



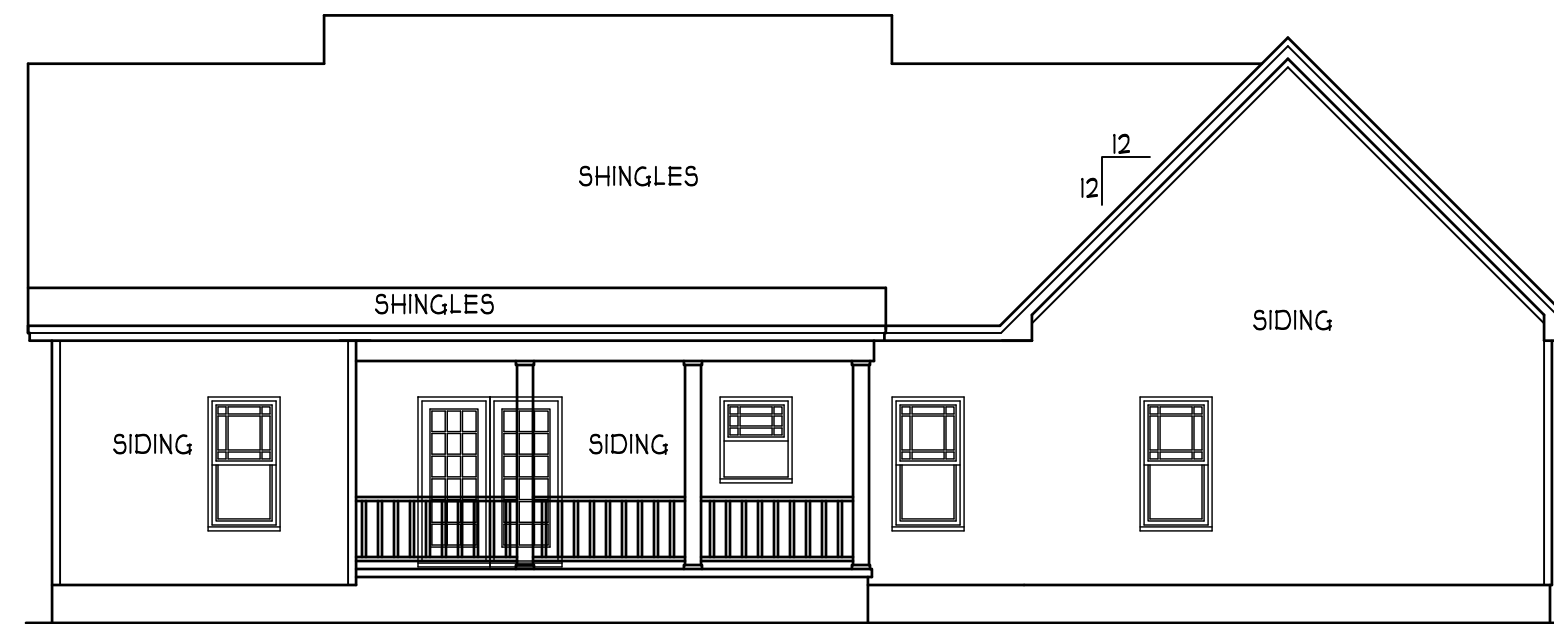
FRONT ELEVATION

SCALE 1/4" = 1'-0"

ENERGY COMPLIANCE

ZONE 3 = MAX. GLAZING U-FACTOR .35
 R-VALUE = CEILING R38, WALLS R15, FLOORS R19
 FOR JOHNSTON, SAMPSON, WAYNE COUNTY

ZONE 4 = MAX. GLAZING U-FACTOR .35
 R-VALUE = CEILING R38, WALLS R15, FLOORS R19
 FOR WAKE, DURHAM, ORANGE COUNTY



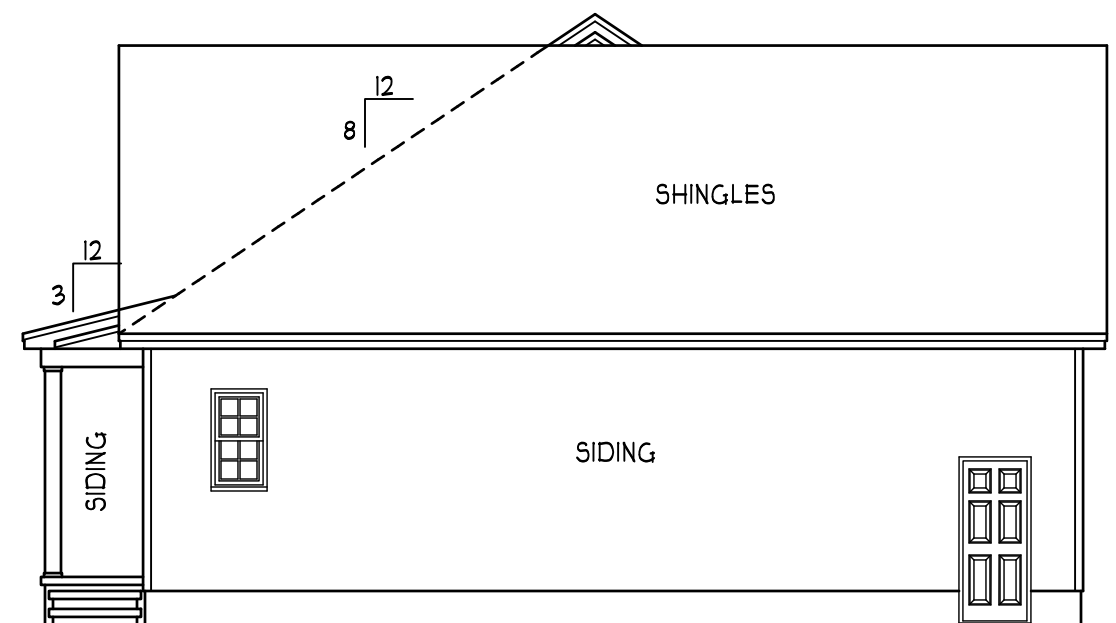
REAR ELEVATION

SCALE 1/8" = 1'-0"

ATTIC VENTILATION:

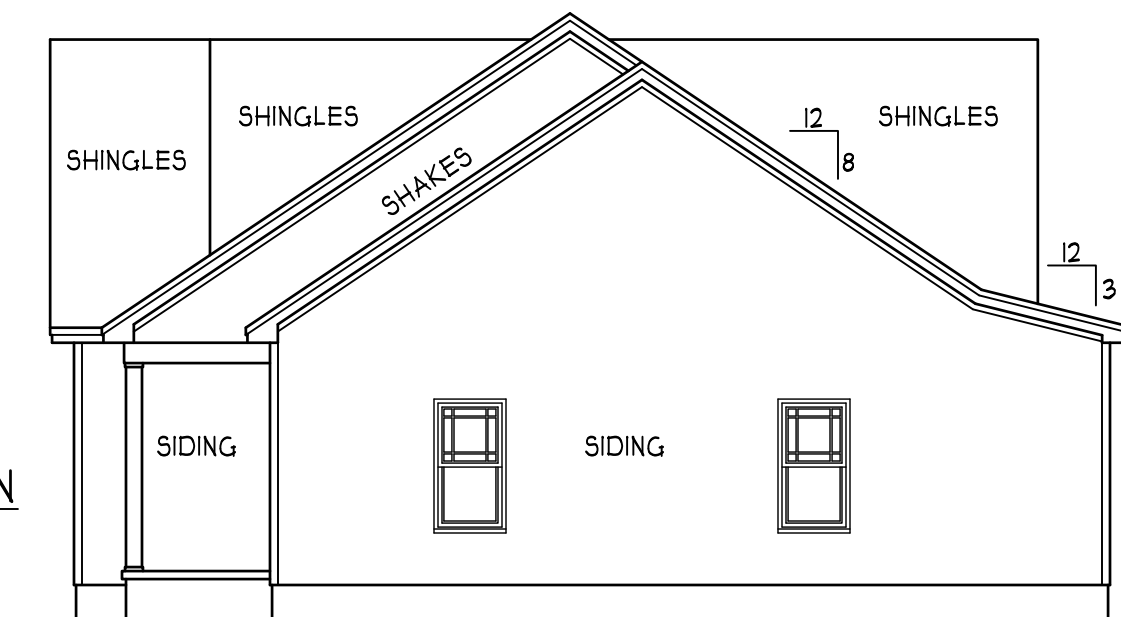
THE NET FREE VENTILATING AREA SHALL BE NOT LESS THAN 1 TO 150 OF THE AREA OF THE SPACE VENTILATED EXCEPT THAT THE AREA MAY BE 1 TO 300, PROVIDED AT LEAST 50 PERCENT OF THE REQUIRED VENTILATING AREA IS PROVIDED BY VENTILATORS LOCATED IN THE UPPER PORTION OF THE SPACE TO BE VENTILATED AT LEAST 3 FEET ABOVE EAVE OR CORNICE VENTS WITH THE BALANCE OF THE REQUIRED VENTILATION TO BE PROVIDED BY EAVE OR CORNICE VENTS.

GROSS ATTIC AREA TO BE VENTILATED 2338 SQ.FT.
 2338/150 = 15.59 SQ.FT. NET FREE AREA



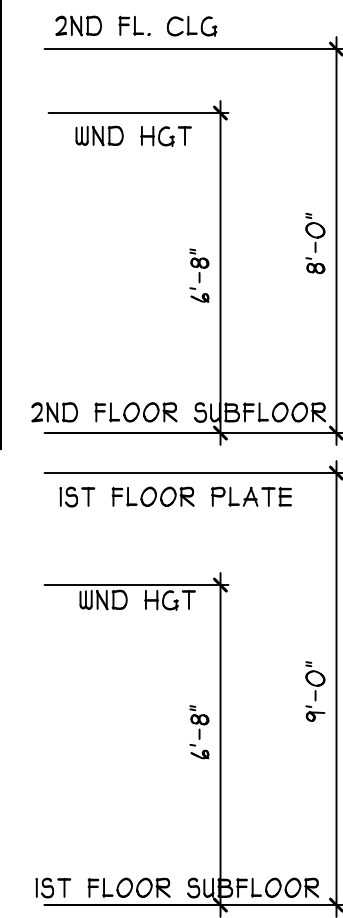
LEFT ELEVATION

SCALE 1/8" = 1'-0"



RIGHT ELEVATION

SCALE 1/8" = 1'-0"



THE GRACE

SERENITY BUILDERS

HEATED FOOTAGE:

#1511

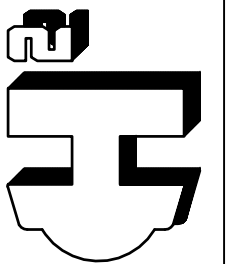
SQUARE FOOTAGE:

1511	= 1511
324	= 324
327	= 327
500	= 500

FIRST FLOOR
 UNFIN REC ROOM
 PORCHES
 GARAGE

HEATHER HALL
 165 HEATHERSTONE CT
 BENSON, NC 27504
 (919) 207-1403

H SQUARED
 HOME
 DESIGN, INC.

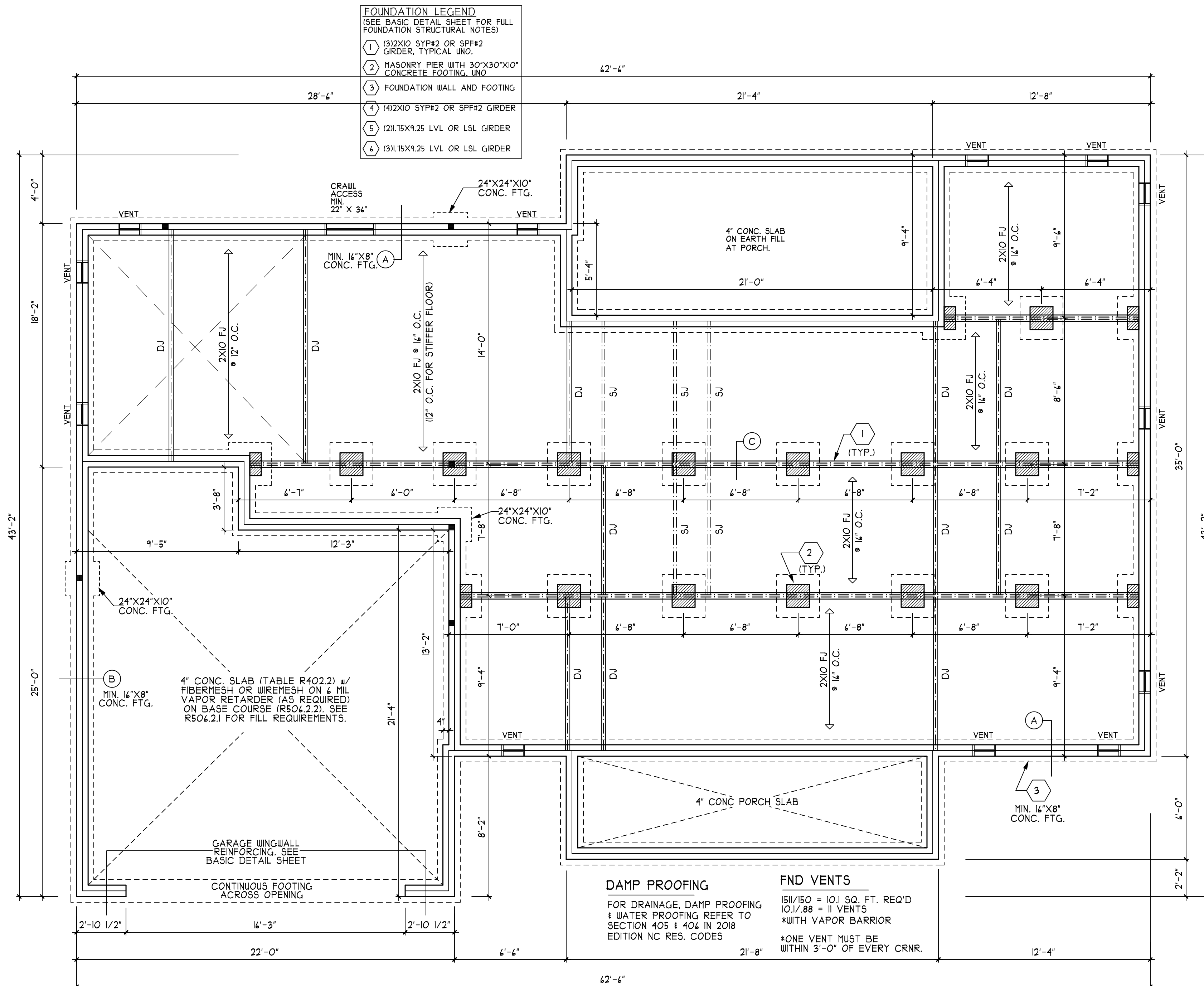


ANY DEVIATION OF THESE DIMENSIONS Voids H SQUARED HOME DESIGN'S LIABILITY.
 THIS PLAN HAS BEEN DRAWN IN ACCORDANCE WITH THE BUILDING CODES 2018 EDITION.

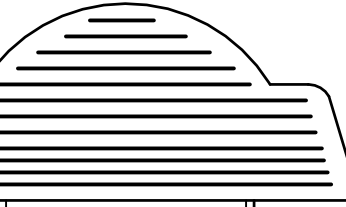
DATE:
 09/23/24

1 STORY

FILE:
 070624



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



THE GRACE
SERENITY BUILDERS

HEATED FOOTAGE:
#1511

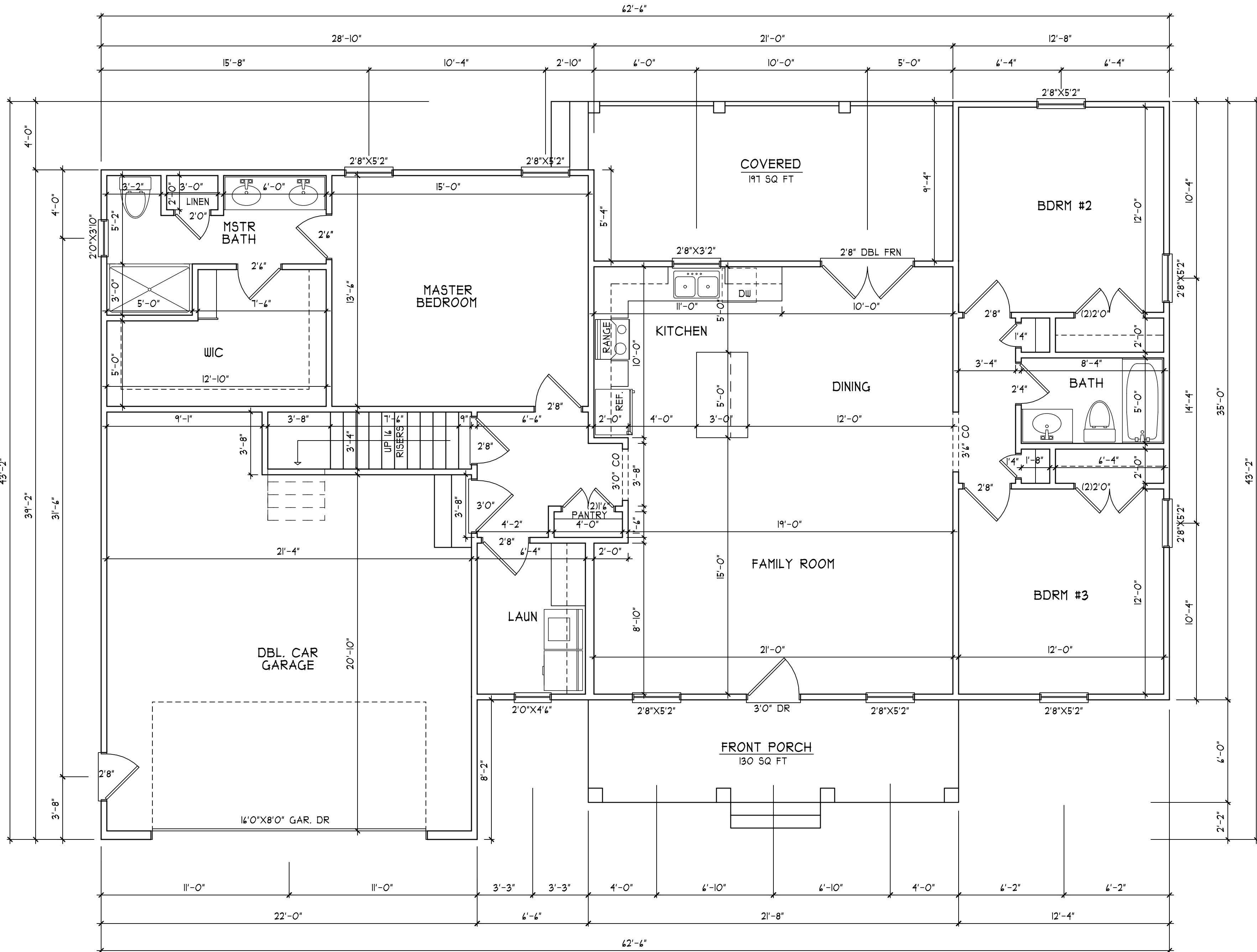
SQUARE FOOTAGE:
FIRST FLOOR = 1511
UNFIN REC ROOM = 324
PORCHES = 327
GARAGE = 500

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BENSON, NC 27504
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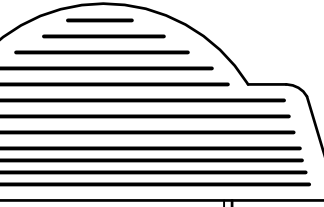
H SQUARED HOME DESIGN, INC.

ANY DEVIATION OF THE THIS OR DIMENSIONS VOID H. SQUARED HOME DESIGN'S LIABILITY. THIS PLAN HAS BEEN DRAWN IN ACCORDANCE WITH THE BUILDING CODES 2018 EDITION.

DATE: 09/23/24
1 STORY
FILE: 070624



FIRST FLOOR PLAN
SCALE 1/4" = 1'-0"



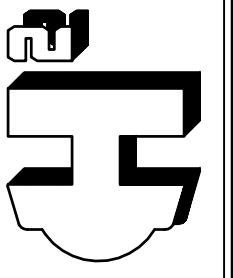
THE GRACE
SERENITY BUILDERS

HEATED FOOTAGE:
#1511

SQUARE FOOTAGE:
FIRST FLOOR = 1511
UNFIN REC ROOM = 324
PORCHES = 327
GARAGE = 500

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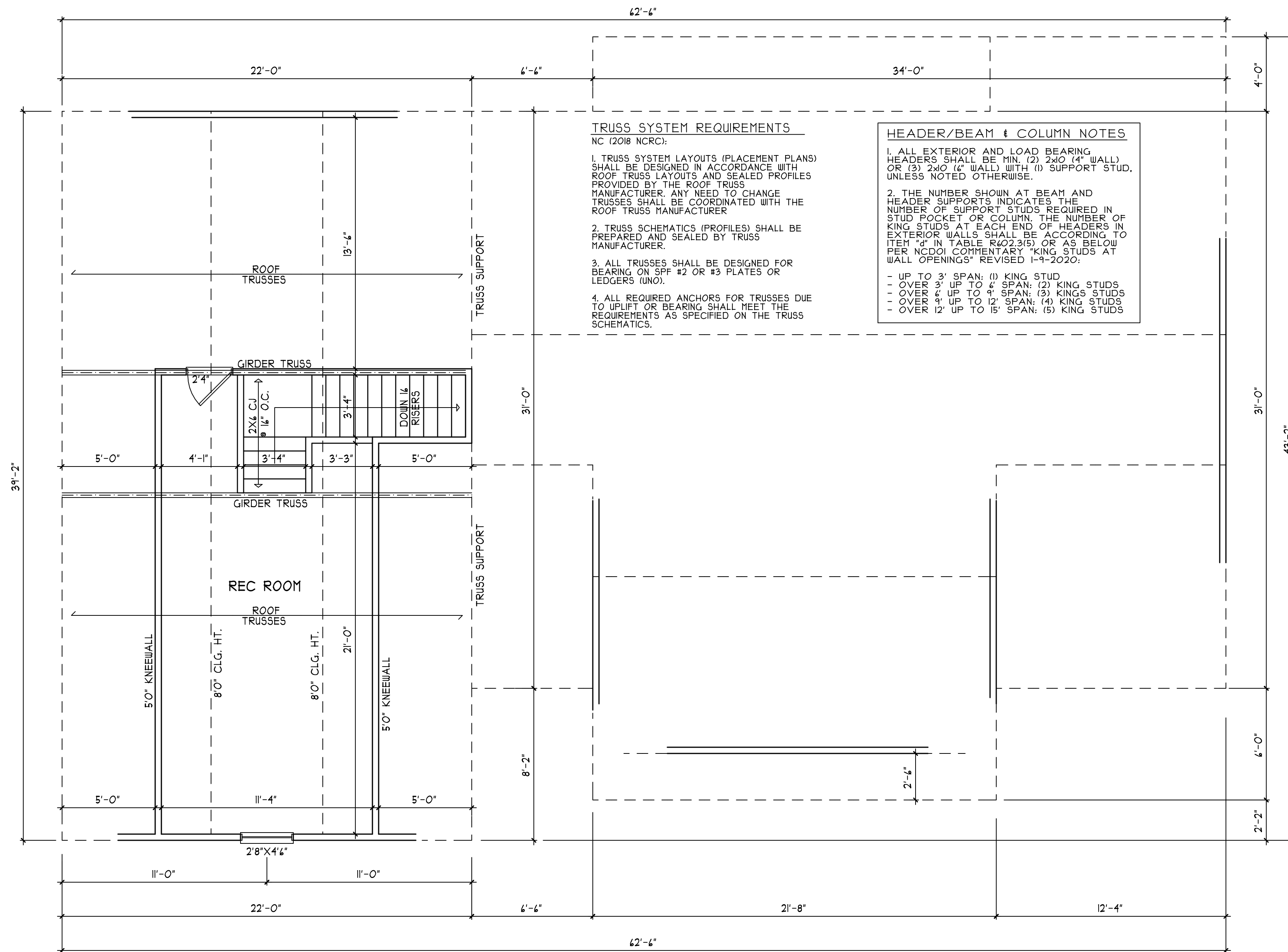


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DATE:
09/23/24

1 STORY

FILE:
070624



TRUSS SYSTEM REQUIREMENTS
NC (2018 NCRC):

1. TRUSS SYSTEM LAYOUTS (PLACEMENT PLANS) SHALL BE DESIGNED IN ACCORDANCE WITH ROOF TRUSS LAYOUTS AND SEALED PROFILES PROVIDED BY THE ROOF TRUSS MANUFACTURER. ANY NEED TO CHANGE TRUSSES SHALL BE COORDINATED WITH THE ROOF TRUSS MANUFACTURER.
2. TRUSS SCHEMATICS (PROFILES) SHALL BE PREPARED AND SEALED BY TRUSS MANUFACTURER.
3. ALL TRUSSES SHALL BE DESIGNED FOR BEARING ON SPF #2 OR #3 PLATES OR LEDGERS (UNO).
4. ALL REQUIRED ANCHORS FOR TRUSSES DUE TO UPLIFT OR BEARING SHALL MEET THE REQUIREMENTS AS SPECIFIED ON THE TRUSS SCHEMATICS.

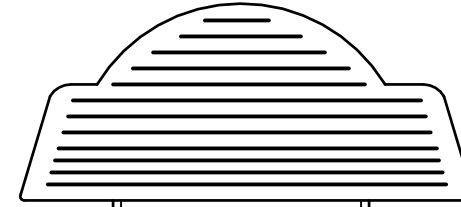
HEADER/BEAM & COLUMN NOTES

1. ALL EXTERIOR AND LOAD BEARING HEADERS SHALL BE MIN. (2) 2x10 (4" WALL) OR (3) 2x10 (6" WALL) WITH (1) SUPPORT STUD, UNLESS NOTED OTHERWISE.
2. THE NUMBER SHOWN AT BEAM AND HEADER SUPPORTS INDICATES THE NUMBER OF SUPPORT STUDS REQUIRED IN STUD POCKET OR COLUMN. THE NUMBER OF KING STUDS AT EACH END OF HEADERS IN EXTERIOR WALLS SHALL BE ACCORDING TO ITEM "d" IN TABLE R602.3(5) OR AS BELOW PER NCDOT COMMENTARY "KING STUDS AT WALL OPENINGS" REVISED 1-9-2020:
 - UP TO 3' SPAN: (1) KING STUD
 - OVER 3' UP TO 6' SPAN: (2) KING STUDS
 - OVER 6' UP TO 9' SPAN: (3) KING STUDS
 - OVER 9' UP TO 12' SPAN: (4) KING STUDS
 - OVER 12' UP TO 15' SPAN: (5) KING STUDS

REFER TO BASIC DETAIL SHEET(S) FOR STANDARD DETAILS, BRACING DETAILS, AND STRUCTURAL NOTES

SECOND FLOOR PLAN

SCALE 1/4" = 1'-0"



THE GRACE
SERENITY BUILDERS

HEATED FOOTAGE:

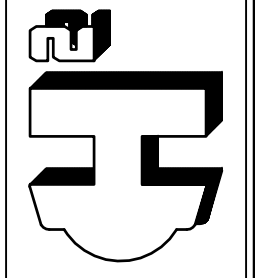
#1511

SQUARE FOOTAGE:

FIRST FLOOR	= 1511
UNFIN REC ROOM	= 324
PORCHES	= 327
GARAGE	= 500

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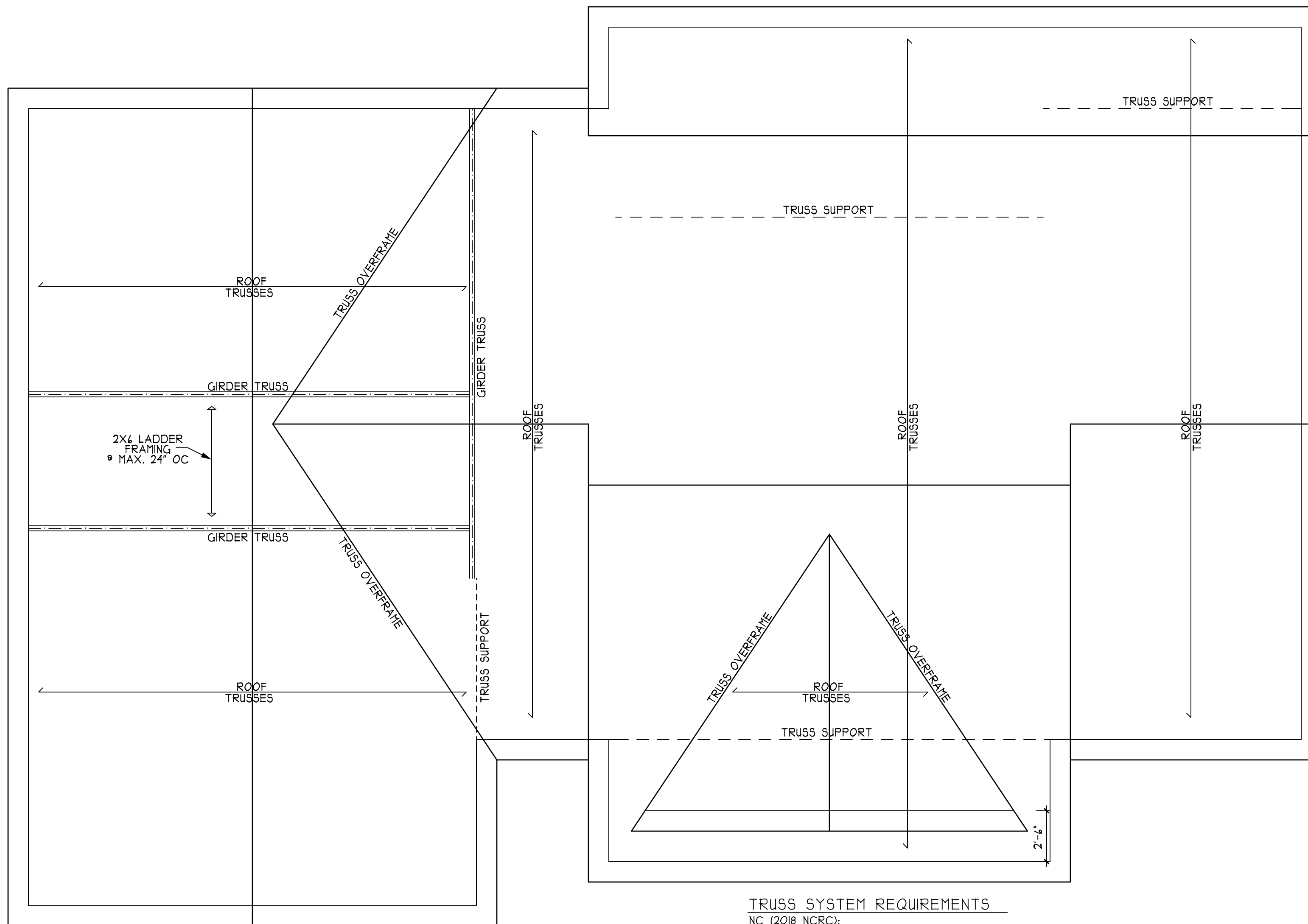


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DATE: 09/23/24

1 STORY

FILE: 070624

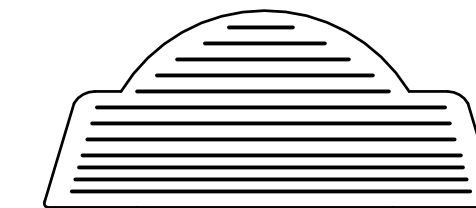


TRUSS SYSTEM REQUIREMENTS
NC (2018 NCRC):

1. TRUSS SYSTEM LAYOUTS (PLACEMENT PLANS) SHALL BE DESIGNED IN ACCORDANCE WITH ROOF TRUSS LAYOUTS AND SEALED PROFILES PROVIDED BY THE ROOF TRUSS MANUFACTURER. ANY NEED TO CHANGE TRUSSES SHALL BE COORDINATED WITH THE ROOF TRUSS MANUFACTURER
2. TRUSS SCHEMATICS (PROFILES) SHALL BE PREPARED AND SEALED BY TRUSS MANUFACTURER.
3. ALL TRUSSES SHALL BE DESIGNED FOR BEARING ON SPF #2 OR #3 PLATES OR LEDGERS (UNO).
4. ALL REQUIRED ANCHORS FOR TRUSSES DUE TO UPLIFT OR BEARING SHALL MEET THE REQUIREMENTS AS SPECIFIED ON THE TRUSS SCHEMATICS.

REFER TO BASIC DETAIL SHEET(S)
FOR STANDARD DETAILS, BRACING
DETAILS, AND STRUCTURAL NOTES

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



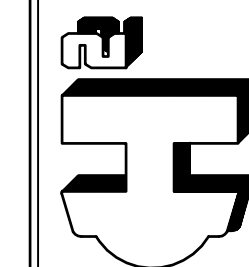
THE GRACE
SERENITY BUILDERS

HEATED FOOTAGE:
#1511

SQUARE FOOTAGE:
FIRST FLOOR = 1511
UNFIN REC ROOM = 324
PORCHES = 327
GARAGE = 500

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165 HEATHERSTONE CT
BENSON, NC 27504
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OR DIMENSIONS Voids
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DESIGN'S LIABILITY.
THIS PLAN HAS BEEN DRAWN
IN ACCORDANCE WITH THE
INTERNATIONAL RESIDENTIAL
BUILDING CODES 2018 EDITION.

DATE:
09/23/24

1 STORY

FILE:
070624

STRUCTURAL NOTES

- 1) ALL CONSTRUCTION SHALL CONFORM TO THE LATEST REQUIREMENTS OF THE NORTH CAROLINA STATE RESIDENTIAL CODE - 2018 EDITION, PLUS ALL LOCAL CODES AND REGULATIONS. THE STRUCTURAL ENGINEER OR DESIGNER IS NOT RESPONSIBLE FOR, AND WILL NOT HAVE CONTROL OF, CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES OR PROCEDURES, OR FOR SAFETY PRECAUTIONS AND PROGRAMS IN CONNECTION WITH THE CONSTRUCTION WORK. NOR WILL THE ENGINEER OR DESIGNER BE RESPONSIBLE FOR THE CONTRACTOR'S FAILURE TO CARRY OUT THE CONSTRUCTION WORK IN ACCORDANCE WITH THE CONTRACT DOCUMENTS. "CONSTRUCTION REVIEW" SERVICES ARE NOT PART OF OUR CONTRACT. ALL MEMBERS SHALL BE FRAMED, ANCHORED, TIED AND BRACED IN ACCORDANCE WITH GOOD CONSTRUCTION PRACTICE AND THE BUILDING CODE.
- 2) DESIGN LOADS (R301.4)
- | | LIVE LOAD (PSF) | DEAD LOAD (PSF) | DEFLECTION (LL) |
|---------------------------------|-----------------|-----------------|-----------------|
| ROOMS OTHER THAN SLEEPING ROOMS | 40 | 10 | L/360 |
| SLEEPING ROOMS | 30 | 10 | L/360 |
| ATTIC WITH PERMANENT STAIR | 40 | 10 | L/360 |
| ATTIC WITH OUT PERMANENT STAIR | 20 | 10 | L/360 |
| ATTIC WITH OUT STORAGE | 10 | 10 | L/240 |
| STAIRS | 40 | 10 | L/360 |
| EXTERIOR BALCONIES | 40 | 10 | L/360 |
| DECKS | 40 | 10 | L/360 |
| GUARDRAILS AND HANDRAILS | 200 | 10 | L/360 |
| PASSENGER VEHICLE GARAGES | 50 | 10 | L/360 |
| FIRE ESCAPES | 40 | 10 | L/360 |
| SNOW | 20 | --- | --- |
- WIND LOAD (BASED ON 115/120 MPH WIND VELOCITY & EXPOSURE B)
- 3) WALL BRACING: BRACED WALL PANELS SHALL BE CONSTRUCTED ACCORDING TO SECTION R402.10.3. THE AMOUNT AND LOCATION OF BRACING SHALL COMPLY WITH TABLE R402.10.1. THE LENGTH OF BRACED PANELS SHALL BE DETERMINED BY SECTION R402.10.4. LATERAL BRACING SHALL BE SATISFIED PER METHOD 3 BY CONTINUOUSLY SHEATHING WALLS WITH STRUCTURAL SHEATHING PER SECTION R402.10.3. NOTE THAT ANY SPECIFIC BRACED WALL DETAIL SHALL BE INSTALLED AS SPECIFIED.
- 4) CONCRETE SHALL HAVE A MINIMUM 28 DAY STRENGTH OF 3000 PSI AND A MAXIMUM SLUMP OF 5 INCHES UNLESS NOTED OTHERWISE (UNO). AIR ENTRAINMENT PER TABLE 402.2, ALL CONCRETE SHALL BE PROPORTIONED, MIXED, HANDLED, SAMPLED, TESTED AND PLACED IN ACCORDANCE WITH ACI STANDARDS. ALL SAMPLES FOR PUMPING SHALL BE TAKEN FROM THE EXIT END OF THE PUMP.
- 5) ALLOWABLE SOIL BEARING PRESSURE ASSUMED TO BE 2000 PSF. THE CONTRACTOR MUST CONTACT A GEOTECHNICAL ENGINEER AND THE STRUCTURAL ENGINEER IF UNSATISFACTORY SUBSURFACE CONDITIONS ARE ENCOUNTERED. THE SURFACE AREA ADJACENT TO THE FOUNDATION WALL SHALL BE PROVIDED WITH ADEQUATE DRAINAGE AND SHALL BE GRADED SO AS TO DRAIN SURFACE WATER AWAY FROM FOUNDATION WALLS.
- 6) ALL FRAMING LUMBER SHALL BE SPF #2 (Fb = 815 PSI) UNLESS NOTED OTHERWISE (UNO). ALL TREATED LUMBER SHALL BE SYP #2 (Fb=915 PSI). PLATE MATERIAL MAY BE SPF #3 OR SYP #3 (Fcp) = 425 PSI - (MIN).
- 7) ALL WOODEN BEAMS AND HEADERS SHALL HAVE THE FOLLOWING END SUPPORTS: (1) 2x4 STUD COLUMN FOR 4'-0" MAX. BEAM SPAN (UNO), (2) 2x4 STUDS FOR BEAM SPAN GREATER THAN 4'-0" (UNO).
- 8) L.V.L. SHALL BE LAMINATED VENEER LUMBER: Fb=2400 PSI, Fv=285 PSI, E=1.9x10⁶ PSI. P.S.L. SHALL BE PARALLEL STRAND LUMBER: Fb=2400 PSI, Fv=290 PSI, E=2.0x10⁶ PSI. L.S.L. SHALL BE LAMINATED STRAND LUMBER: Fb=2250 PSI, Fv=400 PSI, E=1.55x10⁶ PSI. INSTALL ALL CONNECTIONS PER MANUFACTURERS INSTRUCTIONS.
- 9) ALL ROOF TRUSS AND I-JOIST LAYOUTS SHALL BE PREPARED IN ACCORDANCE WITH ANY SEALED STRUCTURAL DRAWINGS. TRUSSES AND I-JOISTS SHALL BE INSTALLED ACCORDING TO THE MANUFACTURER'S SPECIFICATIONS. ANY CHANGE IN TRUSS OR I-JOIST LAYOUT SHALL BE COORDINATED WITH DESIGNER OR ENGINEER.
- 10) ALL STRUCTURAL STEEL SHALL BE ASTM A-36. STEEL BEAMS SHALL BE SUPPORTED AT EACH END WITH A MINIMUM BEARING LENGTH OF 3 1/2" INCHES AND FULL FLANGE WIDTH. PROVIDE SOLID BEARING FROM BEAM SUPPORT TO FOUNDATION. BEAMS SHALL BE ATTACHED TO EACH SUPPORT WITH TWO LAG SCREWS (1/2" DIAMETER x 4" LONG). LATERAL SUPPORT IS CONSIDERED ADEQUATE PROVIDED THE JOIST ARE TOE NAILED TO THE SOLE PLATE, AND SOLE PLATE IS NAILED OR BOLTED TO THE BEAM FLANGE @ 48" O.C. . ALL STEEL TUBING SHALL BE ASTM A500.
- 11) REBAR SHALL BE DEFORMED STEEL, ASTM#45, GRADE 40.
- 12) FLITCH BEAMS SHALL BE BOLTED TOGETHER USING (2) ROWS OF 1/2" DIAMETER BOLTS (ASTM A307) WITH WASHERS PLACED UNDER THE THREADED END OF BOLT. BOLTS SHALL BE SPACED AT 24" O.C. (MAX), AND STAGGERED AT THE TOP AND BOTTOM OF BEAM (2" EDGE DISTANCE), WITH 2 BOLTS LOCATED AT 4" FROM EACH END.
- 13) BRICK LINTELS SHALL BE 3 1/2"x3 1/2"x1/4" STEEL ANGLE FOR UP TO 4'-0" SPAN AND 4"x4"x5/16" STEEL ANGLE WITH 4" LEG VERTICAL FOR SPANS UP TO 9'-0". SEE PLANS FOR SPANS OVER 9'-0".
- 14) THE POSITIVE AND NEGATIVE DESIGN PRESSURE FOR DOORS AND WINDOWS FOR A MEAN ROOF HEIGHT OF 35 FEET OR LESS SHALL BE 25 PSF.
- 15) THE POSITIVE AND NEGATIVE DESIGN PRESSURES REQUIRED FOR ANY ROOF OR WALL CLADDING APPLICATION NOT SPECIFICALLY ADDRESSED IN THE NORTH CAROLINA STATE RESIDENTIAL CODE - 2018 EDITION SHALL BE AS FOLLOWS:
- ROOF:
45.4 PSF - 2:25:12 PITCH OR LESS
34.8 PSF - 2:25:12 TO 1:12 PITCH
21 PSF - 1:12 TO 12:12 PITCH
- WALLS:
24.1 PSF - WALLS
SEE ALSO SECTION R103.1.3 LINTELS

FOUNDATION STRUCTURAL NOTES:

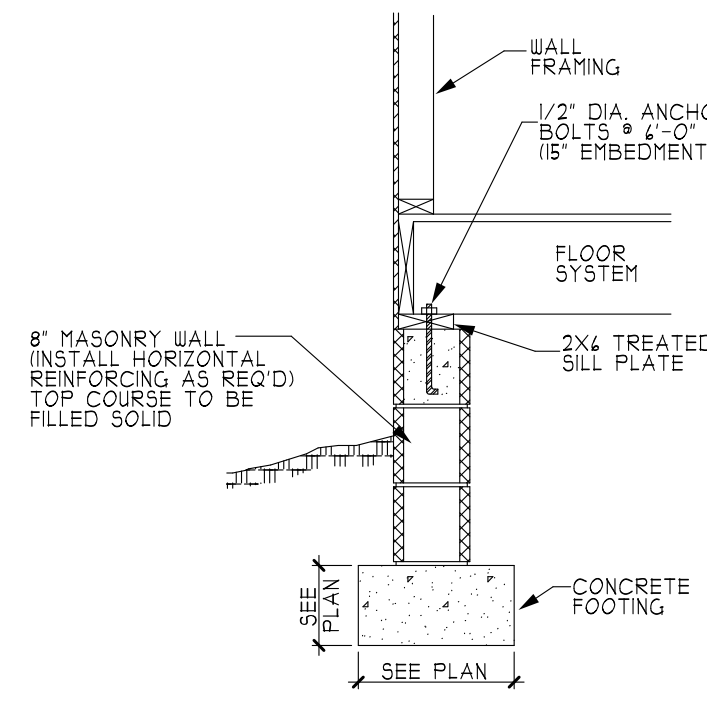
NC (2018 NCRC): Wind: 115-120 MPH

- 1) (3) 2x10 SYP #2 OR SPF#2 GIRDER, TYPICAL UNO.
- 2) CONCRETE BLOCK PIER SIZE SHALL BE:
SIZE HOLLOW MASONRY SOLID MASONRY
8 x 14 UP TO 32' HIGH UP TO 5'-0" HIGH
12 x 14 UP TO 48' HIGH UP TO 9'-0" HIGH
14 x 14 UP TO 64' HIGH UP TO 12'-0" HIGH
24 x 24 UP TO 96' HIGH
WITH 30" x 30" x 10" CONCRETE FOOTING, UNO.
- 3) WALL FOOTING AS FOLLOWS:
DEPTH: 8" - UP TO 2-1/2 STORY
10" - 3 STORY
WIDTH: SIDING (OR EQUAL)
- 14" - UP TO 2-1/2 STORY
- 20" - 3 STORY
BRICK VENEER
- 14" - 1 STORY
- 20" - 2 STORY
- 24" - 3 STORY

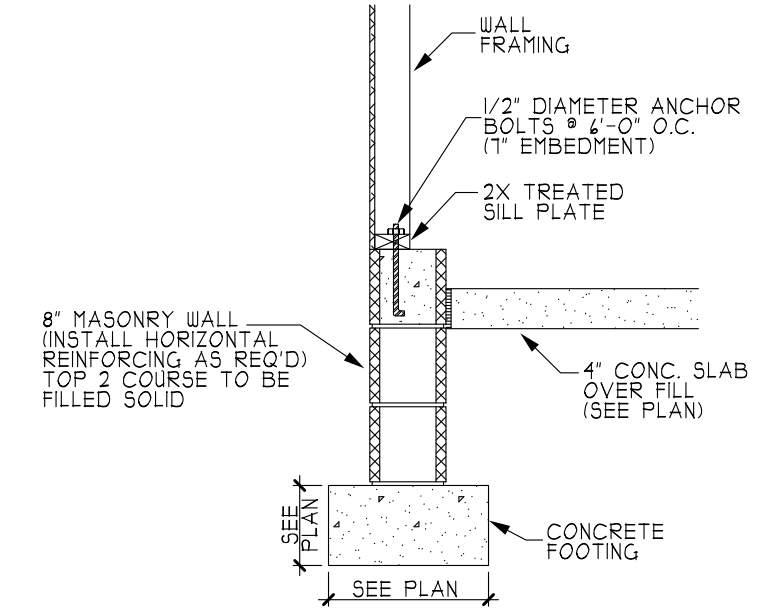
FOR FOUNDATION WALL HEIGHT AND BACKFILL REQUIREMENTS, REFER TO NORTH CAROLINA RESIDENTIAL CODE TABLE R404.1 (I THRU 4) NOTE: ASSUMED SOIL BEARING CAPACITY = 2000 PSF. CONTRACTOR MUST VERIFY SITE CONDITIONS AND CONTACT SOILS ENGINEER IF MARGINAL OR UNSTABLE SOILS ARE ENCOUNTERED.

- 4) (4) 2x10 SYP#2 OR SPF#2 GIRDER.
5) (2) 1.15X9.25 LVL OR LSL GIRDER
6) (3) 1.15X9.25 LVL OR LSL GIRDER

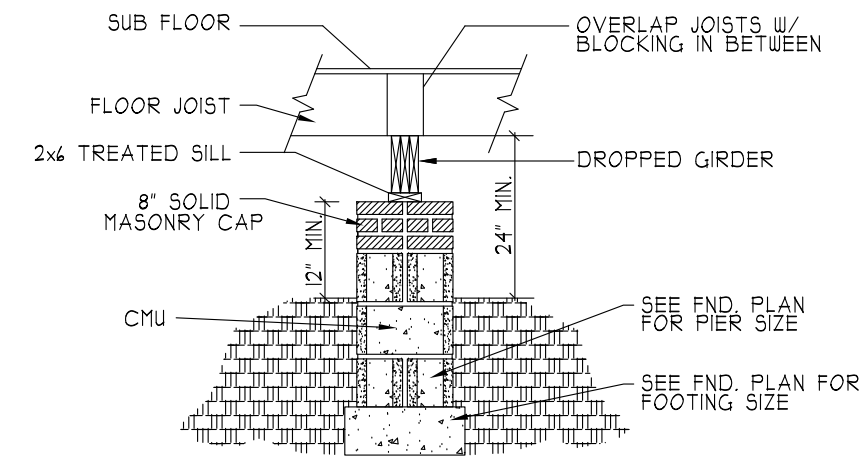
1. "■" DESIGNATES A SIGNIFICANT POINT LOAD TO HAVE SOLID BLOCKING TO PIER. SOLID BLOCK ALL BEAM BEARING POINTS NOTED TO HAVE THREE OR MORE STUDS TO FND, TYPICAL.
8. ABBREVIATIONS:
"S.J." = SINGLE JOIST
"D.J." = DOUBLE JOIST
"T.J." = TRIPLE JOIST



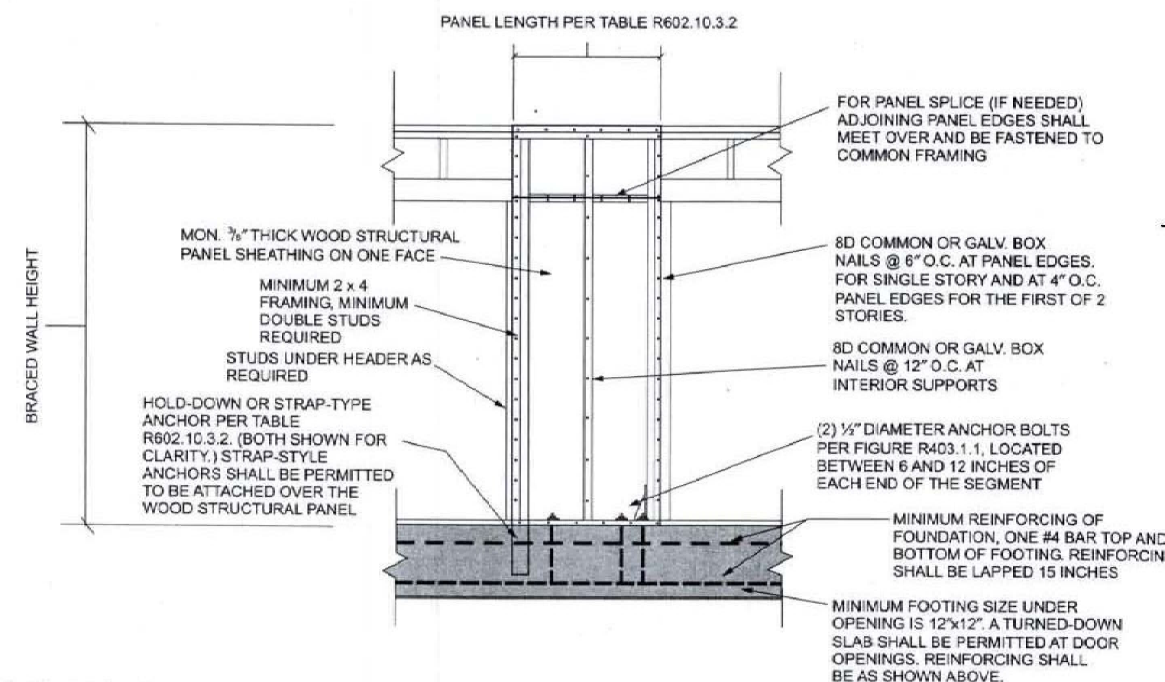
A CRAWL SPACE FOOTING (SIDING)



B GARAGE WALL FOOTING

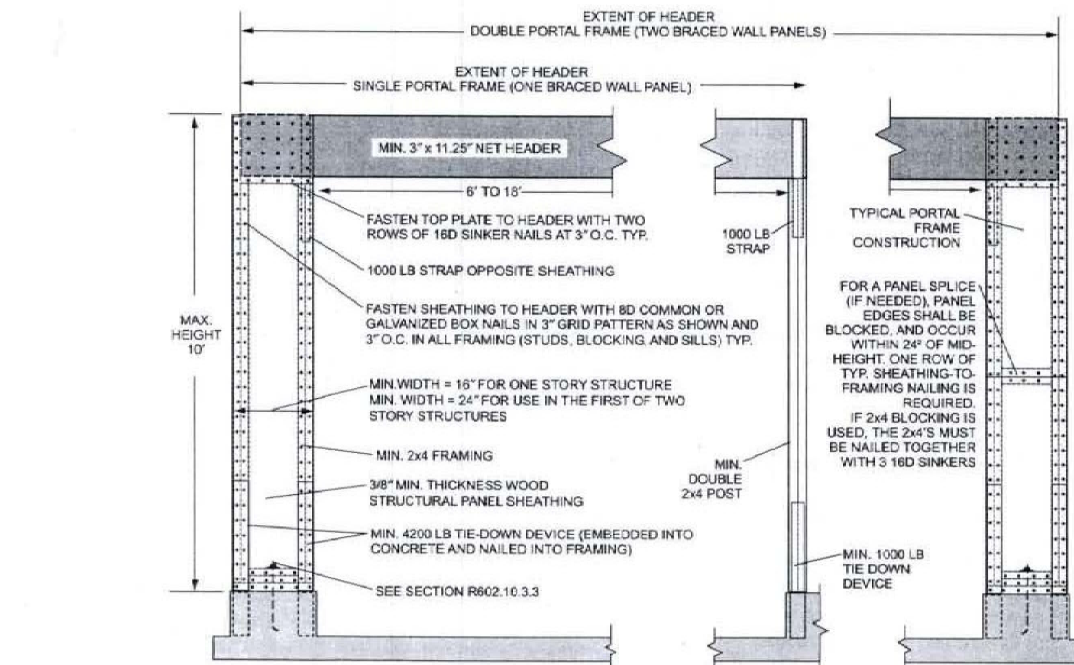


C DROPPED GIRDER



For SI: 1 inch = 25.4 mm.

FIGURE R602.10.3.2 ALTERNATE BRACED WALL PANEL



For SI: 1 inch = 25.4 mm, 1 foot = 304.8 mm, 1 pound force = 4.448 N.

FIGURE R602.10.3.3 METHOD PFH: PORTAL FRAME WITH HOLD-DOWNS

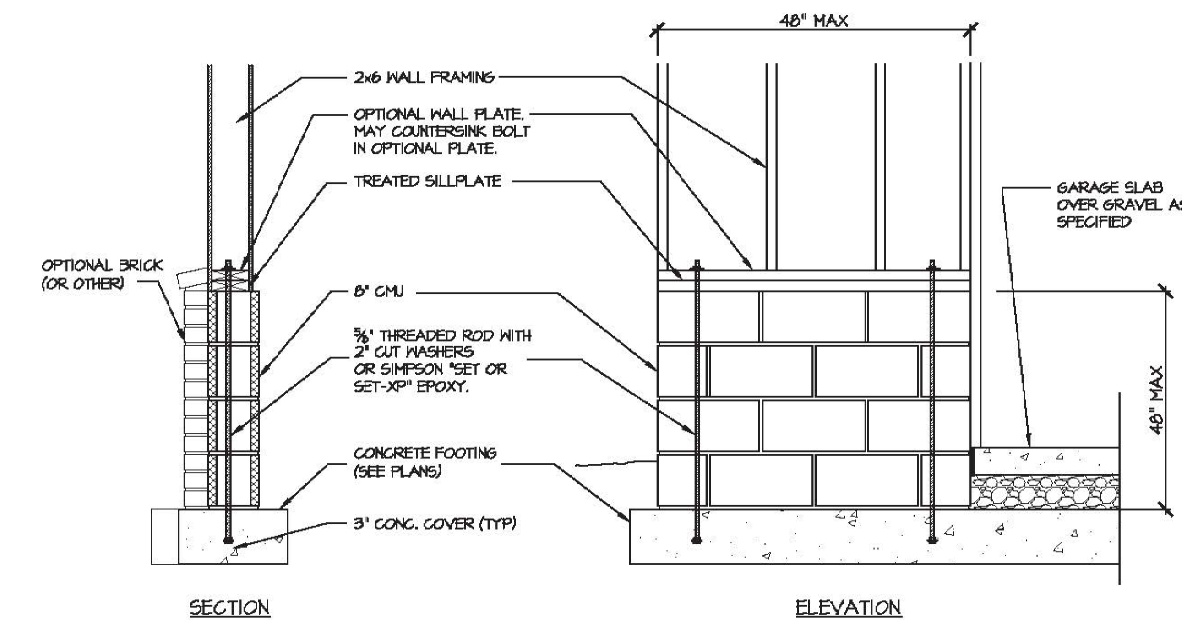
TRUSS SYSTEM REQUIREMENTS

NC (2018 NCRC):

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3. ALL TRUSSES SHALL BE DESIGNED FOR BEARING ON SPF #2 OR #3 PLATES OR LEDGERS (UNO).
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HEADER/BEAM & COLUMN NOTES

1. ALL EXTERIOR AND LOAD BEARING HEADERS SHALL BE MIN. (2) 2x10 (4" WALL) OR (3) 2x10 (6" WALL) WITH (1) SUPPORT STUD, UNLESS NOTED OTHERWISE.
2. THE NUMBER SHOWN AT BEAM AND HEADER SUPPORTS INDICATES THE NUMBER OF SUPPORT STUDS REQUIRED IN STUD POCKET OR COLUMN. THE NUMBER OF KING STUDS AT EACH END OF HEADERS IN EXTERIOR WALLS SHALL BE ACCORDING TO TABLE R602.15 OR AS BELOW:
- UP TO 3' SPAN: (1) KING STUD
 - OVER 3' UP TO 4' SPAN: (2) KING STUDS
 - OVER 4' UP TO 9' SPAN: (3) KING STUDS
 - OVER 9' UP TO 12' SPAN: (4) KING STUDS
 - OVER 12' UP TO 15' SPAN: (5) KING STUDS



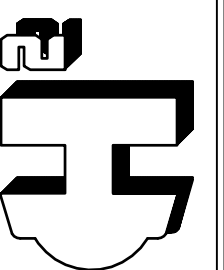
GARAGE 'WING WALL' REINFORCING PER IRC FIGURE R602.10.4.3

BASIC BUILDING
DETAIL SHEET
(115/120 MPH)

*PLEASE NOTE THAT NOT ALL DETAILS APPLY TO EVERY PLAN.

HEATHER HALL
165 HEATHERSTONE CT
BENSON NC 27504
(919) 207-1403

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ANY DEVIATION OF THE SPECIFIED MEASUREMENTS OR DIMENSIONS VOIDS THE DESIGN, INC.'S LIABILITY. THIS PLAN HAS BEEN DRAWN IN ACCORDANCE WITH THE NORTH CAROLINA STATE RESIDENTIAL BUILDING CODES 2018 EDITION.

DATE:

FILE: