SINGLE FAMILY RESIDENCE ADDITION

THE BARNETT RESIDENCE

7530 86TH AVE. SE

MERCER ISLAND, WASHINGTON 98040

GENERAL NOTES

A. ALL WORK SHALL BE PERFORMED IN STRICT ACCORDANCE WITH ALL GOVERNING BUILDING CODES AND REGULATIONS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL WORK THAT HAS BEEN PERFORMED WHICH DOES NOT MEET THESE CODES AND REGULATIONS.

B. ALL WORK SHALL BE PERFORMED IN STRICT ACCORDANCE TO THE DESIGNER'S CONSTRUCTION DOCUMENTS. THE CONTRACTOR IS RESPONSIBLE FOR REPORTING IMMEDIATELY TO THE ARCHITECT ANY DISCREPANCIES OR DETAILS WHICH DO NOT MEET BUILDING CODES AND CONSTRUCTION STANDARDS.

C. THE CONTRACTOR SHALL VERIFY ALL CONDITIONS AND DIMENSIONS ON SITE PRIOR TO THE COMMENCEMENT OF CONSTRUCTION. IN THE EVENT OF CONFLICTS OR CHANGES BETWEEN DETAILS, OR BETWEEN THE PLANS AND SPECIFICATIONS, THE DESIGNER SHALL BE NOTIFIED IMMEDIATELY.

D. THE CONTRACTOR SHALL VERIFY LOCATION OF ALL UTILITIES AND PIPING BEFORE BEGINNING WORK.

E. THE GC SHALL COORDINATE ALL OPERATIONS WITH THE OWNER, INCLUDING AREA FOR WORK, MATERIALS STORAGE, AND ACCESS TO AND FROM THE WORK, SPECIAL CONDITIONS OR NOISY WORK, TIMING OF WORK AND INTERRUPTION OF MECHANICAL AND ELECTRICAL SERVICES, NOISY OR DISRUPTIVE WORK SHALL BE SCHEDULED AT LEAST ONE (1) WEEK IN ADVANCE OF THE TIME WORK IS TO COMMENCE.

F. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE HIGHEST STANDARD OF WORKMANSHIP IN GENERAL AND WITH SUCH STANDARDS AS ARE SPECIFIED.

G. GC SHALL SUBMIT SAMPLES OF ALL FINISHES OF SUCH SIZE AND NUMBER THAT THEY REPRESENT A REASONABLE DISTRIBUTION OF COLOR RANGES AND PATTERN PRIOR TO INSTALLATION FOR DESIGNER'S APPROVAL. GC SHALL PROVIDE SHOP DWGS AND PRODUCT DATA FOR DESIGNER'S APPROVAL ON ALL SPECIAL ITEMS REQUIRING CUSTOM FABRICATION (SHALL INCLUDE RATED FIRE DOORS AND HARDWARE).

H. EXISTING WORK DAMAGED AS A RESULT OF WORK DONE UNDER THIS CONTRACT SHALL BE REPAIRED TO ORIGINAL CONDITION AND FINISHED TO MATCH ADJACENT FINISHES, SUBJECT TO DESIGNER'S APPROVAL, AND AT NO ADDITIONAL COST TO THE OWNER. ALL REPLACEMENT MATERIALS REQUIRED TO MATCH EXISTING MATERIALS SHALL DO SO WITH RESPECT TO TYPE, PATTERN, TEXTURE, SIZE, SHAPE, COLOR AND METHOD OF INSTALLATION INSOFAR AS PRACTICABLE, AND SHALL BE APPROVED BY THE DESIGNER AND OWNER PRIOR TO INSTALLATION.

I. MATERIALS, ARTICLES, DEVICES AND PRODUCTS ARE SPECIFIED IN THE DOCUMENTS BY LISTING ACCEPTABLE MANUFACTURERS OR PRODUCTS, BY REQUIRING COMPLIANCE WITH REFERENCED STANDARDS, OR BY PERFORMANCE SPECIFICATIONS. FOR ITEMS SPECIFIED BY NAME, SELECT ANY PRODUCT NAMED. FOR THOSE SPECIFIED BY REFERENCE STANDARDS OR BY PERFORMANCE SPECIFICATIONS SELECT ANY PRODUCT MEETING OR EXCEEDING SPECIFIED CRITERIA. FOR APPROVAL OF AN ITEM NOT SPECIFIED, SUBMIT REQUIRED SUBMITTALS, PROVIDING COMPLETE BACK-UP INFORMATION FOR PURPOSES OF EVALUATION. WHERE BUILDING STANDARD ITEMS ARE CALLED FOR, NO SUBSTITUTE WILL BE ACCEPTED.

VICINITY MAP

PROJECT LOCATION

DEFERRED SUBMITTALS

MECHANICAL:

1. THE MECHANICAL WORK FOR THE PROJECT SHALL BE PERFORMED AS DESIGN-BUILD. THE GENERAL CONTRACTOR SHALL SUBMIT WITH THE BID A PROPOSED HVAC AND PLUMBING DRAWING THAT COORDINATES WITH THE DESIGN DRAWINGS.
2. THE GENERAL CONTRACTOR'S MECHANICAL SUBCONTRACTOR WILL BE RESPONSIBLE FOR APPLYING FOR AND SECURING ALL NECESSARY MECHANICAL PERMITS.
3. THE GENERAL CONTRACTOR'S PLUMBING SUBCONTRACTOR WILL BE RESPONSIBLE FOR APPLYING FOR AND SECURING ALL NECESSARY PLUMBING PERMITS.

ELECTRICAL:

1. THE ELECTRICAL WORK FOR THE PROJECT SHALL BE PERFORMED AS DESIGN-BUILD. THE GENERAL CONTRACTOR SHALL SUBMIT WITH THE BID A PROPOSED ELECTRICAL DRAWING THAT COORDINATES WITH THE DESIGN DRAWINGS.
2. THE GENERAL CONTRACTOR'S ELECTRICAL SUBCONTRACTOR WILL BE RESPONSIBLE FOR APPLYING FOR AND SECURING ALL NECESSARY ELECTRICAL PERMITS.

DOCUMENTS FOR DEFERRED SUBMITTAL ITEMS SHALL BE SUBMITTED TO THE DESIGNER WHO SHALL REVIEW THEM AND FORWARD THEM TO THE BUILDING OFFICIAL WITH A NOTATION INDICATING THAT THE DEFERRED SUBMITTAL DOCUMENTS HAVE BEEN REVIEWED AND BEEN FOUND TO BE IN GENERAL CONFORMANCE TO THE DESIGN OF THE BUILDING. THE DEFERRED SUBMITTAL ITEMS SHALL NOT BE INSTALLED UNTIL THE DESIGN AND SUBMITTAL DOCUMENTS HAVE BEEN APPROVED BY THE BUILDING OFFICIAL.

PROJECT TEAM

CLIENT:
ALEX & BARRETT BARNETT
7530 86TH AVE SE
MERCER ISLAND, WA 98040
TEL.: (206) 890-6262
CONTACT: BARRETT BARNETT
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ARCHITECT:
ARISE DESIGN LAB
10313 NE 125TH PL
KIRKLAND, WA 98034
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STRUCTURAL:
B2 ENGINEERS
15306 61ST PLACE NE
KENMORE, WA 98028
(425) 318-0031
PM CONTACT: BASRI BASRI
EMAIL: BASRI@B2ENGINEERS.COM

PROJECT DATA

OWNERS: ALEX AND BARRETT BARNETT
SITE ADDRESS: 7530 86TH AVE SE, MERCER ISLAND, WA 98040

LEGAL DESCRIPTION:
MERCER ISLAND ESTATES #2 PLAT LOCK 20

PARCEL NUMBER:	545121-0200
JURISDICTION:	CITY OF MERCER ISLAND
WATER & SEWER DISTRICT:	CITY OF MERCER ISLAND
SECTION/TOWNSHIP/RANGE:	SW-30-24-05
PROPERTY ZONING:	R9.6
LOT SIZE:	10,658 S.F.

BUILDING SETBACKS:	REQUIRED	PROPOSED (1 09/09/2021)
EAST - REAR:	25'-0"	27'-1" (PROPOSED)
WEST - FRONT (SE 86TH AVE SE)	20'-0"	32'-6" (EXISTING)
NORTH - SIDE*:	7'-6" (2 STORY GABLE)	9'-8" (EXISTING)
SOUTH - SIDE*:	7'-6" (2 STORY GABLE)	8'-8" (EXISTING)

*SIDE = 17% OF LOT AREA: 18'-2" > 16'-2" @ AVERAGE LOT WIDTH (95x.17)

BUILDING HEIGHT PER R9.6 ZONING:

1ST FINISH FLOOR:	356.375
A.B.E. (SEE CALCULATIONS BELOW)	355.20
EXISTING BUILDING HEIGHT:	377.08
PROPOSED ADDITION BUILDING HEIGHT:	367.75
MAXIMUM ALLOWABLE HEIGHT ABOVE A.B.E.:	386.875 (30'-0")

BUILDING HEIGHT NOTES:

1. REFER TO PLAN FOR SPOT ELEVATIONS AND BENCHMARK ELEVATION (#L).
2. REFER TO BUILDING ELEVATIONS FOR A.B.E. DATUM POINTS AND ROOF RIDGE ELEVATIONS

BUILDING CONSTRUCTION DATA

OCCUPANCY TYPE: R-3 (SINGLE FAMILY RES.) BUILDING CONSTRUCTION
TYPE: V-B

GARAGE (EXISTING):	680.00 S.F.
1ST FLOOR (EXISTING):	1,370.00 S.F.
2ND FLOOR (EXISTING):	1,560.00 S.F.
TOTAL FLOOR AREA:	3,610.00 S.F.
ALLOWABLE GROSS FLOOR AREA:	4,263.20 S.F. (33.9%)

1 09/09/2021

LOT COVERAGE CALCULATIONS (LOT SLOPE <15%):

MAIN STRUCTURE ROOF AREA:	2480.70 S.F.
ACCESSORY SHED ROOF AREA:	32.40 S.F.
VEHICULAR USE:	1113.21 S.F.
TOTAL LOT COVERAGE:	3,626.31 S.F./34.03%
ALLOWABLE LOT COVERAGE:	4,263.20 S.F./40.00%

HARDSCAPE CALCULATIONS:

NEW DECK (<30" ABOVE GRADE):	288.48 S.F.
TOTAL HARDSCAPE:	288.48 S.F./ 2.71%
ALLOWABLE HARDSCAPE:	959.22 S.F./ 9.00%

1 09/09/2021

**<500 S.F. OF NEW/REPLACED IMPERVIOUS SURFACE

TREES:
NO SIGNIFICANT TREES SHALL BE REMOVE OR IMPACTED IN CONSTRUCTION WITH THE SCOPE OF WORK STATED IN THE BUILDING PERMIT.

ENERGY CREDITS:

EFFICIENT FURNACE (3A):	1.0
TOTAL CREDITS:	1.0

SHEET INDEX

1 09/09/2021

SCOPE OF WORK

INTERIOR REMODEL OF KITCHEN/DINING ROOM AND NEW 406 S.F. COVERED OUTDOOR AREA. REMOVAL OF EXISTING BAY WINDOW AND INTERIOR DEMOLITION OF EXISTING KITCHEN TO ENLARGE DINING ROOM/SEATING AREA. PROPOSED DECK IS <30" ABOVE GRADE, NO PERMIT REQUIRED, INCLUDED FOR LOT COVERAGE PURPOSES ONLY.

DESIGN CODES

2015	INTERNATIONAL RESIDENTIAL CODE WITH WASHINGTON STATE AND CITY OF MERCER ISLAND AMENDMENTS
2015	INTERNATIONAL FIRE CODE
2015	INTERNATIONAL MECHANICAL CODE
2015	INTERNATIONAL FUEL GAS CODE
2015	UNIFORM PLUMBING CODE
2017	NATIONAL ELECTRIC CODE
2015	WASHINGTON STATE ENERGY CODE
	MERCER ISLAND MUNICIPAL CODE

ABBREVIATIONS

A.C.	AIR CONDITIONER
ACOUS.	ACOUSTICAL
ADJ	ADJUSTABLE, ADJACENT
ALUM	ALUMINUM
ANOD.	ANODIZED
APPROX.	APPROXIMATE
ASR	AUTOMATIC SPRINKLER RISER
BD.	BOARD
BLDG.	BUILDING
BLK.	BLOCK
BLK'G.	BLOCKING
BM.	BEAM
BOT.	BOTTOM
BTW.	BETWEEN
CB	CATCH BASIN
C.I.	CAST IRON
C.I.P.	CAST IN PLACE
CL.	CENTER LINE
CLG.	CEILING
CMU	CONCRETE MASONRY UNIT
COL.	COLUMN
CONC.	CONCRETE
CONT.	CONTINUOUS
CONSTR.	CONSTRUCTION
CONTR.	CONTRACTOR
C.T.	CERAMIC TILE
DBL	DOUBLE
DTL.	DETAIL
D.F.	DRINKING FOUNTAIN
D.S.	DOWNSPOUT
DRWG.	DRAWING
EA.	EACH
E.F.S.	EXTERIOR FINISH SYSTEM
E.I.F.S.	EXTERIOR INSULATION & FINISH SYSTEM
ELEV.	ELEVATION, ELEVATOR
ELEC.	ELECTRICAL
ENCL.	ENCLOSURE
EQ.	EQUAL
EXH.	EXHAUST
EXIST.	EXISTING
EXP.	EXPANSION
EXT.	EXTERIOR
F.D.	FLOOR DRAIN
FDN.	FOUNDATION
FF	FACTORY FINISH
FHS	FLAT HEAD SCREW
FL.	FLOOR
F.I.O.	FURNISHED & INSTALLED BY OWNER
F.R.P.P.	FIBER REINFORCED PLASTIC PANEL(S)
FTG.	FOOTING
GA.	GAUGE
GALV.	GALVANIZED
G.I.	GALVANIZED IRON
GLP	GYPSUM LATH & PLASTER
GWB	GYPSUM WALLBOARD, GYPSUM BOARD
H.B.	HOSE BIBB
H.C.	HANDICAPPED
H.M.	HOLLOW METAL
HORIZ.	HORIZONTAL
HT.	HEIGHT
HTR.	HEATER
INSUL.	INSULATION
JT./JTS.	JOINT,JOINTS
L.	LONG, LENGTH
LAM.	LAMINATE, LAMINATED
L.F.	LINEAR FOOT, LINEAL FOOT
LIQ.	LIQUID
LT.WT.	LIGHT WEIGHT
MAS.	MASONRY
MAX.	MAXIMUM
M.B.S.	METAL BUILDING SUPPLIER
MECH.	MECHANICAL
MEZZ.	MEZZANINE
MTL.	METAL
MFG.	MANUFACTURING
MFR.	MANUFACTURER
M.H.	MANHOLE
MIN.	MINIMUM
MISC.	MISCELLANEOUS
M.O.	MASONRY OPENING
M.R.	MOISTURE RESISTANT
MULL.	MULLION
MTD.	MOUNTED
MTG.	MOUNTING
N.I.C.	NOT IN CONTRACT
NOM.	NOMINAL
N.T.S.	NOT TO SCALE
O.A.	OVERALL
O.C.	ON CENTER
O.H.	OVERHEAD
OP'G.	OPENING
OPP.	OPPOSITE
PTN.	PARTITION
PERP.	PERPENDICULAR
PL.	PLATE, PROPERTY LINE
PLAS.LAM.	PLASTIC LAMINATE
PLYWD.	PLYWOOD
PLBG.	PLUMBING
PNL.	PANEL, PANELING
PR.	PAIR
PROJ.	PROJECT
PRV	PRESSURE REDUCING VALVE
PT.	POINT
Q.T.	QUARRY TILE
QTR.	QUARTER
R	RADIUS
R.D.	ROOF DRAIN
R.L.	RAIN LEADER
REC'D.	RECEIVED
REF.	REFRIGERATOR
REINF.	REINFORCING
REQ'D.	REQUIRED
R.O.	ROUGH OPENING
SCHED.	SCHEDULE
S.C.	SOLID CORE
SHT.	SHEET
SIM.	SIMILAR
S.I.O.	SUPPLIED & INSTALLED BY OWNER
S.O.I.C.	SUPPLIED BY OWNER INSTALLED BY CONTRACTOR
SPEC'D.	SPECIFIED
SQ.	SQUARE
S.S.	SERVICE SINK, SANITARY SEWER
SST	STAINLESS STEEL
STD.	STANDARD
STL.	STEEL
STRUCT.	STRUCTURE, STRUCTURAL
SUSP.	SUSPENDED
SYS.	SYSTEM
T	TREAD, TOP
T&B	TOP & BOTTOM
TEL.	TELEPHONE
TEMP.	TEMPERED
T&G	TONGUE & GROOVE
T.G.	TEMPERED GLASS
TYP.	TYPICAL
UTIL.	UTILITY
U.B.C.	UNIFORM BUILDING CODE
U.O.N.	UNLESS OTHERWISE NOTED
V.C.T.	VINYL COMPOSITION TILE
VERT.	VERTICAL
W/	WITH
W/O	WITHOUT
WD.	WOOD
WDW.	WINDOW
W.P.	WATERPROOF
W.R.	WATER RESISTANT
WT.	WEIGHT
W.W.M.	WELDED WIRE MESH
W.W.F.	WELDED WIRE FABRIC
Y.D.	YARD DRAIN

LEGEND OF SYMBOLS

- REVISION NO. (TITLE BLOCK SHOWS REV. DATE)
- INDICATES REVISED AREA
- X / XXX.XX: DETAIL NO. DESIGNATION; SHEET THAT DETAIL IS SHOWN
- X / XXX.XX: BLDG. SECTION NO.; SHEET THAT SECTION IS SHOWN
- X / XXX.XX: WALL SECTION NO.; SHEET THAT SECTION IS SHOWN
- A, B, C, D, X / XX.XX: INTERIOR ELEV. NO.; WALL ORIENTATION; SHEET THAT INTERIOR ELEV. IS SHOWN
- N: TRUE NORTH; PROJECT NORTH
- 1: SHEET KEY NOTE
- 101A: DOOR SCHEDULE KEY (CORRESP. TO ROOM NO. WHERE DOOR OCCURS); DOOR SUFFIX
- 1: WINDOW SCHEDULE KEY
- ROOM NAME ROOM NAME / XXX / XXX S.F.: ROOM NAME; ROOM NO.; ROOM AREA
- PL-1: FINISH SCHEDULE KEY
- 01: EQUIP. SCHEDULE KEY
- X / XXX.XX: CASEWORK DTL. NO.; SHEET NO.
- # / - / -: WALL TYPE NO.; INSULATION KEY; WALL TYPE LETTER
- DATUM POINT
- +8'-0" A.F.F. / ACT CEILING: CEILING HEIGHT; FINISH CEILING TYPE
- 9.5: GRID DESIGNATION
- 1/4:12: ROOF SLOPE AND DIRECTION KEY
- BREAK LINE SYMBOL
- MATCH LINE / MATCH LINE

ARISE DesignLab
www.AriseDesignLab.com

12880 REGISTERED ARCHITECT
Joshua Cory Peterson
STATE OF WASHINGTON

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BARNETT RESIDENCE
ADDITION/REMODEL
7530 86TH AVE S.E.
MERCER ISLAND, WA 98040

REVISIONS		
NO.	DATE	BY
1	09/09/2021	CONST. REV
2		
3		
4		
5		
6		

ISSUE DATES	
DESIGN APPROVAL:	
PERMIT SUBMITTAL:	12/09/2020
PERMIT RECEIVED:	07/26/2021
BID DOCS:	
CONSTR. DOCS:	

24"x36" SCALE:	AS NOTED
PLOT DATE:	09/09/2021
CAD FILE:	A20-01 A0.1
JOB NUMBER:	A20-010
CHECKED:	JCP
DRAWN:	JCP
STATUS:	UNDER CONSTRUCTION

COVER SHEET AND VICINITY MAP

A0.1

BUILDING PLANNING (CHAP. 3)

HABITABLE SPACE (IRC SECTION R202): A SPACE IN A BUILDING FOR LIVING, SLEEPING, EATING OR COOKING. BATHROOMS, TOILET ROOMS, CLOSETS, HALLS, STORAGE OR UTILITY SPACES AND SIMILAR AREAS ARE NOT CONSIDERED HABITABLE SPACES.

LIGHT, VENTILATION AND HEATING IN HABITABLE ROOMS (SECTION R303): ALL HABITABLE ROOMS SHALL HAVE AN AGGREGATE GLAZING AREA OF NOT LESS THAN 8 PERCENT OF THE FLOOR AREA OF SUCH ROOMS. NATURAL VENTILATION SHALL BE THROUGH WINDOWS, DOORS, LOUVERS OR OTHER APPROVED OPENINGS TO THE OUTDOOR AIR. SUCH OPENINGS SHALL BE PROVIDED WITH READY ACCESS OR SHALL OTHERWISE BE READILY CONTROLLABLE BY THE BUILDING OCCUPANTS. THE MINIMUM OPENABLE AREA TO THE OUTDOORS SHALL BE 4 PERCENT OF THE FLOOR AREA BEING VENTILATED.

EXCEPTIONS:
1. THE GLAZED AREAS NEED NOT BE OPENABLE WHERE THE OPENING IS NOT REQUIRED BY SECTION R310 AND AN APPROVED MECHANICAL VENTILATION SYSTEM IS PROVIDED CAPABLE OF PRODUCING 0.35 AIR CHANGE PER HOUR IN THE ROOM OR A WHOLE-HOUSE MECHANICAL VENTILATION SYSTEM IS INSTALLED CAPABLE OF SUPPLYING OUTDOOR VENTILATION AIR OF 15 CUBIC FEET PER MINUTE (CFM) PER OCCUPANT COMPUTED ON THE BASIS OF TWO OCCUPANTS FOR THE FIRST BEDROOM AND ONE OCCUPANT FOR EACH ADDITIONAL BEDROOM.
2. THE GLAZED AREAS NEED NOT BE PROVIDED IN ROOMS WHERE EXCEPTION 1 ABOVE IS SATISFIED AND ARTIFICIAL LIGHT IS PROVIDED CAPABLE OF PRODUCING AN AVERAGE ILLUMINATION OF 6 FOOTCANDLES OVER THE AREA OF THE ROOM AT A HEIGHT OF 30 INCHES ABOVE THE FLOOR LEVEL.

LIGHT, VENTILATION AND HEATING IN ADJOINING ROOMS (SECTION R303.2): FOR THE PURPOSE OF DETERMINING LIGHT AND VENTILATION REQUIREMENTS, ANY ROOM SHALL BE CONSIDERED AS A PORTION OF AN ADJOINING ROOM WHEN AT LEAST ONE-HALF OF THE AREA OF THE COMMON WALL IS OPEN AND UNOBSTRUCTED AND PROVIDES AN OPENING OF NOT LESS THAN ONE-TENTH OF THE FLOOR AREA OF THE INTERIOR ROOM BUT NOT LESS THAN 25 SQUARE FEET.

EXCEPTION: OPENINGS REQUIRED FOR LIGHT AND/OR VENTILATION SHALL BE PERMITTED TO OPEN INTO A THERMALLY ISOLATED SUNROOM ADDITION OR PATIO COVER, PROVIDED THAT THERE IS AN OPENABLE AREA BETWEEN THE ADJOINING ROOM AND THE SUNROOM ADDITION OR PATIO COVER OF NOT LESS THAN ONE-TENTH OF THE FLOOR AREA OF THE INTERIOR ROOM BUT NOT LESS THAN 20 SQUARE FEET. THE MINIMUM OPENABLE AREA TO THE OUTDOORS SHALL BE BASED UPON THE TOTAL FLOOR AREA BEING VENTILATED.

LIGHT, VENTILATION AND HEATING IN BATHROOMS (SECTION R303.3): BATHROOMS, WATER CLOSET COMPARTMENTS AND OTHER SIMILAR ROOMS SHALL BE PROVIDED WITH AGGREGATE GLAZING AREA IN WINDOWS OF NOT LESS THAN 3 SQUARE FEET, ONE-HALF OF WHICH MUST BE OPENABLE. EXCEPTION: THE GLAZED AREAS SHALL NOT BE REQUIRED WHERE ARTIFICIAL LIGHT AND A MECHANICAL VENTILATION SYSTEM ARE PROVIDED. THE MINIMUM VENTILATION RATES SHALL BE 50 CFM FOR INTERMITTENT VENTILATION OR 20 CFM FOR CONTINUOUS VENTILATION. VENTILATION AIR FROM THE SPACE SHALL BE EXHAUSTED DIRECTLY TO THE OUTSIDE.

CEILING HEIGHT (SECTION R305): HABITABLE SPACE, HALLWAYS, CORRIDORS, BATHROOMS, TOILET ROOMS, LAUNDRY ROOMS AND BASEMENTS SHALL HAVE A CEILING HEIGHT OF NOT LESS THAN 7 FEET. THE REQUIRED HEIGHT SHALL BE MEASURED FROM THE FINISH FLOOR TO THE LOWEST PROJECTION FROM THE CEILING.

EXCEPTIONS:
1. FOR ROOMS WITH SLOPED CEILINGS, AT LEAST 50 PERCENT OF THE REQUIRED AREA OF A ROOM MUST HAVE A CEILING HEIGHT OF AT LEAST 7 FEET AND NO PORTION OF THE REQUIRED FLOOR AREA MAY HAVE A CEILING HEIGHT OF LESS THAN 5 FEET.
2. BATHROOMS SHALL HAVE A MINIMUM CEILING HEIGHT OF 6 FEET 8 INCHES AT THE CENTER OF THE FRONT CLEARANCE AREA FOR FIXTURES AS SHOWN IN FIGURE R307.1. THE CEILING HEIGHT ABOVE FIXTURES SHALL BE SUCH THAT THE FIXTURE IS CAPABLE OF BEING USED FOR ITS INTENDED PURPOSE. A SHOWER OR TUB EQUIPPED WITH A SHOWERHEAD SHALL HAVE A MINIMUM CEILING HEIGHT OF 6 FEET 8 INCHES ABOVE A MINIMUM AREA 30 INCHES BY 30 INCHES AT THE SHOWERHEAD.

BASEMENTS: PORTIONS OF BASEMENTS THAT DO NOT CONTAIN HABITABLE SPACE, HALLWAYS, BATHROOMS, TOILET ROOMS AND LAUNDRY ROOMS SHALL HAVE A CEILING HEIGHT OF NOT LESS THAN 6 FEET 8 INCHES.

EXCEPTIONS:
1. BEAMS, GIRDERS, DUCTS, OR OTHER OBSTRUCTIONS MAY PROJECT TO WITHIN 6 FEET 4 INCHES OF THE FINISHED FLOOR.

TOILET SPACES (SECTION R307): WATER CLOSET COMPARTMENTS ARE TO BE A MINIMUM 30 INCHES WIDE WITH A MINIMUM OF 21 CLEAR SPACE IN FRONT OF THE FIXTURE.

BATHTUB AND SHOWER SPACES (SECTION R307): BATHTUB AND SHOWER FLOORS AND WALLS ABOVE BATHTUBS WITH INSTALLED SHOWER HEADS AND IN SHOWER COMPARTMENTS SHALL BE FINISHED WITH A NONABSORBENT SURFACE. SUCH WALL SURFACES SHALL EXTEND TO A HEIGHT OF NOT LESS THAN 6 FEET ABOVE THE FLOOR.

CLOTHES DRYERS EXHAUST (SECTION M1502): DRYER EXHAUST SYSTEMS SHALL BE INDEPENDENT OF ALL OTHER SYSTEMS, SHALL CONVEY THE MOISTURE TO THE OUTDOORS AND SHALL TERMINATE ON THE OUTSIDE OF THE BUILDING. EXHAUST DUCT TERMINATIONS SHALL BE IN ACCORDANCE WITH THE DRYER MANUFACTURER'S INSTALLATION INSTRUCTIONS. SCREENS SHALL NOT BE INSTALLED AT THE DUCT TERMINATION. EXHAUST DUCTS SHALL NOT BE JOINED WITH SCREWS OR SIMILAR FASTENERS THAT PROTRUDE INTO THE INSIDE OF THE DUCT. EXHAUST DUCTS SHALL BE EQUIPPED WITH A BACKDRAFT DAMPER. EXHAUST DUCTS SHALL BE CONSTRUCTED OF MINIMUM 4 INCHES NOMINAL DIAMETER AND 0.016-INCH-THICK RIGID METAL DUCTS, HAVING SMOOTH INTERIOR SURFACES WITH JOINTS RUNNING IN THE DIRECTION OF AIR FLOW. FLEXIBLE TRANSITION DUCTS USED TO CONNECT THE DRYER TO THE EXHAUST DUCT SYSTEM SHALL BE LIMITED TO A SINGLE LENGTH THAT IS LISTED AND LABELED IN ACCORDANCE WITH UL 2158A. TRANSITION DUCTS SHALL BE A MAXIMUM OF 8 FEET IN LENGTH. TRANSITION DUCTS SHALL NOT BE CONCEALED WITHIN CONSTRUCTION.

EXCEPTION: THIS SECTION SHALL NOT APPLY TO LISTED AND LABELED CONDENSING (DUCTLESS) CLOTHES DRYERS.

CLOTHES DRYER LENGTH LIMITATION (SECTION M1502): THE MAXIMUM LENGTH OF A CLOTHES DRYER EXHAUST DUCT SHALL BE 35 FEET FROM THE DRYER CONNECTION TO THE OUTLET TERMINAL. WHERE FITTINGS ARE USED, THE MAXIMUM LENGTH OF THE EXHAUST DUCT SHALL BE REDUCED IN ACCORDANCE WITH IRC TABLE M1502.4.4.1. ALTERNATELY, THE SIZE AND MAXIMUM LENGTH OF THE EXHAUST DUCT SHALL BE DETERMINED BY THE DRYER MANUFACTURER'S INSTALLATION INSTRUCTIONS. THE CODE OFFICIAL SHALL BE PROVIDED WITH A COPY OF THE INSTALLATION INSTRUCTIONS FOR THE MAKE AND MODEL OF THE DRYER AT THE CONCEALMENT INSPECTION.

RANGE HOODS (SECTION M1503): RANGE HOODS SHALL DISCHARGE TO THE OUTDOORS THROUGH A SINGLE-WALL DUCT. THE DUCT SERVING THE HOOD SHALL HAVE A SMOOTH INTERIOR SURFACE, SHALL BE AIR-TIGHT, SHALL BE EQUIPPED WITH A BACKDRAFT DAMPER, AND SHALL BE INDEPENDENT OF ALL OTHER EXHAUST SYSTEMS. DUCTS SERVING RANGE HOODS SHALL NOT TERMINATE IN AN ATTIC OR CRAWL SPACE OR AREAS INSIDE THE BUILDING. EXCEPTION: WHERE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S INSTALLATION INSTRUCTIONS, AND WHERE MECHANICAL OR NATURAL VENTILATION IS OTHERWISE PROVIDED, LISTED AND LABELED DUCTLESS RANGE HOODS SHALL NOT BE REQUIRED TO DISCHARGE TO THE OUTDOORS.

STAIRWAYS (SECTION R311.7)

UNDER STAIR PROTECTION (SECTION 302.7): ENCLOSED ACCESSIBLE SPACE UNDER STAIRS SHALL HAVE WALLS, UNDER-STAIR SURFACE AND ANY SOFFITS PROTECTED ON THE ENCLOSED SIDE WITH 1/2-INCH GYPSUM BOARD.

WIDTH (R311.7.1): STAIRWAYS SHALL NOT BE LESS THAN 36 INCHES IN CLEAR WIDTH AT ALL POINTS ABOVE THE PERMITTED HANDRAIL HEIGHT AND BELOW THE REQUIRED HEADROOM HEIGHT. HANDRAILS SHALL NOT PROJECT MORE THAN 4.5 INCHES ON EITHER SIDE OF THE STAIRWAY AND THE MINIMUM CLEAR WIDTH OF THE STAIRWAY AT AND BELOW THE HANDRAIL HEIGHT, INCLUDING TREADS AND LANDINGS, SHALL NOT BE LESS THAN 31-1/2 INCHES WHERE A HANDRAIL IS INSTALLED ON ONE SIDE AND 27 INCHES WHERE HANDRAILS ARE PROVIDED ON BOTH SIDES.

EXCEPTION: THE WIDTH OF SPIRAL STAIRWAYS SHALL BE IN ACCORDANCE WITH SECTION R311.7.10.1.

HEADROOM: THE MINIMUM HEADROOM IN ALL PARTS OF THE STAIRWAY SHALL NOT BE LESS THAN 6 FEET 8 INCHES MEASURED VERTICALLY FROM THE SLOPED LINE ADJOINING THE TREAD NOSING OR FROM THE FLOOR SURFACE OF THE LANDING OR PLATFORM ON THAT PORTION OF THE STAIRWAY.

EXCEPTION: WHERE THE NOSINGS OF TREADS AT THE SIDE OF A FLIGHT EXTEND UNDER THE EDGE OF A FLOOR OPENING THROUGH WHICH THE STAIR PASSES, THE FLOOR OPENING SHALL BE ALLOWED TO PROJECT HORIZONTALLY INTO THE REQUIRED HEADROOM A MAXIMUM OF 4-3/4 INCHES

WALKLINE: THE WALKLINE ACROSS WINDER TREADS SHALL BE CONCENTRIC TO THE CURVED DIRECTION OF TRAVEL THROUGH THE TURN AND LOCATED 12 INCHES FROM THE SIDE WHERE THE WINDERS ARE NARROWER. THE 12-INCH DIMENSION SHALL BE MEASURED FROM THE WIDEST POINT OF THE CLEAR STAIR WIDTH AT THE WALKING SURFACE OF THE WINDER. IF WINDERS ARE ADJACENT WITHIN THE FLIGHT, THE POINT OF THE WIDEST CLEAR STAIR WIDTH OF THE ADJACENT WINDERS SHALL BE USED.

RISER HEIGHT: THE MAXIMUM RISER HEIGHT SHALL BE 7-3/4 INCHES. THE RISER SHALL BE MEASURED VERTICALLY BETWEEN LEADING EDGES OF THE ADJACENT TREADS. THE GREATEST RISER HEIGHT WITHIN ANY FLIGHT OF STAIRS SHALL NOT EXCEED THE SMALLEST BY MORE THAN 3/8 INCH.

TREAD DEPTH: THE MINIMUM TREAD DEPTH SHALL BE 10 INCHES. THE TREAD DEPTH SHALL BE MEASURED HORIZONTALLY BETWEEN THE VERTICAL PLANES OF THE FOREMOST PROJECTION OF ADJACENT TREADS AND AT A RIGHT ANGLE TO THE TREAD'S LEADING EDGE. THE GREATEST TREAD DEPTH WITHIN ANY FLIGHT OF STAIRS SHALL NOT EXCEED THE SMALLEST BY MORE THAN 3/8 INCH. CONSISTENTLY SHAPED WINDERS AT THEWALKLINE SHALL BE ALLOWED WITHIN THE SAME FLIGHT OF STAIRS AS RECTANGULAR TREADS AND DO NOT HAVE TO BE WITHIN 3/8 INCH OF THE RECTANGULAR TREAD DEPTH.

WINDER TREADS: SHALL HAVE A MINIMUM TREAD DEPTH OF 10 INCHES MEASURED BETWEEN THE VERTICAL PLANES OF THE FOREMOST PROJECTION OF ADJACENT TREADS AT THE INTERSECTIONS WITH THE WALKLINE. WINDER TREADS SHALL HAVE A MINIMUM TREAD DEPTH OF 6 INCHES AT ANY POINT WITHIN THE CLEAR WIDTH OF THE STAIR. WITHIN ANY FLIGHT OF STAIRS, THE LARGEST WINDER TREAD DEPTH AT THE WALKLINE SHALL NOT EXCEED THE SMALLEST WINDER TREAD BY MORE THAN 3/8 INCH.

NOSINGS: THE RADIUS OF CURVATURE AT THE NOSING SHALL BE NO GREATER THAN 9/16 INCH. A NOSING NOT LESS THAN 3/4 INCH BUT NOT MORE THAN 1-1/4 INCHES SHALL BE PROVIDED ON STAIRWAYS WITH SOLID RISERS. THE GREATEST NOSING PROJECTION SHALL NOT EXCEED THE SMALLEST NOSING PROJECTION BY MORE THAN 3/8 INCH BETWEEN TWO STORIES, INCLUDING THE NOSING AT THE LEVEL OF FLOORS AND LANDINGS. BEVELING OF NOSINGS SHALL NOT EXCEED 1/2 INCH. RISERS SHALL BE VERTICAL OR SLOPED UNDER THE TREAD ABOVE FROM THE UNDERSIDE OF THE NOSING ABOVE AT AN ANGLE NOT MORE THAN 30 DEGREES FROM THE VERTICAL. OPEN RISERS ARE PERMITTED, PROVIDED THAT THE OPENING BETWEEN TREADS DOES NOT PERMIT THE PASSAGE OF A 4-INCH DIAMETER SPHERE.

EXCEPTIONS: A NOSING IS NOT REQUIRED WHERE THE TREAD DEPTH IS A MINIMUM OF 11 INCHES.

HANDRAILS:

HANDRAILS SHALL BE PROVIDED ON AT LEAST ONE SIDE OF EACH CONTINUOUS RUN OF TREADS OR FLIGHT WITH FOUR OR MORE RISERS.

HEIGHT: HANDRAIL HEIGHT, MEASURED VERTICALLY FROM THE SLOPED PLANE ADJOINING THE TREAD NOSING, OR FINISH SURFACE OF RAMP SLOPE, SHALL BE NOT LESS THAN 34 INCHES AND NOT MORE THAN 38 INCHES.

EXCEPTIONS:
1. THE USE OF A VOLUTE, TURNOUT OR STARTING EASING SHALL BE ALLOWED OVER THE LOWEST TREAD.
2. WHEN HANDRAIL FITTINGS OR BENDINGS ARE USED TO PROVIDE CONTINUOUS TRANSITION BETWEEN FLIGHTS, THE TRANSITION FROM HANDRAIL TO GUARDRAIL, OR USED AT THE START OF A FLIGHT, THE HANDRAIL HEIGHT AT THE FITTINGS OR BENDINGS SHALL BE PERMITTED TO EXCEED THE MAXIMUM HEIGHT.

CONTINUITY: HANDRAILS FOR STAIRWAYS SHALL BE CONTINUOUS FOR THE FULL LENGTH OF THE FLIGHT, FROM A POINT DIRECTLY ABOVE THE TOP RISER OF THE FLIGHT TO A POINT DIRECTLY ABOVE THE LOWEST RISER OF THE FLIGHT. HANDRAIL ENDS SHALL BE RETURNED OR SHALL TERMINATE IN NEWEL POSTS OR SAFETY TERMINALS. HANDRAILS ADJACENT TO A WALL SHALL HAVE A SPACE OF NOT LESS THAN 1-1/2 INCH BETWEEN THE WALL AND THE
HANDRAILS.

EXCEPTIONS:
1. HANDRAILS SHALL BE PERMITTED TO BE INTERRUPTED BY A NEWEL POST AT THE TURN.
2. THE USE OF A VOLUTE, TURNOUT, STARTING EASING OR STARTING NEWEL SHALL BE ALLOWED OVER THE LOWEST TREAD.

GRIP-SIZE: ALL REQUIRED HANDRAILS SHALL BE OF ONE OF THE FOLLOWING TYPES OR PROVIDE EQUIVALENT GRASPABILITY.
1. TYPE I. HANDRAILS WITH A CIRCULAR CROSS SECTION SHALL HAVE AN OUTSIDE DIAMETER OF AT LEAST 1-1/4 INCHES AND NOT GREATER THAN 2 INCHES. IF THE HANDRAIL IS NOT CIRCULAR, IT SHALL HAVE A PERIMETER DIMENSION OF AT LEAST 4 INCHES AND NOT GREATER THAN 6-1/4 INCHES WITH A MAXIMUM CROSS SECTION OF DIMENSION OF 2-1/4 INCHES. EDGES SHALL HAVE A MINIMUM RADIUS OF 0.01 INCH.
2. TYPE II. HANDRAILS WITH A PERIMETER GREATER THAN 6-1/4 INCHES SHALL HAVE A GRASPABLE FINGER RECESS AREA ON BOTH SIDES OF THE PROFILE. THE FINGER
RECESS SHALL BEGIN WITHIN A DISTANCE OF 3/4 INCH MEASURED VERTICALLY FROM THE TALLEST PORTION OF THE PROFILE AND ACHIEVE A DEPTH OF AT LEAST 5/16
INCH WITHIN 7/8 INCH BELOW THE WIDEST PORTION OF THE PROFILE. THIS REQUIRED DEPTH SHALL CONTINUE FOR AT LEAST 3/8 INCH TO A LEVEL THAT IS NOT LESS THAN 1-3/4 INCHES BELOW THE TALLEST PORTION OF THE PROFILE. THE MINIMUM WIDTH
OF THE HANDRAIL ABOVE THE RECESS SHALL BE 1-1/4 INCHES TO A MAXIMUM OF 2-3/4 INCHES. EDGES SHALL HAVE A MINIMUM RADIUS OF 0.01 INCH.

GUARDS (SECTION R312)

GUARDS SHALL BE LOCATED ALONG OPEN-SIDED WALKING SURFACES, INCLUDING STAIRS, RAMPS AND LANDINGS, THAT ARE LOCATED MORE THAN 30 INCHES MEASURED VERTICALLY TO THE FLOOR OR GRADE BELOW AT ANY POINT WITHIN 36 INCHES HORIZONTALLY TO THE EDGE OF THE OPEN SIDE. INSECT SCREENING SHALL NOT BE CONSIDERED AS A GUARD.

HEIGHT: REQUIRED GUARDS AT OPEN-SIDED WALKING SURFACES, INCLUDING STAIRS, PORCHES, BALCONIES OR LANDINGS, SHALL BE NOT LESS THAN 36 INCHES HIGH MEASURED VERTICALLY ABOVE THE ADJACENT WALKING SURFACE, ADJACENT FIXED SEATING OR THE LINE CONNECTING THE LEADING EDGES OF THE TREADS.

EXCEPTIONS:
1. GUARDS ON THE OPEN SIDES OF STAIRS SHALL HAVE A HEIGHT NOT LESS THAN 34 INCHES MEASURED VERTICALLY FROM A LINE CONNECTING THE LEADING EDGES OF THE TREADS.
2. WHERE THE TOP OF THE GUARD ALSO SERVES AS A HANDRAIL ON THE OPEN SIDES OF STAIRS, THE TOP OF THE GUARD SHALL NOT BE NOT LESS THAN 34 INCHES AND NOT MORE THAN 38 INCHES MEASURED VERTICALLY FROM A LINE CONNECTING THE LEADING EDGES OF THE TREADS.

OPENING LIMITATIONS: REQUIRED GUARDS SHALL NOT HAVE OPENINGS FROM THE WALKING SURFACE TO THE REQUIRED GUARD HEIGHT WHICH ALLOW PASSAGE OF A SPHERE 4 INCHES IN DIAMETER.

EXCEPTIONS:
1. THE TRIANGULAR OPENINGS AT THE OPEN SIDE OF A STAIR, FORMED BY THE RISER, TREAD AND BOTTOM RAIL OF A GUARD, SHALL NOT ALLOW PASSAGE OF A SPHERE 6 INCHES IN DIAMETER.
2. GUARDS ON THE OPEN SIDES OF STAIRS SHALL NOT HAVE OPENINGS WHICH ALLOW PASSAGE OF A SPHERE 4-3/8 INCHES IN DIAMETER.

WINDOW SILLS (SECTION R312.2.1): IN DWELLING UNITS, WHERE THE OPENING OF AN OPERABLE WINDOW IS LOCATED MORE THAN 72 INCHES ABOVE THE FINISHED GRADE OR SURFACE BELOW, THE LOWEST PART OF THE CLEAR OPENING OF THE WINDOW SHALL BE A MINIMUM OF 24 INCHES ABOVE THE FINISHED FLOOR OF THE ROOM IN WHICH THE WINDOW IS LOCATED. OPERABLE SECTIONS OF WINDOWS SHALL NOT PERMIT OPENINGS THAT ALLOW PASSAGE OF A 4-INCH DIAMETER SPHERE WHERE SUCH OPENINGS ARE LOCATED WITHIN 24 INCHES OF THE FINISHED FLOOR.

EXCEPTIONS:
1. WINDOWS WHOSE OPENINGS WILL NOT ALLOW A 4-INCH DIAMETER SPHERE TO PASS THROUGH THE OPENING WHEN THE OPENING IS IN ITS LARGEST OPENED POSITION.
2. OPENINGS THAT ARE PROVIDED WITH WINDOW FALL PREVENTION DEVICES THAT COMPLY WITH ASTM F 2090.
3. WINDOWS THAT ARE PROVIDED WITH WINDOW OPENING CONTROL DEVICES THAT COMPLY WITH SECTION R312.2.2

SMOKE ALARMS (SECTION R314)

SMOKE DETECTION AND NOTIFICATION. ALL SMOKE ALARMS SHALL BE LISTED IN ACCORDANCE WITH UL 217 AND INSTALLED IN ACCORDANCE WITH THE PROVISIONS OF THIS CODE AND THE HOUSEHOLD FIRE WARNING EQUIPMENT PROVISIONS OF NFPA 72.

SMOKE DETECTION SYSTEMS: HOUSEHOLD FIRE ALARM SYSTEMS INSTALLED IN ACCORDANCE WITH NFPA 72 THAT INCLUDE SMOKE ALARMS, OR A COMBINATION OF SMOKE DETECTOR AND AUDIBLE NOTIFICATION DEVICE INSTALLED AS REQUIRED BY THIS SECTION FOR SMOKE ALARMS, SHALL BE PERMITTED. THE HOUSEHOLD FIRE ALARM SYSTEM SHALL PROVIDE THE SAME LEVEL OF SMOKE DETECTION AND ALARM AS REQUIRED BY THIS SECTION FOR SMOKE ALARMS. WHERE A HOUSEHOLD FIRE WARNING SYSTEM IS INSTALLED USING A COMBINATION OF SMOKE DETECTOR AND AUDIBLE NOTIFICATION DEVICE(S), IT SHALL BECOME A PERMANENT FIXTURE OF THE OCCUPANCY AND OWNED BY THE HOMEOWNER. THE SYSTEM SHALL BE MONITORED BY AN APPROVED SUPERVISING STATION AND BE MAINTAINED IN ACCORDANCE WITH NFPA72.

EXCEPTION: WHERE SMOKE ALARMS ARE PROVIDED MEETING THE REQUIREMENTS OF SECTION R314.4.

LOCATION: SMOKE ALARMS SHALL BE INSTALLED IN THE FOLLOWING LOCATIONS:
1. IN EACH SLEEPING ROOM.
2. OUTSIDE EACH SEPARATE SLEEPING AREA IN THE IMMEDIATE VICINITY OF THE BEDROOMS.
3. ON EACH ADDITIONAL STORY OF THE DWELLING, INCLUDING BASEMENTS AND HABITABLE ATTICS BUT NOT INCLUDING CRAWL SPACES AND UNINHABITABLE ATTICS. IN DWELLINGS OR DWELLING UNITS WITH SPLIT LEVELS AND WITHOUT AN INTERVENING DOOR BETWEEN THE ADJACENT LEVELS, A SMOKE ALARM INSTALLED ON THE UPPER LEVEL SHALL SUFFICE FOR THE ADJACENT LOWER LEVEL PROVIDED THAT THE LOWER LEVEL IS LESS THAN ONE FULL STORY BELOW THE UPPER LEVEL.

ALTERATIONS, REPAIRS AND ADDITIONS: WHEN ALTERATIONS, REPAIRS OR ADDITIONS REQUIRING A PERMIT OCCUR, OR WHEN ONE OR MORE SLEEPING ROOMS ARE ADDED OR CREATED IN EXISTING DWELLINGS, THE INDIVIDUAL DWELLING UNIT SHALL BE EQUIPPED WITH SMOKE ALARMS LOCATED AS REQUIRED FOR NEW DWELLINGS.

EXCEPTIONS:
1. WORK INVOLVING THE EXTERIOR SURFACES OF DWELLINGS, SUCH AS THE REPLACEMENT OF ROOFING OR SIDING, OR THE ADDITION OR REPLACEMENT OF WINDOWS OR DOORS, OR THE ADDITION OF A PORCH OR DECK, ARE EXEMPT FROM THE REQUIREMENTS OF THIS SECTION.
2. INSTALLATION, ALTERATION OR REPAIRS OF PLUMBING OR MECHANICAL SYSTEMS ARE EXEMPT FROM THE REQUIREMENTS OF THIS SECTION.

POWER SOURCE: SMOKE ALARMS SHALL RECEIVE THEIR PRIMARY POWER FROM THE BUILDING WIRING WHEN SUCH WIRING IS SERVED FROM A COMMERCIAL SOURCE, AND WHEN PRIMARY POWER IS INTERRUPTED, SHALL RECEIVE POWER FROM A BATTERY. WIRING SHALL BE PERMANENT AND WITHOUT A DISCONNECTING SWITCH OTHER THAN THOSE REQUIRED FOR OVERCURRENT PROTECTION. SMOKE ALARMS SHALL BE INTERCONNECTED.

EXCEPTIONS:
1. SMOKE ALARMS SHALL BE PERMITTED TO BE BATTERY OPERATED WHEN INSTALLED IN BUILDINGS WITHOUT COMMERCIAL POWER.
2. INTERCONNECTION AND HARD-WIRING OF SMOKE ALARMS IN EXISTING AREAS SHALL NOT BE REQUIRED WHERE THE ALTERATIONS OR REPAIRS DO NOT RESULT IN THE REMOVAL OF INTERIOR WALL OR CEILING FINISHES EXPOSING THE STRUCTURE, UNLESS THERE IS AN ATTIC, CRAWL SPACE OR BASEMENT AVAILABLE WHICH COULD PROVIDE ACCESS FOR HARD WIRING AND INTERCONNECTION WITHOUT THE REMOVAL OF INTERIOR FINISHES.

CARBON MONOXIDE ALARMS (SECTION R315)

FOR NEW CONSTRUCTION, AN APPROVED CARBON MONOXIDE ALARM SHALL BE INSTALLED OUTSIDE OF EACH SEPARATE SLEEPING AREA IN THE IMMEDIATE VICINITY OF THE BEDROOMS IN DWELLING UNITS WITHIN WHICH FUEL-FIRED APPLIANCES ARE INSTALLED AND IN DWELLING UNITS THAT HAVE ATTACHED GARAGES.

WHERE REQUIRED IN EXISTING DWELLINGS: WHERE WORK REQUIRING A PERMIT OCCURS IN EXISTING DWELLINGS THAT HAVE ATTACHED GARAGES OR IN EXISTING DWELLINGS WITHIN WHICH
FUEL-FIRED APPLIANCES EXIST, CARBON MONOXIDE ALARMS SHALL BE PROVIDED IN ACCORDANCE WITH SECTION R315.1.

ALARM REQUIREMENTS: SINGLE-STATION CARBON MONOXIDE ALARMS SHALL BE LISTED AS COMPLYING WITH UL 2034 AND SHALL BE INSTALLED IN ACCORDANCE WITH THIS CODE AND THE MANUFACTURER' S INSTALLATION INSTRUCTIONS.

INSULATION

BUILDINGS SHALL COMPLY WITH THE BUILDING THERMAL ENVELOPE INSULATION REQUIREMENTS SET FORTH IN IRC CHAPTER N1102 OR PER THE REQUIREMENTS OF THE GOVERNING JURISDICTION, AS APPLICABLE.

FOAM PLASTIC INSULATION SHALL COMPLY WITH THE REQUIREMENTS IN IRC SECTION R316.

INSULATION MATERIALS, INCLUDING FACINGS, SUCH AS VAPOR RETARDERS AND VAPOR-PERMEABLE MEMBRANES INSTALLED WITHIN FLOOR-CEILING ASSEMBLIES, ROOF-CEILING ASSEMBLIES, WALL ASSEMBLIES, CRAWL SPACES AND ATTICS SHALL HAVE A FLAME SPREAD INDEX NOT TO EXCEED 25 WITH AN ACCOMPANYING SMOKE-DEVELOPED INDEX NOT TO EXCEED 450 WHEN TESTED IN ACCORDANCE WITH ASTM E 84 OR UL 723.

EXCEPTIONS:
1. WHEN SUCH MATERIALS ARE INSTALLED IN CONCEALED SPACES, THE FLAME SPREAD INDEX AND SMOKE-DEVELOPED INDEX LIMITATIONS DO NOT APPLY TO THE FACINGS, PROVIDED THAT THE FACING IS INSTALLED IN SUBSTANTIAL CONTACT WITH THE UNEXPOSED SURFACE OF THE CEILING, FLOOR OR WALL FINISH.
2. CELLULOSE LOOSE-FILL INSULATION, WHICH IS NOT SPRAY APPLIED, COMPLYING WITH THE REQUIREMENTS OF SECTION R302.10.3, SHALL ONLY BE REQUIRED TO MEET THE SMOKE-DEVELOPED INDEX OF NOT MORE THAN 450.

CHIMNEYS AND FIREPLACES

ALL MASONRY AND FACTORY BUILT FIREPLACES, CHIMNEYS AND MASONRY HEATERS SHALL COMPLY WITH THE PROVISIONS OF IRC CHAPTERS 10, 18, AND 24.

HEATING AND COOLING EQUIPMENT (CHAPTER 14)

REQUIRED HEATING (SECTION R303.9): WHEN THE WINTER DESIGN TEMPERATURE IN TABLE R301.2(1) IS BELOW 60 DEGREES F, EVERY DWELLING UNIT SHALL BE PROVIDED WITH HEATING FACILITIES CAPABLE OF MAINTAINING A MINIMUM ROOM TEMPERATURE OF 68 DEGREES F AT A POINT 3 FEET ABOVE THE FLOOR AND 2 FEET FROM EXTERIOR WALLS IN ALL HABITABLE ROOMS AT THE DESIGN TEMPERATURE. THE INSTALLATION OF ONE OR MORE PORTABLE SPACE HEATERS SHALL NOT BE USED TO ACHIEVE COMPLIANCE WITH THIS SECTION.

DEFINITION: THE BUILDING THERMAL ENVELOPE IS DEFINED AS: THE BASEMENT WALLS, EXTERIOR WALLS, FLOOR, ROOF AND ANY OTHER BUILDING ELEMENT THAT ENCLOSE CONDITIONED SPACES.

AIR SUPPLY: SOLID-FUEL-BURNING APPLIANCES SHALL BE PROVIDED WITH COMBUSTION AIR IN ACCORDANCE WITH THE APPLIANCE MANUFACTURER'S INSTALLATION INSTRUCTIONS. OIL-FIRED APPLIANCES SHALL BE PROVIDED WITH COMBUSTION AIR IN ACCORDANCE WITH NFPA 31. THE METHODS OF PROVIDING COMBUSTION AIR IN THIS CHAPTER TO APPLY TO FIREPLACES, FIREPLACE STOVES AND DIRECT-VENT APPLIANCES. THE REQUIREMENTS FOR COMBUSTION AND DILUTION AIR FOR GAS-FIRED APPLIANCES SHALL BE IN ACCORDANCE WITH IRC CHAPTER 24.

DUCT WORK, LOCATION OF APPLIANCES, SOURCE OF COMBUSTION AIR, ETC. SHALL COMPLY WITH IRC CHAPTERS 13, 14, 16, AND 17.

LABEL INFORMATION: A PERMANENT FACTORY-APPLIED NAMEPLATE(S) SHALL BE AFFIXED TO APPLIANCES ON WHICH SHALL APPEAR, IN LEGIBLE LETTERING, THE MANUFACTURER'S NAME OR TRADEMARK, THE MODEL NUMBER, SERIAL NUMBER, AND THE SEAL OR MARK OF THE TESTING AGENCY PER IRC SECTION M1303.1.

PROHIBITED SOURCES: COMBUSTION AIR DUCTS AND OPENINGS SHALL NOT CONNECT APPLIANCE ENCLOSURES WITH SPACE IN WHICH THE OPERATION OF A FAN MAY ADVERSELY AFFECT THE FLOW OF COMBUSTION AIR. COMBUSTION AIR SHALL NOT BE OBTAINED FROM AN AREA IN WHICH FLAMMABLE VAPORS PRESENT A HAZARD. APPLIANCES SHALL NOT BE LOCATED IN SLEEPING ROOMS, BATHROOMS, TOILET ROOMS, STORAGE CLOSETS OR SURGICAL ROOMS, OR IN A SPACE THAT OPENS ONLY INTO SUCH ROOMS OR SPACES, EXCEPT WHERE THE INSTALLATION COMPLIES WITH ONE OF THE EXCEPTIONS LISTED IN IRC SECTION G2406.2

APPLIANCE ACCESS FOR INSPECTION SERVICE, REPAIR AND REPLACEMENT WITHOUT REMOVING PERMANENT CONSTRUCTION, OTHER APPLIANCES, OR ANY OTHER PIPING OR DUCTS NOT CONNECTED TO THE APPLIANCE BEING INSPECTED, SERVICED, REPAIRED OR REPLACESD. A LEVEL WORKING SPACE AT LEAST 30 INCHES DEEP AND 30 INCHES WIDE SHALL BE PROVIDED IN FRONT OF THE CONTROL SIDE TO SERVICE AN APPLIANCE. INSTALLATION OF ROOM HEATERS SHALL BE PERMITTED WITH AT LEAST AN 18 INCH WORKING SPACE. A PLATFORM SHALL NOT BE REQUIRED FOR ROOM HEATERS.

APPLIANCES IN ROOMS: APPLIANCES INSTALLED IN A COMPARTMENT, ALCOVE, BASEMENT OR SIMILAR SPACE SHALL BE ACCESSED BY AN OPENING OR DOOR AND AN UNOBSTRUCTED PASSAGEWAY MEASURING NOT LESS THAN 24 INCHES WIDE AND LARGE ENOUGH TO ALLOW REMOVAL OF THE LARGEST APPLIANCE IN THE SPACE, PROVIDED THAT A LEVEL SERVICE SPACE OF NOT LESS THAN 30 INCHES DEEP AND THE HEIGHT OF THE APPLIANCE, BUT NOT LESS THAN 30 INCHES, IS PRESENT AT THE FRONT OR SERVICE SIDE OF THE APPLIANCE WITH THE DOOR OPEN.

ACCESS (SECTION M1401.2): HEATING AND COOLING EQUIPMENT AND APPLIANCES SHALL BE LOCATED WITH RESPECT TO BUILDING CONSTRUCTION AND OTHER EQUIPMENT TO PERMIT MAINTENANCE, SERVICING AND REPLACEMENT. CLEARANCES SHALL BE MAINTAINED TO PERMIT CLEANING OF HEATING AND COOLING SURFACES; REPLACEMENT OF FILTERS, LOWERS, MOTORS, CONTROLS AND VENT CONNECTIONS; LUBRICATION OF MOVING PARTS; AND ADJUSTMENTS.

EXTERIOR INSTALLATIONS (SECTION M1401.4): EQUIPMENT INSTALLED OUTDOORS SHALL BE LISTED AND LABELED FOR OUTDOOR INSTALLATION. SUPPORTS AND FOUNDATIONS SHALL PREVENT EXCESSIVE VIBRATION, SETTLEMENT OR MOVEMENT OF THE EQUIPMENT. SUPPORTS AND FOUNDATIONS SHALL BE LEVEL AND CONFORM TO THE MANUFACTURER'S INSTALLATION INSTRUCTIONS.

ANCHORAGE OF APPLIANCES (SECTION M1307.2): APPLIANCES DESIGNED TO BE FIXED IN POSITION SHALL BE FASTENED OR ANCHORED IN AN APPROVED MANNER. IN SEISMIC DESIGN CATEGORIES D1 AND D2, WATER HEATERS SHALL BE ANCHORED OR STRAPPED TO RESIST HORIZONTAL DISPLACEMENT DUE TO EARTHQUAKE MOTION. STRAPPING SHALL BE AT POINTS WITHIN THE UPPER ONE-THIRD AND LOWER ONE-THIRD OF THE APPLIANCE'S VERTICAL DIMENSIONS. AT THE LOWER POINT, THE STRAPPING SHALL MAINTAIN A MINIMUM DISTANCE OF 4 INCHES ABOVE THE CONTROLS.

ELEVATION OF IGNITION SOURCE (SECTION M1307.3): APPLIANCES HAVING AN IGNITION SOURCE SHALL BE ELEVATED SUCH THAT THE SOURCE OF IGNITION IS NOT LESS THAN 18 INCHES ABOVE THE FLOOR IN GARAGES. FOR THE PURPOSE OF THIS SECTION, ROOMS OR SPACES THAT ARE NOT PART OF THE LIVING SPACE OF A DWELLING UNIT AND THAT COMMUNICATE WITH A PRIVATE GARAGE THROUGH OPENINGS SHALL BE CONSIDERED TO BE PART OF THE GARAGE.

PROTECTION FROM IMPACT: APPLIANCES SHALL NOT BE INSTALLED IN A LOCATION SUBJECT TO VEHICLE DAMAGE EXCEPT WHERE PROTECTED BY APPROVED BARRIERS.

APPLIANCES INSTALLED IN ATTICS SHALL CONFORM TO IRC SECTION M1305.1
APPLIANCES INSTALLED IN CRAWL SPACES SHALL CONFORM TO IRC SECTION M1305.1.4.
DUCT PENETRATION (SECTION R302.5.2): DUCTS IN THE GARAGE AND DUCTS PENETRATING THE WALLS OR CEILINGS SEPARATING THE DWELLING FROM THE GARAGE SHALL BE CONSTRUCTED OF A MINIMUM NO. 26 GAGE SHEET STEEL OR OTHER APPROVED MATERIAL AND SHALL HAVE NO OPENINGS INTO THE GARAGE.

VENTING REQUIRED (SECTION M1801.1): FUEL-BURNING APPLIANCES SHALL BE VENTED TO THE OUTSIDE IN ACCORDANCE WITH THEIR LISTING AND LABEL AND MANUFACTURER'S INSTALLATION INSTRUCTIONS EXCEPT APPLIANCES LISTED AND LABELED FOR UNVENTED USE. VENTING SYSTEMS SHALL CONSIST OF APPROVED CHIMNEYS OR VENTS, OR VENTING ASSEMBLIES THAT ARE INTEGRAL PARTS OF LABELED APPLIANCES. GAS-FIRED APPLIANCES SHALL BE VENTED IN ACCORDANCE WITH CHAPTER 24.

DUCT DESIGN (SECTION 1601.1): DUCT SYSTEMS SERVING HEATING, COOLING AND VENTILATION EQUIPMENT SHALL BE FABRICATED IN ACCORDANCE WITH THE PROVISIONS OF THIS SECTION AND ACCA MANUAL D OR OTHER APPROVED METHODS.

ABOVE-GROUND DUCT SYSTEMS SHALL CONFORM TO THE PROVISIONS OF IRC SECTION M1601.1.1. AND TABLE M1601.1.1 (2).

JOINTS OF DUCT SYSTEMS SHALL BE MADE SUBSTANTIALLY AIRTIGHT BY MEANS OF TAPES, MASTICS, LIQUID SEALANTS, GASKETING OR OTHER APPROVED CLOSURE SYSTEMS PER IRC SECTION M1601.4.1.

SWIMMING POOLS, SPAS AND HOT TUBS (CHAPTER 42)

SWIMMING POOLS, WADING POOLS, DECORATIVE POOLS, FOUNTAINS, HOT TUBS AND SPAS, AND HYDROMASSAGE BATHTUBS, WHETHER PERMANENTLY INSTALLED OR STORABLE, SHALL CONFORM TO IRC CHAPTER 42 WITH RESPECT TO CONSTRUCTION AND INSTALLATION OF METALLIC AUXILIARY EQUIPMENT, SUCH AS PUMPS, FILTERS AND SIMILAR EQUIPMENT.

SWIMMING POOLS, SPAS AND HOT TUBS INSTALLED IN OR ON THE LOT OF A ONE- OR TWO-FAMILY DWELLING SHALL CONFORM TO THE PROVISIONS OF IRC APPENDIX G.

FOUNDATIONS AND BUILDING LOCATION

REQUIREMENTS (R401.2): FOUNDATION CONSTRUCTION SHALL BE CAPABLE OF ACCOMMODATING ALL LOADS ACCORDING TO SECTION R301 AND OF TRANSMITTING THE RESULTING LOADS TO THE SUPPORTING SOIL. FILL SOILS THAT SUPPORT FOOTINGS AND FOUNDATIONS SHALL BE DESIGNED, INSTALLED AND TESTED IN ACCORDANCE WITH ACCEPTED ENGINEERING PRACTICE. GRAVEL FILL USED AS FOOTINGS FOR WOOD AND PRECAST CONCRETE FOUNDATIONS SHALL COMPLY WITH SECTION R403.

DRAINAGE (SECTION 401.3): SURFACE DRAINAGE SHALL BE DIVERTED TO A STORM SEWER CONVEYANCE OR OTHER APPROVED POINT OF COLLECTION THAT DOES NOT CREATE A HAZARD. LOTS SHALL BE GRADED TO DRAIN SURFACE WATER AWAY FROM FOUNDATION WALLS. THE GRADE SHALL FALL A MINIMUM OF 6 INCHES WITHIN THE FIRST 10 FEET.

EXCEPTION: WHERE LOT LINES, WALLS, SLOPES OR OTHER PHYSICAL BARRIERS PROHIBIT 6 INCHES OF FALL WITHIN 10 FEET, DRAINS OR SWALES SHALL BE CONSTRUCTED TO ENSURE DRAINAGE AWAY FROM THE STRUCTURE. IMPERVIOUS SURFACES WITHIN 10 FEET OF THE BUILDING FOUNDATION SHALL BE SLOPED A MINIMUM OF 2 PERCENT AWAY FROM THE BUILDING.

SOIL TESTS (SECTION 401.4): WHERE QUANTIFIABLE DATA CREATED BY ACCEPTED SOIL SCIENCE METHODOLOGIES INDICATE EXPANSIVE, COMPRESSIBLE, SHIFTING OR OTHER QUESTIONABLE SOIL CHARACTERISTICS ARE LIKELY TO BE PRESENT, THE BUILDING OFFICIAL SHALL DETERMINE WHETHER TO REQUIRE A SOIL TEST TO DETERMINE THE SOIL'S CHARACTERISTICS AT A PARTICULAR LOCATION. THIS TEST SHALL BE DONE BY AN APPROVED AGENCY USING AN APPROVED METHOD.

GEOTECHNICAL EVALUATION: IN LIEU OF A COMPLETE GEOTECHNICAL EVALUATION, THE LOAD-BEARING VALUES IN TABLE R401.4.1 SHALL BE ASSUMED.

FOOTINGS (SECTION 403.1): ALL EXTERIOR WALLS SHALL BE SUPPORTED ON CONTINUOUS SOLID OR FULLY GROUTED MASONRY OR CONCRETE FOOTINGS, CRUSHED STONE FOOTINGS, WOOD FOUNDATIONS, OR OTHER APPROVED STRUCTURAL SYSTEMS WHICH SHALL BE OF SUFFICIENT DESIGN TO ACCOMMODATE ALL LOADS ACCORDING TO SECTION R301 AND TO TRANSMIT THE RESULTING LOADS TO THE SOIL WITHIN THE LIMITATIONS AS DETERMINED FROM THE CHARACTER OF THE SOIL. FOOTINGS SHALL BE SUPPORTED ON UNDISTURBED NATURAL SOILS OR ENGINEERED FILL. CONCRETE FOOTING SHALL BE DESIGNED AND CONSTRUCTED IN ACCORDANCE WITH THE PROVISIONS OF SECTION R403 OR IN ACCORDANCE WITH ACI 332.

MINIMUM SIZE (SECTION 403.1.1): MINIMUM SIZES FOR CONCRETE AND MASONRY FOOTINGS SHALL BE AS SET FORTH IN TABLE R403.1 AND FIGURE R403.1(1). THE FOOTING WIDTH SHALL BE BASED ON THE LOAD-BEARING VALUE OF THE SOIL IN ACCORDANCE WITH TABLE R401.4.1. SPREAD FOOTINGS SHALL BE AT LEAST 6 INCHES IN THICKNESS, T. FOOTING PROJECTIONS, P, SHALL BE AT LEAST 2 INCHES AND SHALL NOT EXCEED THE THICKNESS OF THE FOOTING. THE SIZE OF FOOTINGS SUPPORTING PIERS AND COLUMNS SHALL BE BASED ON THE TRIBUTARY LOAD AND ALLOWABLE SOIL PRESSURE IN ACCORDANCE WITH TABLE R401.4.1.

MINIMUM DEPTH: ALL EXTERIOR FOOTINGS SHALL BE PLACED AT LEAST 12 INCHES BELOW THE UNDISTURBED GROUND. WHERE APPLICABLE, THE DEPTH OF FOOTINGS SHALL ALSO CONFORM TO SECTIONS R403.1.4.1.

REFER TO LOCAL REQUIREMENTS WITH RESPECT TO MINIMUM REQUIRED FOOTING DEPTH AND STRUCTURAL ENGINEER'S DRAWINGS AND GEOTECHNICAL REQUIREMENTS.

CONCRETE AND MASONRY FOUNDATION WALLS SHALL EXTEND ABOVE THE FINISHED GRADE ADJACENT TO THE FOUNDATION AT ALL POINTS A MINIMUM OF 4 INCHES WHERE MASONRY VENEER IS USED AND A MINIMUM OF 6 INCHES ELSEWHERE.

FOOTINGS ON OR ADJACENT TO SLOPES (SECTION 403.1.7): THE PLACEMENT OF BUILDINGS AND STRUCTURES ON OR ADJACENT TO SLOPES STEEPER THAN 1 UNIT VERTICAL IN 3 UNITS HORIZONTAL (33.3-PERCENT SLOPE) SHALL CONFORM TO SECTIONS R403.1.7.1 THROUGH R403.1.7.4.

BUILDING CLEARANCES FROM ASCENDING SLOPES: IN GENERAL, BUILDINGS BELOW SLOPES SHALL BE SET A SUFFICIENT DISTANCE FROM THE SLOPE TO PROVIDE PROTECTION FROM SLOPE DRAINAGE, EROSION AND SHALLOW FAILURES. EXCEPT AS PROVIDED IN SECTION R403.1.7.4 AND FIGURE R403.1.7.1,

FOUNDATION ANCHORAGE: REFER TO STRUCTURAL DRAWINGS AND DETAILS FOR SILL PLATE AND BOTTOM TRACK TO FOUNDATION ANCHORAGE REQUIREMENTS.

DAMPPROOFING AND VENTILATION

LOCATION REQUIRED: PROTECTION OF WOOD AND WOOD BASED PRODUCTS FROM DECAY SHALL BE PROVIDED IN THE FOLLOWING LOCATIONS BY THE USE OF NATURALLY DURABLE WOOD OR WOOD THAT IS PRESERVATIVE-TREATED IN ACCORDANCE WITH AWPA U1 FOR THE SPECIES, PRODUCT, PRESERVATIVE AND END USE. PRESERVATIVES SHALL BE LISTED IN SECTION 4 OF AWPA U1.
1. WOOD JOISTS OR THE BOTTOM OF A WOOD STRUCTURAL FLOOR WHEN CLOSER THAN 18 INCHES OR WOOD GIRDERS WHEN CLOSER THAN 12 INCHES TO THE EXPOSED GROUND IN CRAWL SPACES OR UNEXCAVATED AREA LOCATED WITHIN THE PERIPHERY OF THE BUILDING FOUNDATION.
2. ALL WOOD FRAMING MEMBERS THAT REST ON CONCRETE OR MASONRY EXTERIOR FOUNDATION WALLS AND ARE LESS THAN 8 INCHES FROM THE EXPOSED GROUND.
3. SILLS AND SLEEPERS ON A CONCRETE OR MASONRY SLAB THAT IS IN DIRECT CONTACT WITH THE GROUND UNLESS SEPARATED FROM SUCH SLAB BY AN IMPERVIOUS MOISTURE BARRIER.
4. THE ENDS OF WOOD GIRDERS ENTERING EXTERIOR MASONRY OR CONCRETE WALLS HAVING CLEARANCES OF LESS THAN 1/2 INCH ON TOPS, SIDES AND ENDS.
5. WOOD SIDING, SHEATHING AND WALL FRAMING ON THE EXTERIOR OF A BUILDING HAVING A CLEARANCE OF LESS THAN 6 INCHES FROM THE GROUND OR LESS THAN 2 INCHES MEASURED VERTICALLY FROM CONCRETE STEPS, PORCH SLABS, PATIO SLABS, AND SIMILAR HORIZONTAL SURFACES EXPOSED TO THE WEATHER.
6. WOOD STRUCTURAL MEMBERS SUPPORTING MOISTURE-PERMEABLE FLOORS OR ROOFS THAT ARE EXPOSED TO THE WEATHER, SUCH AS CONCRETE OR MASONRY SLABS, UNLESS SEPARATED FROM SUCH FLOORS OR ROOFS BY AN IMPERVIOUS MOISTURE BARRIER.
7. WOOD FURRING STRIPS OR OTHER WOOD FRAMING MEMBERS ATTACHED DIRECTLY TO THE INTERIOR OF EXTERIOR MASONRY WALLS OR CONCRETE WALLS BELOW GRADE EXCEPT WHERE AN APPROVED VAPOR RETARDER IS APPLIED BETWEEN THE WALL AND THE FURRING STRIPS OR FRAMING MEMBERS.

UNDER-FLOOR SPACE ACCESS (SECTION R408.4): ACCESS SHALL BE PROVIDED TO ALL UNDER-FLOOR SPACES. ACCESS OPENINGS THROUGH THE FLOOR SHALL BE A MINIMUM OF 18 INCHES BY 24 INCHES. OPENINGS THROUGH A PERIMETER WALL SHALL BE 16 INCHES BY 24 INCHES. WHEN ANY PORTION OF THE THROUGH WALL ACCESS IS BELOW GRADE, AN AREAWAY OF NOT LESS THAN 16 INCHES BY 24 INCHES SHALL BE PROVIDED. THE BOTTOM OF THE AREAWAY SHALL BE BELOW THE THRESHOLD OF THE ACCESS OPENING. THROUGH-WALL ACCESS OPENINGS SHALL NOT BE LOCATED UNDER A DOOR TO THE RESIDENCE.

APPLIANCES UNDER FLOORS (SECTION 1305.1.4): UNDER-FLOOR SPACES CONTAINING APPLIANCES SHALL BE PROVIDED WITH AN UNOBSTRUCTED PASSAGEWAY LARGE ENOUGH TO REMOVE THE LARGEST APPLIANCE, BUT NOT LESS THAN 30 INCHES HIGH AND 22 INCHES WIDE, NOR MORE THAN 20 FEET LONG WHEN MEASURED ALONG THE CENTERLINE OF THE PASSAGEWAY FROM THE OPENING TO THE APPLIANCE.

VENTILATION (SECTION R408.1): THE UNDER-FLOOR SPACE BETWEEN THE BOTTOM OF THE FLOOR JOISTS AND THE EARTH UNDER ANY BUILDING (EXCEPT SPACE OCCUPIED BY A BASEMENT) SHALL HAVE VENTILATION OPENINGS THROUGH FOUNDATION WALLS OR EXTERIOR WALLS. THE MINIMUM NET AREA OF VENTILATION OPENINGS SHALL NOT BE LESS THAN 1 SQUARE FOOT FOR EACH 150 SQUARE FEET OF UNDER-FLOOR SPACE AREA, UNLESS THE GROUND SURFACE IS COVERED BY A CLASS 1 VAPOR RETARDER MATERIAL. WHEN A CLASS 1 VAPOR RETARDER IS USED, THE MINIMUM NET AREA OF VENTILATION OPENINGS SHALL NOT BE LESS THAN 1 SQUARE FOOT FOR EACH 1,500 SQUARE FEET OF UNDER-FLOOR SPACE AREA. ONE SUCH VENTILATING OPENING SHALL BE WITHIN 3 FEET OF EACH CORNER OF THE BUILDING.

VENTILATION OPENINGS SHALL BE COVERED FOR THEIR HEIGHT AND WIDTH WITH ANY OF THE FOLLOWING MATERIALS PROVIDED THAT THE LEAST DIMENSION OF THE COVERING SHALL NOT EXCEED 1/4 INCH:
1. PERFORATED SHEET METAL PLATES NOT LESS THAN 0.070 INCH THICK.
2. EXPANDED SHEET METAL PLATES NOT LESS THAN 0.047 INCH THICK.
3. CAST-IRON GRILL OR GRATING.
4. EXTRUDED LOAD-BEARING BRICK VENTS.
5. HARDWARE CLOTH OF 0.035 INCH WIRE OR HEAVIER.
6. CORROSION-RESISTANT WIRE MESH, WITH THE LEAST DIMENSION BEING 1/8 INCH THICK.

CONCRETE AND MASONRY FOUNDATION DAMPPROOFING (SECTION R406.1): EXCEPT WHERE REQUIRED BY SECTION R406.2, FOUNDATION WALLS THAT RETAIN EARTH AND ENCLOSE INTERIOR SPACES AND FLOORS LOCATED BELOW GRADE SHALL BE DAMPPROOFED FROM THE TOP OF THE FOOTING TO THE FINISHED GRADE. MASONRY WALLS SHALL HAVE NOT LESS THAN 3/8 INCH PORTLAND CEMENT PARGING APPLIED TO THE EXTERIOR OF THE WALL. THE PARGING SHALL BE DAMPPROOFED IN ACCORDANCE WITH ONE OF THE FOLLOWING:

1. A BITUMINOUS COATING
2. 3 POUNDS PER SQUARE YARD OF ACRYLIC MODIFIED CEMENT
3. 1/8-INCH COAT OF SURFACE-BONDING CEMENT COMPLYING WITH ASTM C 887
4. ANY MATERIAL PERMITTED FOR WATERPROOFING IN SECTION R406.2.
5. OTHER APPROVED METHODS OR MATERIALS

CONCRETE WALLS SHALL BE DAMPPROOFED BY APPLYING ANY ONE OF THE ABOVE LISTED DAMPPROOFING MATERIALS OR ANY ONE OF THE WATERPROOFING MATERIALS LISTED IN SECTION R406.2 TO THE EXTERIOR OF THE WALL.

EXTERIOR WALL COVERING (SECTION R703)

EXTERIOR WALLS SHALL PROVIDE THE BUILDING WITH A WEATHER-RESISTANT EXTERIOR WALL ENVELOPE. THE EXTERIOR WALL ENVELOPE SHALL INCLUDE FLASHING AS DESCRIBED IN SECTION R703.8. THE EXTERIOR WALL ENVELOPE SHALL BE DESIGNED AND CONSTRUCTED IN SUCH A MANNER THAT PREVENTS THE ACCUMULATION OF WATER WITHIN THE WALL ASSEMBLY BY PROVIDING A WATER-RESISTANT BARRIER BEHIND THE EXTERIOR VENEER AS REQUIRED BY SECTION R703.2. AND A MEANS OF DRAINING TO THE EXTERIOR WATER THAT ENTERS THE ASSEMBLY. PROTECTION AGAINST CONDENSATION IN THE EXTERIOR WALL ASSEMBLY SHALL BE PROVIDED IN ACCORDANCE WITH SECTION R702.7.

STONE AND MASONRY VENEER (SECTION R703.7)

STONE AND MASONRY VENEER SHALL BE INSTALLED IN ACCORDANCE WITH CHAPTER 7, TABLE R703.4 AND FIGURE R703.7. THESE VENEERS INSTALLED OVER A BACKING OF WOOD OR COLD-FORMED STEEL SHALL BE LIMITED TO THE FIRST STORY ABOVE GRADE AND SHALL NOT EXCEED 5 INCHES IN THICKNESS. SEE SECTIONS R602.10 AND R603.9.5 FOR WALL BRACING REQUIREMENTS FOR MASONRY VENEER.

EXCEPTIONS:
1. FOR ALL BUILDINGS IN SEISMIC DESIGN CATEGORIES A, B AND C, EXTERIOR STONE OR MASONRY VENEER, AS SPECIFIED IN TABLE R703.7(1), WITH A BACKING OF WOOD OR STEEL FRAMING SHALL BE PERMITTED TO THE HEIGHT SPECIFIED IN TABLE R703.7(1) ABOVE A NONCOMBUSTIBLE FOUNDATION.
2. FOR DETACHED ONE- OR TWO-FAMILY DWELLINGS IN SEISMIC DESIGN CATEGORIES D0, D1 AND D2, EXTERIOR STONE OR MASONRY VENEER, AS SPECIFIED IN TABLE R703.7(2), WITH A BACKING OF WOOD FRAMING SHALL BE PERMITTED TO THE HEIGHT SPECIFIED IN TABLE R703.7(2) ABOVE A NONCOMBUSTIBLE FOUNDATION.

WOOD WALL FRAMING (SECTION R602)

LOAD-BEARING DIMENSION LUMBER FOR STUDS, PLATES AND HEADERS SHALL BE IDENTIFIED BY A GRADE MARK OF A LUMBER GRADING OR INSPECTION AGENCY THAT HAS BEEN APPROVED BY AN ACCREDITED BODY THAT COMPLIES WITH DOC PS 20. IN LIEU OF A GRADE MARK, A CERTIFICATION OF INSPECTION ISSUED BY A LUMBER OR GRADING AGENCY MEETING THE REQUIREMENTS OF THIS SECTION SHALL BE ACCEPTED.

TOP PLATE (SECTION R602.3.2): WOOD STUD WALLS SHALL BE CAPPED WITH A DOUBLE TOP PLATE INSTALLED TO PROVIDE OVERLAPPING AT CORNERS AND INTERSECTIONS WITH BEARING PARTITIONS. END JOINTS IN TOP PLATES SHALL BE OFFSET AT LEAST 24 INCHES. JOINTS IN PLATES NEED NOT OCCUR OVER STUDS. PLATES SHALL BE NOT LESS THAN 2-INCHES NOMINAL THICKNESS AND HAVE A WIDTH AT LEAST EQUAL TO THE WIDTH OF THE STUDS.

BOTTOM (SOLE) PLATE: STUDS SHALL HAVE FULL BEARING ON A NOMINAL 2-BY OR LARGER PLATE OR SILL HAVING A WIDTH AT LEAST EQUAL TO THE WIDTH OF THE STUDS.

FIREBLOCKING (SECTION 302.11): IN COMBUSTIBLE CONSTRUCTION, FIREBLOCKING SHALL BE PROVIDED TO CUT OFF ALL CONCEALED DRAFT OPENINGS (BOTH VERTICAL AND HORIZONTAL) AND TO FORM AN EFFECTIVE FIRE BARRIER BETWEEN STORIES, AND BETWEEN A TOP STORY AND THE ROOF SPACE. FIREBLOCKING SHALL BE PROVIDED IN WOOD-FRAME CONSTRUCTION
IN THE FOLLOWING LOCATIONS:

1. IN CONCEALED SPACES OF STUD WALLS AND PARTITIONS, INCLUDING FURRED SPACES AND PARALLEL ROWS OF STUDS OR STAGGERED STUDS, AS FOLLOWS:
   1.1. VERTICALLY AT THE CEILING AND FLOOR LEVELS.
   1.2. HORIZONTALLY AT INTERVALS NOT EXCEEDING 10 FEET.
2. AT ALL INTERCONNECTIONS BETWEEN CONCEALED VERTICAL AND HORIZONTAL SPACES SUCH AS OCCUR AT SOFFITS, DROP CEILINGS AND COVE CEILINGS.
3. IN CONCEALED SPACES BETWEEN STAIR STRINGERS AT THE TOP AND BOTTOM OF THE RUN. ENCLOSED SPACES UNDER STAIRS SHALL COMPLY WITH SECTION R302.7.
4. AT OPENINGS AROUND VENTS, PIPES, DUCTS, CABLES AND WIRES AT CEILING AND FLOOR LEVEL, WITH AN APPROVED MATERIAL TO RESIST THE FREE PASSAGE OF FLAME AND PRODUCTS OF COMBUSTION. THE MATERIAL FILLING THIS ANNULAR SPACE SHALL NOT BE REQUIRED TO MEET THE ASTM E 136 REQUIREMENTS.
5. FOR THE FIREBLOCKING OF CHIMNEYS AND FIREPLACES, SEE SECTION R1003.19.
6. FIREBLOCKING OF CORNICES OF A TWO-FAMILY DWELLING IS REQUIRED AT THE LINE OF DWELLING UNIT SEPARATION.

ROOF ASSEMBLIES & CONSTR. (CHAPTERS 8 & 9)

ROOFING COVERING MATERIALS (SECTION R902.1): ROOFS SHALL BE COVERED WITH MATERIALS AS SET FORTH IN SECTIONS R904 AND R905. CLASS A, B OR C ROOFING SHALL BE INSTALLED IN AREAS DESIGNATED BY LAW AS REQUIRING THEIR USE OR WHEN THE EDGE OF THE ROOF IS LESS THAN 3 FEET FROM A PROPERTY LINE. CLASSES A, B AND C ROOFING REQUIRED BY THIS SECTION TO BE LISTED SHALL BE TESTED IN ACCORDANCE WITH UL 790 OR ASTM E 108.

ROOF DECKS SHALL BE COVERED WITH APPROVED ROOF COVERINGS SECURED TO THE BUILDING OR STRUCTURE IN ACCORDANCE WITH THE PROVISIONS OF CHAPTER 9. ROOF ASSEMBLIES SHALL BE DESIGNED AND INSTALLED IN ACCORDANCE WITH THIS CODE AND THE APPROVED MANUFACTURER'S INSTALLATION INSTRUCTIONS SUCH THAT THE ROOF ASSEMBLY SHALL SERVE TO PROTECT THE BUILDING OR STRUCTURE.

VENTILATION REQUIRED (SECTION R806.1): ENCLOSED ATTICS AND ENCLOSED RAFTER SPACES FORMED WHERE CEILINGS ARE APPLIED DIRECTLY TO THE UNDERSIDE OF ROOF RAFTERS SHALL HAVE CROSS VENTILATION FOR EACH SEPARATE SPACE BY VENTILATING OPENINGS PROTECTED AGAINST THE ENTRANCE OF RAIN OR SNOW. VENTILATING OPENINGS SHALL HAVE A LEAST DIMENSION OF 1/16 INCH MINIMUM AND 1/4 INCH MAXIMUM. VENTILATION OPENINGS HAVING A LEAST DIMENSION LARGER THAN 1/4 INCH SHALL BE PROVIDED WITH CORROSION-RESISTANT WIRE CLOTH SCREENING, HARDWARE CLOTH, OR SIMILAR MATERIAL WITH OPENINGS HAVING A LEAST DIMENSION OF 1/16 INCH MINIMUM AND 1/4 INCH MAXIMUM. OPENINGS IN ROOF FRAMING MEMBERS SHALL CONFORM TO THE REQUIREMENTS OF SECTION R802.7.

MINIMUM VENT AREA (SECTION R806.2): THE TOTAL NET FREE VENTILATING AREA SHALL NOT BE LESS THAN 1/150 OF THE AREA OF THE VENTED SPACE.

EXCEPTIONS: THE MINIMUM NET FREE VENTILATION AREA SHALL BE 1/300 OF THE VENTED SPACE PROVIDED ONE OR MORE OF THE FOLLOWING CONDITIONS ARE MET:
1. IN CLIMATE ZONES 6, 7 AND 8, A CLASS I OR II VAPOR RETARDER IS INSTALLED ON THE WARM-IN-WINTER SIDE OF THE CEILING.
2. AT LEAST 40 PERCENT AND NOT MORE THAN 50 PERCENT OF THE REQUIRED VENTILATING AREA IS PROVIDED BY VENTILATORS LOCATED IN THE UPPER PORTION OF THE ATTIC OR RAFTER SPACE. UPPER VENTILATORS SHALL BE LOCATED NO MORE THAN 3 FEET BELOW THE RIDGE OR HIGHEST POINT OF THE SPACE, MEASURED VERTICALLY, WITH THE BALANCE OF THE REQUIRED VENTILATION PROVIDED BY EVE OR CORNICE VENTS. WHERE THE LOCATION OF WALL OR ROOF FRAMING MEMBERS CONFLICTS WITH THE INSTALLATION OF UPPER VENTILATORS, INSTALLATION MORE THEN 3 FEET BELOW THE RIDGE OR HIGHEST POINT OF THE SPACE SHALL BE PERMITTED.

VENT AND INSULATION CLEARANCE: WHERE EAVE OR CORNICE VENTS ARE INSTALLED, INSULATION SHALL NOT BLOCK THE FREE FLOW OF AIR. A MINIMUM OF A 1-INCH (25 MM) SPACE SHALL BE PROVIDED BETWEEN THE INSULATION AND THE ROOF SHEATHING AND AT THE LOCATION OF THE VENT.

ATTIC ACCESS (SECTION R807.1): BUILDINGS WITH COMBUSTIBLE CEILING OR ROOF CONSTRUCTION SHALL HAVE AN ATTIC ACCESS OPENING TO ATTIC AREAS THAT EXCEED 30 SQUARE FEET AND HAVE A VERTICAL HEIGHT OF 30 INCHES OR GREATER. THE VERTICAL HEIGHT SHALL BE MEASURED FROM THE TOP OF THE CEILING FRAMING MEMBERS TO THE UNDERSIDE OF THE ROOF FRAMING MEMBERS.

THE ROUGH-FRAMED OPENING SHALL NOT BE LESS THAN 22 INCHES BY 30 INCHES AND SHALL BE LOCATED IN A HALLWAY OR OTHER READILY ACCESSIBLE LOCATION. WHEN LOCATED IN A WALL, THE OPENING SHALL BE A MINIMUM OF 22 INCHES WIDE BY 30 INCHES HIGH. WHEN THE ACCESS IS LOCATED IN A CEILING, MINIMUM UNOBSTRUCTED HEADROOM IN THE ATTIC SPACE SHALL BE 30 INCHES AT SOME POINT ABOVE THE ACCESS MEASURED VERTICALLY FROM THE BOTTOM OF CEILING FRAMING MEMBERS. SEE SECTION M1305.1.3 FOR ACCESS REQUIREMENTS WHERE MECHANICAL EQUIPMENT IS LOCATED IN ATTICS.

WOOD TRUSSES (R802.10)

TRUSS DESIGN DRAWINGS: TRUSS DESIGN DRAWINGS, PREPARED IN CONFORMANCE WITH SECTION R802.10.1, SHALL BE PROVIDED TO THE BUILDING OFFICIAL AND APPROVED PRIOR TO INSTALLATION. TRUSS DESIGN DRAWINGS SHALL INCLUDE, AT A MINIMUM, THE INFORMATION SPECIFIED IN SECTION R802.10.1. TRUSS DESIGN DRAWINGS SHALL BE PROVIDED WITH THE SHIPMENT OF TRUSSES DELIVERED TO THE JOBSITE.

DESIGN: WOOD TRUSSES SHALL BE DESIGNED IN ACCORDANCE WITH ACCEPTED ENGINEERING PRACTICE. THE DESIGN AND MANUFACTURE OF METAL PLATE CONNECTED WOOD TRUSSES SHALL COMPLY WITH ANSI/TPI 1. THE TRUSS DESIGN DRAWINGS SHALL BE PREPARED BY A REGISTERED PROFESSIONAL WHERE REQUIRED BY THE STATUTES OF THE JURISDICTION IN WHICH THE PROJECT IS TO BE CONSTRUCTED IN ACCORDANCE WITH SECTION R106.1.

BRACING: TRUSSES SHALL BE BRACED IN ACCORDANCE WITH IRC SECTION R802.10.3.
ALTERATIONS TO TRUSSES: TRUSS MEMBERS SHALL NOT BE CUT, NOTCHED, DRILLED, SPLICED OR OTHERWISE ALTERED IN ANY WAY WITHOUT THE APPROVAL OF A REGISTERED DESIGN PROFESSIONAL. ALTERATIONS RESULTING IN THE ADDITION OF LOAD (E.G., HVAC EQUIPMENT, WATER HEATER) THAT EXCEEDS THE DESIGN LOAD FOR THE TRUSS SHALL NOT BE PERMITTED WITHOUT VERIFICATION THAT THE TRUSS IS CAPABLE OF SUPPORTING SUCH ADDITIONAL LOADING.

GARAGES AND CARPORTS

OPENING PROTECTION (SECTION R302.5.1): OPENINGS FROM A PRIVATE GARAGE DIRECTLY INTO A ROOM USED FOR SLEEPING PURPOSES SHALL NOT BE PERMITTED. OTHER OPENINGS BETWEEN THE GARAGE AND RESIDENCE SHALL BE EQUIPPED WITH SOLID WOOD DOORS NOT LESS THAN 1-3/8 INCHES IN THICKNESS, SOLID OR HONEYCOMB CORE STEEL DOORS NOT LESS THAN 1-3/8 INCHES THICK, OR 20-MINUTE FIRE-RATED DOORS, EQUIPPED WITH A SELF-CLOSING DEVICE.

DWELLING/GARAGE FIRE SEPARATION (SECTION R302.6): THE GARAGE SHALL BE SEPARATED AS REQUIRED BY TABLE R302.6. OPENINGS IN GARAGE WALLS SHALL COMPLY WITH SECTION R302.5. THIS PROVISION DOES NOT APPLY TO GARAGE WALLS THAT ARE PERPENDICULAR TO THE ADJACENT DWELLING UNIT WALL.

TABLE R302.6
DWELLING/GARAGE SEPARATION

SEPARATION	MATERIAL
FROM THE RESIDENCE AND ATTICS	NOT LESS THAN 1/2 INCH GYPSUM BOARD OR EQUIVALENT APPLIED TO THE GARAGE SIDE
FROM ALL HABITABLE ROOMS ABOVE THE GARAGE	NOT LESS THAN 5/8 INCH TYPE 'X' GYPSUM BOARD OR EQUIVALENT
STRUCTURE(S) SUPPORTING FLOOR/CEILING ASSEMBLIES USED FOR SEPARATION REQUIRED BY THIS SECTION	NOT LESS THAN 1/2 INCH GYPSUM BOARD OR EQUIVALENT
GARAGES LOCATED LESS THAN 3 FEET FROM A DWELLING ON THE SAME LOT	NOT LESS THAN 1/2 INCH GYPSUM BOARD OR EQUIVALENT APPLIED TO THE INTERIOR SIDE OF EXTERIOR WALLS THAT ARE WITHIN THIS AREA

FLOOR SURFACE (SECTION R309): GARAGE FLOOR SURFACES SHALL BE OF APPROVED NONCOMBUSTIBLE MATERIAL. THE AREA OF FLOOR USED FOR PARKING OF AUTOMOBILES OR OTHER VEHICLES SHALL BE SLOPED TO FACILITATE THE MOVEMENT OF LIQUIDS TO A DRAIN OR TOWARD THE MAIN VEHICLE ENTRY DOORWAY.

CARPORTS (SECTION R309.2): CARPORTS SHALL BE OPEN ON AT LEAST TWO SIDES. CARPORT FLOOR SURFACES SHALL BE OF APPROVED NONCOMBUSTIBLE MATERIAL. CARPORTS NOT OPEN ON AT LEAST TWO SIDES SHALL BE CONSIDERED A GARAGE AND SHALL COMPLY WITH THE PROVISIONS OF THIS SECTION FOR GARAGES.

EMERGENCY ESCAPE AND RESCUE OPENINGS (R310)

EMERGENCY ESCAPE AND RESCUE REQUIRED: BASEMENTS, HABITABLE ATTICS AND EVERY SLEEPING ROOM SHALL HAVE AT LEAST ONE OPERABLE EMERGENCY ESCAPE AND RESCUE OPENING. WHERE BASEMENTS CONTAIN ONE OR MORE SLEEPING ROOMS, EMERGENCY EGRESS
AND RESCUE OPENINGS SHALL BE REQUIRED IN EACH SLEEPING ROOM. WHERE EMERGENCY ESCAPE AND RESCUE OPENINGS ARE PROVIDED THEY SHALL HAVE A SILL HEIGHT OF NOT MORE THAN 44 INCHES ABOVE THE FLOOR. WHERE A DOOR OPENING HAVING A THRESHOLD
BELOW THE ADJACENT GROUND ELEVATION SERVES AS AN EMERGENCY ESCAPE AND RESCUE OPENING AND IS PROVIDED WITH A BULKHEAD ENCLOSURE, THE BULKHEAD ENCLOSURE SHALL COMPLY WITH SECTION R310.3. THE NET CLEAR OPENING DIMENSIONS REQUIRED BY THIS SECTION SHALL BE OBTAINED BY THE NORMAL OPERATION OF THE EMERGENCY ESCAPE AND RESCUE OPENING FROM THE INSIDE. EMERGENCY ESCAPE AND RESCUE OPENINGS WITH A FINISHED SILL HEIGHT BELOW THE ADJACENT GROUND ELEVATION SHALL BE PROVIDED WITH A WINDOW WELL IN ACCORDANCE WITH SECTION R310.2. EMERGENCY ESCAPE AND RESCUE OPENINGS SHALL OPEN DIRECTLY INTO A PUBLIC WAY, OR TO A YARD OR COURT THAT OPENS TO A PUBLIC WAY.

EXCEPTION: BASEMENTS USED ONLY TO HOUSE MECHANICAL EQUIPMENT AND NOT EXCEEDING TOTAL FLOOR AREA OF 200 SQUARE FEET.

MINIMUM OPENING AREA: ALL EMERGENCY ESCAPE AND RESCUE OPENINGS SHALL HAVE A MINIMUM NET CLEAR OPENING OF 5.7 SQUARE FEET.

EXCEPTION: GRADE FLOOR OPENINGS SHALL HAVE A MINIMUM NET CLEAR OPENING OF 5 SQUARE FEET.

MINIMUM OPENING HEIGHT SECTION (R310.1.2): THE MINIMUM NET CLEAR OPENING HEIGHT SHALL BE 24 INCHES.
MINIMUM OPENING WIDTH: THE MINIMUM NET CLEAR OPENING WIDTH SHALL BE 20 INCHES.
OPERATIONAL CONSTRAINTS: EMERGENCY ESCAPE AND RESCUE OPENINGS SHALL BE OPERATIONAL FROM THE INSIDE OF THE ROOM WITHOUT THE USE OF KEYS, TOOLS OR SPECIAL KNOWLEDGE.

WINDOW WELLS SECTION (R310.2): THE MINIMUM HORIZONTAL AREA OF THE WINDOW WELL SHALL BE 9 SQUARE FEET, WITH A MINIMUM HORIZONTAL PROJECTION AND WIDTH OF 36 INCHES. THE AREA OF THE WINDOW WELL SHALL ALLOW THE EMERGENCY ESCAPE AND RESCUE OPENING TO BE FULLY OPENED.

EXCEPTION: THE LADDER OR STEPS REQUIRED BY SECTION R310.2.1 SHALL BE PERMITTED TO ENCROACH A MAXIMUM OF 6 INCHES INTO THE REQUIRED DIMENSIONS OF THE WINDOW WELL.

LADDER AND STEPS: WINDOW WELLS WITH A VERTICAL DEPTH GREATER THAN 44 INCHES SHALL BE EQUIPPED WITH A PERMANENTLY AFFIXED LADDER OR STEPS USABLE WITH THE WINDOW IN THE FULLY OPEN POSITION. LADDERS OR STEPS REQUIRED BY THIS SECTION SHALL NOT BE REQUIRED TO COMPLY WITH SECTIONS R311.7 AND R311.8. LADDERS OR RUNGS SHALL HAVE AN INSIDE WIDTH OF AT LEAST 12 INCHES, SHALL PROJECT AT LEAST 3 INCHES FROM THE WALL AND SHALL BE SPACED NOT MORE THAN 18 INCHES ON CENTER VERTICALLY FOR THE FULL HEIGHT OF THE WINDOW WELL.

DRAINAGE (SECTION R310.2.2): WINDOW WELLS SHALL BE DESIGNED FOR PROPER DRAINAGE BY CONNECTING TO THE BUILDING'S FOUNDATION DRAINAGE SYSTEM REQUIRED BY SECTION R405.1 OR BY AN APPROVED ALTERNATIVE METHOD.

EXCEPTION: A DRAINAGE SYSTEM FOR WINDOW WELLS IS NOT REQUIRED WHEN THE FOUNDATION IS ON WELL-DRAINED SOIL OR SAND-GRAVEL MIXTURE ACCORDING TO THE UNITED SOIL CLASSIFICATION SYSTEM, GROUP I SOILS, AS DETAILED IN TABLE R405.1.

EGRESS DOOR (SECTION R311.2): AT LEAST ONE EGRESS DOOR SHALL BE PROVIDED FOR EACH DWELLING UNIT. THE EGRESS DOOR SHALL BE SIDE-HINGED, AND SHALL PROVIDE A MINIMUM CLEAR WIDTH OF 32 INCHES WHEN MEASURED BETWEEN THE FACE OF THE DOOR AND THE STOP, WITH THE DOOR OPEN 90 DEGREES. THE MINIMUM CLEAR HEIGHT OF THE DOOR OPENING SHALL NOT BE LESS THAN 78 INCHES IN HEIGHT MEASURED FROM THE TOP OF THE THRESHOLD TO THE BOTTOM OF THE STOP. OTHER DOORS SHALL NOT BE REQUIRED TO COMPLY WITH THESE MINIMUM DIMENSIONS. EGRESS DOORS SHALL BE READILY OPENABLE FROM INSIDE THE DWELLING WITHOUT THE USE OF A KEY OR SPECIAL KNOWLEDGE OR EFFORT.

HALLWAYS SECTION R311.6): THE MINIMUM WIDTH OF A HALLWAY SHALL BE NOT LESS THAN 3 FEET.
STORY ABOVE GRADE PLANE DEFINITION: ANY STORY HAVING ITS FINISHED FLOOR SURFACE ENTIRELY ABOVE GRADE PLANE, OR IN WHICH THE FINISHED SURFACE OF THE FLOOR NEXT ABOVE IS:
1. MORE THAN 6 FEET ABOVE GRADE PLANE; OR
2. MORE THAN 12 FEET ABOVE THE FINISHED GROUND LEVEL AT ANY POINT.

GLAZING

IDENTIFICATION (SECTION R308.1): EXCEPT AS INDICATED IN SECTION R308.1.1, EACH PANE OF GLAZING INSTALLED IN HAZARDOUS LOCATIONS AS DEFINED IN SECTION R308.4 SHALL BE PROVIDED WITH A MANUFACTURER'S DESIGNATION SPECIFYING WHO APPLIED THE DESIGNATION, DESIGNATING THE TYPE OF GLASS AND THE SAFETY GLASS STANDARD WITH WHICH IT COMPLIES, WHICH IS VISIBLE IN THE FINAL INSTALLATION. THE DESIGNATION SHALL BE ACID ETCHED, SANDBLASTED, CERAMIC FIRED, LASER ETCHED, EMBOSSED, OR BE OF A TYPE WHICH ONCE APPLIED CANNOT BE REMOVED WITHOUT BEING DESTROYED. A LABEL SHALL BE PERMITTED IN LIEU OF THE MANUFACTURER'S DESIGNATION.

R308.4 HAZARDOUS LOCATIONS: THE FOLLOWING SHALL BE CONSIDERED SPECIFIC HAZARDOUS LOCATIONS FOR THE PURPOSES OF GLAZING:

GLAZING IN DOORS (SECTION R308.4.1): GLAZING IN ALL FIXED AND OPERABLE PANELS OF SWINGING, SLIDING AND BIFOLD DOORS.

EXCEPTIONS:
1. GLAZED OPENINGS OF A SIZE THROUGH WHICH A 3-INCH DIAMETER SPHERE IS UNABLE TO PASS.
2. DECORATIVE GLAZING

GLAZING IN ADJACENT DOORS (SECTION R308.4.2): GLAZING IN AN INDIVIDUAL FIXED OR OPERABLE PANEL ADJACENT TO A DOOR WHERE THE NEAREST VERTICAL EDGE OF THE GLAZING IS WITHIN A 24-INCH ARC OF THE DOOR IN A CLOSED POSITION AND WHOSE BOTTOM EDGE IS LESS THAN 60 INCHES ABOVE THE FLOOR OR WALKING SURFACE.

EXCEPTIONS:
1. DECORATIVE GLAZING.
2. WHEN THERE IS AN INTERVENING WALL OR OTHER PERMANENT BARRIER BETWEEN THE DOOR AND THE GLAZING
3. GLAZING IN WALLS ON THE LATCH SIDE OF AND PERPENDICULAR TO THE PLANE OF THE DOOR IN A CLOSED POSITION.
4. GLAZING ADJACENT TO A DOOR WHERE ACCESS THROUGH THE DOOR IS TO A CLOSET OR STORAGE AREA 3 FEET OR LESS IN DEPTH
5. GLAZING THAT IS ADJACENT TO THE FIXED PANEL OF PATIO DOORS

GLAZING IN WINDOWS (SECTION R308.4.3): GLAZING IN AN INDIVIDUAL FIXED OR OPERABLE PANEL THAT MEETS ALL OF THE FOLLOWING CONDITIONS:
1. THE EXPOSED AREA OF AN INDIVIDUAL PANE IS LARGER THAN 9 SQUARE FEET; AND
2. THE BOTTOM EDGE OF THE GLAZING IS LESS THAN 18 INCHES ABOVE THE FLOOR; AND
3. THE TOP EDGE OF THE GLAZING IS MORE THAN 36 INCHES ABOVE THE FLOOR; AND
4. ONE OR MORE WALKING SURFACES ARE WITHIN 36 INCHES, MEASURED HORIZONTALLY AND IN A STRAIGHT LINE, OF THE GLAZING.
   EXCEPTIONS:
   4.1. DECORATIVE GLAZING
   4.2. WHEN A HORIZONTAL RAIL IS INSTALLED ON THE ACCESSIBLE SIDE(S) OF THE GLAZING 34 TO 38 INCHES ABOVE THE WALKING SURFACE. THE RAIL SHALL BE CAPABLE OF WITHSTANDING A HORIZONTAL LOAD OF 50 POUNDS PER LINEAL FOOT WITHOUT CONTACTING THE GLASS AND BE A MINIMUM OF 1-1/2 INCHES IN CROSS SECTIONAL HEIGHT
   4.3. OUTBOARD PANES IN INSULATING GLASS UNITS AND OTHER MULTIPLE GLAZED PANELS WHEN THE BOTTOM EDGE OF THE GLASS IS 25 FEET OR MORE ABOVE GRADE, A ROOF, WALKING SURFACES OR OTHER HORIZONTAL SURFACE ADJACENT TO THE GLASS EXTERIOR.

GLAZING IN GUARDS AND RAILINGS (SECTION R308.4.4): GLAZING IN GUARDS AND RAILINGS, INCLUDING STRUCTURAL BALUSTER PANELS AND NONSTRUCTURAL IN-FILL PANELS, REGARDLESS OF AREA OR HEIGHT ABOVE A WALKING SURFACE SHALL BE CONSIDERED A HAZARDOUS LOCATION.

GLAZING AND WET SURFACES (R308.4.5): GLAZING IN WALLS, ENCLOSURES OR FENCES CONTAINING OR FACING HOT TUBS, SPAS, WHIRLPOOLS, SAUNAS, STEAM ROOMS, BATHTUBS, SHOWERS AND INDOOR OR OUTDOOR SWIMMING POOLS WHERE THE BOTTOM EXPOSED EDGE OF THE GLAZING IS LESS THAN 60 INCHES MEASURED VERTICALLY ABOVE ANY STANDING OR WALKING SURFACE SHALL BE CONSIDERED A HAZARDOUS LOCATION. THIS SHALL APPLY TO SINGLE GLAZING AND ALL PANES IN MULTIPLE GLAZING.

EXCEPTION: GLAZING THAT IS MORE THAN 60 INCHES, MEASURED HORIZONTALLY AND IN A STRAIGHT LINE, FROM THE WATERS EDGE..

GLAZING ADJACENT STAIRS AND RAMPS (R308.4.6): GLAZING WHERE THE BOTTOM EXPOSED EDGE OF THE GLAZING IS LESS THAN 36 INCHES ABOVE THE PLANE OF THE ADJACENT WALKING SURFACE OF STAIRWAYS, LANDINGS BETWEEN FLIGHTS OF STAIRS AND RAMPS SHALL BE CONSIDERED A HAZARDOUS LOCATION.

EXCEPTIONS:
1. WHEN A RAIL IS INSTALLED ON THE ACCESSIBLE SIDE(S) OF THE GLAZING 34 TO 38 INCHES ABOVE THE WALKING SURFACE. THE RAIL SHALL BE CAPABLE OF WITHSTANDING A HORIZONTAL LOAD OF 50 POUNDS PER LINEAL FOOT WITHOUT CONTACTING THE GLASS AND BE A MINIMUM OF 1-1/2 INCHES IN CROSS SECTIONAL HEIGHT.
2. GLAZING 36 INCHES OR MORE MEASURED HORIZONTALLY FROM THE WALKING SURFACE.

GLAZING ADJACENT TO THE BOTTOM STAIR LANDING (SECTION R308.4.7: GLAZING ADJACENT TO THE LANDING AT THE BOTTOM OF A STAIRWAY WHERE THE GLAZING IS LESS THAN 36 INCHES ABOVE THE LANDING AND WITHIN 60 INCHES HORIZONTALLY OF THE BOTTOM TREAD SHALL BE CONSIDERED A HAZARDOUS LOCATION.

EXCEPTIONS: THE GLAZING IS PROTECTED BY A GUARD COMPLYING WITH SECTION 312 AND THE PLANE OF THE GLASS IS MORE THAN 18 INCHES FROM THE GUARD.

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12880
REGISTERED ARCHITECT
Joshua Cory Peterson
STATE OF WASHINGTON

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2015 IRC GENERAL CODE NOTES

A0.2

PROJECT & SITE DATA

OWNERS: ALEX AND BARRETT BARNETT
SITE ADDRESS: 7530 86TH AVE SE
MERCER ISLAND, WA 98040

LEGAL DESCRIPTION:
MERCER ISLAND ESTATES #2 PLAT LOCK 20

PARCEL NUMBER:	545121–0200
JURISDICTION:	CITY OF MERCER ISLAND
WATER & SEWER DISTRICT:	CITY OF MERCER ISLAND
SECTION/TOWNSHIP/RANGE:	SW–30–24–05
PROPERTY ZONING:	R9.6
LOT SIZE:	10,658 S.F.

BUILDING SETBACKS:	REQUIRED	PROPOSED (1) 09/09/2021
EAST – REAR:	25'–0"	27'–1" (PROPOSED)
WEST – FRONT (SE 86TH AVE SE)	20'–0"	32'–6" (EXISTING)
NORTH – SIDE*:	7'–6" (2 STORY GABLE)	9'–8" (EXISTING)
SOUTH – SIDE*:	7'–6" (2 STORY GABLE)	8'–8" (EXISTING)

*SIDE = 17% OF LOT AREA: 18'–2" > 16'–2" @ AVERAGE LOT WIDTH (95x.17)

BUILDING HEIGHT PER R9.6 ZONING:	
1ST FINISH FLOOR:	356.375
A.B.E. (SEE CALCULATIONS BELOW)	355.20
EXISTING BUILDING HEIGHT:	377.08
PROPOSED ADDITION BUILDING HEIGHT:	367.75
MAXIMUM ALLOWABLE HEIGHT ABOVE A.B.E.:	386.875 (30'–0")

BUILDING HEIGHT NOTES:

1. REFER TO PLAN FOR SPOT ELEVATIONS AND BENCHMARK ELEVATION (#L).
2. REFER TO BUILDING ELEVATIONS FOR A.B.E. DATUM POINTS AND ROOF RIDGE ELEVATIONS

BUILDING CONSTRUCTION DATA

OCCUPANCY TYPE: R–3 (SINGLE FAMILY RES.) BUILDING CONSTRUCTION
TYPE: V–B

GARAGE (EXISTING):	680.00 S.F.
1ST FLOOR (EXISTING):	1,370.00 S.F.
2ND FLOOR (EXISTING):	1,560.00 S.F. (1) 09/09/2021
TOTAL FLOOR AREA:	3,610.00 S.F.
ALLOWABLE GROSS FLOOR AREA:	4,263.20 S.F. (33.9%)

LOT COVERAGE CALCULATIONS (LOT SLOPE <15%):	
MAIN STRUCTURE ROOF AREA:	2480.70 S.F.
ACCESSORY SHED ROOF AREA:	32.40 S.F.
VEHICULAR USE:	1113.21 S.F.
TOTAL LOT COVERAGE:	3,626.31 S.F./34.03%
ALLOWABLE LOT COVERAGE:	4,263.20 S.F./40.00%

HARDSCAPE CALCULATIONS:	
NEW DECK (<30" ABOVE GRADE):	288.48 S.F.
TOTAL HARDSCAPE:	288.48 S.F./ 2.71% (1) 09/09/2021
ALLOWABLE HARDSCAPE:	959.22 S.F./ 9.00%

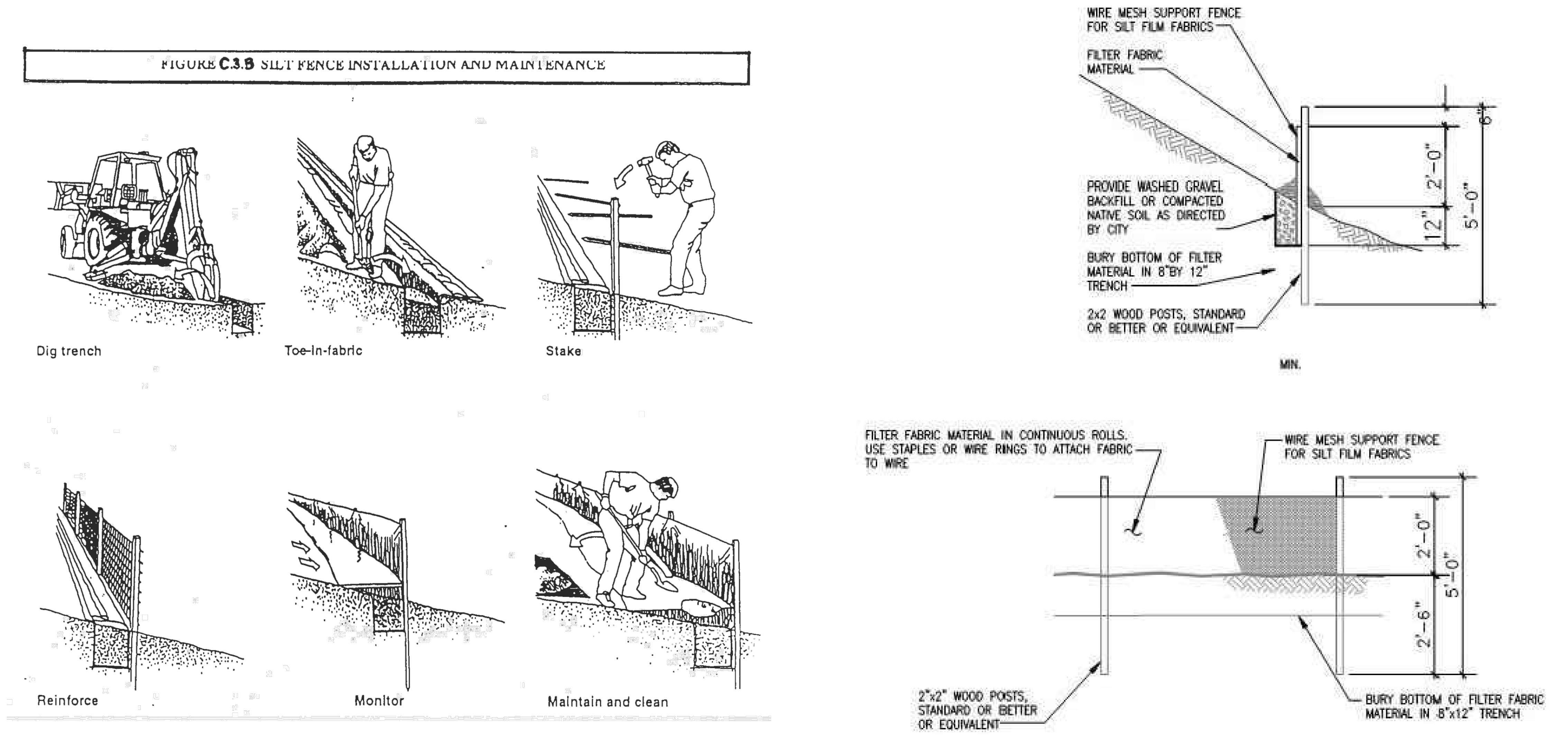
**<500 S.F. OF NEW/REPLACED IMPERVIOUS SURFACE

TREES:
NO SIGNIFICANT TREES SHALL BE REMOVE OR IMPACTED IN CONSTRUCTION WITH THE SCOPE OF WORK STATED IN THE BUILDING PERMIT.

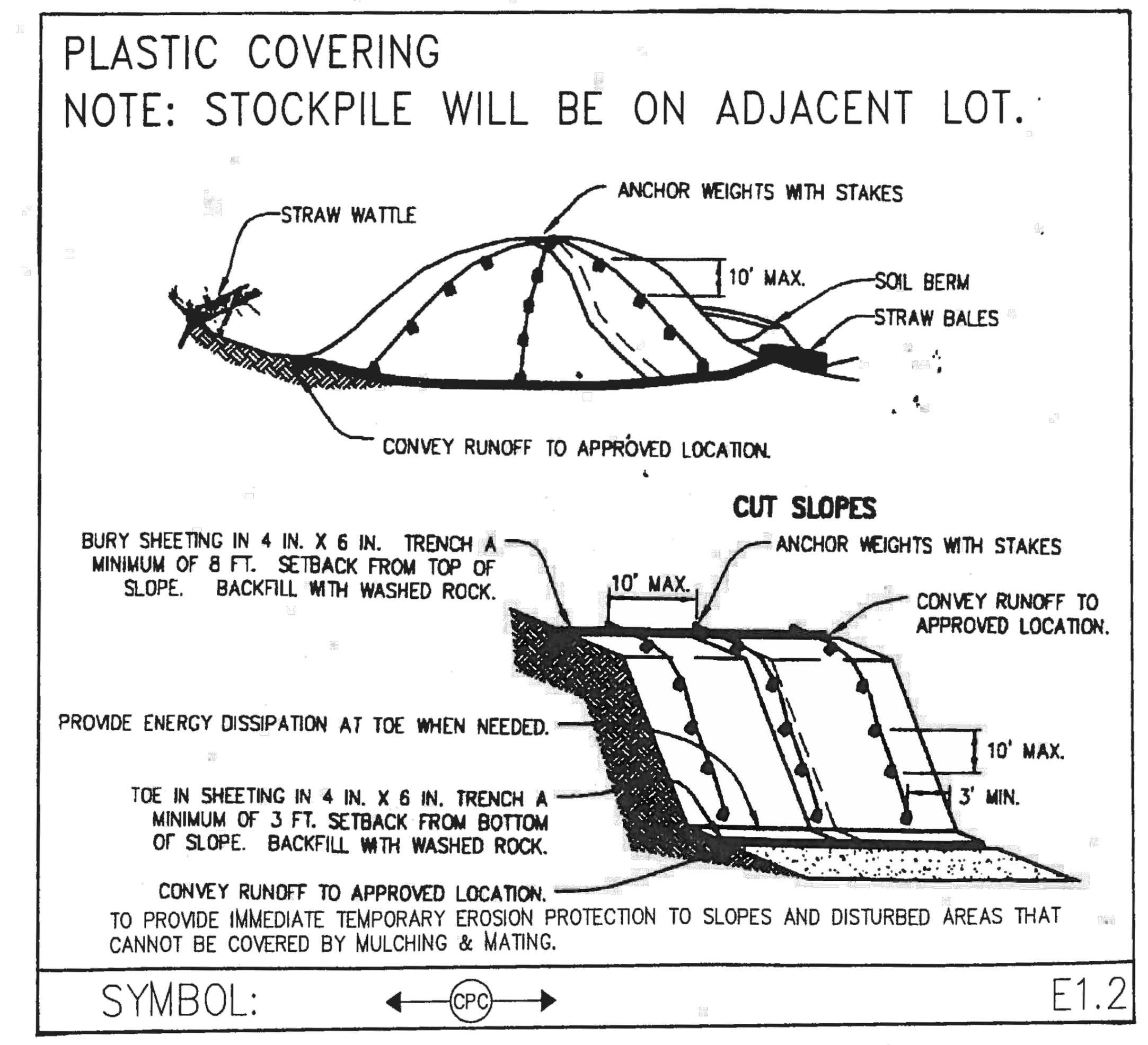
ENERGY CREDITS:	
EFFICIENT FURNACE (3A):	1.0
TOTAL CREDITS:	1.0

A.B.E. CALCULATION

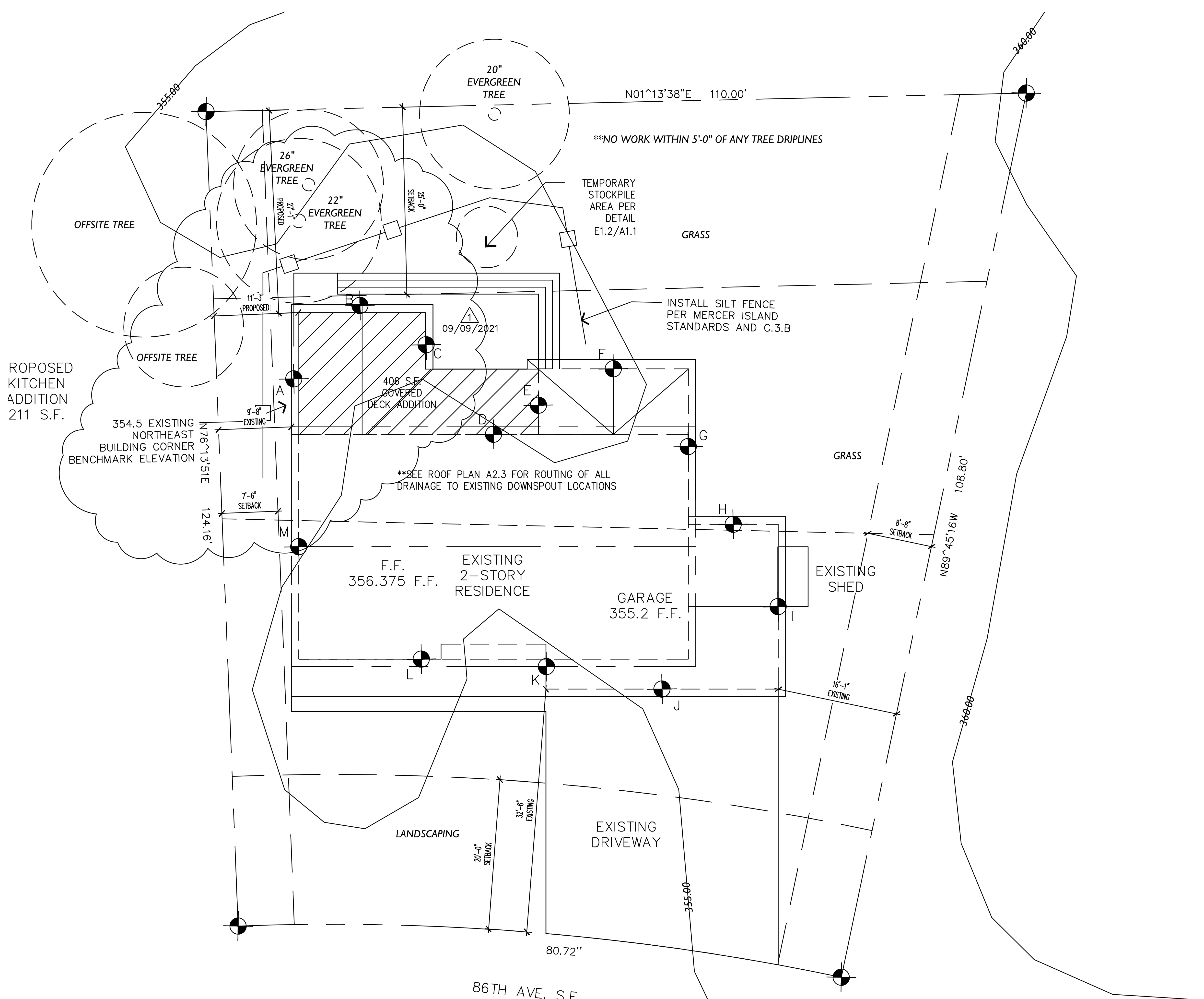
WALL SEGMENT	SEGMENT LENGTH	MIDPOINT ELEVATION	TOTAL
A	15.75	354.5	5583.375
B	17.67	354.5	6264.015
C	11.75	355.2	4173.6
D	15	355.2	5328
E	8.75	355.2	3108
F	20	355.7	7114
G	20.67	354.8	7333.716
H	12	355.7	4268.4
I	22	355.9	7829.8
J	31	355.2	11011.2
K	4	354.8	1419.2
L	33	355.4	11728.2
M	26	355	9230
TOTALS	237.59	4617.1	84391.51
AVERAGE BASE ELEVATION			355.1981



C.3.B SILT FENCE INSTALLATION FIGURE
SCALE: N.T.S.



E1.2 STOCKPILE DETAIL
SCALE: N.T.S.



SITE PLAN
1" = 10'

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REGISTERED ARCHITECT
Joshua Cory Peterson
STATE OF WASHINGTON

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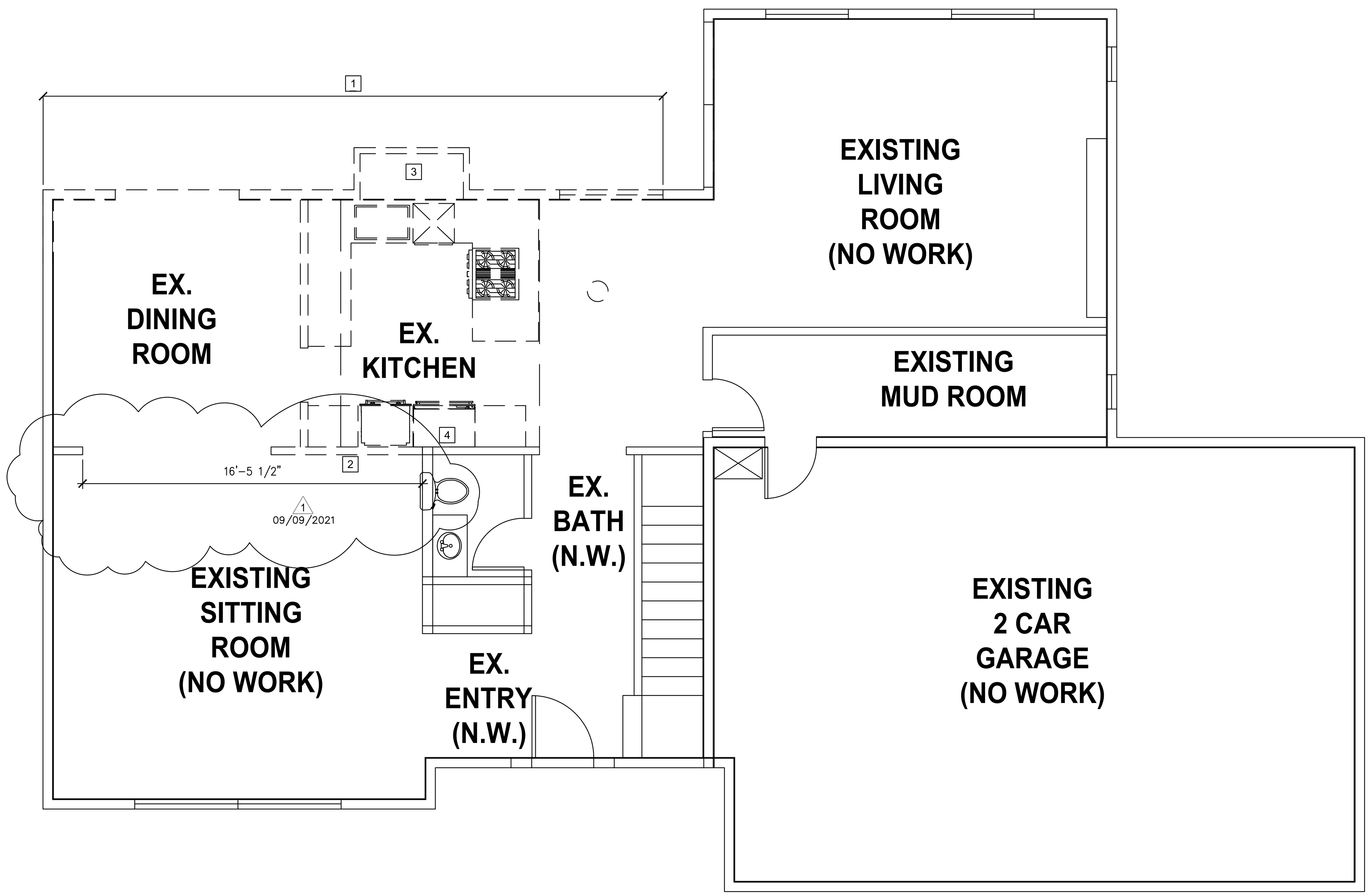
SITE PLAN
A1.1



DEMOLITION MAIN FLOOR PLAN

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

A20-010 A2.1 D.dwg

KEY NOTES

1. DEMO WALL AS REQUIRED FOR NEW OPENINGS PER PLAN. REFER TO STRUCTURAL DRAWINGS FOR BEAM SIZES AND EXISTING FLOOR JOIST SHORING/MODIFICATIONS.
2. DEMO BACK FOR NEW STRUCTURAL POST AND OPENING PER PLAN
3. EXISTING BAY WINDOW TO BE REMOVED
4. RE-ROUTE SEWER LINES UNDER BATHROOM AS REQUIRED FOR NEW FOOTING PER STRUCTURAL.

DEMOLITION NOTES

A. OBTAIN DEMOLITION PERMITS AND INCLUDE ALL COSTS OF SAME IN CONTRACT PRICE.

B. FURNISH ALL LABOR AND MATERIALS/EQUIPMENT TO COMPLETE DEMOLITION AND REMOVAL OF ALL ITEMS AS INDICATED.

C. GC SHALL KEEP CONSTRUCTION AREA FREE OF DUST AND DEBRIS FOR THE DURATION OF CONSTRUCTION.

D. IF ANY QUESTIONS ARISE AS TO THE REMOVAL OF ANY MATERIAL, CLARIFY THE POINT IN QUESTION WITH THE ARCHITECT BEFORE PROCEEDING.

E. AT COMPLETION OF DEMOLITION WORK, THE CONSTRUCTION AREAS SHALL BE LEFT IN "BROOM CLEAN" CONDITION. ALL DEBRIS AND MISCELLANEOUS MATERIAL SHALL BE REMOVED,

F. ALL DEBRIS REMOVAL SHALL BE PERFORMED IN ACCORDANCE WITH BUILDING MANAGEMENT REQUIREMENTS AND PROCEDURES.

G. AS DIRECTED BY BUILDING MANAGEMENT, ALL DOORS, FRAMES, HARDWARE, MECHANICAL ITEMS, PLUMBING FIXTURES, LIGHT FIXTURES (INCLUDING DOWNSPOUTS AND FLUORESCENTS), AND SPECIAL EQUIPMENT SHOWN TO BE REMOVED, SHALL BE CLEAN AND FREE OF DEFECTS, PROTECTED, SAVED AND REUSED AS DIRECTED HEREIN, OR RETURNED TO BUILDING STOCK.

H. IN PARTITIONS TO BE REMOVED, REMOVE AND CAP ALL OUTLETS, SWITCHES, WIRES, THERMOSTATS, ETC., TO THEIR SOURCE.

I. GC SHALL BE RESPONSIBLE FOR PATCHING AND/OR REPAIRING ANY DAMAGE CAUSED BY HIM OR HIS SUBGCS TO EXISTING CONSTRUCTION PUBLIC CORRIDORS, RESTROOMS OR TENANT SPACES. REFINISH TO MATCH EXISTING ADJACENT FINISH, OR AS NOTED HEREIN.

J. NO EXISTING SMOKE DETECTOR, PUBLIC ADDRESS SPEAKER, FIRE ALARM BOX OR SIMILAR DEVICE, INCLUDING THE ASSOCIATED WIRING SHALL BE DAMAGED DURING DEMOLITION AND SUBSEQUENT CONSTRUCTION. RELOCATION OF SMOKE DETECTORS, PUBLIC ADDRESS SPEAKERS AND FIRE ALARM EQUIPMENT, NECESSITATED BY NEW CONSTRUCTION, SHALL BE ACCOMPLISHED AS A FIRST PRIORITY, AND PER THE PLANS, NO ACTIVE SMOKE DETECTOR SHALL BE COVERED OR OTHERWISE REMOVED OR USED FOR OTHER THAN ITS INTENDED PURPOSE.

K. REMOVAL OF ANY EQUIPMENT, CABLING SWITCHES, AND CONDUIT PERTAINING TO DATA/COMMUNICATIONS AND TELEPHONE SHALL BE VERIFIED WITH TELEPHONE COMPANIES AND TENANT.

L. REMOVE ALL EXISTING MATERIALS, WHICH WOULD CAUSE RISES OR DEPRESSIONS IN NEW FLOORING SURFACE, SUCH AS FASTENERS, OUTLET CORES. COVER PLATES, RESILIENT FLOOR COVERINGS, CARPET, CARPET PAD, FLASH PATCH, CONCRETE FILL, PLYWOOD, ETC.

M. DEMOLITION IS NOT NECESSARILY LIMITED TO WHAT IS SHOWN ON DWGS. THE INTENT IS TO INDICATE THE GENERAL SCOPE OF DEMOLITION REQUIRED TO COMPLETE THE WORK IN ACCORDANCE WITH THE CONTRACT DWGS.

N. RATED WALLS SHALL NOT BE PENETRATED UNLESS THE RATING IS MAINTAINED.

O. ALL FLOORS SHOULD BE LEVEL AND NOT VARY MORE THAN 1/4" IN 10'-0". THE GC SHALL NOTIFY ARCHITECT OF ANY CONDITIONS THAT DO NOT MEET THIS STANDARD.

DEMO LEGEND

EXISTING INTERIOR WALLS, DOORS, RELITES, CABINETS AND SHELVING TO BE REMOVED (SHOWN DASHED), INCLUDING ELECTRICAL ITEMS ATTACHED TO WALLS. REFER TO FLOOR PLAN FOR EXTENT AND DIMENSIONS. RE-USE ITEMS IN EXCELLENT CONDITION, OR RETURN TO OWNER FOR STORAGE.

EXISTING CONSTRUCTION TO REMAIN.

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REGISTERED ARCHITECT
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Joshua Cory Peterson
STATE OF WASHINGTON

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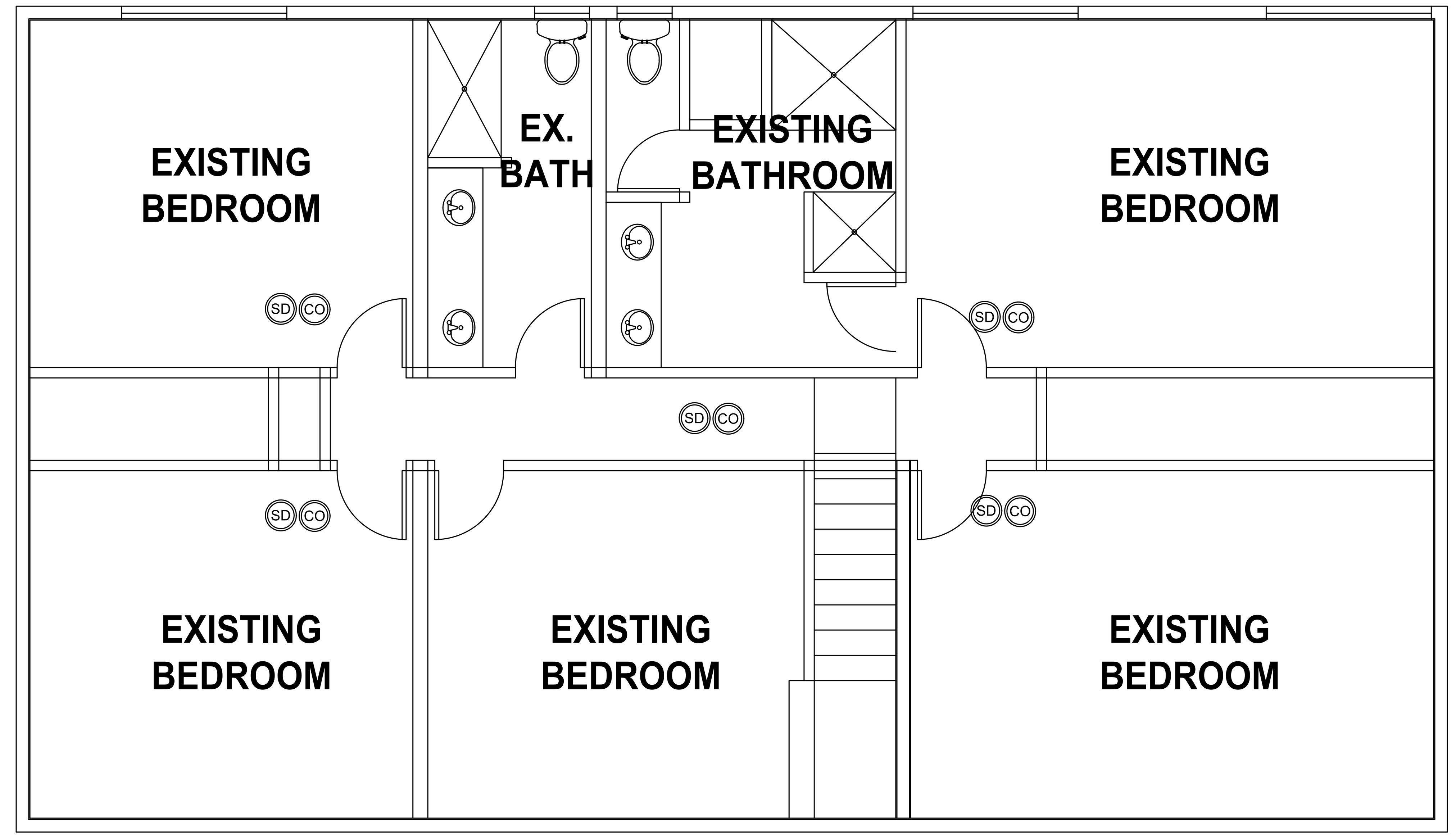
DEMOLITION FLOOR PLAN

A2.1D



REFERENCE SECOND FLOOR PLAN (NO WORK)

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

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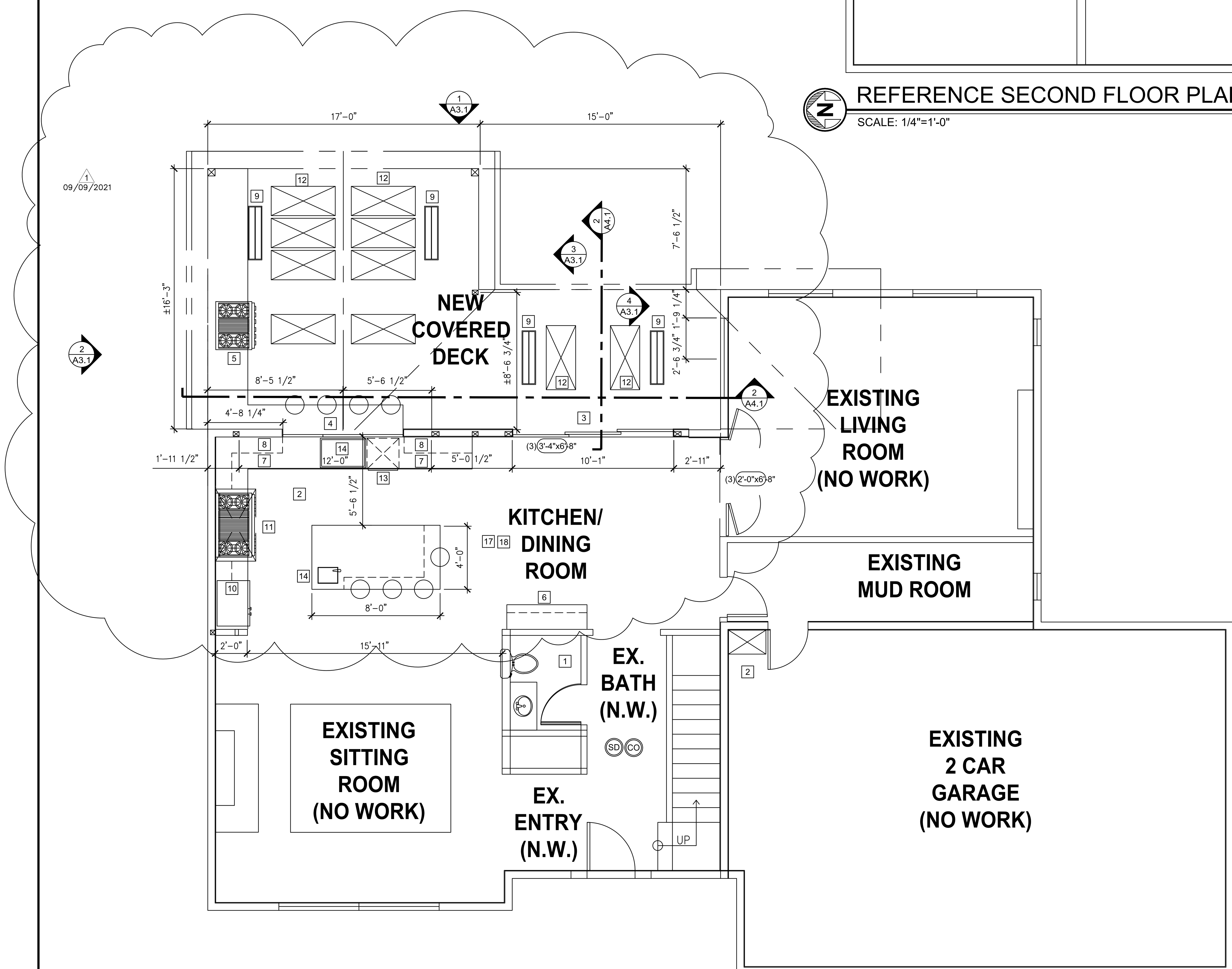

MAIN FLOOR PLAN

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

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KEY NOTES

1. VENTILATION SYSTEM SHALL BE DESIGNED IN ACCORDANCE WITH WAC, SECTIONS M1507.1 – M1507.3. INTERMITTENT WHOLE HOUSE VENTILATION PER IRC M1507.3.5 @ RATE OF 100 CFM REQUIRED. (KEYNOTE NOT SHOWN ON PLAN)
2. EXISTING FURNACE & WATER HEATER IN GARAGE. EXTEND DUCTWORK/WATER/SEWER LINES INTO NEW CRAWLSPACE FROM NORTHEAST CORNER OF BASEMENT. PROVIDE 25% FREE NET OPEN AREA BETWEEN EXISTING AND NEW CRAWLSPACE.
3. NEW SLIDING GLASS DOOR. PELLA (OR EQUAL) COORDINATE SPEC WITH OWNER/ARCHITECT
4. NEW BI-FOLD COUNTER HEIGHT WINDOW.
5. OUTDOOR BBQ AND COUNTERTOP/CABINETS (G.C. TO COORDINATE SCOPE WITH OWNER.)
6. COORDINATE NEW SHELVING & COUNTER WITH OWNER
7. 24" D. BASE CABINETS w/ COUNTER. COORDINATE WITH OWNER.
8. 12" D. UPPER CABINETS. COORDINATE WITH OWNER
9. INFRATEC INFRARED HEATERS IN CEILING
10. REFRIGERATOR w/WATER CONNECTION
11. DUAL FUEL RANGE BY OWNER. (HOOD 100 CFM MIN. /400 CFM MAX.)
12. SKYLIGHTS ABOVE
13. DISHWASHER BY OWNER
14. KITCHEN SINK w/GARBAGE DISPOSAL. FURNISH BY OWNER/INSTALL BY CONTR.
15. COORDINATE ELECTRICAL OUTLET LOCATIONS ABOVE ALL COUNTERS WITH OWNER PRIOR TO ROUGH-IN. (KEYNOTE NOT SHOWN ON PLAN)
16. NOT USED
17. COORDINATE LIGHTING FOR KITCHEN AND EXISTING DINING ROOM w/ OWNER/ARCHITECT PRIOR TO ROUGH-IN (KEYNOTE NOT SHOWN ON PLANS)
18. COORDINATE CEILING HEIGHT AND FURRING DETAILS WITH OWNER/ARCHITECT. (REVIEW PLUMBING DRAINS FROM BATHROOM ABOVE)

SMOKE & CO DETECTOR NOTES:

(SD) m DETECTOR/ALARM: 110V w/ BATTERY BACK-UP AS INDICATED ON PLANS – INTERCONNECTED SYSTEM. REFER TO SHEET A0.2 FOR ADDITIONAL SMOKE ALARM LOCATION REQUIREMENTS.

(CO) CARBON MONOXIDE ALARM – INSTALL PER MFR'S REQUIREMENTS AND REQUIREMENTS OF UL 2034

PLAN NOTES

1. ALL DIMENSIONS ARE TO FACE OF STUD, U.O.N.
2. ALL WOOD IN CONTACT WITH CONCRETE OR MASONRY SHALL BE PRESSURE TREATED WOOD OF ANY SPECIES OR FOUNDATION GRADE CEDAR OR REDWOOD. ALL MARKED BY AN APPROVED TESTING AGENCY.
3. PROVIDE HORIZONTAL FIREBLOCKING IN ALL FRAME WALLS (VERTICALLY AND HORIZONTALLY) AT MAX. 10'-0" ON CENTER AND WHERE FRAME WALLS PENETRATE CEILINGS. FIREBLOCK IN ACCORDANCE WITH IRC SECTION R602.8.
4. EXPOSED INSULATION MATERIALS INCLUDING FACINGS AND VAPOR BARRIERS, SHALL HAVE A FLAME SPREAD RATING NOT TO EXCEED 25, AND A SPOKE DENSITY NOT TO EXCEED 450, OR SHALL BE IN SUBSTANTIAL CONTACT WITH THE WALL OR CEILING SURFACE FINISH PER IRC SECTION R316.1
5. BATHROOM NOTES: PROVIDE FIREBLOCKING BETWEEN STUDS AT TUB/SHOWER ENCLOSURE(S). LIMIT SHOWER FLOW TO 2.5 G.P.M. WALLS SHALL BE WATERPROOF TO A MINIMUM OF 72" ABOVE DRAIN INLET. ALL GLAZING, INCLUDING WINDOWS, WITH 70" OF DRAIN INLET, SHALL BE SAFETY GLASS.
6. ALL WOOD SUBJECT TO WEATHER EXPOSURE SHALL BE PRESSURE TREATED WOOD OF ANY SPECIES (REFER TO STRUCTURAL PLANS FOR STRUCTURAL REQUIREMENTS) MARKED BY AN APPROVED TESTING AGENCY OR CEDAR OR REDWOOD.

WALL LEGEND

3'-0"x6'-8" DOOR. REFER TO KEYS ON PLAN AND SEE DOOR SCHEDULE, SHEET A6.1. DOORS THAT ARE NOT DIMENSIONED ARE TO BE LOCATED A MIN. 4" FROM ADJACENT PERPENDICULAR WALL FINISH OR CENTERED IN HALLWAY.

(A) EXTERIOR WINDOW – REFER TO EXTERIOR ELEVATIONS AND WINDOW SCHEDULE SHEET A6.1

NOTES :

1. PROVIDE WATER & MILDEW/MOLD RESISTANT NON-PAPER FACED G.W.B. AT ALL DAMP OR MOISTURE EXPOSED LOCATIONS

TYPICAL EXTERIOR WALL: 2x 6 (U.O.N.) w/ PLYWD SHEATHING PER STRUCTURAL ENGINEER w/ MIN. R-21 INSULATION, 4 MIL VAPOR BARRIER (AT WARM SIDE) AND 1/2" INTERIOR G.W.B.

TYPICAL INTERIOR/EXISTING INFILL WALL: 2x 4 (U.O.N.) WOOD STUDS @ 16"O.C. w/ 1/2" G.W.B. EACH SIDE OR AS REQ'D PER STRUCTURAL AND SHEAR WALL SCHEDULE; FINISH PER OWNER SPECS.

**SEE TYPICAL FRAMING DETAILS 1-8/A5.1

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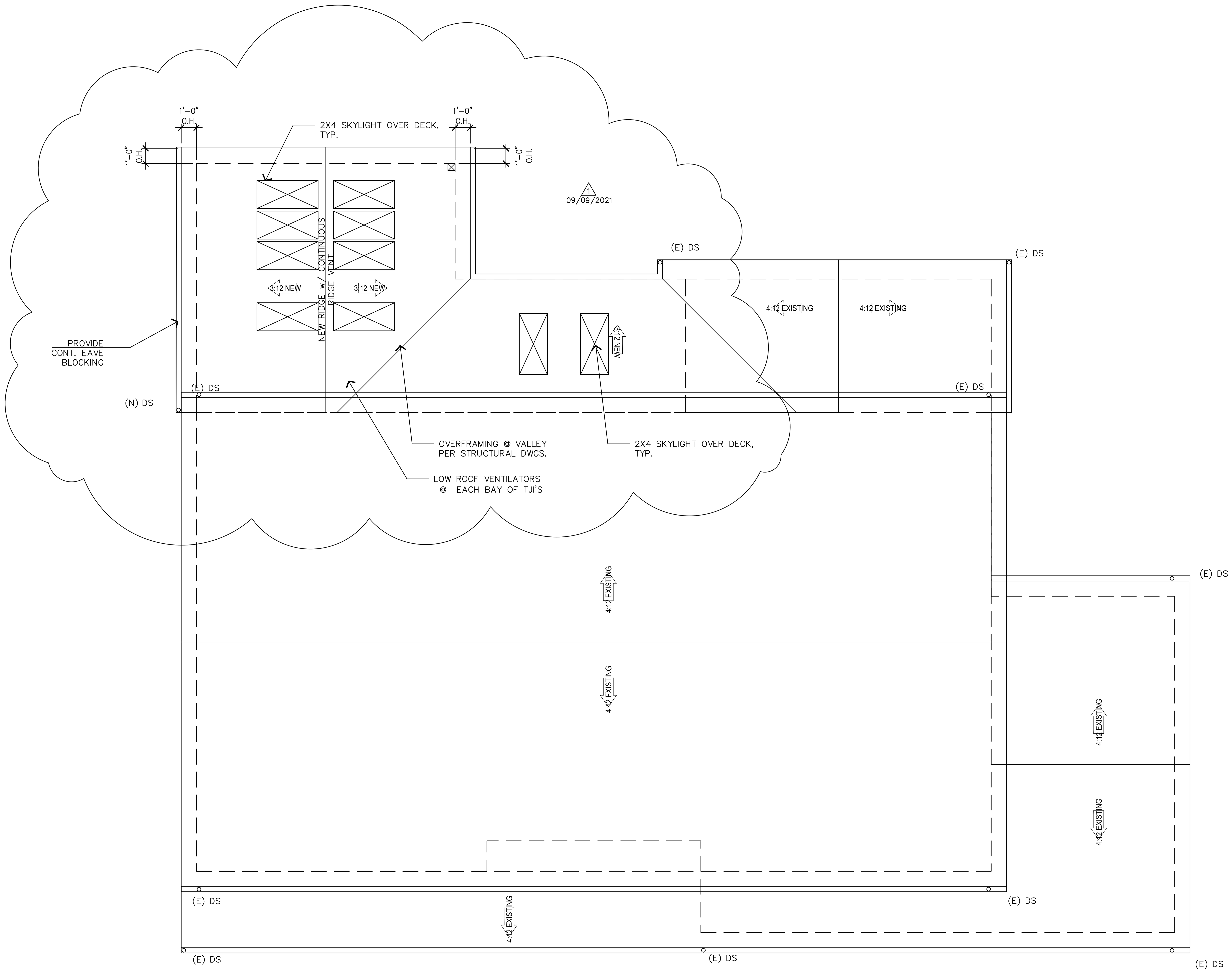
BASEMENT FLOOR PLAN

A2.1



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

A20-010 A2.3.dwg

ROOF PLAN NOTES

1. ALL DIMENSIONS ARE TO FACE OF STUD, U.O.N.
2. ALL WOOD IN CONTACT WITH CONCRETE OR MASONRY SHALL BE PRESSURE TREATED WOOD OF ANY SPECIES OR FOUNDATION GRADE CEDAR OR REDWOOD. ALL MARKED BY AN APPROVED TESTING AGENCY.
3. PROVIDE HORIZONTAL FIREBLOCKING IN ALL FRAME WALLS (VERTICALLY AND HORIZONTALLY) AT MAX. 10'-0" ON CENTER AND WHERE FRAME WALLS PENETRATE CEILINGS. FIREBLOCK IN ACCORDANCE WITH IRC SECTION R602.8.
4. EXPOSED INSULATION MATERIALS INCLUDING FACINGS AND VAPOR BARRIERS, SHALL HAVE A FLAME SPREAD RATING NOT TO EXCEED 25, AND A SMOKE DENSITY NOT TO EXCEED 450, OR SHALL BE IN SUBSTANTIAL CONTACT WITH THE WALL OR CEILING SURFACE FINISH PER IRC SECTION R316.1
5. ALL TRUSSES SHALL CARRY MANUFACTURER'S STAMP AND SHALL BE INSTALLED AND BRACED TO MFR'S SPECIFICATIONS. ALL TRUSSES WILL NOT BE FIELD ALTERED WITHOUT PRIOR BUILDING DEPARTMENT APPROVAL OF ENGINEERING CALCS. ALL TRUSSES SHALL HAVE DESIGN DETAILS AND DRAWINGS ON SITE FOR FRAMING INSPECTION.
6. G.C. TO FIELD VERIFY ALL EXISTING ROOF SLOPES AND CONDITIONS PRIOR TO CONSTRUCTION AND ORDERING OF MATERIALS OR TRUSSES.
7. ALL NEW EXTERIOR HEADERS ARE REQUIRED TO BE INSULATED WITH A MINIMUM R-10 INSULATION. REFER TO TYPICAL EXTERIOR HEADER DETAIL 8/A5.1

DRAINAGE GENERAL NOTES:

1. DOWNSPOUTS SHALL BE TIED INTO A NON-PERFORATED, RIGID, SMOOTH-BORE PIPE WHICH DRAINS TO AN APPROVED STORM SYSTEM
2. PROVIDE CLEANOUTS AT THE UPPER END OF THE SYSTEM AND AT EACH CUMULATIVE CHANGE OF DIRECTION IN EXCESS OF 135 DEGREES.
3. ALL PIPE FITTINGS SHALL BE MADE OF THE SAME MATERIAL AS THE STRAIGHT PIPE. GLUED JOINTS SHALL USE A BONDING AGENT RECOMMENDED BY THE PIPE MANUFACTURER.
4. FOOTING DRAINS SHALL BE INSTALLED AROUND ALL NEW FOUNDATIONS AND SHALL BE TIED TO THE STORM DRAINAGE SYSTEM. FOOTING DRAINS SHALL BE CONSTRUCTED OF PERFORATED PIPE AT THE BASE OF THE FOOTING, AND SHALL MEET MATERIAL STANDARDS OF D2729 FOR PVC PIPE, WITH THE PERFORATIONS DIRECTED DOWNWARD. PLACE GRANULAR BACKFILL AROUND AND ABOVE THE FOOTING DRAIN TO A DEPTH OF 2/3 OF THE WALL HEIGHT. PROVIDE FILTER FABRIC WRAP AROUND BETWEEN THE GRANULAR BACKFILL AND THE NATIVE SOIL. REFER TO GEOTECHNICAL ENGINEERING INVESTIGATION PREPARED BY LIU & ASSOCIATES, INC. DATED 3-5-2018 FOR FOUNDATION DRAINAGE REQUIREMENTS AND RECOMENDATIONS.

ROOF VENTILATION CALCS

ADDITION LOW ROOF AREA:

208 SQ. FT./300 = 0.694 SQ. FT. x .50 = 0.347 SQ. FT. OF REQUIRED ROOF VENTILATION x 144 = 49.2 SQ. IN. MINIMUM OF ATTIC CROSS VENTILATION AREA REQUIRED AT ADDITION LOW ROOF

LOW ROOF EAVE BLOCKING = 13.25 LF LOW
(3) 2" HOLES / 22" BLOCK =
2" HOLE = 4 SQ. IN.
1.5 HOLES / LF = 1.5 (4 SQ. IN) = 6 SQ. IN. / LF
13.25 LF X 6 SQ. IN = 79.5 SQ. IN.
TOTAL 79.5 > 49.2 REQ.D = OK*

*PROVIDE 12X12 ROOF VENTILATORS @ EACH JOIST BAY WHERE EAVE BLOCKING IS NOT PROVIDED

(3) - 2" HOLES PER BLOCK
BLOCKING TO MATCH JOIST HEIGHT
(CONTINUOUS 2" SOFFIT VENT (BLACK) @ ENCLOSED SOFFITS)

ROOF PLAN LEGEND

WALL BELOW PER PLANS w/ HEADER or BEAM PER STRUCTURAL

6:12 ROOF PITCH INDICATOR. G.C. TO FIELD VERIFY ALL EXISTING ROOF SLOPES AND CONDITIONS PRIOR TO CONSTRUCTION AND ORDERING OF MATERIALS OR TRUSSES

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STATE OF WASHINGTON

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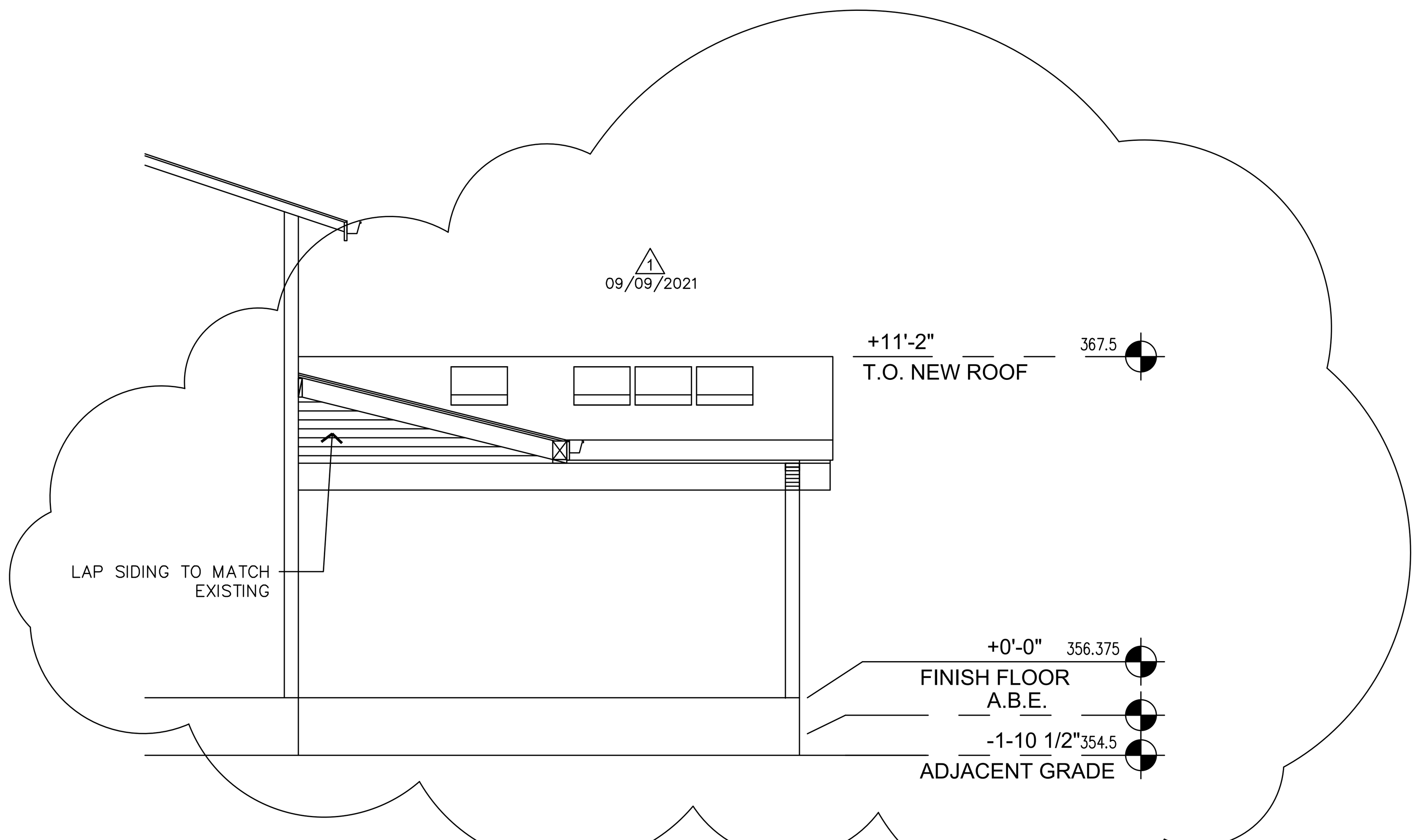
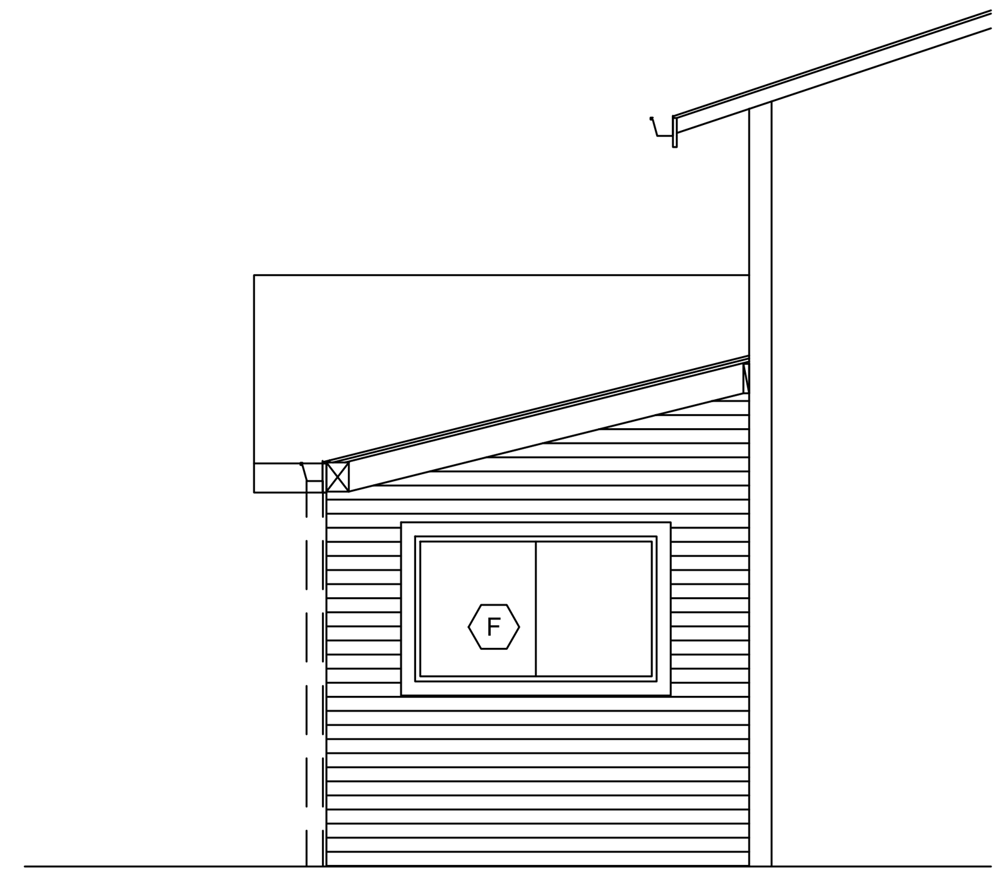
ROOF PLAN
A2.3



3 PARTIAL NORTH ELEVATION
SCALE: 1/4" = 1'-0"



4 PARTIAL SOUTH ELEVATION
SCALE: 1/4" = 1'-0"

ENERGY CODE NOTES

THESE DESIGNS ARE IN ACCORDANCE WITH THE 2015 WASHINGTON STATE ENERGY CODE (WSEC) REQUIREMENTS FOR TABLE 402.1.1 – PRESCRIPTIVE COMPONENT REQUIREMENTS FOR CLIMATE ZONE 4-MARINE.

SECTION R406 CATEGORY:	ADDITIONS <500 S.F.: 0.5 POINTS REQ'D	
		TABLE 406.2 CREDIT
FUEL TYPE:	NATURAL GAS	
MINIMUM EFFICIENCY OF FURNACE:		
PRIMARY RESIDENCE	94% AFUE	3A (1.0 PTS)
MAXIMUM GLAZING FACTORS (NEW WINDOWS):		
VERTICAL GLAZING:	U = 0.30	
VERTICAL GLAZING SHGC:	NO REQUIREMENT	
OVERHEAD GLAZING:	U = 0.50	
MAXIMUM DOOR FACTORS:		
WOOD DOOR IN WOOD FRAME:	U = 0.46	
R402.3.4 EXEMPT OPAQUE DOOR		
INSULATION LEVELS PROVIDED:		
ATTIC SPACES	R-49	
UNVENTED JOISTS SPACES	R-38 (R-15 SPRAY/R-23 ROXUL)	
VAULTED CEILINGS	R-38	
ABOVE GRADE WALLS	R-21	
BELOW GRADE WALLS	N/A	
FLOORS OVER UNCOND. SPACE	R-38 BATT INSULATION	
SLAB ON GRADE FLOORS	R-10 CONTINUOUS XPS INSULATION FOR 12"	

PLUMBING FIXTURE EFFICIENCY:

TANK TYPE TOILETS	1.6 GPF MAXIMUM
LAVATORY FAUCETS	2.5 GPM MAXIMUM
KITCHEN FAUCETS	2.5 GPM MAXIMUM
SHOWER HEADS	2.5 GPM MAXIMUM

PROVIDE 4 MIL POLY VAPOR BARRIER ON WARM SIDE OF WALLS
PROVIDE 6 MIL POLY VAPOR BARRIER AT WARM SIDE OF CEILINGS

R402.4 AIR LEAKAGE AND TESTING (MANDATORY)

THE BUILDING ENVELOPE SHALL BE CONSTRUCTED TO LIMIT AIR LEAKAGE IN ACCORDANCE WITH THE REQUIREMENTS OF SECTIONS R402.4.1 THROUGH R402.4.4

THE DWELLING UNIT SHALL BE TESTED AND VERIFIED AS HAVING AN AIR CHANGE LEAKAGE RATE OF NOT EXCEEDING 5 AIR CHANGES PER HOUR. TESTING SHALL BE CONDUCTED WITH A BLOWER DOOR AT A PRESSURE OF 0.2 INCHES W.G. (50 PASCALS). WHERE REQUIRED BY THE CODE OFFICIAL TESTING SHALL BE CONDUCTED BY AN APPROVED THIRD PARTY. A WRITTEN REPORT OF THE RESULTS OF THE TEST SHALL BE SIGNED BY THE PARTY CONDUCTING THE TEST AND PROVIDED TO THE CODE OFFICIAL. TESTING SHALL BE PERFORMED AT ANY TIME AFTER CREATION OF ALL PENETRATIONS OF THE BUILDING ENVELOPE.

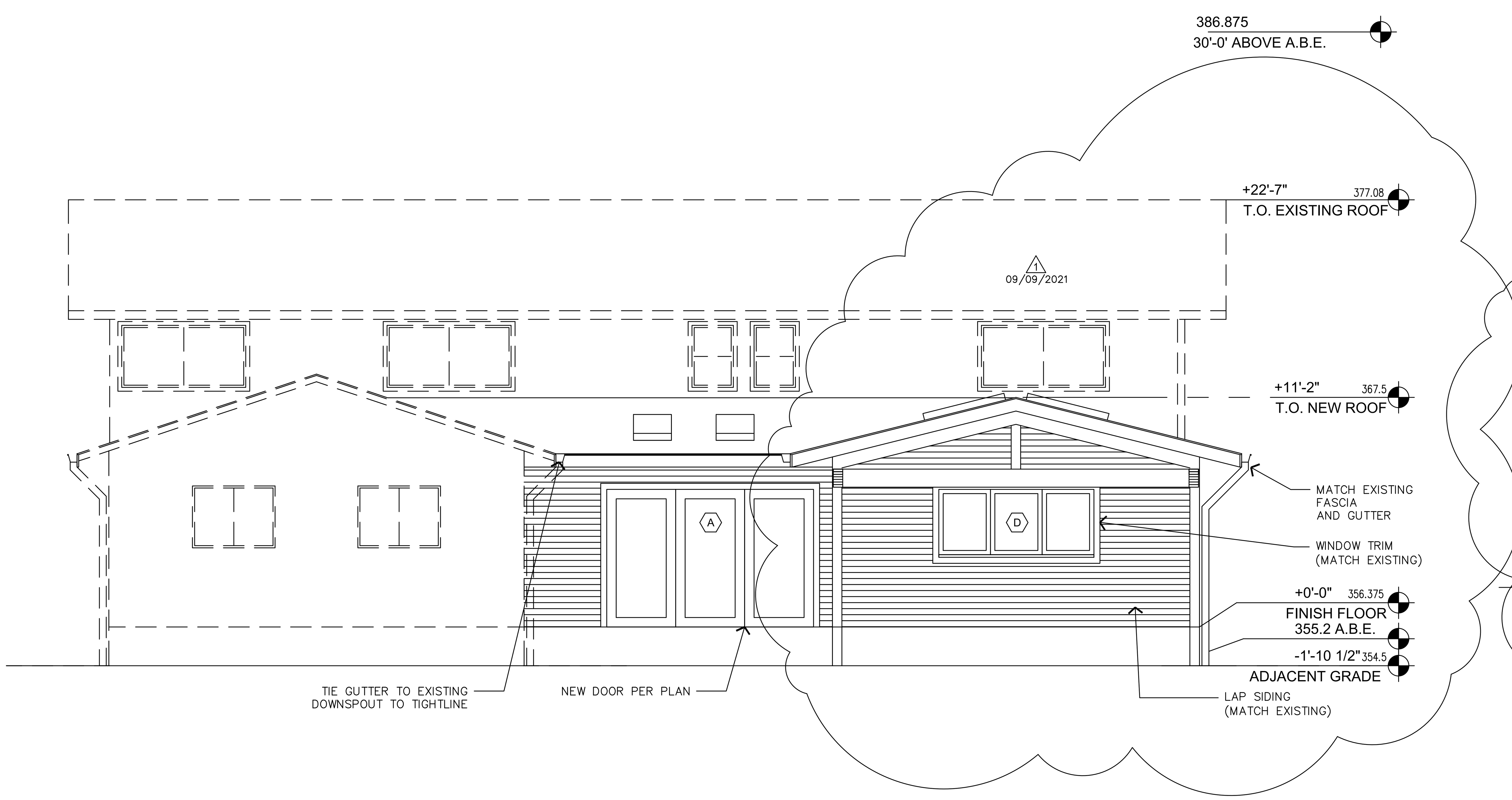
WHOLE HOUSE FAN SHALL BE INTEGRATED WITH AUTOMATIC FRESH AIR DAMPER ON FORCED AIR UNIT.

ALL HEATING DUCTS LOCATED IN UNHEATED AREAS ARE TO BE INSULATED TO MINIMUM R-8. DUCT SEAMS ARE TO BE SEALED AND FASTENED WITH A MINIMUM OF FASTENERS.

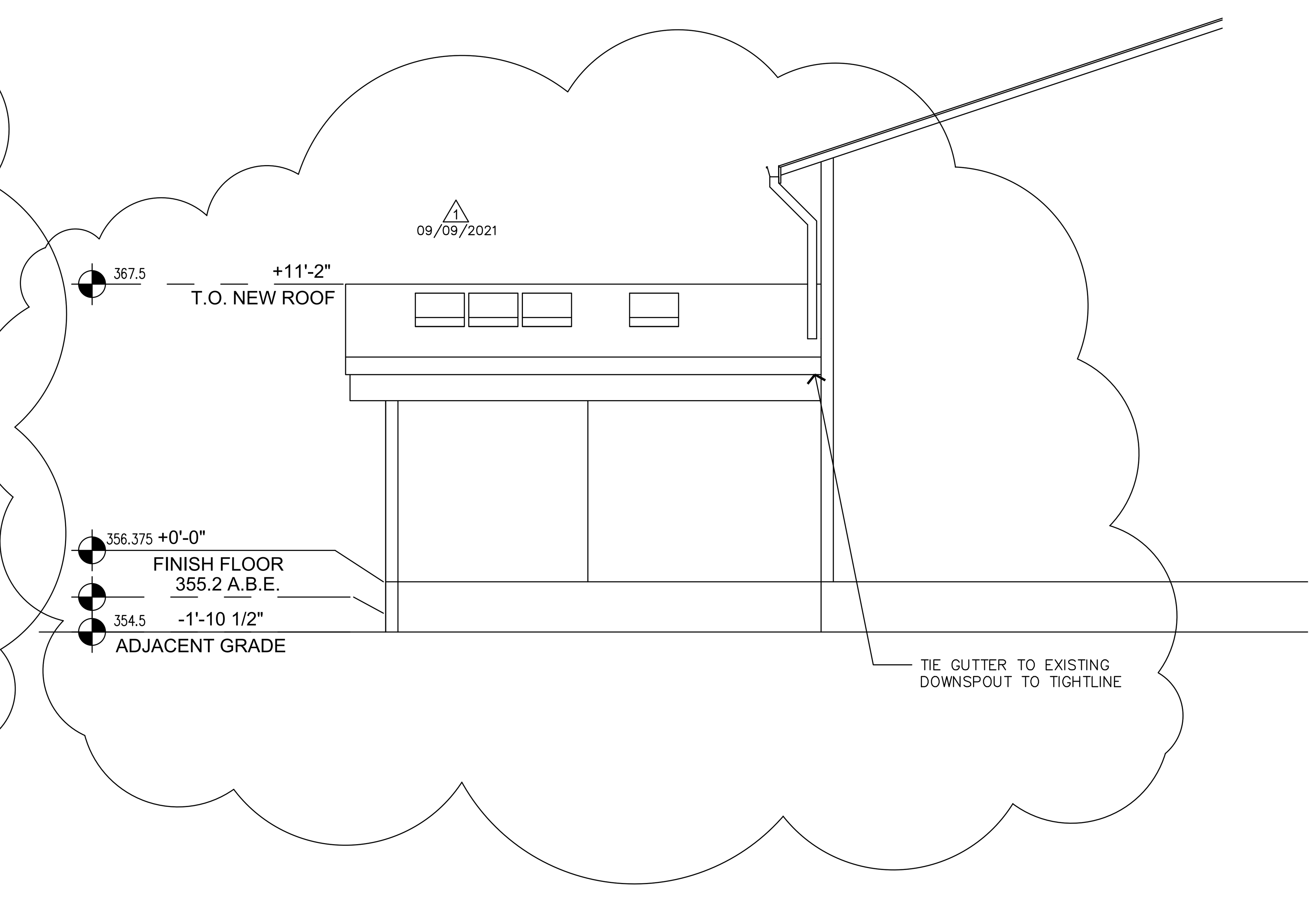
NON-RECIRCULATING HOT & COLD WATER PIPES >1" NOMINAL PIPE SIZE LOCATED IN UNCONDITIONED AREAS SHALL BE INSULATED TO MINIMUM R-3.

A MINIMUM OF 75% OF PERMANENTLY INSTALLED LAMPS IN LIGHTING FIXTURES SHALL BE HIGH EFFICACY LAMPS (WSEC R404.1)

FUEL GAS LIGHTING SYSTEMS SHALL NOT HAVE CONTINUOUSLY BURNING PILOT LIGHTS (WSEC R404.1.1)



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



2 SOUTH ELEVATION
SCALE: 1/4" = 1'-0"

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STATE OF WASHINGTON

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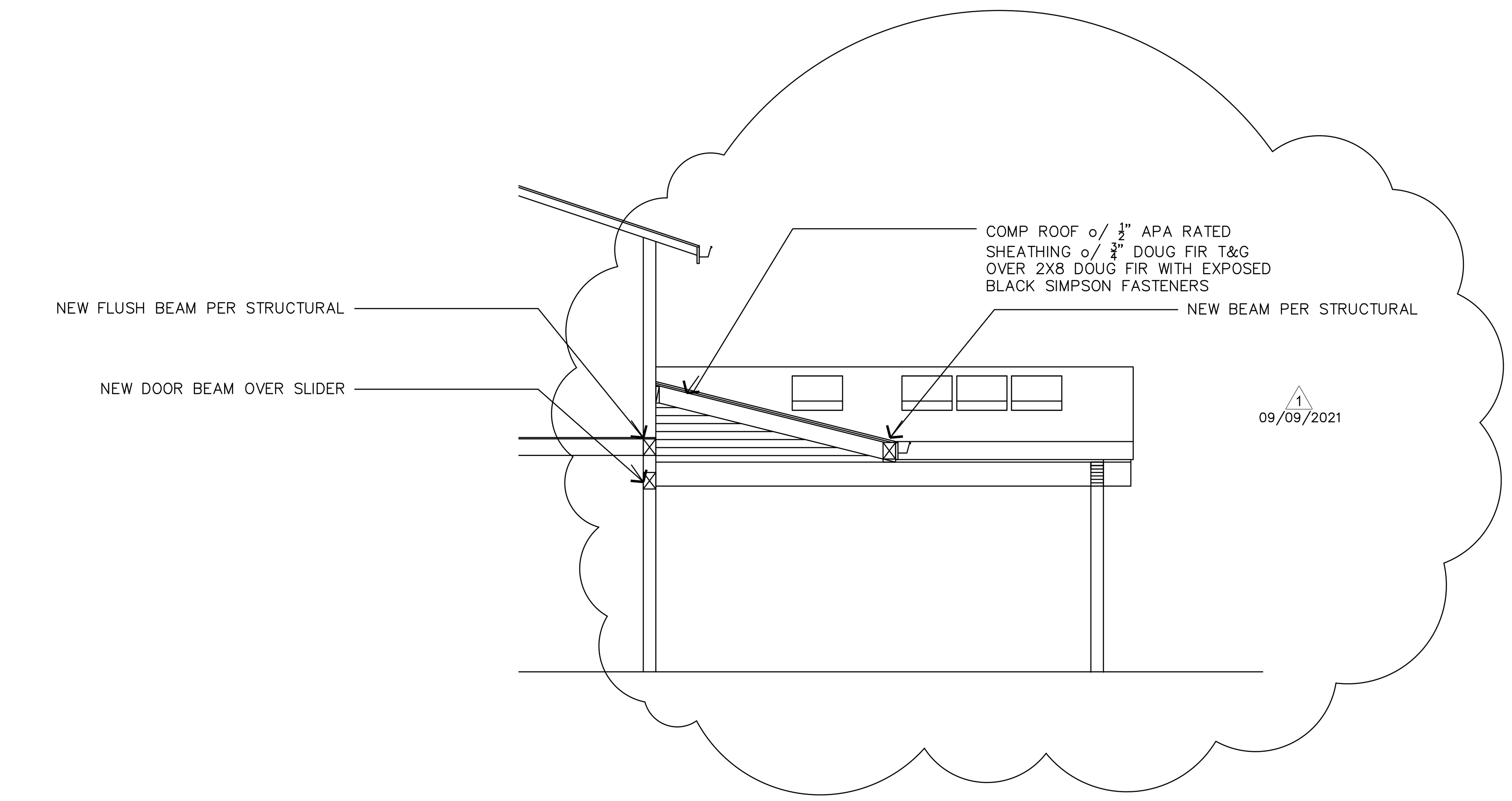
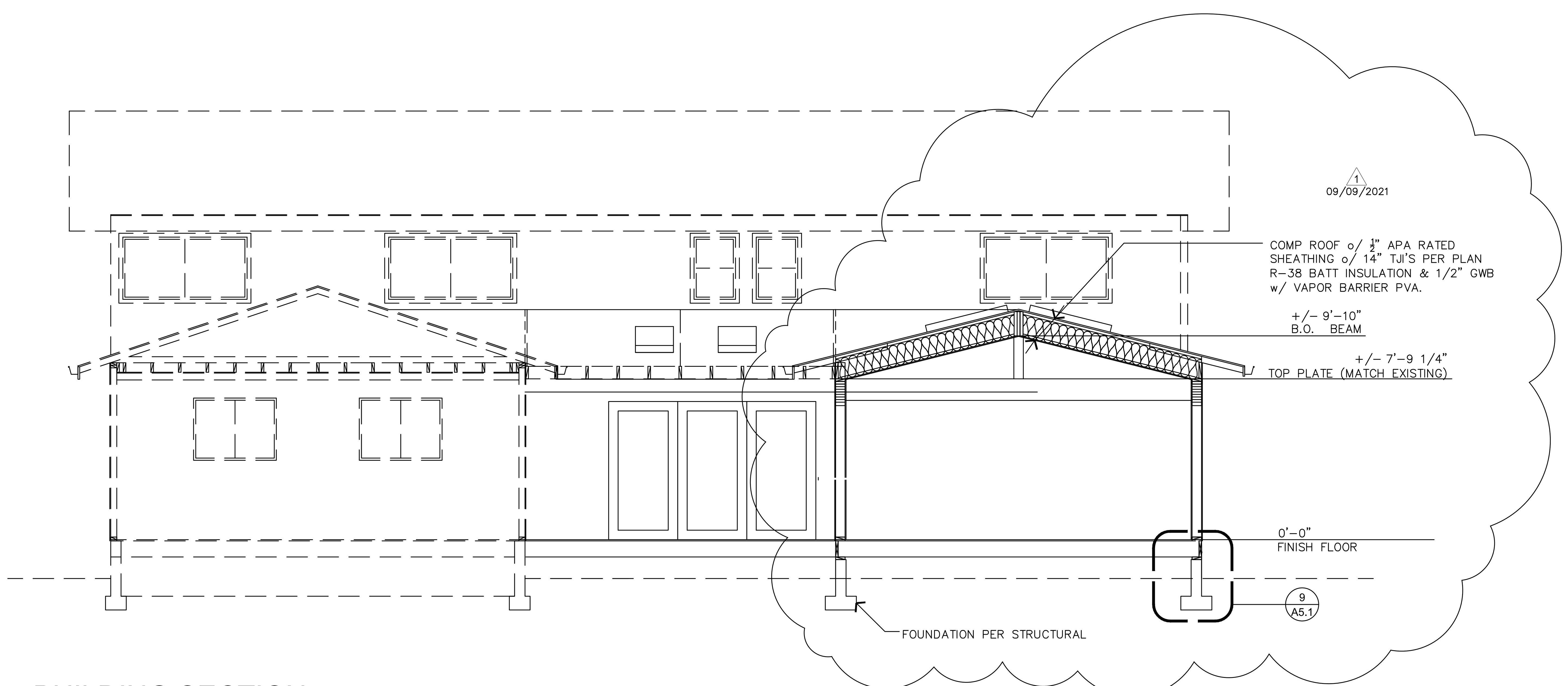
EXTERIOR ELEVATIONS/ ENERGY CODE NOTES

A3.1



1 BUILDING SECTION (SEE 2/A4.1 FOR TYP. NOTES)

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



2 BUILDING SECTION

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

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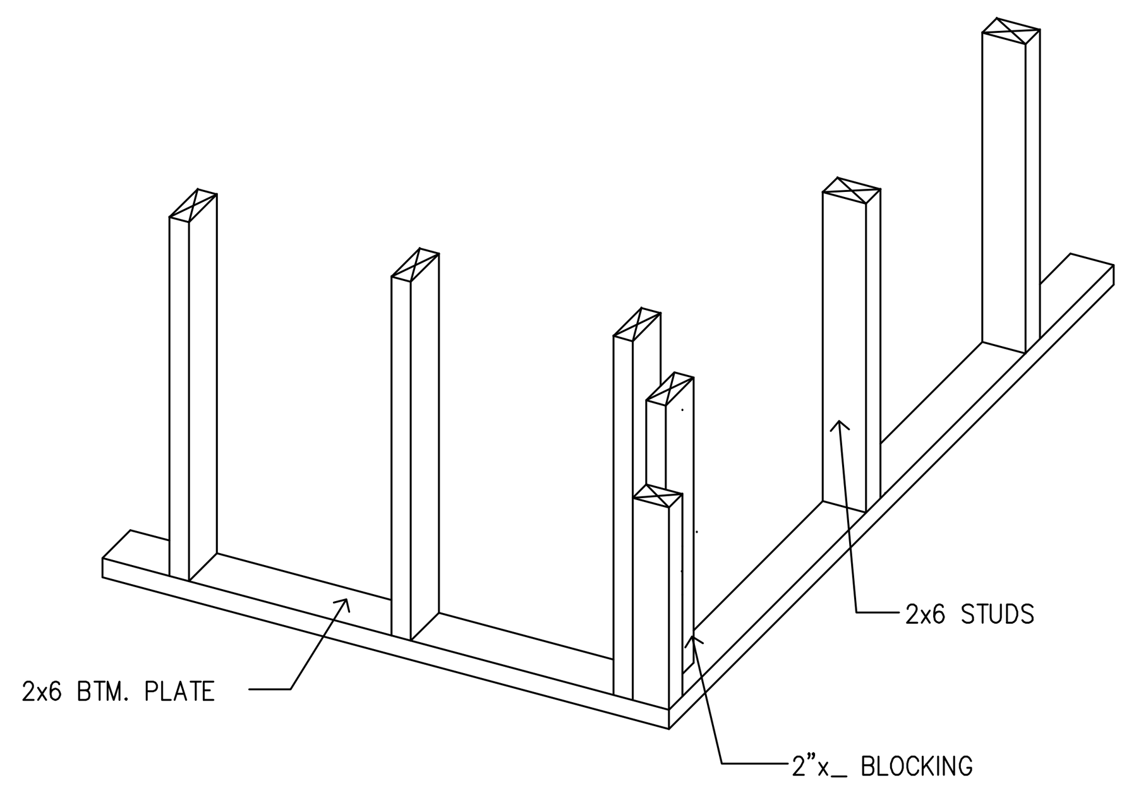
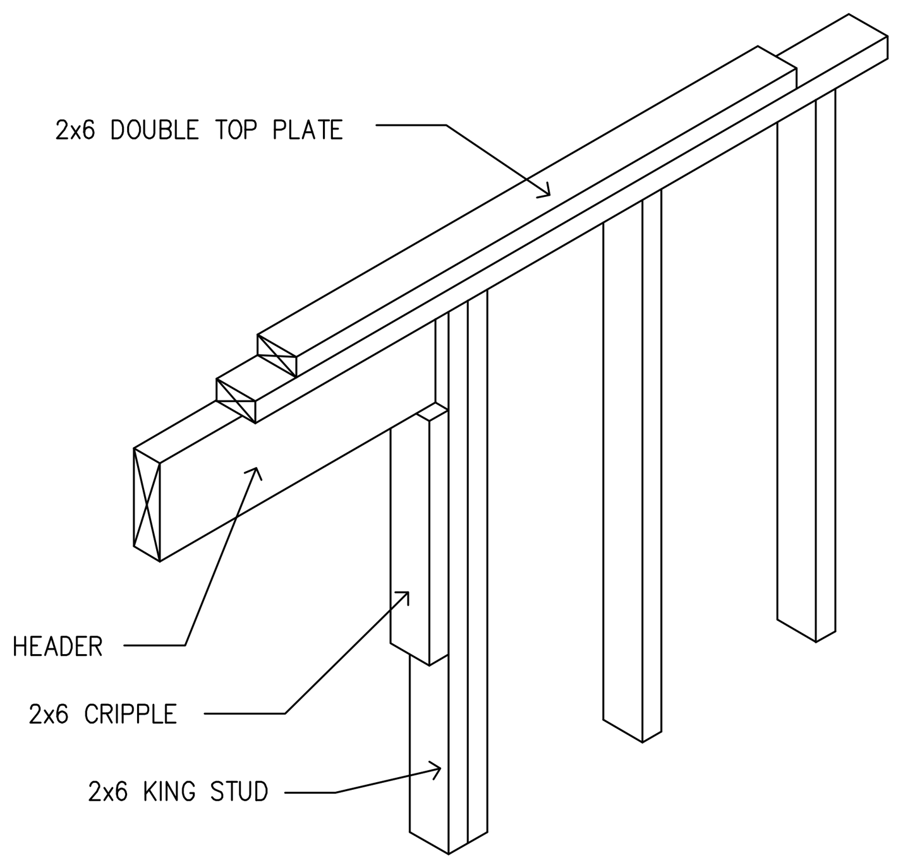
BUILDING SECTIONS

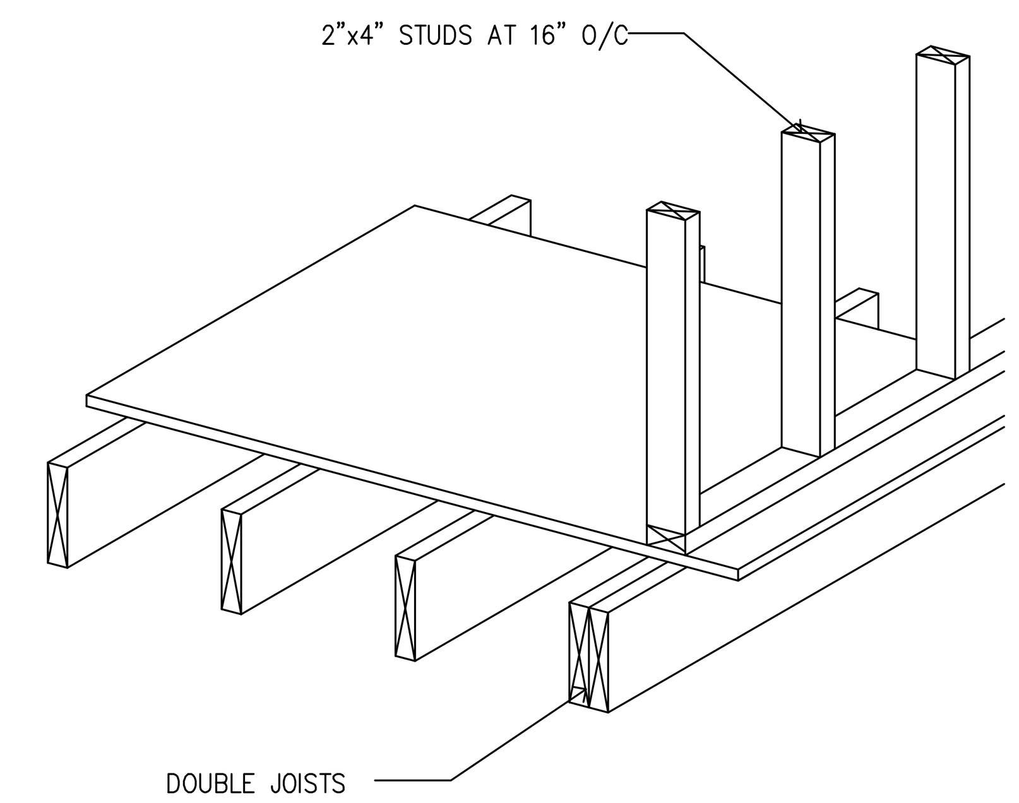
A4.1



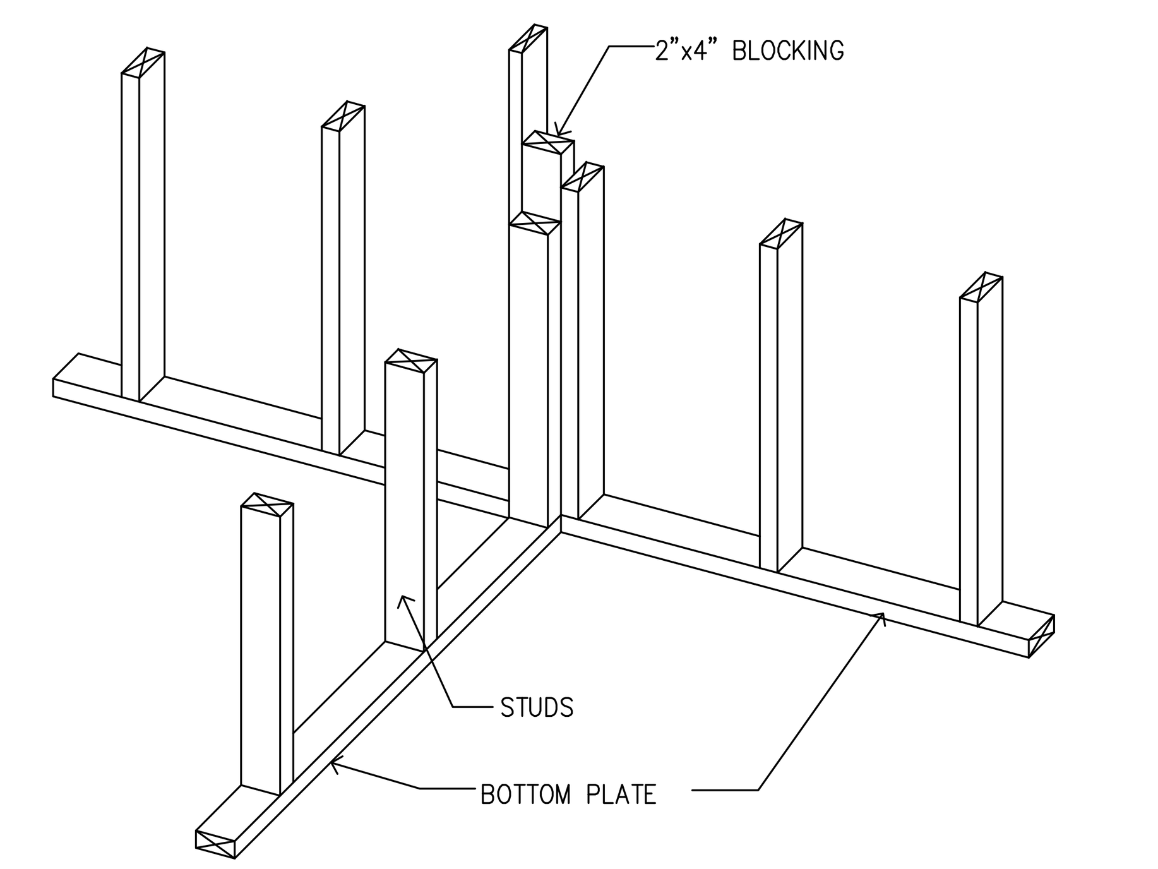
1 TYPICAL CORNER FRAMING
N.T.S.



2 TYPICAL HEADER DETAIL
N.T.S.



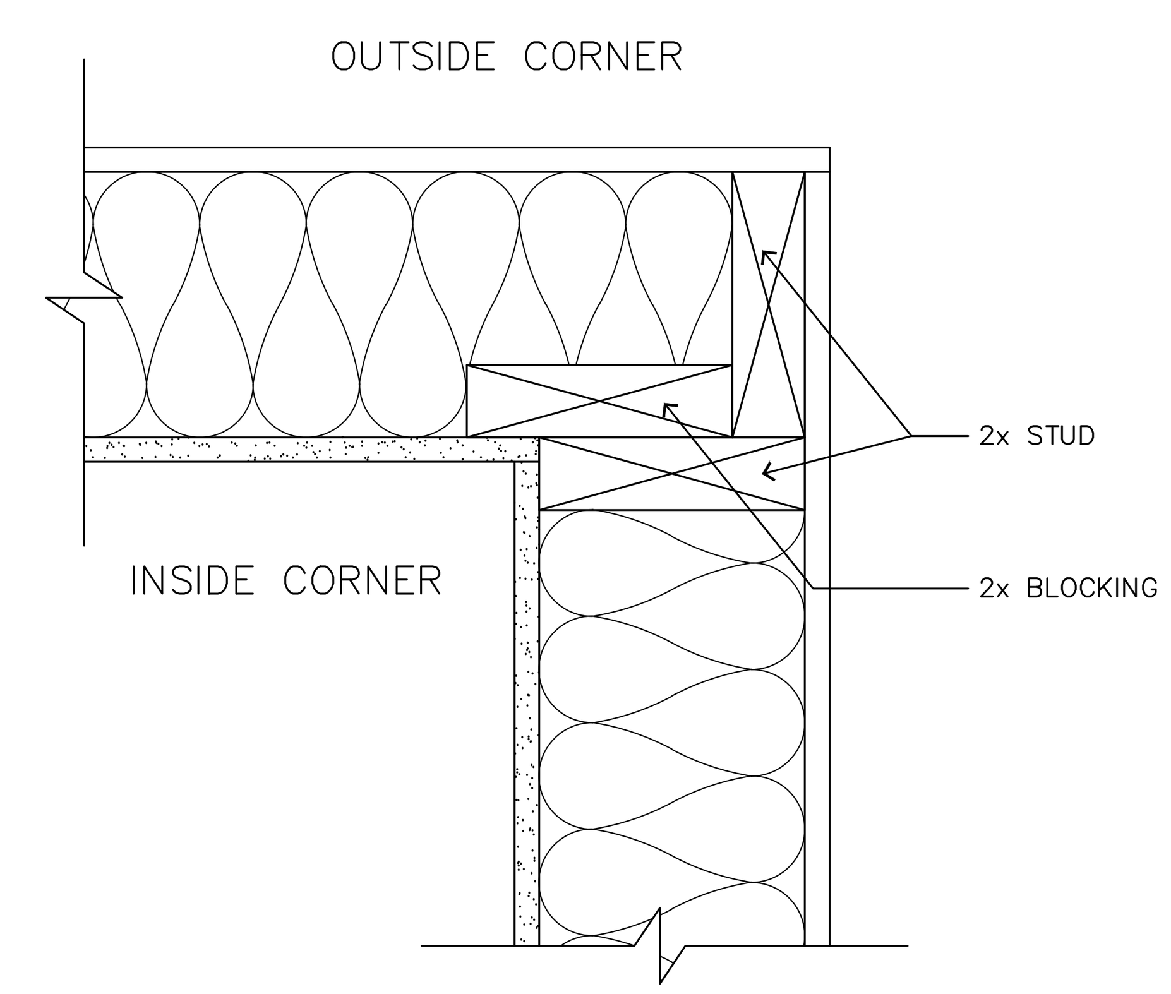
3 DOUBLE JOISTS UNDER PARTITION
N.T.S.



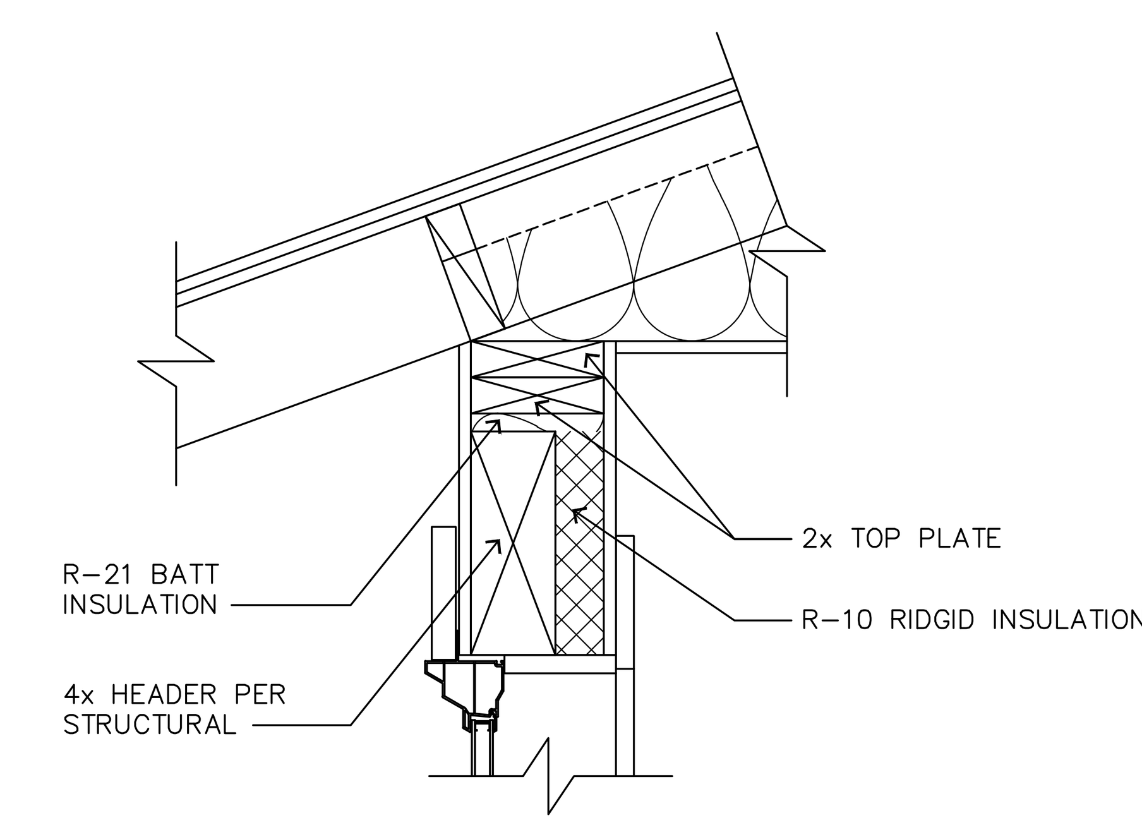
4 INTERMEDIATE CORNER JOINT
N.T.S.

NOT USED

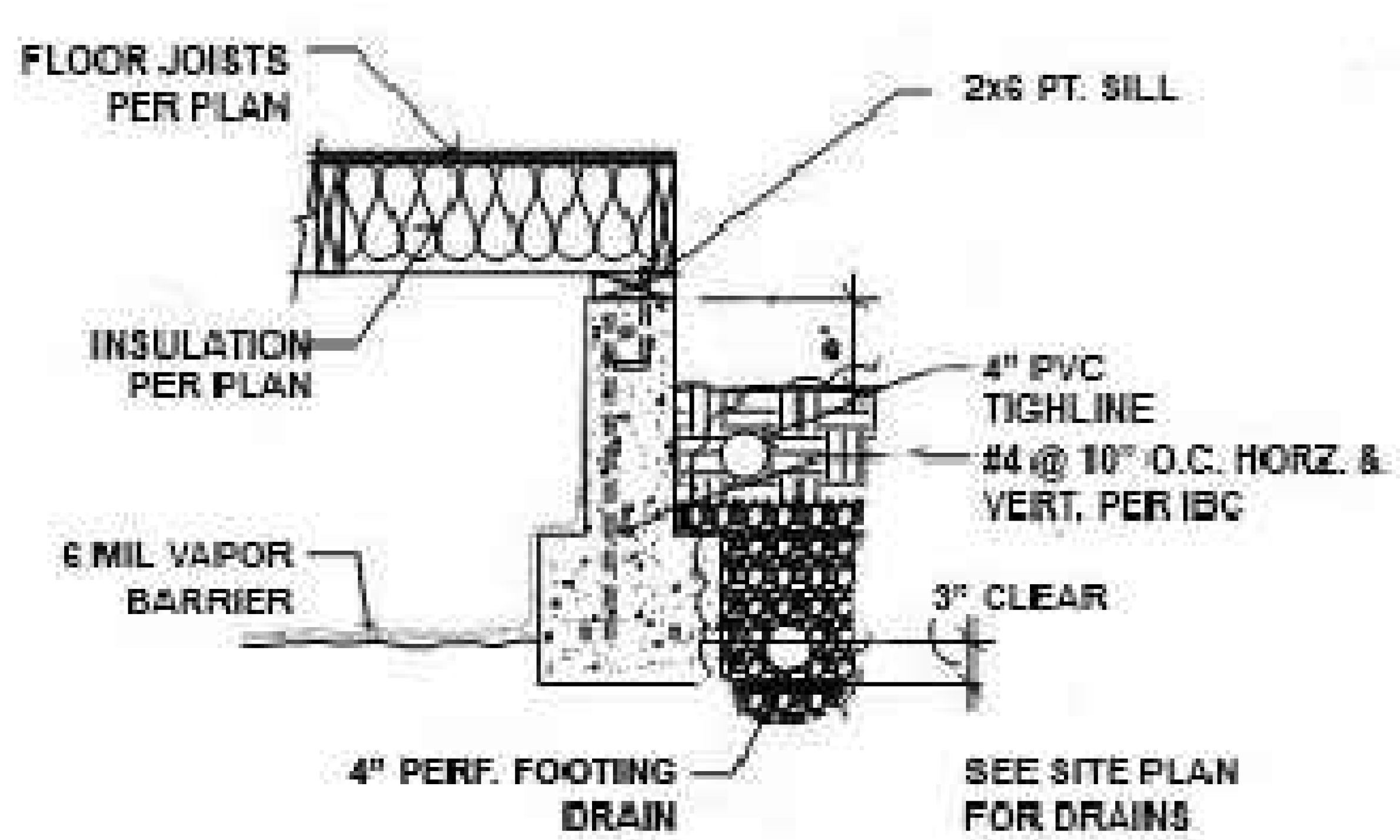
NOT USED



7 INSULATED THREE-STUD CORNER
3" = 1'-0"



8 INSULATED HEADER CONDITION
1 1/2" = 1'-0"



9 TYPICAL FOUNDATION DETAIL
1" = 1'-0"

NOT USED

NOT USED

NOT USED

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STATE OF WASHINGTON

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FRAMING DETAILS

A5.1

1. CONTRACTOR SHALL PERFORM ALL WORK WITHIN THIS SCOPE IN ACCORDANCE AND COMPLIANCE WITH ALL RELEVANT CITY, COUNTY, STATE AND/OR FEDERAL ORDINANCES, LAWS, REGULATIONS AND CODES. CONTRACTOR SHALL COMPLY WITH ALL REQUIREMENTS ESTABLISHED BY THE 2012 INTERNATIONAL RESIDENTIAL CODE (IRC) WITH APPROPRIATE STATE AND LOCAL JURISDICTION AMENDMENTS.

2. CONTRACTOR SHALL MAINTAIN THE JOBSITE IN A CLEAN AND WORKMANLIKE CONDITION. ANY DEBRIS GENERATED DURING CONSTRUCTION SHALL BE REMOVED FROM THE JOBSITE CONTINUALLY. THE JOBSITE SHALL BE LEFT IN A CLEAN AND NEAT CONDITION AT THE END OF EACH WORKDAY. DEBRIS REMOVAL FROM THE JOBSITE SHALL BE ONGOING. CONTRACTOR SHALL DISPOSE ALL MATERIALS AND DEBRIS IN A LEGAL MANNER. ALL PEDESTRIAN AND VEHICULAR ACCESS-WAYS SHALL BE MAINTAINED IN A CLEAN CONDITION THROUGHOUT THE PROJECT.

3. CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND SITE CONDITIONS PRIOR TO CONSTRUCTION.

4. CONTRACTOR SHALL FOLLOW SPECIFIED WATERPROOFING SYSTEMS AND INCORPORATION THEREOF. CONTRACTOR SHALL VERIFY THE MATERIAL COMPATIBILITY OF ALL WATERPROOFING COMPONENTS, SUCH AS SEALANTS, CLOSED-CELL BACKER ROD, SELF-ADHERING MEMBRANE, ETC., UTILIZED IN CONJUNCTION WITH OTHER WATERPROOFING OR BUILDING SYSTEM COMPONENTS, SHOULD THE CONTRACTOR DECIDE TO REQUEST MATERIAL SUBSTITUTION FROM THOSE SPECIFIED BY THE ARCHITECT.

5. PRIOR TO PURCHASING AND INSTALLATION, THE CONTRACTOR SHALL PROVIDE THE ARCHITECT FOR THEIR APPROVAL, SHOP DRAWINGS AND SPECS FOR ALL METAL FLASHING AND COUNTER-FLASHINGS IN ORDER TO DEMONSTRATE THEIR UNDERSTANDING OF THE DETAILS.

6. CONTRACTOR IS SOLELY RESPONSIBLE FOR QUALITY CONTROL AND ASSURANCE OF THE WORK PERFORMED BY THE CONTRACTOR, ITS AGENTS, EMPLOYEES OR ANY SUBCONTRACTOR EMPLOYED OR OTHERWISE RETAINED BY THE CONTRACTOR. CONTRACTOR IS FURTHER RESPONSIBLE FOR PROPER INTEGRATION OF BUILDING COMPONENTS TO PROVIDE A WEATHER-RESISTIVE BUILDING SYSTEM AS INTENDED BY THE DETAILS PROVIDED BY ARCHITECT.

7. CONTRACTOR SHALL BE RESPONSIBLE FOR THE MEANS AND METHODS OF WORK AND SHALL CARRY OUT ALL WORK IN COMPLIANCE WITH THE BEST INDUSTRY STANDARDS AND IN COMPLIANCE WITH PUBLISHED MANUFACTURER'S INSTALLATION INSTRUCTIONS AND STANDARDS REFERENCED IN THE SPECIFICATIONS.

8. MOCKUP(S) OF ALL BUILDING ENVELOPE COMPONENTS SUCH AS WINDOWS, DOORS, WRB, CLADDING AND PENETRATION INSTALLATION MUST BE CARRIED OUT PRIOR TO COMMENCEMENT OF EXTERIOR ENVELOPE WORK.

9. DETAILS MAY NOT BE MODIFIED, REVISED OR ELIMINATED BY THE CONTRACTOR WITHOUT PRIOR WRITTEN CONSENT

10. IT IS THE CONTRACTOR'S RESPONSIBILITY TO NOTIFY AND SCHEDULE FOR INSPECTION AND APPROVAL OF THE WORK PERFORMED WITH RESPECT TO EACH OF THE WATERPROOFING COMPONENTS.

11. UNLESS OTHERWISE NOTED, ALL EXPOSED METAL FLASHINGS AND COUNTER-FLASHINGS SHALL BE MADE OF MINIMUM 24 GA PRE-FINISH SHEET METAL. METAL FLASHING SHALL CONFORM TO SMACNA, NRCA, BUILDING CODE AND OTHER RELEVANT CODES AND INDUSTRY STANDARDS. THE VERTICAL LEGS OF SAID FLASHINGS SHALL BE MINIMUM 6 INCHES LONG. THE JOINTS OF PRE-FINISH METAL FLASHINGS SHALL BE BENT IN PLACE SUCH AS TO PREVENT MOISTURE MIGRATION PAST THE END DAMS. ALL CONCEALED METAL FLASHING AND COUTER-FLASHING PIECES SHALL BE 24 GA G-90 GALVANIZED SHEET METAL OR SCHEDULE 307 STAINLESS STEEL. JOINTS OF ALL FLASHING PIECES OTHER THAN PRE-FINISH METAL MUST BE WELDED OR SOLDERED. ALL METAL FLASHING SYSTEMS SHALL BE MANUFACTURED & INSTALLED IN ACCORDANCE WITH THE ARCHITECTURAL SHEET METAL MANUAL PUBLISHED BY SMACNA. UNLESS OTHERWISE NOTED, ALL METAL HEAD FLASHINGS SHALL HAVE A MINIMUM 1/2"-TALL END-DAMS. UNLESS OTHERWISE NOTED, ALL SILL PAN FLASHINGS SHALL HAVE END- AND BACK-DAMS. UNLESS OTHERWISE NOTED ALL FLASHINGS AND COUNTER FLASHINGS (METAL AND OTHERWISE) SHALL BE SET IN A CONTINUOUS BEAD OF NON SKINNING BUTYL SEALANT OR APPROVED EQUAL.

12. UNLESS OTHERWISE NOTED, ENGINEERED SEALANT JOINTS SHALL BE 1/2-INCH MINIMUM WIDE BY 1/4-INCH MINIMUM DEEP IN AN ATTEMPT TO MAINTAIN A 2:1 RATIO. SEALANTS SHALL BE ONE-PART SILICONE SEALANT & SINGLE-PART POLYURETHANE FOR SURFACE APPLICATION AND NON-SKINNING BUTYL FOR INSTALLATION BETWEEN CONCEALED MATERIAL INTERFACES. ACCEPTABLE SEALANTS INCLUDE BUT ARE NOT LIMITED TO DOW CORNING 790 AND 795 SILICONE BUILDING SEALANT, SIKAFLEX 15 LM, AND SONOLASTIC 150 VLM.

13. WEATHER-RESISTIVE BARRIER (WRB) SHALL BE COMPRISED OF (1) LAYER OF HIGH-PERFORMANCE VAPROSHIELD-WRAPSHIELD BREATHABLE UNDERLAYMENT MANUFACTURED BY VAPROSHIELD, LLC. NO SUBSTITUTION IS ALLOWED WITHOUT PRIOR APPROVAL. REFER TO DETAILS 6, 10 & 12 ON THIS SHEET FOR ADDITIONAL INFORMATION AND OVERLAP REQUIREMENTS.

14. WINDOW AND DOOR UNITS INSTALLED WITHIN THE EXTERIOR WALL SYSTEM MAY NEED TO BE FURRED OUT TO ALLOW FOR PROPER DRAINAGE. IF THIS IS THE CASE, THE FURRING MATERIAL SHALL BE PVC BATTENS OR PRESSURE-TREATED SOLID BLOCKING.

15. THE ROUGH OPENING FOR WINDOWS MUST BE 1/2" WIDER AND 1/2"+ TALLER THAN THE WIDTH & HEIGHT OF THE WINDOW UNIT AS THE SILL PAN WILL LIFT THE WINDOW UNITS BY APPROXIMATELY 1/8"-1/4" OFF THE SILL. REFER TO WINDOW MFR'S INSTALLATION MANUAL FOR ADDITIONAL ROUGH OPENING REQUIREMENTS.

16. UNLESS OTHERWISE NOTED ON THE PLANS, ALL WOOD BLOCKING SHALL BE PRESSURE-TREATED LUMBER. IF SUCH MATERIAL IS CUT ONSITE, CUT ENDS MUST BE TREATED WITH STANDARD WOOD PRIMERS IMMEDIATELY.

17. FURRING BATTENS SHALL BE EITHER 1X4 BORATE-TREATED LUMBER OR 3/4" BY 1-7/8" PVC VAPROBATTEN MANUFACTURED BY VAPROSHIELD LLC. FURRING BATTENS SHALL ONLY BE INSTALLED VERTICALLY. FURRING BATTENS MUST BE INSTALLED DIRECTLY OVER STUDS SPACED NO MORE THAN 16" o.c. FURRING BATTENS MUST BE SECURELY ATTACHED TO THE STUDS USING APPROVED FASTENERS. ENSURE THAT THE FASTENERS FOR SIDING INSTALLATION ARE LONG ENOUGH TO PENETRATE THROUGH THE FURRING BATTENS, SHEATHING(S) AND INTO STUDS A MINIMUM OF 1/2". WHERE DISSIMILAR MATERIALS ABUT, INSTALL FURRING BATTENS DIRECTLY BEHIND MATERIAL TRANSITIONS.

18. AT RAINSCREEN SYSTEMS INSECT SCREENS SHALL BE PROVIDED AT TOP & BOTTOM OF THE WALLS AS WELL AS TOP & BOTTOM ANY AND ALL WALL PENETRATIONS. IT SHALL BE EITHER 3/4" MIN VAPROVENT STRIP / VAPROVENT HOOK STRIP OR METAL BUG SCREEN. THE SCREEN / STRIP MUST BE INSTALLED CONTINUOUSLY.

19. WINDOW AND DOOR PENETRATION WRAPS SHALL CONSIST OF VAPROSHIELD-WRAPSHIELD MANUFACTURED BY VAPROSHIELD LLC. INSTALL PENETRATION WRAPS PER MANUFACTURER'S RECOMMENDATIONS AS WELL AS THE WATERPROOFING DETAILS. USE FACTORY PRE-FORMED CORNERS. USE APPROPRIATE PRIMER FOR APPLICATIONS AT EXTERIOR SHEATHING OR WHERE THE SURFACE TEMPERATURE IS BELOW 40-DEGREE FAHRENHEIT PURSUANT TO THE MANUFACTURER'S INSTRUCTIONS.

20. UNLESS OTHERWISE NOTED, SELF-ADHERING MEMBRANE (S.A.M.) SHALL BE MINIMUM OF 9" WIDE WRAPSHIELD S.A.M. MANUFACTURED BY VAPROSHIELD LLC; OR THERMFLASH. USE APPROPRIATE PRIMER FOR APPLICATIONS AT EXTERIOR SHEATHING OR WHERE THE SURFACE TEMPERATURE IS BELOW 40-DEGREE FAHRENHEIT PER MANUFACTURER'S RECOMMENDATIONS.

21. WHERE THROUGH WALL PENETRATIONS OCCUR (e.g., HOSE BIBS, PIPES, ELECTRICAL BOXES, LIGHT FIXTURES, ETC.) INSTALL 24 MIL THERM FLASH PENETRATION WRAP & BUTYL TAPE AS WELL AS WRB APRONS PER WATERPROOFING DETAILS.

22. THE BUILDING ENVELOPE SYSTEM SHALL BE A CONTINUOUS AIR-BARRIER SYSTEM IN ACCORDANCE WITH 2012 WASHINGTON ENERGY CODE PROVISIONS.

23. AT CONCRETE CONSTRUCTION & COLD-JOINTS APPLY APPROVED DOUBLE LOCKING HYDROPHOBIC WATERSTOP CAPABLE OF 2-TIMES EXPANSION BY VOLUME. BASIS OF DESIGN IS ULTRASEAL P-201 BY ADEKA. CONCRETE SHALL BE CLEANED, TOOLED AND PRIMED BEFORE INSTALLING WATERSTOP MEDIUM.

24. ALL FASTENERS SHALL BE EITHER STAINLESS STEEL; OR DOUBLE-DIPPED, HOT-DIPPED OR HEAVY-DIPPED GALVANIZED CONFORMING TO ASTM A153. ELECTRO-GALVANIZED FASTENERS MUST NOT BE USED UNDER ANY CIRCUMSTANCES.

25. UNDER SLAB VAPOR BARRIER AT NEW SLAB ON GRADE AREAS SHALL BE CLASS B, 15mil GEOMEMBRANE CONFORMING TO ASTM E-1745. BASIS OF DESIGN IS STEGO WRAP 15mil WITH STEGO TAPE, MANUFACTURED BY STEGO INDUSTRIES.

26. MAINTAIN A MINIMUM OF 6" SEPARATION BETWEEN FINISH GRADE AND FRAMING AND SIDING MATERIALS.

27. SLOPE ALL WEATHER-DECKS, WALKS AND PATIOS AWAY FROM THE BUILDING WITH A MINIMUM SLOPE OF 1/4" PER FOOT. INSTALL CRICKETS ON WEATHER-DECK SURFACES, WHERE NEEDED, TO ALLOW FOR PROPER SLOPE AND DRAINAGE. AT A MINIMUM 1/4" PER 1' SLOPE (U.O.N.) MUST BE PROVIDED TOWARD ROOF DRAINS & SCUPPERS.

28. WHOLE BUILDING AIR-LEAKAGE TESTING VIA BLOWER DOOR TEST SHALL BE PERFORMED IN ACCORDANCE WITH THE 2015 WSEC. REFER TO "AIR BARRIER GENERAL NOTES" AND "ENERGY CODE NOTES" FOR ADDITIONAL INFORMATION AND REQUIREMENTS. THE OWNER SHALL ENGAGE A TESTING AGENCY TO PERFORM THE REQUIRED TESTING IN ACCORDANCE WITH 20'S WSEC. TESTING SHALL BE IN COMPLIANCE WITH ASTM E-779 OR SIMILAR APPROVED TEST METHOD.

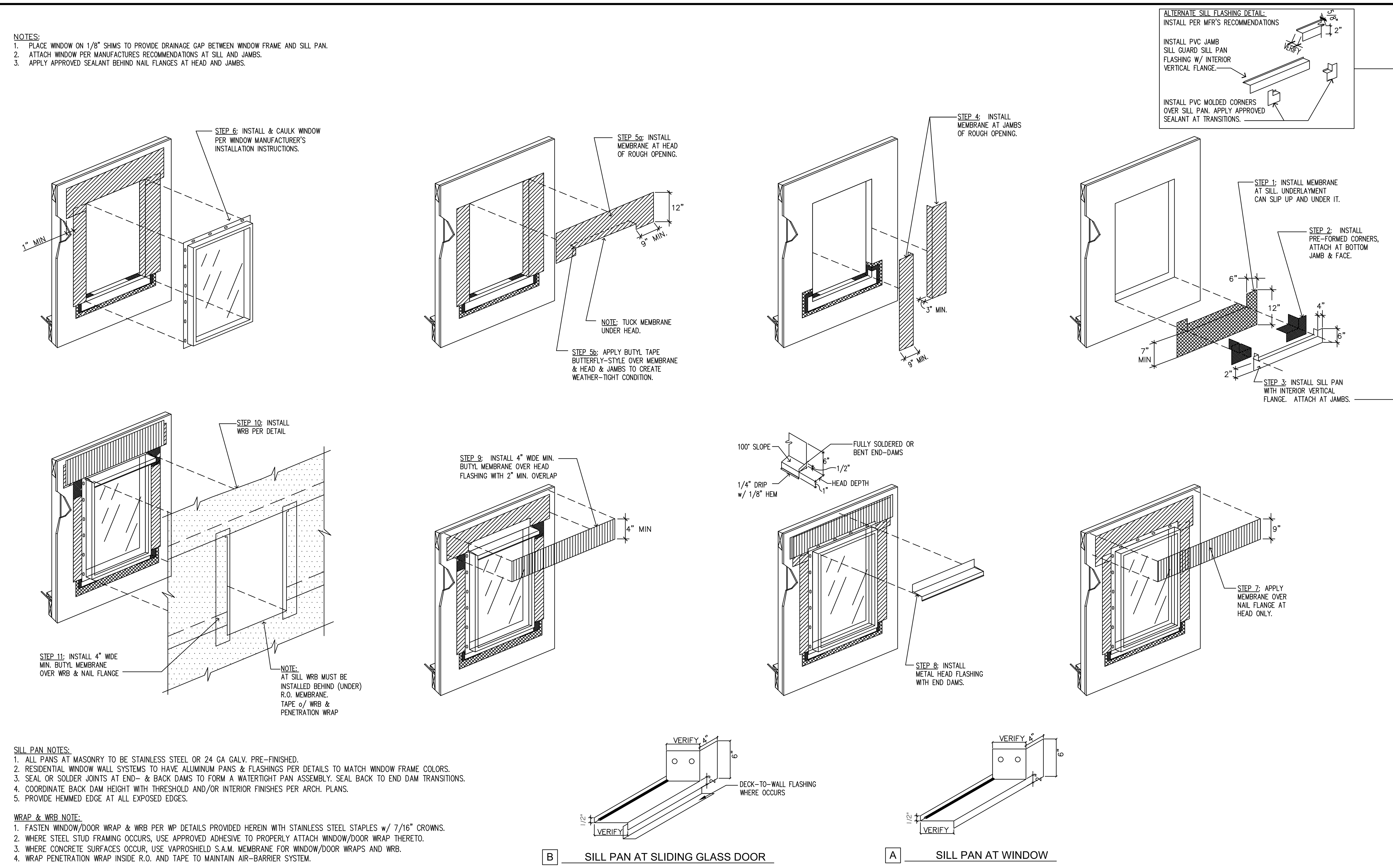
29. ANY DISCREPANCY NOTED BY THE CONTRACTOR MUST BE BROUGHT TO THE ARCHITECT'S ATTENTION IMMEDIATELY. WHERE DISCREPANCY OCCURS BETWEEN VARIOUS CONTRACT DOCUMENTS, CONTRACTOR SHALL FOLLOW THE MOST STRINGENT REQUIREMENT FOR EACH CATEGORY.

30. CONTRACTOR SHALL SUPPLY AND INSTALL FLASHINGS AND COUNTER-FLASHINGS AT ALL TRANSITIONS AND JUNCTIONS PURSUANT TO THE REQUIREMENTS OF THE BUILDING CODE, INDUSTRY STANDARDS INCLUDING SMACNA, EVEN IF SUCH FLASHING IS NOT SPECIFICALLY CALLED OUT FOR IN A DETAIL PROVIDED FOR HEREIN.

9 ENVELOPE WATERPROOFING NOTES

SCALE: NONE

NOTES:
1. PLACE WINDOW ON 1/8" SHIMS TO PROVIDE DRAINAGE GAP BETWEEN WINDOW FRAME AND SILL PAN.
2. ATTACH WINDOW PER MANUFACTURES RECOMMENDATIONS AT SILL AND JAMBS.
3. APPLY APPROVED SEALANT BEHIND NAIL FLANGES AT HEAD AND JAMBS.

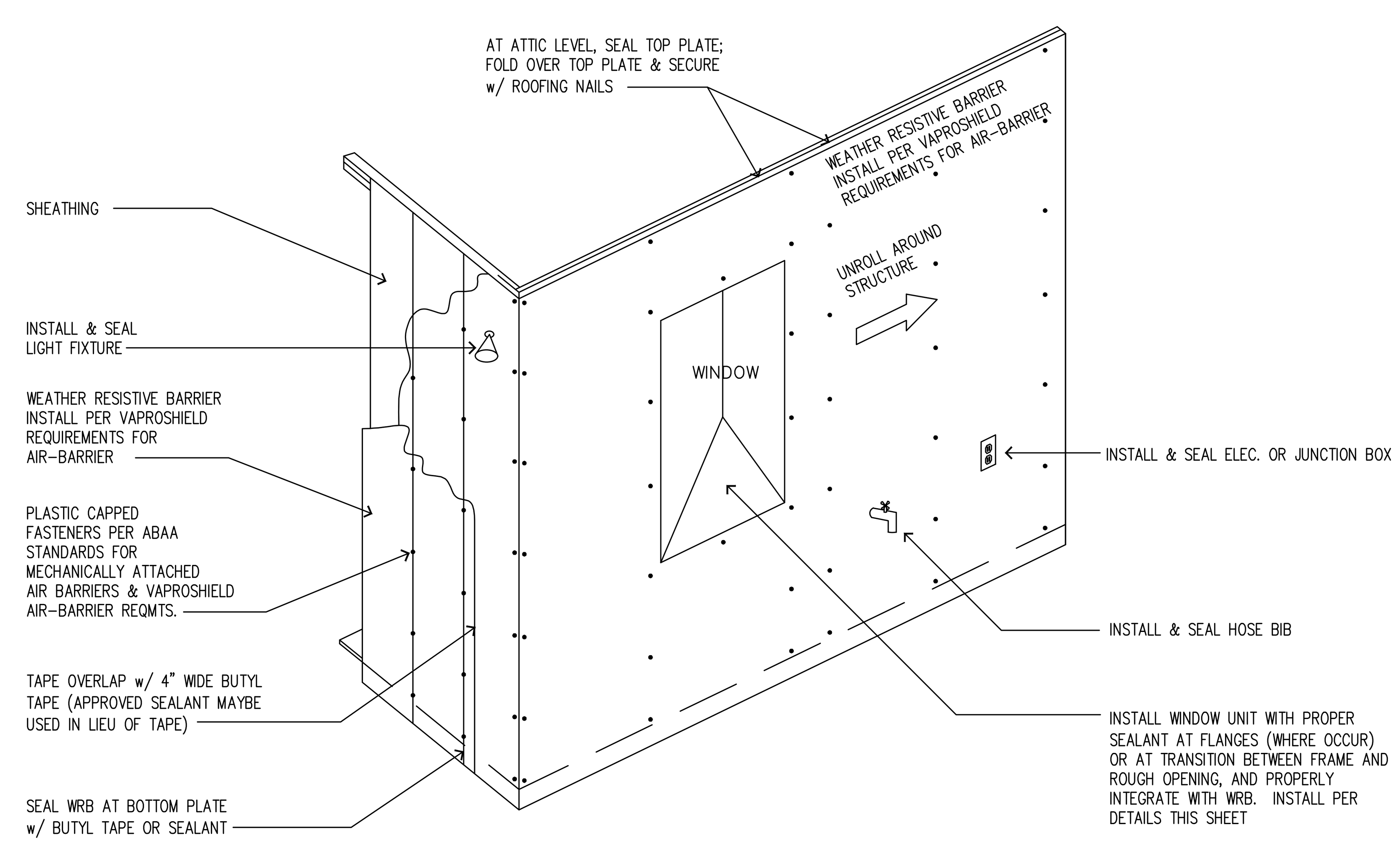


SILL PAN NOTES:
1. ALL PANS AT MASONRY TO BE STAINLESS STEEL OR 24 GA GALV. PRE-FINISHED.
2. RESIDENTIAL WINDOW WALL SYSTEMS TO HAVE ALUMINUM PANS & FLASHINGS PER DETAILS TO MATCH WINDOW FRAME COLORS.
3. SEAL OR SOLDER JOINTS AT END- & BACK DAMS TO FORM A WATERTIGHT PAN ASSEMBLY. SEAL BACK TO END DAM TRANSITIONS.
4. COORDINATE BACK DAM HEIGHT WITH THRESHOLD AND/OR INTERIOR FINISHES PER ARCH. PLANS.
5. PROVIDE HEMMED EDGE AT ALL EXPOSED EDGES.

WRAP & WRB NOTE:
1. FASTEN WINDOW/DOOR WRAP & WRB PER WP DETAILS PROVIDED HEREIN WITH STAINLESS STEEL STAPLES w/ 7/16" CROWNS.
2. WHERE STEEL STUD FRAMING OCCURS, USE APPROVED ADHESIVE TO PROPERLY ATTACH WINDOW/DOOR WRAP THERETO.
3. WHERE CONCRETE SURFACES OCCUR, USE VAPROSHIELD S.A.M. MEMBRANE FOR WINDOW/DOOR WRAPS AND WRB.
4. WRAP PENETRATION WRAP INSIDE R.O. AND TAPE TO MAINTAIN AIR-BARRIER SYSTEM.

6 TYPICAL WINDOW WRAP SEQUENCE

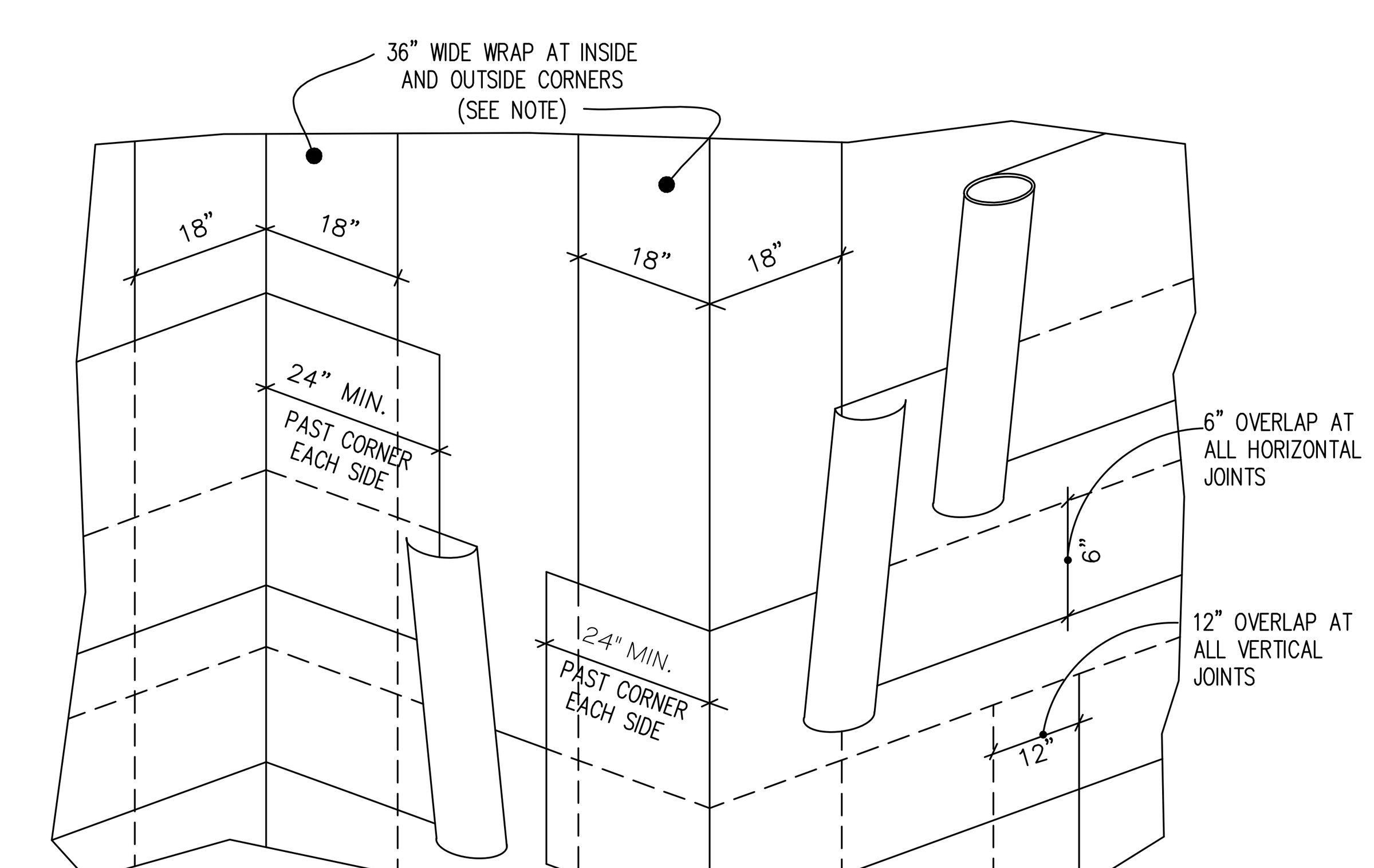
N.T.S.



10 EXTERIOR AIR BARRIER SYSTEM

N.T.S.

WRB NOTES:
1. INSIDE & OUTSIDE CORNER WRAP; APPLY ONE LAYER OF 36" WIDE BREATHABLE MEMBRANE FROM THE SAME MANUFACTURER AS THE WRB PER NOTE 13 PRIOR TO INSTALLATION OF FIELD WRB.
2. INSTALL WEATHER RESISTIVE BARRIER PER NOTE 13 IN WEATHERBOARD FASHION STARTING FROM THE BOTTOM OF THE WALL. ENSURE THAT THE EDGES OF THE LAYERS OF WRB ARE STAGGERED AT LEAST 6".
3. TAPE ALL JOINTS OF WRB WITH 3" WIDE BUTYL TAPE AS APPROVED TO CREATE A COMPLETE AIR-BARRIER SYSTEM.
4. WHERE CONCRETE SURFACES OCCUR, INSTALL VAPROSHIELD S.A.M. THROUGHOUT.



12 WEATHER RESISTANT BARRIER (WRB)

SCALE: NONE

ARISE DesignLab
www.AriseDesignLab.com

REGISTERED ARCHITECT
Joshua Cory Peterson
STATE OF WASHINGTON

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BARNETT RESIDENCE
ADDITION/REMODEL
7530 86TH AVE S.E.
MERCER ISLAND, WA 98040

REVISIONS		
NO.	DATE	BY
1	09/09/2021	CONST. REV
2		
3		
4		
5		
6		

ISSUE DATES	
DESIGN APPROVAL:	
PERMIT SUBMITTAL:	12/09/2020
PERMIT RECEIVED:	07/26/2021
BID DOCS:	
CONSTR. DOCS:	

24"x36" SCALE:	AS NOTED
PLOT DATE:	09/09/2021
CAD FILE:	A20-010 A5.3
JOB NUMBER:	A20-010
CHECKED:	JCP
DRAWN:	JCP
STATUS:	UNDER CONSTRUCTION

WATERPROOFING & AIR BARRIER NOTES & DETAILS

A5.3

HARDWARE SCHEDULE

GENERAL NOTES:
1. ALL HARDWARE FINISHES PER OWNER'S SPECS.
2. EXTERIOR WEATHER STRIPS TO BE SURFACE MOUNTED ON JAMB WITH SCREWS.
3. REFER TO FLOOR PLAN FOR RH OR LH SWING.

GENERAL NOTES

PROVIDE SAFETY GLAZING PER IRC SECTION R308.4 AT HAZARDOUS LOCATIONS INCLUDING BUT NOT LIMITED TO:
A. WITH 24" OF A DOOR
B. WITHIN TUB AND SHOWER ENCLOSURES.
C. WITHIN A FLIGHT OF STAIRS.
D. WITHIN A LANDING (TOP OR BOTTOM) OF STAIRS.

REFER TO SHEET A0.2, GENERAL IRC CODE NOTES, FOR INFORMATION REGARDING DOORS (EMERGENCY ESCAPE AND RESCUE OPENINGS) AND ADDITIONAL HAZARDOUS GLAZING LOCATIONS.

EGRESS WINDOWS SHALL MEET REQUIREMENTS OF R310.2

ENERGY CODE NOTES

CODE:
THIS ADDITION IS IN ACCORDANCE WITH THE 2015 WASHINGTON STATE ENERGY CODE (WSEC) REQUIREMENTS – PRESCRIPTIVE PATH REQUIREMENTS FOR CLIMATE ZONE 1 AND 2015 IRC VENTILATION CODE.

FUEL TYPE: NATURAL GAS
PROPOSED FENESTRATION AREA: 106.2/488.65 = 21.74%

MAX. GLAZING FACTORS:
- VERTICAL GLAZING: U=0.30
- OVERHEAD GLAZING: N/A

MIN. INSULATION LEVELS:
- ATTICS: R–49
- VAULTED CEILINGS: R–38
- ABOVE GRADE WALLS: R–21
- AT INTERIOR: R–21
- AT EXTERIOR: R–21
- FLOORS o/ UNHEATED SPACE: R–30
- SLAB–ON–GRADE (HEATED) FLOORS: R–10

PROVIDE 4 MIL POLY VAPOR BARRIER ON WARM SIDE OF WALLS.
PROVIDE 6 MIL POLY VAPOR BARRIER AT WARM SIDE OF CEILINGS.

WHOLE HOUSE FAN SHALL BE INTEGRATED WITH AUTOMATIC FRESH AIR DAMPER ON FORCED AIR UNIT.

ALL HEATING DUCTS LOCATED IN UNHEATED AREAS ARE TO BE INSULATED TO MINIMUM R–8. DUCT SEAMS ARE TO BE SEALED AND FASTENED WITH A MINIMUM OF FASTENERS.

NON–RECIRCULATING HOT & COLD WATER PIPES LOCATED IN UNCONDITIONED AREAS SHALL BE INSULATED TO MINIMUM R–3.

WINDOW SCHEDULE

TYPE	WIDTH	HEIGHT	MATERIAL	COLOR	# WIN	TOTAL (TGA) (SF)	U VALUE (MAX.)	UA	SHGC (MAX.)	VT	REMARKS
D	7'-6"	3'-2"	FIBRGLAS	WHITE	1	23.8	0.24	5.7	N/A	-	SAFETY GLAZING. COORDINATE OPERABLABILITY w/ OWNER (BI-FOLD OR SLIDING WINDOW)
F	5'-0"	3'-0"	FIBRGLAS	WHITE	1	15.0	0.24	3.6	N/A	-	SAFETY GLAZING. COORDINATE OPERABLABILITY w/ OWNER
G	2'-0"	4'-0"	FIBRGLAS	WHITE	8	64.0	0.24	15.36	N/A	-	SKYLIGHT (INDOOR FOR ENERGY CODE)
H	2'-0"	4'-0"	FIBRGLAS	WHITE	2	16.0	0.24	3.84	N/A	-	SKYLIGHT (EXTERIOR)
						1 09/09/2021					

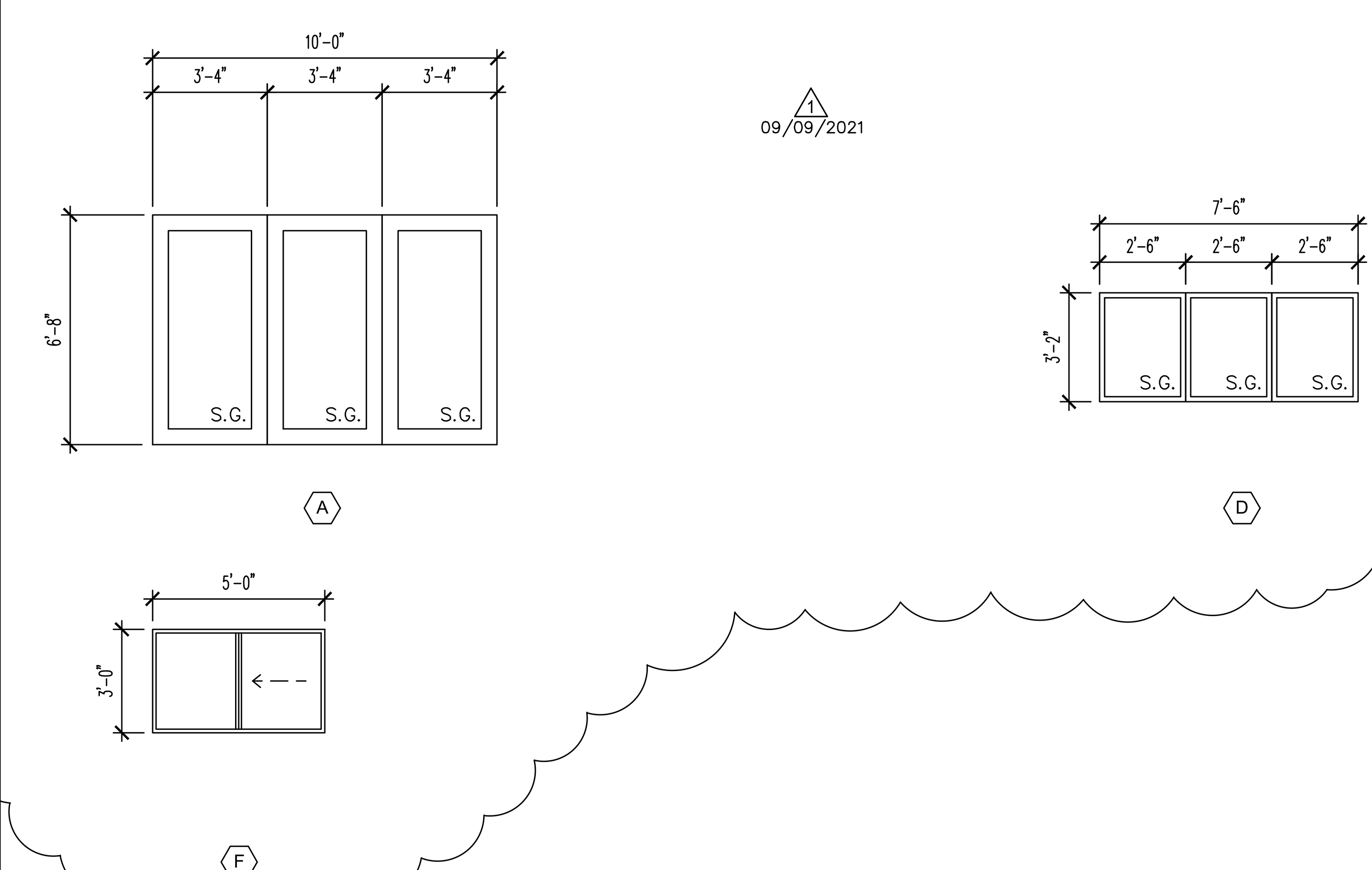
NOTES:
1. ALL GLAZING SHALL BE INSULATED TYPE. ALL FRAMES SHALL BE THERMALLY BROKEN
2. ALL GLAZING SHALL BE CLEAR GLASS.

12	118.75	28.5

DOOR SCHEDULE

A	10'-0"	6'-8"	WD	WHITE	1	66.7					

WINDOW TYPES:



NOTE:
REFER TO SHEET A5.3 FOR WINDOW INSTALLATION DETAILS, AIR BARRIER, AND BUILDING ENVELOPE REQUIREMENTS. SEE ENERGY CODE NOTES SHEET A3.1 FOR MORE INFORMATION.

ARISE DesignLab
www.AriseDesignLab.com

12660
REGISTERED ARCHITECT
Joshua Cory Peterson
STATE OF WASHINGTON

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BARNETT RESIDENCE ADDITION/REMODEL

7530 86TH AVE S.E.
MERCER ISLAND, WA 98040

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JOB NUMBER:	A20–010
CHECKED:	JCP
DRAWN:	JCP
STATUS:	UNDER CONSTRUCTION

WINDOW SCHEDULE & ENERGY CODE NOTES

A6.1

CODE: INTERNATIONAL BUILDING CODE (IBC) 2015

LOADINGS
- FLOOR LIVE LOAD..... 40 PSF
- DECK LIVE LOAD..... 60 PSF
- ROOF SNOW LOAD..... 25 PSF

WIND CRITERIA
- BUILDING CLASSIFICATION..... II
- ULTIMATE WIND SPEED..... 110 MPH
- WIND EXPOSURE..... B
- TOPOGRAPHIC FACTOR, Kzt..... 1.6

SEISMIC CRITERIA
- SEISMIC RISK CATEGORY..... II
- SPECTRAL RESPONSE COEFFICIENT, Ss 1.46
- SPECTRAL RESPONSE COEFFICIENT, S1 .... 0.51
- SEISMIC SITE CLASS ..... D
- SEISMIC DESIGN CATEGORY..... D

STRUCTURAL DESCRIPTIONS

GENERAL CONDITIONS

1. THE CONTRACTOR SHALL EXAMINE THE STRUCTURAL DRAWINGS AND SHALL NOTIFY THE STRUCTURAL ENGINEER IN WRITING OF ANY DISCREPANCIES HE MAY FIND BEFORE PROCEEDING WITH THE WORK. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS, ELEVATIONS AND SITE CONDITIONS BEFORE STARTING WORK.

2. ALL OMISSIONS OR CONFLICTS BETWEEN THE VARIOUS ELEMENTS OF THE WORKING DRAWINGS SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT AND THE STRUCTURAL ENGINEER BEFORE PROCEEDING WITH ANY WORK SO INVOLVED.

3. SPECIFIC NOTES AND DETAILS SHALL TAKE PRECEDENCE OVER GENERAL NOTES AND TYPICAL DETAILS. WHERE THE NOTES, DRAWINGS, AND/OR SPECIFICATIONS DIFFER, THE MORE STRINGENT REQUIREMENT SHALL APPLY.

4. IF A SPECIFIC DETAIL IS NOT SHOWN FOR ANY PART OF THE WORK, THE CONSTRUCTION SHALL BE THE SAME AS FOR SIMILAR WORK.

5. WORKING DIMENSIONS SHALL NOT BE SCALED FROM PLANS, SECTIONS, OR DETAILS ON THESE DRAWINGS.

6. THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ARCHITECT AND THE STRUCTURAL ENGINEER OF ANY CONDITION THAT, IN HIS OPINION, MIGHT ENDANGER THE STABILITY OF THE STRUCTURE OR CAUSE DISTRESS TO THE STRUCTURE.

7. THE CONTRACTOR SHALL SUPERVISE AND DIRECT HIS WORK AND HE SHALL BE SOLELY RESPONSIBLE FOR CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES AND PROCEDURES. PROVIDE ADEQUATE SHORING AND BRACING OF ALL STRUCTURAL MEMBERS DURING CONSTRUCTION. NOTIFY ENGINEER OF ALL FIELD CHANGES PRIOR TO INSTALLATION.

8. REFER TO THE ARCHITECTURAL DRAWINGS FOR INFORMATION NOT COVERED BY THESE GENERAL NOTES OR THE STRUCTURAL DRAWINGS.

9. ALL CONSTRUCTION SHALL BE DONE WITH MATERIALS, METHODS, AND WORKMANSHIP ACCEPTED AS GOOD PRACTICE BY THE CONSTRUCTION INDUSTRY AND IN CONFORMANCE WITH THE PROVISIONS OF PREVAILING CODE EDITION OF THE "INTERNATIONAL BUILDING CODE" (IBC) AND STANDARDS REFERENCED THEREIN.

10. PIPES, DUCTS, SLEEVES, OPENINGS, POCKETS, CHASES, BLOCK-OUTS, ETC., SHALL NOT BE PLACED IN SLABS, FOUNDATIONS, ETC., NOR SHALL ANY STRUCTURAL MEMBER BE CUT FOR SUCH ITEMS, UNLESS SPECIFICALLY DETAILED ON THESE STRUCTURAL DRAWINGS.

11. ALTERNATE ASSEMBLIES AND MATERIALS WILL BE CONSIDERED FOR REVIEW. ENGINEER MAY REQUEST PAYMENT FOR REVIEW.

FOUNDATION

1. STRUCTURAL DESIGN COMPLIES WITH SOILS REPORT PRODUCED BY:
   N.A.
   FOOTING BEARING PRESSURE: 1500 PSF (ASSUMED)
   LATERAL EARTH PRESSURE ON RETAINING WALLS N.A.
2. SUBGRADE PREPARATION, DRAINAGE PROVISIONS, AND OTHER RELEVANT SOIL CONSIDERATIONS ARE TO BE IN ACCORDANCE WITH SAID SOILS REPORT.

DIMENSIONAL LUMBER, ANCHOR BOLT AND NAILING SPECIFICATIONS

1. MEET REQUIREMENTS OF PS 20-70 AND NATIONAL GRADING RULES FOR SOFTWOOD DIMENSIONAL LUMBER. BEAR STAMP OF WWPA.

2. MINIMUM DIMENSIONAL LUMBER GRADES TO BE:

WALL STUDS, 2X, 3 X.....	HF STUD GRADE
WALL PLATES, 2X, 3X.....	HF STANDARD GRADE U.N.O
JOISTS, 2 X 6.....	HF #2
JOISTS, 2 X 8 AND UP.....	DF #2
BEAMS, HEADERS, 6X	DF #2
BEAMS, HEADERS, 4X.....	DF #2, WWPA GRADING
POSTS, 4X, 6X.....	DF #2 U.N.O
LUMBER NOT NOTED HERE...	DF #2 U.N.O

3. PROVIDE STANDARD CUT WASHERS FOR BOLT HEADS AND NUTS BEARING AGAINST WOOD.

4. ALL SILLS OR PLATES RESTING ON CONCRETE OR MASONRY THAT IS IN CONTACT WITH OR RESTING ON FOUNDATIONS SHALL BE PRESSURE-TREATED DOUGLAS FIR/ HEMFIR IN ACCORDANCE TO WITH AWPA U1 (PLANT/SHOP TREATMENT) AND M4 (FIELD TREATMENT) STANDARDS. ALL BEARING WALL PLATES SHALL HAVE 5/8" Ø x10" J-BOLTS PLACED AT MAXIMUM OF 9" FROM THE END OF A PLATE AND SPACED AT INTERVALS SHOWN ON THE SHEARWALL SCHEDULE (MAXIMUM 4'-0" OC SPACING). PROVIDE BP PLATE WASHER AT ALL FOUNDATION SILL PLATE ANCHOR BOLTS. PROVIDE TWO ANCHOR BOLTS MINIMUM PER SECTION OF SILL. FOR NON-SHEARWALL, PLACE ANCHORS AT 48".

5. BOLTS IN WOOD SHALL NOT BE LESS THAN 7 DIAMETERS FROM THE END AND 4 DIAMETERS FROM THE EDGE OF THE MEMBER.

6. NAILS: COMMON WIRE NAILS. NAILING IN ACCORDANCE WITH IBC TABLE 2304.9.1.

7. PRESSURE TREATED WOOD: ALL NAILS INTO PT WOOD SHALL BE HOT DIPPED GALVANIZED PER ASTM A153 OR STAINLESS STEEL. ALL METAL CONNECTORS IN CONTACT WITH PT WOOD SHALL BE HOT DIPPED GALVANIZED AND MEET ASTM A653 CLASS G185 (1.85 OZ OF ZINC PER SQ FT MINIMUM) OR TYPE 304 / 316 STAINLESS STEEL SIMPSON Z-MAX CONNECTORS MEET THIS REQUIREMENT. FASTENERS AND CONNECTORS USED TOGETHER SHALL BE OF THE SAME TYPE (E.G. HOT DIPPED NAILS WITH HOT DIPPED HANGERS)

8. ALL LUMBER WITH A LEAST DIMENSION OF 2" (NOMINAL) SHALL BE STAMPED "SURFACE-DRY" AND SHALL HAVE A MOISTURE CONTENT WHEN SURFACED AND WHEN INSTALLED OF NO MORE THAN 19 PERCENT. LUMBER WITH A LEAST DIMENSION OF 4" (NOMINAL) OR GREATER SHALL BE STAMPED "SURFACE-GREEN" AND AIR-DRIED TO A MOISTURE CONTENT OF NOT MORE THAN 19 PERCENT PRIOR TO ITS USE IN FRAMING THE STRUCTURE.

9. NOTCHING AND BORING OF BEAMS AND JOISTS IS NOT ALLOWED WITHOUT PRIOR APPROVAL OF THE STRUCTURAL ENGINEER OF RECORD.

REQUIRED? (Y/N)		MATERIAL / ACTIVITY	EXTENT
		1704.2.5 Inspection of Fabricators	Periodic
		Verify fabrication/quality control procedures	
Y	N	**1705.1.1 Special Cases** (work unusual in nature, including but not limited to alternative materials and systems, unusual design applications, materials and systems with special manufacturer's requirements)	
		1705.2 Steel Construction	
Y	N	1. Fabricator and erector documents (Verify reports and certificates as listed in AISC 360, chapter N, paragraph 3.2 for compliance with construction documents)	Each submittal
Y	N	2. Material verification of structural steel	Periodic
Y	N	3. Embedments (Verify diameter, grade, type, length, embedment. See 1705.3 for anchors)	Continuous
Y	N	4. Verify member locations, braces, stiffeners, and application of joint details at each connection comply with construction documents	Periodic
		5. Structural steel welding:	
Y	N	a. Inspection tasks Prior to Welding (Observe, or perform for each welded joint or member, the QA tasks listed in AISC 360, Table N5.4-1)	Observe or Perform as noted (4)
Y	N	b. Inspection tasks During Welding (Observe, or perform for each welded joint or member, the QA tasks listed in AISC 360, Table N5.4-1)	Observe (4)
Y	N	c. Inspection tasks After Welding (Observe, or perform for each welded joint or member, the QA tasks listed in AISC 360, Table N5.4-3)	Observe or Perform as noted (4)
		d. Nondestructive testing (NDT) of welded joints: see Commentary	
Y	N	1) Complete penetration groove welds 5/16" or greater in risk category III or IV	Periodic
Y	N	2) Complete penetration groove welds 5/16" or greater in risk category II	Periodic
Y	N	3) Thermally cut surfaces of access holes when material t > 2"	Periodic
Y	N	4) Welded joints subject to fatigue when required by AISC 360, Appendix 3, Table A-3.1	Periodic
Y	N	5) Fabricator's NDT reports when fabricator performs NDT	Each submittal (5)
		6. Structural steel bolting:	
Y	N	a. Inspection tasks Prior to Bolting (Observe, or perform tasks for each bolted connection, in accordance with QA tasks listed in AISC 360, Table N5.6-1)	Observe or Perform as noted (4)
Y	N	b.Inspection tasks During Bolting (Observe the QA tasks listed in AISC 360, Table N5.6-2)	Observe (4)
		1) Pre-tensioned and slip-critical joints	
Y	N	a) Turn-of-nut with matching markings	Periodic
Y	N	b) Direct tension indicator	Periodic
Y	N	c) Twist-off type tension control bolt	Periodic
Y	N	d) Turn-of-nut without matching markings	Continuous
Y	N	e) Calibrated wrench	Continuous
		2) Snug-tight joints	Periodic
Y	N	c. Inspection tasks After Bolting (Perform tasks for each bolted connection in accordance with QA tasks listed in AISC 360, Table N5.6-3)	Perform (4)
Y	N	7. Inspection of steel elements of composite construction prior to concrete placement in accordance with QA tasks listed in AISC 360, Table N6.1	Observe or Perform as noted (4)
		1705.2.2 Steel Construction Other Than Structural Steel	
		1. Material verification of cold-formed steel deck:	
Y	N	a. Identification markings	Periodic
Y	N	b. Manufacturer's certified test reports	Each submittal
		2. Connection of cold-formed steel deck to supporting structure:	
Y	N	a. Welding	Periodic
Y	N	b. Other fasteners (in accordance with AISC 360,Section N6)	
Y	N	1) Verify fasteners are in conformance with approved submittal	Periodic
Y	N	2) Verify fastener installation is in conformance with approved submittal and manufacturer's recommendations	Periodic
		3. Reinforcing steel	
Y	N	a. Verification of weldability of steel other than ASTM A706	Periodic
Y	N	b. Reinforcing steel resisting flexural and axial forces in intermediate and special moment frames, boundary elements of special concrete structural walls and shear reinforcement	Continuous
Y	N	c. Shear reinforcement	Continuous
Y	N	d. Other reinforcing steel	Periodic
		4. Cold-formed steel trusses spanning 60 feet or greater	
Y	N	a. Verify temporary and permanent restraint/bracing are installed in accordance with the approved truss submittal package	Periodic
		1705.3 Concrete Construction	
Y	N	1. Inspection of reinforcing steel installation (see 1705.2.2 for welding)	Periodic.
Y	N	2. Inspection of prestressing steel installation	Periodic
Y	N	3. Inspection of anchors cast in concrete where allowable loads have been increased per section 1908.5 or where strength design is used	Continuous
Ⓨ	N	4. Inspection of anchors and reinforcing steel post-installed in hardened concrete: Per research reports including verification of anchor type, anchor dimensions, hole dimensions, hole cleaning procedures, anchor spacing, edge distances, concrete minimum thickness, anchor embedment and tightening torque	Periodic or as required by the research report issued by an approved source
		5. Verify use of approved design mix	Periodic
Y	N	6. Fresh concrete sampling, perform slump and air content tests and determine temperature of concrete	Continuous
Y	N	7. Inspection of concrete and shotcrete placement for proper application techniques	Continuous
Y	N	8. Inspection for maintenance of specified curing temperature and techniques	Periodic
		9. Inspection of prestressed concrete:	
Y	N	a. Application of prestressing force	Continuous
Y	N	b. Grouting of bonded prestressing tendons in the seismic-force-resisting system	Continuous
		10. Erection of precast concrete members	
Y	N	a. Inspect in accordance with construction documents	In accordance with construction documents
Y	N	b. Perform inspections of welding and bolting in accordance with Section 1705.2	In accordance with Section 1705.2
Y	N	11. Verification of in-situ concrete strength, prior to stressing of tendons in post tensioned concrete and prior to removal of shores and forms from beams and structural slabs	Periodic
Y	N	12. Inspection of formwork for shape, lines, location and dimensions	Periodic
Y	N	13. Concrete strength testing and verification of compliance with construction documents	Periodic

Notes:
1. The inspection and testing agent(s) shall be engaged by the Owner or the Owner's Agent, and not by the Contractor or Subcontractor whose work is to be inspected or tested. Any conflict of interest must be disclosed to the Building Official prior to commencing work. The qualifications of the Special Inspector(s) and testing agencies may be subject to the approval of the Building Official and/or the Design Professional.
2. The list of Special Inspectors may be submitted as a separate document, if noted so above.

3. Special Insepctions as required by Section 1704.2.5 are not required where the fabricator is approved in accordance with IBC Section 1704.2.5.2

4. Observe on a random basis, operations need not be delayed pending these inspections. Perform these tasks for each welded joint, bolted connection, or steel element.

5. NDT of welds completed in an approved fabricator's shop may be performed by that fabricator when approved by the AHJ. Refer to AISC 360, N7.

REQUIRED? (Y/N)		MATERIAL / ACTIVITY	EXTENT
		1705.4 Masonry Construction	
		(A) Level A, B and C Quality Assurance:	
Y	N	1. Verify compliance with approved submittals	Periodic
		(B) Level B Quality Assurance:	
Y	N	1. Verification of f'm and f'AAC prior to construction	Periodic
		(C) Level C Quality Assurance:	
Y	N	1. Verification of f'm and f'AAC prior to construction and for every 5,000 SF during construction	Periodic
Y	N	2. Verification of proportions of materials in premixed or preblended mortar, prestressing grout, and grout other than self-consolidating grout, as delivered to the project site	Continuous
Y	N	3. Verify placement of masonry units	Periodic
		(D) Levels B and C Quality Assurance:	
Y	N	1. Verification of Slump Flow and Visual Stability Index (VSI) of self-consolidating grout as delivered to the project	Continuous
Y	N	2. Verify compliance with approved submittals	Periodic
Y	N	3. Verify proportions of site-mixed mortar, grout and prestressing grout for bonded tendons	Periodic
Y	N	4. Verify grade, type, and size of reinforcement and anchor bolts, and prestressing tendons and anchorages	Periodic
Y	N	5. Verify construction of mortar joints	Periodic
Y	N	6. Verify placement of reinforcement, connectors, and prestressing tendons and anchorages	Level B - Periodic Level C - Continuous
Y	N	7. Verify grout space prior to grouting	Level B - Periodic Level C - Continuous
Y	N	8. Verify placement of grout and prestressing grout for bonded tendons	Continuous
Y	N	9. Verify size and location of structural masonry elements	Periodic
Y	N	10. Verify type, size, and location of anchors, including details of anchorage of masonry to structural members, frames, or other construction.	Level B - Periodic Level C - Continuous
Y	N	11. Verify welding of reinforcement (see 1705.2.2)	Continuous
Y	N	12. Verify preparation, construction, and protestion of masonry during cold weather (temperature below 40oF) or hot weather (temperature above 90oF)	Periodic
Y	N	13. Verify application and measurement of prestressing force	Continuous
Y	N	14. Verify placement of AAC masonry units and construction of thin-bed mortar joints (first 5000 SF of AAC masonry)	Continuous
Y	N	15. Verify placement of AAC masonry units and construction of thin-bed mortar joints (after the first 5000 SF of AAC masonry)	Level B - Periodic Level C - Continuous
Y	N	16. Verify properties of thin-bed mortar for AAC masonry (first 5000 SF of AAC masonry)	Continuous
Y	N	17. Verify properties of thin-bed mortar forAAC masonry (after the first 5000 SF of AAC masonry)	Level B - Periodic Level C - Continuous
Y	N	18. Prepare grout and mortar specimens	Level B - Periodic Level C - Continuous
Y	N	19. Observe preparation of prisms	Level B - Periodic Level C - Continuous
		1705.5 Wood Construction	
Y	N	1. Inspection of the fabrication process of wood structural elements and assemblies in accordance with Section 1704.2.5	Periodic
Y	N	2. For high-load diaphragms, verify grade and thickness of structural panel sheathing agree with approved building plans	Periodic
Y	N	3. For high-load diaphragms, verify nominal size of framing members at adjoining panel edges, nail or staple diameter and length, number of fastener lines, and that spacing between fasteners in each line and at edge margins agree with approved building plans	Periodic
Y	N	4. Metal-plate-connected wood trusses spanning 60 feet or greater: verify temporary and permanent restraint/bracing are installed in accordance with the approved truss submittal package	Periodic
		1705.6 Soils	
		1. Verify materials below shallow foundations are adequate to achieve the design bearing capacity.	
Y	N	2. Verify excavations are extended to proper depth and have reached proper material.	Periodic
Y	N	3. Perform classification and testing of controlled fill materials.	Periodic
Y	N	4. Verify use of proper materials, densities, and lift thicknesses during placement and compaction of controlled fill	Periodic Continuous
Y	N	5. Prior to placement of controlled fill, observe subgrade and verify that site has been prepared properly	Periodic
		1705.7 Driven Deep Foundations	
Y	N	1. Verify element materials, sizes and lengths comply with requirements	Continuous
Y	N	2. Determine capacities of test elements and conduct additional load tests, as required	Continuous
Y	N	3. Observe driving operations and maintain complete and accurate records for each element	Continuous
Y	N	4. Verify placement locations and plumbness, confirm type and size of hammer, record number of blows per foot of penetration, determine required penetrations to achieve design capacity, record tip and butt elevations and document any damage to foundation element	Continuous
Y	N	5. For steel elements, perform additional inspections per Section 1705.2	See Section 1705.2
Y	N	6. For concrete elements and concrete-filled elements, perform additional inspections per Section 1705.3	See Section 1705.3
Y	N	7. For specialty elements, perform additional inspections as determined by the registered design professional in responsible charge	In accordance with construction documents
Y	N	8. Perform additional inspections and tests in accordance with the construction documents	In accordance with construction documents
		1705.8 Cast-in-Place Deep Foundations	
Y	N	1.Observe drilling operations and maintain complete and accurate records for each element	Continuous
Y	N	2. Verify placement locations and plumbness, confirm element diameters, bell diameters (if applicable), lengths, embedment into bedrock (if applicable) and adequate end-bearing strata capacity. Record concrete or grout volumes	Continuous
Y	N	3. For concrete elements, perform additional inspections in accordance with Section 1705.3	See Section 1705.3
Y	N	4. Perform additional inspections and tests in accordance with the construction documents	In accordance with construction documents
		1705.9 Helical Pile Foundations	
Y	N	1. Verify installation equipment, pile dimensions, tip elevations, final depth, final installation torque and other data as required.	Continuous
Y	N	2. Perform additional inspections and tests in accordance with the construction documents	In accordance with construction documents
		1705.10.1 Structural Wood Special Inspections For Wind Resistance	
Y	N	1. Inspection of field gluing operations of elements of the main windforce-resisting system	Continuous
Y	N	2. Inspection of nailing, bolting, anchoring and other fastening of components within the main windforce-resisting system	Periodic
		1705.10.2 Cold-formed Steel Special Inspections For Wind Resistance	
Y	N	1.Inspection during welding operations of elements of the main windforce-resisting system	Periodic
Y	N	2.Inspections for screw attachment, bolting, anchoring and other fastening of components within the main windforce-resisting system	Periodic
		1705.10.3 Wind-resisting Components	
Y	N	1. Roof cladding	Periodic
Y	N	2. Wall cladding	Periodic
Y	N	**1705.11.1 Structural Steel Special Inspections for Seismic Resistance** **Inspection of structural steel in accordance with AISC 341**	In accordance with AISC 341
		1705.11.2 Structural Wood Special Inspections for Seismic Resistance	
Y	N	1. Inspection of field gluing operations of elements of the seismic-force resisting system	Continuous
Y	N	2. Inspection of nailing, bolting, anchoring and other fastening of components within the seismic-force-resisting system	Periodic
		1705.11.3 Cold-formed Steel Light-Frame Construction Special Inspections for Seismic Resistance	
Y	N	1. Inspection during welding operations of elements of the seismic-force-resisting system	Periodic
Y	N	2. Inspections for screw attachment, bolting, anchoring and other fastening of components within the seismic-force-resisting system	Periodic

CONCRETE AND REINFORCING

1. CONCRETE SHALL CONFORM TO THE INDICATED REFERENCE CODES AND STANDARDS EXCEPT AS MODIFIED BELOW:

   ACI-301 - "STANDARD SPECIFICATIONS FOR STRUCTURAL CONCRETE"
   ACI-318 - "BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE"
   ACI-305R - "HOT WEATHER CONCRETING"
   ACI-306R - "COLD WEATHER CONCRETING"
   ACI-304 - "GUIDE FOR MEASURING, MIXING, TRANSPORTING AND PLACING CONCRETE"

2. CONCRETE MIX SPECIFICATIONS

LOCATION	COMP. SRENGTH	W/C RATIO	AIR CONTENT	REMARK
FOOTING	2500 PSI (MIN. OF 5.5 SACKS OF CEMENT PER CUBIC YARD OF CONCRETE)			
SLAB ON GRADE	2500 PSI (MIN. OF 5.5 SACKS OF CEMENT PER CUBIC YARD OF CONCRETE)			
FOUNDATION WALL	2500 PSI (MIN. OF 5.5 SACKS OF CEMENT PER CUBIC YARD OF CONCRETE)			
TOPPING	N.A.			

   a. TOTAL AIR CONTENT IS SPECIFIED IN THE TABLE ABOVE. AIR CONTENT TOLERANCE SHALL BE ± 1% AND SHALL BE MEASURED AT THE POINT OF PLACEMENT. (AFTER PUMPING IF APPLICABLE). ALL CONCRETE EXPOSED TO THE WEATHER SHALL HAVE AN APPROVED ADMIXTURE TO ENTRAIN AIR - 5% TOTAL AIR REQUIRED. CONCRETE THAT CAN BE SUBJECTED TO FREEZING AND THAWING DURING CONSTRUCTION SHALL BE AIR ENTRAINED.

3. PROVIDE GRADE 60 KSI (A615) FOR CONCRETE STEEL REINFORCING

STRUCTURAL AND MISCELLANEOUS STEEL

STEEL MEMBERS, HARDWARE, FASTENERS SHALL BE HOT DIPPED GALVANIZED OR EPOXY PAINTED PER ARCHITECT REQUIREMENTS. ALL CUT, REPAIRED AND EXPOSED SURFACE SHALL BE PAINTED WITH (2) COAT OF 95% ZINC RICH PAINT PER ASTM A780. COLOR TO MATCH EXISTING.

STEEL SHALL CONFORM TO THE FOLLOWING STANDARDS:

TUBE COLUMNS:	ASTM A500, GRADE B (Fy = 46 KSI)
WIDE FLANGE COLUMNS / BEAMS	ASTM 572 GR50
STEEL PIPE:	SCHEDULE 40, CONFORMING TO ASTM A53, TYPE E OR S, GRADE B (Fy = 35 KSI.)
ALL OTHER STEEL:	ASTM A36 (Fy = 36 KSI) OR ASTM A992
BOLTS:	ASTM A307 (WOOD/STEEL CONN)
BOLTS:	ASTM A325/A490 WITH LOCK WASHERS (STEEL/STEEL AND STEEL/CONC CONN)
ANCHOR BOLTS:	ASTM A307 (WOOD FRAMING)
ANCHOR BOLTS:	ASTM A325 (STEEL FRAMING)

ALL SLIP CRITICAL CONNECTIONS SHALL BE ASTM A325 BOLTS AND SHALL BE ENGINEER-APPROVED, SELF-LOAD INDICATING TYPES, AND SHALL BE INSTALLED IN STRICT ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.

STRUCTURAL STEEL WELDING
CONFORM TO THE AWS CODES D1.1 AND D1.3, AND USE ONLY CERTIFIED WELDERS. WELDS NOT SPECIFIED ARE TO BE 1/4" CONTINUOUS FILLET MINIMUM. INCREASE WELD SIZE TO AWS MINIMUM SIZES, BASED ON PLATE THICKNESS. USE DRY E70 ELECTRODES. ALL WELDING SHALL CONFORM TO THE AWS CODES, AND SHALL BE BY CERTIFIED WELDERS. WELDS NOT SPECIFIED SHALL BE 1/4" CONTINUOUS FILLET MINIMUM. USE DRY E70 ELECTRODES.

DRAWING LIST

SHEET NUMBER	SHEET NAME	ISSUE DATE
S-0	GENERAL NOTES AND SPECIFICATIONS	12-09-20
S-1	FRAMING PLANS	08-13-21
S-2	FRAMING PLANS	08-13-21
S-3	FRAMING DETAILS	08-13-21

Grand total: 4

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GENERAL NOTES AND SPECIFICATIONS

S-0

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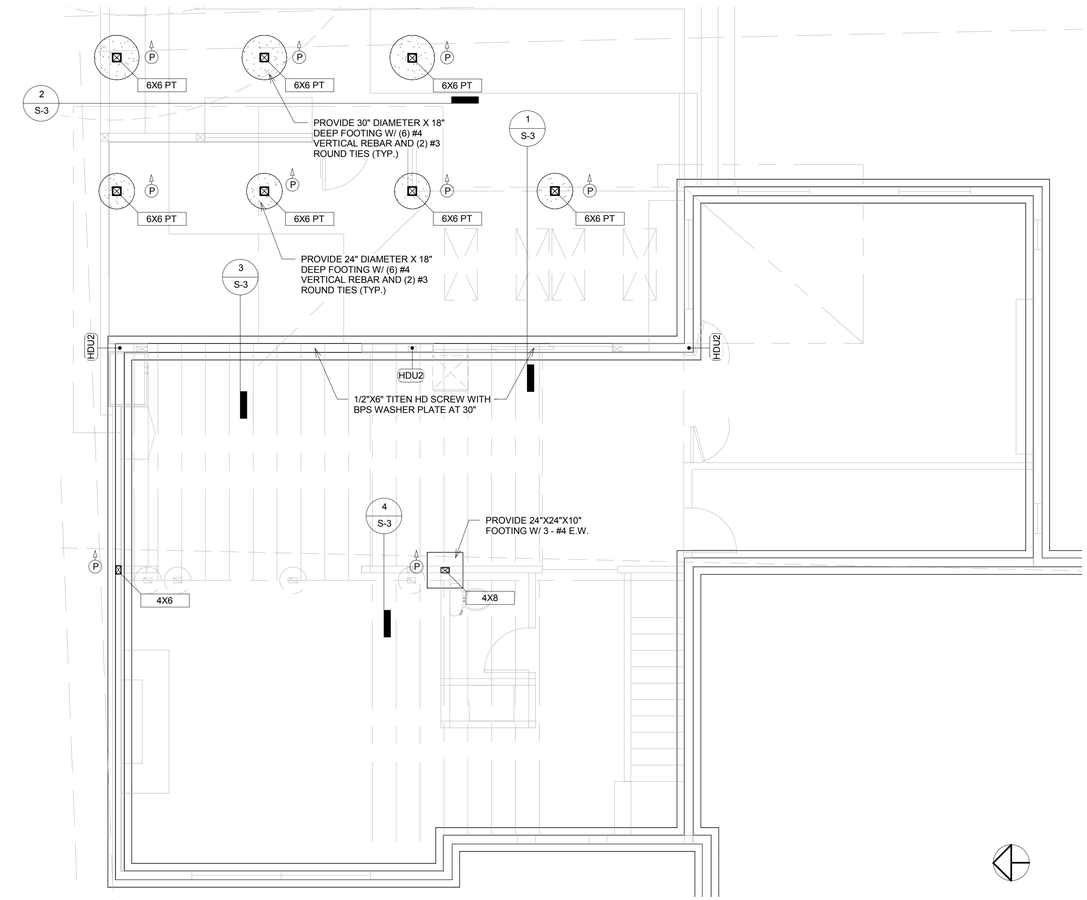
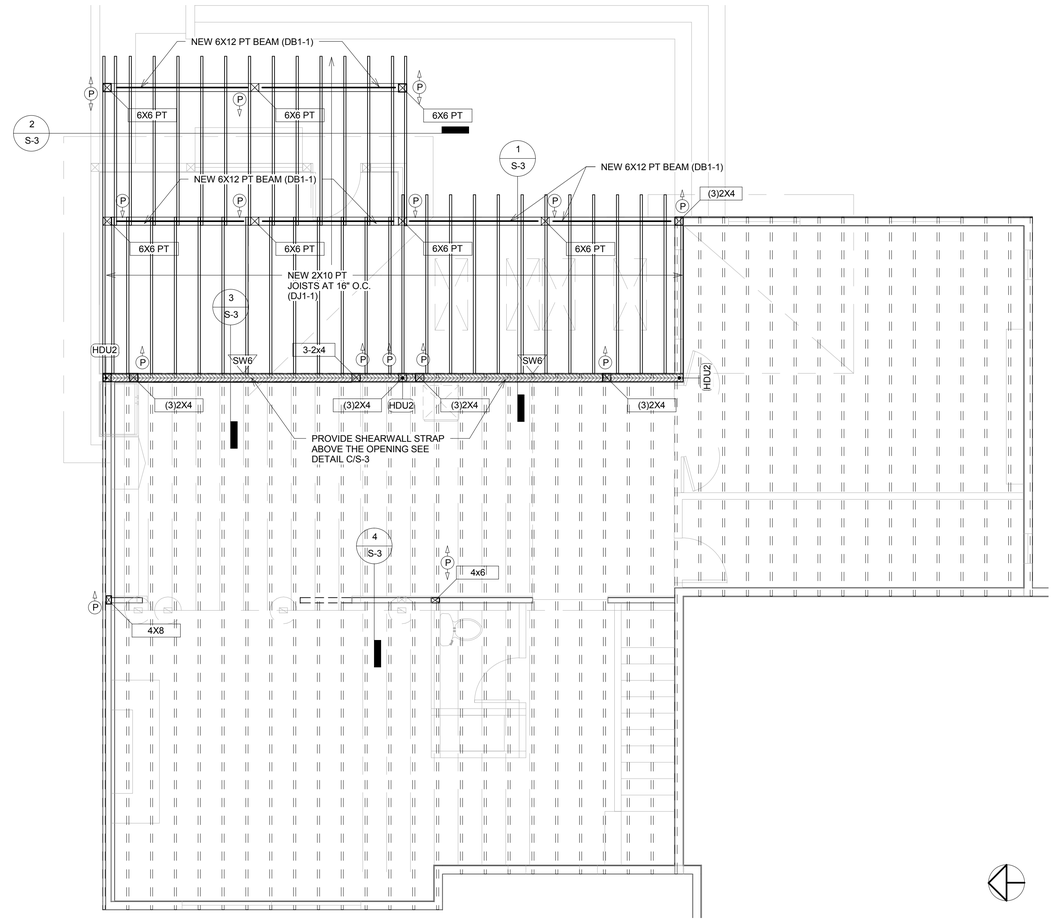


1 FOUNDATION
1/4" = 1'-0"



2 MAIN FLOOR
1/4" = 1'-0"

IMPORTANT NOTES ON FIELD VERIFICATIONS AND TEMPORARY SHORING:

1. CONTRACTOR SHALL REVIEW STRUCTURAL DRAWINGS AND FIELD VERIFY ALL RELATED EXISTING FRAMING & DIMENSIONS PRIOR TO ANY FIELD WORK. NOTIFY THE ENGINEER/OWNER ANY DISCREPANCIES FOUND IN THE FIELD. STRUCTURAL DRAWINGS MAY NOT CORRECTLY REFLECT ALL EXISTING FRAMING DUE TO LIMITED ACCESS TO THE SITE AND EXISTING DRAWINGS.
2. CONTRACTOR SHALL FIELD VERIFY AND NOTIFY THE ENGINEER/OWNER OF EXISTING MECHANICAL DUCTS, PLUMBING PIPES, ELECTRICAL WIRES THAT MAY INTERFERE WITH STRUCTURAL WORKS FOR COST CONSIDERATIONS PRIOR TO ANY FIELD WORK.
3. CONTRACTOR IS SOLELY RESPONSIBLE IN PROVIDING PROPER TEMPORARY SHORING PRIOR TO REMOVING ANY STRUCTURAL ELEMENTS. PLEASE CALL ENGINEER FOR QUESTIONS

IMPORTANT NOTES ON FOUNDATION AND FRAMING:

1. ALL FOOTINGS SHALL BEAR ON SUITABLE SOIL SUCH AS MIN. OF MEDIUM DENSE NATIVE SOIL OR COMPACTED STRUCTURAL FILL (NO SOFT OR ORGANIC MATERIALS). GEOTECHNICAL ENGINEER MAY BE REQUIRED TO ASSESS EXISTING SOIL CONDITIONS.
2. FOR FRAMING LUMBER TYPES AND GRADES, AND CONCRETE MIX REQUIREMENTS PLEASE SEE S-0
3. FOR PLYWOOD/OSB SHEARWALL SCHEDULE, PLEASE SEE S-3
4. FOR COMMON HEADER FRAMING DETAIL AND HEADER SIZE, SEE S-3
5. PROVIDE (2) 2X6 OR (3) 2X4 STUD POSTS AT EACH END OF BEAMS, UNLESS NOTED OTHERWISE ON PLAN
6. SLAB ON GRADE SHALL BE MIN. 4" THICK WITH #3 AT 18" EACH WAY (AT MID-DEPTH) ON 6" COMPACTED CRUSHED ROCK. PROVIDE 1" SAWCUT JOINT AT 15 FT MAX. SPACING (EACH WAY)
7. FLOOR SHEATHING SHALL BE 3/4" PLYWOOD OR OSB WITH 10d AT 6" NAILING AT EDGES AND AT 12" AT FIELD
8. ROOF SHEATHING SHALL BE 1/2" PLYWOOD OR OSB WITH 8d AT 6" NAILING AT EDGES AND AT 8" AT FIELD

IMPORTANT NOTES ON TRUSS AND FLOOR FRAMING DESIGN/SHOP DRAWINGS:

1. TRUSS FRAMING LAYOUT SHOWN IS GENERAL CONCEPT ONLY. CONTRACTOR/ TRUSS SUPPLIER MUST SUBMIT TRUSS SHOP DRAWINGS INCLUDING TRUSS TEMPORARY/ PERMANENT BRACING PLANS FOR ENGINEER'S REVIEW
2. TRUSS FRAMING PROFILE/ LAYOUT SHOULD CONFORM TO BOTH STRUCTURAL AND ARCHITECTURAL DRAWINGS. ANY DEVIATIONS SHALL BE APPROVED BY ENGINEER/ ARCHITECT PRIOR TO TRUSS DESIGN WORK.
3. TRUSS DEFLECTION CRITERIAS:
FLOOR/DECK TOTAL LOAD = L/480 ROOF TOTAL LOAD = L/240
FLOOR/DECK LIVE LOAD = L/600 ROOF SNOW LOAD = L/300
** MAXIMUM TOTAL LOAD DEFLECTION SHOULD NOT EXCEED 1.0" IN ALL CASES
4. FLOOR/ROOF FRAMING LAYOUT AND CONNECTORS (SUCH AS LUMBER PACKAGE BY SUPPLIERS) MUST BE SUBMITTED FOR ENGINEER'S REVIEW PRIOR TO CONSTRUCTION

FRAMING SYMBOLS:

SS24 — SIMPSON WSW STRONG WALL (24" WIDE)
SW6 — PLYWOOD SHEARWALL
A — SHEARWALL HOLDOWN
P — CONTINOUS POST
P — POST STOPS BELOW THIS FLOOR
P — POST STARTS AT THIS FLOOR

LEGEND AND NOTES
1/4" = 1'-0"

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FRAMING PLANS

S-1

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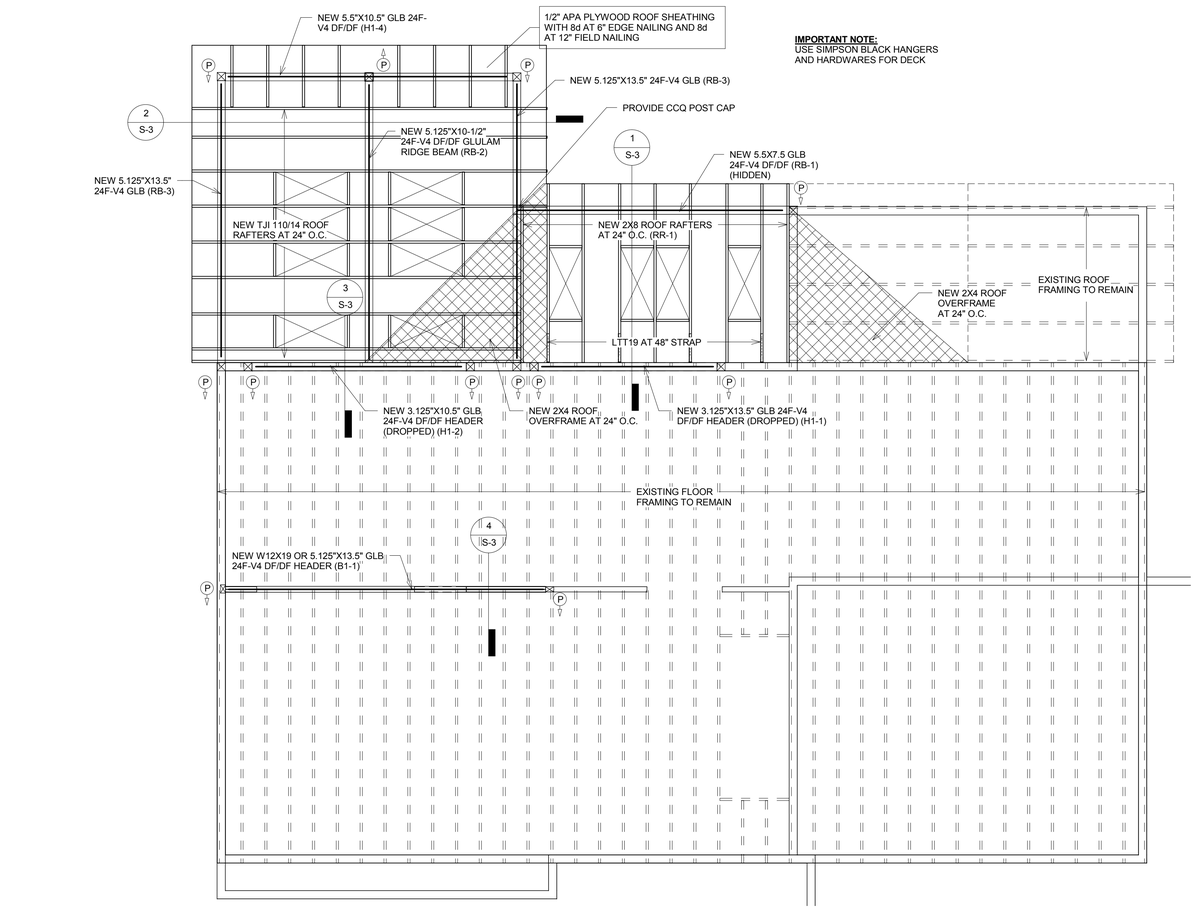

1 UPPER FLOOR
1/4" = 1'-0"

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FRAMING PLANS

S-2

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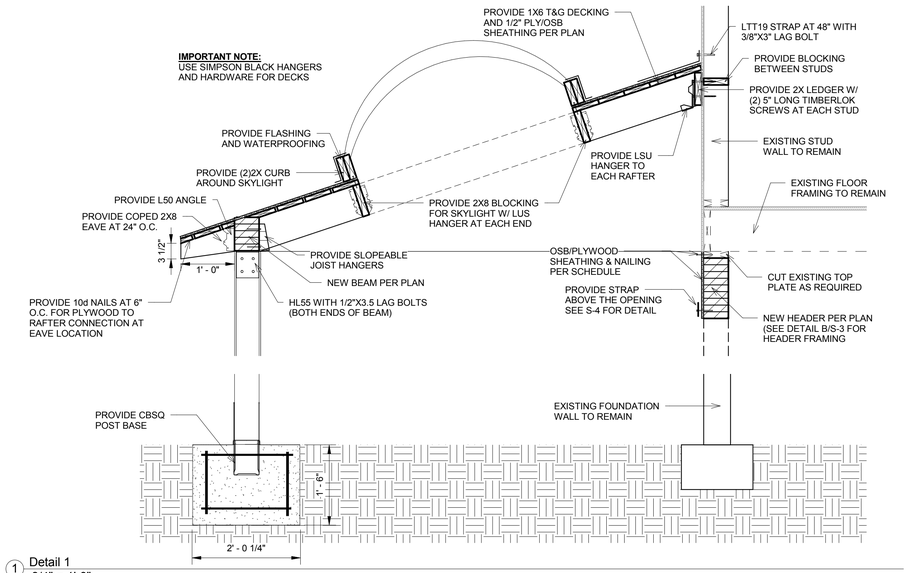
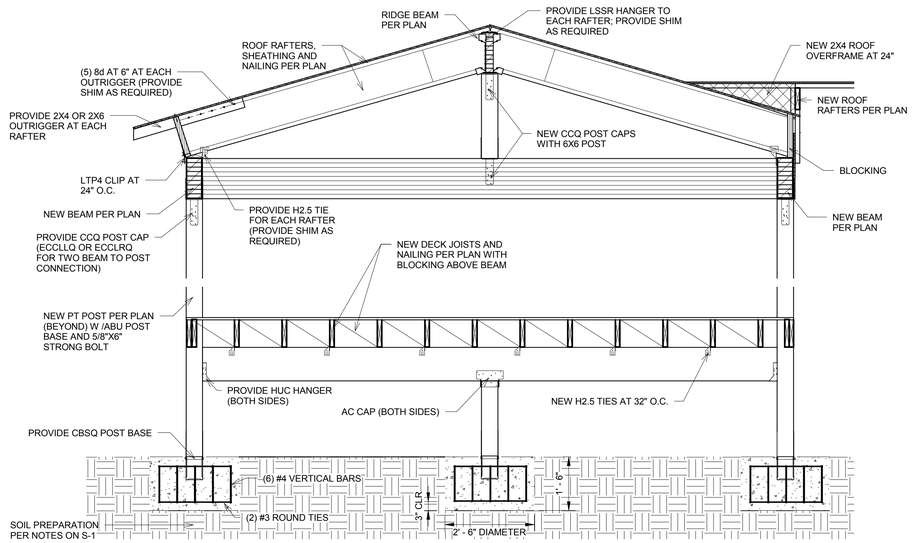
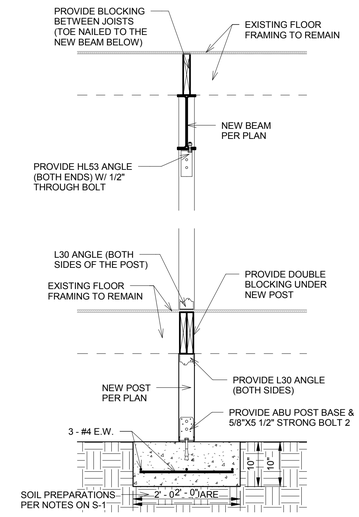


1 Detail 1
3/4" = 1'-0"



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



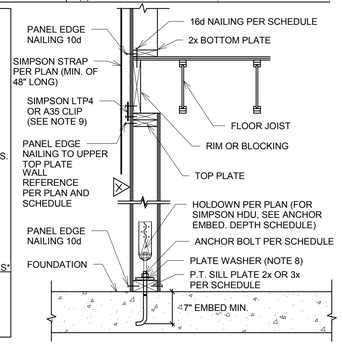
4 Detail 4
3/4" = 1'-0"

TYPE	PLYWOOD OR OSB SHEATHING (NOTE 7)	PANEL EDGE NAILING (NOTE 4)	PANEL EDGE STUDS AND BLKG	ANCHOR BOLTS AT SILL PLATE (NOTE 8)	TOP/SILL PLATE TO BLOCKING/ RIM (NOTE 9)	BOTTOM PLATE TO BLOCKING/ RIM (NOTE 4)	CAPACITY (LRFD) (SEISMIC/WIND)
SW6	15/32" PLY/OSB ONE SIDE	10d COM AT 6"	2x	5/8" AT 36" O.C.-2x	SIMPSON LTP4 AT 24" O.C.	16d COM AT 6" O.C.-NARROW	496 PLF/ 696 PLF
SW4	15/32" PLY/OSB ONE SIDE	10d COM AT 4"	2x (SEE NOTE 5)	5/8" AT 24" O.C.-2x	SIMPSON LTP4 AT 16" O.C.	16d COM AT 4" O.C.-NARROW	736 PLF/ 1032 PLF
SW3	15/32" PLY/OSB ONE SIDE	10d COM AT 3"	3x	5/8" AT 18" O.C.-2x	SIMPSON LTP4 AT 12" O.C.	16d COM AT 3" O.C.-WIDE	960 PLF/ 1344 PLF
SW2	15/32" PLY/OSB ONE SIDE	10d COM AT 2"	3x	5/8" AT 12" O.C.-2x	SIMPSON LTP4 AT 8" O.C.	16d COM AT 2" O.C.-WIDE	1232 PLF/ 1724 PLF
SW44	15/32" PLY/OSB TWO SIDES	10d COM AT 4"	2x	5/8" AT 18" O.C.-3x	SIMPSON LTP4 AT 16" O.C. B.S.	(2) 16d COM AT 4" O.C.-WIDE	1472 PLF/ 2064 PLF
SW33	15/32" PLY/OSB TWO SIDES	10d COM AT 3"	3x	5/8" AT 16" O.C.-3x	SIMPSON LTP4 AT 12" O.C. B.S.	(2) 16d COM AT 3" O.C.-WIDE	1920 PLF/ 2688 PLF
SW22	15/32" PLY/OSB TWO SIDES	10d COM AT 2"	3x	5/8"AT 12" O.C.-3x	SIMPSON LTP4 AT 8" O.C. B.S.	(2) 16d COM AT 2" O.C.-WIDE	2464 PLF/ 3448 PLF

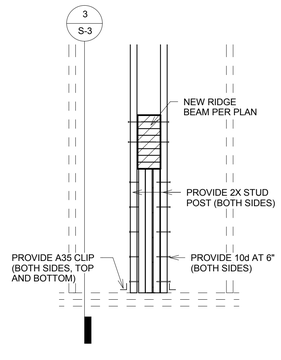
SHEARWALL SCHEDULE NOTES:

1. ALL PANEL EDGES TO OCCUR OVER STUDS, PLATES, RIMS OR HORIZONTAL BLOCKING AT WALLS
2. NAIL SHEATHING TO INTERMEDIATE SUPPORTS/ FIELD NAILING 10d AT 12" O.C.
3. ALL NAILS INTO 3x MEMBERS SHALL BE STAGGERED.
   (2)2x STUDS MAY BE USED IN LIEU OF 3x STUDS AT PANEL JOINTS.
   NAIL STUDS TOGETHER W/2 ROWS 16d COMMON AT 6" O.C. AT SINGLE SIDE SHEATHING AND NAIL WITH 2 ROWS OF 16d COMMON AT 3" O.C. AT DOUBLE SHEATHED WALLS.
4. COM DENOTES COMMON NAILS. MIN. NAIL PENETRATION INTO PLATE, RIM OR BLOCKING SHALL BE 1 5/8". STAGGER BOTTOM PLATE NAILING
5. FOR SHEARWALL SW4, ALL FRAMING MEMBERS RECEIVING EDGE NAILINGS FROM ABUTTING PANELS SHALL BE 3X OR (2) 2X NAILED TOGETHER WITH 16d AT 6"
6. WHERE SHEATHING IS APPLIED TO BOTH SIDES OF WALL, OFFSET PANEL EDGES TO FALL ON DIFFERENT STUDS.
7. PROVIDE SHEAR WALL SHEATHING AND NAILING FOR ENTIRE LENGTH OF WALLS NOTED ON PLAN.
   PROVIDE HOLDOWNS PER PLAN AT EACH END OF WALL, UNO.
   PROVIDE (2) 2X STUDS AT ENDS OF ALL SHEARWALL. FACE NAIL MULTIPLE STUDS WITH 16d AT 12"
   PROVIDE PANEL EDGE NAILING IN EACH HOLDOWN STUD AT END OF WALL.
8. ALL FOUNDATION SILL PLATES SHALL BE PT MEMBERS AND THE ANCHOR BOLTS SHALL HAVE MIN. OF 7" EMBEDMENT WITH 1/4" x 3" x 3" PLATE WASHER OR SIMPSON'S BP/ BPS PLATE.
   END OF WALL ANCHOR BOLTS SHALL BE LOCATED MAX 12" AND MIN 5" FROM END OF THE PLATE.
9. WHERE NOTED IN DETAILS, USE SIMPSON A35 IN LIEU OF LTP4 PLATES SPACE AT 2/3 OF LTP4 SPACING.

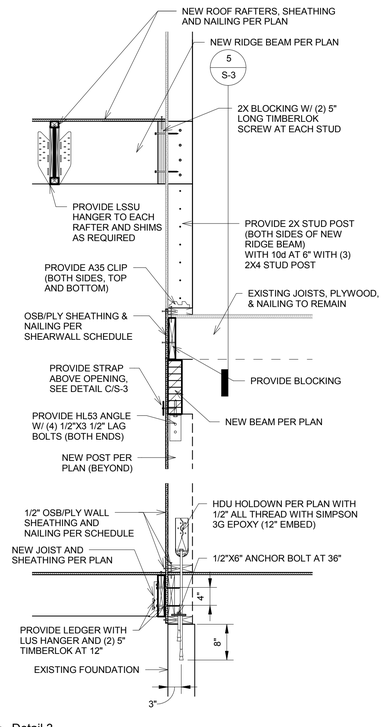
SIMPSON HOLDOWN	SIMPSON ANCHOR BOLTS*	SIMPSON EPOXY ALL THREAD ANCHORS*
HDU2	SSTB16 (5/8"ANCHOR WITH 12 5/8" MIN. EMBED.)	5/8" (12" EMBED WITH SET-XP)
HDU4	SB 5/8X 24 (5/8"ANCHOR WITH 18" MIN. EMBED.)	5/8" (14" EMBED WITH SET-XP)
HDU5	SB 5/8X 24 (5/8"ANCHOR WITH 18" MIN. EMBED.)	5/8" (16" EMBED WITH SET-XP)
HDU8	SB 7/8X 24 (7/8"ANCHOR WITH 18" MIN. EMBED.)	
HDU11	SB 1X 30 (1" ANCHOR WITH 24" MIN. EMBED.)	* ALL ANCHORS SHALL BE 2.5" MIN. FROM EDGE OF CONCRETE WALL
HDU14	SB 1X 30 (1" ANCHOR WITH 24" MIN. EMBED.)	



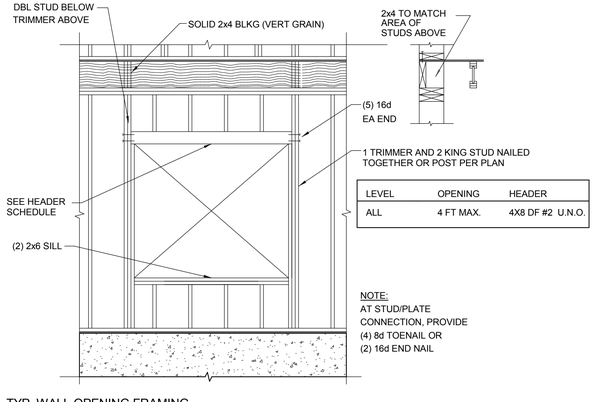
A SHEARWALL SCHEDULE
3/4" = 1'-0"



5 Detail 5
3/4" = 1'-0"

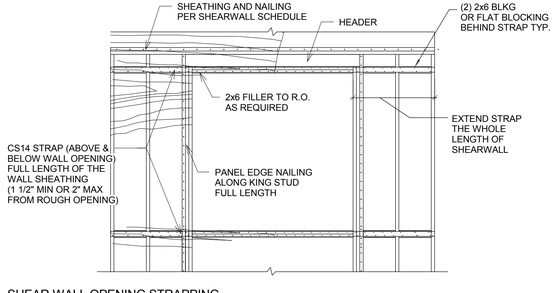


3 Detail 3
3/4" = 1'-0"



LEVEL	OPENING	HEADER
ALL	4 FT MAX.	4X8 DF #2 U.N.O.

B TYP. WALL OPENING FRAMING
3/4" = 1'-0"



C SHEAR WALL OPENING STRAPPING
3/4" = 1'-0"

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FRAMING DETAILS

S-3

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