## **PLANS DESIGNED TO THE 2018 NORTH CAROLINA STATE RESIDENTIAL BUILDING CODE**

MEAN ROOF HEIGHT: 17'-2" HEIGHT TO RIDGE: 25'-				
CLIMATE ZONE	ZONE 3A	ZONE 4A	ZONE 5A	
FENESTRATION U-FACTOR	0.35	0.35	0.35	
SKYLIGHT U-FACTOR	0.55	0.55	0.55	
GLAZED FENESTRATION SHGC	0.30	0.30	0.30	
CEILING R-VALUE	38 or 30ci	38 or 30ci	38 or 30ci	
WALL R-VALUE	15	15	19	
FLOOR R-VALUE	19	19	30	
* BASEMENT WALL R-VALUE	5/13	10/15	10/15	
** SLAB R-VALUE	0	10	10	
* CRAWL SPACE WALL R-VALUE	5/13	10/15	10/19	

\*\*\*10/13" MEANS R-10 SHEATHING INSULATION OR R-13 CAVITY INSULATION
 \*\*\* INSULATION DEPTH WITH MONOLITHIC SLAB 24" OR FROM INSPECTION GAP TO BOTTOM OF FOOTING; INSULATION DEPTH WITH STEM WALL SLAB 24" OR FROM INSPECTION OF FOUNDATION WALL

DESIGNED FOR WIND SPEED OF 120 MPH, 3 SECOND GUST (93 FASTEST MILE) EXPOSURE "B"								
COMPONENT & CLADDING DESIGNED FOR THE FOLLOWING LOADS								
MEAN ROOF								
ZONE 1	14.2	-15.0	14.9	-15.8	15.5	-16.4	15.9	-16.8
ZONE 2	14.2	-18.0	14.9	-18.9	15.5	-19.6	15.9	-20.2
								-20.2
ZONE 4								-17.9
ZONE 5	15.5	-20.0	16.3	-21.0	16.9	-21.8	17.4	-22.4

DESIGNED FOR WIN								
COMPONENT								
MEAN ROOF				TO 35'				
ZONE 1	16.7	-18.0	17.5	-18.9	18.2	-19.6	18.7	-20.2
ZONE 2								-23.5
ZONE 3								-23.5
ZONE 4								-21.3
ZONE 5	18.2	-24.0	19.1	-25.2	19.8	-26.2	20.4	-26.9

### **ROOF VENTILATION**

SQUARE FOOTAGE OF ROOF TO BE VENTED = 2,111 SQ.FT.

NET FREE CROSS VENTILATION NEEDED:

WITHOUT 50% TO 80% OF VENTING 3'-0" ABOVE EAVE = 14.07 SQ.FT. WITH 50% TO 80% OF VENTING 3'-0" ABOVE EAVE; OR WITH CLASS I OR II VAPOR RETARDER ON WARM-IN-WINTER SIDE OF CEILING = 7.04 SQ.FT.

### **GUARD RAIL NOTES**

SECTION R312

R312.1 Where required. Guards shall be located along open-sided walking surfaces, including stairs, ramps and landings, that are located more than 30 inches (762 mm) measured vertically to the floor or grade below at any point within 36 inches (914 mm) horizontally to the edge of the open side. Insect screening shall not be considered as a *guard*.

R312.2 Height. Required quards at open-sided walking surfaces, including stairs, porches, balconies or landings, shall be not less than 36 inches (914 mm) high measured vertically above the adjacent walking surface, adjacent fixed seating or the line connecting the leading edges of the treads.

 Guards on the open sides of stairs shall have a height not less than 34 inches (864 mm) measured vertically from a line connecting the leading edges of the treads.

2. Where the top of the *guard* also serves as a handrail on the open sides of stairs, the top of the *guard* shall not be not less than 34 inches (864 mm) and not more than 38 inches (965 mm) measured vertically from a line connecting the leading edges of the treads. **R312.3 Opening limitations.** Required *guards* shall not have openings from the

walking surface to the required *guard* height which allow passage of a sphere 4 inches (102 mm)in diameter. Exceptions:

1. The triangular openings at the open side of a stair, formed by the riser, tread and bottom rail of a guard, shall not allow passage of a sphere 6 inches (153)

Guards on the open sides of stairs shall not have openings which allow passage of a sphere 43/8 inches (111 mm) in diameter.

## **AIR LEAKAGE**

Section N1102.4

N1102.4.1 Building thermal envelope. The building thermal envelope shall be durably sealed with an air barrier system to limit infiltration. The sealing methods between dissimilar materials shall allow for differential expansion and contraction. For all homes, where present, the following shall be caulked, gasketed, weather stripped or otherwise sealed with an air barrier material or solid material consistent with Appendix E-2.4 of this code:

- Blocking and sealing floor/ceiling systems and under knee walls open to unconditioned or exterior space. 2. Capping and sealing shafts or chases, including flue shafts.
- 3. Capping and sealing soffit or dropped ceiling areas

NOTE: MONO SLAB - STONE TO RUN TO THE BOTTOM OF WINDOW

STEM WALL - STONE TO FOUNDATION HEIGHT ONLY

3CG SHAKE TBD OLEANDER LN. SANFORD, NC RIDGE VENT AS REQUIRED TOP OF PLATE SUB FLOOR TOP OF PLATE SUB FLOOR STEM WALL

RAIL AS NEEDED PER CODE

SIDING AS

RIDGE VENT AS REQUIRED

# **FRONT ELEVATION**



RIDGE VENT AS REQUIRED

**SOUARE FOOTAGE** HEATED 1351 SQ FT 221 SQ FT 1572 SQ FT FIRST FLOOR PLAYROOM **HEATED OPTIONAL** HALF BATH

WEST PRESERVE

HAYNES HOME PLANS, INC. ASSUMES NO LIABILITY FOR CONTRACTORS PRACTICES AN

CODES AND CONDITIONS MAY VARY WITH LOCATION. A LOCAL DESIGNER, ARCHITECT OR IGINEER SHOULD BE CONSULTE BEFORE CONSTRUCTION.

THESE DRAWING ARE
INSTRUMENTS OF SERVICE AND
AS SUCH SHALL REMAIN
PROPERTY OF THE DESIGNER.

SINCLAIR

**ELEVATIONS** 

REAR

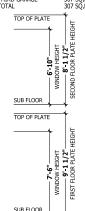
త

**FRONT** 

**LOT 30** 

28 SQ.FT. 28 SQ.FT. UNHEATED 134 SQ FT 447 SQ FT 113 SQ FT 694 SQ FT GARAGE REAR PORCH UNHEATED OPTIONAL

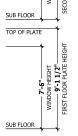
THIRD GARAGE TOTAL 307 SQ.FT 307 SQ.FT



**REAR ELEVATION** SCALE 1/4" = 1'-0"

- SIDING AS

-SPECIFIED



SIDING AS

SPECIFIED

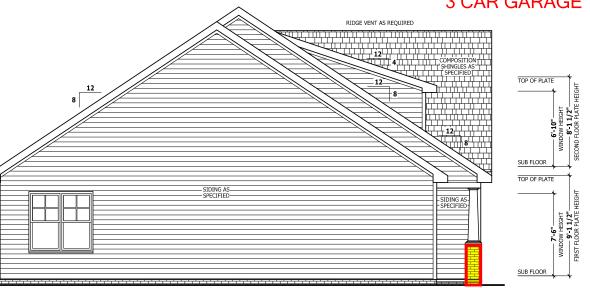
© Copyright 2019 Haynes Home Plans, Inc. 3/6/2020 190320B

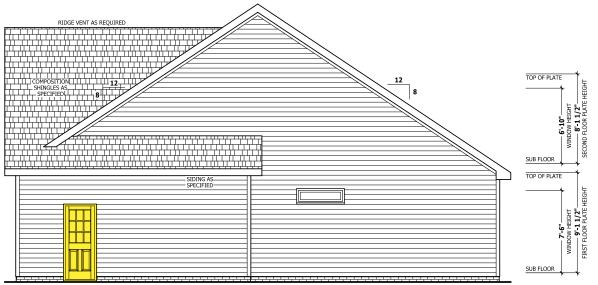
HEATED OPTIONAL 28 90 FT 28 90 FT UNHEATED UNHEATED OPTIONAL

SOUARE FOOTAGE

PAGE 1 OF 8

3 CAR GARAGE





# **RIGHT SIDE ELEVATION**

SCALE 1/4" = 1'-0"

DIMENSIONS AND CONDITIONS
BEFORE CONSTRUCTION BEGIN
HAYNES HOME PLANS, INC.
ASSUMES NO LIABILITY FOR
CONTRACTORS PRACTICES AND

PROCEDURES.
CODES AND CONDITIONS MAY
VARY WITH LOCATION. A LOCAL
DESIGNER, ARCHITECT OR
RIGHER SHOULD BE CONSULTEL
BEFORE CONSTRUCTION.
THESE DEAWLING ARE
INSTRUMENTS OF SERVICE AND
AS SUCH SHALL REMAIN
PROPERTY OF THE DESIGNER.

RIGHT ELEVATIONS SINCLAIR

త

LEFT

SQUARE FOOTAGE
HEATED
FIRST FLOOR 1351 SQ.FT.
PLAYROOM 221 SQ.FT. | MANUAL | M 28 SQ FT 28 SQ FT TOTAL UNHEATED TOTAL 694 SQ FT.

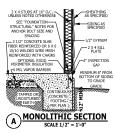
UNHEATED OPTIONAL

THIRD GARAGE 307 SQ FT.

TOTAL 307 SQ FT.

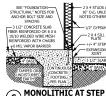
© Copyright 2019 Haynes Home Plans, Inc. 3/6/2020

190320B PAGE 2 OF 8

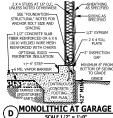


3 1/2" CONCRETE SLAB WITH FIBER REINFORCEMENT OR 6 X 6 10/10 WELDED WIRE MESH REINFORCEMENT 6 MIL VAPOR BARRIE 2 X 4 SILL PLATE

B LUG FOOTING SECTION



(C) MONOLITHIC AT STEP



# **FOUNDATION STRUCTURAL**

115 to 130 mph wind zone (1 1/2 to 2 1/2 story)

CONTINUOUS FOOTING: 16" wide and 8" thick minimum. 20" wide

minimum at brick veneer. Must extended 2" to either side of supported wall. **GIRDERS:** (3) 2 X 10 girder unless noted otherwise.

PIERS: (5) 2 x 10 girled timess indeed otherwise.

PIERS: 16" X 16" piers with 8" solid masonry cap on 30" X 30" X 10" concrete footing with maximum pier height of 64" with hollow masonry and

POINT LOADS: designates significant point load and should have solid blocking to pier, girder or foundation wall.

115 and 120 MPH ANCHORS BOLTS: 1/2" diameter anchor bolts embedded minimum 7", maximum 6'-0" on center, within 12" of plate ends, and minimum two anchor bolts per plate.

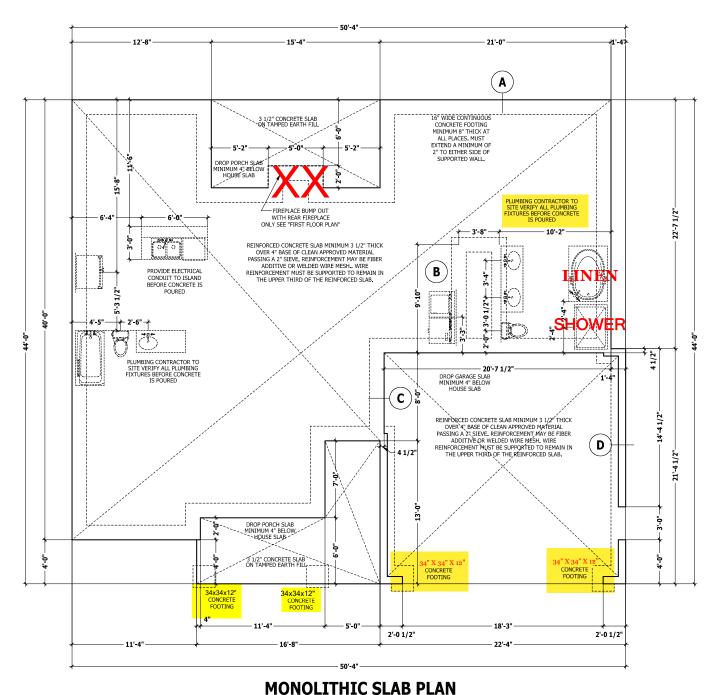
130 MPH ANCHORS BOLTS: 1/2" diameter anchor bolts embedded minimum 15", maximum 4'-0" on center, within 12" of plate ends, and minimum two anchor bolts per plate.

CONCRETE: Concrete shall have a minimum 28 day strength of 3000 psi and a maximum 5" slump. Air entrained per table 402.2. All concrete shall be in accordance with ACI standards. All samples for pumping shall be taken from the exit end of the pump.

From the exit end of the pump.

SOILS: Allowable soil bearing pressure assumed to be 2000 PSF. The contractor must contact a geotechnical engineer and a 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.

# 3 CAR GARAGE



HAYNES HOME PLANS, INC. ASSUMES NO LIABILITY FOR CONTRACTORS PRACTICES AN PROCEDURES. CODES AND CONDITIONS MAY VARY WITH LOCATION. A LOCAL DESIGNER, ARCHITECT OR NGINEER SHOULD BE CONSULTE BEFORE CONSTRUCTION

THESE DRAWING ARE ISTRUMENTS OF SERVICE AND AS SUCH SHALL REMAIN PROPERTY OF THE DESIGNER.

PLAN SLAB

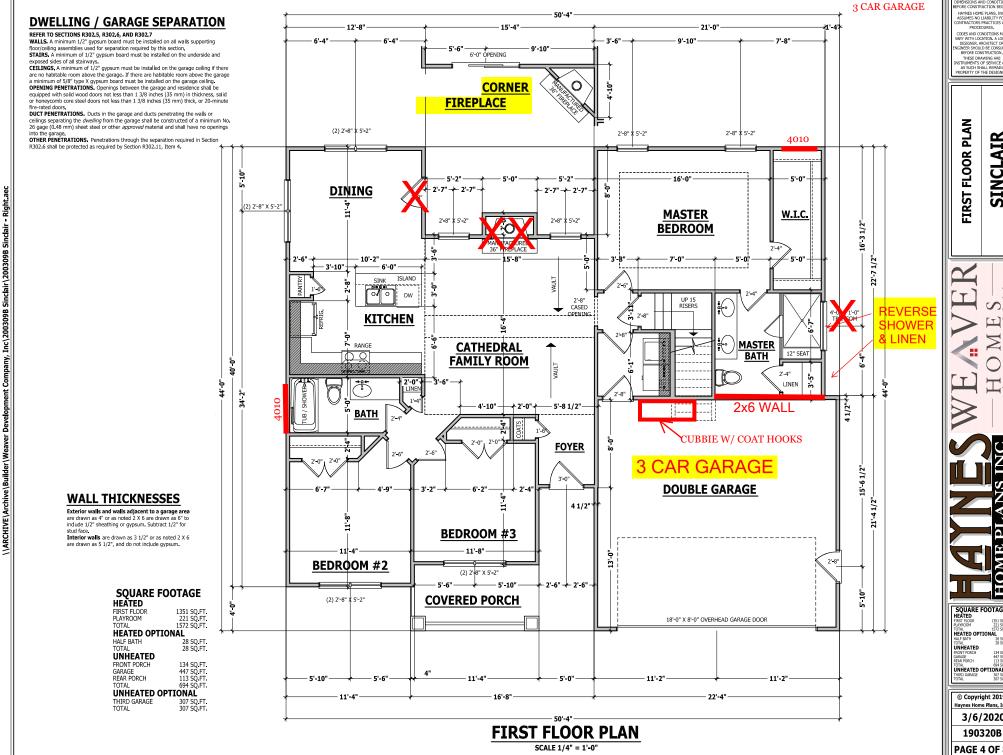
SINCLAIR MONOLITHIC

SQUARE FOOTAGE HEATED HEATED OPTIONAL 28 SQ FT. 28 SQ FT. UNHEATED UNHEATED OPTIONAL

© Copyright 2019 Haynes Home Plans, Inc. 3/6/2020

190320B

PAGE 3 OF 8



HAYNES HOME PLANS, INC. ASSUMES NO LIABILITY FOR CONTRACTORS PRACTICES AN PROCEDURES.

CODES AND CONDITIONS MAY 
/ARY WITH LOCATION. A LOCA 
DESIGNER, ARCHITECT OR 
IGINEER SHOULD BE CONSULTI 
BEFORE CONSTRUCTION.

SINCLAIR

SQUARE FOOTAGE HEATED HEATED OPTIONAL 28 90 FT 28 90 FT UNHEATED UNHEATED OPTIONAL

© Copyright 2019 Haynes Home Plans, Inc. 3/6/2020

PAGE 4 OF 8

### STRUCTURAL NOTES

All construction shall conform to the latest requirements of the 2018 North Carolina Residential Building Code, plus all local codes and regulations. This document in no way shall be construed to supersede the code.

JOB SITE PRACTICES AND SAFETY: Haynes Home Plans, Inc. assumes no liability for contractors practices and procedures or safety program. Haynes Home Plans, Inc. takes no responsibility for the contractor's failure to carry out the construction work in accordance with the contract documents. All members shall be framed, anchored, and braced in accordance with good construction practice and the building code.

DESIGN LOADS	LIVE LOAD	DEAD LOAD	DEFLECTION
USE	(PSF)	(PSF)	(LL)
Attics without storage	10		L/240
Attics with limited storage	20	10	L/360
Attics with fixed stairs	40	10	L/360
Balconies and decks	40	10	L/360
Fire escapes	40	10	L/360
Guardrails and handrails	200	-	-
Guardrail in-fill components	50	-	-
Passenger vehicle garages	50	10	L/360
Rooms other than sleeping	40	10	L/360
Sleeping rooms	30	10	L/360
Stairs	40	-	L/360
Cnow	20		

FRAMING LUMBER: All non treated framing lumber shall be SPF #2 (Fb = 875 PSI) or SYP #2 (Fb = 750 PSI) and all treated lumber shall be SYP #2 (Fb = 750 PSI) unless noted other wise.

(PD = 730 PS) unites noted order Wese.

FINGINERRED WOOD BEAMS:

Laminated veneer lumber (LVL) = Fb=2600 PSI, Fv=285 PSI, E=1.9x106 PSI.

Parallel strand lumber (PSL) = Fb=2900 PSI, Fv=290 PSI, E=2.0x106 PSI.

Laminated strand lumber (LSL) Fb=2250 PSI, Fv=400 PSI, E=1.55x106 PSI. Install all connections per manufacturers instructions.

TRUSS AND I-JOIST MEMBERS: All roof truss and I-joist layouts shall be prepared in accordance with this document. Trusses and I-joists shall be installed according to the manufacture's specifications. Any change in truss or I-joist layout shall be coordinated with Haynes Homes Plans, Inc. LINTELS: Brick lintels shall be 3 1/2" x 3 1/2" x 1/4" steel angle for up to 6-0" span. 6" x 4" x 5/16" steel angle with 6" leg vertical for spans up to 9'-0" unless noted otherwise. 3 1/2" x 3 1/2" x 1/4" steel angle with 1/2" bolts at 2'-0" on center for spans up to 18'-0" unless noted otherwise.

FLOOR SHEATHING: OSB or CDX floor sheathing minimum 1/2" thick for 16" on center joist spacing, minimum 5/8" thick for 19.2" on center joist spacing, and minimum 3/4" thick for 24" on center joist spacing. ROOF SHEATHING: OSB or CDX roof sheathing minimum 3/8" thick for 16" on center rafters and 7/16" for 24" on center rafters. CONCRETE AND SOILS: See foundation notes.

#### **BRACE WALL PANEL NOTES**

EXTERIOR WALLS: All exterior walls to be sheathed with CS-WSP or CS-SFB in accordance with section R602.10.3 unless

GYPSUM: All interior sides of exterior walls and both sides GYPSUM: All interior sides of exterior walls and both sides interior walls to have 1/2" gypsum installed. When not using method GB gypsum to be fastened per table R702.3.5. Method GB to be fastened per table R602.10.1. REQUIRED LENGTH OF BRACING: Required brace wall length

for each side of the circumscribed rectangle are interpolated per table R602.10.3. Methods CS-WSP and CS-SFB contribute their actual length. Method GB contributes 0.5 it's actual length. Method PF contributes 1.5 times its actual length. HD: 800 lbs hold down hold down device fastened to the edge

of the brace wall panel closets to the corner.

#### Methods Per Table R602.10.1

CS-WSP: Shall be minimum 3/8" OSB or CDX nailed at 6" on cs-wsr: shall be minimum 3/8 OSB or CDX Italied at 6 of center at edges and 12" on center at intermediate supports with 6d common nalls or 8d(2 1/2" long x 0.113" diameter). CS-SFB: Shall be minimum 1/2" structural fiber board nailed at 3" on center at edges and 3" on center at intermediate supports with 1 1/2" long x 0.12" diameter galvanized roofing

GB: Interior walls show as GB are to have minimum 1/2' gypsum board on both sides of the wall fastened at 7" on center at edges and 7" on center at intermediate supports with minimum 5d cooler nails or #6 screws

PF: Portal fame per figure R602.10.1 - 6-16D SINKER NAILS FROM KING STUD TO HEADER-HEIGHT TO HEADER PER PLAN STAP HEADER TO JACK-STUD ON INSIDE 1000 LBS OR Р 4000 LBS WITH PONY WALL. -FASTEN SHEATHING TO-HEADER WITH 8D COMMON неіснт то —— 10-0 NAIL IN 3" GRID AND TO FRAMING AT 3" ON CENTER OPTIONAL SPLICE WITHIN-24" OF MIDDLE OF WALL HEIGHT JACK STUDS PER PLAN -SHEATHING DIRECTION - ANCHORAGE PER FOUNDATION PORTAL FRAME AT OPENING

( METHOD PF PER FIGURE AND SECTION R602.10.1 )

SCALE 1/4" = 1'-0"

#### **EXTERIOR HEADERS**

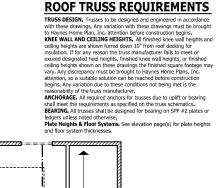
- (2) 2 X 6 WITH 1 JACK STUD EACH END UNLESS NOTED OTHERWISE
- KING STUDS EACH END PER TABLE BELOW

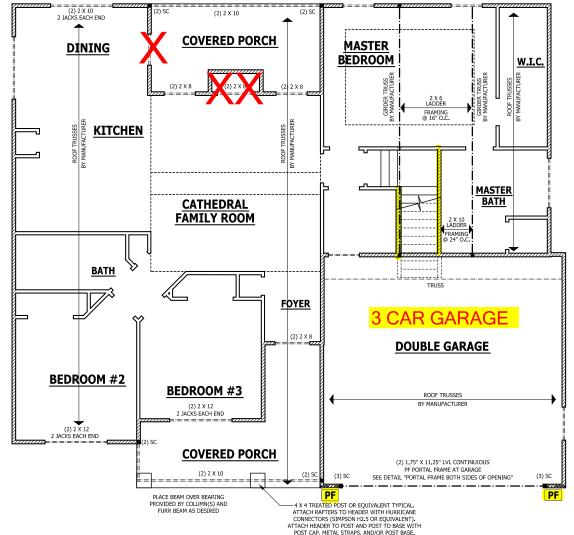
HEADER SPAN < 3' 3'-4' 4'-8' 8'-12' 12'-16' KING STUD(S) 1 2 3 5 6

### INTERIOR HEADERS

- LOAD BEARING HEADERS (2) 2 X 6 WITH 1 JACK STUD AND 1 KING STUD EACH END UNLESS NOTED OTHERWISE - NON LOAD BEARING HEADERS TO BE LADDER FRAMED







# FIRST FLOOR STRUCTURAL

SCALE 1/4" = 1'-0"

HAYNES HOME PLANS, INC. ASSUMES NO LIABILITY FOR ONTRACTORS PRACTICES AN PROCEDURES. CODES AND CONDITIONS MAY VARY WITH LOCATION. A LOCAL DESIGNER, ARCHITECT OR IGINEER SHOULD BE CONSULTE BEFORE CONSTRUCTION.

THESE DRAWING ARE ISTRUMENTS OF SERVICE AN AS SUCH SHALL REMAIN PROPERTY OF THE DESIGNER

STRUCTURAL SINCLAIR FLOOR **FIRST** 

SQUARE FOOTAGE HEATED HEATED OPTIONAL 28 90 FT 28 90 FT UNHEATED UNHEATED OPTIONAL

© Copyright 2019 Haynes Home Plans, Inc.

3/6/2020 190320B

PAGE 5 OF 8

liability for contractors practices and procedures or safety program. Haynes Home Plans, Inc. takes no responsibility for the contractor's failure to carry out the construction work in accordance with the contract documents. All members shall be framed, anchored, and braced in accordance with good construction practice and the building code.

DESIGN LOADS	LIVE LOAD	DEAD LOAD	DEFLECTION
USE	(PSF)	(PSF)	(LL)
Attics without storage	10		L/240
Attics with limited storage	20	10	L/360
Attics with fixed stairs	40	10	L/360
Balconies and decks	40	10	L/360
Fire escapes	40	10	L/360
Guardrails and handrails	200	_	_
Guardrail in-fill components	50	_	-
Passenger vehicle garages	50	10	L/360
Rooms other than sleeping	40	10	L/360
Sleeping rooms	30	10	L/360
Stairs	40	-	L/360
Snow	20	_	

FRAMING LUMBER: All non treated framing lumber shall be SPF #2 (Fb = 875 PSI) or SYP #2 (Fb = 750 PSI) and all treated lumber shall be SYP #2 (Fb = 750 PSI) unless noted other wise. **ENGINEERED WOOD BEAMS**:

Company,

|\ARCHIVE\Archive\Builder\Wear

EMOINEERED WOUD BEAMS!

Laminated veneer (umber (LVL) = Fb=2600 PSI, Fv=285 PSI, E=1.9x10° PSI
Parallel strand (umber (PSI) = Fb=2900 PSI, Fv=290 PSI, E=2.0x10° PSI
Laminated strand (umber (LSI) E=2250 PSI, Fv=400 PSI, E=1.5x10° PSI
Install all ADNI-policity in the production of th

prepared in accordance with this document. Trusses and I-joists shall be installed according to the manufacture's specifications. Any change in truss or I-joist layout shall be coordinated with Havnes Homes Plans, Inc. LINTELS: Brick lintels shall be 3 1/2" x 3 1/2" x 1/4" steel angle for up to 6'-0" span. 6" x 4" x 5/16" steel angle with 6" leg vertical for spans up to 9-0" unless noted otherwise. 3 1/2" x 3 1/2" x 1/4" steel angle with 1/2" bolts at 2'-0" on center for spans up to 18-0" unless noted otherwise. FLOOR SHEATHING: OSB or CDX floor sheathing minimum 1/2" thick for 16" on center joist spacing, minimum 5/8" thick for 19.2" on center joist spacing, and minimum 3/4" thick for 24" on center joist spacing. ROOF SHEATHING: OSB or CDX roof sheathing minimum 3/8" thick for 16' on center rafters and 7/16" for 24" on center rafters.

CONCRETE AND SOILS: See foundation notes.

### **ROOF TRUSS REQUIREMENTS**

TRUSS DESIGN. Trusses to be designed and engineered in accordance with these drawings. Any variation with these drawings must be brought to Haynes Home Plan, Inc. attention before construction begins. KNEE WALL AND CEILING HEIGHTS. All finished knee wall heights and ceiling heights are shown furred down 10" from roof decking for insulation. If for any reason the truss manufacturer fails to meet or exceed designated heel heights, finished knee wall heights, or finished celling heights shown on these drawings the finished square footage may vary. Any discrepancy must be brought to Haynes Home Plans, Inc. attention, so a suitable solution can be reached before construction begins. Any variation due to these conditions not being met is the reasonability of the truss manufacturer.

ANCHORAGE, All required anchors for trusses due to uplift or bearing shall meet the requirements as specified on the truss schematics. BEARING. All trusses shall be designed for bearing on SPF #2 plates or ledgers unless noted otherwise.

Plate Heights & Floor Systems. See elevation page(s) for plate heights

### **EXTERIOR HEADERS**

- (2) 2 X 6 WITH 1 JACK STUD EACH END
- UNLESS NOTED OTHERWISE
   KING STUDS EACH END PER TABLE BELOW
- HEADER SPAN < 3' 3'-4' 4'-8' 8'-12' 12'-16' KING STUD(S) 1 2 3 5 6

# **INTERIOR HEADERS**

- LOAD BEARING HEADERS (2) 2 X 6 WITH 1 JACK STUD AND 1 KING STUD EACH END UNLESS NOTED OTHERWISE - NON LOAD BEARING HEADERS TO BE
- LADDER FRAMED

# **ATTIC ACCESS**

#### SECTION R807

R807.1 Attic access. An attic access opening shall be provided to attic areas that exceed 400 square feet (37.16 m2) and have to attic areas fat at exceed 404 square reet (37.16 m.2) and nave a vertical hereas of 60 inches (1524 mm) or greater. The net clear opening shall not be less than 20 inches by 30 inches (508 mm by 762 mm) and shall be located in a hallway or other readily accessible location. A 30-inch (762 mm) minimum unobstructed headroom in the attic space shall be provided at some point above the access opening. See Section M1305.1.3 for access requirements where mechanical equipment is located in attics.

 Concealed areas not located over the main structure including porches, areas behind knee walls, dormers, bay windows, etc. are not required to have access.

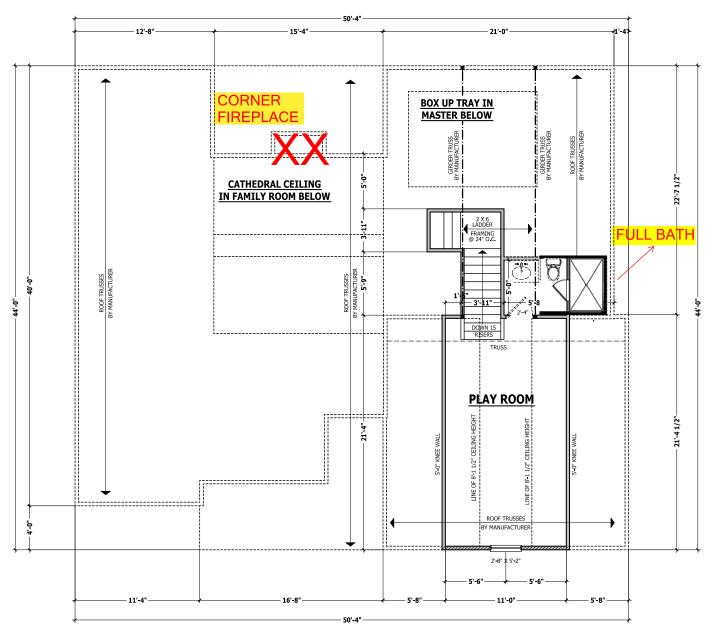
2. Pull down stair treads, stringers, handrails, and hardware may protrude into the net clear opening.

### **WALL THICKNESSES**

Exterior walls and walls adjacent to a garage area are drawn as 4" or as noted 2 X 6 are drawn as 6" to include 1/2" sheathing or gypsum. Subtract 1/2" for

Interior walls are drawn as 3 1/2" or as noted 2 X 6 are drawn as 5 1/2", and do not include gypsum.





**SECOND FLOOR PLAN** 

HAYNES HOME PLANS, INC. ASSUMES NO LIABILITY FOR CONTRACTORS PRACTICES AN PROCEDURES. CODES AND CONDITIONS MAY VARY WITH LOCATION. A LOCAL DESIGNER, ARCHITECT OR IGINEER SHOULD BE CONSULTE BEFORE CONSTRUCTION.

THESE DRAWING ARE ISTRUMENTS OF SERVICE AND AS SUCH SHALL REMAIN PROPERTY OF THE DESIGNER.

PLAN SINCLAIR FLOOR SECOND

SQUARE FOOTAGE HEATED HEATED OPTIONAL 28 90 FT 28 90 FT UNHEATED UNHEATED OPTIONAL

© Copyright 2019 Haynes Home Plans, Inc. 3/6/2020

190320B PAGE 6 OF 8

# 3 CAR **GARAGE**

# **ROOF TRUSS REQUIREMENTS**

TRUSS DESIGN, Trusses to be designed and engineered in accordance with these drawings, Any variation with these drawings must be brought to Haynes Home Plan, Inc. attention before construction begins.

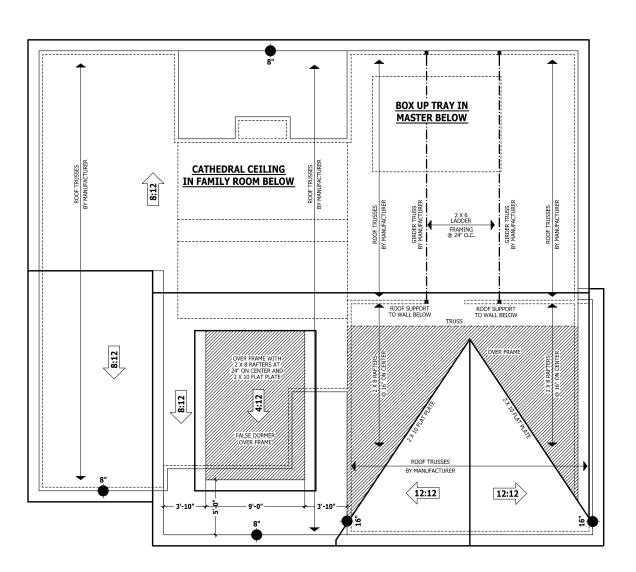
KNEE WALL AND CELLING HEIGHTS, All finished knee wall heights and ceiling heights are shown furred down 10° from roof decking for insulation. If for any reason the truss manufacturer fails to meet or exceed designated heel heights, finished knee wall heights, or finished exceed designated neer neights, infinished where wall neights, of minished ceiling heights shown on these drawings the finished square footage may vary. Any discrepancy must be brought to Haynes Home Plans, Inc. attention, so a suitable solution can be reached before construction

attention, noy an suitable solution if an extended before found begins. Any variation due to these conditions not being met its the reasonability to the suitable solution and the suitable solution. ANCHORAGE. All required anchors for trusses due to uplift or bearing shall meet the requirements as specified on their truss schematics BEARRING. All requirements have specified for bearing on SPF #2 plates or ledgers unless noted otherwise.

Plate Heights & Floor Systems. See elevation page(s) for plate heights

HEEL HEIGHT ABOVE FIRST FLOOR PLATE

HEEL HEIGHT ABOVE SECOND FLOOR PLATE





PURCHASER MUST VERIEV ALL DIMENSIONS AND CONDITIONS BEFORE CONSTRUCTION BEGINS HAVIES HOME PLANS, INC. ASSUMES NO LIABILITY FOR CONTRACTORS PRACTICES AND PROCEDURES. PROCEDURES.
CODES AND CONDITIONS MAY VARY WITH LOCATION. A LOCAL DESIGNER, ARCHITECT OR NIGHER SHOULD BE CONSULTED BEFORE CONSTRUCTION.
THESE DRAWLING ARE INSTRUMENTS OF SERVICE AND AS SUCH SHALL REMAIN PROPERTY OF THE DESIGNER.

SINCLAIR **ROOF PLAN** 

SQUARE FOOTAGE HEATED FIRST FLOOR 1351 SQ.FT. PLAYROOM 221 SQ.FT. HEATED OPTIONAL 28 SQ FT 28 SQ FT UNHEATED UNHEATED OPTIONAL THIRD GARAGE 307 SQ.F TOTAL 307 SQ.F

© Copyright 2019 Haynes Home Plans, Inc. 3/6/2020

190320B PAGE 7 OF 8 FOOTING AS SPECIFIED

SET BOTTOM OF FOOTIN

Sinclair\200309B Sinclair - Right.aec

S

Develor

\\ARCHIVE\Archive\Builder\Weaver

# **DECK STAIR NOTES**

AM110.1 Stairs shall be constructed per Figure AM110. Stringer spans shall be no greater than 7 foot span between supports. Spacing between stringers shall be based upon decking material used per AM107.1. Each Stringer shall have minimum 3 1/2 inches between step cut and back of stringer If used, suspended headers shall shall be attached with 3/8 inch galvanized bolts with nuts and washers to securely

support stringers at the top.

#### **DECK BRACING**

SECTION AM109

AM109.1 Deck bracing. Decks shall be braced to provide lateral stability. The following are acceptable means to rovide lateral stability.

AM109.1.1. When the deck floor height is less than 4'-0" above finished grade per Figure AM109 and the deck is attached to the structure in accordance with Section AM104, lateral bracing is not required.

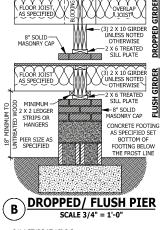
AM109.1.2. 4 x 4 wood knee braces may be provided on each column in both directions. The knee braces shall attach to each post at a point not less than 1/3 of the post length from the top of the post, and the braces shall be angled between 45 degrees and 60 degrees from the horizontal. Knee braces shall be bolted to the post and the girder/double band with one 5/8 inch hot dipped galvanized bolt with nut and washer at both ends of the brace per Figure AM109.1

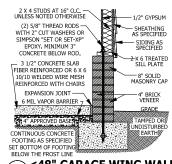
AM109.1.3. For freestanding decks without knee braces or diagonal bracing, lateral stability may be provided by embedding the post in accordance with Figure AM109.2

and the fol	lowing:						
POST SIZE	TRIBUTARY AREA	MAX. POST HEIGHT	EMBEDMENT DEPTH	CONCRETE DIAMETER			
4 X 4	48 SF	4'-0"	2'-6"	1'-0"			
6 X 6	120 SF	6'-0"	3'-6"	1'-8"			
***************************************							

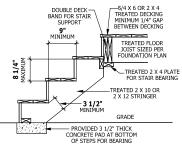
AM109.1.4. 2 x 6 diagonal vertical cross bracing may be provided in two perpendicular directions for freestanding decks or parallel to the structure at the exterior column line for attached decks. The 2 x 6's shall be attached to the posts with one 5/8 inch hot dipped galvanized bolt with nut and washer at each end of each bracing member per Figure AM109 3

SCALE 3/4" = 1'-0" AM109.1.5. For embedment of piles in Coastal Regions, see Chapter 45.





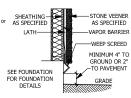
#### <48" GARAGE WING WALL Ε SCALE 3/4" = 1'-0'



### FIGURE AM110 TYPICAL DECK STAIR DETAIL

SCALE 3/4" = 1'-0"

# WEEP SCREEDS



**WEEP SCREED** 

All weep screeds and stone veneer to be installed ner manufactures instructions and per the 2012 North Carolina Residential

Building code. R703.6.2.1 - A minimum 0.019-inch (0.5 mm) (No. 26 galvanized sheet gage), corrosion-resistant weep screed or plastic veep screed, with a minimum vertical attachment flange of 31/2 inches (89 mm) shall be provided at or below the foundation plate line on exterior stud walls

in accordance with ASTM C 926. The weep screed shall be placed a minimum of 4 inches (102 mm) above the earth or 2 inches (51 mm) above paved areas and shall be of a type that will allow trapped water to drain to the exterior of the building. The weather-resistant barrier shal Ian the attachment flance. The exterior lath shall cover and terminate on the attachment flange of the weep screed.

-1/2" GYPSUM SEE ROOF EDGED OR PORCH FLOOR 12 PLAN OR ELEVATION SHINGLES AS SPECIFIED FOR PITCH SHEATHING AS SPECIFIED - 15# BUILDING FELT ROOF TRUSSES BY 4" CONCRETE BLOCK PORCH HEADER PER -4" BRICK VENEER PLAN INSTALLED OVER - EXPANSION JOINT CENTER OF COLUMN BASE -VINYL OR HARDIE SOFFIT -6 MIL VAPOR BARRIER INSTALLED PER MANUFACTURERS BLOCKING INSTALLED INSTRUCTIONS ON BOTH SIDES & UNDER 3 1/2" SLAB HEADER AS DESIRED TAPERED COLUMN OVER MASONRY BASE 1 X MATERIAL · TAMPED OR ATTACHED TO HEADER CENTER LINE OF HEADER UNDISTURBED WITH POST CAP AND COLUMN EARTH **PORCH HEADER WITH** 

#### CRAWL SPACE AT GARAGE C SCALE 3/4" = 1'-0"

2 X 4 STUDS AT 16" O.C. — UNLESS NOTED OTHERWISE

SUB FLOOR AS-

SPECIFIED

'AS SPECIFIED

2 X 6 TREATED

SILI PLATE

SEE "FOUNDATION

STRUCTURAL" NOTES FOR

ANCHOR BOLT SIZE AND

SPACING

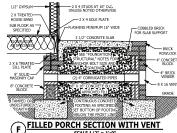
CONTINUOUS CONCRETI

FOOTING AS SPECIFIED

BELOW THE FROST LINE

SET BOTTOM OF FOOTIN

X X X X X X



SCALE 1/2" = 1'-0' TACH JOIST WITH HANGER

# (G) DECK ATTACHMENT

# **SMOKE ALARMS**

SECTION R314

R314.1 Smoke detection and notification. All smoke alarms shall be listed in accordance with UL 217 and installed in accordance with the provisions of this code and the household fire warning equipment provisions of NFPA 72.

R314.2 Smoke detection systems. Household fire alarm systems installed in accordance with NFPA 72 that include smoke alarms, or a combination of smoke detector and audible notification device installed as required by this section for smoke alarms, shall be permitted. The household fire alarm system shall provide the same level of smoke detection and alarm as required by this section for smoke alarms. Where a household fire warning system is installed using a combination of smoke detector and audible notification device(s), it shall become a permanent fixture of the occupancy and owned by the homeowner. The system shall be monitored by an approved supervising station and be maintained in accordance with NEDA 72

Exception: Where smoke alarms are provided meeting the requirements of Section R314.4.

R314.3 Location. Smoke alarms shall be installed in the following

In each sleeping room.

2. Outside each separate sleeping area in the immediate vicinity of the bedrooms.

3. On each additional *story* of the *dwelling*, including *basements* and habitable attics (finished) but not including crawl spaces. uninhabitable (unfinished) attics and uninhabitable (unfinished) attic-stories. In dwellings or dwelling units with split levels and without an intervening door between the adjacent levels, a smoke

alarm installed on the upper level shall suffice for the adjacent lower level provided that the lower level is less than one full *story* below the upper level. When more than one smoke alarm is required to be installed within an individual dwelling unit the alarm devices shall be interconnected in such a manner that the actuation of one alarm will activate all of

the alarms in the individual unit. **R314.4 Power source.** Smoke alarms shall receive their primary power from the building wiring when such wiring is served from a commercial source, and when primary power is interrupted, shall receive power from a battery. Wiring shall be permanent and without a disconnecting switch other than those required for overcurrent protection. Smoke alarms shall be interconnected.

# **CARBON MONOXIDE ALARMS**

**TAPERED COLUMN** 

SECTION R315

R315.1 Carbon monoxide alarms. In new construction, dwelling units shall be provided with an approved carbon monoxide alarm installed outside of each separate sleeping area in the immediate vicinity of the bedroom(s) as directed by the alarm manufacturer.

R315.2 Where required in existing dwellings. In existing dwellings, where interior alterations, repairs, fuel-fired appliance replacements, or additions requiring a permit occurs, or where one or more sleeping rooms are added or created, carbon monoxide alarms shall be provided in accordance with Section

R315.3 Alarm requirements. The required carbon monoxide alarms shall be audible in all bedrooms over background noise levels with all intervening doors closed. Single station carbon monoxide alarms shall be listed as complying with UL 2034 and shall be installed in accordance with this code and the manufacturer's installation instructions.

# STAIRWAY NOTES

shall not be less than 6 feet 8 inches (2032 mm) measured vertically from the sloped line adjoining the tread nosing or from the floor surface of the landing or platform on that portion of the stainway.

R311.7.4 Stair treads and risers. Stair treads and risers shall meet the requirements of this section. For the purposes of this section all dimensions and dimensioned surfaces shall be exclusive of carpets, rugs or runners. R311.7.4.1 Riser height. The maximum riser height shall be 8 1/4 inches (210 mm). The riser shall be measured vertically between leading edges of

the adiacent treads. P311 7.4.2 Tread denth. The minimum tread denth shall be 9 inches (229 mm). The tread depth shall be measured horizontally between the vertical planes of the foremost projection of adjacent treads and at a right angle to the tread's leading edge. Winder treads shall have a minimum tread depth of 9 inches (229 mm) measured as above at a point 12 inches (305 mm) from the side where the treads are narrower. Winder treads shall have a

minimum tread depth of 4 inches (102 mm) at any point.

R311.7.4.3 Profile. The radius of curvature at the nosing shall be no greater than 9/16 inch (14 mm). A nosing not less than 3/4 inch (19 mm) but not more than 1 1/4 inches (32 mm) shall be provided on stairways with solid

R311.7.7 Handrails. Handrails shall be provided on at least one side of each continuous run of treads or flight with four or more risers.

R311,7,1 Height, Handrall height, measured vertically from the sloped

plane adjoining the tread nosing, or finish surface of ramp slope, shall be not less than 34 inches (864 mm)and not more than 38 inches (965 mm). Exceptions:

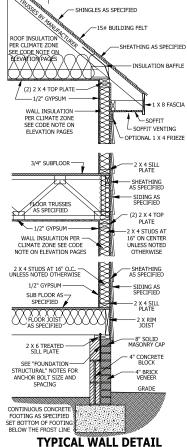
1. The use of a volute, turnout or starting easing shall be allowed over the lowest tread.

 When handrail fittings or bendings are used to provide continuous transition between flights, the transition from handrall to guardrall, or used at the start of a flight, the handrall height at the fittings or bendings shall

R311.7.7.2 Continuity. Handrails for stairways shall be continuous for the full length of the flight, from a point directly above the top riser of the flight. to a point directly above the lowest riser of the flight. Handrail ends shall be returned or shall terminate in newel posts or safety terminals. Handrails adjacent to a wall shall have a space of not less than 11/2 inch (38 mm) between the wall and the handrails.

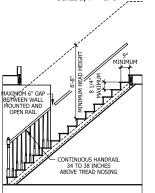
Handrails shall be permitted to be interrupted by a newel post.

The use of a volute, turnout, starting easing or starting newel shall be allowed over the lowest tread. 3. Two or more separate rails shall be considered continuous if the termination of the rails occurs within 6 inches (152 mm) of each other. If transitioning between a wall-mounted handrail and a guardrail/handrail, the wall-mounted rail must return into the wall.



12

PITCH PER ROOF PLAN



SCALE 3/4" = 1'-0"

TYPICAL STAIR DETAIL

HAYNES HOME PLANS, INC. ASSUMES NO LIABILITY FOR ONTRACTORS PRACTICES AN PROCEDURES. CODES AND CONDITIONS MAY ARY WITH LOCATION, A LOCA DESIGNER, ARCHITECT OR SINEER SHOULD BE CONSUL' BEFORE CONSTRUCTION. THESE DRAWING ARI

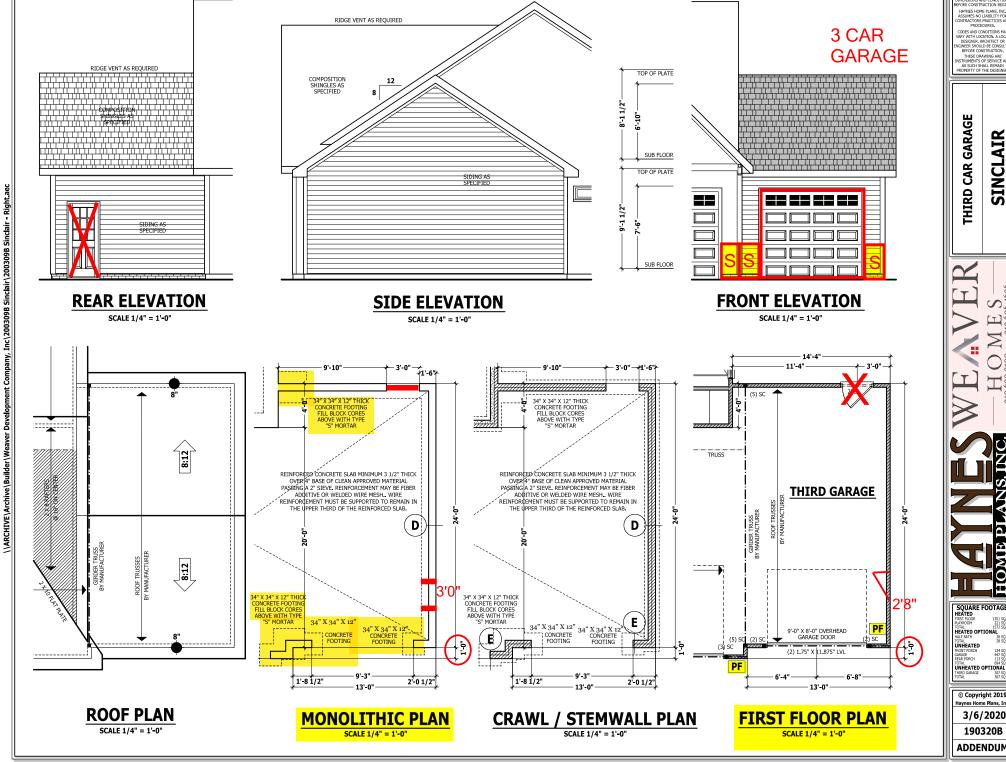
DETAIL SINCLAIR TYPICAL

SOUARE FOOTAGE HEATED OPTIO 28 90 FT 28 90 FT INHEATED UNHEATED OPTIONAL

© Copyright 2019 Haynes Home Plans, Inc. 3/6/2020

190320B

PAGE 8 OF 8



DIMENSIONS AND CONDITIONS
EFORE CONSTRUCTION BEGIN
HAYNES HOME PLANS, INC.
ASSUMES NO LIABILITY FOR
CONTRACTORS PRACTICES AND CODES AND CONDITIONS MAY VARY WITH LOCATION. A LOCAL DESIGNER, ARCHITECT OR IGINEER SHOULD BE CONSULTE BEFORE CONSTRUCTION.

BEFORE CONSTRUCTION
THESE DRAWING ARE
INSTRUMENTS OF SERVICE AND
AS SUCH SHALL REMAIN
PROPERTY OF THE DESIGNER.

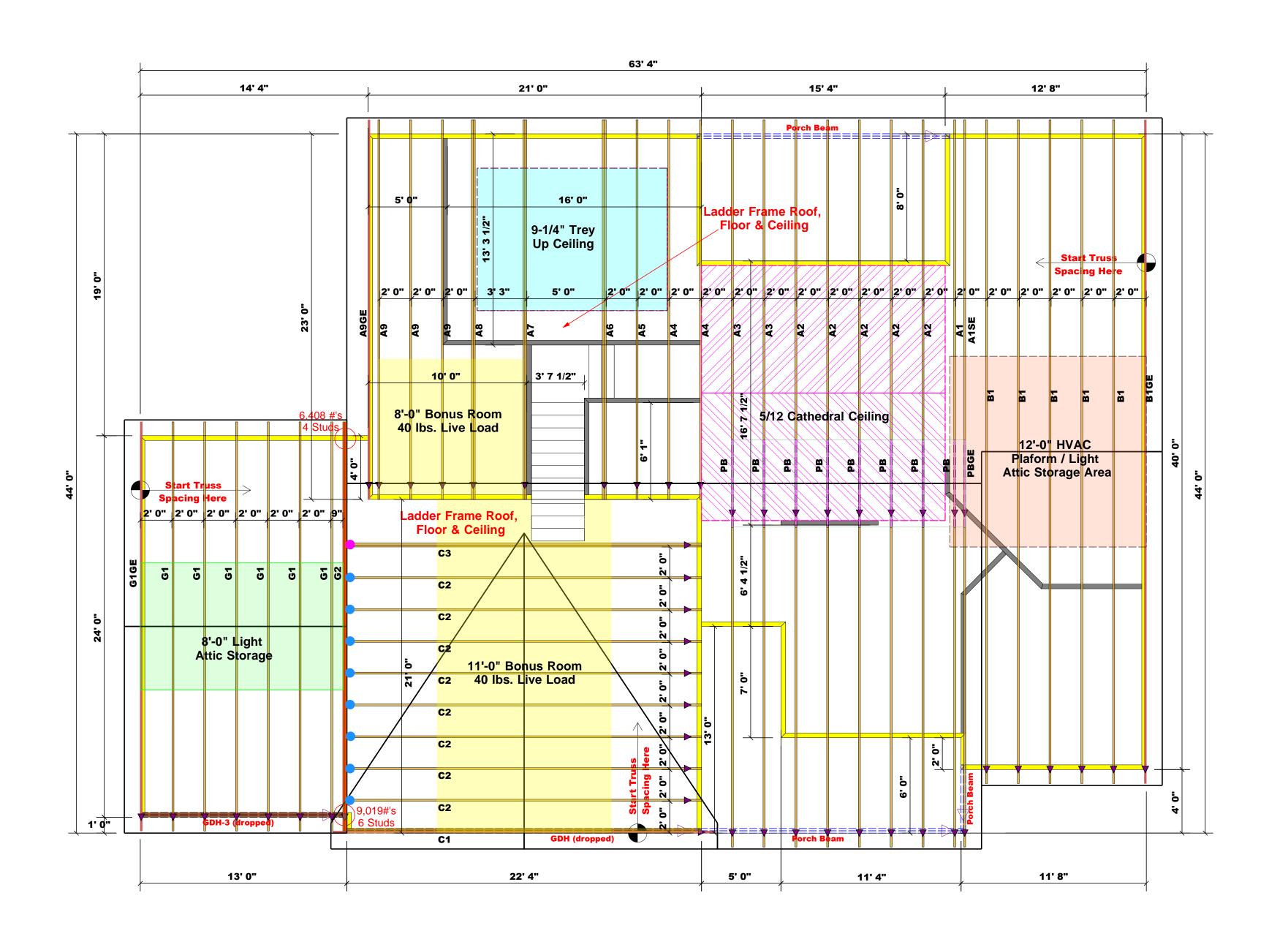
SINCLAIR

SQUARE FOOTAGE
HEATED
FIRST FLOOR
FIRST FLOOR
1351 SQ.FT.
PLAYBOOM
221 SO.FT. HEATED OPTIONAL 28 SQ FT. 28 SQ FT. UNHEATED

© Copyright 2019 Haynes Home Plans, Inc.

3/6/2020 190320B

**ADDENDUM** 



# Truss Placement Plan SCALE: 1/4" = 1'0"

▲= Denotes Left End of Truss (Reference Engineered Truss Drawing)

= THD26-2 (Qty. 1)= HUS26 (Qty. 8)

		Products			
PlotID	Length	Product	Plies	Net Qty	Fab Type
GDH-3 (dropped)	13-00-00	1-3/4"x 11-7/8" LVL Kerto-S	2	2	FF
GDH (dropped)	23-00-00	1-3/4"x 14" LVL Kerto-S	2	2	FF

All Truss Reactions are Less than 3,000 lbs. Unless Noted Otherwise.

-- Denotes Reaction Greater than 3,000 lbs.

Reaction / # of Studs

соттесн
ROOF & FLOOR TRUSSES & BEAMS
Reilly Road Industrial Park Fayetteville, N.C. 28309
Phone: (910) 864-8787

Fax: (910) 864-4444

Bearing reactions less than or equal to 3000# are deemed to comply with the prescriptive Code requirements. The contractor shall refer to the attached Tables ( derived from the prescriptive Code requirements) to determine the minimum foundation size and number of wood studs required to support reactions greater than 3000# but not greater than 15000#. A registered design professional shall be retained to design the support system for any reaction that exceeds those specified in the attached Tables. A

Signature\_\_\_\_

Lenny Norris

LOAD CHART FOR JACK STUDS

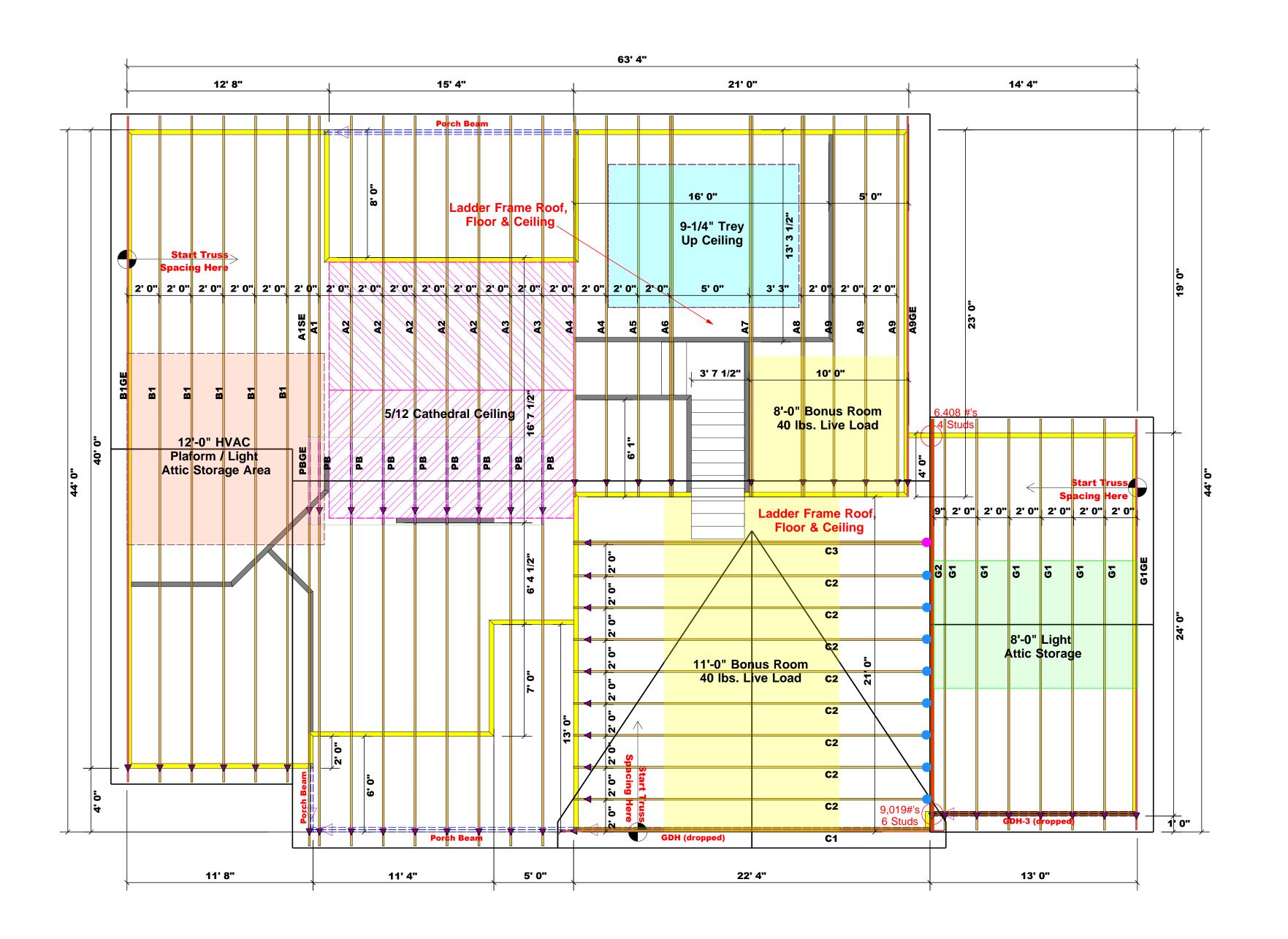
(BASED ON TABLES R502.5(1) & (b))

NUM	MBER C	STUDS F HEADER/		A END O	F
END REACTION (UP TO)	REQ'D STUDS FOR (2) PLY HEADER	END REACTION (UP TO)	REQ'D STUDS FOR (3) PLY HEADER	END REACTION (UP TO)	PEO'N CTITING EOD
1700	1	2550	1	3400	
3400	2	5100	2	6800	
5100	3	7650	3	10200	
6800	4	10200	4	13600	
8500	5	12750	5	17000	
10200	6	15300	6		
11900	7				
13600	8				
15300	9				

inc.	COUNTY	Harnett
	ADDRESS	Oleander Lane
	MODEL	Model
	DATE REV.	//
	DRAWN BY	DRAWN BY Lenny Norris
	SALESMAN	SALESMAN Lenny Norris

BUILDER	Weaver Development Co. Inc.
JOB NAME	JOB NAME Lot 30 West Preserve
PLAN	Sinclair (190320B) 3Car
SEAL DATE   Seal Date	Seal Date
QUOTE#	Quote #
JOB #	J0923-5111

THIS IS A TRUSS PLACEMENT DIAGRAM ONLY.
These trusses are designed as individual building components to be incorporated into the building design at the specification of 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 system 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 bracing, consult BCSI-B1 and BCSI-B3 provided with the truss delivery package or online @ sbcindustry.cor



**Truss Placement Plan** SCALE: 1/4" = 1'0"

▲ = Denotes Left End of Truss (Reference Engineered Truss Drawing)

than 3,000 lbs. Unless Noted Otherwise.

Reaction / # of Studs

<b>=</b>	THD26-2 (Qty.	1)

= HUS26 (Qty. 8)

Products									
PlotID	Length	Product	Plies	Net Qty	Fab Type				
GDH-3 (dropped)	13' 0"	1-3/4"x 11-7/8" LVL Kerto-S	2	2	FF				
GDH (dropped)	23' 0"	1-3/4"x 14" LVL Kerto-S	2	2	FF				

All Truss Reactions are Less -- Denotes Reaction Greater than 3,000 lbs.

COMTECH **ROOF & FLOOR** TRUSSES & BEAMS

> Reilly Road Industrial Park Fayetteville, N.C. 28309 Phone: (910) 864-8787 Fax: (910) 864-4444

Bearing reactions less than or equal to 3000# are deemed to comply with the prescriptive Code requirements. The contractor shall refer to the attached Tables ( derived from the prescriptive Code requirements ) to determine the minimum foundation size and number of wood studs required to support reactions greater than 3000# but not greater than 15000#. A registered design professional shall be retained to design the support system for any reaction that exceeds those specified in the attached Tables. A registered design professional shall be retained to design the support system for all reactions that exceed 15000#.

Lenny Norris

LOAD CHART FOR JACK STUDS (BASED ON TABLES R502.5(1) & (b))

NUA	ED @ E	A END O			
END REACTION (UP TO)	REQ'D STUDS FOR (2) PLY HEADER	END REACTION (UP TO)	REQ'D STUDS FOR (3) PLY HEADER		END REACTION (UP TO)
1700	1	2550	1		3400
3400	2	5100	2		6800
5100	3	7650	3		10200
6800	4	10200	4		13600
8500	5	12750	5		17000
10200	6	15300	6		
11900	7				
13600	8				
15300	9				
	1			1	

COUNTY	Harnett
ADDRESS	Oleander Lane
MODEL	Model
DATE REV.	//
DRAWN BY	Lenny Norris
SALESMAN	SALESMAN Lenny Norris

JOB NAME	Lot 30 West Preserve
PLAN	Sinclair (190320B) 3Car
SEAL DATE   Seal Date	Seal Date
<b>QUOTE</b> #	Quote #
JOB #	J0923-5111

THIS IS A TRUSS PLACEMENT DIAGRAM ONLY.

These trusses are designed as individual building components to be incorporated into the building design at the specification of the building designe 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 system an for the overall structure. The design of the truss



Client: Project: Address:

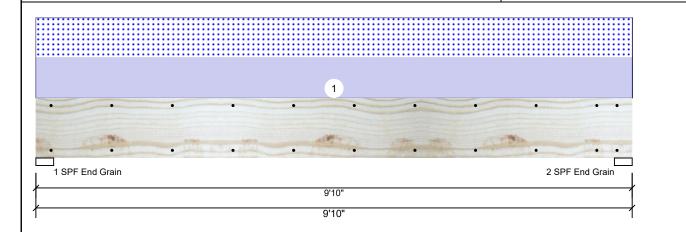
Weaver Development Sinclair (190320B) Sinclair (190320B) Date: 9/20/2023 Input by: Lenny Norris

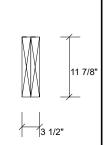
Job Name: GDH-3

Project #:

1.750" X 11.875" 2-Ply - PASSED **Kerto-S LVL** GDH-3

Level: Level





Page 1 of 1

#### Member Information

Type:	Girder
Plies:	2
Moisture Condition:	Dry
Deflection LL:	480
Deflection TL:	360
Importance:	Normal - II
Temperature:	Temp <= 100°F

Application: Floor Design Method: ASD **Building Code:** IBC 2012 Load Sharing: No Deck: Not Checked

Rea	Reactions UNPATTERNED lb (Uplift)													
Brg	Direction	Live	Dead	Snow	Wind	Const								
1	Vertical	0	1422	1377	0	0								
2	Vertical	0	1422	1377	0	0								

# **Analysis Results**

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	6254 ft-lb	4'11"	22897 ft-lb	0.273 (27%)	D+S	L
Unbraced	6254 ft-lb	4'11"	9857 ft-lb	0.634 (63%)	D+S	L
Shear	2079 lb	1'3 3/8"	10197 lb	0.204 (20%)	D+S	L
LL Defl inch	0.058 (L/1928)	4'11"	0.234 (L/480)	0.249 (25%)	S	L
TL Defl inch	0.119 (L/948)	4'11"	0.312 (L/360)	0.380 (38%)	D+S	L

# **Bearings**

Bearing	Length	Dir.	Cap. I	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF End Grain	3.500"	Vert	27%	1422 / 1377	2799	L	D+S
2 - SPF End Grain	3.500"	Vert	27%	1422 / 1377	2799	L	D+S

# **Design Notes**

- 1 Provide support to prevent lateral movement and rotation at the end bearings. Lateral support may also be required at the interior bearings by the building code.
- 2 Fasten all plies using 2 rows of 10d Box nails (.128x3") at 12" o.c. Maximum end distance not to exceed 6".
- 3 Refer to last page of calculations for fasteners required for specified loads.
- 4 Girders are designed to be supported on the bottom edge only.
- 5 Top loads must be supported equally by all plies.
- 6 Top must be laterally braced at end bearings.
- 7 Bottom must be laterally braced at end bearings.
- 8 Lateral slenderness ratio based on single ply width.

ID	Load Type	Location	Trib Width	Side	Dead 0.9	Live 1	Snow 1.15	Wind 1.6	Const. 1.25	Comments
1	Uniform			Тор	280 PLF	0 PLF	280 PLF	0 PLF	0 PLF	G1
	Self Weight				Q DI F					

#### Notes

Calculated Structured Designs is responsible only of the structural adequacy of this component based on the design criteria and loadings shown, It is the responsibility of the customer and/or the contractor to ensure the component suitability of the intended application, and to verify the dimensions and loads.

Dry service conditions, unless noted otherwise
 LVL not to be treated with fire retardant or corrosive

# Handling & Installation

LVL beams must not be cut or drilled
 Refer to manufacturer's product information regarding installation requirements, multi-ply fastening details, beam strength values, and code approvals
 Damaged Beams must not be used.

Design assumes top edge is laterally restrained
Provide lateral support at bearing points to avoid
lateral displacement and rotation

6. For flat roofs provide proper drainage to prevent ponding

Metsä Wood 301 Merritt 7 Building, 2nd Floor Norwalk, CT 06851 (800) 622-5850 www.metsawood.com/us

Manufacturer Info

Comtech, Inc. 1001 S. Reilly Road, Suite #639 Fayetteville, NC USA 28314 910-864-TRUS





Client: Project: Address:

Weaver Development Sinclair (190320B) Sinclair (190320B) Date: 9/20/2023 Input by:

Lenny Norris Job Name:

Page 1 of 1

Wind

0

O

Snow

377

377

Const

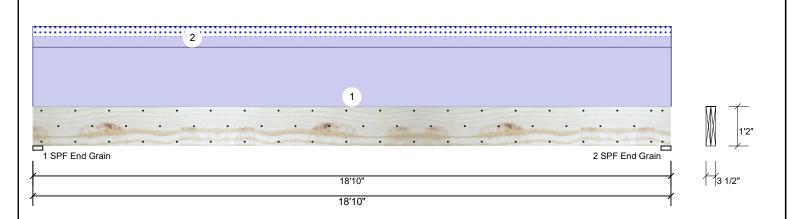
0

0

Project #:

**Kerto-S LVL** 2-Ply - PASSED 1.750" X 14.000" **GDH** 

Level: Level



#### Member Information Reactions UNPATTERNED Ib (Uplift) Type: Girder Application: Floor Live Brg Direction Dead Plies: 2 Design Method: ASD Vertical 0 2598 1 Moisture Condition: Dry **Building Code:** IBC 2012 O 2598 2 Vertical Deflection LL: 480 Load Sharing: No Deflection TL: 360 Deck: Not Checked Importance: Normal - II Temp <= 100°F Temperature:

Bearings	5						
Bearing	Length	Dir.	Cap. F	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF End Grain	3.500"	Vert	29%	2598 / 377	2975	L	D+S
2 - SPF End Grain	3.500"	Vert	29%	2598 / 377	2975	L	D+S

# Analysis Results

_							
	Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
	Moment	11644 ft-lb	9'5"	24299 ft-lb	0.479 (48%)	D	Uniform
	Unbraced	13332 ft-lb	9'5"	13362 ft-lb	0.998 (100%)	D+S	L
	Shear	2208 lb	1'5 1/2"	9408 lb	0.235 (23%)	D	Uniform
	LL Defl inch	0.068 (L/3239)	9'5 1/16"	0.459 (L/480)	0.148 (15%)	S	L
	TL Defl inch	0.538 (L/410)	9'5 1/16"	0.612 (L/360)	0.878 (88%)	D+S	L

### **Design Notes**

- 1 Provide support to prevent lateral movement and rotation at the end bearings. Lateral support may also be required at the interior bearings by the building code.
- 2 Fasten all plies using 3 rows of 10d Box nails (.128x3") at 12" o.c. Maximum end distance not to exceed 6".
- 3 Refer to last page of calculations for fasteners required for specified loads.
- 4 Girders are designed to be supported on the bottom edge only.
- 5 Top loads must be supported equally by all plies.
- 6 Top must be laterally braced at a maximum of 7'8 9/16" o.c.
- 7 Bottom must be laterally braced at end bearings.
- 8 Lateral slenderness ratio based on single ply width

o Eater an electroce rate basea en enigle pry maan											
ID	Load Type	Location	Trib Width	Side	Dead 0.9	Live 1	Snow 1.15	Wind 1.6	Const. 1.25	Comments	
1	Uniform			Тор	225 PLF	0 PLF	0 PLF	0 PLF	0 PLF	Exterior Siding / Plywood	
2	Uniform			Тор	40 PLF	0 PLF	40 PLF	0 PLF	0 PLF	2'0" Roof Load	
	Self Weight				11 PLF						

#### Notes

Calculated Structured Designs is responsible only of the structural adequacy of this component based on the design criteria and loadings shown. It is the responsibility of the customer and/or the contractor to ensure the component suitability of the intended application, and to verify the dimensions and loads.

- Dry service conditions, unless noted otherwise
   LVL not to be treated with fire retardant or corrosive
- Handling & Installation
- LVL beams must not be cut or drilled Refer to manufacturer's product information regarding installation requirements, multi-ply fastening details, beam strength values, and code approvals Damaged Beams must not be used

- Design assumes top edge is laterally restrained
  Provide lateral support at bearing points to avoid
  lateral displacement and rotation

For flat roofs provide proper drainage to prevent ponding

Metsä Wood 301 Merritt 7 Building, 2nd Floor Norwalk, CT 06851 (800) 622-5850 www.metsawood.com/us

Manufacturer Info

Comtech, Inc. 1001 S. Reilly Road, Suite #639 Fayetteville, NC USA 28314 910-864-TRUS



