



FRONT ELEVATION

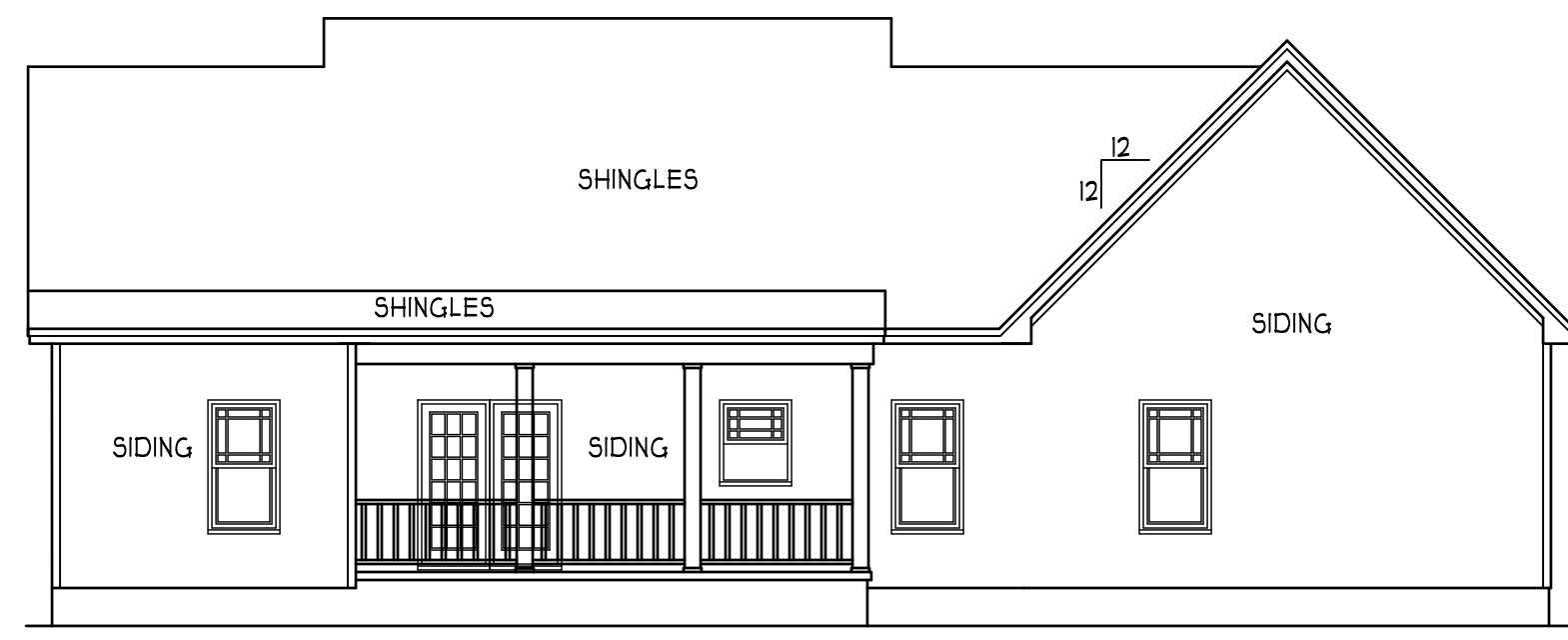
SCALE 1/4" = 1'-0"

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

ATTIC VENTILATION:

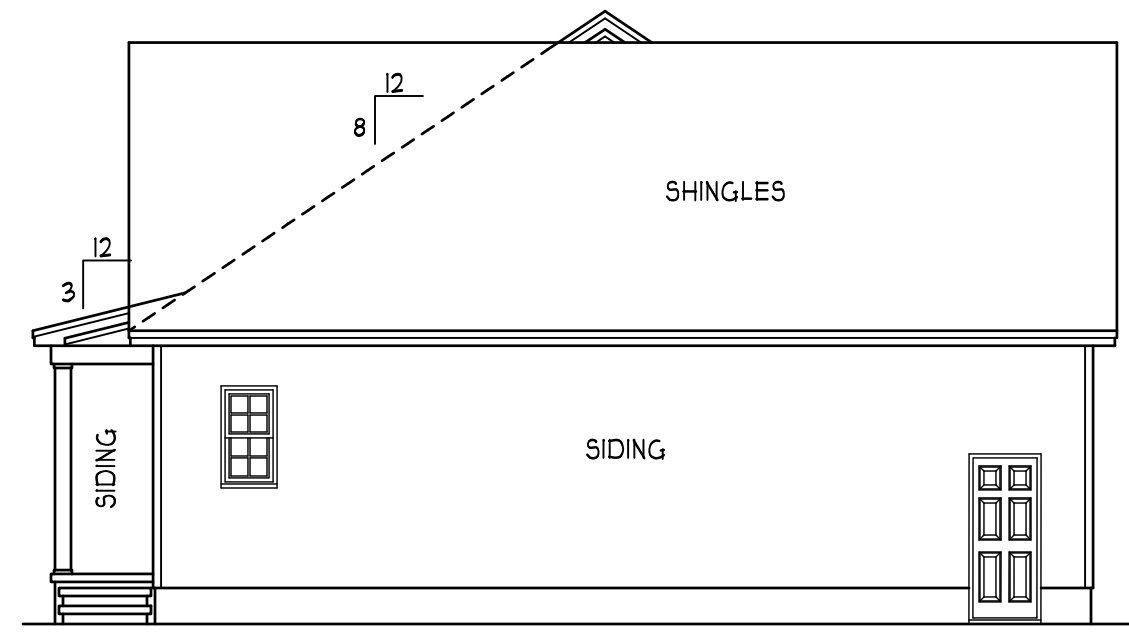
THE NET FREE VENTILATING AREA SHALL BE NOT LESS THAN 1 TO 150 OF THE AREA OF THE SPACE VENTILATED EXCEPT THAT THE AREA MAY BE 1 TO 300, PROVIDED AT LEAST 50 PERCENT OF THE REQUIRED VENTILATING AREA IS PROVIDED BY VENTILATORS LOCATED IN THE UPPER PORTION OF THE SPACE TO BE VENTILATED AT LEAST 3 FEET ABOVE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



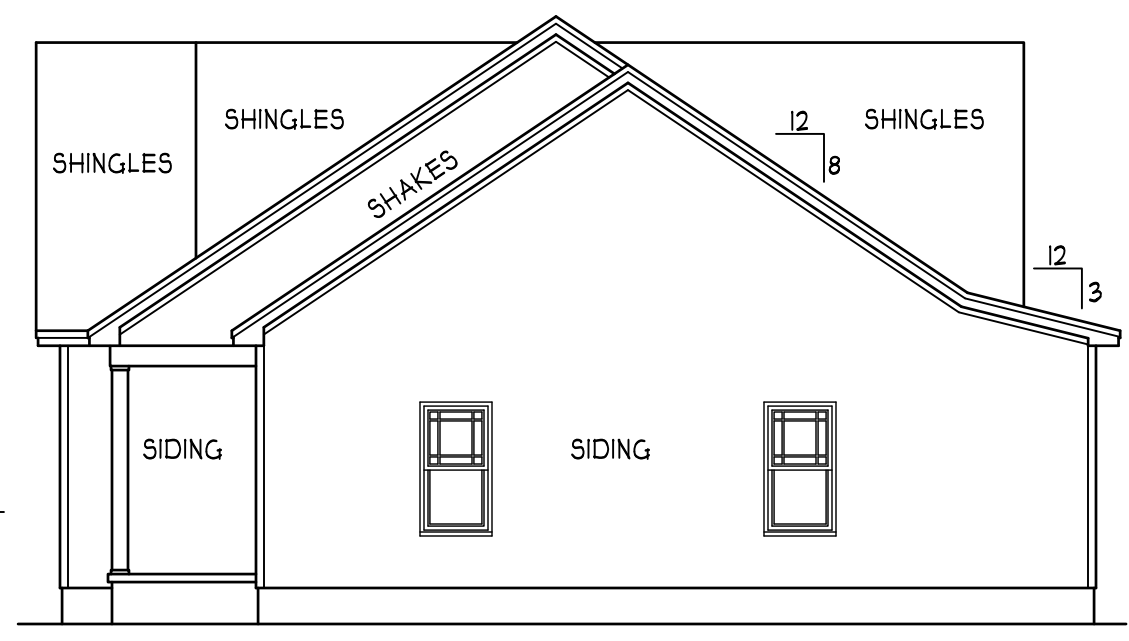
REAR ELEVATION

SCALE 1/8" = 1'-0"



LEFT ELEVATION

SCALE 1/8" = 1'-0"



RIGHT ELEVATION

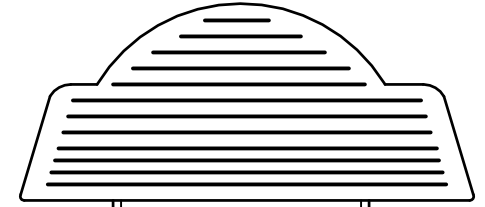
SCALE 1/8" = 1'-0"

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

09/27/2024

SEE NOTE ON BONUS ROOM WINDOW



THE GRACE
 SERENITY BUILDERS

HEATED FOOTAGE:

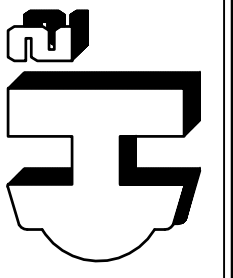
#1511

SQUARE FOOTAGE:

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

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 NC BUILDING CODES 2018 EDITION.

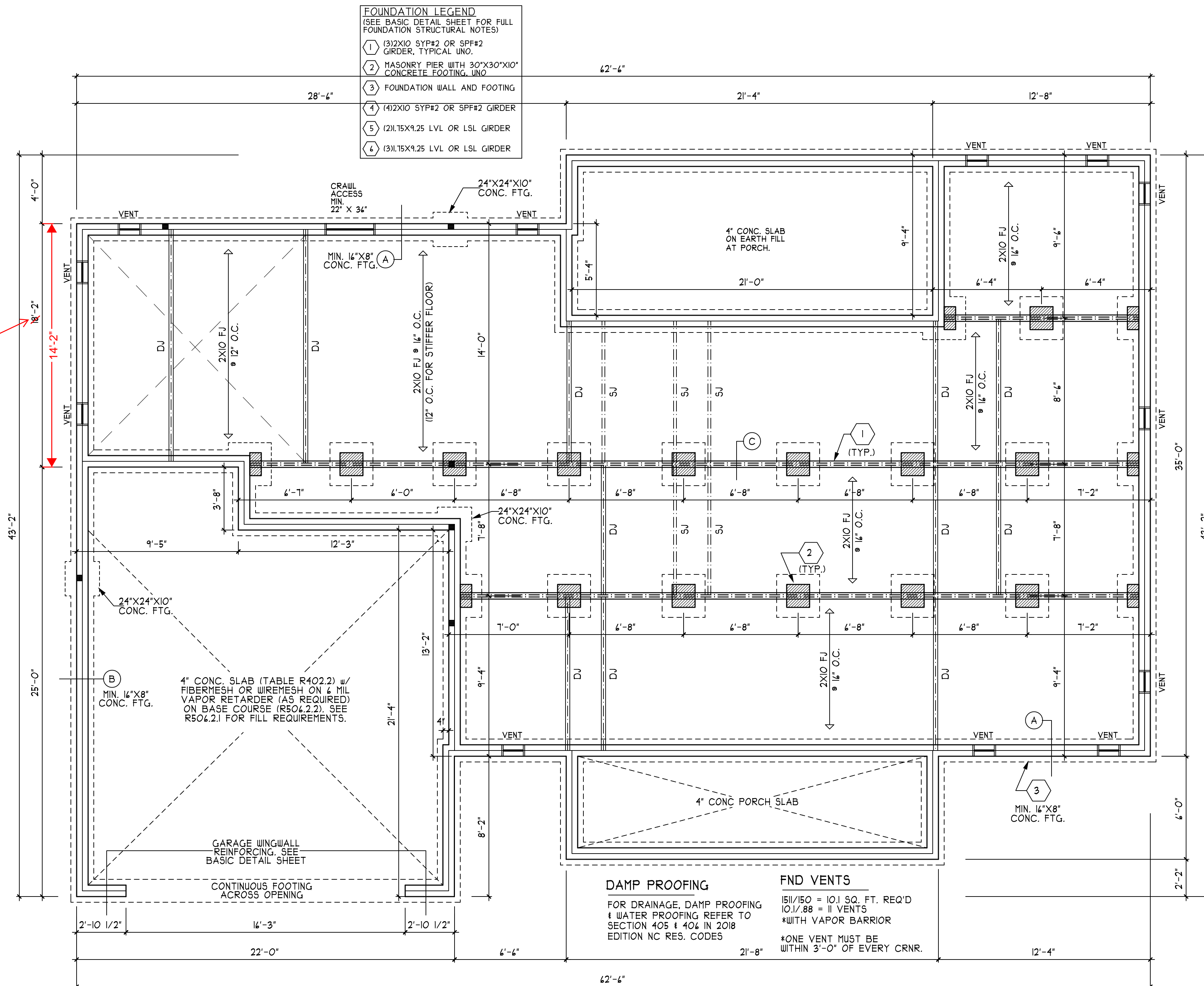
DATE:
 09/23/24

1 STORY

FILE:

070624

Per designer, this is a typo.
Should be 14'-2"



FOUNDATION LEGEND
(SEE BASIC DETAIL SHEET FOR FULL FOUNDATION STRUCTURAL NOTES)

- 1 (3)2X10 SYP#2 OR SPF#2 GIRDER, TYPICAL UNO.
- 2 MASONRY PIER WITH 30"X30"X10" CONCRETE FOOTING, UNO.
- 3 FOUNDATION WALL AND FOOTING
- 4 (4)2X10 SYP#2 OR SPF#2 GIRDER
- 5 (2)1.75X9.25 LVL OR LSL GIRDER
- 6 (3)1.75X9.25 LVL OR LSL GIRDER

DAMP PROOFING
FOR DRAINAGE, DAMP PROOFING & WATER PROOFING REFER TO SECTION 405 & 406 IN 2018 EDITION NC RES. CODES

FND VENTS
1511/150 = 10.1 SQ. FT. REQ'D
10.1/.88 = 11 VENTS
*WITH VAPOR BARRIER
*ONE VENT MUST BE WITHIN 3'-0" OF EVERY CRNR.

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

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

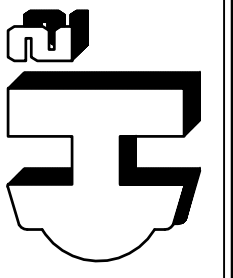
THE GRACE
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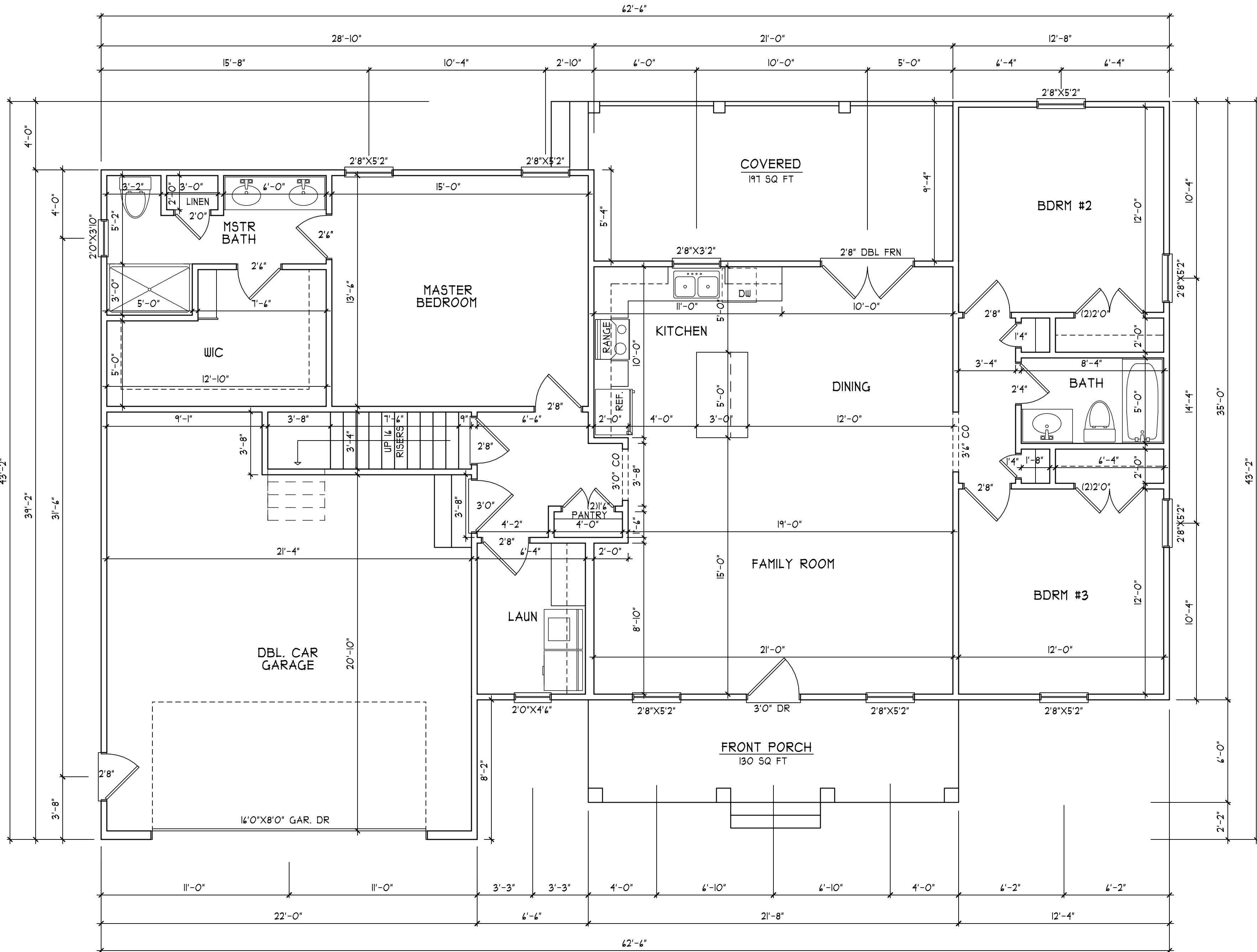


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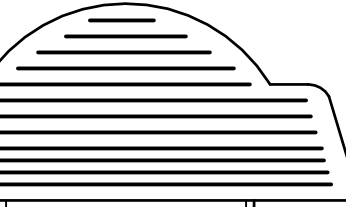
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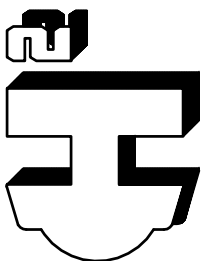
1 STORY

FILE: 070624



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



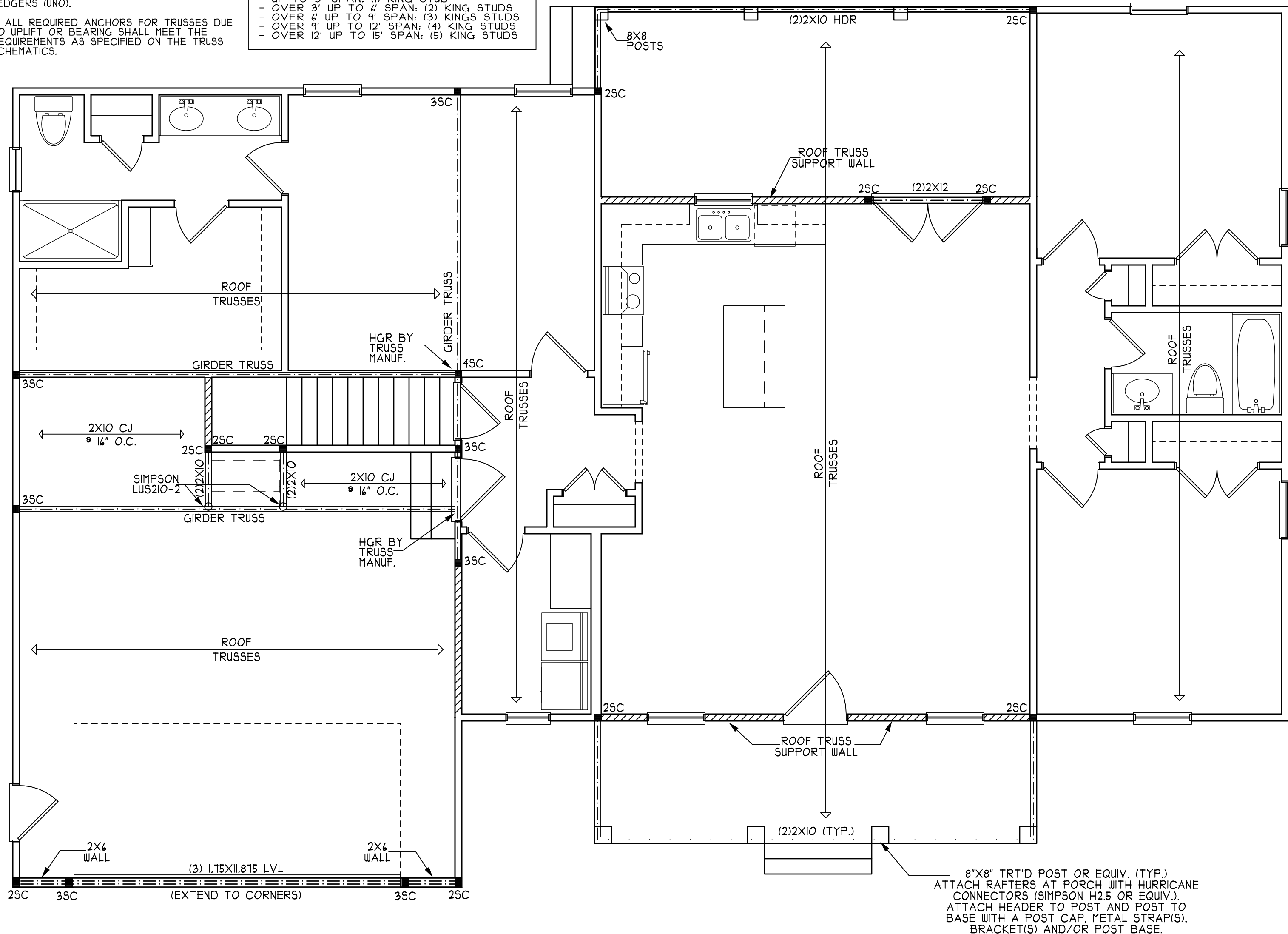
THE GRACE	
SERENITY BUILDERS	
HEATED FOOTAGE:	#1511
SQUARE FOOTAGE:	= 1511 = 324 = 327 = 500
FIRST FLOOR UNFIN REC ROOM PORCHES GARAGE	
HEATHER HALL 165 HEATHERSTONE CT BENSON, NC 27504 (919) 207-1403	
H SQUARED HOME DESIGN, INC. 	
ANY DEVIATION OF THIS PLAN FROM THE PERMITS OR DIMENSIONS VOID. H SQUARED HOME DESIGN'S LIABILITY. THIS PLAN HAS BEEN DRAWN IN ACCORDANCE WITH THE ILLINOIS PROFESSIONAL ARCHITECTS BUILDING CODES 2018 EDITION.	
DATE:	09/23/24
1 STORY	
FILE:	070624

TRUSS SYSTEM REQUIREMENTS
NC (2018 NCRC):

- 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.
- TRUSS SCHEMATICS (PROFILES) SHALL BE PREPARED AND SEALED BY TRUSS MANUFACTURER.
- ALL TRUSSES SHALL BE DESIGNED FOR BEARING ON SPF #2 OR #3 PLATES OR LEDGERS (UNO).
- ALL REQUIRED ANCHORS FOR TRUSSES DUE TO UPLIFT OR BEARING SHALL MEET THE REQUIREMENTS AS SPECIFIED ON THE TRUSS SCHEMATICS.

HEADER/BEAM & COLUMN NOTES

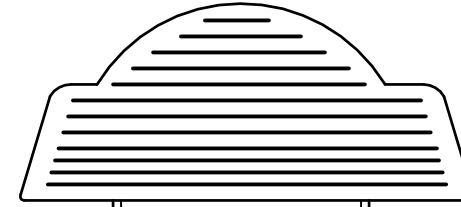
- ALL EXTERIOR AND LOAD BEARING HEADERS SHALL BE MIN. (2) 2X10 (4" WALL) OR (3) 2X10 (6" WALL) WITH (1) SUPPORT STUD, UNLESS NOTED OTHERWISE.
- THE NUMBER SHOWN AT BEAM AND HEADER SUPPORTS INDICATES THE NUMBER OF SUPPORT STUDS REQUIRED IN STUD POCKET OR COLUMN. THE NUMBER OF KING STUDS AT EACH END OF HEADERS IN EXTERIOR WALLS SHALL BE ACCORDING TO ITEM "d" IN TABLE R602.3(5) OR AS BELOW PER NCDO1 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



8"X8" TRT'D POST OR EQUIV. (TYP.)
ATTACH RAFTERS AT PORCH WITH HURRICANE CONNECTORS (SIMPSON H2.5 OR EQUIV.).
ATTACH HEADER TO POST AND POST TO BASE WITH A POST CAP, METAL STRAP(S), BRACKET(S) AND/OR POST BASE.

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

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



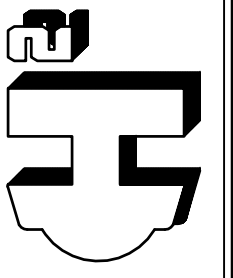
THE GRACE
SERENITY BUILDERS

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

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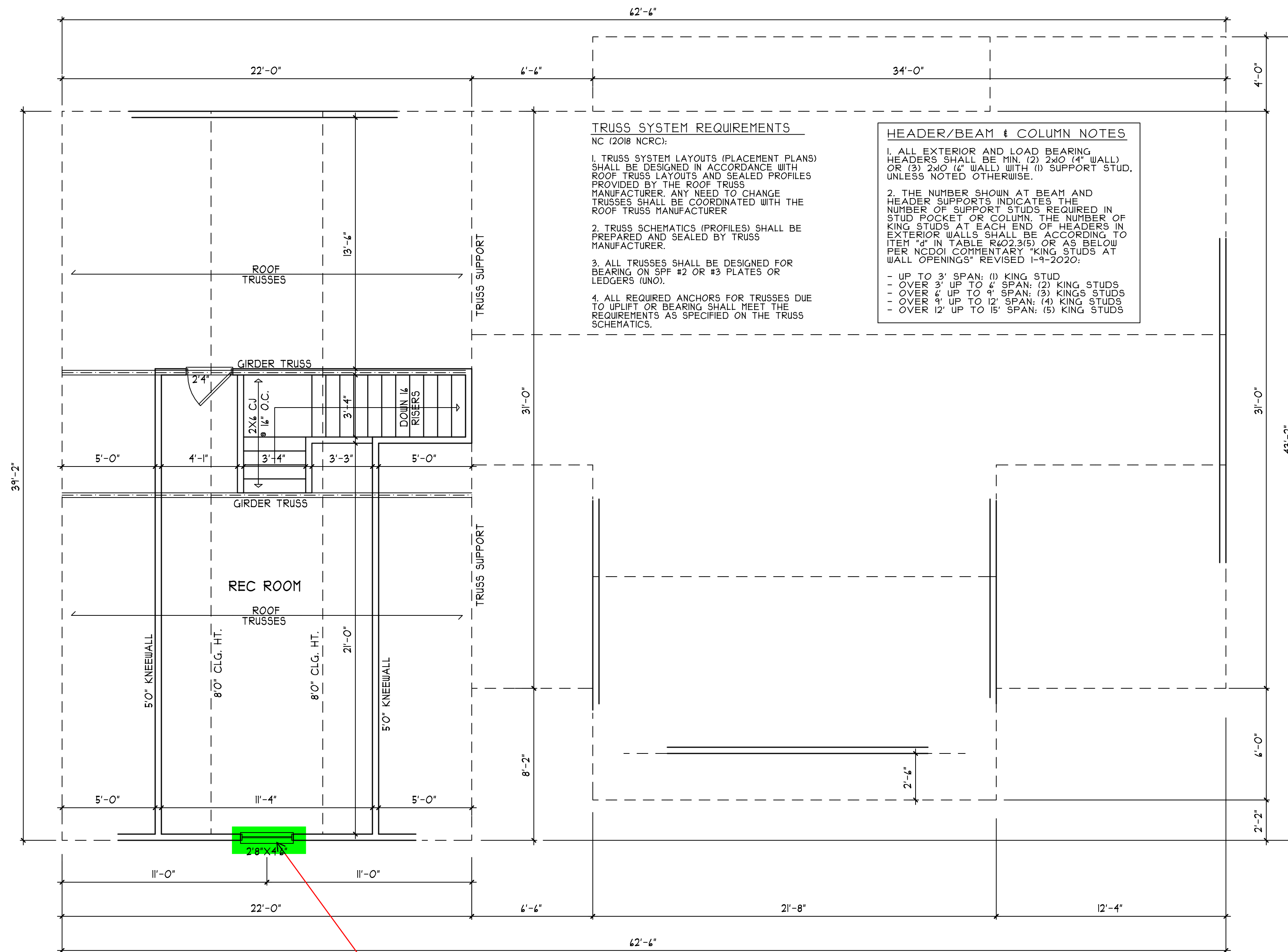


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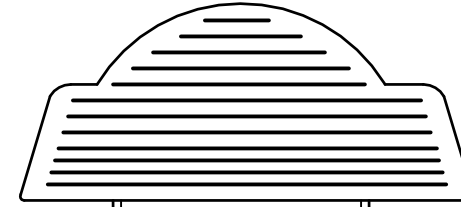
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 - OVER 9' UP TO 12' SPAN: (4) KING STUDS
 - OVER 12' UP TO 15' SPAN: (5) KING STUDS

This window must meet egress!

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

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



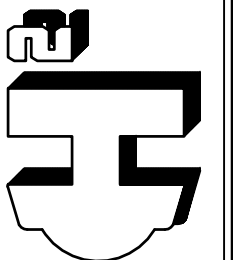
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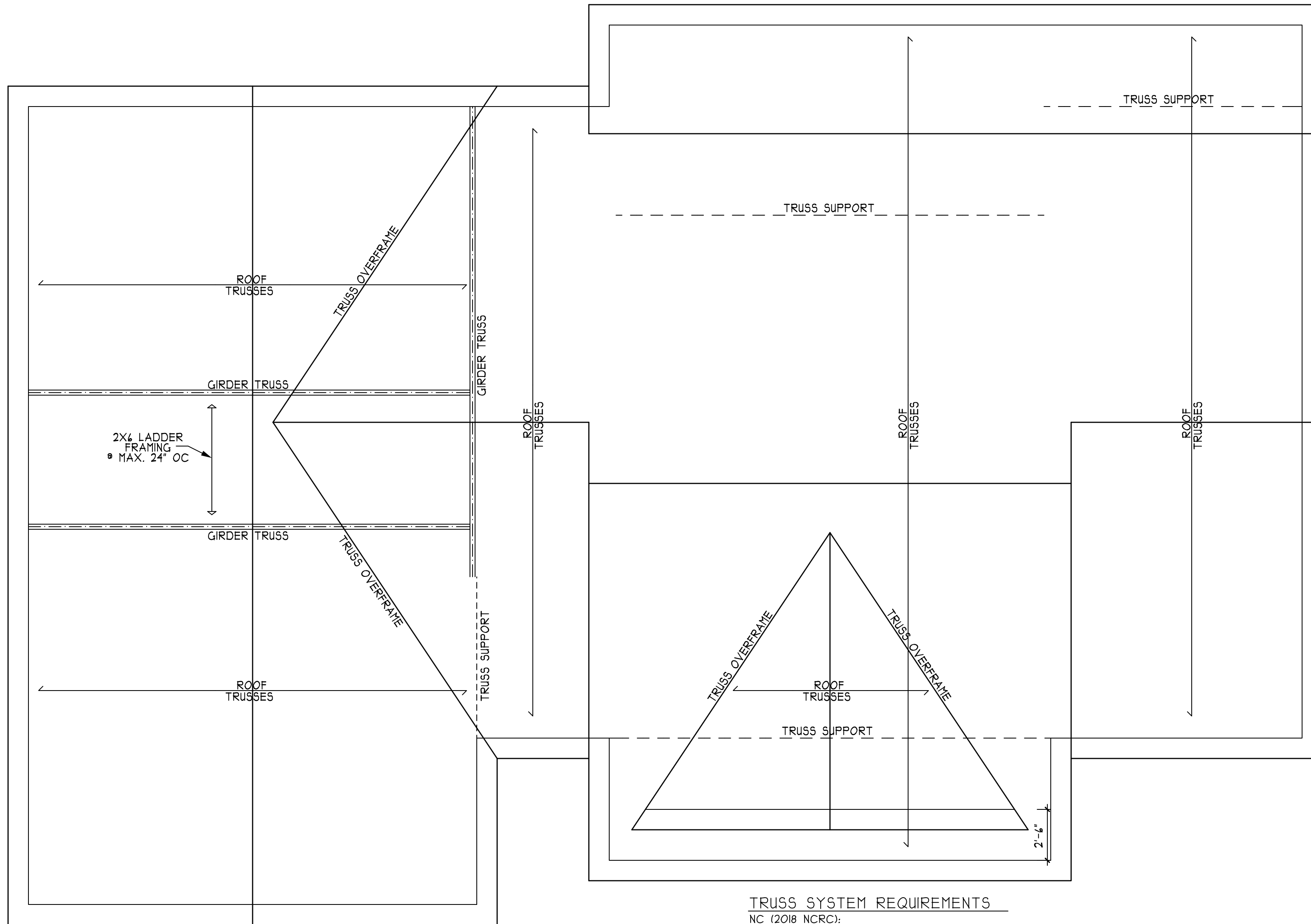


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09/23/24

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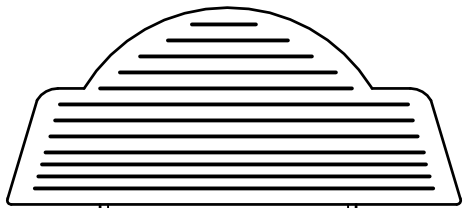


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REFER TO BASIC DETAIL SHEET(S)
FOR STANDARD DETAILS, BRACING
DETAILS, AND STRUCTURAL NOTES

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



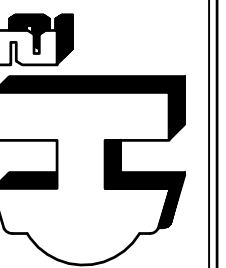
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OR DIMENSIONS Voids
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DESIGN'S LIABILITY.
THIS PLAN HAS BEEN DRAWN
IN ACCORDANCE WITH THE
CLASSIFICATION RESIDENTIAL
BUILDING CODES 2018 EDITION.

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:

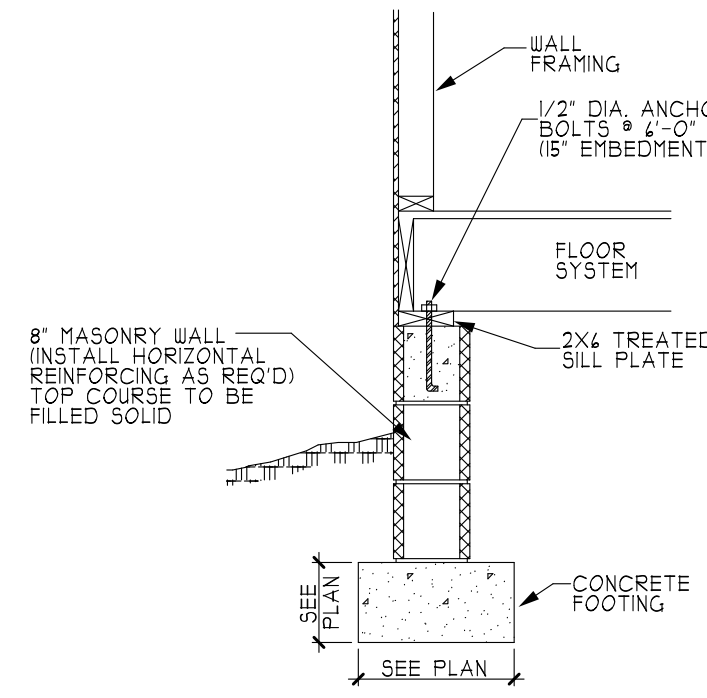
NC (2018 NCRC): Wind: 115-120 MPH

- ① (3) 2x0 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

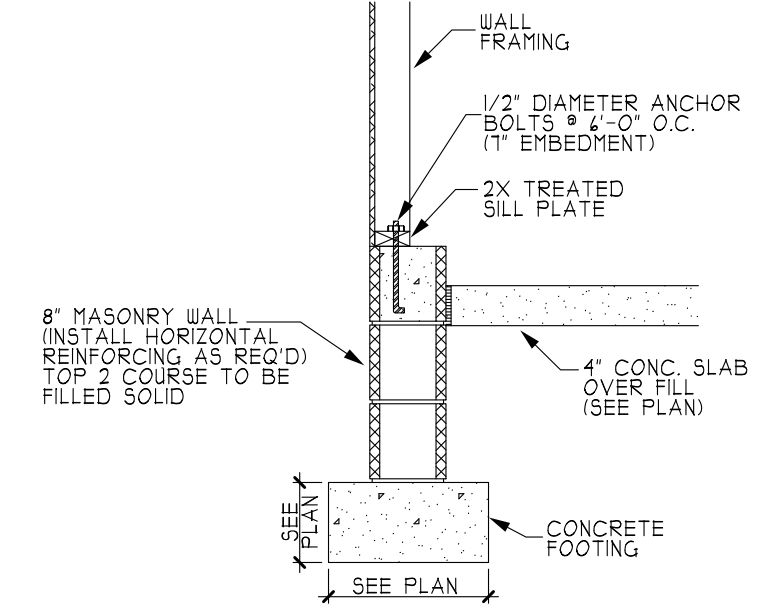
FOR FOUNDATION WALL HEIGHT AND BACKFILL REQUIREMENTS, REFER TO NORTH CAROLINA RESIDENTIAL CODE TABLE R404.11 (I THRU 4) NOTE: ASSUMED SOIL BEARING CAPACITY = 2000 PSF. CONTRACTOR MUST VERIFY SITE CONDITIONS AND CONTACT SOILS ENGINEER IF MARGINAL OR UNSTABLE SOILS ARE ENCOUNTERED.

- ④ (4) 2x0 SYP#2 OR SPF#2 GIRDER.
 ⑤ (2) 1.15X9.25 LVL OR LSL GIRDER
 ⑥ (3) 1.15X9.25 LVL OR LSL GIRDER

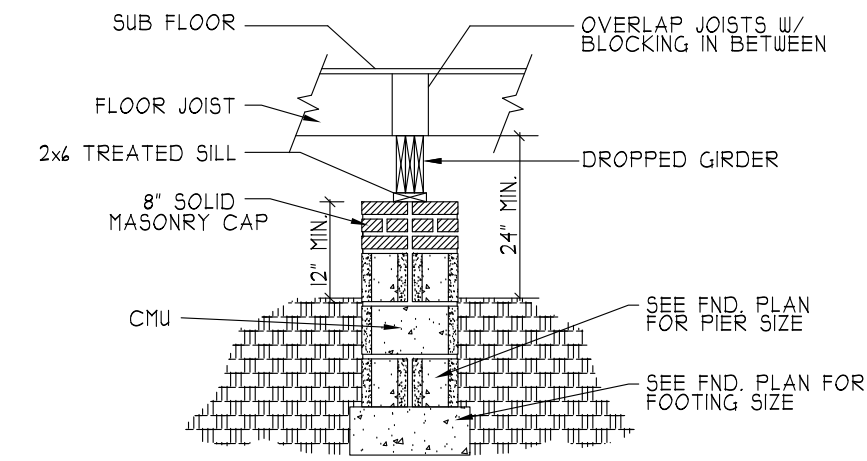
1. "■" DESIGNATES A SIGNIFICANT POINT LOAD TO HAVE SOLID BLOCKING TO PIER. SOLID BLOCK ALL BEAM BEARING POINTS NOTED TO HAVE THREE OR MORE STUDS TO FND, TYPICAL.
8. ABBREVIATIONS:
 "SJ" = SINGLE JOIST
 "DJ" = DOUBLE JOIST
 "TJ" = TRIPLE JOIST



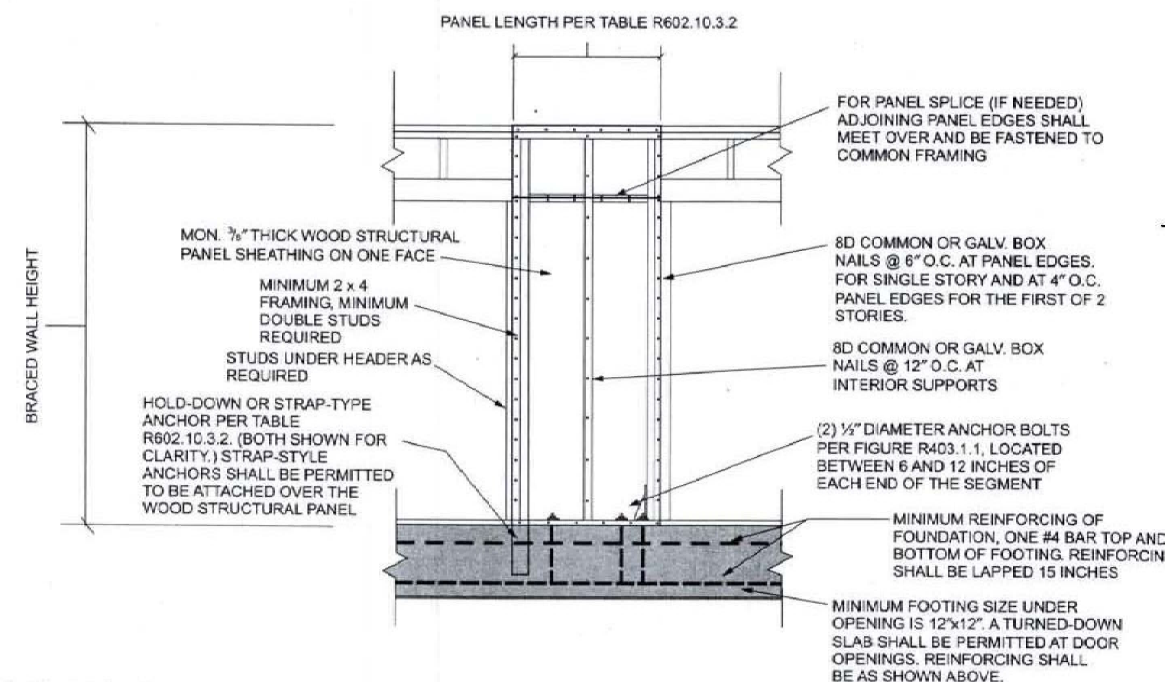
① CRAWL SPACE FOOTING (SIDING)



② GARAGE WALL FOOTING

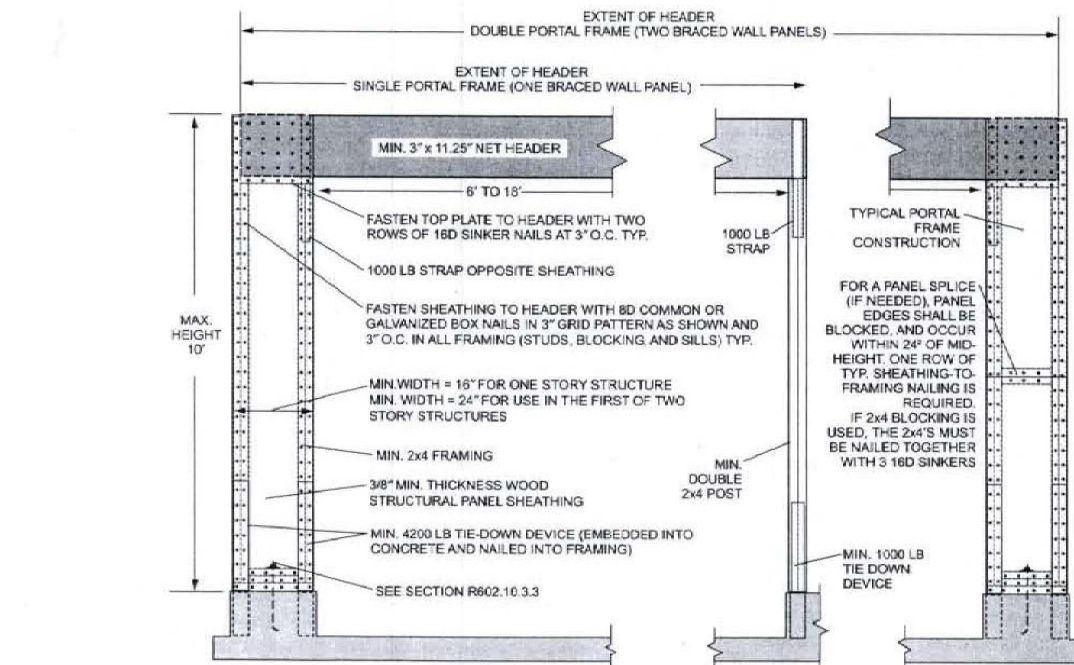


③ DROPPED GIRDER



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

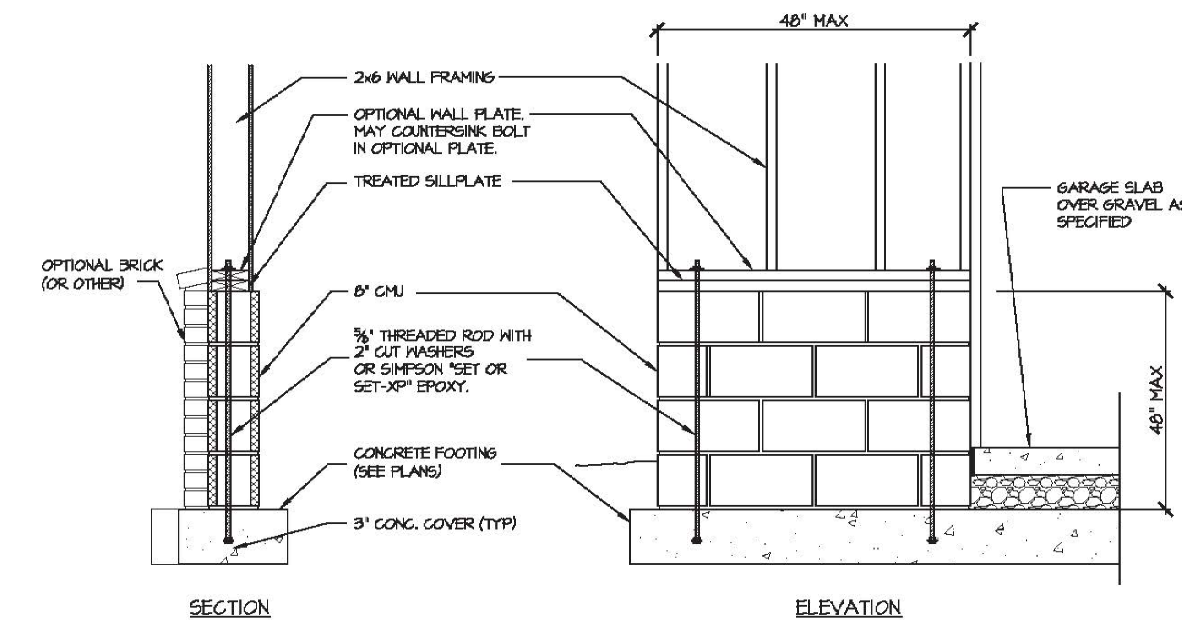
TRUSS SYSTEM REQUIREMENTS

NC (2018 NCRC):

1. TRUSS SYSTEM LAYOUTS (PLACEMENT PLANS) SHALL BE DESIGNED IN ACCORDANCE WITH SEALED STRUCTURAL PLANS. ANY NEED TO CHANGE TRUSSES SHALL BE COORDINATED WITH SOUTHERN ENGINEERS.
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) 2x0 (4" WALL) OR (3) 2x0 (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



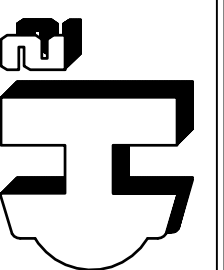
GARAGE 'WING WALL' REINFORCING PER IRC FIGURE R602.10.4.3

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

H SQUARED
 HOME
 DESIGN, INC.



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

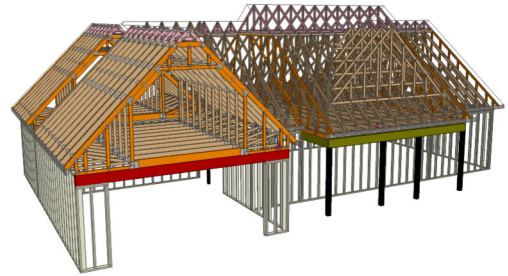
DATE:

FILE:



Carter Sanford Component Plant
298 Harvey Faulk Rd
Sanford, NC 27332

Phone #:919-775-1450



Builder: Serenity Built Homes Inc

Model: 1511 A-The Grace

THE PLACEMENT PLAN NOTES:

1. The Placement Plan is a diagram for truss installation. It is not an engineered drawing and has not been reviewed by an engineer. The Owner/Building Designer is responsible for obtaining an engineer's review if one is required by the local jurisdiction.
2. The responsibilities of the Owner, Contractor, Building Designer, Component Designer and Component Manufacturer shall be as set forth in ANSI/TPI 1. Capitalized terms shall be as defined in ANSI/TP 1 unless otherwise indicated.
3. Each Component is designed as an individual component utilizing information provided by others. The Owner/Building Designer is responsible for reviewing all Component Submittal Packages and individual Component Design Drawings for compliance with the Construction Documents and compatibility with the overall Building design.
4. Contractor will not proceed with component installation until the Owner/Building Designer has reviewed the Component Submittal Package. Questions on the suitability of any Component will be resolved by the Building Designer.
5. The Building Designer and Contractor are responsible for all temporary and permanent bracing.
6. The Placement Plan assumes the building is dimensionally correct, structurally sound, and in a suitable condition to support each Component during installation and thereafter, including but not limited to installation of all bearing points. Proper design and construction of all structural components, including foundations, headers, beams, walls and columns are the responsibility of the Owner, Building Designer and Contractor.
7. Do not cut, drill, or modify any Component without first consulting the Component Manufacturer or Building Designer. Damaged Components shall not be installed unless directed by the Building Designer or approved by the Component Manufacturer.
8. Components must be handled and installed following all applicable safety standards and best practices, including but not limited to BCSI, OSHA, TPI and local codes. Failure to properly handle, brace or otherwise install Component can result in serious injury or death.
9. All uplift connectors shown within these documents are recommendations only. Per ANSI/TPI 1, all uplift connectors are the responsibility of the building designer and or contractor.

Approved By: _____

Date: _____



Customer:
Street 1:
City:
Customer Ph...

Job Name: **01**
Level: **1st FLOOR**
Label: **FB1-2 - i90**
Type: **Beam**

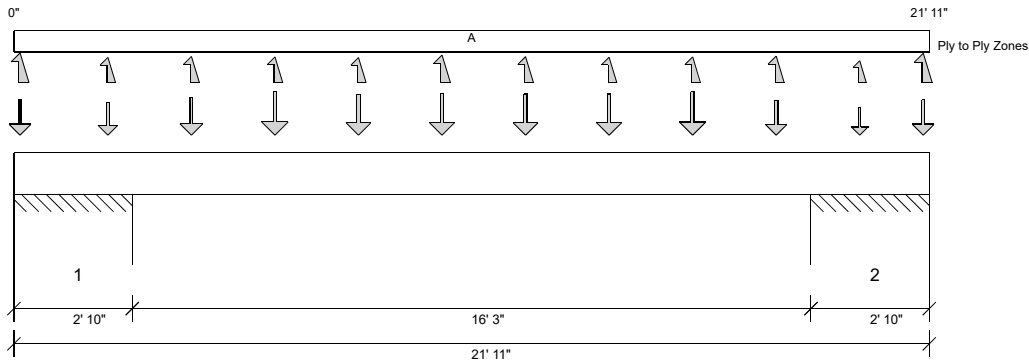
3 Ply Member
2.0 RigidLam DF LVL 1-3/4
x 11-7/8

Status:
Design Passed

Illustration Not to Scale. Pitch: 0/12

Designed by Single Member Design Engine in MiTek® Structure Version 8.7.3.303.Update13.26

Report Version: 2023.09.18 09/19/2024 14:13



DESIGN INFORMATION a

Building Code: IRC 2021
Design Methodology: ASD
Risk Category: II (General Construction) Residential
Service Condition: Dry
System Spacing: -
LL Deflection Limit: L/360, 0.75" (absolute)
TL Deflection Limit: L/240, 1.00" (absolute)

Lateral Restraint Requirements:

Both ends of the member and the outer supports must be laterally restrained. Top and bottom edges of the member must be fully restrained or have the following maximum unbraced length:
Top: 21'- 11" Bottom: 21'- 11"

Bearing Stress of Support Material:

- 725 psi Wall @ 0'- 1 1/2"
- 725 psi Wall @ 2'- 8 1/2"
- 725 psi Wall @ 19'- 2 1/2"
- 725 psi Wall @ 21'- 9 1/2"

ANALYSIS RESULTS

Design Criteria	Location	Load Combination	LDF	Design	Limit	Result
Max Pos. Moment:	10'- 3"	D + 0.75(L + Lr)	1.15	1792 lb ft	34574 lb ft	Passed - 5%
Max Neg. Moment:	19'- 2 1/2"	D + 0.75(L + Lr)	1.15	2723 lb ft	34574 lb ft	Passed - 8%
Max Shear:	18'- 1 1/8"	D + 0.75(L + Lr)	1.15	1001 lb	13861 lb	Passed - 7%
Live Load (LL) Pos. Defl.:	11'- 3/8"	0.75(L + Lr + 0.6W)		0.022"	L/360	Passed - L/999
Total Load (TL) Pos. Defl.:	10'- 11 15/16"	D + 0.75(L + Lr + 0.6W)		0.045"	L/240	Passed - L/999

SUPPORT AND REACTION INFORMATION

ID	Input Bearing Length	Controlling Load Combination	LDF	Downward Reaction	Uplift Reaction	Resistance of Member	Resistance of Support	Result
1	10 1/4"	0.6D + 0.6W	1.60	5 lb		56152 lb	39014 lb	Passed - 0%
1	10 1/4"	D + 0.75(L + Lr)	1.15		-938 lb	-	-	
1	1' 6"	D + 0.75(L + Lr)	1.15	2186 lb		70875 lb	68513 lb	Passed - 3%
1	1' 6"	0.6D + 0.6W	1.60		-224 lb	-	-	
2	1' 6"	D + 0.75(L + Lr)	1.15	2187 lb		70875 lb	68513 lb	Passed - 3%
2	1' 6"	0.6D + 0.6W	1.60		-221 lb	-	-	
2	10 1/4"	0.6D + 0.6W	1.60	1 lb		56152 lb	39014 lb	Passed - 0%
2	10 1/4"	D + 0.75(L + Lr)	1.15		-939 lb	-	-	

LOADING

Type	Start Loc	End Loc	Source	Face	Dead (D)	Live (L)	Snow (S)	Roof Live (Lr)	Wind (W)
Self Weight	0'	21'- 11"	Self Weight	Top	16 lb/ft	-	-	-	-
Point	0'- 1 3/4"	0'- 1 3/4"	D06(c01)	Top	74 lb	13 lb	51 lb	95/0 lb	55/-210 lb
Point	2'- 3"	2'- 3"	D06(c01)	Top	70 lb	-10 lb	40 lb	90 lb	45/-145 lb
Point	4'- 3"	4'- 3"	D06(c01)	Top	114 lb	13/-2 lb	44 lb	89 lb	49/-165 lb
Point	6'- 3"	6'- 3"	D06(c01)	Top	140 lb	70 lb	43 lb	83 lb	49/-161 lb
Point	8'- 3"	8'- 3"	D06(c01)	Top	99 lb	82 lb	41 lb	76 lb	46/-152 lb
Point	10'- 3"	10'- 3"	D06(c01)	Top	112 lb	76 lb	48 lb	96/-1 lb	34/-183 lb
Point	12'- 3"	12'- 3"	D06(c01)	Top	106 lb	77 lb	43 lb	86/-1 lb	37/-163 lb
Point	14'- 3"	14'- 3"	D06(c01)	Top	103 lb	83 lb	42 lb	83 lb	48/-157 lb
Point	16'- 3"	16'- 3"	D06(c01)	Top	150 lb	55 lb	43 lb	85 lb	48/-160 lb
Point	18'- 3"	18'- 3"	D06(c01)	Top	93 lb	-3 lb	45 lb	88 lb	50/-168 lb
Point	20'- 3"	20'- 3"	D06(c01)	Top	54 lb	-10 lb	28 lb	74 lb	33/-102 lb
Point	21'- 9 1/4"	21'- 9 1/4"	D06(c01)	Top	69 lb	15 lb	50 lb	95/0 lb	53/-206 lb

UNFACTORED REACTIONS

ID	Start Loc	End Loc	Source	Dead (D)	Live (L)	Snow (S)	Roof Live (Lr)	Wind (W)
1	0'	2'- 10"	E12(i88)	1246/-474 lb	517/-284 lb	372/-113 lb	855/-341 lb	396 lb/-1136 lb
==>	0'- 1 1/2"	0'- 1 1/2"	E12(i88)	-474 lb	14/-273 lb	-113 lb	115/-339 lb	-
==>	2'- 8 1/2"	2'- 8 1/2"	E12(i88)	1246 lb	503/-11 lb	372 lb	740/-2 lb	-
2	19'- 1"	21'- 11"	E10(i11)	1248/-475 lb	517/-283 lb	373/-114 lb	870/-345 lb	396 lb/-1136 lb
==>	19'- 2 1/2"	19'- 2 1/2"	E10(i11)	1248 lb	502/-10 lb	373 lb	747/-2 lb	-
==>	21'- 9 1/2"	21'- 9 1/2"	E10(i11)	-475 lb	15/-273 lb	-114 lb	123/-343 lb	-

DESIGN NOTES

- The dead loads used in the design of this member were applied to the structure as projected dead loads.
- Analysis and Design has been performed using precision loading from actual modeled conditions. Some loads may have been modified to simplify reporting.
- Tributary Loads have been generated based on actual spacing between members in the model which may differ from the default system spacing. The actual loads applied to the member are shown in the Specified Loads table.
- Transfer reactions may differ from design results as allowed per building codes and standard load distribution practices.
- This report is based on modeled conditions input by the user. Source information for the loads and supports are provided for reference only. Verify that all loads and support conditions are correct.
- Review all loads and reactions to ensure that the member/bearing/connector/structure can resist adequately. Unless already specified on this report, anchorage for uplift reactions to be specified by others. Installation of member and accessories (if required) as per manufacturer's instruction.



Customer:
Street 1:
City:
Customer Ph...

Job Name: **01**
Level: **1st FLOOR**
Label: **FB1-2 - i90**
Type: **Beam**

3 Ply Member
2.0 RigidLam DF LVL 1-3/4
x 11-7/8

Status:
Design
Passed

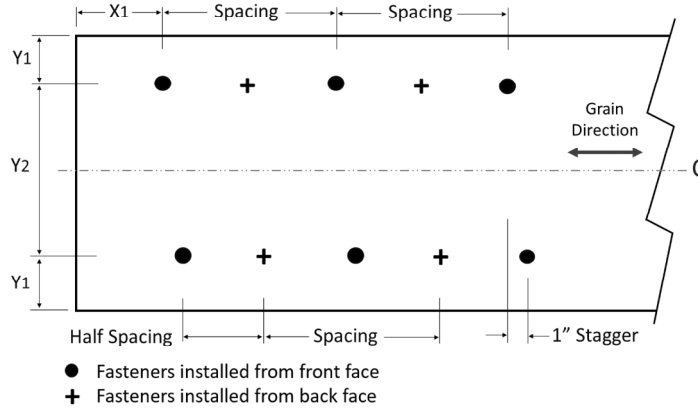
- Beam Stability Factor used in the calculation for Allowable Max Pos Moment (CL) = 0.89

PLY TO PLY CONNECTION

- Zone A: Factored load = 0 plf. Use 12d (0.148"x3.25") nails. LDF = 1.00. Qty = 88. Row = 2, Spacing = 12"
12d (0.148"x3.25") nails properties: D = 0.148", L = 3.25". Fastener capacity = 117 lbs. X1 = 2.25", Y1 = 0.75", Y2 = 1.5"
Install fasteners from both faces.

X1 = Minimum end distance, X2 = Minimum edge distance, Y2 = Minimum row spacing.

FASTENER INSTALLATION – 2 ROWS (FROM BOTH FACES)



Trenco
818 Soundside Rd
Edenton, NC 27932

Re: 24090063-01
The Grace-Roof-1511 A-The Grace

The truss drawing(s) referenced below have been prepared by Truss Engineering Co. under my direct supervision based on the parameters provided by Carter Components (Sanford, NC)).

Pages or sheets covered by this seal: I68350159 thru I68350186

My license renewal date for the state of North Carolina is December 31, 2024.

North Carolina COA: C-0844



September 20, 2024

Gilbert, Eric

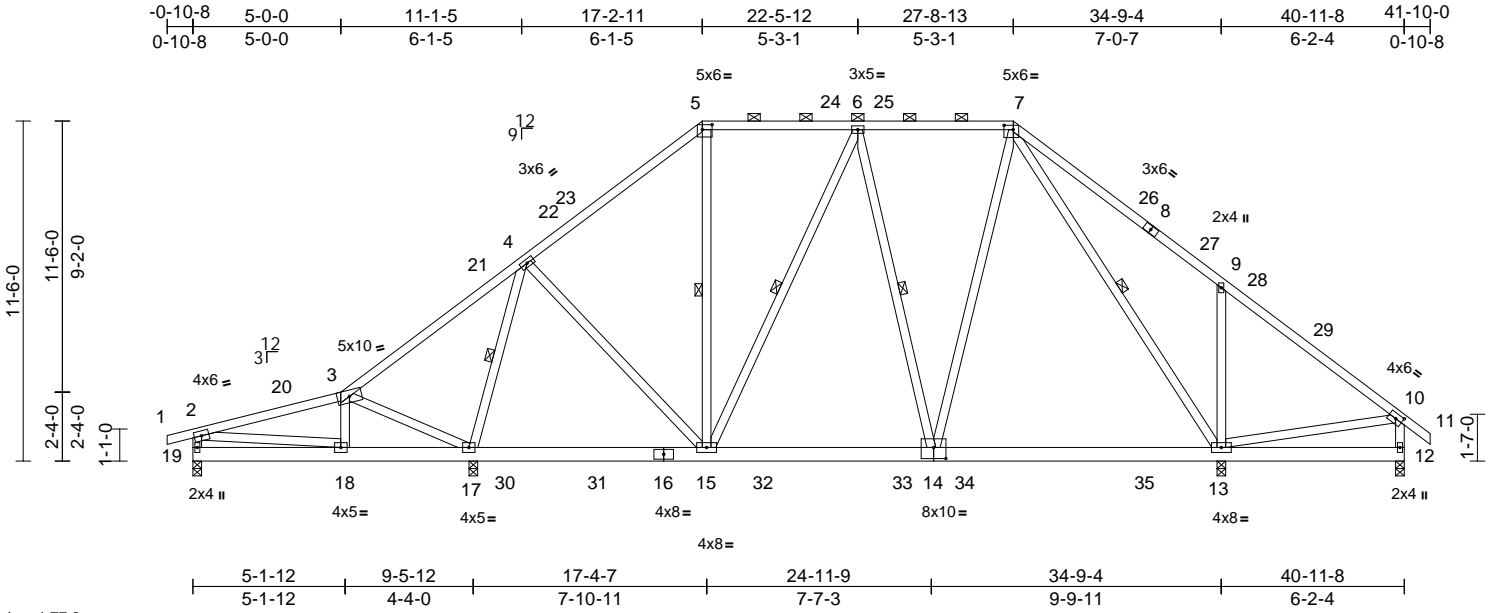
IMPORTANT NOTE: The seal on these truss component designs is a certification that the engineer named is licensed in the jurisdiction(s) identified and that the designs comply with ANSI/TPI 1. These designs are based upon parameters shown (e.g., loads, supports, dimensions, shapes and design codes), which were given to MiTek or TRENCO. Any project specific information included is for MiTek's or TRENCO's customers file reference purpose only, and was not taken into account in the preparation of these designs. MiTek or TRENCO has not independently verified the applicability of the design parameters or the designs for any particular building. Before use, the building designer should verify applicability of design parameters and properly incorporate these designs into the overall building design per ANSI/TPI 1, Chapter 2.

Job 24090063-01	Truss A01	Truss Type Piggyback Base	Qty 10	Ply 1	The Grace-Roof-1511 A-The Grace Job Reference (optional)	168350159
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Carter Components (Sanford, NC), Sanford, NC - 27332,

Run: 8.73 S Aug 15 2024 Print: 8.730 S Aug 15 2024 MiTek Industries, Inc. Thu Sep 19 13:23:48
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Page: 1



Scale = 1:77.9
Plate Offsets (X, Y): [5:0-4-0,0-2-0], [7:0-3-12,0-1-12], [10:0-2-14,0-2-0], [14:0-5-0,0-4-8]

Loading	(psf)	Spacing	2-0-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP	
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.97	Vert(LL)	-0.09	13-14	>999	240	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.42	Vert(CT)	-0.14	13-14	>999	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.71	Horz(CT)	0.02	12	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-MSH								
BCDL	10.0											
											Weight: 313 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP No.2
BOT CHORD 2x6 SP No.2
WEBS 2x4 SP No.3 *Except*
15-5,15-6,14-6,14-7,13-7:2x4 SP No.2

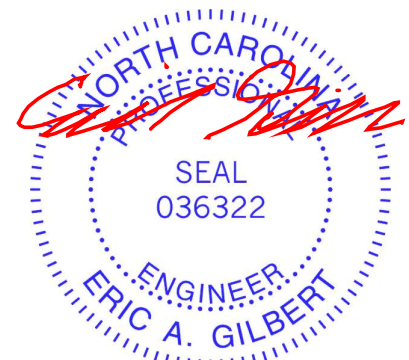
BRACING
TOP CHORD Structural wood sheathing directly applied, except end verticals, and 2-0-0 oc purlins (6-0-0 max.): 5-7.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.
WEBS 1 Row at midpt 4-17, 5-15, 6-15, 6-14, 7-13

REACTIONS (size) 12=0-3-8, 13=0-3-8, 17=0-3-8, 19=0-3-8
Max Horiz 19=290 (LC 13)
Max Uplift 12=17 (LC 11), 13=215 (LC 15), 17=135 (LC 14), 19=156 (LC 10)
Max Grav 12=355 (LC 22), 13=1487 (LC 51), 17=1745 (LC 5), 19=492 (LC 46)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/24, 2-3=-350/150, 3-4=-128/339, 4-5=-956/266, 5-6=-719/282, 6-7=-836/280, 7-9=-355/211, 9-10=-285/63, 10-11=0/37, 2-19=-434/182, 10-12=-316/46
BOT CHORD 18-19=-276/255, 17-18=-216/326, 15-17=-132/384, 13-15=-109/811, 12-13=-54/90
WEBS 3-18=-80/139, 3-17=-455/312, 4-17=-1469/339, 2-18=-30/197, 10-13=-100/291, 4-15=-38/601, 5-15=-23/224, 6-15=-375/132, 6-14=-255/153, 7-14=-39/605, 7-13=-917/63, 9-13=-637/341

- Unbalanced roof live loads have been considered for this design.
- Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) -0-10-8 to 3-2-10, Interior (1) 3-2-10 to 13-1-8, Exterior(2R) 13-1-8 to 21-3-13, Interior (1) 21-3-13 to 23-7-11, Exterior(2R) 23-7-11 to 31-10-0, Interior (1) 31-10-0 to 37-8-14, Exterior(2E) 37-8-14 to 41-10-0 zone; cantilever left and right exposed ; end vertical left and right exposed; porch left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
- TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
- Unbalanced snow loads have been considered for this design.
- This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 20.0 psf on overhangs non-concurrent with other live loads.
- Provide adequate drainage to prevent water ponding.
- This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members, with BCDL = 10.0psf.
- One H2.5A Simpson Strong-Tie connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 19, 17, 12, and 13. This connection is for uplift only and does not consider lateral forces.
- Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.

LOAD CASE(S) Standard



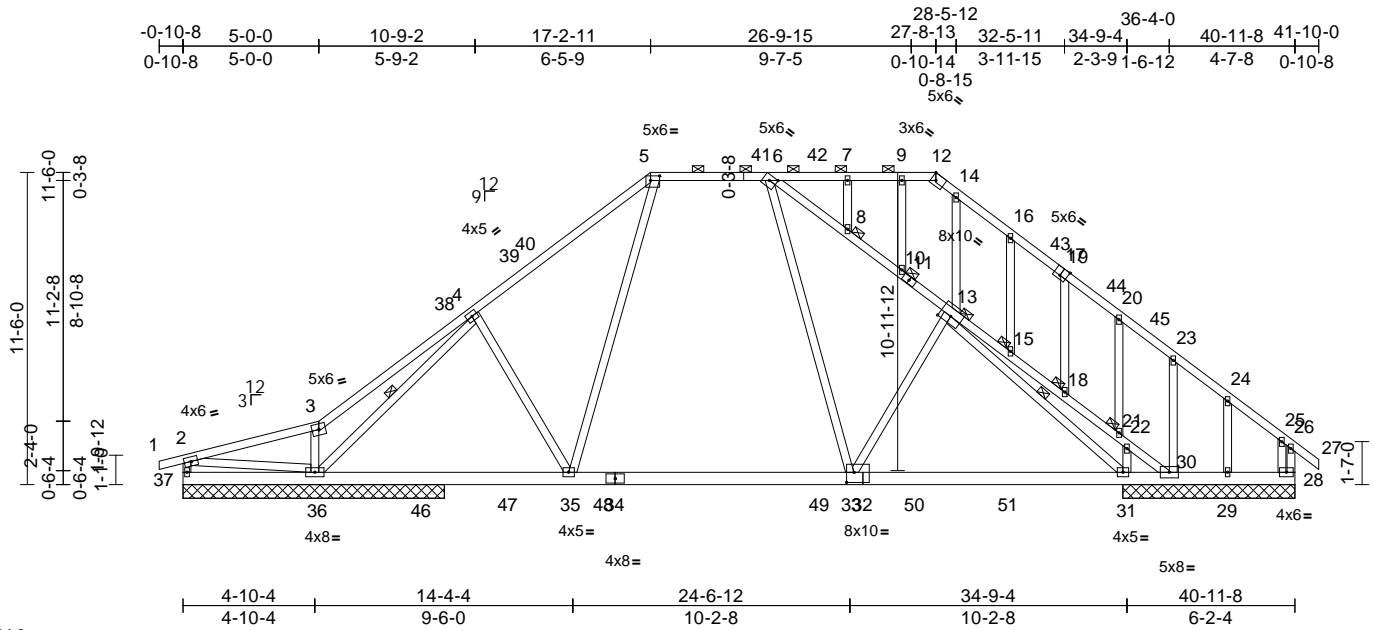
September 20,2024

Job 24090063-01	Truss A02	Truss Type Piggyback Base Structural Gable	Qty 2	Ply 1	The Grace-Roof-1511 A-The Grace Job Reference (optional)	168350160
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Carter Components (Sanford, NC), Sanford, NC - 27332,

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Page: 1



Scale = 1:84.9

Plate Offsets (X, Y): [5:0-4-0,0-2-0], [6:0-3-3,0-2-4], [12:Edge,0-2-13], [13:0-5-0,0-3-0], [17:0-3-0,Edge], [32:0-3-4,0-4-8]

Loading	(psf)	Spacing	1-11-4	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP	
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.74	Vert(LL)	-0.20	31-33	>999	240	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.73	Vert(CT)	-0.26	31-33	>999	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.68	Horz(CT)	0.04	28	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-MSH								
BCDL	10.0											
											Weight: 334 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP No.2 *Except* 3-5:2x4 SP No.1
BOT CHORD 2x6 SP No.2
WEBS 2x4 SP No.3 *Except* 33-6,5-35:2x4 SP No.2
OTHERS 2x4 SP No.3

BRACING
TOP CHORD Structural wood sheathing directly applied or 3-7-13 oc purlins, except end verticals, and 2-0-0 oc purlins (5-4-11 max.): 5-12, 6-30.
BOT CHORD Rigid ceiling directly applied or 6-0-0 oc bracing.

WEBS 1 Row at midpt 13-31, 4-36
JOINTS 1 Brace at Jt(s): 8, 10, 15, 18, 21, 13

REACTIONS (size) 28=6-4-0, 29=6-4-0, 30=6-4-0, 31=6-4-0, 36=9-7-8, 37=9-7-8
Max Horiz 37=281 (LC 13)
Max Uplift 28=56 (LC 11), 29=236 (LC 10), 30=465 (LC 58), 31=364 (LC 10), 36=269 (LC 14), 37=265 (LC 10)
Max Grav 28=498 (LC 55), 29=373 (LC 56), 30=321 (LC 45), 31=1848 (LC 6), 36=1730 (LC 55), 37=634 (LC 44)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/23, 2-3=935/427, 3-4=1099/558, 4-5=1656/536, 5-6=1111/514, 6-7=221/332, 7-9=221/332, 9-12=221/332, 12-14=252/337, 14-16=281/301, 16-19=310/229, 19-20=371/207, 20-23=291/164, 23-24=314/131, 24-25=414/150, 25-26=33/87, 26-27=0/36, 2-37=574/251, 26-28=151/200, 6-8=1471/205, 8-10=1524/238, 10-13=1577/233, 13-15=634/146, 15-18=677/164, 18-21=709/173, 21-22=842/253, 22-30=603/134

BOT CHORD 36-37=261/269, 35-36=183/1265, 33-35=135/1048, 31-33=96/1254, 30-31=156/817, 29-30=121/281, 28-29=121/281
WEBS 7-8=89/55, 9-10=117/28, 13-14=335/104, 15-16=106/98, 18-19=77/34, 20-21=368/195, 23-30=78/26, 24-29=165/185, 25-28=565/181, 22-31=615/353, 13-31=1683/371, 13-33=288/108, 6-33=0/594, 5-35=76/621, 4-35=224/224, 4-36=1796/336, 3-36=634/231, 2-36=254/774

- NOTES**
- Unbalanced roof live loads have been considered for this design.
 - Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Corner(3E) -0-10-8 to 3-2-10, Exterior(2N) 3-2-10 to 13-1-8, Corner(3R) 13-1-8 to 21-3-13, Exterior (2N) 21-3-13 to 23-7-11, Corner(3R) 23-7-11 to 31-10-0, Exterior(2N) 31-10-0 to 37-8-14, Corner(3E) 37-8-14 to 41-10-0 zone; cantilever left and right exposed; end vertical left and right exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
 - Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
 - TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
 - Unbalanced snow loads have been considered for this design.

- This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 20.0 psf on overhangs non-concurrent with other live loads.
- Provide adequate drainage to prevent water ponding.
- All plates are 2x4 MT20 unless otherwise indicated.
- Truss to be fully sheathed from one face or securely braced against lateral movement (i.e. diagonal web).
- Gable studs spaced at 2-0-0 oc.
- This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members, with BCDL = 10.0psf.
- One H2.5A Simpson Strong-Tie connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 37, 28, 30, 29, 31, and 36. This connection is for uplift only and does not consider lateral forces.
- Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.



September 20,2024

Continued on page 2

WARNING - Verify design parameters and READ NOTES ON THIS AND INCLUDED MITEK REFERENCE PAGE MII-7473 rev. 1/2/2023 BEFORE USE.

Design valid for use only with MiTek® connectors. This design is based only upon parameters shown, and is for an individual building component, not a truss system. Before use, the building designer must verify the applicability of design parameters and properly incorporate this design into the overall building design. Bracing indicated is to prevent buckling of individual truss web and/or chord members only. Additional temporary and permanent bracing is always required for stability and to prevent collapse with possible personal injury and property damage. For general guidance regarding the fabrication, storage, delivery, erection and bracing of trusses and truss systems, see **ANSI/TPI Quality Criteria and DSB-22** available from Truss Plate Institute (www.tpinst.org) and **BCSI Building Component Safety Information** available from the Structural Building Component Association (www.sbcacomponents.com)

ENGINEERING BY
TRENCO
A MiTek Affiliate
818 Soundside Road
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	The Grace-Roof-1511 A-The Grace	I68350160
24090063-01	A02	Piggyback Base Structural Gable	2	1	Job Reference (optional)	

Carter Components (Sanford, NC), Sanford, NC - 27332,

Run: 8.73 S Aug 15 2024 Print: 8.730 S Aug 15 2024 MiTek Industries, Inc. Thu Sep 19 13:23:50
 ID:Fs7sOL6pZROAiSMYVxKedayc633-RfC?PsB70Hq3NSgPqnL8w3ulTXbGKWrcDoi7J4zJC?f

Page: 2

15) 2 X 4 notch at 20000 o.c. is allowed along the stacked top chord. No notches allowed in overhang and 1008 from left end and 1008 from right end or 12" along rake from scarf, whichever is larger. Minimum 1.5x4 tie plates required at 2-0-0 o.c. maximum between the stacking chords. For edge-wise notching, provide at least one tie plate between each notch.

LOAD CASE(S) Standard

WARNING - Verify design parameters and READ NOTES ON THIS AND INCLUDED MITEK REFERENCE PAGE MII-7473 rev. 1/2/2023 BEFORE USE.

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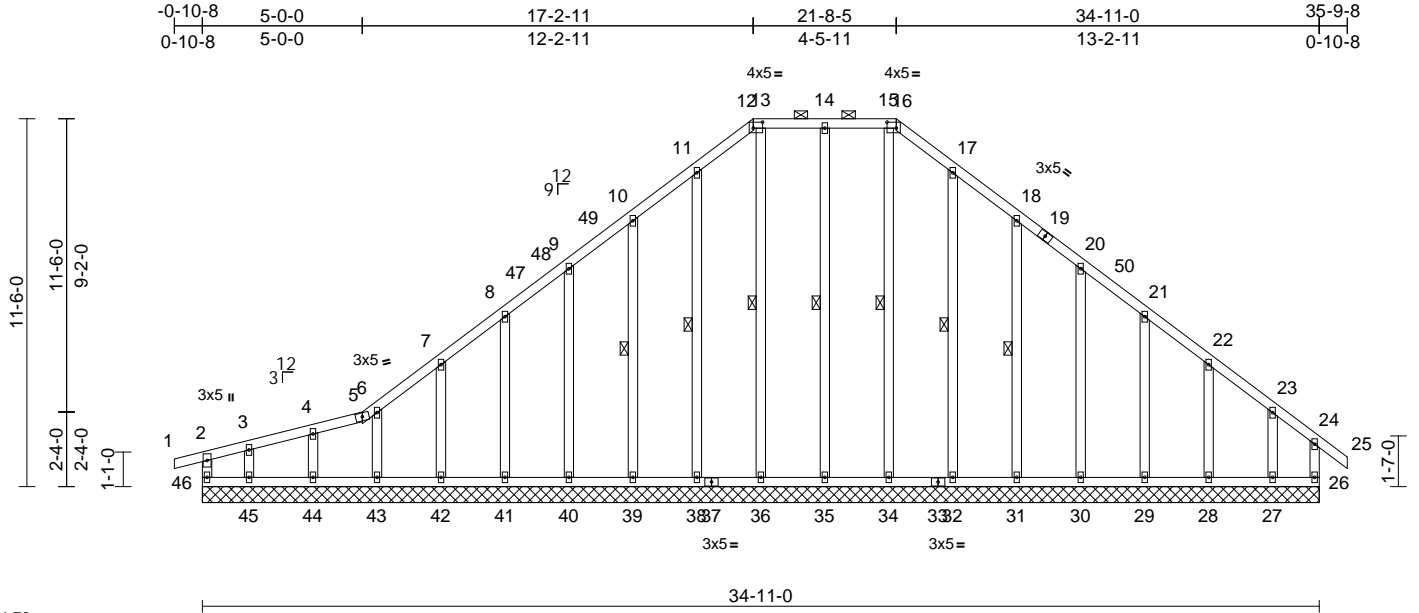
818 Soundside Road
 Edenton, NC 27932

Job 24090063-01	Truss B02	Truss Type Piggyback Base Supported Gable	Qty 1	Ply 1	The Grace-Roof-1511 A-The Grace Job Reference (optional)	168350162
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Carter Components (Sanford, NC), Sanford, NC - 27332,

Run: 8.73 S Aug 15 2024 Print: 8.730 S Aug 15 2024 MiTek Industries, Inc. Thu Sep 19 13:23:50
ID:a5a35k_IXa9LVTizoVLg0Hyc6Ij-RfC?PsB70Hq3NSgPqnl8w3uITXbGKWvCDoi7J4zJC?f

Page: 1



Scale = 1:72
Plate Offsets (X, Y): [12:0-3-8,0-2-4], [16:0-3-8,0-2-4]

Loading	(psf)	Spacing	1-11-4	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP	
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.25	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.11	Vert(CT)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.16	Horz(CT)	-0.01	26	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-MR								
BCDL	10.0											
											Weight: 277 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.2
WEBS 2x4 SP No.3
OTHERS 2x4 SP No.3 *Except* 36-13,35-14,34-15:2x4 SP No.2

BRACING
TOP CHORD Structural wood sheathing directly applied or 6-0-0 oc purlins, except end verticals, and 2-0-0 oc purlins (6-0-0 max.): 12-16.
BOT CHORD Rigid ceiling directly applied or 6-0-0 oc bracing.
WEBS 1 Row at midpt

REACTIONS (size)
26=34-11-0, 27=34-11-0,
28=34-11-0, 29=34-11-0,
30=34-11-0, 31=34-11-0,
32=34-11-0, 34=34-11-0,
35=34-11-0, 36=34-11-0,
38=34-11-0, 39=34-11-0,
40=34-11-0, 41=34-11-0,
42=34-11-0, 43=34-11-0,
44=34-11-0, 45=34-11-0,
46=34-11-0
Max Horiz 46=284 (LC 13)
Max Uplift 26=87 (LC 11), 27=158 (LC 15),
28=51 (LC 15), 29=68 (LC 15),
30=62 (LC 15), 31=74 (LC 15),
32=41 (LC 15), 35=37 (LC 10),
36=20 (LC 13), 38=47 (LC 14),
39=72 (LC 14), 40=63 (LC 14),
41=63 (LC 14), 42=71 (LC 14),
43=52 (LC 15), 44=71 (LC 10),
45=178 (LC 11), 46=188 (LC 10)

Max Grav 26=161 (LC 55), 27=199 (LC 26),
28=163 (LC 47), 29=170 (LC 57),
30=215 (LC 43), 31=224 (LC 43),
32=226 (LC 43), 34=213 (LC 22),
35=239 (LC 42), 36=227 (LC 60),
38=226 (LC 43), 39=224 (LC 43),
40=219 (LC 43), 41=204 (LC 47),
42=209 (LC 47), 43=173 (LC 47),
44=234 (LC 46), 45=173 (LC 25),
46=221 (LC 31)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 2-46=-167/149, 1-2=0/22, 2-3=-214/168,
3-4=-183/162, 4-5=-184/180, 5-6=-170/179,
6-7=-213/225, 7-8=-187/212, 8-9=-171/229,
9-10=-152/266, 10-11=-139/348,
11-12=-148/435, 12-13=-125/388,
13-14=-125/388, 14-15=-125/388,
15-16=-125/388, 16-17=-148/435,
17-18=-124/348, 18-20=-93/256,
20-21=-63/197, 21-22=-42/133,
22-23=-46/75, 23-24=-98/85, 24-25=0/36,
24-26=-122/60
BOT CHORD 45-46=-89/101, 44-45=-89/101,
43-44=-89/101, 42-43=-89/101,
41-42=-89/101, 40-41=-89/101,
39-40=-89/101, 38-39=-89/101,
36-38=-89/101, 35-36=-89/101,
34-35=-89/101, 32-34=-89/101,
31-32=-89/101, 30-31=-89/101,
29-30=-89/101, 28-29=-89/101,
27-28=-89/101, 26-27=-89/101

WEBS 13-36=-188/58, 11-38=-187/124,
10-39=-185/130, 9-40=-181/87,
8-41=-165/87, 7-42=-170/95, 6-43=-135/78,
4-44=-194/86, 3-45=-125/121,
14-35=-200/103, 15-34=-174/30,
17-32=-187/124, 18-31=-186/130,
20-30=-176/86, 21-29=-132/89,
22-28=-133/84, 23-27=-128/125

NOTES
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Corner(3E) -0-10-8 to 2-7-6, Exterior(2N) 2-7-6 to 13-5-8, Corner(3R) 13-5-8 to 25-5-8, Exterior(2N) 25-5-8 to 32-3-10, Corner(3E) 32-3-10 to 35-9-8 zone; cantilever left and right exposed; end vertical left and right exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60



September 20, 2024

Continued on page 2

WARNING - Verify design parameters and READ NOTES ON THIS AND INCLUDED MITEK REFERENCE PAGE MII-7473 rev. 1/2/2023 BEFORE USE.

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818 Soundside Road
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	The Grace-Roof-1511 A-The Grace
24090063-01	B02	Piggyback Base Supported Gable	1	1	I68350162 Job Reference (optional)

Carter Components (Sanford, NC), Sanford, NC - 27332,

Run: 8.73 S Aug 15 2024 Print: 8.730 S Aug 15 2024 MiTek Industries, Inc. Thu Sep 19 13:23:50
ID:a5a35k_IXa9LVTIzoVLg0Hyc6lj-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f

Page: 2

- 3) Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
- 4) TLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
- 5) Unbalanced snow loads have been considered for this design.
- 6) This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 20.0 psf on overhangs non-concurrent with other live loads.
- 7) Provide adequate drainage to prevent water ponding.
- 8) All plates are 2x4 MT20 unless otherwise indicated.
- 9) Gable requires continuous bottom chord bearing.
- 10) Truss to be fully sheathed from one face or securely braced against lateral movement (i.e. diagonal web).
- 11) Gable studs spaced at 2-0-0 oc.
- 12) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- 13) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
- 14) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 188 lb uplift at joint 46, 87 lb uplift at joint 26, 20 lb uplift at joint 36, 47 lb uplift at joint 38, 72 lb uplift at joint 39, 63 lb uplift at joint 40, 63 lb uplift at joint 41, 71 lb uplift at joint 42, 52 lb uplift at joint 43, 71 lb uplift at joint 44, 178 lb uplift at joint 45, 37 lb uplift at joint 35, 41 lb uplift at joint 32, 74 lb uplift at joint 31, 62 lb uplift at joint 30, 68 lb uplift at joint 29, 51 lb uplift at joint 28 and 158 lb uplift at joint 27.
- 15) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.

LOAD CASE(S) Standard

WARNING - Verify design parameters and READ NOTES ON THIS AND INCLUDED MITEK REFERENCE PAGE MII-7473 rev. 1/2/2023 BEFORE USE.

Design valid for use only with MiTek® connectors. This design is based only upon parameters shown, and is for an individual building component, not a truss system. Before use, the building designer must verify the applicability of design parameters and properly incorporate this design into the overall building design. Bracing indicated is to prevent buckling of individual truss web and/or chord members only. Additional temporary and permanent bracing is always required for stability and to prevent collapse with possible personal injury and property damage. For general guidance regarding the fabrication, storage, delivery, erection and bracing of trusses and truss systems, see **ANSI/TPI1 Quality Criteria and DSB-22** available from Truss Plate Institute (www.tpinst.org) and **BCSI Building Component Safety Information** available from the Structural Building Component Association (www.sbcacomponents.com)



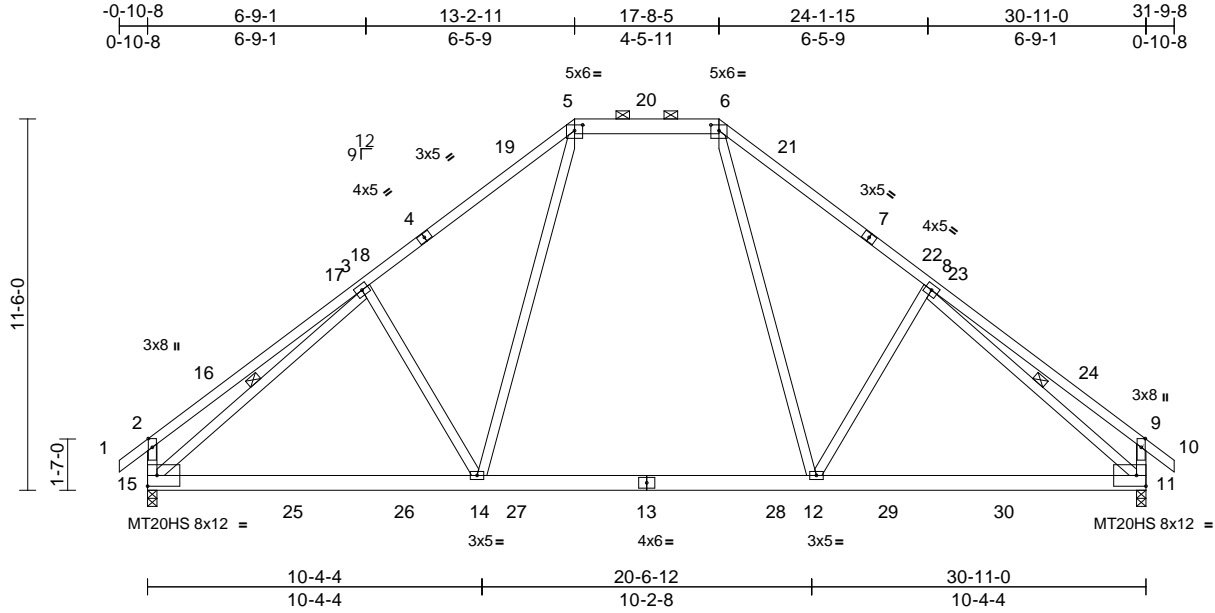
818 Soundside Road
Edenton, NC 27932

Job 24090063-01	Truss C01	Truss Type Piggyback Base	Qty 3	Ply 1	The Grace-Roof-1511 A-The Grace Job Reference (optional)	168350163
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Carter Components (Sanford, NC), Sanford, NC - 27332,

Run: 8.73 S Aug 15 2024 Print: 8.730 S Aug 15 2024 MiTek Industries, Inc. Thu Sep 19 13:23:51
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Page: 1



Scale = 1:71.4

Plate Offsets (X, Y): [5:0-3-0,0-2-2], [6:0-3-0,0-2-2]

Loading	(psf)	Spacing	2-0-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP	
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.87	Vert(LL)	-0.38	14-15	>972	240	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.83	Vert(CT)	-0.43	14-15	>854	180	MT20HS	187/143
TCDL	10.0	Rep Stress Incr	YES	WB	0.68	Horz(CT)	0.04	11	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-MSH								
BCDL	10.0											
											Weight: 217 lb	FT = 20%

LUMBER

TOP CHORD 2x4 SP No.1 *Except* 5-6:2x6 SP No.2
 BOT CHORD 2x6 SP No.2
 WEBS 2x4 SP No.3 *Except* 14-5,12-6:2x4 SP No.2

BRACING

TOP CHORD Structural wood sheathing directly applied or 2-2-0 oc purlins, except end verticals, and 2-0-0 oc purlins (6-0-0 max.): 5-6.

BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

WEBS 1 Row at midpt 3-15, 8-11

REACTIONS (size) 11=0-3-8, 15=0-3-8
 Max Horiz 15=292 (LC 12)
 Max Uplift 11=123 (LC 15), 15=123 (LC 14)
 Max Grav 11=1607 (LC 53), 15=1606 (LC 51)

FORCES (lb) - Maximum Compression/Maximum Tension

TOP CHORD 1-2=0/37, 2-3=-481/210, 3-5=-1927/231,
 5-6=-1249/243, 6-8=-1926/233,
 8-9=-479/210, 9-10=0/37, 2-15=-469/198,
 9-11=-469/198

BOT CHORD 14-15=-145/1503, 12-14=-9/1177,
 11-12=-21/1500

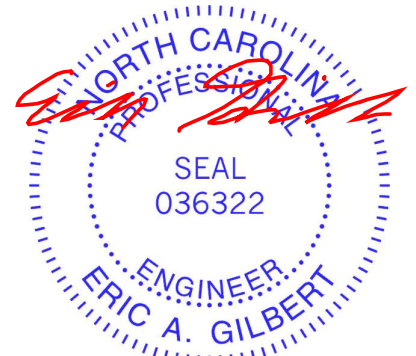
WEBS 3-15=-1647/62, 8-11=-1679/62,
 5-14=-67/731, 3-14=-339/297, 6-12=-67/729,
 8-12=-339/297

NOTES

1) Unbalanced roof live loads have been considered for this design.

- 2) Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) -0-10-8 to 2-2-10, Interior (1) 2-2-10 to 8-10-3, Exterior(2R) 8-10-3 to 22-0-13, Interior (1) 22-0-13 to 28-8-6, Exterior(2E) 28-8-6 to 31-9-8 zone; cantilever left and right exposed; end vertical left and right exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
- 3) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
- 4) Unbalanced snow loads have been considered for this design.
- 5) This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 20.0 psf on overhangs non-concurrent with other live loads.
- 6) Provide adequate drainage to prevent water ponding.
- 7) All plates are MT20 plates unless otherwise indicated.
- 8) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- 9) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members, with BCDL = 10.0psf.
- 10) One H2.5A Simpson Strong-Tie connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 15 and 11. This connection is for uplift only and does not consider lateral forces.
- 11) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.

LOAD CASE(S) Standard



September 20, 2024

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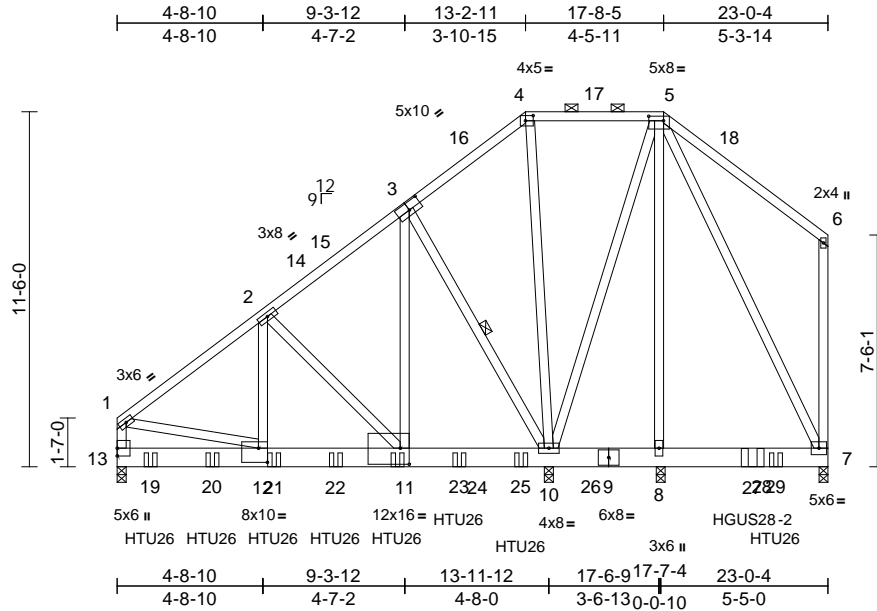
818 Soundside Road
 Edenton, NC 27932

Job 24090063-01	Truss C02	Truss Type Piggyback Base Girder	Qty 1	Ply 2	The Grace-Roof-1511 A-The Grace Job Reference (optional)	168350164
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Carter Components (Sanford, NC), Sanford, NC - 27332,

Run: 8.73 S Aug 15 2024 Print: 8.730 S Aug 15 2024 MiTek Industries, Inc. Thu Sep 19 13:23:51
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Page: 1



Scale = 1:74.6

Plate Offsets (X, Y): [3:0-5-0,0-3-0], [4:0-3-0,0-2-0], [5:0-5-12,0-1-12], [11:0-3-8,0-6-4], [12:0-3-8,0-5-8]

Loading	(psf)	Spacing	2-0-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP	
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.43	Vert(LL)	-0.05	11-12	>999	240	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.59	Vert(CT)	-0.09	11-12	>999	180		
TCDL	10.0	Rep Stress Incr	NO	WB	0.79	Horz(CT)	0.01	10	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-MSH								
BCDL	10.0											
											Weight: 472 lb	FT = 20%

LUMBER

TOP CHORD 2x4 SP No.2
 BOT CHORD 2x8 SP 2400F 2.0E
 WEBS 2x4 SP No.2 *Except*
 12-1-7-6,12-2,10-3,2-11:2x4 SP No.3

BRACING

TOP CHORD Structural wood sheathing directly applied or 6-0-0 oc purlins, except end verticals, and 2-0-0 oc purlins (10-0-0 max.): 4-5.
 BOT CHORD Rigid ceiling directly applied or 6-0-0 oc bracing.
 WEBS 1 Row at midpt 3-10

REACTIONS

(size) 7=0-3-8, 8=0-3-7, 10=0-3-8, 13=0-3-8
 Max Horiz 13=346 (LC 11)
 Max Grav 7=1771 (LC 35), 8=2613 (LC 6), 10=7175 (LC 45), 13=4940 (LC 34)

FORCES

(lb) - Maximum Compression/Maximum Tension
 TOP CHORD 1-2=-4202/0, 2-4=-2105/912, 4-5=0/710, 5-6=-260/150, 1-13=-3371/0, 6-7=-3111/103
 BOT CHORD 12-13=-262/528, 11-12=0/3415, 10-11=0/1626, 8-10=-475/0, 7-8=-473/0
 WEBS 1-12=0/3093, 5-7=0/1008, 3-11=0/5144, 2-12=0/2797, 3-10=-4466/0, 4-10=-749/0, 5-10=-990/0, 2-11=-2486/0, 5-8=-220/28

NOTES

- 2-ply truss to be connected together with 10d (0.131"x3") nails as follows:
 Top chords connected as follows: 2x4 - 1 row at 0-9-0 oc.
 Bottom chords connected as follows: 2x8 - 4 rows staggered at 0-7-0 oc.
 Web connected as follows: 2x4 - 1 row at 0-9-0 oc.

- All loads are considered equally applied to all plies, except if noted as front (F) or back (B) face in the LOAD CASE(S) section. Ply to ply connections have been provided to distribute only loads noted as (F) or (B), unless otherwise indicated.
- Unbalanced roof live loads have been considered for this design.
- Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat II; Exp B; Enclosed; MWFRS (envelope) exterior zone; cantilever left and right exposed; end vertical left and right exposed; Lumber DOL=1.60 plate grip DOL=1.60
- TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
- Unbalanced snow loads have been considered for this design.
- Provide adequate drainage to prevent water ponding.
- This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members, with BCDL = 10.0psf.
- Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.
- Use Simpson Strong-Tie HTU26 (10-16d Girder, 14-10dx1 1/2 Truss) or equivalent spaced at 8-3-0 oc max. starting at 1-1-0 from the left end to 21-4-0 to connect truss(es) to front face of bottom chord.
- Use Simpson Strong-Tie HGUS28-2 (36-16d Girder, 6-16d Truss) or equivalent at 20-7-0 from the left end to connect truss(es) to front face of bottom chord.
- Fill all nail holes where hanger is in contact with lumber.

LOAD CASE(S) Standard

- Dead + Snow (balanced): Lumber Increase=1.15, Plate Increase=1.15
 Uniform Loads (lb/ft)
 Vert: 1-4=-60, 4-5=-60, 5-6=-60, 7-13=-20
 Concentrated Loads (lb)
 Vert: 11=-1230 (F), 19=-1230 (F), 20=-1230 (F), 21=-1230 (F), 22=-1230 (F), 23=-1230 (F), 25=-1230 (F), 27=-2458 (F), 29=-1230 (F)



September 20,2024

WARNING - Verify design parameters and READ NOTES ON THIS AND INCLUDED MITEK REFERENCE PAGE MII-7473 rev. 1/2/2023 BEFORE USE.

Design valid for use only with MiTek® connectors. This design is based only upon parameters shown, and is for an individual building component, not a truss system. Before use, the building designer must verify the applicability of design parameters and properly incorporate this design into the overall building design. Bracing indicated is to prevent buckling of individual truss web and/or chord members only. Additional temporary and permanent bracing is always required for stability and to prevent collapse with possible personal injury and property damage. For general guidance regarding the fabrication, storage, delivery, erection and bracing of trusses and truss systems, see **ANSI/TPH Quality Criteria and DSB-22** available from Truss Plate Institute (www.tpinst.org) and **BCSI Building Component Safety Information** available from the Structural Building Component Association (www.sbcacomponents.com)



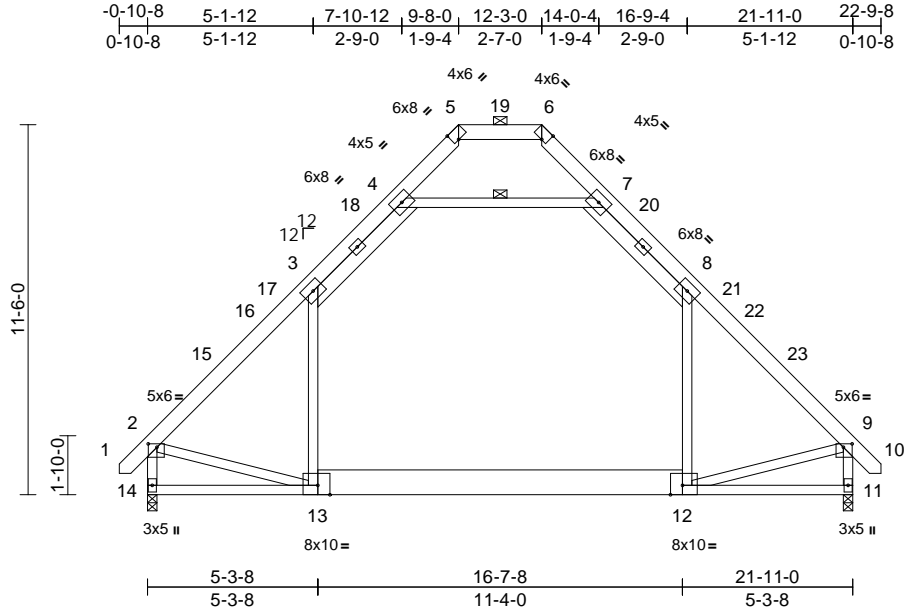
818 Soundside Road
 Edenton, NC 27932

Job 24090063-01	Truss D01	Truss Type Attic	Qty 3	Ply 1	The Grace-Roof-1511 A-The Grace Job Reference (optional)	168350165
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Carter Components (Sanford, NC), Sanford, NC - 27332,

Run: 8.73 S Aug 15 2024 Print: 8.730 S Aug 15 2024 MiTek Industries, Inc. Thu Sep 19 13:23:51
ID:n1LqTRnTPO9UVcYzqumAWEyc77w-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWRcDoi7J4zJC?f

Page: 1



Scale = 1:71.6

Plate Offsets (X, Y): [2:0-3-4,0-1-4], [5:0-2-2,Edge], [6:0-2-2,Edge], [9:0-3-4,0-1-4], [12:0-4-8,Edge], [13:0-4-8,Edge]

Loading	(psf)	Spacing	2-0-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP	
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.97	Vert(LL)	-0.22	12-13	>999	240	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.48	Vert(CT)	-0.32	12-13	>800	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.33	Horz(CT)	0.01	11	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-MSH		Attic	-0.15	12-13	>890	360		
BCDL	10.0										Weight: 203 lb	FT = 20%

LUMBER
TOP CHORD 2x6 SP No.2
BOT CHORD 2x4 SP No.2 *Except* 13-12:2x10 SP 2400F 2.0E
WEBS 2x4 SP No.3 *Except* 4-7:2x4 SP No.2, 3-4,7-8:2x6 SP No.2

BRACING
TOP CHORD Structural wood sheathing directly applied, except end verticals, and 2-0-0 oc purlins (10-0-0 max.): 5-6.
BOT CHORD Rigid ceiling directly applied or 8-11-14 oc bracing.
WEBS 1 Row at midpt 4-7

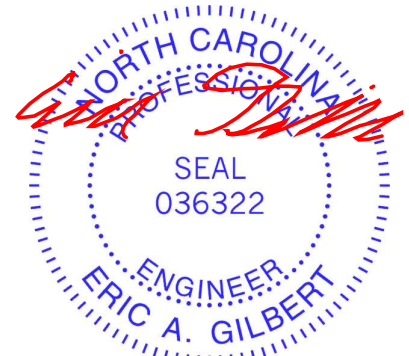
REACTIONS
(size) 11=0-3-8, 14=0-3-8
Max Horiz 14=-297 (LC 12)
Max Grav 11=1473 (LC 48), 14=1473 (LC 48)

FORCES
(lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/36, 2-3=-1565/0, 3-4=-1074/131, 4-5=-172/291, 5-6=0/371, 6-7=-172/290, 7-8=-1077/127, 8-9=-1562/0, 9-10=0/36, 2-14=-1537/3, 9-11=-1543/0
BOT CHORD 11-14=-322/995
WEBS 3-13=0/585, 8-12=0/585, 4-7=-1404/149, 2-13=-44/941, 9-12=-49/945

NOTES
1) Unbalanced roof live loads have been considered for this design.

- Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) -0-8-6 to 2-3-10, Interior (1) 2-3-10 to 5-1-9, Exterior(2R) 5-1-9 to 16-9-7, Interior (1) 16-9-7 to 19-7-6, Exterior(2E) 19-7-6 to 22-7-6 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
- TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
- Unbalanced snow loads have been considered for this design.
- This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 20.0 psf on overhangs non-concurrent with other live loads.
- Provide adequate drainage to prevent water ponding.
- This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
- Ceiling dead load (5.0 psf) on member(s). 3-4, 7-8, 4-7; Wall dead load (5.0psf) on member(s).3-13, 8-12
- Bottom chord live load (40.0 psf) and additional bottom chord dead load (5.0 psf) applied only to room. 12-13
- Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.
- Attic room checked for L/360 deflection.

LOAD CASE(S) Standard



September 20,2024

WARNING - Verify design parameters and READ NOTES ON THIS AND INCLUDED MITEK REFERENCE PAGE MII-7473 rev. 1/2/2023 BEFORE USE.

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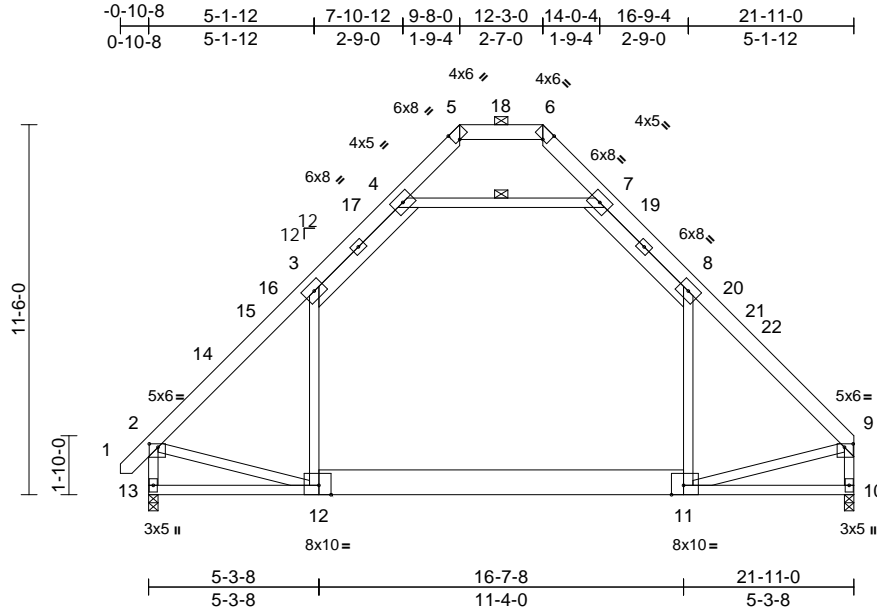
818 Soundside Road
Edenton, NC 27932

Job 24090063-01	Truss D02	Truss Type Attic	Qty 5	Ply 1	The Grace-Roof-1511 A-The Grace Job Reference (optional)	168350166
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Carter Components (Sanford, NC), Sanford, NC - 27332,

Run: 8.73 S Aug 15 2024 Print: 8.730 S Aug 15 2024 MiTek Industries, Inc. Thu Sep 19 13:23:52
ID:qqeLj8Du6U?e2PNDFJlt3yc78l-RfC?PsB70Hq3NSgPqnL8w3ulTXbGKwRCDoi7J4zJC?f

Page: 1



Scale = 1:71.6

Plate Offsets (X, Y): [2:0-3-4,0-1-4], [5:0-2-2,Edge], [6:0-2-2,Edge], [9:0-3-4,0-1-4], [11:0-4-8,Edge], [12:0-4-8,Edge]

Loading	(psf)	Spacing	2-0-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP	
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.98	Vert(LL)	-0.22	11-12	>999	240	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.49	Vert(CT)	-0.33	11-12	>798	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.34	Horz(CT)	0.01	10	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-MSH		Attic	-0.16	11-12	>871	360		
BCDL	10.0										Weight: 201 lb	FT = 20%

LUMBER

TOP CHORD 2x6 SP No.2
 BOT CHORD 2x4 SP No.2 *Except* 12-11:2x10 SP 2400F
 WEBS 2x4 SP No.3 *Except* 4-7:2x4 SP No.2,
 3-4,7-8:2x6 SP No.2

BRACING

TOP CHORD Structural wood sheathing directly applied, except end verticals, and 2-0-0 oc purlins (10-0-0 max.): 5-6.
 BOT CHORD Rigid ceiling directly applied or 8-10-6 oc bracing.
 WEBS 1 Row at midpt 4-7

REACTIONS

(size) 10=0-3-8, 13=0-3-8
 Max Horiz 13=291 (LC 11)
 Max Grav 10=1430 (LC 48), 13=1474 (LC 48)

FORCES

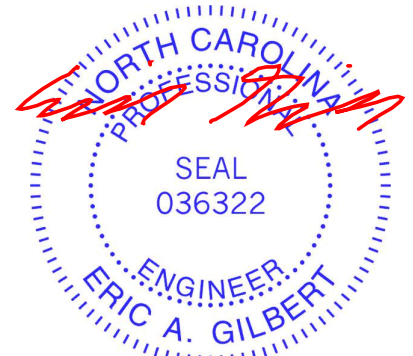
(lb) - Maximum Compression/Maximum Tension
 TOP CHORD 1-2=0/36, 2-3=-1567/0, 3-4=-1076/129,
 4-5=-169/293, 5-6=0/375, 6-7=-170/294,
 7-8=-1078/127, 8-9=-1557/0, 2-13=-1539/2,
 9-10=-1505/0
 BOT CHORD 10-13=-331/987
 WEBS 3-12=0/586, 8-11=0/578, 4-7=-1412/149,
 2-12=-44/945, 9-11=-39/953

NOTES

1) Unbalanced roof live loads have been considered for this design.

- Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) -0-8-6 to 2-3-10, Interior (1) 2-3-10 to 5-1-9, Exterior(2R) 5-1-9 to 16-9-7, Interior (1) 16-9-7 to 18-9-4, Exterior(2E) 18-9-4 to 21-9-4 zone; cantilever left and right exposed; end vertical left and right exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
- TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
- Unbalanced snow loads have been considered for this design.
- This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 20.0 psf on overhangs non-concurrent with other live loads.
- Provide adequate drainage to prevent water ponding.
- This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
- Ceiling dead load (5.0 psf) on member(s). 3-4, 7-8, 4-7; Wall dead load (5.0psf) on member(s).3-12, 8-11
- Bottom chord live load (40.0 psf) and additional bottom chord dead load (5.0 psf) applied only to room. 11-12
- Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.
- Attic room checked for L/360 deflection.

LOAD CASE(S) Standard



September 20, 2024

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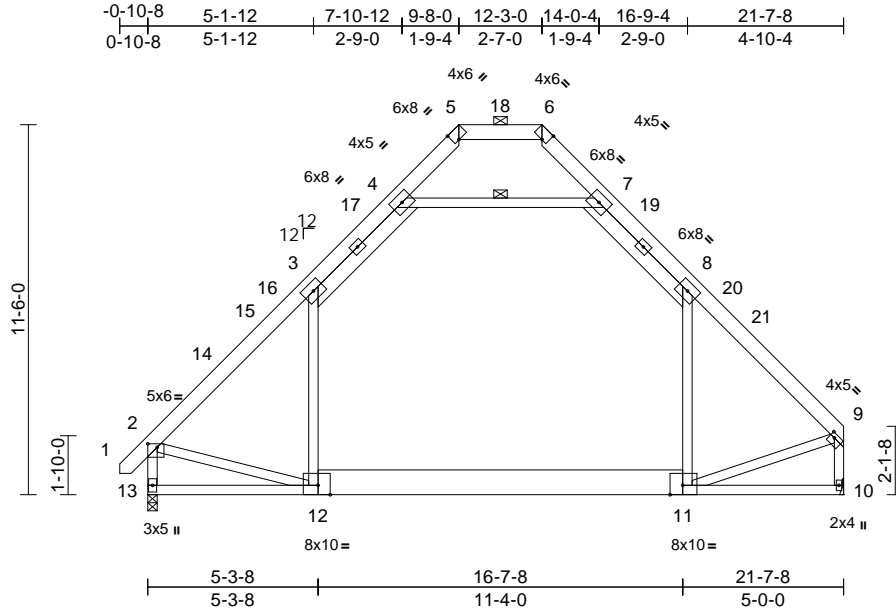
818 Soundside Road
 Edenton, NC 27932

Job 24090063-01	Truss D03	Truss Type Attic	Qty 8	Ply 1	The Grace-Roof-1511 A-The Grace Job Reference (optional)	168350167
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Carter Components (Sanford, NC), Sanford, NC - 27332,

Run: 8.73 S Aug 15 2024 Print: 8.730 S Aug 15 2024 MiTek Industries, Inc. Thu Sep 19 13:23:52
ID: jol1UFakgzgVqJLztzkT8yc79U-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC7f

Page: 1



Scale = 1:71.6

Plate Offsets (X, Y): [2:0-3-8,0-1-4], [5:0-2-2,Edge], [6:0-2-2,Edge], [9:0-1-12,0-1-8], [11:0-4-12,Edge], [12:0-4-8,Edge]

Loading	(psf)	Spacing	2-0-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP	
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.96	Vert(LL)	-0.21	11-12	>999	240	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.69	Vert(CT)	-0.32	11-12	>807	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.36	Horz(CT)	0.01	10	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-MSH		Attic	-0.16	11-12	>876	360		
BCDL	10.0										Weight: 200 lb	FT = 20%

LUMBER
TOP CHORD 2x6 SP No.2
BOT CHORD 2x4 SP No.2 *Except* 12-11:2x10 SP 2400F 2.0E
WEBS 2x4 SP No.3 *Except* 4-7:2x4 SP No.2, 3-4,7-8:2x6 SP No.2

BRACING
TOP CHORD Structural wood sheathing directly applied, except end verticals, and 2-0-0 oc purlins (10-0-0 max.): 5-6.
BOT CHORD Rigid ceiling directly applied or 8-11-5 oc bracing.
WEBS 1 Row at midpt 4-7

REACTIONS
(size) 10= Mechanical, 13=0-3-8
Max Horiz 13=294 (LC 11)
Max Grav 10=1434 (LC 48), 13=1455 (LC 48)

FORCES
(lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/36, 2-3=-1533/0, 3-4=-1046/131, 4-5=-177/286, 5-6=0/355, 6-7=-186/267, 7-8=-1065/128, 8-9=-1500/0, 2-13=-1508/3, 9-10=-1525/0
BOT CHORD 10-13=-331/961
WEBS 3-12=0/582, 8-11=-15/541, 4-7=-1352/150, 2-12=-49/903, 9-11=-24/981

NOTES
1) Unbalanced roof live loads have been considered for this design.

- Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) -0-8-6 to 2-3-10, Interior (1) 2-3-10 to 5-1-9, Exterior(2R) 5-1-9 to 16-9-7, Interior (1) 16-9-7 to 18-5-12, Exterior(2E) 18-5-12 to 21-5-12 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
- TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
- Unbalanced snow loads have been considered for this design.
- This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 20.0 psf on overhangs non-concurrent with other live loads.
- Provide adequate drainage to prevent water ponding.
- This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
- Ceiling dead load (5.0 psf) on member(s). 3-4, 7-8, 4-7; Wall dead load (5.0psf) on member(s).3-12, 8-11
- Bottom chord live load (40.0 psf) and additional bottom chord dead load (5.0 psf) applied only to room. 11-12
- Refer to girder(s) for truss to truss connections.
- Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.
- Attic room checked for L/360 deflection.

LOAD CASE(S) Standard



September 20,2024

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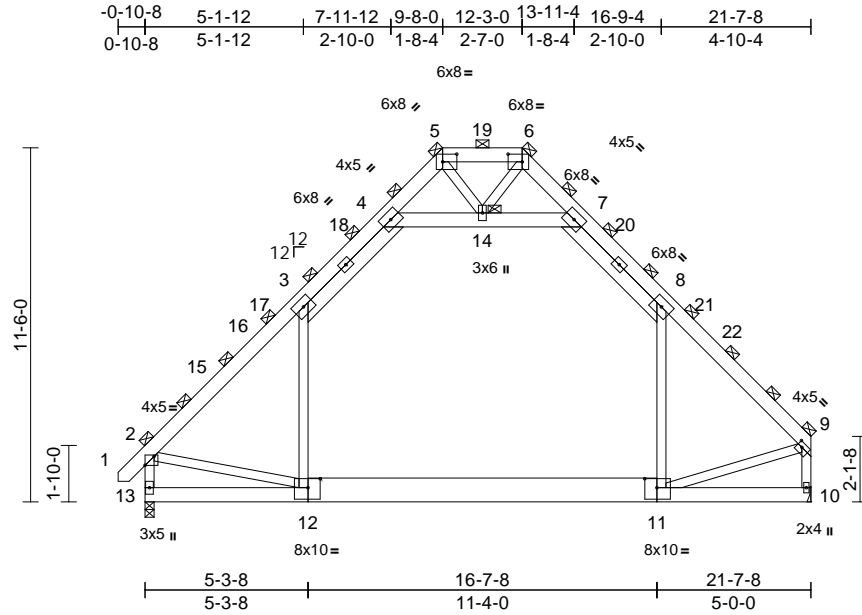
818 Soundside Road
Edenton, NC 27932

Job 24090063-01	Truss D04	Truss Type Attic	Qty 1	Ply 2	The Grace-Roof-1511 A-The Grace Job Reference (optional)	168350168
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Carter Components (Sanford, NC), Sanford, NC - 27332,

Run: 8.73 S Aug 15 2024 Print: 8.730 S Aug 15 2024 MiTek Industries, Inc. Thu Sep 19 13:23:52
ID:qDTErxEwmdTPNcmFqUqkYyc7AL-RfC?PsB70Hq3NSgPqnL8w3uITXbGKwRCDoi7J4zJC?

Page: 1



Scale = 1:74.8

Plate Offsets (X, Y): [2:0-3-8,Edge], [5:0-5-8,0-3-0], [6:0-5-8,0-3-0], [9:0-2-0,0-1-12], [11:0-4-12,0-3-8], [12:0-4-12,0-3-8]

Loading	(psf)	Spacing	4-0-0	CSI	DEFL	in (loc)	l/defl	L/d	PLATES	GRIP		
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.74	Vert(LL)	-0.18	11-12	>999	240	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.56	Vert(CT)	-0.27	11-12	>957	180		
TCDL	10.0	Rep Stress Incr	NO	WB	0.36	Horz(CT)	0.01	10	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-MSH		Attic	-0.12	11-12	>999	360		
BCDL	10.0											
											Weight: 438 lb	FT = 20%

- LUMBER**
- TOP CHORD 2x6 SP 2400F 2.0E *Except* 5-6:2x6 SP No.2
- BOT CHORD 2x6 SP No.2 *Except* 12-11:2x10 SP 2400F 2.0E
- WEBS 2x4 SP No.3 *Except* 4-7,3-4,7-8:2x6 SP No.2
- BRACING**
- TOP CHORD 2-0-0 oc purlins (6-0-0 max.), except end verticals (Switched from sheeted: Spacing > 2-8-0).
- BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.
- JOINTS 1 Brace at Jt(s): 5, 6, 2, 9, 14
- REACTIONS** (size) 10= Mechanical, 13=0-3-8
Max Horiz 13=583 (LC 11)
Max Grav 10=2867 (LC 48), 13=2909 (LC 48)
- FORCES** (lb) - Maximum Compression/Maximum Tension
- TOP CHORD 1-2=0/71, 2-3=-3121/0, 3-4=-2129/253, 4-5=-461/444, 5-6=-30/681, 6-7=-470/435, 7-8=-2154/249, 8-9=-3078/0, 2-13=-3044/0, 9-10=-3102/0
- BOT CHORD 10-13=-625/1964
- WEBS 3-12=0/1214, 8-11=-38/1167, 4-14=-2734/308, 7-14=-2764/318, 2-12=-45/1824, 9-11=-7/1974, 5-14=-195/274, 6-14=-174/307
- NOTES**
- 2-ply truss to be connected together with 10d (0.131"x3") nails as follows:
Top chords connected as follows: 2x6 - 2 rows staggered at 0-9-0 oc, 2x4 - 1 row at 0-9-0 oc.
Bottom chords connected as follows: 2x6 - 2 rows staggered at 0-9-0 oc, 2x10 - 2 rows staggered at 0-9-0 oc.
Web connected as follows: 2x4 - 1 row at 0-9-0 oc.
 - All loads are considered equally applied to all plies, except if noted as front (F) or back (B) face in the LOAD CASE(S) section. Ply to ply connections have been provided to distribute only loads noted as (F) or (B), unless otherwise indicated.
 - Unbalanced roof live loads have been considered for this design.
 - Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) -0-8-6 to 2-3-10, Interior (1) 2-3-10 to 5-1-9, Exterior(2R) 5-1-9 to 16-9-7, Interior (1) 16-9-7 to 18-5-12, Exterior(2E) 18-5-12 to 21-5-12 zone; cantilever left and right exposed; end vertical left and right exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
 - TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
 - Unbalanced snow loads have been considered for this design.
 - This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 20.0 psf on overhangs non-concurrent with other live loads.
 - Provide adequate drainage to prevent water ponding.
 - This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
 - * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
 - Ceiling dead load (5.0 psf) on member(s). 3-4, 7-8, 4-14, 7-14; Wall dead load (5.0psf) on member(s).3-12, 8-11
 - Bottom chord live load (40.0 psf) and additional bottom chord dead load (5.0 psf) applied only to room. 11-12
 - Refer to girder(s) for truss to truss connections.
 - Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.
 - Attic room checked for L/360 deflection.
- LOAD CASE(S)** Standard



September 20, 2024

WARNING - Verify design parameters and READ NOTES ON THIS AND INCLUDED MITEK REFERENCE PAGE MII-7473 rev. 1/2/2023 BEFORE USE.

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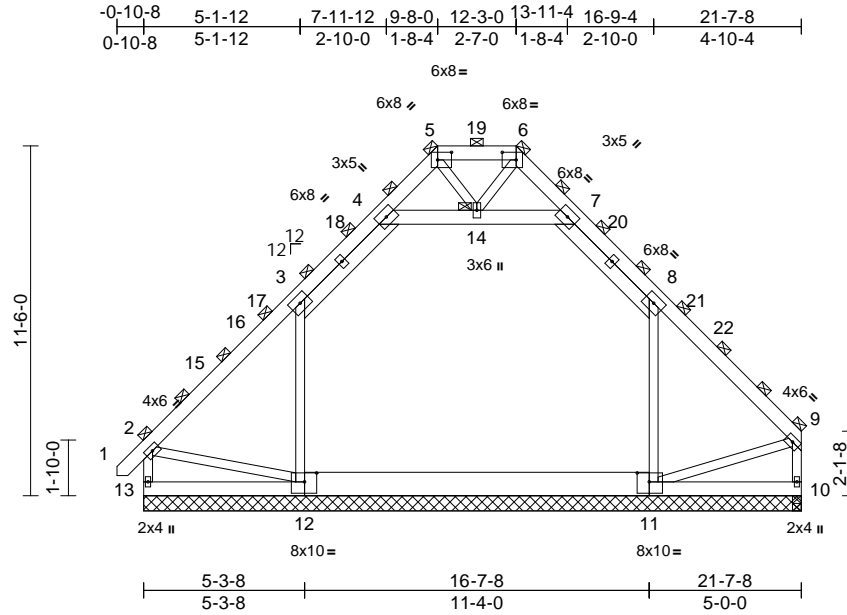
818 Soundside Road
Edenton, NC 27932

Job 24090063-01	Truss D05	Truss Type Attic Structural Gable	Qty 1	Ply 2	The Grace-Roof-1511 A-The Grace Job Reference (optional)	168350169
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Carter Components (Sanford, NC), Sanford, NC - 27332,

Run: 8.73 S Aug 15 2024 Print: 8.730 S Aug 15 2024 MiTek Industries, Inc. Thu Sep 19 13:23:52
ID:TR53BIE66ZaQhmK?z3TITkyc7BD-RfC?PsB70Hq3NSgPqnL8w3uTXbGKwRCDoi7J4zJC?f

Page: 1



Scale = 1:75.8

Plate Offsets (X, Y): [5:0-5-8,0-3-0], [6:0-5-8,0-3-0], [11:0-4-12,0-3-8], [12:0-4-12,0-3-8]

Loading	(psf)	Spacing	4-0-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP	
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.20	Vert(LL)	-0.02	11-12	>999	240	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.22	Vert(CT)	-0.04	11-12	>999	180		
TCDL	10.0	Rep Stress Incr	NO	WB	0.15	Horz(CT)	0.00	10	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-MSH								
BCDL	10.0											
											Weight: 438 lb	FT = 20%

LUMBER
TOP CHORD 2x6 SP No.2
BOT CHORD 2x6 SP No.2 *Except* 12-11:2x10 SP 2400F 2.0E
WEBS 2x4 SP No.3 *Except* 4-7,3-4,7-8:2x6 SP No.2

BRACING
TOP CHORD 2-0-0 oc purlins (6-0-0 max.), except end verticals
(Switched from sheeted: Spacing > 2-8-0).
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

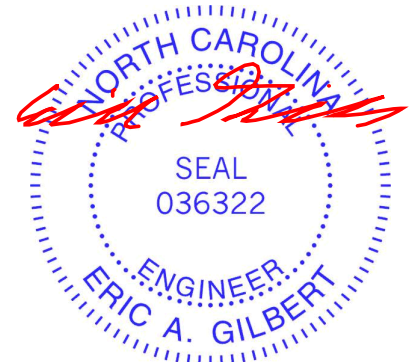
JOINTS
1 Brace at Jt(s): 5, 6, 2, 9, 14

REACTIONS (size) 10=21-7-8, 11=21-7-8, 12=21-7-8, 13=583 (LC 11)
Max Horiz 13=583 (LC 11)
Max Uplift 10=-114 (LC 11), 11=-493 (LC 15), 12=-500 (LC 14), 13=-97 (LC 10)
Max Grav 10=1102 (LC 42), 11=1198 (LC 54), 12=1232 (LC 52), 13=1188 (LC 42)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/71, 2-3=-1050/255, 3-4=-1116/287, 4-5=-690/140, 5-6=-400/141, 6-7=-690/140, 7-8=-1116/286, 8-9=-1029/238, 2-13=-1122/130, 9-10=-1044/143
BOT CHORD 10-13=-562/607
WEBS 3-12=-905/595, 8-11=-903/583, 4-14=-314/261, 7-14=-314/260, 2-12=-241/672, 9-11=-214/650, 5-14=-139/137, 6-14=-141/136

- 2-ply truss to be connected together with 10d (0.131"x3") nails as follows:
Top chords connected as follows: 2x6 - 2 rows staggered at 0-9-0 oc, 2x4 - 1 row at 0-9-0 oc.
Bottom chords connected as follows: 2x6 - 2 rows staggered at 0-9-0 oc, 2x10 - 2 rows staggered at 0-9-0 oc.
Web connected as follows: 2x4 - 1 row at 0-9-0 oc, 2x6 - 2 rows staggered at 0-9-0 oc.
- All loads are considered equally applied to all plies, except if noted as front (F) or back (B) face in the LOAD CASE(S) section. Ply to ply connections have been provided to distribute only loads noted as (F) or (B), unless otherwise indicated.
- Unbalanced roof live loads have been considered for this design.
- Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) -0-8-6 to 2-3-10, Interior (1) 2-3-10 to 5-1-9, Exterior(2R) 5-1-9 to 16-9-7, Interior (1) 16-9-7 to 18-5-12, Exterior(2E) 18-5-12 to 21-5-12 zone; cantilever left and right exposed; end vertical left and right exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
- TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
- Unbalanced snow loads have been considered for this design.
- This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 20.0 psf on overhangs non-concurrent with other live loads.
- Provide adequate drainage to prevent water ponding.
- This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.

- * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
 - One H2.5A Simpson Strong-Tie connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 13, 12, 11, and 10. This connection is for uplift only and does not consider lateral forces.
 - Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.
 - Attic room checked for L/360 deflection.
- LOAD CASE(S)** Standard



September 20, 2024

WARNING - Verify design parameters and READ NOTES ON THIS AND INCLUDED MITEK REFERENCE PAGE MII-7473 rev. 1/2/2023 BEFORE USE.

Design valid for use only with MiTek® connectors. This design is based only upon parameters shown, and is for an individual building component, not a truss system. Before use, the building designer must verify the applicability of design parameters and properly incorporate this design into the overall building design. Bracing indicated is to prevent buckling of individual truss web and/or chord members only. Additional temporary and permanent bracing is always required for stability and to prevent collapse with possible personal injury and property damage. For general guidance regarding the fabrication, storage, delivery, erection and bracing of trusses and truss systems, see **ANSI/TP1 Quality Criteria and DSB-22** available from Truss Plate Institute (www.tpinst.org) and **BCSI Building Component Safety Information** available from the Structural Building Component Association (www.sbcacomponents.com)



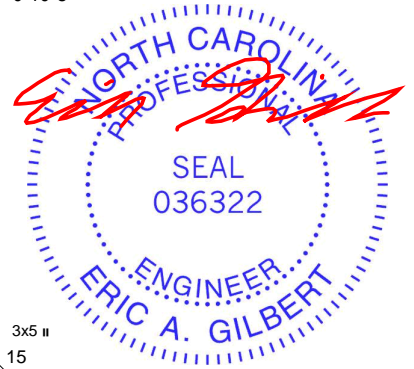
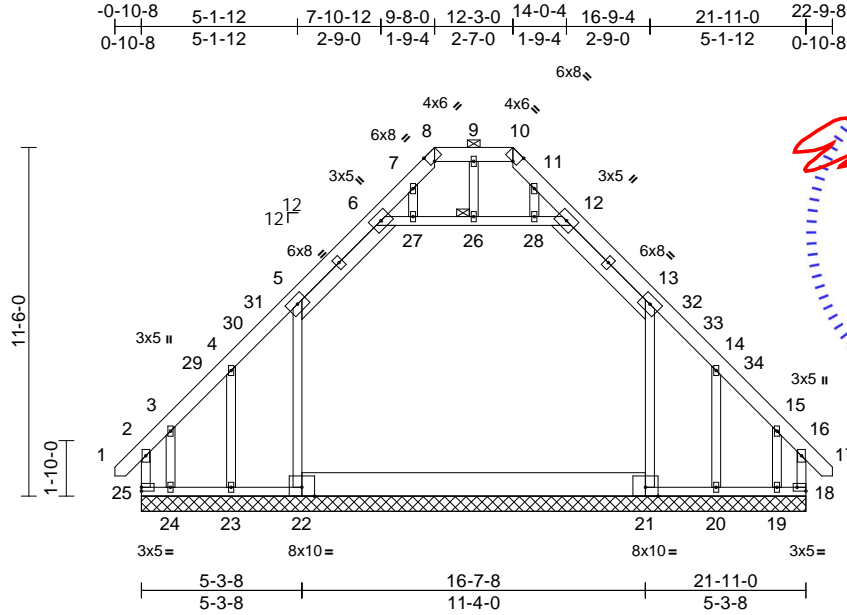
818 Soundside Road
Edenton, NC 27932

Job 24090063-01	Truss D06	Truss Type Attic Supported Gable	Qty 1	Ply 1	The Grace-Roof-1511 A-The Grace Job Reference (optional)	168350170
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Carter Components (Sanford, NC), Sanford, NC - 27332,

Run: 8.73 S Aug 15 2024 Print: 8.730 S Aug 15 2024 MiTek Industries, Inc. Thu Sep 19 13:23:52
ID:o2FpOxGwx_Vm5UCdHG1xDTyc7CT-RfC?PsB70Hq3NSgPqnL8w3u1TXbGKwRCD0i7J4zJC?f

Page: 1



Scale = 1:76

Plate Offsets (X, Y): [8:0-2-2,Edge], [10:0-2-2,Edge], [18:Edge,0-1-8]

Loading	(psf)	Spacing	1-11-4	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP	
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.37	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.37	Vert(CT)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.26	Horz(CT)	0.00	18	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-MSH								
BCDL	10.0											
											Weight: 213 lb	FT = 20%

LUMBER
TOP CHORD 2x6 SP No.2
BOT CHORD 2x4 SP No.2 *Except* 22-21:2x10 SP 2400F 2.0E
WEBS 2x4 SP No.3 *Except* 6-12:2x4 SP No.2, 5-6,12-13:2x6 SP No.2
OTHERS 2x4 SP No.3

BRACING
TOP CHORD Structural wood sheathing directly applied or 6-0-0 oc purlins, except end verticals, and 2-0-0 oc purlins (6-0-0 max.); 8-10.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

JOINTS 1 Brace at Jt(s): 26

REACTIONS (size)
18=21-11-0, 19=21-11-0, 20=21-11-0, 21=21-11-0, 22=21-11-0, 23=21-11-0, 24=21-11-0, 25=21-11-0
Max Horiz 25=232 (LC 12)
Max Uplift 18=226 (LC 11), 19=251 (LC 15), 20=144 (LC 15), 23=143 (LC 14), 24=255 (LC 14), 25=239 (LC 10)
Max Grav 18=471 (LC 52), 19=288 (LC 13), 20=66 (LC 13), 21=670 (LC 56), 22=672 (LC 58), 23=63 (LC 42), 24=298 (LC 12), 25=481 (LC 54)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 2-25=-342/156, 1-2=0/35, 2-3=-319/172, 3-4=-220/109, 4-5=-188/220, 5-6=-275/174, 6-7=-369/59, 7-8=-316/49, 8-9=-273/34, 9-10=-273/34, 10-11=-316/51, 11-12=-369/61, 12-13=-275/174, 13-14=-188/219, 14-15=-220/103, 15-16=-312/163, 16-17=0/35, 16-18=-335/147

BOT CHORD 24-25=-111/161, 23-24=-110/160, 20-23=-110/160, 19-20=-106/158, 18-19=-105/157
WEBS 5-22=-334/52, 13-21=-334/45, 6-27=-22/209, 26-27=-22/208, 26-28=-22/208, 12-28=-22/209, 9-26=0/45, 7-27=-57/11, 4-23=-106/192, 3-24=-152/176, 11-28=-57/9, 14-20=-107/190, 15-19=-147/174

NOTES

- Unbalanced roof live loads have been considered for this design.
- Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Corner(3E) -0-8-6 to 2-3-10, Exterior(2N) 2-3-10 to 6-8-0, Corner(3R) 6-8-0 to 15-3-0, Exterior(2N) 15-3-0 to 19-7-6, Corner(3E) 19-7-6 to 22-7-6 zone; cantilever left and right exposed; end vertical left and right exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
- Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
- TCLL: ASCE 7-16; Pr=20.0 psf (roof LL); Lum DOL=1.15 Plate DOL=1.15; Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
- Unbalanced snow loads have been considered for this design.
- This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 20.0 psf on overhangs non-concurrent with other live loads.
- Provide adequate drainage to prevent water ponding.
- All plates are 2x4 MT20 unless otherwise indicated.
- Gable requires continuous bottom chord bearing.

- Truss to be fully sheathed from one face or securely braced against lateral movement (i.e. diagonal web).
- Gable studs spaced at 2-0-0 oc.
- This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members, with BCDL = 10.0psf.
- Ceiling dead load (5.0 psf) on member(s): 5-6, 12-13, 6-27, 26-27, 26-28, 12-28; Wall dead load (5.0psf) on member(s): 5-22, 13-21
- Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 239 lb uplift at joint 25, 226 lb uplift at joint 18, 143 lb uplift at joint 23, 255 lb uplift at joint 24, 144 lb uplift at joint 20 and 251 lb uplift at joint 19.
- Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.
- Attic room checked for L/360 deflection.

LOAD CASE(S) Standard

September 20,2024

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Design valid for use only with MiTek® connectors. This design is based only upon parameters shown, and is for an individual building component, not a truss system. Before use, the building designer must verify the applicability of design parameters and properly incorporate this design into the overall building design. Bracing indicated is to prevent buckling of individual truss web and/or chord members only. Additional temporary and permanent bracing is always required for stability and to prevent collapse with possible personal injury and property damage. For general guidance regarding the fabrication, storage, delivery, erection and bracing of trusses and truss systems, see **ANSI/TPI Quality Criteria and DSB-22** available from Truss Plate Institute (www.tpinst.org) and **BCSI Building Component Safety Information** available from the Structural Building Component Association (www.sbcacomponents.com)



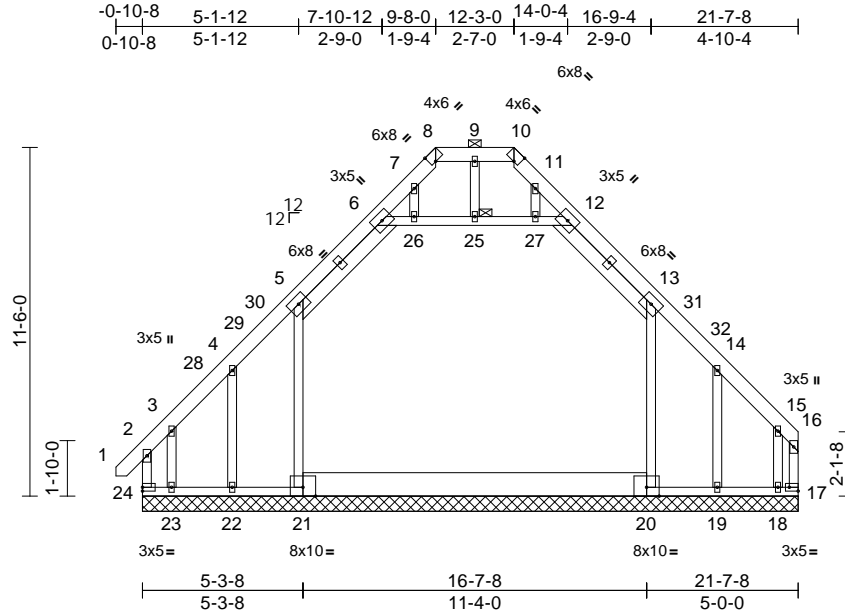
818 Soundside Road
Edenton, NC 27932

Job 24090063-01	Truss D07	Truss Type Attic Supported Gable	Qty 1	Ply 1	The Grace-Roof-1511 A-The Grace Job Reference (optional)	168350171
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Carter Components (Sanford, NC), Sanford, NC - 27332,

Run: 8.73 S Aug 15 2024 Print: 8.730 S Aug 15 2024 MiTek Industries, Inc. Thu Sep 19 13:23:53
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Page: 1



Scale = 1:76

Plate Offsets (X, Y): [8:0-2-2,Edge], [10:0-2-2,Edge], [17:Edge,0-1-8]

Loading	(psf)	Spacing	2-0-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP	
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.39	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.38	Vert(CT)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.29	Horz(CT)	0.00	17	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-MSH								
BCDL	10.0											
											Weight: 209 lb	FT = 20%

LUMBER	
TOP CHORD	2x6 SP No.2
BOT CHORD	2x4 SP No.2 *Except* 21-20:2x10 SP 2400F 2.0E
WEBS	2x4 SP No.3 *Except* 6-12:2x4 SP No.2, 5-6,12-13:2x6 SP No.2
OTHERS	2x4 SP No.3
BRACING	
TOP CHORD	Structural wood sheathing directly applied or 6-0-0 oc purlins, except end verticals, and 2-0-0 oc purlins (6-0-0 max.): 8-10.
BOT CHORD	Rigid ceiling directly applied or 10-0-0 oc bracing.
JOINTS	
	1 Brace at Jt(s): 25
REACTIONS	(size)
	17=21-7-8, 18=21-7-8, 19=21-7-8, 20=21-7-8, 21=21-7-8, 22=21-7-8, 23=21-7-8, 24=21-7-8
	Max Horiz 24=236 (LC 11)
	Max Uplift 17=322 (LC 11), 18=292 (LC 10), 19=165 (LC 15), 22=144 (LC 14), 23=273 (LC 11), 24=269 (LC 10)
	Max Grav 17=516 (LC 52), 18=370 (LC 13), 19=86 (LC 13), 20=703 (LC 56), 21=713 (LC 52), 22=58 (LC 12), 23=325 (LC 12), 24=493 (LC 54)

FORCES	(lb) - Maximum Compression/Maximum Tension
TOP CHORD	2-24=-350/176, 1-2=0/36, 2-3=-327/194, 3-4=-225/122, 4-5=-179/223, 5-6=-275/179, 6-7=-386/58, 7-8=-334/46, 8-9=-291/39, 9-10=-291/39, 10-11=-334/60, 11-12=-386/67, 12-13=-275/179, 13-14=-176/223, 14-15=-215/95, 15-16=-304/165, 16-17=-304/166
BOT CHORD	23-24=-102/142, 22-23=-101/141, 19-22=-102/141, 18-19=-98/138, 17-18=-97/138

WEBS	
	5-21=-367/75, 13-20=-366/33, 6-26=-21/212, 25-26=-21/212, 25-27=-21/212, 12-27=-21/212, 9-25=0/50, 7-26=-62/14, 4-22=-103/197, 3-23=-167/187, 11-27=-62/7, 14-19=-103/218, 15-18=-161/175

NOTES

- Unbalanced roof live loads have been considered for this design.
- Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Corner(3E) -0-8-6 to 2-3-10, Exterior(2N) 2-3-10 to 6-8-0, Corner(3R) 6-8-0 to 15-3-0, Exterior(2N) 15-3-0 to 18-5-12, Corner(3E) 18-5-12 to 21-5-12 zone; cantilever left and right exposed; end vertical left and right exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
- Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
- TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
- Unbalanced snow loads have been considered for this design.
- This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 20.0 psf on overhangs non-concurrent with other live loads.
- Provide adequate drainage to prevent water ponding.
- All plates are 2x4 MT20 unless otherwise indicated.
- Gable requires continuous bottom chord bearing.
- Truss to be fully sheathed from one face or securely braced against lateral movement (i.e. diagonal web).
- Gable studs spaced at 2-0-0 oc.

- This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members, with BCDL = 10.0psf.
- Ceiling dead load (5.0 psf) on member(s): 5-6, 12-13, 6-26, 25-26, 25-27, 12-27; Wall dead load (5.0psf) on member(s): 5-21, 13-20
- Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 269 lb uplift at joint 24, 322 lb uplift at joint 17, 144 lb uplift at joint 22, 273 lb uplift at joint 23, 165 lb uplift at joint 19 and 292 lb uplift at joint 18.
- Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.
- Attic room checked for L/360 deflection.

LOAD CASE(S) Standard



September 20, 2024

WARNING - Verify design parameters and READ NOTES ON THIS AND INCLUDED MITEK REFERENCE PAGE MII-7473 rev. 1/2/2023 BEFORE USE.

Design valid for use only with MiTek® connectors. This design is based only upon parameters shown, and is for an individual building component, not a truss system. Before use, the building designer must verify the applicability of design parameters and properly incorporate this design into the overall building design. Bracing indicated is to prevent buckling of individual truss web and/or chord members only. Additional temporary and permanent bracing is always required for stability and to prevent collapse with possible personal injury and property damage. For general guidance regarding the fabrication, storage, delivery, erection and bracing of trusses and truss systems, see **ANSI/TPI Quality Criteria and DSB-22** available from Truss Plate Institute (www.tpinst.org) and **BCSI Building Component Safety Information** available from the Structural Building Component Association (www.sbcacomponents.com)



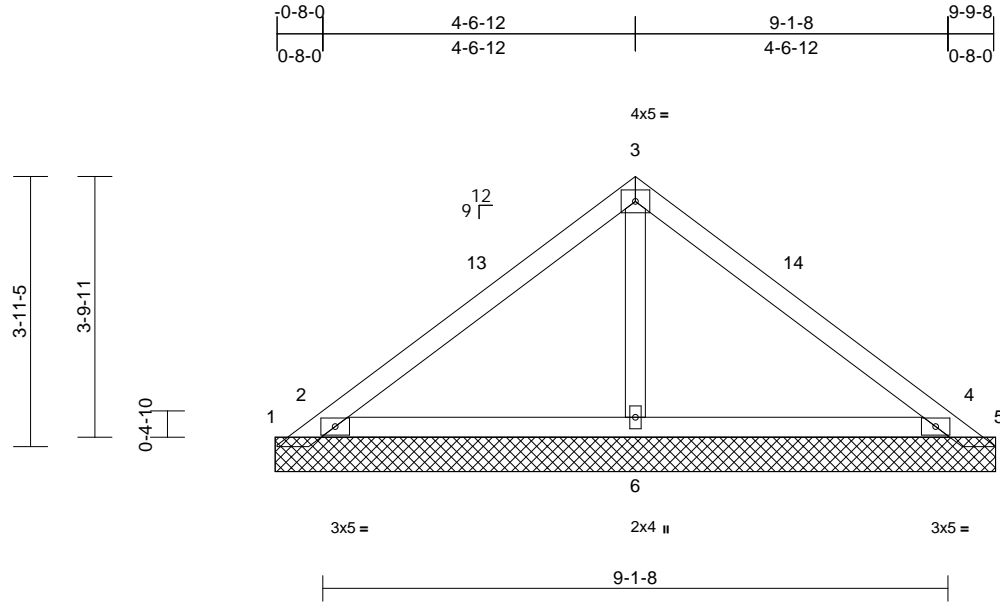
818 Soundside Road
Edenton, NC 27932

Job 24090063-01	Truss PB1	Truss Type Piggyback	Qty 10	Ply 1	The Grace-Roof-1511 A-The Grace Job Reference (optional)	168350172
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Carter Components (Sanford, NC), Sanford, NC - 27332,

Run: 8.73 S Aug 15 2024 Print: 8.730 S Aug 15 2024 MiTek Industries, Inc. Thu Sep 19 13:23:53
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Page: 1



Scale = 1:33.6

Loading	(psf)	Spacing	2-0-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP	
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.55	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.15	Vert(TL)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.05	Horiz(TL)	0.00	4	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-MSH								
BCDL	10.0										Weight: 38 lb	FT = 20%

LUMBER

- TOP CHORD 2x4 SP No.2
- BOT CHORD 2x4 SP No.2
- OTHERS 2x4 SP No.3

BRACING

- TOP CHORD Structural wood sheathing directly applied or 6-0-0 oc purlins.
- BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS

- (size) 1=10-6-3, 2=10-6-3, 4=10-6-3, 5=10-6-3, 6=10-6-3, 7=10-6-3, 10=10-6-3
- Max Horiz 1=-88 (LC 10)
- Max Uplift 1=-511 (LC 21), 2=-239 (LC 14), 4=-218 (LC 15), 5=-508 (LC 22), 7=-239 (LC 14), 10=-218 (LC 15)
- Max Grav 1=195 (LC 14), 2=898 (LC 21), 4=886 (LC 22), 5=157 (LC 15), 6=286 (LC 22), 7=898 (LC 21), 10=886 (LC 22)

FORCES

(lb) - Maximum Compression/Maximum Tension

- TOP CHORD 1-2=-164/329, 2-3=-223/236, 3-4=-223/234, 4-5=-118/327
- BOT CHORD 2-6=-186/86, 4-6=-186/86
- WEBS 3-6=-174/41

NOTES

- Unbalanced roof live loads have been considered for this design.
- Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) 0-3-1 to 3-3-1, Exterior(2R) 3-3-1 to 7-3-1, Exterior(2E) 7-3-1 to 10-3-1 zone; cantilever left and right exposed; end vertical left and right exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60

- Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
- TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
- Unbalanced snow loads have been considered for this design.
- Gable requires continuous bottom chord bearing.
- Gable studs spaced at 4-0-0 oc.
- This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
- Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 511 lb uplift at joint 1 and 508 lb uplift at joint 5.
- One H2.5A Simpson Strong-Tie connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 2 and 4. This connection is for uplift only and does not consider lateral forces.
- See Standard Industry Piggyback Truss Connection Detail for Connection to base truss as applicable, or consult qualified building designer.

LOAD CASE(S) Standard



September 20, 2024

WARNING - Verify design parameters and READ NOTES ON THIS AND INCLUDED MITEK REFERENCE PAGE MII-7473 rev. 1/2/2023 BEFORE USE.

Design valid for use only with MiTek® connectors. This design is based only upon parameters shown, and is for an individual building component, not a truss system. Before use, the building designer must verify the applicability of design parameters and properly incorporate this design into the overall building design. Bracing indicated is to prevent buckling of individual truss web and/or chord members only. Additional temporary and permanent bracing is always required for stability and to prevent collapse with possible personal injury and property damage. For general guidance regarding the fabrication, storage, delivery, erection and bracing of trusses and truss systems, see **ANSI/TPI Quality Criteria and DSB-22** available from Truss Plate Institute (www.tpinst.org) and **BCSI Building Component Safety Information** available from the Structural Building Component Association (www.sbcacomponents.com)



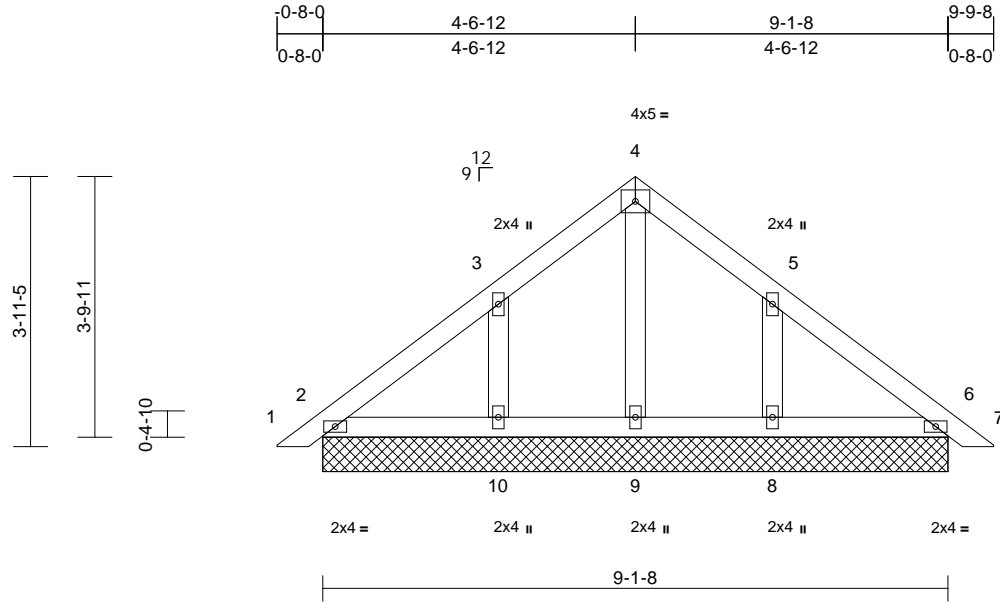
818 Soundside Road
Edenton, NC 27932

Job 24090063-01	Truss PB2	Truss Type Piggyback	Qty 2	Ply 1	The Grace-Roof-1511 A-The Grace Job Reference (optional)	168350173
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Carter Components (Sanford, NC), Sanford, NC - 27332,

Run: 8.73 S Aug 15 2024 Print: 8.730 S Aug 15 2024 MiTek Industries, Inc. Thu Sep 19 13:23:53
ID:mRFHjmgVJDIBA9eqQISYpEyc6yR-RfC?PsB70Hq3NSgPqnL8w3uITXbGKwRCDoi7J4zJC?f

Page: 1



Scale = 1:33.6

Loading	(psf)	Spacing	1-11-4	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP	
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.11	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.09	Vert(CT)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.05	Horz(CT)	0.00	6	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-MSH								
BCDL	10.0										Weight: 43 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.2
OTHERS 2x4 SP No.3

BRACING
TOP CHORD Structural wood sheathing directly applied or 6-0-0 oc purlins.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size) 2=9-1-8, 6=9-1-8, 8=9-1-8, 9=9-1-8, 10=9-1-8, 11=9-1-8, 15=9-1-8
Max Horiz 2=-85 (LC 12), 11=-85 (LC 12)
Max Uplift 2=-9 (LC 15), 6=-1 (LC 15), 8=-91 (LC 15), 10=-92 (LC 14), 11=-9 (LC 15), 15=-1 (LC 15)
Max Grav 2=157 (LC 21), 6=157 (LC 22), 8=331 (LC 22), 9=98 (LC 28), 10=331 (LC 21), 11=157 (LC 21), 15=157 (LC 22)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/15, 2-3=-78/56, 3-4=-104/96, 4-5=-104/96, 5-6=-71/48, 6-7=0/15
BOT CHORD 2-10=-24/71, 9-10=-24/71, 8-9=-24/71, 6-8=-24/71
WEBS 4-9=-70/1, 3-10=-253/137, 5-8=-253/137

NOTES
1) Unbalanced roof live loads have been considered for this design.

- Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) 0-3-1 to 3-3-1, Exterior(2R) 3-3-1 to 7-3-1, Exterior(2E) 7-3-1 to 10-3-1 zone; cantilever left and right exposed; end vertical left and right exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
- Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
- TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
- Unbalanced snow loads have been considered for this design.
- This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 20.0 psf on overhangs non-concurrent with other live loads.
- Gable requires continuous bottom chord bearing.
- Gable studs spaced at 2-0-0 oc.
- This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
- One H2.5A Simpson Strong-Tie connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 2, 6, 10, and 8. This connection is for uplift only and does not consider lateral forces.
- See Standard Industry Piggyback Truss Connection Detail for Connection to base truss as applicable, or consult qualified building designer.

LOAD CASE(S) Standard



September 20, 2024

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Design valid for use only with MiTek® connectors. This design is based only upon parameters shown, and is for an individual building component, not a truss system. Before use, the building designer must verify the applicability of design parameters and properly incorporate this design into the overall building design. Bracing indicated is to prevent buckling of individual truss web and/or chord members only. Additional temporary and permanent bracing is always required for stability and to prevent collapse with possible personal injury and property damage. For general guidance regarding the fabrication, storage, delivery, erection and bracing of trusses and truss systems, see **ANSI/TPH Quality Criteria and DSB-22** available from Truss Plate Institute (www.tpinst.org) and **BCSI Building Component Safety Information** available from the Structural Building Component Association (www.sbcacomponents.com)

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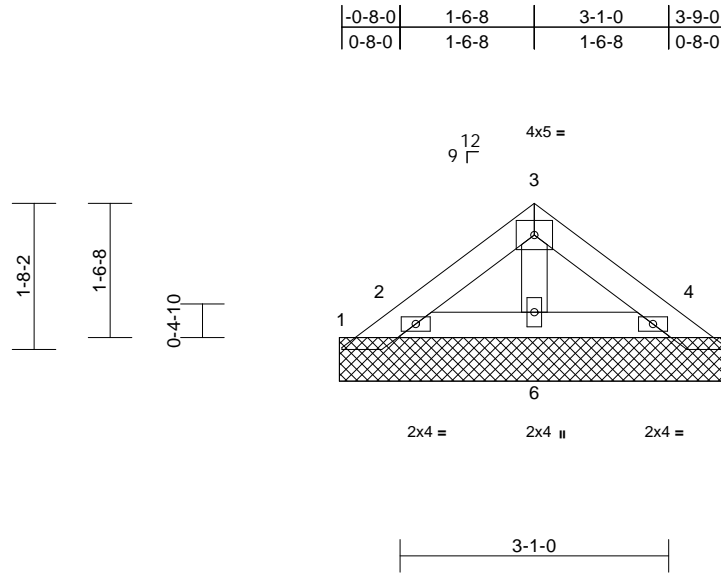
818 Soundside Road
Edenton, NC 27932

Job 24090063-01	Truss PB3	Truss Type Piggyback	Qty 10	Ply 1	The Grace-Roof-1511 A-The Grace Job Reference (optional)	168350174
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Carter Components (Sanford, NC), Sanford, NC - 27332,

Run: 8.73 S Aug 15 2024 Print: 8.730 S Aug 15 2024 MiTek Industries, Inc. Thu Sep 19 13:23:53
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Page: 1



Loading	(psf)	Spacing	2-0-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP	
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.05	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.06	Vert(TL)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.02	Horiz(TL)	0.00	5	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-MP								
BCDL	10.0										Weight: 14 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.2
OTHERS 2x4 SP No.3

BRACING
TOP CHORD Structural wood sheathing directly applied or 4-5-11 oc purlins.
BOT CHORD Rigid ceiling directly applied or 6-0-0 oc bracing.

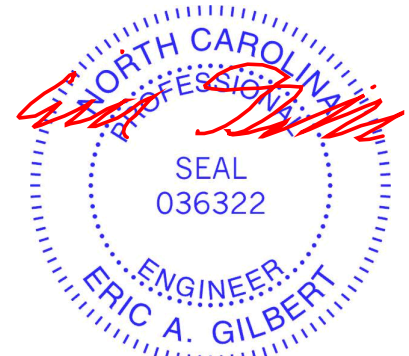
REACTIONS (size)
1=4-5-11, 2=4-5-11, 4=4-5-11, 5=4-5-11, 6=4-5-11, 7=4-5-11, 13=4-5-11
Max Horiz 1=35 (LC 11)
Max Uplift 1=-32 (LC 12), 2=-34 (LC 14), 5=-9 (LC 15), 6=-9 (LC 15), 7=-34 (LC 14)
Max Grav 1=29 (LC 11), 2=148 (LC 21), 4=1 (LC 22), 5=78 (LC 22), 6=213 (LC 22), 7=148 (LC 21), 13=1 (LC 22)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-44/59, 2-3=-23/50, 3-4=-29/70, 4-5=-44/24
BOT CHORD 2-6=-45/56, 4-6=-45/56
WEBS 3-6=-122/39

NOTES
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) zone; cantilever left and right exposed; end vertical left and right exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60

- Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
- TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
- Unbalanced snow loads have been considered for this design.
- Gable requires continuous bottom chord bearing.
- Gable studs spaced at 4-0-0 oc.
- This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
- Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 32 lb uplift at joint 1 and 9 lb uplift at joint 5.
- One H2.5A Simpson Strong-Tie connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 2, 4, and 6. This connection is for uplift only and does not consider lateral forces.
- See Standard Industry Piggyback Truss Connection Detail for Connection to base truss as applicable, or consult qualified building designer.

LOAD CASE(S) Standard



September 20, 2024

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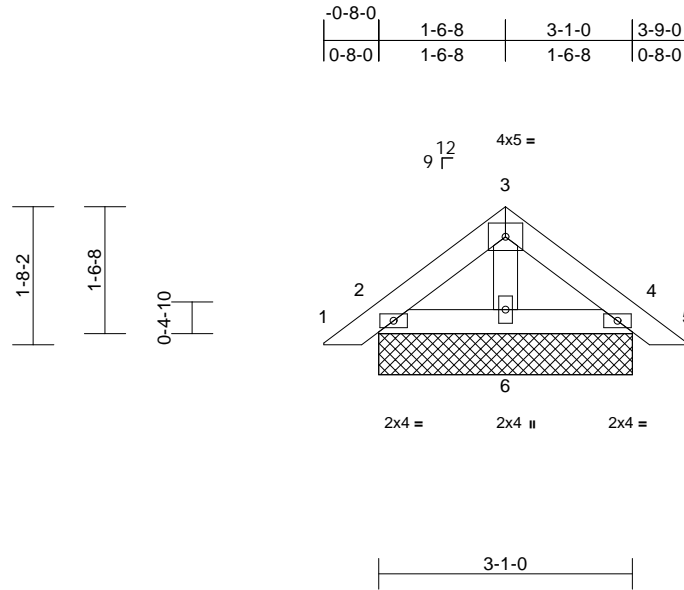
818 Soundside Road
Edenton, NC 27932

Job 24090063-01	Truss PB4	Truss Type Piggyback	Qty 1	Ply 2	The Grace-Roof-1511 A-The Grace Job Reference (optional)	168350175
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Carter Components (Sanford, NC), Sanford, NC - 27332,

Run: 8.73 S Aug 15 2024 Print: 8.730 S Aug 15 2024 MiTek Industries, Inc. Thu Sep 19 13:23:53
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Page: 1



Scale = 1:28

Loading	(psf)	Spacing	2-0-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP	
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.02	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.02	Vert(CT)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.00	Horz(CT)	0.00	4	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-MP								
BCDL	10.0											
										Weight: 28 lb	FT = 20%	

LUMBER

TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.2
OTHERS 2x4 SP No.3

BRACING

TOP CHORD Structural wood sheathing directly applied or 4-5-11 oc purlins.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS

(size) 2=3-1-0, 4=3-1-0, 6=3-1-0, 7=3-1-0, 11=3-1-0
Max Horiz 2=-35 (LC 12), 7=-35 (LC 12)
Max Uplift 2=-19 (LC 14), 4=-23 (LC 15), 7=-19 (LC 14), 11=-23 (LC 15)
Max Grav 2=130 (LC 21), 4=130 (LC 22), 6=108 (LC 1), 7=130 (LC 21), 11=130 (LC 22)

FORCES

(lb) - Maximum Compression/Maximum Tension

TOP CHORD 1-2=0/23, 2-3=-43/41, 3-4=-43/41, 4-5=0/23
BOT CHORD 2-6=-8/39, 4-6=-7/39
WEBS 3-6=-51/5

NOTES

- 2-ply truss to be connected together as follows:
Top chords connected with 10d (0.131"x3") nails as follows: 2x4 - 1 row at 0-9-0 oc.
Bottom chords connected with 10d (0.131"x3") nails as follows: 2x4 - 1 row at 0-9-0 oc.
- All loads are considered equally applied to all plies, except if noted as front (F) or back (B) face in the LOAD CASE(S) section. Ply to ply connections have been provided to distribute only loads noted as (F) or (B), unless otherwise indicated.
- Unbalanced roof live loads have been considered for this design.

- Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) zone; cantilever left and right exposed; end vertical left and right exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
- Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
- TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
- Unbalanced snow loads have been considered for this design.
- This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 20.0 psf on overhangs non-concurrent with other live loads.
- Gable requires continuous bottom chord bearing.
- Gable studs spaced at 4-0-0 oc.
- This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
- One H2.5A Simpson Strong-Tie connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 2, 4, and 6. This connection is for uplift only and does not consider lateral forces.
- See Standard Industry Piggyback Truss Connection Detail for Connection to base truss as applicable, or consult qualified building designer.

LOAD CASE(S) Standard



September 20, 2024

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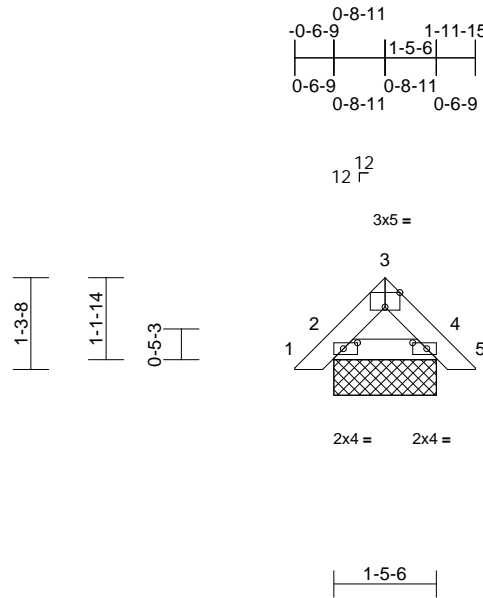
818 Soundside Road
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	The Grace-Roof-1511 A-The Grace	168350176
24090063-01	PB5	Piggyback	18	1	Job Reference (optional)	

Carter Components (Sanford, NC), Sanford, NC - 27332,

Run: 8.73 S Aug 15 2024 Print: 8.730 S Aug 15 2024 MiTek Industries, Inc. Thu Sep 19 13:23:53
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Page: 1



Scale = 1:32.5

Plate Offsets (X, Y): [2:0-2-6,0-1-0], [3:0-2-8,Edge], [4:0-2-6,0-1-0]

Loading	(psf)	Spacing	2-0-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP	
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.02	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.01	Vert(CT)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.00	Horz(CT)	0.00	4	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-MP								
BCDL	10.0										Weight: 8 lb	FT = 20%

LUMBER
 TOP CHORD 2x4 SP No.2
 BOT CHORD 2x4 SP No.2

BRACING
 TOP CHORD Structural wood sheathing directly applied or 2-7-0 oc purlins.
 BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size) 2=1-5-6, 4=1-5-6, 6=1-5-6, 9=1-5-6
 Max Horiz 2=-25 (LC 12), 6=-25 (LC 12)
 Max Uplift 2=-11 (LC 14), 4=-11 (LC 15), 6=-11 (LC 14), 9=-11 (LC 15)
 Max Grav 2=97 (LC 21), 4=97 (LC 22), 6=97 (LC 21), 9=97 (LC 22)

FORCES (lb) - Maximum Compression/Maximum Tension
 TOP CHORD 1-2=0/21, 2-3=-38/27, 3-4=-38/27, 4-5=0/21
 BOT CHORD 2-4=-4/55

- Unbalanced snow loads have been considered for this design.
- This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 20.0 psf on overhangs non-concurrent with other live loads.
- Gable requires continuous bottom chord bearing.
- Gable studs spaced at 4-0-0 oc.
- This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
- One H2.5A Simpson Strong-Tie connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 2 and 4. This connection is for uplift only and does not consider lateral forces.
- See Standard Industry Piggyback Truss Connection Detail for Connection to base truss as applicable, or consult qualified building designer.

LOAD CASE(S) Standard

- NOTES**
- Unbalanced roof live loads have been considered for this design.
 - Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) zone; cantilever left and right exposed; end vertical left and right exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
 - Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
 - TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10



September 20, 2024

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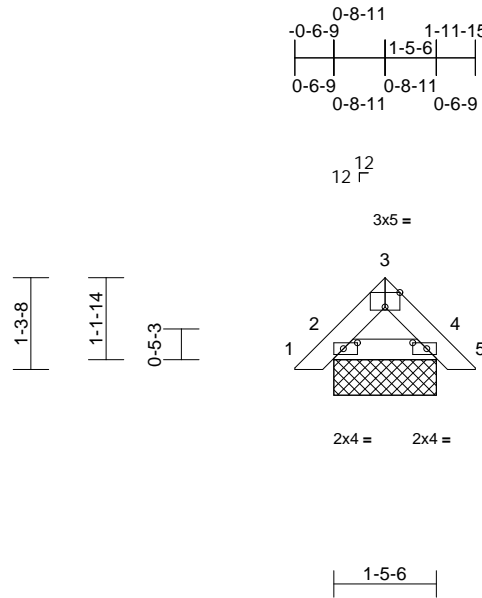
ENGINEERING BY
TRENCO
 A MiTek Affiliate
 818 Soundside Road
 Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	The Grace-Roof-1511 A-The Grace	168350177
24090063-01	PB6	Piggyback	2	2	Job Reference (optional)	

Carter Components (Sanford, NC), Sanford, NC - 27332,

Run: 8.73 S Aug 15 2024 Print: 8.730 S Aug 15 2024 MiTek Industries, Inc. Thu Sep 19 13:23:54
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Page: 1



Scale = 1:32.5

Plate Offsets (X, Y): [2:0-2-6,0-1-0], [3:0-2-8,Edge], [4:0-2-6,0-1-0]

Loading	(psf)	Spacing	2-0-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP	
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.01	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.01	Vert(CT)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.00	Horz(CT)	0.00	4	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-MP								
BCDL	10.0										Weight: 15 lb	FT = 20%

LUMBER

TOP CHORD 2x4 SP No.2
 BOT CHORD 2x4 SP No.2

BRACING

TOP CHORD Structural wood sheathing directly applied or 2-7-0 oc purlins.
 BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS

(size) 2=1-5-6, 4=1-5-6, 6=1-5-6, 9=1-5-6
 Max Horiz 2=-25 (LC 12), 6=-25 (LC 12)
 Max Uplift 2=-11 (LC 14), 4=-11 (LC 15), 6=-11 (LC 14), 9=-11 (LC 15)
 Max Grav 2=97 (LC 21), 4=97 (LC 22), 6=97 (LC 21), 9=97 (LC 22)

FORCES

(lb) - Maximum Compression/Maximum Tension

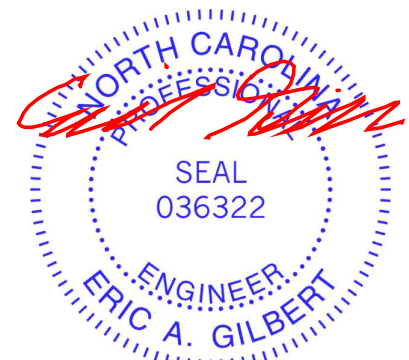
TOP CHORD 1-2=0/21, 2-3=-38/27, 3-4=-38/27, 4-5=0/21
 BOT CHORD 2-4=-6/55

NOTES

- 2-ply truss to be connected together as follows:
 Top chords connected with 10d (0.131"x3") nails as follows: 2x4 - 1 row at 0-9-0 oc.
 Bottom chords connected with 10d (0.131"x3") nails as follows: 2x4 - 1 row at 0-9-0 oc.
- All loads are considered equally applied to all plies, except if noted as front (F) or back (B) face in the LOAD CASE(S) section. Ply to ply connections have been provided to distribute only loads noted as (F) or (B), unless otherwise indicated.
- Unbalanced roof live loads have been considered for this design.

- Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) zone; cantilever left and right exposed; end vertical left and right exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
- Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
- TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
- Unbalanced snow loads have been considered for this design.
- This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 20.0 psf on overhangs non-concurrent with other live loads.
- Gable requires continuous bottom chord bearing.
- Gable studs spaced at 4-0-0 oc.
- This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
- One H2.5A Simpson Strong-Tie connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 2 and 4. This connection is for uplift only and does not consider lateral forces.
- See Standard Industry Piggyback Truss Connection Detail for Connection to base truss as applicable, or consult qualified building designer.

LOAD CASE(S) Standard



September 20,2024

WARNING - Verify design parameters and READ NOTES ON THIS AND INCLUDED MITEK REFERENCE PAGE MII-7473 rev. 1/2/2023 BEFORE USE.

Design valid for use only with MiTek® connectors. This design is based only upon parameters shown, and is for an individual building component, not a truss system. Before use, the building designer must verify the applicability of design parameters and properly incorporate this design into the overall building design. Bracing indicated is to prevent buckling of individual truss web and/or chord members only. Additional temporary and permanent bracing is always required for stability and to prevent collapse with possible personal injury and property damage. For general guidance regarding the fabrication, storage, delivery, erection and bracing of trusses and truss systems, see **ANSI/TPH Quality Criteria and DSB-22** available from Truss Plate Institute (www.tpinst.org) and **BCSI Building Component Safety Information** available from the Structural Building Component Association (www.sbcacomponents.com)



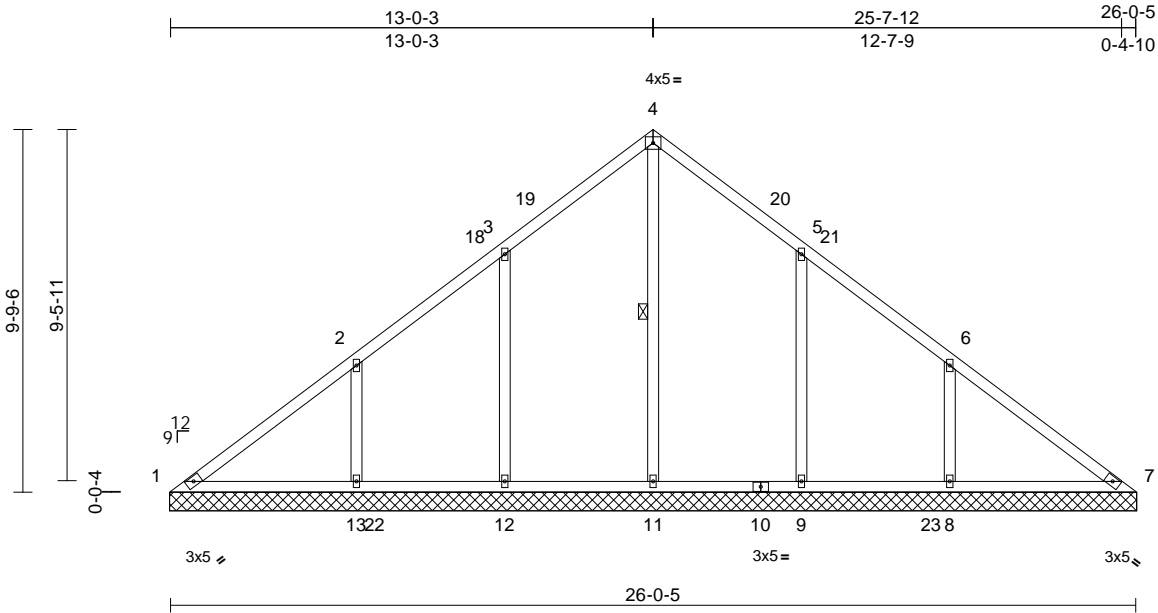
818 Soundside Road
 Edenton, NC 27932

Job 24090063-01	Truss V1A	Truss Type Valley	Qty 1	Ply 1	The Grace-Roof-1511 A-The Grace Job Reference (optional)	168350178
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Carter Components (Sanford, NC), Sanford, NC - 27332,

Run: 8.73 S Aug 15 2024 Print: 8.730 S Aug 15 2024 MiTek Industries, Inc. Thu Sep 19 13:23:54
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Page: 1



Scale = 1:62.1

Loading	(psf)	Spacing	2-0-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP	
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.31	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.25	Vert(TL)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.29	Horiz(TL)	0.01	7	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-MSH								
BCDL	10.0											
											Weight: 127 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.2
OTHERS 2x4 SP No.3

BRACING
TOP CHORD Structural wood sheathing directly applied or 6-0-0 oc purlins.
BOT CHORD Rigid ceiling directly applied or 6-0-0 oc bracing.
WEBS 1 Row at midpt 4-11

REACTIONS (size)
1=26-1-0, 7=26-1-0, 8=26-1-0,
9=26-1-0, 11=26-1-0, 12=26-1-0,
13=26-1-0
Max Horiz 1=-225 (LC 12)
Max Uplift 1=-33 (LC 10), 8=-154 (LC 15),
9=-139 (LC 15), 12=-138 (LC 14),
13=-157 (LC 14)
Max Grav 1=153 (LC 25), 7=126 (LC 21),
8=533 (LC 25), 9=476 (LC 6),
11=562 (LC 24), 12=476 (LC 5),
13=536 (LC 24)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-209/311, 2-3=-91/246, 3-4=-62/243,
4-5=-62/225, 5-6=-10/185, 6-7=-165/258
BOT CHORD 1-13=-170/183, 12-13=-170/183,
11-12=-170/183, 9-11=-170/183,
8-9=-170/183, 7-8=-170/183
WEBS 4-11=-354/0, 3-12=-365/190, 2-13=-345/193,
5-9=-365/190, 6-8=-345/192

NOTES
1) Unbalanced roof live loads have been considered for this design.

- Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) 0-0-0 to 3-0-0, Interior (1) 3-0-0 to 10-0-8, Exterior(2R) 10-0-8 to 16-0-8, Interior (1) 16-0-8 to 23-1-0, Exterior(2E) 23-1-0 to 26-1-0 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
- Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
- TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
- Unbalanced snow loads have been considered for this design.
- All plates are 2x4 MT20 unless otherwise indicated.
- Gable requires continuous bottom chord bearing.
- Gable studs spaced at 4-0-0 oc.
- This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members, with BCDL = 10.0psf.
- Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 33 lb uplift at joint 1, 138 lb uplift at joint 12, 157 lb uplift at joint 13, 139 lb uplift at joint 9 and 154 lb uplift at joint 8.
- Beveled plate or shim required to provide full bearing surface with truss chord at joint(s) 1, 7.

LOAD CASE(S) Standard



September 20,2024

WARNING - Verify design parameters and READ NOTES ON THIS AND INCLUDED MITEK REFERENCE PAGE MII-7473 rev. 1/2/2023 BEFORE USE.
Design valid for use only with MiTek® connectors. This design is based only upon parameters shown, and is for an individual building component, not a truss system. Before use, the building designer must verify the applicability of design parameters and properly incorporate this design into the overall building design. Bracing indicated is to prevent buckling of individual truss web and/or chord members only. Additional temporary and permanent bracing is always required for stability and to prevent collapse with possible personal injury and property damage. For general guidance regarding the fabrication, storage, delivery, erection and bracing of trusses and truss systems, see **ANSI/TPI Quality Criteria and DSB-22** available from Truss Plate Institute (www.tpinst.org) and **BCSI Building Component Safety Information** available from the Structural Building Component Association (www.sbcacomponents.com)

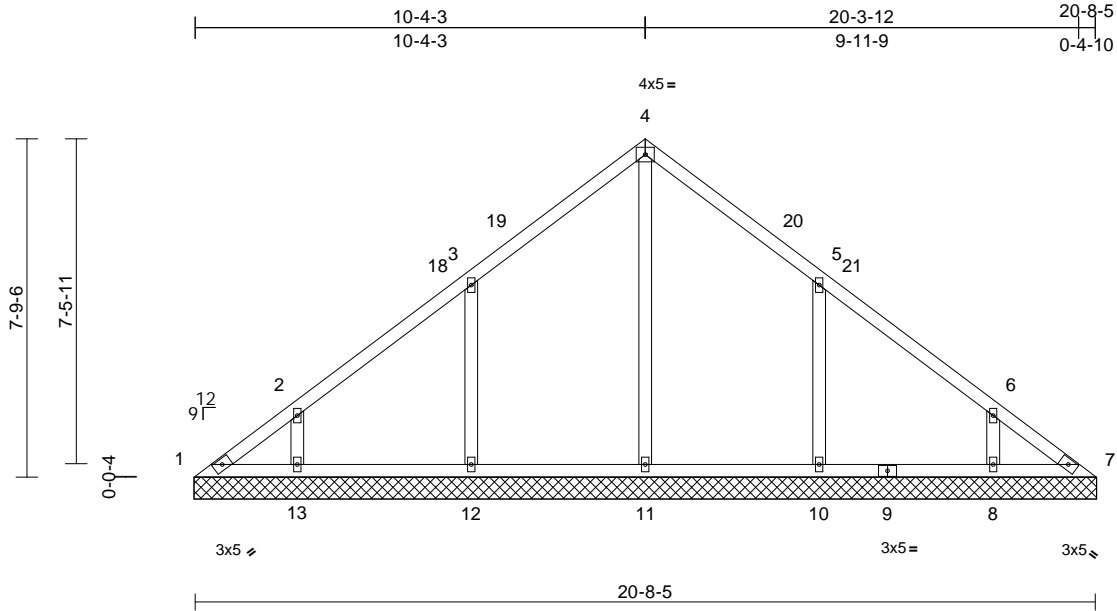
ENGINEERING BY
TRENCO
A MiTek Affiliate
818 Soundside Road
Edenton, NC 27932

Job 24090063-01	Truss V1B	Truss Type Valley	Qty 1	Ply 1	The Grace-Roof-1511 A-The Grace Job Reference (optional)	168350179
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Carter Components (Sanford, NC), Sanford, NC - 27332,

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Page: 1



Scale = 1:53

Loading	(psf)	Spacing	2-0-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.30	Vert(LL)	n/a	-	999	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.17	Vert(TL)	n/a	-	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.22	Horiz(TL)	0.00	7	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-MSH							
BCDL	10.0									Weight: 95 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.2
OTHERS 2x4 SP No.3

BRACING
TOP CHORD Structural wood sheathing directly applied or 6-0-0 oc purlins.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size)
1=20-9-0, 7=20-9-0, 8=20-9-0,
10=20-9-0, 11=20-9-0, 12=20-9-0,
13=20-9-0
Max Horiz 1=-178 (LC 10)
Max Uplift 1=-41 (LC 10), 8=-91 (LC 15),
10=-153 (LC 15), 12=-153 (LC 14),
13=-95 (LC 14)
Max Grav 1=117 (LC 25), 7=88 (LC 32),
8=338 (LC 25), 10=484 (LC 6),
11=393 (LC 27), 12=484 (LC 5),
13=342 (LC 24)

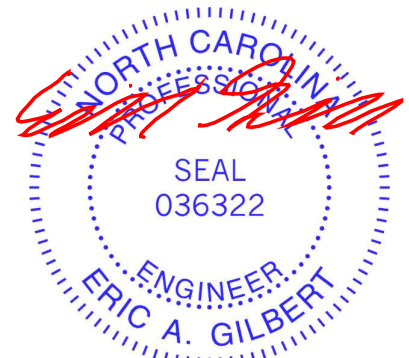
FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-175/146, 2-3=-158/114, 3-4=-178/165,
4-5=-178/142, 5-6=-113/64, 6-7=-133/84
BOT CHORD 1-13=-60/128, 12-13=-60/128,
11-12=-60/128, 10-11=-60/128, 8-10=-60/128,
7-8=-60/128
WEBS 4-11=-202/0, 3-12=-387/201, 2-13=-249/144,
5-10=-387/201, 6-8=-249/143

NOTES
1) Unbalanced roof live loads have been considered for this design.

2) Wind: ASCE 7-16; Vult=130mph (3-second gust)
Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) 0-0-0 to 3-0-0, Interior (1) 3-0-0 to 7-4-8, Exterior(2R) 7-4-8 to 13-4-8, Interior (1) 13-4-8 to 17-9-0, Exterior(2E) 17-9-0 to 20-9-0 zone; cantilever left and right exposed ; end vertical left and right exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60

- Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
- TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
- Unbalanced snow loads have been considered for this design.
- All plates are 2x4 MT20 unless otherwise indicated.
- Gable requires continuous bottom chord bearing.
- Gable studs spaced at 4-0-0 oc.
- This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members, with BCDL = 10.0psf.
- Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 41 lb uplift at joint 1, 153 lb uplift at joint 12, 95 lb uplift at joint 13, 153 lb uplift at joint 10 and 91 lb uplift at joint 8.
- Beveled plate or shim required to provide full bearing surface with truss chord at joint(s) 1, 7.

LOAD CASE(S) Standard



September 20, 2024

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ENGINEERING BY
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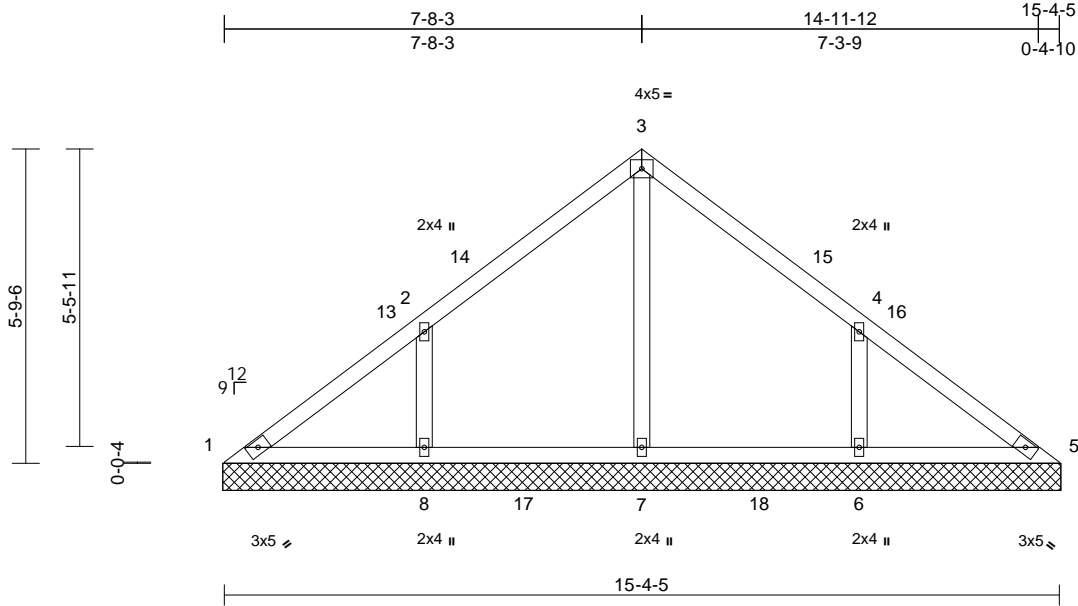
818 Soundside Road
Edenton, NC 27932

Job 24090063-01	Truss V1C	Truss Type Valley	Qty 1	Ply 1	The Grace-Roof-1511 A-The Grace Job Reference (optional)	168350180
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Carter Components (Sanford, NC), Sanford, NC - 27332,

Run: 8.73 S Aug 15 2024 Print: 8.730 S Aug 15 2024 MiTek Industries, Inc. Thu Sep 19 13:23:54
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Page: 1



Loading	(psf)	Spacing	2-0-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP	
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.31	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.15	Vert(TL)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.15	Horiz(TL)	0.00	5	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-MSH								
BCDL	10.0											
										Weight: 64 lb	FT = 20%	

LUMBER

TOP CHORD 2x4 SP No.2
 BOT CHORD 2x4 SP No.2
 OTHERS 2x4 SP No.3

BRACING

TOP CHORD Structural wood sheathing directly applied or 6-0-0 oc purlins.
 BOT CHORD Rigid ceiling directly applied or 6-0-0 oc bracing.

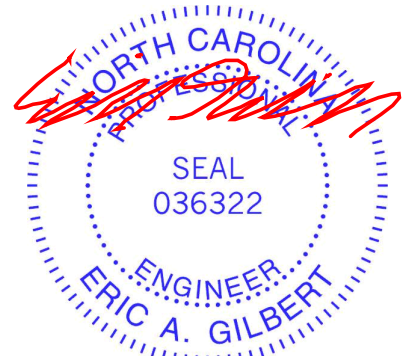
REACTIONS (size) 1=15-5-0, 5=15-5-0, 6=15-5-0, 7=15-5-0, 8=15-5-0
 Max Horiz 1=-131 (LC 10)
 Max Uplift 1=-15 (LC 10), 6=-145 (LC 15), 8=-147 (LC 14)
 Max Grav 1=114 (LC 25), 5=97 (LC 21), 6=482 (LC 21), 7=441 (LC 24), 8=482 (LC 20)

FORCES (lb) - Maximum Compression/Maximum Tension
 TOP CHORD 1-2=-147/177, 2-3=-128/145, 3-4=-128/127, 4-5=-118/141
 BOT CHORD 1-8=-78/130, 7-8=-78/96, 6-7=-78/96, 5-6=-78/96
 WEBS 3-7=-262/0, 2-8=-389/183, 4-6=-389/182

- Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
- TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
- Unbalanced snow loads have been considered for this design.
- Gable requires continuous bottom chord bearing.
- Gable studs spaced at 4-0-0 oc.
- This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members, with BCDL = 10.0psf.
- Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 15 lb uplift at joint 1, 147 lb uplift at joint 8 and 145 lb uplift at joint 6.
- Beveled plate or shim required to provide full bearing surface with truss chord at joint(s) 1, 5.

LOAD CASE(S) Standard

- NOTES**
- Unbalanced roof live loads have been considered for this design.
 - Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) 0-0-0 to 3-0-0, Interior (1) 3-0-0 to 4-8-8, Exterior(2R) 4-8-8 to 10-8-8, Interior (1) 10-8-8 to 12-5-0, Exterior(2E) 12-5-0 to 15-5-0 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60



September 20,2024

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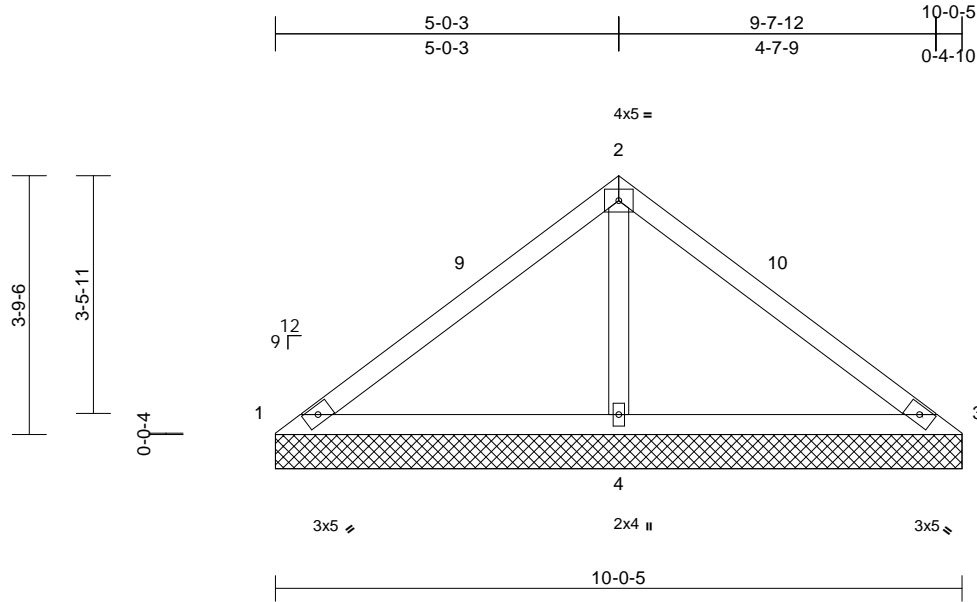
818 Soundside Road
Edenton, NC 27932

Job 24090063-01	Truss V1D	Truss Type Valley	Qty 1	Ply 1	The Grace-Roof-1511 A-The Grace Job Reference (optional)	168350181
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Carter Components (Sanford, NC), Sanford, NC - 27332,

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Page: 1



Scale = 1:33.6

Loading	(psf)	Spacing	2-0-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP	
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.48	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.44	Vert(TL)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.18	Horiz(TL)	0.01	4	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-MSH								
BCDL	10.0										Weight: 37 lb	FT = 20%

LUMBER

TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.2
OTHERS 2x4 SP No.3

BRACING

TOP CHORD Structural wood sheathing directly applied or 10-0-0 oc purlins.
BOT CHORD Rigid ceiling directly applied or 6-0-0 oc bracing.

REACTIONS

(size) 1=10-0-5, 3=10-0-5, 4=10-0-5
Max Horiz 1=84 (LC 11)
Max Uplift 1=-56 (LC 21), 3=-56 (LC 20), 4=-100 (LC 14)
Max Grav 1=90 (LC 20), 3=90 (LC 21), 4=809 (LC 20)

FORCES

(lb) - Maximum Compression/Maximum Tension

TOP CHORD 1-2=-113/404, 2-3=-113/404
BOT CHORD 1-4=-278/166, 3-4=-278/166
WEBS 2-4=-671/255

NOTES

- Unbalanced roof live loads have been considered for this design.
- Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) 0-0-5 to 3-0-5, Exterior(2R) 3-0-5 to 7-0-11, Exterior(2E) 7-0-11 to 10-0-11 zone; cantilever left and right exposed; end vertical left and right exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
- Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.

- TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
- Unbalanced snow loads have been considered for this design.
- Gable requires continuous bottom chord bearing.
- Gable studs spaced at 4-0-0 oc.
- This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
- Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 56 lb uplift at joint 1, 56 lb uplift at joint 3 and 100 lb uplift at joint 4.

LOAD CASE(S) Standard



September 20, 2024

WARNING - Verify design parameters and READ NOTES ON THIS AND INCLUDED MITEK REFERENCE PAGE MII-7473 rev. 1/2/2023 BEFORE USE.

Design valid for use only with MiTek® connectors. This design is based only upon parameters shown, and is for an individual building component, not a truss system. Before use, the building designer must verify the applicability of design parameters and properly incorporate this design into the overall building design. Bracing indicated is to prevent buckling of individual truss web and/or chord members only. Additional temporary and permanent bracing is always required for stability and to prevent collapse with possible personal injury and property damage. For general guidance regarding the fabrication, storage, delivery, erection and bracing of trusses and truss systems, see **ANSI/TPI Quality Criteria and DSB-22** available from Truss Plate Institute (www.tpinst.org) and **BCSI Building Component Safety Information** available from the Structural Building Component Association (www.sbcacomponents.com)

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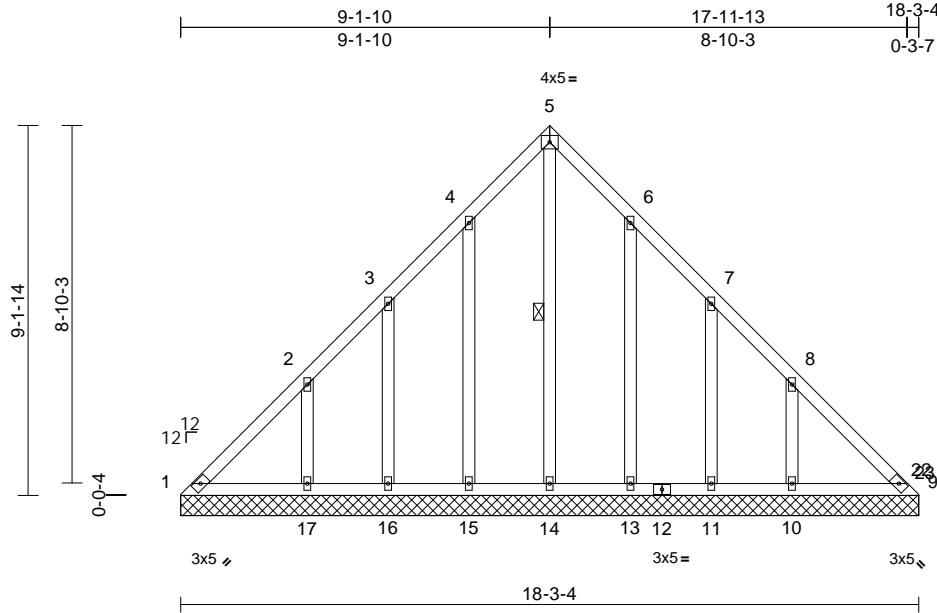
818 Soundside Road
Edenton, NC 27932

Job 24090063-01	Truss V2A	Truss Type Valley	Qty 1	Ply 1	The Grace-Roof-1511 A-The Grace Job Reference (optional)	168350182
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Carter Components (Sanford, NC), Sanford, NC - 27332,

Run: 8.73 S Aug 15 2024 Print: 8.730 S Aug 15 2024 MiTek Industries, Inc. Thu Sep 19 13:23:54
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Page: 1



Scale = 1:57

Loading	(psf)	Spacing	1-11-4	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.11	Vert(LL)	n/a	-	999	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.10	Vert(TL)	n/a	-	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.21	Horiz(TL)	0.01	9	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-MSH							
BCDL	10.0									Weight: 118 lb	FT = 20%

LUMBER	
TOP CHORD	2x4 SP No.2
BOT CHORD	2x4 SP No.2
OTHERS	2x4 SP No.3
BRACING	
TOP CHORD	Structural wood sheathing directly applied or 6-0-0 oc purlins.
BOT CHORD	Rigid ceiling directly applied or 6-0-0 oc bracing.
WEBS	1 Row at midpt 5-14
REACTIONS (size)	
	1=18-3-4, 9=18-3-4, 10=18-3-4, 11=18-3-4, 13=18-3-4, 14=18-3-4, 15=18-3-4, 16=18-3-4, 17=18-3-4
Max Horiz	1=203 (LC 11)
Max Uplift	1=-49 (LC 12), 9=-13 (LC 13), 10=-113 (LC 15), 11=-93 (LC 15), 13=-95 (LC 15), 15=-98 (LC 14), 16=-89 (LC 14), 17=-121 (LC 14)
Max Grav	1=150 (LC 26), 9=117 (LC 27), 10=261 (LC 25), 11=168 (LC 21), 13=282 (LC 21), 14=211 (LC 27), 15=282 (LC 20), 16=167 (LC 20), 17=271 (LC 24)
FORCES (lb) - Maximum Compression/Maximum Tension	
TOP CHORD	1-2=-230/187, 2-3=-121/129, 3-4=-80/107, 4-5=-86/178, 5-6=-86/178, 6-7=-66/85, 7-8=-76/80, 8-9=-197/138
BOT CHORD	1-17=-100/199, 16-17=-100/199, 15-16=-100/199, 14-15=-100/199, 13-14=-100/199, 11-13=-100/199, 10-11=-100/199, 9-10=-100/199
WEBS	5-14=-184/32, 4-15=-238/130, 3-16=-148/127, 2-17=-204/175, 6-13=-238/130, 7-11=-148/127, 8-10=-204/175

- Unbalanced roof live loads have been considered for this design.
- Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Corner(3E) 0-0-4 to 3-1-14, Exterior(2N) 3-1-14 to 6-1-14, Corner(3R) 6-1-14 to 12-1-14, Exterior(2N) 12-1-14 to 14-11-8, Corner(3E) 14-11-8 to 17-11-8 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
- Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
- TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
- Unbalanced snow loads have been considered for this design.
- All plates are 2x4 MT20 unless otherwise indicated.
- Gable requires continuous bottom chord bearing.
- Gable studs spaced at 2-0-0 oc.
- This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
- Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 49 lb uplift at joint 1, 13 lb uplift at joint 9, 98 lb uplift at joint 15, 89 lb uplift at joint 16, 121 lb uplift at joint 17, 95 lb uplift at joint 13, 93 lb uplift at joint 11 and 113 lb uplift at joint 10.

LOAD CASE(S) Standard



September 20,2024

WARNING - Verify design parameters and READ NOTES ON THIS AND INCLUDED MITEK REFERENCE PAGE MII-7473 rev. 1/2/2023 BEFORE USE.

Design valid for use only with MiTek® connectors. This design is based only upon parameters shown, and is for an individual building component, not a truss system. Before use, the building designer must verify the applicability of design parameters and properly incorporate this design into the overall building design. Bracing indicated is to prevent buckling of individual truss web and/or chord members only. Additional temporary and permanent bracing is always required for stability and to prevent collapse with possible personal injury and property damage. For general guidance regarding the fabrication, storage, delivery, erection and bracing of trusses and truss systems, see **ANSI/TP1 Quality Criteria and DSB-22** available from Truss Plate Institute (www.tpinst.org) and **BCSI Building Component Safety Information** available from the Structural Building Component Association (www.sbcacomponents.com)

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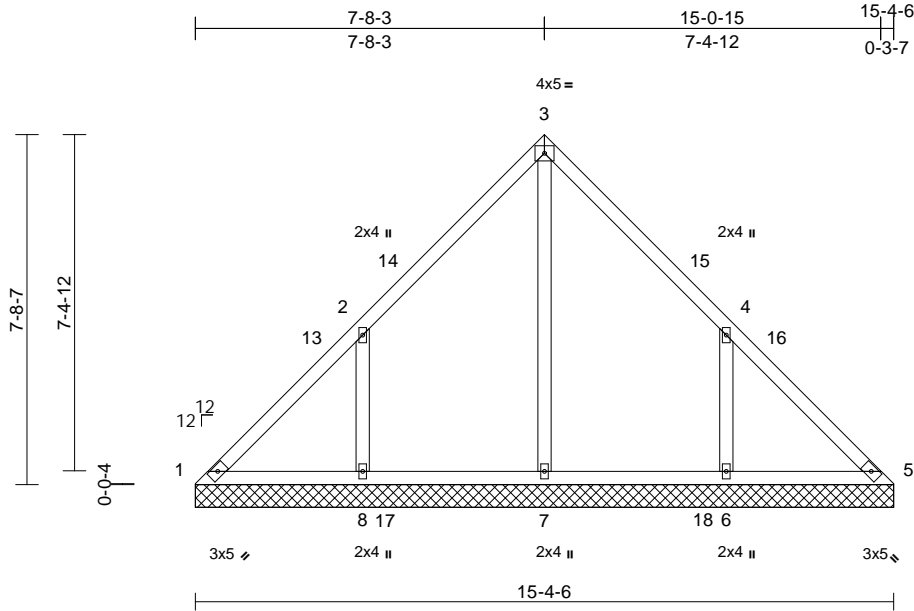
818 Soundside Road
Edenton, NC 27932

Job 24090063-01	Truss V2B	Truss Type Valley	Qty 1	Ply 1	The Grace-Roof-1511 A-The Grace Job Reference (optional)	168350183
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Carter Components (Sanford, NC), Sanford, NC - 27332,

Run: 8.73 S Aug 15 2024 Print: 8.730 S Aug 15 2024 MiTek Industries, Inc. Thu Sep 19 13:23:54
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Page: 1



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Loading	(psf)	Spacing	2-0-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP	
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.33	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.17	Vert(TL)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.25	Horiz(TL)	0.00	5	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-MSH								
BCDL	10.0											
											Weight: 74 lb	FT = 20%

LUMBER

- TOP CHORD 2x4 SP No.2
- BOT CHORD 2x4 SP No.2
- OTHERS 2x4 SP No.3

BRACING

- TOP CHORD Structural wood sheathing directly applied or 6-0-0 oc purlins.
- BOT CHORD Rigid ceiling directly applied or 6-0-0 oc bracing.

REACTIONS

- (size) 1=15-4-6, 5=15-4-6, 6=15-4-6, 7=15-4-6, 8=15-4-6
- Max Horiz 1=-176 (LC 10)
- Max Uplift 1=-38 (LC 10), 6=-210 (LC 15), 8=-214 (LC 14)
- Max Grav 1=150 (LC 30), 5=123 (LC 32), 6=491 (LC 6), 7=429 (LC 24), 8=491 (LC 5)

FORCES

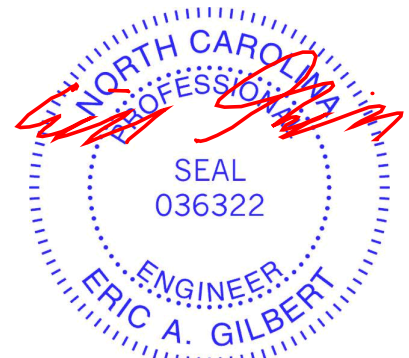
- (lb) - Maximum Compression/Maximum Tension
- TOP CHORD 1-2=-172/191, 2-3=-192/144, 3-4=-192/124, 4-5=-151/151
- BOT CHORD 1-8=-91/150, 7-8=-91/150, 6-7=-91/150, 5-6=-91/150
- WEBS 3-7=-237/0, 2-8=-390/249, 4-6=-390/248

NOTES

- Unbalanced roof live loads have been considered for this design.
- Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) 0-0-4 to 3-0-4, Interior (1) 3-0-4 to 4-8-7, Exterior(2R) 4-8-7 to 10-8-7, Interior (1) 10-8-7 to 12-4-10, Exterior(2E) 12-4-10 to 15-4-10 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60

- Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
- TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
- Unbalanced snow loads have been considered for this design.
- Gable requires continuous bottom chord bearing.
- Gable studs spaced at 4-0-0 oc.
- This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members, with BCDL = 10.0psf.
- Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 38 lb uplift at joint 1, 214 lb uplift at joint 8 and 210 lb uplift at joint 6.

LOAD CASE(S) Standard



September 20, 2024

WARNING - Verify design parameters and READ NOTES ON THIS AND INCLUDED MITEK REFERENCE PAGE MII-7473 rev. 1/2/2023 BEFORE USE.

Design valid for use only with MiTek® connectors. This design is based only upon parameters shown, and is for an individual building component, not a truss system. Before use, the building designer must verify the applicability of design parameters and properly incorporate this design into the overall building design. Bracing indicated is to prevent buckling of individual truss web and/or chord members only. Additional temporary and permanent bracing is always required for stability and to prevent collapse with possible personal injury and property damage. For general guidance regarding the fabrication, storage, delivery, erection and bracing of trusses and truss systems, see **ANSI/TPI1 Quality Criteria and DSB-22** available from Truss Plate Institute (www.tpinst.org) and **BCSI Building Component Safety Information** available from the Structural Building Component Association (www.sbcacomponents.com)



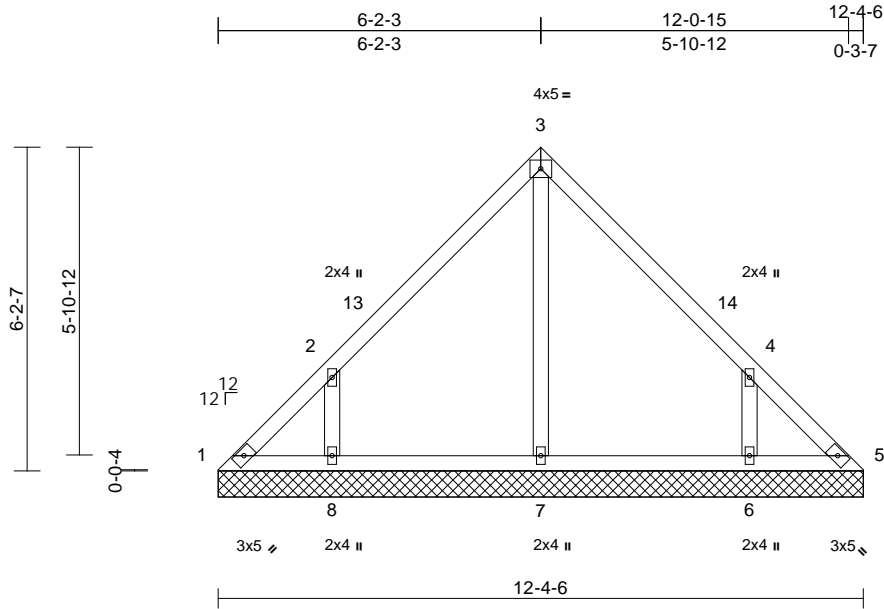
818 Soundside Road
Edenton, NC 27932

Job 24090063-01	Truss V2C	Truss Type Valley	Qty 1	Ply 1	The Grace-Roof-1511 A-The Grace Job Reference (optional)	168350184
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Carter Components (Sanford, NC), Sanford, NC - 27332,

Run: 8.73 S Aug 15 2024 Print: 8.730 S Aug 15 2024 MiTek Industries, Inc. Thu Sep 19 13:23:55
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Page: 1



Scale = 1:44.2

Loading	(psf)	Spacing	2-0-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP	
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.33	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.12	Vert(TL)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.11	Horiz(TL)	0.00	5	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-MSH								
BCDL	10.0											
										Weight: 56 lb	FT = 20%	

LUMBER

TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.2
OTHERS 2x4 SP No.3

BRACING

TOP CHORD Structural wood sheathing directly applied or 6-0-0 oc purlins.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS

(size) 1=12-4-6, 5=12-4-6, 6=12-4-6,
7=12-4-6, 8=12-4-6
Max Horiz 1=-141 (LC 10)
Max Uplift 1=-46 (LC 10), 5=-12 (LC 11),
6=-174 (LC 15), 8=-179 (LC 14)
Max Grav 1=119 (LC 25), 5=95 (LC 27),
6=447 (LC 21), 7=249 (LC 20),
8=447 (LC 20)

FORCES

(lb) - Maximum Compression/Maximum Tension

TOP CHORD 1-2=-152/126, 2-3=-247/137, 3-4=-247/137,
4-5=-125/86
BOT CHORD 1-8=-47/103, 7-8=-47/103, 6-7=-47/103,
5-6=-47/103
WEBS 3-7=-162/0, 2-8=-402/267, 4-6=-402/267

NOTES

- Unbalanced roof live loads have been considered for this design.
- Wind: ASCE 7-16; Vult=130mph (3-second gust)
Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) 0-0-4 to 3-0-4, Exterior(2R) 3-0-4 to 9-4-10, Exterior(2E) 9-4-10 to 12-4-10 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60

- Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
- TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
- Unbalanced snow loads have been considered for this design.
- Gable requires continuous bottom chord bearing.
- Gable studs spaced at 4-0-0 oc.
- This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
- Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 46 lb uplift at joint 1, 12 lb uplift at joint 5, 179 lb uplift at joint 8 and 174 lb uplift at joint 6.

LOAD CASE(S) Standard



September 20,2024

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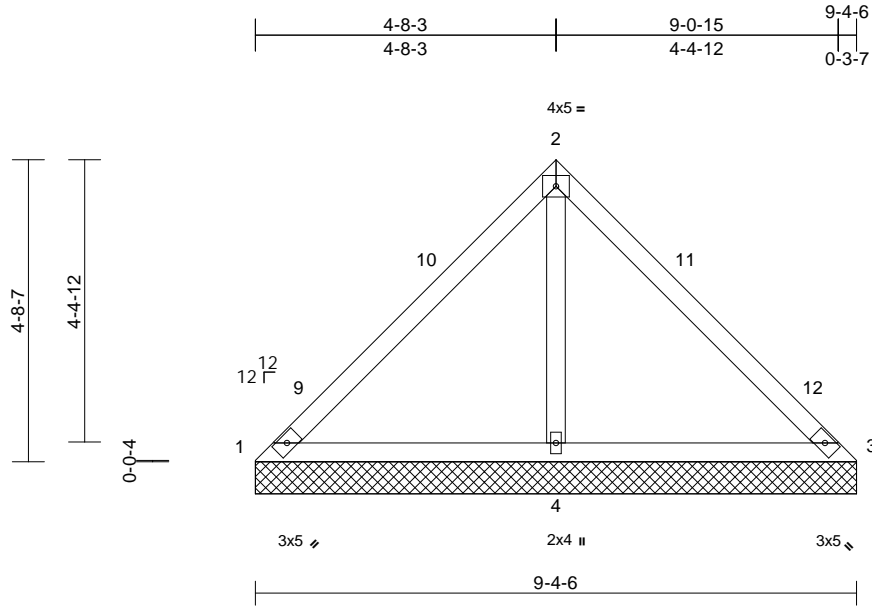
818 Soundside Road
Edenton, NC 27932

Job 24090063-01	Truss V2D	Truss Type Valley	Qty 1	Ply 1	The Grace-Roof-1511 A-The Grace Job Reference (optional)	168350185
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Carter Components (Sanford, NC), Sanford, NC - 27332,

Run: 8.73 S Aug 15 2024 Print: 8.730 S Aug 15 2024 MiTek Industries, Inc. Thu Sep 19 13:23:55
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Page: 1



Scale = 1:35.9

Loading	(psf)	Spacing	2-0-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP	
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.43	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.42	Vert(TL)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.22	Horiz(TL)	0.01	4	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-MSH								
BCDL	10.0										Weight: 38 lb	FT = 20%

LUMBER

TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.2
OTHERS 2x4 SP No.3

BRACING

TOP CHORD Structural wood sheathing directly applied or 9-4-6 oc purlins.
BOT CHORD Rigid ceiling directly applied or 6-0-0 oc bracing.

REACTIONS

(size) 1=9-4-6, 3=9-4-6, 4=9-4-6
Max Horiz 1=106 (LC 11)
Max Uplift 1=-37 (LC 21), 3=-37 (LC 20),
4=-136 (LC 14)
Max Grav 1=99 (LC 20), 3=99 (LC 21), 4=736 (LC 21)

FORCES

(lb) - Maximum Compression/Maximum Tension

TOP CHORD 1-2=-138/341, 2-3=-138/341
BOT CHORD 1-4=-208/193, 3-4=-208/193
WEBS 2-4=-613/315

NOTES

- Unbalanced roof live loads have been considered for this design.
- Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) 0-0-4 to 3-0-4, Exterior(2R) 3-0-4 to 6-4-10, Exterior(2E) 6-4-10 to 9-4-10 zone; cantilever left and right exposed; end vertical left and right exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
- Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.

- TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
- Unbalanced snow loads have been considered for this design.
- Gable requires continuous bottom chord bearing.
- Gable studs spaced at 4-0-0 oc.
- This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
- Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 37 lb uplift at joint 1, 37 lb uplift at joint 3 and 136 lb uplift at joint 4.

LOAD CASE(S) Standard



September 20, 2024

WARNING - Verify design parameters and READ NOTES ON THIS AND INCLUDED MITEK REFERENCE PAGE MII-7473 rev. 1/2/2023 BEFORE USE.

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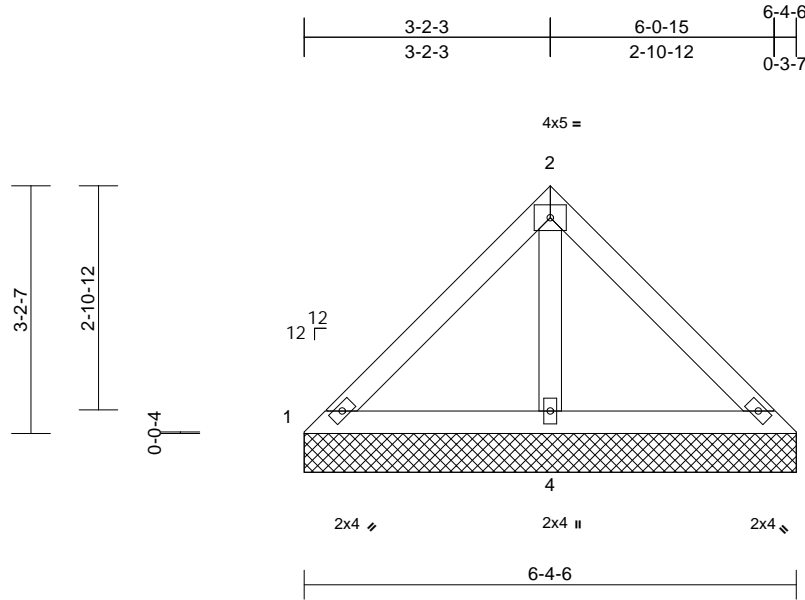
818 Soundside Road
Edenton, NC 27932

Job 24090063-01	Truss V2E	Truss Type Valley	Qty 1	Ply 1	The Grace-Roof-1511 A-The Grace Job Reference (optional)	168350186
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Carter Components (Sanford, NC), Sanford, NC - 27332,

Run: 8.73 S Aug 15 2024 Print: 8.730 S Aug 15 2024 MiTek Industries, Inc. Thu Sep 19 13:23:55
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Page: 1



Scale = 1:29.8

Loading	(psf)	Spacing	2-0-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.19	Vert(LL)	n/a	-	n/a	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.22	Vert(TL)	n/a	-	n/a		
TCDL	10.0	Rep Stress Incr	YES	WB	0.07	Horiz(TL)	0.00	3	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-MP							
BCDL	10.0									Weight: 25 lb	FT = 20%

LUMBER

TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.2
OTHERS 2x4 SP No.3

BRACING

TOP CHORD Structural wood sheathing directly applied or 6-4-6 oc purlins.
BOT CHORD Rigid ceiling directly applied or 6-0-0 oc bracing.

REACTIONS

(size) 1=6-4-6, 3=6-4-6, 4=6-4-6
Max Horiz 1=70 (LC 11)
Max Uplift 1=-1 (LC 21), 3=-1 (LC 20), 4=-76 (LC 14)
Max Grav 1=107 (LC 20), 3=107 (LC 21), 4=443 (LC 20)

FORCES

(lb) - Maximum Compression/Maximum Tension

TOP CHORD 1-2=-84/171, 2-3=-84/171
BOT CHORD 1-4=-131/149, 3-4=-131/149
WEBS 2-4=-343/182

NOTES

- Unbalanced roof live loads have been considered for this design.
- Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) zone; cantilever left and right exposed; end vertical left and right exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
- Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
- TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10

- Unbalanced snow loads have been considered for this design.
- Gable requires continuous bottom chord bearing.
- Gable studs spaced at 4-0-0 oc.
- This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
- Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 1 lb uplift at joint 1, 1 lb uplift at joint 3 and 76 lb uplift at joint 4.

LOAD CASE(S) Standard



September 20, 2024

WARNING - Verify design parameters and READ NOTES ON THIS AND INCLUDED MITEK REFERENCE PAGE MII-7473 rev. 1/2/2023 BEFORE USE.

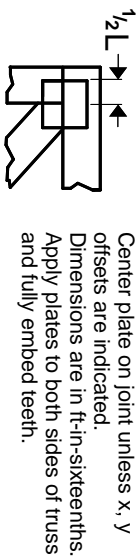
Design valid for use only with MiTek® connectors. This design is based only upon parameters shown, and is for an individual building component, not a truss system. Before use, the building designer must verify the applicability of design parameters and properly incorporate this design into the overall building design. Bracing indicated is to prevent buckling of individual truss web and/or chord members only. Additional temporary and permanent bracing is always required for stability and to prevent collapse with possible personal injury and property damage. For general guidance regarding the fabrication, storage, delivery, erection and bracing of trusses and truss systems, see **ANSI/TPI1 Quality Criteria and DSB-22** available from Truss Plate Institute (www.tpinst.org) and **BCSI Building Component Safety Information** available from the Structural Building Component Association (www.sbcacomponents.com)

ENGINEERING BY
TRENCO
A MiTek Affiliate

818 Soundside Road
Edenton, NC 27932

Symbols

PLATE LOCATION AND ORIENTATION



Center plate on joint unless x, y offsets are indicated. Dimensions are in ft-in-sixteenths. Apply plates to both sides of truss and fully embed teeth.



For 4 x 2 orientation, locate plates 0- 1/16\" from outside edge of truss.



This symbol indicates the required direction of slots in connector plates.

* Plate location details available in MITek software or upon request.

PLATE SIZE

4 X 4

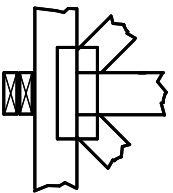
The first dimension is the plate width measured perpendicular to slots. Second dimension is the length parallel to slots.

LATERAL BRACING LOCATION



Indicated by symbol shown and/or by text in the bracing section of the output. Use T or I bracing if indicated.

BEARING



Indicates location where bearings (supports) occur. Icons vary but reaction section indicates joint number/letter where bearings occur. Min size shown is for crushing only.

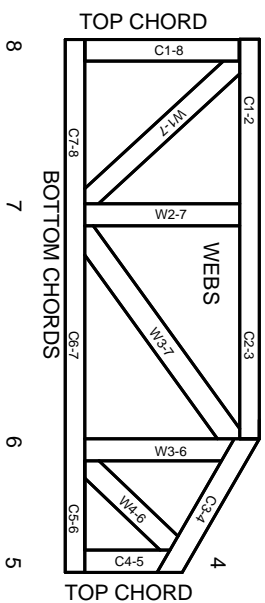
Industry Standards:

ANSI/TP1: National Design Specification for Metal Plate Connected Wood Truss Construction.
DSB-22: Design Standard for Bracing.
BCSI: Building Component Safety Information, Guide to Good Practice for Handling, Installing, Restraining & Bracing of Metal Plate Connected Wood Trusses.

Numbering System



1 TOP CHORDS
2 Joint ID
3 typ.



JOINTS ARE GENERALLY NUMBERED/LETTERED CLOCKWISE AROUND THE TRUSS STARTING AT THE JOINT FARTHEST TO THE LEFT.

CHORDS AND WEBS ARE IDENTIFIED BY END JOINT NUMBERS/LETTERS.

Product Code Approvals

ICC-ES Reports:

ESR-1988, ESR-2362, ESR-2685, ESR-3282
ESR-4722, ESL-1388

Design General Notes

Trusses are designed for wind loads in the plane of the truss unless otherwise shown.

Lumber design values are in accordance with ANSI/TP1 section 6.3. These truss designs rely on Lumber values established by others.

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MITek

ENGINEERING BY
TRENGO
A MITek Affiliate

MITek Engineering Reference Sheet: MIL-7473 rev. 1/2/2023

General Safety Notes

Failure to Follow Could Cause Property Damage or Personal Injury

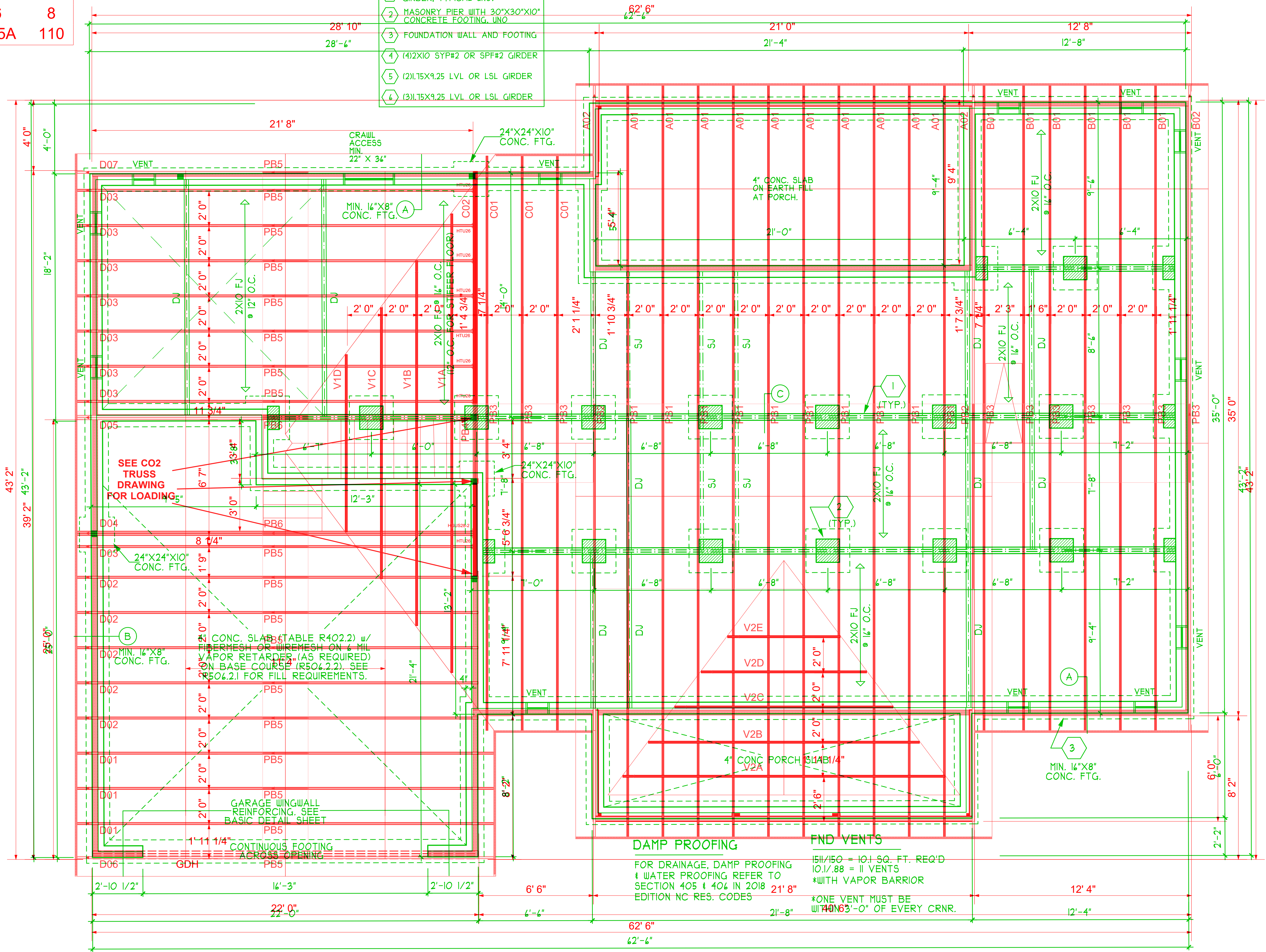
1. Additional stability/bracing for truss system, e.g. diagonal or X-bracing, is always required. See BCSI.
2. Truss bracing must be designed by an engineer. For wide truss spacing, individual lateral braces themselves may require bracing, or alternative Tor I bracing should be considered.
3. Never exceed the design loading shown and never stack materials on inadequately braced trusses.
4. Provide copies of this truss design to the building designer, erection supervisor, property owner and all other interested parties.
5. Cut members to bear tightly against each other.
6. Place plates on each face of truss at each joint and embed fully. Knots and wane at joint locations are regulated by ANSI/TP1 1.
7. Design assumes trusses will be suitably protected from the environment in accord with ANSI/TP1 1.
8. Unless otherwise noted, moisture content of lumber shall not exceed 19% at time of fabrication.
9. Unless expressly noted, this design is not applicable for use with fire retardant, preservative treated, or green lumber.
10. Camber is a non-structural consideration and is the responsibility of truss fabricator. General practice is to camber for dead load deflection.
11. Plate type, size, orientation and location dimensions indicated are minimum plating requirements.
12. Lumber used shall be of the species and size, and in all respects, equal to or better than that specified.
13. Top chords must be sheathed or purlins provided at spacing indicated on design.
14. Bottom chords require lateral bracing at 10 ft. spacing, or less, if no ceiling is installed, unless otherwise noted.
15. Connections not shown are the responsibility of others.
16. Do not cut or alter truss member or plate without prior approval of an engineer.
17. Install and load vertically unless indicated otherwise.
18. Use of green or treated lumber may pose unacceptable environmental, health or performance risks. Consult with project engineer before use.
19. Review all portions of this design (front, back, words and pictures) before use. Reviewing pictures alone is not sufficient.
20. Design assumes manufacture in accordance with ANSI/TP1 1 Quality Criteria.
21. The design does not take into account any dynamic or other loads other than those expressly stated.

General Notes: ** CUTTING OR DRILLING OF COMPONENTS SHOULD NOT BE DONE WITHOUT CONTACTING COMPONENT SUPPLIER FIRST. CUSTOMER TAKES FULL RESPONSIBILITY FOR COMPONENTS IF CUT BEFORE AUTHORIZATION. ** ALL BEARING POINTS MUST BE INSTALLED PRIOR TO SETTING ANY COMPONENTS.

Truss Connector Total List		
Manuf	Product	Qty
Simpson	HGUS28-2	1
Simpson	HTU26	8
Simpson	One H2.5A	110

PlotID	Length	Product	Products	Pieces	Net Qty	Fab Type
GDH	22' 0"	2.0 RigidLam DF LVL 1-3/4"	(SEE BASIC DETAIL SHEET FOR FOUNDATION STRUCTURAL NOTES)	3	3	FF

- FOUNDATION LEGEND**
- (1) 2" X 4" SYP#2 OR SPF#2 GIRDER, TYPICAL UNO.
 - (2) MASONRY PIER WITH 30" X 30" X 10" CONCRETE FOOTING UNO.
 - (3) FOUNDATION WALL AND FOOTING
 - (4) (4) 2X10 SYP#2 OR SPF#2 GIRDER
 - (5) (2) 1.5X9.25 LVL OR LSL GIRDER
 - (6) (3) 1.5X9.25 LVL OR LSL GIRDER



DAMP PROOFING
FOR DRAINAGE, DAMP PROOFING & WATER PROOFING REFER TO SECTION 405 & 406 IN 2018 EDITION NC RES. CODES

FND VENTS
1511/50 = 10.1 SQ. FT. REQ'D
10.1/88 = 11 VENTS
*WITH VAPOR BARRIER
*ONE VENT MUST BE WITHIN 6'-0" OF EVERY CRNR.

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

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

Revisions	
00/00/00	Name
00/00/00	Name
00/00/00	Name
00/00/00	Name
00/00/00	Name

THIS IS A TRUSS PLACEMENT DIAGRAM ONLY. These trusses are designed as individual components to be incorporated into the building design at the specification of the building designer. See individual design sheets for each truss design identified on the placement drawing. The building designer is responsible for temporary and permanent bracing of the roof and floor systems and for the overall structure. The design of the truss support structure including headers, beams, walls, and columns is the responsibility of the building designer. For general guidance regarding the bracing, consult "Bracing of Wood Trusses" available from the Truss Plate Institute, 583 D'Onofrio Drive, Madison, WI 53179

CARTER Lumber

Serenity Built Homes Inc
The Grace-Roof-1511 A-The Grace
ROOF PLACEMENT PLAN

Scale:	NTS
Date:	9/19/2024
Designer:	Nick Darr
Project Number:	24090063-01
Sheet Number:	

1/1

** FRAMER MUST REFER TO PLANS WHILE SETTING COMPONENTS. ** DAMAGED COMPONENTS SHOULD NOT BE INSTALLED UNLESS TOLD TO BY THE COMPONENT PLANT. ** TRUSS TO TRUSS CONNECTIONS ARE TOE-NAILED, UNLESS NOTED OTHERWISE.

** GIRDERS MUST BE FULLY CONNECTED TOGETHER PRIOR TO SETTING ANY LOADS. DIMENSIONS ARE READ AS: FOOT-INCH-SIXTEENTH. GARAGE ALL uplift connectors shown within these documents are recommendations only. Per ANSII/TPI 1, all uplift connectors are the responsibility of the bldg. designer and of contractor.

THE GRACE

HEATED FOOTAGE:
#1511

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

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

H SQUARED HOME DESIGN, INC

ANY DEVIATION OF THE SPECIFIED MEASUREMENTS OR DIMENSIONS VOIDS OR DIMINISHES THE DESIGNER'S LIABILITY. THIS PLAN HAS BEEN DRAWN IN ACCORDANCE WITH NORTH CAROLINA STATE RESIDENTIAL CODES. ALL DIMENSIONS ARE TO BE CONNECTED TOGETHER PRIOR TO SETTING ANY LOADS.

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