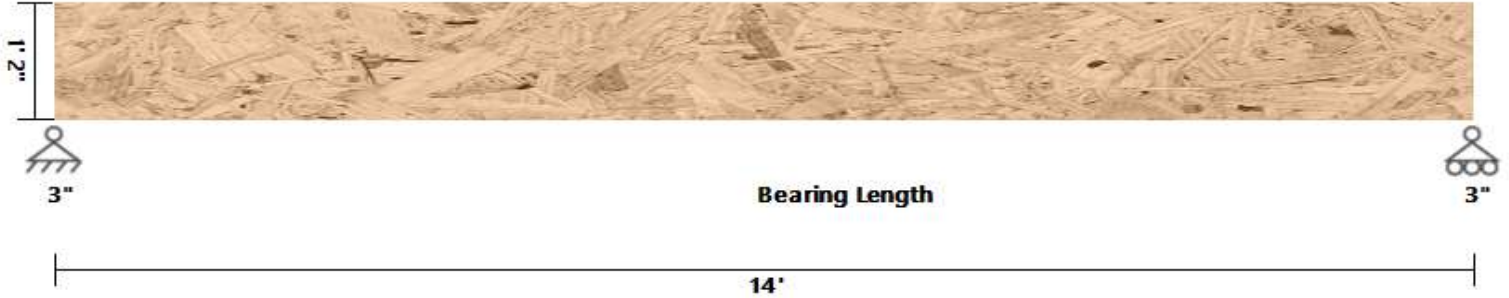


DATE:	7/26/2022	COMPANY:	Sparks Engineering, PLLC
VITRUVIUS BUILD:	StruCalc Pro	DESIGNED BY:	Ronald Sparks, PE
CUSTOMER:	Home Ownership Center	REVIEWED BY:	Ronald Sparks, PE
PROJ. ADDRESS:	2763 Byrds Mills Rd Erwin, NC	PROJECT NAME:	Home Ownership Center Project
LEVEL:	Main Floor	LOADING:	ASD
MEMBER NAME:	BAY WINDOW LVL	CODE:	2021 International Building Code
MEMBER TYPE:	FLOOR BEAM	NDS:	2018 NDS
MATERIAL:	Structural Composite Lumber		
Louisiana Pacific	2.0E LVL	(3) 1.75 X 14	DRY

BAY WINDOW LVL DIAGRAM



BEAM PROPERTIES

Start (ft): 0 End (ft): 14 Member Slope: 0/12 Actual Length (ft): 14

Area	I _x	I _y	BSW	Lams	C _{fn}	K _{cr}
(in ²)	(in ⁴)	(in ⁴)	(lbf/ft)			Creep Factor
73.5	1200.5	18.76	20.93	3	9	1

STRENGTH PROPERTIES

	F _b (psi)	F _t (psi)	F _v (psi)	F _c (psi)	F _{c⊥} (psi)	E (psi) x10 ³	E _{min} (psi) x10 ³
Base Values	2900	1800	285	3200	750	2000	1000
Adjusted Values	2900	1800	285	3200	750	2000	1000
C _M	1	1	1	1	1	1	1
C _T	1	1	1	1	1	1	1

Bending Adjustment Factors C_V = 0.98C_r = 1 Volume factor I_s applied on a load combination basis And I_s 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	14	0	14	0	1.00	0.32	1.00	1.00

PASS-FAIL

	PASS/FAIL	MAGNITUDE	STRENGTH	LOCATION (ft)	LOAD COMBO	DURATION FACTOR CD
Shear Stress Y (psi)	PASS (39.1%)	173.7	285.0	0	D+L	1
Bending Stress Y (psi)	PASS (26.9%)	2084.4	2850.8	7	D+L	1
Deflection (in)	PASS (32.1%)	0.317 (=L/530)	0.467 (=L/360)	7	L	
Bearing Stress (psi)	PASS (27.9%)	540.4	750.0	14	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	2351	6160	0	0	0	0	0	0	0	0	0
B	2351	6160	0	0	0	0	0	0	0	0	0

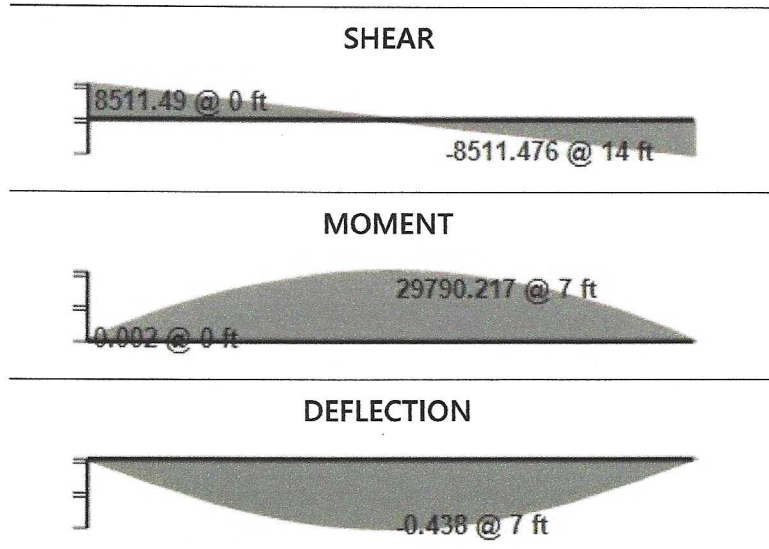
Reaction Location



LOAD LIST

Type	Left Magnitude	Right Magnitude	Load Start (ft)	Load End (ft)	Load Type	Direction
Uniform (lb/ft)	40	40	0	14	Live	Y
Uniform (lb/ft)	840	840	0	14	Live	Y
Uniform (lb/ft)	315	315	0	14	Dead	Y
Self Weight (lb/ft)	20.93	20.93	0	14	Dead	Y

VMD DIAGRAMS



Ronald Wayne Sparks
Ronald Wayne Sparks
2022

