April 27, 2024

Mr. Brandon Kalwel

Planning & Building Inspections

Lee's Summit, Missouri

Architecture, Graphics
Management & Planning
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Plan Review Discrepancy Report Reply Letter

Sequoia Orchard Park, Lee's Summit, MO Permit # PRES20240700

BUILDING Responses will be in order of the Comments Provided for In the Report Dated April 25

ITEM #1 The square footages are placed on the top of sheet A102 and are in both Gross and Net areas

ITEM #7 Distances for Column noted on Sheet A100 And Sheet A102 Pad size is called out in sheet S-1

ITEM #9 The building address have been added to the title block on all sheets.

ITEM #10 The title blocks have been changed on all drawings to match the project as required for this project.

ITEM #11 I have updated the code date to 2018 on Sheet S100 to meet current code requirements.

ITEM #12 This detail has been added to sheet A102 called out at UNIT DEMISING WALL

If you have any additional problems or need additional information please contact me directly as soon as possible so I can resolve your issues as fast as possible.

Respectfully

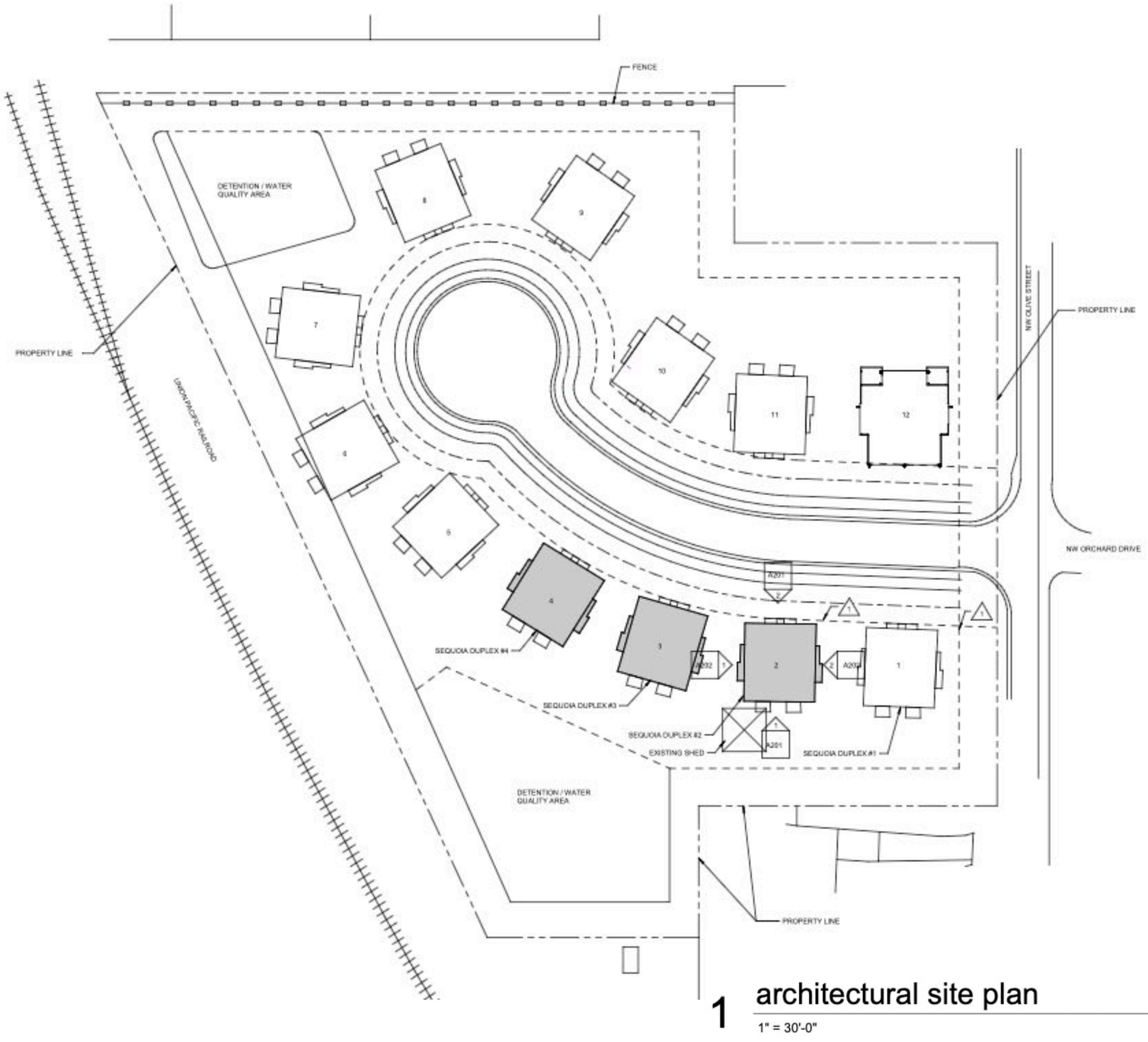
Bruce Best

site general notes

1. CONTRACTOR TO REMOVE TRASH AND DEBRIS FROM SITE PRIOR TO START OF EXCAVATION.
2. CONTRACTOR TO CUT ROUGH GRADE TO 4" BELOW FINAL FLATWORK.
3. CONTACTOR TO LOCATE DEBRIS AND CONCRETE PIECES TO DESIGNATED LOCATION ON/NEAR SITE.
4. FINAL GRADE TO BE PITCHED AWAY FROM FOUNDATION 6" IN 10' UNLESS NOTED OTHERWISE.
5. CONTRACTOR TO CALL MISSOURI ONE CALL SYSTEM PRIOR TO START OF EXCAVATION
6. COORDINATE SITE REQUIREMENTS w/CIVIL ENGINEERING DRAWINGS.

site plan keynotes

1 BUILDING SET BACK LINE



1 architectural site plan

1" = 30'-0"

PLAN NORTH

Architecture Graphics Management & Planning

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SEQUOIA DUPLEX ALT #1
205 & 207 Orchard Court
LEE'S SUMMIT, MO

ALBERT P. HERMANS NUMBER E-23306 STATE OF MISSOURI REGISTERED PROFESSIONAL ENGINEER

A001

1	Date APRIL.	26, 2024
2	REVISION	
3	REVISION	
4	REVISION	
5	REVISION	

general notes structural

general

1. the contractor shall verify dimensions and conditions of the job and site and notify the architect of and discrepancies or difficulties that might effect the cost, coordination or safety of the project prior to proceeding.

1. the general contractor shall coordinate all disciplines, and shall verify size and locations of all openings shown on architectural drawings with dimensions call for on, electrical, mechanical structural and plumbing drawings. all errors, discrepancies, or other difficulties shall be called to the attention of the architect for resolution prior to proceeding.

2. all designs and construction techniques shall meet the requirement of the interntional building code as amended by local building code officials

3. these drawing are for use on a single specific building project only. any other use is not authorized without written permission signed and sealed by a principal of agmp.

foundation

1. spread footing, grade beams and retaining walls are designed to bear on engineered fill or undisturbed soil capable of sustaining a minimum 2,000 psf.

2. retaining structures shall be designed for a lateral load of 40 pcf or the equivalent fluid pressure.

3. the general contractor shall provide for the deflection of surface water or ground water seepage from all foundation excavations until forms have been striped or exterior foundation wall water proofing has been applied.

4. no concrete footing or foundations shall be placed on standing water, ground softened from excess water or frozen ground.

5. all foundation excavations shall be inspected for suitable bearing capacity prior to placement of steel and or concrete. any indications of organic material, trash or other debris shall call for immediate inspection by a soils engineer qualified and approved by the architect or structural engineer.

structural steel

1. all structural and misc. steel shall be astm a36 grade steel fabrication and erection shall be in accordance with the latest edition of the aisc manual of steel construction.

2. in case of discrepancies between structural steel plans and plans of other trades, such discrepancies shall be call the attention of the architect or structural engineer for resolution immediately, prior to fabrication if possible.

3. all steel connections shall be welded or bolted. all bean connection shall be designed for the indicated reactions or at least 1/2 of the beam shear capacity, whichever is greater

4. all bolts not otherwise called out shall be 3/4" round ab25n.

5. all welding shall conform to american welding society recommendations.

6. all anchor bolts shall be 1/2" diameter astm a307, unless otherwise noted.

concrete

1. all concrete except exterior flatwork shall develop a minimum compressive strength of 3,000 psi at 28 days, with not less than 500 pounds of cement per cubic yard of concrete regardless of strengths obtained, not over 6-1/2 gallons of water per 100 pounds of cement and not more than a 4" slump.

2. concrete for exterior flatwork shall have a minimum compressive strength of 4,000 psi at 28 days, with not less than 600 pounds of cement per cubic yard of concrete regardless of strengths obtained, not over 5 gallons of water per 100 pounds of cement and not more than a 4" slump. provide all exterior flatwork cement with ± 1% air entrainment and additional fibermesh reinforcing.

3. all concrete is reinforced concrete unless specifically called out as unreinforced. reinforce all concrete not otherwise shown with the same steel as in similar sections or areas. any details not shown shall be detailed per aci 315 and meet the requirements of aci 318, current edition.

4. all reinforcing steel shall conform to the requirements of astm a615 grade 60 steel except stirrups and ties, which shall be grade 60 bendable steel.

5. clear minimum coverage of concrete over reinforcing

concrete placed against earth	3"
formed concrete against earth	2"
slabs or joists	1"
beams or columns	1-1/2"
other	2"

all coverage shall be nominal (2) bar diameter minimum.

6. all reinforcing dowels shall be the same size and spacing as main reinforcing bars of adjoining members and shall be lap spliced 40 bar diameters or 24" minimum unless noted otherwise.

7. at corners of all walls, beams and grade beams supply corner bars extending 40 bar diameters or 24" minimum each direction. in outside face of wall, match size and spacing of horizontal bars, where there are no vertical bar in outside face of wall supply (3)- #4 vertical support bars for corner bars.

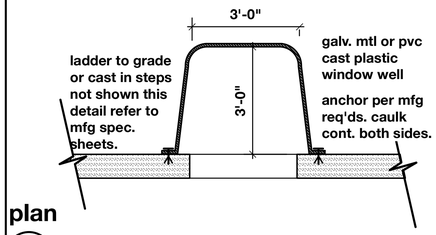
8. bars marked continuous and all vertical steel shall be lapped 40 bar diameters or 2'-0" minimum as splices and construction joints, unless shown otherwise. splice top bars near mid span and bottom bars over supports, unless otherwise noted.

9. at all holes in concrete walls and slabs, add (2)-#5 bars of length equal to opening dimension plus 60 bar diameters at each of four sides. also add (2) -#5 x 5'-0" long diagonally at each corner of the hole.

10. openings in 8" thick walls and slabs shall be similarly reinforced but with (1)-#5 or for installation of this misc. reinf.)

11. accessories shall be as specified in the latest edition of the aci detailing handbook. maximum accessory spacing shall be 4'-0" o.c. all accessories shall be plastic coated or shall have plastic coated feet.

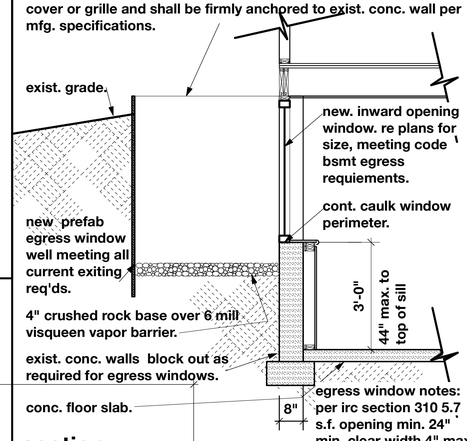
12. all slabs and stairs nor shown otherwise shall be reinforced with 6 x 6 - 10/10 wwf. all exterior porches and stoops not otherwise detailed may be constructed in any standard manner, solid or hollow, but must be reinforced with 6 x 6 - 10/10 wwf. porches shall be doweled to adjacent walls or grade beams with #4 bars at 12" o.c., hooked or embedded 40 bar diameters in to these members. slope porches 1/8" per foot for drainage unless noted otherwise.



plan

2 egress window details

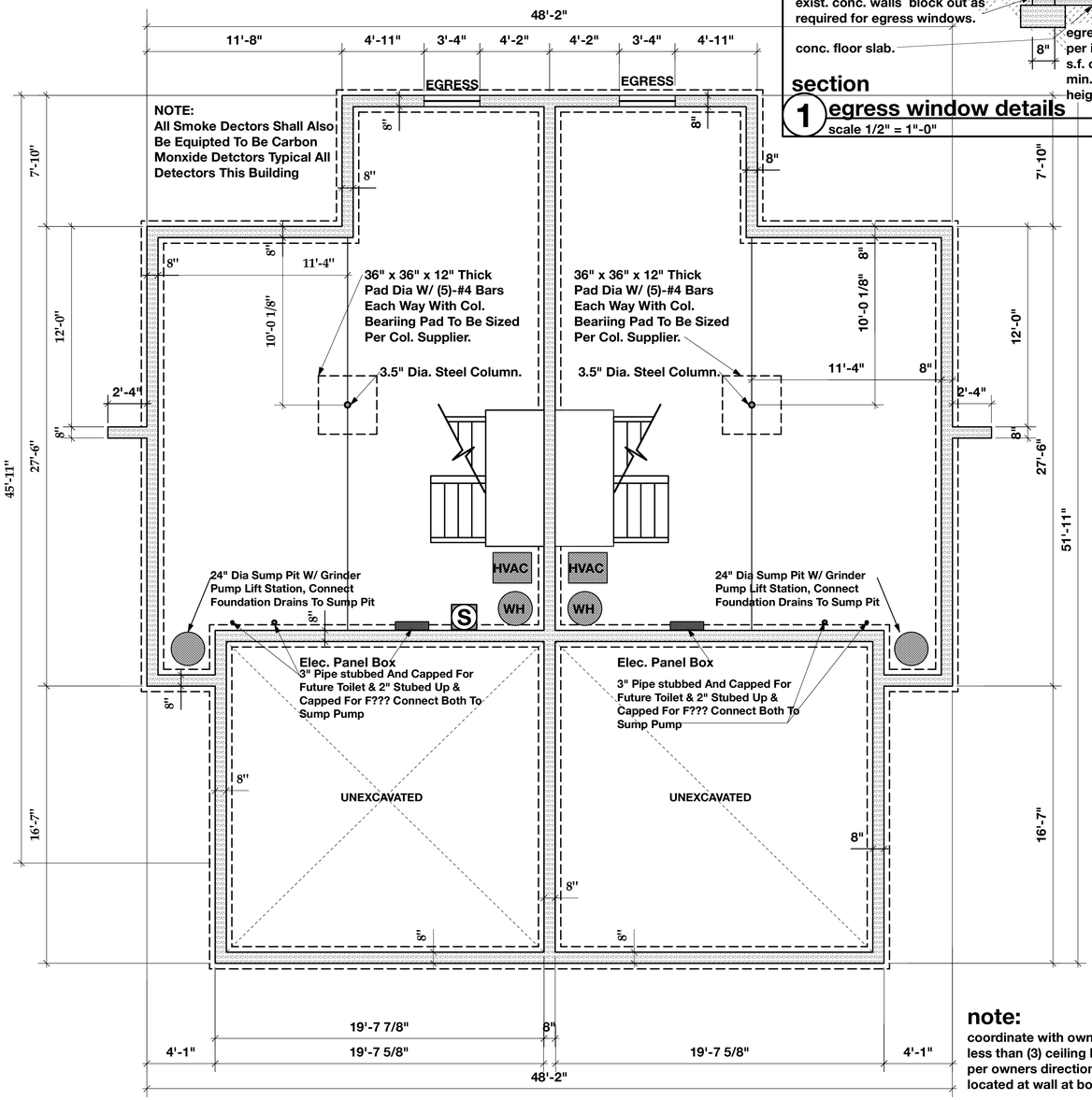
scale 1/2" = 1"-0"



section

1 egress window details

scale 1/2" = 1"-0"



BASEMENT FLOOR PLAN

Scale 1/4" = 1'-0"

note:

this drawing is for general layout information only. refer to the S-1 structural sheet for reinforcing, thicknesses and pad sizes

note:

coordinate with owner & provide not less than (3) ceiling light fixtures located per owners direction, provide switch located at wall at bottom of stairs.

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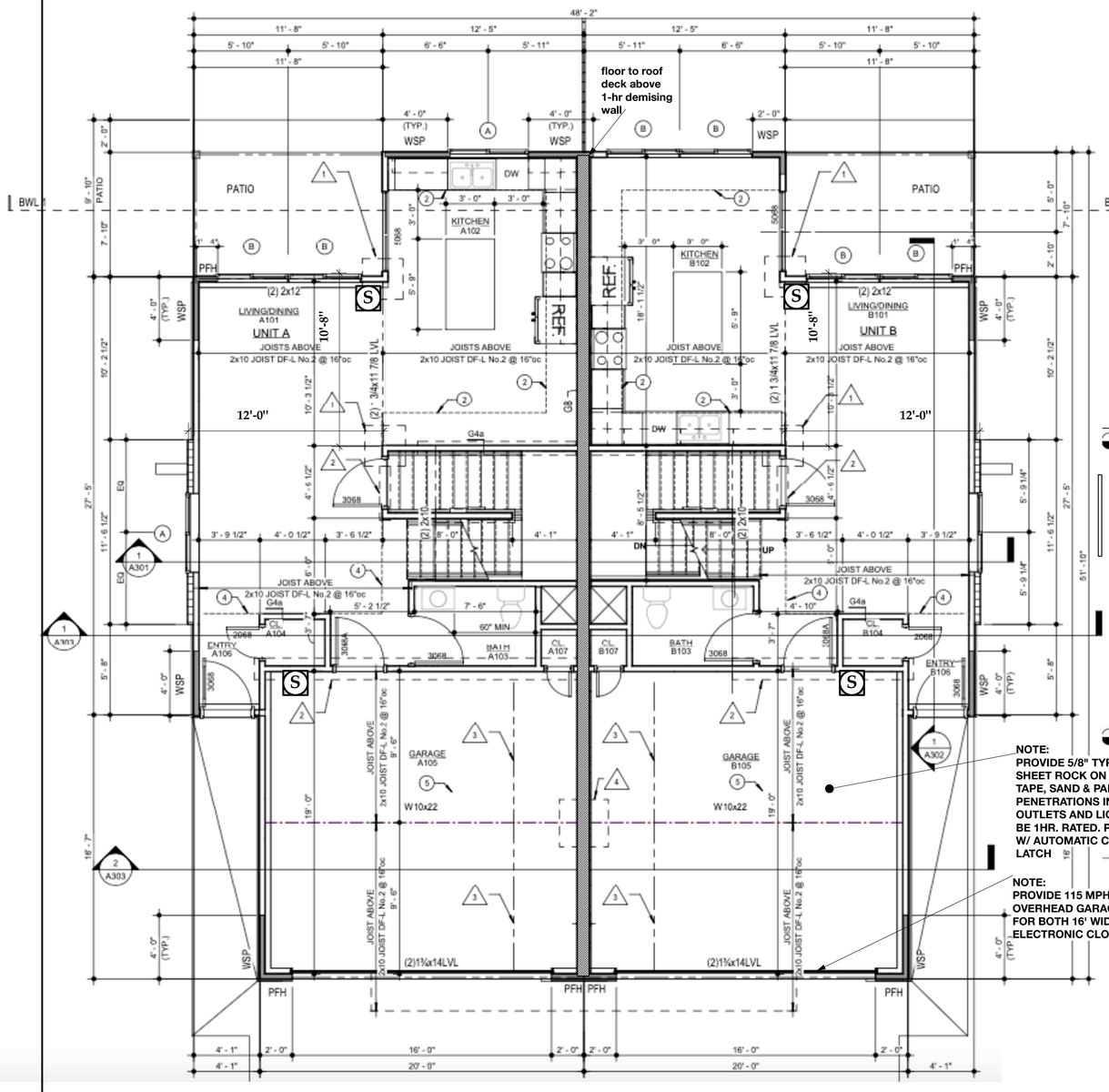
A100

1	Date	APRIL. 26, 2024
2	REVISION	
3	REVISION	
4	REVISION	
5	REVISION	

BUILDING AREAS GROSS - per unit.		BUILDING AREAS NET - per unit.		COMBINED AREAS NET - per unit.	
First Floor Garage	346.0 Sq. Ft.	First Floor Garage	346.0 Sq. Ft.	First Floor Garage	692.0 Sq. Ft.
Basement	704.0 Sq. Ft.	Basement	600.0 Sq. Ft.	Basement	1200.0 Sq. Ft.
First Floor Living	641.0 Sq. Ft.	First Floor Living	546.0 Sq. Ft.	First Floor Living	1092.0 Sq. Ft.
Second Floor	953.0 Sq. Ft.	Second Floor	864.0 Sq. Ft.	Second Floor	1728.0 Sq. Ft.
Total Living Area =	2644.0 Sq. Ft.	Total Living Area =	1678.0 Sq. Ft.	Total Living Area =	4712.0 Sq. Ft.

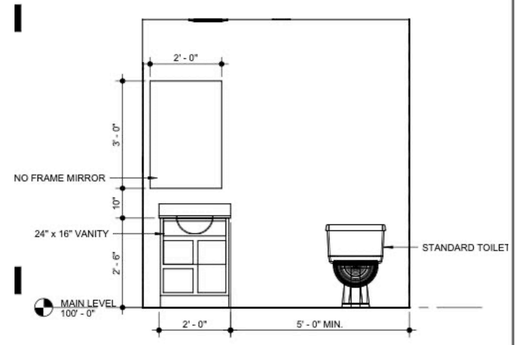


NOTE:
PROVIDE 5/8" TYPE "X" FIRE CODE SHEET ROCK ON ALL WALLS & CEIING, TAPE, SAND & PAINT. ALL ELECTRICAL PENETRATIONS INCLUDING SWITCHES, OUTLETS AND LIGHT FIXTURES SHALL BE 1HR. RATED. PROVIDE 20 Min. DOOR W/ AUTOMATIC CLOSER LOCK AND LATCH

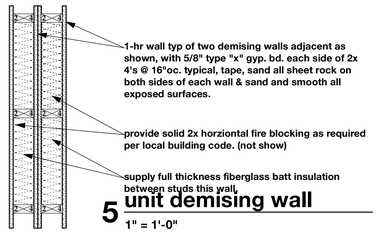
NOTE:
PROVIDE 115 MPH SEGMENTED OVERHEAD GARAGE DOORS TYPICAL FOR BOTH 16' WIDE OR 7' WIDE DOORS. ELECTRONIC CLOSER OPTIONAL

S This symbol senotes smoke detector locations on all sheets. NOTE All smoke detectors shall be a combination carbon monixide and smoke detectors, typical all locations noted on these plans.

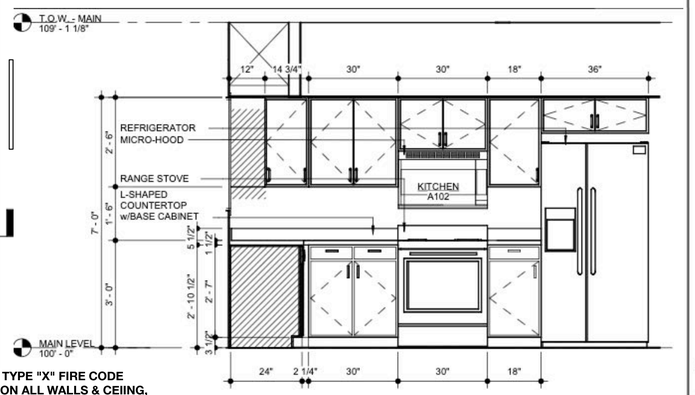
first floor plan
1/4" = 1'-0"



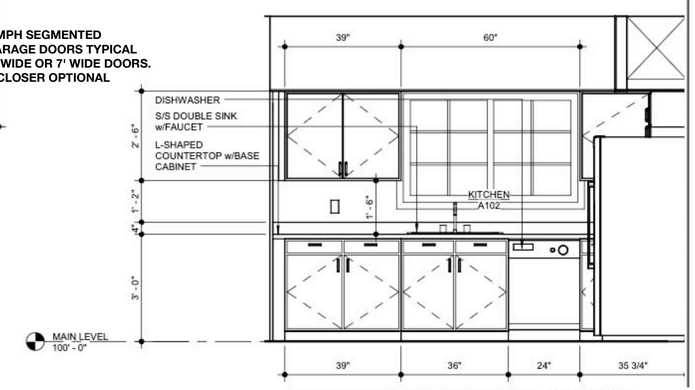
2 interior north main bath elevation
1/2" = 1'-0"



5 unit demising wall
1" = 1'-0"



3 interior east main kitchen elevation
1/2" = 1'-0"



4 interior north main kitchen elevation
1/2" = 1'-0"

general notes

1) GENERAL CONTRACTOR SHALL NOTIFY THE ARCHITECT OF ANY DISCREPANCIES BETWEEN SPECIFICATIONS AND DRAWINGS, BETWEEN MULTIPLE SPECIFICATION SECTIONS AND/OR BETWEEN MULTIPLE DRAWINGS. THE ARCHITECT WILL DETERMINE WHICH SHALL GOVERN.

2) GENERAL CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND CONDITIONS OF THE JOB SITE INCLUDING UTILITIES AND EXISTING STRUCTURES PRIOR TO BEGINNING WORK AND REPORT ANY DISCREPANCIES TO THE ARCHITECT.

3) GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR STABILITY OF THE STRUCTURE DURING CONSTRUCTION INCLUDING ALL SHORING AND BRACING REQUIRED TO RESIST REQUIRED VERTICAL AND LATERAL FORCES.

4) ALL ARCHITECTURAL FLOOR PLAN DIMENSIONS ARE FROM FACE OF CONCRETE OR FACE OF STUD.

5) INTERIOR WALLS ARE TO BE COMPRISED OF 2x4 STUDS AT 16" O.C. MAX WITH 1/2" DRYWALL EACH SIDE UNLESS NOTED OTHERWISE.

6) MECHANICAL/PLUMBING CONTRACTOR TO COORDINATE EACH OTHERS' WORK WITH ARCHITECTURAL PLANS AND TO NOTIFY ARCHITECT OF NEED FOR SOFFITS OR CHASES FOR INSTALLATION OF DUCTWORK OR PLUMBING.

7) ELECTRICAL CONTRACTOR TO INSTALL OUTLETS AS REQUIRED PER CODE. VERIFY ALL LOCATIONS WITH OWNER PRIOR TO BEGINNING DRYWALL.

8) ALL EXTERIOR WALLS TO RECIEVE R-19 BATT INSULATION, U.N.O.

partition types

GYPSUM

G4a GYPSUM BOARD PARTITION: 2x4 STUDS @ 16" OC - COVER EACH SIDE WITH 1/2" GYPSUM BOARDS.

G4b GYPSUM BOARD PARTITION: 2x4 STUDS @ 16" OC - COVER EXPOSED SIDE WITH 1/2" GYPSUM BOARDS.

architectural plan keynotes

1. STAIR MAIN TO SECOND LEVEL- (15) RISERS AT APPROX. 7 1/2" AND (14) TREADS AT 10"
2. SOFFIT FOR HVAC ROUTING. SOFFIT TO BE 2'-0" WIDE AND 7'-0" AFF
3. ATTIC ACCESS. ROUGH FRAMED OPENING TO NOT BE LESS THAN 22" X 30". ACCESS TO MEET THE REQUIEREMENTS OF R807.1 OF THE IRC.
4. SOFFIT FOR HVAC ROUTING. SOFFIT TO BE 8'-0" AFF
5. 4" CONCRETE SLAB - REFER TO STRUCTURAL
6. PROVIDE 1/2" FIRE GUARD X GYP BD ON ENTIRE WALL BETWEEN GARAGE AND HOUSE

structural plan keynotes

1. 2'-6"x2'-6"x1'-0" FOOTING W/ (5) #4 BARS EACH WAY, EACH SIDE OF BEAM
2. 8"x16" WALL FOOTING W/ (3) #4, TYP WHERE SHOWN
3. (2)1¾x9¼LVL UNDER BEARING WALL ABOVE
4. 3'-0"x3'-0"x1'-0" FOOTING W/ (6) #4 BARS EACH WAY

typical braced wall method

WSP - WOOD STRUCTURAL PANEL; WOOD STRUCTURAL PANEL SHEATHING WITH A THICKNESS NOT LESS THAN 3/8" FOR 16" STUD SPACING, FASTEN WITH 6d COMMON NAILS (.131"Ø x2" LONG) AT 6"oc ALONG EDGES AND 12"oc AT INTERMEDIATE SUPPORTS, WHERE SHOWN ON PLANS. UNLESS OTHERWISE NOTED, PANEL WIDTH = 4'-0".

CS-WSP - CONTINOUSLY SHEATHED WOOD STRUCTURAL PANEL; WOOD STRUCTURAL PANEL SHEATHING WITH A THICKNESS NOT LESS THAN 3/8" FOR 16" STUD SPACING, FASTEN WITH 6d COMMON NAILS (.131"Ø x2" LONG) AT 6"oc ALONG EDGES AND 12"oc AT INTERMEDIATE SUPPORTS, PLACED ON ALL SHEATHABLE SURFACES ON ONE SIDE OF THE BRACED WALL LINE INCLUDING AREAS ABOVE AND BELOW OPENINGS AND GABLE END WALLS.

GB - GYPSUM BOARD; 1/2" GYPSUM BOARD WITH 13 GAGE, 1 3/8" LONG, 19/64" HEAD; 0.098" DIA, 1 3/8" LONG, ANNULAR-RINGED; 6d COOLER NAIL, 0.092" DIA, 1 7/8" LONG, 1/4" HEAD; OR GYPSUM BOARD NAIL, 0.0915" DIA, 1 7/8" LONG, 19/64" HEAD; TYPE W OR TYPE S SCREWS; AT 7"oc EDGES & 7"oc FIELD

PFH - PORTAL FRAME WITH HOLD-DOWNS; REF PORTAL FRAME WITH HOLD-DOWNS DETAIL

PFG - PORTAL FRAME AT GARAGE; REF PORTAL FRAME AT GARAGE DETAIL

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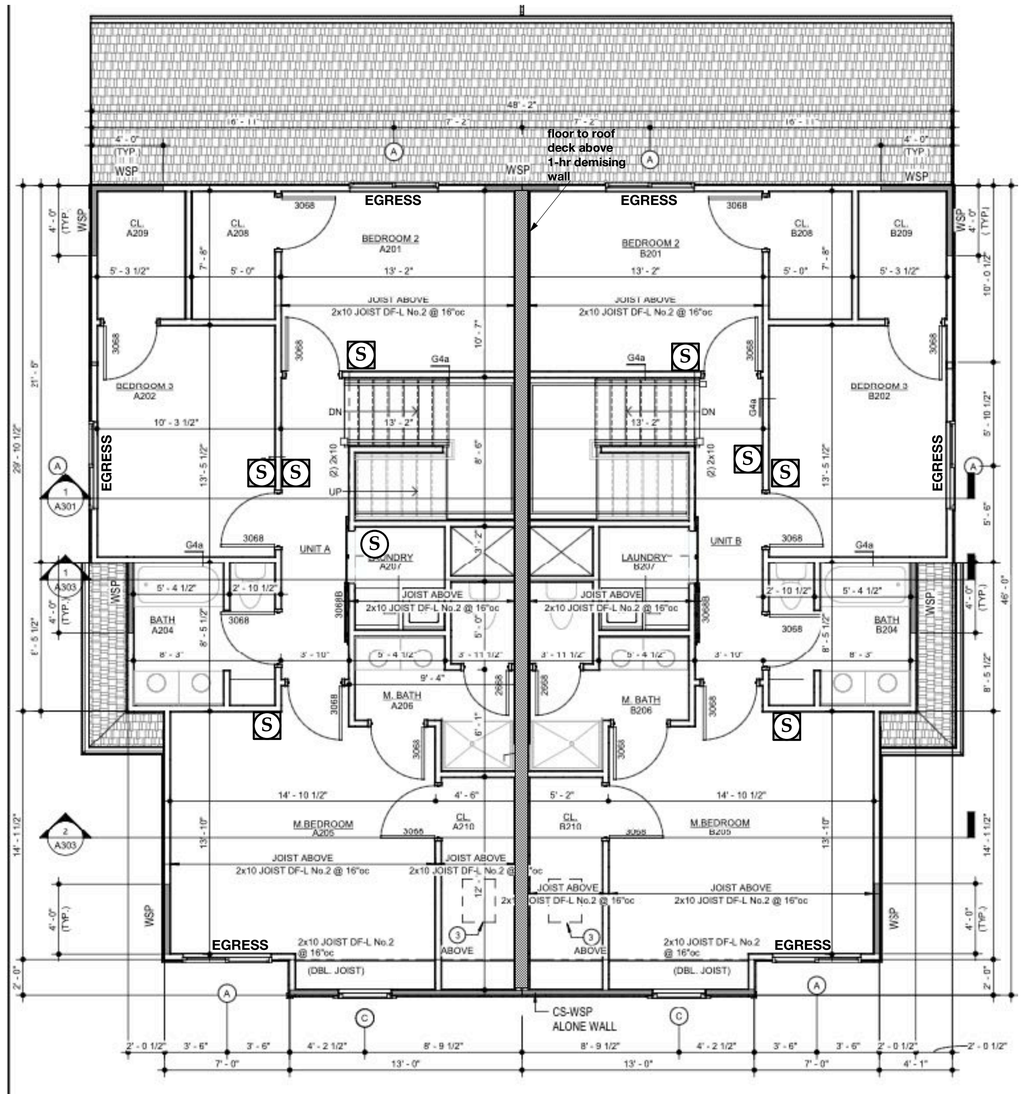
A102

1	Date	APRIL. 26, 2024
2	REVISION	
3	REVISION	
4	REVISION	
5	REVISION	



S This symbol senotes smoke detector locations on all sheets. NOTE All smoke detectors shall be a combination carbon monixide and smoke detectors, typical all locations noted on these plans.

UNIT A
SECOND LEVEL AREA = 922 SF

UNIT B
SECOND LEVEL AREA = 922 SF

NOTE:
All internal sheetrock on the face of all walls, and ceilings of all garage spaces shall be tylpe "X" 5/8" fire code sheet rock, taped, sanded and painted.

TRUE PLAN

second floor plan

1/4" = 1'-0"

door schedule

PLAN MARK	Width	DOOR OPENING SIZE H	Door Type (A)Door Type (A)	Door Material (B)Door Material (B)	NOTES
2068	2' - 0"	6' - 8"	F	W	
2668	2' - 6"	6' - 8"	F	W	
2669	1' - 6"	6' - 8"	F	W	
2671	1' - 6"	6' - 8"	F	W	
3068	3' - 0"	6' - 8"	F	W	
3068A	3' - 0"	6' - 8"	F	W	SEE GENERAL NOTE 3
3068B	3' - 0"	6' - 8"	F	WD	SLIDING BARN DOOR
3068C	3' - 0"	6' - 8"	HG	W	
5068	5' - 0"	6' - 8"	FG	W	
70160	16' - 0"	7' - 0"	OHD	S	
Grand total: 36					

door schedule notes

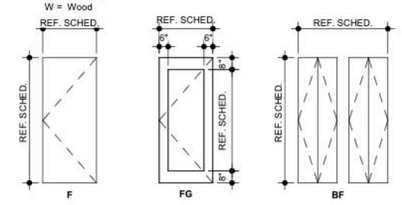
DOOR GENERAL NOTES

1. DOORS SHALL COMPLY WITH THE REQUIREMENTS OF SECTION 308 OF THE IRC FOR SAFETY GLAZING.
2. THE GARAGE DOOR(S) SHALL MEET DASMA 90 MPH REQUIREMENTS
3. CONTRACTOR OPTION FOR DOOR 3068A -
   OPTION A: 1 3/8" IN THICKNESS SOLID WOOD DOOR
   OPTION B: SOLID OR HONEYCOMB STEEL DOOR NOT LESS THAN 1 3/8" THICK
   OPTION C: 20-MINUTE FIRE-RATE DOOR WITH SELF-CLOSING OR AUTOMATIC-CLOSING DEVICE

DOOR SCHEDULE LEGEND

DOOR TYPES
- F - Flush
- FG = Full Glass
- HG = Half Glass
- OHD = Overhead Door
- BF = Bi-fold

DOOR MATERIAL AND FRAME MATERIAL:
- S = Steel
- A = Aluminum
- W = Wood



finish legends

CARPET

PORCELAIN FLOOR TILE

LVP

room finish schedule

NO.	ROOM NAME	FLOOR
A101	LIVING/DINING	LVP
A102	KITCHEN	LVP
A103	BATH	PORCELAIN FLOOR TILE
A104	CL.	CARPET
A105	GARAGE	CONCRETE
A106	ENTRY	LVP
A107	CL.	LVP
A201	BEDROOM 2	LVP
A202	BEDROOM 3	LVP
A204	BATH	PORCELAIN FLOOR TILE
A205	M.BEDROOM	LVP
A206	M. BATH	PORCELAIN FLOOR TILE
A207	LAUNDRY	LVP
A208	CL.	CARPET
A209	CL.	CARPET
A210	CL.	CARPET
A211	DUCT SHAFT	PORCELAIN FLOOR TILE
A301	ATTIC	- NO FINISH-
B101	LIVING/DINING	LVP
B102	KITCHEN	LVP
B103	BATH	PORCELAIN FLOOR TILE
B104	CL.	CARPET
B105	GARAGE	CONCRETE
B106	ENTRY	LVP
B107	CL.	LVP
B201	BEDROOM 2	LVP
B202	BEDROOM 3	LVP
B204	BATH	PORCELAIN FLOOR TILE
B205	M.BEDROOM	LVP
B206	M. BATH	PORCELAIN FLOOR TILE
B207	LAUNDRY	LVP
B208	CL.	CARPET
B209	CL.	CARPET
B210	CL.	CARPET
B211	FRM	PORCELAIN FLOOR TILE
B301	ATTIC	- NO FINISH-

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partition types

GYPSUM

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2x4 STUDS @ 16" OC - COVER EACH SIDE WITH 1/2" GYPSUM BOARDS.

G4b GYPSUM BOARD PARTITION:
2x4 STUDS @ 16" OC - COVER EXPOSED SIDE WITH 1/2" GYPSUM BOARDS.

architectural plan keynotes

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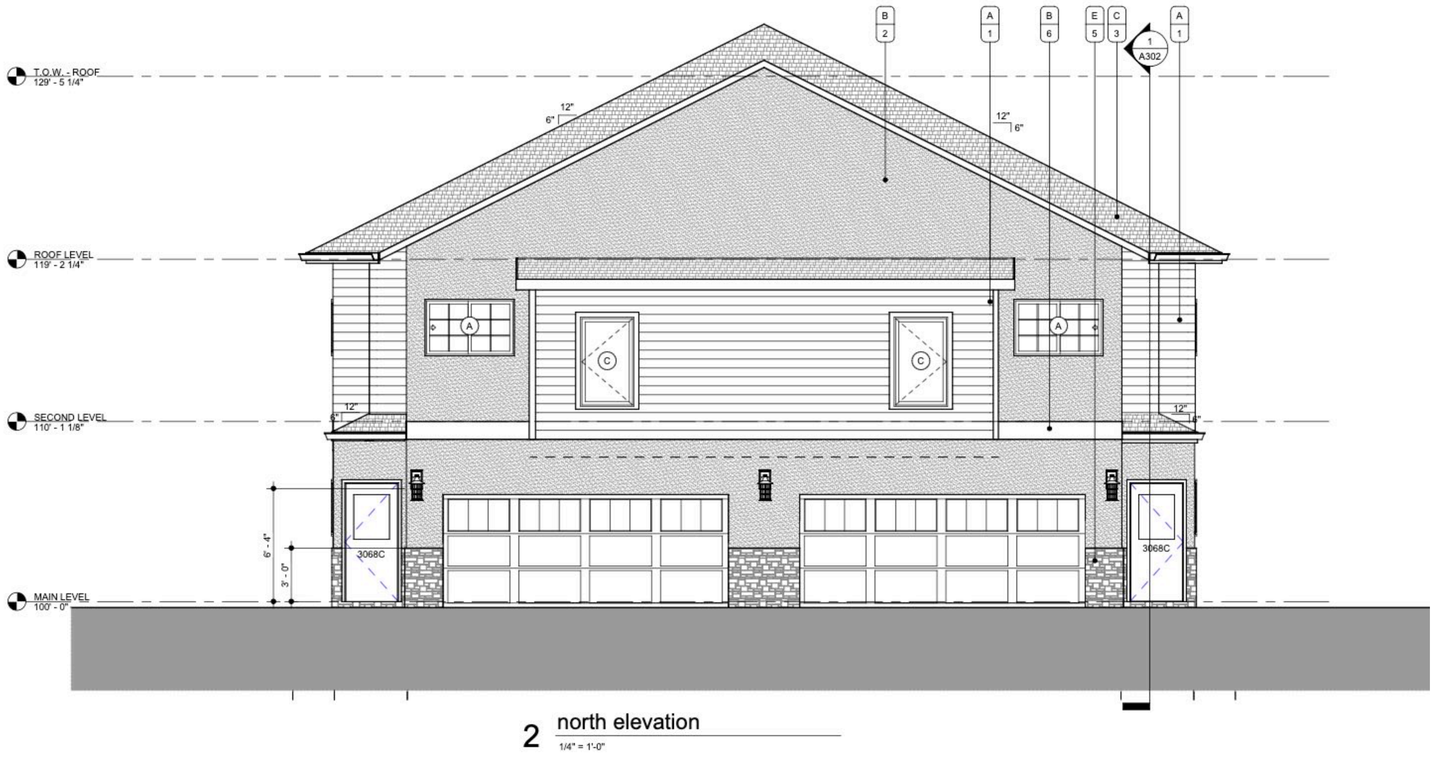
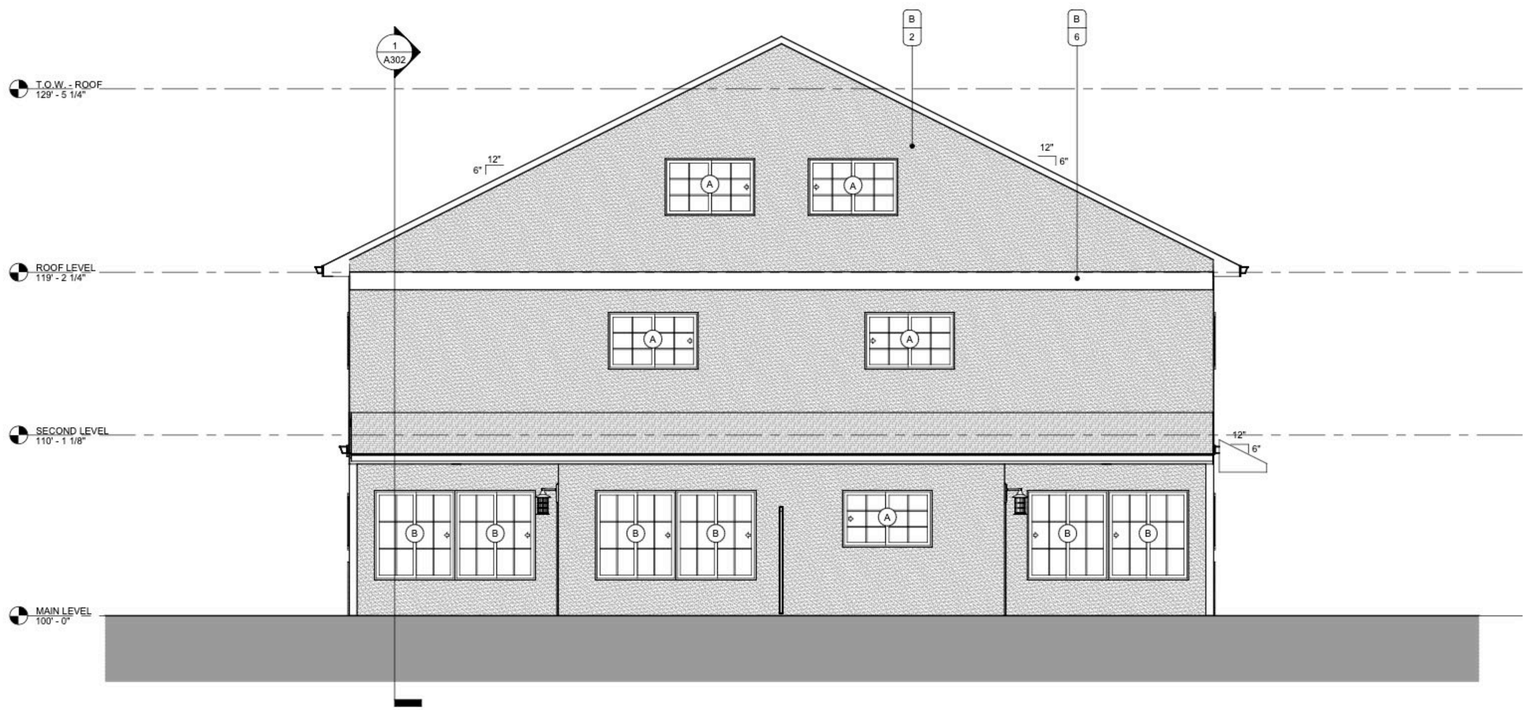


2 north elevation

1/4" = 1'-0"



1 south elevation

1/4" = 1'-0"

exterior elevation general notes

1. SLOPE GRADE A MINIMUM OF 5% AWAY FROM THE HOUSE FOR A MINIMUM DISTANCE OF 10'-0"
2. MAINTAIN MIN. 8" CLEARANCE BETWEEN FINAL GRADE AND EXPOSED WOOD
3. EXTERIOR SIDING INDICATED ON DRAWINGS SHALL BE INSTALLED OVER BUILDING WRAP, RESULTING IN A WATER-RESISTIVE EXTERIOR WALL SYSTEM COMPLIANT WITH IRC SECTION 703.2.
4. WHERE DIFFERENTIAL BETWEEN PORCH/PATIO AND SURROUNDING GRADE IS GREATER THAN 18" GUARDRAIL SHALL BE PROVIDED. THE GUARDRAIL SHALL BE 42" TALL AND SHALL BE CONSTRUCTED SUCH THAT A 4" SPHERE CANNOT PASS THROUGH IT.
5. REFER TO SHEET A601 FOR EXTERIOR LIGHTING. ALL EXTERIOR LIGHTING SHALL HAVE A CONCEALED LIGHT SOURCE.
6. ALL EXTERIOR METAL SHALL BE CORROSION RESISTANT.
7. ALL EXTERIOR MECHANICAL AND PLUMBING VENT LOCATIONS SHALL BE APPROVED WITH ARCHITECT, PRIOR TO INSTALLATION. ALL PIPING SHALL PAINTED TO MATCH SURROUNDING CONTEXT.

exterior material legend building 2

MATERIAL TYPE

A. LAP SIDING
B. EIFS
C. ASPHALT SHINGLES
D. METAL TRIM
E. BRICK

MATERIAL FINISH

1. PAINT, COLOR 1, TBD
2. EIFS FINISH COAT - 3, COLOR TBD
3. PER MANUFACTURER, TBD
4. PAINT, ACCENT COLOR 2, TBD
5. PER MANUFACTURER, TBD
6. EIFS FINISH COAT - 2, COLOR TBD
7. EIFS FINISH COAT - 4, COLOR TBD

exterior material legend building 3

MATERIAL TYPE

A. T 1-11
B. EIFS
C. ASPHALT SHINGLES
D. METAL TRIM
E. MANUFACTURED STONE

MATERIAL FINISH

1. PAINT, COLOR 1, TBD
2. EIFS FINISH COAT - 3, COLOR TBD
3. PER MANUFACTURER, TBD
4. PAINT, ACCENT COLOR 2, TBD
5. PER MANUFACTURER, TBD
6. EIFS FINISH COAT - 2, COLOR TBD
7. EIFS FINISH COAT - 4, COLOR TBD

exterior material legend building 4

MATERIAL TYPE

A. BATTEN BOARD
B. EIFS
C. ASPHALT SHINGLES
D. METAL TRIM
E. BRICK

MATERIAL FINISH

1. PAINT, COLOR 1, TBD
2. EIFS FINISH COAT - 3, COLOR TBD
3. PER MANUFACTURER, TBD
4. PAINT, ACCENT COLOR 2, TBD
5. PER MANUFACTURER, TBD
6. EIFS FINISH COAT - 2, COLOR TBD
7. EIFS FINISH COAT - 4, COLOR TBD

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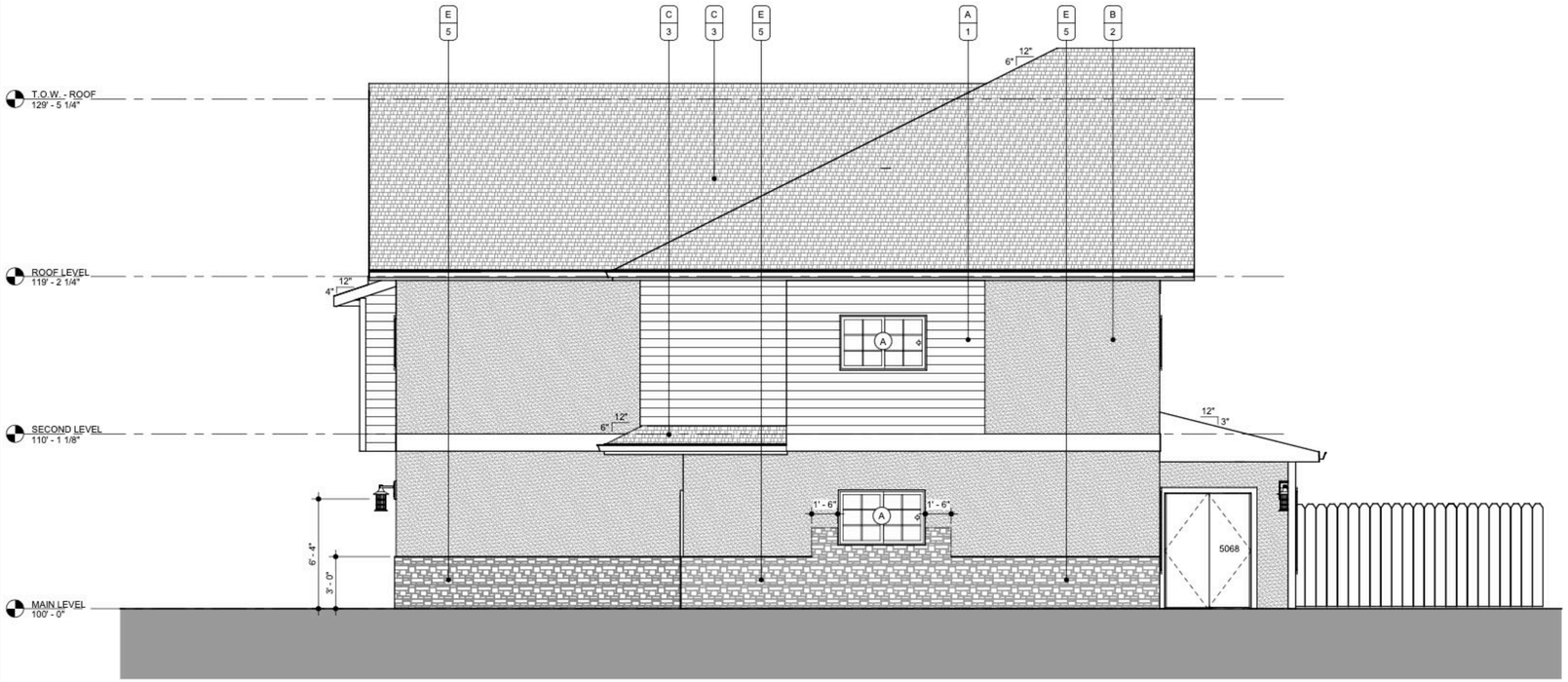
ALBERT P. HERMANS NUMBER E-23306 REGISTERED PROFESSIONAL ENGINEER STATE OF MISSOURI

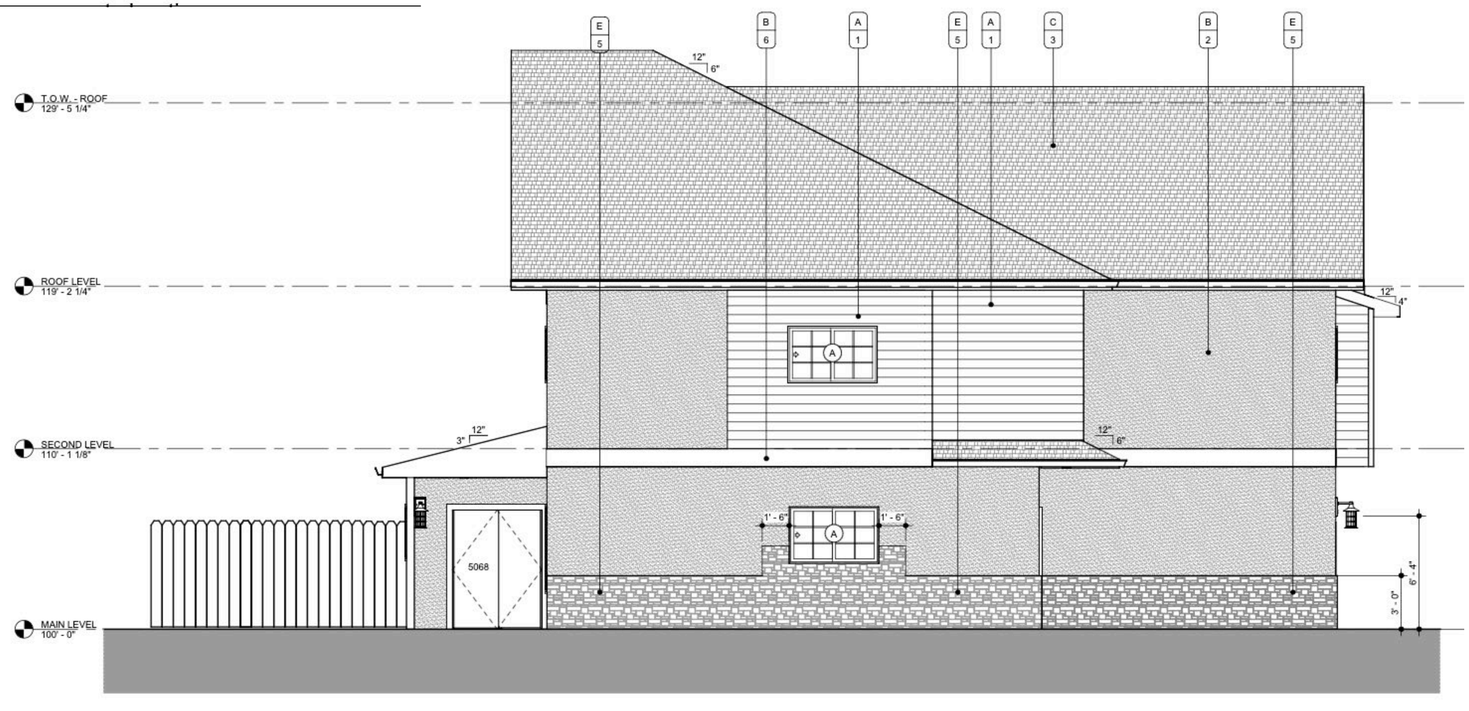
A201

1	Date APRIL. 26, 2024
2	REVISION
3	REVISION
4	REVISION
5	REVISION



west elevation

1/4" = 1'-0"



east elevation

1/4" = 1'-0"

exterior elevation general notes

1. SLOPE GRADE A MINIMUM OF 5% AWAY FROM THE HOUSE FOR A MINIMUM DISTANCE OF 10'-0"
2. MAINTAIN MIN. 8" CLEARANCE BETWEEN FINAL GRADE AND EXPOSED WOOD
3. EXTERIOR SIDING INDICATED ON DRAWINGS SHALL BE INSTALLED OVER BUILDING WRAP, RESULTING IN A WATER-RESISTIVE EXTERIOR WALL SYSTEM COMPLIANT WITH IRC SECTION 703.2.
4. WHERE DIFFERENTIAL BETWEEN PORCH/PATIO AND SURROUNDING GRADE IS GREATER THAN 18" GUARDRAIL SHALL BE PROVIDED. THE GUARDRAIL SHALL BE 42" TALL AND SHALL BE CONSTRUCTED SUCH THAT A 4" SPHERE CANNOT PASS THROUGH IT.
5. REFER TO SHEET A601 FOR EXTERIOR LIGHTING. ALL EXTERIOR LIGHTING SHALL HAVE A CONCEALED LIGHT SOURCE.
6. ALL EXTERIOR METAL SHALL BE CORROSION RESISTANT.
7. ALL EXTERIOR MECHANICAL AND PLUMBING VENT LOCATIONS SHALL BE APPROVED WITH ARCHITECT, PRIOR TO INSTALLATION. ALL PIPING SHALL PAINTED TO MATCH SURROUNDING CONTEXT.

exterior material legend building 2

MATERIAL TYPE

A. LAP SIDING
B. EIFS
C. ASPHALT SHINGLES
D. METAL TRIM
E. BRICK

MATERIAL FINISH

1. PAINT, COLOR 1, TBD
2. EIFS FINISH COAT - 3, COLOR TBD
3. PER MANUFACTURER, TBD
4. PAINT, ACCENT COLOR 2, TBD
5. PER MANUFACTURER, TBD
6. EIFS FINISH COAT - 2, COLOR TBD
7. EIFS FINISH COAT - 4, COLOR TBD

exterior material legend building 3

MATERIAL TYPE

A. T 1-11
B. EIFS
C. ASPHALT SHINGLES
D. METAL TRIM
E. MANUFACTURED STONE

MATERIAL FINISH

1. PAINT, COLOR 1, TBD
2. EIFS FINISH COAT - 3, COLOR TBD
3. PER MANUFACTURER, TBD
4. PAINT, ACCENT COLOR 2, TBD
5. PER MANUFACTURER, TBD
6. EIFS FINISH COAT - 2, COLOR TBD
7. EIFS FINISH COAT - 4, COLOR TBD

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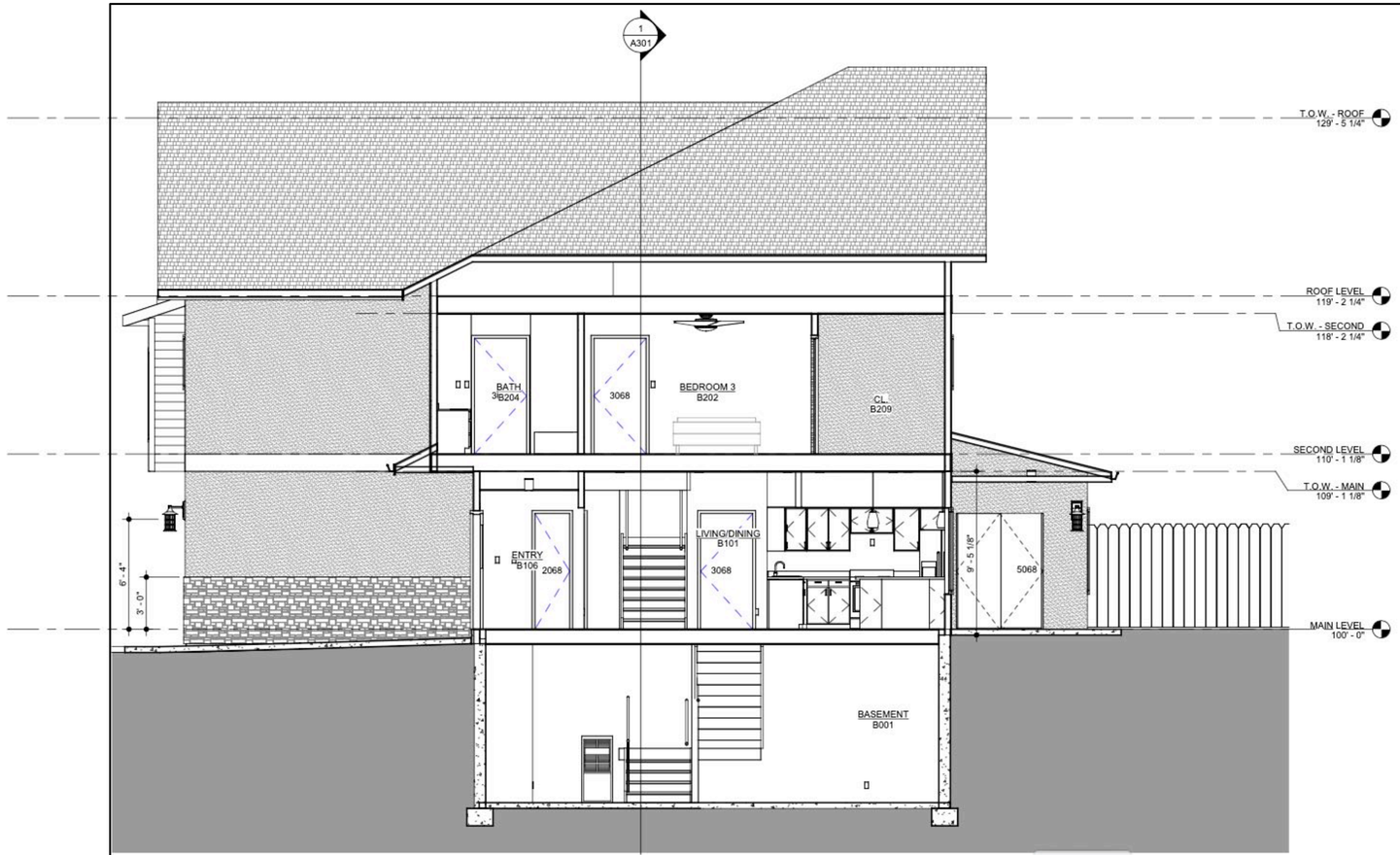
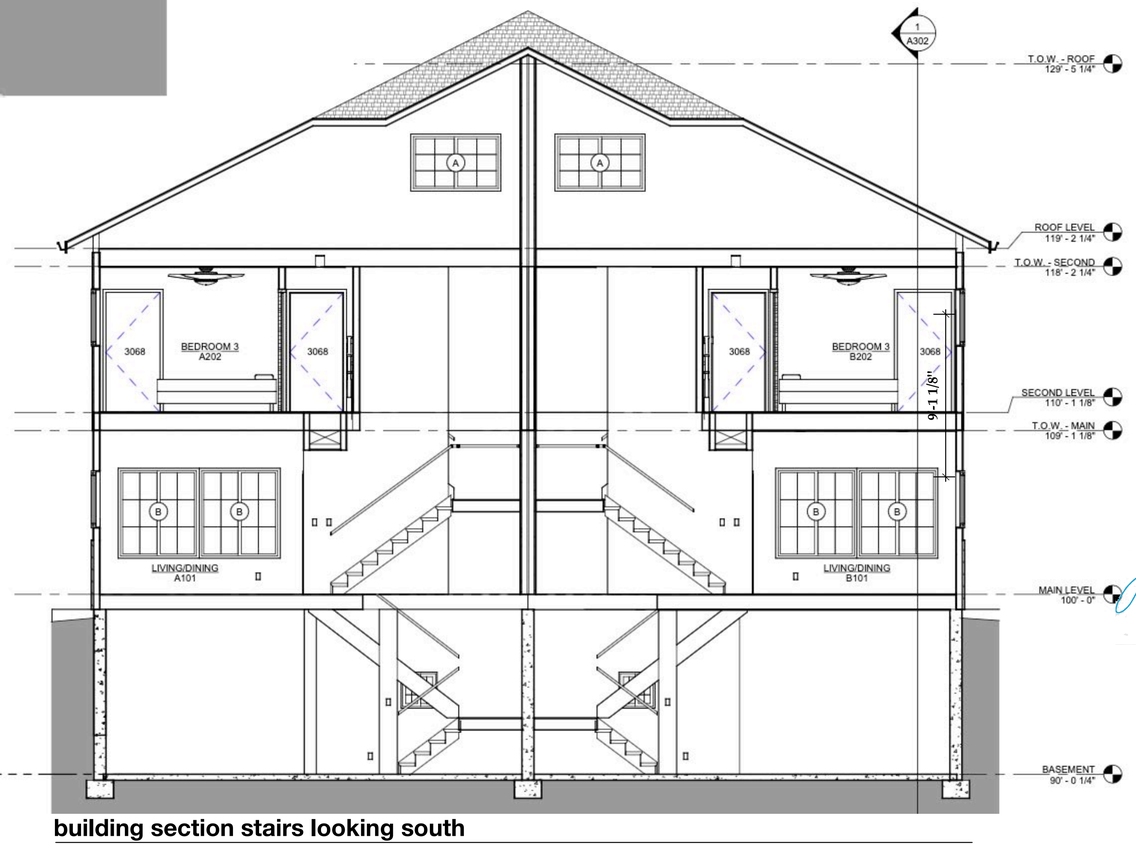
A202

1	Date	APRIL. 26, 2024
2	REVISION	
3	REVISION	
4	REVISION	
5	REVISION	



building section looking north

1/4" = 1'-0"



building section stairs looking south

1/4" = 1'-0"

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A301

1	Date	APRIL. 26, 2024
2	REVISION	
3	REVISION	
4	REVISION	
5	REVISION	

electrical/ceiling keynotes

1. GARAGE OPENER OUTLET IN CEILING
2. SOFFIT FOR HVAC ROUTING. SOFFIT TO BE 2'-0" WIDE AND 7'-0" AFF
3. SOFFIT FOR HVAC ROUTING. SOFFIT TO BE 8'-0" AFF
4. RESTROOM CEILING HEIGHT TO BE 8'-0"
5. PROVIDE 5/8" FIRE GUARD X GYP BD ON ENTIRE CEILING OF GARAGE

electrical/ceiling general notes

1. CARBON MONOXIDE DETECTORS SHALL BE INSTALLED PER R315.
2. SMOKE DETECTORS SHALL BE INSTALLED PER R314.
3. COORDINATE REQUIREMENTS FOR ALL ELECTRICAL FIXTURES WITH SPECIFIC SELECTED FIXTURE REQUIREMENTS PRIOR TO ROUGH-IN.
4. THIS HOUSE SHALL BE PROVIDED WITH A "UFER" GROUND PER IRC SECTION 3608.1

electrical/ceiling legend

CEILING TYPES

- EXTERIOR, PRE-FINISHED ALUMINUM SOFFIT PANELS
- PAINTED GYP. BD. CEILING

LIGHT FIXTURE TYPES

- RECESSED CAN LIGHT- REF. SCHEDULE FOR DETAILS
- OVER-VANITY LIGHT- REF. SCHEDULE FOR DETAILS
- CEILING FAN W/ LIGHT KIT- REF. SCHEDULE FOR DETAILS
- WALL SCONCE- REF. SCHEDULE FOR DETAILS
- LARGE PENDANT LIGHT- REF. SCHEDULE FOR DETAILS
- BATHROOM EXHAUST FAN- SWITCH AS INDICATED AND COORDINATE EXHAUST VENT WITH MECHANICAL CONT'R

SWITCH TYPES

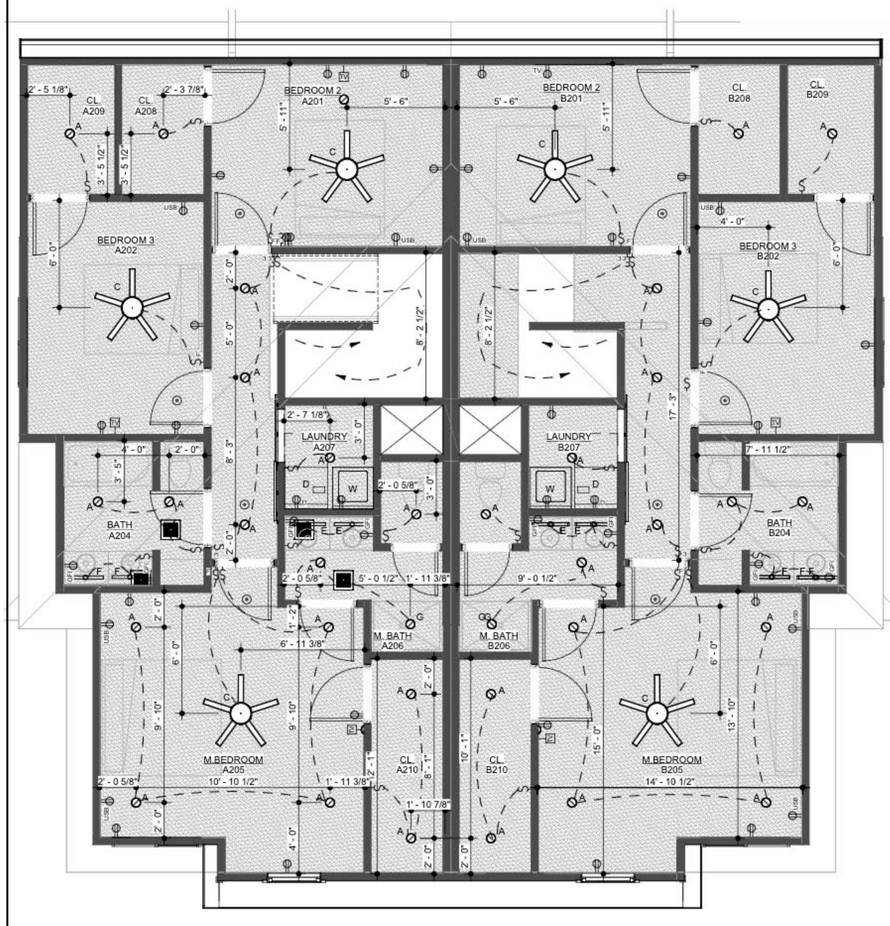
- S_G GARAGE DOOR OPENER SWITCH
- S_F CEILING FAN SWITCH- WIRE FOR INDEPENDENT FAN/SWITCH CONTROLS
- S_D DIMMER SWITCH
- S_3 3-WAY SWITCH
- S_4 4-WAY SWITCH

OUTLET TYPES

- TP TELEPHONE/DATA OUTLET; COORDINATE WITH LOCAL PROVIDER AND OWNER
- TV CABLE-TV OUTLET; COORDINATE EXTERIOR LOCATION WITH LOCAL PROVIDER AND OWNER
- GFI GFCI OUTLET PER CODE
- STANDARD DUPLEX OUTLET
- USB DUPLEX OUTLET W/ USB OUTLETS
- M DUPLEX OUTLET AT MICROHOOD LOCATION OVER RANGE- MOUNT AT 60" A.F.F.
- GD GARBAGE DISPOSAL OUTLET UNDER SINK- WIRE TO SWTICH LOCATION AS INDICATED
- TV TELEVISION OUTLET- UTILIZE RECESSED OUTLET- MOUNT AT 60" A.F.F.
- D 240V 4-SLOT DRYER OUTLET- MOUNT AT 36" A.F.F.

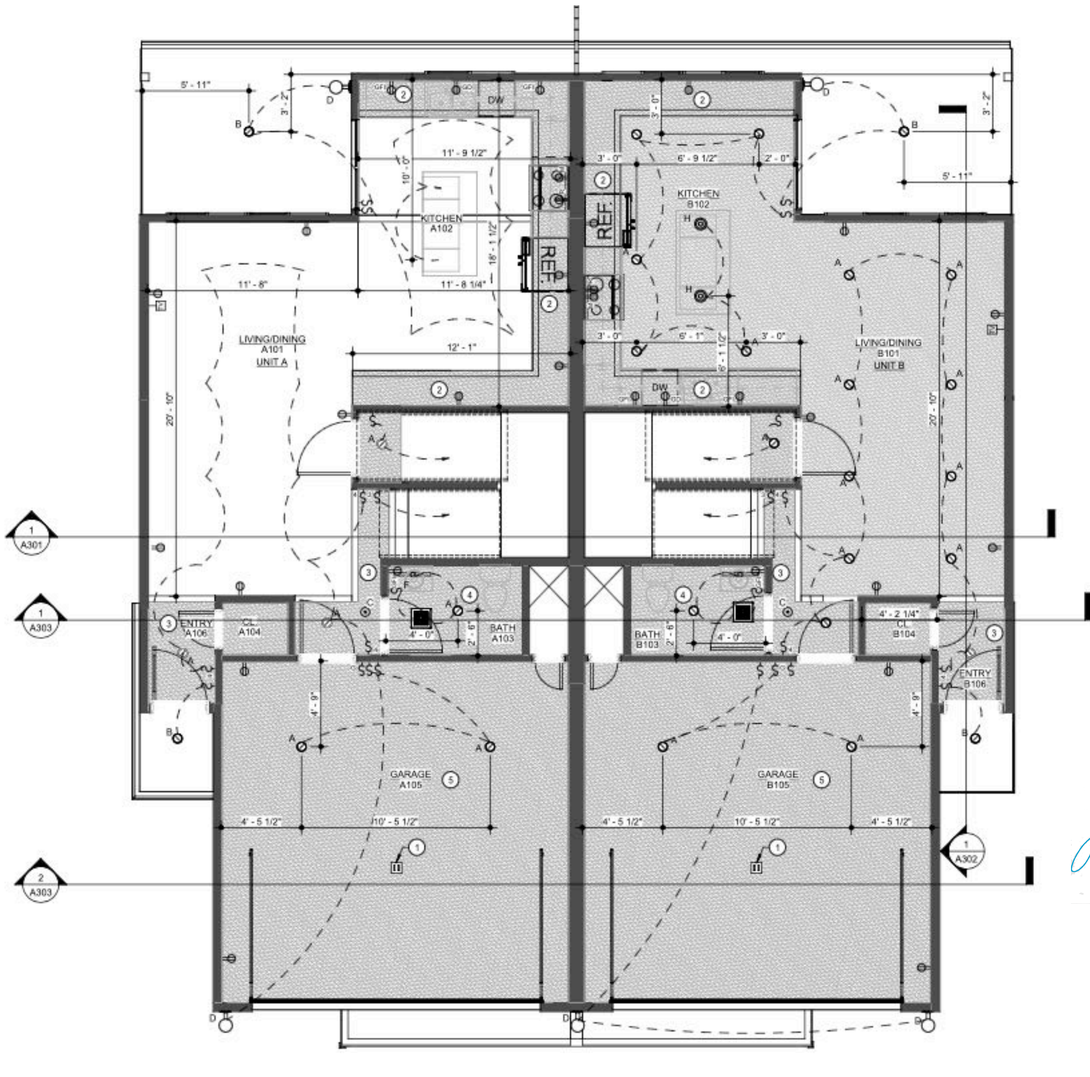
lighting fixture schedule

TYPE MARK	DESCRIPTION	COMMENTS
A	6" LED RECESSED CAN LIGHT	
B	6" LED RECESSED CAN LIGHT FOR EXTERIOR	
C	BEDROOM CEILING FAN W/ LIGHT KIT	
D	EXTERIOR WALL SCONCE	
E	OVER-VANITY FIXTURE- MASTER BATH	
F	OVER-VANITY FIXTURE- HALF BATH	
G	6" LED RECESSED CAN LIGHT FOR WET LOCATION	
H	ISLAND PENDANT	
J	LIGHT SOCKET WITH PULL STRING	
Grand total: 104		



second floor electrical plan

1/4" = 1'-0"



first floor electrical plan

1/4" = 1'-0"

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E101

1	Date	APRIL. 26, 2024
2	REVISION	
3	REVISION	
4	REVISION	
5	REVISION	

FLOOR JOIST SCHEDULE

MARK	TYPE	SUB-TYPE	SIZE	SPACING	MAX. SPAN
FJ-1	"I" Joist	TJI PRO 130	9 1/2"	12" O.C.	17'
FJ-2	"I" Joist	TJI PRO 130	9 1/2"	16" O.C.	16'
FJ-3	"I" Joist	TJI PRO 130	9 1/2"	19.2" O.C.	15'
FJ-4	"I" Joist	TJI PRO 130	11 7/8	12" O.C.	21'
FJ-5	"I" Joist	TJI PRO 130	11 7/8	16" O.C.	19'
FJ-6	"I" Joist	TJI PRO 130	11 7/8	19.2" O.C.	18'
FJ-7	"I" Joist	TJI PRO 250	11 7/8	12" O.C.	22'
FJ-8	"I" Joist	TJI PRO 250	11 7/8	16" O.C.	20'
FJ-9	"I" Joist	TJI PRO 250	11 7/8	19.2" O.C.	19'
FJ-20	Lumber	Treated‡2 or BTR	2x6	12" O.C.	10'-9"
FJ-21	Lumber	Treated‡2 or BTR	2x6	16" O.C.	9'-9"
FJ-22	Lumber	Treated‡2 or BTR	2x8	12" O.C.	14'-2"
FJ-23	Lumber	Treated‡2 or BTR	2x8	16" O.C.	12'-7"
FJ-24	Lumber	Treated‡2 or BTR	2x10	12" O.C.	17'-9"
FJ-25	Lumber	Treated‡2 or BTR	2x10	16" O.C.	15'-5"
FJ-26	Lumber		2-2x10	19.2" O.C.	
FJ-27	Lumber		2x12		
FJ-28	Lumber		2x12		

Note: "I" Joists Listed Above Are Manufactured By Trus Joist Macmillan And Spans Are Based On L / 480 Live Load Deflection

HEADER SCHEDULE

MARK	SIZE	NO. OF STUDS AT EACH END
Ⓐ	2 - 2x 10's	2
Ⓑ	2 - 2x 10's	2
Ⓒ	2 - 1 3/4" x 7 1/4" L.V.L.'S	2
Ⓓ	2 - 1 3/4" x 9 1/2" L.V.L.'S	3
Ⓔ	2 - 1 3/4" x 11 7/8" L.V.L.'S	3
Ⓕ	2 - 1 3/4" x 14" L.V.L.'S	4
Ⓖ	2 - 1 3/4" x 16" L.V.L.'S	4
Ⓗ	2 - 1 3/4" x 18" L.V.L.'S	4
Ⓙ	3 - 1 3/4" x 9 1/2" L.V.L.'S	4
Ⓚ	3 - 1 3/4" x 11 7/8" L.V.L.'S	4
Ⓛ	3 - 1 3/4" x 14" L.V.L.'S	5
Ⓜ	3 - 1 3/4" x 16" L.V.L.'S	5
Ⓝ	3 - 1 3/4" x 18" L.V.L.'S	5
Ⓟ	1 - 1 3/4" x 9 1/2" L.V.L.'S	2
Ⓠ	1 - 1 3/4" x 11 7/8" L.V.L.'S	2

Note: "U" Indicates Header Is Upset

CEILING JOSTS SCHEDULE

MARK	SIZE	SPACING	MAXIMUM SPAN
CJ-1	2X6	12"	14'-10"
CJ-2	2X6	16"	12'-10"
CJ-3	2X8	12"	18'- 9"
CJ-4	2X8	16"	16'- 3"
CJ-5	2X10	12"	22'- 11"
CJ-6	2X10	16"	19'- 10"

CONCRETE WALL SCHEDULE

MARK	CONCRETE WALL THICKNESS	HEIGHT	REINFORCING VERTICAL	HORIZONTAL
‹A›	8"	4' OR LESS	#4's AT 2' O.C.	2 - #4's
‹B›	8"	4' TO 6'	#4's AT 2' O.C.	3 - #4's
‹C›	8"	4' TO 8'	#4's AT 2' O.C.	4 - #4's
‹D›	8"	8'	#4's AT 2' O.C.	4 - #4's
‹E›	8"	9'	#4's AT 2' O.C.	5 - #4's
‹F›	10"	4'	#4's AT 2' O.C.	2 - #4's
‹G›	10"	8'	#4's AT 2' O.C.	4 - #4's
‹H›	10"	9'	#4's AT 2' O.C.	5 - #4's
‹J›	10"	10'	#4's AT 2' O.C.	6 - #4's

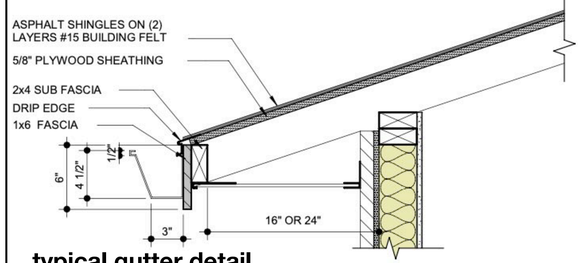
COLUMN SCHEDULE

MARK	COLUMN SIZE	PAD SIZE	REINFORCING	MAX. LOAD
A	3" II Gauge	30"x30"x12"	4 - #4'S Each Way	12K
B	3.5" II Gauge	36"x36"x12"	4 - #4'S Each Way	18K
C	3" Schedule 40	42"x42"x12"	5 - #4'S Each Way	24K
D	3.5" Schedule 40	48"x48"x12"	5 - #4'S Each Way	32K
E	6"x6" C.C.A.	18"ø x3'		
F	8"x8" Cedar	24"ø x3'		

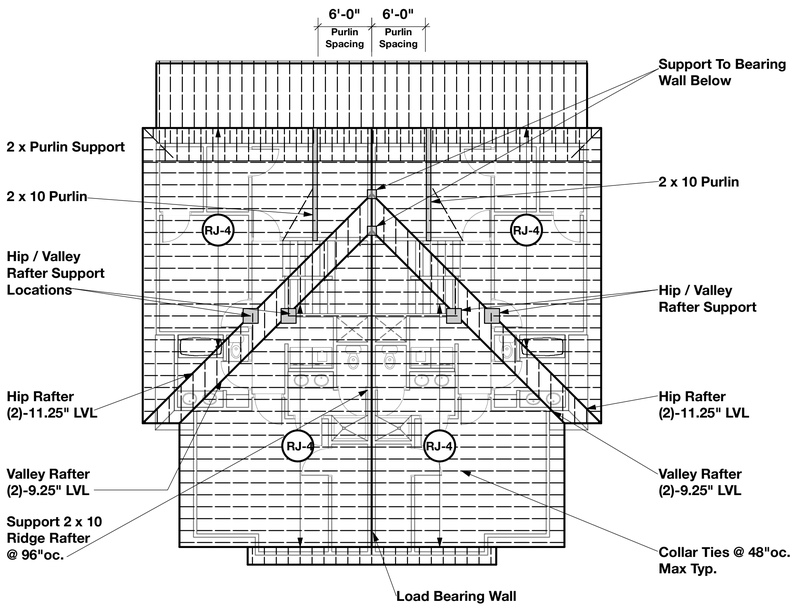
ROOF RAFTER SCHEDULE

MARK	SIZE	SPACING	MAXIMUM SPAN FLAT CEILING	VAULTED CEILING
RJ-1	2 X 6	12"	16'-7"	16'-6"
RJ-2	2 X 6	16"	14'-4"	11'-11"
RJ-3	2 X 6	24"	11'-9"	9'-9"
RJ-4	2 X 8	12"	21'-0"	17'-5"
RJ-5	2 X 8	16"	18'-2"	15'-1"
RJ-6	2 X 8	24"	14'-10"	12'-4"
RJ-7	2 X 10	12"	25'-8"	21'-4"
RJ-8	2 X 10	16"	22'-3"	18'-5"
RJ-9	2 X 10	24"	18'-2"	15'-1"
RJ-10	2 X 12	16"	25'-9"	21'-5"
RJ-11	2 X 12	24"	18'-2"	17'-6"

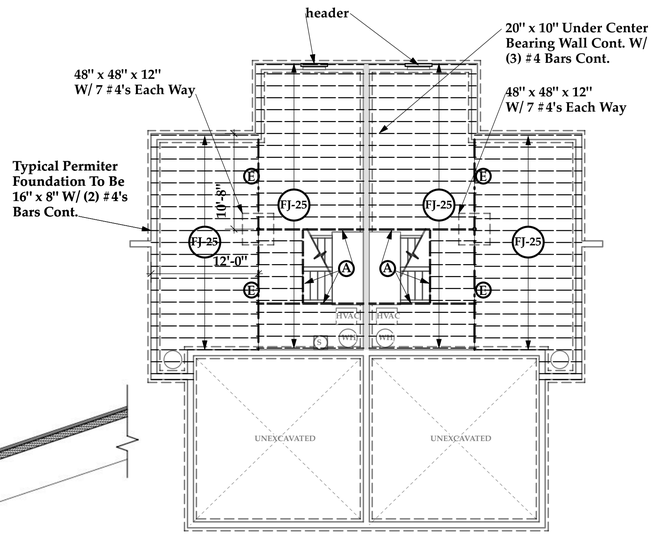
Note:
All Spans Figured Using #2 Douglas Fir And Tables 2308.10.3(1) And 2308.10.3(5) Respectively Of The 2000 IBC, Where Dead Load = 10 PSF



typical gutter detail
1 1/2" = 1'-0"



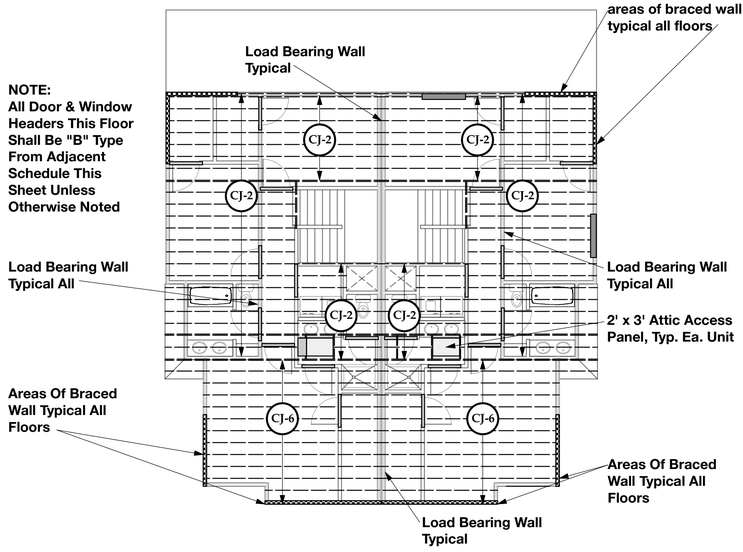
roof and framing plan
1/8" = 1'-0"



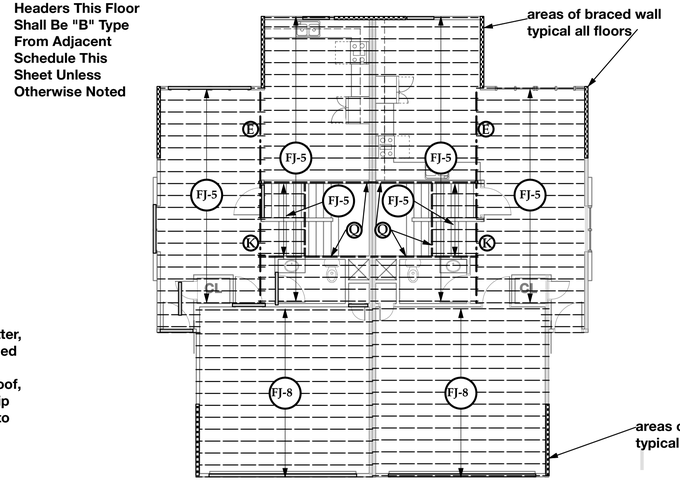
first floor framing plan
1/8" = 1'-0"

NOTE:
all wood shall be douglas fir larch #2 or better, all parallel beams shall be screwed and glued for their entire length,
metal clip angles shall be provided for all roof, rafter and ridge beams, in additon metal clip angles shall be provided for all floor joists to supporting beams and stringers.

LOADS & ROOF DESIGN
Wind Load =115 MPH
Snow Load=20 LBS
Floor Loads
Dead Load = 15 LBS
Live Load = 40 LBS
Soil Bearing Capacity Assumed To Be 2000 PSF
Snow Load Importance Factor Category "1" 1.0
Snow Exposure Factor Terrain "B" 1.0
Thermal Factor 1.0
Wind Importance Factor Exposure "B"
Seismic Use Importance Category "1" 1.0



second floor ceiling framing plan
1/8" = 1'-0"



second floor framing plan
1/8" = 1'-0"

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REGISTERED STATE OF MISSOURI ALBERT P. HERMANS NUMBER E-23306 PROFESSIONAL ENGINEER

S-1

1	Date	APRIL. 26, 2024
2	REVISION	
3	REVISION	
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GENERAL NOTES

GOVERNING BUILDING CODE: 2018 INTERNATIONAL RESIDENTIAL CODE (IRC) AND ITS APPROPRIATE SUPPLEMENTS

DESIGN LOADS:

ROOF DEAD LOAD:	10 psf
ROOF LIVE LOAD:	20 psf
FLOOR DEAD LOAD:	10 psf
FLOOR LIVE LOAD:	
BEDROOMS:	30 psf
ALL OTHER LIVING AREAS:	40 psf
WIND LOADS:	Vasd=90 MPH, EXPOSURE B
SEISMIC LOADS:	SITE CLASS "B"
ASSUMED ALLOWABLE SOIL BEARING PRESSURE:	1500 PSF

GENERAL:

1. FURNISH ALL LABOR, MATERIAL AND EQUIPMENT NECESSARY TO COMPLETE THE WORK SHOWN OR INFERRED BY THESE DRAWINGS.
2. THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING ALL DIMENSIONS AND ELEVATIONS SHOWN ON THE PLANS AND FOR COORDINATING ALL DIMENSIONS AND ELEVATIONS SHOWN WITH THE EXISTING CONDITIONS. IF ERRORS OR DISCREPANCIES IN THE DIMENSIONS OCCUR, IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO BRING ALL DISCREPANCIES TO THE ATTENTION OF THE ENGINEER BEFORE PROCEEDING WITH THE WORK.
3. THE CONTRACTOR SHALL PROVIDE ALL TEMPORARY BRACING AND SHORING AS REQUIRED DURING CONSTRUCTION TO ENSURE THE SAFETY OF ALL INDIVIDUALS INVOLVED.
4. ALL MECHANICAL, ELECTRICAL, AND PLUMBING ELEMENTS SHALL BE INSTALLED PER THE REQUIREMENTS OF THE GOVERNING BUILDING CODE AND THE LOCAL MUNICIPALITY.
5. NORTON & SCHMIDT CONSULTING ENGINEERS, L.L.C. HAS DESIGNED THE STRUCTURAL FLOOR FRAMING AND WALL BRACING SYSTEM OF THESE PLANS FOR THE CONSTRUCTION OF A RESIDENCE AT THE ADDRESS REFERENCED IN THE PLANS. NORTON & SCHMIDT CONSULTING ENGINEERS, L.L.C. WILL NOT TAKE RESPONSIBILITY FOR ANY RE-USE OF ANY PORTION OF THE DESIGN, PLANS OR SPECIFICATIONS AT ANY OTHER PROPERTY OR ADDRESS WITHOUT OUR PRIOR WRITTEN CONSENT.

BUILDER'S PLANS:

THE TERM "BUILDER'S PLANS" REFERS TO A CERTAIN LEVEL OF DEVELOPMENT OF THE DRAWINGS. AS THE NAME IMPLIES, THESE PLANS REQUIRE THAT THE CONTRACTOR POSSESSES COMPETENCE IN RESIDENTIAL CONSTRUCTION AND A THOROUGH UNDERSTANDING OF THE INTERNATIONAL RESIDENTIAL CODE (IRC). THE CONTRACTOR WARRANTS TO NORTON & SCHMIDT CONSULTING ENGINEERS, L.L.C., THAT HE POSSESSES THE PARTICULAR COMPETENCE AND SKILL IN CONSTRUCTION NECESSARY TO BUILD THIS PROJECT WITHOUT FULL ENGINEERING AND DESIGN SERVICES, AND FOR THAT REASON THE CONTRACTOR OR HOME OWNER HAS RESTRICTED THE SCOPE OF PROFESSIONAL SERVICES. THE CONSTRUCTION DOCUMENTS PROVIDED BY THE LIMITED SERVICES SHALL BE TERMED "BUILDER'S PLANS" IN RECOGNITION OF THE CONTRACTOR'S SOPHISTICATION. ALTHOUGH NORTON & SCHMIDT CONSULTING ENGINEERS, L.L.C. AND OUR CONSULTANTS HAVE PERFORMED THEIR SERVICES WITH DUE CARE AND DILIGENCE, WE CANNOT GUARANTEE PERFECTION. ANY AMBIGUITY OR DISCREPANCY DISCOVERED BY THE USE OF THESE PLANS SHALL BE REPORTED IMMEDIATELY TO NORTON & SCHMIDT CONSULTING ENGINEERS, L.L.C. CONSTRUCTION MAY REQUIRE THAT THE CONTRACTOR ADAPT THE "BUILDER'S PLANS" TO THE FIELD CONDITIONS ENCOUNTERED AND MAKE LOGICAL ADJUSTMENTS IN FIT, FORM, DIMENSION AND QUANTITY. CHANGES MADE FROM THE PLANS WITHOUT THE CONSENT OF NORTON & SCHMIDT CONSULTING ENGINEERS, L.L.C. ARE UNAUTHORIZED. IT IS ALSO UNDERSTOOD THAT THE CONTRACTOR WILL BE RESPONSIBLE FOR MEETING ALL APPLICABLE BUILDING CODES INCLUDING BUT NOT LIMITED TO MECHANICAL, ELECTRICAL, AND PLUMBING CODE REQUIREMENTS (WHICH IS EXCLUDED FROM THESE PLANS).

ARCHITECTURAL NOTES:

1. WATER RESISTIVE EXTERIOR WALL COVERING, FREE FROM HOLES AND BREAKS, SHALL BE APPLIED TO STUDS OR SHEATHING OF ALL EXTERIOR WALLS. WRAP SHALL BE INSTALLED PER MANUFACTURER'S RECOMMENDATIONS AND SHALL BE IN COMPLIANCE WITH SECTION R703.2.
2. BUILDING SHALL COMPLY WITH SECTIONS 802.3 AND 802.3.1 OF THE 2012 IRC FOR RAFTER AND CEILING JOIST CONNECTIONS.
3. "UFER" GROUND SHALL BE PROVIDED PER IRC SECTION 3608.1
4. GUTTERS, DOWNSPOUTS, AND SPLASH BLOCKS SHALL BE PROVIDED TO INSURE ALL ROOF DRAINAGE IS DIRECTED 5 FEET MINIMUM FROM HOUSE BEFORE TOUCHING SOIL.

STAIR NOTES:

1. MAXIMUM RISER AT STAIRWAYS IS 7 3/4" AND MINIMUM TREAD IS 10" WITH A MINIMUM 6'-8" HEADROOM, PER 2012 IRC SEC. R311.7.
2. PLACE HANDRAILS ON ALL STAIRS AND/OR LEVELS THAT EXCEED 30" ABOVE THE FLOOR OR GRADE. RAILINGS TO BE MIN. 36" HIGH AND HAVE INTERMEDIATE RAILS THAT DO NOT ALLOW THE PASSAGE OF A 4" DIAMETER SPHERE AND SHALL COMPLY W/ 2012 IRC SEC. R312.
3. ENCLOSE ACCESSIBLE SPACE BENEATH STAIRS SHALL SHALL HAVE WALLS AND THE UNDERSIDE OF THE STAIR AND LANDING PROTECTED WITH 1/2" GYPSUM BOARD ON ENCLOSURE SIDE PER SECTION R302.7.
5. STAIRWAYS CONSISTING OF 3 OR MORE RISERS SHALL HAVE A CONTINUOUS HANDRAIL ON AT LEAST ONE SIDE BETWEEN 34" AND 38" ABOVE THE STAIR NOSINGS.
6. HANDRAILS SHALL HAVE A CIRCULAR CROSS SECTION OF 1 1/4" MINIMUM TO 2" MAXIMUM OR OTHER APPROVED GRASPABLE SHAPER PER SECTION R311.7.8.3.
7. SPIRAL STAIRS SHALL BE CONSTRUCTED PER SECTION R311.7.10.11.

WINDOWS AND SAFETY GLAZING NOTES:

1. GLAZING IN HAZARDOUS LOCATIONS AS IDENTIFIED IN IRC SECTION R308.4 SHALL BE OF APPROVED SAFETY GLAZING MATERIALS: GLASS IN STORM DOORS; INDIVIDUAL FIXED OR OPERABLE PANELS ADJACENT TO A DOOR WHERE THE NEAREST VERTICAL EDGE IS WITHIN A 24" ARCH OF THE DOOR IN A CLOSED POSITION AND WHOSE BOTTOM EDGE IS WITHIN 60" OF THE FLOOR; WALLS ENCLOSING STAIRWAYS AND LANDINGS WHERE THE GLAZING IS WITHIN 60" OF THE TOP OR BOTTOM OF THE STAIR, ENCLOSURES FOR SPAS, TUBS, SHOWERS AND WHIRLPOOLS; GLAZING IN FIXED OR OPERABLE PANELS EXCEEDING 9 SQ. FT. AND WHOSE BOTTOM EDGE IS LESS THAN 18" ABOVE THE FLOOR OR WALKING SURFACE WITHIN 36".
2. ALL WINDOWS SHALL MEET THE FALL PROTECTION REQUIREMENTS OF SECTION R312.2.

EMERGENCY EGRESS NOTES:

1. ALL SLEEPING ROOMS AND BASEMENT SHALL BE PROVIDED WITH PROPER EMERGENCY ESCAPE AND RESCUE OPENINGS PER 2012 IRC SEC R310. PROVIDE (1) WINDOW IN EACH BEDROOM THAT HAS A MINIMUM OPERABLE AREA OF 5.7 SQ. FT. WITH A MINIMUM OPERABLE HEIGHT OF 24" AND WIDTH OF 21".
2. PROVIDE SMOKE ALARMS IN EACH SLEEPING ROOM, OUTSIDE OF EACH SLEEPING AREA IN THE IMMEDIATE VICINITY OF THE BEDROOMS AND ON EACH ADDITIONAL FLOOR, INCLUDING BASEMENTS AND STAIRWAYS. ALARMS SHALL BE INTERCONNECTED IN SUCH A MANNER THAT THE ACTUATION OF ONE ALARM ACTIVATES ALL OTHERS AND BE HARD WIRED WITH A BATTERY BACKUP, PER 2012 IRC SEC. R314 AND NFPA 72.
3. CARBON MONOXIDE DETECTORS SHALL BE PROVIDED PER R315.

CONCRETE & REINFORCING NOTES:

1. CONCRETE STRENGTH SHALL MEET THE FOLLOWING MINIMUM 28 DAY STRENGTH REQUIREMENTS (IRC R402.2):
   - 1.1. 2,500 PSI FOR BASEMENT FLOOR SLABS ON UNDISTURBED GRADE.
   - 1.2. 3,000 PSI FOR FOOTINGS, FOUNDATION WALLS, AND OTHER VERTICAL CONCRETE.
   - 1.3. 3,500 PSI FOR CARPORT AND GARAGE FLOOR SLABS ON UNDISTURBED GRADE.
   - 1.4. 3,500 PSI FOR STRUCTURAL FLOOR SLABS.
2. CONCRETE SHALL BE 6%±1% AIR ENTRAINED FOR GARAGE SLABS AND FOR ALL LOCATIONS (FOOTINGS, WALLS, FLATWORK, ETC.) EXPOSED TO WEATHER.
3. CONCRETE SHALL HAVE A SLUMP OF 4" ± 1". THE SLUMP CAN BE INCREASED THROUGH THE USE OF APPROVED ADDITIVES (NOT WATER).
4. THE REINFORCING STEEL SHALL BE ASTM A615, GRADE 40 MINIMUM UNLESS NOTED OTHERWISE ON THE DRAWINGS. ALL BARS SHALL BE LAPPED A MINIMUM OF 48 BAR DIAMETERS AND/OR CORNER BARS SHALL BE PROVIDED AT ALL FOOTING AND WALL CORNERS, AND FOOTING STEPS.
5. MINIMUM CONCRETE COVER SHALL BE AS FOLLOWS (ACI 318):
   - 5.1. EARTH FORMED - 3"
   - 5.2. EXPOSED TO WEATHER - 1 1/2" FOR #5 BARS & SMALLER
   - 5.3. NOT EXPOSED TO WEATHER - 3/4" FOR SLABS.
6. NO WATER SHALL BE ADDED TO THE CONCRETE MIX AT THE SITE.
7. ADDITION OF CALCIUM CHLORIDE TO CONCRETE IS NOT PERMITTED.
8. NO ALUMINUM SHALL BE EMBEDDED/PLACED IN CONCRETE.
9. CONCRETE PLACED IN COLD WEATHER SHALL SHALL COMPLY WITH ACI 306. CONCRETE PLACED IN HOT WEATHER SHALL COMPLY WITH ACI 305.

STRUCTURAL STEEL:

1. ALL STRUCTURAL STEEL SHALL CONFORM TO THE FOLLOWING:

STRUCTURAL STEEL	ASTM A992, Fy = 50 KSI
MISCELLANEOUS STEEL	ASTM A36
HOLLOW STRUCTURAL STEEL (HSS)	ASTM A500, GRADE B
STEEL PIPE	ASTM A53, GRADE B (SCHED 40 MIN)

2. ALL BEAM CONNECTIONS SHALL BE DESIGNED BY THE STEEL FABRICATOR UNDER THE DIRECTION OF A REGISTERED PROFESSIONAL ENGINEER UNLESS SPECIFIC CONNECTIONS ARE SHOWN ON THE DRAWINGS. CONNECTIONS SHALL BE DESIGNED TO 50% U.D.L. OR THE REACTION PROVIDED ON THE DRAWINGS, WHICH EVER IS GREATER. CONNECTIONS SHALL BE WELDED OR BOLTED PER AISC STEEL CONSTRUCTION MANUAL 13TH EDITION. BOLTS SHALL BE ASTM A325N.
3. ALL COLUMN ANCHOR BOLTS SHALL BE ASTM F1554 GRADE 36.
4. WELDING SHALL CONFORM TO THE LATEST PUBLICATION OF APPLICABLE CODES SET FORTH BY THE AMERICAN WELDING SOCIETY. NO UNAUTHORIZED WELDS WILL BE ACCEPTED.
5. PROVIDE 30# FELT BOND BREAK AROUND ALL STEEL COLUMNS WHERE IN CONTACT WITH SLAB-ON-GRADE.
6. ALL EXTERIOR STEEL EXPOSED TO THE ELEMENTS SHALL BE HOT DIPPED GALVANIZED UNLESS NOTED OTHERWISE.
7. ALL STRUCTURAL STEEL SHALL HAVE ONE COAT OF RUST INHIBITIVE PRIMER CONFORMING TO SPECIFICATIONS. FIELD TOUCHUP ALL UNPAINTED AREAS AND WELD AREAS.

WOOD FRAMING NOTES:

1. ALL STRUCTURAL LUMBER (RAFTERS, CEILING JOISTS, PURLINS AND HEADERS) SHALL BE DOUGLAS FIR LARCH #2 OR BETTER UNLESS OTHERWISE NOTED ON THE DRAWINGS. ALL LOAD BEARING WALL STUDS AND PURLIN STRUTS SHALL BE DOUGLAS FIR STUD GRADE OR BETTER.
2. GLUE LAMINATED MEMBERS MARKED "LVL" (LAMINATED VENEER LUMBER) SHALL HAVE A MINIMUM ALLOWABLE BENDING STRESS (FB) OF 2600 PSI, A MINIMUM ALLOWABLE SHEAR STRESS (FV) OF 285 PSI, AND A MINIMUM MODULUS OF ELASTICITY (E) OF 2,000 KSI. ALL MANUFACTURER'S RECOMMENDATIONS FOR NAILING AND CONNECTIONS SHALL BE FOLLOWED.
3. FLOOR JOISTS: SEE IRC TABLE R502.3.1(1) AND R502.3.1(2) FOR SPAN, SIZE, SPACING, AND GRADE OF FLOOR JOISTS.
4. FLOOR JOISTS BELOW PARTITION WALLS RUNNING PARALLEL TO THE JOIST SPAN SHALL BE DOUBLED. ALL DOUBLED MEMBERS SHALL BE NAILED TOGETHER WITH 16d NAILS 16" ON CENTER IN TWO ROWS STAGGERED OR PER MANUFACTURER SPECS.
5. SOLID BLOCKING BETWEEN FLOOR JOISTS SHALL BE INSTALLED WHERE JOISTS BEAR ON TOP OF BEAMS OR HEADERS AND BELOW POINT LOADS. ALL SOLID BLOCKING AND RIM JOIST MATERIAL SHALL BE THE SAME SIZE AND GRADE AS THE JOISTS.
6. ALL FLOOR AND CEILING JOISTS THAT BUTT INTO THE SIDE OF A HEADER OR STEEL BEAM SHALL BE ANCHORED TO THE HEADER OR STEEL BEAM WITH STANDARD JOIST HANGERS.
7. ALL SUPPORTS FOR WOOD TRUSSES, RAFTERS AND PURLINS, UNLESS SHOWN OTHERWISE ON THE DRAWINGS, SHALL BEAR ON LOAD BEARING WALLS (WALLS LOCATED DIRECTLY ABOVE A BEAM LINE OR CONTINUOUS FOOTING)! ALL CONCENTRATED LOADS SHALL BE CARRIED THROUGH THE FLOOR SYSTEM THICKNESS WITH SOLID BLOCKING OR WITH 2X4 STUB COLUMNS (SQUASH BLOCKS) THAT TRANSFER THE LOAD DOWN TO THE SUPPORT WALL OR BEAM BELOW.
8. ALL NAILING NOT INDICATED ON THE DRAWINGS SHALL CONFORM TO THE NAILING SCHEDULE OF THE GOVERNING BUILDING CODE. SPACING, END DISTANCES AND EDGE DISTANCES OF NAILS AND SPIKES SHALL BE SUCH AS TO AVOID THE UNUSUAL SPLITTING OF THE WOOD.
9. ALL NON-LOADBEARING STUD WALLS IN THE BASEMENT SHALL BE PROVIDED WITH A 1" MINIMUM VERTICAL EXPANSION JOINT TO ALLOW FOR HEAVE IN THE FLOOR SLAB.
   WALLS SHALL NOT BE TIGHT BETWEEN THE SLAB AND THE FRAMING ABOVE!
10. SHEATHING FOR HORIZONTAL DIAPHRAGMS SHALL BE EXTERIOR GRADE, C/D, STRUCTURAL GROUP II OR BETTER. ROOF AND WALL FRAMING SHALL BE OF DOUGLAS FIR-LARCH OR SOUTHERN PINE. PROVIDE SOLID BLOCKING AT ALL PANEL EDGES UNLESS OTHERWISE NOTED. WHERE PANELS ARE APPLIED ON BOTH FACES OF A WALL, PANEL JOINTS SHALL BE OFFSET TO FALL ON DIFFERENT FRAMING MEMBERS.
11. ALL WOOD STRUCTURAL PANELS SHALL BE IDENTIFIED WITH THE APPROPRIATE GRADE TRADEMARK OF THE AMERICAN PLYWOOD ASSOCIATION (APA) AND SHALL MEET THE REQUIREMENTS OF PRODUCT STANDARD PS-1.
12. WOOD STRUCTURAL PANELS SHALL BE SET WITH FACE GRAIN PERPENDICULAR TO SUPPORTING MEMBERS AND STAGGER END JOINTS 4'-0".
13. STANDARD WASHERS SHALL BE USED WITH ALL BOLTS FASTENING WOOD MEMBERS.
14. ALL SAWN LUMBER EXPOSED TO WEATHER OR IN CONTACT WITH CONCRETE OR MASONRY SHALL BE PRESSURE TREATED.
15. ROOF FRAMING - RIDGE BEAMS, VALLEY AND HIP RAFTERS SHALL HAVE A MINIMUM NOMINAL THICKNESS OF 2" AND MINIMUM DEPTH NOT LESS THAN THE END CUT OF THE RAFTERS. HIP AND VALLEY RAFTERS SHALL BE SUPPORTED AT THE RIDGE BY A 2X6 "TEE" BRACE TO A BEARING PARTITION. WHERE ROOF BRACING IS USED TO PERMIT LONGER RAFTERS SPAN, USE 2X6 "TEE" BRACES AT 4'-0" O.C. WITH CONTINUOUS 2X6 PURLIN UNDER THE RAFTERS. BRACE RAFTERS TO BEARING PARTITIONS.
16. PROVIDE CONTINUOUS STRONG BACKS FOR CEILING JOIST SPANS 12'-0" OR GREATER.
17. CEILING JOISTS: SEE IRC TABLE R802.4(2) FOR SPAN, SIZE, SPACING, AND GRADE OF CEILING JOISTS.
18. ROOF RAFTERS: SEE IRC TABLE R802.5.1(1) THRU R802.5.1(9) FOR SPAN, SIZE, SPACING, AND GRADE OF ROOF RAFTERS.
19. BRACE THE COMPRESSION FLANGE OF ALL BEAMS UNLESS NOTED OTHERWISE.
20. ALL BEAMS OR HEADERS THAT BEAR ON WOOD FRAMING SHALL BE SUPPORTED BY ANOTHER BEAM OR HEADER OR A BUILT-UP STUD COLUMN THE FULL WIDTH OF THE BEAM CONTINUOUS TO THE FOUNDATION OR OTHER STRUCTURAL FRAMING MEMBER, U.N.O.
21. ALL LIGHT GAGE METAL FRAMING ACCESSORIES NOTED SHALL BE AS MANUFACTURED BY "SIMPSON STRONG TIE" OR APPROVED EQUAL, ATTACH FRAMING ACCESSORIES TO WOOD FRAMING IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS.
22. PROVIDE HEADERS AS SHOWN ON PLAN, FOR HEADERS NOT MARKED REFERENCE TYPICAL BEARING WALL HEADER SCHEDULE.
23. FLOOR SHEATHING SHALL BE 3/4" TONGUE & GROOVE WOOD STRUCTURAL PANEL. GLUE & NAIL TO FLOOR JOISTS WITH 8d NAILS AT 6" O.C. AT ALL PANEL EDGES AND AT 12" O.C. AT INTERMEDIATE SUPPORTS.
24. ALL EXTERIOR WOOD WALL FRAMING SHALL BE 2x6 DOUG-FIR STUD GRADE AT 16"oc, UNO.
25. ALL INTERIOR BEARING WALL FRAMING SHALL BE 2x4 DOUG-FIR STUD GRADE AT 16"oc, UNO.
26. WOOD TRUSSES AND THEIR CONNECTIONS SHALL BE DESIGNED BY THE TRUSS MANUFACTURER FOR THE LOADS STIPULATED ON THE DRAWINGS. SHOP DRAWINGS AND CALCULATIONS WITH AN ENGINEER'S SEAL FOR THE STATE OF MISSOURI SHALL BE SUBMITTED FOR REVIEW PRIOR TO FABRICATION. CONNECTION PLATES SHALL MEET THE REQUIREMENTS OF THE GOVERNING BUILDING CODE.
27. TEMPORARY STABILITY OF WOOD TRUSSES DURING ERECTION SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR IN CONJUNCTION WITH ALL RECOMMENDATIONS OF THE MANUFACTURER. FOLLOW BCSI GUIDE TO GOOD PRACTICE FOR HANDLING, INSTALLING OF METAL PLATE CONNECTED WOOD TRUSSES.
28. WOOD TRUSSES SHALL NOT BE FIELD CUT.
29. MULTIPLE STUD MEMBERS CALLED OUT FOR SUPPORT OF LVL BEAMS AND HEADERS SHALL BE CARRIED DOWN TO TOP OF FOUNDATIONS OR SUPPORT BEAM(S).

GARAGE:

1. GARAGE FLOORS SHALL SLOPE TOWARDS THE GARAGE DOORWAYS.
2. DOORS BETWEEN THE GARAGE AND THE DWELLING SHALL BE A MINIMUM 1-3/8" SOLID CORE OR HONEY COMBED STEEL DOOR OR A 20 MINUTE FIRE RATED DOOR.
3. THE GARAGE SHALL BE SEPARATED FROM THE DWELLING AND ITS UNFINISHED ATTIC AREAS BY A MINIMUM 1/2" GYPSUM BOARD APPLIED TO THE GARAGE SIDE. WHERE UNFINISHED ATTIC AREAS ARE PROVIDED ABOVE THE GARAGE, THE SUPPORTING COLUMNS AND BEAMS SHALL ALSO BE PROTECTED WITH 1/2"GYPSUM BOARD OR EQUIVALENT. WHERE HABITABLE SPACE OCCURS ABOVE THE GARAGE THE FLOOR/CEILING ASSEMBLY SHALL BE PROTECTED WITH A MINIMUM 5/8" TYPE X GYPSUM BOARD ON THE GARAGE CEILING, SHALL COMPLY WITH 2012 IRC SEC. R309.
4. GARAGE DOOR AND FRAME (H-FRAME) FOR THE ATTACHMENT OF THE TRACK AND COUNTER BALANCE SHALL CONSIST OF THE FOLLOWING: 2X6 VERTICAL JAMBS RUNNING FROM THE FLOOR TO CEILING ATTACHED WITH 1 3/4"x0.12" NAILS @ 7"oc STAGGERED WITH (7) 3 1/4"X0.102" NAILS THRU THE JAMB INTO THE HEADER, MINIMUM 2x8 HEADER FOR ATTACHMENT FOR COUNTER BALANCE SYSTEM.
5. BUILDING SHALL COMPLY WITH THE REQUIREMENTS FOR A SELF CLOSING DOOR BETWEEN RESIDENCE AND GARAGE.
6. GARAGE DOORS SHALL MEET THE REQUIREMENTS OF DASMA 90 MPH.

FOUNDATION NOTES:

1. ALL FOUNDATIONS SHALL BEAR ON NATIVE, UNDISTURBED SOIL CAPABLE OF SUPPORTING 1,500 PSF UNLESS NOTED OTHERWISE, WITHOUT UNDUE SETTLEMENT OR HEAVING. THE CONTRACTOR SHALL RETAIN A QUALIFIED TESTING LAB (APPROVED BY THE OWNER) TO FIELD VERIFY THE ACTUAL SOIL BEARING CAPACITY.
2. ALL EXTERIOR FOOTINGS SHALL BEAR A MIN. OF 36" BELOW FINISHED GRADE.
3. IF THE EXISTING SITE TOPOGRAPHY OR SOIL CONDITIONS VARY FROM THE CONDITIONS SHOWN ON THE DRAWINGS, IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO NOTIFY THE ARCHITECT/ENGINEER SO THAT A DESIGN THAT IS APPROPRIATE FOR THE SITE CAN BE GENERATED.
4. FOOTINGS SHALL BE POURED CONTINUOUS AT FOOTING STEPS (SOLID JUMPS).
5. ANY FILL THAT IS INSTALLED UNDER THE BASEMENT OR GARAGE FLOOR SLABS SHALL BE PROPERLY COMPACTED TO PREVENT SETTLEMENT OF THE FILL MATERIAL. PROPER COMPACTION IS WHERE THE SOIL IS PLACED IN 6" LIFTS AND EACH LIFT IS COMPACTED PRIOR TO INSTALLING MORE SOIL. THIS COMPACTED FILL SHALL THEN BE VERIFIED BY A QUALIFIED GEOTECHNICAL ENGINEER. AT THE CONTRACTOR'S OPTION, A PROPERLY DESIGNED STRUCTURAL SLAB MAY BE INSTALLED OVER ANY FILL THAT HAS NOT BEEN PROPERLY COMPACTED. ALL EXTERIOR SLABS INSTALLED ADJACENT TO THE FOUNDATION SHALL BE DOWELED INTO THE FOUNDATION WITH #4 BARS AT 12" ON CENTER (GRADE 60 STEEL) DRILLED IN 6" MINIMUM AND EPOXIED.
6. CONTROL JOINTS IN THE FLOOR SLABS SHALL BE INSTALLED AS TO MINIMIZE THE AMOUNT OF RANDOM CRACKING (12' INTERVALS MAXIMUM). THESE JOINTS SHALL BE SAWCUT 1-1/4" DEEP WITHIN 8 HOURS OF POURING THE SLAB OR MAY BE TOOLED INTO THE SLAB WHEN POURED. SAWCUTS SHALL BE IN APPROXIMATE SQUARE PATTERN WITH MAXIMUM ASPECT RATIO OF 1-1/2 TO 1.
7. THE BUILDER SHALL BE RESPONSIBLE FOR TAKING THE APPROPRIATE STEPS TO MINIMIZE THE EFFECTS OF EXPANSIVE SOIL ON THE FOUNDATION, SLABS, AND WOOD FRAMED PORTIONS OF THE HOUSE. THIS INCLUDES ISOLATING THE FLOOR SLAB AT ALL COLUMNS, INTERIOR BEARING WALLS, AND AT THE FOUNDATION WALLS WITH TWO LAYERS OF 15# FELT. PARTITION WALLS IN THE BASEMENT SHALL NOT BE CONSTRUCTED TIGHT AGAINST THE FRAMING ABOVE.
8. INSTALL CONTINUOUS DRAIN TILE (4" DIAMETER MINIMUM) AROUND THE PERIMETER OF THE ENTIRE LOWER LEVEL AND COVER THE TILE WITH FILTER FABRIC AND COURSE, CLEAN ROCK. INSTALL VERTICAL DRAINS TO PERIMETER DRAIN TILE AT ALL WINDOW WELLS. THE DRAIN TILE SHALL BE CONNECTED TO A 40 GALLON (MINIMUM) SUMP PIT WITH SUFFICIENT DEPTH FOR PROPER SUMP PUMP OPERATION, OR SHALL BE DRAINED BY GRAVITY TO DAYLIGHT AT LEAST 10' FROM THE FOUNDATION. FOUNDATION DRAINAGE SHALL ALSO BE IN ACCORDANCE WITH 2012 IRC SECTION R-406.1.
9. CONCRETE BASEMENT SLABS SHALL BE A MIN. OF 4" THICK OVER A MIN. OF 4" OF 1/2" TO 3/4" CLEAN, GRADED ROCK, U.N.O. OR IF SITE CONDITIONS REQUIRE OTHERWISE. MIN REINFORCING SHALL BE #4'S AT 24"oc OR EQUIVALENT.
10. PROVIDE A MIN. 6-MIL POLYETHYLENE MOISTURE BARRIER OVER GRAVEL BASE UNDER BASEMENT FLOOR SLABS (NOT REQUIRED FOR GARAGE SLABS) PER SECTION R405.2.2. LAP JOINTS A MIN. OF 6".
11. ALL FOOTING AND SLAB REINFORCEMENT SHALL BE BLOCKED OFF SUBGRADE WITH CHAIRS OR CONCRETE BRICKS.

RESIDENTIAL BASEMENT WALL NOTES:

1. VERTICAL REBAR SPACING FOR CONCRETE FOUNDATION WALLS SHALL BE PER THE TABLE BELOW:

		60 KSI REINFORCING		40 KSI REINFORCING	
WALL THICKNESS		8"	10"	8"	10"
WALL HEIGHT	6' OR LESS	#4 @ 36" O.C.	#4 @ 36" O.C.	#4 @ 36" O.C.	#4 @ 36" O.C.
	7'	#4 @ 32" O.C.	#4 @ 36" O.C.	#4 @ 21" O.C.	#4 @ 36" O.C.
	8'	#4 @ 24" O.C.	#4 @ 36" O.C.	#4 @ 16" O.C.	#4 @ 36" O.C.
	9'	#4 @ 16" O.C.	#4 @ 20" O.C.	#4 @ 12" O.C.	#4 @ 16" O.C.
	10'	#4 @ 12" O.C.	#4 @ 16" O.C.	#4 @ 8" O.C.	#4 @ 12" O.C.

   a. MINIMUM REQUIREMENT FOR VERTICAL REBAR IN PLAIN CONCRETE WALLS IS #4 BARS @ 36" O.C. (ACI 332).
   b. VERTICAL BARS SHALL BE CONTINUED TO WITHIN 4" OF THE TOP OF THE WALL.
   c. REBAR SHALL BE POSITIONED AT THE TENSION FACE OF THE WALL (2" FROM THE INSIDE FACE.
   d. REINFORCEMENT SHALL LAP A MINIMUM OF 24" AT ENDS, SPLICES, AND AROUND CORNERS.
   e. DESIGN BY A PROFESSIONAL ENGINEER IS REQUIRED FOR WALLS OVER 10' IN HEIGHT.
   f. HORIZONTAL REINFORCING SHALL MATCH THE SIZE OF THE VERTICAL REINFORCING. PROVIDE 1 - BAR WITHIN 12" OF THE TOP OF THE WALL WITH ADDITIONAL BARS SPACED AT 24" O.C. MAX.
2. BARS SHALL LAP A MINIMUM OF 48 BAR DIAMETERS AT ENDS, SPLICES AND AROUND CORNERS. UNLESS OTHERWISE NOTED ON THESE DRAWINGS.
3. CONTINUOUS WALL FOOTINGS SHALL BE A MINIMUM OF 16" WIDE AND 8" DEEP WITH (2) #4 BARS CONTINUOUS FOR 8" THICK WALLS, U.N.O. CONTINUOUS WALL FOOTINGS SHALL BE A MINIMUM OF 24" WIDE AND 12" DEEP WITH (2) #4 BARS CONTINUOUS FOR 12" THICK WALLS.
4. INSTALL 1/2"Ø x 1'-2" LONG ANCHOR BOLTS (7" EMBEDMENT) AT 2'-0" O.C. AND WITHIN 12" OF THE END OF EACH SILL MEMBER. MINIMUM SILL PLATE TO BE 2x6 PRESSURE TREATED.
5. THE TOPS OF ALL BASEMENT (LOWER LEVEL) FOUNDATION WALLS SHALL BE CONNECTED TO THE FLOOR JOISTS. NAIL EACH FLOOR JOIST END AND END WALL BLOCKING TO THE WOOD SILL PLATE PER THE IRC NAILING SCHEDULE. WHERE FLOOR JOISTS RUN PARALLEL TO THE FOUNDATION WALLS, PROVIDE BLOCKING IN THE FIRST THREE JOIST SPACES AT 2'-0" O.C. OVER THE ENTIRE LENGTH OF THE FLOOR JOISTS.
6. WALLS SHALL BE FULL HEIGHT FROM FOOTING TO FLOOR FRAMING. NO WOOD FRAMED CRIPPLE WALLS EXCEPT AS SPECIFICALLY NOTED ON THE ARCHITECTURAL AND STRUCTURAL DRAWINGS.
7. FOUNDATION WALLS SHALL BE DESIGNED FOR AN EQUIVALENT FLUID PRESSURE (EFP) 60 PSF.
8. PROVIDE STEEL SHIMS IN BEAM POCKETS TO LEVEL BEAMS. BEAM POCKETS SHALL BE GROUTED SOLID WITH 4,000 PSI NON-SHRINK GROUT AFTER BEAMS ARE LOADED WITH FRAMING MEMBERS.
9. REINFORCE AROUND BEAM POCKETS BY BENDING TOP CONTINUOUS HORIZONTAL BAR BELOW BEAM POCKET OR INSTALL SEPARATE BENT BAR LAPPED AND TIED MINIMUM 24" EACH SIDE.
10. PROVIDE TWO #4 X 4'-0" LONG DIAGONAL BARS AT THE CORNERS OF ALL OPENINGS IN CONCRETE WALLS AND AT FOOTING STEPS. ALSO PROVIDE 2 ADDITIONAL #4 ON ALL SIDES OF WALL OPENINGS. BARS SHALL BE 3'-0" LONGER THAN OPEN VERTICAL OR HORIZONTAL DIMENSION.
11. FOUNDATION WALLS THAT RETAIN EARTH AND ENCLOSE INTERIOR SPACES AND FLOORS BELOW GRADE SHALL BE DAMP PROOFED FROM THE TOP OF THE FOOTING TO THE FINISHED GRADE WITH A BITUMINOUS COATING IN ACCORDANCE WITH SECTION R406.1.
12. INSULATION SHALL BE INSTALLED FOR ALL BASEMENT WALLS AS REQUIRED PER SECTION N1102.1.
13. ALL SITE RETAINING WALLS GREATER THAN 4'-0" IN HEIGHT SHALL REQUIRE A DESIGN BY A PROFESSIONAL ENGINEER.
14. A CONCRETE ENCASED GROUNDING ELECTRODE CONNECTION SHALL BE PROVIDED TO THE ELECTRICAL SERVICE PER SECTION E3608.1.

WOOD DECK FRAMING NOTES:

1. ALL WOOD DECK FRAMING SHALL COMPLY WITH THE LATEST EDITION OF THE "RESIDENTIAL DECKS - PERMIT AND CONSTRUCTION GUIDELINES" AS PUBLISHED BY THE JOHNSON COUNTY CONTRACTOR LICENSING PROGRAM.
2. WOOD FRAMING FOR EXTERIOR DECKS SHALL BE TREATED SOUTHERN PINE #2 OR BETTER.

ENERGY REQUIREMENTS

1. THE BUILDING THERMAL ENVELOPE SHALL BE SEALED WITH AN AIR BARRIER PER 2012 IRC SEC N1102.
2. LIGHTING FIXTURES PENETRATING THE THERMAL ENVELOPE SHALL BE 9C-RATED, LEAKAGE RATED AND SEALED TO THE GYPSUM WALLBOARD AS REQUIRED PER N1102.4.4.
3. PROGRAMMABLE THERMOSTATS SHALL BE INSTALLED AS REQUIRED PER N1103.1.1.
4. AIR HANDLERS SHALL BE RATED FOR MAXIMUM 2% AIR LEAKAGE RATE PER N1103.2.2.1.
5. BUILDING CAVITIES USED AS RETURN AIR PLENUMS SHALL BE SEALED TO PREVENT LEAKAGE ACROSS THE THERMAL ENVELOPE AS REQUIRED PER N1103.2.3.
6. BUILDING CAVITIES IN A THERMAL ENVELOPE WALL SHALL NOT BE USED AS RETURN AIR PLENUMS UNLESS THE REQUIRED INSULATION BARRIER IS MAINTAINED PER M1601.1.1.
7. HOT WATER PIPES SHALL BE INSULATED AS REQUIRED PER N1103.4.
8. ALL EXHAUST FANS SHALL TERMINATE TO THE BUILDING EXTERIOR AS REQUIRED PER M1507.2.
9. MAKEUP AIR SYSTEMS SHALL BE INSTALLED FOR KITCHEN EXHAUST HOODS THAT EXCEED 400 CFM AS REQUIRED PER M1503.4.
10. AN AIR HANDLING SYSTEM SHALL NOT SERVE BOTH THE LIVING SPACE AND THE GARAGE PER M1601.6.
11. MINIMUM MECHANICAL EFFICIENCY RATING FOR AC EQUIPMENT IS 13 SEER AS REQUIRED PER 2012 IRC.
12. MINIMUM MECHANICAL EFFICIENCY RATING FOR FORCED AIR FURNACE IS 78% AS REQUIRED PER 2012 IRC.

ABBREVIATIONS LEGEND

AB	ANCHOR BOLT	MECH	MECHANICAL
ACI	AMERICAN CONCRETE INSTITUTE	MFR	MANUFACTURER
AFF	ABOVE FINISH FLOOR	MIN	MINIMUM
AISC	AMERICAN INSTITUTE OF STEEL CONSTRUCTION	MISC	MISCELLANEOUS
AISI	AMERICAN IRON AND STEEL INSTITUTE	MTL	METAL
ARCH	ARCHITECTURAL	NO	NUMBER
ASTM	AMERICAN SOCIETY FOR TESTING AND MATERIALS	NS	NEAR SIDE
AWS	AMERICAN WELDING SOCIETY	NTS	NOT TO SCALE
BFF	BELOW FINISH FLOOR	OC	ON CENTER
BFS	BOTTOM OF FOOTING STEP	OH	OPPOSITE HAND
BO	BOTTOM OF	PAF	POWDER ACTUATED FASTENERS
BOS	BOTTOM OF STEEL	PCF	POUNDS PER CUBIC FEET
BRG	BEARING	PL	PLATE
BWP	BRACED WALL PANEL	PLF	POUNDS PER LINEAR FOOT
CIP	CAST-IN-PLACE CONCRETE	PSF	POUNDS PER SQUARE FOOT
CJ	CONTROL JOINT (WALL)	PSI	POUNDS PER SQUARE INCH
CL	CENTER LINE	QTY	QUANTITY
CLR	CLEAR	REF	REFERENCE
COL	COLUMN	REINF	REINFORCING
CONC	CONCRETE	REQD	REQUIRED
CONST	CONSTRUCTION	REV	REVERSE
CONT	CONTINUOUS	RO	ROUGH OPENING
DIA	DIAMETER	SIM	SIMILAR
EIFS	EXTERIOR INSULATION AND FINISH SYSTEM	T&B	TOP AND BOTTOM
EL	ELEVATION	TFS	TOP OF FOOTING STEP
ELEC	ELECTRICAL	THK	THICK
EQ	EQUAL	TO	TOP OF
EW	EACH WAY	TOC	TOP OF CONCRETE
FDN	FOUNDATION	TOF	TOP OF FOOTING
FF	FINISH FLOOR	TOP	TOP OF PAVING
FS	FAR SIDE	TOS	TOP OF STEEL
FTG	FOOTING	TRANS	TRANSVERSE
GA	GAGE	TYP	TYPICAL
GC	GENERAL CONTRACTOR	UNO	UNLESS NOTED OTHERWISE
GYP BD	GYPSUM BOARD	VERT	VERTICAL
HORIZ	HORIZONTAL	W	WIDTH
HSA	HEADED STUD ANCHOR	WBM	WALL BRACE METHOD
INFO	INFORMATION	WP	WORK POINT
JST	JOIST	WS	WALL STEP
JT	JOINT	WWF	WELDED WIRE FABRIC
KSI	KIPS PER SQUARE INCH		
LBS	POUNDS		
LONG	LONGITUDINAL		
MAX	MAXIMUM		

SYMBOLS LEGEND

ELEVATION DESCRIPTION	ELEVATION DESIGNATION	1	REVISION DESIGNATION
	CUT SYMBOL	22	PLAN NOTE SYMBOL
TYPE NO/SHEET	SECTION CUT	1	SLAB JOINT DESIGNATION
TYPE NO/SHEET	ELEVATION DETAIL	100'-0"	SPOT ELEVATION
TYPE NO SHEET TYPE	BLOWUP DETAIL		CONCRETE WALL
WSP	WOOD STRUCTURAL PANEL		WOOD NON-LOAD BEARING STUD WALL
ABW	ALTERNATE BRACED WALL PANEL		BRACED WALL PANEL
PFH	PORTAL FRAME WITH HOLD-DOWNS		BRACED WALL LINE
PFG	PORTAL FRAME AT GARAGE		WOOD STUD BEARING WALL

INSULATION AND FENESTRATION REQUIREMENTS - IRC TABLE N1102.1.1

COMPONENT		VALUE	
FENESTRATION		U ≤ 0.35	(b)
SKYLIGHT		U ≤ 0.55	(b)
CEILING - FLAT		R - 49	
CEILING - VAULTED		R - 38	
WOOD FRAME WALL		R - 13	
MASS WALL		R - 8 / R - 13	(i)
FLOOR OVER UNHEATED SPACE		R - 19	
FLOOR OVER OUTSIDE AIR		R - 30	
DUCTS OUTSIDE OF THE CONDITIONED SPACE	SUPPLY AND RETURN	R - 8	
	IN FLOOR & CEILING ASSEMBLY	R - 6	
BASEMENT WALL		R - 10 / R-13	(c)
SLAB (R VALUE/DEPTH)		R - 10 / 2 FT	(d)
CRAWLSPACE WALL W/ FLOOR INSULATION		R - 10 / R - 13	(c)
CRAWLSPACE WALL W/O FLOOR INSULATION		R - 19	

a. R VALUES ARE MINIMUMS. U - FACTORS ARE MAXIMUMS. WHEN INSULATION IS INSTALLED IN A CAVITY WHICH IS LESS THAN THE LABEL OR DESIGN THICKNESS OF THE INSULATION, THE INSTALLED R-VALUE OF THE INSULATION SHALL NOT BE LESS THAN THE R-VALUE SPECIFIED IN THE TABLE.
b. THE FENESTRATION U - FACTOR EXCLUDES SKYLIGHTS.
c. THE FIRST R VALUE APPLIES TO CONTINUOUS INSULATION, THE SECOND TO FRAMING CAVITY INSULATION; EITHER INSULATION MEETS THE REQUIREMENT.
d. R - 5 SHALL BE ADDED TO THE REQUIRED SLAB EDGE R - VALUES FOR HEATED SLABS. INSULATION DEPTH SHALL BE THE DEPTH OF THE FOOTING OR 2 FEET WHICHEVER IS LESS IN ZONES 1 THROUGH 3 FOR HEATED SLABS.
e. THERE ARE NO SHGC REQUIREMENTS IN THE MARINE ZONE.
f. BASEMENT WALL INSULATION IS NOT REQUIRED IN WARM-HUMID LOCATIONS AS DEFINED BY FIGURE N1101.10 AND TABLE 1101.10.
g. OR INSULATION SUFFICIENT TO FILL THE CAVITY, R - 19 MINIMUM.
h. FIRST VALUE IS CAVITY INSULATION, SECOND IS CONTINUOUS INSULATION OR INSULATED SIDING, SO "13+5" MEANS R-13 CAVITY INSULATION PLUS R-5 CONTINUOUS INSULATION OR INSULATED SIDING. IF STRUCTURAL SHEATHING COVERS 40 PERCENT OR LESS OF THE EXTERIOR, CONTINUOUS INSULATION R-VALUE SHALL BE PERMITTED TO BE REDUCED BY NO MORE THAN R-3 IN THE LOCATIONS WHERE STRUCTURAL SHEATHING IS USED - TO MAINTAIN A CONSISTENT TOTAL SHEATHING THICKNESS.
i. THE SECOND R-VALUE APPLIES WHEN MORE THAN HALF OF THE INSULATION IS ON THE INTERIOR OF THE MASS WALL.

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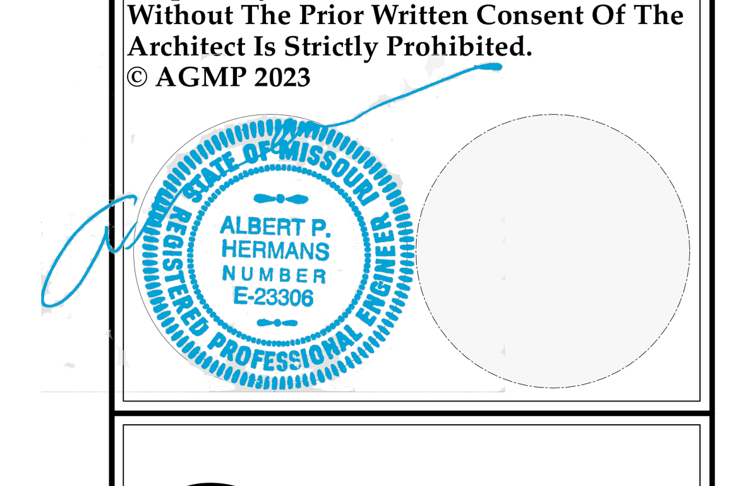

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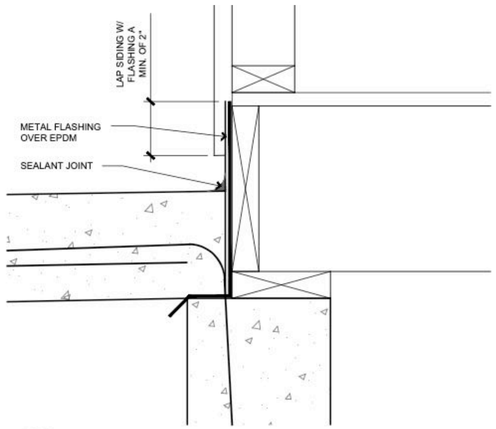
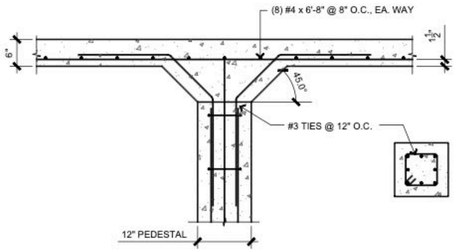
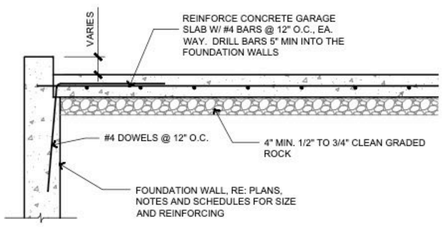


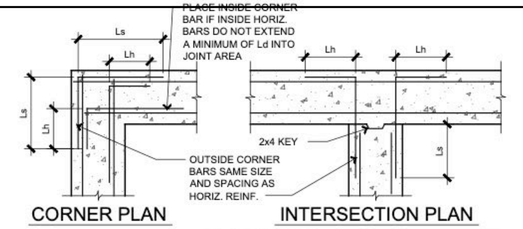
10 STOOP SECTION
SCALE: 3" = 1'-0"



7 GARAGE SLAB AT PEDESTAL
SCALE: 3/4" = 1'-0"

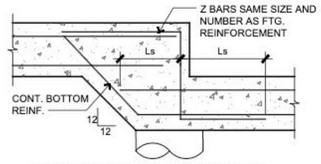


4 GARAGE SLAB/WALL SECTION
SCALE: 3/4" = 1'-0"



CORNER PLAN

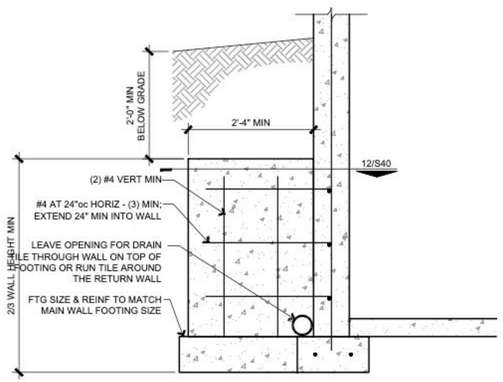
INTERSECTION PLAN



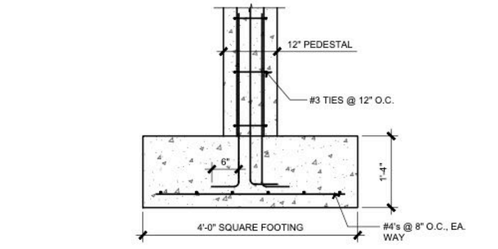
GRADE BEAM STEP ELEV.

BAR SIZE	Lh	Ld	Ls
3	6"	14"	18"
4	8"	19"	25"
5	10"	23"	30"
6	1'-0"	28"	37"
7	1'-2"	42"	54"
8	1'-4"	48"	62"

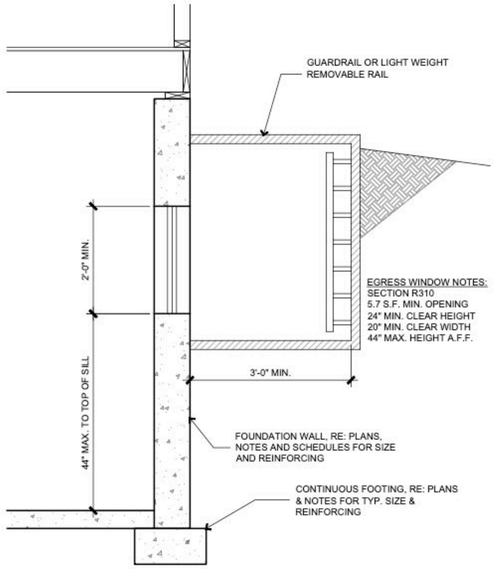
1 TYP WALL AND GRADE BEAM DTL'S
SCALE: 3/4" = 1'-0"



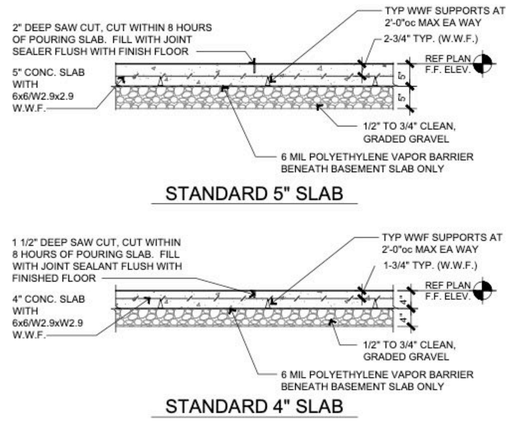
11 TYP RETURN WALL DETAIL
SCALE: 3/4" = 1'-0"



8 PEDESTAL FOOTING
SCALE: 3/4" = 1'-0"



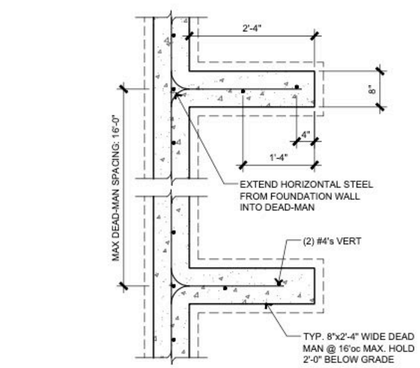
5 TYP EGRESS WINDOW SECTION
SCALE: 3/4" = 1'-0"



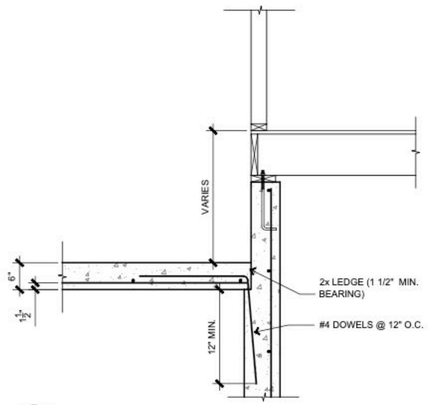
STANDARD 5" SLAB

STANDARD 4" SLAB

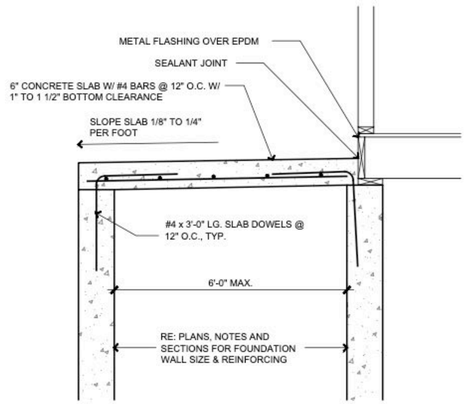
2 STANDARD SLAB DETAILS
SCALE: 3/4" = 1'-0"



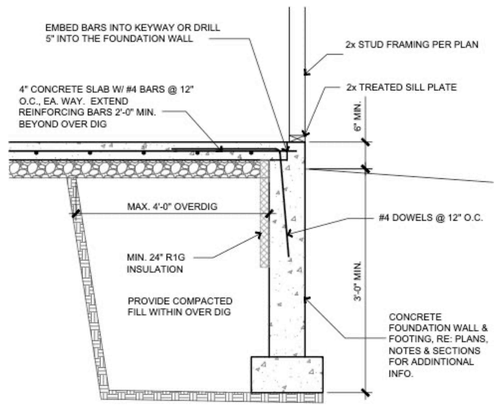
12 TYP DEAD-MAN SECTION
SCALE: 3/4" = 1'-0"



9 GARAGE SLAB ON FILL @ WALL
SCALE: 3/4" = 1'-0"



6 SUSPENDED PORCH STOOP
SCALE: 3/4" = 1'-0"



3 OVERDIG SECTION BSMT SLAB
SCALE: 3/4" = 1'-0"

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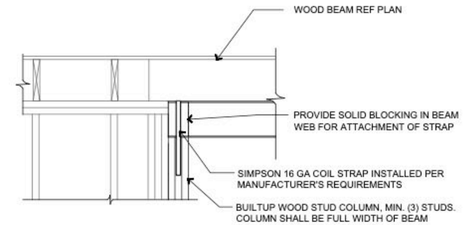
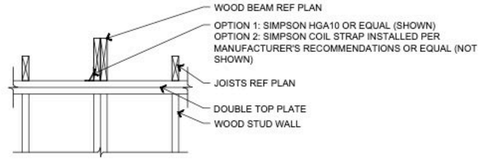


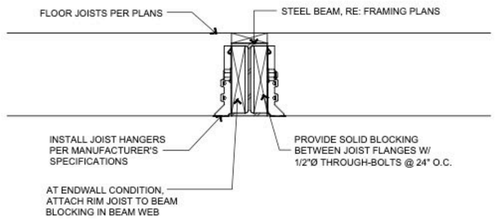
10 BEAM PARALLEL TO WALL

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

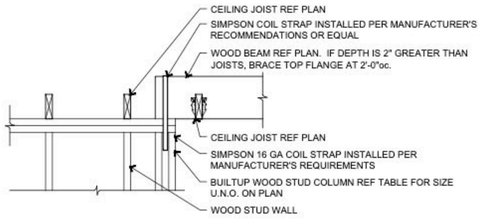


6 TYP WOOD BM PERP TO WALL

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

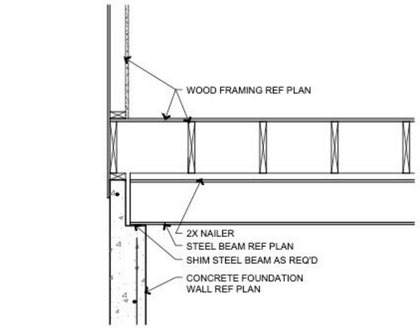


11 UPSET STEEL BEAM



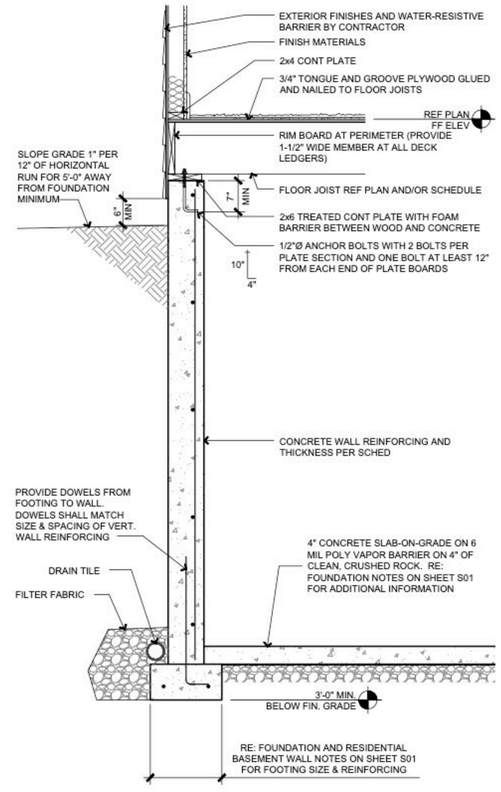
7 TYP WOOD BM II TO WALL

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



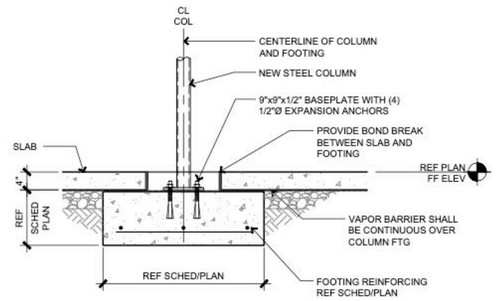
3 STL. BM. ON CONC. FNDN. WALL

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



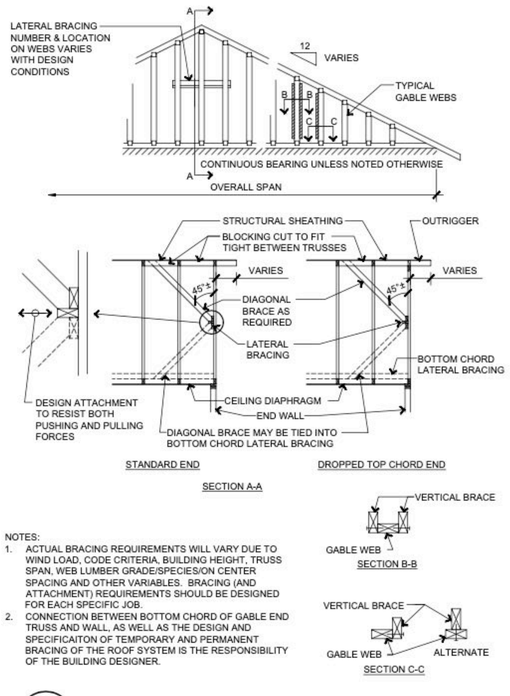
1 FOUNDATION BEARING WALL

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



4 TYP. COLUMN FOOTING

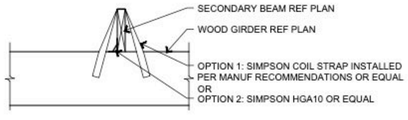
SCALE: 3/4" = 1'-0"



NOTES:
1. ACTUAL BRACING REQUIREMENTS WILL VARY DUE TO WIND LOAD, CODE CRITERIA, BUILDING HEIGHT, TRUSS SPAN, WEB LUMBER GRADE/SPECIES/ON CENTER SPACING AND OTHER VARIABLES. BRACING (AND ATTACHMENT) REQUIREMENTS SHOULD BE DESIGNED FOR EACH SPECIFIC JOB.
2. CONNECTION BETWEEN BOTTOM CHORD OF GABLE END TRUSS AND WALL, AS WELL AS THE DESIGN AND SPECIFICAITON OF TEMPORARY AND PERMANENT BRACING OF THE ROOF SYSTEM IS THE RESPONSIBILITY OF THE BUILDING DESIGNER.

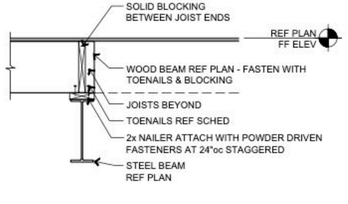
12 GABLE END BRACING

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



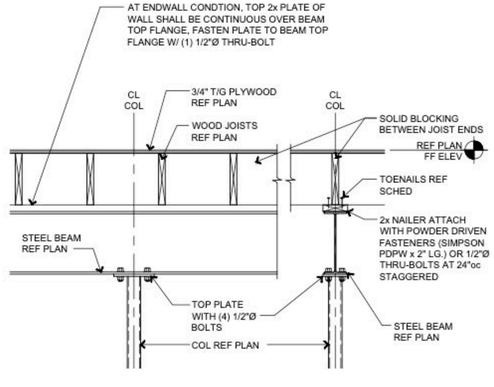
8 WD BM BEARING ON WD BM

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



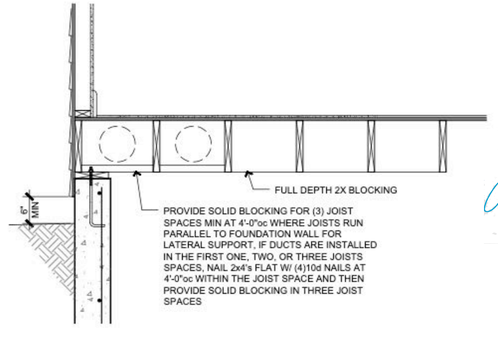
9 WOOD BEAM ON STEEL BEAM

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



5 TYP. BEAM AT COLUMN

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



2 JOISTS PARALLEL TO WALL

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

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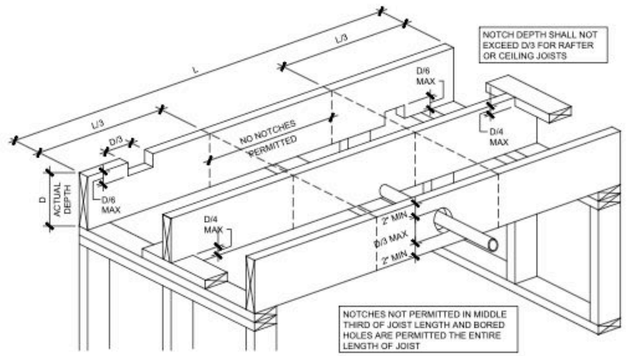
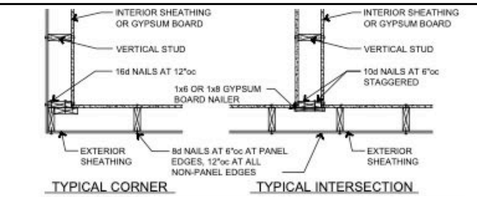
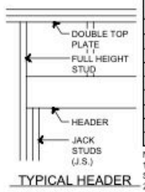


7 NOTCHING AND BORING CEILING OR FLOOR JOISTS

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





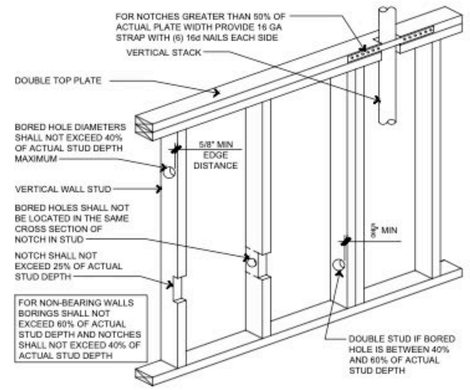
BEARING WALL HEADERS (CENTER BEARING FLOOR)

INTERIOR WALL (1 FLOOR)[3]			EXTERIOR WALL (ROOF ONLY)		
SPAN	SIZE	NO. J.S.	SPAN	SIZE	NO. J.S.
0'-0" - 4'-5"	(2) 2x8	2	0'-0" - 5'-4"	(2) 2x8	2
4'-6" - 5'-5"	(2) 2x10	2	5'-5" - 6'-6"	(2) 2x10	2
5'-6" - 6'-3"	(2) 2x12	2	6'-7" - 7'-6"	(2) 2x12	2
INTERIOR WALL (2 FLOORS)[3]			EXT WALL (ROOF + FLOOR)		
0'-0" - 3'-2"	(2) 2x8	2	0'-0" - 4'-6"	(2) 2x8	2
3'-3" - 3'-10"	(2) 2x10	3	4'-7" - 5'-6"	(2) 2x10	2
3'-11" - 4'-5"	(2) 2x12	3	5'-7" - 6'-5"	(2) 2x12	2
			EXT WALL (ROOF + 2 FLOORS)		
			0'-0" - 3'-9"	(2) 2x8	2
			3'-10" - 4'-7"	(2) 2x10	2
			4'-8" - 5'-3"	(2) 2x12	2

NOTE:
1. NOT FOR OPEN WEB TRUSS SYSTEMS
2. MAXIMUM JOIST SPAN OF 16FT.
3. HEADERS SUPPORT FLOOR LOADS ONLY, NO ROOF LOADS

4 TYP WALL FRAMING DETAILS

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

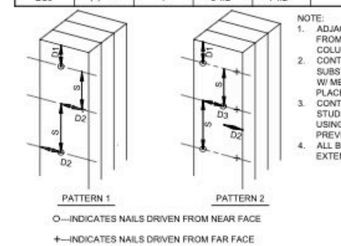


1 NOTCHING AND BORING WALLS

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

BUILT UP COLUMN NAILING SCHEDULE

BUILT UP COLUMN	BUILT UP SECTION	PATTERN	END DISTANCE	EDGE DISTANCE	ROW SPACING	NAIL SPACING	NAIL SIZE
			D1	D2	D3	S	
BC1	(2) 2x6	2	2 1/2"	1 1/2"	2 1/2"	9"	10d
BC2	(3) 2x6	2	3 1/2"	1 1/2"	2 1/2"	9"	30d
BC3	(4) 2x6	2	4"	1 1/2"	2 1/2"	9"	50d
BC4	(2) 2x4	1	2 1/2"	1"	---	6"	10d
BC5	(3) 2x4	1	3 1/2"	1 1/2"	---	8"	30d



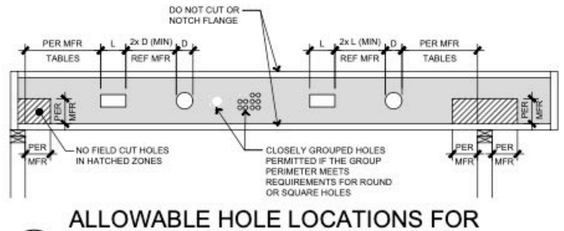
NOTE:
1. ADJACENT NAILS ARE DRIVEN FROM OPPOSITE SIDES OF THE COLUMN.
2. CONTRACTOR MAY SUBSTITUTE 1/2"Ø BOLTS W/ METAL PLATE OR WASHER IN PLACE OF 30d & 50d NAILS.
3. CONTRACTOR SHALL PRE-DRILL STUDS W/ 1/8" DRILL BIT WHEN USING 30d & 50d NAILS TO PREVENT SPLITTING.
4. ALL BUILT UP COLUMNS SHALL EXTEND TO THE ROOF TRUSSES.

O---INDICATES NAILS DRIVEN FROM NEAR FACE

+---INDICATES NAILS DRIVEN FROM FAR FACE

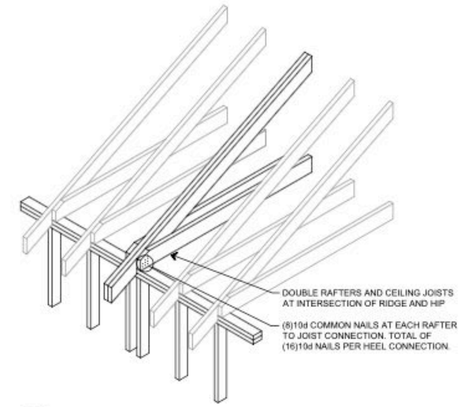
2 BUILT UP COLUMN SCHEDULE

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



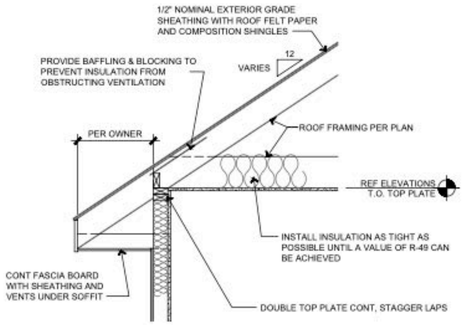
10 ALLOWABLE HOLE LOCATIONS FOR PRE-FABRICATED JOISTS

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



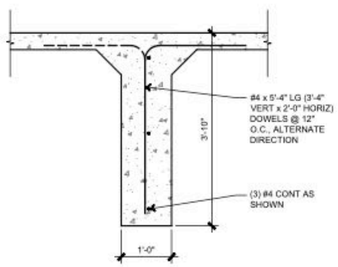
8 JOIST RIDGE SUPPORT

SCALE: NTS



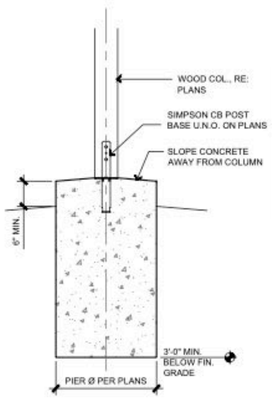
5 ROOF RAFTER BEARING

SCALE: 3/4" = 1'-0" X-WALSEC02



11 SLAB KEY

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

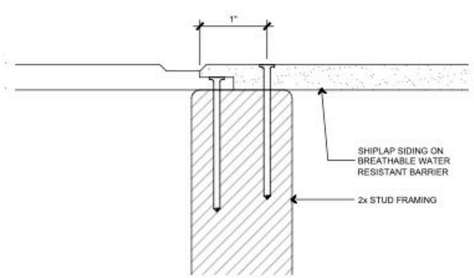


PIER SIZE	AREA S.F.	CAPACITY LBS. ALLOW BRG. 1500 PSF	2000 PSF
12"Ø	0.79	1,177	1,570
14"Ø	1.07	1,602	2,137
16"Ø	1.40	2,094	2,792
18"Ø	1.77	2,650	3,534
20"Ø	2.18	3,272	4,363
22"Ø	2.64	3,959	5,279
24"Ø	3.14	4,712	6,283
26"Ø	3.68	5,530	7,374
28"Ø	4.27	6,414	8,552

9 DECK PIER

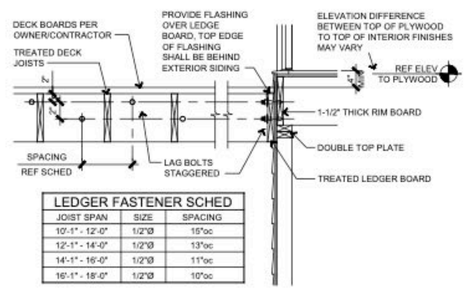
SCALE: 3/4" = 1'-0"

CONTRACTOR: INSTALL SHIPLAP PANELS WITH THE LONG DIRECTION ORIENTED VERTICALLY. SHIPLAP PANEL EDGES MUST BE DOUBLE NAILED, WITH ONE NAIL IN THE UNDERLAP AND ONE IN THE OVERLAP AT THE NAIL SPACING SPECIFIED FOR WOOD STRUCTURAL PANEL SHEATHING INDICATED ON THESE PLANS.



6 VERTICAL SHIPLAP SIDING PANEL JOINT

SCALE: FULL DWGNAME



LEDGER FASTENER SCHED

JOIST SPAN	SIZE	SPACING
10'-1" - 12'-0"	1/2"Ø	15"oc
12'-1" - 14'-0"	1/2"Ø	13"oc
14'-1" - 16'-0"	1/2"Ø	11"oc
16'-1" - 18'-0"	1/2"Ø	10"oc

3 DECK LEDGER ATTACHMENT

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

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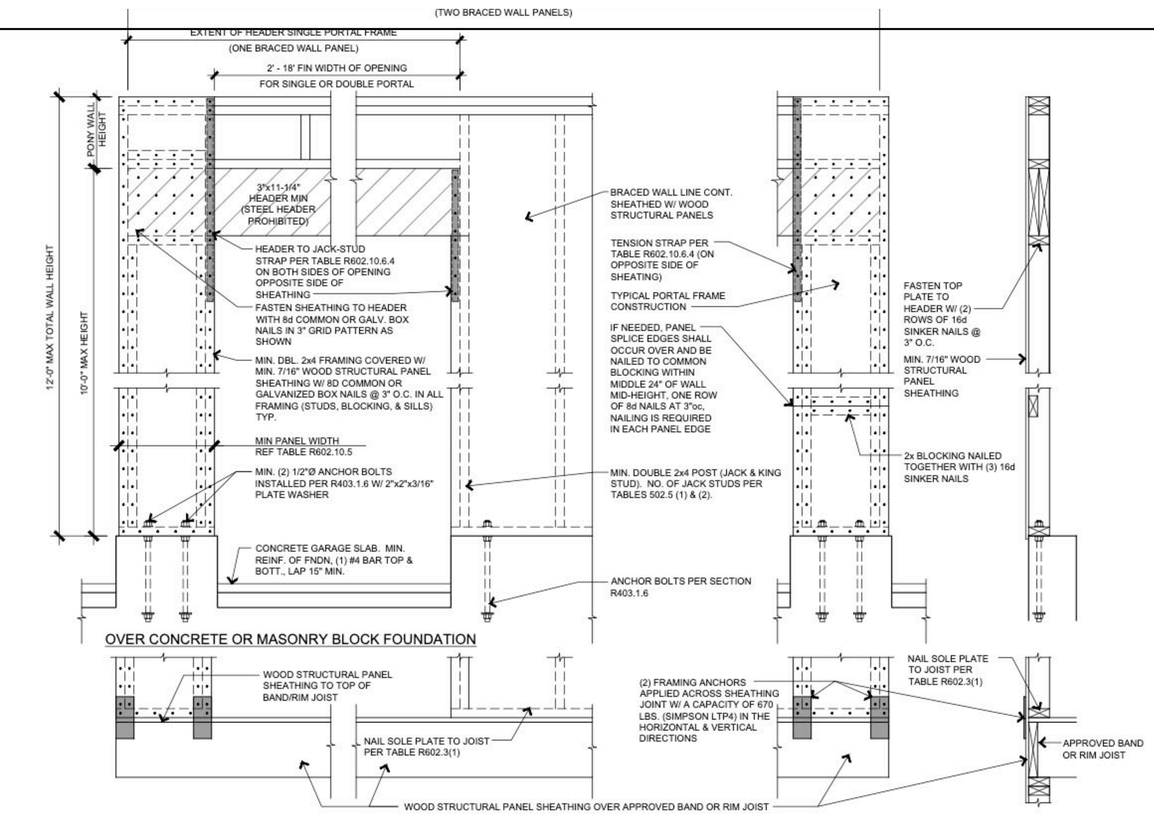
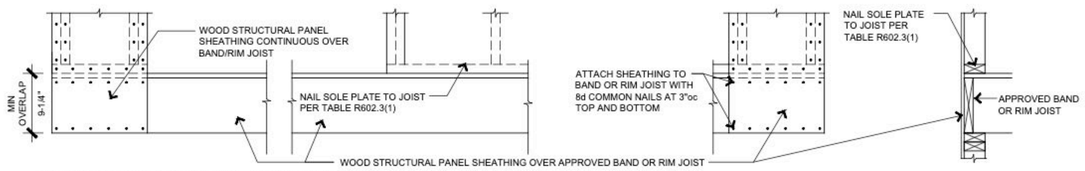
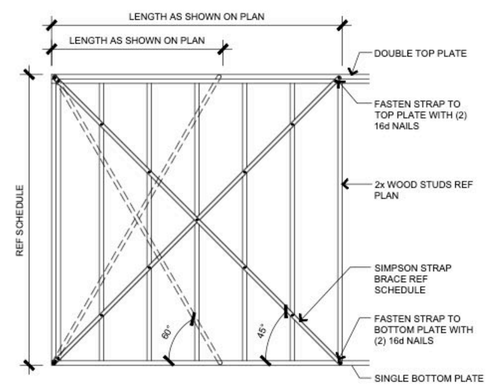
1	Date	APRIL. 26, 2024
2	REVISION	
3	REVISION	
4	REVISION	
5	REVISION	





3 METHOD CS-PF CONT SHEATHED PORTAL FRAME PANEL (R602.10.6.4)

SCALE: 1" = 1'-0"



4 INTERIOR BRACED WALL (LIB)

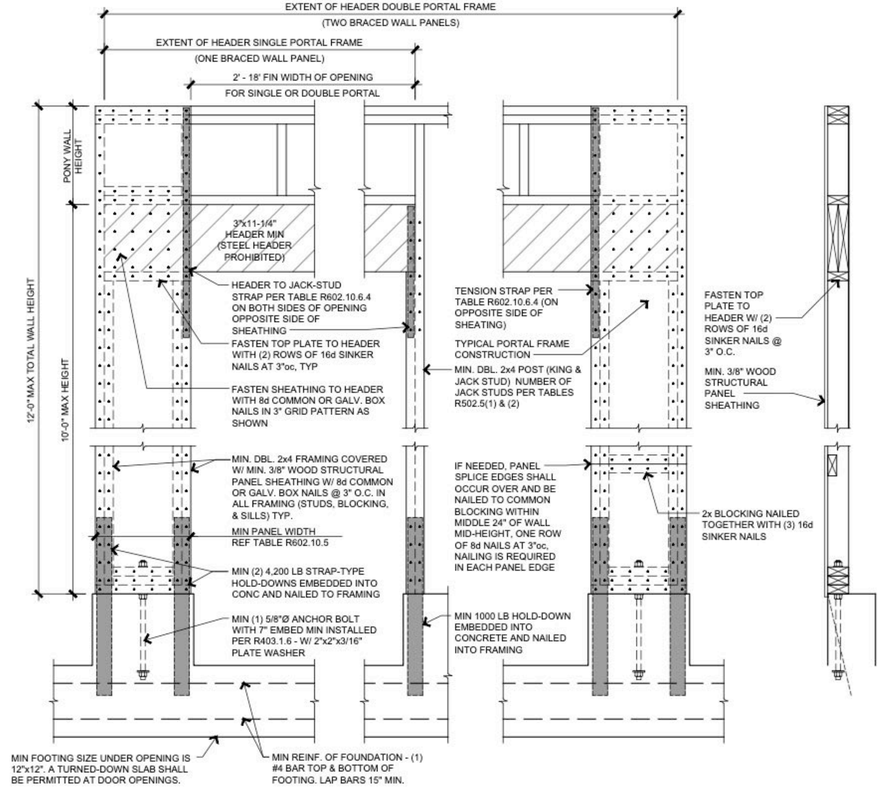
SCALE: N.T.S.

TABLE R602.10.5 - MINIMUM LENGTH OF PORTAL FRAME WITH HOLD-DOWNS BRACED WALL PANELS					
TYPE	WALL HEIGHT				
	8 FEET	9 FEET	10 FEET	11 FEET	12 FEET
SUPPORTING ROOF ONLY	16"	16"	16"	18" (c)	20" (c)
SUPPORTING ONE STORY AND ROOF	24"	24"	24"	27" (c)	29" (c)

(c) MAXIMUM HEADER HEIGHT FOR PFH IS 10 FEET IN ACCORDANCE WITH FIGURE R602.10.6.2, BUT WALL HEIGHT MAY BE INCREASED TO 12 FEET WITH PONY WALL.

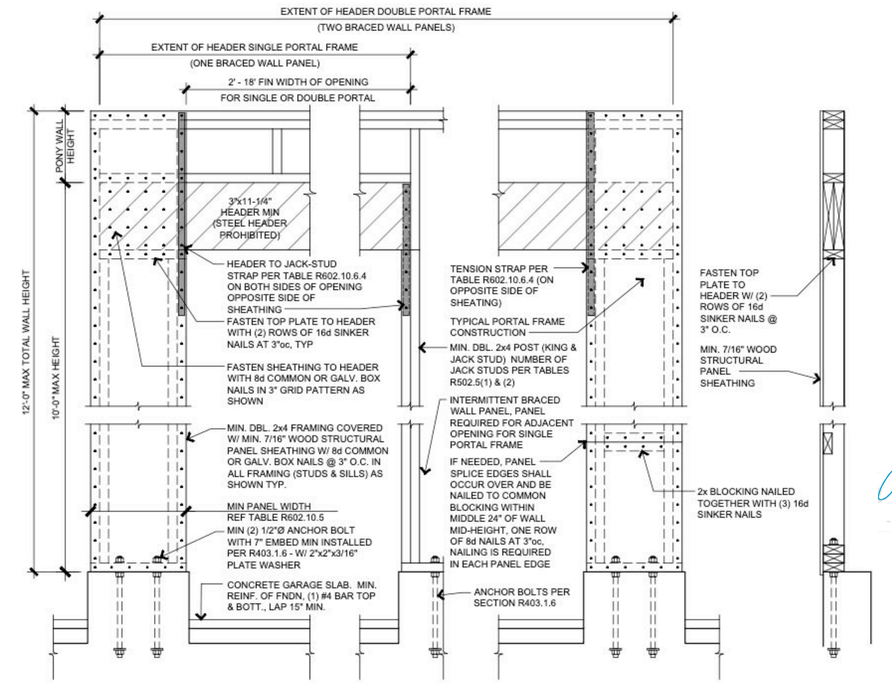
INTERIOR BRACED WALL SCHEDULE

SIMPSON MODEL NO.	STRAP LENGTH	WALL DIM'S HEIGHT x WIDTH	ANGLE FROM HORIZONTAL	FASTENERS PLATES	FASTENERS EA STUD
WB106	9'-5 5/8"	8'-0" x 5'-0"	60°	(2) 16d	(1) 8d
WB126	11'-4 3/8"	8'-0" x 8'-0"	45°	(2) 16d	(1) 8d
WB106C	9'-6"	8'-0" x 5'-0"	60°	(2) 16d	(1) 8d
WB126C	11'-4 13/16"	8'-0" x 8'-0"	45°	(2) 16d	(1) 8d
WB143C	14'-3"	10'-0" x 10'-0"	45°	(2) 16d	(1) 8d



1 PFH-PORTAL FRAME WITH HOLD-DOWNS (R602.10.6.2)

SCALE: 1" = 1'-0"



2 PORTAL FRAME AT GARAGE (PFG - R602.10.6.3)

SCALE: 1" = 1'-0"

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1	Date	APRIL. 26, 2024
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5	REVISION	

TABLE R802.5.1(9) RAFTER/CEILING JOIST HEEL JOINT CONNECTIONS (a,b,c,d,e,f,g)

RAFTER SLOPE	RAFTER SPACING	GROUND SNOW LOAD (PSF) 30 — ROOF SPAN (FEET) 12	20	28	36	GROUND SNOW LOAD (PSF) 50 — ROOF SPAN (FEET) 12	20	28	36	GROUND SNOW LOAD (PSF) 70 — ROOF SPAN (FEET) 12	20	28	36
		REQUIRED NUMBER OF 16d COMMON NAILS(a,b) PER HEEL JOINT SPLICES (c,d,e,f)											
3:12	12	4	6	8	11	5	8	12	15	6	11	15	20
	16	5	8	11	14	6	11	15	20	8	14	20	26
	24	7	11	16	21	9	16	23	30	12	21	30	39
4:12	12	3	5	6	8	4	6	9	11	5	8	12	15
	16	4	6	8	11	5	8	12	15	6	11	15	20
	24	5	9	12	16	7	12	17	22	9	16	23	29
5:12	12	3	4	5	7	3	5	7	9	4	7	9	12
	16	3	5	7	9	4	7	9	12	5	9	12	16
	24	4	7	10	13	6	10	14	18	7	13	18	23
7:12	12	3	3	4	5	3	4	5	7	3	5	7	9
	16	3	4	5	6	3	5	7	9	4	6	9	11
	24	3	5	7	9	4	7	10	13	5	9	13	17
9:12	12	3	3	3	4	3	3	4	5	3	4	5	7
	16	3	3	4	5	3	4	5	7	3	5	7	9
	24	3	4	6	7	3	6	8	10	4	7	10	13
12:12	12	3	3	3	3	3	3	3	4	3	3	4	5
	16	3	3	3	4	3	3	4	5	3	4	5	7
	24	3	3	4	6	3	4	6	8	3	6	8	10

a. 40d BOX NAILS SHALL BE PERMITTED TO BE SUBSTITUTED FOR 16D COMMON NAILS.
b. NAILING REQUIREMENTS SHALL BE PERMITTED TO BE REDUCED 25% IF NAILS ARE CLINCHED.
c. HEEL JOINT CONNECTIONS ARE NOT REQUIRED WHEN THE RIDGE IS SUPPORTED BY A LOAD-BEARING WALL, HEADER, OR RIDGE BEAM.
d. WHEN INTERMEDIATE SUPPORT OF THE RAFTER IS PROVIDED BY VERTICAL STRUTS OR PURLINS TO A LOAD-BEARING WALL, THE TABULATED HEEL JOINT CONNECTION REQUIREMENTS SHALL BE PERMITTED TO BE REDUCED PROPORTIONALLY TO THE REDUCTION IN SPAN.
e. EQUIVALENT NAILING PATTERNS ARE REQUIRED FOR CEILING JOIST TO CEILING JOIST LAP SPLICES.
f. WHEN RAFTER TIES ARE SUBSTITUTED FOR CEILING JOISTS, THE HEEL JOINT CONNECTION REQUIREMENT SHALL BE TAKEN AS THE TABULATED HEEL JOINT CONNECTION REQUIREMENT FOR TWO-THIRDS OF THE ACTUAL RAFTER-SLOPE.
g. TABULATED HEEL JOINT CONNECTION REQUIREMENTS ASSUME THAT CEILING JOISTS OR RAFTER TIES ARE LOCATED AT THE BOTTOM OF THE ATTIC SPACE. WHEN CEILING JOISTS OR RAFTER TIES ARE LOCATED HIGHER IN THE ATTIC, HEEL JOINT CONNECTION REQUIREMENTS SHALL BE INCREASED BY THE FOLLOWING FACTORS:

Hc/Hr	HEEL JOINT CONNECTION ADJUSTMENT FACTOR
1/3	1.5
1/4	1.33
1/5	1.25
1/6	1.2
1/10 OR LESS	1.11

WHERE:

Hc= HEIGHT OF CEILING JOISTS OR RAFTER TIES MEASURED VERTICALLY ABOVE THE TOP OF THE RAFTER SUPPORT WALLS.

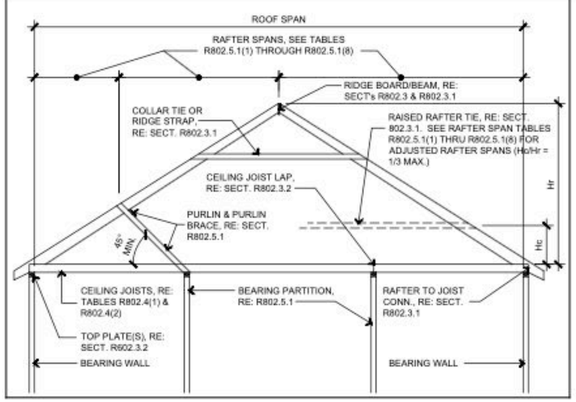
Hr=HEIGHT OF ROOF RIDGE MEASURED VERTICALLY ABOVE THE TOP OF THE RAFTER SUPPORT WALLS.

ROOF RAFTER SCHEDULE

GRADE	MEMBER SIZE / SPACING	MAX SPAN CEILING JSTS AT TOP PLATE	MAX SPAN H_C/H_R=0.16	MAX SPAN H_C/H_R=0.20	MAX SPAN H_C/H_R=0.25	MAX SPAN H_C/H_R=0.33
#2 DF/L	2x6 /24"oc	11'-9"	10'-6"	9'-9"	8'-11"	7'-10"
#2 DF/L	2x6 / 16"oc	14'-1"	12'-8"	11'-8"	10'-8"	9'-5"
#2 DF/L	2x8 / 16"oc	18'-2"	16'-4"	15'-1"	13'-9"	12'-2"
#2 DF/L	2x10 / 16"oc	22'-3"	20'-0"	18'-5"	16'-10"	14'-10"
#2 DF/L	2x12 / 16"oc	25'-9"	23'-2"	21'-4"	19'-7"	17'-3"

SPANS ABOVE ARE FOR ROOF LIVE LOAD OF 20 PSF AND DEAD LOAD OF 10 PSF WITH CEILINGS ATTACHED TO RAFTERS. RE: TABLES R802.5.1(1) THROUGH R802.5.1(8) FOR ADDITIONAL RAFTER SPAN INFORMATION.

THE ROOF FRAMING ON THIS HOME UTILIZES RAFTERS SPACED AT 16" ON CENTER IN EXPOSURE B WITH A ROOF SPAN LESS THAN 42' ON IN 90 MPH WIND ZONE. THEREFORE THE UPLIFT FORCE ON THE RAFTER IS LESS THAN 200 LBS. AND CAN BE CONNECTED PER TO THE WALL FRAMING PER TABLE 602.3(1).



NAILING SCHEDULE IRC 2012 TABLE R602.3(1)

Description of Building Elements	Number & Type of Fastener (a,b,c)	Spacing of Fasteners
Roof		
Blocking between joists or rafters to top plate, toe nail	3 - 8d (2 1/2" x 0.113")	
Ceiling joists to plate, toe nail	3 - 8d (2 1/2" x 0.113")	
Ceiling joist not attached to parallel rafter, laps over partitions, face nail	3 - 10d (3" x 0.128")	
Collar tie to rafter, face nail, or 1 1/4" x 20 gage ridge strap	3 - 10d (3" x 0.128")	
Rafter or roof truss to plate, toe nail	3 - 16d box nails (3 1/2" x 0.135") or 3 - 10d common nails (3" x 0.148")	2 toe nails on one side and 1 toe nail on opposite side of each rafter or truss (j)
Roof rafters to ridge, valley or hip rafters: toe nail face nail	4 - 16d (3 1/2" x 0.135") 3 - 16d (3 1/2" x 0.135")	
Wall		
Built-up studs	10d (3" x 0.128")	24" o.c.
Abutting studs at intersecting wall corners, face nail	16d (3 1/2" x 0.135")	12" o.c.
Built up header, two pieces with 1/2" spacer	16d (3 1/2" x 0.135")	16" o.c. along ea. edge
Continued header, two pieces	16d (3 1/2" x 0.135")	16" o.c. along ea. edge
Continuous header to stud, toe nail	4 - 8d (2 1/2" x 0.113")	
Double studs, face nail	10d (3" x 0.128")	24" o.c.
Double top plates, face nail	10d (3" x 0.128")	24" o.c.
Double top plates, minimum 24" offset of end joints, face nail in lapped area	8 - 16d (3 1/2" x 0.135")	
Sole plate to joist or blocking, face nail	16d (3 1/2" x 0.135")	16" o.c.
Sole plate to joist or blocking at braced wall panels	3 - 16d (3 1/2" x 0.135")	16" o.c.
Stud to sole plate, toe nail	3 - 8d (2 1/2" x 0.113") or 2 - 16d (3 1/2" x 0.135")	
Top or sole plate to stud, end nail	2 - 16d (3 1/2" x 0.135")	
Top plates, laps at corners and intersections, face nail	2 - 10d (3" x 0.128")	
1" brace to each stud and plate, face nail	2 - 8d (2 1/2" x 0.113") 2 staples, 1 3/4"	
1" x 6" sheathing to each bearing, face nail	2 - 8d (2 1/2" x 0.113") 2 staples, 1 3/4"	
1" x 8" sheathing to each bearing, face nail	2 - 8d (2 1/2" x 0.113") 3 staples, 1 3/4"	
Wider than 1" x 8" sheathing to each bearing, face nail	3 - 8d (2 1/2" x 0.113") 4 staples, 1 3/4"	
Floor		
Joist to sill or girder, toe nail	3 - 8d (2 1/2" x 0.113")	
Rim joist to top plate, toe nail (roof applications also)	8d (2 1/2" x 0.113")	6" o.c.
Rim joist or blocking to sill plate, toe nail	8d (2 1/2" x 0.113")	6" o.c.
1" X 6" subfloor or less to each joist, face nail	2 - 8d (2 1/2" x 0.113") 2 staples, 1 3/4"	
2" subfloor to joist or girder, blind & face nail	2 - 16d (3 1/2" x 0.135")	
2" planks (plan & beam - floor & roof)	2 - 16d (3 1/2" x 0.135")	At each bearing

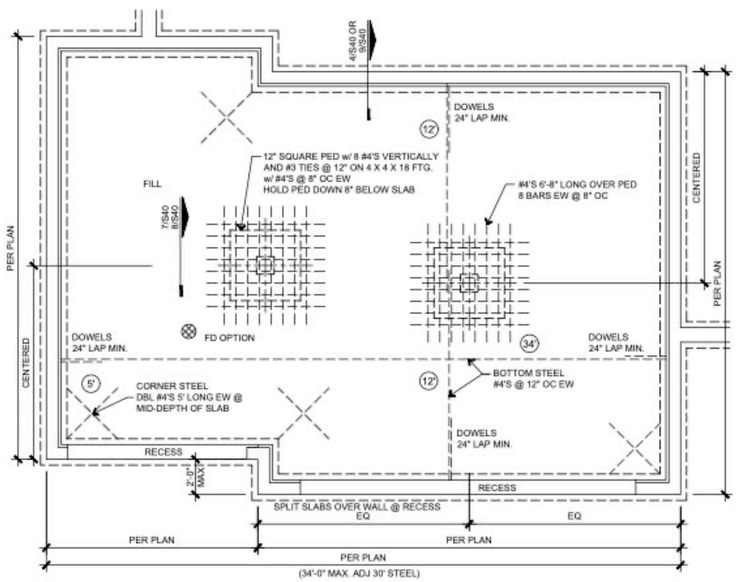
(Continued)

NAILING SCHEDULE IRC 2012 TABLE R602.3(1)

Description of Building Elements	Number & Type of Fastener (a,b,c)	Spacing of Fasteners
Floor (Continued)		
Built-up girders and beams, 2-inch lumber layers	10d (3" x 0.128")	Nail ea. layer as follows: 32" o.c. at top & bott. & staggered. Two nails at ends and at ea. splice
Ledger strip supporting joists or rafters	3 - 16d (3 1/2" x 0.135")	At each joist or rafter

Description of Building Materials	Description of Fastener (b,c,e)	Spacing of Fasteners: Edges (i)	Spacing of Fasteners: Intermediate Supports (c,e)
Wood Structural Panels, subfloor, roof and wall sheathing to framing, and particleboard wall sheathing to framing			
3/8" - 1/2"	6d common (2"x0.113") nail (subfloor, wall)(i)) 8d common (2 1/2" x 0.131") nail (roof)(f)	6"	12" (g)
19/32" - 1"	8d common (2 1/2" x 0.131") nail (f)	6"	12" (g)
1 1/8" - 1 1/4"	10d common (3" x 0..148") nail or 8d (2 1/2" x 0.131") deformed nail	6"	12"
Other wall sheathing (h)			
1/2" structural cellulosic fiberboard sheathing	1 1/2" galvanized roofing nail 8d common (2 1/2" x 0.131") nail; staple 16 ga., 1 1/2" long	3"	6"
25/32" structural cellulosic fiberboard sheathing	1 3/4" galvanized roofing nail 8d common (2 1/2" x 0.131") nail; staple 16 ga., 1 1/2" long	3"	6"
1/2" gypsum sheathing (d)	1 1/2" galvanized roofing nail; staple galvanized, 1 1/2" long; 1 1/4" screws, Type W or S	7"	7"
5/8" gypsum sheathing (d)	1 3/4" galvanized roofing nail; staple galvanized, 1 5/8" long; 1 5/8" screws, Type W or S	7"	7"
Wood structural panels, combination subfloor underlayment to framing			
3/4" or less	6d deformed (2" x 0.120") nail or 8d common (2 1/2" x 0.131") nail	6"	12"
7/8" - 1"	8d common (2 1/2" x 0.131") nail or 8d deformed (2 1/2" x 0.120") nail	6"	12"
1 1/8" - 1 1/4"	10d common (3" x 0.148") nail or 8d deformed (2 1/2" x 0.120") nail	6"	12"

a. All nails are smooth-common, box or deformed shanks except where otherwise stated. Nails used for framing and sheathing connections shall have minimum average bending yield strengths as shown: 80 ksi for shank diameter of 0.192 inch (20d common nail), 90 ksi for shank diameters larger than 0.142 inch but not larger than 0.177 inch, and 100 ksi for shank diameters of 0.142 inch or less.
b. Staples are 16 gage wire and have a minimum 7/16-inch on diameter crown width.
c. Nails shall be spaced at not more than 6" on center at all supports where spans are 48 inches or greater.
d. Four-foot-by-8-foot or 4-foot-by-9-foot panels shall be applied vertically.
e. Spacing of fasteners not included in this table shall be based on Table R602.3(2).
f. For regions having basic wind speed of 110 mph or greater, 8d deformed (2 1/2" x 0.120) nails shall be used for attaching plywood and wood structural panel roof sheathing to framing within minimum 48-inch distance from gable end walls, if mean roof height is more than 25 feet, up to 35 feet maximum.
g. For regions having a basic wind speed of 100 mph or less, nails for attaching wood structural panel roof sheathing to gable end wall framing shall be spaced 6 inches on center. When basic wind speed is greater than 100 mph, nails for attaching panel roof sheathing to intermediate supports shall be spaced 6 inches on center for minimum 48-inch distance from ridges, eaves and gable end walls; and 4 inches on center to gable end wall framing.
h. Gypsum sheathing shall conform to ASTM C 1396 and shall be installed in accordance with GA 253. Fiberboard sheathing shall conform to ASTM C 208.
i. Spacing of fasteners on floor sheathing panel edges applies to panel edges supported by framing members and required blocking and at all floor perimeters only. Spacing of fasteners on roof sheathing panel edges applies to panel edges supported by framing members and required blocking. Blocking of roof or floor sheathing panel edges perpendicular to the framing members need not be provided except as required by other provisions of this code. Floor perimeter shall be supported by framing members or solid blocking.
j. Where a rafter is fastened to an adjacent parallel ceiling joist in accordance with this schedule, provide two toe nails on one side of the rafter and toe nails from the ceiling joist to top plate in accordance with this schedule. The toe nail on the opposite side of the rafter shall not be required.



2 GARAGE SLAB ON FILL

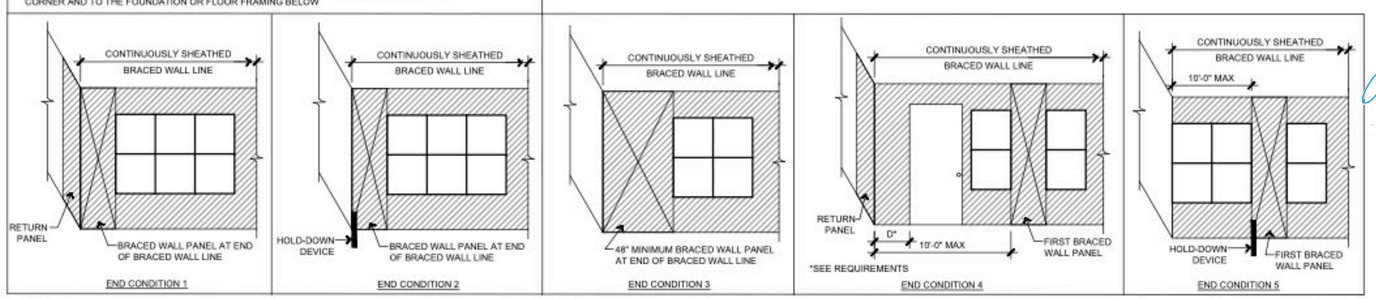
SCALE: NTS

REQUIREMENTS

RETURN PANEL:
24" FOR BRACED WALL LINES SHEATHED WITH WOOD STRUCTURAL PANELS
32" FOR BRACED WALL LINES SHEATHED WITH STRUCTURAL FIBERBOARD

DISTANCE D:
24" FOR BRACED WALL LINES SHEATHED WITH WOOD STRUCTURAL PANELS
32" FOR BRACED WALL LINES SHEATHED WITH STRUCTURAL FIBERBOARD

HOLD-DOWN DEVICE:
800 lbs CAPACITY FASTENED TO THE EDGE OF THE BRACED WALL PANEL CLOSEST TO THE CORNER AND TO THE FOUNDATION OR FLOOR FRAMING BELOW



1 END CONDITIONS FOR BRACED WALL LINES WITH CONTINUOUS SHEATHING R602.10.7

SCALE: NTS

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ALBERT P. HERMANS NUMBER E-23306 REGISTERED PROFESSIONAL ENGINEER STATE OF MISSOURI

S504

1	Date	APRIL. 26, 2024
2	REVISION	
3	REVISION	
4	REVISION	
5	REVISION	