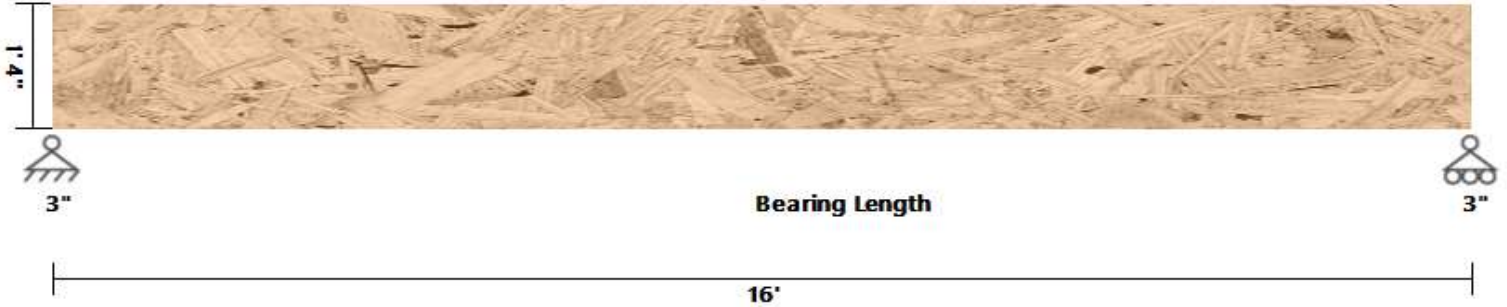


DATE:	7/26/2022	COMPANY:	Sparks Engineering, PLLC
VITRUVIUS BUILD:	StruCalc Pro	DESIGNED BY:	Ronald Sparks, PE
CUSTOMER:	Home Ownership Center	REVIEWED BY:	Ronald Sparks, PE
PROJ. ADDRESS:	2763 Byrds Mills Rd Erwin, NC	PROJECT NAME:	Home Ownership Center Project
LEVEL:	Main Floor	LOADING:	ASD
MEMBER NAME:	GARAGE LVL [2/8]	CODE:	2021 International Building Code
MEMBER TYPE:	FLOOR BEAM	NDS:	2018 NDS
MATERIAL:	Structural Composite Lumber		
Louisiana Pacific	2.0E LVL	(2) 1.75 X 16	DRY

**GARAGE LVL [2/8] DIAGRAM**



**BEAM PROPERTIES**

Start (ft): 0 End (ft): 16 Member Slope: 0/12 Actual Length (ft): 16

Area	I <sub>x</sub>	I <sub>y</sub>	BSW	Lams	C <sub>fn</sub>	K <sub>cr</sub>
(in <sup>2</sup> )	(in <sup>4</sup> )	(in <sup>4</sup> )	(lbf/ft)			Creep Factor
56	1194.67	14.29	15.94	2	9	1

**STRENGTH PROPERTIES**

	F <sub>b</sub> (psi)	F <sub>t</sub> (psi)	F <sub>v</sub> (psi)	F <sub>c</sub> (psi)	F <sub>c⊥</sub> (psi)	E (psi) x10 <sup>3</sup>	E <sub>min</sub> (psi) x10 <sup>3</sup>
Base Values	2900	1800	285	3200	750	2000	1000
Adjusted Values	2900	1800	285	3200	750	2000	1000
C <sub>M</sub>	1	1	1	1	1	1	1
C <sub>T</sub>	1	1	1	1	1	1	1

Bending Adjustment Factors C<sub>V</sub> = 0.97C<sub>r</sub> = 1 Volume factor I<sub>s</sub> applied on a load combination basis And I<sub>s</sub> Not reflected in the adjusted values

**BEAM DATA**

Span	Length (ft)	Unbraced Length (ft)		Beam End				
		Top	Bottom	Elev. Diff (ft)	CL(Top)	CL(Bottom)	CL(Left)	CL(Right)
1	16	0	16	0	1.00	0.25	1.00	1.00

**PASS-FAIL**

	PASS/FAIL	MAGNITUDE	STRENGTH	LOCATION (ft)	LOAD COMBO	DURATION FACTOR CD
Shear Stress Y (psi)	<b>PASS (77.7%)</b>	63.4	285.0	0	D+L	1
Bending Stress Y (psi)	<b>PASS (72.9%)</b>	761.0	2808.8	8	D+L	1
Deflection (in)	<b>PASS (67.6%)</b>	0.173 (=L/1111)	0.533 (=L/360)	8	L	
Bearing Stress (psi)	<b>PASS (69.9%)</b>	225.5	750.0	0	D+L	1

**REACTIONS**

Units for V: lbf Units for M: lbf-ft

Y axis	DEAD	LIVE	LIVE ROOF	SNOW	WIND +	WIND -	SEISMIC +	SEISMIC -	ICE	RAIN	EARTH
A	128	2240	0	0	0	0	0	0	0	0	0
B	128	2240	0	0	0	0	0	0	0	0	0

Reaction Location

A

B

**LOAD LIST**

Type	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lbf/ft)	40	40	0	16	Live	Y
Uniform (lbf/ft)	240	240	0	16	Live	Y
Self Weight (lbf/ft)	15.94	15.94	0	16	Dead	Y

VMD DIAGRAMS

SHEAR



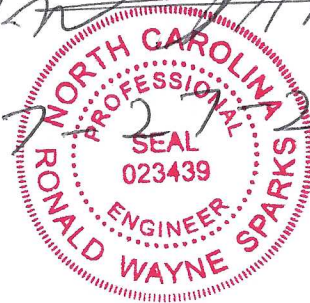
MOMENT



DEFLECTION



*Ronald Wayne Sparks*



2-27-2022

