

NOTICE TO CONTRACTOR  
All construction must comply with current NC Building Codes and is subject to field inspection and verification.

APPROVED  
Limited building only review  
Permit holder responsible for full compliance with the code.

11/09/2020



# CEDAR

DIV-COMM-LOT-UNIT -----		
COMM-LOT -----		
STREET ADDRESS -----		APT. NO. -----
CITY -----	STATE -----	ZIP -----



NVR, Inc.  
5285 Westview Drive, Suite 100  
Frederick, MD 21703

SPEC SHEET	SLAB FOUNDATION												STANDARD DETAILS	
	STD. DWGS.													
SPEC SHEET	SS-1													AD-1
ROOF VENT AND CALCULATION SHEET	CA-1													DR-1
ELEVATIONS	4													DR-1b
FOUNDATIONS	5													ET-1b
FOUNDATION HOLD DOWNS	6													ET-1c
PLUMBING	7													ET-1d
FIRST FLOOR PLAN	9													F-1
SECOND FLOOR PLAN	10													F-1b
BUILDING SECTIONS	11/12													F-1c
SECOND FLOOR FRAMING	20													FA-1b
ROOF FRAMING	21													FC-1
TRUSS BRACING	22													FC-4
WALL BRACING	23													FC-5
														FD-1
														FD-1b
														FD-4
														IT-1
														IT-1b
														JT-1
														JT-1b
														JT-3
														JT-3b
														KT-1
														RF-1
														RF-1b
														RF-1c
														SEP-1
														SEP-2
														SEP-3
														SEP-4
														SP-1
														SP-2
														SP-3
														ST-1
														NB-2
														ND-1
														NS-1
														NS-1b

FIRST FLOOR SQUARE FOOTAGE	
DESCRIPTION	TOTAL SQ. FT.
1ST FLOOR (BASE SF)	183 SF
	183 SF
SECOND FLOOR SQUARE FOOTAGE	
DESCRIPTION	TOTAL SQ. FT.
2ND FLOOR (BASE SF)	1120 SF
	1120 SF
GARAGE SQUARE FOOTAGE	
DESCRIPTION	TOTAL SQ. FT.
TWO CAR FRONT ENTRY GARAGE	347 SF
	347 SF
TOTAL FINISHED SQUARE FOOTAGE	
DESCRIPTION	TOTAL SQ. FT.
1ST FLOOR (BASE SF)	183 SF
2ND FLOOR (BASE SF)	1120 SF
	1403 SF

SET - VERSION  
CDROO - 01

CS-1

GENERAL

- 1. These plans and specifications are the sole property of NVR. Any unauthorized use of these plans without the written consent of NVR is prohibited.
2. These plans are subject to modification as necessary to meet code requirements or to facilitate mechanical/plumbing installations or to incorporate design improvements.
3. These plans are not to be scaled for construction purposes. Dimension lines and notes supersede all scale references.
4. Single Family Attached/Detached - Automatic residential fire sprinkler systems shall be installed in accordance with NCRBC P2404 or NFPA 13D where required.
5. This note sheet only covers major code requirements. The plans are intended to conform to all current applicable codes or engineering design in accordance with Section 301.13.

CODE ANALYSIS

- 1. This note sheet only covers major code requirements. The plans are intended to conform to all current applicable codes including, but not limited to:
NCRBC 2018, NCMC 2018, NCFPC 2018, NCFCE 2018, NEC 2017 w/ NC Amendments, NCEC 2018, NCFPC 2018
2. Use Group: R-3
3. Constr. Type: V-B
4. Max. Stories: 3

ENERGY AND MECHANICAL

- 1. Insulation requirements per 2018 NCRBC Chapter 11, Energy Efficiency, or Chapter 4 of the 2018 North Carolina Energy Conservation Code (NCECC), or Chapter 4 of the 2015 International Energy Conservation Code (IECC), Residential Energy Efficiency by the prescriptive method. See NVR "Standard Energy Package" for field procedures and details.

Table with 8 columns: CLIMATE ZONE, PENETRATION U-FACTOR, GLAZED PENETRATION SHGC, CEILING R-VALUE, FRAME WALL R-VALUE, FLOOR R-VALUE, BASEMENT WALL R-VALUE, SLAB R-VALUE, CRAWL SPACE WALL R-VALUE. Rows 3 and 4.

- 2. All HVAC equipment is sized based on ACCA Manual J calculations. Ductwork is sized using ACCA Manual D. Minimum efficiencies of equipment are as listed below. Upgrades for improved energy performance may be installed.
- Air conditioner - 14 SEER
- Gas furnace - 92% / 96%
- Heat Pump - 8.2 HSPF
3. Winter interior design temperatures shall be 70°F and summer interior design temperatures shall be 75°F. Exterior design temperatures vary based on geographic location and are listed on the Manual J calculations.
4. Roof ventilation calculations are based on the following specifications:
Ridge vent: Minimum 18 sq. in. of vent per linear foot
Soffit vent: Minimum 4.8 sq. in. of vent per linear foot
Roof Jack (box vent): Minimum 45 sq. in. of vent per unit
5. See NVR "Standard Energy Package" for field procedures and details.

DESIGN LOADS

Table of Loads for House Structure, Per Table 301.5

Table with 2 columns: Location (Floor Living Areas, Floor Sleeping Areas, Garage Floors, Roof Areas, Habitable Attics, Walls, Stairs) and Load (e.g., 40# P.S.F. (Live), 10# P.S.F. (Dead)).

Design Criteria

- Design Codes:
1. National Design specification for Wood Construction by National Forest Products Association.
2. Specification for the Design Fabrication and Erection of Structural Steel for Buildings by American Institute of Steel Construction.

- Materials:
Headers\* Southern Pine (KD-14), No. 1 Grade
Studs Spruce-Pine-Fir, Stud Grade
Jacks Spruce-Pine-Fir, Stud Grade
Beams\*\* Southern Pine (KD-14), No. 1 Grade
Joists 2x10 Hem-Fir (KD-14), No. 2 Grade or better (NCLIB & HWFA)
2x8 Southern Pine (KD-14), No. 1 Grade or better
2x10 Spruce-Pine-Fir (KD-14), No. 2 Grade or better (NLGA)
LVL 1.6E Minimum

- \* Where required, Laminated Veneer Lumber may be used per Engineering Structural Steel - A5.1M A36

FOUNDATIONS

- 1. All plain and reinforced concrete shall comply with requirements in ACI 318.
2. Concrete footings shall be poured a maximum 5' slump, 5 bag mix, and 2500 psi minimum strength per Table R402.2. Concrete walls shall be poured a maximum 5' slump, 5 1/2-bag mix, and 3000 psi minimum strength per Foundation Wall Design table below. Special soil and or wall height conditions may require a higher psi mix.
3. Walls and footings designed as unreinforced unless otherwise specified on foundation plans or details. Special soil and/or site conditions may require the addition of reinforcing.
4. Footing frost depth to be no less than 12" per R403.1.4 and Table R301.2(1).
5. Minimum Soil Bearing Capacity shall be 2,000 PSF per Table R401.4.1.
6. Interior slabs on grade (excluding garage slabs) to be minimum 3-1/2" concrete (may be represented on plans as nominal 4") over 4" sub-base, with vapor barrier (6-mil polyethylene) as required per Section 506 and minimum 2,500 PSI per Table R402.2.
7. Unconditioned crawl spaces shall have a minimum net area of ventilation not less than 1 square foot for each 150 square feet of area, unless the ground surface is covered by a class vapor retarder, in which case the minimum net area of ventilation shall not be less than 1 square foot for each 1500 square feet of area. One such ventilating opening shall be within 3 feet (914 mm) of each corner of the building, per R408.1.2.
8. Foundation drains shall be located per local codes and according to local site conditions. Drain discharge by gravity or mechanical means to conform with approved site plan and installed per Section R408.1.
9. The top course of block of foundation walls shall be semi-solid block or open cores of hollow block shall be filled with mortar.
10. Block piers to be solid block or mortar-filled hollow block.
11. A poured concrete foundation wall designed to withstand an equivalent fluid height of 30# per cubic ft. may be substituted where masonry units (block) are shown on plans.
12. Concrete and masonry foundation walls shall be damp-proofed with min. 3/8" portland cement grout from footing to top of finished grade. The grouting shall be covered with a coat of approved bituminous material applied at the recommended rate per R406.1.
13. Where required, concrete and masonry foundation walls shall be waterproofed with an approved membrane extending from footing to top of finished grade. The joints in the membrane shall be lapped and sealed with an adhesive compatible with the waterproofing membrane. Waterproofing to be in accordance with R406.2.
14. Non-structural garage slabs shall be nominal 3 1/2" thick. Structural garage slabs shall be nominal 4" thick. All garage slabs shall be 3500 PSI air-entrained concrete on compacted / undisturbed soil per Table R402.2.
15. Foundation framing anchors shall be 1/2"x18" anchor bolts with 7" minimum embedment or Simpson Strong-Tie MASA / USP F43 (16 gauge steel, galvanized) or equivalent set in concrete or grouted cell, 1'-0" maximum from corners and spaced at a maximum of 6' o.c. and in the middle third of the width of the plate. For walls connecting offset braced wall panels, those 24" in length or shorter shall have min. (1) anchor strap and those 12" or shorter can be installed without anchor strap. Torches in seismic design category "C" shall require a 22x1" x 3" x 3" plate washer per R403.1.6.1 and maximum anchor bolt spacing for buildings over two stories shall be 4'.
16. Steel columns and bases shall be given a shop coating of rust-inhibitive paint or equivalent to provide corrosion resistance per R407.2.
17. For masonry veneers:
Per R103.B.4.1 - Corrugated sheet metal veneer ties shall be a minimum of No. 22 U.S. gauge by 7/8 inch. Each tie shall be spaced not more than 32" o.c. horizontally and 24" o.c. vertically and shall support not more than 2.67 square feet of wall area. For townhouses in Seismic Design Category C and in wind areas of more than 30 pounds per square foot pressure, each tie shall support not more than 2 square feet of wall area.
Additional metal ties shall be provided around all wall openings greater than 16 inches (406 mm) in either dimension. Metal ties around the perimeter of openings shall be spaced not more than 3 feet (914mm) on center and placed within 12 inches (305 mm) of the wall opening.
Per R103.2 - One layer of No. 15 asphalt felt or other approved water-resistant barrier shall be provided behind brick.
Per Table R103.B.4 - Provide minimum 1-inch air space between brick veneer and sheathing.
Per R103.B.6 - Provide minimum 3/16" diameter weep holes at 33" on center maximum, located immediately above the flashing.
Per R103.B.5 - When veneer of brick, clay tile, concrete, or natural or artificial stone are used, 6 mil plastic flashing shall be attached to the sheathing wherever necessary to prevent moisture penetration behind the veneer. See NVR Flashing Details.

Per R103.B.4.1 - Corrugated sheet metal veneer ties shall be a minimum of No. 22 U.S. gauge by 7/8 inch. Each tie shall be spaced not more than 32" o.c. horizontally and 24" o.c. vertically and shall support not more than 2.67 square feet of wall area. For townhouses in Seismic Design Category C and in wind areas of more than 30 pounds per square foot pressure, each tie shall support not more than 2 square feet of wall area.

Additional metal ties shall be provided around all wall openings greater than 16 inches (406 mm) in either dimension. Metal ties around the perimeter of openings shall be spaced not more than 3 feet (914mm) on center and placed within 12 inches (305 mm) of the wall opening.

Per R103.2 - One layer of No. 15 asphalt felt or other approved water-resistant barrier shall be provided behind brick.

Per Table R103.B.4 - Provide minimum 1-inch air space between brick veneer and sheathing. Per R103.B.6 - Provide minimum 3/16" diameter weep holes at 33" on center maximum, located immediately above the flashing.

Per R103.B.5 - When veneer of brick, clay tile, concrete, or natural or artificial stone are used, 6 mil plastic flashing shall be attached to the sheathing wherever necessary to prevent moisture penetration behind the veneer. See NVR Flashing Details.

- 18. Porch slab and exterior concrete work shall be nominal 4" minimum #3500 air entrained concrete w/ 6x6 #10 WLM unless otherwise noted as specified by engineering.
19. Foundation wall strip footing thickness to be 8" (or 6" with a single story) unless otherwise noted as specified by engineering. Strip footing projections beyond the face of the foundation wall shall not exceed the footing thickness. Bump out footings, pier pads, and any other footing identified as being greater than 8" in thickness shall not be reduced.
20. Block foundation walls may be substituted for poured foundation walls shown on foundation plans provided all requirements of Section R404 are met.
21. Termites treatment provided below slabs or to framing members per R318.1

FOUNDATION WALL DESIGN (C)

NCRBC PRESCRIPTIVE CODE OR ENGINEERED DESIGN PER ACI 318.2

Table with 6 columns: WALL HEIGHT, WALL THICKNESS, LATERAL SOIL LOAD (q), UNBALANCED FILL, VERTICAL REINFORCING (b), HORIZONTAL REINFORCING (b). Rows for 8', 10', 12', 14', 16' wall heights.

NOTE: BACKFILLING OF THE FOUNDATION SHALL NOT TAKE PLACE BEFORE THE BASEMENT SLAB IS IN PLACE AND THE FLOOR FRAMING IS ERECTED OR UNLESS WALLS ARE ADEQUATELY BRACED.

- a. SOIL CLASSES SM, SC, SH, SM-SC AND ML - 45 PSF
SOIL CLASSES SC, MH, ML-CL AND CL - 60 PSF
b. SPACINGS SHOWN IS BASED UPON Fy = 60,000 PSI
STEEL FOR Fy = 40,000 PSI STEEL, REDUCE SPACINGS BY 0.67
c. CONCRETE SHALL HAVE A COMPRESSIVE STRENGTH OF NOT LESS THAN 3000 PSI
d. ENGINEERED DESIGN PER ACI 318-14, REQUIREMENTS FOR RESIDENTIAL CONCRETE CONSTRUCTION
e. FOR ALL WALL HEIGHTS, ONE HORIZONTAL BAR SHALL BE LOCATED WITHIN THE TOP 24", ONE IN THE BOTTOM 24" WITH THE REMAINING BARS EQUALLY SPACED. MAINTAIN 2" OF CONCRETE COVER BETWEEN INSIDE FACE OF WALL AND FACE OF HORIZONTAL BARS.
f. ONE BAR WITHIN 12" OF TOP AND AT MID-HEIGHT OF WALL PER TABLE R404.1.2(1).
g. ONE BAR WITHIN 12" OF TOP AND ONE EACH AT THIRD POINT OF WALL HEIGHT PER TABLE 404.1.2(1).

PLANS

- 1. Habitable attics and sleeping rooms shall have a window or door as a second means of egress that shall be minimum 5.7 sq. ft. of clearable area (5.0 sq. ft. if at grade level) with maximum sill height 44" above finish floor (min. hgt. 24", min. width 20") per R310.1.
2. All emergency escape and rescue openings shall have a minimum net clear opening area of 4 sq. ft. The minimum net clear opening height shall be 22" and a minimum net clear opening width of 20". Emergency escape and rescue openings must have a minimum total glazing area of not less than 5 sq. ft. in the case of a ground window and not less than 5.7 sq. ft. in the case of an upper story window per R310.2.1. Window wells where required, shall be installed per R310.2.3 with a minimum of 9 sq. ft. and a minimum horizontal projection and width of 36". Wells with a greater depth of 44" shall have permanently affixed ladder or steps per R310.2.3.1.
3. Clear opening heights for exterior doors to be 6'-6" minimum per R311.2. All interior doors providing egress from habitable rooms shall have nominal minimum dimensions of 2'-6" by 6'-8" per R311.6.1. Habitable rooms with double doors less than 5'-0" in total width (less than 2'-6" per door slab) shall have a total opening width of at least 2'-6" with no slide bolts or locking devices installed on either door.
4. Sliding glass drs/patio drs/wds must be safety glazed per R306.4.
5. Interior stairway shall have minimum head room of 6'-8" per R311.7.2 and minimum tread depth of 9" and maximum riser height of 6 1/4". Handrails are required for stairs with four or more risers and shall have minimum height of 34" and maximum height of 38" above treads and landings. Handrail to have maximum 4 1/2" projection into width of stair per Section R311.7. Enclosed accessible space under stairs shall have walls, under stair surface and any soffits protected on the enclosed side with 1/2" gypsum board per R302.7.
6. Guard rails to have minimum height of 36" and shall not have openings from the walking surface to the required guard height which allow passage of a sphere 4 inches in diameter per R312.
7. The triangular openings at the open side of stair, formed by the riser, tread and bottom rail of a guard, shall not allow passage of a sphere 6 inches (153 mm) in diameter per R312.1.3.
8. Where exterior landings or floors serving the required egress door are not at grade, they shall be provided with access to grade by means of a a stairway in accordance with Section R311.7 (see item #5 above) or a ramp in accordance with Section R311.8.
9. Handrails shall be installed on exterior stairs having (4) or more risers per R311.7.6. Guards shall be installed at exterior porches / decks that are located more than 30 inches (762 mm) measured vertically to the floor or grade below at any point within 36 inches (914 mm) horizontally to the edge of the open side. Insect screening shall not be considered as a guard.
10. All flashing used (including at windows, doors, and with stone or masonry veneer) shall be corrosion-resistant per R103.4. See NVR Flashing Details.
11. Wood framed walls assumed to be 2 x 4 stud construction unless otherwise noted on plans. Bearing walls shall have studs spaced at 16" o.c. maximum per Table R602.3(3) and Table R602.3(5).
12. All exterior sheathing to be structural sheathing designed in accordance with R602.10.
13. An approved water-resistant barrier shall be applied over sheathing of exterior walls per Section R103.2.
14. Interior sheathing shall be 1/2" gypsum wall board unless otherwise noted. Exceptions may include, but are not limited to, special requirements for wall bracing and fire separation.
15. Screw fastening is typical for gypsum installation and nailing will only be permitted at the perimeter of the board.
• All screws shall be corrosion-resistant Type #1-1/4" drywall screws.

SCREW FASTENING SCHEDULE table with columns: Framing Spacing, Nails, WITH ADHESIVE, WITHOUT ADHESIVE.

- For 1/2" wallboard, nails shall be 1-1/4" long, 1/4" head and .098 diameter shanks with annular ring or acceptable equivalent and comply with ASTM C514.
• For 5/8" wallboard, nails shall be 1-3/8" long, 1/4" head and .098 diameter shanks.

- 17. Garages shall be completely separated from the residence and attic area by not less than 1/2" gypsum board applied to the garage side. Garages beneath habitable rooms shall be separated from all habitable rooms above by not less than 5/8" type X gyp. board. Where a structure is supporting a floor-ceiling assembly due to living space above the garage, the structure shall also be protected by not less than 1/2" gypsum board per Section R302.6. Openings and penetrations through the separation shall be protected by sealing the area around the penetration per Section R302.5. The garage door shall be a 20-minute fire-rated door and be equipped with a self-closing device installed per Section R302.5.1.
18. Asphalt shingles shall be installed per section R405.2. For roof slopes of 2:12 through 4:12, in lieu of two layers of underlayment, a self-adhering polymer-modified bitumen underlayment shall be used per R405.1.1 Exception #1.
19. Attic spaces shall be ventilated w/ ridge and soffit vents unless otherwise noted. Venting provided per R306.2.
20. Fireblocking shall be installed between ceiling and floor openings per R302.11. Draftstopping to be installed in accordance with R302.12.

- 21. Water closet, lavatory or bidet shall not be set closer than 15 inches from its center to any side wall, partition or vanity or closer than 30 inches center-to-center between adjacent fixtures. There shall be a clearance of not less than 21 inches in front of the water closet, lavatory or bidet to any wall, fixture or door per P2105.1
22. Heating and cooling equipment installation shall be in accordance with IRC Chapter 14 and the International Mechanical Code.
23. Mechanical fireplaces shall be installed per Section R1004 and 1005.
24. Single family attached structures to have 2-hour dwelling unit separation wall continuous to roof deck. Roofing material to be minimum class 'C' over approved fire retardant wood decking extending 4' each side of dwelling unit separation wall per R302.2 and R302.3.
25. Untreated wood shall be minimum 8" above finish grade per R311.1 Item #2.
26. Bottom plates on slabs and any wood in contact w/ concrete or masonry to be pressure treated material per Section R311.
27. Exterior egress swing doors shall open onto a landing not more than 8 1/4" below the top of the threshold when door swings in and 1 1/2" below the top of the threshold when the door swings out. The landing shall extend a minimum of 36" in the direction of travel and be at least the width of the doorway served per R311.3.
28. Air exhaust and intake openings that terminate outdoors shall be protected with corrosion-resistant screens, louvers, or grills having a min. opening size of 1/4" and maximum of 1/2" in any dimension per R303.6.

- 29. Fasteners and connectors for pressure preservative-treated wood shall be hot-dipped galvanized steel.
30. Windows that have an operable opening more than 72" above finished grade or surface below, the lowest part of the clear opening of the window shall be a minimum of 24" above the finished floor of the room in which the window is located. Glazing between the floor and 24" shall be fixed or have openings through which a 4" dia. sphere cannot pass per Section R312.2.
31. The final grade shall fall a minimum of 6 inches within the first 10 feet of the foundation per R401.3.
32. One- and two-family dwelling construction (R302.1.1):
Vinyl or aluminum soffit material shall be securely attached to framing members and use an underlayment material of either fire retardant treated wood, 3/4-inch wood sheathing or 5/8-inch gypsum board. Venting requirements shall apply to both soffit and underlayment. Vents shall be nominal 2-inch continuous or equivalent intermittent and shall not exceed the minimum net free air requirements of Section R302.2.5 by more than 50%. Vents in soffit are not allowed within 4 feet of fire walls or property lines per R302.2.5 and R302.2.6.
33. 1-hour fire-rated construction required on projections within 2' to 3' of lot line per R302.1. No projections allowed within 2' of property line.
1-hour fire-rated construction required on townhouse eaves within 3' of the property line.
Note: Single Family Detached product will NOT be built within 3' of the property line.

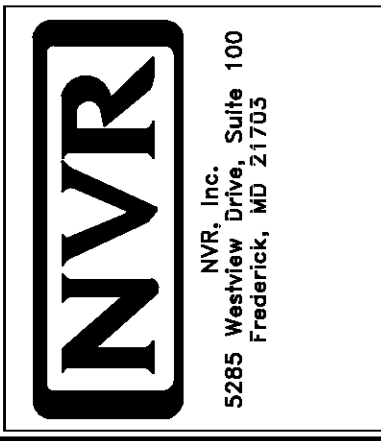
- 34. Wall bracing is designed in compliance with Section R602.10. When wall bracing is beyond the criteria for a prescriptive approach, the structure is analyzed utilizing engineering in compliance with the North Carolina Building Code (NCBC). Refer to house-specific wall bracing detail sheets and wall bracing standard details. Adhesive attachment of wall sheathing, including Method GB, shall not be permitted in Seismic Design Category C.
35. Minimum floor sheathing shall be 5/8" tongue & groove decking underlayment grade plugged and sanded, exterior glue, glued and nailed on joists to meet. "American Plywood Association" approved glued floor system, unless otherwise specified.

ELECTRICAL

- 1. Ground-fault and arc-fault circuit interrupter protection is provided per NFPA 70 (National Electric Code).
2. Electric panel box installation to be in accordance with NFPA 70, Article 408 Section III. Location may vary by design.
3. Approved smoke detectors shall be installed in each sleeping room; outside each separate sleeping area in the immediate vicinity of the bedrooms and on each additional story of the dwelling, including basements and habitable attics not including crawl spaces and uninhabitable attics. Where more than one smoke detector is required, the devices shall be interconnected in such a manner that the actuation of one alarm will activate all of the alarms in the individual unit. All smoke detectors shall receive their primary power from the building wiring and be equipped with a battery backup.
4. Unless listed for installation in such locations, smoke detectors shall be installed at least 10 feet from a cooking appliance, at least 3 feet from the door to a bathroom containing a tub or shower, at least 3 feet from forced air supply registers, and at least 3 feet from the tip of a ceiling fan blade. In sleeping rooms, smoke detectors should be located in the vicinity of the room entrance. They shall be installed at the highest portion of the ceiling (including tray or coffered ceilings) or within 12 inches vertically from the highest point in rooms with sloped ceilings.
5. Interior stairs shall be provided with an artificial light source in the vicinity of each landing or directly over each stair section and capable of illuminating treads and landings to a level not less than 1fc measured at the center of the tread or landing per R303.1.
6. Outlets within 6' of a sink must be GFI protected.
7. An approved carbon monoxide alarm shall be installed outside of each separate sleeping area in the immediate vicinity of the bedrooms. Where a fuel-burning appliance is located within a bedroom or its attached bathroom, a carbon monoxide alarm shall be installed within the bedroom, R315.3.
8. Outlets installed in laundry areas must be GFI protected.



REVISIONS table with columns: REV. NO., DATE, DESCRIPTION. Includes entries for code updates and updated energy notes.



Project information table including Model (NCRBC 2018 SPEC SHEET), Drawing Title (SINGLE FAMILY ATTACHED SINGLE FAMILY DETACHED), and other details.



### ROOF VENTILATION CALCULATIONS

HOUSE NAME	CEDAR
HOUSE VERSION	CDR00_01
PRODUCT LINE	RYANHOMES
VENTILATION VALUES	SOFTEN: 5.0 sq ft of vent per ft <sup>2</sup> ROOF / GARBLE VENT: .05 sq ft of vent per sq ft

USER GUIDE	YES	NO	VENT OK	No action req'd.
	NO	YES	OK VENT OK	No action req'd.
	NO	YES	LOW FAN	Increase ridge
	NO	YES	HIGH FAN	Decrease ridge
	NO	NO	FAN	Increase total vent

ELEVATION "A or F or K"												
Location / Option	Area (sq ft)	Req'd Vent (sq ft)	Actual Vent (sq ft)	Diff (sq ft)	Height (ft)	Upper Rise / Lower Rise (ft)	Upper Rise / Lower Rise (ft)	Upper Rise / Lower Rise (ft)	Upper Rise / Lower Rise (ft)	Upper Rise / Lower Rise (ft)	Upper Rise / Lower Rise (ft)	Notes
Main House Roof	11100	55500	55500	0	13	13	13	13	13	13	13	
Garage Roof	13800	69000	69000	0	13	13	13	13	13	13	13	
<b>Total</b>	<b>24900</b>	<b>124500</b>	<b>124500</b>	<b>0</b>	<b>13</b>	<b>13</b>	<b>13</b>	<b>13</b>	<b>13</b>	<b>13</b>	<b>13</b>	



### HOUSE VOLUME CALCULATIONS

HOUSE NAME	CEDAR
HOUSE VERSION	CDR00-01
PRODUCT LINE	RYANHOMES

**Note:** The volume of the structure has been computed in accordance with "Title 5. of the Community Affairs, Chapter 23. Uniform Construction Code, Subchapter 2. Administration and enforcement: Process." (5:23-2.28. Volume computation)

ELEVATION "X"			
Location / Area of house	Floor Area (sq. ft.)	Mean height (ft.)	Total volume (cu. Ft.)
Main section of the house			0
Garage bump out from main house			0
Porch on front of house			0
<b>Total House Volume</b>			<b>0</b>

ELEVATION "X"			
Location / Area of house	Floor Area (sq. ft.)	Mean height (ft.)	Total volume (cu. Ft.)
Main section of the house			0
Garage bump out from main house			0
Porch on front of house			0
<b>Total House Volume</b>			<b>0</b>

ELEVATION "X"			
Location / Area of house	Floor Area (sq. ft.)	Mean height (ft.)	Total volume (cu. Ft.)
Main section of the house			0
Garage bump out from main house			0
Porch on front of house			0
<b>Total House Volume</b>			<b>0</b>

ELEVATION "X"			
Location / Area of house	Floor Area (sq. ft.)	Mean height (ft.)	Total volume (cu. Ft.)
Main section of the house			0
Garage bump out from main house			0
Porch on front of house			0
<b>Total House Volume</b>			<b>0</b>

Additional areas of volume to be added to total house volume as needed			
Location / Area of house / option	Floor Area (sq. ft.)	Mean height (ft.)	Total volume (cu. Ft.)
			0



DIV - COMM - LOT - UNIT

COMM - LOT

STREET ADDRESS

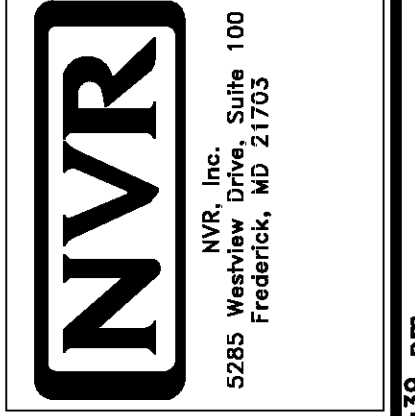
CITY

STATE

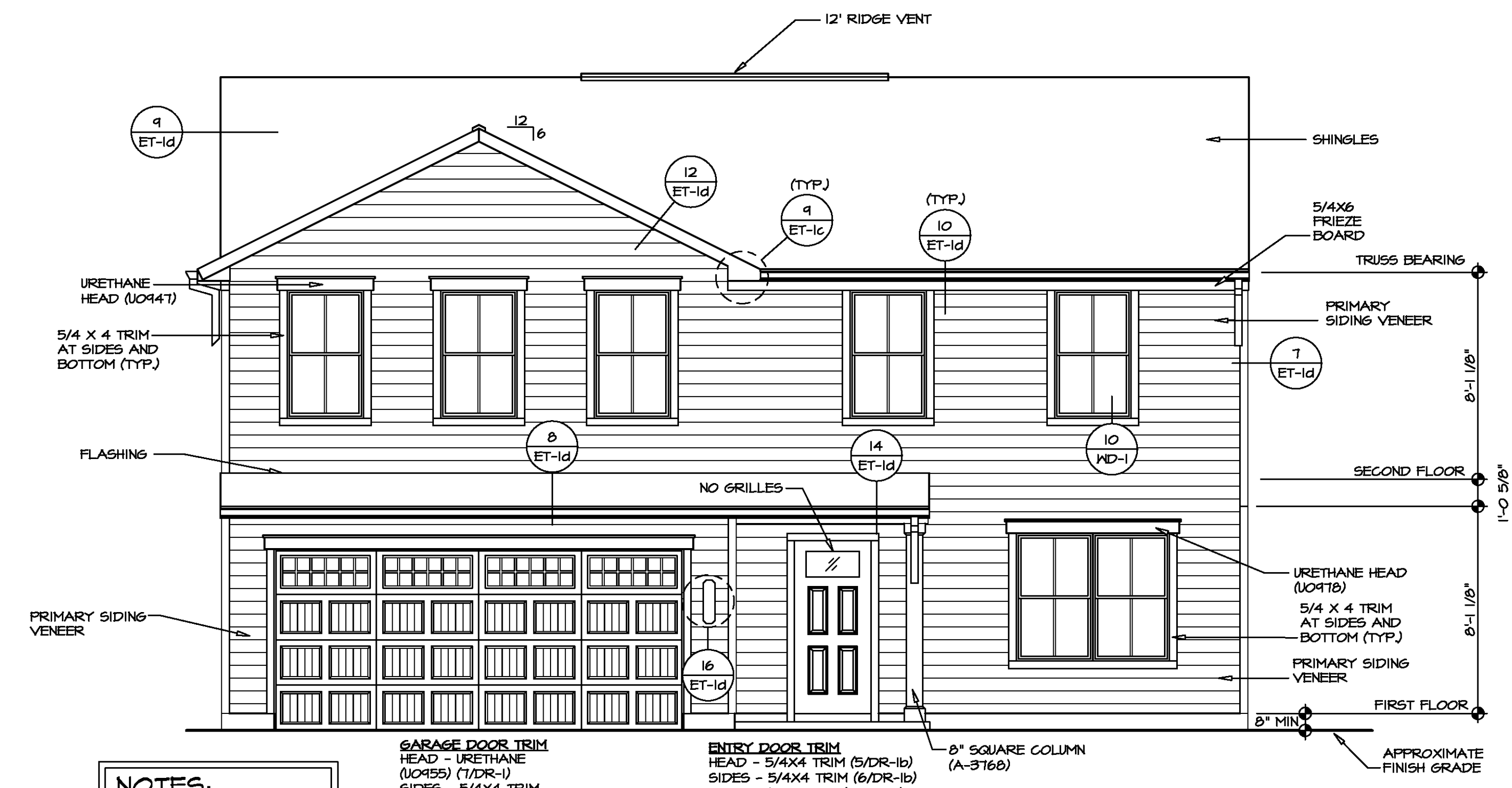
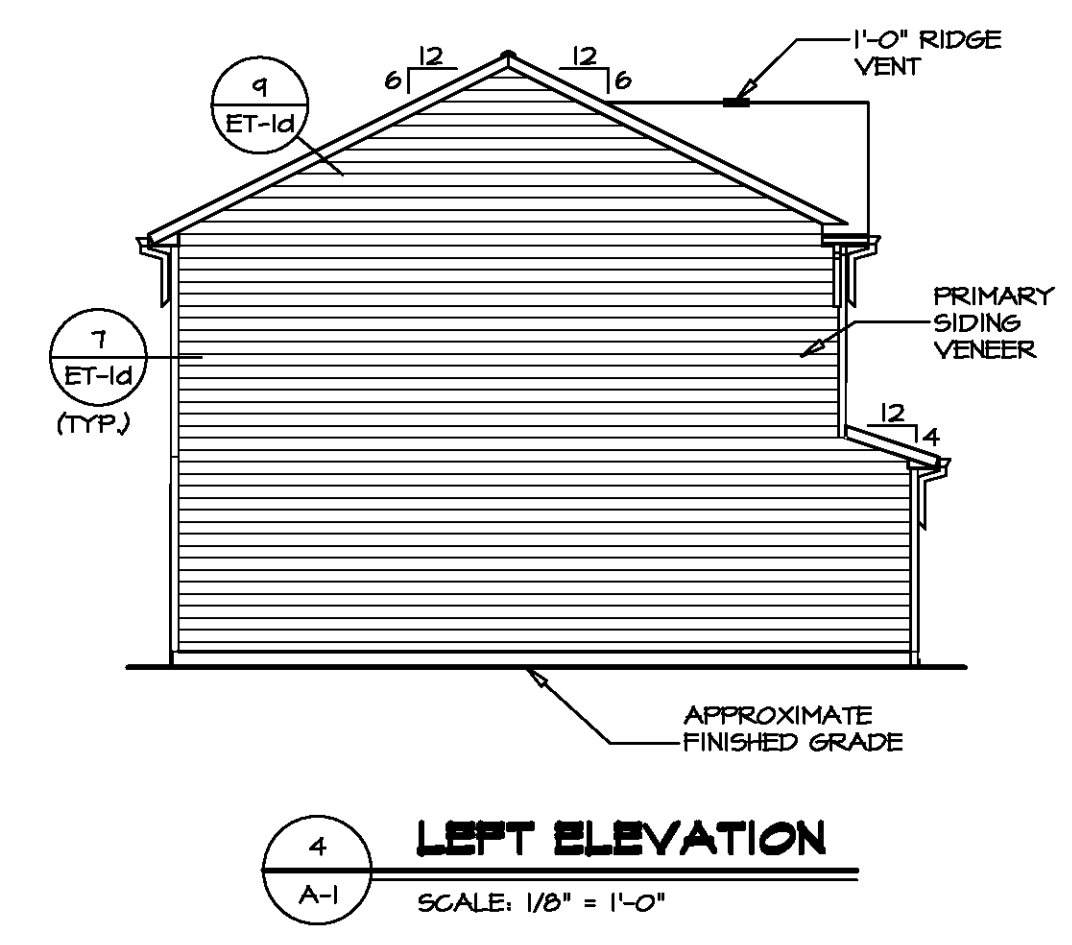
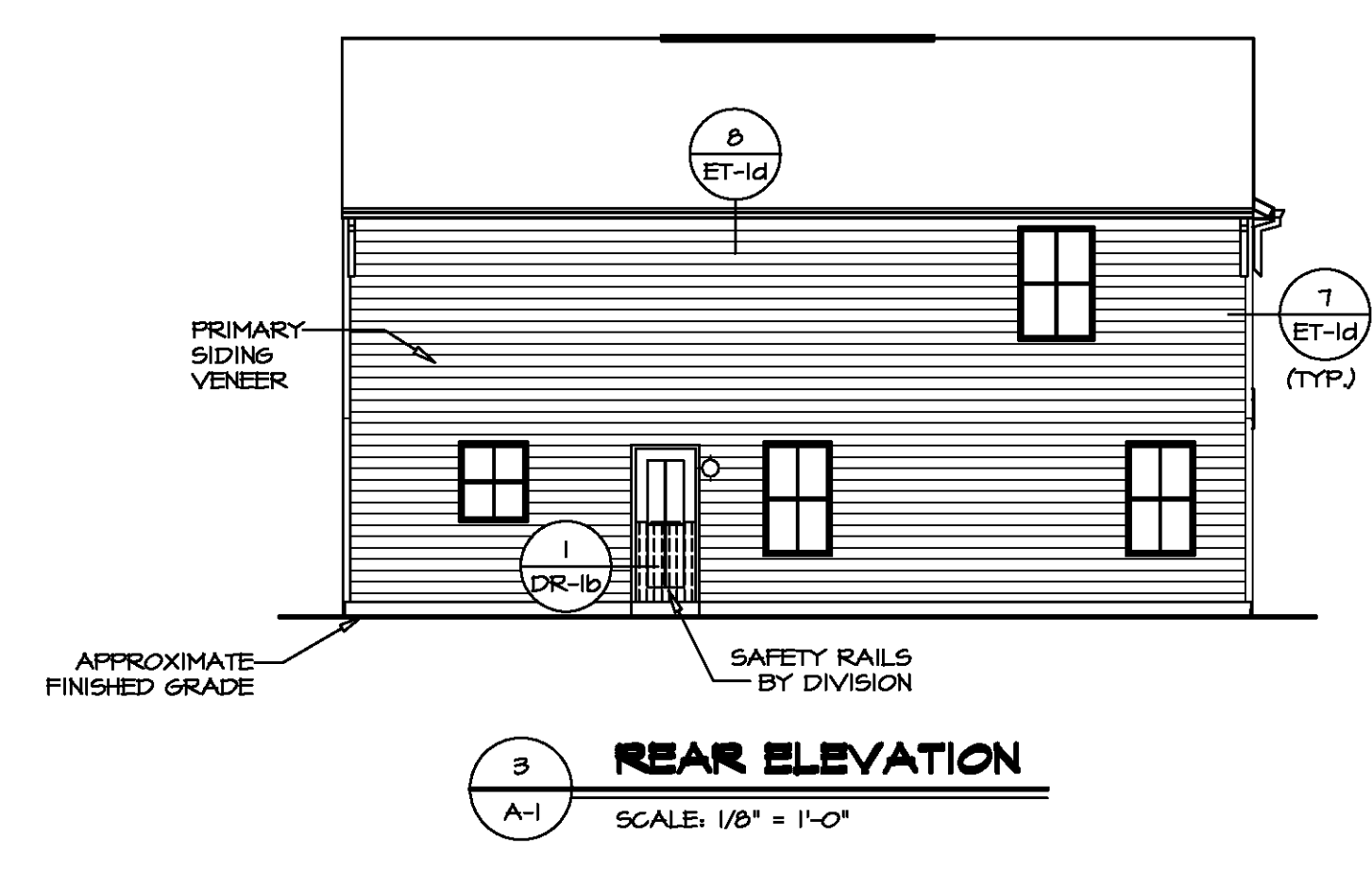
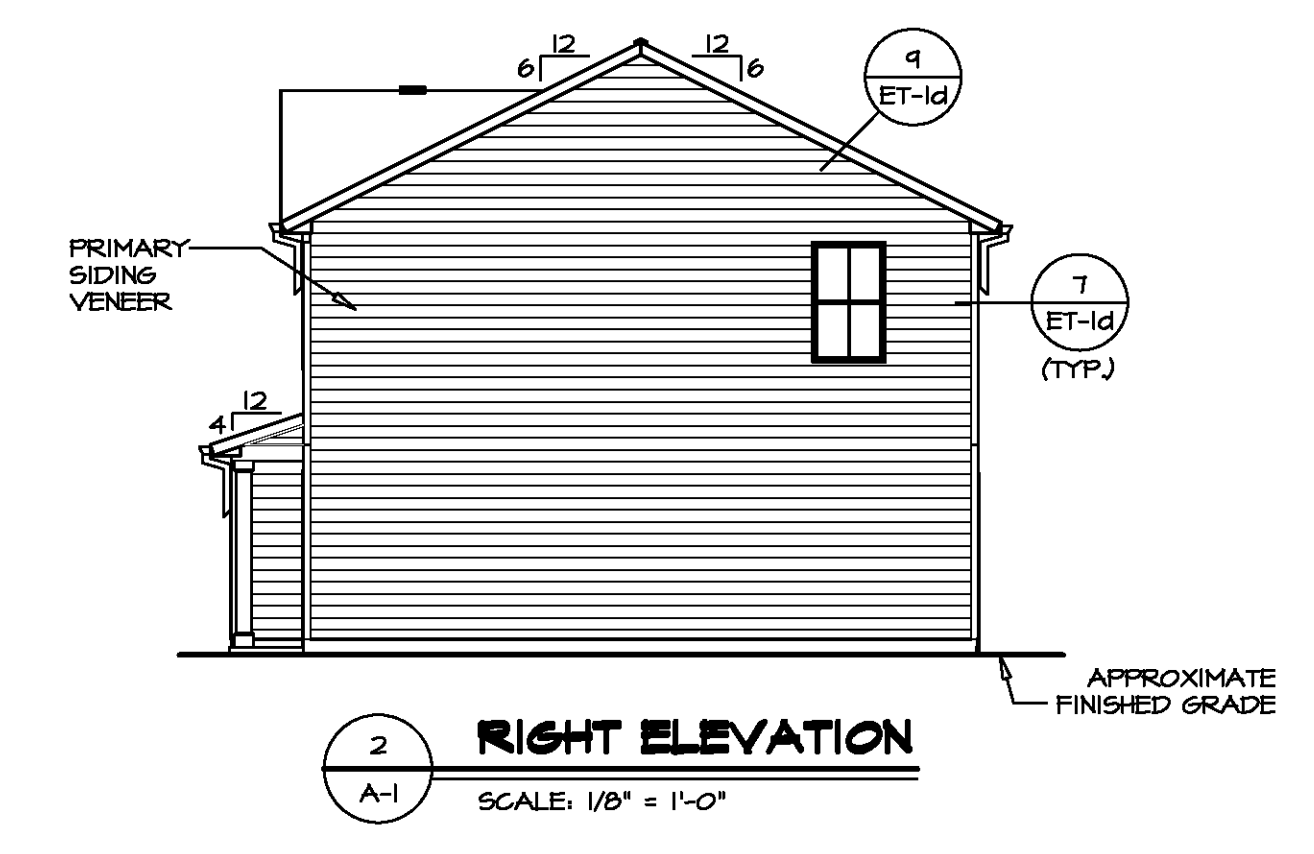
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SHEET NO.	MODEL	SET NO.	VERSION
CA-1	CEDAR	01	01
	DRAWING TITLE	DRAWN BY	DATE
	OPTION DESCRIPTION		OPTION



- NOTES:**
- WITH BRONZE WINDOWS ALL TRIM TO BE WHITE.
  - IF BUILT IN COMMUNITIES WITH COTTAGE ELEVATIONS, PROVIDE GARAGE DOOR HARDWARE (8 STRAPS AND 2 SETS OF HANDLES).

**GARAGE DOOR TRIM**  
HEAD - URETHANE (U0478)  
SIDES - 5/4X4 TRIM (6/DR-1)

**ENTRY DOOR TRIM**  
HEAD - 5/4X4 TRIM (6/DR-1b)  
SIDES - 5/4X4 TRIM (6/DR-1b)  
SILL - 5/4X8 TRIM (RIPPED)

**8" SQUARE COLUMN**  
(A-316b)

SHEET NO. <b>A-1</b>	MODEL <b>CEDAR</b>	SET NO. <b>CDROO</b>	VERSION <b>01</b>
	DRAWING TITLE <b>ELEVATIONS</b>	DRAWN BY	DATE:
4	OPTION DESCRIPTION <b>SLAB FOUNDATION</b>	OPTION <b>FSA</b>	
	DIV-COMM-LOT-UNIT COMM-LOT STREET ADDRESS CITY STATE ZIP		

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5285 Walkers Lane  
Frederick, MD 21703

17/30/20 - 7:52 am



PAD FOOTING SCHEDULE					
IDENTIFIER	LENGTH	WIDTH	HEIGHT	ENS. NUM.	REMARKS
FOO1	11'-1 1/2"	1'-4"	0'-8"	50001	
FOO2	8'-1"	1'-4"	0'-8"	50001	
FOO4	2'-0"	2'-0"	1'-0"	1016	

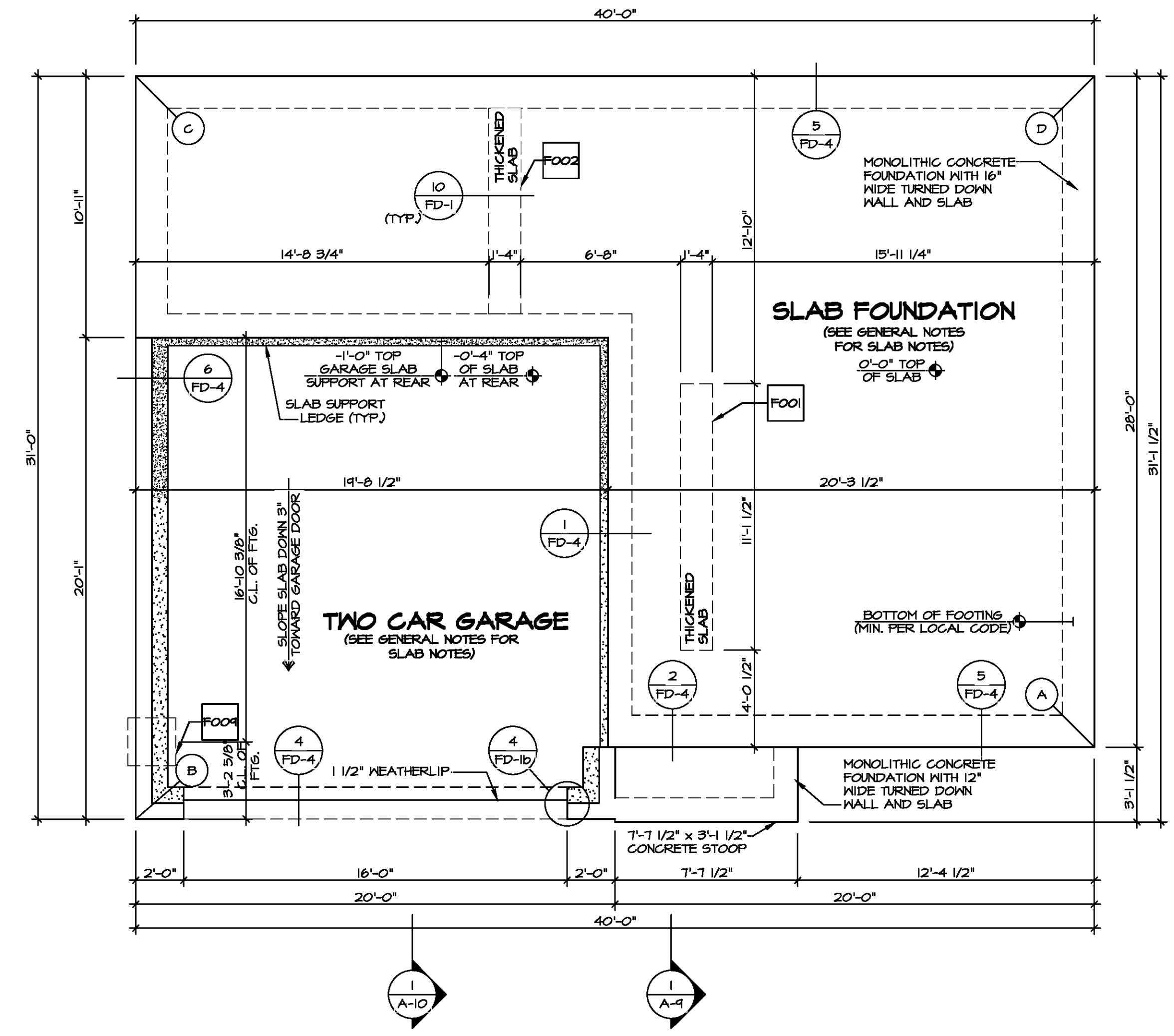
FOUNDATION DIAGONALS			
A		B	
A	0"	A	40'-1 11/32"
B	40'-1 11/32"	B	0"
C	48'-1 29/32"	C	31'-0"
D	28'-0"	D	50'-1 9/32"

- FOUNDATION NOTES - SLAB**
- FOUNDATION UNDER HABITABLE SPACE.
    - CONCRETE SLAB ON 6 MIL VAPOR BARRIER OVER SUB-BASE (SEE SPEC SHEET FOR SLAB NOTES)
  - FOUNDATION UNDER GARAGE.
    - UNEXCAVATED WITH CONCRETE SLAB ON VAPOR BARRIER OVER SUB-BASE (SEE SPEC SHEET FOR SLAB NOTES) OR
    - STRUCTURAL CONCRETE SLAB ON VAPOR BARRIER OVER SUB-BASE (SEE SPEC SHEET FOR SLAB NOTES)
  - SEE FOUNDATION HOLD DOWN SHEET FOR CONNECTION INFORMATION.
  - SLAB LEDGE LOCATIONS VARY W/ GRADE BEAM(S) ORIENTATION. SEE 08-1 FOR DETAILS.
  - THE DIRECTION OF THE ARROW IS THE DIRECTION OF REBAR, AS REQUIRED.
  - ALL FOOTINGS ARE PLAIN, UNREINFORCED CONCRETE UNLESS NOTES OTHERWISE.

**LEGEND**

- BEARING WALL
- NON BEARING WALL
- INDICATES BEARING FROM POINT-LOAD ABOVE
- JACKS
- BEAM/HEADER
- PAD FOOTING
- STEEL COLUMN
- TRUSS TIE DOWN
- PORTAL FRAME
- JOIST/TRUSS
- LVL
- ENGINEERING PAGE NUMBER

SEE FC DETAILS FOR FRAMING CONNECTORS



**FOUNDATION PLAN**  
SCALE: 1/4" = 1'-0"

DIV.-COMM.-LOT-UNIT

COM.-LOT

STREET ADDRESS

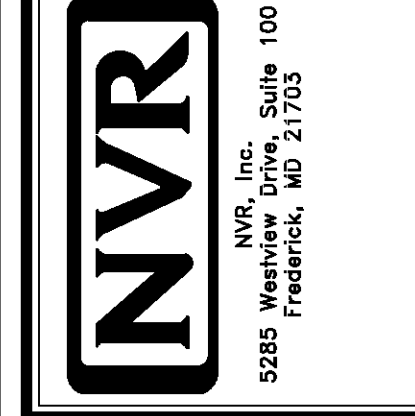
CITY

STATE

ZIP

APT. NO.

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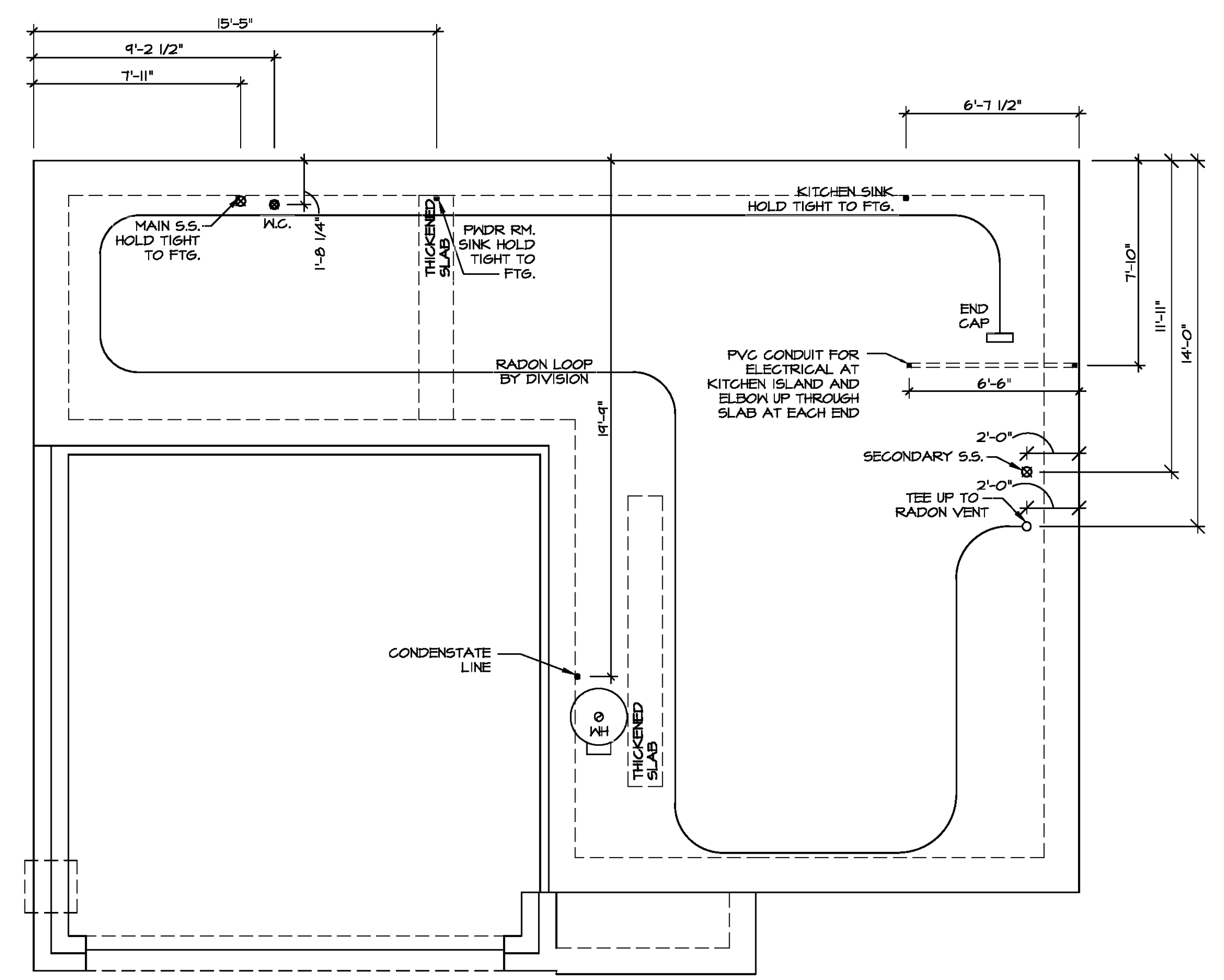
SHEET NO.	A-3	5
MODEL	CEDAR	
DRAWING TITLE	FOUNDATION PLAN	
OPTION DESCRIPTION	SLAB FOUNDATION	
SET NO.	CDROO	
VERSION	01	
DRAWN BY		
DATE:		
OPTION	FSA	





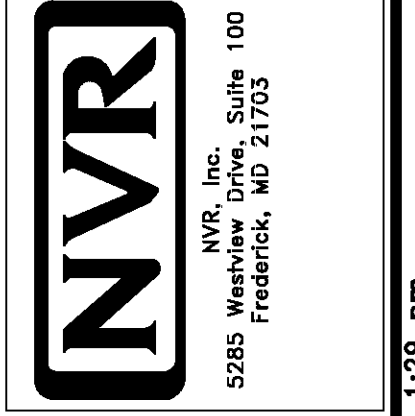
**NOTE**  
 RADON REMEDIATION  
 RADON LOOP:  
 - (4") PERFORATED HDPE "LOOP"  
 - MUST BE PLACED IN STONE BED SLIGHTLY HIGHER THAN ANY INTERIOR DRAINTILE  
 - LOOP TO BE SEPARATE FROM ANY DRAINTILE ELEMENTS  
 - TO BE CORRUGATED HDPE PIPE  
 - SCREENS TO BE INSTALLED THROUGH LOOP AT TEE UP INTO STACK  
 STACK REQUIREMENTS:  
 - 3" PVC STACK (4" IF BASEMENT IS GREATER THAN 2200 SQFT.)  
 - NO PART OF STACK IS TO BE HORIZONTAL (45° ELBOWS PERMITTED AS REQUIRED)  
 - PIPE TO BE PHYSICALLY LABELED IN THE FIELD AS "RADON VENT" OR OTHER JURISDICTIONALLY REQUIRED LANGUAGE (ON EVERY LEVEL OF HOUSE)  
 - ROOF TERMINATION TO BE IN TOP 1/3 OF ROOF  
 - SCREEN OR VENT CAP INSTALLED TO KEEP PESTS OUT OF RADON VENT AT ROOF TERMINATION.

**INSTALLATION OF RADON STACK AND LOOP TO BE DETERMINED BY DIVISION**



**PLUMBING PLAN**  
 SCALE: 1/4" = 1'-0"

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SET NO. CDPROO	VERSION 01
DRAWN BY	DATE:
OPTION	

MODEL CEDAR	OPTION DESCRIPTION
DRAWING TITLE PLUMBING PLAN	
SHEET NO. A-5	7





**FLOOR PLAN NOTES**

- ALL HEADERS ARE (2) 2x6 w/ 2x4 WALLS OR (3) 2x6 w/ 2x6 WALLS, UNLESS OTHERWISE NOTED.
- ALL HEADERS TO HAVE (1) 2x4 OR 2x6 JACK AND KING STUD EACH END, UNLESS OTHERWISE NOTED. MULTI-OPENING HEADERS TO HAVE (2) JACKS AT INTERMEDIATE BEARINGS, UNLESS OTHERWISE NOTED. NO ADDITIONAL FLOOR SYSTEM BLOCKING OR CONTINUOUS LOAD PATH JACKS ARE REQUIRED UNLESS OTHERWISE NOTED.
- ALL EXTERIOR WALLS TO BE 4" w/ OSB OR 3 1/2" w/ LAMINATED FIBROUS STRUCTURAL SHEATHING, ALL INTERIOR WALLS TO BE 3 1/2", UNLESS OTHERWISE NOTED.
- HATCHED AREAS INDICATE DROPPED CEILING. ALL DROPPED CEILING ARE 12" UNLESS OTHERWISE NOTED.
- SEE "BRACED WALL PANEL DETAIL SHEET" FOR SPECIAL WALL FRAMING LOCATIONS AND HEADER SIZES, IF APPLICABLE.
- SEE STANDARD DETAIL CATEGORY "IT" SHEET(S) FOR INTERIOR TRIM DETAILS.
- SEE ARCHITECTURAL DETAIL SHEET "AD" FOR HOUSE SPECIFIC INTERIOR TRIM OPTION TABLE.
- ALL WINDOWS HAVE 1'-0 1/2" HEADER HEIGHT UNLESS OTHERWISE NOTED.
- ALL HEADERS IN NON-BEARING WALLS SHALL BE A SINGLE FLAT 2x4 OR 2x6 ATTACHED TO GRIFFLES ABOVE, UNLESS OTHERWISE NOTED.
- TANKED WATER HEATER SHOWN AS BASE CONDITION. OPTIONAL TANKLESS WATER HEATER IS AVAILABLE IN LIEU OF TANKED WATER HEATER.

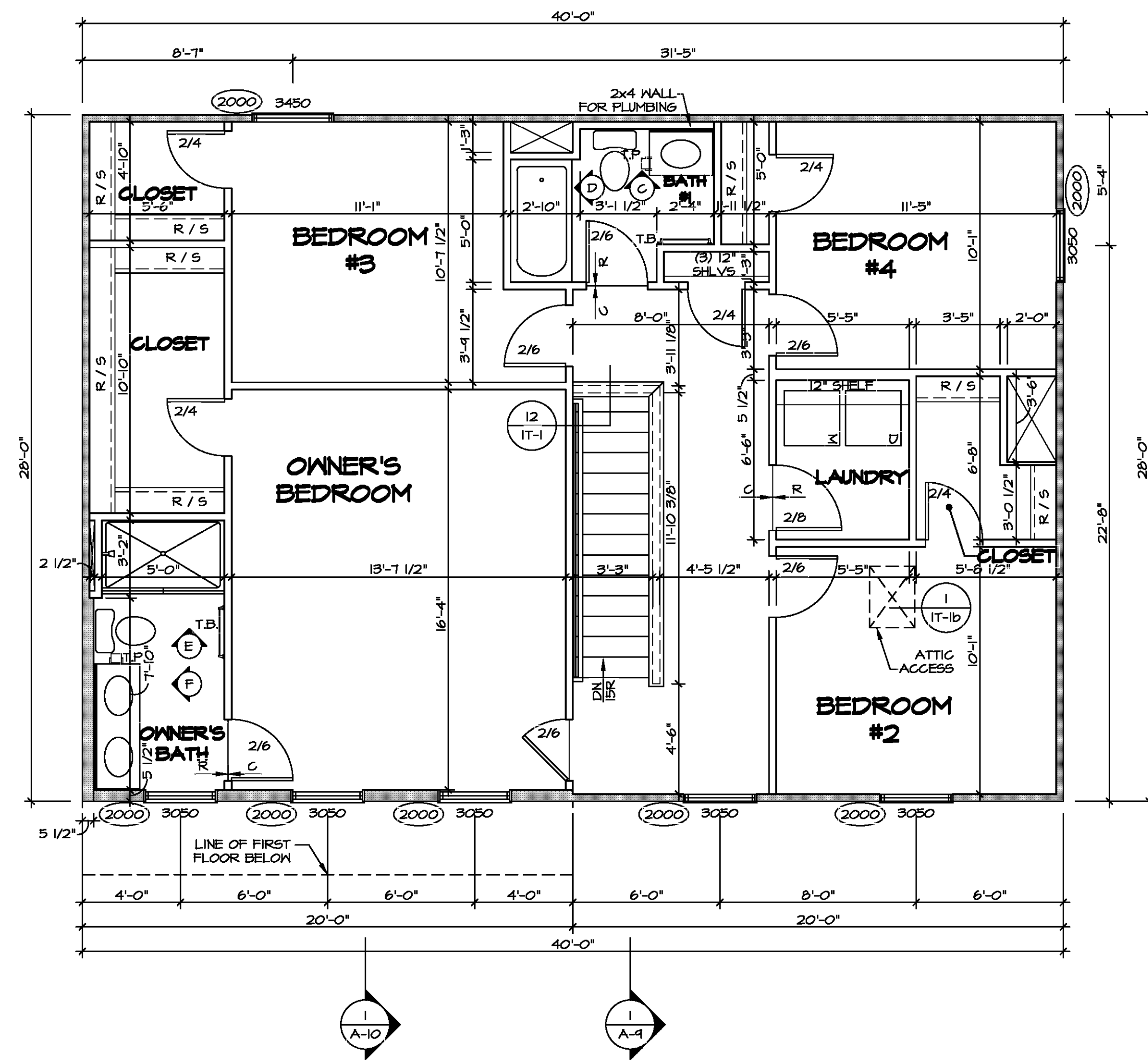
**GYPHUM NOTES**

**AT GARAGE:**  
 GYPHUM BOARD AT COMMON WALLS, CEILING, BEAM WRAPS AND SUPPORTS PER STANDARD DETAIL FA-(b) FIRE ASSEMBLIES OR AS REQUIRED BY LOCAL CODE.

**AT STAIRS:**  
 1/2" GYPHUM BOARD AT UNDERSIDE OF STAIRS AND WALLS IN CLOSET

**LEGEND**

- BEARING WALL
  - NON BEARING WALL
  - INDICATES BEARING FROM POINT-LOAD ABOVE
  - JACKS
  - BEAM/HEADER
  - PAD FOOTING
  - STEEL COLUMN
  - TRUSS TIE DOWN
  - PORTAL FRAME
  - JOIST/TRUSS
  - LVL
  - ENGINEERING PAGE NUMBER
- SEE FC DETAILS FOR FRAMING CONNECTORS



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



DIV-COMM-LOT-UNIT

COM-LOT

STREET ADDRESS

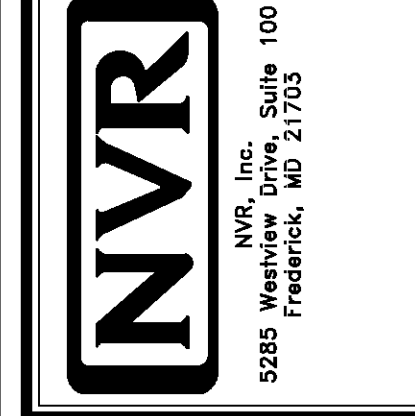
CITY

STATE

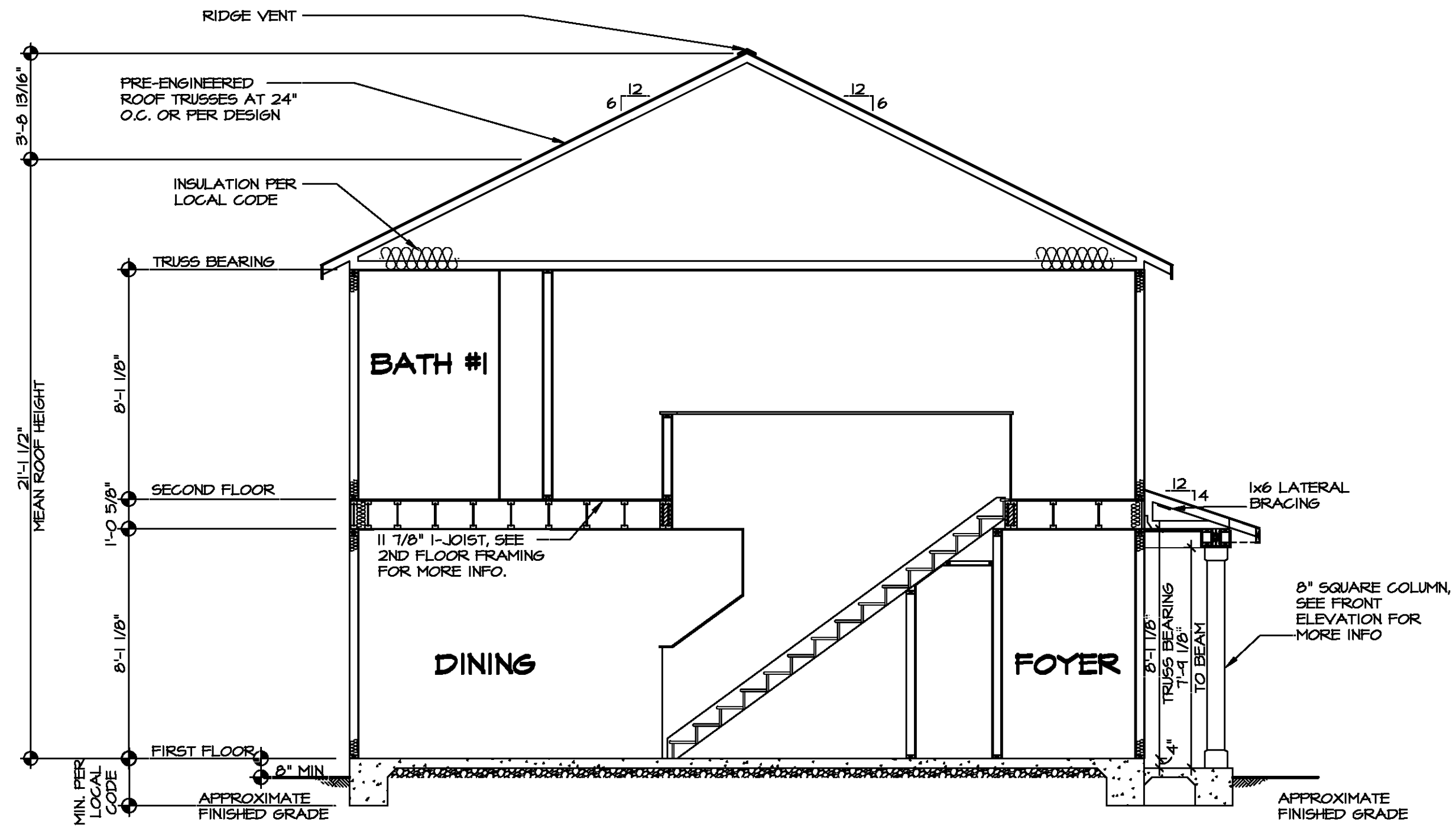
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MODEL	CEDAR
SET NO.	CDROO
VERSION	01
DRAWING TITLE	SECOND FLOOR PLAN
DRAWN BY	
DATE:	
OPTION	
SHEET NO.	A-8
OPTION DESCRIPTION	10



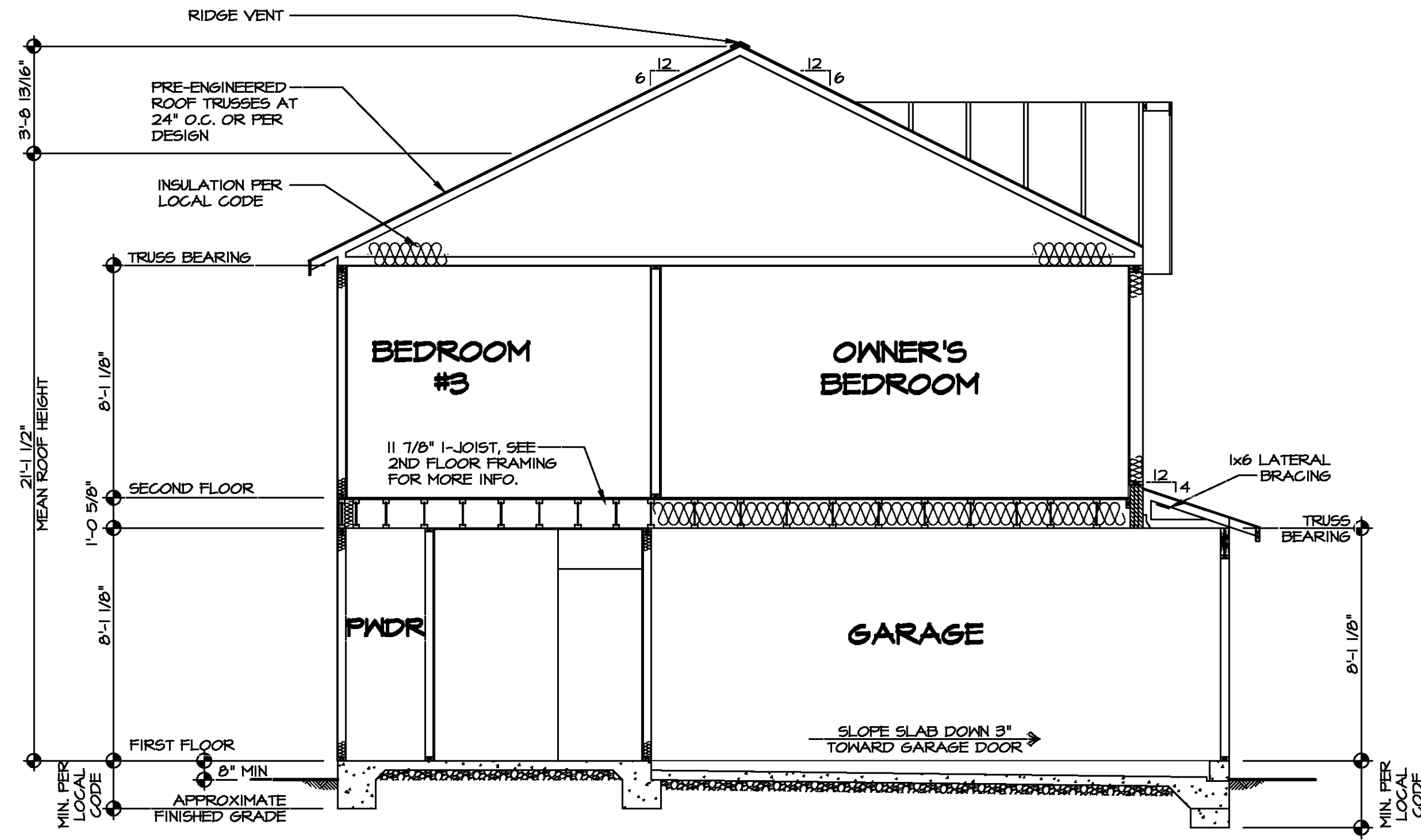
**BUILDING SECTION - FOYER**  
SCALE: 1/4" = 1'-0"



DIV-COMM-LOT-UNIT	
COMM-LOT	---
STREET ADDRESS	---
CITY	---
STATE	---
APT. NO.	---
ZIP	---



SHEET NO.	A-9
MODEL	CEDAR
DRAWING TITLE	BUILDING SECTION - FOYER
OPTION DESCRIPTION	
SET NO.	CDROO
VERSION	01
DRAWN BY	
DATE:	
OPTION	

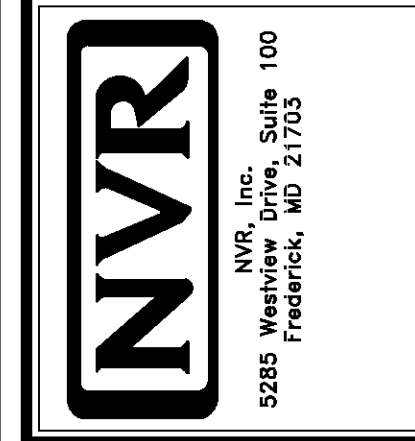


**BUILDING SECTION - GARAGE**  
 SCALE: 1/4" = 1'-0"



DIV-COMM-LOT-UNIT  
 COMM-LOT  
 STREET ADDRESS  
 CITY  
 STATE  
 APT. NO.  
 ZIP

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SHEET NO. <b>A-10</b>	MODEL <b>CEDAR</b>	SET NO. CDROO	VERSION 01
	DRAWING TITLE <b>BUILDING SECTION - GARAGE</b>	DRAWN BY	DATE:
OPTION DESCRIPTION <b>12</b>		OPTION	



**SECOND FLOOR FRAMING LENGTH SCHEDULE**

IDENTIFIER	DESCRIPTION	LENGTH	ENG. NUM.	REMARKS
2AA	FRI 60 - 11-14	34'-4 3/4"	J-0053	
2AA-2	FRI 60 - 11-14 DBL	34'-4 3/4"	1036	J-0154
2AB	FRI 60 - 11-14	16'-6 1/8"	J-0054	
2AC	FRI 60 - 11-14	14'-4 3/4"		
2AE	FRI 60 - 11-14	34'-4 3/4"		
2AF-2	FRI 60 - 11-14 DBL	20'-2 3/8"	1006	J-0055
2AG	FRI 60 - 11-14	34'-4 3/4"		J-0053
2AL	FRI 60 - 11-14	16'-6 1/8"	1037	J-0246

**SECOND FLOOR LVL LENGTH SCHEDULE**

IDENTIFIER	DESCRIPTION	LENGTH	ENG. NUM.	REMARKS
L201-3	LVL 1.75 - 18	20'-0"	1025	5A
L202	LVL 1.75 - 11-14	11'-4"	1004	

**LVL PLY TO PLY FASTENING SCHEDULE:** (WHERE APPLICABLE BASED ON LVL USAGE)

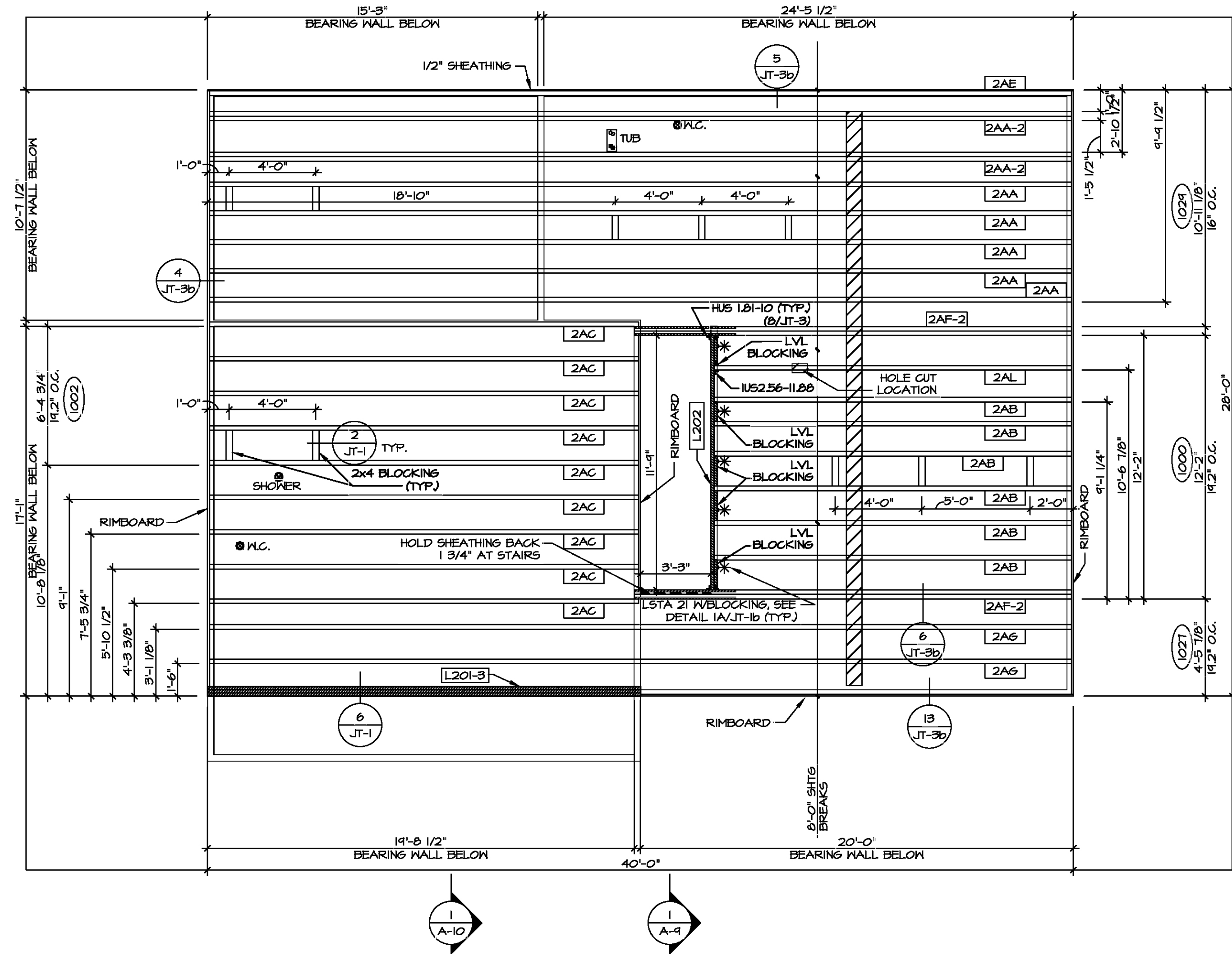
- 1A - (2) PLY UP TO AND INCLUDING 11 7/8" TALL: FASTEN PLYS W/ (2) ROWS 16D NAILS AT 12" O.C. OR ALT 1 1/2" WIDE LVL FASTEN PLYS W/ (3) ROWS 12D NAILS AT 12" O.C.
- 2A - (2) PLY 14" TO AND INCLUDING 17" TALL (INCLUSIVE): FASTEN PLYS W/ (3) ROWS 16D NAILS AT 12" O.C. OR ALT 1 1/2" WIDE LVL FASTEN PLYS W/ (4) ROWS 12D NAILS AT 12" O.C.
- 3A - (2) PLY 20" TALL AND OVER: FASTEN PLYS W/ (4) ROWS 16D NAILS AT 12" O.C. OR ALT 1 1/2" WIDE LVL FASTEN PLYS W/ (5) ROWS 12D NAILS AT 12" O.C.
- 4A - (3) PLY UP TO AND INCLUDING 11 7/8" TALL: FASTEN PLYS W/ (2) ROWS 16D NAILS AT 12" O.C. FROM EACH SIDE OR ALT 1 1/2" WIDE LVL FASTEN PLYS W/ (3) ROWS 12D NAILS AT 12" O.C. FROM EACH SIDE.
- 5A - (3) PLY 14" TO AND INCLUDING 17" TALL (INCLUSIVE): FASTEN PLYS W/ (3) ROWS 16D NAILS AT 12" O.C. FROM EACH SIDE OR ALT 1 1/2" WIDE LVL FASTEN PLYS W/ (4) ROWS 12D NAILS AT 12" O.C. FROM EACH SIDE.
- 6A - (3) PLY 20" TALL AND OVER: FASTEN PLYS W/ (4) ROWS 16D NAILS AT 12" O.C. FROM EACH SIDE OR ALT 1 1/2" WIDE LVL FASTEN PLYS W/ (5) ROWS 12D NAILS AT 12" O.C. FROM EACH SIDE.
- 7A - (4) PLY (ALL SIZES): FASTEN PLYS W/ (2) ROWS 1/2" DIAMETER A307 BOLTS AT 24" O.C. SEE SHOP DRAWING FOR ADDITIONAL INFORMATION.

**I-JOIST FLOOR SYSTEM**

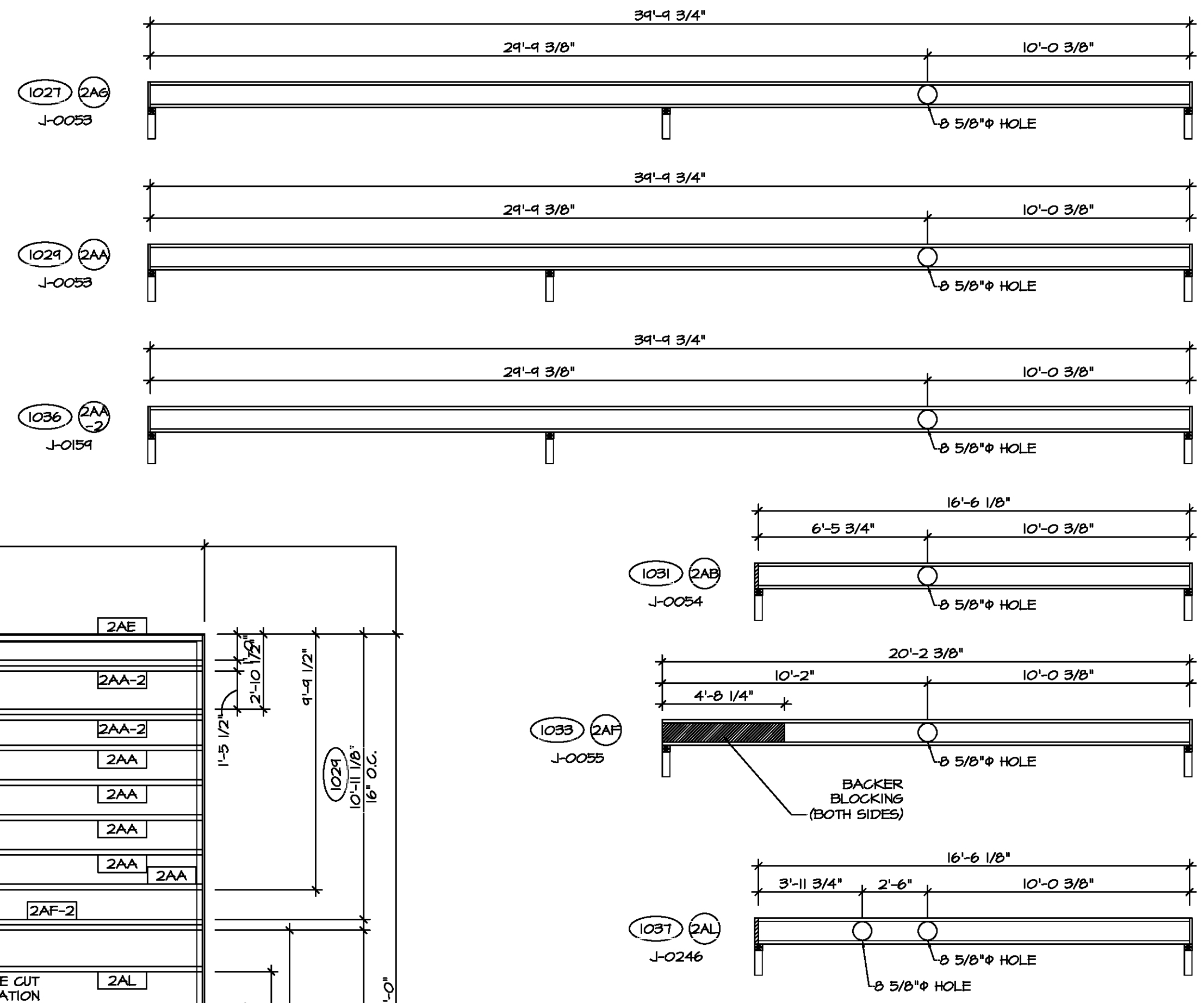
1. SUBFLOOR IS 3/4" TONGUE AND GROOVE OSB STANDARD.
2. JOIST LENGTHS SHIPPED IS THE NEXT HIGHEST LENGTH TO CUT FROM.
3. ALL RIMBOARD TO BE 1-1/8" THICK UNO.
4. REFER TO STANDARD DETAIL 7/JIT-3 FOR HOLE CUTTING GUIDELINES.
5. PROVIDE RIMBOARD SOLID BLOCKING AT EXTERIOR WALLS AND BELOW ALL JACKS AS REQUIRED.
6. REFER TO DETAIL 8/JIT-3 FOR HANGER DETAIL.
7. ALL JOISTS TO BE PR140, PR180 OR PR180. REFERENCE SCHEDULE FOR SPECIFIC SERIES PER MEMBER.
  - A. PR140 SERIES ARE SHOWN AS SHADED ON FRAMING PLAN.
8. SEE CONNECTOR / NAIL CHART IN STANDARD DETAILS (FC-4) FOR TYPICAL HANGERS.
10. ALL LVL BLOCKING CUT FROM 14'-0" MATERIAL.
11. ADHESIVE TO BE APPLIED AT THE RATE OF (1) TUBE PER TWO AND ONE-HALF SHEETS; SHEETS ARE TO BE GLUED AND PLACED ONE AT A TIME. **APPLY BLUE TO TONGUE AND GROOVE.**
12. I-JOIST BLOCKING CUT FROM 2'-0" MATERIAL.
13. ADHESIVE TO BE ADDED TO ALL JOIST HANGERS PRIOR TO SETTING JOISTS.
14. J-XXXX SHOP DRAWINGS ARE ASSOCIATED WITH PLANT MODIFIED I-JOISTS OR PLANT BUILT JOIST COMPONENTS.

**LEGEND**

- BEARING WALL
  - INDICATES BEARING FROM POINT-LOAD ABOVE
  - JACKS
  - BEAM/HEADER
  - PAD FOOTING
  - STEEL COLUMN
  - TRUSS TIE DOWN
  - PORTAL FRAME
  - JOIST/TRUSS
  - LVL
  - ENGINEERING PAGE NUMBER
- SEE FC DETAILS FOR FRAMING CONNECTORS



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



MODEL: CEDAR  
DRAWING TITLE: SECOND FLOOR JOIST LAYOUT  
OPTION DESCRIPTION: 20

SET NO. CDROO  
VERSION 01  
DRAWN BY:  
DATE:  
OPTION

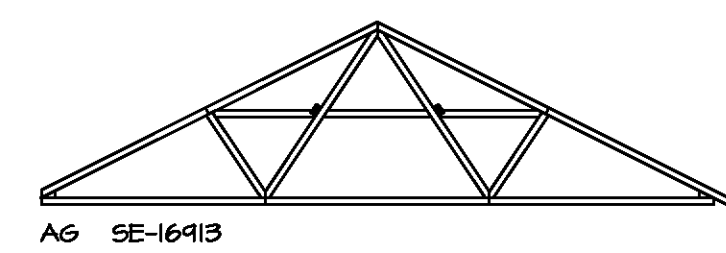
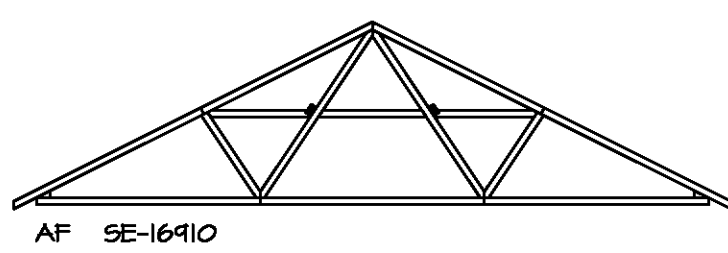
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COM-LOT  
STREET ADDRESS  
CITY  
STATE  
ZIP

APRT. NO.  
APT. NO.





1
**TRUSS BRACING DETAILS**  
 SCALE: 1/4" = 1'-0"

- TRUSS BRACING NOTES**
1. IF TRUSS DOES NOT APPEAR ON THIS TRUSS BRACING SHEET, NO ADDITIONAL LATERAL BRACING IS REQUIRED.
  2. 1X6 SPT#2 LATERAL BRACES SHALL BE NAILED TO MINIMUM (2) TRUSS MEMBERS WITH MINIMUM (2) 10D NAILS. PROVISIONS MUST BE MADE AT ENDS OR SPECIFIED INTERVALS TO RESTRAIN OR ANCHOR LATERAL BRACING.
  3. WEB "T" BRACE, DETAIL 3/RF-1c, IS REQUIRED WHERE LATERAL BRACING IS NOT CONTINUOUS ACROSS THREE (3) OR MORE TRUSSES AND MAY BE USED IN LIEU OF 1X6 LATERAL BRACING.
  4. DIAGONAL BRACING REQUIRED WHEN LATERAL BRACING IS REQUIRED (1/RF-1).
  5. STUDDED GABLE BRACING DETAIL 1/RF-1c TO BE UTILIZED FOR TRUSSES 6'-4" IN HEIGHT OR GREATER.
  6. PARTIALLY SHEATHED GABLES, SEE 5/RF-1c FOR "L" BRACING WHEN REQUIRED.
  7. LATERAL BRACING CAN BE APPLIED TO EITHER SIDE OF THE WEB MEMBER IDENTIFIED IN THE DRAWING.
  8. SHEATHING (OSB OR GYPSUM) REPLACES LATERAL AND DIAGONAL TRUSS BRACING.

SHEET NO. <b>S-4</b>	MODEL <b>CEDAR</b> DRAWING TITLE <b>TRUSS BRACING DETAILS</b> OPTION DESCRIPTION <b>22</b>	SET NO. CDROO VERSION O1 DRAWN BY DATE: OPTION	DIV-COMM-LOT-UNIT COMM-LOT STREET ADDRESS CITY STATE ZIP APT. NO.
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