City of Belle Isle

Universal Engineering Sciences 3532 Maggie Blvd., Orlando, FL 32811
Tel 407-581-8161 * Fax 407-581-0313 * www.universalengineering.com

PERMIT CARD – PLEASE POST AT JOB SITE

THIS DOCUMENT BECOMES YOUR PERMIT WHEN PROPERLY VALIDATED

Per FBC 105.3.3: An enforcing authority may not issue a building permit for any building construction, erection, alteration, modification, repair or addition unless the permit either includes on its face or there is attached to the permit the following statement: **"NOTICE: In addition to the requirements of this permit, there may be additional restrictions applicable to this property that may be found in the public records of this county, and there may be additional permits required from other governmental entities such as water management districts, state agencies, or federal agencies."** The issuance of this permit does not grant permission to violate any applicable City, Orange County, State of Florida and/or Federal codes and/or ordinances. Separate permits are required for Signs, Roofing, Electrical, Gas, Plumbing and Mechanical services. This permit becomes VOID if the work authorized is not commenced within 6 months, or is suspended or abandoned for a period of 6 months after commencement. WORK SHALL BE CONSIDERED SUSPENDED IF AN APPROVED INSPECTION HAS NOT BEEN MADE WITHIN A 6 MONTH PERIOD. PERMISSION IS GRANTED TO DO THE FOLLOWING WORK ACCORDING TO THE CONDITIONS HEREON AND THE APPROVED PLANS AND SPECIFICATIONS, SUBJECT TO COMPLIANCE WITH THE ORDINANCES OF THE CITY OF BELLE ISLE, FLORIDA.

Scope of Work: BUILDING: one 8 x 12 shed

Comments: Setbacks are 5' from property sides

Project Information

Address: 1406 Swann Ave, Belle Isle, FL 32809
Parcel ID: 25-23-29-8485-00-010
Property Owner: Smith,Ralph
Phone Number: 321 480 6096

****

Company Name: Tuff Shed, Inc
Contractor Name: Saurey, Tom
License Number: CBC1253645
Address: 8524 E. Colonial Dr, Orlando, FL 32817
Phone Number: 360 998 3228

Permit Number: 2016-07-081

Date of Application: 07/14/2016
Date Permit Issued: 08/03/2016

WARNING TO OWNER: "YOUR FAILURE TO RECORD A NOTICE OF COMMENCEMENT MAY RESULT IN YOU PAYING TWICE FOR IMPROVEMENTS TO YOUR PROPERTY. IF YOU INTEND TO OBTAIN FINANCING, CONSULT WITH YOUR LENDER OR AN ATTORNEY BEFORE RECORDING YOUR NOTICE OF COMMENCEMENT." ON THE JOB INSPECTION(S) MUST BE MADE BEFORE PROCEEDING WITH SUBSEQUENT WORK. THIS CARD MUST BE DISPLAYED OUTSIDE AND BE PROTECTED FROM THE WEATHER WHILE BEING VISIBLE FROM THE STREET UNTIL THE FINAL INSPECTIONS HAVE BEEN APPROVED.

BUILDING FEATURES

IMPACT FEES

School $

ZONING FEES

Zoning Fee $30.00

UNIVERSAL ENG - BUILDING FEES

Demo $
Building $
Fence $
Driveway $
Shed $55.50
Window(s) $
Door(s) $
PrePower $
Electrical $
Temp Pole $
Plumbing $
Mechanical $
Gas $
Roofing $
Boat Dock $
Screen Encl $
Swimming Pool $

SURCHARGE FEES

Surcharge Fee $2.00
Surcharge Fee $2.00

TOTAL FEES $89.50

Date Paid 8-3-17

CC or Check # VISA 4561

Amount Paid 89.50

The person accepting this permit shall conform to the terms of the application on file and construction shall conform to the requirements of the Florida Building Code (FS 553).

BUILDING INSPECTOR USE ONLY

IF APPLICABLE:

Have Zoning Approval Conditions Been Met? YES NO **Have Stormwater Approval Conditions Been Met?** YES NO **Silt fencing in place?** YES NO **Turbidity Barrier in place?** YES NO

☐ **BUILDING**

1st _____ (Footing/Foundation)
Survey specific foundation plan must be onsite before slab pour. Approved Plan on Site? ____

2nd _____ (Slab)

3rd _____ (Lintel)(Wall Reinforcing on Masonry Building)

4th _____ (Exterior Framing)(Roof/Wall Sheathing)

5th _____ (Framing) (To be made after Plumbing/ Mechanical/ Electrical Rough-Ins & Windows/Doors Installed)

6th _____ (Insulation to be Made After Roof Installed)

7th _____ (Drywall)

8th _____ (Sidewalk/Driveway)

9th _____ (Other)

10th _____ (Final – After MEP and Other Applicable Finals)

☐ **ROOFING**

1ST ROOFING Deck Nailing/Dry-in/Flashing _____

2nd ROOFING Covering In-Progress _____

3rd ROOFING Covering Final _____

☐ **PLUMBING** (Pool-Piping, Solar, Irrigation, Water Treatment Equip, Etc...)

☐

1ST _____ (Underground) 2nd _____ (Sewer)

3rd _____ (Rough-In/Tub Set) 4th _____ (Final)

CHECK APPROPRIATE BOX

☐ **GAS** __Natural ___LP ☐ **MECHANICAL** ☐**ELECTRICAL** ☐ **LOW VOLTAGE**

1st _____ (Rough-In) 2nd _____ (Final)

Inspection requests are to be emailed to BIDscheduling@UniversalEngineering.com; a confirmation email will be sent back to you upon scheduling. Next-Day Inspection requests must be made by 4pm. Please include the following in your request: Permit #, project address, type of inspection, date of the requested inspection, a contact name & a contact phone number. AM or PM may be requested but cannot be guaranteed.

For a copy of your permit, or to check inspection results, please visit https://universalengineering.sharefile.com
login ID = cobi@universalengineering.com password = universal13

0115.130572.0000

RECEIVED JUL 14 2017

City of Belle Isle

Universal Engineering Sciences 3532 Maggie Blvd., Orlando, FL 32811
Tel 407-581-8161 * Fax 407-581-0313 * www.universalengineering.com

Building Permit (Land Use) Application

DATE: 7/14/17 PERMIT # 2017-07-081

PROJECT ADDRESS 1406 Swann AVE , Belle Isle, FL [X] 32809 [ ] 32812

PROPERTY OWNER Ralph Smith PHONE (321) 480-6096 **VALUE OF WORK (labor &material)** $ 3137.39

PLEASE LIST THE NATURE OF YOUR PROPOSED IMPROVEMENTS

8x12 storage shed with no electricity and no concrete.

Please provide information, if applicable.

- **SINGLE FAMILY RESIDENCE: 8.5"x11" Plat Survey, Plot Plan of Home and Floor Plans of New Construction/Revision Required**
- **BOAT DOCK: DEP Clearance Required with Application (Call 407-897-4100); please provide a copy of their report**
- **SEPTIC SYSTEM (RESIDENTIAL): – Provide verification of OC Health Dept approval for on-site septic tank system, per FAC Chap. 64E-6**
- **Homeowners will be required to have a contractor on record for homes that are rented and/or not homestead**

Please Complete for the City of Belle Isle Zoning Review: **Parcel Id Number:** 25-23-29-8485-00-010

To obtain this information, please visit http://www.ocpafl.org/Searches/ParcelSearch.aspx

SPECIAL CONDITIONS: STRUCTURES MAY NOT ENCROACH INTO ANY EASEMENT OR REQUIRED SETBACK. Survey specific foundation plan required to show compliance with zoning setbacks. Note: this Zoning Approval MAY or MAY NOT be in conflict with your Deed Restrictions. For New Single Family Residence, a Traffic Impact Fee and School Impact will be assessed.

PLANNING & ZONING APPROVAL: 8.3.17 – via April
DATE

PLEASE COMPLETE for Building Review (min. of 2 sets of signed/sealed plans required)

CONSTRUCTION TYPE 8x12 Shed

OCCUPANCY GROUP ____ **Comm** **Res:** X **Single Fam** 96 **Multi Fam**

#BLDG. 1 #UNITS _ #STORIES 1 **TOTAL SQ.FT.** 96

MAX. FLOOR LOAD ____ MAX. OCCUPANCY ____

MIN. FLOOD ELEV. ____ LOW FLOOR ELEV. ____

WATER SERVICE X **WELL** ____ **SEPTIC** X

BUILDING REVIEWER [signature] **DATE** 7-25-17

VERIFIED CONTRACTOR'S LICENSE & INSURANCE ARE ON FILE (ON) **DATE** 7-14-17 NOC recd

Wind Exposure Category: B____ C____ D____

SPRINKLERS REQ'D	**Y**	**N**	____
If Required – SUBMIT COPY OF PLANS FOR FIRE REVIEW		**Date: Sent ____ RCD ____**	
ZONING	(Y)	N	$ 30.-
CERT OF OCC	Y	N	$
TRAFFIC	Y	N	$
SCHOOL	Y	N	$
FIRE	Y	N	$
SWIMMING POOL	Y	N	$
SCREEN ENCLOSURE	Y	N	$
ROOFING	Y	N	$
BOAT DOCK	Y	N	$
BUILDING	(Y)	N	$ 55.50
WINDOW(S)	Y	N	$
DOOR(S)	Y	N	$
FENCE	Y	N	$
SHED	Y	N	$
DRIVEWAY	Y	N	$
OTHER____	Y	N	$
3% FL SURCHARGE			4.00
TOTAL			89.50

By Owner Form	Y	NA
Notice of Commencement	Y	NA
Power of Attorney	Y	NA
Contractor Packet Incuded?	Y	N

OTHER PERMITS REQUIRED:

ELECTRICAL	Y	NA
PREPOWER	Y	NA
MECHANICAL	Y	NA
PLUMBING	Y	NA
ROOFING	Y	NA
GAS	Y	NA

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Republic Services is by legal contract the sole authorized provider of garbage, recycling, yard waste, and commercial garbage and construction debris collection and disposal services with the city limits of the City. Contractors, homeowners and commercial businesses may contact Republic Services at 407-293-8000 to setup accounts for Commercial, Construction Roll Off, or other services needed. Rates are fixed by contract and are available at City Hall or from Republic Services. The City enforces the contract through its code enforcement office. Failure to comply will result in a stop work order.

SEPARATE PERMITS ARE REQUIRED FOR ROOFING, ELECTRICAL, PLUMBING, GAS, MECHANICAL, SIGNS, POOLS, ENCLOSURES, ETC.

1ST 1K 25
3x4 12
37 ÷ 2
18.50
55.50

65801

City of Belle Isle

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Tel 407-581-8161 * Fax 407-581-0313 * www.universalengineering.com

JUL 14 2017

Building Permit (Land Use) Application

DATE: 7/14/17

PERMIT # 2017-07-081

PROJECT ADDRESS 1406 Swann AVE, Belle Isle, FL [X] 32809 [ ] 32812

PROPERTY OWNER Ralph Smith PHONE (321) 480-6096 VALUE OF WORK (labor &material) $ 3137.39

PLEASE LIST THE NATURE OF YOUR PROPOSED IMPROVEMENTS

8x13 Storage Shed with no electricity and no Concrete

Please provide information, if applicable.

- **SINGLE FAMILY RESIDENCE:** 8.5"x11" Plat Survey, Plot Plan of Home and Floor Plans of New Construction/Revision Required
- **BOAT DOCK:** DEP Clearance Required with Application (Call 407-897-4100); please provide a copy of their report
- **SEPTIC SYSTEM (RESIDENTIAL):** – Provide verification of OC Health Dept approval for on-site septic tank system, per FAC Chap. 64E-6
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ZONING APPROVED
Date: 7/3/17 By:
City of Belle Isle

SPECIAL CONDITIONS: STRUCTURES MAY NOT ENCROACH INTO ANY EASEMENT OR REQUIRED SETBACK. Survey specific foundation plan required to show compliance with zoning setbacks. Note: this Zoning Approval MAY or MAY NOT be in conflict with your Deed Restrictions. For New Single Family Residence, a Traffic Impact Fee and School Impact will be assessed.

PLANNING & ZONING APPROVAL: DATE

PLEASE COMPLETE for Building Review (min. of 2 sets of signed/sealed plans required)

CONSTRUCTION TYPE 8x13 Shed

OCCUPANCY GROUP _____ Comm Res: X Single Fam _____ Multi Fam

#BLDG 1 #UNITS _ #STORIES 1 TOTAL SQ.FT. 96

MAX. FLOOR LOAD _____ MAX. OCCUPANCY _____

MIN. FLOOD ELEV _____ LOW FLOOR ELEV _____

WATER SERVICE X WELL _____ SEPTIC X

BUILDING REVIEWER _____ DATE _____

VERIFIED CONTRACTOR'S LICENSE & INSURANCE ARE ON FILE (Y) DATE 7-14-17

Need NOC

Per FSS 105.3.3:
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LT IK 25
3x4 12
37 ÷ 2
18.50
55.50

Wind Exposure Category: B____ C____ D____

SPRINKLERS REQ'D	Y	N	
If Required – SUBMIT COPY OF PLANS FOR FIRE REVIEW	**Date:** Sent	RCD	
ZONING	(Y)	N	$ 30.00
CERT OF OCC	Y	N	$
TRAFFIC	Y	N	$
SCHOOL	Y	N	$
FIRE	Y	N	$
SWIMMING POOL	Y	N	$
SCREEN ENCLOSURE	Y	N	$
ROOFING	Y	N	$
BOAT DOCK	Y	N	$
BUILDING	(Y)	N	$ 55.50
WINDOW(S)	Y	N	$
DOOR(S)	Y	N	$
FENCE	Y	N	$
SHED	Y	N	$
DRIVEWAY	Y	N	$
OTHER	Y	N	$
3% FL SURCHARGE			4.00
TOTAL			89.50

By Owner Form	Y	NA
Notice of Commencement	Y	NA
Power of Attorney	Y	NA
Contractor Packet Incuded?	Y	N
OTHER PERMITS REQUIRED:		
ELECTRICAL	Y	NA
PREPOWER	Y	NA
MECHANICAL	Y	NA
PLUMBING	Y	NA
ROOFING	Y	NA
GAS	Y	NA

City of Belle Isle
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Tel 407-581-8161 * Fax 407-581-0313 * www.universalengineering.com

Building Permit (Land Use) Application
To be completed as required by State Statute Section 713 and other applicable sections.

PERMIT # 2017-07-081

Owner's Name Ralph Smith

Owner's Address 1406 Swann AVE Belle Isle, FL 32809

Contractor Name Tom Saurey	Company Name Tuff Shed, Inc.
License # CBC1253645	Company Address 8524 E Colonial Drive
Contact Phone/Cell (407) 985-2990	City, State, ZIP Orlando, FL 32817
Contact Email tuffshed@permit-it.com	Contact Fax (360) 998-3228

WARNING TO OWNER: Your failure to record a Notice of Commencement may result in your paying twice for improvements to your property. A notice of commencement must be recorded if job is $2500(+) or if A/C Replacement $7500(+) and posted on the job site before the first inspection. If you intend to obtain financing, consult with your lender or an attorney before recording your Notice of Commencement.

I hereby make Application for Permit as outlined above, and if same is granted I agree to conform to all Division of Building Safety Regulations (www.floridabuilding.org) and City Ordinances (www.municode.com) regulating same and in accordance with plans submitted. The issuance of this permit does not grant permission to violate any applicable City and/or State of Florida codes and /or ordinances. Application is hereby made to obtain a permit to do the work and installations as indicated. I certify that no work or installation has commenced prior to the issuance of a permit and that all work will be performed to meet the standards of all laws regulating construction in this jurisdiction. I understand that a **separate** permit must be secured for all other construction including ROOFING, ELECTRICAL, MECHANICAL, PLUMBING, GAS, SIGNS, POOLS, SCREEN ENCLOSURES, ETC.

OWNER'S AFFIDAVIT: *I certify that all the foregoing information is accurate and that all work will be done in compliance with all applicable laws regulating construction and zoning.*

Owner Signature [signature]

The foregoing instrument was acknowledged before me this 7/18/17

by Ralph Smith who is personally known to me

and who produced FL DL as identification and who did not take an oath.

Notary as to Owner [signature]
State of Florida
County of Orange

Angelique Matthews
NOTARY PUBLIC
STATE OF FLORIDA
Comm# FF958412
Expires 2/8/2020

Contractor Signature [signature]

COMPANY NAME Tuff Shed, Inc.

The foregoing instrument was acknowledged before me this 07/06/2017

by Tom Saurey who is personally known and who produced as identification and who did not take an oath.

Notary as to Owner [signature]
State of Colorado
County of Denver

MERLE LEVY
NOTARY PUBLIC
STATE OF COLORADO
NOTARY ID 20174023626
MY COMMISSION EXPIRES JUNE 6, 2021

Impervious Surface Ratio Worksheet
Development Zoned A-1, A-2, R-1-AAA, R-1-AA, R-1-A, R-1 per City Code, Section 50-74: Impervious Surface Ratio

1. Total Lot Area (sqft) X 0.35 = Allowable Impervious Area (BASE).
   Total Lot Area 8800 X 0.35=
   Allowable Impervious Area (BASE) 3080 Sq Ft

2. Calculate the "proposed" impervious area on the lot. This includes the sum of all areas that do not allow direct percolation of rainwater. *Examples include house, pool, deck, driveway, accessory building, etc*
   - House 1778 Sq Ft
   - Driveway 660 Sq Ft
   - Walkway 121 Sq Ft
   - Accessory Buildings 96 Sq Ft
   - Pool & Spa
   - Deck & Patio 253 Sq Ft.
   - Other

   Actual Impervious Area (AIA) 2908 Sq Ft

3. If AIA is less than BASE, subtract AIA from BASE to determine the amount of impervious area that may be added without providing onsite retention.

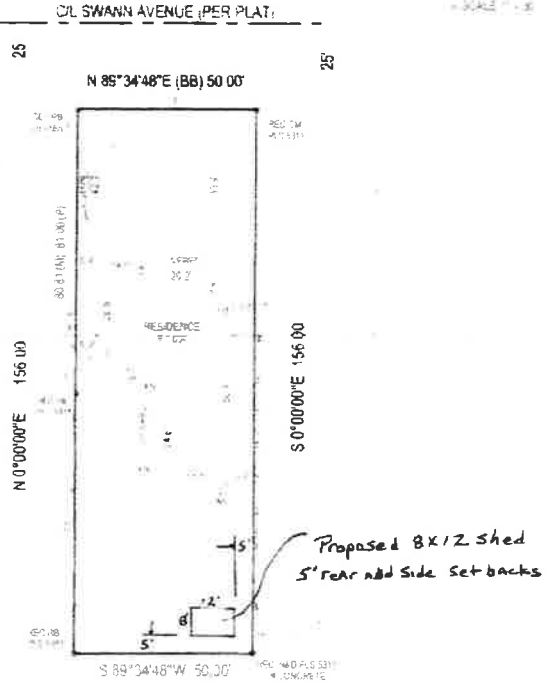
4. If AIA is greater than BASE, then onsite retention **must be provided.**

Assuming 7.5 inches of rainfall based on a 24hr 10 year Rain Event (TP40), the formula is: **(7.5 inches rainfall/12 inches p/foot) X (result from line 4) = cubic feet of storage volume needed**

Reviewed for Code Compliance
Universal Engineering Sciences

Boundary
Mapping
Associates Inc

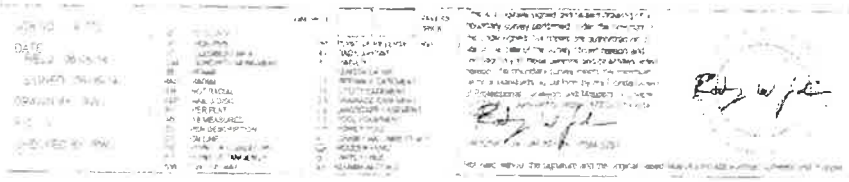
Property Address: 1405 SWANN AVENUE



ZONING
APPROVED
Date: 8/3/17 By:
City of Belle Isle

DESCRIPTION: LOT 1, SWANN PLACE, ACCORDING TO THE PLAT THEREOF AS RECORDED IN PLAT BOOK 79, PAGES 11 OF THE PUBLIC RECORDS OF ORANGE COUNTY, FLORIDA

CERTIFIED TO:
RALPH SMITH AND JERRI SMITH
W. THOMAS LOVETT, P.A.
FIDELITY NATIONAL TITLE INSURANCE COMPANY
COLE TAYLOR BANK, its Successors And/Or Assigns



20170781

THIS INSTRUMENT PREPARED BY:
Name: Tuff Shed
Address: 8524 E Colonial Drive, Orlando, FL 32817

DOC# 20170394650
07/14/2017 03:52:42 PM Page 1 of 1
Rec Fee: $10.00
Phil Diamond, Comptroller
Orange County, FL
MB - Ret To: TUFF SHED

NOTICE OF COMMENCEMENT

Permit Number:
Parcel ID Number: 25-23-29-8485-00-010

The undersigned hereby gives notice that improvement will be made to certain real property, and in accordance with Chapter 713, Florida Statutes, the following information is provided in this Notice of Commencement.

1. **DESCRIPTION OF PROPERTY:** (Legal description of the property and street address if available)
   Single Family Residence
   1406 Swann Ave
   Orlando, FL 32809
2. **GENERAL DESCRIPTION OF IMPROVEMENT:** 8x12 shed
3. **OWNER INFORMATION OR LESSEE INFORMATION IF THE LESSEE CONTRACTED FOR THE IMPROVEMENT:**
   Name and address: Jerri Smith 1406 Swann Ave Orlando, FL 32809
   Interest in property: Owner
   Fee Simple Title Holder (if other than owner listed above) Name:
   Address:
4. **CONTRACTOR:** Name: Tuff Shed Inc, License # CBC 1253645 Phone Number: 407-282-2444
   Address: 8524 E Colonial Drive, Orlando, FL 32817
5. **SURETY (If applicable, a copy of the payment bond is attached):** Name: N/A
   Address: Amount of Bond:
6. **LENDER:** Name: Phone Number:
   Address:

7. **Persons within the State of Florida Designated by Owner upon whom notice or other documents may be served as provided by Section 713.13(1)(a)7., Florida Statutes.**
   Name: N/A Phone Number:
   Address:
8. In addition, Owner designates _____ of _____
   to receive a copy of the Lienor's Notice as provided in Section 713.13(1)(b), Florida Statutes. Phone number:
9. Expiration Date of Notice of Commencement (The expiration is 1 year from date of recording unless a different date is specified)

WARNING TO OWNER: ANY PAYMENTS MADE BY THE OWNER AFTER THE EXPIRATION OF THE NOTICE OF COMMENCEMENT ARE CONSIDERED IMPROPER PAYMENTS UNDER CHAPTER 713, PART I, SECTION 713.13, FLORIDA STATUTES, AND CAN RESULT IN YOUR PAYING TWICE FOR IMPROVEMENTS TO YOUR PROPERTY. A NOTICE OF COMMENCEMENT MUST BE RECORDED AND POSTED ON THE JOB SITE BEFORE THE FIRST INSPECTION. IF YOU INTEND TO OBTAIN FINANCING, CONSULT WITH YOUR LENDER OR AN ATTORNEY BEFORE COMMENCING WORK OR RECORDING YOUR NOTICE OF COMMENCEMENT.

Jerri M Smith
(Signature of Owner or Lessee, or Owner's or Lessee's Authorized Officer/Director/Partner/Manager)

Jerri M. Smith
(Print Name and Provide Signatory's Title/Office)

State of Florida County of Orange

The foregoing instrument was acknowledged before me this 11th day of July, 2017

by Jerri M Smith (Name of person making statement). Who is personally known to me ☐ OR

who has produced identification ☒ type of identification produced: FLDL

Angelique Matthews
NOTARY PUBLIC
STATE OF FLORIDA
Comm# FF958412
Expires 2/8/2020

Angelique Matthews
Notary Signature

State of FLORIDA, County of ORANGE
I hereby certify that this is a true copy of the document as recorded in the Official Records
PHIL DIAMOND, COUNTY COMPTROLLER
BY: _____, D.C.
DATED: 7/14/17

SEAL

TUFF SHED
Storage Buildings & Garages

Tuff Shed, Inc. Multi-Jurisdictional

LIMITED POWER OF ATTORNEY

Date: July 6th, 2017

I hereby name and appoint: Richard Riggins

an agent of: Tuff Shed, Inc.
(Name of Company)

to be my lawful attorney-in-fact to act for me to apply for, receipt for, sign for and do all things necessary to this appointment for (**check only one option**):

[XX] All permits and applications submitted by this contractor.

Or

[ ] The specific permit and application for work located at:

_____
(Street Address)

Expiration Date for This Limited Power of Attorney: July 6th, 2019

License Holder Name: Tom Saurey

State License Number: CBC1253645

Signature of License Holder: _____

STATE OF COLORADO
COUNTY OF DENVER

The foregoing instrument was acknowledged before me this 6th day of July, 2017, by Tom Saurey, who is personally known to me and did not take an oath.

_____
Signature of Notary

STEPHANIE BUTLER
NOTARY PUBLIC
STATE OF COLORADO
NOTARY ID 20024017819
MY COMMISSION EXPIRES OCTOBER 11, 2017

Stephanie Butler
Print or type Notary name

Notary Public - State of Colorado
Commission No. 20024017819
My Commission Expires: October 11, 2017

CITY OF BELLE ISLE, FLORIDA

1600 Nela Avenue
Belle Isle, Florida 32809
(407) 851-7730 • FAX (407) 240-2222
www.cityofbelleislefl.org

POWER OF ATTORNEY

Date: July 2017 Permit #: _____

I hereby name and appoint Richard Riggins (print name) of

Tuff Shed, Inc. (company name) to be my lawful attorney-in-fact to act for

me and apply to the City of Belle Isle Building Department for a Bldg (type of permit) permit

for work to be performed at the following location:

1406 Suann AVE (street address), Belle Isle, FL ☒ 32809 ☐ 32812 and

to sign my name and do all things necessary to this appointment.

Certified Contractor's Printed Name: Tom Saurey

License Number: CBC1253645

Certified Contractor's Signature: _____

The foregoing instrument was acknowledged before me this 10 days of July of 20 17

by Tom Saurey who is personally known to me.

State of Colorado
County of Denver

_____
Notary Public Denver County, Colorado

NOTARY PUBLIC
STATE OF COLORADO
NOTARY ID 20174023626
MY COMMISSION EXPIRES JUNE 6, 2021

(seal)

Revised 07-2012

Tuff Shed, Inc.
State of Florida License #CBC1253645
Product Approval (NOA) Cover Sheet

Customer Name: RALPH SMITH
Address:
Permit # 2017-07-081

As required by Florida Statue 553.842 and Florida Administrative Code 9B-72m. Please provide the information an approval numbers for the building components listed below if they will be utilized on the building or structure. Florida approved products are listed on line at www.floridabuilding.org or can be obtained from the local product supplier.

All Products listed are per Florida Building Code 2014 5th Edition

Standard Shed Materials						
X	Product Type	Manufacturer	Model#/	FL product	HVHZ	Exp Date
	Siding (Lap)	LP Corp	Lap	FL9190.5-R4	YES	06/01/17
x	Siding (Panel)	LP Corp	Panel	FL9190.6-R4	YES	06/01/17
	Window - Single	Croft LLC	Series 96	FL15585.1-R4	NO	09/27/20
x	Window - Sliding	Tafco Corp	Series 82000	FL20743.1	NO	06/17/26
	Fixed Tansom	Innovations Inc.	Transom	FL17667	NO	12/31/18
	Roof underlayment	Woodland industries	15lb Felt	FL17206.1-R3	YES	06/24/24
	Asphalt Shingles	Owens Corning	Oakridge	FL10674.1-R12	NO	08/20/17
	Door (Double)	Tuff Shed, Inc.	Premier - Double Door	FL22202.1	YES	04/17/27
	Door (Single)	Tuff Shed, Inc.	Premier - Single Door	FL22202.2	YES	04/17/27
	Door (Double)	Tuff Shed, Inc.	Sundance - Double Door	FL22202.3	YES	04/17/27
	Door (Single)	Tuff Shed, Inc.	Sundance - Single Door	FL22202.4	YES	04/17/27
Custom Materials Used						
	Siding (Lap)	James L Hardie	Lap	FL10477.1-R4	YES	
	Steel Door - Inswing	JELD-WEN	6 panel / 3068 / Inswing	FL11136.1-R5	NO	08/31/20
	Steel Door - Outswing	JELD-WEN	6 panel / 3068 / Outswing	FL11136.2-R5	NO	08/31/20
	Full lite Door	JELD-WEN	3068	FL17454.1-R0	NO	12/31/19
	Full lite Door	JELD-WEN	6068			
	9 lite Door	JELD-WEN	3068			
	Metal Roofing	Thompson Arch Metal Company	5V Crimp	FL5218-R2.2	NO	12/31/19
x	Metal Roofing	Thompson Arch Metal Company	TM Rib	FL5218-R2.1	NO	12/31/19
x	Flood Vents	Flood Solutions LLC	Foundation	FL17588		03/31/18

Reviewed for Code Compliance
Universal Engineering Sciences

CBUCK Engineering

Specialty Structural Engineering

CBUCK, Inc. Certificate of Authorization #8064

Evaluation Report

"TM Rib"

Metal Roof Assembly

Manufacturer:

Thompson Architectural Metals Company (TAMCO)

5015 E. Hillsborough Avenue

Tampa, FL 33605

(800) 248-3456

for

Florida Product Approval

FL 5218.1 R2

Florida Building Code 5th Edition (2014)

Method:	**1 - D**
Category:	**Roofing**
Sub - Category:	**Metal Roofing**

Product:	"TM Rib"
Material:	Steel
Panel Width:	36"
Support:	Wood Deck

Reviewed for Code Compliance Universal Engineering Sciences

Prepared by:

James L. Buckner, P.E., S.E.C.B.
Florida Professional Engineer # 31242
Florida Evaluation ANE ID: 1916
Project Manager: Diana Galloway
Report No. 15-138-Rib-S9W-ER
(Revises 11-217-Rib-S9W-ER)
Date: 4 / 13 / 15

Contents:

Secure Electronic Seal for Electronic Submittal
JAMES L. BUCKNER LICENSE No 31242 STATE OF FLORIDA PROFESSIONAL ENGINEER

Digitally Signed by: James L. Buckner, P.E.
2015.04.27 09:58:14 -04'00'

CBUCK, Inc.
1399 N. Killian Drive, Suite 4, West Palm Beach, Florida 33403
Phone: (561)491-9927 Fax: (561)491-9928 Website: www.cbuckinc.net

Manufacturer:	**TAMCO**
Product Name:	**"TM Rib"**
Product Category:	Roofing
Product Sub-Category	Metal Roofing
Compliance Method:	State Product Approval Rule 61G20-3.005 (1) (d)
Product/System Description:	"TM Rib" 29 gauge Steel roof panel mechanically attached to Plywood Deck with screws.
Product Assembly as Evaluated:	Refer to Page 4 of this report for product assembly components/materials & standards: 1. Roof Panel 2. Fasteners 3. Adhesive 4. Underlayment
Support:	**Type:** Wood Deck (Design of support and its attachment to support framing is outside the scope of this evaluation.) **Description:** • 19/32" (min.) or greater plywood, • or Wood plank (min. specific gravity of 0.42)
Slope:	In compliance with FBC Chapter 15 based on the type of roof covering, applicable code sections and in accordance with manufacturer's recommendations.
Performance:	Wind Uplift Resistance: • Design Uplift Pressure: **Refer to Table "A"** (Refer to "Table A" attachment details herein)

Performance Standards: The product described herein has demonstrated compliance with:

- UL580-06 – *Test for Uplift Resistance of Roof Assemblies*
- UL 1897-04 – *Uplift test for roof covering systems*

Standards Equivalency: The UL 580-94 & UL 1897-98 standard version used to test the evaluated product assembly is equivalent with the prescribed standards in UL 580-06 & UL 1897-04 adopted by the Florida Building Code 5th Edition (2014).

Code Compliance: The product described herein has demonstrated compliance with Florida Building Code 5th Edition (2014), Section 1504.3.2.

Evaluation Report Scope: This product evaluation is limited to compliance with the structural requirements of the Florida Building Code, as related to the scope section to Florida Product Approval Rule 61G20-3.001.

Limitations and Conditions of Use:

- Scope of "Limitations and Conditions of Use" for this evaluation:
  This evaluation report for "Optional Statewide Approval" contains technical documentation, specifications and installation method(s) which include "Limitations and Conditions of Use" throughout the report in accordance with Rule 61G20-3.005. Per Rule 61G20-3.004, the Florida Building Commission is the authority to approve products under "Optional Statewide Approval".
- Option for application outside "Limitations and Conditions of Use"
  Rule 61G20-3.005(1)(e) allows engineering analysis for "project specific approval by the local authorities having jurisdiction in accordance with the alternate methods and materials authorized in the Code". Any modification of the product as evaluated in this report and approved by the Florida Building Commission is outside the scope of this evaluation and will be the responsibility of others.
- Design of support system is outside the scope of this report.
- Fire Classification is outside the scope of Rule 61G20-3, and is therefore not included in this evaluation.
- This evaluation report does not evaluate the use of this product for use in the High Velocity Hurricane Zone code section. (Dade & Broward Counties)

Quality Assurance: The manufacturer has demonstrated compliance of roof panel products in accordance with the Florida Building Code and Rule 61G20-3.0005 (3) for manufacturing under a quality assurance program audited by an approved quality assurance entity through **Keystone Certifications, Inc.** (FBC Organization #: QUA 1824).

Components/Materials (by Manufacturer):

Roof Panel: **TM Rib**

Material:	Steel
Thickness:	29 gauge (min.)
Panel Width:	36" (max.) Coverage
TM Rib Height:	3/4"
Yield Strength:	40 ksi min.
Corrosion Resistance:	In compliance with FBC Section 1507.4.3: • ASTM A792 coated, or • ASTM A653 G90 galvanized steel

Fastener:

Type:	Hex-Head Wood Screw with WSW
Size :	#9 x 1-1/2"
Corrosion Resistance:	Per FBC Section 1506.6 and 1507.4.4
Standard:	Per ANSI/ASME B18.6.1

Underlayment:
Material and application shall be in compliance with FBC Chapter 15 based on the type of roof covering, applicable codes and in accordance with manufacturer's recommendations.

Seam Adhesive/Sealant:

Product Name:	3M Scotch-Seal
Type:	One component, polyurethane adhesive
Application Size:	3/8" bead
Application Location:	along male flange the full length of panel

Installation:

Installation Method:
(Refer to drawings at the end of this report.)

- Fastener spacing: **Refer to Table "A" Below** (along the length of the panel)
- Row Spacing: **Refer to Table "A" Below** (along the row, across the panel profile)
- Rib Interlock: Lapped
- Minimum fastener penetration thru bottom of support, 3/16".
- For panel construction at the end of panels, refer to manufacturer's instructions and any site specific design.

TABLE "A"
ALLOWABLE LOADS

	Fastener Spacing	Row Spacing	Adhesive	**Design Pressure (PSF)**
METHOD 1	5",4",5",4",... Pattern	24"	3/8" bead along male flange	**- 86**
METHOD 2	5",4",5",4",... Pattern	12"	3/8" bead along male flange	**- 101**

Notes:
- Allowable design pressure(s) for allowable stress design (ASD).

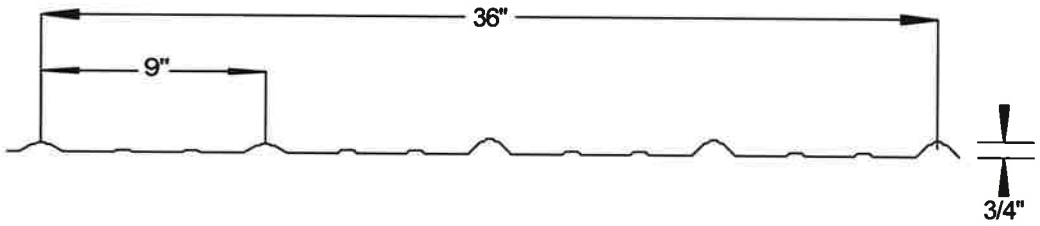
Install the "TM Rib" roof panel assembly in compliance with the installation method listed in this report and applicable code sections of FBC 5th Edition (2014). The installation method described herein is in accordance with the scope of this evaluation report. Refer to manufacturer's installation instructions as a supplemental guide for attachment.

Referenced Data:

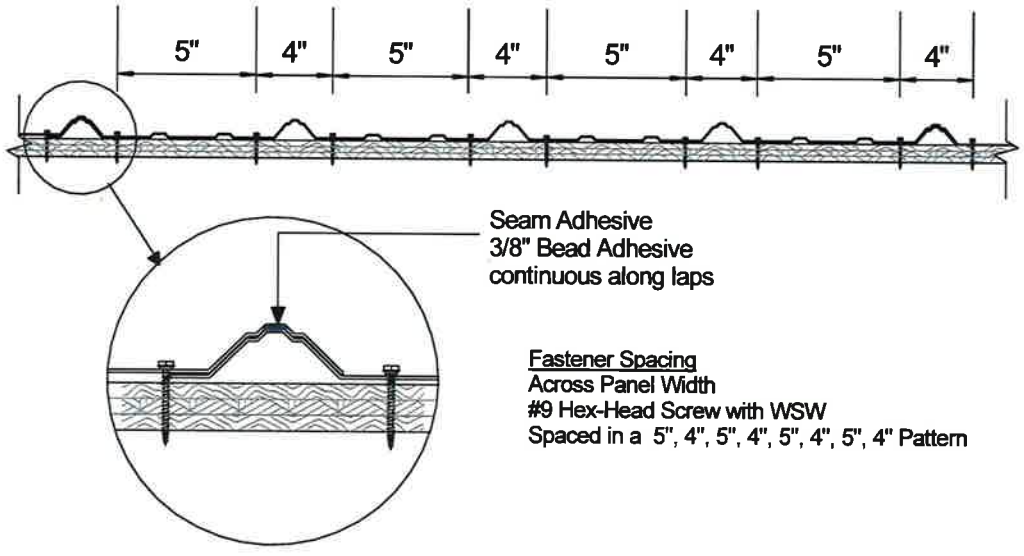
1. UL580-94 & UL 1897-98 Uplift Test
   By Hurricane Test Laboratory, LLC (FBC Organization #TST ID: 1527)
   Report # 0297-0322-03 #1, 2, & 3, Date: 8/25/03
2. Quality Assurance
   By Keystone Certifications, Inc. (QUA ID: 1824)
   Thompson Architectural Metals Company Licensee # 260
3. Equivalency of Test Standard Certification
   By James L. Buckner, P.E. @ CBUCK Engineering
   (FBC Organization # ANE 1916)
4. Certification of Independence
   By James L. Buckner, P.E. @ CBUCK Engineering
   (FBC Organization # ANE 1916)

Installation Method
TAMCO
"TM Rib" Roof Panel Attached to Wood Deck

Profile Drawings

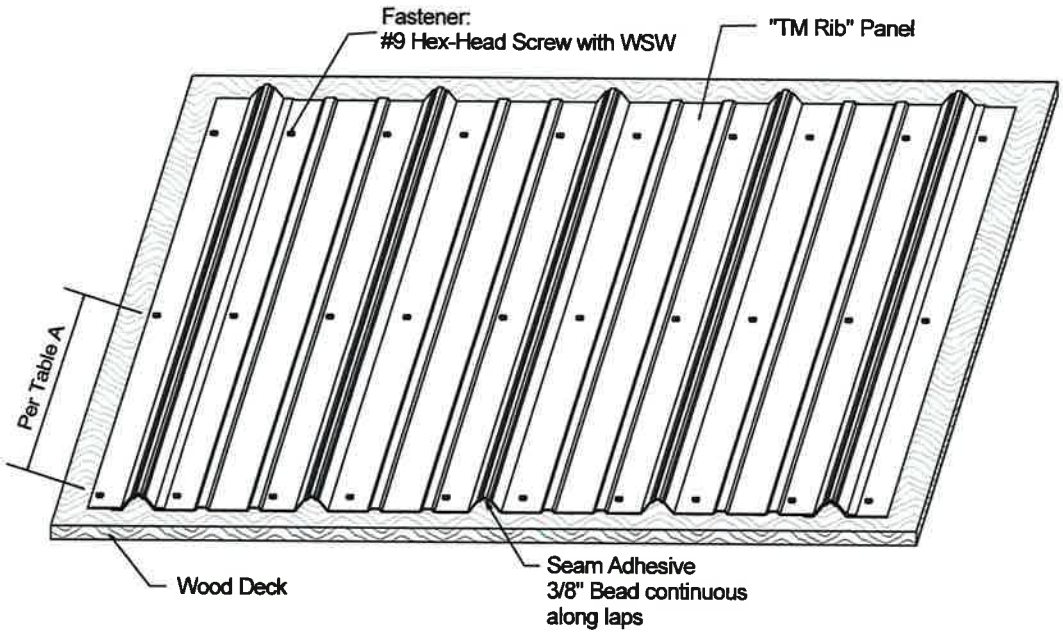


Typical Panel Profile View



Typical Assembly Profile View

Installation Method
TAMCO
"TM Rib" Roof Panel Attached to Wood Deck



Typical Assembly Isometric View

TABLE "A"				
	Fastener Spacing	Row Spacing	Adhesive	**Design Pressure (PSF)**
METHOD 1	5",4",5",4", ... Pattern	24"	3/8" bead along male flange	**- 86**
METHOD 2	5",4",5",4", ... Pattern	12"	3/8" bead along male flange	**- 101**

APPLICATION INSTRUCTIONS

LP SMARTSIDE®
TRIM & SIDING

PRECISION 38, 76 AND 190 SERIES
PRIMED PANEL SIDING
INCLUDING SILVERTECH & SMARTFINISH

General

- At the time of manufacture, siding meets or exceeds the performance standards set forth in ICC-ES-AC321 and has achieved code recognition under ESR-1301, CCNC 11826, APA recognition under PR-N124, and HUD recognition under HUD-MR-1318. For copies of ESR-1301, call LP Customer Support at 1-800-648-6893 or go online at http://www.ice-es.org/reports/pdf_files/ICC-ES/ESR-1301.pdf or http://www.apawood.org.
- Precision Series panel siding with SILVERTECH or SMARTFINISH is specifically for sheds and other outdoor structures where the interior wall cavities will remain permanently exposed.
- Minimum 6 in. clearance must be maintained between siding and finish grade.
- Siding applied adjacent to porches, patios, walks, etc. must have a clearance of at least 1 in. mm above any surface.
- Minimum 1 in. clearance at intersection with roof line
- Apply siding in a manner that prevents moisture intrusion and water buildup.
- All exposed wood substrate must be sealed in a manner that prevents moisture intrusion and water buildup.
- LP does not recommend LP SmartSide Panel for use in ICF and SIP assemblies. If used, LP will not warrant for Buckling and Shrinkage. However, balance of warranty does remain intact.
- DO NOT USE STAPLES
- SIDING MUST NOT BE IN DIRECT CONTACT WITH MASONRY, CONCRETE, BRICK, STONE, STUCCO OR MORTAR.

Storage

- Store off the ground well supported, on a flat surface, under a roof or separate waterproof covering
- Keep siding clean and dry. Inspect prior to application.

Stud Spacing

- Precision 38 and 76 Series panel siding must be installed on 16 in. O.C. framing only. When installing on 24 in. O.C. framing, Precision Series 190 Series panel siding is required.
- In all installations over masonry or concrete walls, the wall shall be furred out and open at the top and bottom of the wall to allow for convective ventilation between framing spaced 16 in. O.C. The framing shall be of adequate thickness to accept 1-1/2 inches of nail penetration. A properly installed breathable water-resistant barrier is required between the siding and masonry or concrete walls.

Moisture

- Moisture control and water vapor control are critical elements of proper housing design. Check your local building codes for application procedures for handling moisture and water vapor in your area.
- When using wet blown cellulose insulation, the insulation must not be in direct contact with the siding and it must be allowed to dry a minimum of 24 hours or longer if specified by the insulation manufacturer.
- As with all wood products, do not apply engineered wood siding to a structure having excessive moisture conditions such as drying concrete, plaster or wet blown cellulose insulation. If such conditions exist, the building should be well ventilated to allow it to dry prior to the application of the siding.
- Siding must not be applied to green or crooked structural framing members. Do not apply siding over rain-soaked or buckled sheathing materials.
- Gutters are recommended for control of roof water run off.

Secondary Water-Resistant Barrier

- A properly installed breathable water-resistive barrier is required behind the siding. Consult your local building code for details.
- LP will assume no responsibility for water penetration.
- Precision Series panel siding with SILVERTECH or SMARTFINISH does not require a secondary water-resistant barrier. Limited to sheds and other outdoor structures.

Gaps & Sealants

- Seal all gaps with a high-quality, non-hardening, paintable sealant. Follow the sealant manufacturer's instructions for application.
- Use a high-quality exterior sealant meeting the ASTM C920, minimum Class 25 sealant.

Flashing, Windows, Doors & Openings

- All openings must be properly sealed or flashed in a manner that prevents moisture intrusion or buildup. Several examples that accomplish this are shown on the following pages.

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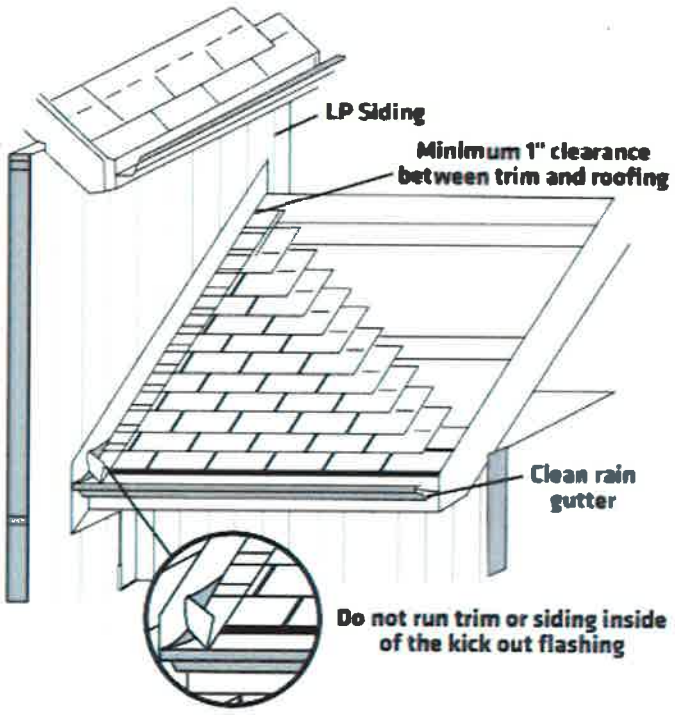
Universal Engineering Sciences

Application instructions (cont.)

Kick-Out Flashing

- Install kick-out flashing to direct the water into the gutter
- Install step flashing with minimum 4 in. upper leg
- Properly integrate flashing with the secondary water-resistive barrier. Use housewrap, flashing tape, z-flashing, or other items as needed to maintain the counterflashing principle.
- DO NOT extend the siding or trim into the kick-out flashing or gutter
- Maintain a clearance between the end of the gutter and the adjoining wall to allow for proper maintenance of the siding
- Prime and paint ALL exposed cut edges



Trim

Trim should be thick enough so the siding does not extend beyond the face of the trim.

- Trim and fascia must be applied in a manner that will not allow moisture intrusion or water buildup.
- LP® SmartSide® siding is not designed and/or manufactured to be used as trim or fascia. LP SmartSide trim and fascia are available in a variety of dimensions.

Finishing Instructions

DO

- **Prime and paint all exposed surfaces including all drip edges or where water will hang.**
- Apply finish coat as soon as possible or within 180 days of application.
- High-quality acrylic latex paint, specially formulated for use on wood and engineered wood substrates, is highly recommended. Semi-gloss or satin finish oil or alkyd paints are acceptable. For flat alkyd paint, please check with the coating manufacturer for their recommendations for use on composite wood siding.
- Follow the coating manufacturer's application and maintenance instructions.

DO NOT USE

- Semi-transparent and transparent stains.
- Shake and shingle paints.
- Vinyl-based resin formulas such as vinyl acetate, PVA, vinyl acetate/acrylic copolymer paints.

HANDLE PREFINISHED LP SMARTSIDE PRODUCTS WITH EXTREME CARE DURING STORAGE AND APPLICATION. TOUCH UP ANY DAMAGE TO THE FINISH THAT MAY OCCUR DURING APPLICATION PER PREFINISHERS SPECIFICATIONS.

Nailing Instructions

- In braced wall assemblies, use minimum 6d (0.113 in. shank diameter, 0.270 head diameter), hot-dipped galvanized nails for 38 and 76 Series panels and minimum 8d (0.131 in. shank diameter, 0.290 head diameter) for 190 Series panels. Do not use electroplated fasteners. Refer to your local building code to verify the minimum allowable fastener size.
- Penetrate structural framing or wood structural panels and structural framing a minimum of 1-1/2 in.
- For 38 Series panels, double nailing procedure meets wall bracing requirements and $^{5}/_{16}$ in. shear wall design values.

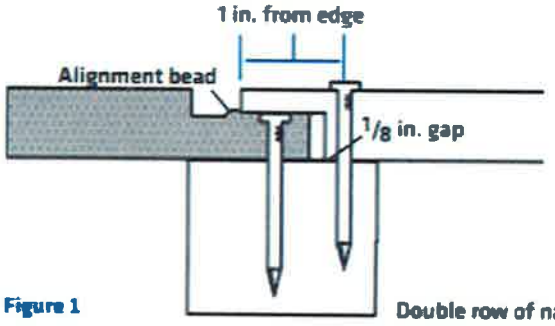


Figure 1

- For 76 and 190 Series panels, single nailing meets wall bracing requirements. To meet the equivalent $^{3}/_{8}$ in. shear wall design values, double nailing procedures must be used. It may be necessary to angle drive the second nail in order to penetrate the framing. Seal nails driven below the surface.

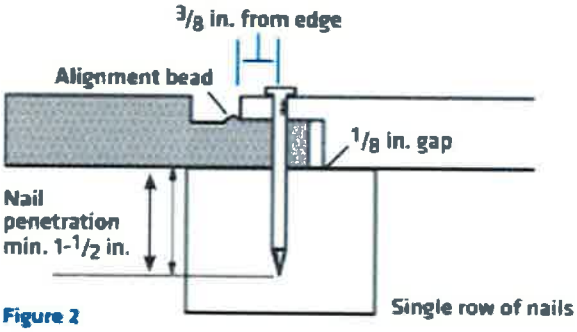


Figure 2

- Shear values for panels applied directly to studs shall be no greater than noted in Table 1 of the ICC-ES Report ESR-1301 or Table 1 of APA PR-N 124.
- **Not warranted for application on SIP and ICF assemblies.**

CAUTION

- 38 and 76 Series panels must be installed on 16 in. O.C. framing only. When installing on 24 in. O.C. framing, 190 Series panels are required.
- Backside of panel must not come in contact with masonry or concrete foundation.
- Do not force siding into place. Maintain the illustrated 1/8 in. space behind the joint to allow for expansion while the panel equilibrates with the local environment.
- LP® SmartSide® Panel siding must not be attached by stapling.
- DO NOT INSTALL OVER ALIGNMENT BEAD. Install panels in light contact to the edge of alignment bead. (see Figure 1 and Figure 2)
- Climb cut the surface of the siding such that the rotation of the blade cuts downward on the primed or prefinished surface.
- Where siding butts window trim, door casings and masonry, etc. leave a 3/16 in. gap and seal.

Insulated Sheathings

LP SmartSide Sidings may be installed over low-compression rigid foam or exterior gypsum. The following precautions must be followed:

a) Adequate bracing of the wall in accordance with the International Codes or other ruling building code is required.

b) For rigid foam sheathing up to 1" (25.4 mm) thick, siding may be nailed directly to the foam sheathing unless a drainage plane is required by the local building code. Nail length must be increased to ensure a minimum 1-1/2" (38.1 mm) fastener penetration into the structural framing.

c) For rigid foam sheathing greater than 1 in. (25.4 mm), a minimum 1-1/2 in. (38.1 mm) thick by 3-1/2 in. (88.9 mm) wide vertical strapping or furring strip must be installed over the sheathing to provide a solid, level nailing base for the siding. The strapping must be securely fastened to structural framing spaced no greater than 16 in. O.C. (406 mm) with a minimum nail penetration of 1-1/2 in. (38.1 mm) and a maximum nail spacing no greater than the width of the siding.

Louisiana-Pacific will assume no responsibility for any damage or condition arising from the use of rigid foam or exterior gypsum.

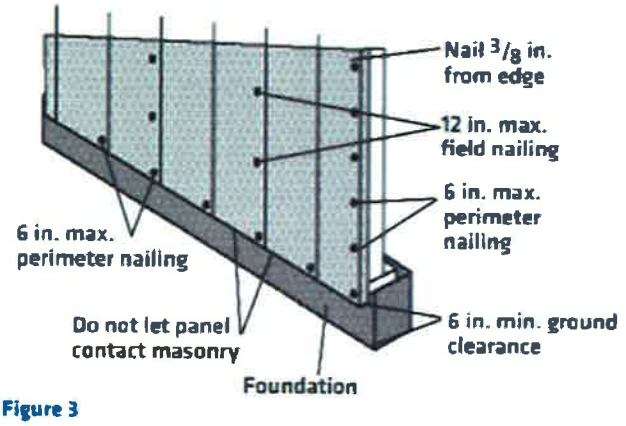
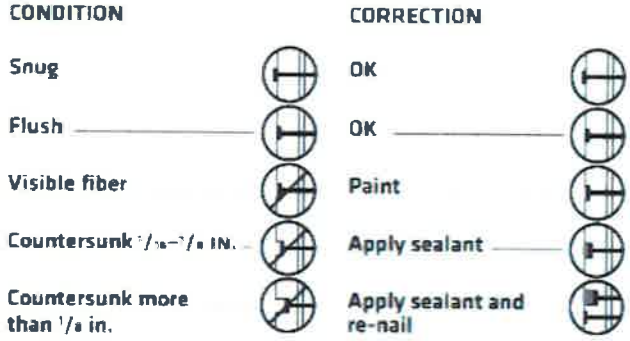


Figure 3



1 IN. ROOF & CHIMNEY CLEARANCE

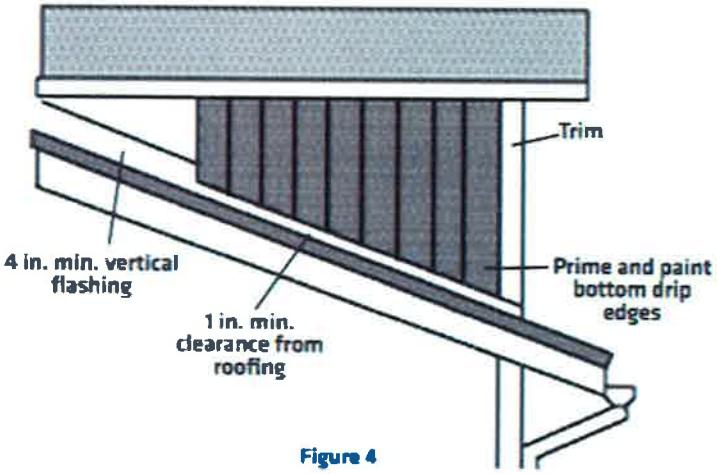


Figure 4

LP SMARTSIDE PANEL SIDING JOINT DETAILS

HORIZONTAL WALL JOINTS

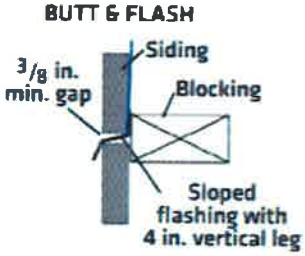


Figure 5A

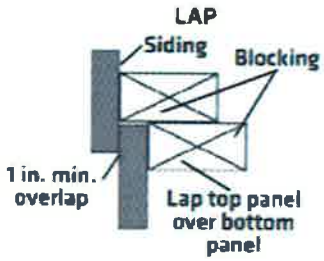


Figure 5B

LAPPED HORIZONTAL WALL JOINT

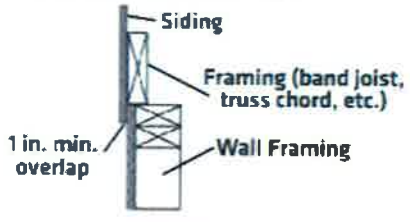


Figure 5C

LP SmartSide Panel Siding Joint Details (cont.)

HORIZONTAL BELTLINE JOINTS

For multi-story buildings, make provisions at horizontal joints for "setting" shrinkage of framing, especially when applying siding directly to studs.

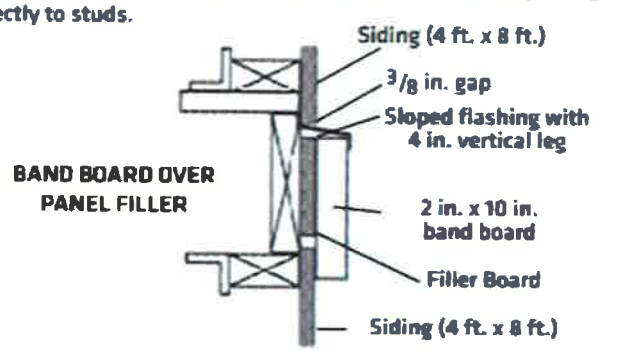


Figure 6

Siding Must Not Contact Masonry

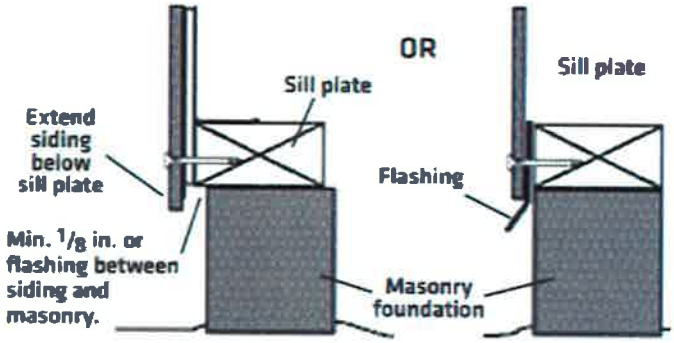


Figure 7A

OR

Figure 7B

Gap, Flash Doors & Windows

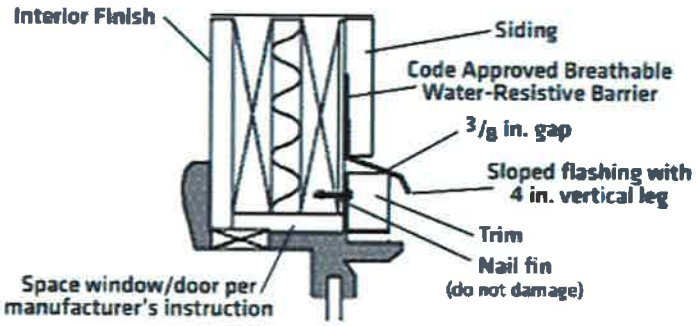
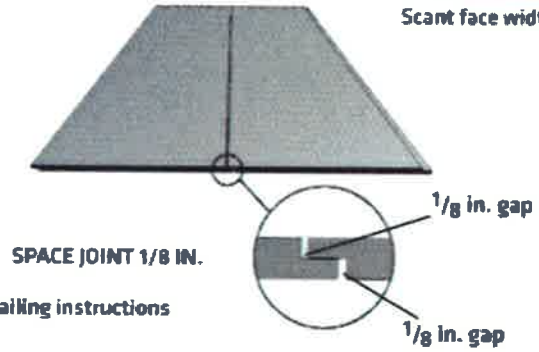


Figure 8

4 ft. x 8 ft. Ungrooved Shiplap Panel

Figure 9



LP panel sidings are accepted by the State of California as category 8140- Exterior wall siding and sheathing for Wildland Urban Interface (WUI) applications. For WUI compliance, install LP panel sidings in accordance with Louisiana-Pacific's printed installation instructions with the addition of fire retardant seal (UL Listed fire caulk, nominal ¼"bead) in the vertical joint and nailing pattern of 3" OC perimeter nailing/8" OC field nailing. Look for the California State Fire Marshal Office label on our siding.

The Louisiana-Pacific Corporation ("LP") LP SmartSide Siding (the "Products") limited warranty (the "Warranty") applies only to structures on which the Products have been applied, finished and maintained in accordance with the published application, finishing and maintenance instructions in effect at the time of application. The failure to follow such application, finishing or maintenance instructions will void the Warranty as to the portion of the Products affected by the variance (the "Affected Products").

LP assumes no liability for any loss or damage sustained by the Affected Products and is expressly released by the purchaser or owner from any such loss or liability.

Any modification of the Warranty's application, finishing or maintenance requirements is void and unenforceable unless approved in writing prior to application by the Siding General Manager or his designee and a member of the LP Legal Department.

For a copy of the warranty or for installation and technical support, visit the LP SmartSide product support Web site at:

www.lpsmartside.com

or for additional support call 800-450-6106.

WARRANTY REMEDIES ARE NOT AVAILABLE IF REQUIREMENTS ARE NOT FOLLOWED.

Cal. Prop 65 Warning: Use of this product may result in exposure to wood dust, known to the State of California to cause cancer.

LP BUILDING PRODUCTS

SMARTSIDE®

TRIM & SIDING

NOTE: Louisiana-Pacific Corporation periodically updates and revises its product information. To verify that this version is current, call 800-450-6106.

alternate inside corner details

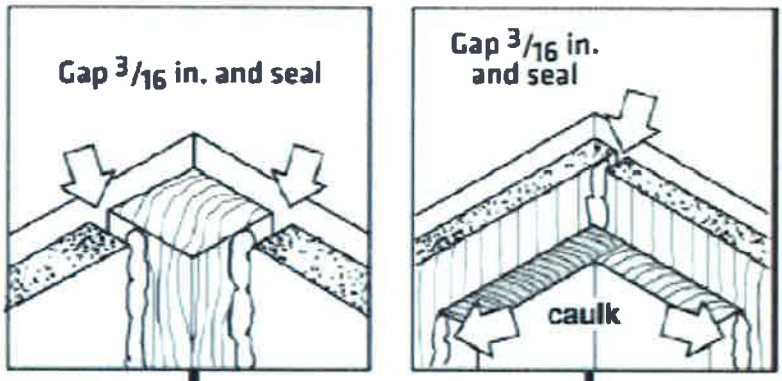
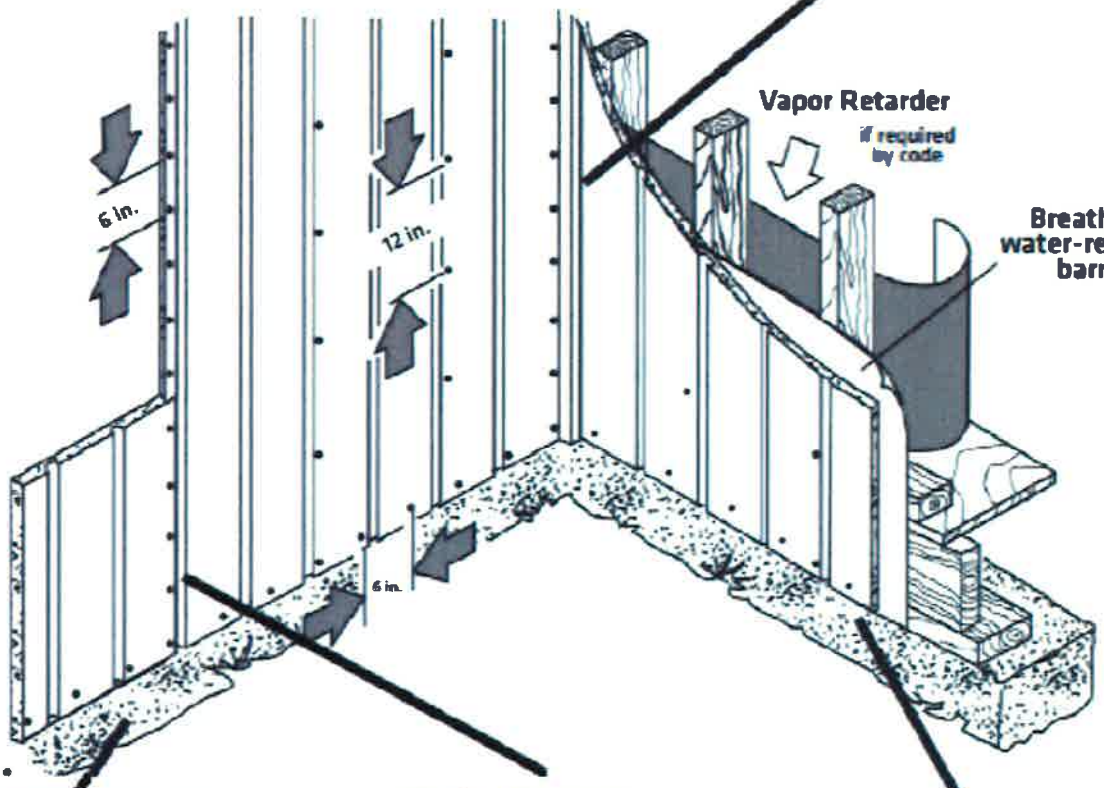
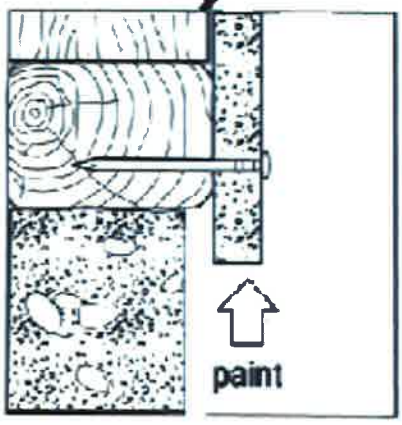


Figure 10A

Figure 10B

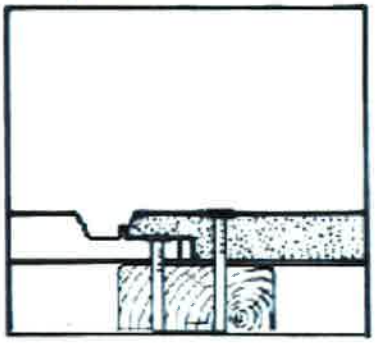
Figure 10





bottom course detail

Figure 10E



panel joint

Figure 10D

ground clearance

Figure 10C

APA PRODUCT REPORT

www.apawood.org

LP® SmartSide® Precision Series Treated-Engineered-Wood Lap & Panel Siding Louisiana-Pacific Corporation

PR-N124

Revised July 2, 2014

Product: LP® SmartSide® Precision Series Treated-Engineered-Wood Lap and Panel Siding
Louisiana-Pacific Corporation, 414 Union Street, Suite 2000, Nashville, TN 37219
(800) 450-6106
www.lpcorp.com

1. Basis of the product report:
   - 2012 and 2009 International Building Code: Section 104.11 Alternative Materials
   - 2012 and 2009 International Residential Code: Section R104.11 Alternative Materials
   - ANSI/AF&PA SDPWS-2008 Special Design Provisions for Wind and Seismic
   - ASCE 7-10 and ASCE 7-05 Minimum Design Loads for Buildings and Other Structures
   - ICC-ES Acceptance Criteria for Treated-Engineered-Wood Siding, AC321
   - APA PRP-108 Performance Standards and Qualification Policy for Structural-Use Panels
   - NES Evaluation Protocol for Determination of Flood-Resistance Properties of Building Elements
   - APA Reports R&D 87Q-1, T87Q-45, T91Q-11, T91Q-20, T97Q-4, T97Q-10, T98Q-13, T98Q-17, T99Q-23, T2008Q-12, T2008P-73, T2008P-74, T2009Q-54, T2011Q-59, T2012P-22, and other qualification data.

2. Product description:
   Louisiana-Pacific Corporation (LP®) SmartSide® Precision Treated-Engineered-Wood Lap and Panel siding is overlaid with a resin treated paper and is available with either a smooth or embossed surface texture. The siding is available as laps or panels. The siding is treated with Zinc Borate for decay and insect resistance. All edges are factory sealed with a primer.

   LP® SmartSide® Precision Series Treated-Engineered-Wood lap siding is available in 3/8 and 7/16 Performance Categories, in nominal widths of 6, 8 and 12 inches and in lengths up to 16 feet.

   LP® SmartSide® Precision Series panel siding is available in 3/8, 7/16 and 19/32 Performance Categories, 4-foot width and in lengths of 8, 9, and 10 feet. The 3/8 Performance Category panels are available without grooves or with grooves spaced 8 inches on center. The 7/16 and 19/32 Performance Category panels are available without grooves or with grooves spaced either 4 or 8 inches on center. Minimum thicknesses at the groove and shiplap are documented in the plant Quality Manual.

3. Design properties:
   Allowable racking loads for LP® SmartSide® Precision Series panel siding are listed in Table 1. For 3/8 Performance Category panels nailed at shiplap edges, use 5/16 Performance Category shear values. For 7/16 and 19/32 Performance Category panel sidings nailed at shiplap edges, use 3/8 Performance Category shear values. Design wind loads LP® SmartSide® Precision Series lap and panel siding are listed in Tables 2 and 3, respectively.

4. Product installation:
   LP® SmartSide® Precision Series Treated-Engineered-Wood Lap and Panel sidings shall be installed in accordance with recommendations provided by the manufacturer (www.lpcorp.com/smartside/lap/ and www.lpcorp.com/smartside/panel/) and APA *Engineered Wood Construction Guide*, Form E30 (www.apawood.org/publications). The

maximum span shall be in accordance with the Span Rating shown in the trademark. The LP® SmartSide® Precision Series lap siding shall be permitted to be installed over the facer of structural insulated panels (SIPs) in accordance with Table 4.

5. Fire-resistant construction:
Wood structural panels that are not fire-retardant-treated have been shown to meet a Class III (or C) category for flame spread. Unless otherwise specified, fire-resistant construction shall be in accordance with the recommendations in APA *Fire-Rated Systems*, Form W305 (see link above).

6. Flood resistance evaluation:
Selected properties critical to flood resistance of 3/8 and 7/16 Performance Category panel siding, including uniform loads, concentrated static loads, concentrated hard body and soft body impact loads, fastener performance, wall racking resistance, edge thickness swell, linear expansion, hygroscopicity, exterior bond performance and large panel and small specimen bending properties were evaluated at a 16 o.c. Span Rating in accordance with *NES Evaluation Protocol for Determination of Flood-Resistance Properties of Building Elements*. Test results in the dry (as-received) condition and after moisture cycling in accordance with the NES protocol were compared to the requirements specified in ICC Evaluation Service (ICC-ES) *Acceptance Criteria for Treated-Engineered-Wood Siding* (AC321).

7. Limitations:
   a) LP® SmartSide® Precision Series Treated-Engineered-Wood Lap and Panel siding used outdoors must be finished in accordance with recommendations provided by the manufacturer (see links above) and APA *Engineered Wood Construction Guide*, Form E30 (see link above).
   b) LP® SmartSide® Precision Series Treated-Engineered-Wood panel siding is flood resistant on the following properties: uniform loads, concentrated static loads, concentrated hard body and soft body impact loads, fastener performance, wall racking resistance, edge thickness swell, linear expansion, hygroscopicity, exterior bond performance and large panel and small specimen bending properties. This evaluation applies to 3/8 and 7/16 Performance Category panel siding at a 16 o.c. Span Rating.
   c) LP® SmartSide® Precision Series Treated-Engineered-Wood Lap and Panel siding is produced at Louisiana-Pacific Corporation facilities at Hayward, WI, Newberry, MI, Tomahawk, WI, and Two Harbors, MN under a quality assurance program audited by APA.
   d) This report is subject to re-examination in one year.

8. Identification:
LP® SmartSide® Precision Series Treated-Engineered-Wood Lap and Panel siding described in this report is identified by a label bearing the manufacturer's name (Louisiana-Pacific Corporation) and/or trademark, the APA assigned plant number (357 for the Hayward plant, 416 for the Newberry plant, 435 for the Tomahawk plant, or 399 for the Two Harbors plant), the product Performance Category, the Span Rating, the Exposure Rating, the APA logo, the report number PR-N124, and a means of identifying the date of manufacture.

Table 1. Allowable Racking Shear (plf) for LP® SmartSide® Precision Series Treated-Engineered-Wood Panel Siding – Sheathing Shear Walls with Framing of Douglas-Fir-Larch or Southern Pine for Wind or Seismic Loading[1,2,3]

Performance Category	Minimum Nail Penetration In Framing (in.)	Panels Applied Directly to Framing					Panels Applied over 1/2-inch or 5/8-inch Gypsum Sheathing				
		Nail Size (Common or Galvanized Box)	Nail Spacing at Panel Edges (in.)				Nail Size (Common or Galvanized Box)	Nail Spacing at Panel Edges (in.)			
			6	4	3	2[4]		6	4	3	2[4]
5/16[5,6]	1-1/4	6d	180	270	350	450	8d	180	270	350	450
3/8[5,6]			200	300	390	510		200	300	390	510
3/8[5,6]	1-1/2	8d	220	320	410	530	10d	260	380	490[4]	640
7/16[5]			240	350	450	585		260	380	490[4]	640
19/32[5]	1-5/8	10d	340	510	665[4]	870	-	-	-	-	-

For SI: 1 inch = 25.4 mm, 1 plf = 14.6 N/m.

(1) For framing of other species: (a) Find specific gravity for species of lumber in AF&PA National Design Specification; (b) find shear value from table for nails size; (c) multiply value by 0.82 for species with specific gravity greater than or equal to 0.42 but less than 0.49, or 0.65 for species with specific gravity less than 0.42.

(2) All panel edges must be backed with 2-inch nominal or wider framing. Panels must be installed with the long dimension oriented in the vertical direction. Space nails 6 inches o.c. along intermediate framing members for 3/8 and 7/16 Performance Category panels installed on studs spaced 24 inches o.c. For other conditions and panel Performance Categories, space nails 12 inches o.c. on intermediate supports.

(3) For shear loads of normal or permanent load duration, the values in the table shall be multiplied by 0.63 or 0.56, respectively.

(4) Framing at panel edges must be 3 inches nominal or wider and nails must be staggered where nails are spaced 2 inches o.c., and where 10d nails having penetration into framing of more than 1-5/8 inches are spaced 3 inches or less, o.c. **Exception:** Unless otherwise required, 2-inch nominal framing may be used where full nailing surface is available and nails are staggered.

(5) Except as noted in Footnote 7, panel thickness at point of nailing at panel edges determines applicable shear values, except that 3/8 Performance Category panels nailed at shiplap edges use 5/16 Performance Category shear values, and 7/16 and 19-/32 Performance Category panel sidings nailed at shiplap edges use 3/8 Performance Category shear values.

(6) Shiplap edges must be double-nailed; one nail must be placed in the underlap and a second nail must be placed in the overlap at the nail spacing specified for the applicable shear value.

(7) Fasteners must not be installed in panel siding grooves in the field of the panel siding or when the panel siding grooves occur at cut edges of the panel siding.

Table 2a. Lap Siding – **Maximum nominal (allowable) design wind speed, V_{asd}** [1]

Performance Category	Maximum Wall Stud Spacing[2] (in.)	Siding Width (in.)	Maximum Allowable Wind Pressure (psf)	Maximum Nominal (Allowable) Wind Speed, V_{asd}[3] (mph)		
				Wind Exposure Category		
				B	C	D
3/8	16	6	80	170	150	140
		8	79	170	150	140
		12	50	140	120	110
7/16	16	6	80	170	150	140
		8	76	170	150	130
		12	49	140	120	110
	24	6	71	170	145	130
		8	51	145	120	110
		12	32	110	90	90

For SI: 1 inch = 25.4 mm, 1 psf = 47.88 Pa, 1 mph = 0.447 m/s.

(1) One fastener per stud located 3/4 inch from the top edge of the siding. Each successive course of lap siding must overlap a minimum of 1 inch. Fastener must have a minimum head diameter of 0.297 inch, a minimum shaft diameter of 0.113 inch and a minimum length of 2.5 inches (8d box nail).

(2) Wall studs must have a minimum specific gravity of 0.42.

(3) Three-second-gust; based on wind pressures acting toward and away from building surfaces, at 30-ft height in Zone 5 with smallest effective area per Chapter 6 of ASCE 7-05, Section R301.2 of the 2009 and 2012 IRC, and Section 1609.1.1 of the 2009 IBC.

Table 2b. Lap Siding – **Maximum ultimate design wind speed, V_{ult}** [1]

Performance Category	Maximum Wall Stud Spacing[2] (in.)	Siding Width (in.)	Maximum Ultimate Wind Pressure (psf)	Maximum Ultimate Design Wind Speed, V_{ult}[3] (mph)		
				Wind Exposure Category		
				B	C	D
3/8	16	6	133	200	180	180
		8	131	200	180	180
		12	83	180	150	140
7/16	16	6	133	200	180	180
		8	127	200	180	160
		12	81	180	150	140
	24	6	119	200	180	160
		8	85	180	150	140
		12	54	140	120	115

For SI: 1 inch = 25.4 mm, 1 psf = 47.88 Pa, 1 mph = 0.447 m/s.

(1) One fastener per stud located 3/4 inch from the top edge of the siding. Each successive course of lap siding must overlap a minimum of 1 inch. Fastener must have a minimum head diameter of 0.297 inch, a minimum shaft diameter of 0.113 inch and a minimum length of 2.5 inches (8d box nail).

(2) Wall studs must have a minimum specific gravity of 0.42.

(3) Three-second-gust; based on wind pressures acting toward and away from building surfaces, at 30-ft height in Zone 5 with smallest effective area per Chapter 26 of ASCE 7-10 and Section 1609.1.1 of the 2012 IBC.

Table 3a. Panel Siding – **Maximum nominal (allowable) design wind speed, V_{asd}**

Performance Category	Maximum Wall Stud Spacing[2] (in.)	Fastener Spacing[1] (in. o.c.)		Maximum Allowable Wind Pressure	Maximum Nominal (Allowable) Wind Speed, V_{asd}[3] (mph)		
		Edges	Field		Wind Exposure Category		
					B	C	D
3/8	16	6	12	46	130	110	105
			6	80	170	150	140
	24	6	12	31	110	90	85
			6	61	150	130	120
7/16	16	6	12	45	130	110	105
			6	80	170	150	140
	24	6	12	30	110	90	85
			6	59	150	130	120
19/32	16	6	12	41	130	110	100
			6	80	170	150	140
	24	6	12	27	105	90	-
			6	55	150	125	110

For SI: 1 inch = 25.4 mm, 1 psf = 47.88 Pa, 1 mph = 0.447 m/s.

[1] Fastener must have a minimum head diameter of 0.297 inch, a minimum shaft diameter of 0.113 inch and a minimum length of 2.5 inches (8d box nail).
[2] Wall studs must have a minimum specific gravity of 0.42.
[3] Three-second-gust; based on wind pressures acting toward and away from building surfaces, at 30-ft height in Zone 5 with smallest effective area per Chapter 6 of ASCE 7-05, Section R301.2 of the 2009 and 2012 IRC, and Section 1609.1.1 of the 2009 IBC.

Table 3b. Panel Siding – **Maximum ultimate design wind speed, V_{ult}**

Performance Category	Maximum Wall Stud Spacing[2] (in.)	Fastener Spacing[1] (in. o.c.)		Maximum Ultimate Wind Pressure (psf)	Maximum Ultimate Design Wind Speed, V_{ult}[3] (mph)		
		Edges	Field		Wind Exposure Category		
					B	C	D
3/8	16	6	12	77	160	150	130
			6	133	200	180	160
	24	6	12	51	140	120	110
			6	102	200	160	150
7/16	16	6	12	74	160	140	130
			6	133	200	180	160
	24	6	12	50	140	120	110
			6	99	200	160	150
19/32	16	6	12	69	160	140	130
			6	133	200	180	160
	24	6	12	46	130	115	-
			6	92	160	160	150

For SI: 1 inch = 25.4 mm, 1 psf = 47.88 Pa, 1 mph = 0.447 m/s.

[1] Fastener must have a minimum head diameter of 0.297 inch, a minimum shaft diameter of 0.113 inch and a minimum length of 2.5 inches (8d box nail).
[2] Wall studs must have a minimum specific gravity of 0.42.
[3] Three-second-gust; based on wind pressures acting toward and away from building surfaces, at 30-ft height in Zone 5 with smallest effective area per Chapter 26 of ASCE 7-10 and Section 1609.1.1 of the 2012 IBC.

Table 4a. Lap Siding Installed Over the Facer of SIPs[1] – Maximum nominal (allowable) design wind speed, V_{asd}[2]

Performance Category	Maximum Ring Shank Nail Spacing[3] (in.)	Maximum Wood Screw Spacing[4] (in.)	Siding Width (in.)	Maximum Allowable Wind Pressure (psf)	Maximum Nominal (Allowable) Wind Speed, V_{asd}[5] (mph)		
					Wind Exposure Category		
					B	C	D
3/8	8	12	6	80	170	150	140
			8	63	150	130	125
			12	40	125	105	90
7/16	12	16	6	58	150	130	120
			8	42	130	110	100
			12	27	105	85	-

For SI: 1 inch = 25.4 mm, 1 psf = 47.88 Pa, 1 mph = 0.447 m/s.

[1] The facer of the structural insulated panels (SIPs) shall be 7/16 Performance Category or thicker OSB sheathing meeting DOC PS2 requirements.

[2] The tabulated values represent the capacity of the LP Lap Siding installed in accordance with the requirements of this table. **The tabulated wind speed shall not exceed the SIP capacity for wind load resistance.**

[3] One 6d ring shank nail (0.120 inch in diameter) located 1/2 inch from the top edge of the siding. The ring shank nails must have a minimum head diameter of 0.297 inch, a minimum shank diameter of 0.120 inch and a minimum length of 2 inches.

[4] One #8 wood screw (0.164 inch in diameter) located 1/2 inch from the top edge of the siding may be used. The wood screws must have a minimum head diameter of 0.297 inch, a minimum shank diameter of 0.164 inch and a minimum length of 2 inches.

[5] Three-second-gust; based on wind pressures acting toward and away from building surfaces, at 30-ft height in Zone 5 with smallest effective area per Chapter 6 of ASCE 7-05, Section R301.2 of the 2009 and 2012 IRC, and Section 1609.1.1 of the 2009 IBC.

Table 4b. Lap Siding Installed Over the Facer of SIPs[1] – Maximum ultimate design wind speed, V_{ult}[2]

Performance Category	Maximum Ring Shank Nail Spacing[3] (in.)	Maximum Wood Screw Spacing[4] (in.)	Siding Width (in.)	Maximum Ultimate Wind Pressure (psf)	Maximum Ultimate Design Wind Speed, V_{ult}[5] (mph)		
					Wind Exposure Category		
					B	C	D
3/8	8	12	6	133	200	180	160
			8	105	200	160	160
			12	67	160	140	120
7/16	12	16	6	97	200	160	150
			8	70	160	140	130
			12	45	130	115	-

For SI: 1 inch = 25.4 mm, 1 psf = 47.88 Pa, 1 mph = 0.447 m/s.

[1] The facer of the structural insulated panels (SIPs) shall be 7/16 Performance Category or thicker OSB sheathing meeting DOC PS2 requirements.

[2] The tabulated values represent the capacity of the LP Lap Siding installed in accordance with the requirements of this table. **The tabulated wind speed shall not exceed the SIP capacity for wind load resistance.**

[3] One 6d ring shank nail (0.120 inch in diameter) located 1/2 inch from the top edge of the siding. The ring shank nails must have a minimum head diameter of 0.297 inch, a minimum shank diameter of 0.120 inch and a minimum length of 2 inches.

[4] One #8 wood screw (0.164 inch in diameter) located 1/2 inch from the top edge of the siding may be used. The wood screws must have a minimum head diameter of 0.297 inch, a minimum shank diameter of 0.164 inch and a minimum length of 2 inches.

[5] Three-second-gust; based on wind pressures acting toward and away from building surfaces, at 30-ft height in Zone 5 with smallest effective area per Chapter 26 of ASCE 7-10 and Section 1609.1.1 of the 2012 IBC.

APA – The Engineered Wood Association is an approved national standards developer accredited by American National Standards Institute (ANSI). APA publishes ANSI standards and Voluntary Product Standards for wood structural panels and engineered wood products. APA is an accredited certification body under ISO 65 by Standards Council of Canada (SCC), an accredited inspection agency under ISO/IEC 17020 by International Code Council (ICC) International Accreditation Service (IAS), and an accredited testing organization under ISO/IEC 17025 by IAS. APA is also an approved Product Certification Agency, Testing Laboratory, Quality Assurance Entity, and Validation Entity by the State of Florida, and an approved testing laboratory by City of Los Angeles and Miami-Dade County.

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ESR-1301

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Valid: 02/14 to 02/16

DIVISION: 06 00 00—WOOD, PLASTICS AND COMPOSITES

SECTION: 06 16 00—SHEATING

DIVISION: 07 00 00—THERMAL AND MOISTURE PROTECTION

SECTION: 07 46 23—WOOD SIDING

REPORT HOLDER:

LOUISIANA-PACIFIC CORPORATION

414 UNION STREET, SUITE 2000
NASHVILLE, TENNESSEE 37219

EVALUATION SUBJECT:

LP SMARTSIDE® PRECISION LAP SIDING AND LP SMARTSIDE® PRECISION PANEL SIDING

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ESR-1301*

Reissued February 2014

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DIVISION: 06 00 00—WOOD, PLASTICS AND COMPOSITES
Section: 06 16 00—Sheathing

DIVISION: 07 00 00—THERMAL AND MOISTURE PROTECTION
Section: 07 46 23—Wood Siding

REPORT HOLDER:

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marketing.center@lpcorp.com

EVALUATION SUBJECT:

LP SMARTSIDE® PRECISION LAP SIDING AND LP SMARTSIDE® PRECISION PANEL SIDING

1.0 EVALUATION SCOPE

Compliance with the following codes:

- 2012, 2009, 2006, and 2003 *International Building Code®* (IBC)
- 2012, 2009, 2006, and 2003 *International Residential Code®* (IRC)

Properties evaluated:

- Exterior siding
- Structural

2.0 USES

LP SmartSide® Precision Lap Siding and LP SmartSide® Precision Panel Siding are used as exterior wall covering materials on buildings where combustible materials are permitted.

LP SmartSide® Precision Panel Siding may be used as bracing method 3 for conventional wood-framed walls as specified in IBC Section 2308.9.3 and IRC Section R602.10.

LP SmartSide® Precision Panel Siding may be used as sheathing for wood structural panel shear walls having allowable shear loads specified for PS2-compliant wood-based sheathing in accordance with 2003/2006 IBC Section 2306.4.1, and 2009/2012 IBC Section 2306.3.

3.0 DESCRIPTION

3.1 General:

LP SmartSide® Precision Lap Siding and LP SmartSide® Precision Panel Siding are engineered-wood exterior wall covering materials that are suitable for long-term exposure to weather or conditions of similar severity, when fastened to vertical supports or approved nailable wood substrates in accordance with their span ratings and this evaluation report. The lap siding and panel siding products consist of a mat-formed wood substrate preservatively treated with zinc borate in accordance with AWPA Standard T1, and a resin-impregnated overlay material bonded to the face of the lap and panel siding products intended to be exposed to the weather. Additionally, all panel and lap siding edges are factory-sealed with a sealer in accordance with the approved quality control manual.

3.2 LP SmartSide® Precision Lap Siding:

LP SmartSide® Precision Lap Siding is available in widths of 6, 8 and 12 inches (152, 203 and 305 mm); categories $^{3}/_{8}$ and $^{7}/_{16}$; and lengths of 12 to 16 feet (3658 to 4877 mm). The 8-inch-wide (203 mm), $^{7}/_{16}$ category lap siding is also available with an optional self-alignment edge.

3.3 LP SmartSide® Precision Panel Siding:

LP SmartSide® Precision Panel Siding is 4 feet (1219 mm) wide and 4, 6, 7, 8, 9 or 10 feet (1219, 1829, 2134, 2438, 2743 or 3048 mm) in length. LP SmartSide® Precision Panel Siding is available in $^{3}/_{8}$, $^{7}/_{16}$, and $^{19}/_{32}$ - categories. The $^{3}/_{8}$ category panel has grooves spaced at 8 inches (203 mm), with a minimum thickness at the grooves of 0.164 inch (4 mm) and a minimum thickness at the shiplap of 0.136 inch (4 mm). The $^{7}/_{16}$ category panel has grooves spaced at 4 or 8 inches (102 or 203 mm), with a minimum thickness at the grooves of 0.235 inch (6 mm) and a minimum thickness at the shiplap of 0.150 inch (4 mm). The $^{19}/_{32}$ category panel has grooves spaced at 4 or 8 inches (102 or 203 mm), with a minimum thickness at the grooves of 0.311 inch (8 mm) and a minimum shiplap thickness of 0.194 inch (5 mm).

LP SmartSide® Precision Panel Siding is classified as Exterior Rated Siding or Exterior Rated Siding—Sheathing. The classification is noted in the label on the panel. Exterior Rated Siding is intended to be installed in applications in accordance with IBC Section 2308.9.3 and IRC Section R602.10 as an exterior siding suitable for long-term exposure to weather or conditions of similar severity. In addition to the intended application for Exterior

Rated Siding, Exterior Rated Siding—Sheathing is intended to be installed in applications in accordance with 2003/2006 IBC Section 2306.4.1, and 2009/2012 IBC Section 2306.3.

4.0 INSTALLATION

4.1 General:

LP SmartSide® Precision Lap Siding and LP SmartSide® Precision Panel Siding must be installed in accordance with the manufacturer's published installation instructions (titled *Application Instructions LP SmartSide® Precision Lap LP SmartSide® Precision Panel Siding*) and this report. In the event of conflicts, this report governs. A copy of the manufacturer's installation instructions must be on the jobsite at all times during installation.

LP SmartSide® Precision Lap Siding and LP SmartSide® Precision Panel Siding must be installed with an approved water-resistive barrier as required by the applicable code. Openings in, penetrations through, and terminations of the LP SmartSide® Precision Lap Siding and LP SmartSide® Precision Panel Siding are outside the scope of this report and must be specifically approved by the code official in accordance with the applicable code.

Unless otherwise noted in this report, fasteners and fastener spacing must be as noted in the applicable code.

4.2 LP SmartSide® Precision Lap Siding:

LP SmartSide® Precision Lap Siding must be attached to framing members spaced a maximum of 16 inches (406 mm) on center for $^{3}/_{8}$ category siding and a maximum of 24 inches (610 mm) on center for $^{7}/_{16}$ category siding.

Self-aligning LP SmartSide® Precision Lap Siding is installed with nails placed at the top of the LP SmartSide® Precision Lap Siding, $^{1}/_{2}$ inch (13 mm) down from the upper edge. Each successive course of lap siding must rest on the back rabbet and must self-align at an overlap of $^{13}/_{16}$ inch (21 mm).

Nails must be of sufficient length to penetrate a minimum of $1^{1}/_{2}$ inches (38 mm) through the sheathing and into framing at each stud location.

4.3 LP SmartSide® Precision Panel Siding:

LP SmartSide® Precision Panel Siding must be installed with its long dimension oriented vertically.

When LP SmartSide® Precision Panel Siding is applied directly to the framing, the maximum spacing of the framing must be consistent with the span rating of the LP SmartSide® Precision Panel Siding, which is identified on the panel's label.

Allowable loads for shearwalls sheathed with LP SmartSide® Precision Panel Siding—Sheathing are noted in Table 1.

Four-foot-by-8-foot (1219 mm by 2438 mm) LP SmartSide® Precision Panel Siding—Sheathing installed vertically, directly to framing, with a single row of nails penetrating both laps, spaced 6 inches on center at panel edges and 12 inches (305 mm) on center at intermediate supports may be used to satisfy the wall bracing requirements for conventional light frame construction specified in the code for prescriptive construction. Install per code requirements for method 3 bracing with wood structural panels.

All LP SmartSide® Precision Panel Siding joints must occur at framing members and must be protected with a continuous wood batt, approved caulking, flashing, or vertical or horizontal shiplap, or otherwise made waterproof.

4.4 Component and Cladding Wind Pressure Capacity:

Maximum allowable component and cladding wind loads (wall, zone 5) for LP SmartSide® Precision Lap Siding and LP SmartSide® Precision Panel Siding based on a minimum fastener schedule, are provided in Tables 2 through 5. Tables 2 and 3, for lap and panel siding, respectively, are based on full fastener penetration into the wall studs, i.e., fastener penetration = fastener length - siding thickness. Tables 4 and 5, for lap and panel siding, respectively, are based on a minimum fastener penetration into the wall studs of $1^{1}/_{2}$ inches.

5.0 CONDITIONS OF USE

The LP SmartSide® Precision Lap Siding and LP SmartSide® Precision Panel Siding described in this report comply with, or are suitable alternatives to what is specified in, those codes listed in Section 1.0 of this report, subject to the following conditions:

5.1 LP SmartSide® Precision Lap Siding must not be used to satisfy the bracing requirements specified in the code.

5.2 LP SmartSide® Precision Panel Siding—Sheathing, when installed as set forth in this report, may be used as method 3 bracing specified in Section 2308.9 of the IBC and Section R602.10 of the IRC.

5.3 In areas where seismic analysis is required by the applicable code, the applicable code requirements for wood structural panel shear walls must be consulted for additional detailing requirements, restrictions concerning certain usages, required modifications to the allowable shear loads tabulated in this report, and additional inspection requirements.

5.4 LP SmartSide® Precision Lap Siding and LP SmartSide® Precision Panel Siding must not be installed in contact with concrete or masonry.

5.5 LP SmartSide® Lap Siding and LP SmartSide® Precision Panel Siding must be installed with a minimum 6 inches (152 mm) of clearance from finished grade.

5.6 When field cuts are made to LP SmartSide® Precision Lap Siding and LP SmartSide® Precision Panel Siding, all exposed surfaces must be finished according to the paint or caulk/sealant manufacturers' specifications.

5.7 LP SmartSide® Precision Lap Siding and LP SmartSide® Precision Panel Siding are manufactured by Louisiana-Pacific Corporation in Hayward, Wisconsin (Mill No. 357); Newberry, Michigan (Mill No. 416); Tomahawk, Wisconsin (Mill No. 435); and Two Harbors, Minnesota (Mill No. 399); under a quality control program with inspections by ICC-ES.

6.0 EVIDENCE SUBMITTED

Data in accordance with the ICC-ES Acceptance Criteria for Treated-engineered-wood Siding (AC321), dated October 2005.

7.0 IDENTIFICATION

LP SmartSide® Precision Lap Siding and LP SmartSide® Precision Panel Siding must be labeled with the product designation and the name of Louisiana-Pacific Corp. The stamp shall provide the following information:

1. Mill number.
2. The evaluation report number (ESR-1301).
3. Grade/exposure.
4. Span rating.
5. Performance category (based on customary inch fractions).

TABLE 1—ALLOWABLE RACKING SHEAR (plf) FOR LP SmartSide® Precision PANEL SIDING—SHEATHING SHEAR WALLS WITH FRAMING OF DOUGLAS FIR–LARCH OR SOUTHERN PINE FOR WIND OR SEISMIC LOADING[1,2,3]

PERFORMANCE CATEGORY	MINIMUM NAIL PENETRATION IN FRAMING (Inches)	PANELS APPLIED DIRECTLY TO FRAMING				
		Nail Size (Common or Galvanized Box)	Nail Spacing at Panel Edges (inches)			
			6	4	3	2[4]
5/16[5,6]	1 1/4	6d	180	270	350	450
3/8[5,6]			200	300	390	510
3/8[5,6]	1 1/2	8d	220	320	410	530
7/16[5]			240	350	450	585
19/32[5]	1 5/8	10d	340	510	665[4]	870

For SI: 1 inch = 25.4 mm, 1 plf = 14.6 N/m.

[1]For framing of other species: (a) Find specific gravity for species of lumber in AF & PA National Design Specification; (b) find shear value from table for nails size; c) multiply value by 0.82 for species with specific gravity greater than or equal to 0.42 but less than 0.49, or 0.65 for species with specific gravity less than 0.42.
[2]All panel edges must be backed with 2-inch nominal or wider framing. Panels must be installed with the long dimension oriented in the vertical direction. Space nails 6 inches o.c. along intermediate framing members for 3/8 category and 7/16 category panels installed on studs spaced 24 inches o.c. For other conditions and panel thicknesses, space nails 12 inches o.c. on intermediate supports.
[3]The values are for short-term loads due to wind or earthquake (133% increase) and must be reduced by 25 percent for normal duration of loading.
[4]Framing at panel edges must be 3 inches nominal or wider and nails must be staggered where nails are spaced 2 inches o.c., and where 10d nails having penetration into framing of more than 1 5/8 inches are spaced 3 inches, or less, o.c. Exception: Unless otherwise required, 2-inch nominal framing may be used where full nailing surface is available and nails are staggered.
[5]Except as noted in Footnote 7, panel thickness at point of nailing at panel edges determines applicable shear values, except that 3/8 category panels nailed at shiplap edges use shear values for 5/16 category panels, and 7/16 and 19/32 category panel sidings nailed at shiplap edges use shear values for 3/8 category panels.
[6]Shiplap edges must be double-nailed; one nail must be placed in the underlap and a second nail must be placed in the overlap at the nail spacing specified for the applicable shear value.
[7]Fasteners must not be installed in panel siding grooves in the field of the panel siding or when the panel siding grooves occur at cut edges of the panel siding.

TABLE 2a—LAP SIDING - MAXIMUM NOMINAL (ALLOWABLE) COMPONENT AND CLADDING DESIGN WIND SPEED, V_{asd}[1,2]

PERFORMANCE CATEGORY	MAXIMUM WALL STUD SPACING[3] (inches)	SIDING WIDTH (inches)	MAXIMUM ALLOWABLE WIND PRESSURE (psf)	MAXIMUM NOMINAL (ALLOWABLE) WIND SPEED, V_{asd}[4] (mph)		
				Wind Exposure Category		
				B	C	D
3/8	16	6	80	170	150	140
		8	79	170	150	140
		12	50	140	120	110
7/16	16	6	80	170	150	140
		8	76	170	150	130
		12	48	140	120	110
	24	6	71	170	145	130
		8	51	155	120	110
		12	32	110	90	90

For SI: 1 inch = 25.4 mm, 1 psf = 47.88 Pa, 1 mph = 1.6 kph.

[1]One fastener per stud located ¾ inch from the top edge of the siding. Each successive course of lap siding must overlap a minimum of 1 inch. Fastener must have a minimum head diameter of 0.297 inch, a minimum shaft diameter of 0.113 inch and a minimum length of 2.5 inches (8d box nail).
[2]Tabulated values assume full penetration of the fastener into the wall studs, i.e., fastener penetration = fastener length – siding thickness.
[3]Wall studs must have a minimum specific gravity of 0.42.
[4]Three-second-gust; based on wind pressures acting toward and away from building surfaces, at 30-feet height in Zone 5 with smallest effective area per Chapter 6 of ASCE 7-05, Section R301.2 of the 2009/2012 IRC, and Section 1609.1.1 of the 2009 IBC.

TABLE 2b—LAP SIDING - MAXIMUM ULTIMATE COMPONENT AND CLADDING DESIGN WIND SPEED, V_{ult}[1,2]

PERFORMANCE CATEGORY	MAXIMUM WALL STUD SPACING[3] (inches)	SIDING WIDTH (inches)	MAXIMUM ULTIMATE WIND PRESSURE (psf)	MAXIMUM ULTIMATE DESIGN WIND SPEED, V_{ult}[4] (mph)		
				Wind Exposure Category		
				B	C	D
3/8	16	6	133	200	180	160
		8	131	200	180	160
		12	83	180	150	140
7/16	16	6	133	200	180	160
		8	127	200	180	160
		12	81	180	150	140
	24	6	119	200	180	160
		8	85	180	150	140
		12	54	140	120	115

For SI: 1 inch = 25.4 mm, 1 psf = 47.88 Pa, 1 mph = 1.6 kph.

[1]One fastener per stud located ¾ inch from the top edge of the siding. Each successive course of lap siding must overlap a minimum of 1 inch. Fastener must have a minimum head diameter of 0.297 inch, a minimum shaft diameter of 0.113 inch and a minimum length of 2.5 inches (8d box nail).
[2]Tabulated values assume full penetration of the fastener into the wall studs, i.e., fastener penetration = fastener length – siding thickness.
[3]Wall studs must have a minimum specific gravity of 0.42.
[4]Three-second-gust; based on wind pressures acting toward and away from building surfaces, at 30-feet height in Zone 5 with smallest effective area per Chapter 26 of ASCE 7-10 and Section 1609.1.1 of the 2012 IBC.

TABLE 3a—PANEL SIDING - MAXIMUM NOMINAL (ALLOWABLE) COMPONENT AND CLADDING DESIGN WIND SPEED, V_{asd}[1]

PERFORMANCE CATEGORY	MAXIMUM WALL STUD SPACING[2] (inches)	FASTENER SPACING[3] (inches o.c.)		MAXIMUM ALLOWABLE WIND PRESSURE (psf)	MAXIMUM NOMINAL (ALLOWABLE) WIND SPEED, V_{asd}[4] (mph)		
		Edges	Field		Wind Exposure Category		
					B	C	D
3/8	16	6	12	46	130	110	105
			6	80	170	150	140
	24	6	12	31	110	90	85
			6	81	150	130	120
7/16	16	6	12	45	130	110	105
			6	80	170	150	140
	24	6	12	30	110	90	85
			6	59	150	130	120
19/32	16	6	12	41	130	110	100
			6	80	170	150	140
	24	6	12	27	105	90	-
			6	55	150	125	110

For SI: 1 inch = 25.4 mm, 1 psf = 47.88 Pa, 1 mph = 1.6 kph.

[1]Tabulated values assume full penetration of the fastener into the wall studs, i.e., fastener penetration = fastener length – siding thickness.
[2]Wall studs must have a minimum specific gravity of 0.42.
[3]Fastener must have a minimum head diameter of 0.297 inch, a minimum shaft diameter of 0.113 inch and a minimum length of 2.5 inches (8d box nail).
[4]Three-second-gust; based on wind pressures acting toward and away from building surfaces, at 30-feet in Zone 5 with smallest effective area per Chapter 6 of ASCE 7-05, Section R301.2 of the 2009/2012 IRC, and Section 1609.1.1 of the 2009 IBC.

TABLE 3b—PANEL SIDING - MAXIMUM ULTIMATE COMPONENT AND CLADDING DESIGN WIND SPEED, V_{ult}[1]

PERFORMANCE CATEGORY	MAXIMUM WALL STUD SPACING[2] (inches)	FASTENER SPACING[3] (inches o.c.)		MAXIMUM ULTIMATE WIND PRESSURE (psf)	MAXIMUM ULTIMATE DESIGN WIND SPEED, V_{ult}[4] (mph)		
		Edges	Field		Wind Exposure Category		
					B	C	D
3/8	16	6	12	77	160	150	130
			6	133	200	180	160
	24	6	12	51	140	120	110
			6	102	200	160	150
7/16	16	6	12	74	160	140	130
			6	133	200	180	160
	24	6	12	50	140	120	110
			6	90	200	160	150
19/32	16	6	12	69	160	140	130
			6	133	200	180	160
	24	6	12	46	130	115	-
			6	92	160	160	150

For SI: 1 inch = 25.4 mm, 1 psf = 47.88 Pa, 1 mph = 1.6 kph.

[1]Tabulated values assume full penetration of the fastener into the wall studs, *i.e.*, fastener penetration = fastener length – siding thickness.
[2]Wall studs must have a minimum specific gravity of 0.42.
[3]Fastener must have a minimum head diameter of 0.297 inch, a minimum shaft diameter of 0.113 inch and a minimum length of 2.5 inches (8d box nail).
[4]Three-second-gust; based on wind pressures acting toward and away from building surfaces, at 30-feet height in Zone 5 with smallest effective area per Chapter 26 of ASCE 7-10 and Section 1609.1.1 of the 2012 IBC.

TABLE 4a—LAP SIDING - MAXIMUM NOMINAL (ALLOWABLE) COMPONENT AND CLADDING DESIGN WIND SPEED, V_{asd}[1,2]

PERFORMANCE CATEGORY	MAXIMUM WALL STUD SPACING[3] (inches)	SIDING WIDTH (inches)	MAXIMUM ALLOWABLE WIND PRESSURE (psf)	MAXIMUM NOMINAL (ALLOWABLE) WIND SPEED, V_{asd}[4] (mph)		
				Wind Exposure Category		
				B	C	D
3/8	16	6	78	170	150	130
		8	56	150	125	110
		12	35	120	100	90
7/16	16	6	79	170	150	130
		8	56	150	125	110
		12	35	120	100	90
	24	6	52	145	120	110
		8	37	120	100	90
		12	24	90	-	-

For SI: 1 inch = 25.4 mm, 1 psf = 47.88 Pa, 1 mph = 1.6 kph.

[1]One fastener per stud located ¾ inch from the top edge of the siding. Each successive course of lap siding must overlap a minimum of 1 inch. Fastener must have a minimum head diameter of 0.297 inch, a minimum shaft diameter of 0.113 inch and a minimum length of 2.5 inches (8d box nail).
[2]Tabulated values assume a fastener penetration of 1½ inches into the wall studs.
[3]Wall studs must have a minimum specific gravity of 0.42.
[4]Three-second-gust; based on wind pressures acting toward and away from building surfaces, at 30-feet height in Zone 5 with smallest effective area per Chapter 6 of ASCE 7-05, Section R301.2 of the 2009/2012 IRC, and Section 1609.1.1 of the 2009 IBC.

TABLE 4b—LAP SIDING - MAXIMUM ULTIMATE COMPONENT AND CLADDING DESIGN WIND SPEED, V_{ult}[1,2]

PERFORMANCE CATEGORY	MAXIMUM WALL STUD SPACING[3] (inches)	SIDING WIDTH (inches)	MAXIMUM ULTIMATE WIND PRESSURE (psf)	MAXIMUM ULTIMATE DESIGN WIND SPEED, V_{ult}[4] (mph)		
				Wind Exposure Category		
				B	C	D
3/8	16	6	130	200	180	160
		8	93	180	160	150
		12	59	150	130	120
7/16	16	6	130	200	180	160
		8	93	180	160	150
		12	59	150	130	120
	24	6	86	160	160	140
		8	62	160	130	120
		12	39	120	-	-

For **SI:** 1 inch = 25.4 mm, 1 psf = 47.88 Pa, 1 mph = 1.6 kph.

[1]One fastener per stud located ¾ inch from the top edge of the siding. Each successive course of lap siding must overlap a minimum of 1 inch. Fastener must have a minimum head diameter of 0.297 inch, a minimum shaft diameter of 0.113 inch and a minimum length of 2.5 inches (8d box nail).
[2]Tabulated values assume a fastener penetration of 1½ inches into the wall studs.
[3]Wall studs must have a minimum specific gravity of 0.42.
[4]Three-second-gust; based on wind pressures acting toward and away from building surfaces, at 30-feet height in Zone 5 with smallest effective area per Chapter 26 of ASCE 7-10 and Section 1609.1.1 of the 2012 IBC.

TABLE 5a—PANEL SIDING - MAXIMUM NOMINAL (ALLOWABLE) COMPONENT AND CLADDING DESIGN WIND SPEED, V_{asd}[1]

PERFORMANCE CATEGORY	MAXIMUM WALL STUD SPACING[2] (inches)	FASTENER SPACING[3] (Inches o.c.)		MAXIMUM ALLOWABLE WIND PRESSURE (psf)	MAXIMUM NOMINAL (ALLOWABLE) WIND SPEED, V_{asd}[4] (mph)		
		Edges	Field		Wind Exposure Category		
					B	C	D
3/8	16	6	12	32	110	90	90
			6	65	150	130	125
	24	6	12	22	90	-	-
			6	43	130	110	100
7/16	16	6	12	32	110	90	90
			6	65	150	130	125
	24	6	12	22	90	-	-
			6	43	130	110	100
15/32	16	6	12	32	110	90	90
			6	65	150	130	125
	24	6	12	22	90	-	-
			6	43	130	110	100

For **SI:** 1 inch = 25.4 mm, 1 psf = 47.88 Pa, 1 mph = 1.6 kph.

[1]Tabulated values assume a fastener penetration of 1½ inches into the wall studs.
[2]Wall studs must have a minimum specific gravity of 0.42.
[3]Fastener must have a minimum head diameter of 0.297 inch, a minimum shaft diameter of 0.113 inch and a minimum length of 2.5 inches (8d box nail).
[4]Three-second-gust; based on wind pressures acting toward and away from building surfaces, at 30-feet in Zone 5 with smallest effective area per Chapter 6 of ASCE 7-05, Section R301.2 of the 2009/2012 IRC, and Section 1609.1.1 of the 2009 IBC.

TABLE 5b—PANEL SIDING - MAXIMUM ULTIMATE COMPONENT AND CLADDING DESIGN WIND SPEED, V_{ult}[1]

PERFORMANCE CATEGORY	MAXIMUM WALL STUD SPACING[2] (Inches)	FASTENER SPACING[3] (inches o.c.)		MAXIMUM ULTIMATE WIND PRESSURE (psf)	MAXIMUM ULTIMATE DESIGN WIND SPEED, V_{ult}[4] (mph)		
		Edges	Field		Wind Exposure Category		
					B	C	D
3/8	16	6	12	54	140	120	115
			6	108	200	160	160
	24	6	12	36	120	-	-
			6	72	160	140	130
7/16	16	6	12	54	140	120	115
			6	108	200	160	160
	24	6	12	36	120	-	-
			6	72	160	140	130
19/32	16	6	12	54	140	120	115
			6	108	200	160	160
	24	6	12	36	120	-	-
			6	72	160	140	130

For SI: 1 inch = 25.4 mm, 1 psf = 47.88 Pa, 1 mph = 1.6 kph.

[1]Tabulated values assume a fastener penetration of 1 1/2 inches into the wall studs.
[2]Wall studs must have a minimum specific gravity of 0.42.
[3]Fastener must have a minimum head diameter of 0.297 inch, a minimum shaft diameter of 0.113 inch and a minimum length of 2.5 inches (8d box nail).
[4]Three-second-gust; based on wind pressures acting toward and away from building surfaces, at 30-feet height in Zone 5 with smallest effective area per Chapter 26 of ASCE 7-10 and Section 1609.1.1 of the 2012 IBC.

Technical Note No. 014

LP BUILDING PRODUCTS

Installing LP® SmartSide® Trim and Lap Siding on Concrete or Masonry Walls over Furring Strips in Florida (V_{ult} Wind Speeds)

This Technical Note is an addendum to the LP® SmartSide® Trim and Fascia, and LP® SmartSide® Lap siding Application Instructions ("Instructions"). It is intended to provide an alternative fastening option for LP SmartSide trim and lap siding on concrete or masonry walls over furring strips. The Instructions remain effective except as may be modified by this Note. Refer to the Instructions for all other aspects of product installation.

Trim and lap siding may be installed on concrete or masonry walls over furring strips:

- Trim and lap siding must be installed over a minimum 1x4 nominal size Southern Pine furring strips with a specific gravity greater than or equal to 0.55.
    - Install furring strips no more than 16"o.c. in wind speed areas less than or equal to 200 MPH[1]
- Siding shall be installed to safely support all loads, including wind loads, of the locally adopted building codes. The installation of siding shall result in a system that provides a load path that meets the requirements for the transfer of loads from their point of origin through the load-resisting elements to the structure. The mechanical connection of the furring strip to the concrete or masonry structure is the responsibility of a design professional. LP assumes no liability for any loss or damage caused by the design of the mechanical connection of the furring strip to the concrete or masonry structure and is expressly released by the purchaser or owner from any such loss or liability.
- Minimum Fastener Type:
    - Corrosion Resistant – Hot Dipped Galvanized or equal (ASTM A153)[2]
    - Ring Shank[3]
    - Shank diameter = 0.120 inch
    - Head diameter = 0.270 inch
    - Length = fastener shall fully penetrate a minimum 1/2 inch into nailable furring **Caution:** fastener shall not bottom out on masonry wall leaving the fastener head less than flush with the face of trim or siding.

ADDRESS 414 Union Street
Suite 2000
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TEL (615) 986-5600
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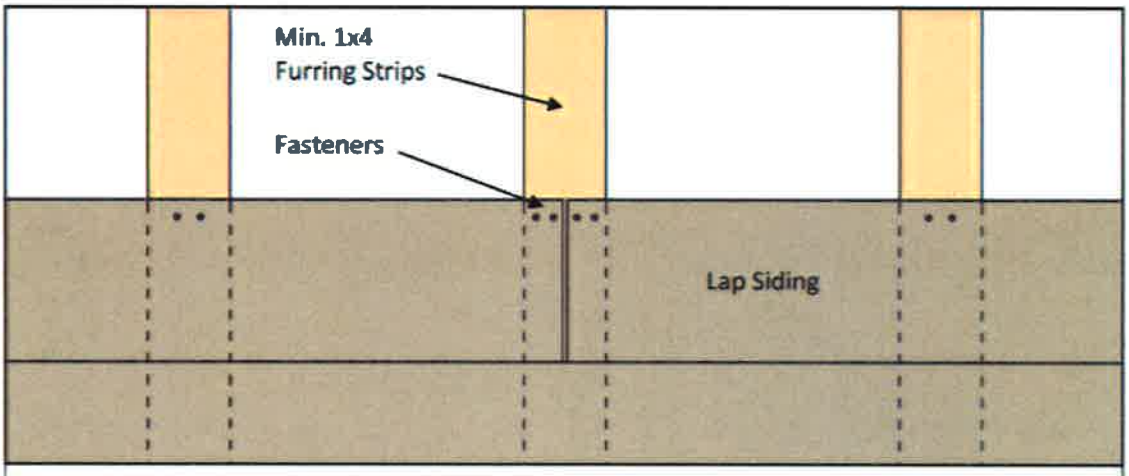
BUILD WITH US.

Date Created: 12/04/2015
Last Revision: 12/17/2015
Expiration Date: 06/2017

- The 2012 IRC and 2014 Florida Residential Code require a water-resistant barrier be used on all exterior walls, except over concrete or masonry walls per Exception 1 in Section R703.1.1 of both Codes. LP always requires the use of a WRB behind LP® SmartSide® products. LP has no responsibility for any damage arising from a failure to use a WRB.

Lap Siding

- Limitations:
  - For use with Strand substrate lap (all widths) and/or Fiber substrate lap (up to 8 inches wide only)
  - Excluding Cedar Shake Fiber Lap, Bold Profiles Fiber Lap, Self-Aligning Fiber Lap, and SmartLock™ Strand Lap
- Fastening Requirements:
  - Place fasteners 3/4 inch from top edge of lap siding
  - Increase minimum lap siding overlap to 1-1/8 inch
  - Blind nail two fasteners per furring strip (**every 16" o.c.**)



- 2 nails per furring (4 nails at butt joints)
- Nails spaced 3/4" from top edge of lap and 3/8" from ends of lap (approximately 1" apart)
- 1-1/8" min. lap siding overlap.

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Trim

- Limitations:
    - In Florida where high negative wind loads are a concern, box or common nails should be used.
        - Trim nails may be used in Non-Hurricane-Prone Regions with the following cautions: Do not overdrive or counter sink the fastener, nail flush with the surface of trim. Detachment of trim is not covered by the LP® SmartSide® limited warranty whether common, box, or trim nails are used.
- Fastening Requirements:
    - Two fasteners spaced a maximum of every 24 inches o.c. along the length of the trim, or two fasteners at both ends with additional fasteners spaced a maximum of every 12 inches o.c. along alternating edges the length of the trim.
    - Trim under 7 inches wide use a minimum of 2 nails per width. Trim 7 to 12 inches wide use a minimum of 3 nails per width. Trim over 12 inches wide use a minimum of 4 nails per width.

[1] Wind speed is Ultimate Design Wind Speed/ Zone 5/ 10 ft^2/ 30 foot height. See 2014 FRC.
[2] Corrosion resistance and capable of preventing rust, stain and deterioration of the fasteners under normal outdoor environmental conditions for a period of no less than 50 years. For further information or guidance, consult your nail supplier/manufacturer.
[3] Ring shank nails shall be capable of the performance specified in Table 1A Ring-Shank Nail Withdrawal Loads of APA publication TT-109, *Wood Structural Panels Used as Nailable Sheathing* when tested in accordance with ASTM D 1761, *Standard Test Method for Mechanical Fasteners in Wood* and NDS-2015. For further information or guidance, consult your nail supplier/manufacturer.

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INSTALLATION INSTRUCTIONS

MODELS: FS AND FS-HEX

ICC-ES CERTIFIED - ENGINEERED

FEMA COMPLIANT FLOOD VENTS

What you'll need:

- 1" Concrete/wood/metal screws which is dependent on what type of wall you will be fastening into
- 1" Anchors for concrete wall installation
- Power Drill
- 1/4" Masonry Bit or 1/4" wood drill bit (dependent on what type of wall you will be fastening into)
- Screwdriver
- Hammer
- Level
- Exterior Caulking
- Flashing, if needed, for an opening with a cavity in the wall (optional)

INSTRUCTIONS:

******NOTE: BE SURE THAT BOTTOM OF OPENING IS LESS THAN 12" ABOVE THE ADJACENT GRADE.******

Step 1: PROVIDE A CLEAN, SQUARE AND LEVEL ROUGH OPENING
Step 2:APPLY FLASHING AROUND THE INTERIOR OF THE WALL OPENING IF THERE IS A CAVITY IN THE WALL (optional)
Step 3: LAYOUT THE VENT SO THE OPEN AREAS OF THE VENT HAVE A CLEAR OPENING BEHIND THEM.
Step 4: MAKE SURE VENT IS LEVEL
Step 5: MARK HOLES ON WALL AND THEN REMOVE VENT FROM OPENING

FOR CONCRETE WALLS: Use Concrete Screws and Anchors
FOLLOW STEPS 1-5 ABOVE
Step 5: DRILL HOLES 1-1/4"DEEP INTO CONCRETE/BLOCK WALL.
Step 6: FULLY INSERT ANCHORS INTO WALL, TAPPING ANCHORS INTO PLACE USING A HAMMER MAKING SURE ANCHORS ARE FLUSH TO THE WALL
Step 8: REPLACE VENT INTO OPENING
Step 9: SECURE ALL SCREWS THROUGH HOLES IN VENT INTO ANCHORS SET IN WALL
Step 10: CAULK AROUND PERIMETER OF VENT TO HELP PREVENT WATER FROM SEEPING BEHIND THE FLANGE FRAME

FOR WOOD WALLS: Use Wood Screws
FOLLOW STEPS 1-5 ABOVE
Step 5: DRILL HOLES 1/2" DEEP INTO THE WOOD WALL
Step 6: REPLACE VENT OVER THE OPENING
Step 7: SECURE ALL SCREWS THROUGH HOLES IN VENT INTO THE WOOD WALL
Step 8: CAULK AROUND PERIMETER OF VENT TO HELP PREVENT WATER FROM SEEPING BEHIND THE FRAME

FOR INSTALLATION INTO DOORS:
FOLLOW STEPS 1-5 ABOVE
Step 5: IF THE DOOR IS NOT A SOLID DOOR, USE ALUMINUM FLASHING AROUND THE PERIMETER OF THE HOLE
Step 6: DRIVE WOOD OR METAL SCREWS THROUGH PREDRILLED HOLES IN VENTS INTO WOOD FRAMING
Step 7: CAULK AROUND PERIMETER OF VENT TO HELP PREVENT WATER FROM SEEPING BEHIND THE FLANGE FRAME

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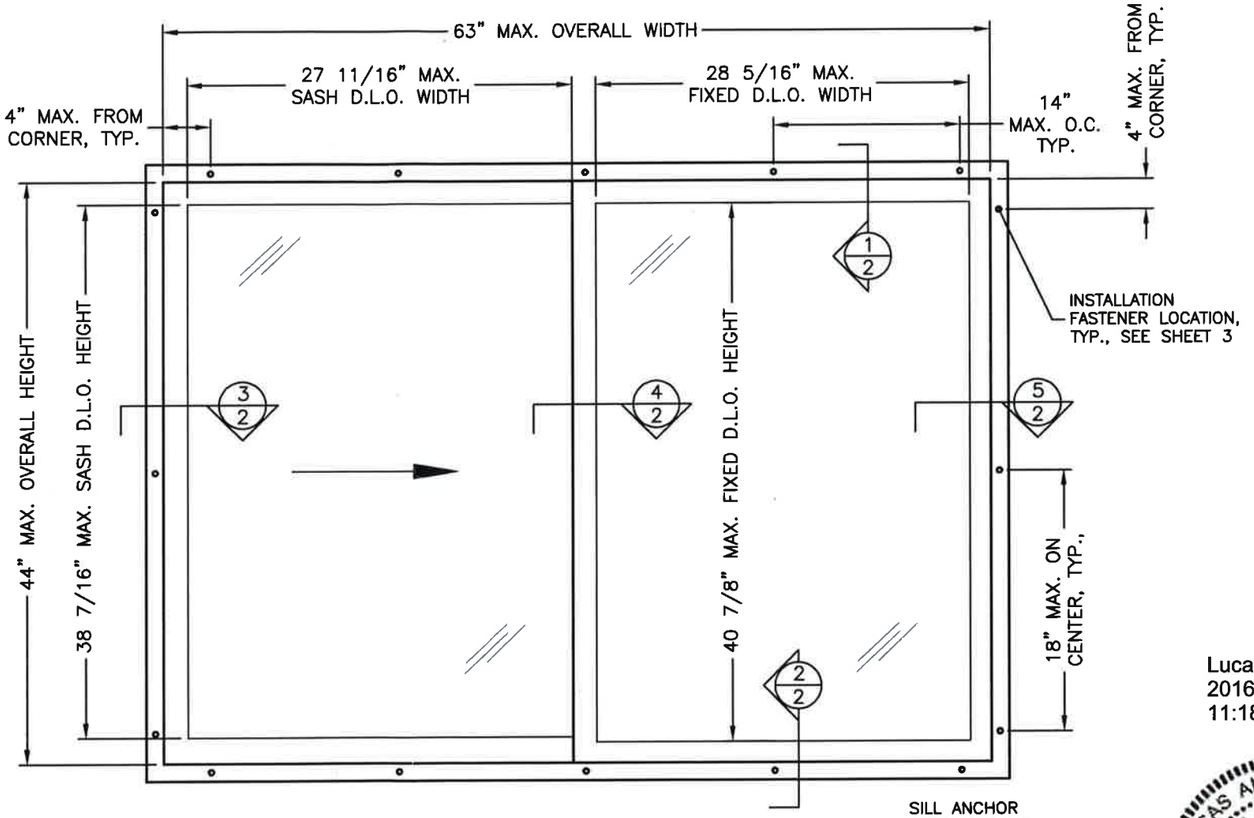
SERIES 82000 HORIZONTAL SLIDING WINDOW, NON-IMPACT

TABLE OF CONTENTS

TABLE 1. DESIGN PRESSURE RATINGS

GLASS	DESIGN PRESSURE RATING	IMPACT RATING
1/8"-1/8" I.G. ANNEALED MINIMUM	+30/-30 PSF	NONE
5/32"ANNEALED MINIMUM	+20/-20 PSF	NONE



EXTERIOR ELEVATION

Lucas A. Turner
2016-06-17
11:18-04:00

Reviewed for Code Compliance
Universal Engineering Sciences

LUCAS ANDREW TURNER LICENSE No 58201 STATE OF FLORIDA PROFESSIONAL ENGINEER

GENERAL NOTES

1. THIS PRODUCT, FABRICATED AND ANCHORED AS DETAILED IN THIS DRAWING, IS NON-IMPACT RESISTANT AND REQUIRES THE USE OF IMPACT PROTECTIVE DEVICES (SHUTTERS) IN WINDBORNE DEBRIS REGIONS.
2. THIS PRODUCT HAS BEEN TESTED TO AAMA/WDMA/CSA 101/I.S.2/A440-08/11, AND MEETS THE REQUIREMENTS OF THE FLORIDA BUILDING CODE, 5TH EDITION (2014), NOT INCLUDING THE HIGH VELOCITY HURRICANE ZONE. PRODUCTS SHALL BE CONSTRUCTED AS INDICATED IN INTERTEK/ATI REPORTS F5086.01-109-44-R0 AND F9644.01-109-44-R0; FOR DETAILS NOT SHOWN IN THIS DRAWING SEE REPORTS.
3. ALLOWABLE CONFIGURATIONS: XO (OPERABLE/FIXED) OR OX (FIXED/OPERABLE)
4. THE DESIGN PRESSURE RATINGS AS SHOWN IN TABLE 1, THIS SHEET, ARE AS LIMITED BY ASTM E-1300 04 GLASS TABLES, AND TESTED WATER AND STRUCTURAL PRESSURES. OTHER GLASS, ANNEALED OR TEMPERED OF GREATER OR EQUAL THICKNESS TO THOSE NOTED IN TABLE 1, WHICH MEETS ASTM E 1300 REQUIREMENTS FOR EACH PROJECT, MAY BE USED.
5. THE 4/3 ALLOWABLE STRESS INCREASE FACTOR (SHORT-TERM INCREASE FACTOR) HAS NOT BEEN USED IN THE ANCHOR ANALYSIS FOR THIS SYSTEM. THE 1.6 Cd FACTOR WAS USED IN THE ANALYSIS OF ANCHORAGE INTO WOOD SUBSTRATE.
6. INSTALLATION OF WOOD BUCKS TO THE SUBSTRATE TO BE ENGINEERED BY OTHERS OR AS APPROVED BY THE AUTHORITY HAVING JURISDICTION (A.H.J.). BUCKING, OPENINGS, & BUCKING FASTENERS MUST BE PROPERLY DESIGNED & INSTALLED BY OTHERS IN ACCORDANCE WITH THE FBC TO TRANSFER SUPERIMPOSED LOADS TO THE STRUCTURE. ADEQUACY OF THE STRUCTURE TO RECEIVE THESE LOADS SHALL BE VERIFIED BY THE CONTRACTOR OR A.H.J.
7. DISSIMILAR MATERIALS THAT COME INTO CONTACT SHALL BE COATED OR OTHERWISE PROTECTED PER FBC CHAPTER 20 TO PREVENT GALVANIC REACTIONS. WOOD BUCKS, IF USED, SHALL BE PRESSURE TREATED, WITH EITHER A TREATMENT OR COATING COMPATIBLE WITH THIS PRODUCT. ALL ANCHORS USED SHALL BE OF A MATERIAL OR HAVE A COATING COMPATIBLE WITH THE PRESSURE TREATED WOOD BUCKS AND ALL OTHER WINDOW MATERIALS.
8. ALL HARDWARE & FASTENERS SHALL BE IN ACCORDANCE WITH THESE DRAWINGS, OR AS APPROVED, SIGNED, AND SEALED BY A FLORIDA-REGISTERED PROFESSIONAL ENGINEER ON A SITE-SPECIFIC BASIS.
9. SEALING AND FLASHING STRATEGIES FOR OVERALL WATER INFILTRATION RESISTANCE OF THE INSTALLED PRODUCT SHALL BE THE RESPONSIBILITY OF OTHERS AND IS NOT ADDRESSED BY THIS DOCUMENT.

6/17/2016
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TAFCO CORPORATION
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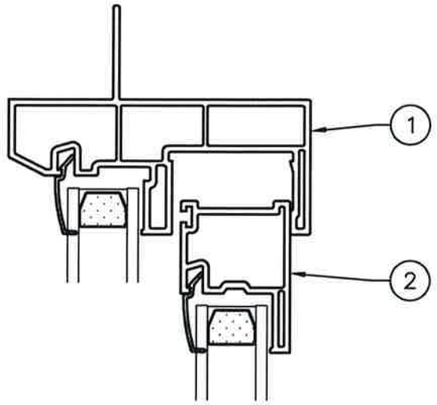
MELROSE PARK, ILLINOIS 60160
PH: 847-678-8425

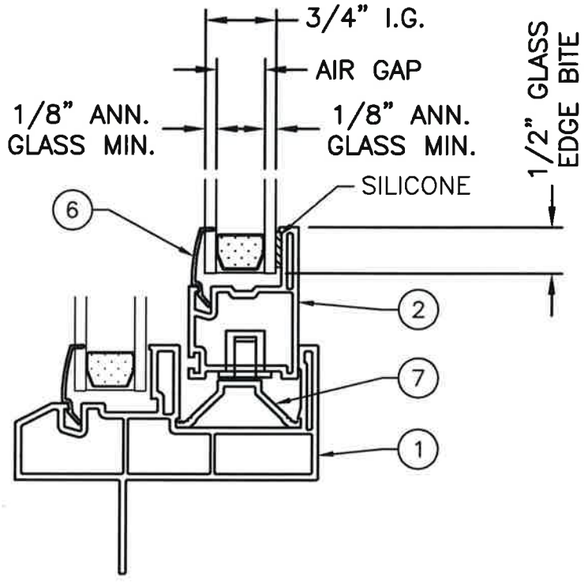
VINYL HORIZONTAL SLIDING WINDOW SERIES 82000

DRAWN BY: LAT
DATE: 6/15/16
SCALE: NTS
REVISION:
REVISION:
DRAWING # FPA-82000
SHEET DESCRIPTION: NOTES, ELEVATION
SHEET 1 of 4



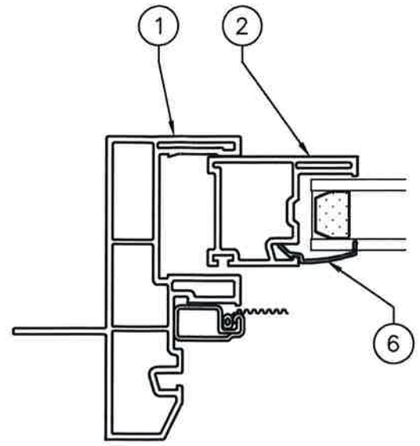
1/2

TYP. I.G. GLAZING DETAILK

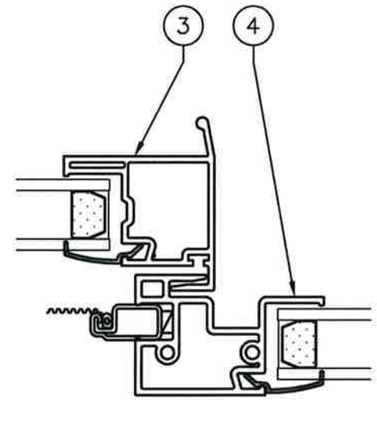


2/2

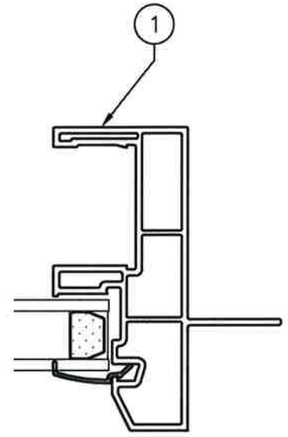
TYPICAL VERTICAL SECTION



3/2

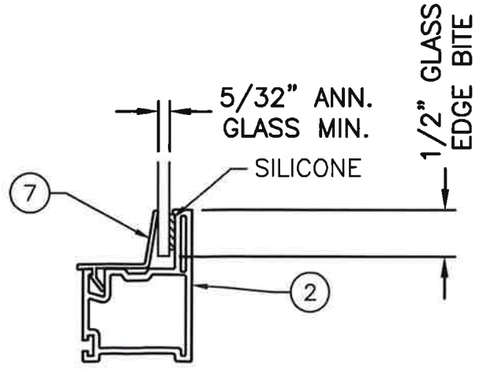


4/2



5/2

TYPICAL HORIZONTAL SECTION



TYPICAL SINGLE GLAZING DETAIL

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Universal Engineering Sciences

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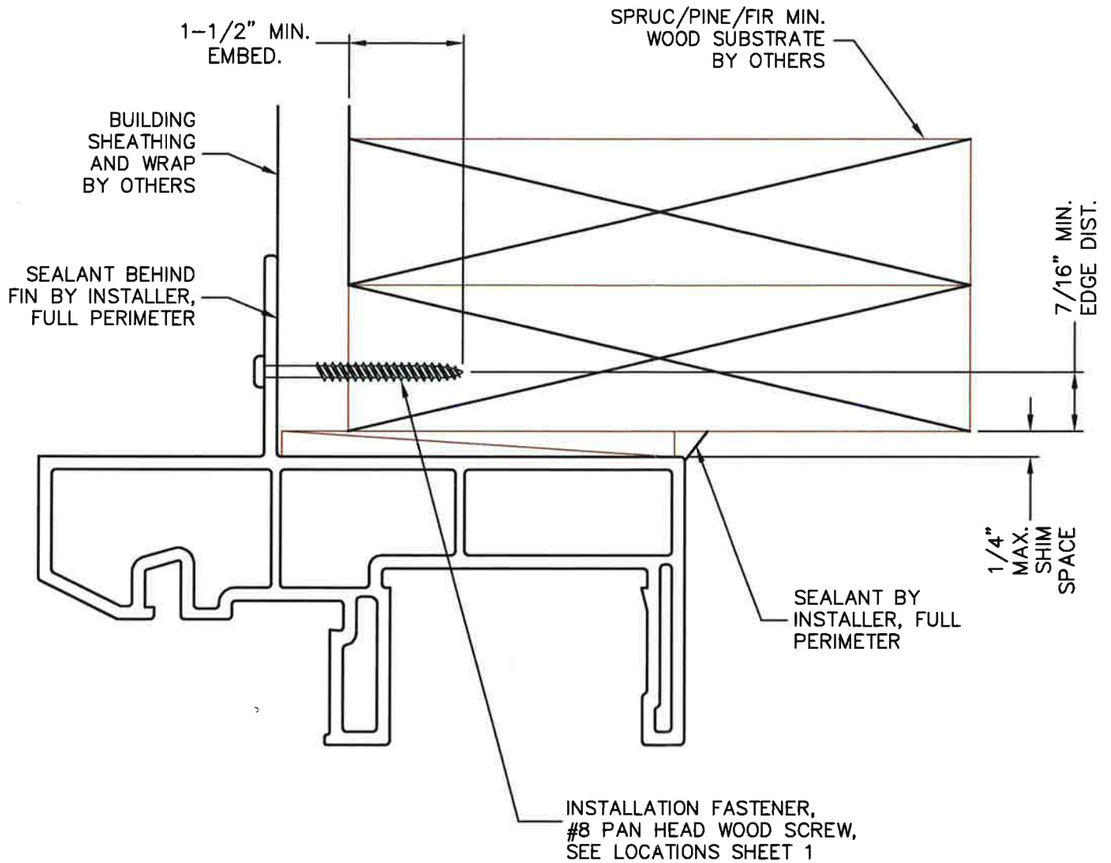
VINYL HORIZONTAL SLIDING WINDOW SERIES 82000

DRAWN BY: LAT
DATE: 6/15/16
SCALE: NTS
REVISION:
REVISION:
DRAWING #: FPA-82000
SHEET DESCRIPTION: SECTION DETAILS



TYPICAL INSTALLATION HEAD, SILL, AND JAMB

GENERAL ANCHOR NOTES:

1. INSTALL ONE ANCHOR AS SHOWN ABOVE AT EACH LOCATION SHOWN IN THE ELEVATION ON SHEET 1 FOR PRODUCT PERIMETER.
2. INSTALL SHIMS AT EACH ANCHOR LOCATION WHERE A GAP OF 1/16" OR GREATER EXISTS BETWEEN PRODUCT FRAME AND SUBSTRATE.
3. SHIMS SHALL BE LOAD–BEARING (PLASTIC OR METALLIC) AND CAPABLE OF TRANSFERRING LOADS TO SUBSTRATE.
4. SPECIFIED ANCHOR EMBEDMENT TO WOOD SUBSTRATE SHALL BE BEYOND SHEATHING, WALL FINISH OR STUCCO.
5. THE INSTALLATION DETAIL SHOWN IS ALSO APPLICABLE FOR INSTALLATION TO WOOD BUCKS INSTALLED OVER CONCRETE/MASONRY, WITH ATTACHMENT OF 2X TO CONCRETE/MASONRY BY OTHERS.

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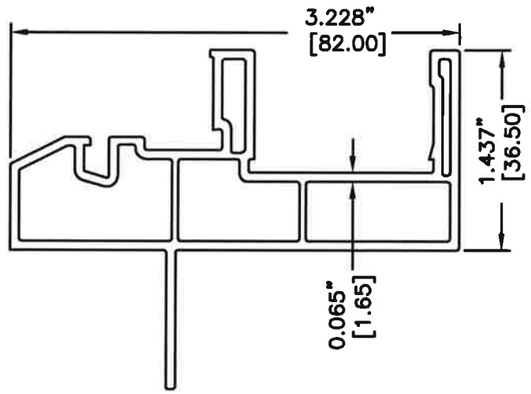
VINYL HORIZONTAL SLIDING WINDOW SERIES 82000

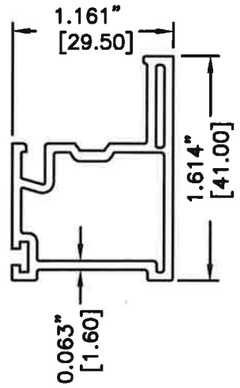
DRAWN BY: LAT
DATE: 6/15/16
SCALE: NTS
REVISION:
REVISION:
DRAWING #: FPA–82000
SHEET DESCRIPTION: INSTALLATION DETAILS

82000 SERIES WINDOW BILL OF MATERIALS

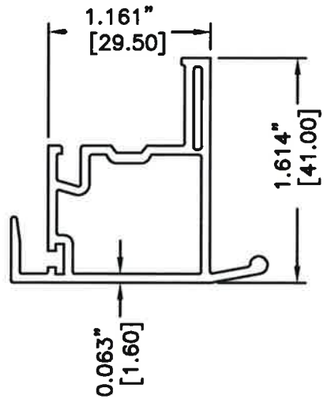
ITEM NO.	DWG. NO.	NAME	MATERIAL	DESCRIP.
1	HMST82-01	MAIN FRAME	PVC	EXTRUSION
2	HMST82-03	SASH	PVC	EXTRUSION
3	HMST82-05	LOCKED SASH	PVC	EXTRUSION
4	HMST82-06	INTERLOCK	PVC	EXTRUSION
5	HMST82-07	TRACK	PVC	EXTRUSION
6	HMST130-10B	IG GLASS BEAD	PVC	EXTRUSION
7	HMST130-10A	SINGLE GLASS BEAD	PVC	EXTRUSION



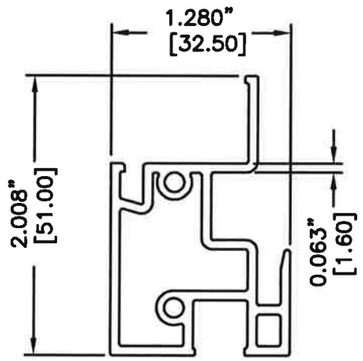
1 MAIN FRAME
HMST82-01



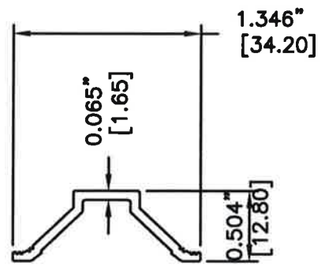
2 SASH
HMST82-03



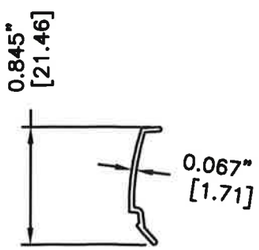
3 LOCKED SASH
HMST82-05



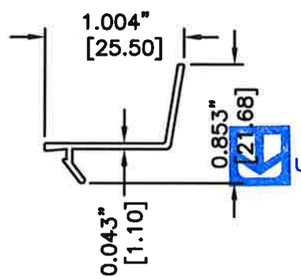
4 INTERLOCK
HMST82-06



5 TRACK
HMST82-07



6 IG GLASS BEAD
HMST130-10B



7 SINGLE GLASS BEAD
HMST130-10A

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VINYL HORIZONTAL SLIDING WINDOW SERIES 82000

DRAWN BY: LAT
DATE: 6/15/16
SCALE: NTS
REVISION:
REVISION:
DRAWING #: FPA-82000
SHEET DESCRIPTION: BOM, PART DWGS, CORNER

Built on site

UNINHABITED UTILITY SHED UP TO 12' WIDE x UP TO 24' LONG
SR600, TR700, PR

NOTES:

1. **BUILDING CODE:**
   FLORIDA BUILDING CODE, 5th EDITION (2014)
   BUILDINGS ARE NOT FOR HIGH-VELOCITY HURRICANE ZONES (HVHZ)
2. **DESIGN LOADING:**

WIND SPEED (T1609.3.1):	V_{ult} =	155
	V_{asd} =	120
EXPOSURE:		C
ROOF LIVE LOAD:		20 PSF
ROOF DEAD LOAD:		10 PSF
FLOOR LIVE LOAD:		MIN. 50 PSF (SEE NOTE 5, DETAIL 1, SHEET 3)
IMPORTANCE FACTOR: (I_w):		1.0
RISC CATEGORY:		I
COMPONENT AND CLADDING:	ROOF:	31 PSF (ZONE 1)
WIND PRESSURE (psf) (ASD VALUES)		67 PSF (ZONE 2, 3)
(BASED ON 10 SQ FT)	WALL:	34 PSF (ZONE 4)
		42 PSF (ZONE 5)
INTERNAL WIND PRESSURE COEFFICIENT:		+0.18
(ENCLOSED BUILDING)		-0.18

FLORIDA BUILDING APPROVAL NUMBERS–

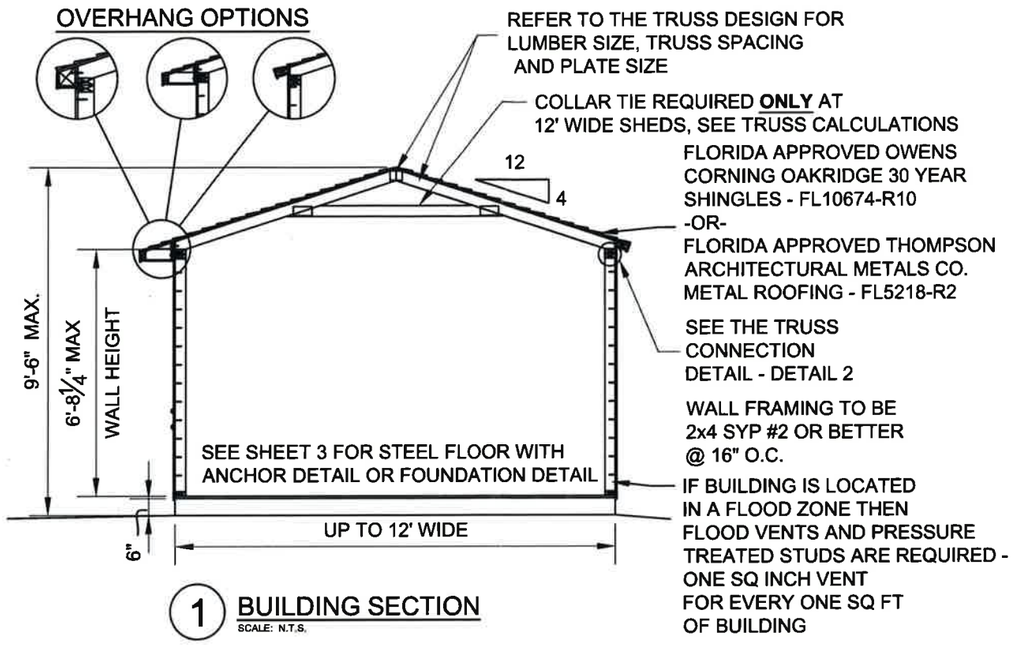
1. WINDOWS BY CROFT LLC - FLORIDA BUILDING APPROVAL #FL15585-R2.
2. LP SMARTSIDE SIDING - FLORIDA BUILDING APPROVAL #FL9190.6.
3. SHINGLES BY OWENS CORNING - FLORIDA BUILDING APPROVAL #FL10674-R10.
4. ROOF UNDERLAYMENT BY WOODLAND INDUSTRIES INC. - FLORIDA BUILDING APPROVAL #FL17206.2.
5. THOMPSON ARCHITECTURAL METALS CO. METAL ROOFING - FLORIDA BUILDING APPROVAL #FL5218-R2.
6. INNOVATIONS MANUFACTURING, INC. TRANSOM WINDOWS - FLORIDA BUILDING APPROVAL #FL17667.
7. FLOOD SOLUTIONS, LLC FLOOD VENTS (IF REQ'D)- FLORIDA BUILDING APPROVAL #FL17588.1.

HEADER NAILING:
HEADER TO STUD - 4-16d END NAIL DOUBLED HEADER
- 16d @ 16" STAGGERED FACE NAIL

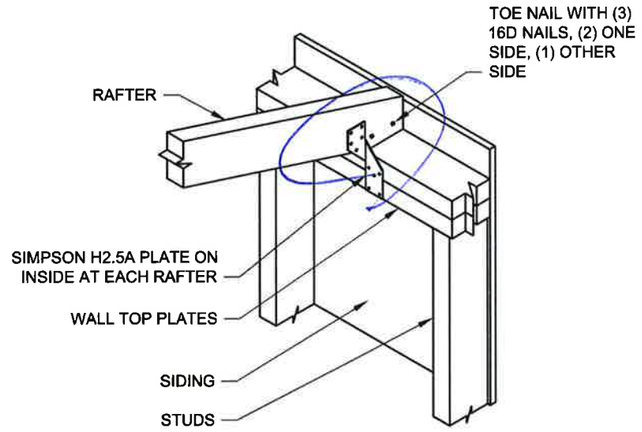
NAILING:

REFER TO SHEET 2 FOR WALL AND ROOF SHEATHING NAILING.

MAX WALL HEIGHT FOR EACH SHED:
SR600 - 5'-8 1/4" (68 1/4")
TR700 - 6'-8 1/4" (80 1/4")
PR - 6'-4 1/2" (76 1/2")

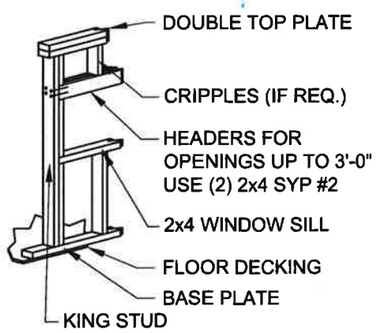


1 BUILDING SECTION
SCALE: N.T.S.

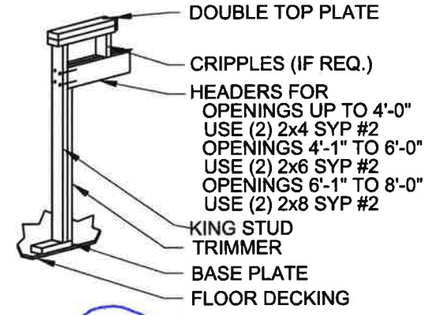


2 TRUSS TO WALL CONNECTION DETAIL
SCALE: N.T.S.

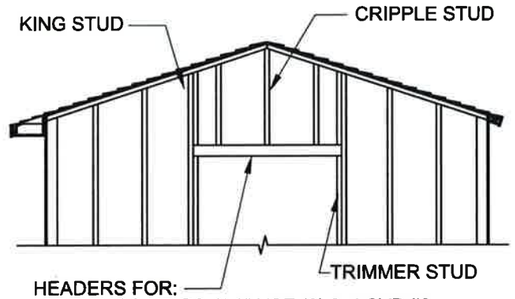
Reviewed for Code Compliance
Universal Engineering Sciences
7-25-17



FOR WINDOW OPENINGS UP TO 3'-0"
3A WINDOW HEADER DETAIL FOR SIDE WALLS
SCALE: N.T.S.



FOR OPENINGS UP TO 8'-0"
3B DOOR HEADER DETAIL FOR SIDE WALLS
SCALE: N.T.S.



4 HEADER DETAIL FOR END WALLS
SCALE: N.T.S.

TUFF SHED
Storage Buildings & Garages
TUFF SHED, MFG. FACILITIES

Order #.
Customer:
Site Address:
Building Size: WIDTH - LENGTH - HEIGHT - SQ. FT. AREA

P.O. #
Drawn By: PK
Date: 12/3/14
Checked By:
Date:
Scale: N.T.S.

TUFF SHED, INC.
ENGINEERING DEPARTMENT
RICHARD J. WILLS, P.E.
1777 S. HARRISON STREET
DENVER, COLORADO 80210
(303) 753-8833 EXT. 5618

This item has been electronically signed and sealed by Richard Wills, PE. On the date shown using a Digital Signature.

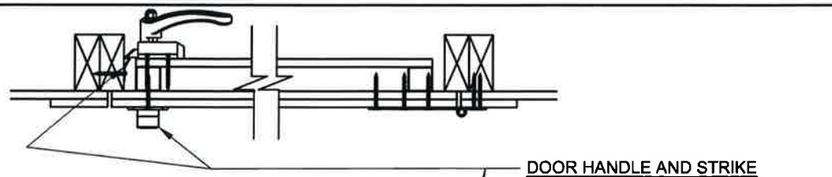
Printed copies of this document are not considered signed and sealed and the signature must be verified on any electronic copies.

RICHARD WILLS LICENSE No. 76835 STATE OF FLORIDA PROFESSIONAL ENGINEER

TITLE
BUILDING SECTIONS
HEADER FRAMING DETAILS
FBC, 5th EDITION (2014)
155C

DRAWING NO. FL-PR-SR-TR-01
REV. LEVEL 01
SHEET 1
PAGE 1 **OF** 4

18 AUG 2016



DOOR HANDLE AND STRIKE PLATE ATTACHMENT

INSTALL DOOR HANDLE PER MANUFACTURER'S INSTRUCTIONS. USE #8 x 2-1/4" SQUARE DRIVE WOOD SCREWS.

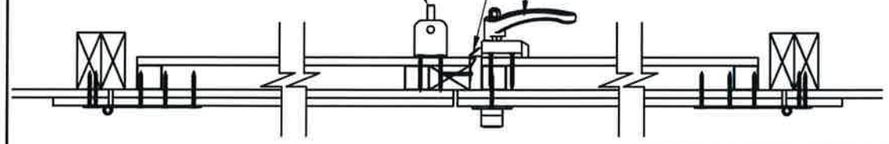
ATTACH STRIKE PLATE WITH (3) #8 x 2" SQUARE DRIVE WOOD SCREWS.

1A SINGLE DOOR ASSEMBLY TOP VIEW

SCALE: N.T.S.

BOLT LATCH ON FIXED DOOR FOR DOUBLE DOOR

ATTACH (1) BOLT LATCH AT THE TOP AND (1) BOLT LATCH AT THE BOTTOM OF THE FIXED DOOR. ATTACH EACH BOLT LATCH ASSEMBLY WITH (4) #8 x 2-1/4" SQUARE DRIVE WOOD SCREWS.



EXTERIOR DOOR SHEATHING

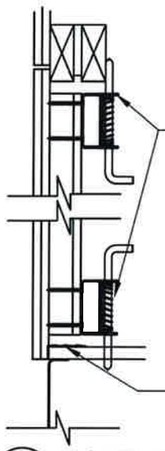
3/8" SMARTSIDE OR 3/8" SMARTSIDE WITH FOIL BACKER

INTERIOR DOOR SHEATHING

7/16" OSB OR 7/16" OSB WITH FOIL BACKER

1B DOUBLE DOOR ASSEMBLY TOP VIEW

SCALE: N.T.S.



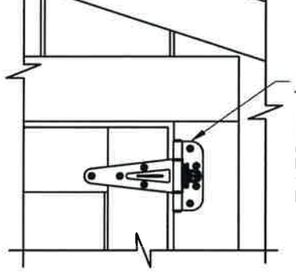
BOLT LATCH ON FIXED DOOR FOR DOUBLE DOOR

WHEN THE FIXED DOOR IS CLOSED AND BOTH BOLT LATCHES ARE ENGAGED, THE TOP BOLT LATCH WILL REST AGAINST THE INSIDE EDGE OF THE HEADER, AND THE BOTTOM BOLT WILL REST IN A PRE-DRILLED HOLE IN THE FLOOR DECKING.

DOOR THRESHOLD

2 DOUBLE DOOR ASSEMBLY SIDE VIEW

SCALE: N.T.S.



HINGE ATTACHMENT

(3) TUFF SHED HINGES PER DOOR/DOOR PANEL, FILL EVERY HOLE IN HINGE WITH A #8 x 2-1/4" SQUARE DRIVE WOOD SCREW.

3 HINGE ASSEMBLY FRONT VIEW

SCALE: N.T.S.

DOORS:
STANDARD DOOR CONSTRUCTION FOR TUFF SHED DOORS UP TO 48" x 80 1/4" ON SINGLE HUNG DOORS AND 96" x 80 1/4" ON DOUBLE DOORS EXCEED ALL LOAD REQUIREMENTS FOR THE LOAD CRITERIA ON SHEET 1.

3/8 SMART SIDE NAILING REQUIREMENTS

USE THESE NAILING TABLES FOR THE SR600, TR700 AND PR DRAWINGS

SIDE WALL EDGE NAILING REQUIREMENTS

MARK WALLS BEING USED	END WALL WIDTH	SIDE WALL LENGTH	EDGE NAILING	MAX. COMB. OPENING (NOTE 2)	MIN TOTAL COMBINED SHEAR WALL
NO OPENINGS ALONG THE WALL					
	6'	6'-18'	8d NAILS @ 6" O.C.	0'	6'-18'
	8'	8'-24'	8d NAILS @ 6" O.C.	0'	8'-24'
	10'	10'-24'	8d NAILS @ 6" O.C.	0'	10'-24'
	12'	12'-24'	8d NAILS @ 6" O.C.	0'	12'-24'
▪MIN 2'-0" RTN WALLS ON EACH END OF WALL-				**▪MIN 2'-0" WALL SEGMENT**	
	8'	6'-18'	8d NAILS @ 6" O.C.	UP TO 12'	4'
	8'	8'-24'	8d NAILS @ 6" O.C.	UP TO 12'	4'
	10'	10'-24'	8d NAILS @ 4" O.C.	UP TO 12'	4'
	12'	12'-24'	8d NAILS @ 4" O.C.	UP TO 12'	4'

ROOF SHEATHING (7/16" OSB)

WIDTH	LENGTH	FIELD NAILING	EDGE NAILING
6'	6'-18'	8d NAILS @ 12" O.C	8d NAILS @ 4" O.C.
8'	8'-24'	8d NAILS @ 12" O.C	8d NAILS @ 4" O.C.
10'	10'-24'	8d NAILS @ 12" O.C	8d NAILS @ 4" O.C.
12'	12'-24'	8d NAILS @ 12" O.C	8d NAILS @ 4" O.C.

NOTES:
1. USE 8d COMMON OR GALVANIZED BOX NAILS.

END WALL EDGE NAILING REQUIREMENTS

MARK WALLS BEING USED	END WALL WIDTH	SIDE WALL LENGTH	EDGE NAILING	MAX. COMB. OPENING	MIN TOTAL COMBINED SHEAR WALL
NO OPENINGS ALONG THE WALL					
	* 6'	6'	8d NAILS @ 6" O.C.	SEE NOTE 3	
	* 6'	8'-9'	8d NAILS @ 4" O.C.	SEE NOTE 3	
	6'	10'-12'	8d NAILS @ 6" O.C.	0'	6'
	6'	14'-18'	8d NAILS @ 4" O.C.	0'	6'
	8'	8'-24'	8d NAILS @ 6" O.C.	0'	8'
	10'	10'-24'	8d NAILS @ 6" O.C.	0'	10'
	12'	12'-24'	8d NAILS @ 6" O.C.	0'	12'
▪MIN 2'-0" RTN WALLS ON EACH END OF WALL-				**▪MIN 2'-0" WALL SEGMENT**	
	6'	6'-9'	8d NAILS @ 6" O.C.	3'	SEE NOTE 3
	6'	10'-12'	8d NAILS @ 6" O.C. (BS)	3'	2' (RE: NOTE 6)
	6'	14'-18'	8d NAILS @ 4" O.C. (BS)	3'	2' (RE: NOTE 6)
	8'	8'-14'	8d NAILS @ 6" O.C.	3'	5'
	8'	16'-22'	8d NAILS @ 4" O.C.	3'	5'
	8'	24'	8d NAILS @ 3" O.C.	3'	5'
	8'	8'-10'	8d NAILS @ 6" O.C.	4'	4'
	8'	12'-16'	8d NAILS @ 4" O.C.	4'	4'
	8'	18'-24'	8d NAILS @ 3" O.C.	4'	4'
	10'	10'-22'	8d NAILS @ 6" O.C.	3'	7'
	10'	24'	8d NAILS @ 4" O.C.	3'	7'
	10'	10'-18'	8d NAILS @ 6" O.C.	4'	6'
	10'	20'-24'	8d NAILS @ 4" O.C.	4'	6'
	10'	10'	8d NAILS @ 6" O.C.	6'	4'
	10'	12'-18'	8d NAILS @ 4" O.C.	6'	4'
	10'	20'-24'	8d NAILS @ 3" O.C.	6'	4'
	12'	12'-24'	8d NAILS @ 6" O.C.	4'	8'
	12'	12'-18'	8d NAILS @ 6" O.C.	6'	6'
	12'	20'-24'	8d NAILS @ 4" O.C.	6'	6'
	12'	12'-18'	8d NAILS @ 4" O.C.	8'	4'
	12'	20'-24'	8d NAILS @ 3" O.C.	8'	4'

TABLE NOTES:

1. NAILING IS FOR 3/8" SMARTSIDE PANEL OR 3/8" SMARTSIDE WITH FOIL BACKER.
2. NO SINGLE OPENING GREATER THAN 8'-0"
3. * 6' WIDE X 6'-9' LENGTH BUILDINGS ARE BASED ON 3-SIDED DIAPHRAGM. THE END WALL OPPOSITE OF THE OPENING MUST BE FULLY SHEATHED, IN THE 3-SIDED DIAPHRAGM CASES. THE END WALL WITH THE OPENING DOES NOT HAVE A MIN. RETURN WALL ON EACH SIDE OF THE OPENING.
4. USE COMMON OR GALVANIZED BOX NAILS.
5. FIELD NAILING FOR 3/8" SMARTSIDE: 8d @ 12" O.C.
6. ON THESE BUILDINGS 6' X 10'-18' THE 3' DOOR IN THE END WALL WILL NEED TO BE OFF SET. THERE WILL BE A 2' PANEL ON ONE SIDE AND A 1' PANEL ON THE OTHER SIDE OF THE DOOR.
7. (BS) - DESIGNATES WALLS THAT NEED TO BE SHEATHED ON BOTH SIDES.

Reviewed for Code Compliance Universal Engineering Sciences

TUFF SHED
Storage Buildings & Garages
TUFF SHED, MFG. FACILITIES

Order #.
Customer:
Site Address:
Building Size: WIDTH - LENGTH - HEIGHT - SQ. FT. AREA

P.O. #
Drawn By: PK
Date: 12/3/14
Checked By:
Date:
Scale: N.T.S.

TUFF SHED, INC.
ENGINEERING DEPARTMENT

RICHARD J. WILLS, P.E.

1777 S. HARRISON STREET
DENVER, COLORADO 80210
(303) 753-8833 EXT. 5618

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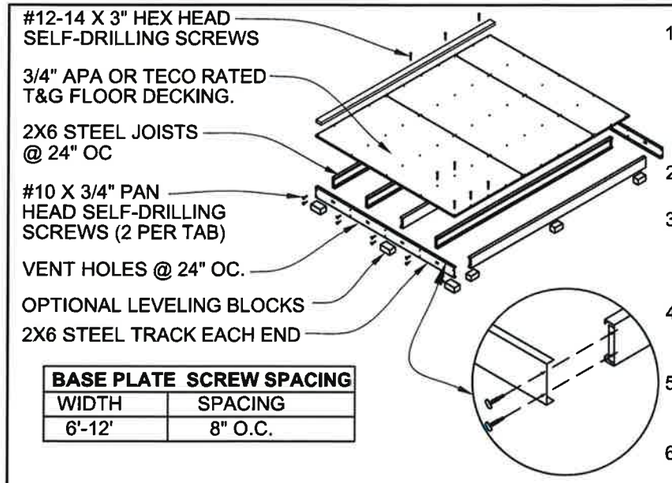
Printed copies of this document are not considered signed and sealed and the signature must be verified on any electronic copies.

RICHARD WILLS LICENSE No. 76835 STATE OF FLORIDA PROFESSIONAL ENGINEER

TITLE
DOOR DETAILS
NAILING REQUIREMENTS
FBC, 5th EDITION (2014)
155C

DRAWING NO. FL-PR-SR-TR-01
REV. LEVEL 01
SHEET 2

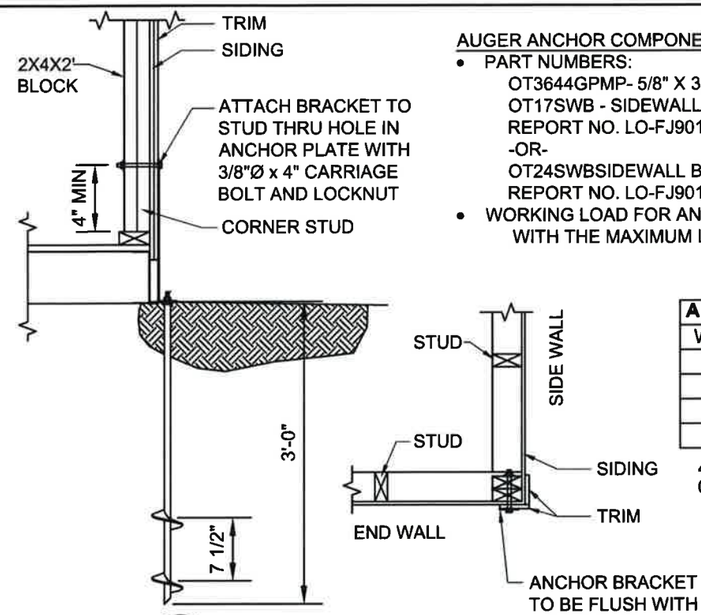
18 AUG 2016



BASE PLATE SCREW SPACING	
WIDTH	SPACING
6'-12'	8" O.C.

1. STEEL SHED FOUNDATION:
   600T125-054 - 16 GAUGE STEEL TRACKS G140 ZINC COATED
   600S137-054 - 16 GAUGE STEEL JOISTS G140 ZINC COATED @ 24" O.C.
   (SUPPLIER: ALLIED STUDCO (JOIST: 600S137-054 / TRACK: 600T125-054) ICC ER-4943P.
2. 3/4" APA OR TECO RATED TONGUE AND GROOVE FLOOR DECKING. 24" MAX PANEL SPAN. STAGGER PANEL LAYOUT.
3. FASTEN FLOOR DECKING TO JOIST & TRACKS USING #8 x 1-5/8" ZINC PLATED SCREWS @ 12" O.C.
   NO BLOCKING REQUIRED. ALL EDGES SHALL LIE ON FLOOR JOISTS. STAGGER PANEL LAYOUT PER APA CONDITION 1.
4. FASTEN SOLE PLATE THROUGH FLOOR DECKING INTO JOISTS OR TRACKS WITH #12-14 X 3" GALVANIZED SELF-DRILLING SCREWS. REFERENCE SPACING CHART.
5. ALLOWABLE FLOOR LIVE LOAD: 75 PSF FOR STEEL JOISTS CONTINUOUSLY SUPPORTED. 50 PSF FOR JOISTS ON BLOCKS AS SHOWN.
6. USE OPTIONAL CONCRETE BLOCKS AS REQUIRED TO LEVEL BUILDING:
   SUGGESTED SIZES: 2" x 8" x 16", 4" x 8" x 16", OR 8" x 8" x 16".
   BLOCKS UNDER JOISTS SPACED @ 8'-0" O.C. MAXIMUM.
   BLOCKS UNDER TRACK SPACED @ 4'-0" O.C. MAXIMUM.

1 STEEL SHED BASE DETAIL
SCALE: N.T.S.



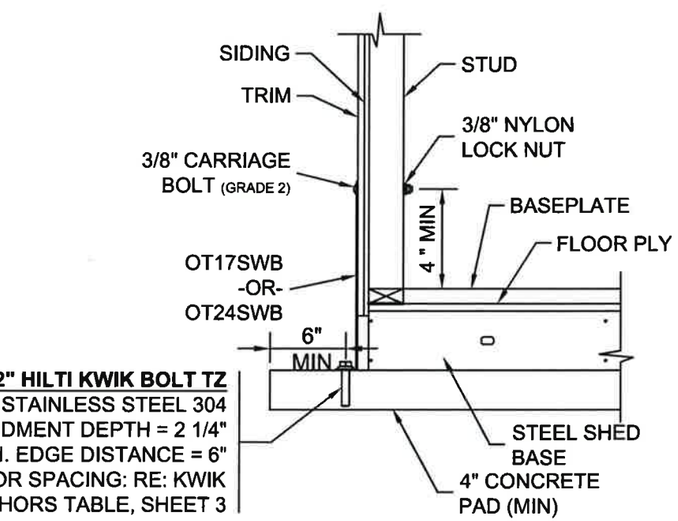
AUGER ANCHOR COMPONENTS BY OLIVER TECHNOLOGIES

- PART NUMBERS:
  OT3644GPMP- 5/8" X 36" (36" IMBED) GALVANIZED AUGER
  OT17SWB - SIDEWALL BRACKET FOR USE WITH THRU BOLTS
  REPORT NO. LO-FJ90129-A
  -OR-
  OT24SWBSIDEWALL BRACKET FOR USE WITH THRU BOLTS
  REPORT NO. LO-FJ90129-B
- WORKING LOAD FOR ANCHOR SYSTEM IS 3,150 LBS WITH THE MAXIMUM LOAD OF 5,080 LBS

AUGER ANCHORS		
WIDTH	LENGTH	# OF ANCHORS
6'	6'-18'	4 ANCHORS
8'	8'-24'	4 ANCHORS
10'	10'-24'	4 ANCHORS
12'	12'-24'	4 ANCHORS

4-ANCHORS PROVIDE (1) AT EA. CORNER OF THE BUILDING.

2 AUGER ANCHOR DETAIL
SCALE: N.T.S.



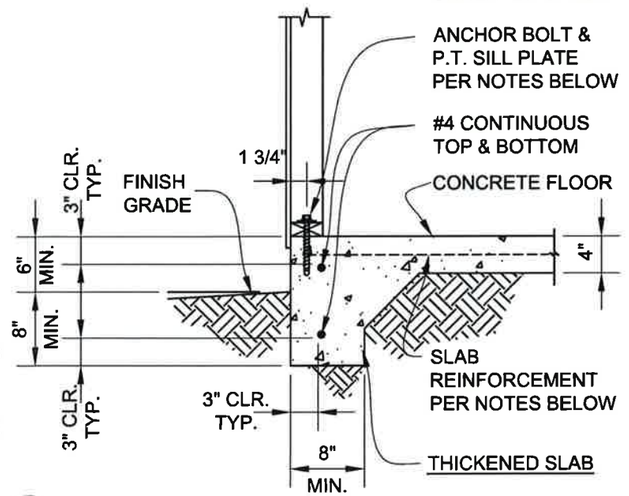
1/2" HILTI KWIK BOLT TZ
STAINLESS STEEL 304
EMBEDMENT DEPTH = 2 1/4"
MIN. EDGE DISTANCE = 6"
ANCHOR SPACING: RE: KWIK BOLT ANCHORS TABLE, SHEET 3

KWIK BOLT ANCHORS (INTO CONCRETE) RE: DETAIL 3 SHEET 3		
WIDTH	LENGTH	QTY
6'	6'-10'	6
6'	12'-18'	8
8'	8'-14'	6
8'	16'-20'	8
8'	22'-24'	10
10'	10'-16'	6
10'	18'-24'	8
12'	12'-18'	6
12'	20'-24'	8

NOTES:
1. ANCHORS TO BE KWIK BOLT TZ, 304 SS

2. PROVIDE (1) ANCHOR AT EA. CORNER OF THE BUILDING. THE REMAINING ANCHORS EQUALLY SPACED ALONG THE LENGTH OF THE BUILDING. (1/2 THE REMAINING ANCHORS ON EA. LENGTH SIDE EQUALLY SPACED).

3 SIDEWALL BRACKET DETAIL
SCALE: N.T.S.



CONTINUOUS FOOTING NOTES
1. TOP OF SLAB TO BE 6" MIN. ABOVE GRADE. SLAB REINFORCEMENT SHALL BE WWF 6X6 W1.4xW1.4 . LOCATE AT MID-DEPTH OF SLAB.
   -OR-
   SLAB REINFORCEMENT SHALL BE FIBERMESH 150 OR BLENDED FIBERMESH150. FIBERMESH SHOULD BE DISPERSED UNIFORMLY THROUGH CONCRETE W/ MIN. 1 POUND PER CUBIC YARD OF CONCRETE.
2. ALL FOOTING FORMS SHALL BE INSPECTED FOR SIZE AND REINFORCING BEFORE POURING CONCRETE.
3. FOOTINGS SHALL BEAR ON UNDISTURBED NATURAL, COMPETENT SOIL, OR PROPERLY COMPACTED STRUCTURAL FILL. ALLOWABLE SOIL BEARING PRESSURE IS 1000 PSF AT 12" BELOW GRADE.
4. CONCRETE: MINIMUM 28 DAY COMPRESSIVE STRENGTH, f'c = 2500 PSI.
5. REINFORCING STEEL: A615, GRADE 40 OR GRADE 60. ALL REINFORCING STEEL SHOWN TO BE CONTINUOUS MAY BE LAPPED A MINIMUM OF 38 BAR DIAMETERS OR 24" MINIMUM, WHICHEVER IS LARGER.
6. SEISMIC DESIGN CATEGORY: B
   A. ATTACH PRESSURE TREATED SOLE PLATE TO THE FOOTING USING 1/2" DIA X 7" LONG SIMPSON TITEN ANCHOR WITH WASHERS.
   B. EXPANSION BOLTS SHALL BE EMBEDDED AT LEAST 5" INTO THE CONCRETE AND SHALL BE SPACED NOT MORE THAN 6' OC.
   C. THERE SHALL BE A MINIMUM OF 2 BOLTS PER SOLE PLATE PIECE WITH 1 BOLT LOCATED NOT MORE THAN 12" NOR LESS THAN 7 BOLT DIAMETERS FROM EACH END OF EACH PIECE.

Reviewed for Code Compliance Universal Engineering Sciences

4 CONCRETE FOUNDATION DETAIL
SCALE: N.T.S.

TUFF SHED
Storage Buildings & Garages
TUFF SHED, MFG. FACILITIES

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TUFF SHED, INC.
ENGINEERING DEPARTMENT

RICHARD J. WILLS, P.E.

1777 S. HARRISON STREET
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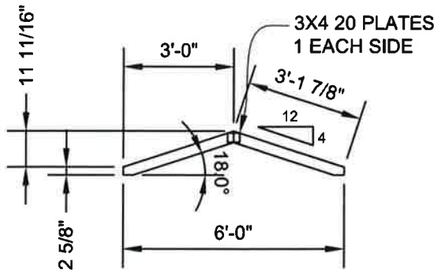
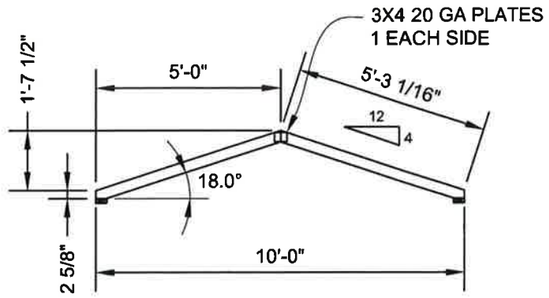
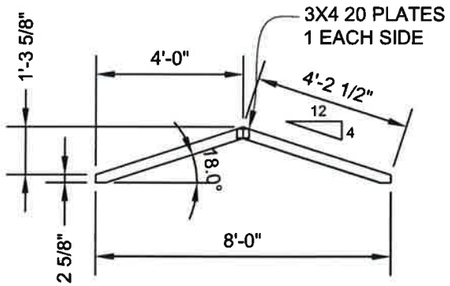
TITLE
DETAILS
FBC, 5th EDITION (2014)
155C

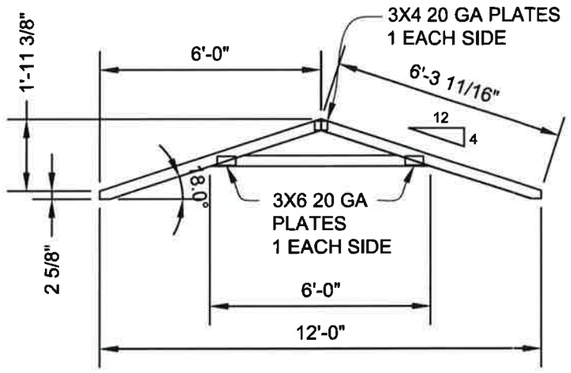
DRAWING NO. FL-PR-SR-TR-01
REV. LEVEL 01
SHEET 3
PAGE 3 **OF** 4

18 AUG 2016









6' SPAN
REACTIONS:
MAX. VERTICAL: 205 LBS.
MAX. UPLIFT: -160 LBS.

NOTE:
TRUSS MAY BE USED ON BUILDING LENGTHS UP TO 12FT UNLESS CEILING JOIST OR OTHER TENSION TIE IS PROVIDED.

8' SPAN
REACTIONS:
MAX. VERTICAL: 255 LBS.
MAX. UPLIFT: -195 LBS.

NOTE:
TRUSS MAY BE USED ON BUILDING LENGTHS UP TO 14FT UNLESS CEILING JOIST OR OTHER TENSION TIE IS PROVIDED.

10' SPAN
REACTIONS:
MAX. VERTICAL: 510 LBS.
MAX. UPLIFT: -250 LBS.

NOTE:
TRUSS MAY BE USED ON BUILDING LENGTHS UP TO 20FT UNLESS CEILING JOIST OR OTHER TENSION TIE IS PROVIDED.

12' SPAN
REACTIONS:
MAX. VERTICAL: 630 LBS.
MAX. UPLIFT: -285 LBS.

NOTE:
TRUSS MAY BE USED ON BUILDING LENGTHS UP TO 24FT UNLESS CEILING JOIST OR OTHER TENSION TIE IS PROVIDED.

MAXIMUM DEFLECTION (12 FT. SPAN)
VERT LL: 0.06 in.
VERT TL: 0.08 in.

DESIGN LOADS:
TOP CHORD LIVE LOAD = 20 PSF
TOP CHORD DEAD LOAD = 10 PSF
COLLAR TIE DEAD LOAD = 5 PSF

NOTES:
FBC, 5th EDITION (2014)
ANSI/TPI 1-2007
TRUSSES TO BE SPACED @ 24" OC
MATERIAL TO BE 2X4 SOUTHERN PINE GRADE #2 OR BETTER
PLATES ARE TO BE PRESSED IN THE WOOD PER TPI.

REP MEMBER INCREASE: YES
LUMBER D.O.L.: 1.25

WIND:
ASCE 7-10, 155 mph, Exposure C, D.O.L.=1.60

PLATES ARE MANUFACTURED BY EAGLE METAL PRODUCTS, ICC-ES #ESR-1082.

ALL PERSONS FABRICATING, HANDLING, ERECTING OR INSTALLING THIS TRUSS ARE TO DO SO IN ACCORDANCE TO THE RECOMMENDATIONS OF THE LATEST VERSION OF THE BCSI.

Reviewed for Code Compliance Universal Engineering Sciences

TUFF SHED
Storage Buildings & Garages
TUFF SHED, MFG. FACILITIES

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TUFF SHED, INC.
ENGINEERING DEPARTMENT
RICHARD J. WILLS, P.E.
1777 S. HARRISON STREET
DENVER, COLORADO 80210
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DRAWING NO.
FL-PR-SR-TR-01
REV. LEVEL 01
SHEET 4
PAGE 4 OF 4

18 AUG 2016

RICK SCOTT, GOVERNOR

KEN LAWSON, SECRETARY

STATE OF FLORIDA
DEPARTMENT OF BUSINESS AND PROFESSIONAL REGULATION
CONSTRUCTION INDUSTRY LICENSING BOARD

LICENSE NUMBER
CBC1253645

The BUILDING CONTRACTOR
Named below IS CERTIFIED
Under the provisions of Chapter 489 FS.
Expiration date: AUG 31, 2018

SAUREY, TOM
TUFF SHED INC
1777 S HARRISON ST, STE 600
DENVER CO 80210-3931

ISSUED: 06/19/2016

DISPLAY AS REQUIRED BY LAW

SEQ # L1606190000848

CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY): 02/15/2017

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER IMA, Inc. - Colorado Division 1-303-534-4567 1705 17th Street Suite 100 Denver, CO 80202	CONTACT NAME: PHONE (A/C, No, Ext): FAX (A/C, No): E-MAIL ADDRESS: denaccounttechs@imacorp.com
INSURED Tuff Shed, Inc. 1777 S. Harrison St. #600 Denver, CO 80210	INSURER(S) AFFORDING COVERAGE — NAIC # INSURER A: OLD REPUBLIC INS CO(Arthur J. Gallagher — 24147 INSURER B: LIBERTY INS CORP — 42404 INSURER C: INSURER D: INSURER E: INSURER F:

COVERAGES **CERTIFICATE NUMBER:** 49133929 **REVISION NUMBER:**

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL INSD	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS	
A	X COMMERCIAL GENERAL LIABILITY CLAIMS-MADE X OCCUR GEN'L AGGREGATE LIMIT APPLIES PER: POLICY PRO-JECT LOC OTHER:			MWZY309746	03/01/17	03/01/18	EACH OCCURRENCE DAMAGE TO RENTED PREMISES (Ea occurrence) MED EXP (Any one person) PERSONAL & ADV INJURY GENERAL AGGREGATE PRODUCTS - COMP/OP AGG	$ 1,000,000 $ 500,000 $ 10,000 $ 1,000,000 $ 2,000,000 $ 2,000,000
A	AUTOMOBILE LIABILITY X ANY AUTO ALL OWNED AUTOS / SCHEDULED AUTOS X HIRED AUTOS / X NON-OWNED AUTOS X $250 Comp. X $500 Coll.			MWTB309747	03/01/17	03/01/18	COMBINED SINGLE LIMIT (Ea accident) BODILY INJURY (Per person) BODILY INJURY (Per accident) PROPERTY DAMAGE (Per accident)	$ 1,000,000 $ $ $
B	X UMBRELLA LIAB X OCCUR EXCESS LIAB CLAIMS-MADE DED X RETENTION $ 0			TH7691462604057	03/01/17	03/01/18	EACH OCCURRENCE AGGREGATE	$ 1,000,000 $ 1,000,000
A	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH) Y/N: N / N/A If yes, describe under DESCRIPTION OF OPERATIONS below			MWC30974500	03/01/17	03/01/18	X PER STATUTE / OTH-ER E.L. EACH ACCIDENT E.L. DISEASE - EA EMPLOYEE E.L. DISEASE - POLICY LIMIT	$ 1,000,000 $ 1,000,000 $ 1,000,000
	*ALL States included in Workers Compensation: *AL, AR, StatesExcluded: ND, OH, WA, WY			*AZ, CA, CO, FL, GA, IA, ID, IL, IN *KS, KY, LA, MI, MN, MO, MS, MT, NC *NE, NM, NV, OK, OR, PA, SC, TN, TX, UT, VA, WI, WV				

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)

CERTIFICATE HOLDER

RE: Store 470
City of Belle Isle

1600 Nela Avenue

Belle Isle, FL 32809 USA

CANCELLATION

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.

AUTHORIZED REPRESENTATIVE

his local business tax receipt is in addition to and not in lieu of any other tax required by law or municipal ordinance. Businesses are subject to regulation of zoning, health and other
wful authorities. This receipt is valid from October 1 through September 30 of receipt year. **Delinquent penalty is added October 1.**

		2016		EXPIRES	9/30/2017	3200-1155229
3200	RETAIL STORE	$30.00	1	EMPLOYEE		

TOTAL TAX	$30.00
PREVIOUSLY PAID	$30.00
TOTAL DUE	$0.00

SAUREY TOM

TUFF SHED INC
SAUREY TOM
1777 S HARRISON ST SUITE 600
DENVOR CO 80210

8524 E COLONIAL DR
U - ORLANDO, 32817

PAID: $30.00 0098-00719443 7/7/2016

Scott Randolph, Tax Collector **Local Business Tax Receipt** **Orange County, Florida**

his local business tax receipt is in addition to and not in lieu of any other tax required by law or municipal ordinance. Businesses are subject to regulation of zoning, health and other
wful authorities. This receipt is valid from October 1 through September 30 of receipt year. **Delinquent penalty is added October 1.**

		2016		EXPIRES	9/30/2017	3200-1155229
3200	RETAIL STORE	$30.00	1	EMPLOYEE		

TOTAL TAX	$30.00
PREVIOUSLY PAID	$30.00
TOTAL DUE	$0.00

SAUREY TOM

TUFF SHED INC
SAUREY TOM
1777 S HARRISON ST SUITE 600
DENVOR CO 80210

8524 E COLONIAL DR
U - ORLANDO, 32817

PAID: $30.00 0098-00719443 7/7/2016

SCOTT RANDOLPH, TAX COLLECTOR • ORANGE COUNTY, FLORIDA •

This receipt is official when validated by the Tax Collector.

Property Record - 25-23-29-8485-00-010

Orange County Property Appraiser • http://www.ocpafl.org

Property Summary

Property Name
1406 Swann Ave

Names
Smith Ralph
Smith Jerri

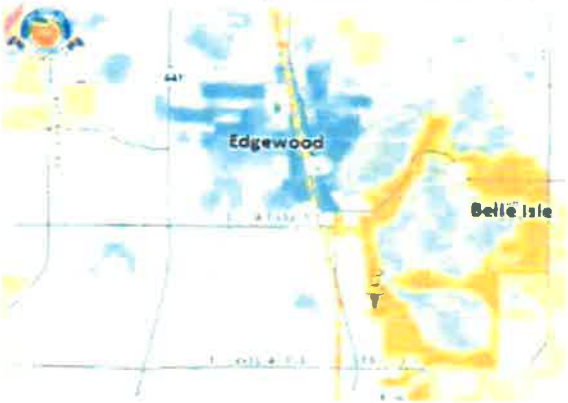
Municipality
BI - Belle Isle

Property Use
0103 - Single Fam Class III

Mailing Address
1406 Swann Ave
Belle Isle, FL 32809-6074

Physical Address
1406 Swann Ave
Orlando, FL 32809

QR Code For Mobile Phone



Value and Taxes