

November 22, 2023

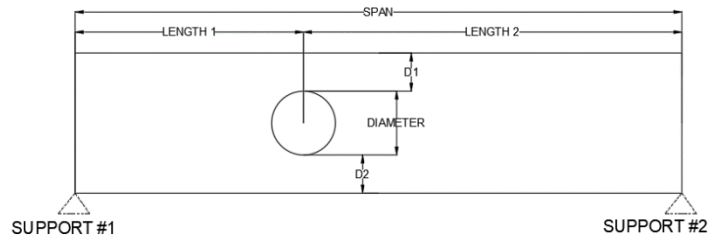
Summit Homes
 120 SE 30th St.
 Lee's Summit, MO 64082

**RE: Field Issues for Lot # 83 Hawthorne Ridge – 1527 SW Arbor Valley Dr
 Lee's Summit, MO 64082 – Permit # PRRES20220126**

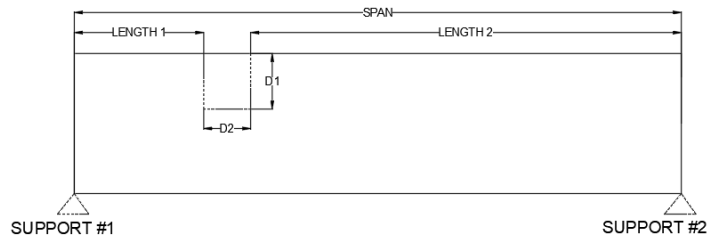
On November 20th, 2023 a structural inspection was performed by Everstead at the above referenced property. The purpose was to inspect the field discrepancies in various floor joists.

1. Over drilled and over notched floor joists (2) above basement bath.

- D1 – 2.25"
- D2 – 3"
- Diameter of hole – 4"
- Length 1 – 10"
- Length 2 – 8.5'
- Span – 9' 10"
- Support #1 – W8X13 steel beam
- Support #2 – W8X10 steel beam
- Location – Above bathroom #3
- Loading -
 - Dead = 10 psf @ 16" oc
 - Live = 40 psf @ 16" oc



- D1 – 5"
- D2 – 4"
- Length 1 – 10"
- Length 2 – 8.5'
- Span – 9' 10"
- Support #1 – W8X13 steel beam
- Support #2 – W8X10 steel beam
- Location – Above bathroom #3
- Loading -
 - Dead = 10 psf @ 16" oc
 - Live = 40 psf @ 16" oc



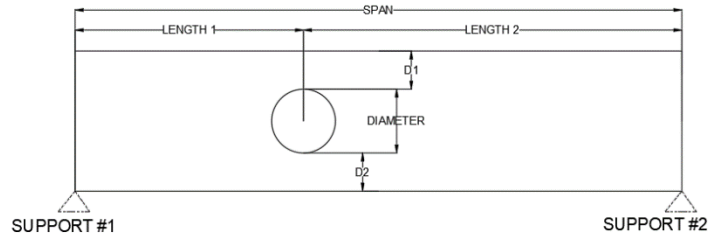
SIMPLE SPAN

Recommended modifications:

- **Install 24" length of CS-16 centered under over drilled hole along bottom of floor joist per manufacturer's specifications.**
- **Add additional support to existing 2x10 notched floor joist. Sister Douglas Fir Larch #2 2x4 for 4' length with 4 fasteners per linear ft in "W" pattern with 2-1/2" structural screws or 10D common nails to the top of the existing notched floor joist.**

2. Over drilled floor joists (2) above bedroom 4.

- D1 – 3"
- D2 – 2.25"
- Diameter of hole – 4"
- Length 1 – 22"
- Length 2 – 13' 5"
- Span – 15' 7"
- Support #1 – W8X10 steel beam
- Support #2 – W8X10 steel beam in storage area
- Location – Above bedroom #4
- Loading -
 - Dead = 10 psf @ 16" oc
 - Live = 40 psf @ 16" oc



- D1 – 3"
- D2 – 2.25"
- Diameter of hole – 4"
- Length 1 – 24"
- Length 2 – 13' 5"
- Span – 15' 7"
- Support #1 – W8X10 steel beam
- Support #2 – W8X10 steel beam in storage area
- Location – Above bedroom #4
- Loading -
 - Dead = 10 psf @ 16" oc
 - Live = 40 psf @ 16" oc

Model No.	Total L	Ga.	DF/SP		SPF/HF		Allowable Tension Loads (160)	Code Ref.
			Fasteners	End Length	Fasteners	End Length		
CMST12	40'	12	(74) 16d	33"	(84) 16d	38"	9,215	I4, L3, FL
			(86) 10d	39"	(98) 10d	44"	9,215	
CMST14	52'6"	14	(56) 16d	26"	(66) 16d	30"	6,490	
			(66) 10d	30"	(76) 10d	34"	6,490	
CMSTC16	54'	16	(50) 16d sinker	20"	(58) 16d sinker	25"	4,585	
CS14	100'	14	(26) 10d	15"	(30) 10d	16"	2,490	
			(30) 8d	16"	(36) 8d	19"	2,490	
CS16	150'	16	(20) 10d	11"	(22) 10d	13"	1,705	
			(22) 8d	13"	(26) 8d	14"	1,705	
CS18	200'	18	(16) 10d	9"	(18) 10d	11"	1,370	
			(18) 8d	11"	(22) 8d	12"	1,370	
CS20	250'	20	(12) 10d	6"	(14) 10d	9"	1,030	
			(14) 8d	9"	(16) 8d	9"	1,030	
CS22	300'	22	(10) 10d	7"	(12) 10d	7"	845	
			(12) 8d	7"	(14) 8d	8"	845	

1. Fastener quantities and end lengths are calculated using an increase for wind or seismic loading.
2. Use half of the required nails in each member being connected to achieve the listed loads.
3. Calculate the connector value for a reduced number of nails as follows:

Allowable Load = $\frac{\text{No. of Nails Used}}{\text{No. of Nails in Table}} \times \text{Table Load}$
Example: CMSTC16 in DF/SP with 40 nails total.
 (Half of the nails in each member being connected)
 Allowable Load = $\frac{40 \text{ Nails (Used)}}{50 \text{ Nails (Table)}} \times 4,585 \text{ lb.} = 3,668 \text{ lb.}$
4. Tension loads apply for uplift when installed vertically.
5. Nails: 16d – 0.162" dia. x 3 1/4" long. 10d – 0.148" dia. x 3 1/4" long.
 10d – 0.148" dia. x 3" long. See pp. 26-27 for other nail sizes and information.



Recommended modifications:

- Install 24" length of CS-16 under the holes on bottom of floor joists per manufacturer's spec's.

Sincerely,



Bradley Huxol, PE

