Docket Item #3 BZA Case #2025-00003 Board of Zoning Appeals April 7, 2025

ADDRESS: 523 TENNESSEE AVENUE **ZONE:** R-8, RESIDENTIAL ZONE

APPLICANT: CONRAD SYMBER, PROPERTY OWNER

ISSUE: Variance to construct a second-story addition in the required east side

yard.

CODE	SUBJECT	CODE	APPLICANT	REQUESTED
SECTION		REQUIREMENT	PROPOSES	VARIANCE
3-306 (A)(2) Two-story addition	Side yard	11.90 feet* (East)	7.37 feet	4.53 feet

^{*} Based on a building height of 23.80 feet measured from average pre-construction grade to the midpoint of the gable roof facing the east side yard, a setback of 11.90 feet is required.

Staff <u>recommend approval</u> of the requested variance because it meets all of the variance standards.

If the Board grants the requested variance, the applicant must comply with all the requirements of this report's department comments and the following conditions: (1) Reconcile with Real Estate Assessment regarding the lot size as what is written on the survey differs than what the City's records show; (2) Submit a survey plat prepared by a licensed surveyor confirming building footprint and setbacks prior to all final inspections; (3) The variance must be recorded with the property's deed in the City's Land Records Office prior to the release of the building permit.

I. <u>Issue</u>

The applicant requests a variance to expand and enclose an existing open deck and screened porch on the first floor, construct a deck and a second story addition in the required east side yard. Additionally, the applicant proposed to construct a second story rear addition in compliance with the R-8 zone requirements.

II. Background

The subject property is one lot of record with 50.00 feet of frontage facing Tennessee Avenue, a depth of 129.38 along the west side property line, 131.25 along the east side property line and 50.00 across the rear property line. The property contains 6,516 square feet of lot area. The subject property is substandard as to the minimum lot size and lot width requirements for the R-8 zone.

The lot is developed with a two-story single unit dwelling. According to Real Estate Assessment Records, the structure was constructed in 1940. The dwelling is located 25.50 feet



Figure 1: Subject Property

from the front property line facing Tennessee Avenue, 7.60 feet from the west property sideline, 7.37 feet from the east side property line and 67.18 feet from the north rear property line.

The following table provides zoning analysis of the subject property:

R-8Zone	Required/Permitted	Existing	Proposed*
Lot Area	8,000 sq. ft.	6,516 sq. ft.	6,516 sq. ft.
Lot Frontage	40.00 ft.	50.00 ft.	50.00 ft.
Lot Width	65.00 ft.	50.00 ft.	50.00 ft.
Front Yard	24.40 ft.*	25.50 ft.	25.50 ft.
setback			
Side Yard (East)	11.90 ft. **	7.37 ft.	7.37 ft.
Side Yard	11.90 ft. ***	7.60 ft.	7.60 ft.
(West)			
Rear Yard	23.90 ft ****	67.18ft.	67.18ft.
Height	30.00 ft.	< 30 ft.	23.90 ft.*
Floor Area Ratio	2292.50 sq. ft.	1,409.25 sq. ft.	1,987.98 sq. ft.
(FAR)	(.35)	(.22)	(.31)

^{*} Required front setbacks determined by the contextual block face range.

** Based on the side yard setback ratio of 1:2 and a building height of 23.80 feet measured from average preconstruction grade to the midpoint of the gable roof of the proposed second-story side addition facing the east side yard.

*** Based on the side yard setback ratio of 1:2 and a building height of 23.80 feet measured from average pre-construction grade to the midpoint of the gable roof of the existing dwelling facing the west side yard.

**** Based on rear setback ratio of 1:1 and a building height of 23.90 feet measured from average pre-construction grade to the midpoint of the gable roof of the proposed second-story side addition facing the rear yard.

III. Description

The applicant proposes to demolish an existing open deck and screened porch located above an existing basement level garage and construct a two-story addition and deck in the required east side yard above the garage and construct a second story rear addition.

The proposed two-story side addition will measure 9.83 feet by 19.54 feet for a total of 192.08 square feet on each floor. The proposed deck behind this addition will

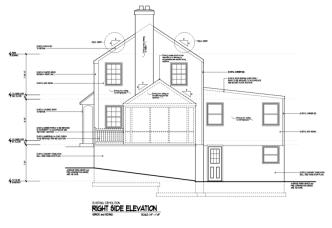


Figure 2: Existing East Elevation

measure 7.50 feet by 10.25 feet, a total of 76.88 square feet. The addition will measure 23.80 feet in height measured from average pre-construction grade to the midpoint of the gable roof facing the east side yard and require a setback of 11.90 feet based on the 1:2 setback ratio. The addition and deck will be located immediately above the existing noncomplying garage wall 7.37 feet from the east side property line and requires a variance of 4.53 feet. While the existing garage and screened porch are noncomplying as to the required side setback, neither meets all the criteria of section 11-1302(B)(2) to establish a noncomplying plane to qualify this request as special exception. Therefore, the applicant is requesting a variance of 4.53 feet to construct the two-story side addition and deck 7.37 feet from the east side property line.

The applicant also proposes a second-story rear addition that will measure 15.58 feet by 21.25 feet for a total of 331.08 square feet. The addition will measure 21.47 feet in height measured from average pre-construction grade to the eaves facing the side yards, requiring a setback of 10.74 feet from both the east and west side yards. The addition will be located 17.80 feet from the east side property line and 10.80 feet from the west side property line and over 60.00 feet from the rear property line. The second-story rear addition complies with zoning and no variance is required.

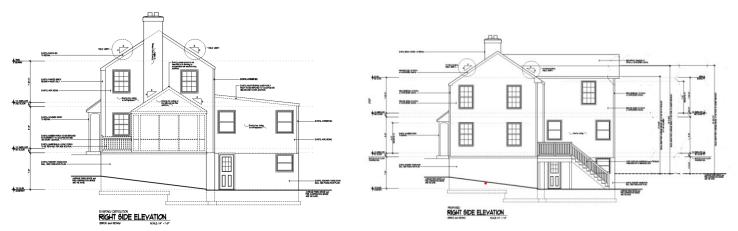


Figure 3: Existing East Elevation

Figure 4: Proposed East Elevation

IV. Master Plan/Zoning

The subject property is currently zoned R-8, Residential Zone and has been so zoned since adoption of the Third Revised Zoning Map in 1951. The North Ridge Small Area Plan identifies the property for residential land use.

V. Requested Variance:

Side Yard 3-306(A)(2)

The R-8 zone requires a side yard based on a height to setback ration of 1:2 with a minimum of 8.00 feet. The height of the proposed addition is 23.80 feet measured from average preconstruction grade to the midpoint of the gable roof facing the east side yard and requires a setback of 11.90 feet from the east side property line. The applicant requests a variance of 4.53 feet to construct the addition in the required east side yard.

VI. Substandard Lot and Noncomplying Structure

The subject property is substandard lot developed with a noncomplying structure with respect to the following:

	Required	Provided	Noncompliance
Lot Size	8,000 sq. ft.	6,516 sq. ft	1,484 sq. ft.
Lot Width	65.00 ft.	50.00 ft.	15.00 ft.
Side Yard (East)	8.00 ft.*	7.37 ft.	0.63 ft.
Side Yard (West)	11.90 ft.**	7.37 ft.	4.53 ft.

^{*} Based on the height of the existing screened porch, 13.25 feet measured from average pre-construction grade to the midpoint of the gable roof facing the east side yard, a setback of 8.00 feet is required from the east side property line.

^{**} Based on the height of the existing dwelling, 23.80 feet, measured from average pre-construction grade to the midpoint of the gable roof facing the west side yard, a setback of 11.90 feet is required from the west side property line.

VII. Applicants Justification for Variance

The applicant's justification for the variance is that when purchasing the house in 2021, the intention was to extend and build a fourth bedroom to accommodate a sizable family. It was not until submitting the building permit that the issues regarding substandard nature of the lot became known. The applicant has stated that if the home can be expanded, the family can remain in the existing house.

VIII. Analysis of Variance Definition

Per zoning ordinance section 11-1103, the Board of Zoning Appeals shall not grant a variance unless it finds that the request meets the definition of a variance per zoning ordinance section 2-201.1 as follows:

a. The request is a reasonable deviation from those provisions regulating the shape, size, or area of a lot or parcel of land or the size, height, area, bulk, or location of a building or structure.

The request is a reasonable deviation from zoning regulations of the R-8 zone. The existing house is located on a lot that is substandard in lot size and lot width, resulting in an existing noncomplying structure located in both required side yards on a lot that has over 6.00 feet of grade change from the front to the back of the dwelling. The substandard lot size, narrowness of the lot, and the topography where the lot slopes to the rear make the requested relief a reasonable deviation from the required east side



Figure 5: Existing Condition (Rear View)

yard setback. The proposed addition does not exceed the existing footprint of the garage.

b. Strict application of the zoning ordinance would unreasonably restrict the utilization of the property.

While the property can continue to be used as a dwelling, the substandard lot size, narrow width, and the topography of the lot restrict the buildable area on the lot. The applicant is proposing to build above existing footprints rather than further expanding the dwelling toward the rear where the elevation of the lot further drops towards the rear property line. The inability for the applicant to add the addition would unreasonably restrict the use of the property as the property has additional square footage available to expand; however, the narrowness of the lot, the topography of the lot and the location of the existing structure in the required side yards poses challenges to expand the house without necessitating the need to petition the Board of Zoning Appeals.

c. The need for a variance is not shared generally by other properties.

While there are other substandard R-8 zoned lots in the City, many of the homes in this block of Tennessee Avenue, including the subject property, are unique due to the combination of substandard lot size, narrow lot width, and an extreme change in elevation of the lot from the front yard to the rear yard, resulting in significant construction and design challenges to accommodate modest additions. Additionally, the existing dwelling is already constructed in both required side yards. The need for the requested variance would not be shared generally by other properties across the City.

d. The variance is not contrary to the purpose of the ordinance

The requested variance to replace an existing one-story screened porch above an existing noncomplying garage with a two-story addition and rear deck is not contrary to the purpose of the ordinance. Two-story additions are common throughout the City and due to the lot constraints on this property the variance is necessary to allow this property to construct a modest addition. The need for the variance and the modification requested would not be contrary to the ordinance because the addition will continue provide the existing setback which will limit the impact of the addition on the adjacent property, which is the purpose of the side yard setback.

e. The variance does not include a change in use, which change shall be accomplished by a rezoning.

The requested variance does not change the use. The structure will continue to be used as a single-unit dwelling.

IX. Analysis of Variance Standards

A variance allows a property owner to do what is otherwise not allowed under the ordinance. Per Zoning Ordinance Section 11-1005(B) the BZA hears and decides applications for variances and any application must meet the standards under Zoning Ordinance Section 11-1103. A The criteria do not include considerations like the cost or financial hardship and are therefore inappropriate. The decisions of the BZA must be in conformance with the Zoning Ordinance; otherwise, they will be overturned by the courts. Thus, only the standards under Section 11-1100 can be considered in making a variance decision. Per zoning ordinance Section 11-1100, the Board of Zoning Appeals shall not grant a variance unless it finds that the request meets the variance standards as follows:

a. The strict application of the terms of the ordinance would unreasonably restrict the utilization of the property or that the granting of the variance would alleviate a hardship due to a physical condition relating to the property or improvements thereon at the time of the effective date of the ordinance.

The variance would alleviate a number of hardships on the lot which restrict the

applicant's ability to expand the dwelling. The substandard lot size and lot width coupled with the extreme topography on the lot and the placement of the existing dwelling in both required side yards, significantly diminish the buildable area on the lot and necessitate the requested variance.

b. The property interest for which the variance is being requested was acquired in good faith and any hardship was not created by the applicants for the variance.

The property was likely acquired in good faith. The applicant stated he was unaware of the substandard lot size, lot width or the noncomplying status of the existing dwelling in the required side yards.

c. The granting of the variance will not be of substantial detriment to adjacent property and nearby properties in the proximity of that geographical area.

While many of the dwellings along Tennessee Avenue are configured similarly with a one-story addition or porch on one side, there are second and two-story additions of various configurations in the general area. The proposed two-story addition in the required east side yard will not exceed the height of existing dwelling and will not negatively impact the adjacent property to the east because the wall of the adjacent dwelling is also two stories and of approximately the same height setback 7.30 feet from the shared property line, the same distance proposed by the applicant. There will be a total of 14.67 feet between the two dwellings providing an adequate supply of light and air.

d. The condition or situation of the property concerned is not so general or recurring in nature as to make reasonably practicable the formulation of a general regulation to be adopted as an amendment to the ordinance.

While there are many other substandard lots across the City, this substandard lot is unique due to the combination of substandard lot size, narrow lot width, placement of the existing dwelling, and an extreme change in elevation of the lot from the front yard to the rear yard. The combination of these factors creates construction and design challenges to build additions in compliance with the R-8 zone regulations on this lot. The need for the requested variance would not be shared generally by other properties in the City and does not make it reasonably practical to amend the zoning ordinance to address this situation.

e. The granting of the variance does not result in a use that is not otherwise permitted on such property or a change in the zoning classification of the property.

The variance request would not result in a use that is prohibited, and the subject property will continue to be used as a single-unit dwelling.

f. The relief or remedy sought by the variance application is not available through a special exception process that is authorized in the ordinance or the process for modification of a zoning ordinance at the time of the filing of the variance application.

While the applicant is proposing to build above the existing noncomplying wall of the existing garage and in line with the screened porch wall, neither wall meets all the criteria of Section 11-1302(B)(2), including establishing a noncomplying plane to qualify this request as special exception because the noncomplying wall is not at least 50 percent of the length of the building along the side containing such wall. Therefore, the applicant must request a variance.

X. Staff Conclusion

In conclusion, <u>staff recommend approval</u> of the requested variance because it meets all the standards for a variance as outline above.

Staff

Marlo J.W. Ford, AICP, Urban Planner, marlo.ford@alexandriava.gov Mary Christesen, Principal Planner, mary.christesen@alexandriava.gov Tony LaColla, Division Chief, Lan Use Services, tony.lacolla@alexandriava.gov

DEPARTMENTAL COMMENTS

Legend: C - code requirement R - recommendation S - suggestion F - finding

* The applicant is advised that if the special exception and/or variance is/are approved the following additional comments apply.

Transportation and Environmental Services:

- R-1 The building permit must be approved and issued prior to the issuance of any permit for demolition, if a separate demolition permit is required. (T&ES)
- R-2 Applicant shall be responsible for repairs to the adjacent city right-of-way if damaged during construction activity. (T&ES)
- R-3 No permanent structure may be constructed over any existing private and/or public utility easements. It is the responsibility of the applicant to identify any and all existing easements on the plan. (T&ES)
- F-1 After review of the information, an approved grading plan is not required at this time. Please note that if any changes are made to the plan, it is suggested that T&ES be included in the review. (T&ES)
- C-1 The applicant shall comply with the City of Alexandria's Solid Waste Control, Title 5, Chapter 1, which sets forth the requirements for the recycling of materials (Sec. 5-1-99). (T&ES)
- C-2 The applicant shall comply with the City of Alexandria's Noise Control Code, Title 11, Chapter 5, which sets the maximum permissible noise level as measured at the property line. (T&ES)
- C-3 Roof, surface and sub-surface drains be connected to the public storm sewer system, if available, by continuous underground pipe. Where storm sewer is not available applicants must provide a design to mitigate the impact of stormwater drainage onto adjacent properties and to the satisfaction of the Director of Transportation & Environmental Services. (Sec.5-6-224) (T&ES)
- C-4 All secondary utilities serving this site shall be placed underground. (Sec. 5-3-3) (T&ES)
- C-5 Any work within the right-of-way requires a separate permit from T&ES. (Sec. 5-2) (T&ES)
- C-6 All improvements to the city right-of-way such as curbing, sidewalk, driveway aprons, etc. must be city standard design. (Sec. 5-2-1) (T&ES)

Code Administration:

C-1 A building permit is required

Recreation (City Arborist):

No comments.

Historic Alexandria (Archaeology):

- F-1 According to historic maps and aerial photographs, the house on this property was built ca. 1940. This property could contain significant archaeological evidence of the development of mid-20th century Alexandria.
- R-1 *The applicant/developer shall call Alexandria Archaeology immediately (703-746-4399) if any buried structural remains (wall foundations, wells, privies, cisterns, etc.) or concentrations of historic or prehistoric artifacts are discovered during development. Work must cease in the area of the discovery until a city archaeologist comes to the site and records the finds.
- R-2 *The applicant shall not allow any metal detection and/or artifact collection to be conducted on the property, or allow independent parties to collect or excavate artifacts, unless authorized by Alexandria Archaeology. Failure to comply shall result in project delays. The language noted above shall be included on all final site plan sheets involving any ground disturbing activities. (Archaeology)
- R-3 *All required archaeological preservation measures shall be completed in compliance with Section 11-411 of the Zoning Ordinance.
- R-4 The statements in archaeological conditions above marked with an asterisk (*) shall appear in the General Notes of all site plans, grading plans, or building permits (BLDC, BLDR, BAR, BZA) so that on-site contractors are aware of the requirements.



PART A

Section of zoning ordinance from which request for variance is made:

Applicant: [] Owne	r [] Contract P	urchaser []	Agent
Name			
Address _	_		
Daytime Phone _			
Email Address			
Property Location	523 Tenness	see Ave	
Assessment Map #	Block	Lot	Zone
Legal Property Owner	Name		
Address			

OWNERSHIP AND DISCLOSURE STATEMENT

Use additional sheets if necessary

1. Applicant. State the name, address and percent of ownership of any person or entity owning an interest in the applicant, unless the entity is a corporation or partnership, in which case identify each owner of more than three percent. The term ownership interest shall include any legal or equitable interest held at the time of the application in the real property which is the subject of the application.

Name	Address	Percent of Ownership
1.		
2.		
3.		

2.	Property.	State the name, address and percent of ownership	p of any person or entity owning
an	interest in	the property located at	(address), unless the
ent	ity is a cor	poration or partnership, in which case identify each	owner of more than three
per	cent. The	term ownership interest shall include any legal or e	equitable interest held at the time
of t	he applica	tion in the real property which is the subject of the	application.

Name	Address	Percent of Ownership
1.		
2.		
3.		

3. Business or Financial Relationships. Each person or entity listed above (1 and 2), with an ownership interest in the applicant or in the subject property is required to disclose **any** business or financial relationship, as defined by Section 11-350 of the Zoning Ordinance, existing at the time of this application, or within the12-month period prior to the submission of this application with any member of the Alexandria City Council, Planning Commission, Board of Zoning Appeals or either Boards of Architectural Review (OHAD and Parker-Gray). All fields must be filled out completely. Do not leave blank. (If there are no relationships please indicate each person or entity below and "NONE" in the corresponding fields.)

Name of person or entity	Relationship as defined by Section 11-350 of the Zoning Ordinance	Member of the Approving Body (i.e. City Council, Planning Commission, etc.)
1.		
2.		
3.		

NOTE: Business or financial relationships of the type described in Sec. 11-350 that arise after the filing of this application and before each public hearing must be disclosed prior to the public hearings.

5. Describe request briefly:

6. If property owner or applicant is being represented by an authorized agent, such as an attorney, realtor or other person for which there is a form of compensation, does this agent or the business in which they are employed have a business license to operate in the City of Alexandria, Virginia?

Yes — Provide proof of current City business license.

No — Said agent shall be required to obtain a business prior to filing application.

THE UNDERSIGNED HEREBY ATTESTS that all of the information herein provided including the site plan, building elevations, prospective drawings of the projects, etc., are true, correct and accurate. The undersigned further understands that, should such information be found incorrect, any action taken by the Board based on such information may be invalidated. The undersigned also hereby grants the City of Alexandria permission to post placard notice as required by Article XI, Division A, Section 11-301(B) of the 1992 Alexandria City Zoning Ordinance, on the property which is the subject of this application. The applicant, if other than the property owner, also attests that he/she has obtained permission from the property owner to make this application.

APPLICANT OR AUTHORIZED AGENT:

I, as the applicant or authorized agent, note that there is a fee associated with the submittal of this application. Planning & Zoning Department staff will be in contact with the applicant regarding payment methods. Please recognize that applications will not be processed until all fees are paid.

Yes No I affirm that I, the applicant or authorized agent, am responsible for the processing of this application and agree to adhere to all the requirements and information herein.

Date:

Signature: Conrad Symber

Pursuant to Section 13-3-2 of the City Code, the use of a document containing false information may constitute a Class 1 misdemeanor and may result in a punishment of a year in jail or \$2,500 or both. It may also constitute grounds to revoke the permit applied for with such information.

PART B

APPLICANT MUST EXPLAIN THE FOLLOWING:

(Please **attach** additional pages where necessary.)

1	Please	answer	Δ or R·	
1.	I ICASC	aliswei	AUID.	

A.	Explain	how	enforcement	of t	the	zoning	ordinance	would	prevent
	reasona	ble us	se of the prop	erty.					

B. Explain how the variance, if granted, would alleviate a hardship, as defined above.

- 2. Is this unreasonable restriction or hardship unique to the property?
 - A. Explain if the restriction or hardship is shared by other properties in the neighborhood.

B. Does this situation or condition of the property (on which this application is based) generally apply to other properties in the same zone?

	3.	Was A.	Did the condition exist when the property was purchased?
	В.		the applicant purchase the property without knowing of this triction or hardship?
	C.		v and when did the condition, which created the unreasonable triction or hardship, first occur?
	D.		the applicant create the unreasonable restriction or hardship I, if so, how was it created?
4.		Α. Ι	e variance, if granted, be harmful to others? Explain if the proposed variance will be detrimental to the adjacent properties or the neighborhood in general.

B.	Has the applicant shown the proposed plans to the most affected
	property owners? Have these property owners written statements of
	support or opposition of the proposed variance? If so, please attach
	the statements or submit at the time of the hearing.

5. Is there any other administrative or procedural remedy to relieve the hardship or unreasonable restriction?

PART C

1. Have alternative plans or solutions been considered so that a variance would not be needed? Please explain each alternative and why it is unsatisfactory.

Z.	requested variance meets the required standards.
	*** A TTENTION A DDI IC ANTC***
	ATTENTION APPLICANTS
Varian of you	time of application for a Special Use Permit, Rezoning, Vacation, Encroachment, ce, Special Exception or Subdivision, you must provide a draft of the description r request you intend to use in the property owner's notice. You must be thorough r description. Staff will review the draft wording to confirm its completeness.
The ex	cample illustrates a detailed description:
"Variar Street."	nce to construct a two-story addition in the required side yards on
	fail to submit draft language at the time of the application filing deadline, the ation will be determined to be incomplete and may be deferred by staff.



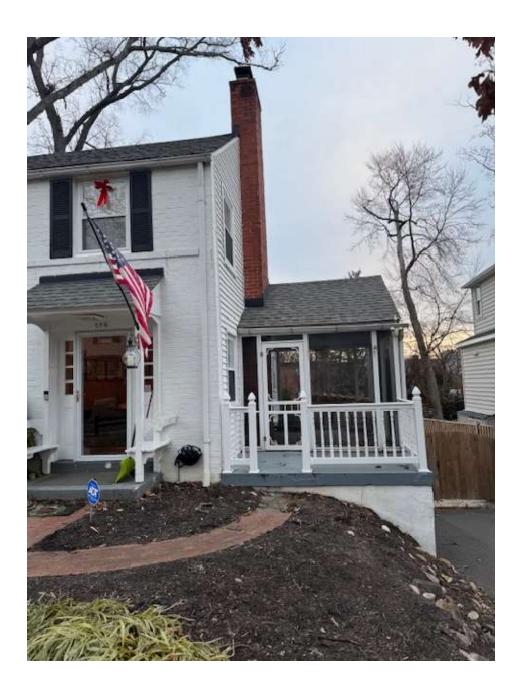
Department of Planning and Zoning Floor Area Ratio and Open Space Calculations for Single and Two-Family Residential Outside Historic Districts

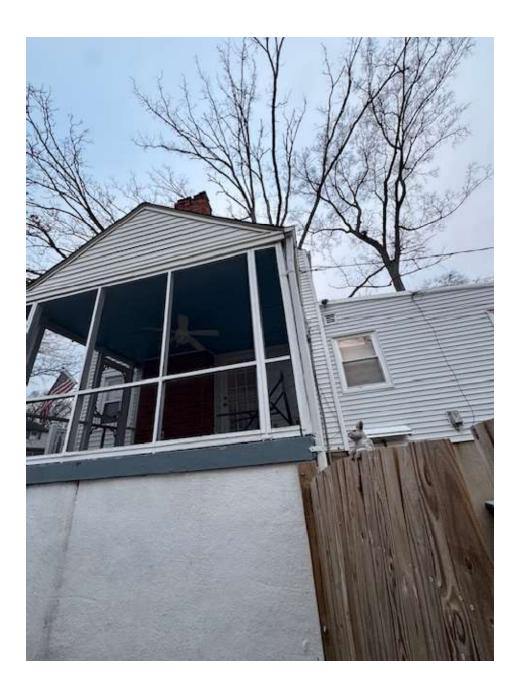


A.	Property Infor	rmation					
A1.							
	Street Address					Zone	
A2.	Total Lot Area		X	Floor Area Ratio Allowed by Zone	=	Maximum Allowable Floor Area	
	Existing Gross Existing Gross A Basement First Floor Second Floor Third Floor Attic Porches Balcony/Deck Garage Other*** Total Gross		B2.	Allowable Exclusions** Basement** Stairways** Mechanical** Attic less than 7'** Porches** Balcony/Deck** Garage** Other*** Other*** Total Exclusions		B1. Existing Gross Floor Area* B2. Sq. Ft. Allowable Floor Exclusions** B3. Sq. Ft. Existing Floor Area Minus Exclusions (subtract B2 from B1) Comments for Existing Gross Floor Area	
	Proposed Gross Proposed Gross Basement First Floor Second Floor Third Floor Attic Porches Balcony/Deck Garage Other*** Total Gross	oss Floor Area	C2.	Allowable Exclusions** Basement** Stairways** Mechanical** Attic less than 7'** Porches** Balcony/Deck** Garage** Other*** Other*** Total Exclusions		C1. Proposed Gross Floor Area* C2. Allowable Floor Exclusions** C3. Sq. Ft. Proposed Floor Area Minus Exclusions	
D. D1. D2.	Total Floor Area (a Total Floor Area A by Zone (A2)	Sq. Ft. add B3 and C3)		E. Open Space (RA & RB Zones) E1. Sq. I Existing Open Space E2. Sq. I Required Open Space E3. Sq. I Proposed Open Space	Ft.		
The un	dersigned hereby	y certifies and atte	sts t	that, to the best of his/her knowledg	ge, 1	, the above computations are true and correct.	

Signature:	Date:













Building thermal envelope. The building thermal envelope shall be durably sealed to limit infiltration. The sealing methods shall conform to those outlined in the criteria column of Table NII02.4.1.1 (402.4.1.1) in the 2018 Virginia Residential Code - "Air Barrier and Insulation Installation".

The building components to be addressed are as follows: Air barrier and thermal barrier, Ceiling/attic, Walls, Windows, skylights and doors, Rim joists, Floors (including above-garage and cantilevered floors, Crawl space walls, Shafts, penetrations, Narrow cavities, Garage separations, Recessed lighting, Plumbing and wiring, Shower/tub on exterior wall, Electrical/phone box on exterior walls, HVAC register boots, Fireplace and Concealed sprinklers.

Air sealing and Insulation. Building envelope air tightness and insulation installation shall be demonstrated to comply with sections NIIO2.4.1.1 and NIIO2.4.1.2. The sealing methods between dissimilar materials shall allow for differential expansion and contraction.

Window sills.

In dwelling units, where the top of the sill of an operable window opening is located less than 18 inches above the finished floor and greater than 72 inches above the finished grade or other surface below on the exterior of the building, the operable window shall comply with one of the methods outlined in section R3122.1 of the 2018 VRC.

DESIGNER: CSE DESIGNS, INC.

7371 Atlas Walk Way, #110, Gainesville, Virginia 20155 Phone 703-969-2878

the SYMBER RESIDENCE

Addition & Renovation)

(CITY OF ALEXANDRIA, VIRGINIA) 523 Tennessee Avenue, Alexandria, Virginia 22305

BUILDER:

LAKEWOOD HOME BUILDERS

Duct - R-6, R-8 in attics Energy Requirements: Energy Requirements shall be complied with and addressed per

2018 VRC Chapter II - Energy Efficiency.

Floors over unconditioned space - R19

or R-38 Insulation over 100% of the ceiling

area requiring insulation and extends over the wall top plate a the eaves.

Insulation R-Values:

Framing Cavity - R-13

Crawl Space - R-10/13

Ceilina/Roof - R-49

Continuous Insulation - R-10

Floor Slab - R-10 @ 2'-0"

Walls - R-15

Basement Walls -

• Fenestration - 0.32 • Skylights - 0.55 • Sunrooms-Thermally isolated - 0.45

Fenestration Maximum U-factors Permitted:

 Access Hatches and Doors from conditioned to unconditioned spaces - Required to be Weather stripped and insulated to equivalent on surrounding surfaces NII02.2.4 (402.2.4)

Joints, seams and connections. All joints, longitudinal and transverse seams, and connections in ductwork shall be securely fastened and sealed with welds, gaskets, mastics (adhesives), mastic-plus-embedded-fabric systems or tapes, per the international mechanical code or Section MI601.4.1 of the 2018 Virginia Residential Code, as applicable.

STRUCTURAL ENGINEER: RKC ENGINEERING

8222 Crackling Fire Drive, Gainesville, Virginia 20155 Phone 703-753-9207 Email: rob@rkceng.com

SPECIFICATIONS

10008 Pouring Rain Place, Nokesville, Virginia 20181

Phone 540-359-0839

<u>SPECIFICATIONS</u>

1.04 TYPICAL CONDITIONS

1.0 GENERAL The work shall comply with all applicable local and state codes, ordinances regulations and amendments and all other authorities having jurisdiction. The work shall comply with interpretations of the local building official. If the interpretation of the local building official is at variance with these documents, inform the

1.02 CONSTRUCTION METHODS AND TECHNIQUES The architect is not responsible for construction means, methods, techniques, procedures, or for safety measures in connection with the work, and shall not be held responsible for the failure of the owner (client) or his contractors, subcontractors or anyone performing the work, to carry out the work in accordance with the contract documents

1,03 FIELD CONDITIONS AND DIMENSIONS On-site verification of all dimensions and conditions shall be the responsibility of the general contractor and his subcontractors. Noted dimensions take precedence over scaled dimensions. Architect shall be notified promptly of any discrepancies in information and of any discrepancies between field conditions and information on the drawings prior to construction.

The general notes and typical details apply throughout the job unless indicated otherwise. Where conditions are not specifically shown or detiled, the character and quality of the work shall be the same as that indicated for similar conditions. 1.05 DRAWING COORDINATION The contractor shall coordinate and compare all drawings between the different

consultants and trades and shall promptly notify the architect of any discrepancies which may be found. 1.06 STRUCTURAL NOTES In case of any discrepancies between these notes and notes on the structural

101 TEMPORARY BRACING

Use temporary bracing as required to stabilize foundation and basement walls and superstructure until permanent construction is in place. 1.08 LIVE LOADS All framing material shall be installed in accordance with the following loads:

3Ø PSF Stairs 40 PSF and/or a 300* point load on (except for buildings use group R-3, 40 PSF) any 4 square inch area. Railings/Guard Rails: 200* load in any direction alo 30 PSF Snowload (live load)

50 PSF 60 PSF of depth Cantilevered walls Components/Cladding

108A WIND LOAD - 115 MPH Ultimate (See Table R3012(1) Climate and Geographic Design Criteria for the County of jurisdiction. 1.09 Mechanical units and any other equipment with weights shown in plan and supported by the structure were considered in the design of the structure. Any additional equipment not shown on structural drawings and having a weight in

excess of 200 pounds shall be brought to the attention of the structural engineer 1.10 The basic stability of the structure is dependent upon the diaphragm action of floors, walls 4 roof acting together. Contractor to provide all guys, braces, struts, etc. as required to accommodate all live, dead and wind loads until all final

onnections between these elements are made. LII PRODUCT LITERATURE AND MANUFACTURER'S RECOMMENDATIONS Comply with the manufacturer's or fabricator's instructions or recommendations for the preparation of substrates and installation and use of material.

1.12 SOIL TREATMENT FOR TERMITE CONTROL (IF APPLICABLE) Apply toxicant to soil in entire area to be occupied by structure and to 2' beyond perimeter line of structure. Use approved toxicant with a five-year quarantee. Note: This item may be waived if site conditions do not warrant it and with the owners approval.

1.13 FIRE RATED ASSEMBLIES It is the responsibility of the general contractor and his subcontractors to verify and construct all rated assemblies to comply exactly with the requirements of the test reports listed. The architect shall be notified promotly of any change in materials prior to construction, and any change in materials must have the prior approval of the architect All fire rated assemblies are continuous unless otherwise noted

Assembly materials shall take precedence over materials specified in these 1.14 RADON TESTING

Contractor to investigate site and conduct necessary tests to insure that radon gas does not exceed safe limits as mandated by state or local laws. Notify architect and local jurisdictional authorities before beginning construction for specific details which may be required. Not applicable if not required by state or local jurisdiction. 1.15 Mechanical/Plumbing/Electrical contractors shall be required to seal all horizontal and vertical penetrations in the exterior wall caused by their trade. 1.16 All sheathing penetrations caused by erection shall be patched and repaired according to manufactured specifications

1.17 Details of construction of any retaining wall built must be submitted to the office of the building inspector for approval prior to construction, if applicable. 1.18 Crawl space shall be provided under floor joist not less than 18" in depth± and such space shall be vented with screened openings and have a clear area of not less than one-third (1/3) of one (1) percent of the enclosed building area. (

1.19 General contractor is responsible to locate and provide necesary structural, mechanical, electrical and plumbing sleeves, anchors, vent opening, etc., that might be required. 1.20 Basement and foundation walls are dependent upon the completed

installation of floors for their stability. Contractor shall not place backfill until these elements are completely installed, or contractor must provide shoring and bracing. 2.0 SITE WORK

2.01 These drawings do not cover site work, excavation, grading and landscaping. Refer to the site drawings prepared by the civil engineer for these

2.02 EXCAVATION - shall be sufficient to provide full design dimensions or to allow for forming as required. No footings shall be placed on frozen earth. No footings shall be placed on soft material 2.03 BACKFILL AND COMPACTION - Use only clean, well-graded earth containing no organic material, trash, muck, roots, logs, stumps, concrete, asphalt or other deleterious substances. Backfill shall be compacted to 95% of maximum density as determined by the ASTM D698 standard proctor test. Do not backfill against masonry walls until super structure is in place. Prior to placing fill, the existing surface shall be cleared of all refuse or organic materials. Backfill in layers of 8" depth. All soil fill material must be approved by soils

engineer prior to placement. Equivalnent fluid pressure of soil backfill not to exceed

60 P.C.F. uniform class SM or better. 2.04 FOUNDATIONS - All foundations are to be placed on undisturbed or compacted soil not less than 1'-0" below existing grade or 24" minimum (Verify requirements with local county regulations) below adjacent finished exterior grade unless otherwise noted on the drawings. Maintain 1:2 slope vertical to horizontal) from bottom edge of footing to bottom of any adjacent foundation. Soil bearing value assumed to be 2,000 PSF minimum unless otherwise noted on drawings. This soils bearing value must be confirmed by field investigation during placement of the foundations. Architect/Engineer to be notified immediately should insufficient bearing capacity or high water table be encountered. 2.04A For Prince William County Virginia, unless an original Geotechnical Report is submitted with a different soil bearing capacity, the presumptive soil bearing capacity will be 1,500 PSF per VRC Table R401.4.1. For all Prince William County plan subm A Geotechnical Report must be provided to confirm that a soil bearing value of

2.05 INSPECTIONS - Footing excavation shall be inspected by the building official prior to the placing of any concrete. The building official shall be given notice for

2.06 SOIL INVESTIGATION AND REPORT - All earthwork, compaction and foundation work shall be done in accordance with the soils investigation report which shall be provided by the owner. Notify architect if on-site test bearings indicate lesser values before proceeding with the work. Soil values to be determined by a registered engineer experienced in soils engineering

201 DRAINAGE OF FOOTINGS - Unless otherwise noted provide perimeter basement walls with 4" diameter drain tile laid on 2" gravel base with 6-8" gravel cover, with joints covered with filter cloth for perforated tile. Slope drain tile as

required to drain to storm sewer or outfall. 18" gravel all around foundation. 2.08 DAMPPROOFING FOR CONCRETE AND MASONRY FOUNDATIONS -Exterior foundation walls of masonry construction enclosing basements shall be dampproofed by applying not less than 3/8" of portland cement parging to the wall from footing to the top of the wall. The parging shall be covered with a coat of approved bituminous material applied at the recommended rate, from the top of the footing to finished grade. Exterior foundation walls of concrete construction enclosing basement: shall be dampproofed by applying a coat of approved bituminous material to the wall from the footing to the finish grade at the recommended rate. Foundation walls of habitable rooms located below grade shall be waterproofed with membranes extending from the edge of the footing to the finish grade line. See VRC 2018 section R406 for the various methods of dampproofing. The laps in the waterproofing membrane shall be sealed and firmly affixed to the wall. Foundation wall may be dampproofed or waterproofed using materials or methods of construction

3.0 CONCRETE 3.01 CONCRETE - Shall reach minimum compressive strength of (Fc) (see table below). All concrete to be poured in accordance with ACI 318/ ACI 332 specification. Concrete exposed to weather to be air entrained.

other than covered in this section where approved by the building officia

MINIMUM SPECIFIED COMPRESSIVE STRENGTH TO CONCRETE (Tupe or location Minimum Specified Compressive Weathering Potential):

Basement slabs and interior slabs on grade, except garage floor slabs 3000 (4) Basement walls foundation walls, exterior walls, and exposed to the weather 3,500 (4)

Porches, carport slabs and steps exposed to the weather, and garage floor slabs (1) at 28 days psi

(3) Concrete in the locations which may be subject to freezing and thawing during construction shall be air-entrained concrete in accordance with footnote (4) Concrete shall be air-entrained. Total air content (percent by volume of concrete) shall be not less than 5 percent or more than 7 percent structural engineer. Use of additives containing calcium chloride shall not be

3.02 REINFORCING RODS - Shall conform to ASTM A-615, grade 60 WWF shall conform to ASTM A-185, MESH 6x6 drawings. Placing plans and shop fabrication details shall be in accordance with "the manual of standard practice for detailing reinforced concrete structures". Furnish support bars and all required accessorie in accordance with C.R.S.I. standards. All reinforcing steel marked "continuous" shall be lapped 36 bar diameters at

splices and around corner or intersection with a standard 90 degree bend on corner bars. Lap welded wire mesh one full mesh at side and end laps. 303 SLABS ON GRADE - 4" thick with IIIIE placed midway in slab thickness slabs poured on 6 mil poly. Film vapor barrier on minimum 4" gravel. Overlap joints of barrier 12". Seal or tape penetrations by plumbing and avoid puncturing of film. Seal edges to foundation walls. (unless noted otherwise) 3.04 COMPACTION - Provide 95% compaction at all slabs and footings. All compaction shall be verified through in-place density tests by a qualified soils

enaineerina consultant. 3.05 FORMWORK - To be well braced, true to dimension, level and plumb. 3.06 Provide clear distance to outermost reinforcing as follows: Provide concrete protection for reinforcing as follows:

1-1/2" to ties 2" to outside face, I-1/2" to inside face Garage slab beams: I" to top, 3" to bottom (See structural also for placement locations)

3.01 GYPCRETE - Install as per manufacturers instructions where applicable. 3.08 Not less than 2 *5 bars shall be provided around all window and door openings. Such bars shall extend at least 24 inches beyond the corners of openings. (If applicable,) 3.09 The sills of door openings between the garage and adjacent interior spaces shall be raised not less than 4" above the garage floor. Garage slabs shall be structural when soil fill exceeds 8", or gravel ("51 stone) fill exceeds 24".

4.01 CONCRETE MASONRY UNITS (CMU) - To be ASTM C-90, grade A for load bearing masonry. Solid block ASTM C-145 grade B. Minimum net compressive 4.02 MORTAR TYPE - To be ASTM C-270 type compressive strength 2,000 PSI. 4.03 MASONRY REINFORCEMENTS

A. Horizontal reinforcements - duro-wall at 16" O.C. vertically (no reinforcing reuqired on walls less than 4 courses high). B. Unless otherwise noted, 12" masonry foundation walls shall be reinforced as follows if applicable for 8'-0" from slab to underside of joists (H):

Exterior grade = Less than .75H None For 9'-0" from slab to underside of joints (H): Exterior grade = .75 to .50H.

Exterior grade = Less than .5H . . . For 10'-0" From slab to underside of joists (H): Exterior grade = H to .75H Exterior grade = .75 to .50H . .

*Alternately grout wall solid with no reinforcing. Provide dowels from all footings to masonry walls to match size and spacing of all vertical reinforcing. Grout all reinforced cores solid. 4.04 PARGING - 1 coat portland cement above grade - below grade see 2.08. 4.05 SOLID MASONRY - Provide minimum 8" deep below all concentrated loading

Top courses of block foundation walls shall be filled or solid including the courses under any steel beam. 4.06 Lintels for masonry walls shall be as follows:

Provide I angle for each 4" of wall thickness as follows 31 to 46": 4" × 3 1/2" × 5/16", with 3 1/2"

4'6" to 6'0": 5" × 3 1/2" × 5/16", with 3 1/2" 6'0" to 7'0" : 6" × 4" × 3/8", with 4" horizontal 'nonrated wall only - 3/8" diameter bolts to wood lintel @ 32" O.C. - Typ.) 4.01 MASONRY VENEER CONSTRUCTION - To have ties vertically at 16" O.C. and

ASTM spec. A-325. Bolted joints to be bearing type using the turn-of-the-nut

method of tightening. Except add hardened washer under turned element.

ties horizontally @ 24 O.C. flash at base and provide weep holes at 24" O.C. 4.08 STONE MASONRY - 5" or 2" stone veneer, color as selected by architect. 5.01 FOUNDATION ANCHOR BOLTS - Shall be provided at maximum 6'-0" O.C. intervals and placed 12" from the end of each section with minimum two anchor bolts per section of wall. Anchor bolt shall be minimum 1/2" diameter and shall be embedded in foundation in depth minimum 8" of boured in place concrete and not less than 15" in grouted unit masonry. Anchor bolt can be substituted with metal strap per manufacturers specifications. All bearing plates shall bear on minimum 8" deep solid masonry. All materials used for attaching a sill plate directly to a foundation wall shall be in accordance with section R403.16 and R-603.3.1 of the VRC 2018. 5.02 STEEL - A) All metal anchors, fasteners, joist hangers, etc to be galvanized. All structural steel to conform to ASTM-A992/A36. Pipe to be A53. Tube (HSS) to be A500 or A501. Detailing to be in accordance with AISC structural steel detailing manual. Connections shall be capable of supporting allowable uniform load stress of 24 KSL. Bolted field connection shall be 3/4" diameter high strength bolts meeting

B) Submit complete shop and erection drawings for approval prior to fabrication and erection. C) All welders shall be certified in accordance with the American Welding Society. All welding electrodes, machines, etc., shall be compatible with the type of steel

5.04 NAILING SCHEDULE - As per VRC 2018 and other applicable building codes, or manufacturers recommended standards, but not less than that required by code 5.05 Provide base plate for all structural steel beams bearing on masonry. 5.06 Holes shall not be cut through beams unless indicated or approved by engineer. Provide standard angle wall anchors for a beam resting on masonry.

601 SILL PLATE - Plate treated to meet AWPA-UI O.C., T" Into concrete, not more than 12" from corner. 6.02 ALL EXPOSED EXTERIOR LUMBER or lumber in contact with masonry of concrete shall be pressure preservative treated in accordance with industr tandards. Provide fire retardant sheathing and lumber where indicated on

6.03 MAXIMUM MOISTURE CONTENT - Of all lumber shall be 19%. Lumber may be kiln dried but drying process must be regulated to cause a minimum amount of checking and kiln dried lumber shall be comparable to air dried stock 6.04 STRENGTH OF FRAMING MATERIALS - All framing lumber shall be Spruce pine fir (Spf), grade 2 or better, having the following minimum properties

-Bending stress "Fb" = 850 PSi for single member use -Bending stress "Fb" = 975 PSI for repetitive member use -Horizontal shear "Fv" = 135 PSI Compression perpendicular to grain "Fc" = 425 PSI Compression parallel to grain "Fc11" = 1150 PS1 Modules of elasticity "E" - 1,400,000 PSI

B. All structural posts shall be southern yellow pine, grade 2 or better, having the following minimum properties 6x6 #2 Grade Post-Wet Service Use: Bending stress "Fb"=1300 PSI for single member use -Bending stress "Fb" = 850 PS -Horizontal shear "Fv" = 175 PSI -Horizontal shear "Fv" = 165 PSI -Gompression perpendicular to grain "Fc" = 565 PSI -Compression parallel to grain "Fc11" = 525 PSI

-Compression parallel to grain "Fcli" = 1650 PSI -Modules of elasticity "E" = 1,400,000 PSI -Modules of elasticity "E" = 1,200,000 PSI Plywood laminated (LVL) beams shall have the following minimum

-Shall be 1-3/4" wide -Bendina stress "Fb" = 2600 PSI Horizontal Shear "Fv" = 285 PSI Modules of elasticity "E" = 1,900,000 PS Tension parallel to grain = 1550 PSI Compression parallel to grain = 2510 PSI -Prefabricated structural timber beams shall conform to one of the following -Microllam (ML) - NRB-126

Parallam (PL) - NER-292 - ICC-ES Report ESR-1387: TimberStrand LSL, Microllam LVL and Parallam PSL Headers and Beams. TimberStrand LSL, Rim Board, T-Strand Rim Board, e-Rim Board and iLevel Rim Board - Reissued Mar 1 2001 - ICC-ES Report ESR-1153: TJI Joists - Reissued February 1, 2007 - ICC-ES REPORT EOR-IIIS IN JOISTS - Reissued February 1, 2001

- Structural Engineering Bulletin No. SEB 699 Rev. III: JU Joists - Reissued June 20, 2001

- Material Release No. 1303b: Parallam PSL - Reissued February 24, 2006

- Material Release No. 1303b: Parallam PSL - Reissued February 24, 2006

- Research Report No. RR 25202: TimberStrand LSL, Microllam LYL,

Parallam PSL, TJ-Strand Rim Board and e-Rim Board - based on

COLA Revised ICC-ES Report No. ESR-1361 - Reissued October 1, 2006

- Research Report No. RR 25513: TJI Joists - based on COLA Revised ICC-ES Report No. E9R-1153 - Issued November 1, 2006 Cutting and notching of floor joists shall conform to the following: or per manufacturers specifications. -Notch depth in the top or bottom of the joists and beams shall not exceed one-sixth the depth of the members and shall not be located in the middle one-third of the span (including birds mouth cuts).

-Notch depth at the ends of the member shall not exceed one-fourth the depth of the member. -The tension side of beams, joists and rafters of four inches or greater nominal thickness shall not be notched, except at ends of membe Holes bored or cut into joists shall not be closer than two inches to the top or bottom of the joists. The diameter of the hole shall not exceed one-third the

depth of the joists. Stress grade lumber shall be clearly stamped with the lumber inspection association seal showing the stress grade. All fabrication, erection and other

procedures shall conform to the current "national design specification for stress grade lumber and its fastenings." F. Prefabricated timber shall be installed and braced per manufacturers

recommendation. Timber member shall not be cut or drilled unless so authorized by the manufacturer. G. Where double members are indicated on the drawings, mechanically fasten both members in a manner such that both members share the superimposed loads, 6.05 WOOD FLOOR AND ROOF TRUSSES - Shall be designed and fabricated by the truss manufacturer and shall comply with the national design specification for

stress grade lumber and its fastenings. Submit shop drawings and calculations sealed by a P.E., the jurisdictional plan reviewer as required by government The design and detail of all trusses shall meet the requirements of F.H.A., ANSI/TPI 1 G4541.1 design criteria for trussed rafters, the "National specification for stress grade lumber and its fastenings", and all applicable building codes. Manufacturer must be a "TPI" (Truss Plate Institute) member. Bracing of trusses per SBCA/BCSI. 6.06 WOOD STUDS - At bearing wall to be 2 \times 4's at 16" O.C. or 2) 2×4 @ 16" o.c. or 2×6 @ 16" o.c. except at grade floor bearing wall of buildings more than two stories high shall be (22 imes 4's at 16" or 2x6 @ 16" o.c. D.C. Where height of stud wall exceeds 10'-0" provide 2 × 6's at 16" O.C. See plans for stud sizes and spacing at walls - typical. All bearing partitions to be praced midway between all stories, unless fully sheathed on one side minimum. Wall studs to be SPF #1/ #2 grade or better, having the following minimum properties: ompression parallel to grain Fc = 1150, PSI Fb = 375 PSI, E = 1,400,000. Holes bored in bearing wall study shall not exceed 1/3 of stud width.

Two story balloon frame walls shall be 2 × 6's @ 12" O.C., studs shall extend sly, in one piece, to full height of the wall, unless noted ortherwise. Use *2 gr. SPF. stud material in all two story walls. 6.07 WOOD JOISTS - Shall have a minimum bearing of 1-1/2". Wood floor trusses to have minimum bearing as per manufacturers recommendations. All joists and rafters to be bridged midway at intervals of 8'-0" max. All rafters and trusses shall be connected at bearing boints with one prefabricated galvanized metal connector, minimum 18 ga, with capacity to resist 450* loading unless shown otherwise on drawings.

A. Prefab joists and beam hangers shall be sized and attached for manufacturers recommendations. Holes through wood I's shall not exceed manufacturers recommendations. No cuts or holes are allowed through top or

B. Wood floor joists shall be per depth and spacing shown on drawings. Supplier shall confirm that members provided can carry the loadings designated in Section 1.08.

Provide 1-1/8" Timberstrand band board or Iv1 band board @ all perimeter bearing walls. Provided squash block and stiffeners as required to distribute loadings and shear reinforcing as required a concentrated loads. D. Bearing studs should be @ 16" O.C. with 2 top plates, and care shall be exercised to ensure cating supported floor joists or roof trusses within 5 inches of the studs beneath. E. Provide solid blocking @ 4'-0" O.C. between band and joist and first interior

F. All prefabricated trusses and truss joists shall be designed for the following loads unless noted otherwise: Roof: Snow load / Live load - 30 PSF Dead load top chord - 1 P9 Dead Ioad böttom chord - 10 PSF Floor: Live load - 40 PSF Dead load - 15 PSF

2 - 2 × 10 - Openings up to 5'-6" 2 - 2 × 12 - Openings up to 7'-0"

Submit shop drawings and calculations for review. Affix seal of engineer registered in the state of the proposed project. Prefabricated truss joists shall be designed to resist the loadings shown with a maximum liveload deflection of 1/480 of the span. 6.08 All lintels over all framed openings to be as shown below unless noted otherwise: $2 - 2 \times 8$ - Openings up to 4'-6"

6.09 PLYWOOD - All plywood used structurally shall meet the performance standards and all other requirements of applicable U.S. commercial standards for the type, grade and species of plywood and shall be so identified by an approved

testing agency. FIRE RETARDANT TREATED PLYWOOD AND DIMENGIONAL LUMBER (Where applicable). If fire retardant treated plywood is applied to a structure, (fire retardant plywood must be applied 4'-0" to either side of fire walls or party walls unless noted otherwise hit is to be accompanied by certification that acid hydrolys will not occur in the product at temperatures below 400 fahrenheit± this certification must come from the manufacturer and be approved by a certified testing agency and local building officials. FIRE RETARDANT PLYWOOD Fire retardant biswood needs to comply with sections R802.15 and R803.2.1.2 of the 2018

ASTM D5564-Ø1 6.10 PLYWOOD - Subfloor to be 3/4" T and G plywood standard sturd-I-floor DF.1.5., unless otherwise noted. Roof deck - 1/2" C-D-X - DF.P.5. with exterior glue unless otherwise noted. Direct bearing at all edges, glued and nailed. All end joints shall be staggered. The face grain of the plywood shall be laid at right angles to the joists and trusses and parallel to the study use pluwood clips wit 2" roof plywood (if applicable). 6.11 All wood blocking, nailers, etc., shall be attached to steel or concrete framing with power actuated fasteners or 3/8" diameter bolts unless noted otherwise. Fasteners shall be spaced at 24" maximum O/C and shall be staggered Fasteners shall have a minimum capacity of 100 pounds in shear and pullou

Virginia Residential Code, as well as the following tests
ASTM D6035-98el

ASTM D5516-99a

unless noted otherwise. 6.12 INTERIOR TRIM - Windows, door and bases may be finger jointed, 2-1/2" traditional profile or as indicated on drawings. 6.13 INTERIOR STAIRS - Pre-fab wood unless otherwise noted R311.75 Treads and risers. The maximum riser height shall be 8-1/4 inches (210 mm) and the minimum tread depth shall be 9 inches (229 mm). The riser height shall be measured vertically between leading edges of the adjacent treads. The tread depth shall be measured horizontally between the vertical planes of the foremost projection of adjacent treads and at a right angle to the tread's leading edge. The walking surface of treads and landings of a stairway shall be sloped no steeper than one unit vertical in 48 units horizontal (20% slope). The greatest riser height with in any flight of stairs shall not exceed the smallest by more than 3/8 inch (9,5 mm). The greatest tread depth within any flight of stairs shall not exceed the smallest by more than 3/8 inch (9.5 mm). (Or as local code permits) Under stair protection. Enclosed accessible space under stairs shall have

walls, under stair surface and any soffits protected in the enclosed wall wit 1/2" (12.7 mm) qypsum board. 6.14 SHELVING - 3/4" filled flakeboard with taped front edge, shop and metal brackets, 42" O.C., Max., unless indicated otherwise on drawings or vinyl wrap wire shelving as selected by builder (owner). 6.15 Railings or handrails shall be installed on any exterior porch or stair exceeding 3 risers in height or 24" above grade. 6.16 HANDRAILS - At stair (if applicable) 34" min.-38" max. height measured vertically from the nosing of the tread. Handrails shall be provided on at least one side of the any stairs with 4 or more risers. HANDRAIL GRIP SIZE - Handrails with a circular cross section shall have an

handrail is not circular it shall have a perimeter dimension of at least 4 inches and not greater than 6 1/4 inches with a maximum cross section of 2 1/4 inches. See section R311.7.8.3 for more options. 6.17 GUARDRAILS - Guards shall be provided in accordance with sections R312.1.1 through R312.1.4.

1.0 THERMAL AND MOISTURE PROTECTION 1.01 SILL SEAL - 1/2" imes 3-1/2" compressible fiberglass beneath all exterior sill 1021~ WALL5 - R-13, 3-5/8" batt insulation with kraft paper face vapor barrier min, combined with an exterior sheathing with an R-value of 3 or greater to provide a total R-value of R-16 unless noted otherwise. 1.022 CEILINGS AT ROOF - R-30 fiberglass batt with kraft paper face vapor

barrier or blow insulation R-30 min, combined with sheathing and cavity to provide a total R-value of R-38 min. for the complete roof assembly unless noted otherwise. 1.023 CRAWL SPACES and other floors exposed to unheated spaces below, R-19 fiberalass batt with draft paper vapor barrier PERIMETER SLAB insulation to be rigid exterior grade, min. R-1 extending 2'-0" vertically and 2'-0" horizontally, min. perimeter insulation to be

extruded polystyrene closed cell. 1.025 VAPOR BARRIERS to face warm side of space (interior) unless noted otherwise on drawings. 1,03 ROOFING SHINGLES - 235# asphalt or 215#/fiberglass shingles class 'c' or

better on "15 roofing felt on slopes of 4" to 12" or greater. On slopes less than 4" to 12" but greater than 2" to 12" provide double coverage asphalt/fiberglass shingles on two layers 15* roofing felt. Shingles shall be installed per manufacturer's specifications and applicable building codes. 1,032 VALLEY FLASHING - Open valleus shall be flashed with min, No. 2 center line each way. Closed valley flashing shall be 2 layers 90° mineral surfaced cap sheet with bottom layer minimum 12" wide and top layer 24" wide, cemented together. Closed valleys may also be of 36" wide foil roofing material not less than No. 50 in valley over the underlayment.

RIDGE-FLASHING - Install as per manufacturers specifications. ROOF EDGE - Provide non-corrosive aluminum drip edge flashing at 1,035 BUILT-UP ROOFING - To be as detailed on drawings and installed as

1.04 EXTERIOR WALLS 1.040 Roofing and Sheet Metal installation shall be in accordance with standards and details established by the Sheet Metal and Air Conditioning Contractors National Assoc., Inc. "SMĂCNA". FLASHING - To be non-corrosive aluminum provided at tops and sides of all exterior window and door openings in such a manner to be leakproof.

1,042 FLASH AND COUNTER FLASH - All roof to wall conditions, minimum

No. 26 U.S. gauge corrosion resistant aluminum step flashing as required to maintain min, height 1.043 FLASH ALL EXTERIOR OPENINGS and all building corners with approved waterproof building paper to extend at least 4" behind wall covering. 1.044 FLASH AND CAULK wood beams and other projections through exterior walls or roof surfaces in accordance with VRC 2018 Section R103.8.5 1.045 EXTERIOR SHEATHING - 1/16" OSB. sheathing installed per manufacturers specifications unless noted otherwise on drawings. 1.045A Lateral bracing is provided by continuous sheathing

7.046 CAULKING / SEALANT as selected by builder (owner) - submit product literature to architect for approval. 1.05 FIRESTOPPING - Shall be provided to cut off all concealed draft openings (both vertical and horizontal) in the following locations In exterior or interior stud walls, at ceiling and floor levels and so placed that the maximum dimension of any concealed space is not more than 10°.

Between stair stringers at top and bottom and between studs in line with stair run. Spaces between chimneys and wood framing shall be filled with loose noncombustible material (2" min. thickness), placed in noncombustible supports Other locations not mentioned above such as holes for pipes, sleeves, behind framing strips and other similar places which could afford a passage for flames. tightly fitted to the chimney.

may also be made of gypsum board, mineral wool or other noncombustible 1,052 DRAFTSTOPPING - Provide draft stopping where required in accordance with applicable codes. 7.06 SIDING - To be as called for on drawings and installed as per manufacturer's specifications 1.01 VENTILATION

101.1 Roof Spaces: Enclosed attics and enclosed rafter spaces formed where

ceilings are applied directly to the underside of roof rafters shall have cross

1.051 FIRESTOPS - When of wood, shall be min. 2" nominal thickness and

ventilation for each separate space by ventilating openings protected against the entrance of rain and snow. The openings shall be covered with corrosion resistant mesh not less than 1/4-inch (6mm) nor more than 1/2-inch (13 mm) in any 707.1.1 Ventilating Area: The minimum required net free ventilating area shall be 1/150 of the area of the space ventilated except that the minimum required area shall be reduced to 1/300 where at least 50 percent of the required ventilating area is provided by ventilators located in the upper portion of the space to be ventilated at least 3 feet (914 mm) above eave or comice vents with the balance of the

7072 Crawl Spaces: Crawl space areas, other than those used as an underfloor plenum, shall be ventilated by an approved mechanical means or by openings in exterior foundation walls. Openings shall be located as close to corners as practicable and shall provide cross ventilation on at least two approximately opposite sides. The openings shall be covered with corrosion-resistant mesh no less than 1/4-inch (6 mm) nor more than 1/2-inch (13 mm) in any direction. 101.2.1 Opening Size: Openings shall have a net area of not less than I square foot (0,093 m2) for each 150 square feet (13,95 m2) of foundation space. 1.08 GUTTERS AND LEADERS - If applicable - prefinished aluminum lead to splash blocks. 7.09 All wood shall be minimum 8" above finish grade or pressure treated less than 8" above finish grade. All siding shall be minimum 6" above finish grade.

1.10 FLASHING - When veneer of brick, clay tile, concrete or natural or artificial stone are used 20 mil plastic flashing shall be attached to the sheathing whereve necessary to prevent moisture benetration behind the veneer. Il Rough carpentry contractors shall seal with construction adhesive, plates at floor and ceiling, and caulk all window and door flanges/jams and all panel butt joints prior to and during erection. 1.12 All pipes, ducts, vents, wiring, and chases which penetrate ceilings directly

filled with solid slab polystyrene insulation permanently bonded to panels or insulated fiberglass door. Provide 1-1/2 pair hinges for doors up to 7^1-2^n in height and 2 pair for doors to 8'-0" in height. Frames to be minimum 16 ga. galv. steel with steel doors and wood otherwise. See drawings for raised panel design. Provide complete weather stripping and metal threshold. with 20 min. (minimum) firerating. 8,03 INTERIOR DOORS - To be hollow core wood with wood veneer or plastic

laminate facing. 8.04 DOOR SIZES - Refer to floor plans. 8.11 GENERAL - Glazing in locations subject to human impact such as entry doors and sidelights, sliding glass doors, shower doors, tub enclosures and storm doors shall be fully tempered in accordance with the VRC 2018 code. Fixed panels with area in excess of 9 Sq. Ft. with the lowest edge less than 18" above the finished floor or walking surface within 36" of such glazing unless a horizontal member not less than 1-1/2" width located between 24" and 36" above the walking surface shall be fully tempered. See VRC 2018 for exceptions to hazardous locations. If applicable 8.12 WEATHER PROOFING - NIIØ2.4 (R4Ø2.4) Air leakage. The building thermal envelope shall be constructed to limit air leakage in accordance with the requirements of sections NII02.4.1 through NII02.4.5. 8.13 EMERGENCY EGRESS - Basements, habitable attics and every sleeping room designated on the construction documents shall have at least one operable window or door for emergency egress or rescue. Egress windows shall have a maximum sill height of 44" above finished floor and shall ave a minimum net clear opening of 5.7 so height of 24" and minimum opening width of 20". Grade floor windows may have

Where basements contain one or more sleeping rooms, emergency egress and rescue openings shall be required in each sleeping room per VRC 2018 section R310 9.01 GYPSUM WALLBOARD - Shall be installed in accordance with U.S. gypsum

codes. Typical interior partitions to have 1/2" tapered edge taped and finished. Provide 5/8" type "X" fire-rated gypsum board at walls & ceilings where called for on the drawings. 9,02 GYPSUM WALLBOARD - Shall not be installed until weather protection for 9.03 SUPPORT - All edges and ends of gypsum board shall occur on framing members except those edges perpendicular to framing members. 9.04 MOISTURE-RESISTANT GYPSUM BOARD - Provide moisture resistant gypsum board at all bathrooms and wherever moisture conditions can exist. 9.06 CERAMIC TILE - Ceramic tile shall be 4-1/4" \times 4-1/4" glazed tile, thin set application on water-resistant drywall. Provide base and miscellaneous trim. Tile color as selected by owner. Provide marble threshold for transition between

ceramic floor tile and other floor finishes. Floor tile shall be non slip. Grout - Commercial waterproof grout cement. 9.01 RESILIENT FLOORING - Shall be sheet vinyl or vinyl composition tile installed 9.08 UNDERLAYMENT - Provide suitable floor underlayment for all ceramic tile and resilient flooring.

909 PAINT INTERIOR Ceilings - Latex flat, 2 coats Walls - Latex flat, 2 coats Trim - Latex semi-gloss, 2 coats. Kitchen and bathrooms Ceiling - Latex semi-gloss, 2 coats

9.10 PAINT EXTERIOR Trim - latex (1) coat prime (1) coat finish 10.0 SPECIALTIES BATH VANITIES - As selected by builder (owner)

ILØ EQUIPMENT

12.0 FURNISHINGS 13.0 SPECIAL CONSTRUCTION

14.0 CONVEYING SYSTEMS combustion to meet all requirements of the manufacturer and the state.

16.0 ELECTRICAL 16.01 ELECTRIC - Shall conform to the requirements of the National Electric Code, the local Power Co., and all applicable local regulations. Obtain all permits and pay fees required for this work. Have the installation inspected and approved by an inspection agency of the fire underwriter's association. Submit a certificate of final approval by the inspection agency upon completion. Fixtures and apparatus as selected by builder. Unless otherwise noted. 16.02 SMOKE ALARMS - Are required in the following spaces: 1) In each separate sleeping area. 2) Outside each separate sleeping area in the immediate vicinity of the bedrooms. 3) On each additional story of the dwelling including

all of the alarms in the individual unit. All detectors shall be approved and listed and shall be nstalled in accordance with the manufacturer's instructions, and per VRC 2018, section R314 16.02 Electrical outlets in bedroom - shall conform to section E-3802 of the VRC 2018 and be arc-fault protected

shall be interconnected in such a way that the activation of one alarm shall activate

below a truss or roof assembly shall be firestopped 8.01 EXTERIOR ENTRANCE DOORS - 1-3/4" solid wood core hollow metal - min. 20 gauge 8.02 GARAGE TO UNIT DOORS - If applicable - to be metal or 1 3/4" solid wood or door

a minimum net clear opening of 5 sq. ft. Basements with habitable space and every sleeping room shall have at least one openable emergency escape and rescue opening.

8.14 ALL OPERABLE WINDOWS - shall have noncorrosive screens and sash locks. recommendations and shall meet the requirements of VRC 2018 and other applicable

Walls - Latex semí-gloss, 2 coats

BATH FIXTURES - As selected by builder (owner)

to be a minimum of 15" from wall to centerline of fixture

15.01 H.Y.A.C. - Kitchen and bath ventilation metal ducts to exterior where indicated and/or required by applicable codes. Complete installation circulating air 15.02 PLUMBING - Sanitary± cold and hot water± and all other piping shall conform to the requirements, local and state.

15.03 Provide minimum 18" walking space in front of all plumbing fixtures in oathrooms and 14"x30" access panel 7per manufacturer's specifications) at tub connections unless otherwise noted Áll shower stalls shall have a minimum finished area of 1024 sq. in. with a minimum of 30" in any direction. Water closests

basements and habitable attics (if applicable) but not in uninhabitable spaces. If more than one smoke detector is required to be installed in a dwelling unit the alarm devices

DRYER DRAWER BASE DOUBLE DESIGNED DRINKING FOUNTAI DOUBLE HUNG DIAMETER DIMENSION

Revisions

<u>SYMBOL</u>

AP APPROX.

COL. CONC. CONSTR CRS. CSMT.

MEANING

ANCHOR BOLT

ABOVE ACCESS AREA DRAIN

AREA DRAIN
ADJUSTABLE
ABOVE FINISHED FLC
AL TERNATE
ALUMINUM
ARCHITECTURAL
ASPHALT
ACCESS PANEL
APPROXIMATE
ATTACHED

BOARD BIFOLD DOOR BEAM BLOCKING BUILDING BEAM POCKET

BEARING BASEMENT

CONSTRUCTION JOINT

CASED OPENING COLUMN CONCRETE

CONSTRUCTION COURSE CASEMENT CERAMIC TILE

CABINETS
CARPET
CENTERLINE
CEILING
CLEAR
CONCRETE MASONRY UNIT

02-18-2025

ABBREVIATIONS

SYMBOL

MEANING

MANUFACTURER
MASONRY
MATERIAL
MAXIMUM
MEDICINE CABINET

MISCELLANEOUS MOULDING

NOMINAL NUMBER

PANTRY
PRECAST
PLATE
PLASTIC
PLYWOOD
PANEL
POLYETHYLENE
POWDER ROOM

PREFABRICATED
PROJECTION
POUNDS PER SQUARE FOO

POUNDS PER SQUARE INCI

RECREATION
RECEPTACLE
REFRIGERATOR
REINFORCEMENT
REQUIRED
REVISION (REVERSED
ROOF
RAFTER
ROOM

STAGGERED STANDARD

STEEL STEEL BEAM STORAGE

STRUCTURE, STRUCTURAL SURFACE SOUTHERN YELLOW PINE

TONGUE & GROOVE
TELEPHONE
TEMPERED
THICKNESS
TOP OF
TOILET PAPER HOLDER

TELEVISION TYPICAL

NUMBER

EXTERIOR INSUL, FINISH 5" EXPANSION JOINT ELEVATION (Height ELIMINATE ELECTRICAL ELECTRICAL
ELEVATION (Facade.
ENCLOGURE
ENGINEERED
ELECTRIC PANEL

FLAOFING
FLOOR
FLASHING
FLUORESCENT
FRAMED OPENING
FIREPLACE
FRAMING
FRENCH DOOR GENERAL CONTRACTOR

GENERAL GROUND INTERRUPTED CIRCUIT GALYANIZED IRON GYP9UM GYP9UM WALLBOARD HOSE BIBB HEAD HEIGHT

HD. HT HORIZ HROW HDR. HDWD HRW HORIZONTAL
HARDWARE
HEADER
HARDWOOD
HALF ROUND WINDOW INGULATION INTERIOR

LAUND/UTIL

KILN DRIED

LAUNDRY/UTILITY

LAMINATED LAVATORY

LAUNDRY TRA

LAMINATED VENEER LUMBER

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POUND

VAPOR BARRIER WASHING MACHIN WATER CLOSET WIDE FLANGE WATER HEATER WALK-IN CLOSE

VENT THROUGH ROO WITHOUT WATERPROOFING

DESCRIPTION

City of Alexandria o

SYMBOLS

CH DOOR CHIME

→ DUPLEX, RECEPTACLE

DUPLEX, GROUND FAULT

ABOVE FLOOR

₩<u>P-G</u>FI DUPLEX, WATERPROOF

⇒ SPECIAL RECEPTACLE

(22Ø YOLT)

\$ SINGLE POLE SWITCH

\$3 THREE WAY SWITCH

\$4 FOUR WAY SWITCH

(PULL CHAIN)

WALL MOUNTED FIXTURE

RECESSED FIXTURE

FLOOD LIGHT FIXTURE

CEILING FAN VENT

ELECTRICAL PANEL

SMOKE DETECTOR

TELECTRICAL WIRING

THERMOSTAT

RETURN AIR

SHOWER HEAD

TELEPHONE OUTLET

TELEVISION ANTENNA

SQUARE FOOTAGE

HOSE BIB

FAN/LIGHT COMBINATION

CEILING MOUNTED FIXTURE

PC CEILING MOUNTED FIXTURE

&P DIMMER SWITCH

42" DUPLEX, RECEPTACLE 6 42"

DUPLEX. FLOOR RECEPTACLE

UNDERWRITERS LABORATOR UNLESS NOTED OTHERWISE

WELDED WIRE FABRI

Existing First Floor Plan 865 Sa Ft New First Floor Plan +175 Sq. Ft. 1,040 Sq. Ft. Existing Second Floor Plan +507 Sq. Ft. New Second Floor Plan 1,024 Sq. Ft. Existing Basement Plan

865 Sa. Ft. +Ø 5q. Ft. 865 Sq. Ft. TOTAL GROSS SQUARE FOOTAGE:

2,929 Sq. Ft. Existing Front Covered Porch Existing Wood Deck Landing 53 Sq. Ft. 136 Sq. Ft. Existing Garage

New Rear Wood Deck

PROJECT LOCATION: Location: City of Alexandria, Virginia

2 .BOTTOM OF ALL FOOTINGS SHALL EXTEND BELOW FROSTLINE - VERIFY DEPTH. 3. EXACT SIZE AND REINFORCEMENT OF ALL CONCRETE FOOTINGS MUST BE DETERMINED BY LOCAL SOIL

CONDITIONS AND ACCEPTABLE PRACTICES OF CONSTRUCTION. VERIFY DEPTH WITH LOCAL ENGINEER. 4. VERIFY ALL STRUCTURAL ELEMENTS FOR DESIGN AND

SIZE WITH LOCAL ENGINEER AND BUILDING OFFICIALS.

1. CONTRACTOR IS RESPONSIBLE FOR COMPLIANCE WITH

RESPONSIBLE FOR SITE CONDITIONS, OR FOR THE USE

ALL LOCAL BUILDING CODES AND ORDINANCES.

OF THESE DRAWINGS DURING CONSTRUCTION.

CODE DATA

CODE OF JURISDICTION: 2018 Yirqinia Residential Code. For - One and Two Family Dwellings. 2018 Yirginia Uniform Statewide Building Code.

USE GROUP: R-5 Residential

TYPE OF CONSTRUCTION: VB Unprotected

71 Sq. Ft.

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DRAWING INDEX

Cover Sheet: CSP-1 Cover and Specifications Sheet

Basement and Foundation Plans

A-Ø Code Data and Notes

A-2 First Floor Plans

A-4 Front Elevations

A-5 Rear Elevations

Building Sections:

Framina Sheets:

Electrical Sheets:

Detail Sheets

Wind Bracing:

D-1 Details D-2 Details

WB-1 Wind Bracing Details

A-6 Left Side Elevations

A-8 Building Sections

A-7 Right Side Elevations

First Floor Framing Plan

Roof Framing Plan

Second Floor Framing Plan

First Floor Electrical Plan

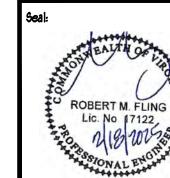
Second Floor Electrical Plan

A-3 Second Floor Plans

Code Data:

Elevations:

Date: 01-16-2025



Drawing No.

GENERAL NOTES:

R3026 SEPARATION REQUIRED: R302.6 DWELLING/ GARAGE FIRE SEPARATION. THE GARAGE SHALL BE SEPARATED AS REQUIRED BY TABLE R3026 OPENINGS IN GARAGE WALLS SHALL COMPLY WITH SECTION R3025. THIS PROVISION DOES NOT APPLY TO GARAGE WALLS THAT ARE PERPENDICULAR TO THE ADJACENT DWELLING UNIT WALL.

P. R311.7.8 HANDRAILS:

HANDRAILS SHALL BE PROVIDED ON AT LEAST ONE SIDE OF EACH CONTINUOUS RUN OF TREADS OR FLIGHT W/ 4 OR MORE RISERS. HANDRAIL HEIGHT MEASURED VERTICALLY FROM THE SLOPED PLANE ADJOINING TREAD NOSING, OR FINISH SURFACE OF RAMP SLOPE SHALL BE NOT LESS THAN 34" AND NOT MORE THAN 38". HANDRAILS FOR STAIRWAYS SHALL BE CONTINUOUS FOR THE FULL

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

3. R311.7.8.5 GRIP SIZE:

HANDRAILS W/ A CIRCULAR CROSS SECTION SHALL HAVE AN OUTSIDE DIAMETER OF AT LEAST 1-1/4" AND NOT GREATER THAN 2". IF THE HANDRAIL IS NOT CIRCULAR IT SHALL HAVE A PERIMETER DIMENSION OF AT LEAST 4" and NOT GREATER THAN 6-1/4" W/ A MAX, CROSS SECTION OF DIMENSION OF 2-1/4". EDGES SHALL HAVE A MINIMUM RADIUS OF Ø.ØI

R310.1 EMERGENCY ESCAPE and RESCUE OPENING REQUIRED: BASEMENTS, HABITABLE ATTICS and EVERY SLEEPING ROOM DESIGNATED ON THE CONSTRUCTION DOCUMENTS SHALL HAVE AT LEAST ONE OPERABLE EMERGENCY ESCAPE AND RESCUE OPENING, WHERE BASEMENTS CONTAIN

SHALL BE REQUIRED IN EACH SLEEPING ROOM, WHERE EMERGENCY ESCAPE and RESCUE OPENINGS ARE PROVIDED, THEY SHALL HAVE A L HEIGHT OF NOT MORE THAN 44 INCHES (1118 MM) MEASURED FROM THE FINISHED FLOOR TO THE BOTTOM OF THE CLEAR OPENING. EMERGENCY ESCAPE and RESCUE OPENINGS WITH A FINISHED HEIGHT BELOW THE ADJACENT GROUND ELEVATION SHALL BE PROVIDED WITH A WINDOW WELL IN ACCORDANCE WITH SECTION R310.2.3 EMERGENCY ESCAPE and RESCUE OPENINGS SHALL OPEN DIRECTLY INTO A PUBLIC WAY, OR TO A YARD OR COURT THAT OPENS TO A PUBLIC WAY.

ONE OR MORE SLEEPING ROOMS, EMERGENCY EGRESS and RESCUE OPENINGS

FRAMING NOTES:

R802.7.2 ENGINEERED WOOD PRODUCTS: CUTS, NOTCHES and HOLES BORED IN TRUSSES, STRUCTURAL COMPOSITE LUMBER, STRUCTURAL GLUE-LAMINATED MEMBERS OR 1-JOISTS ARE PROHIBITED EXCEPT WHERE PERMITTED BY THE MANUFACTURER'S RECOMMENDATIONS OR WHERE THE EFFECTS OF SUCH ALTERATIONS ARE SPECIFICALLY CONSIDERED IN THE DESIGN OF THE MEMBER BY A REGISTERED DESIGN PROFESSIONAL.

GENERAL NOTES: (2018 Virginia Residential Code.)

All walls are 2×4 (3-1/2") walls unless otherwise noted. 2. All angled walls are drawn @ 45° increments unless otherwise noted.

3. Window Head Heights: See Exterior Elevations and Floor Plans. 4. Provide safety glass a tub windows, glass shower

enclosures and a all hazardous locations per 5. Provide smoke detectors on each floor and every bedroom and per section R314.

6. Minimum stair tread depth to be 9" 4 maximum riser height to shall be 81/4" unless otherwise noted. Automatic Fire Sprinkler Systems: R313. Lownhouse Automatic Fire Sprinkler Systems. Not withstanding the requirements of section 103.3. Where installed, an automatic residential fire sprinkler system for townhouses shall be designed and installed in accordance

with NFPA 13D or section P2904. R313.2 One-family and Two-Family Dwellings Automatic Fire Sprinkler Systems. Not withstanding the requirements of section 103.3, Where installed, an automatic residential fire sprinkler system shall be designed and installed in accordance with NFPA I3D

3. Carbon Monoxide Alarms. For new construction, an approved carbon monoxide alarm shall be installed outside of each separate sleeping area in the immediate vicinity of the bedrooms in dwelling units within which fuel-fired appliances are installed and in dwelling units that

have attached garages per section R315.

or section P2904.

R315.1.1 Listings. Carbon monoxide alarms shall be hard wired, plug-in or battery type, listed as complying with UL 2034, and shall be installed in accordance with this code and the manufacturer's installation instructions Combination carbon monoxide and smoke alarms shall be listed in accordance with UL 2034 and UL 217.

PLAN NOTES: (2018 Virginia Residential Code.)

R305. Minimum Height. Habitable space, hallways and portions of basements containing these spaces shall have a ceiling height of not less than I feet. Bathrooms, toilet rooms and laundry rooms shall have a ceiling height of not less than 6 feet 8 inches.

(See 2018 Virginia Residential Code for exceptions.)

R321.1 Elevators, Where provided, passenger elevators, limited-use/limited application elevators or private residence elevators shall comply with ASTM

R3212 Platform lifts. Where provided, platform lifts shall comply with ASTM A18.1 3. R3122 Window fall protection. Window fall protection shall be provided in accordance with sections R312.2.1 and R312.2.2

R3122.1 Window Sills. In dwelling units where the top of the sill of an operable window opening is located less than 18" above the finished floor and greater than 72" above the finished grade or other surface below on the exterior of the building, the operable window shall comply with one of the following methods outlined in section R312.2.1. Reference this section in VRC 2018 for exceptions.

R3122.2 Window opening control devices. Window opening control devices shall comply with ASTM F 2090. The window opening control device, after operation to release the control device allowing the window to fully open, shall not reduce the minimum net clear opening area of the window unit to less than the area required by section R3102.1.

R331.1 Kitchen areas. Other than where the dwelling is equipped with an approved sprinkler system in accordance with section R313, a fire extinguisher having a rating of 2-A:10-B:C or an approved equivalent type of fire extinguisher shall be installed in the kitchen area.

5.MI3Ø5.1.2 Appliances in attics. Attics containing appliances shall be provided with an opening and a clear and unobstructed passageway large enough to allow removal of the largest appliance, but not less than 30" high and 22" wide and not more than 20 feet long measured along the ¢ of the passageway from the opening to the appliance. The passageway shall have continuous solid flooring in accordance with chapter 5 not less than 24" wide. A level service space at least 30" deep and 30" wide shall be present along all sides of the appliance where access is required. The clear access opening dimensions shall be a minimum of 20" by 30", and large enough to allow removal of the largest appliance.

FOUNDATION NOTES: (2018 Virginia Residential Code.)

Foundation Drainage. R405.1 Concrete or masonry foundations.

Drains shall be provided around all concrete or masonry foundations that retain earth and enclose habitable or usable spaces located below grade. Drainage tiles, gravel or crushed stone drains, perforated pipe or other approved systems or materials shall be installed at or below the the top of the footing or below the bottom of the slab and shall discharge by gravity or mechanical means into an approved drainage system. Gravel or crushed stone drains shall extend at least I foot beyond the outside edge of the footing and 6" above the top of the footing and be covered with an approved filter membrane material. The top of open joints of drain tiles shall be protected with strips of building paper. Except where otherwise recommended by the drain manufacturer, perforated drains shall be surrounded with an approved filter membrane or the filter membrane shall cover the washed gravel or crushed rock covering the drain. Drainage tiles

perforation and covered with no less than 6" of the same material. 2. R405.|| Precast concrete foundation. Precast concrete walls that retain earth and enclose habitable or useable space located below-grade that rest on crushed stone footings shall have a perforated drainage installed below the base of the wall on either the interior or exterior side of the wall, at least one foot (305 mm) beyond the edge of the wall. If the exterior drainage pipe is used, an approved filter membrane material shall cover the pipe. The drainage system shall discharge into an approved sewer system or to

of perforated pipe shall be placed on a minimum of 2" of washed gravel or

crushed rock at least one sieve size larger than the tile joint opening or

. R406.2 Concrete and masonry foundation waterproofing.

In areas where a high water table or other severe soil-water conditions are known to exist, Exterior foundation walls retaining earth and enclosing interior spaces and floors below grade shall be waterproofed from the higher of (a) the top of the footing or (b) 6 inches below the top of the basement floor to the finished grade. Walls shall be waterproofed in accordance with one of

the following: 1. Two-ply hot-mopped felts. P. Fifty five pound (25 kg) roll roofing. 3. Six-mil (0.15 mm) polyvinyl chloride. 4. Six-mil (0.15 mm) polyethylene.

5. Forty-mil (1 mm) polymer-modified asphalt. 6. Sixty-mil (1.5 mm) flexible polymer cement. 7. One-eight inch (3 mm) cement-based, fiber-reinforced, waterproof coating 8. Sixty-mil (0.22 mm) solvent-free liquid-applied synthetic rubber. (See Virginia Residential Code 2018 for exception.) All joints in membrane waterproofing shall be lapped and sealed with an adhesive compatible with the membrane.

4. R408.3.1 Termite inspection. Where an unvented crawl space is installed and meets the criteria in Section R408, the vertical face of the sill plate shall be clear and unobstructed and an inspection gap shall be provided below the sill plate along the top of any interior foundation wall covering. The gap shall be a minimum of one inch (25.4 mm) and a maximum of two inches (50.8 mm) in width and shall extend throughout all parts of any foundation that is enclosed. Joints between the sill plate and the top of any interior wall covering may be sealed. (See Virginia Residential Code 2018 for exceptions.)

2018 Virginia Residential Code for one-and two-family dwellings.

R311.7.5.1 Risers. The maximum riser height shall be 8-1/4 inches (210 mm). The riser shall be measured vertically between the leading edges of the adjacent treads. The greatest riser height within any flight of stairs shall not exceed the smallest by more than 3/8 inch (9.5 mm)

Risers shall be vertical or sloped from the underside of the nosing of tread above at an angle not more than 30 degrees (0.51 rad.) from the vertical. Open risers are permitted provided that the openings located more than 30", as measured vertically, to the floor or grade below do not permit the passage of a 4-inch diameter

(102 mm) sphere. R311.152 Treads. The minimum tread depth shall be 9 inches (229 mm). The tread depth shall be measured horizontally between the vertical planes of the foremost projection of adjacent treads and at a right angle to the tread's leading edge. The greatest tread depth within any flight of stairs shall not exceed the smallest by more than 3/8 inch (9.5 mm).

R311.7.5.2.1 Winder treads.

Winder treads shall have a minimum tread depth of 10 inches (245 mm) measured between the vertical planes of the foremost projection of the adjacent treads at the intersection with the walkline. Winder treads shall have a minimum tread depth of 6 inches (152 mm) at any point within the clear width of the stair. Within any flight of stairs, the largest winder tread depth at the walkline shall not exceed the smallest winder tread by more than 3/8 inch (9.5 mm). Consistently shaped winders at the walkline shall be allowed within the same flight of stairs as rectangular treads and do not have to be within 3/8 inch (9.5 mm) of the rectangular tread depth.

R311.7.7 Stairway Walking Surface The walking surface of treads and landings of stairways shall be level or sloped no steeper than

one unit vertical in 48 units horizontal

(two-percent slope)

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. THESE DRAWINGS ARE ABBREVIATED AND ARE NOT INTENDED TO SPECIFY ALL STRUCTURAL DETAILS, MATERIAL SIZES OR CONDITIONS NECESSARY FOR CONSTRUCTION. THE BUILDER AND/OR THE OWNER WILL MAKE ANY AND ALL DECISIONS AND SELECTIONS NECESSARY FOR CONSTRUCTION.

4. EXACT SIZE AND REINFORCEMENT OF ALL CONCRETE FOOTINGS MUST BE DETERMINED BY LOCAL SOIL CONDITIONS AND ACCEPTABLE PRACTICES OF CONSTRUCTION. VERIFY DEPTH WITH LOCAL ENGINEER. 5. VERIFY ALL STRUCTURAL ELEMENTS FOR DESIGN AND SIZE WITH LOCAL ENGINEER AND BUILDING OFFICIALS.

6. BOTTOM OF ALL FOOTINGS SHALL EXTEND BELOW FROST-LINE. VERIFY DEPTH,

. ALL CONSTRUCTION IS TO COMPLY WITH THE LATEST EDITIONS OF THE APPLICABLE BUILDING CODES AND ALL OTHER APPLICABLE REGULATIONS. (FEDERAL, STATE and LOCAL)

$\boldsymbol{\sigma}$ <u>z</u> $\boldsymbol{\sigma}$ O B $\boldsymbol{\omega}$

FLOOR PLANS - NOTES

AS APPLICABLE TO CONSTRUCTION DOCUMENT SET.

COMPONENT	AIR BARRIER CRITERIA	INSULATION INSTALLATION CRITERIA ^b			
General requirements	A continuous air barrier shall be installed in the building envelope. The exterior thermal envelope contains a continuous air barrier. Breaks or joints in the air barrier shall be sealed.	Air-permeable insulation shall not be used as a sealing material.			
Ceiling/attic	The air barrier in any dropped celling or soffit shall be aligned with the insulation and any gaps in the air barrier sealed. Access openings, drop down stairs or knee wall doors to unconditioned attic spaces shall be sealed.	The insulation in any dropped ceiling/soffit shall be aligned with the air barrier.			
Walis	The junction of the foundation and sill plate shall be sealed. The junction of the top plate and the top of exterior walls shall be sealed. Knee walls shall be sealed.	Cavities within corners and headers of frame walls shall be insulated by completely filling the cavity with a material having a thermal resistance of not less than R-3 per inch. Exterior thermal envelope insulation for framed walls shall be installed in substantial contact and in continuous alignment with the air barrier.			
Windows, skylights and doors	The space between framing and skylights, and the jambs of windows and doors, shall be sealed.				
Rim joists	Rim joists shall include the air barrier.	Rim joists shall be insulated.			
Floors including cantilevered floors and floors above garages.	The air barrier shall be installed at any exposed edge of insulation.	Floor framing cavity insulation shall be installed to maintain permanent contact with the underside of subfloor decking. Alternatively, floor framing cavity insulation shall be in contact with the top side of sheathing or continuous insulation installed on the underside of floor framing; and extending from the bottom to the top of all perimeter floor framing members.			
Crawl space walls	Exposed earth in unvented crawl spaces shall be covered with a Class I vapor retarder with overlapping joints taped.	Crawl space insulation, where provided instead of floor insulation, shall be permanently attached to the walls.			
Shafts, penetrations	Duct shafts, utility penetrations, and flue shafts opening to exterior or unconditioned space shall be sealed.				
Narrow cavities		Batts to be installed in narrow cavities shall be cut to fit or narrow cavities shall be filled with insulation that on installation readily conforms to the available cavity space.			
Garage separation	Air sealing shall be provided between the garage and conditioned spaces.				
Recessed lighting	Recessed light fixtures installed in the building thermal envelope shall be sealed to the finished surface.	Recessed light fixtures installed in the building thermal envelope shall be airtight and IC rated.			
Plumbing and wiring		In exterior walls, batt insulation shall be cut neatly to fit around wiring and plumbing or insulation that on installation, readily conforms to available space, shall extend behind piping and wiring.			
Shower/tub on exterior wall [©]	The air barrier installed at exterior walls adjacent to showers and tubs shall be installed on the interior side and separate the exterior walls from the showers and tubs.	Exterior walls adjacent to showers and tubs shall be insulated.			
Electrical/phone box on exterior walls	The air barrier shall be installed behind electrical and communication boxes. Alternatively, air-sealed boxes shall be installed.	-			
HVAC register boots	HVAC supply and return register boots that penetrate building thermal envelope shall be sealed to the subfloor, wall covering or ceiling penetrated by the boot.				
Concealed sprinklers	Where required to be sealed, concealed fire sprinklers shall only be sealed in a manner that is recommended by the manufacturer. Caulking or other adhesive sealants shall not be used to fill voids between fire sprinkler cover plates and				

TABLE N1102.4.1.1 (R402.4.1.1) AIR BARRIER AND INSULATION INSTALLATION³

 a. Inspection of log walls shall be in accordance with the provisions of ICC 400. b. Structural integrity of headers shall be in accordance with the applicable building code. c. Air barriers used behind showers and tubs on exterior walks shall be of a permeable material that does not cause the entrapment of moisture in the stud cavity.

AIR BARRIER & INSULATION INSTALLATION - NOTES

SCALE: NT.S. AS APPLICABLE TO CONSTRUCTION DOCUMENT SET.

be used to fill voids between fire sprinkler cover plates and

ROOF TRUSS TIE-DOWN STRAP SCHEDULE FASTENER (SIMPSON OR EQUAL) UPLIFT LOAD (NOT TO EXCEED) TO RAFTERS/ TRUSS TO PLATES/ STUDS 100 LBS. 2 - 16d TOE NAILS - PER CODE 340 LBS. H2.5A 5 - 8d 680 LBS. (2) H2.5A 10 - 8d 10 - 8d MTS12 800 LBS. 7 - 10d 1 - 10d 1,250 LBS. (2) LTS12 12 - 100d 12 - 10d 1,484 LBS. (2) HIØA 16 - 8d X 1-1/2 16 - 8d X 1-1/2 to truss TO WALL FRAMING 1,640 LBS. (2) MTSI2 14 - 10d 14 - 10d GIRDER TRUSS LGT2 (2-PLY) 1,785 LBS. 16 - 16d 14 - 16d LGT3 (3-PLY) 12 - SDS 14X21/2 26 - 16d LGT4 (4-PLY) 2,925 LBS. 12 - SDS 1₄X3 30 - 16d USE 16d SINKERS

* LOADS MODIFIED FOR SPRUCE PINE FRAMING MATERIAL

FRAMING NOTES: (1) USE (2)2x4 JACK STUDS BESIDE ALL OUTSIDE DOOR \$ WINDOW OPENINGS UNLESS OTHERWISE

(2) IMPORTANT!!: CONTINUE ALL POSTS TO FOUNDATION WALL OR BEARING BEAMS BELOW AND USE SOLID BLOCKING AT FLOOR SYSTEM BETWEEN POSTS (3) ALL METAL HANGERS SHALL BE DESIGNED AND SPECIFIED BY FLOOR

(4) ALL MULTIPLE 2x STUD POSTS SHALL BE BOTH GLUED ≰ NAILED (5) JOIST MANUFACTURER SIGNED & SEALED FLOOR FRAMING PLANS SHALL BE PROVIDED TO INSPECTION.

FLOOR JOIST MANUFACTURER NOTES: SHALL BE SUBMITTED TO AND APPROVED BY <u>C&E Designs, Inc.</u> PRIOR TO FABRICATION, PANELIZATION AND ANY CONSTRUCTION

(3) JOIST MANUFACTURER SIGNED 4 SEALED FLOOR FRAMING PLANS SHALL BE PROVIDED TO INSPECTIOR AT FIELD INSPECTION.

(2) ALL GIRDER JOISTS SHALL BE DESIGNED AND ENGINEERED BY THE FLOOR JOIST MANUFACTURERS

2. ALL GIRDER TRUSSES SHALL BE

FRAMING NOTES:

I. USE (2) 2×4 JACK STUDS BESIDE

OPENINGS UNLESS NOTED OTHERWISE.

2. IMPORTANT!! CONTINUE ALL POSTS

TO FOUNDATION WALL, BEARING BEAM

BELOW OR SOLID BEARING WITHIN

FLOOR SYSTEM BETWEEN POST ENDS.

3. ALL METAL HANGERS ARE TO BE

4. FLOOR FRAMING SHOP DRAWINGS

MANUFACTURED ROOF TRUSS NOTES:

. ROOF FRAMING SHOP DRAWINGS

ARE TO BE SUBMITTED TO AND APPROVED BY CSE Designs, Inc.

PRIOR TO FABRICATION,

PANELIZATION AND ANY

DESIGNED & SPECIFIED BY THE

FLOOR SYSTEM MANUFACTURER

APPROVED BY $\underline{\text{CSE Designs, Inc.}}$

SHALL BE SUBMITTED TO 4

PRIOR TO CONSTRUCTION.

ALL OUTSIDE DOOR & WINDOW

DESIGNED AND ENGINEERED BY THE ROOF TRUSS MANUFACTURERS. TRUSS MANUFACTURERS' SIGNED 4 SEALED ROOF FRAMING PLANS SHALL BE PROVIDED TO INSPECTOR AT TIME

OF FIELD INSPECTION.

VIRGINIA RESIDENTIAL CODE -2018: FOR ONE- AND TWO- FAMILY DWELLINGS

GENERAL NOTES: R3Ø2.11 FIRE BLOCKING: FIREBLOCKING SHALL BE PROVIDED TO CUT OFF ALL CONCEALED DRAFT OPENINGS (BOTH VERTICAL AND HORIZONTAL) AND TO FORM AN EFFECTIVE FIRE BARRIER BETWEEN STORIES, AND BETWEEN A TOP STORY AND THE ROOF SPACE.

FIREBLOCKING SHALL BE PROVIDED IN WOOD-FRAME CONSTRUCTION IN THE FOLLOWING LOCATIONS: N CONCEALED SPACES OF STUD WALLS AND PARTITIONS, INCLUDING FURRED SPACES AND PARALLEL ROUS OF STUDS
 TAKEFORD THE AND PARALLEL ROUS OF STUDS. OR STAGGERED STUDS, AS FOLLOWS: I.I. YERTICALLY AT THE CEILING AND FLOOR LEVELS.

12. HORIZONATALLY AT INTERVALS NOT EXCEEDING 10 FEET. AT ALL INTERCONNECTIONS BETWEEN CONCEALED VERTICAL AND HORIZONTAL SPACES SUCH AS OCCUR AT SOFFITS, DROPPED CEILINGS AND COVE CEILINGS.

3. IN CONCEALED SPACES BETWEEN STAIR STRINGERS AT THE TOP AND BOTTOM OF THE RUN. ENCLOSED SPACES UNDER STAIRS SHALL COMPLY WITH SECTION R302.7 4. AT OPENINGS AROUND VENTS, PIPES, DUCTS, CABLES AND WIRES AT CEILING AND FLOOR LEVEL, WITH AN APPROVED MATERIAL TO RESIST THE FREE PASSAGE OF FLAME AND PRODUCTS OF COMBUSTION. THE MATERIAL FILLING THIS ANNULAR SPACE SHALL NOT BE REQUIRED TO MEET THE ASTM E 136 REQUIREMENTS.

5. FOR THE FIREBLOCKING OF CHIMNEYS AND FIREPLACES, SEE SECTION RIØØ3.19. 6. FIREBLOCKING OF CORNICES OF A TWO-FAMILY DWELLING IS REQUIRED AT THE LINE OF DWELLING UNIT SEPARATION.

ROBERT M. FLING

Drawing No.

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FRAMING PLANS - NOTES

AS APPLICABLE TO CONSTRUCTION DOCUMENT SET.

January 16, 2025

SCALE: N.T.S.

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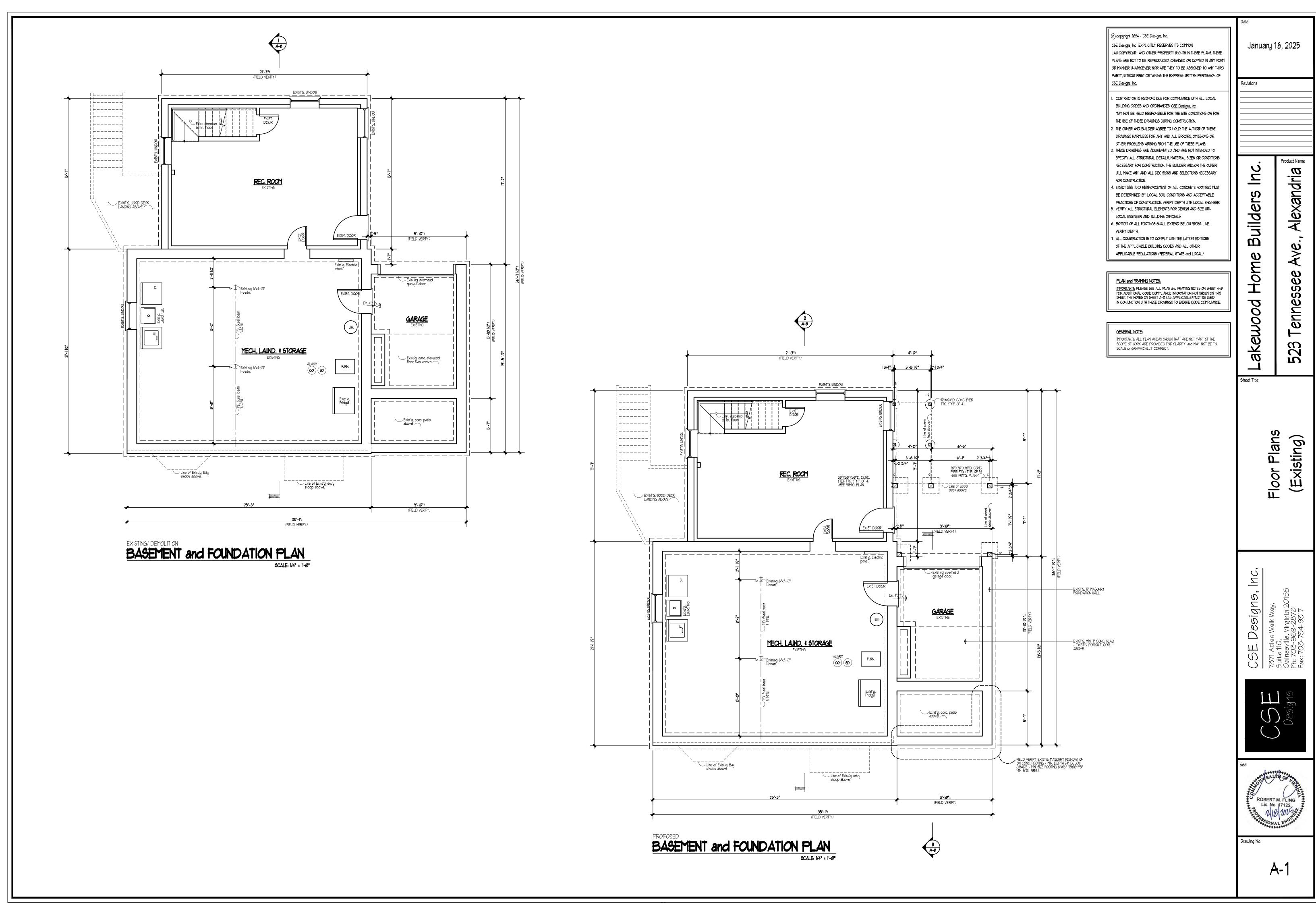
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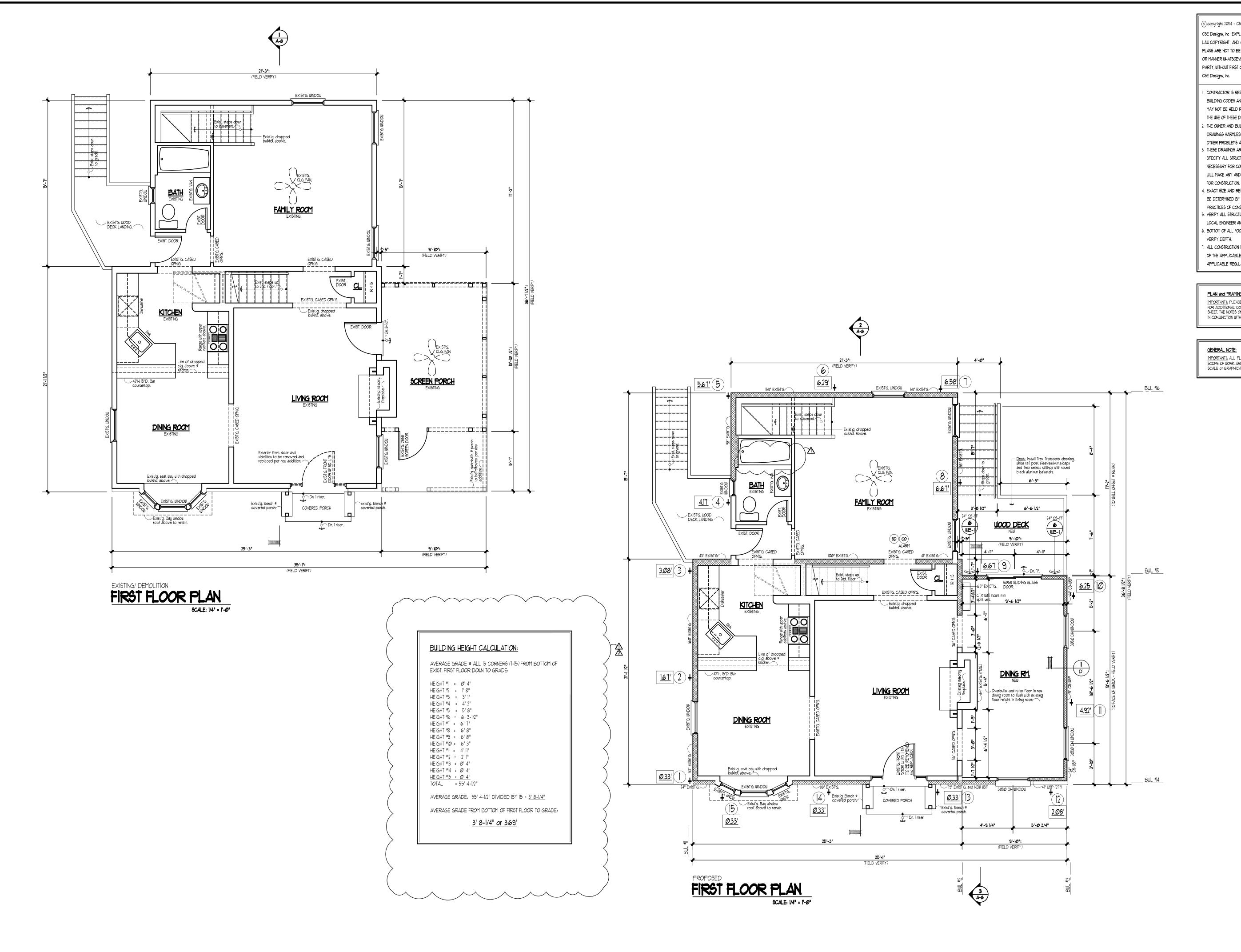
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1-30-2025 - City of Alexandria comments. 2-18-2025 - City of Alexandria comments.

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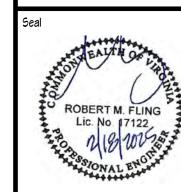
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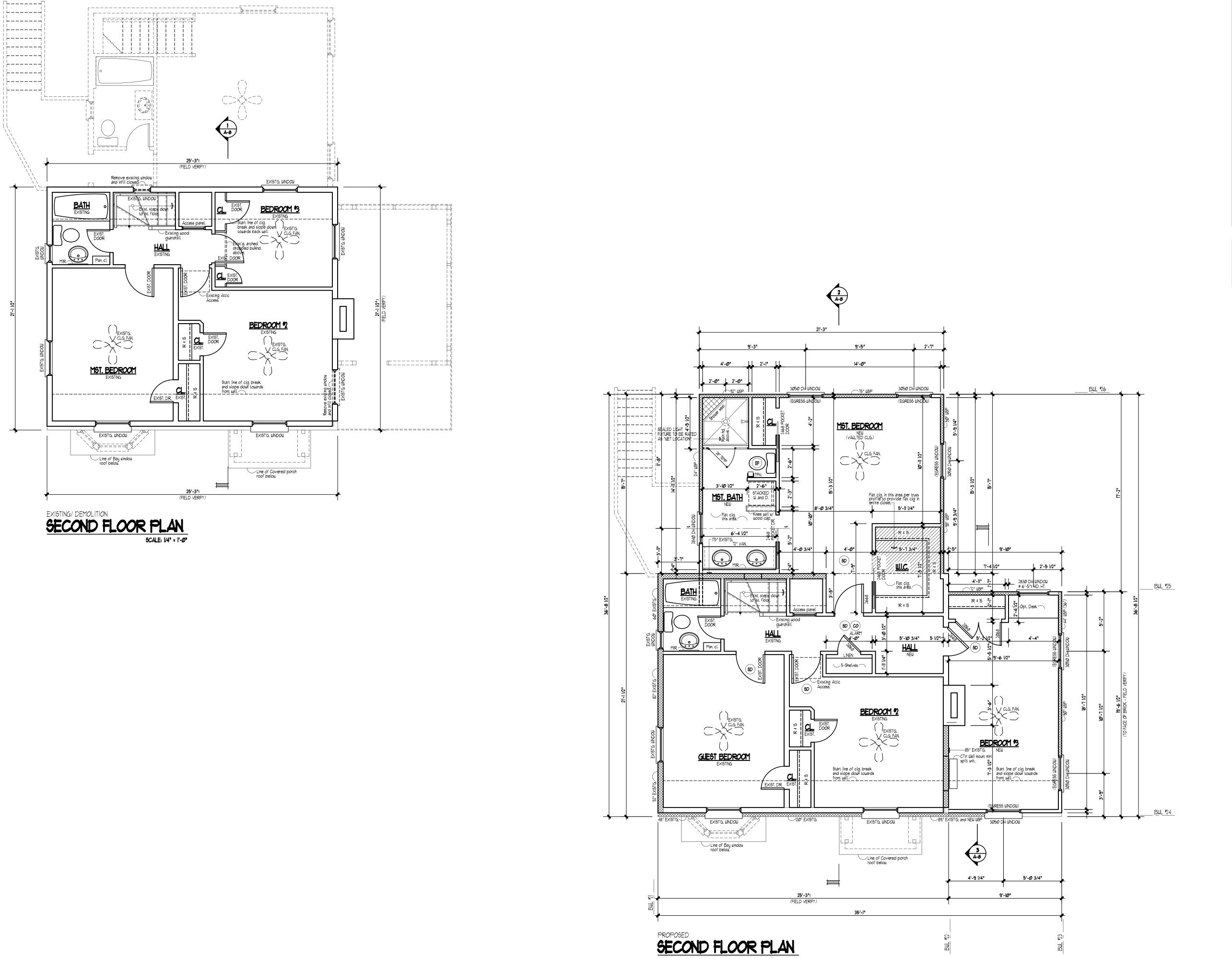
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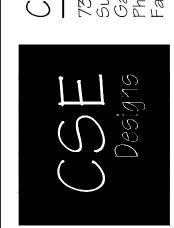
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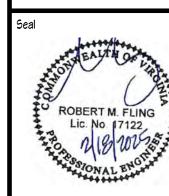
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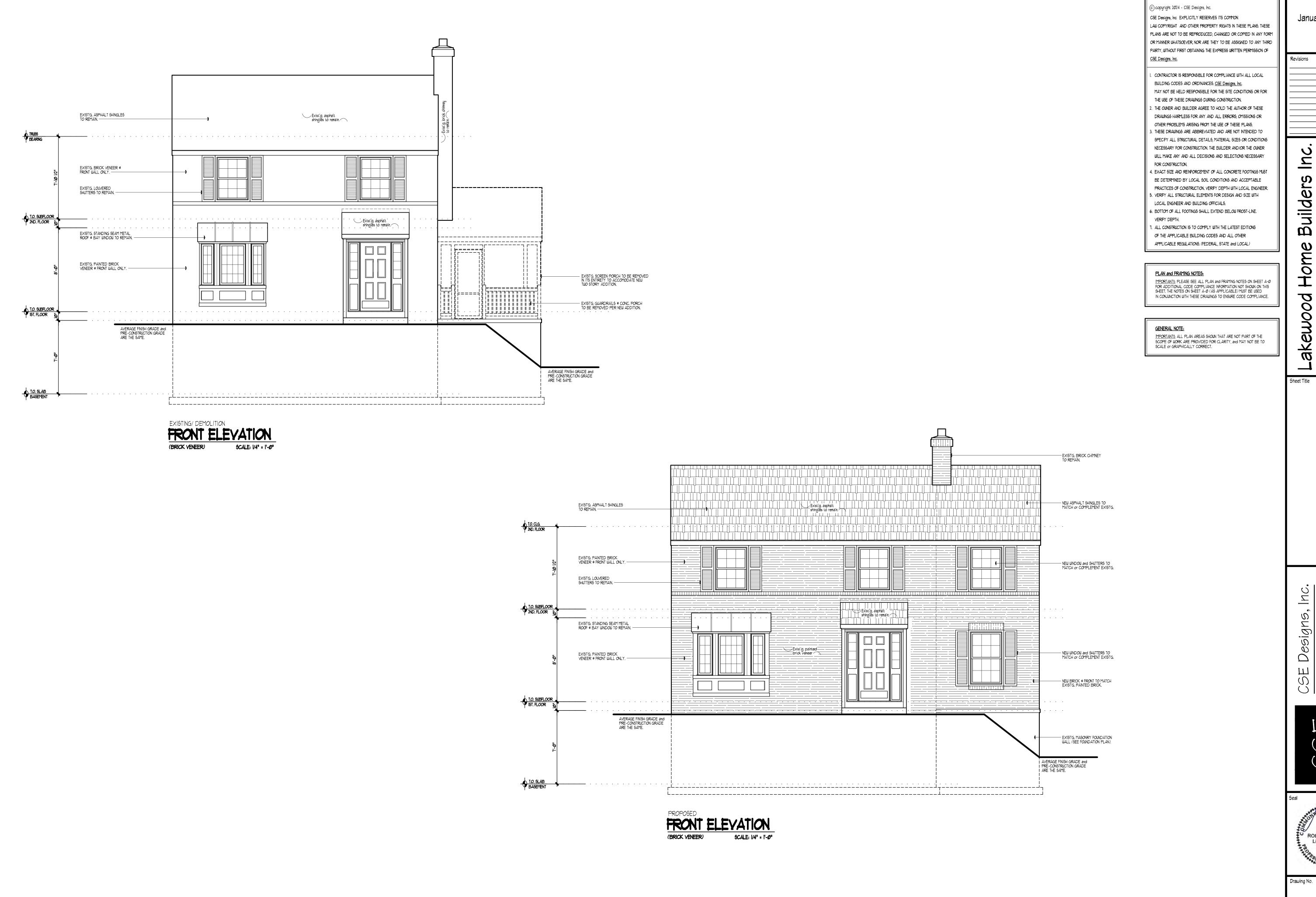
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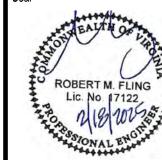
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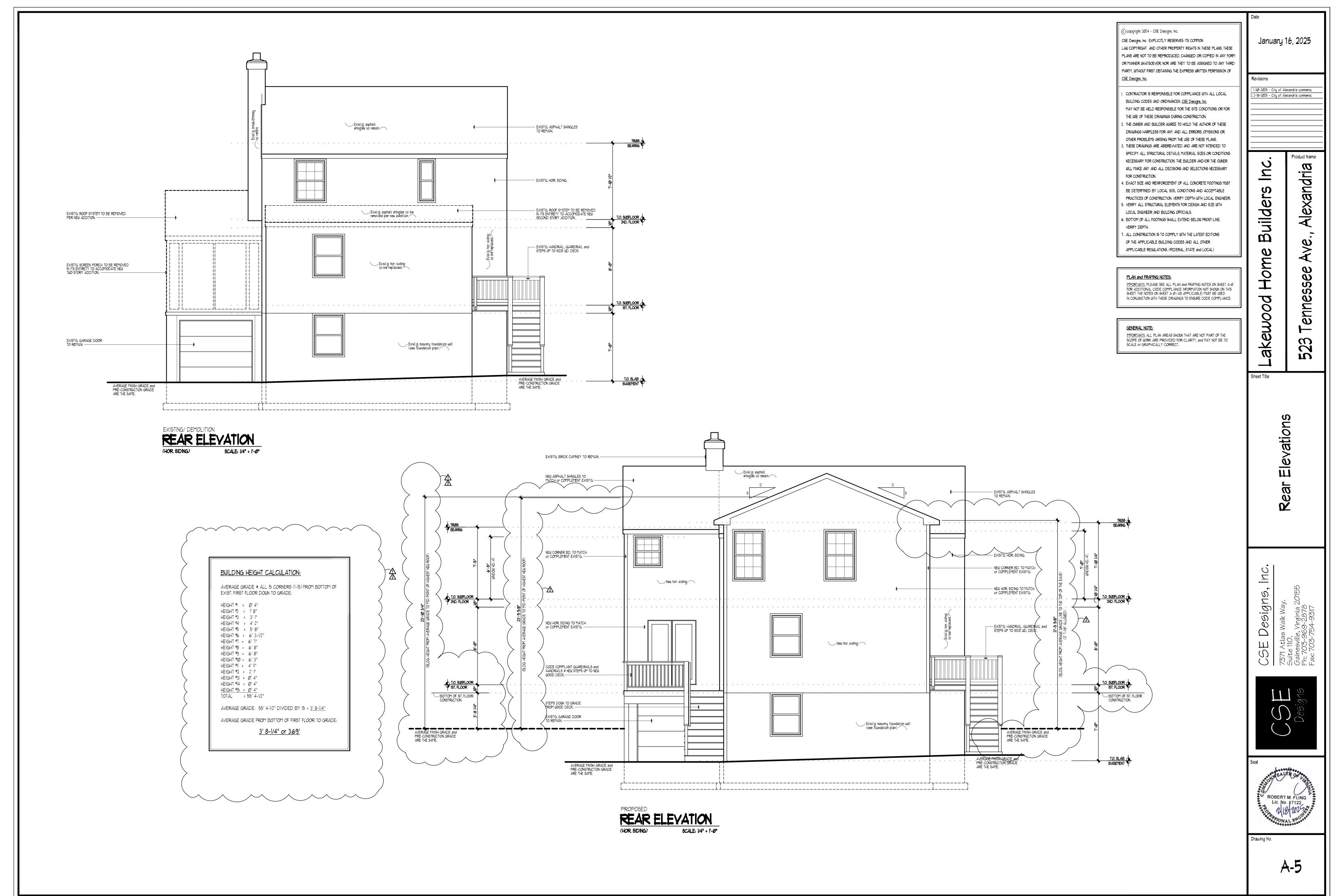
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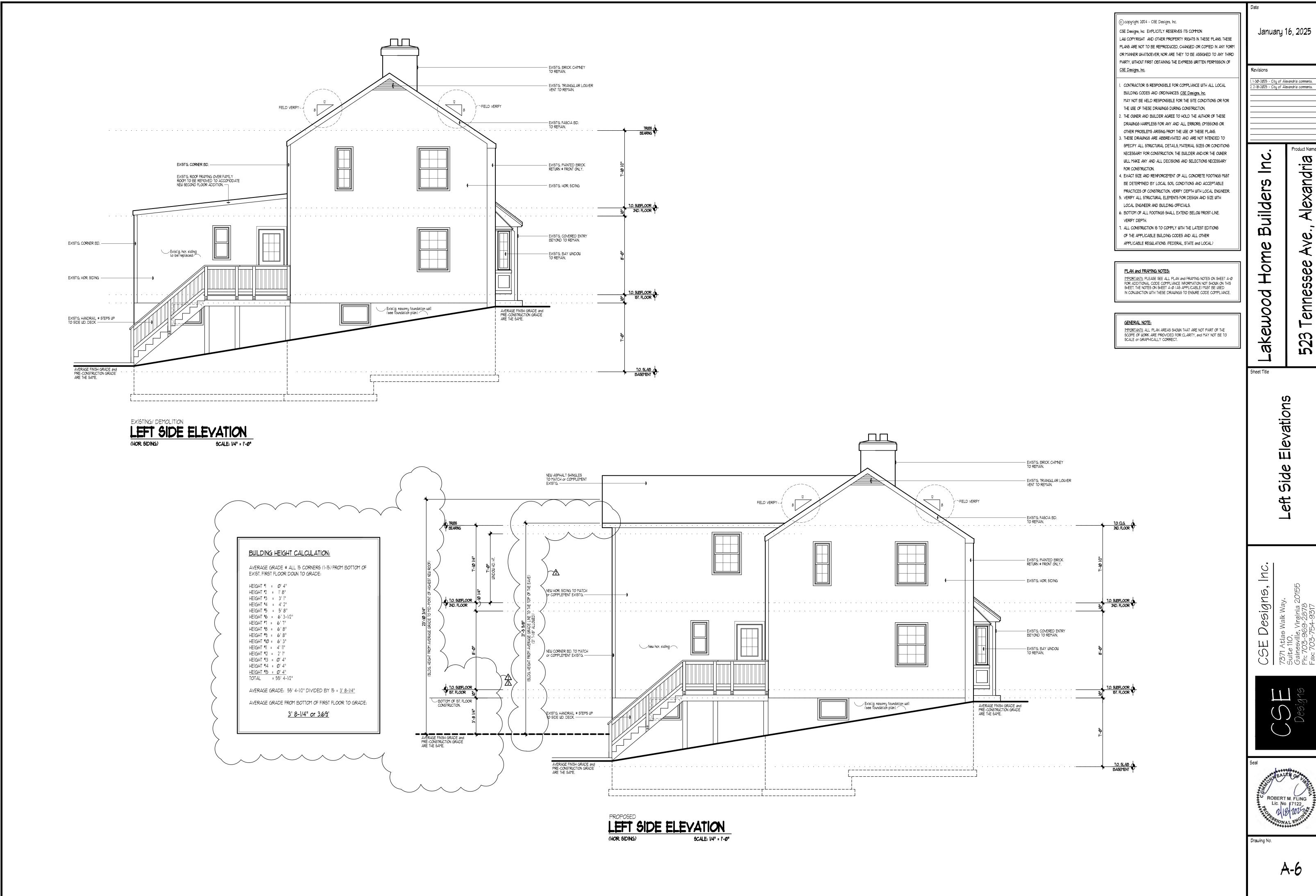
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Elevations Front







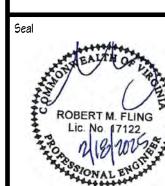


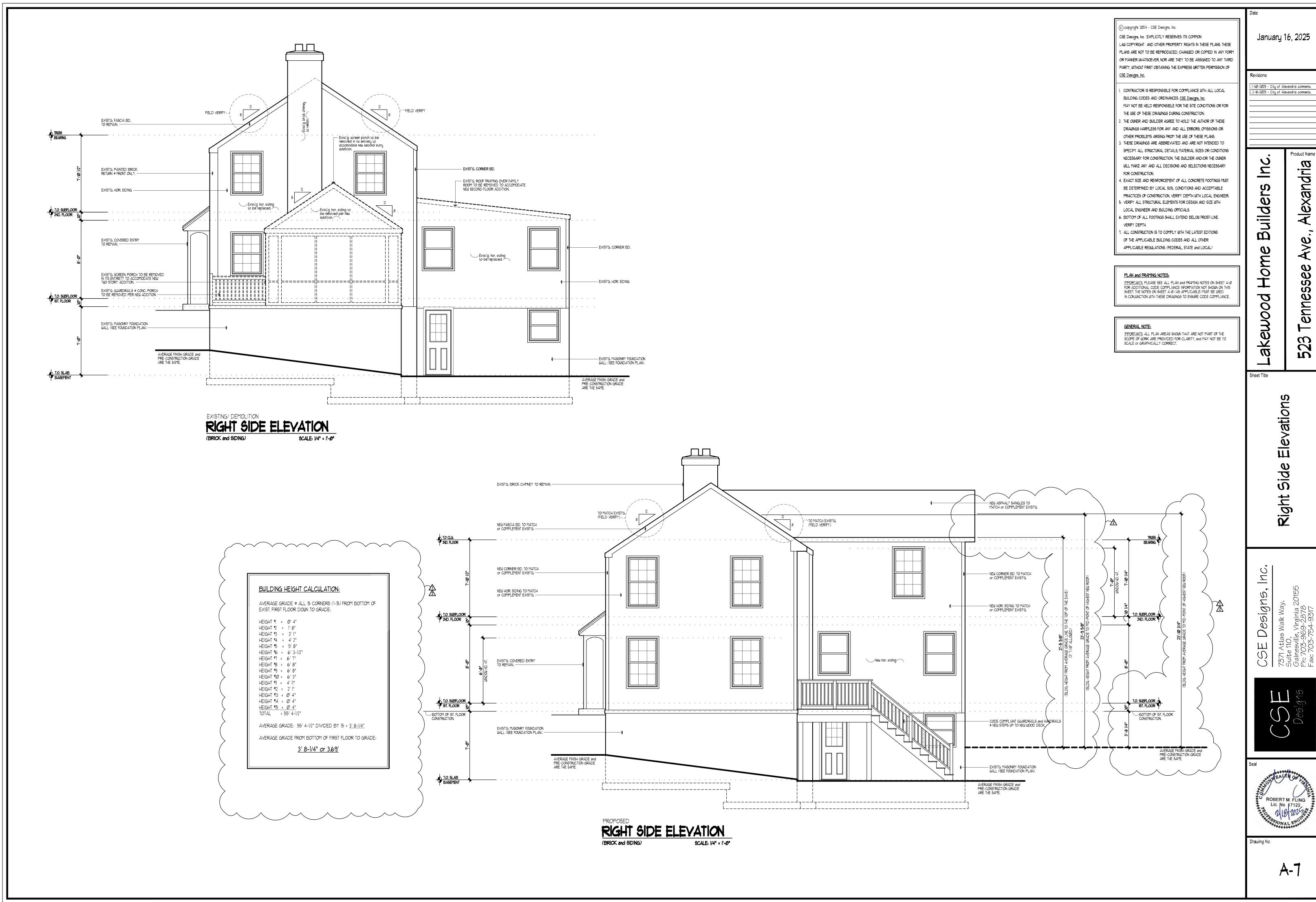
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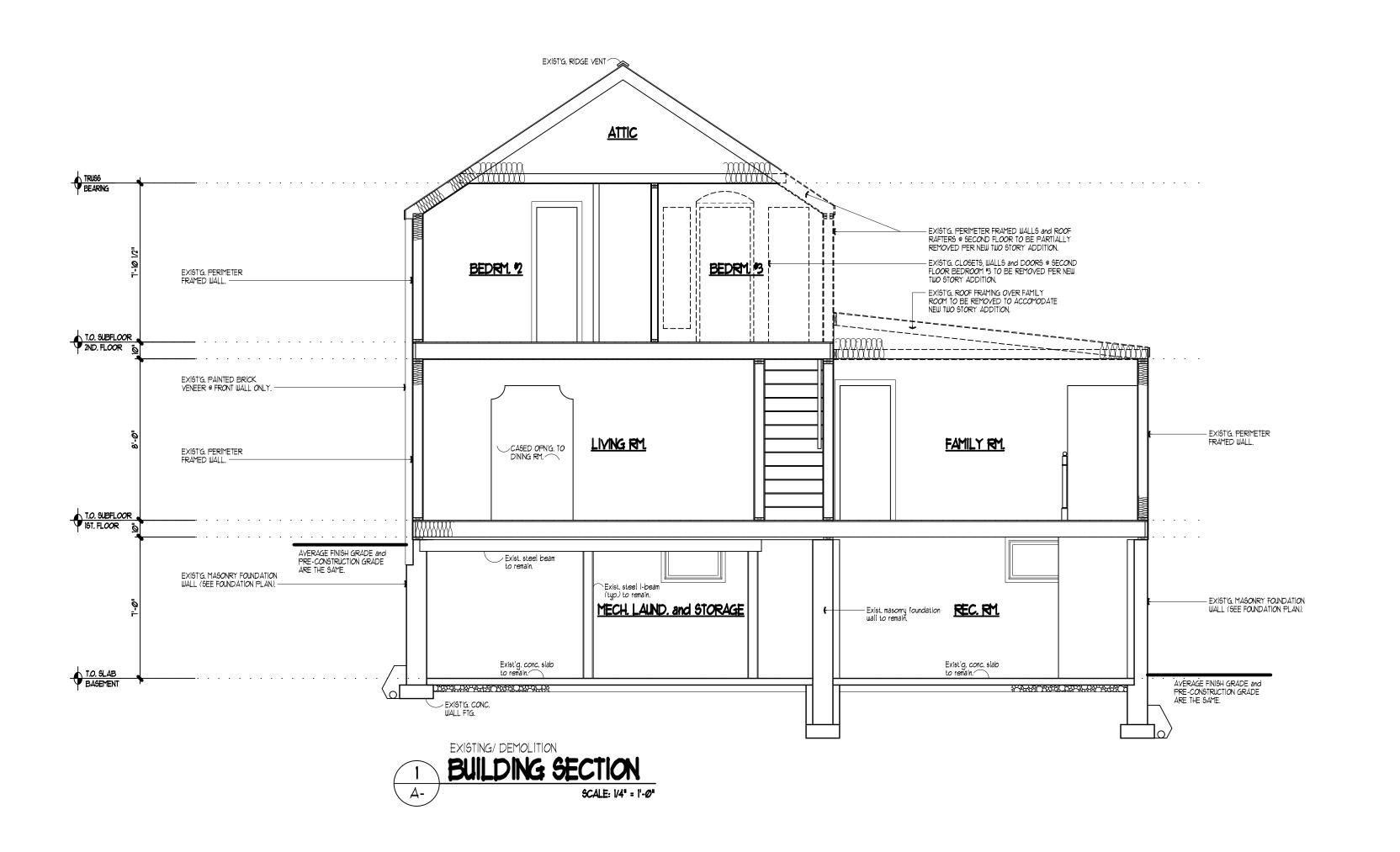
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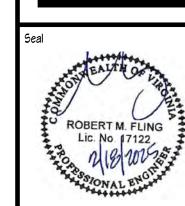
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A-8

full height of uncompressed R-38 insulation extends over the wall top plate at the eaves. This reduction shall not apply to the *U*-factor alternative approach in Section N1102.1.4 and the Total UA alternative in Section N1102.1.5.

N1102.2.1 (R402.2.1) Ceilings with attic spaces.

N1102.2.2 (R402.2.2) Ceilings without attic spaces. Where Section N1102.1.2 requires insulation R-values greater than R-30 in the ceiling and the design of the roof/ceiling assembly does not allow sufficient space for the required insulation, the minimum required insulation R-value for such roof/ceiling assemblies shall be R-30. Insulation shall extend over the top of the wall plate to the outer edge of such plate and shall not be compressed. This reduction of insulation from the requirements of Section N1102.1.2 shall be limited to 500 square feet (46 m²) or 20 percent of the total insulated ceiling area, whichever is less. This reduction shall not apply to the U-factor alternative approach in Section N1102.1.4 and the Total UA alternative in Section N1102.1.5.

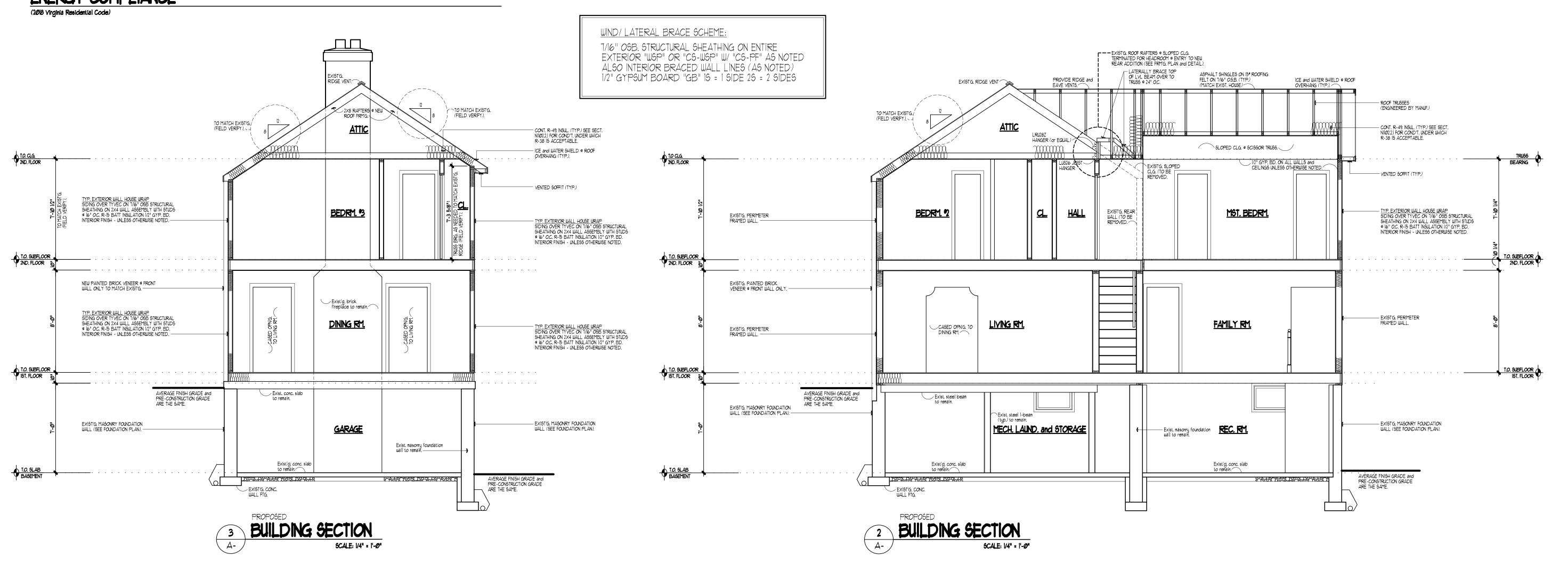
Where Section R1102.1.2 requires R-38 insulation in the ceiling, installing R-30 insulation over 100 percent of the ceiling area

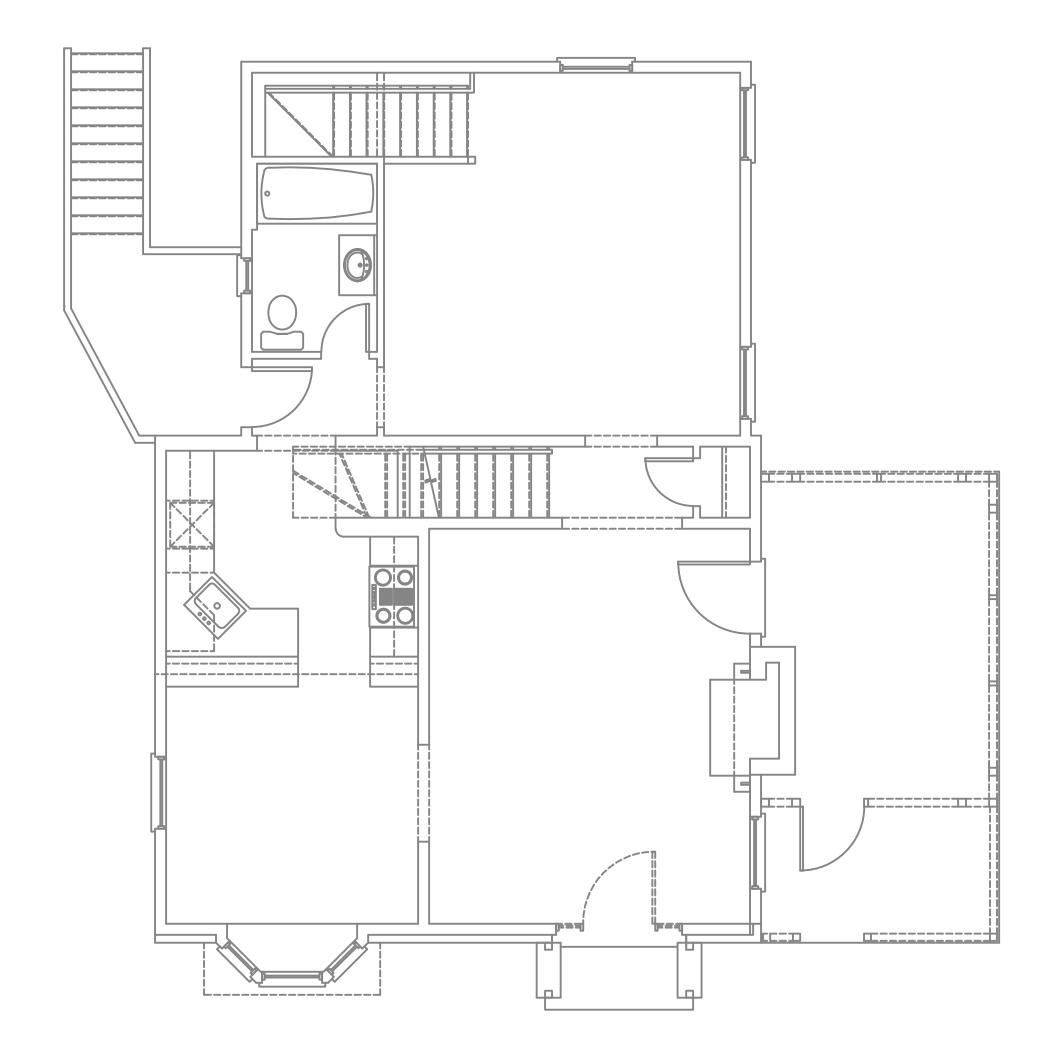
requiring insulation shall satisfy the requirement for R-38 insulation wherever the full height of uncompressed R-30 insulation

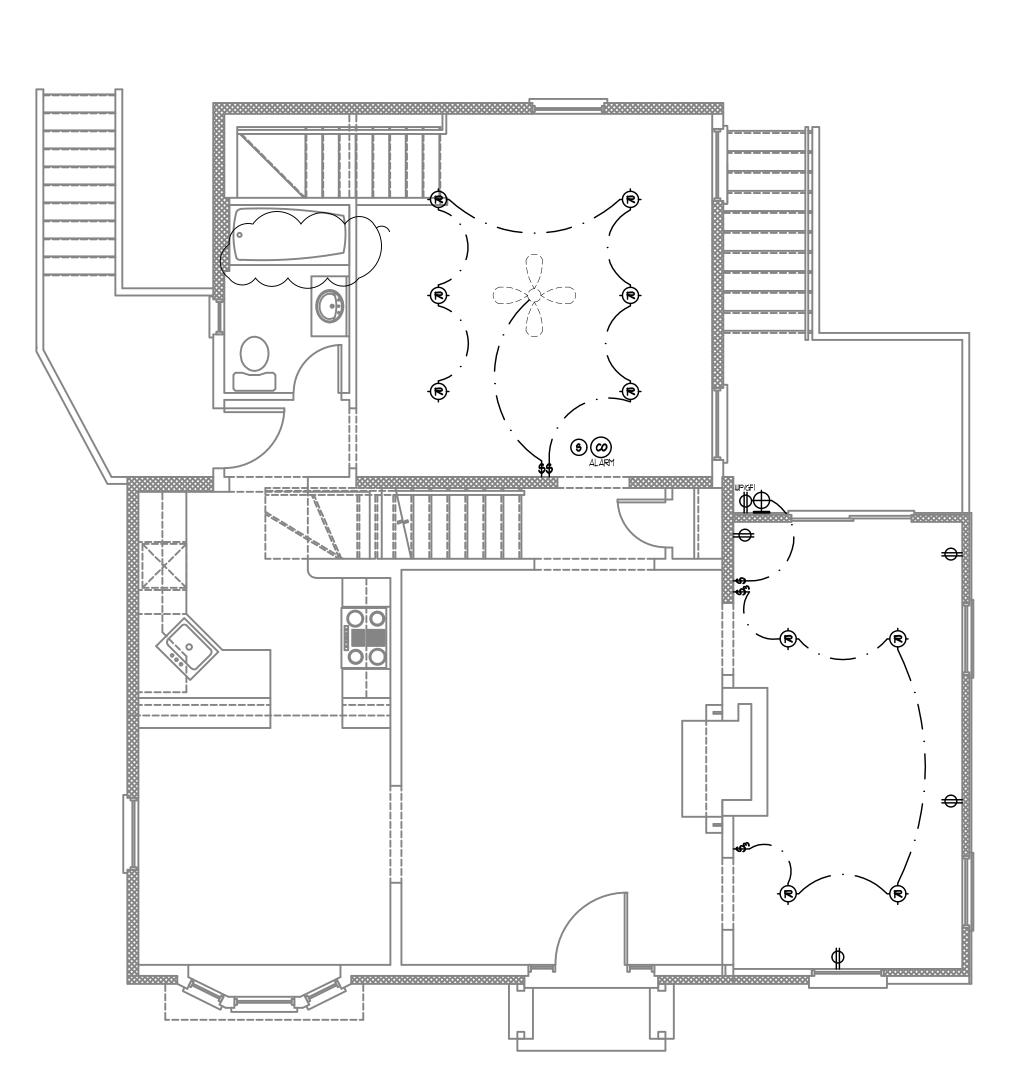
extends over the wall top plate at the eaves. Where Section N1102.1.2 requires R-49 insulation in the ceiling, installing R-38

insulation over 100 percent of the ceiling area requiring insulation shall satisfy the requirement for R-49 insulation wherever the

ENERGY COMPLIANCE







FIRST FLOOR ELECTRICAL PLAN

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

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APPLICABLE REGULATIONS. (FEDERAL, STATE and LOCAL)

Sheet Title

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Electrical or Pan

E-1

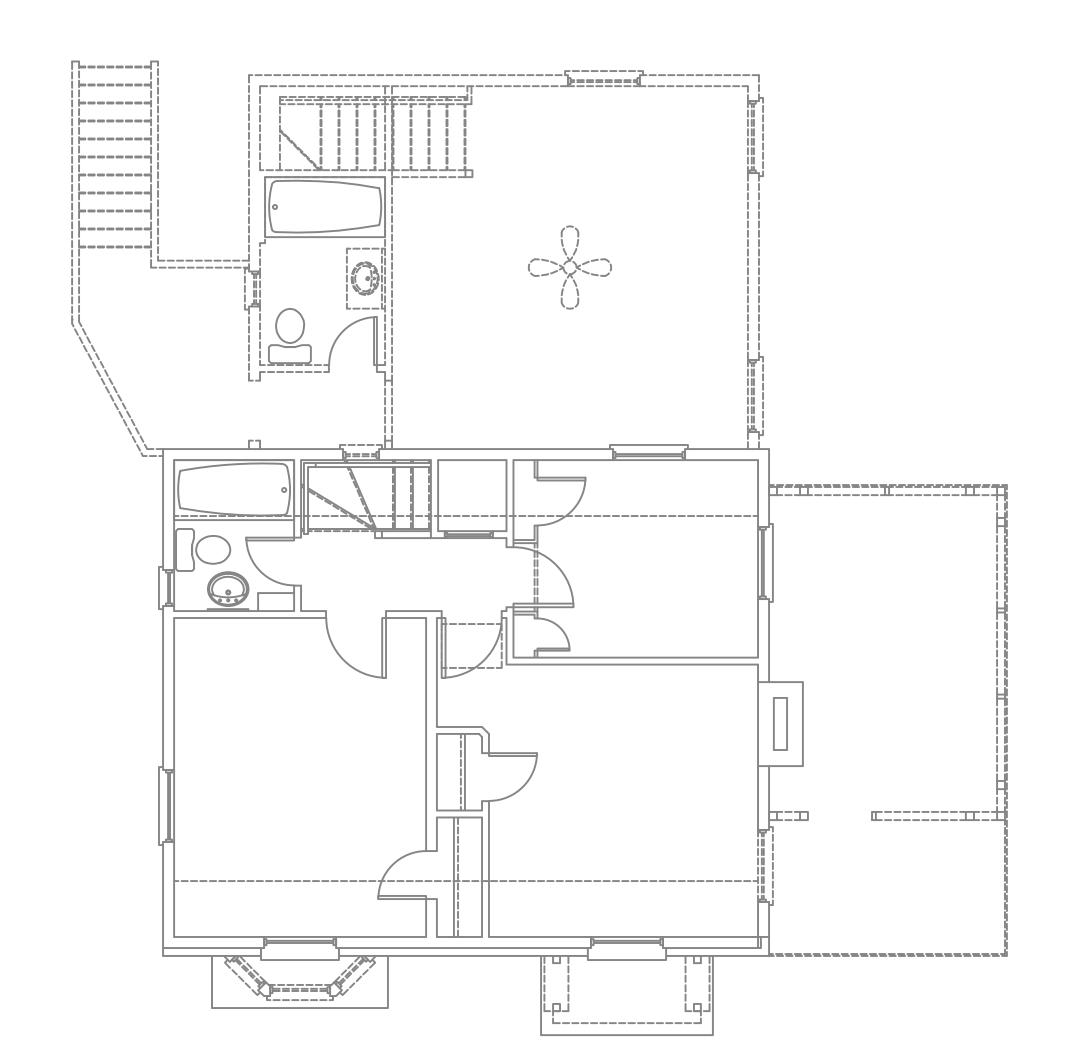
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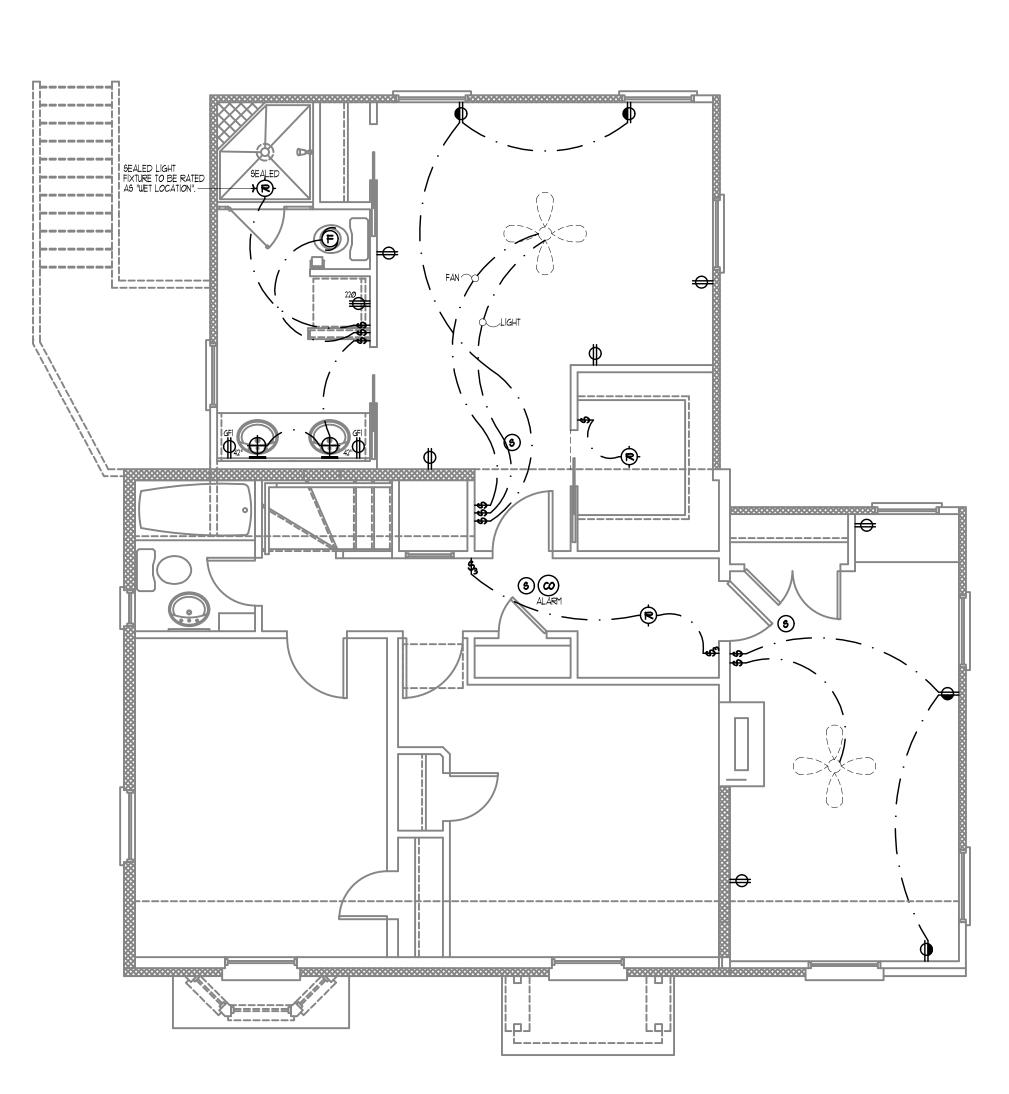
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SECOND FLOOR ELECTRICAL PLAN

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Builders

January 16, 2025

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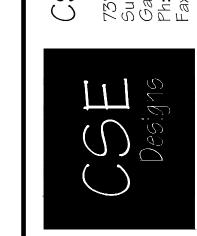
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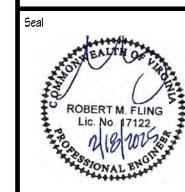
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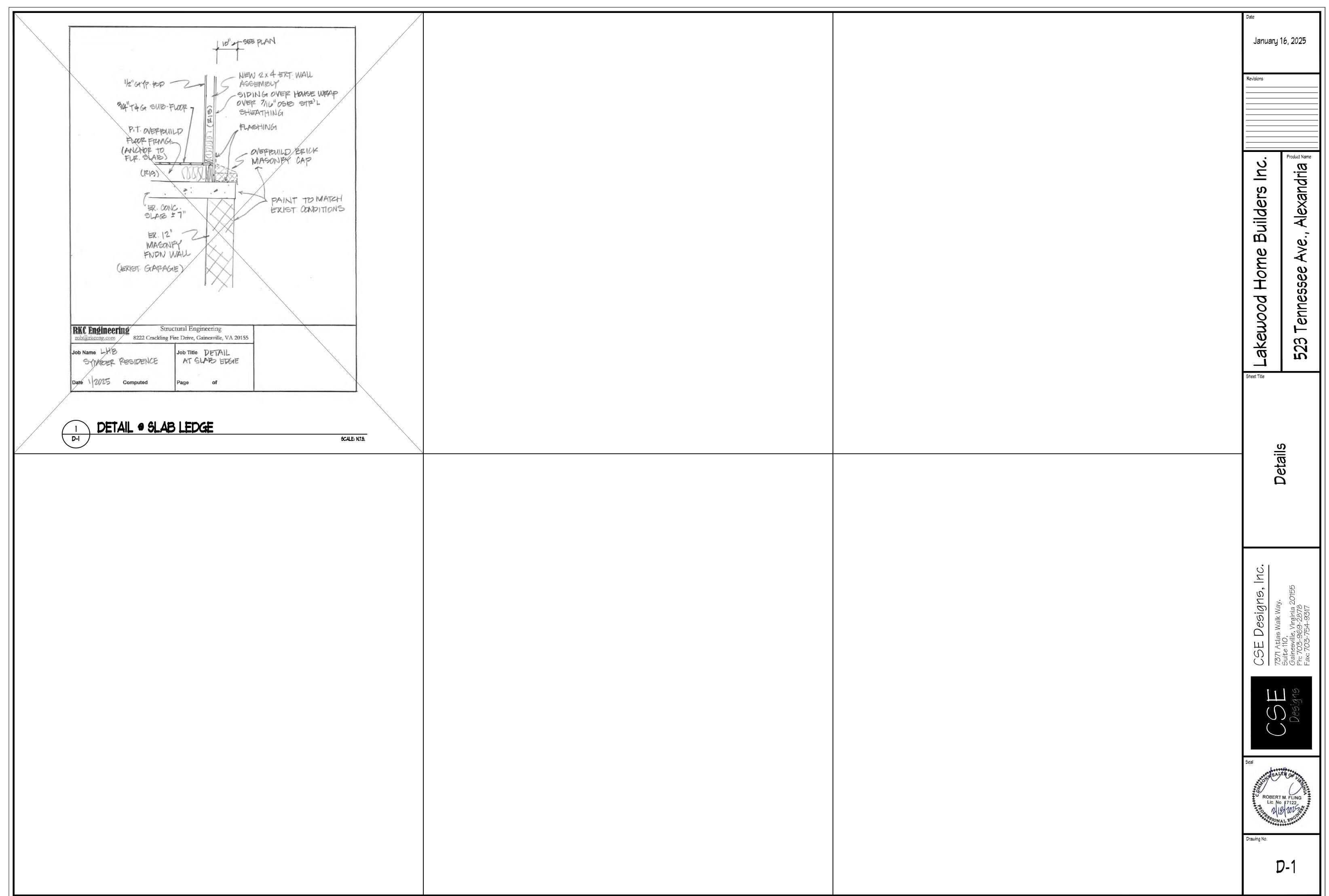
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Electrical





E-2



The LCE4's universal design provides high capacity while eliminating the need for rights and lefts. For use with 4x or 6x lumber. LPC—Adjustable design allows greater connection versatility.

Install all models in pairs. LPC—2½" beams may be used if 10dx1½" nails are

AC/LPC/LCE Post Caps

see Corrosion-Resistance, page 6-7.

CODES: See page 12 for Code Listing Key Chart.

AC6R (Min) 6 9 12-16d 8-16d

2. Loads apply only when used in pairs.

AC6R (Max) 6 9 14-16d 14-16d 2500

- 6½ 10-16d 10-16d

3% 8-10d 8-10d

5% 51/2 8-10d 8-10d

- 6½ 8-16d 6-16d 1070

1785

760

915

allowed; reduce where other load durations govern. MAX nailing quantities and load values—fill round and triangle holes.

or wind load durations with no further increase 4.MIN nailing quantity and load values—fill all round holes;

1. Allowable loads have been increased for earthquake 3. LPC lateral load is in the direction parallel to the beam.

substituted for 10d commons.

MATERIAL: LCE4—20 ga; AC, ACE, LPC4—18 ga; LPC6—16 ga

INSTALLATION: • Use all specified fasteners. See General Notes.

FINISH: Galvanized. Some products available in Z-MAX and stainless steel;

roduct Name

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Sheet Title

<u>a</u>

 \Box

Simpson Strong-Tie® Wood Construction Connectors ABA/ABU/ABW Adjustable and Standoff Post Bases

Additional standoff bases are on p. 321. The AB series of retrofit adjustable post bases provide a 1" standoff for

Available with additional corrosion protection. Check with factory. (133 & 160)1 Uplift 39/16 61/2 12-16d 8-16d 1430 4, 37, 87, 121 2500 39/16 61/2 14-16d 14-16d 12-16d 8-16d 37 - 4½ 8-16d 6-16d 1070 4, 37, 87, 121 4½ 10-16d 10-16d 51/2 81/2 12-16d 8-16d 4, 37, 87, 121 5½ 8½ 14-16d 14-16d 2500

1070

325

490

Uplift loads do not apply to splice conditions.

7, 121

8, 36, 121

Typical LCE4 Installation 4, 37, 87, 121

Typical ACE

(For 4x or 6x lumber)

other nail sizes and information.

6. Spliced conditions must be detailed by the Designer to transfer tension loads between spliced members by means other than the post cap. 7. NAILS: 16d = 0.162" dia. x 31/2" long,

10d = 0.148" dia. x 3" long. See page 16-17 for

Strong-Drive® SD Connector screws or bolts (ABU). Depending on the application needs, these adjustable standoff post bases are designed for versatility, cost-effectiveness and maximum uplift performance.

. The slot in the base enables flexible positioning around the anchor bolt, making precise post placement easier . The 1" standoff helps prevent rot at the end of the post and meets code requirements for structural posts installed in basements or

the post, are slotted for adjustability and can be installed with nails,

exposed to weather or water splash Material: Varies (see table)

Finish: ZMAX® and some in stainless steel; see Corrosion Information, pp. 13-15

Installation: · Use all specified fasteners; see General Notes.

 See our Anchoring and Fastening Systems for Concrete and Masonry catalog, or visit strongtie.com for retrofit anchor options.

 Post bases do not provide adequate resistance to prevent members from rotating about the base and therefore are not recommended for non-top-supported installations (such as fences or unbraced carports).

. Place the base, cut washer(s) or load transfer plate(s) and nut(s) on the anchor bolt(s). Make any necessary adjustments to post placement and tighten the nut securely on the anchor bolt.

. See strongtie.com for information on hollow column installation.

Place the standoff base and then the post in the ABW and fasten on three vertical sides, using nails or Strong-Drive SD Connector screws - Bend up the fourth side of the ABW and fasten using the correct fasteners

Place the standoff base and then the post in the ABU

- Fasten using nails or Strong-Drive SD Connector screws or bolts (ABU88Z, ABU1010Z, ABU1212Z - SDS optional)

Place the post in the ABA - Fasten using nails or Strong-Drive SD Connector screws Codes: See p. 12 for Code Reference Key Chart

Allowable Loads — Beam Installation

Model No.	Nominal	700.000	erial a.)	Dimensions (in.)			F	asteners (in.)	DF/SP Allowable Loads		SPF/HF Allowable Load		
	Beam Size	Base	Strap	W	L	н	Anchor Dia.	Nails	Uplift (160)	Down (100)	Uplift (160)	Down (100)	
ABU46Z	Double 2x	12	12	3%6	5	7	5/8	(12) 0.162 x 31/2	2,030	8,475	1,820	6,07	
ABU46Z	4x	12	12	3%	5	7	5∕8	(12) 0.162 x 31/2	2,155	9,890	1,850	7,090	
ABU46RZ	Rough 4x	12	12	4	6	63/4	5/8	(12) 0.162 x 31/2	2,155	9,890	1,850	7,09	
ABU66Z	Triple 2x	12	10	51/2	5	61/16	5/8	(12) 0.162 x 31/2	1,405	12,715	1,165	9,115	
ABU66Z	6x	12	10	51/2	5	61/16	5/8	(12) 0.162 x 31/2	1,905	12,920	1,640	11,11	
ABU66RZ	Rough 6x	12	10	6	6	513/16	5/8	(12) 0.162 x 31/2	1,905	12,920	1,640	11,11	

1. Uplift loads have been increased for earthquake or wind loading with no further increase allowed. Reduce where other loads govern.

Downloads may not be increased for short-term loading.

Specifier is to design concrete and anchorage for uplift capacity. Beam depth must be a minimum of 7 1/4".

5. Shims are required for double 2x (1 shim) and triple 2x (2 shims) installations as shown in the

illustration. Additional fastening of shim to beam is not required. 6. Fasteners: Nail dimensions in the table are listed diameter by length. See pp. 21-22 for fastener information.

ABU44Z (other sizes similar)

(other sizes similar) (other sizes similar) Typical ABWZ Installation

Typical ABA44Z --- 1/2" x 7" x 10" wood past base center structural pane

shim each side of

9. Fasteners: Nail dimensions in the table are listed diameter by length. See pp. 21-22 for fastener information.

BU1212RZ Rough 12x12 12 12 11 7 — (2) % (22) 0.162 x 31/2 —

Simpson Strong-Tie® Wood Construction Connectors

Allowable Loads – Post Installation

Adjustable and Standoff Post Bases (cont.)

Rough 4x4 16 16 4 41/6 1 15/16

51/e x 51/e 12 10 51/4 5 61/16 13/4

14 14 51/2 53/8 31/8

14 12 71/2 7 7

6. HB dimension is the distance from the bottom of the post up to the first bolt hole.

Downloads shall be reduced where limited by allowable loads of the post.

For stainless-

steel fasteners,

Many of these products are approved for installation with Strong-Drive® SD Connector screws

Allowable Loads

(DF/SP)

Bolts

7,180

4,590

4,590

12,935

12,935

32,020

3,000 — 34,745

IBC, FL

Uplift

2,235 2,235

2,235 2,235

See pp. 335-337 for more information.

1/2 (8) 0.148 x 3

% (12) 0.162 x 31/2

% (12) 0.162 x 3 1/2

1/2 (6) 0.148 x 3

1/2 (8) 0.148 x 3

½ (10) 0.148 x 3

% (8) 0.162 x 31/2

% (12) 0.162 x 3 1/2

% (12) 0.162 x 31/2

1/2 (10) 0.148 x 3

% (8) 0.162 x 3 1/2

% (12) 0.162 x 3 1/2

% (12) 0.162 x 3 1/2

% (8) 0.162 x 3 1/2

1/2 (12) 0.148 x 3

% (12) 0.162 x 31/2

% (12) 0.162 x 3 ½

% (8) 0.162 x 31/2

½ (12) 0.148 x 3

½ (12) 0.148 x 3

(2) 5/4 (18) 0.162 x 3 1/2

(2) 5/4 (18) 0.162 x 3 1/2

(2) % (22) 0.162 x 31/2

(2) 5/8 (22) 0.162 x 31/2

(2) 5/4 (22) 0.162 x 31/2

ABA/ABU/ABW

These products are available with

For more information, see p. 15.

Post Size

Rough 6x6

8x8

10x10

12x12

BU1010RZ Rough 10x10 14 14 10 9

Downloads may not be increased for short-term loading. Specifier is to design concrete and anchorage for uplift loads.

additional corrosion protection.

Model

ABU44Z

SS ABU66Z

SS ABU88Z

ABU1010Z

UPDATED 06/01/19

1. Uplift loads have been increased for earthquake or wind loading with no further increase allowed. Reduce where other loads govern.

7. Structural composite lumber columns have sides that show either the wide face or the edges of the lumber strands/veneers.

4. ABU products may be installed with either bolts or nails (not both) to achieve table loads. ABU88Z, ABU88Z, ABU1010Z, ABU1010Z, and

ABU1212Z/RZ may be installed with (8) 1/4" x 3" Strong-Drive® SDS Heavy-Duty Connector screws (sold separately) for the same table load.

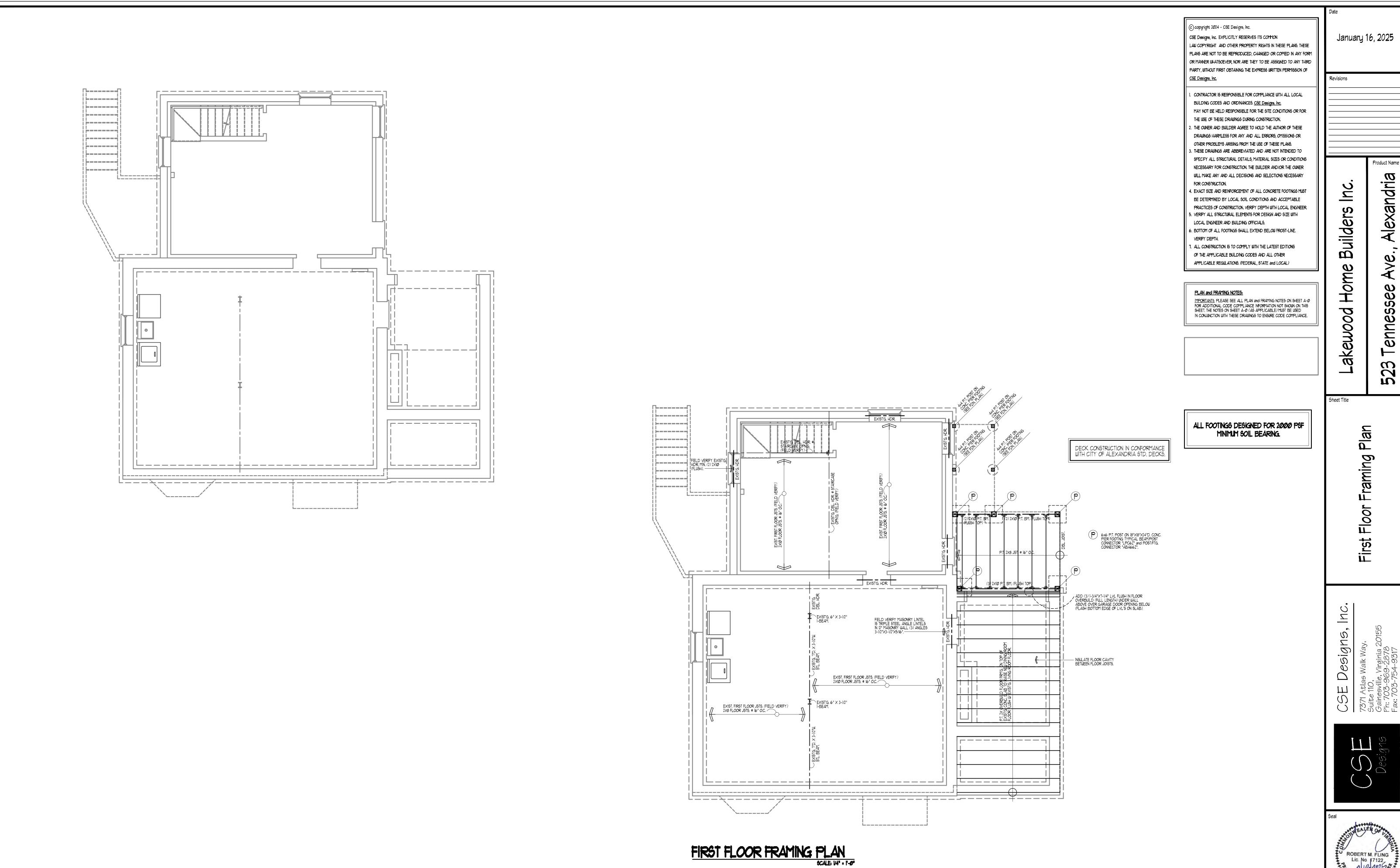
5. For higher downloads, pack grout solid under 1" standoff plate before installation. Base download on column or concrete, according to the code.

UPDATED 06/01/19

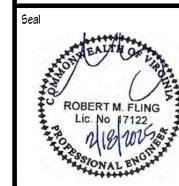
SIMPSON STRONG-TIE POST CAPS and BASES



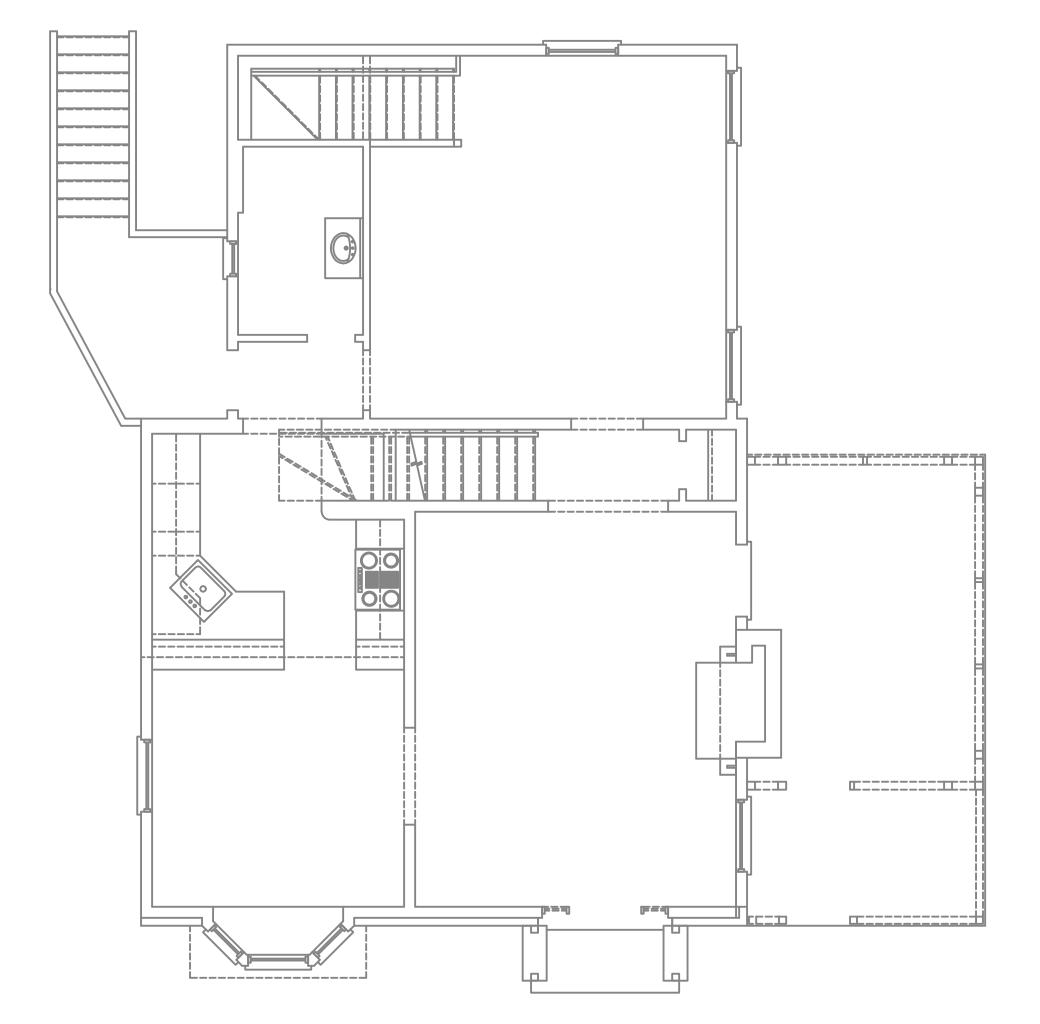
D-2

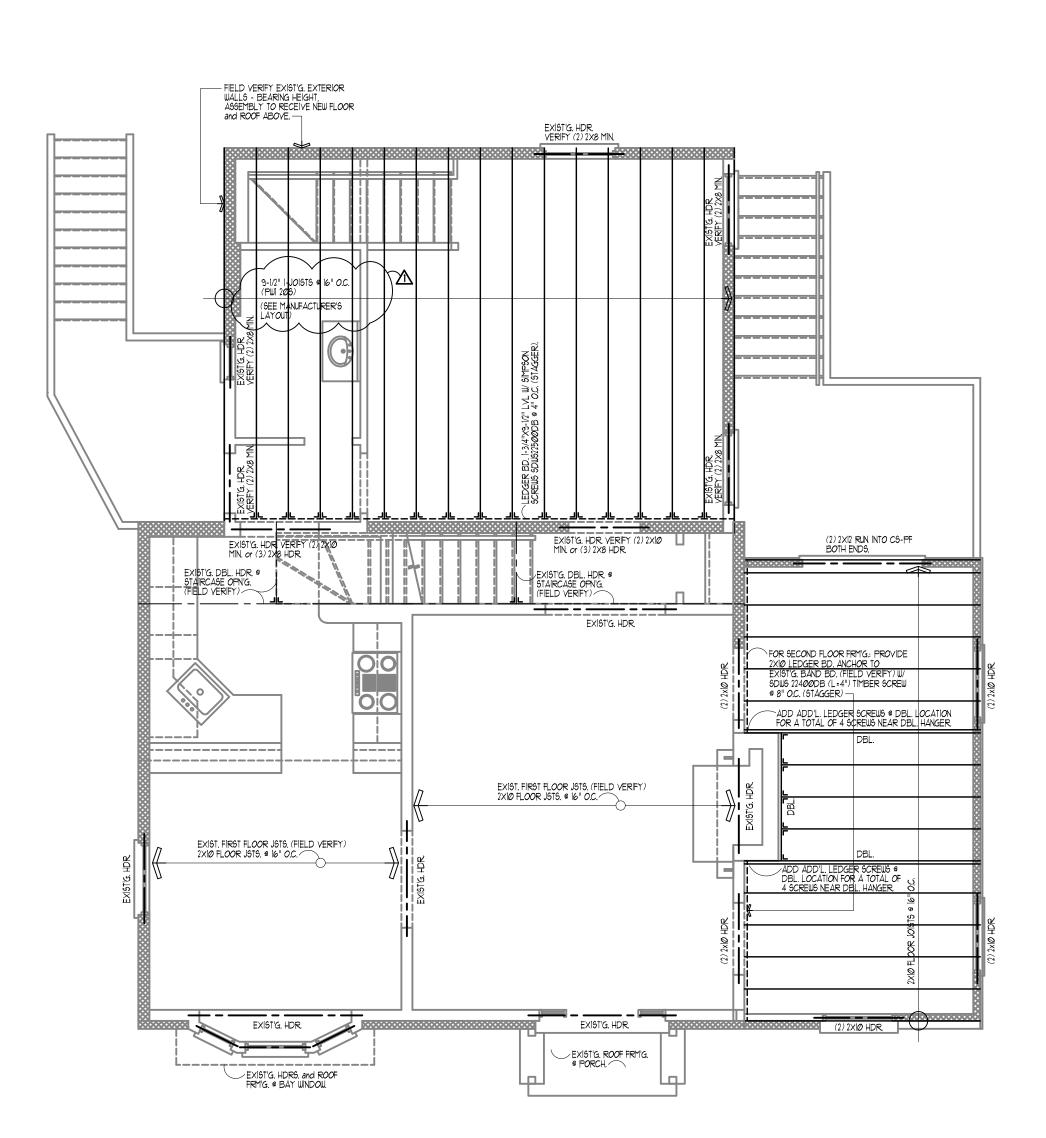






Drawing No.





SECOND FLOOR FRAMING PLAN SCALE: 1/4" = 1'-0"

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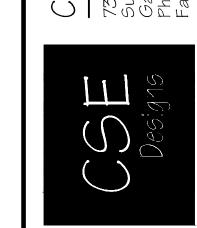
PLAN and FRAMING NOTES:

IMPORTANTIL: PLEASE SEE ALL PLAN and FRAMING NOTES ON SHEET A-Ø FOR ADDITIONAL CODE COMPLIANCE INFORMATION NOT SHOWN ON THIS SHEET. THE NOTES ON SHEET A-Ø (AS APPLICABLE) MUST BE USED IN CONJUNCTION WITH THESE DRAWINGS TO ENSURE CODE COMPLIANCE.

Sheet Title

Second

CSE Designs, Inc.
7371 Atlas Walk Way,
Suite 110,
Gainesville, Virginia 20155
Ph. 703-969-2878
Fax: 703-754-9317



ROBERT M. FLING
Lic. No. 17122

Drawing No.

January 16, 2025

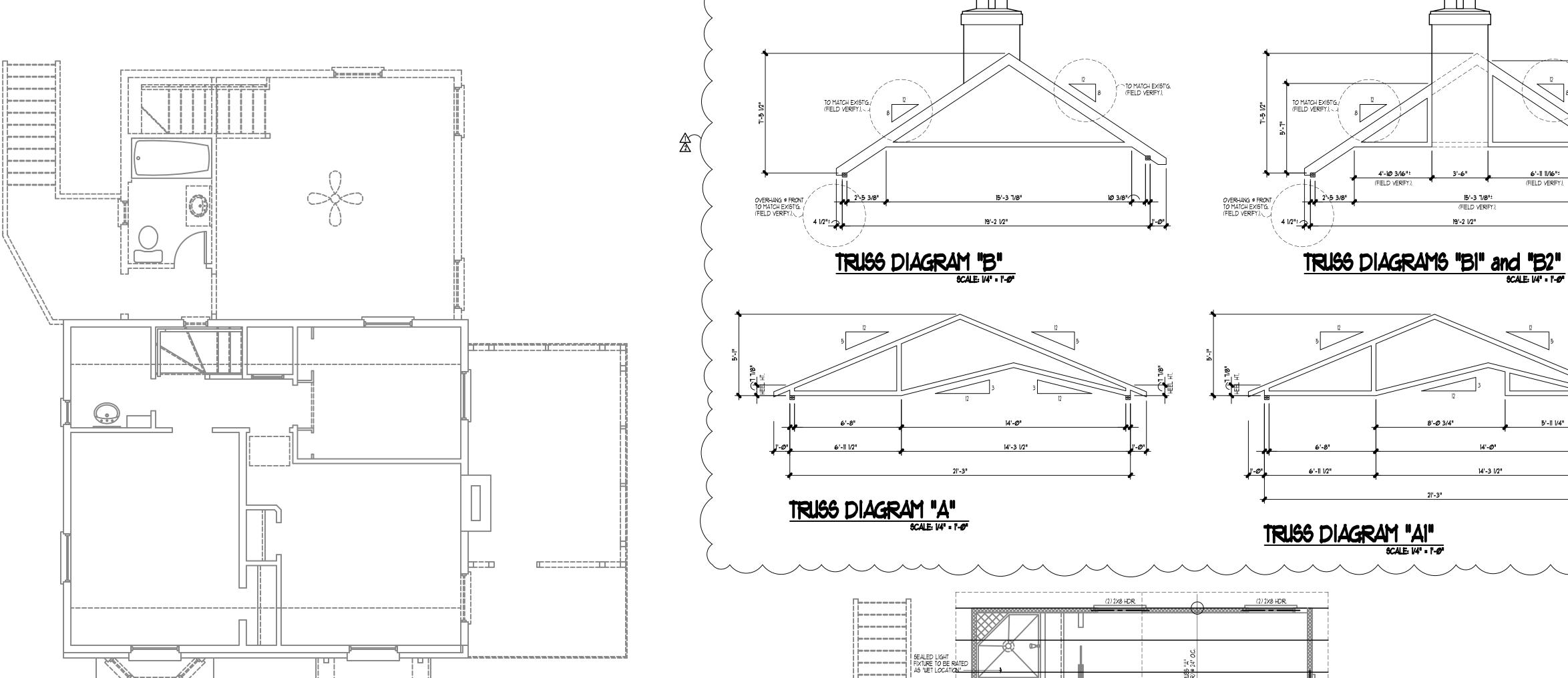
1-30-2025 - City of Alexandria comments.

Product Name

xandri

Build

akewood.



UPLIFT LOAD (NOT TO EXCEED)

100 LBS.

340 LBS.

680 LBS.

800 LBS.

1,250 LBS.

1,484 LBS.

1,640 LBS.

GIRDER TRUSS 1,785 LBS.

2,655 LBS.

2,925 LBS.

ROOF TRUSS TIE-DOWN STRAP SCHEDULE

ITEM *

H2.5A

(2) H2.5A

MT512

(2) LTS12

(2) MTS12

LGT2 (2-PLY)

LGT3 (3-PLY)

LGT4 (4-PLY)

USE 16d SINKERS

* LOADS MODIFIED FOR SPRUCE PINE FRAMING MATERIAL

(2) HIØA

FASTENER (SIMPSON OR EQUAL)

2 - 16d TOE NAILS - PER CODE

5 - 8d

10 - 8d

7 - 1Ød

12 - 100d

16 - 8d X 1-1/2

14 - 10d

16 - 16d

12 - SDS 14X21/2

12 - SDS 14X3

TO WALL FRAMING

TO PLATES/ STUDS

5 - 8d

10 - 8d

7 - 10d

12 - 100d

16 - 8d X 1-1/2

TO TRUSS

14 - 10d

14 - 16d

26 - 16d

30 - 16d

TO RAFTERS/ TRUSS

 OVERBUILD KNEEWALL BLOCK SOLID BELOW and/or BETWEEN EXIST'G. RAFTERS. DBL. LVL SCREW TOGETHER 2 ROWS TOP and BOTTOM SIMPSON SCREW SDW 22338 (L=3 3/8") @ 12" O.C. TRIPLE LYL SCREW TOGETHER 2 ROWS TOP and BOTTOM SIMPSON SCREWS SDW 22500 (L=5") @ 12" O.C. FOUR PLY LYL SCREW TOGETHER WITH 2 ROWS TOP and SCREU NEW ROOF TRUSS TO EXIST'G, GABLE END WALL FRM'G. W/ SIMPSON SDUS22400DB (L-4") @ 16" D.C. W/ MIN. 2 SCREWS EVERY 16" SPACING. BOTTOM SIMPSON SCREWS SDW 22634 (L=6-3/4") @ 12" O.C. EXIST'G. RIDGE EXIST'G. HDR

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

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I. ALL CONSTRUCTION IS TO COMPLY WITH THE LATEST EDITIONS OF THE APPLICABLE BUILDING CODES AND ALL OTHER

APPLICABLE REGULATIONS. (FEDERAL, STATE and LOCAL)

PLAN and FRAMING NOTES:

5'-11 1/4"

FOR ADDITIONAL CODE COMPLIANCE INFORMATION NOT SHOWN ON THIS SHEET. THE NOTES ON SHEET A-0 (AS APPLICABLE) MUST BE USED IN CONJUNCTION WITH THESE DRAWINGS TO ENSURE CODE COMPLIANCE.

IMPORTANT!!: PLEASE SEE ALL PLAN and FRAMING NOTES ON SHEET A-0

akewood

Build

ome

Sheet Title

January 16, 2025

1. 1-30-2025 - City of Alexandria comments. 2. 2-18-2025 - City of Alexandria comments.

Product Name

Alexandria

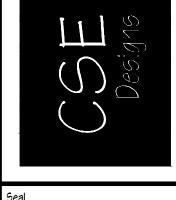
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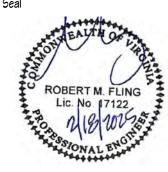
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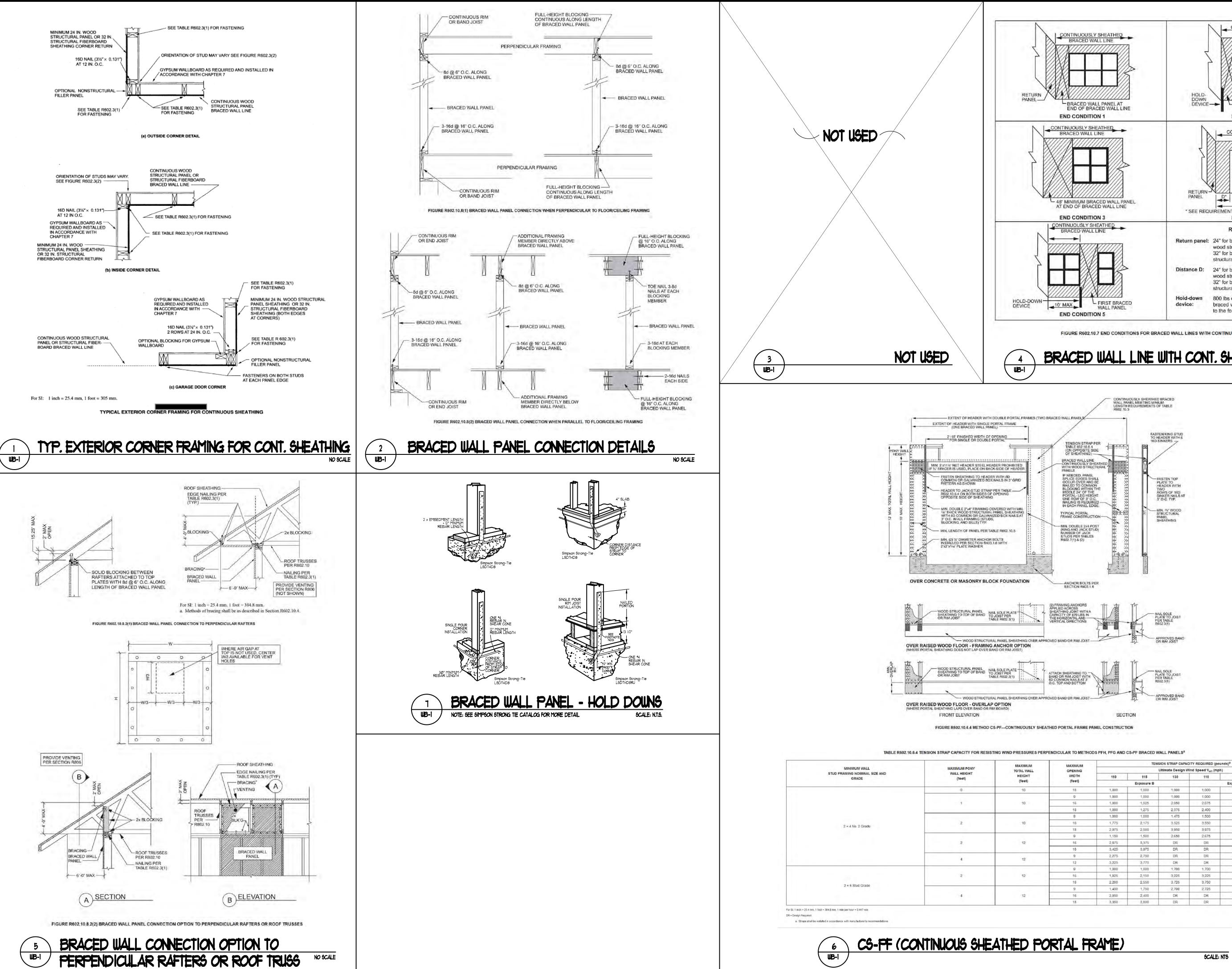
Roof

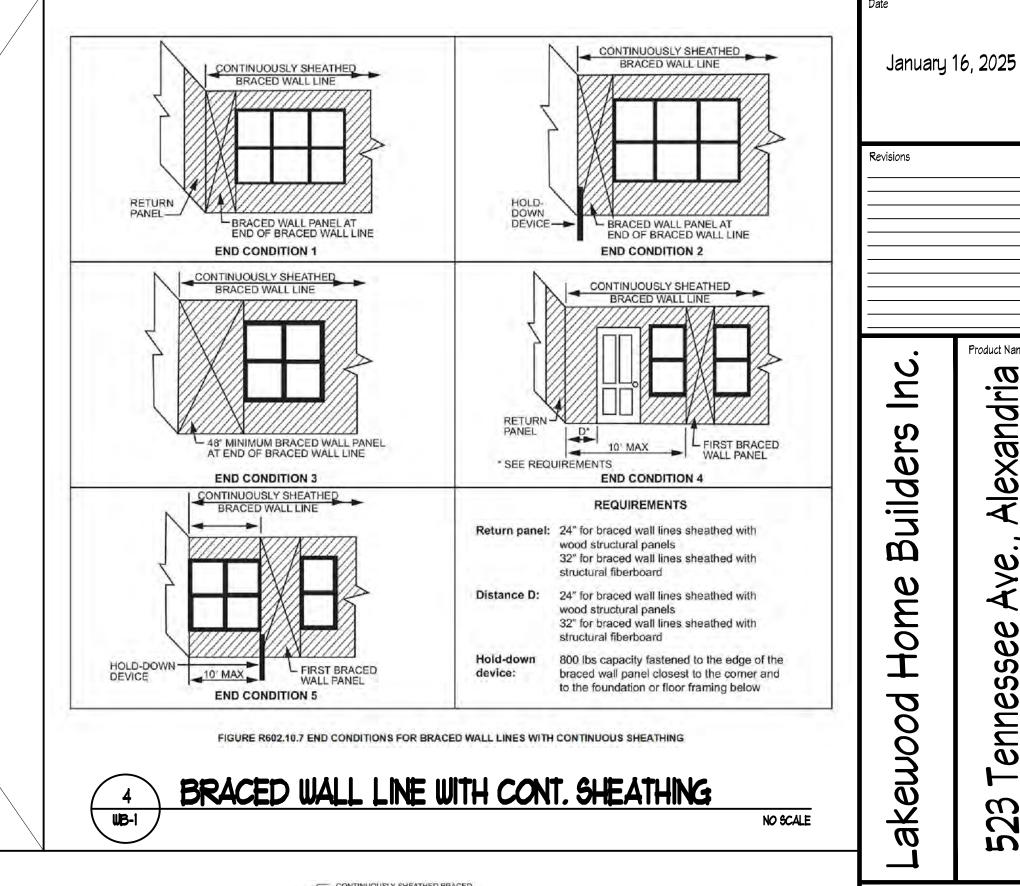




Drawing No.

SSE Designs, I





MINIMUM WALL STUD FRAMING NOMINAL SIZE AND		MAXIMUM TOTAL WALL	MAXIMUM OPENING WIDTH	TENSION STRAP CAPACITY REQUIRED (pounds)*						
	MAXIMUM PONY WALL HEIGHT			Ultimate Design Wind Speed V _{ult} (mph)						
GRADE	(feet)	HEIGHT		110	115	130	110	115	130	
	, , , , , , , , , , , , , , , , , , , ,	(feet)	(feet)		Exposure B			Exposure C		
	0	10	18	1,000	1,000	1,000	1,000	1,000	1,05	
			9	1,000	1,000	1,000	1,000	1,000	1,75	
	1	10	16	1,000	1,025	2,050	2,075	2,500	3,95	
			18	1,000	1,275	2,375	2,400	2,850	DR	
			9	1,000	1,000	1,475	1,500	1,875	3,12	
2010/00/20	2	10	16	1.775	2,175	3,525	3,550	4,125	DR	
2 × 4 No. 2 Grade			18	2,075	2,500	3,950	3,975	DR	DR	
		12	9	1,150	1,500	2,650	2,675	3,175	DR	
	2		16	2,875	3,375	DR	DR	DR	DR	
			18	3,425	3,975	DR	DR	DR	DR	
	4	12	9	2,275	2,750	DR	DR	DR	DR	
			12	3,225	3.775	DR	DR	DR	DR	
			g	1,000	1,000	1,700	1,700	2,025	3,05	
	2	12	16	1,825	2,150	3,225	3,225	3,675	DR	
0.400.400.40			18	2,200	2,550	3,725	3,750	DR	DR	
2 × 6 Stud Grade			9	1,450	1,750	2,700	2,725	3,125	DR	
	4	12	16	2,050	2,400	DR	DR	DR	DR	
			18	3,350	3,800	DR	DR	DR	DR	

Drawing No.

roduct Name

exand

(irginia)

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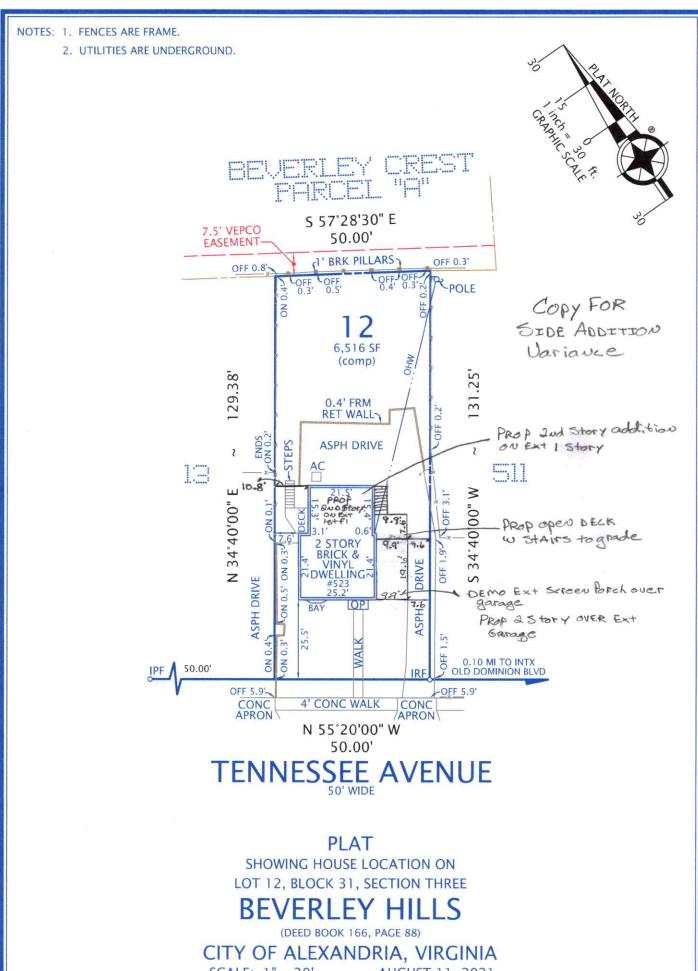
etails

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Nind

MB-1



SCALE: 1" = 30'

AUGUST 11, 2021

I HEREBY CERTIFY THAT THE POSITIONS OF ALL THE EXISTING IMPROVEMENTS HAVE BEEN CAREFULLY ESTABLISHED BY A CURRENT FIELD SURVEY AND UNLESS SHOWN THERE ARE NO VISIBLE ENCROACHMENTS AS OF THIS DATE:

THIS PLAT IS SUBJECT TO RESTRICTIONS OF RECORD.

A TITLE REPORT WAS NOT FURNISHED.

NO CORNER MARKERS SET.





CASE NAME: ENGEL ~ SYMBER

#210728040