

**AMENDED AGENDA
BOARD OF ZONING APPEALS
CITY OF LAKEWOOD
12650 DETROIT AVENUE
NOVEMBER 16, 2023**

**PRE-REVIEW MEETING
6:00 P.M.
EAST CONFERENCE ROOM**

**REVIEW MEETING
6:30 P.M.
AUDITORIUM**

1. ROLL CALL
2. APPROVE MINUTES OF THE OCTOBER 19, 2023 MEETING
3. OPENING REMARKS

NEW BUSINESS

4. **Docket No. 11-17-23
1277 Hird Ave.**

Applicant Zoran Stojkov, property owner proposes the demolition of the existing garage and the construction of a new garage. The rear and side setback for an accessory structure in the MH district is a minimum of 3 feet. Due to the unique shape of the rear of the property, the proposed 422 sq. ft. garage will encroach on both sides and rear setback. The property is located in the MH, Multi-Family High Density District. (Page 2)

- Variance 1: Request a variance to construct a new single car garage closer than 3 feet to the NORTH SIDE property line, at one foot, six inches (1', 6"), as proposed. Pursuant to section 1127.10 (a) ADDITIONAL ACCESSORY STRUCTURE REGULATIONS
- Variance 2: Request a variance to construct a new single car garage closer than 3 feet to the SOUTH SIDE property line at one foot, six inches (1', 6"), as proposed. Pursuant to section 1127.10 (a) ADDITIONAL ACCESSORY STRUCTURE REGULATIONS
- Variance 3: Request a variance to construct a new single car garage closer than 3 feet to the EAST REAR property line, at two feet (2'), as proposed. Pursuant to section 1127.10 (a) ADDITIONAL ACCESSORY STRUCTURE REGULATIONS

ADJOURN

"Individuals with disabilities, who require accommodations for participation in meetings, must request accommodations at least 3 business days ahead of the scheduled meeting. Contact [Michelle Nochta at \(216\) 529-5906 michelle.nochta@lakewoodoh.net](mailto:michelle.nochta@lakewoodoh.net)."



BOARD OF ZONING APPEALS

12650 Detroit Avenue • 44107 • (216) 529-6630 • FAX (216) 529-5907
www.lakewoodoh.gov

Application Cover Page

Docket No.: 11-17-23

Reference No.: BZA23-000042, BZA23-000043, BZA23-000044

Applicant Name: Zoran Stojkov, property owner

Project Address: 1277 Hird Ave.

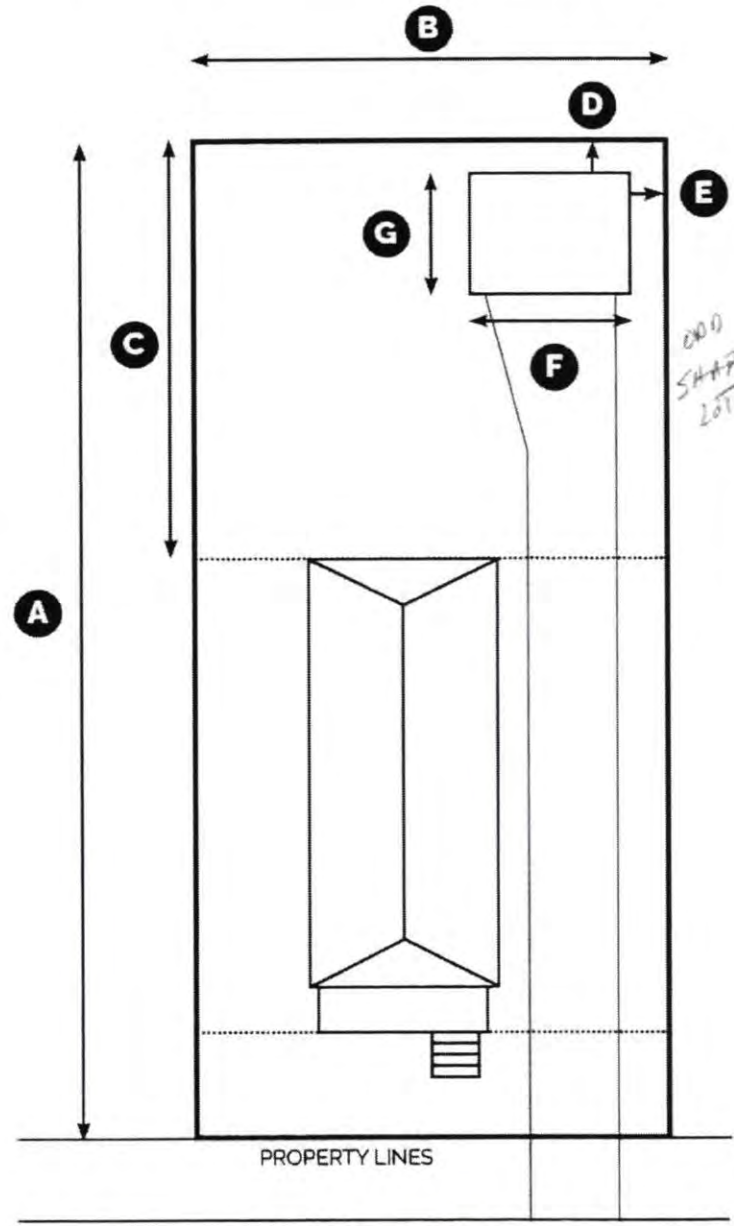
Project Name: n/a

Proposal: The demolition of an existing garage and the construction of a new garage. The proposal requires a total of three (3) variances. The rear and side setback for an accessory structure in the MH district is a minimum of 3 feet. Due to the unique shape of the rear of the property, the proposed 408 sq. ft. garage will encroach on both sides and rear setback. The property is located in the MH, Multi-Family High Density District.

**DETACHED GARAGE PLACEMENT
 PLACEMENT WORKSHEET (RIGHT-HAND OPTION)**

City of Lakewood
 Approved Revisions
 William Wagner
 10/06/2023

PROPERTY ADDRESS: 1277 HIRD



ORIENTATION

NORTH
 (INDICATE DIRECTION)



DETACHED GARAGE (IN FEET)

A	LOT DEPTH	147'
B	LOT WIDTH	21'
C	REAR YARD DEPTH	60'
D	REAR SETBACK	2'
E	SIDE SETBACK	1.5"
F	GARAGE WIDTH	17'0"
G	GARAGE DEPTH	24'5"

GARAGE AREA (WIDTH X DEPTH)

422 SF

DRIVE WAY

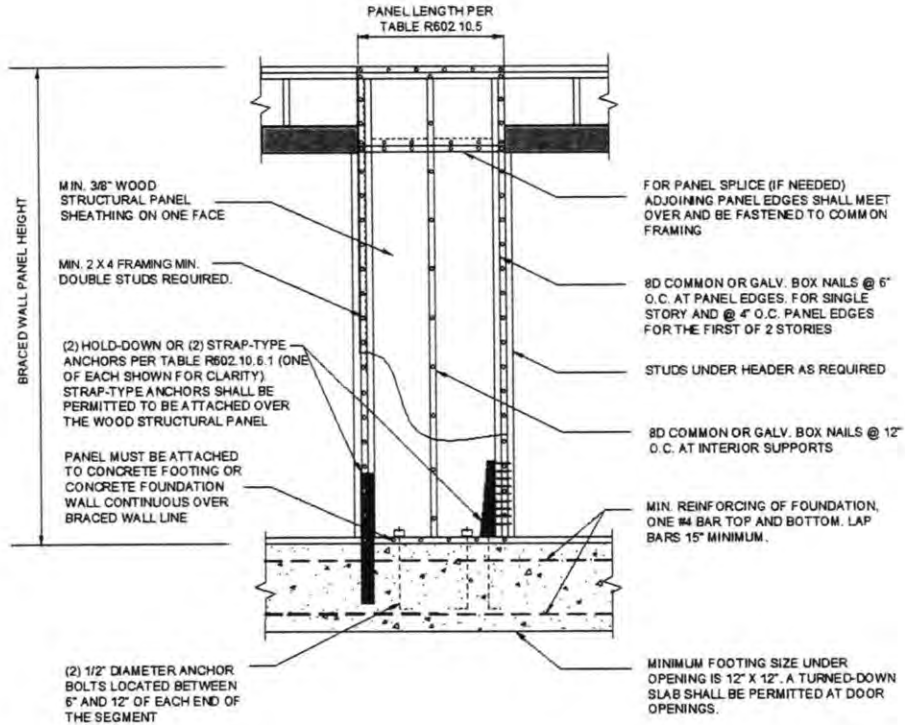
REPLACEMENT	Y / N
DRAIN	Y / N

SITE PLAN

RAS23-000094
RECEIVED
 OCT 02 2023
 By counter Kim

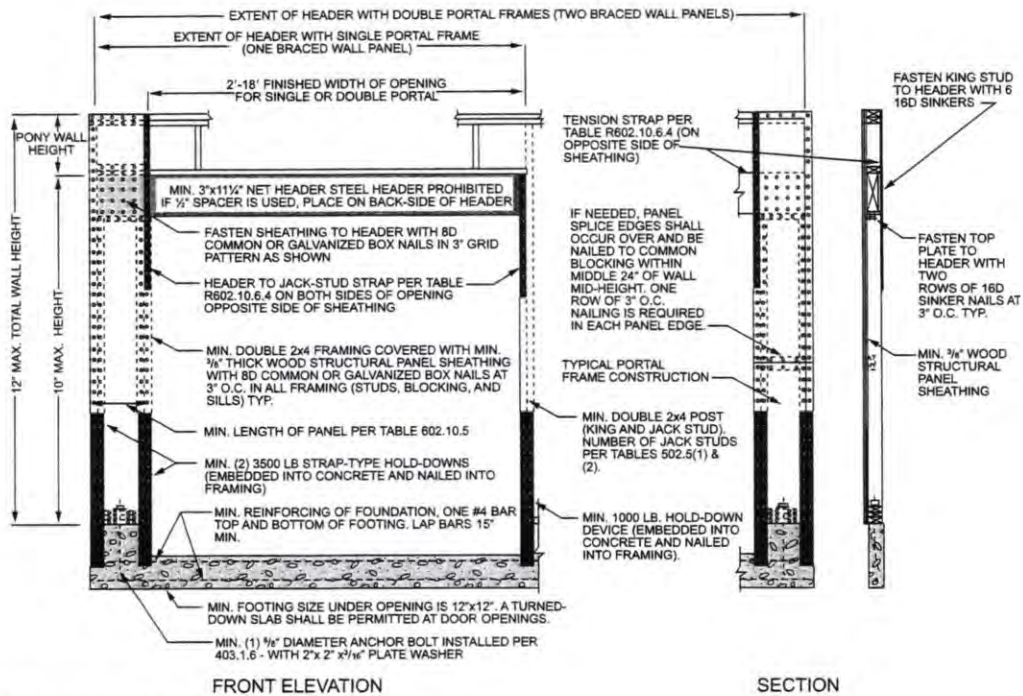
REVISED
 1st

WALL CONSTRUCTION



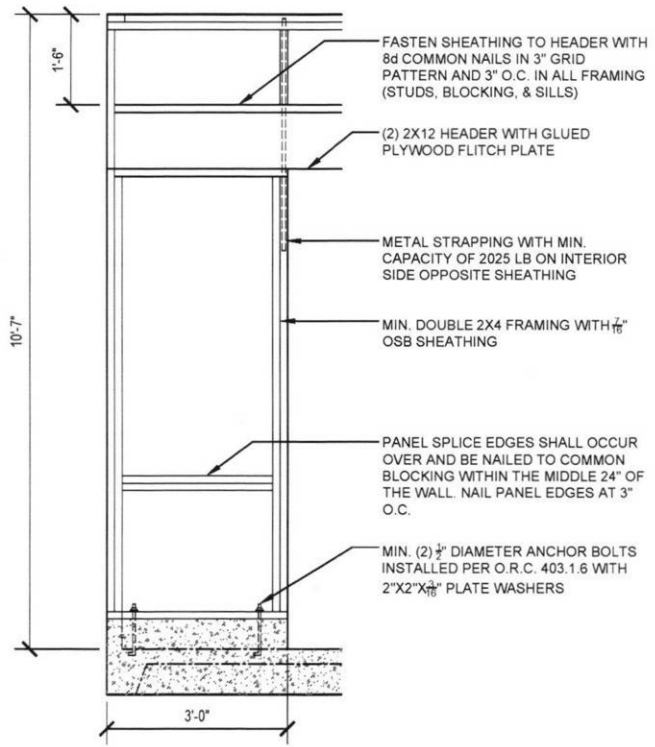
For SI: 1 inch = 25.4 mm.

FIGURE 602.10.6.1
METHOD ABW—ALTERNATE BRACED WALL PANEL

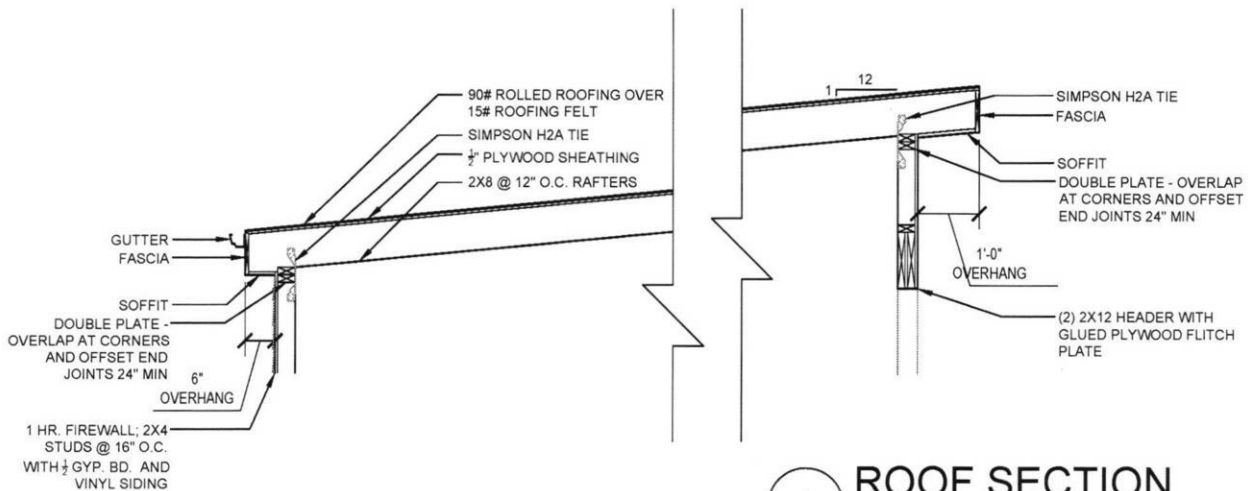


For SI: 1 inch = 25.4 mm, 1 foot = 304.8 mm.

FIGURE 602.10.6.2
METHOD PFH—PORTAL FRAME WITH HOLD-DOWNS

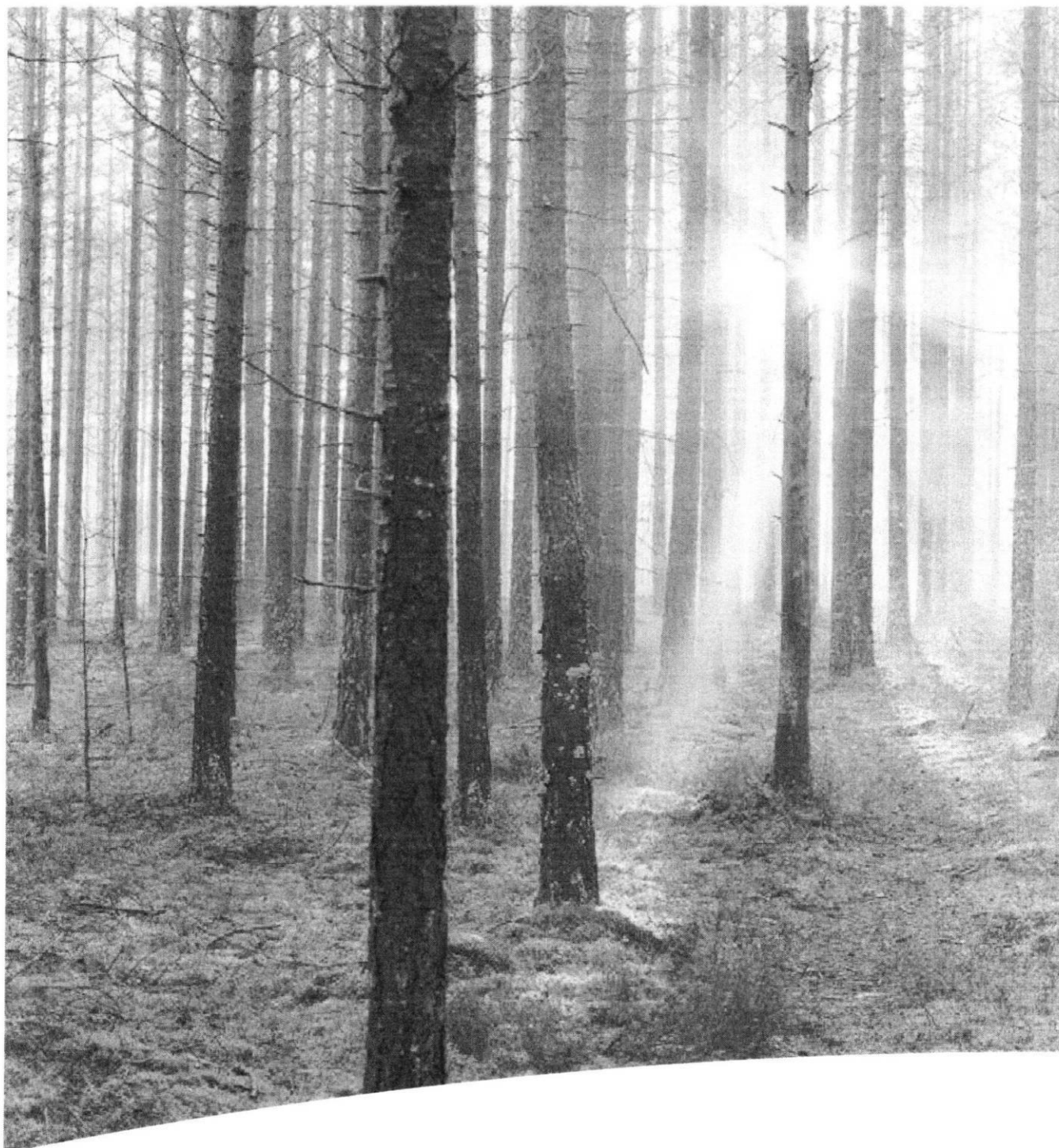


2 PORTAL FRAME GARAGE DETAIL
1/2" = 1'-0"



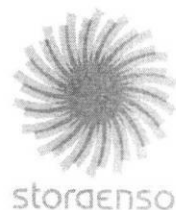
1 ROOF SECTION
1/2" = 1'-0"

SECTION & DETAIL	GARAGE ADDITION 13851 CLIFTON BLVD. LAKEWOOD, OHIO 44107	ISSUED FOR:	DATE:
A-4		PERMIT	11-26-18
		REVISION	04-04-19



LVL by Stora Enso

Technical brochure



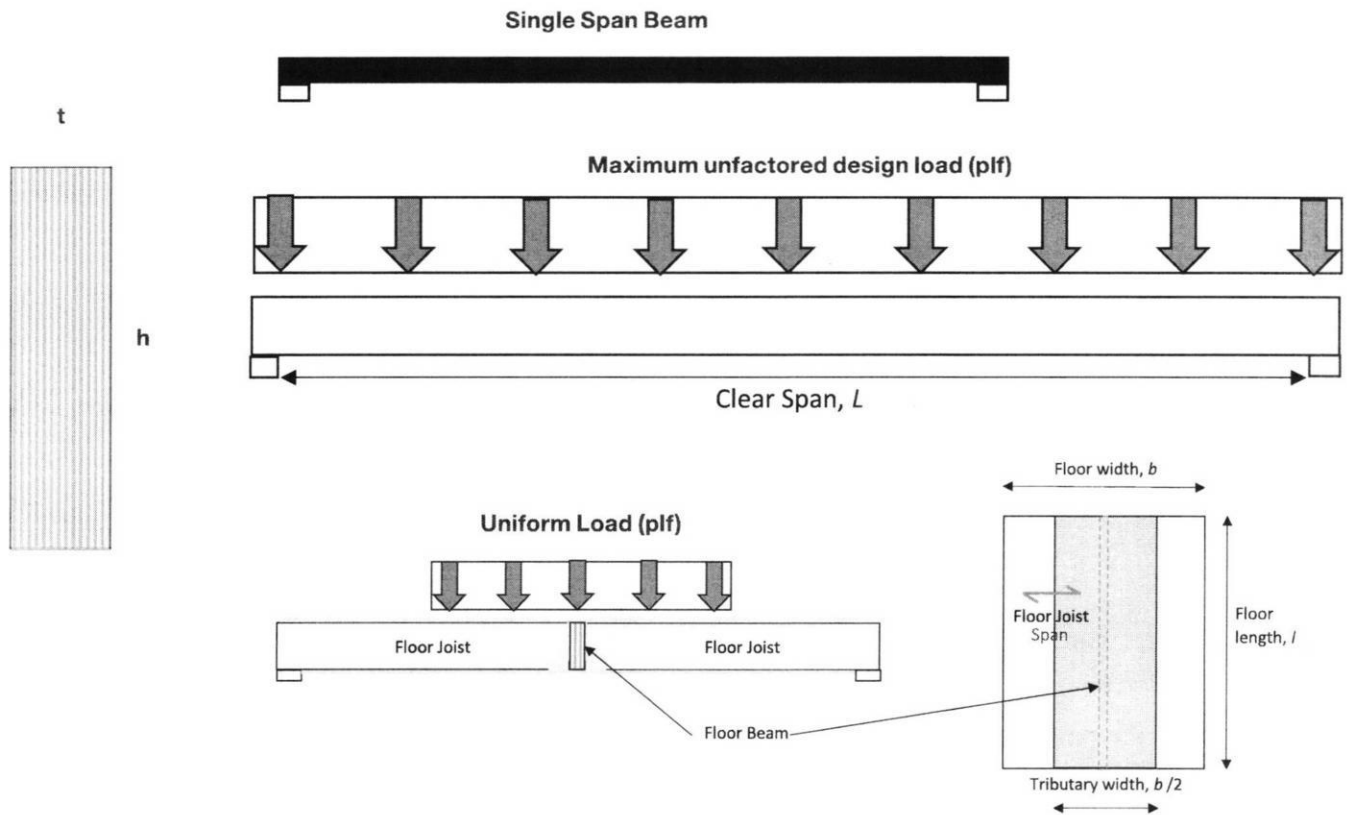
Design values (Allowable Stress Design)

Bending, F_b (psi)		Tension, F_t (psi)	Compression, F_c (psi)			Horizontal Shear, F_v (psi)		Beam Modulus of Elasticity, E (psi)		Plank Modulus of Elasticity, E (psi)		Modulus of Elasticity for Beam & Column Stability, E_{min} (psi)
Beam ^{6,7,8}	Plank	Parallel-to-Grain ^{9,10}	Parallel to-Grain	Perpendicular to-Grain		Beam	Plank	True ⁶	Apparent ⁶	True ^{9,10}	Apparent ^{9,10}	
				Beam	Plank							
3,000	3,300	2,300	2,750	900	550	350	100	2.0×10^6	1.9×10^6	2.0×10^6	1.9×10^6	1.1×10^6

- 1 psi = 0.00689 MPa or 1 MPa = 145 psi.
- The reference design values in this table are applicable for the product used in dry, well-ventilated interior applications, in which the equivalent moisture content of sawn lumber is less than 16%.
- The reference design values in this table are for normal load duration. Loads of longer or shorter duration shall be adjusted in accordance with the applicable code. Duration of load adjustments shall not be applied to $F_{c\perp}$ and E .
- Orientation nomenclature for S-LVL™.
- The Apparent E for both beams and planks can be used directly in traditional beam deflection formulas. The True E values (i.e., shear-free) are for both beams and planks. Using True E , deflection is calculated as follows for uniformly loaded simple span beams.

$$\Delta = [5WL^4/(32Eh^3)] + [12WL^2/(5Eth)]$$
 where: Δ = deflection in inches
 W = uniform load in lbs./in.
 L = span in inches
 E = modulus of elasticity in psi
 t = width of beam in inches
 h = depth of beam in inches
- The design value for bending members used in a beam orientation is based on a referenced depth of 12". For other depths, the bending values shall be adjusted by a size factor adjustment of $(12/d)^{0.17}$, where d is measured in inches with a minimum depth of $3^{15}/16$ ".
- When structural members qualify as repetitive members in accordance with the applicable code, a 4% increase is permitted.
- Thicknesses greater than 5 1/4" shall not be used in design.
- Design value multiplied by $(4.43/L)^{0.129}$ for length effect factors, with L measured in feet. Value limited to members 18" deep and less.
- Based on 1.75" thickness.

Single Span Load Tables



Notes:

1. All uniform loads given in the tables are in pounds per lineal foot (plf).
2. The top line (LL) of each table indicates the allowable load-carrying capacity using the live load deflection limit.
3. The middle line (TL) of each table indicates the allowable load carrying capacity (in addition to the self-weight of the beam) using the total load deflection limit of the member.
4. The bottom line (Brg) of each table indicates the required bearing length at each end of the beam in inches when loaded to the maximum loads allowed and assumes that the compression strength of the bearing material is greater than or equal to the compression perpendicular to grain design value of the S-LVL™ beam. Shorter bearing lengths may be possible with lighter loads, and longer bearing lengths may be required where the compression strength of the bearing material is less than the compression perpendicular to grain design value of the S-LVL™ beam. Calculations are based on a design span measured from centerline of required bearing to centerline of required bearing. If different bearing lengths are required, design span should be evaluated accordingly.
5. For live load deflection factors of LL/180 and LL/480, multiply the maximum live load value (LL/240) by 1.333 and (LL/360) by 0.667. The result shall not exceed the maximum allowable total load (TL).
6. These tables are for gravity loads only. Consult a registered design professional for wind and seismic load analysis and design.
7. All tables are based on uniform load conditions. Any concentrated load applications must be analyzed separately or converted to an equivalent uniform load.
8. The compression edge of the header or beam must be laterally supported at intervals of 24" or less. In addition, lateral support must be provided at bearing points.
9. 1.5"x14", 1.5"x16", 1.5"x18", 1.5"x20", 1.5"x24", 1.75"x16", 1.75"x18", 1.75"x20" and 1.75"x24" are to be used as minimum two ply members only unless both the top and bottom edge of the member are held in line for the entire length of the beam and the ends at points of bearing are held in position to prevent rotation and/or lateral displacement.

1.5" 1 Ply Stora Enso S-LVL Beam Tables (ASD)

Total Load (PLF) / Live Load (PLF) / Minimum Bearing (IN)

Clear Span		1 Ply LL/360 TL/240 C _D =1.0							1 Ply LL/240 TL/180 C _D =1.15							1 Ply LL/240 TL/180 C _D =1.25						
		7.25	9.5	11.875	14	16	18	24	7.25	9.5	11.875	14	16	18	24	7.25	9.5	11.875	14	16	18	24
6	LL	577	1189	1744	2273	2815	3364	4621	840	1353	1968	2566	3158	3753	4621	849	1461	2112	2754	3369	4007	4621
	TL	735	1189	1744	2273	2815	3364	4621	840	1353	1968	2566	3158	3753	4621	908	1461	2112	2754	3369	4007	4621
	Brg	1.75	2.75	4.25	6	7.5	9.25	12	2	3.25	5	6.75	8.5	10.5	12	2.25	3.5	5.5	7.25	9.25	11.25	12
8	LL	249	549	1028	1368	1716	2091	3271	374	788	1171	1558	1946	2360	3592	374	811	1267	1677	2095	2529	3592
	TL	372	689	1028	1368	1716	2091	3271	483	788	1171	1558	1946	2360	3592	496	853	1267	1677	2095	2529	3592
	Brg	1.5	2.25	3.25	4.5	5.75	7	12	1.5	2.5	3.75	5	6.5	8	12	1.5	2.75	4	5.5	7	8.75	12
10	LL	129	288	553	885	1145	1401	2264	193	430	769	1032	1301	1593	2545	193	427	815	1113	1404	1718	2736
	TL	191	430	657	904	1145	1401	2264	256	513	769	1032	1301	1593	2545	256	555	833	1113	1404	1718	2736
	Brg	1.5	1.75	2.5	3.5	4.5	5.75	9.75	1.5	2	3	4	5.25	6.5	11.25	1.5	2.25	3.25	4.5	5.75	7	12
12	LL	75	169	325	525	772	1000	1642	112	253	485	728	924	1139	1859	112	253	483	775	1002	1230	2002
	TL	110	251	471	637	811	1000	1642	148	331	541	728	924	1139	1859	148	331	586	789	1002	1230	2002
	Brg	1.5	1.5	2.25	3	3.75	4.75	8.25	1.5	1.5	2.5	3.5	4.5	5.5	9.5	1.5	1.5	2.75	3.75	4.75	6	10.25
14	LL	47	107	208	336	495	696	1241	71	160	309	500	690	852	1412	71	160	309	498	734	923	1523
	TL	69	157	308	470	603	746	1241	93	211	399	540	690	852	1412	93	211	409	586	748	923	1523
	Brg	1.5	1.5	1.75	2.5	3.25	4	7	1.5	1.5	2.25	3	3.75	4.75	8	1.5	1.5	2.25	3.25	4	5	8.75
16	LL	31	71	140	228	337	474	965	47	107	209	340	501	655	1103	47	107	209	338	499	701	1191
	TL	45	105	207	329	452	574	965	61	141	276	412	532	655	1103	61	141	276	447	575	714	1191
	Brg	1.5	1.5	1.5	2	2.75	3.5	6.25	1.5	1.5	1.75	2.5	3.25	4	7	1.5	1.5	1.75	2.75	3.5	4.5	7.75
18	LL	22	50	98	161	238	336	772	33	75	148	240	355	501	883	33	75	148	240	354	499	956
	TL	31	73	144	238	353	457	772	42	98	194	316	422	524	883	42	98	194	316	458	569	956
	Brg	1.5	1.5	1.5	1.75	2.5	3.25	5.5	1.5	1.5	1.5	2.25	3	3.75	6.25	1.5	1.5	1.5	2.25	3.25	4	6.75
20	LL	--	37	72	118	175	247	571	24	55	108	177	261	369	721	24	55	108	177	261	368	781
	TL	--	52	104	173	258	361	630	30	71	141	230	343	427	721	30	71	141	230	343	460	781
	Brg	--	1.5	1.5	1.5	2	2.75	5	1.5	1.5	1.5	1.75	2.75	3.25	5.75	1.5	1.5	1.5	1.75	2.75	3.5	6.25
22	LL	--	27	54	89	132	187	434	--	41	81	133	197	279	599	--	41	81	133	197	278	644
	TL	--	39	78	129	194	268	523	--	52	105	174	259	353	599	--	52	105	174	259	366	651
	Brg	--	1.5	1.5	1.5	1.75	2.25	4.5	--	1.5	1.5	1.5	2.25	3	5.25	--	1.5	1.5	1.5	2.25	3.25	5.5
24	LL	--	21	41	68	102	145	337	--	32	62	103	153	216	502	--	32	62	103	153	216	501
	TL	--	29	59	99	149	212	436	--	40	80	133	191	283	506	--	40	80	133	191	283	545
	Brg	--	1.5	1.5	1.5	1.5	2	4	--	1.5	1.5	1.5	1.75	2.75	4.75	--	1.5	1.5	1.5	1.75	2.75	5
26	LL	--	--	33	54	80	114	266	--	25	49	81	121	171	398	--	25	49	81	121	171	396
	TL	--	--	46	77	116	166	376	--	31	62	104	150	223	428	--	31	62	104	150	223	469
	Brg	--	--	1.5	1.5	1.5	1.75	3.75	--	1.5	1.5	1.5	1.5	2.25	4.25	--	1.5	1.5	1.5	1.5	2.25	4.75
28	LL	--	--	26	43	64	92	214	--	20	39	65	97	137	320	--	20	39	65	97	137	319
	TL	--	--	36	61	92	133	315	--	24	49	82	124	178	373	--	24	49	82	124	178	405
	Brg	--	--	1.5	1.5	1.5	1.5	3.5	--	1.5	1.5	1.5	1.5	2	4	--	1.5	1.5	1.5	1.5	2	4.5
30	LL	--	--	21	35	52	75	175	--	--	32	52	79	112	261	--	--	32	52	79	112	261
	TL	--	--	28	48	74	107	256	--	--	39	66	100	144	325	--	--	39	66	100	144	341
	Brg	--	--	1.5	1.5	1.5	1.5	3	--	--	1.5	1.5	1.5	1.75	3.75	--	--	1.5	1.5	1.5	1.75	4

1.5" 2 Ply Stora Enso S-LVL Beam Tables (ASD)

Total Load (PLF) / Live Load (PLF) / Minimum Bearing (IN)

522

Clear Span		2 Ply LL/360 TL/240 C _D =1.0							2 Ply LL/240 TL/180 C _D =1.15							2 Ply LL/240 TL/180 C _D =1.25						
		7.25	9.5	11.875	14	16	18	24	7.25	9.5	11.875	14	16	18	24	7.25	9.5	11.875	14	16	18	24
6	LL	1155	2378	3489	4547	5630	6729	9243	1681	2706	3936	5132	6316	7507	9243	1698	2923	4224	5508	6739	8014	9243
	TL	1471	2378	3489	4547	5630	6729	9243	1681	2706	3936	5132	6316	7507	9243	1816	2923	4224	5508	6739	8014	9243
	Brg	1.75	2.75	4.25	6	7.5	9.25	12	2	3.25	5	6.75	8.5	10.5	12	2.25	3.5	5.5	7.25	9.25	11.25	12
8	LL	499	1099	2057	2736	3433	4183	6543	749	1577	2342	3116	3892	4720	7185	749	1623	2534	3355	4190	5058	7185
	TL	745	1378	2057	2736	3433	4183	6543	967	1577	2342	3116	3892	4720	7185	992	1706	2534	3355	4190	5058	7185
	Brg	1.5	2.25	3.25	4.5	5.75	7	12	1.5	2.5	3.75	5	6.5	8	12	1.5	2.75	4	5.5	7	8.75	12
10	LL	258	577	1107	1771	2290	2803	4529	387	861	1538	2065	2603	3187	5091	387	855	1631	2227	2808	3437	5472
	TL	383	860	1315	1809	2290	2803	4529	512	1026	1538	2065	2603	3187	5091	512	1111	1666	2227	2808	3437	5472
	Brg	1.5	1.75	2.5	3.5	4.5	5.75	9.75	1.5	2	3	4	5.25	6.5	11.25	1.5	2.25	3.25	4.5	5.75	7	12
12	LL	150	338	650	1050	1544	2000	3285	225	507	971	1457	1849	2278	3718	225	507	966	1551	2004	2461	4004
	TL	221	502	943	1274	1623	2000	3285	296	662	1082	1457	1849	2278	3718	296	662	1173	1579	2004	2461	4004
	Brg	1.5	1.5	2.25	3	3.75	4.75	8.25	1.5	1.5	2.5	3.5	4.5	5.5	9.5	1.5	1.5	2.75	3.75	4.75	6	10.25
14	LL	95	214	416	673	991	1393	2483	142	321	618	1000	1380	1704	2825	142	321	618	996	1468	1847	3046
	TL	138	315	617	941	1206	1493	2483	186	422	799	1081	1380	1704	2825	186	422	818	1173	1496	1847	3046
	Brg	1.5	1.5	1.75	2.5	3.25	4	7	1.5	1.5	2.25	3	3.75	4.75	8	1.5	1.5	2.25	3.25	4	5	8.75
16	LL	63	143	281	456	674	949	1931	95	215	419	680	1003	1311	2206	95	215	419	677	999	1402	2382
	TL	91	210	414	659	905	1149	1931	123	282	552	824	1065	1311	2206	123	282	552	895	1150	1429	2382
	Brg	1.5	1.5	1.5	2	2.75	3.5	6.25	1.5	1.5	1.75	2.5	3.25	4	7	1.5	1.5	1.75	2.75	3.5	4.5	7.75
18	LL	45	101	197	323	477	672	1544	67	151	296	481	711	1002	1766	67	151	296	481	708	999	1912
	TL	63	146	289	476	706	915	1544	85	197	388	633	845	1049	1766	85	197	388	633	917	1138	1912
	Brg	1.5	1.5	1.5	1.75	2.5	3.25	5.5	1.5	1.5	1.5	2.25	3	3.75	6.25	1.5	1.5	1.5	2.25	3.25	4	6.75
20	LL	32	74	144	236	351	495	1143	49	111	216	354	522	739	1442	49	111	216	354	522	736	1562
	TL	45	105	209	347	517	723	1260	61	142	282	460	686	854	1442	61	142	282	460	687	920	1562
	Brg	1.5	1.5	1.5	1.5	2	2.75	5	1.5	1.5	1.5	1.75	2.75	3.25	5.75	1.5	1.5	1.5	1.75	2.75	3.5	6.25
22	LL	24	55	108	178	265	375	868	37	83	163	267	395	558	1199	37	83	163	267	395	557	1288
	TL	32	78	156	259	388	537	1046	45	105	210	348	518	707	1199	45	105	210	348	518	732	1302
	Brg	1.5	1.5	1.5	1.5	1.75	2.25	4.5	1.5	1.5	1.5	1.5	2.25	3	5.25	1.5	1.5	1.5	1.5	2.25	3.25	5.5
24	LL	--	42	83	137	205	290	675	28	64	125	206	307	432	1005	28	64	125	206	307	432	1002
	TL	--	58	118	198	298	425	873	33	80	160	266	382	566	1012	33	80	160	266	382	566	1091
	Brg	--	1.5	1.5	1.5	1.5	2	4	1.5	1.5	1.5	1.5	1.75	2.75	4.75	1.5	1.5	1.5	1.5	1.75	2.75	5
26	LL	--	33	66	108	161	229	533	22	50	99	162	242	342	797	22	50	99	162	242	342	793
	TL	--	45	92	154	233	333	753	25	62	125	208	300	446	856	25	62	125	208	300	446	938
	Brg	--	1.5	1.5	1.5	1.5	1.75	3.75	1.5	1.5	1.5	1.5	1.5	2.25	4.25	1.5	1.5	1.5	1.5	1.5	2.25	4.75
28	LL	--	27	52	86	129	184	429	--	40	79	130	194	275	641	--	40	79	130	194	275	638
	TL	--	35	72	122	184	266	630	--	48	98	165	249	356	746	--	48	98	165	249	356	810
	Brg	--	1.5	1.5	1.5	1.5	1.5	3.5	--	1.5	1.5	1.5	1.5	2	4	--	1.5	1.5	1.5	1.5	2	4.5
30	LL	--	22	43	70	105	150	351	--	33	64	105	158	224	523	--	33	64	105	158	224	522
	TL	--	27	57	97	148	214	513	--	38	79	133	201	289	650	--	38	79	133	201	289	683
	Brg	--	1.5	1.5	1.5	1.5	1.5	3	--	1.5	1.5	1.5	1.5	1.75	3.75	--	1.5	1.5	1.5	1.5	1.75	4

→

1.75" 2 Ply Stora Enso S-LVL Beam Tables (ASD)

Total Load (PLF) / Live Load (PLF) / Minimum Bearing (IN)

Clear Span		2 Ply LL/360 TL/240 C _D =1.0							2 Ply LL/240 TL/180 C _D =1.15							2 Ply LL/240 TL/180 C _D =1.25						
		7.25	9.5	11.875	14	16	18	24	7.25	9.5	11.875	14	16	18	24	7.25	9.5	11.875	14	16	18	24
6	LL	1347	2774	4071	5305	6568	7851	10783	1962	3158	4592	5987	7368	8758	10783	1981	3410	4928	6426	7863	9350	10783
	TL	1717	2774	4071	5305	6568	7851	10783	1962	3158	4592	5987	7368	8758	10783	2118	3410	4928	6426	7863	9350	10783
	Brg	1.75	2.75	4.25	6	7.5	9.25	12	2	3.25	5	6.75	8.5	10.5	12	2.25	3.5	5.5	7.25	9.25	11.25	12
8	LL	583	1282	2399	3192	4005	4880	7633	874	1840	2733	3636	4540	5506	8383	874	1894	2956	3914	4888	5901	8383
	TL	869	1607	2399	3192	4005	4880	7633	1128	1840	2733	3636	4540	5506	8383	1158	1990	2956	3914	4888	5901	8383
	Brg	1.5	2.25	3.25	4.5	5.75	7	12	1.5	2.5	3.75	5	6.5	8	12	1.5	2.75	4	5.5	7	8.75	12
10	LL	301	673	1292	2066	2671	3270	5283	452	1004	1794	2409	3037	3718	5940	452	998	1903	2598	3276	4010	6384
	TL	447	1004	1534	2110	2671	3270	5283	597	1197	1794	2409	3037	3718	5940	597	1296	1943	2598	3276	4010	6384
	Brg	1.5	1.75	2.5	3.5	4.5	5.75	9.75	1.5	2	3	4	5.25	6.5	11.25	1.5	2.25	3.25	4.5	5.75	7	12
12	LL	175	394	759	1225	1801	2333	3833	263	592	1133	1699	2157	2658	4338	263	592	1127	1810	2338	2871	4671
	TL	258	585	1100	1487	1893	2333	3833	346	772	1262	1699	2157	2658	4338	346	772	1368	1842	2338	2871	4671
	Brg	1.5	1.5	2.25	3	3.75	4.75	8.25	1.5	1.5	2.5	3.5	4.5	5.5	9.5	1.5	1.5	2.75	3.75	4.75	6	10.25
14	LL	111	249	485	785	1157	1625	2897	166	374	722	1167	1610	1988	3296	166	374	722	1162	1712	2155	3553
	TL	161	368	720	1098	1407	1742	2897	217	493	932	1262	1610	1988	3296	217	493	954	1368	1746	2155	3553
	Brg	1.5	1.5	1.75	2.5	3.25	4	7	1.5	1.5	2.25	3	3.75	4.75	8	1.5	1.5	2.25	3.25	4	5	8.75
16	LL	74	167	327	533	786	1107	2253	111	251	489	793	1171	1530	2574	111	251	489	790	1166	1635	2779
	TL	106	245	483	769	1056	1341	2253	144	329	645	962	1243	1530	2574	144	329	645	1044	1342	1668	2779
	Brg	1.5	1.5	1.5	2	2.75	3.5	6.25	1.5	1.5	1.75	2.5	3.25	4	7	1.5	1.5	1.75	2.75	3.5	4.5	7.75
18	LL	52	118	230	377	557	785	1802	78	177	346	561	829	1169	2061	78	177	346	561	827	1165	2231
	TL	73	170	338	556	824	1067	1802	100	229	453	739	986	1223	2061	100	229	453	739	1070	1328	2231
	Brg	1.5	1.5	1.5	1.75	2.5	3.25	5.5	1.5	1.5	1.5	2.25	3	3.75	6.25	1.5	1.5	1.5	2.25	3.25	4	6.75
20	LL	38	86	168	276	410	578	1333	57	129	253	413	609	862	1682	57	129	253	413	609	859	1822
	TL	52	123	244	405	604	844	1470	71	166	329	537	800	996	1682	71	166	329	537	801	1074	1822
	Brg	1.5	1.5	1.5	1.5	2	2.75	5	1.5	1.5	1.5	1.75	2.75	3.25	5.75	1.5	1.5	1.5	1.75	2.75	3.5	6.25
22	LL	28	64	126	208	309	438	1013	43	97	190	312	461	652	1399	43	97	190	312	461	650	1502
	TL	38	91	182	302	453	626	1221	52	123	245	406	604	825	1399	52	123	245	406	604	854	1519
	Brg	1.5	1.5	1.5	1.5	1.75	2.25	4.5	1.5	1.5	1.5	1.5	2.25	3	5.25	1.5	1.5	1.5	1.5	2.25	3.25	5.5
24	LL	22	50	97	160	239	339	787	33	75	146	240	358	504	1172	33	75	146	240	358	504	1169
	TL	28	68	138	231	348	496	1019	39	93	187	311	445	660	1180	39	93	187	311	445	660	1273
	Brg	1.5	1.5	1.5	1.5	1.5	2	4	1.5	1.5	1.5	1.5	1.75	2.75	4.75	1.5	1.5	1.5	1.5	1.75	2.75	5
26	LL	--	39	77	126	188	267	622	26	59	115	189	282	399	930	26	59	115	189	282	399	925
	TL	--	52	107	179	271	389	878	30	72	146	243	350	520	999	30	72	146	243	350	520	1095
	Brg	--	1.5	1.5	1.5	1.5	1.75	3.75	1.5	1.5	1.5	1.5	1.5	2.25	4.25	1.5	1.5	1.5	1.5	1.5	2.25	4.75
28	LL	--	31	61	101	151	215	501	21	47	92	151	226	321	748	21	47	92	151	226	321	745
	TL	--	40	84	142	215	310	735	23	56	115	192	291	416	871	23	56	115	192	291	416	945
	Brg	--	1.5	1.5	1.5	1.5	1.5	3.5	1.5	1.5	1.5	1.5	1.5	2	4	1.5	1.5	1.5	1.5	1.5	2	4.5
30	LL	--	25	50	82	123	175	410	--	38	75	123	184	262	611	--	38	75	123	184	262	609
	TL	--	32	67	114	173	250	598	--	45	92	155	235	337	759	--	45	92	155	235	337	796
	Brg	--	1.5	1.5	1.5	1.5	1.5	3	--	1.5	1.5	1.5	1.5	1.75	3.75	--	1.5	1.5	1.5	1.5	1.75	4

1.75" 1 Ply Stora Enso S-LVL Beam Tables (ASD)

Total Load (PLF) / Live Load (PLF) / Minimum Bearing (IN)

Clear Span		1 Ply LL/360 TL/240 C _D =1.0							1 Ply LL/240 TL/180 C _D =1.15							1 Ply LL/240 TL/180 C _D =1.25						
		7.25	9.5	11.875	14	16	18	24	7.25	9.5	11.875	14	16	18	24	7.25	9.5	11.875	14	16	18	24
6	LL	673	1387	2035	2652	3284	3925	5391	981	1579	2296	2993	3684	4379	5391	990	1705	2464	3213	3931	4675	5391
	TL	858	1387	2035	2652	3284	3925	5391	981	1579	2296	2993	3684	4379	5391	1059	1705	2464	3213	3931	4675	5391
	Brg	1.75	2.75	4.25	6	7.5	9.25	12	2	3.25	5	6.75	8.5	10.5	12	2.25	3.5	5.5	7.25	9.25	11.25	12
8	LL	291	641	1199	1596	2002	2440	3816	437	920	1366	1818	2270	2753	4191	437	947	1478	1957	2444	2950	4191
	TL	434	803	1199	1596	2002	2440	3816	564	920	1366	1818	2270	2753	4191	579	995	1478	1957	2444	2950	4191
	Brg	1.5	2.25	3.25	4.5	5.75	7	12	1.5	2.5	3.75	5	6.5	8	12	1.5	2.75	4	5.5	7	8.75	12
10	LL	150	336	646	1033	1335	1635	2641	228	502	897	1204	1518	1859	2970	226	499	951	1299	1638	2005	3192
	TL	223	502	767	1055	1335	1635	2641	302	598	897	1204	1518	1859	2970	298	648	971	1299	1638	2005	3192
	Brg	1.5	1.75	2.5	3.5	4.5	5.75	9.75	1.5	2	3	4	5.25	6.5	11.25	1.5	2.25	3.25	4.5	5.75	7	12
12	LL	87	197	379	612	900	1166	1916	133	296	566	849	1078	1329	2169	131	296	563	905	1169	1435	2335
	TL	129	292	550	743	946	1166	1916	176	386	631	849	1078	1329	2169	173	386	684	921	1169	1435	2335
	Brg	1.5	1.5	2.25	3	3.75	4.75	8.25	1.5	1.5	2.5	3.5	4.5	5.5	9.5	1.5	1.5	2.75	3.75	4.75	6	10.25
14	LL	55	124	242	392	578	812	1448	84	187	361	583	805	994	1648	83	187	361	581	856	1077	1776
	TL	80	184	360	549	703	871	1448	110	246	466	631	805	994	1648	108	246	477	684	873	1077	1776
	Brg	1.5	1.5	1.75	2.5	3.25	4	7	1.5	1.5	2.25	3	3.75	4.75	8	1.5	1.5	2.25	3.25	4	5	8.75
16	LL	37	83	163	266	393	553	1126	56	125	244	396	585	765	1287	55	125	244	395	583	817	1389
	TL	53	122	241	384	528	670	1126	73	164	322	481	621	765	1287	72	164	322	522	671	834	1389
	Brg	1.5	1.5	1.5	2	2.75	3.5	6.25	1.5	1.5	1.75	2.5	3.25	4	7	1.5	1.5	1.75	2.75	3.5	4.5	7.75
18	LL	26	59	115	188	278	392	901	40	88	173	280	414	584	1030	39	88	173	280	413	582	1115
	TL	36	85	169	278	412	533	901	50	114	226	369	493	611	1030	50	114	226	369	535	664	1115
	Brg	1.5	1.5	1.5	1.75	2.5	3.25	5.5	1.5	1.5	1.5	2.25	3	3.75	6.25	1.5	1.5	1.5	2.25	3.25	4	6.75
20	LL	--	43	84	138	205	289	666	29	64	126	206	304	431	841	28	64	126	206	304	429	911
	TL	--	61	122	202	302	422	735	36	83	164	268	400	498	841	35	83	164	268	400	537	911
	Brg	--	1.5	1.5	1.5	2	2.75	5	1.5	1.5	1.5	1.75	2.75	3.25	5.75	1.5	1.5	1.5	1.75	2.75	3.5	6.25
22	LL	--	32	63	104	154	219	506	21	48	95	156	230	326	699	21	48	95	156	230	325	751
	TL	--	45	91	151	226	313	610	26	61	122	203	302	412	699	26	61	122	203	302	427	759
	Brg	--	1.5	1.5	1.5	1.75	2.25	4.5	1.5	1.5	1.5	1.5	2.25	3	5.25	1.5	1.5	1.5	1.5	2.25	3.25	5.5
24	LL	--	25	48	80	119	169	393	--	37	73	120	179	252	586	--	37	73	120	179	252	584
	TL	--	34	69	115	174	248	509	--	46	93	155	222	330	590	--	46	93	155	222	330	636
	Brg	--	1.5	1.5	1.5	1.5	2	4	--	1.5	1.5	1.5	1.75	2.75	4.75	--	1.5	1.5	1.5	1.75	2.75	5
26	LL	--	--	38	63	94	133	311	--	29	57	94	141	199	465	--	29	57	94	141	199	462
	TL	--	--	53	89	135	194	439	--	36	73	121	175	260	499	--	36	73	121	175	260	547
	Brg	--	--	1.5	1.5	1.5	1.75	3.75	--	1.5	1.5	1.5	1.5	2.25	4.25	--	1.5	1.5	1.5	1.5	2.25	4.75
28	LL	--	--	30	50	75	107	250	--	23	46	75	113	160	374	--	23	46	75	113	160	372
	TL	--	--	42	71	107	155	367	--	28	57	96	145	208	435	--	28	57	96	145	208	472
	Brg	--	--	1.5	1.5	1.5	1.5	3.5	--	1.5	1.5	1.5	1.5	2	4	--	1.5	1.5	1.5	1.5	2	4.5
30	LL	--	--	25	41	61	87	205	--	--	37	61	92	131	305	--	--	37	61	92	131	304
	TL	--	--	33	57	86	125	299	--	--	46	77	117	168	379	--	--	46	77	117	168	398
	Brg	--	--	1.5	1.5	1.5	1.5	3	--	--	1.5	1.5	1.5	1.75	3.75	--	--	1.5	1.5	1.5	1.75	4

1.5" 3 Ply Stora Enso S-LVL Beam Tables (ASD)

Total Load (PLF) / Live Load (PLF) / Minimum Bearing (IN)

Clear Span		3 Ply LL/360 TL/240 C _D =1.0							3 Ply LL/240 TL/180 C _D =1.15							3 Ply LL/240 TL/180 C _D =1.25						
		7.25	9.5	11.875	14	16	18	24	7.25	9.5	11.875	14	16	18	24	7.25	9.5	11.875	14	16	18	24
6	LL	1732	3695	5409	7049	8728	10434	13864	2572	4195	6101	7955	9732	11641	13864	2547	4530	6547	8486	10386	12354	13864
	TL	2296	3695	5409	7049	8728	10434	13864	2620	4195	6101	7955	9732	11641	13864	2833	4530	6547	8486	10386	12354	13864
	Brg	1.75	3	4.5	6.25	7.75	9.5	12	2	3.5	5.25	7	9	10.75	12	2.25	3.75	5.75	7.75	9.75	11.75	12
8	LL	749	1648	3100	4269	5330	6495	10208	1124	2454	3636	4838	6042	7293	10778	1124	2435	3934	5208	6505	7853	10778
	TL	1118	2150	3193	4269	5330	6495	10208	1489	2458	3636	4838	6042	7293	10778	1489	2662	3934	5208	6505	7853	10778
	Brg	1.5	2.25	3.5	4.5	6	7.25	12	1.5	2.5	4	5.25	6.75	8.5	12	1.5	2.75	4.25	5.75	7.25	9	12
10	LL	387	866	1651	2641	3558	4356	7011	581	1291	2360	3208	4045	4952	7883	581	1283	2432	3474	4363	5342	8538
	TL	574	1291	2094	2811	3558	4356	7011	768	1585	2360	3208	4045	4952	7883	768	1703	2588	3474	4363	5342	8538
	Brg	1.5	1.75	2.75	3.75	4.75	6	10.25	1.5	2	3	4.25	5.5	6.75	11.75	1.5	2.25	3.5	4.5	6	7.25	12
12	LL	225	507	976	1575	2304	3110	5109	338	761	1457	2273	2885	3543	5783	338	761	1449	2327	3116	3827	6226
	TL	332	753	1454	1971	2524	3110	5109	444	993	1648	2273	2885	3543	5783	444	993	1811	2454	3116	3827	6226
	Brg	1.5	1.5	2.25	3	4	5	8.5	1.5	1.5	2.5	3.5	4.5	5.75	9.75	1.5	1.5	2.75	3.75	5	6.25	10.5
14	LL	142	321	624	1005	1481	2081	3863	214	481	928	1501	2147	2656	4383	214	481	928	1494	2192	2874	4739
	TL	207	473	926	1470	1876	2323	3863	279	633	1227	1688	2147	2656	4383	279	633	1227	1830	2328	2874	4739
	Brg	1.5	1.5	1.75	2.75	3.5	4.25	7.25	1.5	1.5	2.25	3	4	4.75	8.5	1.5	1.5	2.25	3.25	4.25	5.25	9
16	LL	95	215	421	685	1007	1418	3007	143	323	629	1016	1499	2056	3435	143	323	629	1016	1494	2095	3707
	TL	137	315	621	989	1448	1795	3007	185	423	829	1298	1659	2056	3435	185	423	829	1342	1799	2225	3707
	Brg	1.5	1.5	1.5	2	3	3.75	6.5	1.5	1.5	1.75	2.75	3.5	4.25	7.25	1.5	1.5	1.75	2.75	3.75	4.75	8
18	LL	67	151	296	484	716	1009	2312	101	227	445	722	1066	1503	2750	101	227	445	722	1063	1498	2978
	TL	94	219	434	714	1060	1425	2405	128	295	583	950	1317	1637	2750	128	295	583	950	1403	1751	2978
	Brg	1.5	1.5	1.5	1.75	2.5	3.25	5.75	1.5	1.5	1.5	2.25	3	3.75	6.5	1.5	1.5	1.5	2.25	3.25	4	7
20	LL	49	111	216	355	527	743	1714	74	166	325	531	783	1105	2250	74	166	325	531	783	1101	2433
	TL	67	158	314	520	776	1085	1962	92	213	423	691	1030	1330	2250	92	213	423	691	1030	1444	2433
	Brg	1.5	1.5	1.5	1.5	2	2.75	5	1.5	1.5	1.5	1.75	2.75	3.5	5.75	1.5	1.5	1.5	1.75	2.75	3.75	6.5
22	LL	37	83	163	267	398	563	1299	55	125	244	401	593	838	1871	55	125	244	401	593	835	1926
	TL	49	117	234	388	583	805	1630	67	158	315	522	777	1076	1871	67	158	315	522	777	1098	2028
	Brg	1.5	1.5	1.5	1.5	1.75	2.25	4.75	1.5	1.5	1.5	1.5	2.25	3	5.25	1.5	1.5	1.5	1.5	2.25	3.25	5.75
24	LL	28	64	125	206	307	436	1010	42	96	188	309	460	649	1503	42	96	188	309	460	649	1499
	TL	36	88	178	297	447	638	1375	50	120	241	400	573	849	1577	50	120	241	400	573	849	1713
	Brg	1.5	1.5	1.5	1.5	1.5	2	4.25	1.5	1.5	1.5	1.5	1.75	2.75	5	1.5	1.5	1.5	1.5	1.75	2.75	5.25
26	LL	22	50	99	162	242	344	799	33	76	148	243	363	514	1192	33	76	148	243	363	514	1187
	TL	27	67	138	231	349	500	1173	38	93	187	312	451	669	1348	38	93	187	312	451	669	1463
	Brg	1.5	1.5	1.5	1.5	1.5	1.75	4	1.5	1.5	1.5	1.5	1.5	2.25	4.5	1.5	1.5	1.5	1.5	1.5	2.25	5
28	LL	--	40	79	130	194	276	644	27	61	119	195	291	413	960	27	61	119	195	291	413	958
	TL	--	52	108	183	277	399	945	29	73	148	248	374	535	1164	29	73	148	248	374	535	1256
	Brg	--	1.5	1.5	1.5	1.5	1.5	3.5	1.5	1.5	1.5	1.5	1.5	2	4.25	1.5	1.5	1.5	1.5	1.5	2	4.5
30	LL	--	33	64	105	158	225	527	22	49	96	158	237	337	784	22	49	96	158	237	337	784
	TL	--	41	86	146	223	321	769	23	57	118	199	302	433	1014	23	57	118	199	302	433	1024
	Brg	--	1.5	1.5	1.5	1.5	1.5	3	1.5	1.5	1.5	1.5	1.5	1.75	4	1.5	1.5	1.5	1.5	1.5	1.75	4

5. Structural properties

The design guidelines and tables in this brochure are provided to assist in the selection of LVL by Stora Enso for use in common structural applications.

The design properties provided in the table on page 11 have been established using the procedures provided in ASTM D5456.

SYSTEM REQUIREMENTS

- Windows 8 or 10
- Intel multi core i series processor, i5 or better or AMD equivalent.
- 4GB ram or better
- Hard disk free space of 1 GB or more
- High speed internet access for registration and updates
- Monitor with a resolution of 1680 x 1050 or higher

Design software

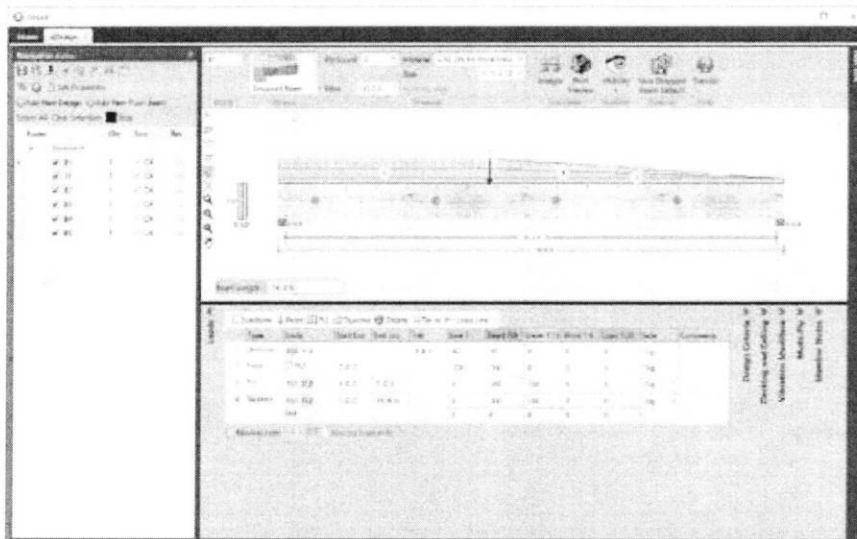
iStruct™ by Stora Enso

iStruct™ ewp design software is a windows based structural analysis software suite that allows users to model and design a single joist or beam or an entire system.

isDesign™ (part of iStruct™) is a single member sizing module that allows users to size Stora Enso products by inputting specifics about spans,

supports and loading conditions. isDesign supports all U.S. and Canadian building codes. Designs can be created with either imperial or metric units.

The software provides a unique interactive experience for inputting and designing members. Designs can even include hanger and multi-ply fastener design.



iStruct™, isDesign™ are licensed trademarks of Calculated Structured Designs, Calgary, Alberta Canada

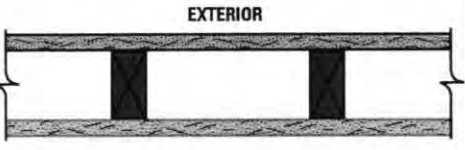
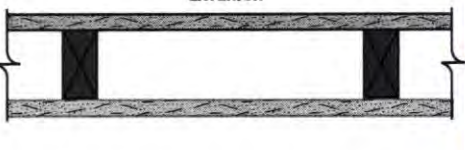
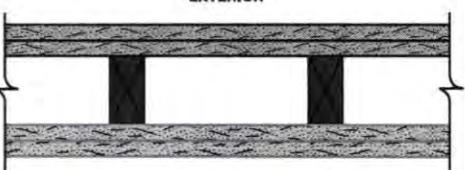
Fire-Rated Assemblies

5/8" DensGlass® Fireguard® Sheathing is UL and ULC certified as **Type DGG** and is included in numerous assembly designs investigated by UL and ULC for hourly fire resistance ratings.

In addition, 5/8" DensGlass Fireguard Sheathing is certified as "Type X" in accordance with ASTM C1177 and may replace 5/8" gypsum sheathing specified as Type X in generic fire-rated wall assemblies. Generic systems in the GA-600 Fire Resistance Design Manual are applicable to the products of any manufacturer, including Georgia-Pacific Gypsum, provided they meet certain standards set forth in such manual, such as Type X gypsum board per applicable ASTM standard with specified thickness and size described in the design. "Type X" as used in this technical guide designates gypsum board manufactured and tested in accordance with specific ASTM standards for increased fire resistance beyond regular gypsum board. Please consult the ASTM standard for the specific product (for example, ASTM C1177 for glass mat gypsum substrate for use as sheathing) for further information and significance of use.

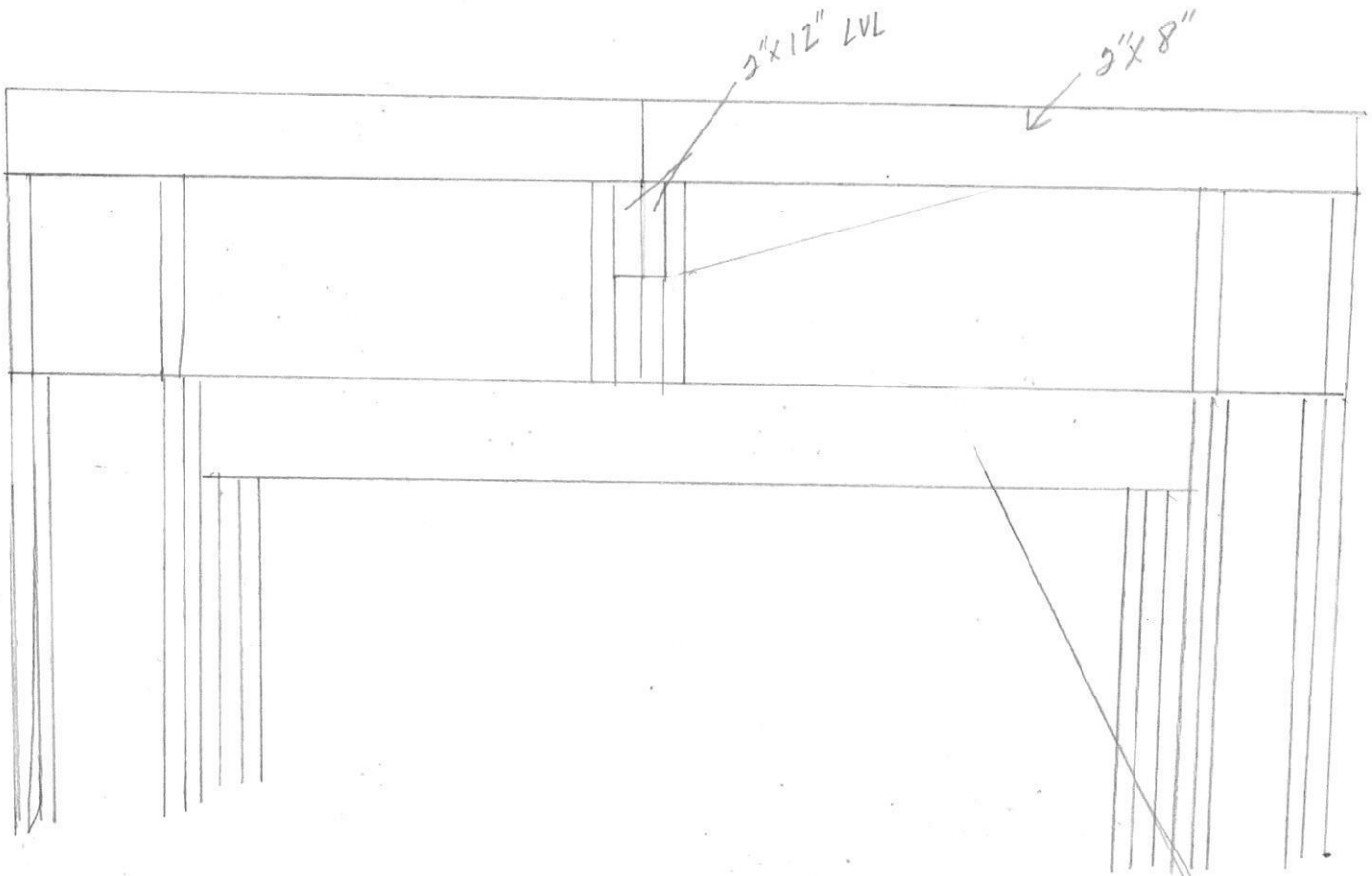
Proprietary GA-600 Designs: Assemblies listed as proprietary in the GA-600 Fire Resistance Design Manual only list one product per manufacturer and may not include all products referenced in the illustrations below. Please consult the specified UL, ULC, cUL or other fire listing or test for a complete list of approved products.

The following design assemblies are for illustrative purposes only. Consult the appropriate fire resistance directory or test report for complete assembly information. For additional fire safety information concerning DensGlass Sheathing, visit www.buildgp.com/safetyinfo.

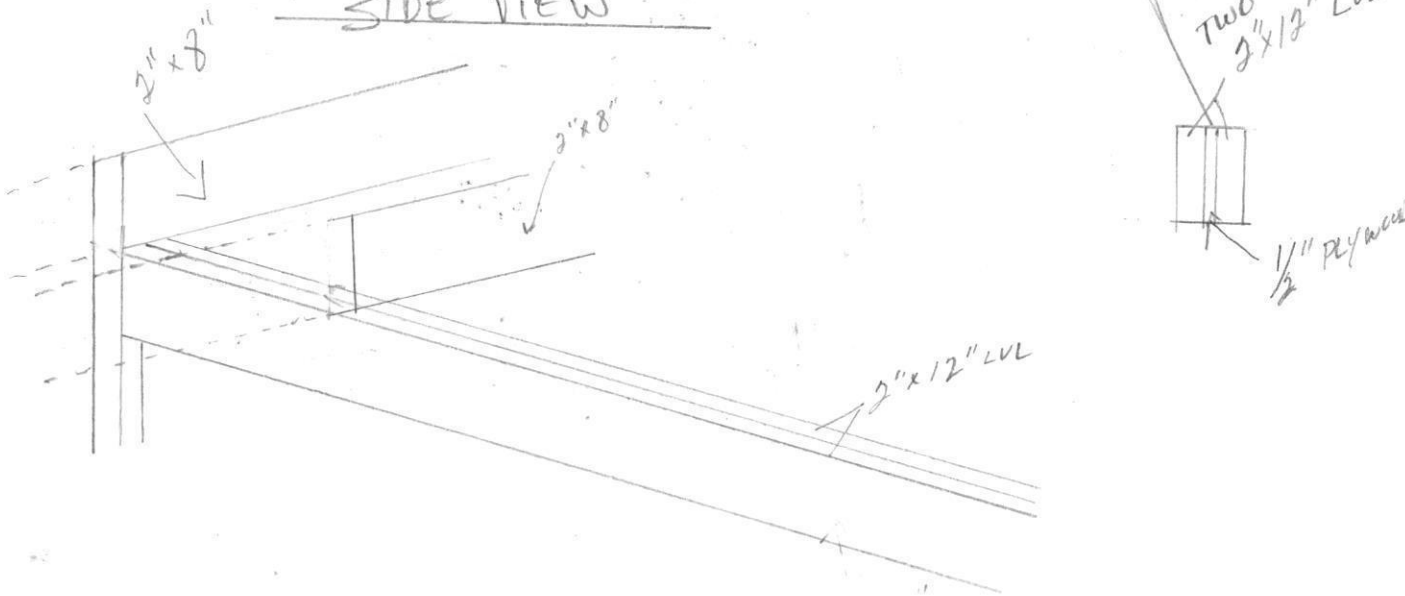
<p>1-Hour Fire Rating Design Reference: UL U305, U337, WHI 495-0702, GA WP 8130</p> 	<p>30-34 STC Sound Trans. Test Reference: OR 64-8 Wall Thickness: 4-3/4" (121 mm) Weight per Sq. Ft.: 7.5 psf (37 Kg/m²)</p> <p>Exterior: 5/8" (15.9 mm) DensGlass® Fireguard® Sheathing applied vertically (U337, U305) or horizontally (U305) to 2" (51 mm) x 4" (102 mm) wood studs 16" (406 mm) o.c. with 1-3/4" (45 mm) galvanized roofing nails 7" (178 mm) o.c. for all framing members. Exterior surface covered with weather exposed cladding or finish system.</p> <p>Interior: 5/8" (15.9 mm) DensArmor Plus® Fireguard® interior panels or 5/8" (15.9 mm) ToughRock® Fireguard X® gypsum board applied vertically (U337, U305) or horizontally (U305) to studs with 1-7/8" (48 mm) 6d coated nails 7" (178 mm) o.c. Stagger joints each side.</p>
<p>1-Hour Fire Rating Design Reference: UL U309, cUL U309, GA WP 3510, GA WP 8105</p> 	<p>35-39 STC Sound Trans. Test Reference: NGC 2404 Wall Thickness: 4-7/8" (124 mm) Weight per Sq. Ft.: 7.0 psf (34 Kg/m²)</p> <p>Exterior: 5/8" (15.9 mm) DensGlass Fireguard Sheathing applied vertically or horizontally to 2" (51 mm) x 4" (102 mm) wood studs spaced 24" (610 mm) o.c. with 1-3/4" (45 mm) galvanized roofing nails 7" (178 mm) o.c.</p> <p>Interior: 5/8" (15.9 mm) DensArmor Plus Fireguard interior panels or 5/8" (15.9 mm) ToughRock Fireguard X gypsum board applied vertically or horizontally to framing with 1-7/8" (48 mm) 6d coated nails 7" (178 mm) o.c.</p>
<p>2-Hour Fire Rating Design Reference: UL U301, cUL U301, GA WP 8416</p> 	<p>40-44 STC Sound Trans. Test Reference: NGC-2363 Wall Thickness: 6-1/8" (156 mm) Weight per Sq. Ft.: 12.0 psf (58 Kg/m²)</p> <p>Exterior: Two layers 5/8" (15.9 mm) DensGlass Fireguard Sheathing applied vertically or horizontally to 2" (51 mm) x 4" (102 mm) wood studs 16" (406 mm) o.c. Base layer attached with 1-7/8" (48 mm) galvanized roofing nails 6" (152 mm) o.c. Face layer attached with 2-3/8" (60 mm) galvanized roofing nails 8" (203 mm) o.c. Stagger joints between layers and on base layer of both sides.</p> <p>Interior: Two layers 5/8" (15.9 mm) DensArmor Plus Fireguard interior panels or 5/8" (15.9 mm) ToughRock Fireguard X gypsum board applied horizontally or vertically to framing. Base layer attached with 1-7/8" (48 mm) 6d cement coated nails 6" (152 mm) o.c. Face layer attached with 2-3/8" (60 mm) 6d cement coated nails 8" (203 mm) o.c. Stagger joints between layers and on base layer of both sides. Sound tested with studs 16" (406 mm) o.c. and nails for base layer spaced 6" (152 mm) o.c.</p>

1277 HIRO AVE GARAGE ROOF

FRONT VIEW

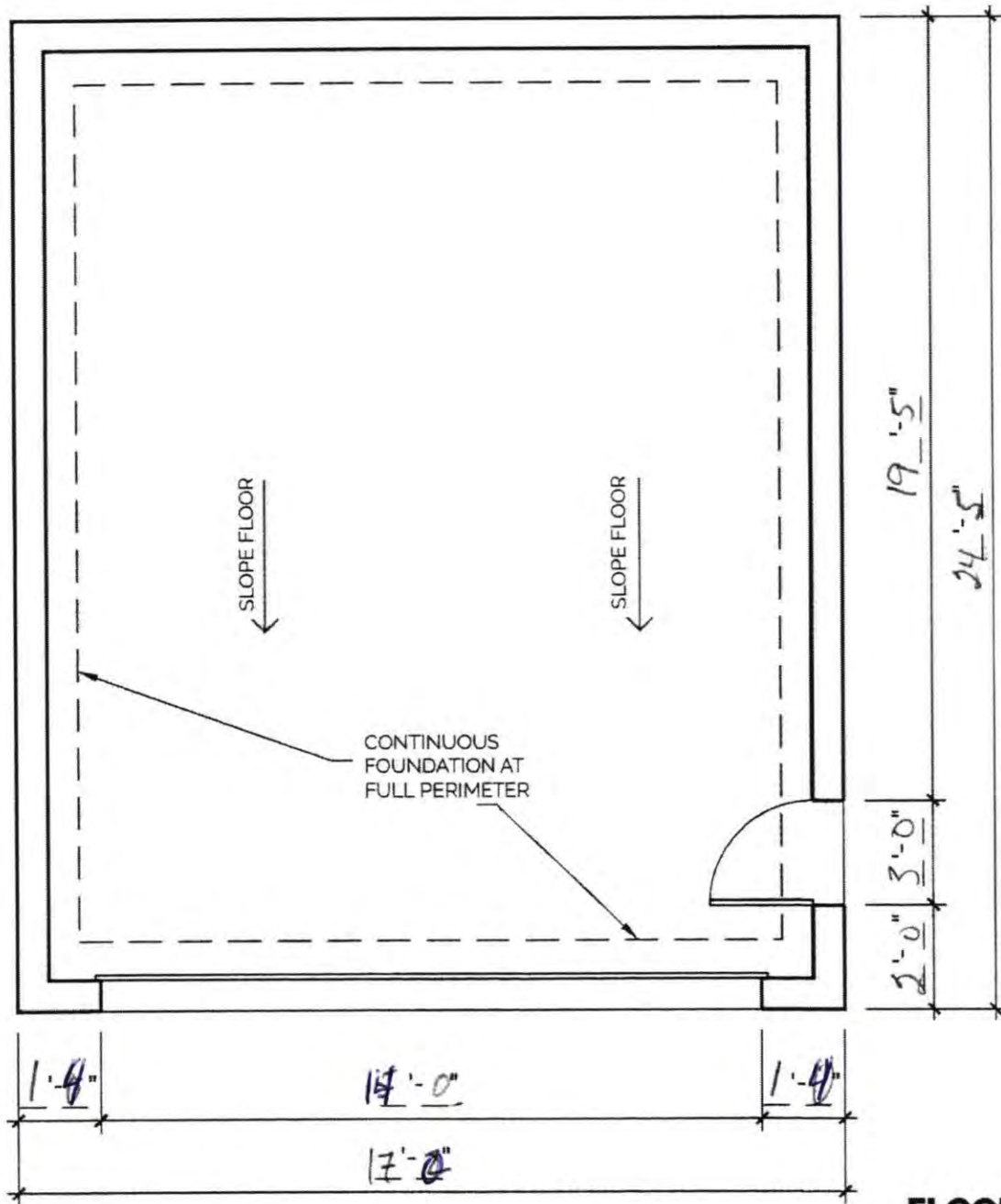


SIDE VIEW



DETACHED GARAGE PROTOTYPE FLOOR PLAN (LEFT-HAND OPTION)

PROPERTY ADDRESS: 1277 HIRD




FLOOR PLAN

ELECTRICAL SYMBOL LEGEND

 **110V DUPLEX CEILING MOUNTED
DOOR OPERATOR RECEPTACLE**

 **110V GFCI RECEPTACLE**

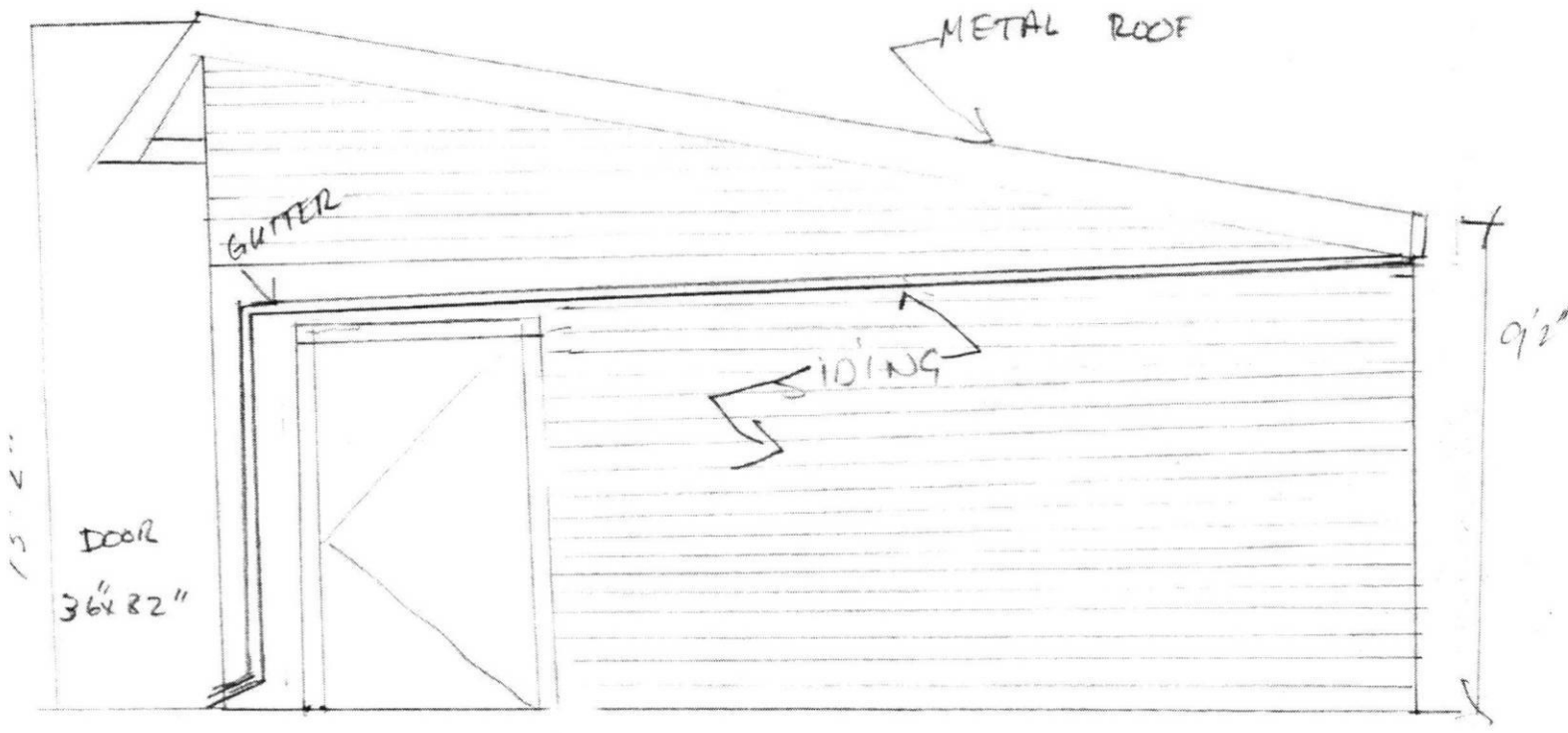
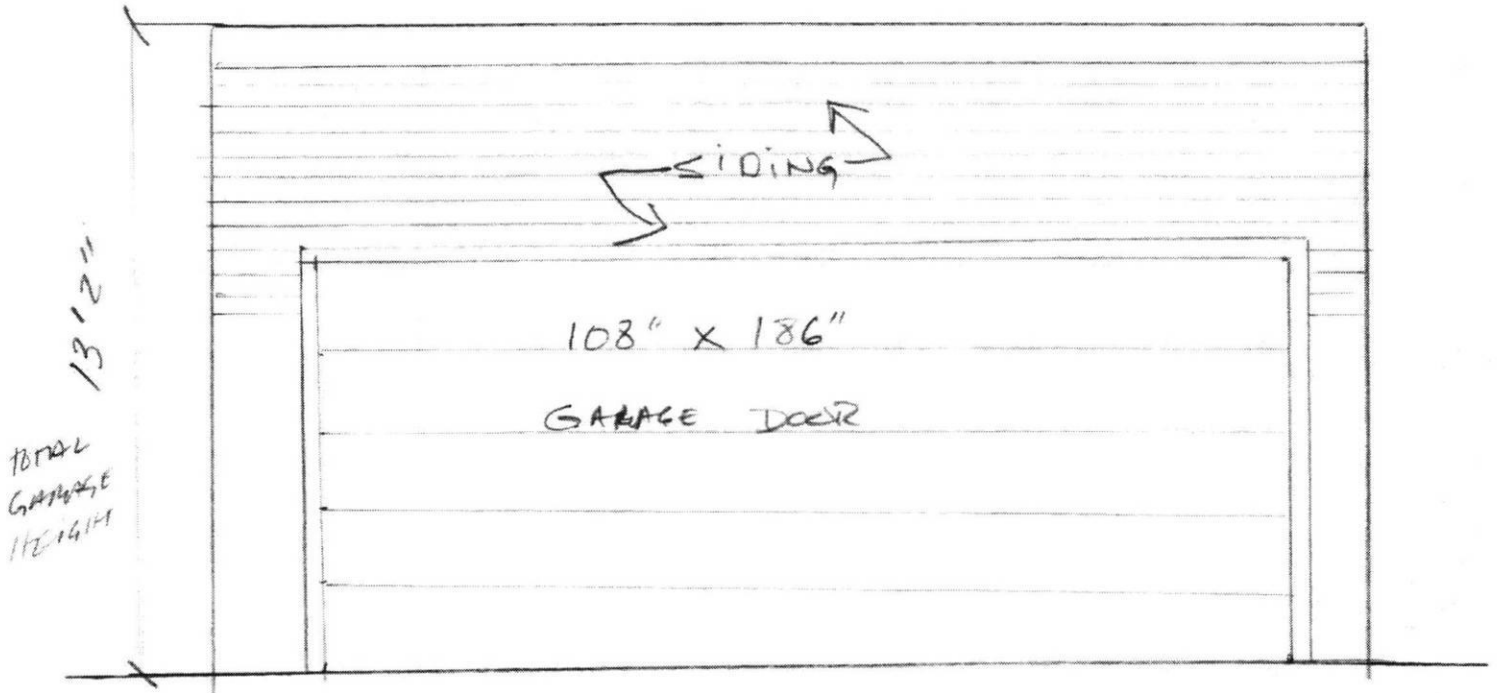
 **LIGHT SWITCH**

 **LIGHTS: RECESSED,
SURFACE MOUNT,
WALL MOUNT**

30 AMP

**SUB-PANEL WITH
DISCONNECT RATING**

FRONT ELEVATION
1277 HILO



LEFT SIDE ELEVATION

JOICE FOR METAL ROOF

TWO LVL ^{2"x12"} ↓ BEAMS FOR CENTER

2"x8" JOICE, 2' ON CENTER

GAUGE DOOR HEADER

TWO LVL 2"x12" WITH 1/2" PLYWOOD IN BETWEEN

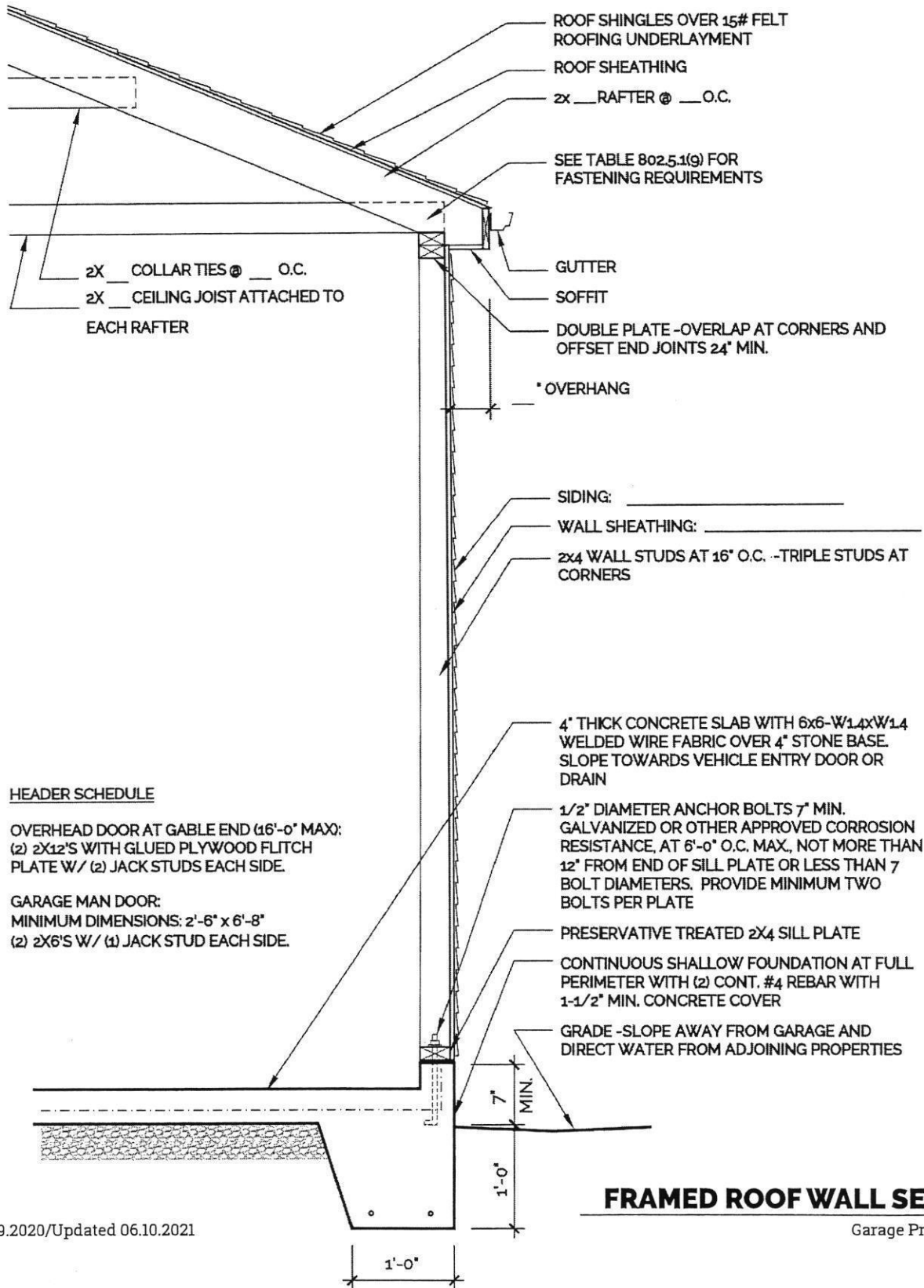
INTERIOR

5/8" TOUGH ROCK FIREGUARD GYPSUM BOARD



DETACHED GARAGE PROTOTYPE SECTIONS

PROPERTY ADDRESS: _____



FRAMED ROOF WALL SECTION



Customer Quote

10/02/2023, 2:39 PM EDT

Sales Person EXM0077

Store Phone # (216) 251-3091

Store # 3820

Location 11901 BEREA RD, CLEVELAND, OH 44111

Customer Information

ZORAN STOJKOV

(216) 469-8844

ZORANS@ROCKETMAIL.COM

ZEECO

6581 GLEN COE DR

BRECKSVILLE, OH 44141



Quote # H3820-350576

PO / Job Name

Will Call

Will Call Details
UFP Retail LLC

Estimated Arrival
24 Days
Customer will be notified when order
is ready for pickup

Alternate Pickup Person
ZORAN STOJKOV

Item Description	Model #	SKU #	Unit Price	Qty	Subtotal
3/4 (23/32) 4x8 ProWood SYP CDX Fire Treated Plywood (Class A 368211) [QC:35715094] 3/4 (23/32) 4x8 ProWood SYP CDX Fire Treated Plywood (Class A 368211) [QC:35715094]	368211	1000013847	\$66.29 / each	1	\$66.29

Prices Valid Through: 10/09/2023
at The Home Depot #3820

Subtotal	\$66.29
Discounts	-\$0.00
Sales Tax	\$5.30
Quote Total	\$71.59