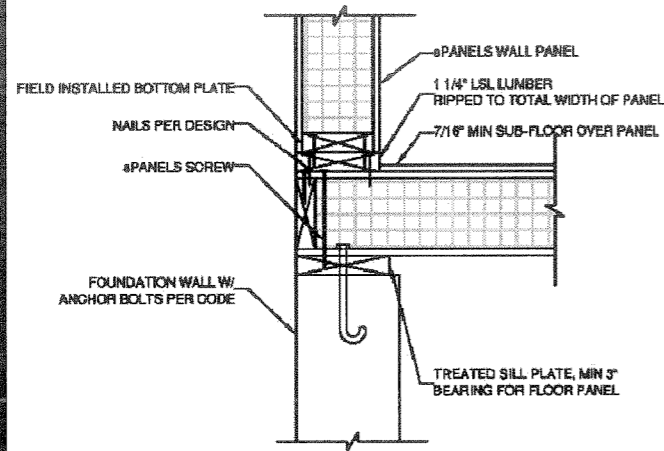
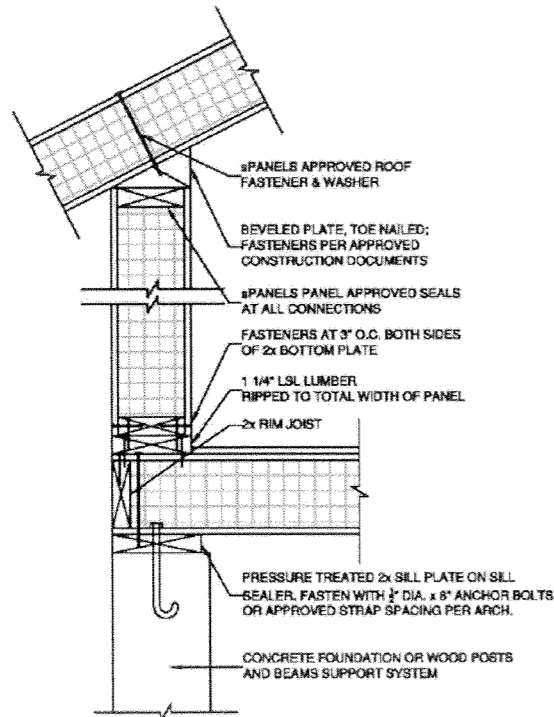


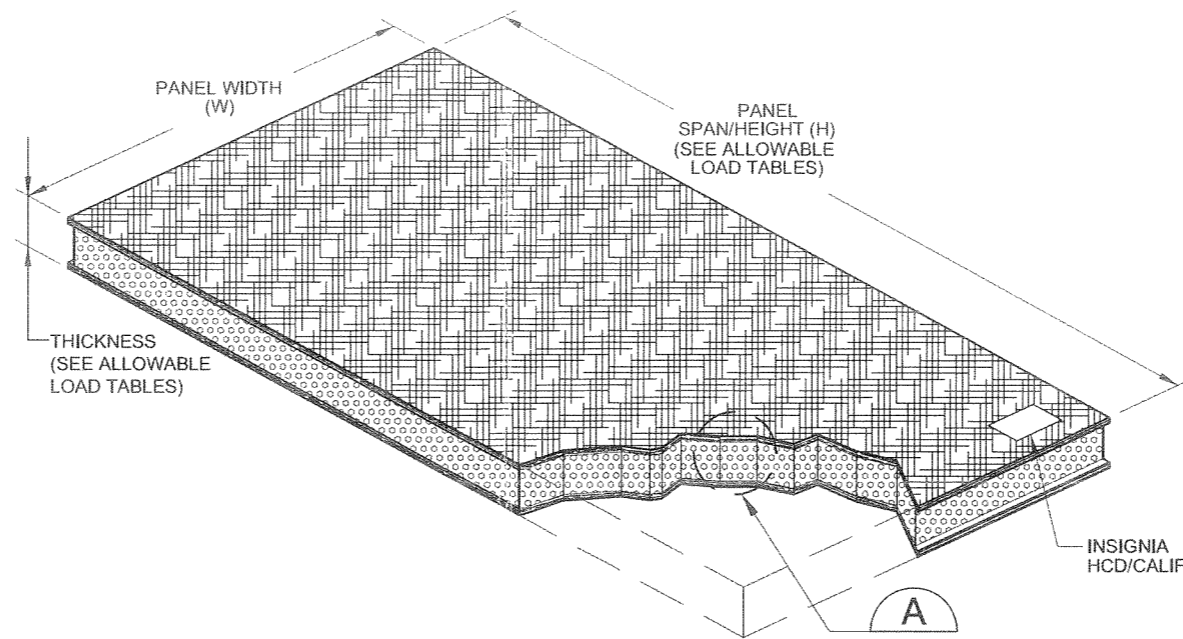
### ROOF PANEL ASSEMBLY



### PANEL ASSEMBLY

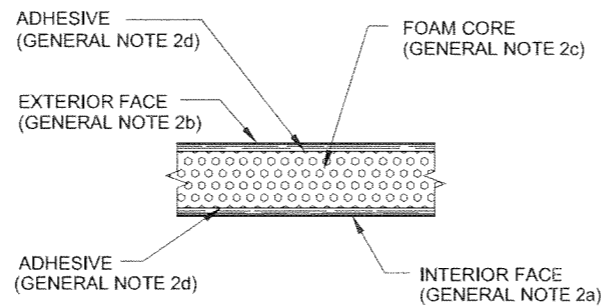


### ROOF & WALL ASSEMBLY



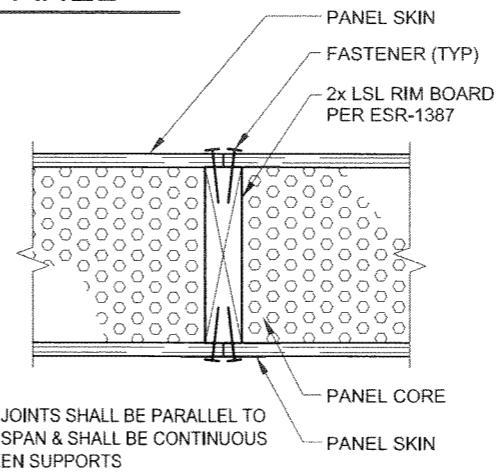
### TYPICAL ROOF PANEL

NTS



### PANEL INTERIOR DETAIL

NTS

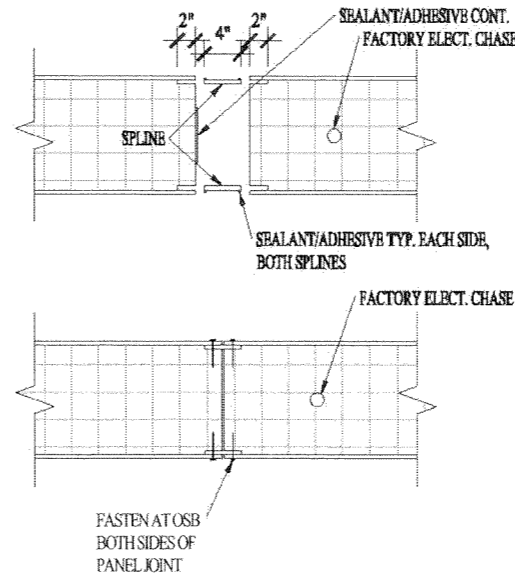


NOTE:

PANEL JOINTS SHALL BE PARALLEL TO  
PANEL SPAN & SHALL BE CONTINUOUS  
BETWEEN SUPPORTS

### PANEL JOINT DETAIL

NTS



### OSB SPLINE

**APPROVED**

by C.M.J. Engineering, Inc., a Department of Housing  
and Community Development approved third party  
design approval agency for  
**FACTORY BUILT HOUSING**

These plans and/or documents have reviewed according to the  
requirements found in the California Code of Regulations Title 25, Chapter  
3, Subchapter 1. The mfg/applicant is solely responsible for compliance  
with all applicable laws and regulations. Plan reviews by C.M.J.  
Engineering, Inc. are not a comprehensive analysis of the design and are  
not provided with any expressed or implied warranties.

DATE APPROVED JUL 19 2010

Plan Approval No. CMJ-SPA -FBH-1

EXPIRES JUL 19 2013 MODEL CA-SIP 71610

APPROVAL NOT APPLICABLE TO FOUNDATIONS

DATE SIGNED: 7/15/10



VOID IF NOT  
WET SIGNED WITH BLUE INK

WET SIGNED DOCUMENT HAS  
EMBOSSED CORPORATE SEAL

MANUFACTURING FACILITY:  
S PANELS HOLDINGS, LLC  
2420 HEYREND WAY  
IDAHO FALLS, ID 83402  
PHONE: (208) 552-1700

DESIGNED BY: TJC	ADM	RWC	AS SHOWN	JUNE 2010
DRAWN BY:				
CHECKED BY:				
SCALE:	THIS BAR SCALES EXACTLY ONE HALF INCH AT FULL SCALE			
DATE:				
<p>SPANELS HOLDINGS, LLC 2420 HEYREND WAY IDAHO FALLS, ID 83402 PHONE: (208) 552-1700 FAX: (208) 552-1734</p>				
<p>REGISTERED PROFESSIONAL ENGINEER TERENCE J. CAVANAUGH No. S 3107 Exp. 12/31/11 STRUCTURAL STATE OF CALIFORNIA</p>				
<p>CA-SIP 71610 7/16" OSB/1.0 PCF EPS</p>				
<p>CALIFORNIA STANDARD PLAN</p>				
<p>SHEET NO. 1 OF 2</p>				

GENERAL NOTES AND SPECIFICATIONS:

- THE FOAM CORE PANELS DEPICTED WITHIN THIS DRAWING ARE INTENDED FOR USE ON RESIDENTIAL OR COMMERCIAL CONSTRUCTION AS REGULATED BY THE 2006 INTERNATIONAL BUILDING CODE, THE 2006 INTERNATIONAL RESIDENTIAL CODE OR THE 2007 CALIFORNIA BUILDING STANDARDS CODE.
- MATERIALS:
  - INTERIOR FACING MATERIAL SHALL BE 7/16 INCH THICK, EXPOSURE 1, RATED SHEATHING, ORIENTED STRAND BOXED (OSB), COMPLYING WITH U.S. DEPARTMENT OF COMMERCE PS-2-92 AND REQUIREMENTS NOTED IN THE APPROVED QUALITY DOCUMENT.
  - EXTERIOR FACING MATERIAL SHALL BE 7/16 INCH THICK, EXPOSURE 1, RATED SHEATHING, ORIENTED STRAND BOXED (OSB), COMPLYING WITH U.S. DEPARTMENT OF COMMERCE PS-2-92 AND REQUIREMENTS NOTED IN THE APPROVED QUALITY DOCUMENT.
  - THE FOAM CORE SHALL BE AS DEFINED BELOW:
    - PERFORMED EXPANDED POLYSTYRENE (EPS) WITH A THICKNESS OF 5 5/8" OR 11 7/8" INCHES (127 OR 302 mm). THE EPS SPECIFIED IN THE APPROVED QUALITY CONTROL DOCUMENTATION COMPLIES WITH ASTM C 578 AS TYPE I, HAS A NOMINAL DENSITY OF 1.0 PCF (16 kg/m<sup>3</sup>) AND HAS A FLAME-SPREAD INDEX NOT EXCEEDING 25 AND A SMOKE-DEVELOPED INDEX NOT EXCEEDING 450 WHEN TESTING IS IN ACCORDANCE WITH ASTM E 84. THE PANELS MAY BE MANUFACTURED WITH ONE CORE BUTT SPLICE THAT IS ORIENTATED PERPENDICULAR TO THE PANEL SPAN, LOCATED NO CLOSER THAN 12 INCHES (305 mm) FROM THE SUPPORT. THE CORE BUTT SPLICE LOCATION IN THE PANEL IS IDENTIFIED BY A PAINT MARKING ON THE PANEL.
    - THE COMPONENTS ARE BONDED TOGETHER BY AN ADHESIVE DESIGNATED AS ISOGRIIP SP3030D, A PROPRIETARY ADHESIVE MANUFACTURED BY ASHLAND SPECIALTY CHEMICAL COMPANY AND RECOGNIZED UNDER ICC ES ESR-1140. THE ADHESIVE IS A CLASS 2, TYPE II STRUCTURAL ADHESIVE, UNDER ICC ES AC05.
- THE MANUFACTURER OF ANY COMPONENT CITED IN ITEM 2 ABOVE SHALL PROVIDE CERTIFICATION WITH EACH SHIPMENT THAT ALL COMPONENTS PROVIDED WITHIN THE SHIPMENT CONFORM TO THE APPLICABLE SPECIFICATION (S) AND/OR DEFINITION (S) OUTLINED ABOVE.
- THE MAXIMUM APPLIED LOAD SHALL NOT EXCEED THE ALLOWABLE LOADS PROVIDED IN THE APPROPRIATE TRANSVERSE, RACKING AND/OR AXIAL LOAD TABLES. EXTRAPOLATION OF THE INFORMATION PROVIDED IN THE ALLOWABLE LOAD TABLES IS NOT PERMITTED.
- WHERE PANELS EXPERIENCE TRANSVERSE LOADS PANELS SHALL BE CONTINUOUS IN THE DIRECTION OF SPAN WITH NO TRANSVERSE JOINTS.
- THE SUPPORT AND STRUCTURAL ATTACHMENT OF THE SUBJECT PANELS SHALL BE SUBSTANTIATED BY EITHER APPROVED EVALUATION REPORT PLANS OR STRUCTURAL PLANS APPROVED BY THE GOVERNING JURISDICTION. THE GOVERNING JURISDICTION SHALL CONFIRM THAT SAID PLANS ARE INTENDED FOR USE WITH THE DESIRED PANEL LOADS AND SPANS FOR EACH SPECIFIC PROJECT.
- AN IDENTIFICATION DECAL WITH DEPARTMENT OF HOUSING INSIGNIA AND MANUFACTURER'S IDENTIFICATION NUMBER SHALL BE LOCATED AT ONE END OF EACH PANEL.
- SNOW LOADS PRESENTED WITHIN THESE PLANS ARE "EQUIVALENT" UNIFORM. SNOW LOADS CONSIDERATION SHALL BE GIVEN TO SITE SPECIFIC CONDITIONS INCLUDING BUT NOT LIMITED TO DRIFTING AND SLIDING SNOW.
- PLANS ARE CONSIDERED NULL AND VOID IF THEY DO NOT CONTAIN ORIGINAL SEAL AND SIGNATURE (IN BLUE INK) BY THE ENGINEER OF RECORD (EOR).

NOTES FOR TABLES

TABLE 1:

- ALLOWABLE LOADS ARE FOR "APPLIED" LOADS. SELF-WEIGHT OF PANEL NEED NOT BE INCLUDED WITHIN THE ALLOWABLE LOADS SHOWN.
- THE 6.5" PANELS HAVE BEEN TESTED FOR 1" WIDE BEARING CONDITIONS. WIDER BEARING CONDITIONS ARE ALLOWED PROVIDED THE APPLIED LOADS DO NOT EXCEED THOSE PRESENTED WITHIN TABLE 1.
- BASED UPON PANEL WIDTH OF 4'-0".

TABLE 2:

- FASTENERS ARE NO. 16 GAGE, 7/16-INCH CROWN, 1 1/2"-INCH LONG STAPLES, SPACED AT 3-INCHES ON CENTER.
- "PANEL STRENGTH" IS BASED ON THE PANEL'S INABILITY TO RESIST ADDITIONAL LONGITUDINAL LOAD. A FACTOR OF SAFETY OF 3.0 HAS BEEN INCORPORATED INTO THE ALLOWABLE SHEAR LOAD.
- THE MAXIMUM ALLOWABLE RACKING LOAD SHALL BE THE MINIMUM OF THAT BASED ON PANEL STRENGTH AND FASTENER STRENGTH.
- REFER TO THE ATTACHED LOAD VS. DEFLECTION GRAPH FIGURE 1, FOR INFORMATION REGARDING THE PANEL'S NET DEFLECTION BEYOND 1/8-INCH.
- FOR LOADS RESULTING IN DEFLECTIONS BEYOND 1/8-INCH, THE ENGINEER OF RECORD MUST CONFIRM PANEL DEFLECTIONS WILL NOT ADVERSELY IMPACT THE STRUCTURE.
- PANELS THICKER THAN 6 1/2-INCH MAY BE USED FOR RACKING LOADS PROVIDED THEIR ALLOWABLE LOADS ARE LIMITED TO THOSE PRESENTED FOR 6 1/2-INCH THICK PANEL.
- FASTENER STRENGTH IS CALCULATED USING THE LATERAL DESIGN EQUATION FOUND IN APPENDIX A OF ESR-1539.
- ALLOWABLE RACKING LOADS ARE BASED ON STATIC LOAD TESTS. WHERE PANELS ARE EXPECTED TO EXPERIENCE INELASTIC BEHAVIOR IN SEISMIC DESIGN CATEGORIES D, E AND F, CYCLIC TESTING SHALL BE PROVIDED FOR THE SUBSTANTIATION OF ALLOWABLE LOADS.

TABLE 3:

- FASTENERS ARE NO. 16 GAGE, 7/16-INCH CROWN, 1 1/2"-INCH LONG STAPLES, SPACED AT 3-INCHES ON CENTER.
- ALLOWABLE APPLIED LOAD IS BASED ON THE CAPACITY OF THE FASTENERS ATTACHING THE PANEL SKINS TO THE SILL AND TOP PLATES.
- "PANEL STRENGTH" IS BASED ON THE PANEL'S INABILITY TO RESIST ADDITIONAL AXIAL LOAD. A FACTOR OF SAFETY OF 3.0 HAS BEEN INCORPORATED INTO THE ALLOWABLE AXIAL LOAD.
- THE MAXIMUM ALLOWABLE AXIAL LOAD SHALL BE THE MINIMUM OF THAT BASED ON PANEL STRENGTH AND FASTENER STRENGTH.
- PANELS THICKER THAN 6 1/2-INCH MAY BE USED FOR AXIAL LOADS PROVIDED THEIR ALLOWABLE LOADS ARE LIMITED TO THOSE PRESENTED FOR A 6 1/2-INCH THICK PANEL.
- FASTENER STRENGTH IS CALCULATED USING THE LATERAL DESIGN EQUATION FOUND IN APPENDIX A OF ESR-1539.

Table 1-Allowable Transverse Load

Panel Span	Deflection Limit (2)	Allowable Uniform Applied Load (1) psf			
		6 1/2-inch Thick Wall Panels		12 3/4-inch Thick Roof and Floor Panels	
		Wind Loads	Live Load	Snow Load	Wind Uplift Load
8	L/180	55	158	137	71
	L/240	52	158	103	71
	L/360	35	109	69	71
10	L/180	44	125	108	58
	L/240	38	125	81	58
	L/360	26	83	54	58
12	L/180	37	102	88	50
	L/240	29	102	66	50
	L/360	19	65	44	50
14	L/180	30	86	74	43
	L/240	23	83	55	43
	L/360	15	52	37	43
16	L/180	24	74	63	39
	L/240	18	68	47	39
	L/360	12	42	32	39
18	L/180	19	65	55	35
	L/240	14	56	41	35
	L/360	10	34	27	35
19	L/180	17	-	-	-
	L/240	13	-	-	-
	L/360	9	-	-	-
20	L/180	-	57	48	32
	L/240	-	47	36	32
	L/360	-	28	24	32
22	L/180	-	51	42	30
	L/240	-	39	31	30
	L/360	-	23	21	30
23	L/180	-	49	40	29
	L/240	-	36	30	29
	L/360	-	21	20	29

1.0.0

Table 2-Allowable Racking Load

Panel Height (ft-in)	Panel Thickness (in.)	Allowable Longitudinal Shear Load (plf)			Maximum Ratio H/W
		Panel Strength	Fastener Strength	1/8" Deflection	
8 - 0	6 1/2	338	Note 7	93	1.0

Figure 1 Applied Load vs. Net Deflection

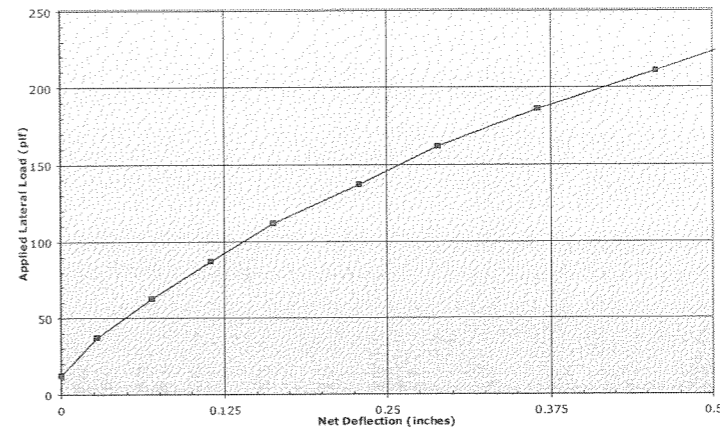


Table 3-Allowable Axial Loads

Panel Height (ft-in)	Panel Thickness (in.)	Allowable Axial Load (plf)		Ratio H/W
		Panel Strength	Fastener Strength	
18 - 0	6 1/2	2,028	Note 6	4.5

**APPROVED**  
by C.M.J. Engineering, Inc., a Department of Housing and Community Development approved third party design approval agency for **FACTORY BUILT HOUSING**

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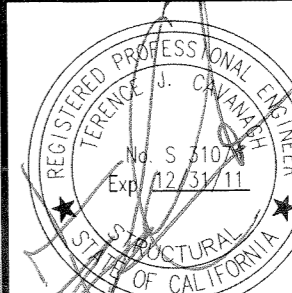
DATE APPROVED JUL 19 2010

Plan Approval No. CMJ-1

EXPIRES JUL 19 2013

APPROVAL NOT APPLICABLE TO FOUNDATIONS

DATE SIGNED: 7/15/10



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MANUFACTURING FACILITY:  
sPANELS HOLDINGS, LLC  
2420 HEYREND WAY  
IDAHO FALLS, ID 83402  
PHONE: (208) 552-1700

CALIFORNIA STANDARD PLAN

7/16" OSB/1.0 PCF EPS

DESIGNED BY: TJC  
DRAWN BY: ADM  
CHECKED BY: RWC  
SCALE: AS SHOWN  
DATE: JUNE 2010

THIS BAR SCALES EXACTLY ONE HALF INCH AT FULL SCALE

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PHONE: (208) 552-1700  
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REV.	DATE	BY	COMMENT
1.0.0	7/10	TJC	COMMENT REVISION
0.0.0	6/10	TJC	INITIAL ISSUE

WET SIGNED DOCUMENT HAS EMBOSSED CORPORATE SEAL