April 23, 2023

Mr. Brandon Kalwel

Planning & Building Inspections Lee's Summit, Missouri

Plan Review Discrepancy Report Reply Letter

Sequoia Orchard Park, Lee's Summit, MO

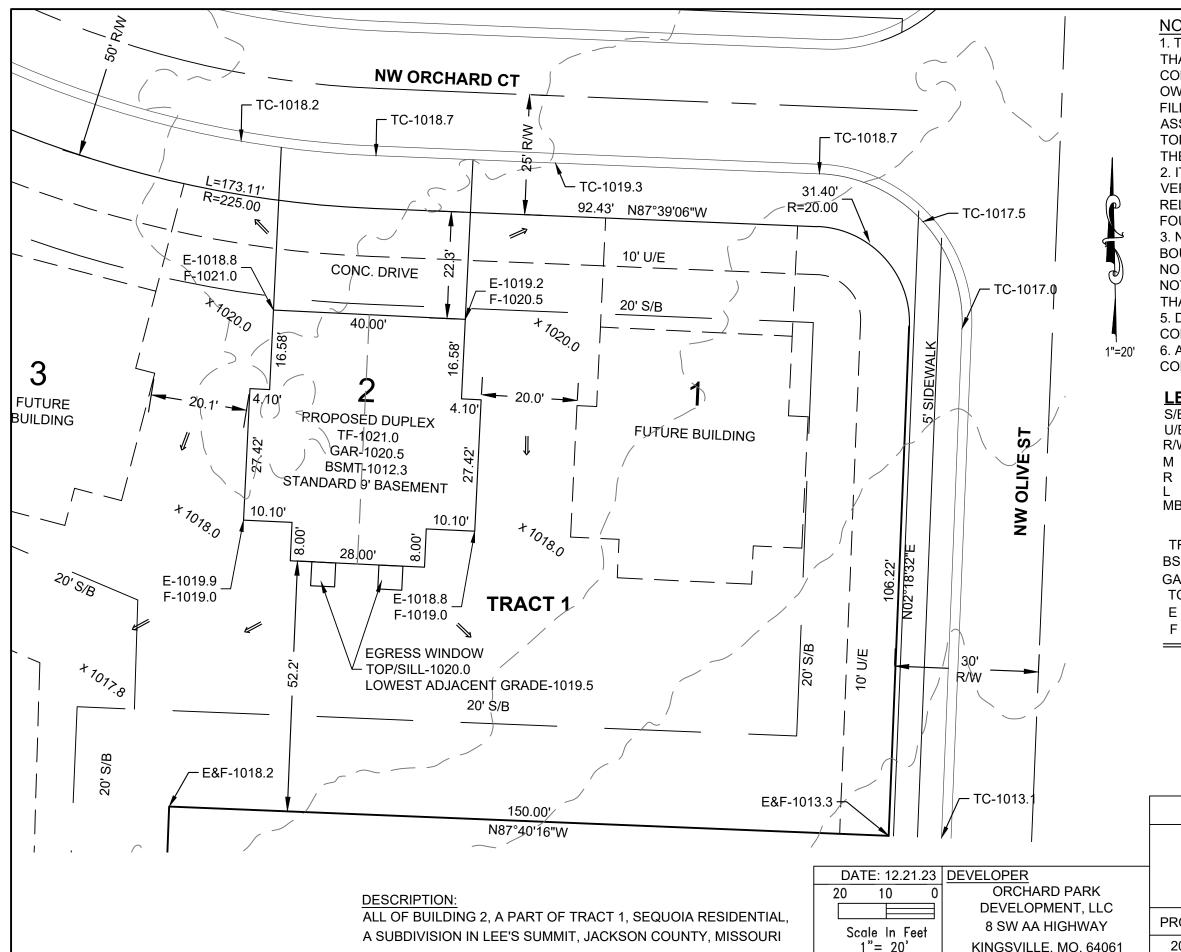
Responses

Note Responses Will Be In Order Of The Comments Provided For In The Report Dated 27-March-2024

Permit Number PRES200240700

- **ITEM #2** Gross square footage areas have been noted on Sheet A102
- **ITEM #3** All egress windows have been noted with the word EGRESS adjacent to each window.
- **ITEM #4** Note combination Co2 and Smoke detectors have been added to each floor with one in each bedroom, hallway, basement, garage and main floor.
- ITEM #5 Note added to First Floor Plan Sheet
- **ITEM #6** This information has been added to roof framing plan sheet S-1.
- **ITEM #7** Roof framing plan and other structural information for framing shall be found on Sheet S-1
- **ITEM #8** This has been added to the S-1 sheet Basement plan.
- **ITEM #9** Shaded bearing walls have been noted on sheet S-1 for all floors.

Contact me directly if any additional information is required.



NOTES:

1. THE CONTRACTOR OR CONTRACTORS SHALL VERIFY THAT THE FOUNDATION DIMENSIONS SHOWN AND THE CONSTRUCTION STAKING ARE IN COMPLIANCE WITH THE OWNERS OR BUILDERS FOUNDATION PLAN. CUTS OR FILLS SHOWN ON CONSTRUCTION STAKING ARE FOR ASSISTANCE IN EXCAVATION ONLY. FINAL BASEMENT OR TOP OF FOUNDATION ELEVATIONS SHALL BE MADE BY THE OWNER OR CONTRACTOR.

2. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY THE DEPTH OF THE SANITARY SEWER IN RELATION TO THE FOUNDATION PRIOR TO POURING THE FOUNDATION.

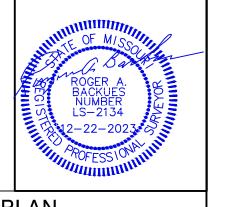
3. NO TITLE REPORT WAS PROVIDED BY THE CLIENT. BOUNDARY & CONSTRUCTION SURVEYING, INC. ASSUMES NO RESPONSIBILITY FOR BOUNDARY OR EASEMENTS NOT SHOWN. THE CLIENT HAS MADE AN AGREEMENT THAT THIS IS NOT A BOUNDARY SURVEY.

5. DECK NOTE: DECK APPROVAL REQUIRED PRIOR TO CONSTRUCTION.

6. AS-GRADED PLOT PLAN NEEDED (PER SECTION 7-160, CODE OF ORDINANCES)

LEGEND

- S/B BUILDING SETBACK LINE U/E - UTILITY EASEMENT R/W - RIGHT-OF-WAY
- M MEASURE
- R RADIUS
- L ARC LENGTH
- MBFE MINIMUM BASEMENT FLOOR ELEVATION
- TF TOP OF FOUNDATION
- **BSMT-BASEMENT**
- GAR GARAGE
- TC TOP OF CURB
- EXISTING ELEVATION
- FINISHED ELEVATION
- → DRAINAGE ARROW



PLOT PLAN BOUNDARY & CONSTRUCTION SURVEYING, INC.

821 NE COLUMBUS STREET SUITE 100, LEE'S SUMMIT, MO. 64063 PH.# 816/554-9798, FAX # 816/554-0337

| ROJECT NO. 23 |
|---------------|
|---------------|

SHEET 1 OF 1

200 NW ORCHARD CT, LEE'S SUMMIT, MISSOURI

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.
- 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.

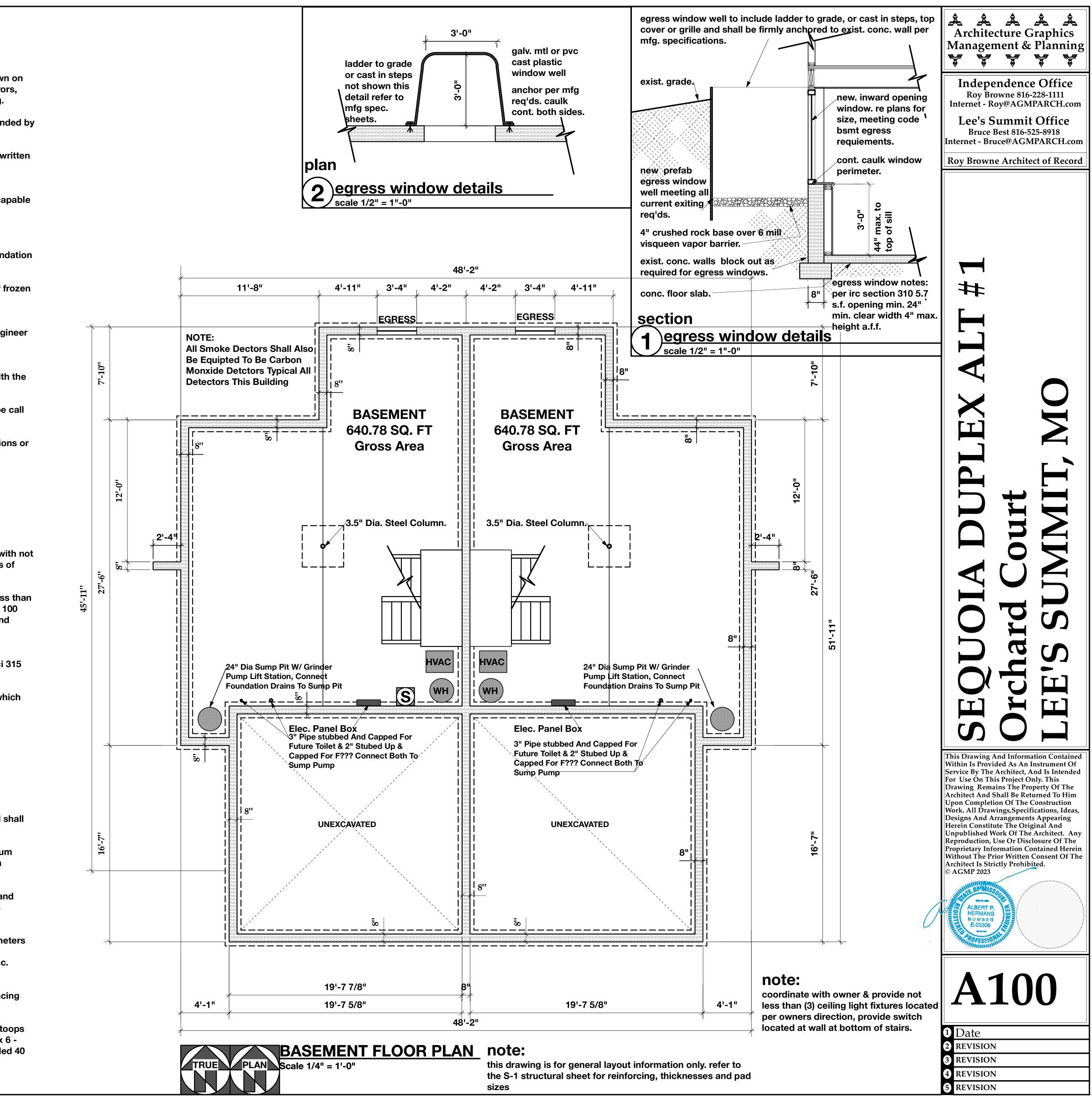
7. at corners of all walls, beams and grade beams supply corner bars extending 40 bar diameters or 24" minimum each direction. in outside face of wall, match size and spacing of horizontal bars, where there are no vertical bar in outside face of wall supply (3)- #4 vertical support bars for corner bars.

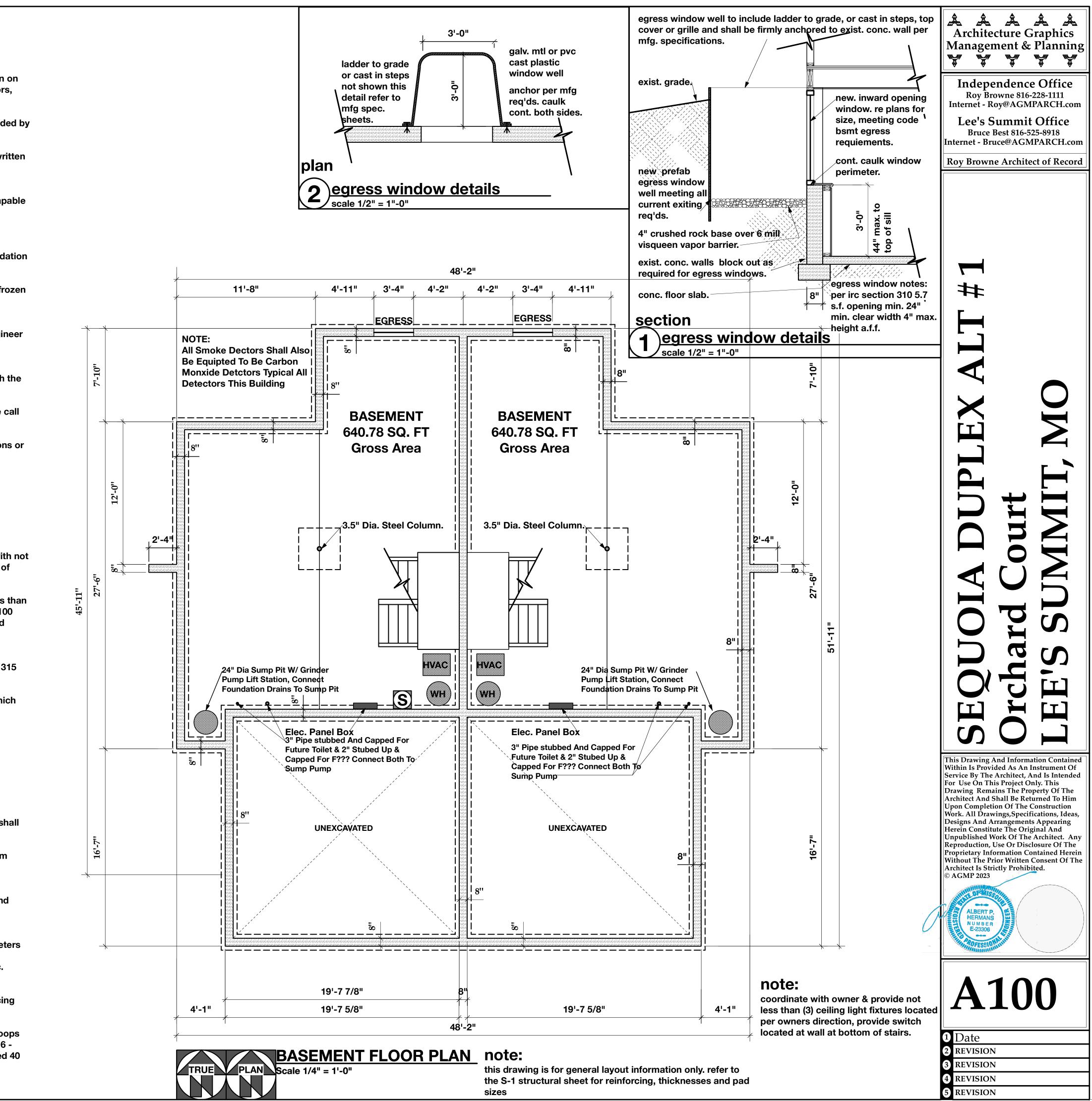
8. bars marked continuous and all vertical steel shall be lapped 40 bar diameters or 2'-0" minimum as splices and construction joints, unless shown otherwise. splice top bars near mid span and bottom bars over supports, unless otherwise noted.

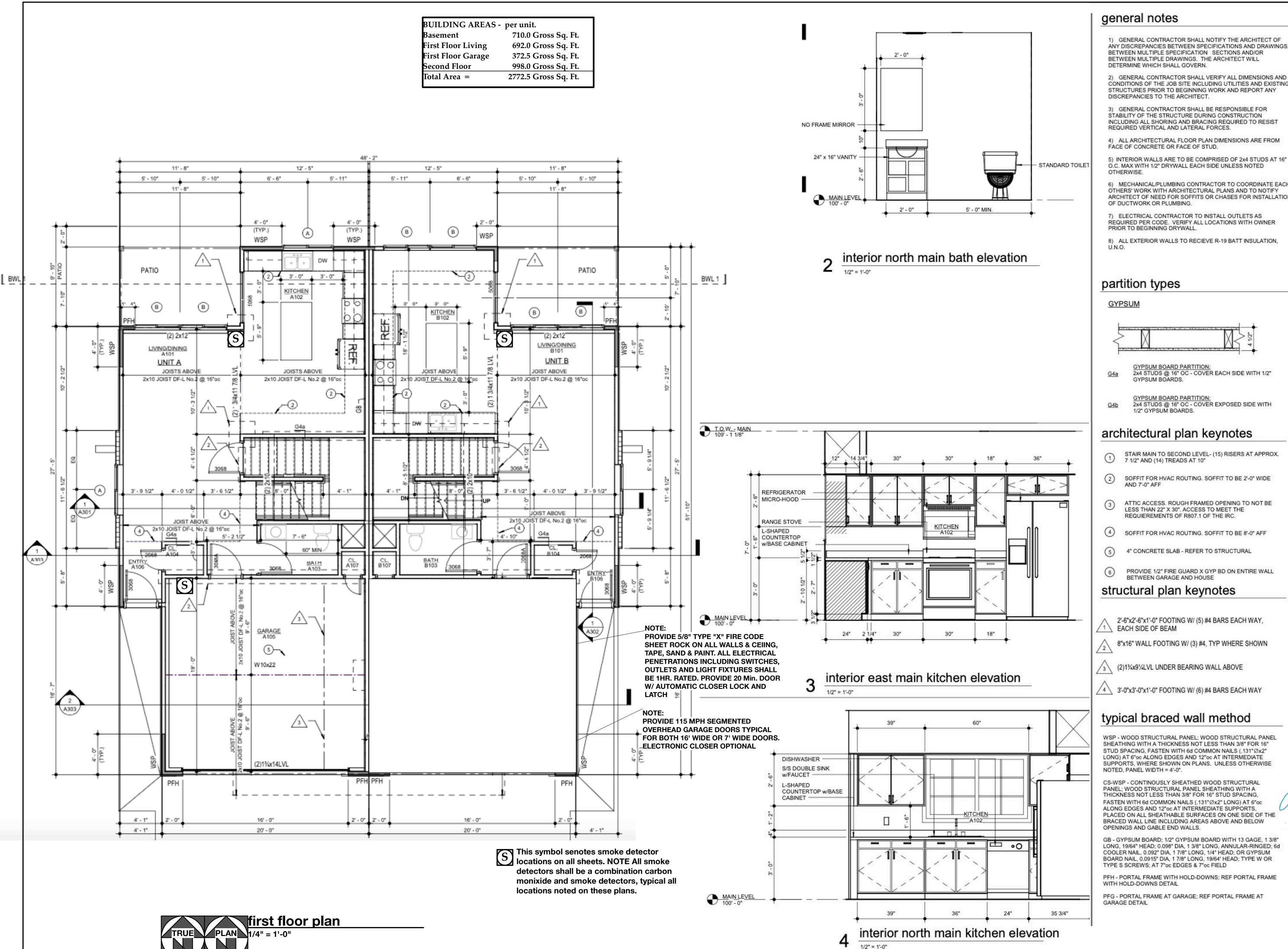
9. at all holes in concrete walls and slabs, add (2)-#5 bars of length equal to opening dimension plus 60 bar diameters at each of four sides. also add (2) -#5 x 5'-0" long diagonally at each corner of the hole. 10. openings in 8" thick walls and slabs shall be similarly reinforced but with (1)-#5 or 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.

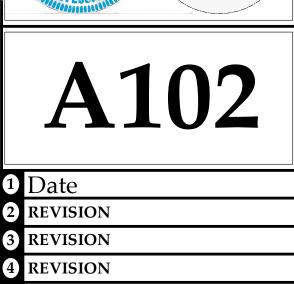
12. all slabs and stairs nor shown otherwise shall be reinforced with 6 x 6 - 10/10 wwf. all exterior porches and stoops not otherwise detailed may be constructed in any standard manner, solid or hollow, but must be reinforced with 6 x 6 -10/10 wwf. porches shall be doweled to adjacent walls or grade 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.



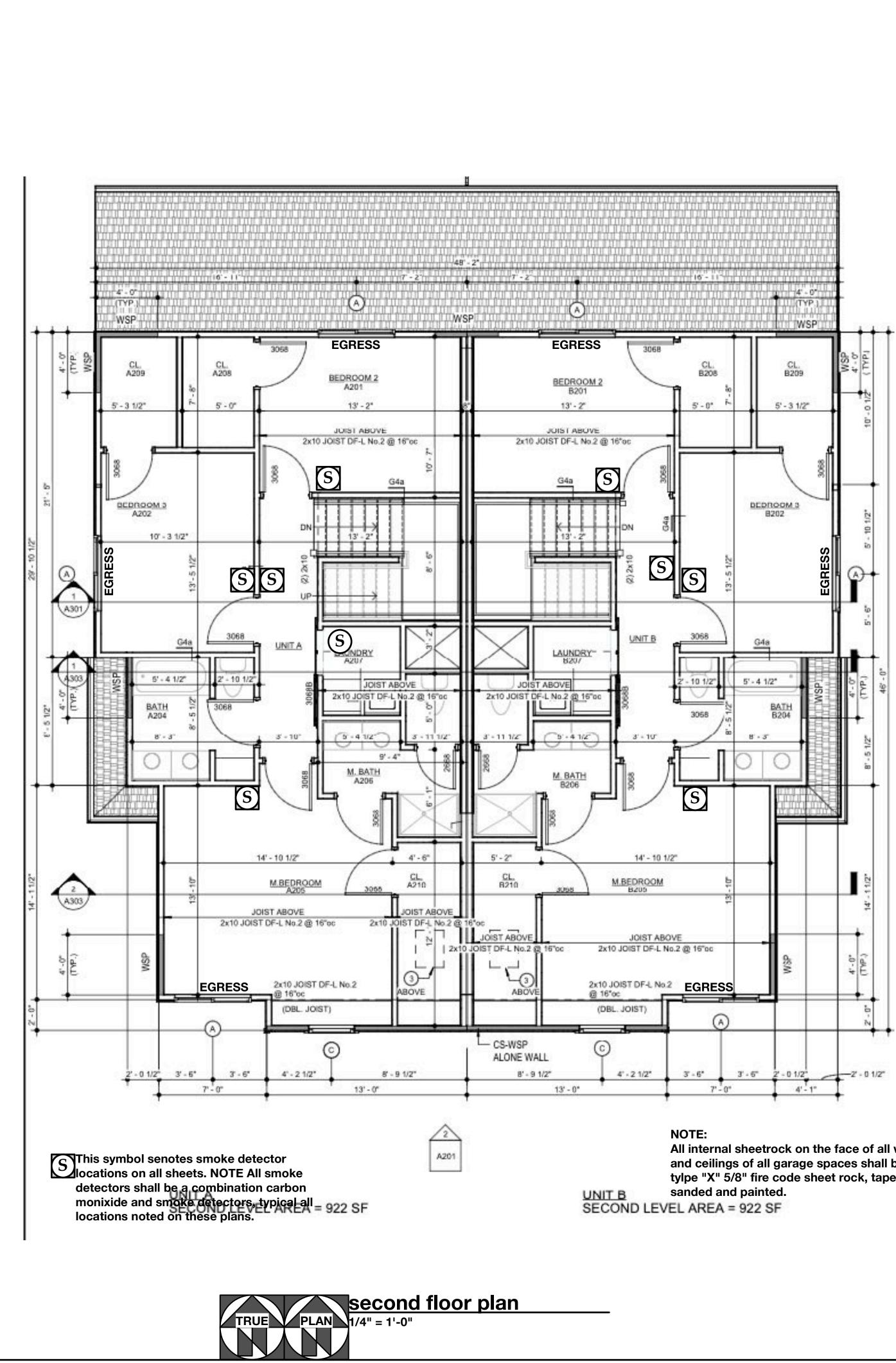




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| ×. | Architecture Graphics |
| | Management & Planning |
| 3 | Independence Office Roy Browne 816-228-1111 |
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| | Bruce Best 816-525-8918 Internet - Bruce@AGMPARCH.com |
| | Roy Browne Architect of Record |
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| 100 million (100 m | CALT #1 |
| 2.524 V | SEQUOIA DUPLEX Orchard Court LEE'S SUMMIT, MC |
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REVISION



door schedule

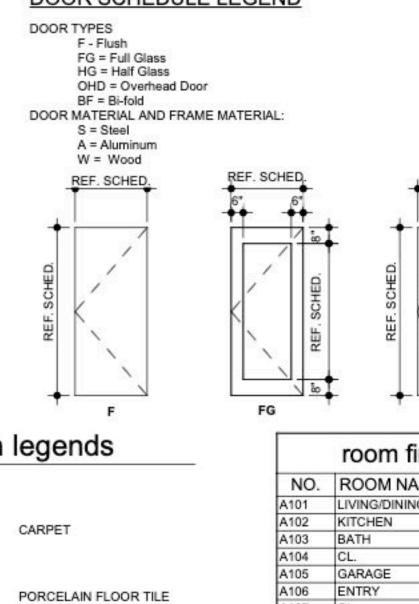
| | | DOOR | | Door |
|-------|----------|-----------------|----------------------|---------------------|
| PLAN | | OPENING SIZE | Door Type (A)Door | Material (B)Door |
| MARK | Width | н | Type (A) | Material (B) |
| 2068 | 2' - 0" | 6' - 8" | F | W |
| 2668 | 2' - 6" | 6' - 8" | F | W |
| 2669 | 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 |
| 3068B | 3' - 0" | 6' - 8" | F | WD |
| 3068C | 3' - 0" | 6' - 8" | HG | W |
| 5068 | 5' - 0" | 6' - 8" | FG | w |
| 70160 | 16' - 0" | 7' - 0" | OHD | S |

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



finish legends



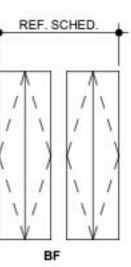
LVP

| 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- |

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,

NOTES

SEE GENERAL NOTE 3 SLIDING BARN DOOR



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.

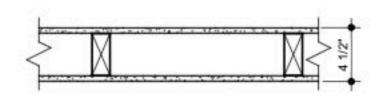
7) ELECTRICAL CONTRACTOR TO INSTALL OUTLETS AS REQUIRED PER CODE. VERIFY ALL LOCATIONS WITH OWNER PRIOR TO BEGINNING DRYWALL.

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

partition types

AND 7'-0" AFF

GYPSUM



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

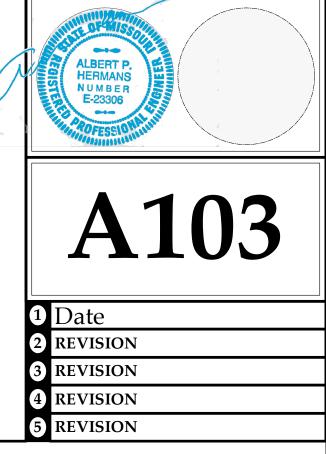
GYPSUM BOARD PARTITION: 2x4 STUDS @ 16" OC - COVER EXPOSED SIDE WITH G4b 1/2" GYPSUM BOARDS.

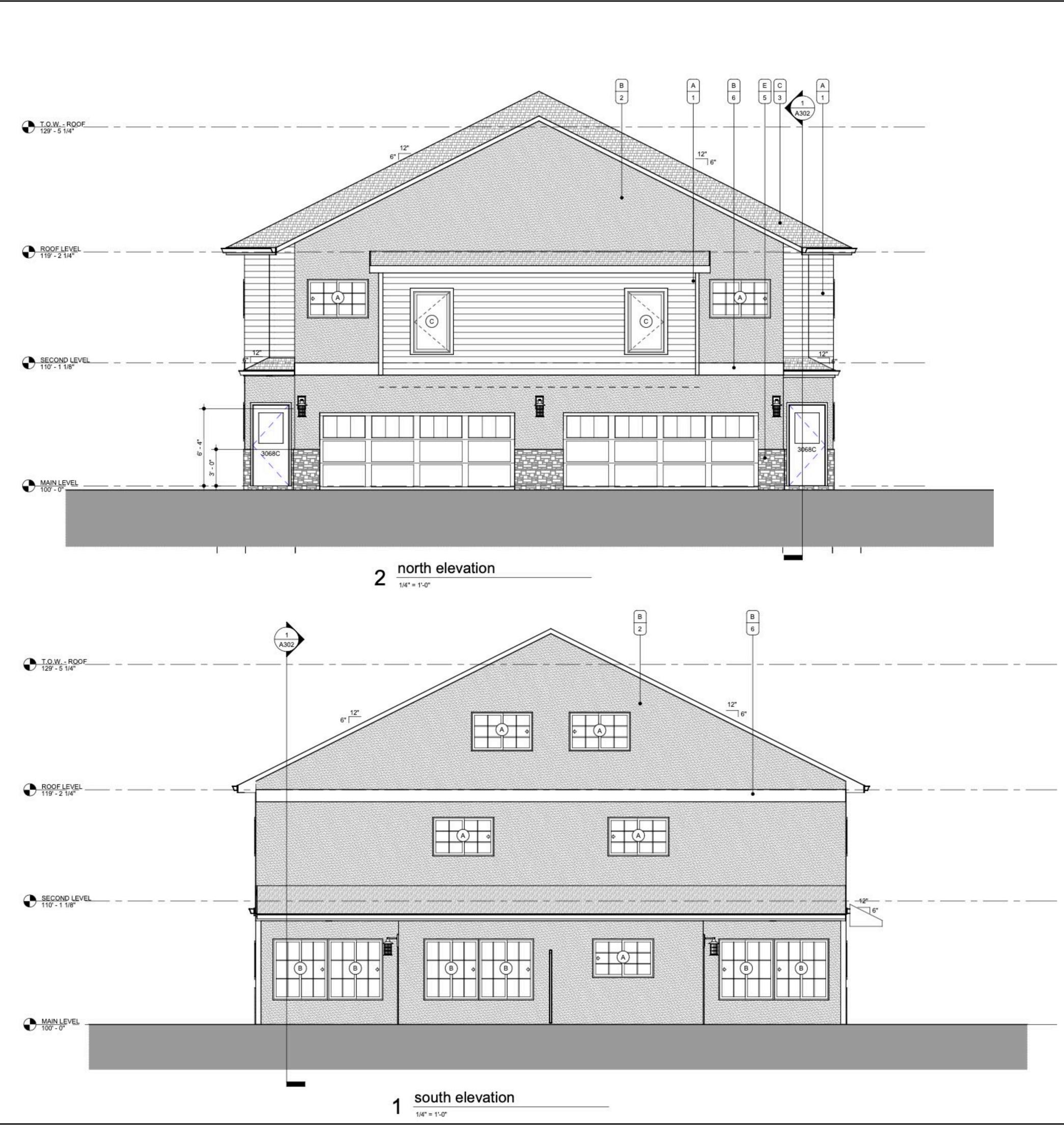
architectural plan keynotes

- STAIR MAIN TO SECOND LEVEL- (15) RISERS AT APPROX. 1 7 1/2" AND (14) TREADS AT 10"
- 2 SOFFIT FOR HVAC ROUTING. SOFFIT TO BE 2'-0" WIDE
- 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
- 4" CONCRETE SLAB REFER TO STRUCTURAL 5
- 6 PROVIDE 1/2" FIRE GUARD X GYP BD ON ENTIRE WALL BETWEEN GARAGE AND HOUSE

Architecture Graphics Management & Planning N. Y **Independence** Office **Roy Browne 816-228-1111** Internet - Roy@AGMPARCH.com Lee's Summit Office Bruce Best 816-525-8918 nternet - Bruce@AGMPARCH.com **Roy Browne Architect of Record** # ノ [T] C S Y σ E H S

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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.
- 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

- PAINT, COLOR 1, TBD
- EIFS FINISH COAT 3, COLOR TBD 2.
- PER MANUFACTURER, TBD 3
- PAINT, ACCENT COLOR 2, TBD
- 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. T1-11
- B. EIFS
- C. ASPHALT SHINGLES
- D. METAL TRIM E. MANUFACTURED STONE

MATERIAL FINISH

- PAINT, COLOR 1, TBD
- EIFS FINISH COAT 3, COLOR TBD
- PER MANUFACTURER, TBD
- PAINT, ACCENT COLOR 2, TBD PER MANUFACTURER, TBD
- EIFS FINISH COAT 2, COLOR TBD
- 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

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



Lee's Summit Office Bruce Best 816-525-8918 Internet - Bruce@AGMPARCH.com

Roy Browne Architect of Record

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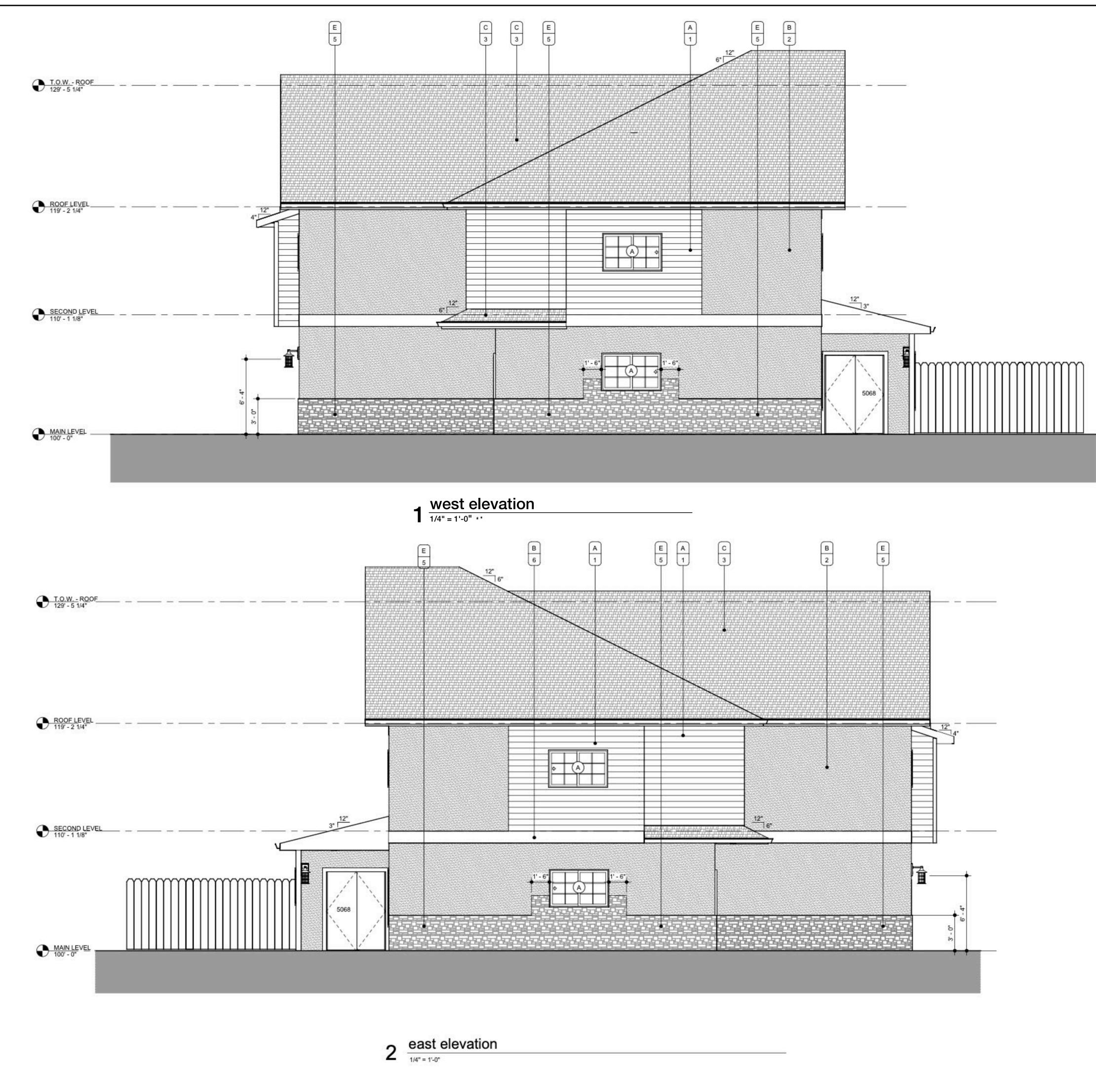
1 Date

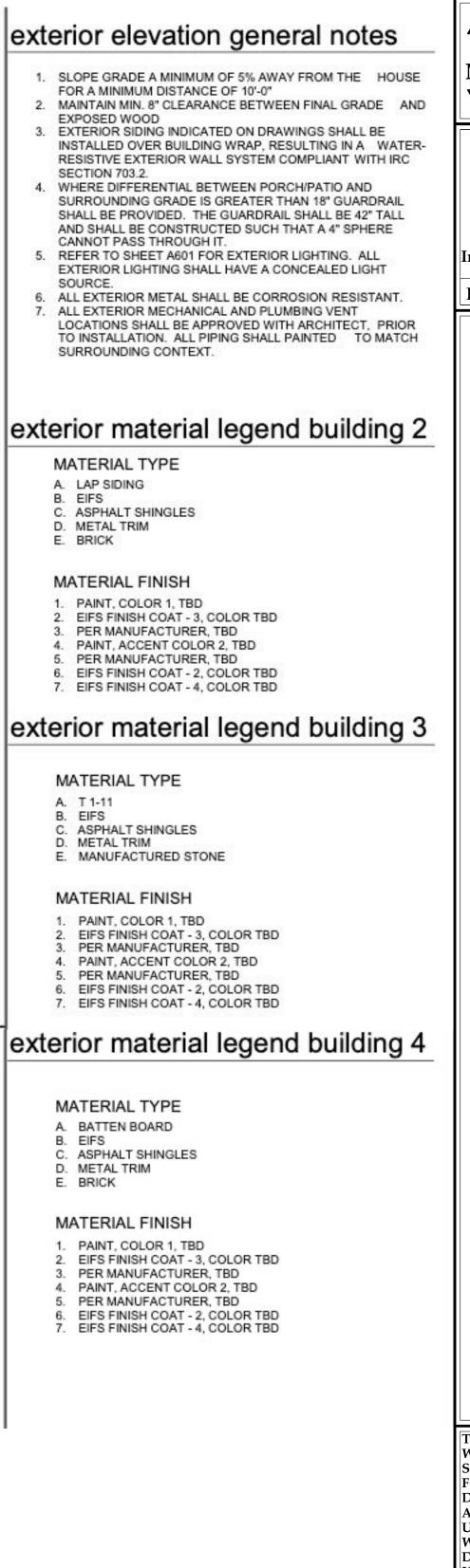
2 REVISION

3 **REVISION**

4 **REVISION**

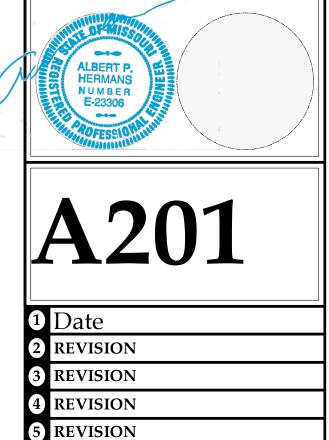
5 REVISION

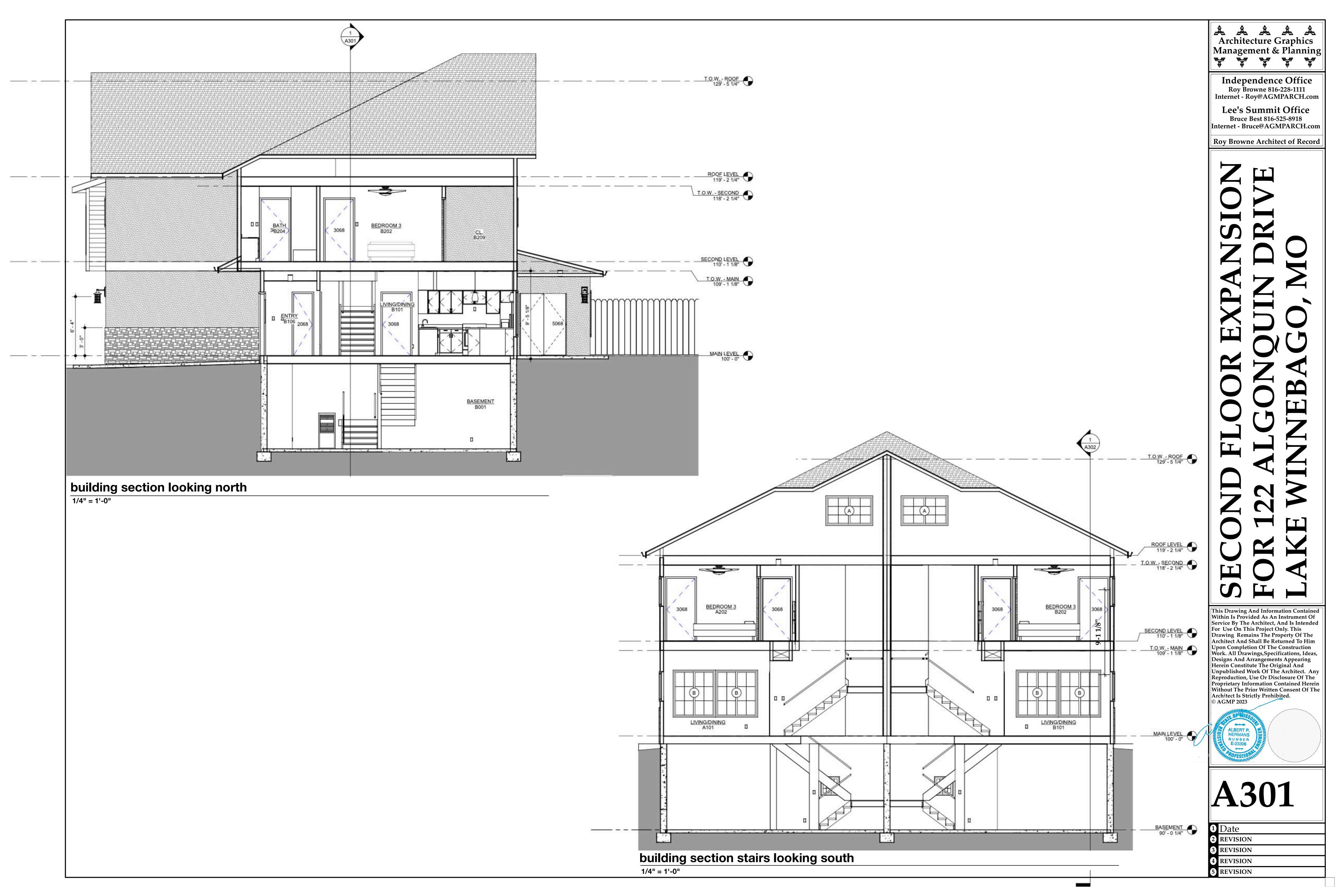


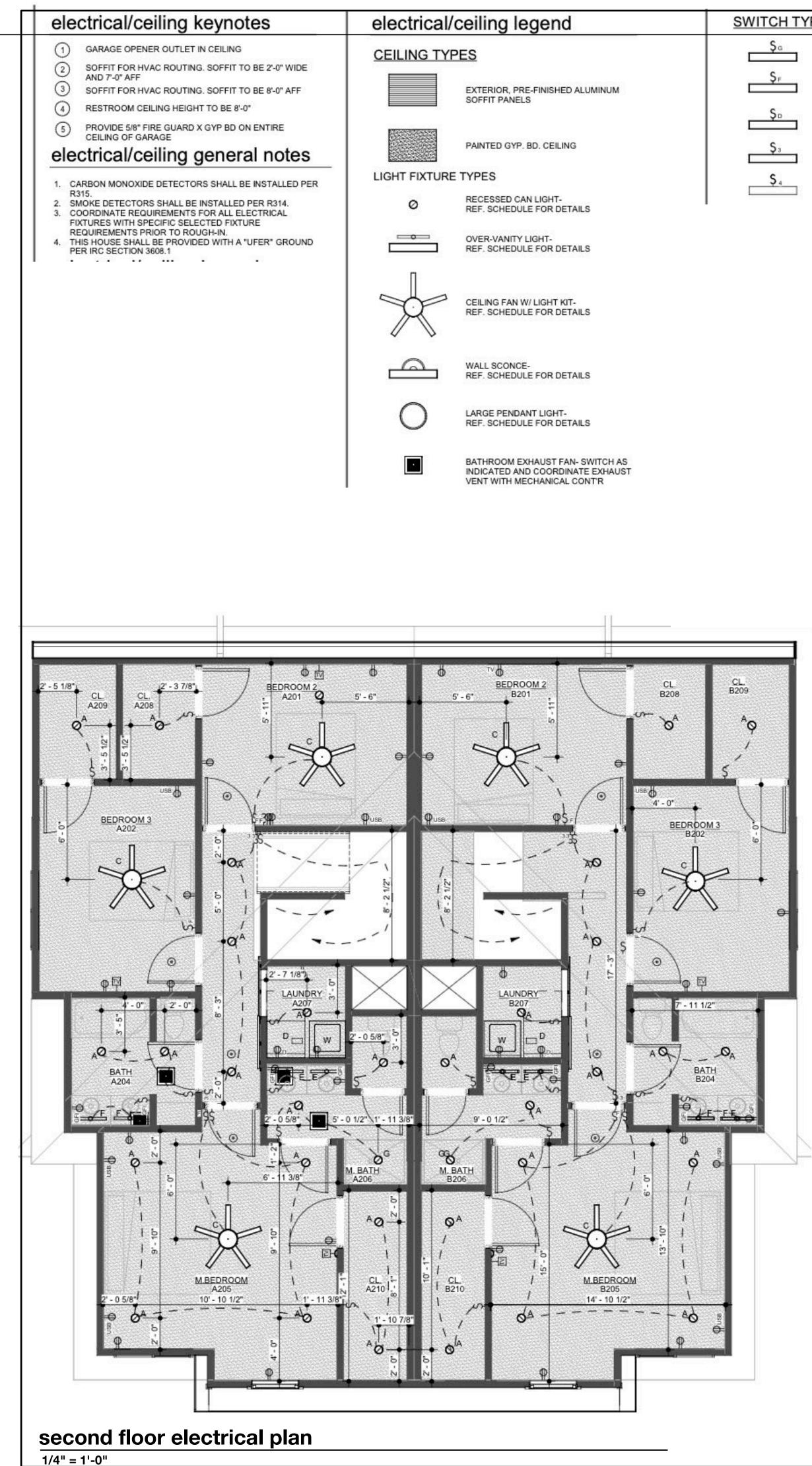


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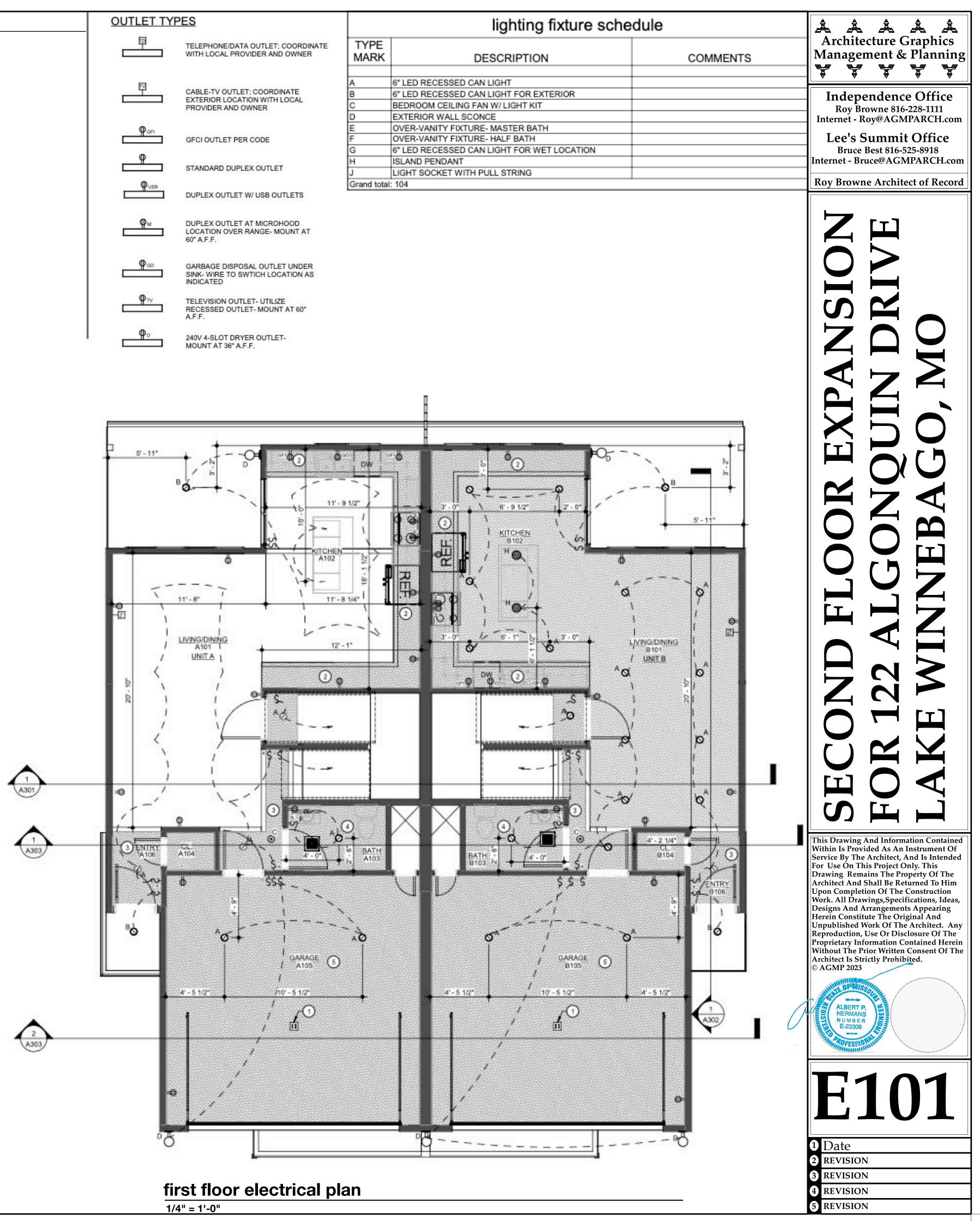


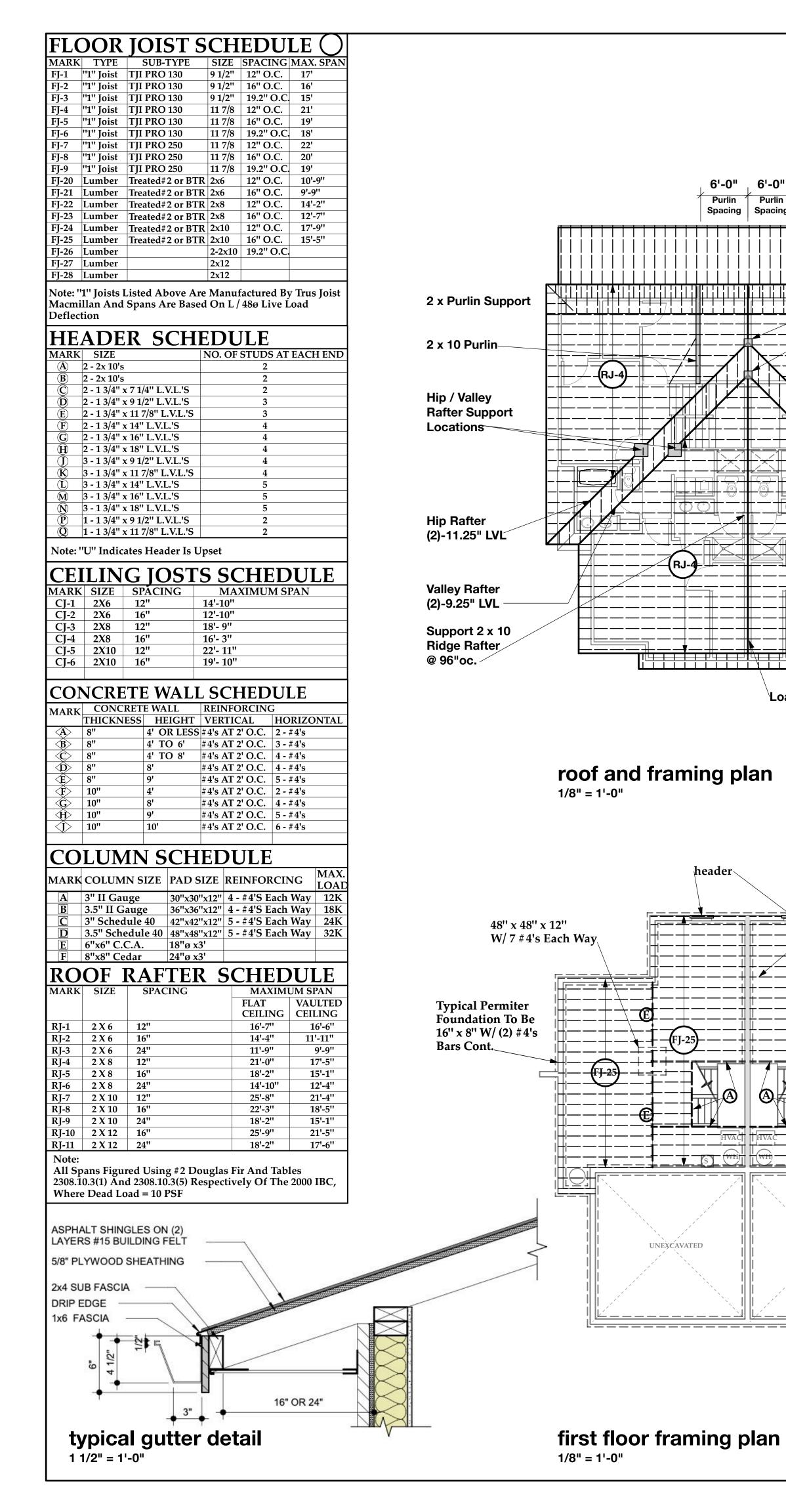


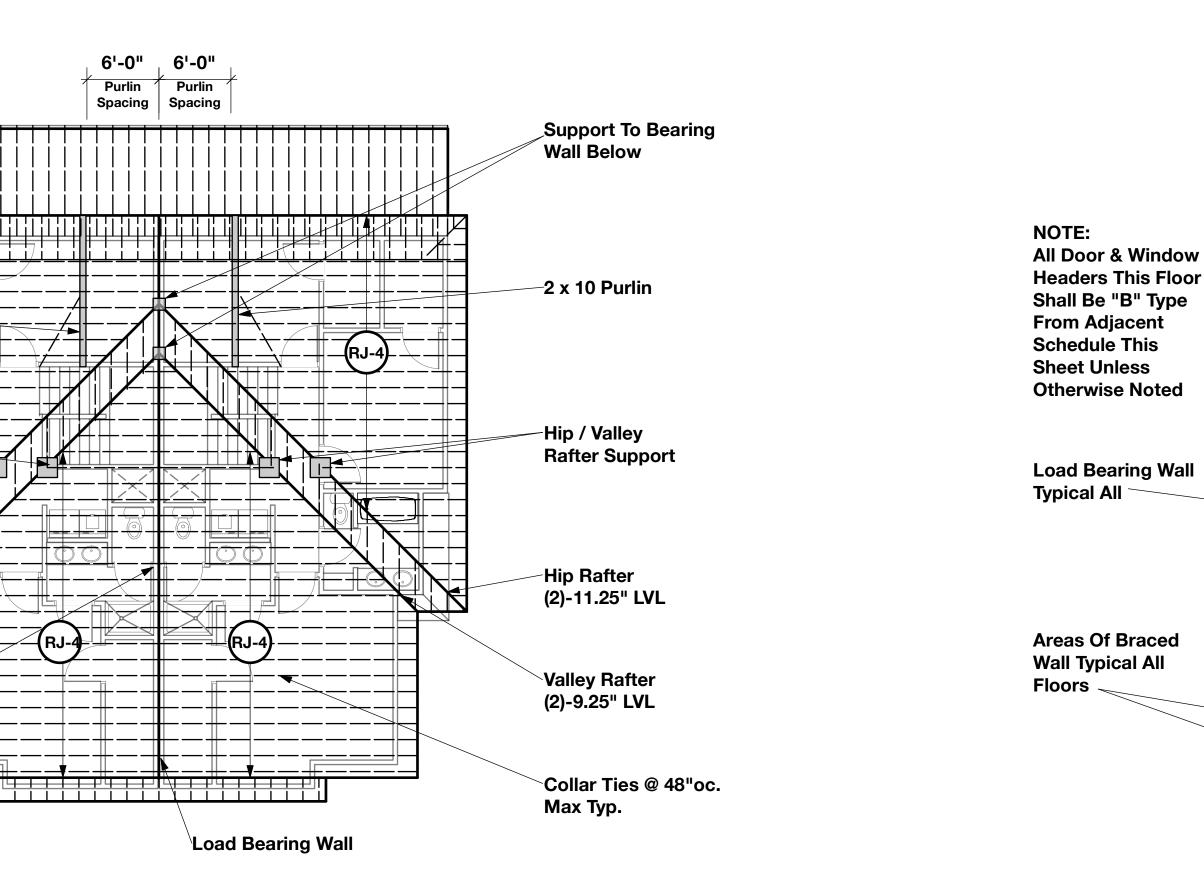
| ·· = - | |
|--------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------|
| GARAGE DOOR OPENER SWITCH | |
| CEILING FAN SWITCH- WIRE FOR INDEPENDENT FAN/SWITCH CONTROLS | |
| DIMMER SWITCH | |
| 3-WAY SWITCH | |
| 4-WAY SWITCH | |
| | |
| | |
| | CEILING FAN SWITCH- WIRE FOR INDEPENDENT FAN/SWITCH CONTROLS DIMMER SWITCH 3-WAY SWITCH |

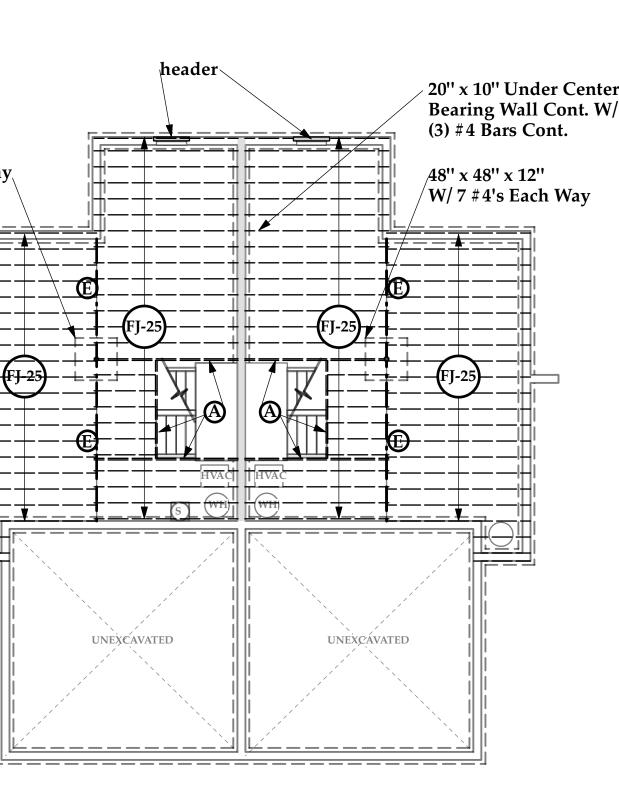
| TELEPHONE/DATA OUTLET; COO WITH LOCAL PROVIDER AND OV |
|--------------------------------------------------------------------------------|
| CABLE-TV OUTLET; COORDINAT EXTERIOR LOCATION WITH LOC PROVIDER AND OWNER |
| GFCI OUTLET PER CODE |
| STANDARD DUPLEX OUTLET |
| DUPLEX OUTLET W/ USB OUTLE |
| DUPLEX OUTLET AT MICROHOO LOCATION OVER RANGE- MOUN 60" A.F.F. |
| GARBAGE DISPOSAL OUTLET U SINK- WIRE TO SWTICH LOCATIK INDICATED |
| TELEVISION OUTLET- UTILIZE RECESSED OUTLET- MOUNT AT A.F.F. |
| 240V 4-SLOT DRYER OUTLET- MOUNT AT 36" A.F.F. |
| |

| TYPE MARK | |
|--------------|----------|
| | |
| A | 6" LED I |
| В | 6" LED |
| С | BEDRO |
| D | EXTERI |
| E | OVER-\ |
| F | OVER-\ |
| G | 6" LED |
| Н | ISLAND |
| J | LIGHT S |
| Grand total | 104 |









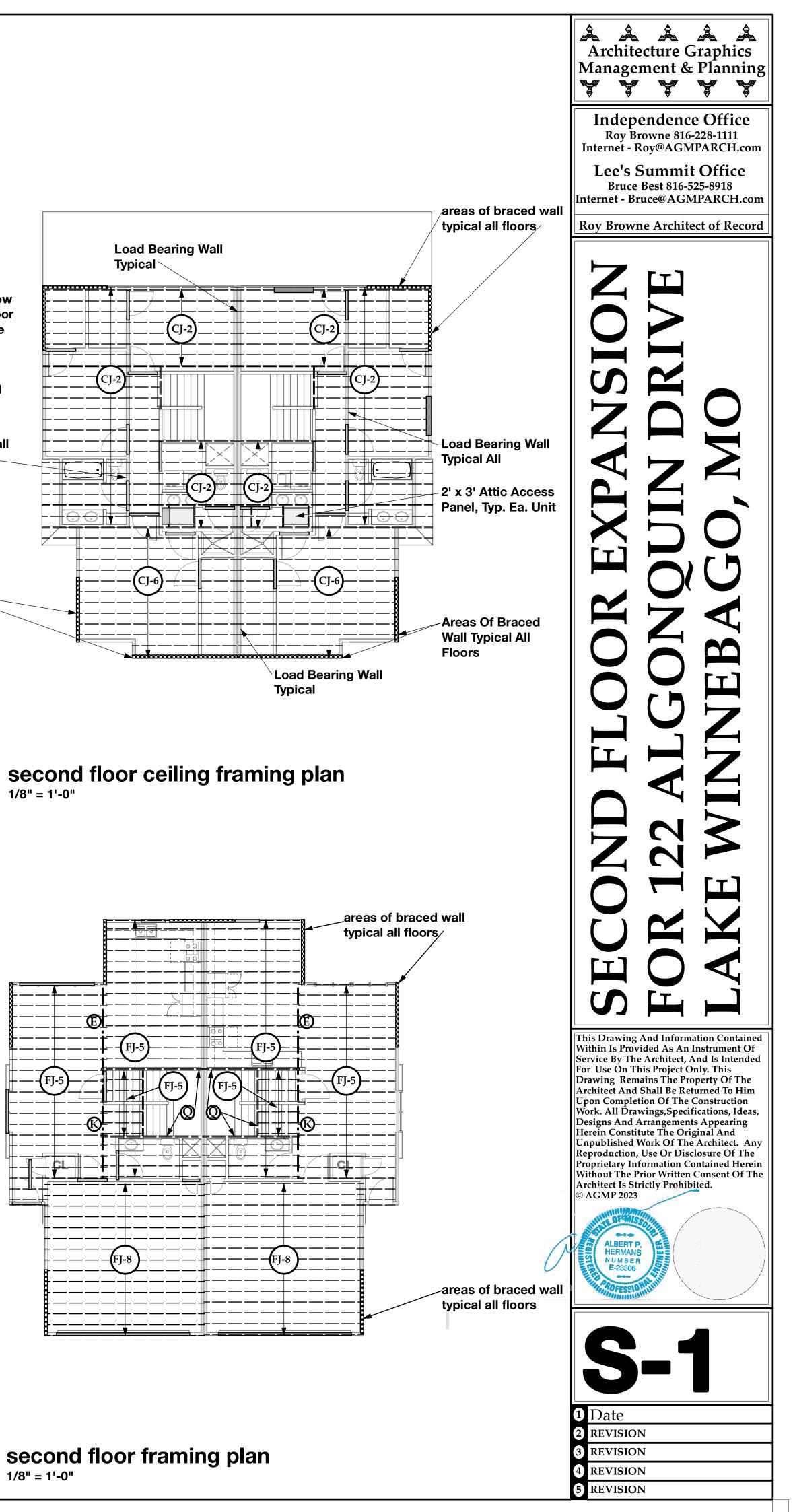
NOTE:

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

1/8" = 1'-0"

NOTE: All Door & Window **Headers This Floor** Shall Be "B" Type From Adjacent Schedule This Sheet Unless **Otherwise Noted**



1/8" = 1'-0"

GENERAL NOTES

| GOVERNING BUILDING CODE: | 2012 INTERNATIONAL RESIDER SUPPLEMENTS | NTIAL CODE (IRC) AND ITS APPROPRIATE |
|----------------------------|-------------------------------------------|--------------------------------------|
| 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 BEA | ARING PRESSURE: | 1500 PSF |
| | | |

GENERAL:

- FURNISH ALL LABOR, MATERIAL AND EQUIPMENT NECESSARY TO COMPLETE THE WORK SHOWN OR INFERRED BY THESE DRAWINGS
- 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.
- THE CONTRACTOR SHALL PROVIDE ALL TEMPORARY BRACING AND SHORING AS REQUIRED DURING CONSTRUCTION TO ENSURE THE SAFETY OF ALL INDIVIDUALS INVOLVED.
- ALL MECHANICAL, ELECTRICAL, AND PLUMBING ELEMENTS SHALL BE INSTALLED PER THE REQUIREMENTS OF THE GOVERNING BUILDING CODE AND THE LOCAL MUNICIPALITY.
- 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:

- 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.
- BUILDING SHALL COMPLY WITH SECTIONS 802.3 AND 802.3.1 OF THE 2012 IRC FOR RAFTER AND CEILING JOIST CONNECTIONS.
- "UFER" GROUND SHALL BE PROVIDED PER IRC SECTION 3608.1
- GUTTERS, DOWNSPOUTS, AND SPLASH BLOCKS SHALL BE PROVIDED TO INSURE ALL ROOF DRAINAGE IS DIRECTED 5 FEET MINIMUM FROM HOUSE BEFORE TOUCHING SOIL.

TAIR NOTES:

- 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.
- 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.
- 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.
- 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.
- 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.
- SPIRAL STAIRS SHALL BE CONSTRUCTED PER SECTION R311.7.10.11.

WINDOWS AND SAFETY GLAZING NOTES:

- 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".
- ALL WINDOWS SHALL MEET THE FALL PROTECTION REQUIREMENTS OF SECTION R312.2.

EMERGENCY EGRESS NOTES:

- 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".
- 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.
- CARBON MONOXIDE DETECTORS SHALL BE PROVIDED PER R315.

CONCRETE & REINFORCING NOTES:

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.
- CONCRETE SHALL BE 6%±1% AIR ENTRAINED FOR GARAGE SLABS AND FOR ALL LOCATIONS (FOOTINGS, WALLS, FLATWORK, ETC.) EXPOSED TO WEATHER.
- CONCRETE SHALL HAVE A SLUMP OF 4* ± 1*. THE SLUMP CAN BE INCREASED THROUGH THE USE OF APPROVED ADDITIVES (NOT WATER).
- 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. 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.
- NO WATER SHALL BE ADDED TO THE CONCRETE MIX AT THE SITE. ADDITION OF CALCIUM CHLORIDE TO CONCRETE IS NOT PERMITTED.
- NO ALUMINUM SHALL BE EMBEDDED/PLACED IN CONCRETE.
- CONCRETE PLACED IN COLD WEATHER SHALL SHALL COMPLY WITH ACI 306. CONCRETE PLACED IN HOT WEATHER SHALL COMPLY WITH ACI 305.

STRUCTURAL STEEL

- ALL STRUCTURAL STEEL SHALL CONFORM TO THE FOLLOWING: STRUCTURAL STEEL MISCELLANEOUS STEEL
 - HOLLOW STRUCTURAL STEEL (HSS)
- STEEL PIPE
- ALL COLUMN ANCHOR BOLTS SHALL BE ASTM F1554 GRADE 36.
- WELDING SHALL CONFORM TO THE LATEST PUBLICATION OF APPLICABLE CODES SET FORTH BY THE AMERICAN WELDING SOCIETY. NO UNAUTHORIZED WELDS WILL BE ACCEPTED. PROVIDE 30# FELT BOND BREAK AROUND ALL STEEL COLUMNS WHERE IN CONTACT WITH
- SLAB-ON-GRADE
- NOTED OTHERWISE
- SPECIFICATIONS. FIELD TOUCHUP ALL UNPAINTED AREAS AND WELD AREAS.
- WOOD FRAMING NOTES:
- FLOOR JOISTS.

- SHALL BE THE SAME SIZE AND GRADE AS THE JOISTS
- SPIKES SHALL BE SUCH AS TO AVOID THE UNUSUAL SPLITTING OF THE WOOD.
- VERTICAL EXPANSION JOINT TO ALLOW FOR HEAVE IN THE FLOOR SLAB.
- FRAMING MEMBERS.
- PRODUCT STANDARD PS-1.
- MEMBERS AND STAGGER END JOINTS 4'-0".
- PRESSURE TREATED.
- 15. ROOF FRAMING RIDGE BEAMS, VALLEY AND HIP RAFTERS SHALL HAVE A MINIMUM NOMINAL BEARING PARTITIONS.

- OF ROOF RAFTERS.
- BRACE THE COMPRESSION FLANGE OF ALL BEAMS UNLESS NOTED OTHERWISE.
- FOUNDATION OR OTHER STRUCTURAL FRAMING MEMBER, U.N.O.
- ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS.
- WALL HEADER SCHEDULE.
- SUPPORTS.
- 25. ALL INTERIOR BEARING WALL FRAMING SHALL BE 2x4 DOUG-FIR STUD GRADE AT 16*oc, UNO.
- BUILDING CODE.
- WOOD TRUSSES.
- 28. WOOD TRUSSES SHALL NOT BE FIELD CUT.

GARAGE:

- GARAGE FLOORS SHALL SLOPE TOWARDS THE GARAGE DOORWAYS.
- 4
- RESIDENCE AND GARAGE.
- 6. GARAGE DOORS SHALL MEET THE REQUIREMENTS OF DASMA 90 MPH.

ASTM A992, Fy = 50 KSI ASTM A36

ASTM A500, GRADE B

ASTM A53, GRADE B (SCHED 40 MIN) 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.

ALL EXTERIOR STEEL EXPOSED TO THE ELEMENTS SHALL BE HOT DIPPED GALVANIZED UNLESS

7. ALL STRUCTURAL STEEL SHALL HAVE ONE COAT OF RUST INHIBITIVE PRIMER CONFORMING TO

 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.

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 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.

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

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.

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.

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

ALL NON-LOADBEARING STUD WALLS IN THE BASEMENT SHALL BE PROVIDED WITH A 1" MINIMUM

WALLS SHALL NOT BE TIGHT BETWEEN THE SLAB AND THE FRAMING ABOVE!

 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

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

12. WOOD STRUCTURAL PANELS SHALL BE SET WITH FACE GRAIN PERPENDICULAR TO SUPPORTING

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

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

 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

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 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

22. PROVIDE HEADERS AS SHOWN ON PLAN, FOR HEADERS NOT MARKED REFERENCE TYPICAL BEARING

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

24. ALL EXTERIOR WOOD WALL FRAMING SHALL BE 2x6 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

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

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).

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. 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

FOUNDATION NOTES

- 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
- 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.
- 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 SAWOUT 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.
- 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:

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

| | | 60 KSI REINFORCING | | 40 KSI REINFORCING | |
|-------------|--------------|--------------------|---------------|--------------------|---------------|
| WA | LL THICKNESS | 8" | 10" | 8" | 10* |
| ÷ | 6" OR LESS | #4 @ 36" O.C. | #4 @ 36" O.C. | #4 @ 36" O.C. | M4 @ 36" O.C. |
| WALL HEIGHT | 7 | #4 @ 32" O.C. | #4 @ 35" O.C. | #4 @ 21" O.C. | #4 @ 35" 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"2 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. FOUNDATION WALLS SHALL BE DESIGNED FOR AN EQUIVALENT FLUID PRESSURE (EFP) 60 PSF.
- 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 R405.1. 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: 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.
- 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. 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. HOT WATER PIPES SHALL BE INSULATED AS REQUIRED PER N1103.4.
- ALL EXHAUST FANS SHALL TERMINATE TO THE BUILDING EXTERIOR AS REQUIRED PER M1507.2. 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

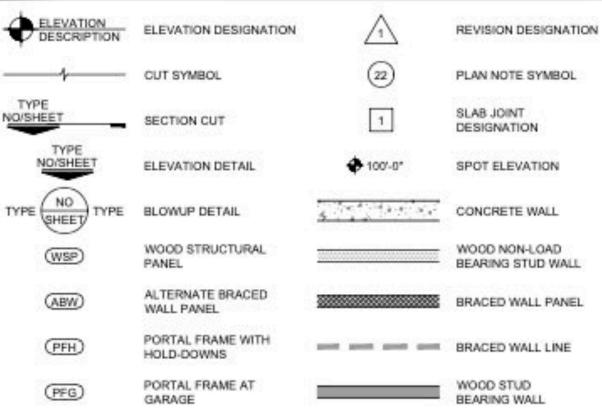
ARCH ASTM AWS BEE BFS BO BRG BWP CIP CLR COL CONC CONST CONT EIFS ELEC EQ EW. FDN FTG GA. GYP BD HORIZ HSA INFO

AFF

AISC

AISI

MAX



COMP

_____ FENESTR SKYLIGH CEILING CEILING WOOD FI MASS WA FLOOR O

FLOOR O DUCTS O

CONDITIK

- BASEMEN
- SLAB (R)

CRAWLS

CRAWLS

| ANCHOR BOLT AMERICAN CONCRETE INSTITUTE ABOVE FINISH FLOOR AMERICAN INSTITUTE OF STEEL CONSTRUCTION AMERICAN IRON AND STEEL INSTITUTE ARCHITECTURAL AMERICAN SOCIETY FOR TESTING AND MATERIALS AMERICAN WELDING SOCIETY BELOW FINISH FLOOR BOTTOM OF FOOTING STEP BOTTOM OF FOOTING STEP BOTTOM OF STEEL BEARING BRACED WALL PANEL CAST-IN-PLACE CONCRETE CONTROL JOINT (WALL) CENTER LINE CLEAR COLUMN CONCRETE CONSTRUCTION CONSTRUCTION CONSTRUCTION CONTINUOUS DIAMETER EXTERIOR INSULATION AND FINISH SYSTEM ELEVATION ELEVATION FINISH FLOOR FAR SIDE FOOTING GAGE GENERAL CONTRACTOR GYPSUM BOARD HORIZONTAL HEADED STUD ANCHOR INFORMATION | NTS OC OH PAF PCF PLF PSF PSI QTY REF REQD REV RO SIM TAB TFS THK TO TOF TOF TOF TOF TOF TOF TOF VERT WBM WP |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| HORIZONTAL HEADED STUD ANCHOR | W WBM |
| JOINT KIPS PER SQUARE INCH POUNDS | WWF |

- LONG LONGITUDINAL
 - MAXIMUM

MECHANICAL CH MANUFACTURER MINIMUM MISCELLANEOUS METAL NUMBER NEAR SIDE NOT TO SCALE ON CENTER OPPOSITE HAND POWDER ACTUATED FASTENERS POUNDS PER CUBIC FEET PLATE POUNDS PER LINEAR FOOT POUNDS PER SQUARE FOOT POUNDS PER SQUARE INCH QUANTITY REFERENCE REINFORCING IN REQUIRED EQD REVERSE ROUGH OPENING SIMILAR TOP AND BOTTOM TOP OF FOOTING STEP THICK TOP OF TOP OF CONCRETE TOP OF FOOTING TOP OF PAVING TOP OF STEEL TRANSVERSE ANS TYPICAL UNLESS NOTED OTHERWISE VERTICAL MIDTH WALL BRACE METHOD WORK POINT WALL STEP WELDED WIRE FABRIC

SYMBOLS LEGEND

INSULATION AND FENESTRATION REQUIREMENTS - IRC TABLE N1102.1.1

| PONENT | | |
|--------------------------------|-------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| | $U \leq 0.35$ | (Pi |
| | U ≦ 0.55 | (24 |
| | R - 49 | |
| - VAULTED | | |
| | R - 13 | |
| ALL | | |
| OVER UNHEATED SPACE | | |
| | R - 30 | |
| SUPPLY AND RETURN | R-8 | |
| IN FLOOR & CEILING ASSEMBLY | R-6 | |
| | R - 10 / R-13 | (4) |
| VALUE/DEPTH) | | |
| SPACE WALL W/ FLOOR INSULATION | | |
| PACE WALL W/O FLOOR INSULATION | | |
| | SUPPLY AND RETURN IN FLOOR & CEILING ASSEMBLY OR INSULATION | U ≤ 0.55 R - 49 R - 38 R - 13 R - 13 NCE R - 13 NCE R - 19 R - 30 SUPPLY AND RETURN R - 8 IN FLOOR & CEILING ASSEMBLY R - 6 R - 10/R - 13 R - 10/R - 13 |

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. THE FENESTRATION U - FACTOR EXCLUDES SKYLIGHTS.

THE FIRST R VALUE APPLIES TO CONTINUOUS INSULATION, THE SECOND TO FRAMING CAVITY INSULATION; EITHER INSULATION MEETS THE REQUIREMENT. 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.

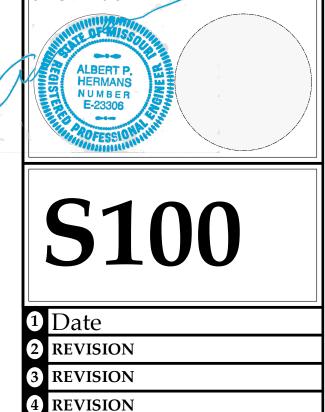
THERE ARE NO SHGC REQUIREMENTS IN THE MARINE ZONE. BASEMENT WALL INSULATION IS NOT REQUIRED IN WARM-HUMID LOCATIONS AS DEFINED BY FIGURE N1101.10 AND TABLE 1101.10.

OR INSULATION SUFFICIENT TO FILL THE CAVITY, R - 19 MINIMUM. 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.

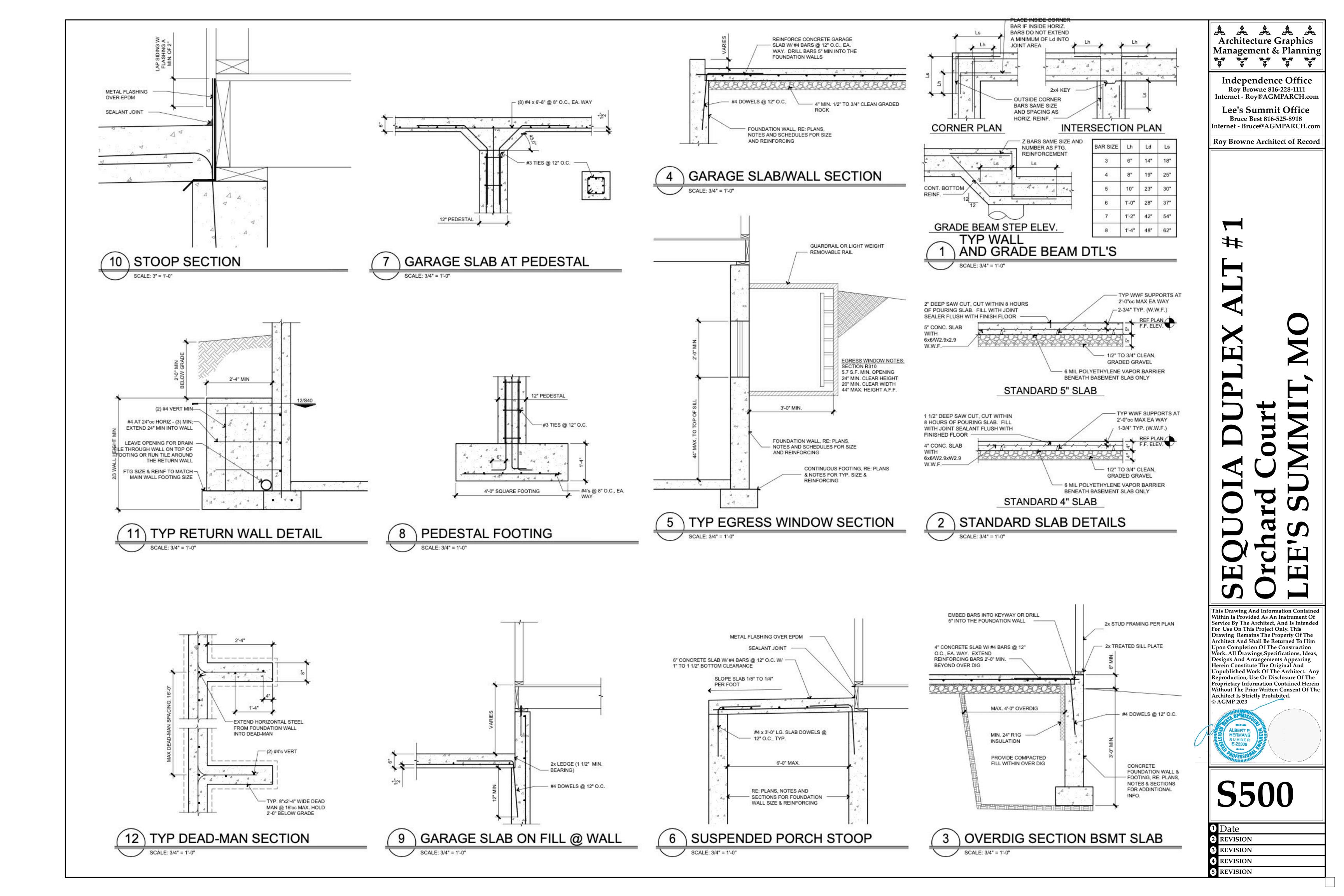
THE SECOND R-VALUE APPLIES WHEN MORE THAN HALF OF THE INSULATION IS ON THE INTERIOR OF THE MASS WALL

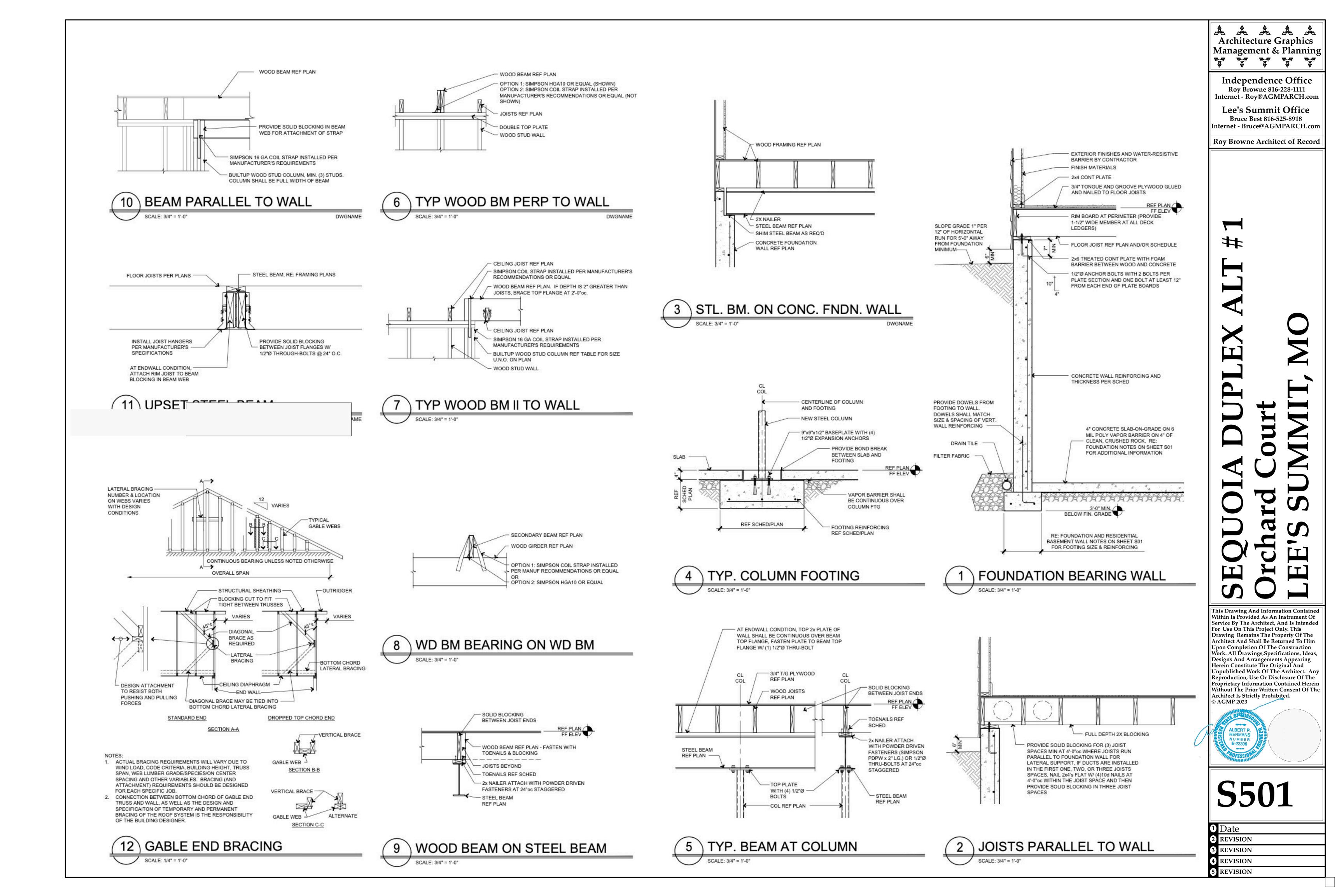
Architecture Graphics Management & Planning Independence Office Roy Browne 816-228-1111 Internet - Roy@AGMPARCH.com Lee's Summit Office Bruce Best 816-525-8918 Internet - Bruce@AGMPARCH.com Roy Browne Architect of Record # Τ ΓΤΊ

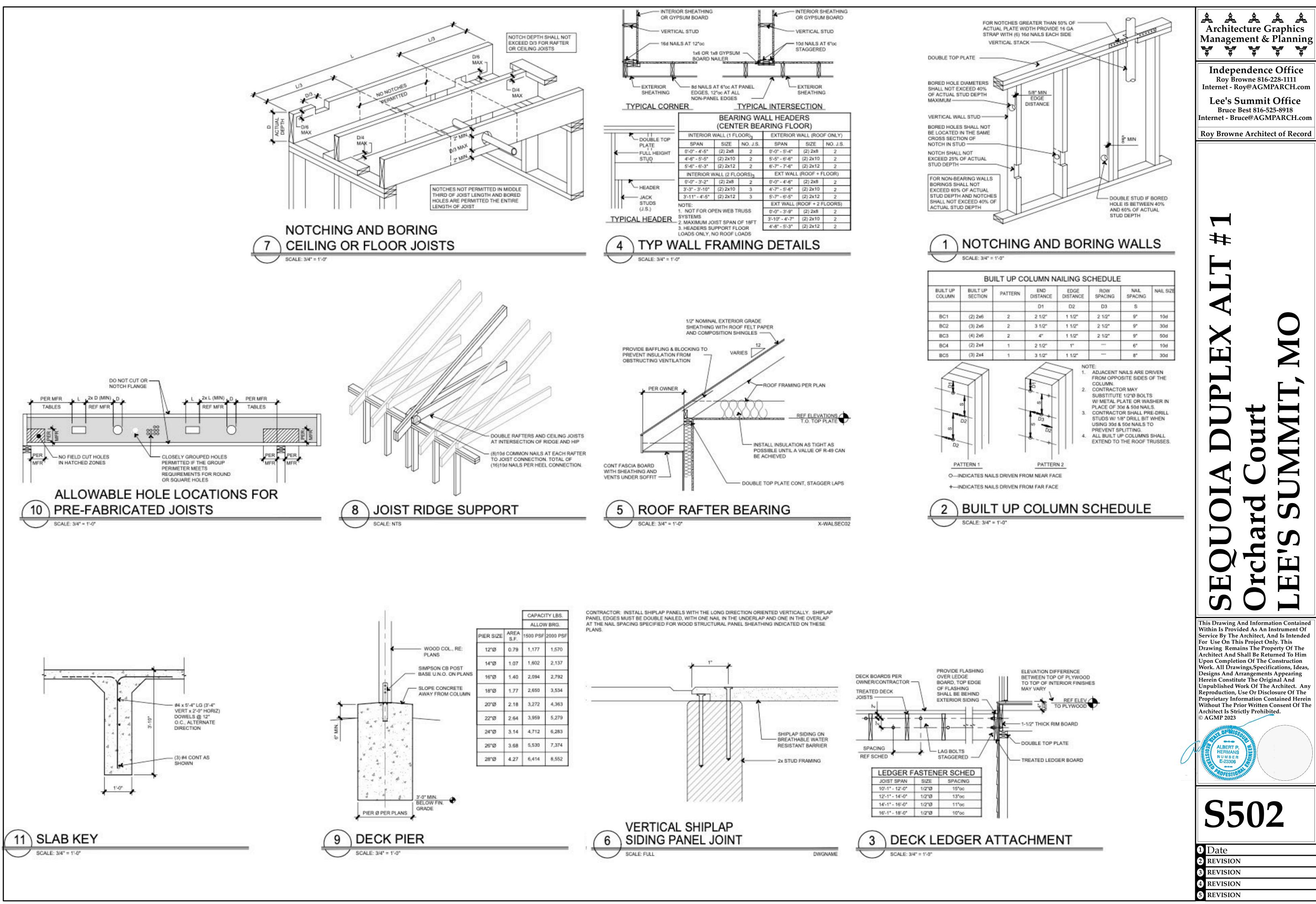
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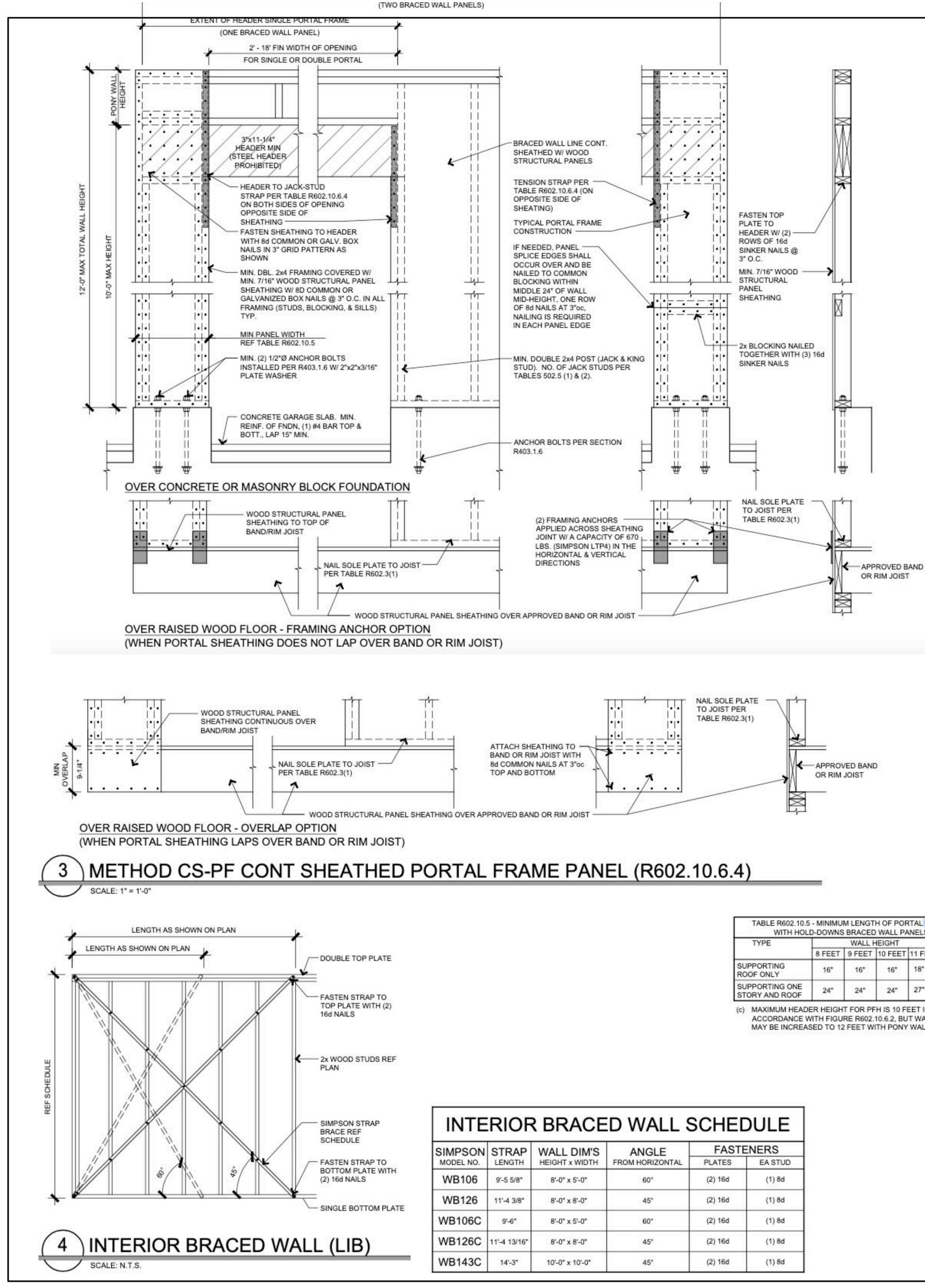


REVISION









| TABLE R602.10.9 WITH HOL | | | | | ME | | | |
|----------------------------------|-------------|--------|---------|---------|---------|--|--|--|
| TYPE | WALL HEIGHT | | | | | | | |
| 100.0000 | 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

| 3 | ANGLE | FASTENERS | | | | |
|---|-----------------|-----------|---------|--|--|--|
| | FROM HORIZONTAL | PLATES | EA STUD | | | |
| | 60° | (2) 16d | (1) 8d | | | |
| l | 45° | (2) 16d | (1) 8d | | | |
| | 60° | (2) 16d | (1) 8d | | | |
| Ì | 45° | (2) 16d | (1) 8d | | | |
| Ĩ | 45° | (2) 16d | (1) 8d | | | |

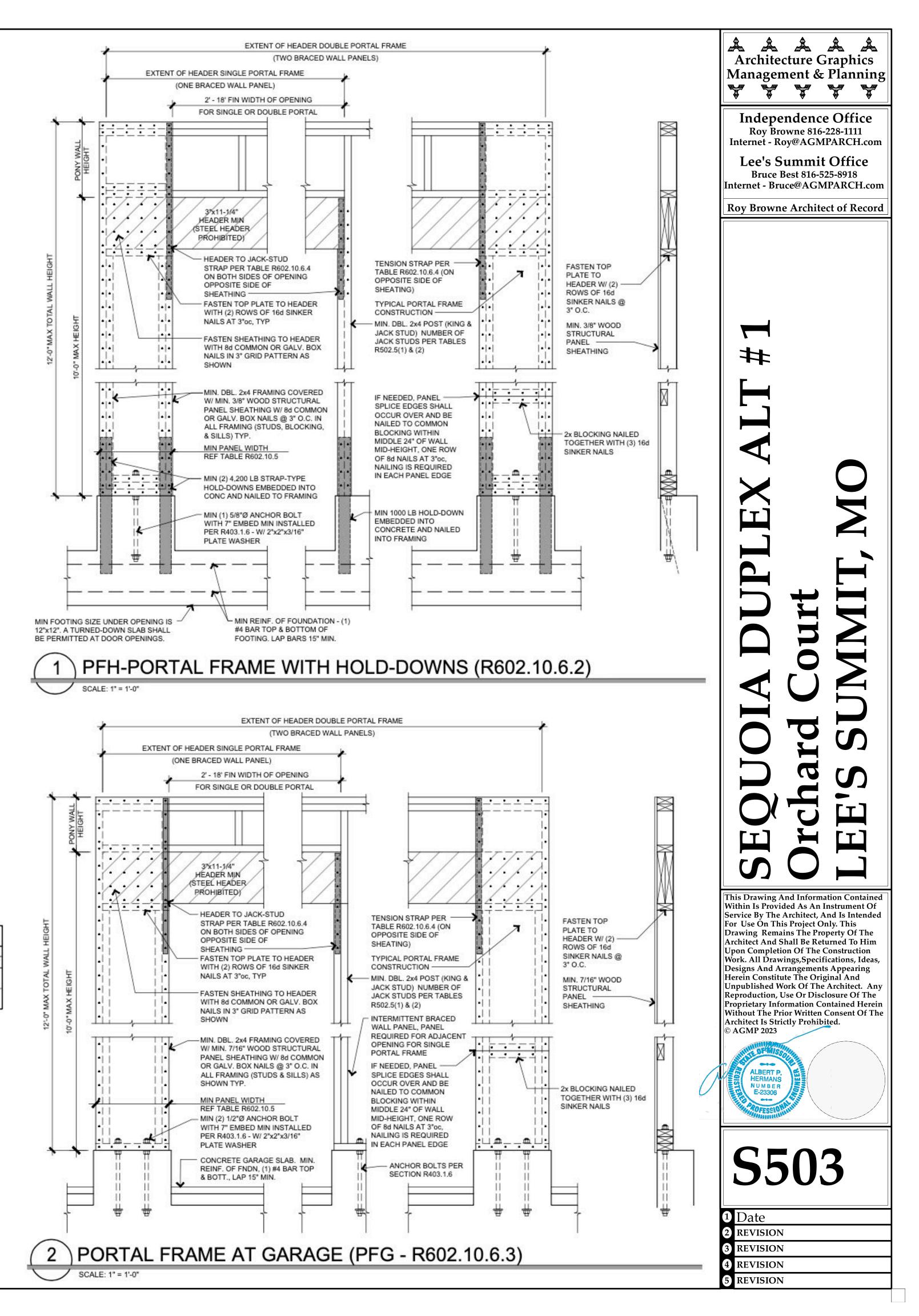


TABLE R802.5.1(9) RAFTER/CEILING JOIST HEEL JOINT CONNECTIONS (a,b,c,d,e,f,g)

| | I | GROUND SNOW LOAD (PSF) | | | | | | | | | | | |
|--------|---------|------------------------|--------|--------|---------|--------|--------|----------|--------|---------|---------|-----------|------|
| | 1 3 | | 3 | 10 | _ | | 5 | 90 | | | 7 | o' | |
| | 1 1 | | | | | ROC | F SP | AN (F | EET) | | | | |
| RAFTER | RAFTER | 12 | 20 | 28 | 35 | 12 | 20 | 28 | 36 | 12 | 20 | 28 | 35 |
| SLOPE | SPACING | R | EQUIRE | D NUMB | ER OF 1 | 6d COM | MON NA | JLS(a,b) | PER HE | EL JOIN | T SPLIC | ES (c,d,d | a,f) |
| 3:12 | 12 | 4 | 5 | 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 | 5 | 8 | 10 |

a. 40d BOX NAILS SHALL BE PERMITTED TO BE SUBSTITUTED FOR 16D COMMON NAILS.

NAILING REQUIREMENTS SHALL BE PERMITTED TO BE REDUCED 25% IF NAILS ARE CLINCHED. HEEL JOINT CONNECTIONS ARE NOT REQUIRED WHEN THE RIDGE IS SUPPORTED BY A LOAD-BEARING WALL, HEADER, OR RIDGE BEAM.

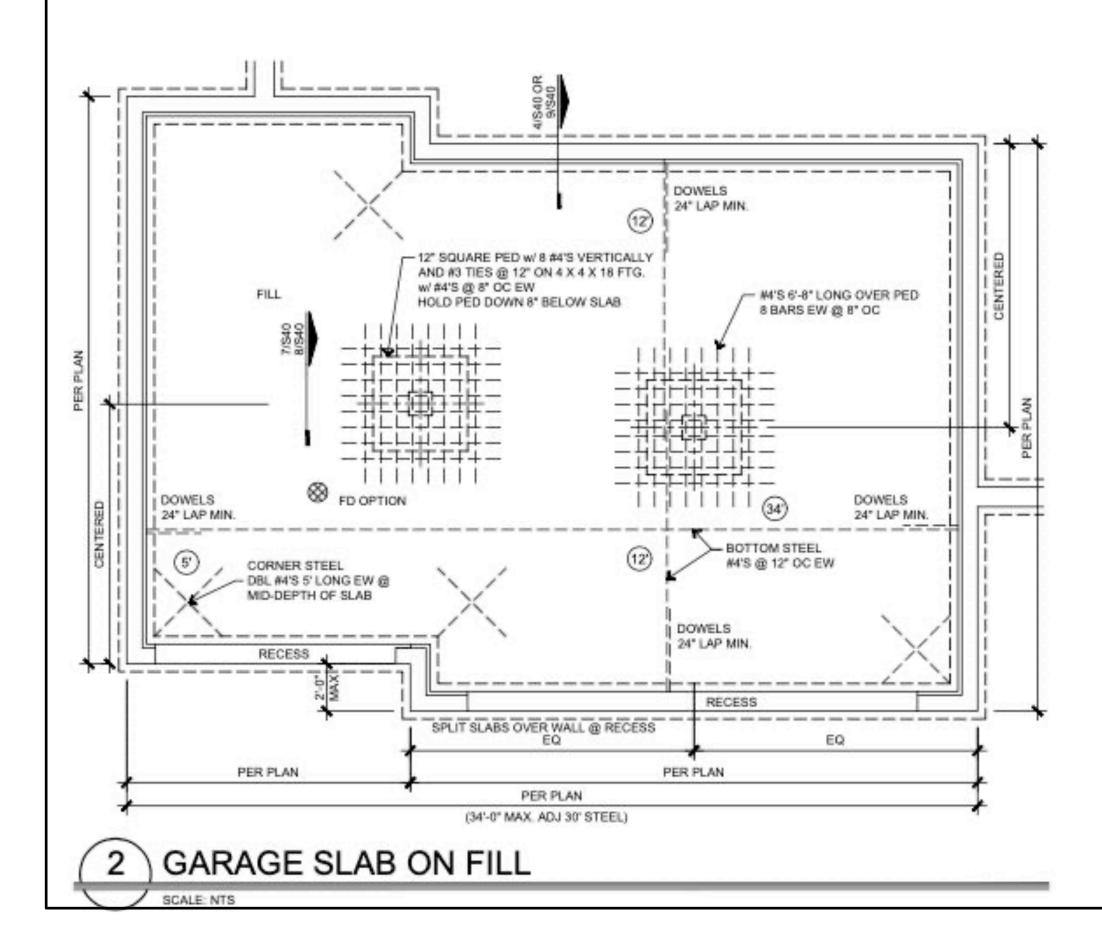
WHEN INTERMEDIATE SUPPORT OF THE RAFTER IS PROVIDED BY VERTICAL STRUTS OR PURLINS TO A LOAD-BEARING d. WALL, THE TABULATED HEEL JOINT CONNECTION REQUIREMENTS SHALL BE PERMITTED TO BE REDUCED PROPORTIONALLY TO THE REDUCTION IN SPAN.

EQUIVALENT NAILING PATTERNS ARE REQUIRED FOR CEILING JOIST TO CEILING JOIST LAP SPLICES. 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. TABULATED HEEL JOINT CONNECTION REQUIREMENTS ASSUME THAT CEILING JOISTS OR RAFTER TIES ARE LOCATED g.

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 | WHERE: |
|--------------|--------------------------------------------|------------------------------------------------|
| 1/3 | 1.5 | He= HEIGHT OF CEILING |
| 1/4 | 1.33 | JOISTS OR RAFTER TIES MEASURED VERTICALLY |
| 1/5 | 1.25 | ABOVE THE TOP OF THE RAFTER SUPPORT WALLS. |
| 1/6 | 1.2 | Hr=HEIGHT OF ROOF RIDGE MEASURED VERTICALLY |
| 1/10 OR LESS | 1.11 | ABOVE THE TOP OF THE RAFTER SUPPORT WALLS. |





CEILING JSTS AT

TOP PLATE

11'-9"

14'-1"

18'-2"

22-3"

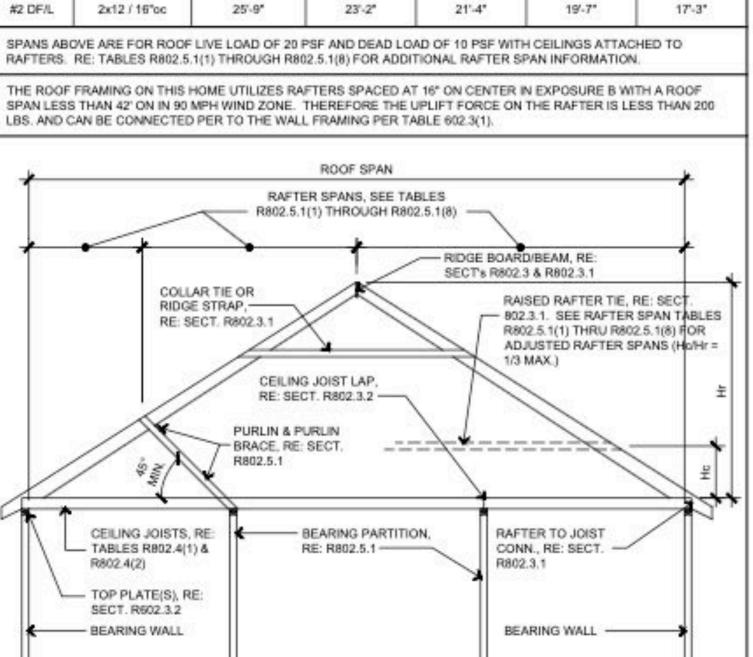
H_c/H_R=0.16

10'-6"

12'-8"

16'-4"

20'-0"



SCALE: NTS

MAX SPAN MAX SPAN MAX SPAN MAX SPAN MAX SPAN

H_c/H_R=0.20

9.9'

11'-8"

15'-1"

18'-5"

H_c/H_R=0.25

8-11"

10'-8"

13'-9"

16'-10"

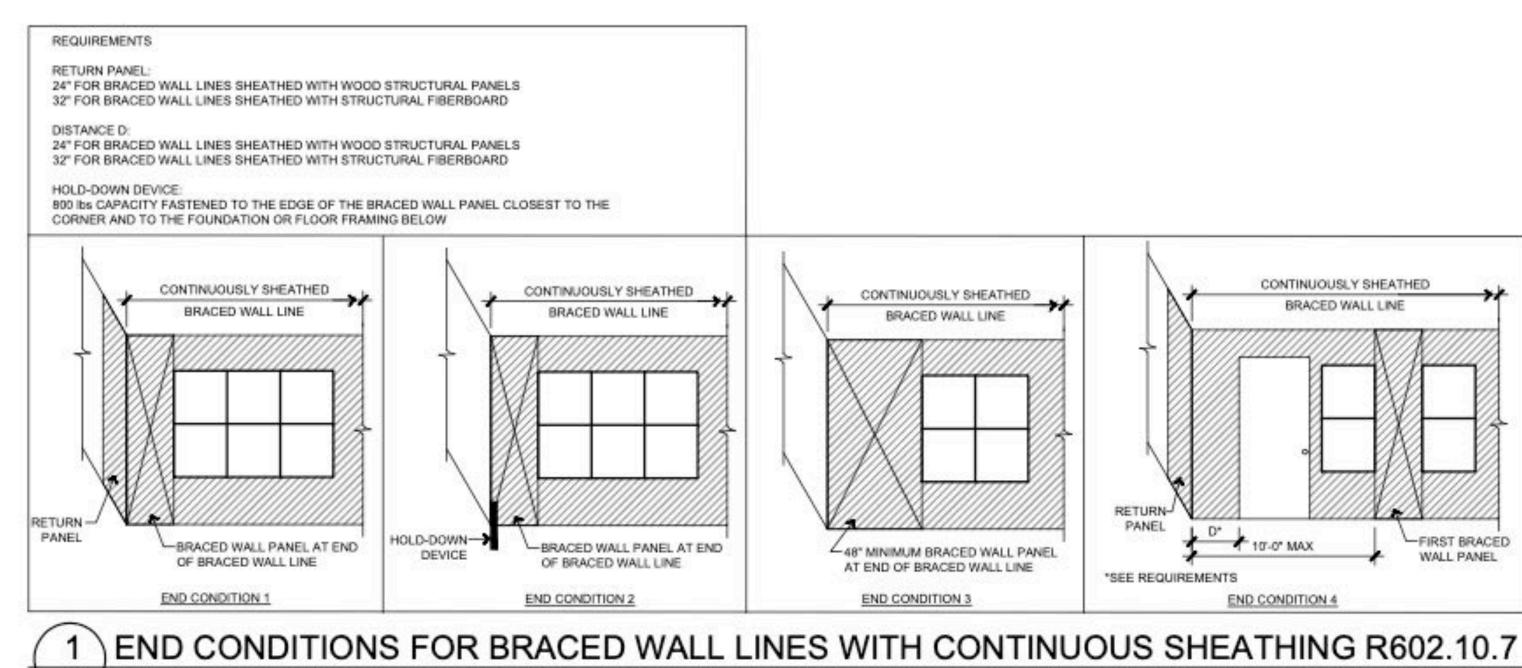
H_/H_R=0.33

7-10"

9'-5°

12'-2"

14'-10"



NAILING SCHEDULE IRC 2012 TABLE R602.3(1)

| Description of Building Elements | Number & Type of Fastener (a,b,c) | Spacing of Fasteners | | | |
|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------|--|--|--|
| Ro | aaf | | | | |
| Blocking between joists or rafters to top plate, toe nall | 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") | | | | |
| w | al | | | | |
| 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 0.136") | 15" o.c. along ea. edge | | | |
| Continuous header to stud, toe nail | 4 - 8d (2 1/2" x 0.113") | | | | |
| Double studs, face nall | 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 nall | 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" | | | | |
| Fk | or | 2 | | | |
| Joist to sill or girder, toe nail | 3 - 8d (2 1/2" x 0.113") | | | | |
| Rim joist to top plate, toe nall (roof applications also) | 8d (2 1/2" x 0.113") | 6" 0.0. | | | |
| 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 | | | |
| (Cont | inued) | | | | |

NAILING SCHEDULE

IRC 2012 TABLE 8602 3(1)

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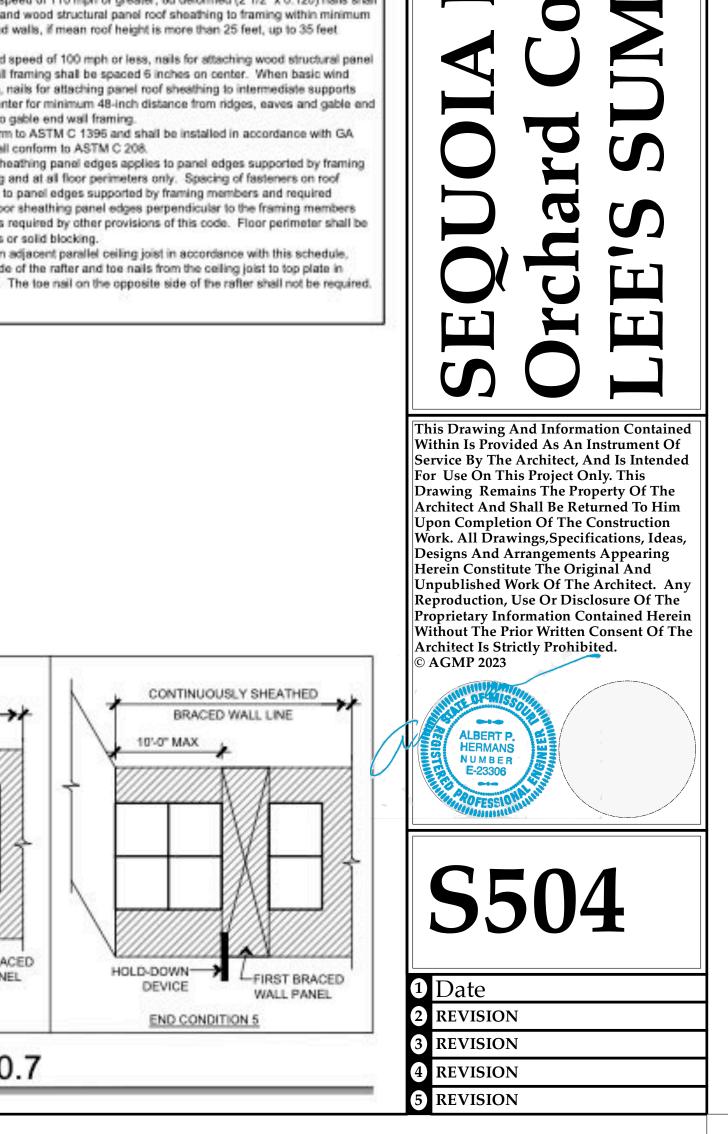
Internet - Bruce@AGMPARCH.com

Rov Browne Architect of Record

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μÌ

| Description of I | Building Elements | Number & Type Fastener (a.b. | | Spacing of Fasteners | | |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| | Elect (C | Continued) | c7 | | | |
| | FIG0 [6 | (onumbed) | | Nulling | Income on failure | |
| Buill-up girders and bea | 10d (3" x 0.128 | 57 | Nail ea. layer as follow 32" o.c. at top & bott a staggered. Two nails a ends and at ea. splice | | | |
| Ledger strip supporting | joists or rafters | 3 - 16d (3 1/2* x 0 | 135") | At ea | ch joist or rafter | |
| | | | | | | |
| Description of Building | Description of Faste | | spacing | of Fasteners Intermediate | | |
| Materials | | iner (essie) | Edges (i) | | Supports (c,e | |
| Wood Structural F | Panels, subfloor, roof and w sheathing | all sheathing to fram to framing | ing, and | particle | board wall | |
| 3/8" - 1/2" | 6d common (2"x0.113") na 8d common (2 1/2" x 0.1 | | 6' | | 12" (g) | |
| 19/32" - 1" | 8d common (2 1/2* x 1 | 0.131") nail (f) | 6' | | 12" (g) | |
| 1 1/8" - 1 1/4" | 10d common (3" x 0. 8d (2 1/2" x 0.131") d | | 6* | 12* | | |
| | Other walls | sheathing (h) | | | | |
| 1/2" structural cellulosic | 1 1/2" galvanized roofing | | _ | _ | | |
| fiberboard sheathing | (2 1/2 x 0.131 staple 16 ga., 1 | 1/2" long | 3* | | 6* | |
| 25/32" structural cellulosic fiberboard sheathing | 1 3/4" galvanized roofing (2 1/2" x 0.131 staple 16 ga., 1 1 | 3* | | 6* | | |
| 1/2" gypsum sheathing (d) | 1 1/2" galvanized n staple galvanized, 1 1/4" screws, Typ | r | | 7* | | |
| 5/8° gypsum sheathing (d) | 1 3/4" galvanized n staple galvanized, 1 5/8" screws, Typ | 1 5/8" long; | 7* | | 7* | |
| Wood | structural panels, combinati | on subfloor underlay | ment to | framing | | |
| 3/4" or less | 4" or less 6d deformed (2" x 0.120") 8d common (2 1/2" x 0.13 | | | 6* 12 | | |
| 7/8* - 1* | 0.131") nail or x 0.120") nail | 6' | 12* | | | |
| 1 1/8" - 1 1/4" | 148") nail or x 0.120") nail | 6. | | 12* | | |
| for framing and shu shown: 80 ksi for s larger than 0.142 in or less. b. Staples are 16 gag c. Nails shall be spac greater. d. Four-foot-by-8-foot e. Spacing of fastene f. For regions having be used for attachil 48-inch distance for maximum. g. For regions having roof sheathing to g speed is greater th shall be spaced 6 i walls; and 4 inches h. Gypsum sheathing 253. Fiberboard si | h-common, box or deformed athing connections shall he hank diameter of 0.192 inch toh but not larger than 0.17 ge wire and have a minimum ed at not more than 6° on c or 4-foot-by-9-foot panels a rs not included in this table basic wind speed of 110 m ng plywood and wood struc om gable end walls, if mean a basic wind speed of 100 able end wall framing shall an 100 mph, nails for attach notes on center for minimu s on center to gable end wal shall conform to ASTM C 1 heathing shall conform to A | ave minimum averag (20d common nail), 7 inch, and 100 ksi for a 7/16-inch on diame enter at all supports shall be applied vertic shall be based on Ta ph or greater, 8d def tural panel roof sheat roof height is more the spaced 6 inches of ting panel roof sheat m 48-inch distance fi I framing. 1396 and shall be ins STM C 208. | e bendir 90 ksi fi or shank ter crow where s ally. ble R60 ormed (2 thing to i than 25 stachir on cente hing to ii rom ridg talled in | ng yield or shan diamet n width. pans ar 12.3(2). 2 1/2" x framing feet, up ng wood r. Whe ntermed es, eav accord | strengths as k diameters ers of 0.142 inch e 48 inches or 0.120) nails sha within minimum to 35 feet f structural pane n basic wind fiste supports es and gable end ance with GA | |
| members and requi sheathing panel ed blocking. Blocking need not be provid supported by frami | rs on moor snearing panel ired blocking and at all floor Iges applies to panel edges of roof or floor sheathing pa ed except as required by ot ng members or solid blocking stened to an adjacent para | r perimeters only. Sp supported by framin anel edges perpendic her provisions of this ng. | acing of g memb cular to t code. F | f fasten ers and he fram Floor pe | ers on roof I required ning members rimeter shall be | |



BRACED WALL LINE 10-0" MAX FIRST BRACED WALL PANEL *SEE REQUIREMENTS END CONDITION 4

CONTINUOUSLY SHEATHED