

EXTERIOR ELEVATION FRONT
SCALE: 3/16 IN = 1 FT

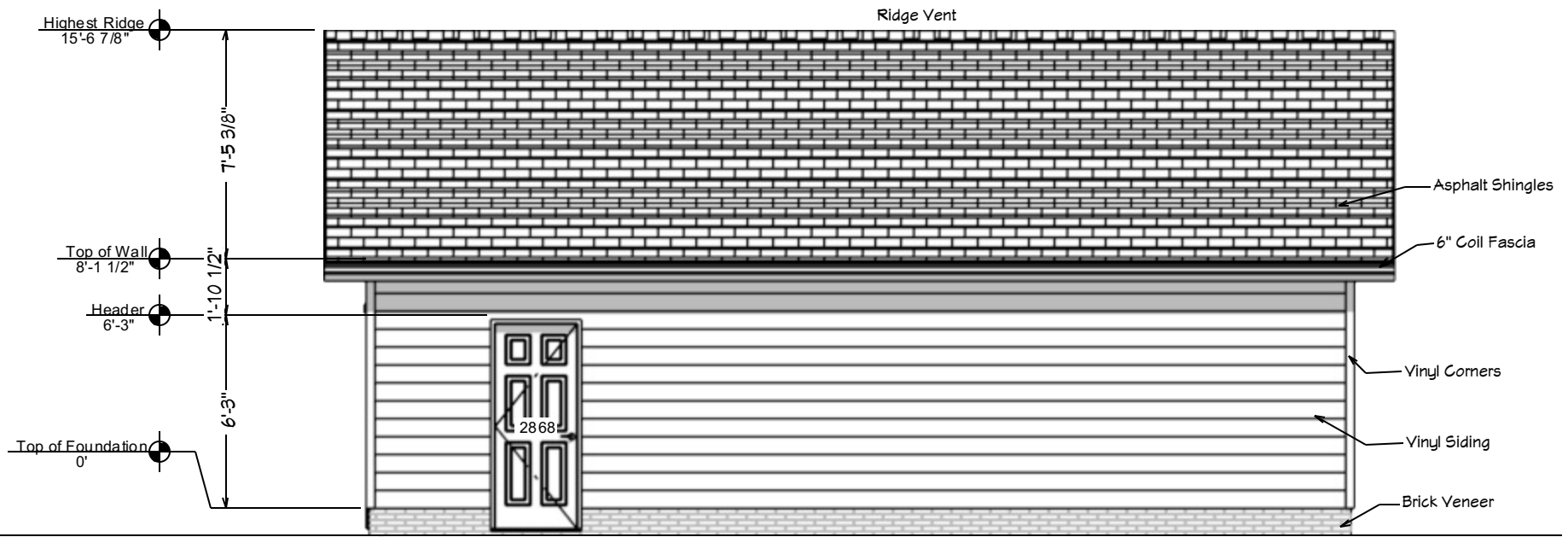
REVISION TABLE	
NUMBER	DATE

Gentry Daggendorf job
104 Lonnie Betts dr.
Holly springs, NC

Home Work Services
3312 Black Stallion Court
Zebulon, NC
PH - 919-669-6987
www.hwsgarage.com



REVISION TABLE	
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EXTERIOR ELEVATION RIGHT

SCALE: 3/16 IN = 1 FT

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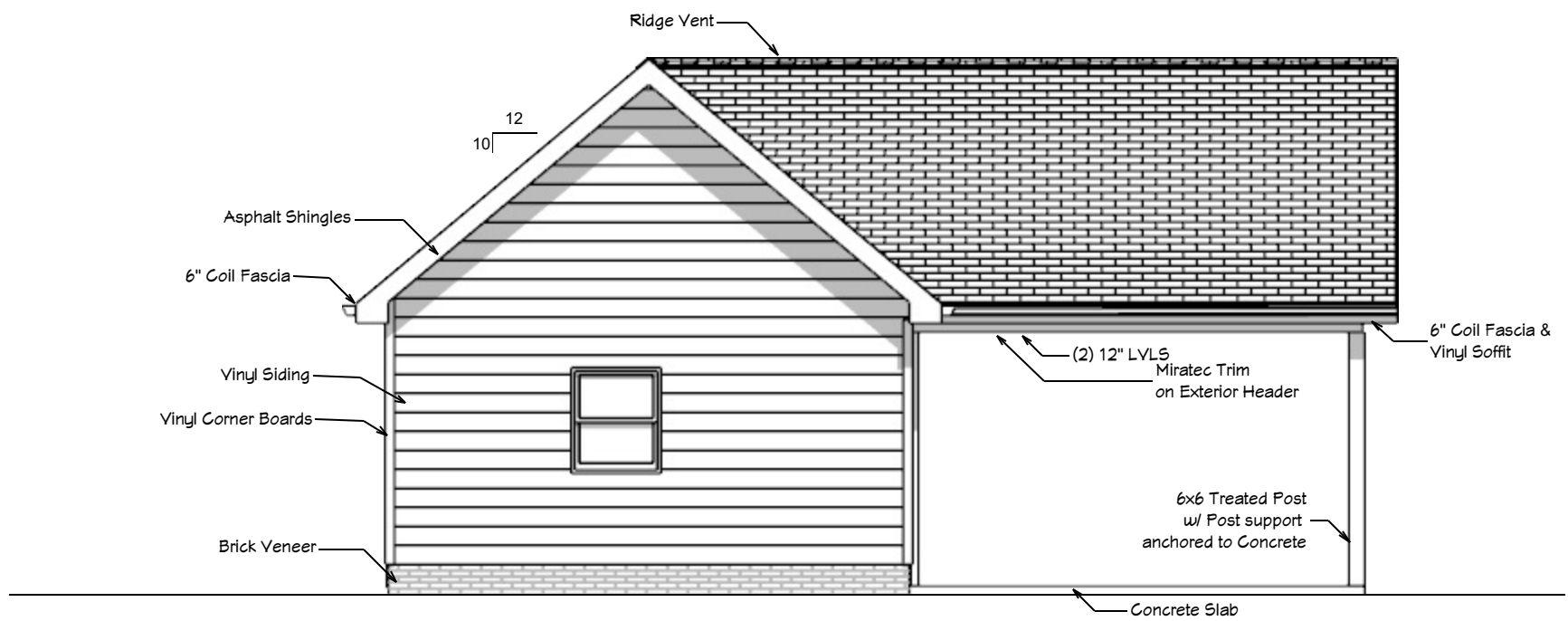
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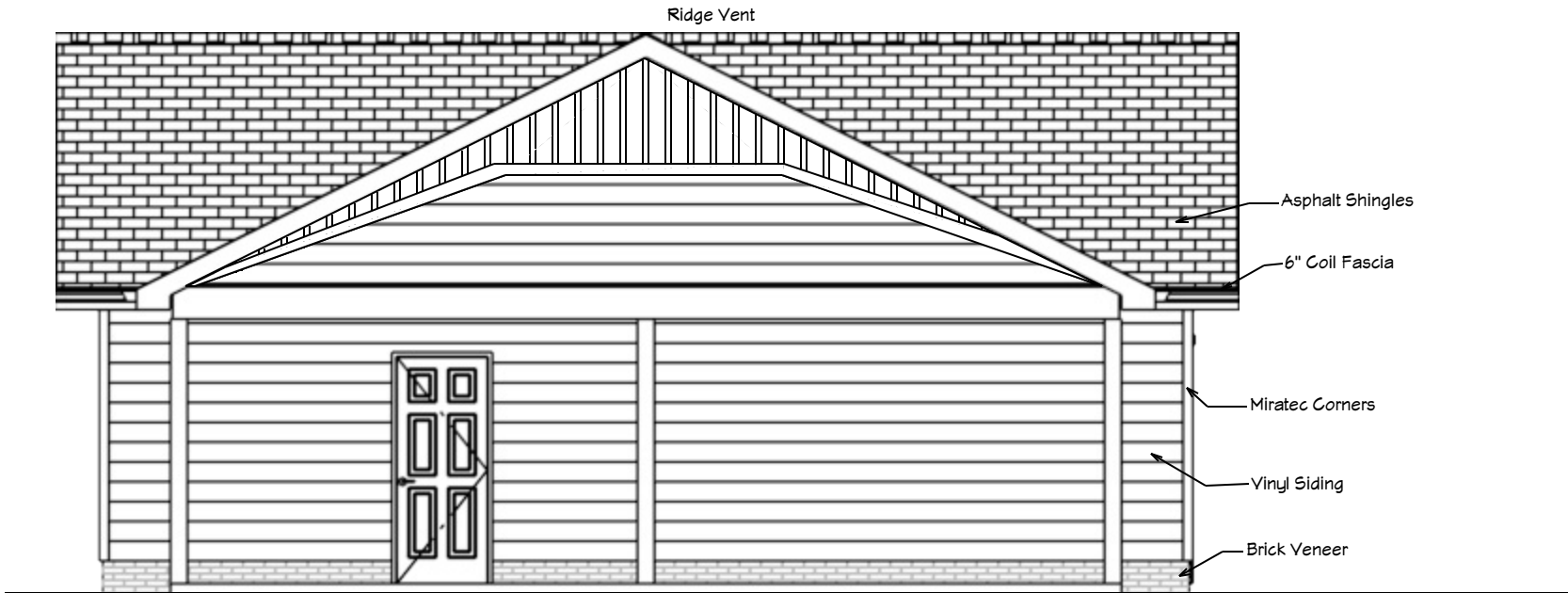
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EXTERIOR ELEVATION BACK
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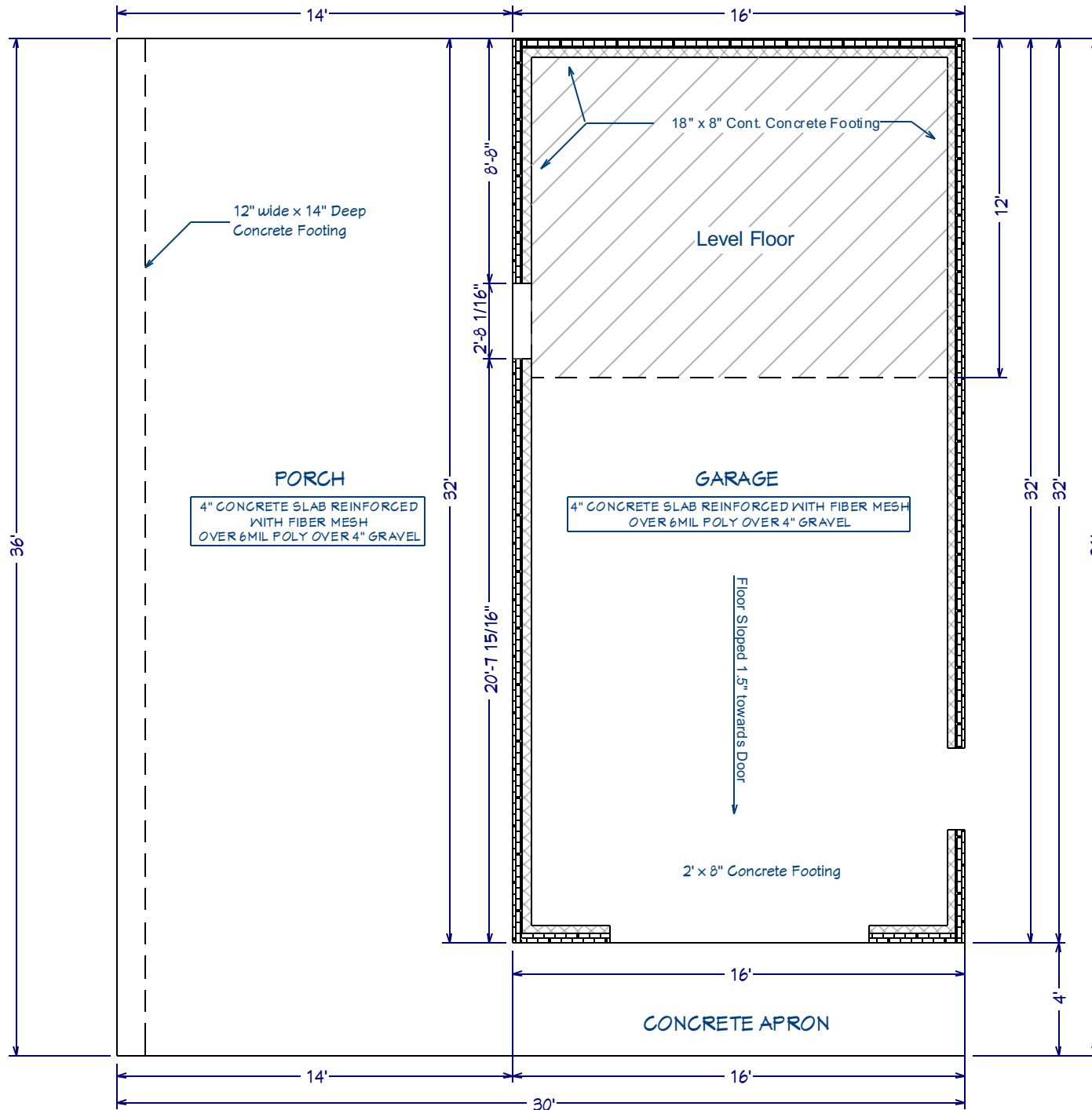


EXTERIOR ELEVATION LEFT
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PORCH
 4" CONCRETE SLAB REINFORCED WITH FIBER MESH OVER 6 MIL POLY OVER 4" GRAVEL

GARAGE
 4" CONCRETE SLAB REINFORCED WITH FIBER MESH OVER 6 MIL POLY OVER 4" GRAVEL

CONCRETE APRON

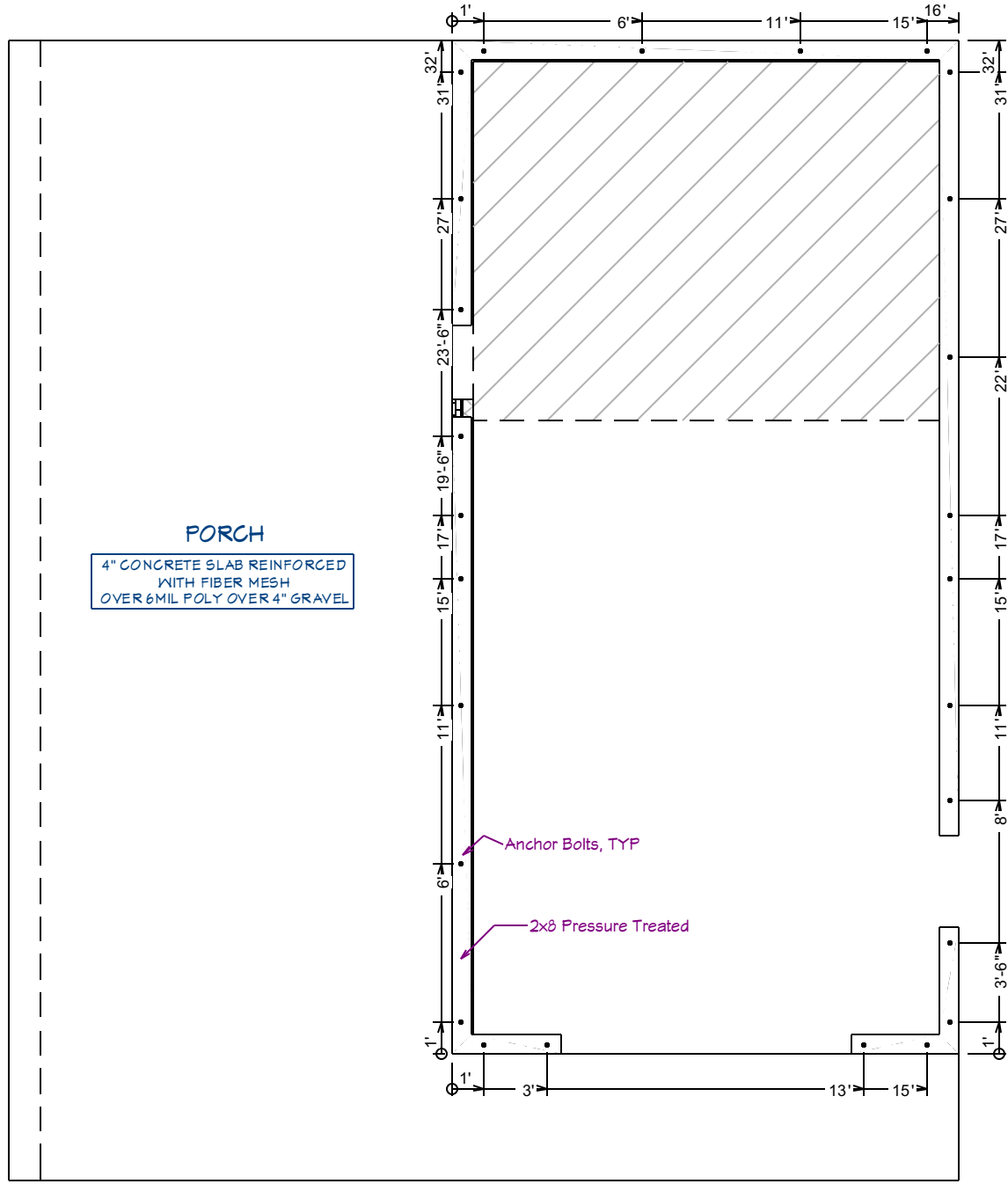
FOUNDATION PLAN
 SCALE: 3/16 IN = 1 FT

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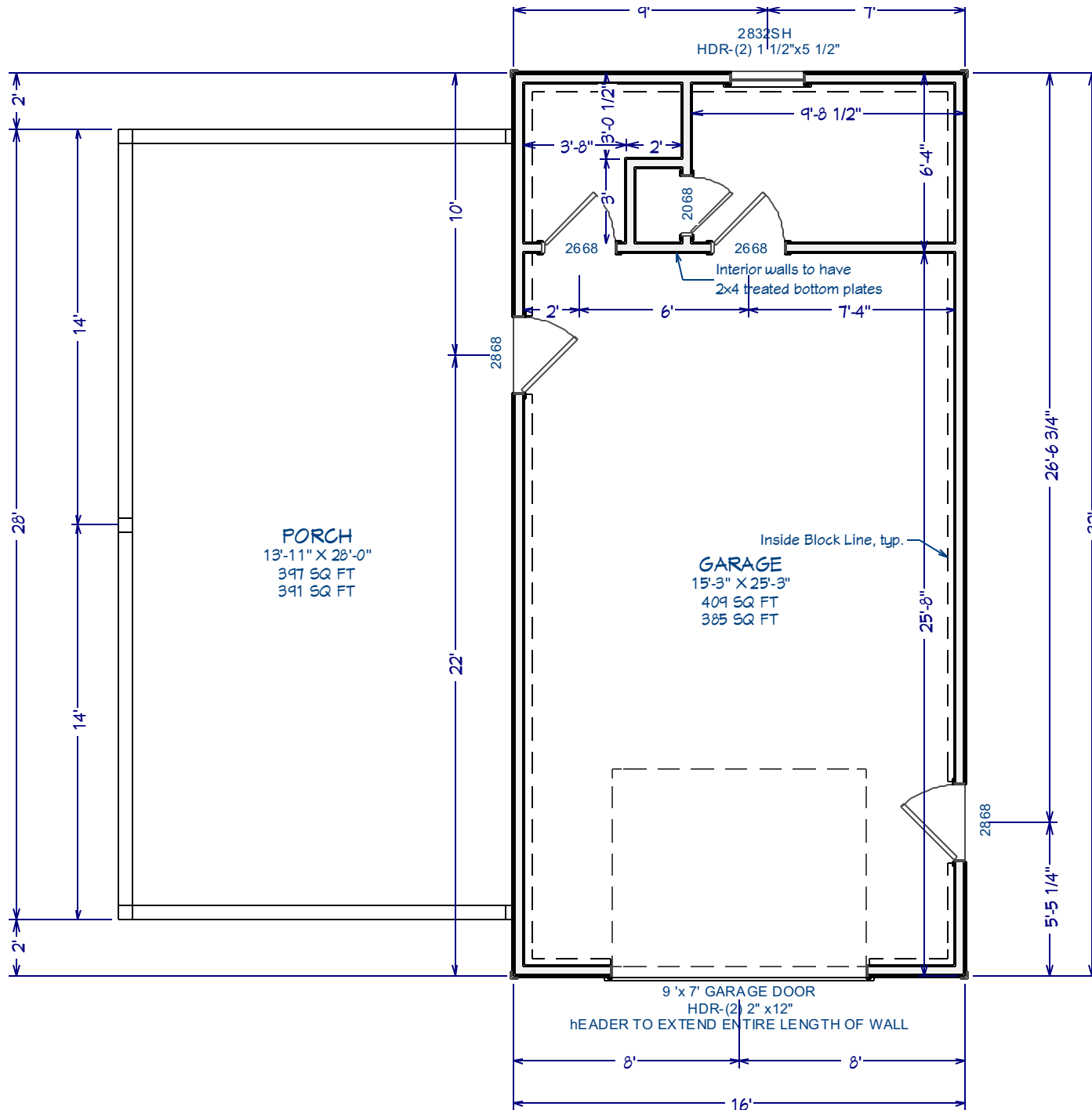
ANCHOR BOLT PLACEMENT PLAN
 SCALE: 3/16 IN = 1 FT

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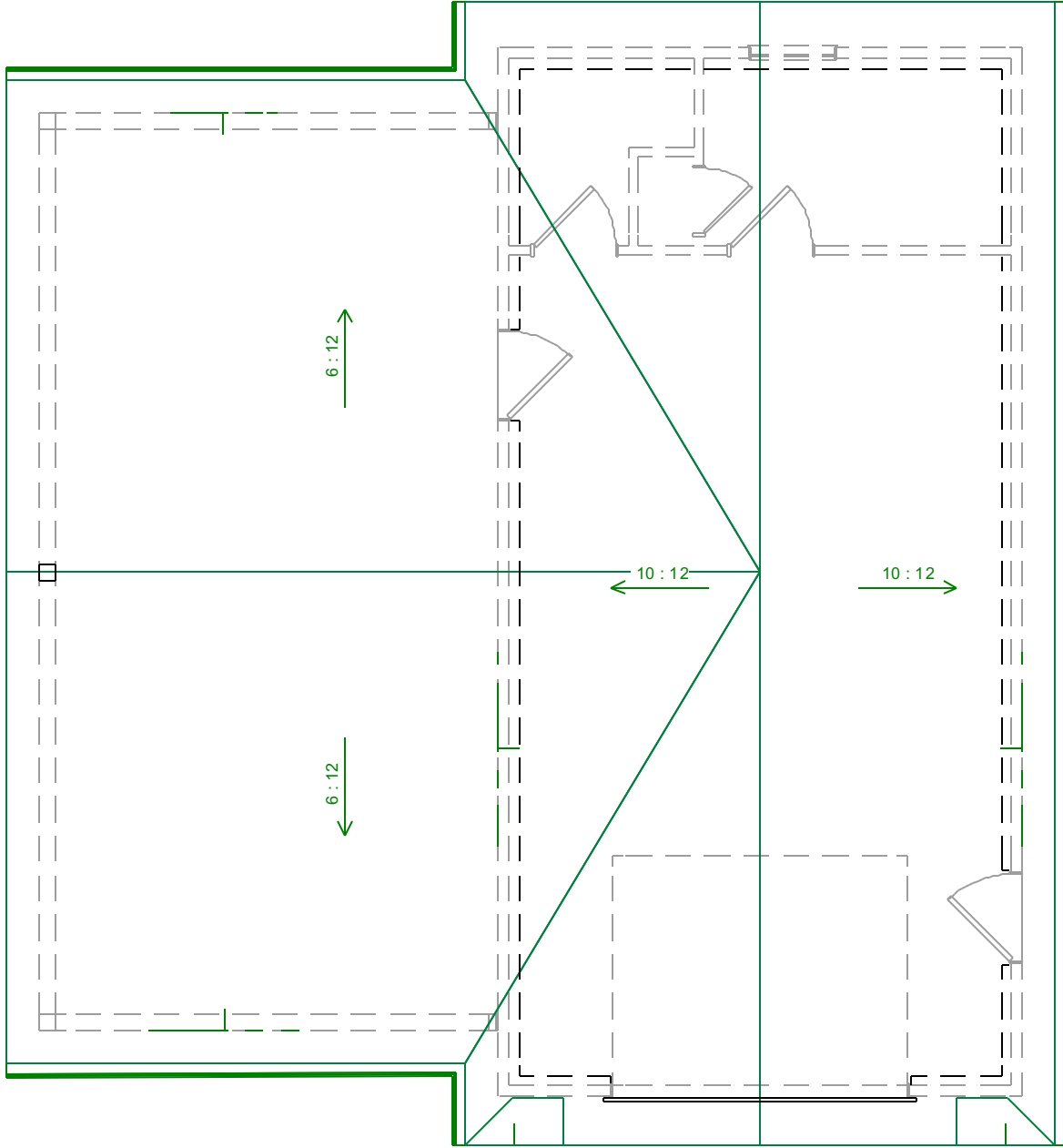
MAIN FLOOR PLAN
 SCALE: 3/16 IN = 1 FT

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ROOF PLAN
 SCALE: 3/16 IN = 1 FT



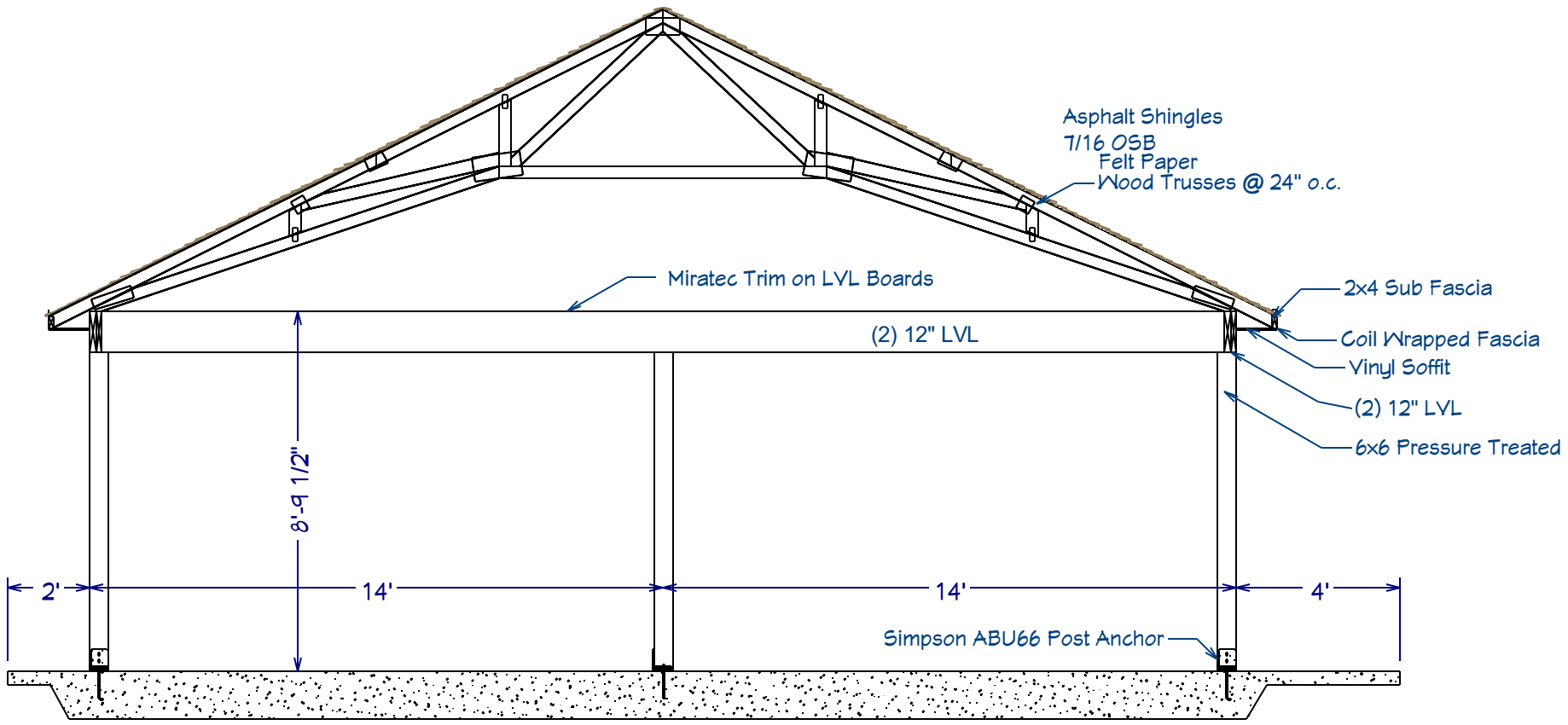
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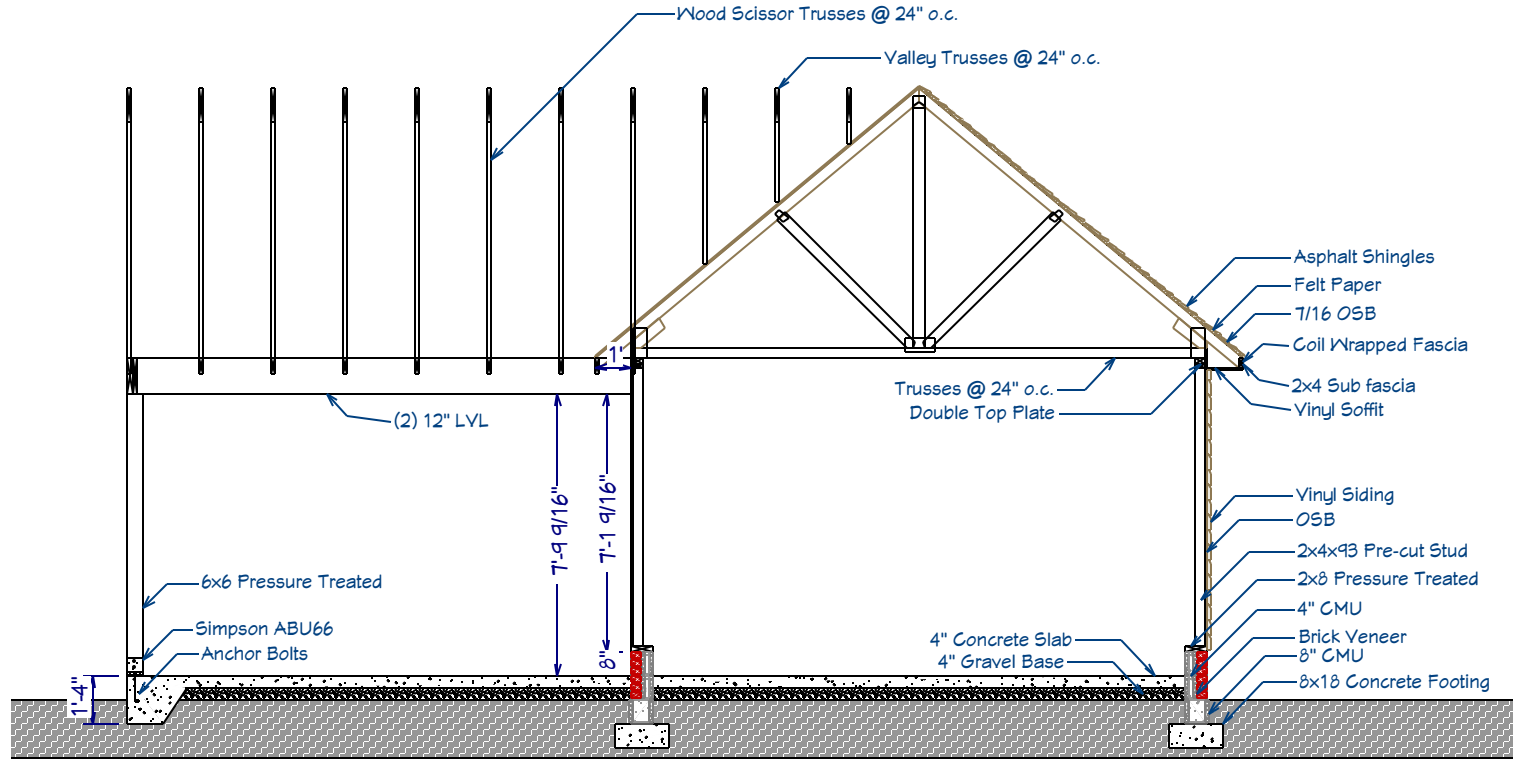
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PORCH SECTION
SCALE: 1/4 in = 1 ft



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GENERAL STRUCTURAL NOTES:

1. CONSTRUCTION SHALL CONFORM TO THE 2018 NC Residential Code.
2. CONTRACTOR SHALL VERIFY ALL DIMENSIONS. CONTRACTOR SHALL COMPLY WITH THE CONTENTS OF THE DRAWINGS FOR THIS SPECIFIC PROJECT. ENGINEER IS NOT RESPONSIBLE FOR ANY DEVIATIONS FROM THIS PLAN.
3. CONTRACTOR IS RESPONSIBLE FOR PROVIDING TEMPORARY BRACING REQUIRED TO RESIST ALL FORCES ENCOUNTERED DURING ERECTION.
4. THE FOLLOWING DESIGN LOADS ARE USED:

DESIGN LOADS	Live Load (PSF)	Dead Load (PSF)	Deflection (LL)
Usage			
Attics Without Storage	10	---	L/240
Attics With Limited Storage	20	10	L/360
Attics With Fixed Stairs	40	10	L/360
Balconies & Decks	40	10	L/360
Fire Escapes	40	10	L/360
Guardrails and Handrails	200	---	---
Guardrail In-fill components	50	---	---
Passenger vehicle garages	50	10	L/360
Rooms other than sleeping	40	10	L/360
Sleeping rooms	30	10	L/360
Stairs	40	---	---
Snow	20	---	---

5. PROPERTIES USED IN THE DESIGN ARE AS FOLLOWS:
MICROLLAM (LVL): F = 2600 PSI, E = 285 PSI, E = 190,000,000 PSI
PARALLAM (PSL): F = 2900 PSI, E = 290 PSI, E = 125,000,000 PSI
6. ALL WOOD MEMBERS SHALL BE #2 SPF UNLESS NOTED ON PLANS. ALL STUD COLUMNS AND JOISTS SHALL BE #2 SPF UNLESS NOTED OTHERWISE.
7. ALL BEAMS SHALL BE SUPPORTED WITH A (2) 2X4 #2 SPF STUD COLUMN AT EACH END UNLESS NOTED OTHERWISE.
8. ALL PARALLEL NON-LOAD BEARING WALLS SHALL BE SUPPORTED WITH A DOUBLE JOIST UNLESS NOTED OTHERWISE.
9. COMPRESSIVE STRENGTH OF CONCRETE SHALL BE A MINIMUM OF 3000 PSI AT 28-DAYS.
10. SOIL BEARING CAPACITY TO BE A MINIMUM OF 2000 PSF
11. ALL REINFORCING STEEL SHALL BE GRADE 60 BARS CONFORMING TO ASTM A615 AND SHALL HAVE A MINIMUM COVER OF 3".
12. FOOTINGS AND PIERS SHALL BE CENTERED AROUND THEIR RESPECTIVE ELEMENTS. PROVIDE A MINIMUM OF 2" FOOTING PROJECTION FROM FACE OF MASONRY.
13. MAXIMUM DEPTH OF UNBALANCED FILL AGAINST MASONRY WALLS TO BE AS SPECIFIED IN THE 2018 NC Residential Code TABLE R404.1.1(1).
14. FOUNDATION ANCHORAGE SHALL BE CONSTRUCTED PER 2018 NC Residential Code SECTION 403.1.6. 1/2" DIA. BOLTS SPACED AT 6'-0" CENTERS WITH A 7" MINIMUM EMBEDMENT INTO MASONRY OR CONCRETE. ANCHOR BOLTS SHALL BE 12" FROM THE END OF EACH PLATE SECTION.
15. COMPONENT & CLADDING DESIGNED FOR THE FOLLOWING LOADS: (IN PSF)

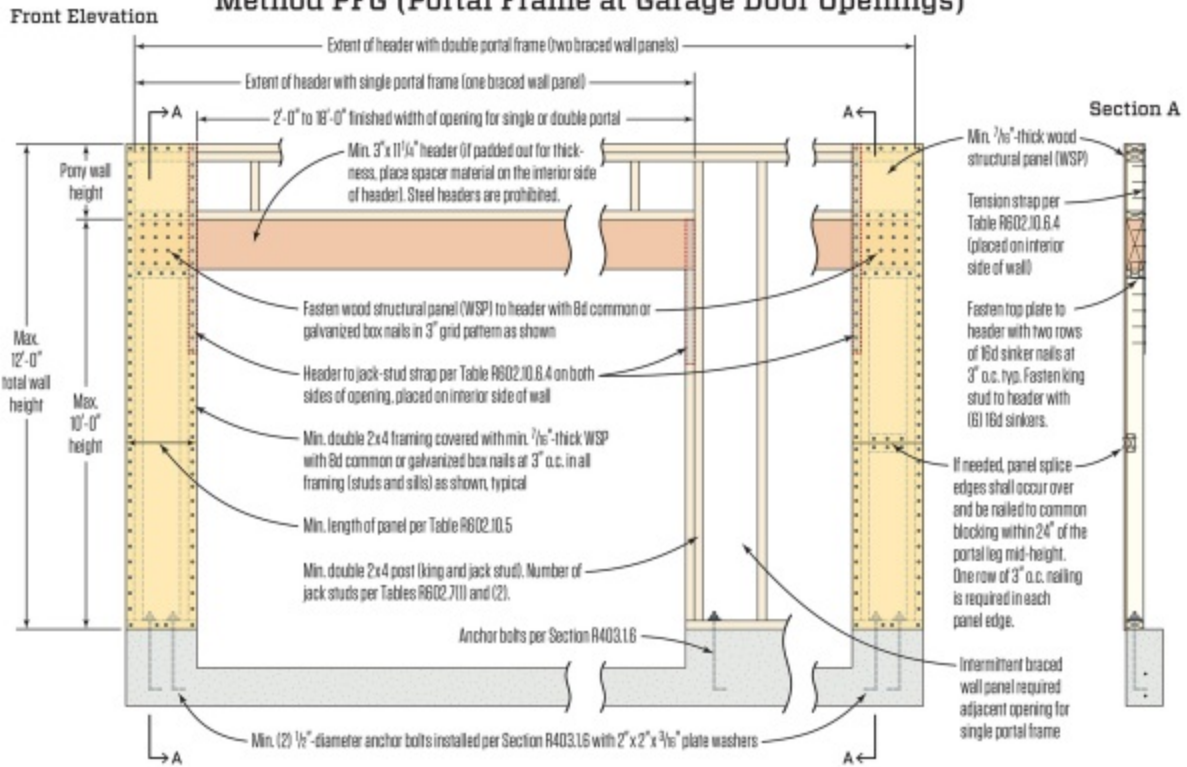
MEAN ROOF HT	UP TO 30'	30'1"-35'	35'1"-40'	40'1"-45'
ZONE 1	16.5, -18.0	17.3, -18.9	18.0, -19.6	18.5, -20.2
ZONE 2	16.5, -21.0	17.3, -22.1	18.0, -22.9	18.5, -23.5
ZONE 3	16.5, -21.0	17.3, -22.1	18.0, -22.9	18.5, -23.5
ZONE 4	18.0, -19.5	18.9, -20.5	19.6, -21.3	20.2, -21.8
ZONE 5	18.0, -24.1	18.9, -25.3	19.6, -26.3	20.2, -27.0

BASIC DESIGN WIND VELOCITY = 110 MPH, EXPOSURE B

16. CONTRACTOR TO PROVIDE LOOKOUTS WHEN CEILING JOISTS SPAN PERPENDICULAR TO RAFTERS.
17. FLITCH BEAMS AND 3- OR 4-PLY LVLS SHALL BE BOLTED TOGETHER W/ 1/2" THRU BOLTS SPACED @ 24" O.C. (MAX) STAGGERED. MINIMUM EDGE DISTANCE SHALL BE 2" AND (2) BOLTS SHALL BE LOCATED MINIMUM 6" FROM EACH END OF BEAM.
18. ALL NON-LOAD BEARING INTERIOR DOOR HEADERS SHALL BE (2) FLAT 2X4 DROPPED, U.N.O.
19. ALL LOAD BEARING HEADERS SHALL BE (2) 2X8 SPF UNO.

- | | |
|--------------------|--------------------|
| TS - TIMBER STRAND | DJ - DOUBLE JOIST |
| SC - STUD COLUMN | DR - DOUBLE RAFTER |
| EE - EACH END | TR - TRIPLE RAFTER |
| TJ - TRIPLE JOIST | OC - ON CENTER |
| CL - CENTER LINE | PL - POINT LOAD |

Method PFG (Portal Frame at Garage Door Openings)



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**CARTER ENGINEERING & CONSULTING, PLLC****STRUCTURAL + CIVIL**

Mr. M. McDaniel
Home Work Services
3312 Black Stallion Court
Zebulon, North Carolina 27597

Location: 104 Lonnie Betts Drive, Holly Springs, North Carolina 27540
Project: Gentry Doggendorf Residential: detached garage addition

The owner has contracted to construct a 36'x30' detached garage with roof truss framing. I have provided consultation and performed a review of the construction plans [reference the 11 page construction drawings by Home Work Services for the above location]. No exception is taken to the contractor's construction plans provided incorporation of the following provisions.

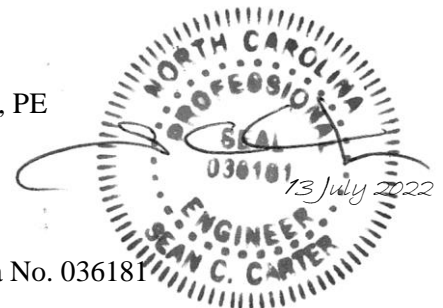
Provisions:

- All work shall be in compliance with the 2018 NCRC;
- Concrete slabs shall be constructed with standard control joints;
- LVL beam shall be fastened to the top of the column using an approved method;
- LVL beam bearing at garage wall framing shall be on 3 jack studs unless noted otherwise;
- Roof decking OSB shall be a minimum APA rated 24/16 Exp. 1;
- All mechanical connections shall use manufacturer specified fasteners filling all fastener slots;
- All engineered materials shall be installed per manufacturers specifications;
- Any conditions discovered to be non-compliant or present structural concern shall be immediately brought to the attention of the engineer of record.

As a registered North Carolina professional engineer in good standing and faith, based on the provided information, common practice, and standard tables, to the best of my knowledge the described construction in its completed form is in conformity with the intent of the applicable 2018 North Carolina Building Code to adequately and safely support anticipated loading conditions.

This letter is for the express use by the client. It is the responsibility of any third party to perform proper assessment prior to any modification to the construction from the original plan and/or intent; the Consultant accepts no responsibility for damages suffered by any third party as a result of such decisions or actions. This letter has been based, generally, on common practice, standard tables, and a non-intrusive visual observation and is not an exhaustive study and should not be interpreted as such.

Sean C. Carter, PE



North Carolina No. 036181