSTEMS ONTO THE GLULAM MEMBERS. IT IS RECOMMENDED TO APPLY THE FINAL FINISH TO THE GLULAM MEMBER BEFORE HEAT IS APPLIED.
    - 13.3. MEMBERS THAT ARE TO BE EXPOSED TO VIEW IN THE FINISHED STRUCTURE SHOULD BE HANDLED USING NYLON OR FABRIC SLINGS TO PREVENT SURFACE DAMAGE. THE CONTRACTOR SHOULD ALSO USE MEANS TO PROTECT CORNERS OF MEMBERS TO PREVENT CRUSHING DURING TRANSPORTATION, STORAGE, AND ERECTION. ALL BOLTS SHOULD BE GALVANIZED OR MADE SURE THAT THEY ARE FREE OF OIL TO PREVENT STAINING. GLULAM MEMBERS SHOULD BE TREATED AND STAINED PER THE ARCHITECT OF RECORD'S RECOMMENDATIONS. THE FOLLOWING ARE PROVIDED IN ORDER TO HELP GUIDE THE CONTRACTOR IN THE BEST PRACTICES TO PRESERVE THE QUALITY OF WOOD PRODUCTS. THESE NOTES ARE NOT INTENDED TO BE COMPREHENSIVE AND AN END ALL SOLUTION AND SHOULD BE TAKEN UNDER CONSIDERATION BY THE CONTRACTOR AND SUPPLEMENTED AS NECESSARY.
14. **PRESERVATIVE TREATMENT (PT):** WOOD MATERIALS THAT ARE REQUIRED TO BE "TREATED WOOD" IN ACCORDANCE WITH IBC SECTION 2304.12 SHALL CONFORM TO THE APPROPRIATE STANDARDS OF THE AMERICAN WOOD PROTECTION ASSOCIATION (AWPA) FOR SAWN LUMBER, GLUED LAMINATED TIMBER, ROUND POLES, WOOD PILES, AND MARINE PILES. FOLLOW AMERICAN LUMBER STANDARDS COMMITTEE (ALSC) QUALITY ASSURANCE PROCEDURES. PRODUCTS SHALL BEAR THE APPROPRIATE MARK. FASTENERS OR ANCHORS IN TREATED WOOD SHALL BE STAINLESS STEEL OR HOT-DIPPED GALVANIZED OR AS PER IBC SECTION 2304.10.6. HUD UM48 PRESSURE-TREATED LUMBER AND PLYWOOD CERTIFICATION IS REQUIRED.
    - 14.1. MUD SILL PLATES IN NORMALLY DRY INTERIOR APPLICATIONS MAY BE TREATED WITH SODIUM BORATE (DOT - DISODIUM OCTABORATE TETRAHYDRATE) AS RECENT STUDIES HAVE NOTED LESS CONNECTOR CORROSION POTENTIAL THAN OTHER AVAILABLE WOOD TREATMENTS OR THE ORIGINAL CCA TREATED SILL PLATES. WOOD TREATED WITH SODIUM BORATE SHALL BE PROTECTED DURING SHIPMENT, STORAGE AND INSTALLATION TO MINIMIZE LEACHING OF THE WATER-SOLUBLE PRESERVATIVE FROM THE LUMBER. SODIUM BORATE PRESSURE TREATED PLATES DO NOT REQUIRE HOT-DIPPED GALVANIZED CONNECTORS.
    - 14.2. IF USING PRESERVATIVE TREATMENTS OTHER THAN CCA OR SODIUM BORATE, FASTENERS MUST BE HOT-DIPPED GALVANIZED OR STAINLESS-STEEL. WOOD TREATED WITH ALKALINE COPPER QUATERNARY (ACQ) REQUIRES STEEL COMPONENTS IN CONTACT WITH THE WOOD TO BE STAINLESS (NAILS, BOLTS, SCREWS, WASHERS, AND LAG SCREWS). FASTENERS (NAILS, BOLTS, SCREWS, WASHERS, AND LAG SCREWS) ATTACHING TIMBER CONNECTORS (JOIST HANGERS, POST CAPS AND BASES, ETC.) TO PT WOOD SHALL HAVE SIMILAR CORROSION RESISTANCE PROPERTIES (MATCHING PROTECTIVE TREATMENTS) AS THE PROTECTED CONNECTOR; THAT IS, USE HOT-DIPPED GALVANIZED OR STAINLESS-STEEL FASTENERS. FASTENERS (NAILS, BOLTS, SCREWS, WASHERS, AND LAG SCREWS) ATTACHING SAWN TIMBER MEMBERS OR SHEATHING (SHEAR WALLS) TO PRESSURE TREATED WOOD SHALL BE CORROSION RESISTANT (HOT-DIPPED GALVANIZED OR STAINLESS-STEEL).
    - 14.3. ALWAYS VERIFY THE SUITABILITY OF THE FASTENER PROTECTION/COATING WITH THE WOOD TREATMENT CHEMICAL MANUFACTURER/SUPPLIER.
15. **FIRE RETARDANT TREATED (FRT) WOOD:** WOOD MATERIAL THAT IS REQUIRED TO BE FIRE RETARDANT TREATED WOOD TO CONFORM TO IBC SECTION 2303.2. SUBMIT ICC REPORT TO THE SER FOR REVIEW AND APPROVAL PRIOR TO CONSTRUCTION.



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sheet **STRUCTURAL - GENERAL NOTES**

project **ATKINSON QUADRANGLE REROOF AND WINDOW REPLACEMENT PPA 25-1407**

owner MONTANA STATE UNIVERSITY

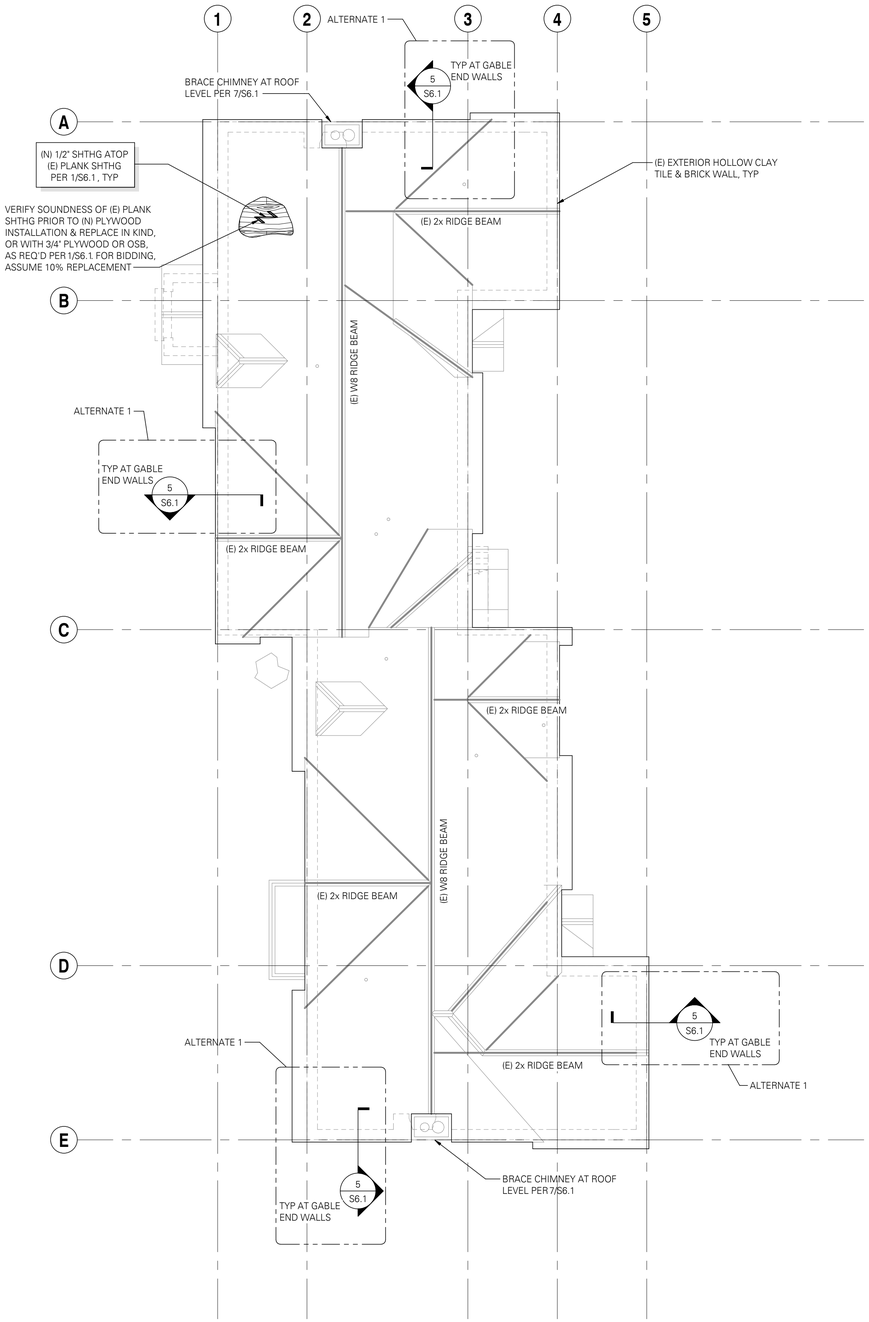
project # **23123.10**

revision date

phase
CONSTRUCTION DOCUMENTS

issue date
06.19.2026

S1.1



QUAD AB - ROOF FRAMING PLAN

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

ROOF FRAMING PLAN NOTES:

1. STRUCTURAL GENERAL NOTES, DESIGN CRITERIA, ABBREVIATIONS AND LEGEND PER S1.0 AND S1.1.
2. VERIFY ALL DIMENSIONS AND ELEVATIONS WITH THE ARCHITECTURAL DRAWINGS. ALL EXISTING DIMENSIONS SHALL BE FIELD VERIFIED.
3. PROTECT IN PLACE ALL (E) DUCTS, CHASES, PIPES AND ARCHITECTURAL COMPONENTS AS REQUIRED BY ARCHITECTURAL DRAWINGS.
4. ROOF SHEATHING PER PLAN AND STRUCTURAL GENERAL NOTES. SHEATHING TO BE NAILED TO ROOF FRAMING WITH 0.131"DIAx2 1/2" NAILS @ 6"OC AT SUPPORTED PANEL EDGES AND @ 12"OC FIELD, UNO. LAY SHEATHING WITH FACE GRAIN (LONG DIRECTION) PERPENDICULAR TO SUPPORTS AND STAGGER PANEL END JOINTS. ALLOW 1/8" SPACE BETWEEN PANEL ENDS AND EDGES.
5. (E) = EXISTING ELEMENT
   (V) = ELEMENT TO BE FIELD VERIFIED
   (N) = NEW ELEMENT
6. CONTACT DCI ENGINEERS IF EXISTING CONDITIONS ENCOUNTERED, DIFFER FROM THOSE DRAWN.

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sheet STRUCTURAL - QUAD AB - ROOF FRAMING PLAN

project ATKINSON QUADRANGLE REROOF AND WINDOW REPLACEMENT
PPA 25-1407

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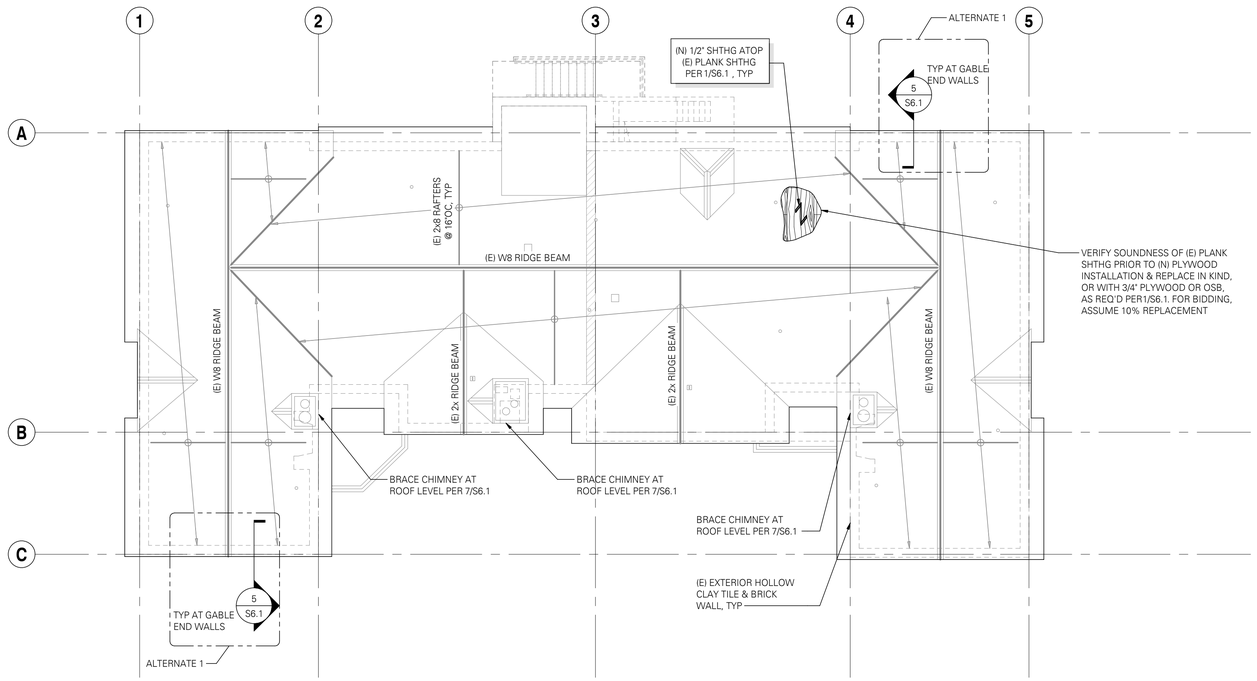
project # 23123.10

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06.19.2026

S2.11



QUAD CD - ROOF FRAMING PLAN

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

ROOF FRAMING PLAN NOTES:

1. STRUCTURAL GENERAL NOTES, DESIGN CRITERIA, ABBREVIATIONS AND LEGEND PER S1.0 AND S1.1.
2. VERIFY ALL DIMENSIONS AND ELEVATIONS WITH THE ARCHITECTURAL DRAWINGS. ALL EXISTING DIMENSIONS SHALL BE FIELD VERIFIED.
3. PROTECT IN PLACE ALL (E) DUCTS, CHASES, PIPES AND ARCHITECTURAL COMPONENTS AS REQUIRED BY ARCHITECTURAL DRAWINGS.
4. ROOF SHEATHING PER PLAN AND STRUCTURAL GENERAL NOTES. SHEATHING TO BE NAILED TO ROOF FRAMING WITH 0.131"DIAx2 1/2" NAILS @ 6"OC AT SUPPORTED PANEL EDGES AND @ 12"OC FIELD, UNO. LAY SHEATHING WITH FACE GRAIN (LONG DIRECTION) PERPENDICULAR TO SUPPORTS AND STAGGER PANEL END JOINTS. ALLOW 1/8" SPACE BETWEEN PANEL ENDS AND EDGES.
5. (E) = EXISTING ELEMENT
   (V) = ELEMENT TO BE FIELD VERIFIED
   (N) = NEW ELEMENT
6. CONTACT DCI ENGINEERS IF EXISTING CONDITIONS ENCOUNTERED, DIFFER FROM THOSE DRAWN.

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sheet STRUCTURAL - QUAD CD - ROOF FRAMING PLAN

project ATKINSON QUADRANGLE REROOF AND WINDOW REPLACEMENT
PPA 25-1407

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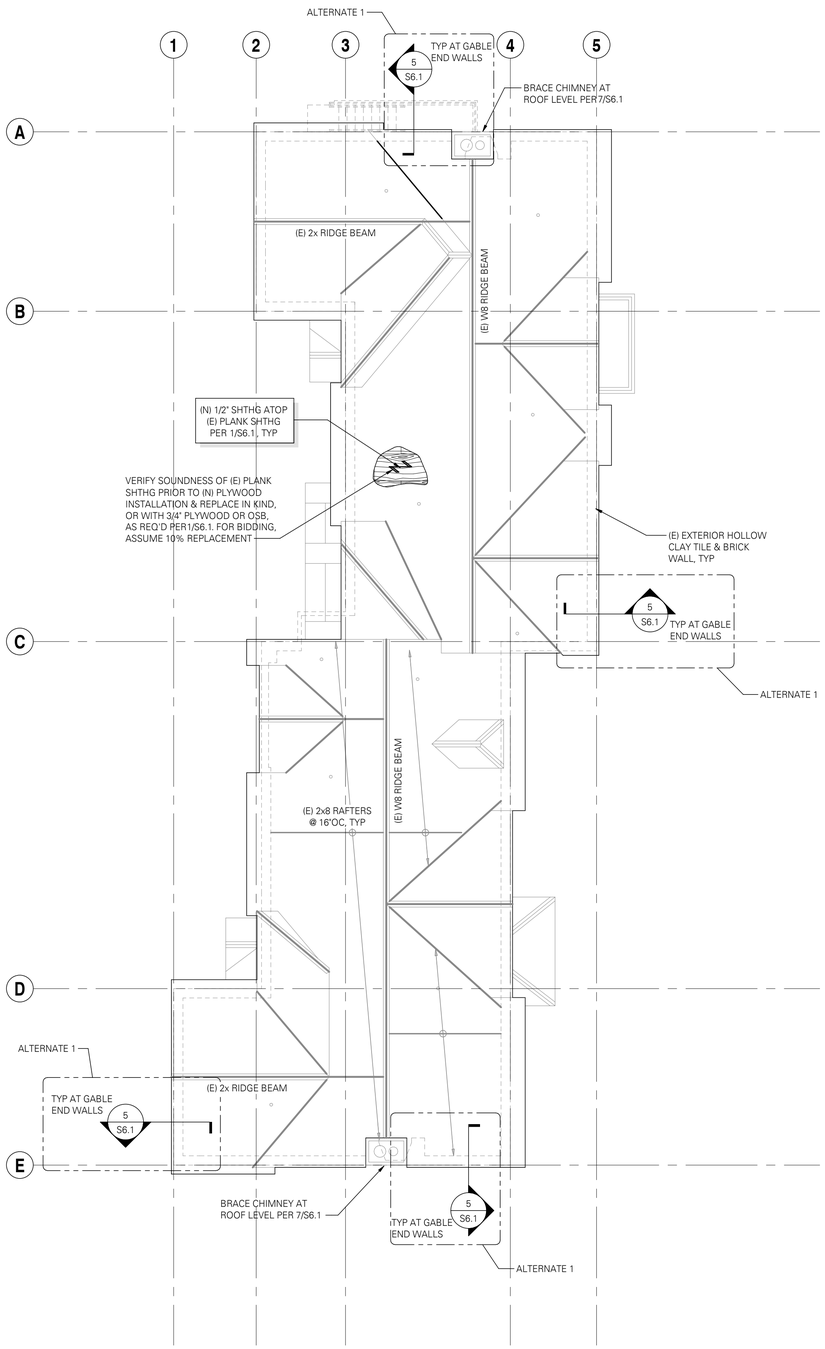
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S2.12



QUAD EF - ROOF FRAMING PLAN

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

ROOF FRAMING PLAN NOTES:

1. STRUCTURAL GENERAL NOTES, DESIGN CRITERIA, ABBREVIATIONS AND LEGEND PER S1.0 AND S1.1.
2. VERIFY ALL DIMENSIONS AND ELEVATIONS WITH THE ARCHITECTURAL DRAWINGS. ALL EXISTING DIMENSIONS SHALL BE FIELD VERIFIED.
3. PROTECT IN PLACE ALL (E) DUCTS, CHASES, PIPES AND ARCHITECTURAL COMPONENTS AS REQUIRED BY ARCHITECTURAL DRAWINGS.
4. ROOF SHEATHING PER PLAN AND STRUCTURAL GENERAL NOTES. SHEATHING TO BE NAILED TO ROOF FRAMING WITH 0.131"DIAx2 1/2" NAILS @ 6"OC AT SUPPORTED PANEL EDGES AND @ 12"OC FIELD, UNO. LAY SHEATHING WITH FACE GRAIN (LONG DIRECTION) PERPENDICULAR TO SUPPORTS AND STAGGER PANEL END JOINTS. ALLOW 1/8" SPACE BETWEEN PANEL ENDS AND EDGES.
5. (E) = EXISTING ELEMENT
   (V) = ELEMENT TO BE FIELD VERIFIED
   (N) = NEW ELEMENT
6. CONTACT DCI ENGINEERS IF EXISTING CONDITIONS ENCOUNTERED, DIFFER FROM THOSE DRAWN.

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sheet STRUCTURAL - QUAD EF - ROOF FRAMING PLAN

project ATKINSON QUADRANGLE REROOF AND WINDOW REPLACEMENT
PPA 25-1407

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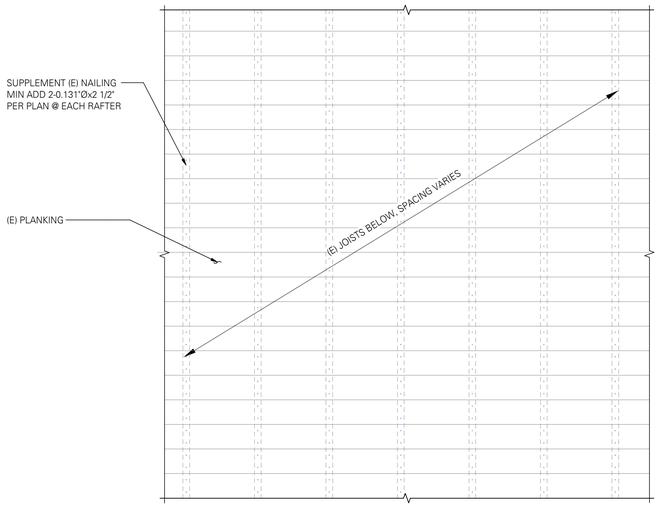
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CONSTRUCTION DOCUMENTS

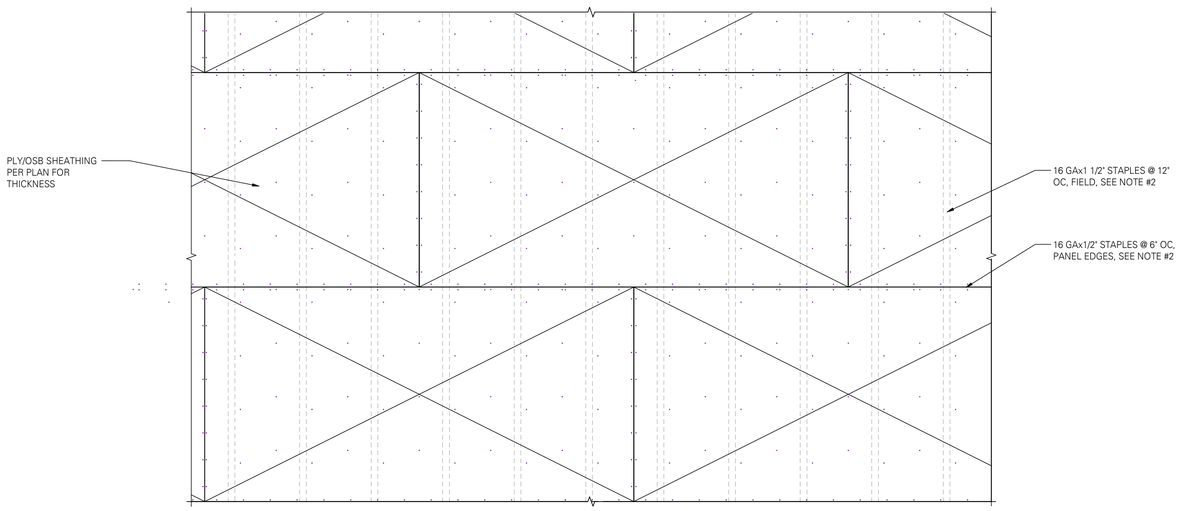
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PRENAILING REQUIREMENTS

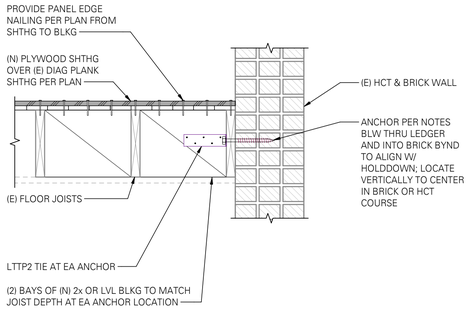
NOTES:
1. (E) PLANKING NOT SHOWN FOR CLARITY
2. CONTRACTORS TO VERIFY STAPLES DO NOT PENETRATE INTO BUILDING
3. PLY/OSB SHEATHING EDGES ARE NOT REQUIRED TO ALIGN W/ (E) RAFTERS



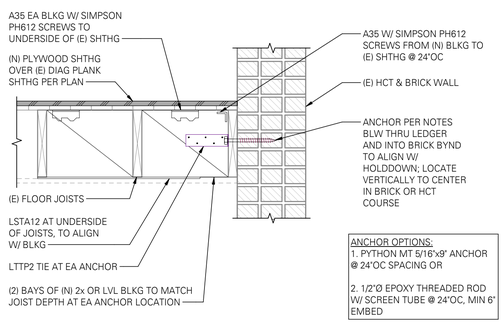
SHEATHING OVERLAY ATTACHMENT REQUIREMENTS

1 (E) ROOF PLANKING NAILING & (N) SHEATHING NAILING

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



ALTERNATE 1



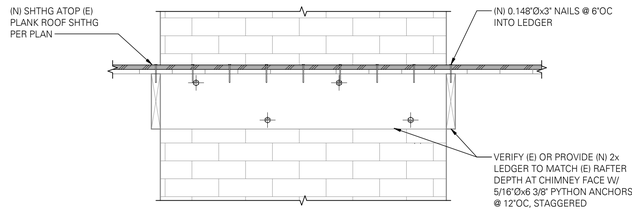
ANCHOR OPTIONS:
1. PYTHON MT 5/16"x9" ANCHOR @ 24"OC SPACING OR

2. 1/2"Ø EPOXY THREADED ROD W/ SCREEN TUBE @ 24"OC, MIN 6" EMBED

CONTRACTORS OPTION

5 TYPICAL URM WALL TO ROOF CONNECTION - RAFTER PARALLEL

SCALE: 1" = 1'-0"



NOTE: PROVIDE 3/4"Ø EPOXY ANCHORS W/ 6" EMBED @ 12"OC STAGG AT CONTRACTOR OPTION.

7 (N) CONNECTION AT (E) CHIMNEY TO (E) FLOOR & (E) ROOF - MAIN HALL

SCALE: 1" = 1'-0"

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project ATKINSON QUADRANGLE REROOF AND WINDOW REPLACEMENT
PPA 25-1407

owner MONTANA STATE UNIVERSITY

project # 23123.10

revision	date

phase
CONSTRUCTION DOCUMENTS

issue date
06.19.2026

S6.1