TAMKO ROOFING PRODUCTS

Application Instructions for • HERITAGE 30® • HERITAGE 30 AR®

LAMINATED ASPHALT SHINGLES

THESE ARE THE MANUFACTURER'S APPLICATION INSTRUCTIONS FOR THE ROOFING CONDITIONS DESCRIBED. TAMKO ROOFING PRODUCTS, INC. ASSUMES NO RESPONSIBILITY FOR LEAKS OR OTHER ROOFING DEFECTS RESULTING FROM FAILURE TO FOLLOW THE MANUFACTURER'S INSTRUCTIONS.

THIS PRODUCT IS COVERED BY A LIMITED WARRANTY, THE TERMS OF WHICH ARE PRINTED ON THE WRAPPER.

IN COLD WEATHER (BELOW 40°F), CARE MUST BE TAKEN TO AVOID DAMAGE TO THE EDGES AND CORNERS OF THE SHINGLES.

IMPORTANT: It is not necessary to remove the plastic strip from the back of the shingles.

1. ROOF DECK

These shingles are for application to roof decks capable of receiving and retaining fasteners, and to inclines of not less than 2 in. per foot. For roofs having pitches 2 in. per foot to less than 4 in. per foot, refer to special instructions titled "Low Slope Application". Shingles must be applied properly. TAMKO assumes no responsibility for leaks or defects resulting from improper application, or failure to properly prepare the surface to be roofed over.

NEW ROOF DECK CONSTRUCTION: Roof deck must be smooth, dry and free from warped surfaces. It is recommended that metal drip edges be installed at eaves and rakes.

PLYWOOD: All plywood shall be exterior grade as defined by the American Plywood Association. Plywood shall be a minimum of 3/8 in. thickness and applied in accordance with the recommendations of the American Plywood Association.

SHEATHING BOARDS: Boards shall be well-seasoned tongue-and-groove boards and not over 6 in. nominal width. Boards shall be a 1 in. nominal minimum thickness. Boards shall be properly spaced and nailed.

2. VENTILATION

Inadequate ventilation of attic spaces can cause accumulation of moisture in winter months and a build up of heat in the summer. These conditions can lead to:

1. Vapor Condensation
2. Buckling of shingles due to deck movement
3. Rotting of wood members.
4. Premature failure of roof.

To insure adequate ventilation and circulation of air, place louvers of sufficient size high in the gable ends and/or install continuous ridge and soffit vents. FHA minimum property standards require one square foot of net free ventilation area to each 150 square feet of space to be vented, or one square foot per 300 square feet if a vapor barrier is installed on the warm side of the ceiling or if at least one half of the ventilation is provided near the ridge. If the ventilation openings are screened, the total area should be doubled.

IT IS PARTICULARLY IMPORTANT TO PROVIDE ADEQUATE VENTILATION.

3. FASTENERS

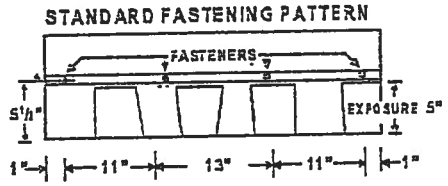
WIND CAUTION: Extreme wind velocities can damage these shingles after application when proper sealing of the shingles does not occur. This can especially be a problem if the shingles are applied in cooler months or in areas on the roof that do not receive direct sunlight. These conditions may impede the sealing of the adhesive strips on the shingles. The inability to seal down may be compounded by prolonged cold weather conditions and/or blowing dust. In these situations, hand sealing of the shingles is recommended. Shingles must also be fastened according to the fastening instructions described below.

Correct placement of the fasteners is critical to the performance of the shingle. If the fasteners are not placed as shown in the diagram and described below, TAMKO will not be responsible for any shingles blown off or displaced. TAMKO will not be responsible for damage to shingles caused by winds or gusts exceeding gale force. Gale force shall be the standard as defined by the U.S. Weather Bureau.

FASTENING PATTERNS: Fasteners must be placed 5-1/2 in. from the bottom edge of the shingle and located horizontally as follows:

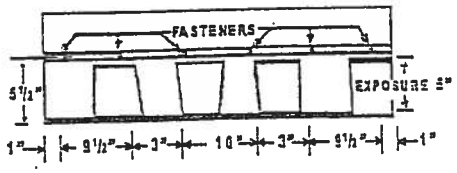
1) Standard Fastening Pattern. (For use on decks with slopes 2 in. per foot to 21 in. per foot.) One fastener 1 in. back from each end and one 12 in. back from each end of the shingle for a total of 4 fasteners. (See standard fastening pattern illustrated below).

STANDARD FASTENING PATTERN



2) Mansard Fastening Pattern. (For use on decks with slopes greater than 21 in. per foot.) One fastener 1 in. back from each end and one fastener 10-1/2 in. back from each end and one fastener 13-1/2 in. back from each end for a total of 6 fasteners per shingle. (See Mansard fastening pattern illustrated below.)

MANSARD FASTENING PATTERN



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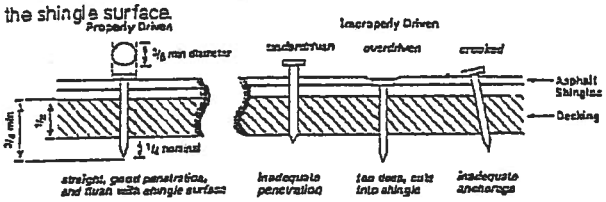
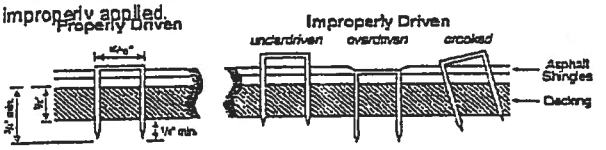
NAILS: TAMKO recommends the use of nails as the preferred method of application. Standard type roofing nails should be used. Nail shanks should be made of minimum 12 gauge wire, and a minimum head diameter of 3/8 in. Nails should be long enough to penetrate 3/4 in. into the roof deck. Where the deck is less than 3/4 in. thick, the nails should be long enough to penetrate completely through plywood decking and extend at least 1/8 in. through the roof deck. Drive nail head flush with the shingle surface.



STAPLES: If staples are used in the attaching process, follow the above instructions for placement. All staples must be driven with pneumatic staplers. The staple must meet the following minimum dimensional requirements. Staples must be made from a minimum 16 gauge galvanized wire. Crown width must be at least 15/16 in. (staple crown width is measured outside the legs). Leg length should be a minimum of 1-1/4 in. for new construction and 1-1/2 in. for reroofing thus allowing a minimum deck penetration of 3/4 in. The crown of the staple must be parallel to the length of the shingle. The staple crown should be driven flush with the shingle surface. Staples that are crooked, underdriven or overdriven are considered improperly applied.



CAUTION: DO NOT FASTEN INTO OR ABOVE THE FACTORY APPLIED ADHESIVE.

4. UNDERLAYMENT

UNDERLAYMENT: An underlayment consisting of asphalt saturated felt must be applied over the entire deck before the installation of TAMKO shingles. Failure to add underlayment can cause premature failure of the shingles which is not covered by TAMKO's limited warranty. Apply the felt when the deck is dry. On roof decks 4 in. per foot and greater apply the felt parallel to the eaves lapping each course of the felt over the lower course at least 2 in. Where ends join, lap the felt 4 in. If left exposed, the underlayment felt may be adversely affected by moisture and weathering. Laying of the underlayment and the shingle application must be done together.

Products which are acceptable for use as underlayment are:

- TAMKO No. 15 Asphalt Saturated Organic Felt
- A non-perforated asphalt saturated organic felt which meets ASTM: D226, Type I
- Any TAMKO non-perforated asphalt saturated organic felt

In areas where ice builds up along the eaves or a back-up of water from frozen or clogged gutters is a potential problem, TAMKO's Moisture Guard Plus® waterproofing underlayment (or any specialty eaves flashing product) may be applied to eaves, rakes, ridges, valleys, around chimneys, skylights or dormers to help prevent water damage. Contact TAMKO's Technical Services Department for more information.

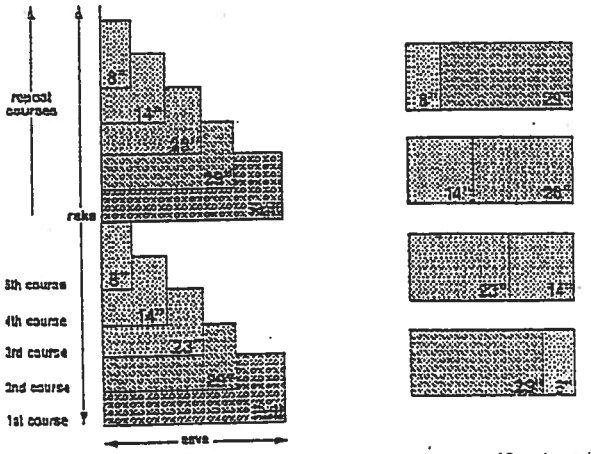
TAMKO does not recommend the use of any substitute products as shingle underlayment.

5. APPLICATION INSTRUCTIONS

STARTER COURSE: A starter course may consist of TAMKO Shingle Starter, self-sealing type shingles or a 9 inch wide strip of mineral surface roll roofing. If self-sealing shingles are used, remove the exposed tab portion and install with the factory applied adhesive adjacent to the eave. Attach the starter course with approved fasteners along a line parallel to and 3 in. to 4 in. above the eave edge. The starter course should overhang both the eave and rake edges 1/4 in. to 3/8 in. If a roll roofing is used, seal down the shingles in the first course by applying adhesive cement in four spots equally spaced to the surface of the starter strip and press the shingle down on the spots of cement. Plastic cement should be used sparingly, as excessive amounts may cause blistering.

SHINGLE APPLICATION: Start the first course with a full size shingle and overhang the rake edge 1/4 in. Cut 8 in. from a full shingle to form a shingle 29 in. long. Use this to start the second course (see diagram below). Cut a 23 in. long shingle to start the third course. Use the remaining 14 in. piece of shingle to start the fourth course and use the remaining 8 in. piece to begin the fifth course. Continue up the rake in as many rows as necessary using the same formula as outlined above. The butt of the shingle should be aligned with the top edge of the sawtooth of the underlying shingle for a 5 in. exposure (see shingle application drawing illustrated on this panel). When you make your final cut at the roof's edge, flip any pieces that are 8 in. or longer back onto the roof. These pieces can be worked in anywhere without creating zippers or color variations.

NOTE: Do not align joints of shingle courses when working in cut



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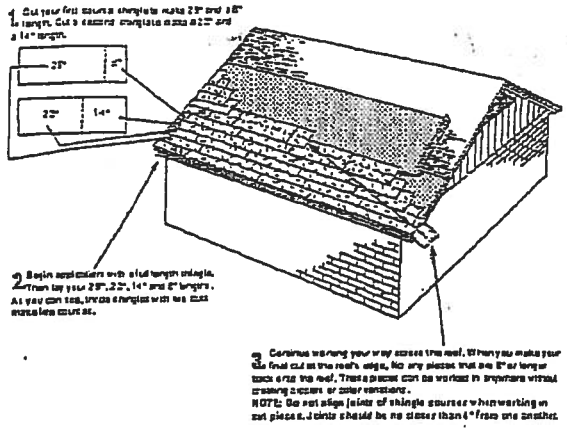
• HERITAGE 30° • HERITAGE 30 AR°

LAMINATED ASPHALT SHINGLES



pieces. Joints should be no closer than 4 in. from one another.

6. LOW SLOPE APPLICATION

On pitches 2 in. per foot to 4 in. per foot cover the deck with two layers of asphalt saturated felt. Begin by applying the felt in a 19 in. wide strip along the eaves and overhanging the drip edge by 1/4 to 3/4 in. Place a full 36 in. wide sheet over the 19 in. wide starter piece, completely overlapping it. All succeeding courses will be positioned to overlap the preceding course by 19 in. If winter temperatures average 25°F or less, thoroughly cement the felts to each other with plastic cement from eaves and rakes to a point of a least 24 in. inside the interior wall line of the building. As an alternative, TAMKO's Moisture Guard Plus® self-adhering waterproofing underlayment may be used in lieu of the cemented felts.

7. MANSARD ROOF OR STEEP SLOPE ROOF

If the slope exceeds 21 in. per foot (60°), each shingle must be sealed with quick setting asphalt adhesive cement immediately upon installation. Spots of cement must be equivalent in size to a $.25 piece and applied to shingles with a 5 in. exposure, use 6 fasteners per shingle. See Section 3 for the Mansard Fastening Pattern.

8. RE-ROOFING

Before re-roofing, be certain to inspect the roof decks. All plywood shall meet the requirements listed in Section 1.

Nail down or remove curled or broken shingles from the existing roof. Replace all missing shingles with new ones to provide a smooth base. Shingles that are buckled usually indicate warped decking or protruding nails. Hammer down all protruding nails or remove them and refasten in a new location. Remove all drip edge metal and replace with new.

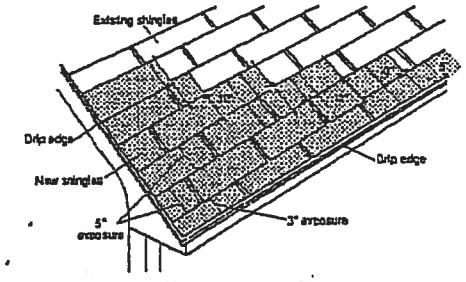
If re-roofing over an existing roof where new flashing is required to protect against ice dams (freeze/thaw cycle of water and/or the backup of water in frozen or clogged gutters), remove the old roofing to a point at least 24 in. beyond the interior wall line and apply TAMKO's Moisture Guard Plus® waterproofing underlayment. Contact TAMKO's Technical Services Department for more information.

The nesting procedure described below is the preferred method for re-roofing over square tab strip shingles with a 5 in. exposure.

Starter Course: Begin by cutting shingles into 5 x 36 inch strips. This is done by removing the 5 in. tabs from the bottom and approximately 2 in. from the top of the shingles so that the remaining portion is the same width as the exposure of the old shingles. Apply the starter piece so that the self-sealing adhesive lies along the eaves and is even with the existing roof. The starter strip should be wide enough to overhang the eaves and carry water into the gutter. Remove 3 in. from the length of the first starter shingle to ensure that the joints from the old roof do not align with the new.

First Course: Cut off approximately 2 in. from the bottom edge of the shingles so that the shingles fit beneath the existing third course and align with the edge of the starter strip. Start the first course with a full 36 in. long shingle and fasten according to the instructions printed in Section 3.

Second and Succeeding Courses: According to the off-set application method you choose to use, remove the appropriate length from the rake end of the first shingle in each succeeding course. Place the top edge of the new shingle against the butt edge of the old shingles in the courses above. The full width shingle used on the second course will reduce the exposure of the first course to 3 in. The remaining courses will automatically have a 5 in. exposure.



9. VALLEY APPLICATION

Over the shingle underlayment, center a 36 in. wide sheet of TAMKO Nail-Fast® or a minimum 50 lb. roll roofing in the valley. Nail the felt only where necessary to hold it in place and then only nail the outside edges.

IMPORTANT: PRIOR TO INSTALLATION WARM SHINGLES TO PREVENT DAMAGE WHICH CAN OCCUR WHILE BENDING SHINGLES TO FORM VALLEY.

After valley flashing is in place:

- Apply the first course of shingles along the eaves of one of the intersecting roof planes and across the valley.

Note: For proper flow of water over the trimmed shingle, always start applying the shingles on the roof plane that has the lower slope or less height.

- Extend the end shingle at least 12 in. onto the adjoining roof. Apply succeeding courses in the same manner, extending them across the valley and onto the adjoining roof.
- Press the shingles tightly into the valley.
- Use normal shingle fastening methods.

(Continued)

(CONTINUED from Pg. 3)

• HERITAGE 30® • HERITAGE 30 AR®

LAMINATED ASPHALT SHINGLES

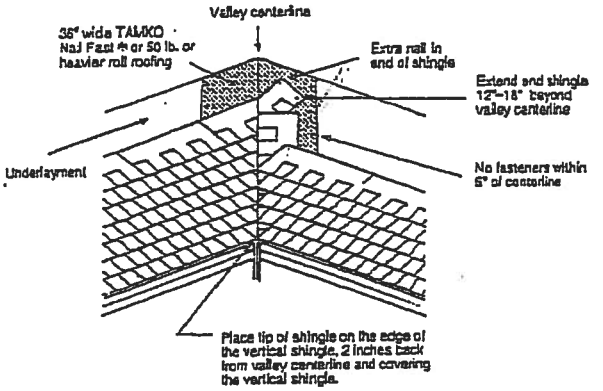
Note: No fastener should be within 6 in. of the valley centerline, and two fasteners should be placed at the end of each shingle crossing the valley.

- To the adjoining roof plane, apply one row of shingles vertically facing the valley and 2 in. back from the valley centerline.

Note: For a neater installation, snap a chalkline over the shingles for guidance.

- To complete the valley, apply shingles on the adjoining roof plane by positioning the tip of the first shingle of each row at the 2 in point from the centerline where the edge of the vertical shingle has been applied, covering the vertical shingle.

FOR ALTERNATE VALLEY APPLICATION METHODS, PLEASE CONTACT TAMKO'S TECHNICAL SERVICES DEPARTMENT



10. HIP AND RIDGE FASTENING DETAIL

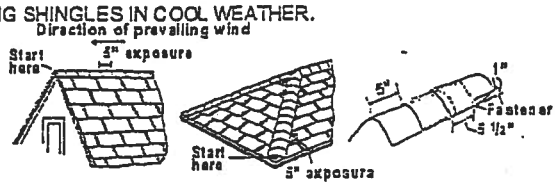
Apply the shingles with a 5 in. exposure beginning at the bottom of the hip or from the end of the ridge opposite the direction of the prevailing winds. Secure each shingle with one fastener on each side, 5-1/2 in. back from the exposed end and 1 in. up from the edge.

TAMKO recommends the use of TAMKO Hip & Ridge shingle products. Where matching colors are available, it is acceptable to use TAMKO's Glass-Seal or Elite Glass-Seal shingles cut down to 12 in. pieces.

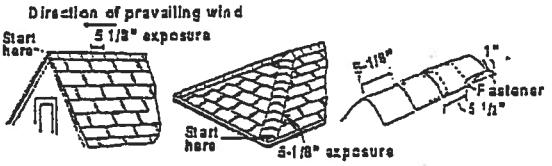
NOTE: AR type shingle products should be used as Hip & Ridge on Glass-Seal or Elite Glass-Seal AR shingles.

Fasteners should be 1/4 in. longer than the one used for shingles.

IMPORTANT: PRIOR TO INSTALLATION, CARE NEEDS TO BE TAKEN TO PREVENT DAMAGE WHICH CAN OCCUR WHILE BENDING SHINGLES IN COOL WEATHER.



NOTE: Exposure should be 1/8 in. more when using shingles produced in Frederick, Md. See illustration below.



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IMPORTANT - READ CAREFULLY BEFORE OPENING BUNDLE

In this paragraph "You" and Your" refer to the installer of the shingles and the owner of the building on which these shingles will be installed. This is a legally binding agreement between You and TAMKO Roofing Products, Inc. ("TAMKO"). By opening this bundle You agree: (a) to install the shingles strictly in accordance with the instructions printed on this wrapper; and (b) leaks and other roofing defects resulting from failure to follow the manufacturers installation instructions printed on this wrapper are not covered by the limited warranty that is also printed on this wrapper, or any other warranty, including, but not limited to (except where prohibited by law) implied warranties of MERCHANTABILITY and FITNESS FOR USE.

Cobra Ridge Vents Are The #1 Choice Of Professional Builders & Remodelers!

Source: 2001 Builder Magazine Brand Use Study & 2001 Remodeling Magazine Brand Use Study

Ridge Vents (Exhaust)

Ridge Vents are your best overall value in attic ventilation. They feature low installed cost with superior performance— and they won't detract from the finished appearance of your roof!

Cobra®

EXHAUST VENT FOR ROOF RIDGE

Ideal For Hand Nailing! *Ideal For Nail Guns!*

Homeowner's Best Choice

- ***Vents Your Attic...*** *Allows heat & condensation to escape at the most effective location — the ridge*
- ***Looks Terrific...*** *100% shingle-over design is virtually invisible when installed*
- ***Superior Protection...*** *Helps to prevent wood rot and extend the life of your exterior paint*
- ***Safeguards Possessions...*** *Helps limit mildew growth caused by damp attic air*
- ***Energy Efficient...*** *May even reduce your energy bills!*
- ***Safer...*** *Helps prevent problems with insects, birds, and animals in your attic*
- ***Peace Of Mind...*** *Backed by a 40-year ltd. warranty**

**See ltd. warranty for complete coverage and restrictions*

Professional's Best Choice

- ***Greater Homeowner Satisfaction...*** *Low-profile design is hidden by ridge cap shingle*
- ***Easy To Install...*** *Quick 3-step process on roof slopes between 3:12 and 20:12. No need for complicated fitting, wrapping, connectors, or end plugs*
- ***Nails Included...*** *Includes Smart Nails™ for reliable hand installation or 1¾" coil nails for nail gun installation*
- ***Superior Performance...*** *Provides 16.9 sq. in./linear foot (hand nail) or 14.1 sq. in./linear foot (nail gun) of net free ventilating area at the most effective location on the roof*
- ***More Reliable...*** *Will not crack or dent during shipping and installation; won't corrode, rust or turn brittle*
- ***Hip & Ridge Compatible...*** *Works with traditional sizes(11½" x 12")*

One 20' Coil of Cobra Ridge Vent replaces: 6-7 Conventional Roof Vents **OR** Four 12" Turbine Roof Vents

CLASSIFIED c UL us — Class C Rated

BOCA — See BOCA Evaluation Services, Inc. Research Report #93-49-61

DADE COUNTY — Approval # NOA 00-0609.03

Texas Department of Insurance — (C.R.V.II only) Product Evaluation RV-19

Listed (C.R.V.II only) (See ICBO ES ER-5477)

CCMC Listed — (C.R.V.II only) See Evaluation Report 13000-R

Model No.	Size	
2017	**20' x 8"**	***(nail gun version)***
2008	**20' x 8"**	***(hand nail version)***
2005	**20' x 10.5"**	***(nail gun version)***
2000	**20' x 10.5"**	***(hand nail version)***
2058	**50' x 8"**	***(hand nail version)***
2050	**50' x 10.5"**	***(hand nail version)***
2016	**50' x 10.5"**	***(nail gun version)***

NOTE: Cobra products only available through your roofing sales representative

How Much Do I Need?

TOTAL ATTIC SQUARE FOOTAGE	RECOMMENDED LENGTH OF COBRA RIDGE VENT (FEET)*	MINIMUM INTAKE VENTILATION (NET FREE AREA IN SQ. IN.)
1600	**23/27**	**384**
1900	**27/32**	**528**
2200	**32/38**	**500**
2500	**36/43**	**600**
2800	**40/48**	**672**
3100	**45/53**	**744**
3400	**49/58**	**816**

***First figure pertains to Hand Nail, second figure pertains to Nail Gun**

10' ALUMINUM RIDGE VENTS

- Quality-built...For long life on the roof
- Superior Performance...Wide, free-flow drainage areas
- Easy Installation...Aluminum sections with pre-punched nail holes install quickly with strap and end/connector plug accessories
- Watertight...Built-in weather baffle prevents moisture infiltration for slopes from 3:12 to 12:12

How Much Do I Need?

TOTAL ATTIC SQUARE FOOTAGE	RECOMMENDED LENGTH OF AR-10 METAL RIDGE VENT IN SQ. IN	MINIMUM INTAKE VENTILATION (NET FREE AREA IN SQ. IN.)
1600	**18**	**384**
1900	**22**	**456**
2200	**25**	**528**
2500	**28**	**600**
2800	**32**	**672**
3100	**35**	**744**
3400	**38**	**816**

Mill Finish	Black	Brown	White	Description	Roof Pitch Range	NFA (sq.in.)
AR10	**AR10BL**	**AR10BR**	**AR10W**	**10' Ridge Vent (Std.)**	**3/12 - 8/12**	**215**
–	**AR10BLH**	**AR10BRH**	**AR10WH**	**10' Ridge Vent (Heavy)**	**3/12 - 8/12**	**215**
ARS	**ARSBL**	**ARSBR**	**ARSW**	**Joint Straps**		
	ARCP			**End/Connector Plugs**		

From: The Columbia County Building Department
Plans Review
135 NE Hernando Av.
P. O Box 1529
Lake City Florida, 32056-1529

Reference to: Build permit application Number: 0602-100

Ronald & Marcia Olszak Owner/Builders of lot 4 Santa Fe Plantations

On the date of March 8, 2006 application 0602-100 and plans for construction of a storage shed were reviewed and the following information or alteration to the plans will be required to continue processing this application. If you should have any question please contact the above address, or contact phone number (386) 758-1163 or fax any information to (386) 754-7088.

Please include application number 0602-100 when making reference to this application.

1. Please have Mr. Thomas Sputo the structural designer show on the plans the required load bearing capacities of the soils to provide adequate support for the foundations.
2. On the electrical plan show the location of the electrical sub- panel and include the total amperage rating of the electrical service panel. A panel or sub panel shall have four-wire conductors, of which one conductor shall be used as an equipment ground.
3. Please submit a separate Owner Builder Disclosure Statement for the storage shed. (Form Attached)
4. Please submit a recorded (with the Columbia County Clerk Office) a notice of commencement before any inspections can be preformed by the Columbia County Building Department on the storage shed.

5. On the floor plan please label the partition rooms.
6. If the storage shed will include plumbing, Please include a separate or joint copy of a signed released site plan from the Columbia County Environmental Health Department which confirms approval of the waste water disposal system for the storage shed.
7. Show all the electrical receptacles, which will be required to has GFCI protection with in the storage shed or on the exterior of the storage shed.

Thank you,

Joe Haltiwanger
Plan Examiner
Columbia County Building Department

WIND RESISTANCE ENGINEERING CALCULATIONS FOR OLSZAK RESIDENCE 200 SW Bay Pl Ft. White, FL

STORAGE SHED

Revised - 9 Mar 06
per Bldg Dept Comments

DESIGNED IN ACCORDANCE WITH REQUIREMENTS OF 2004 FLORIDA BUILDING CODE, SECTION 1609 FOR 110 MPH WIND SPEED

9 Mar 06

THOMAS SPUTO, PH.D., P.E.
PE 39142

SPUTO AND LAMMERT ENGINEERING, LLC
STRUCTURAL ENGINEERS
10 SW 1st AVENUE, GAINESVILLE, FLORIDA 32601
(352) 378-0448
CA 6855

SPUTO AND LAMMERT ENGINEERING, LLC
STRUCTURAL ENGINEERS
10 SW 1ST AVENUE, GAINESVILLE, FL 32601
PHONE: 352-378-0448 FAX: 352-373-1331
E-MAIL: sputoandlammert@mindspring.com

STORAGE SHED

Wind resistance of the referenced building has been designed using a wind speed of 110 mph as required by Section 1609, 2004 Florida Building Code.

ROOF SHEATHING: ½" Plywood or 7/16" OSB, installed without blocking. Use 8d common or 10-1/4 gage x 2" minimum length power nails at 6" o.c. at sheet edges and 12" o.c. in the sheet field. The roof acts as a structural diaphragm.

WALL SHEATHING: ½" Plywood or 7/16" OSB, installed with blocking at all horizontal sheet edges. Sheathing is installed from bottom to top plate to provide a continuous load path. Use 8d common or 10-1/4 gage x 2" minimum length power nails at 6" o.c. at vertical sheet edges, 6" o.c. at horizontal sheet edges, and 12" o.c. in the sheet field.

SHEARWALLS: See plan sheet for locations.

WALL STUDS: #2 Spruce or better 2x4 at 16" o.c.

ANCHOR BOLTS: ½" with 2" washer at maximum spacing of 48" o.c. Install one bolt within 6" of all corners, and within 6" of the ends of all windows and doors. (Anchor bolt alternate - 5/8" wedge anchor with 4" embed into concrete.) USE 2" ROUND OR SQUARE WASHERS AT EACH END OF ALL SHEARWALLS.

HURRICANE CLIPS: Sized as follows. Subject to revision by the engineer after review of engineering from truss manufacturer.

One Ply Truss (except Truss A1):	Simpson H10
Truss A1:	(2) Simpson H10
Truss to Truss:	Specified by truss manufacturer, IAW Wood Truss Council of America Standard WTCA 1-1995.

CONCRETE: All concrete shall have a 28 day compressive strength of 3000 psi.

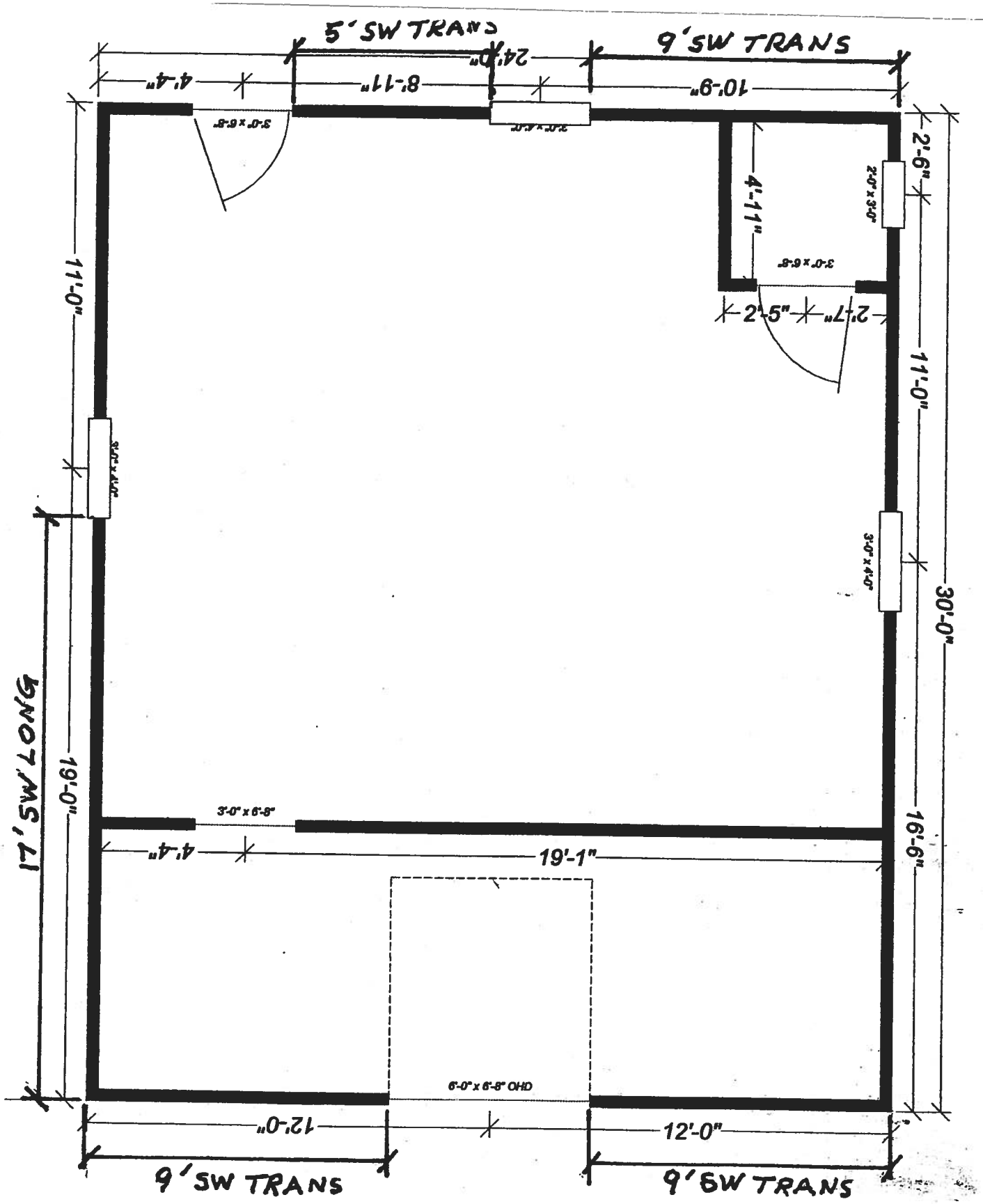
REINFORCING STEEL: Grade 40 - #5 bars. All lap splices to be a minimum of 25 inches.

NOTE: 10-1/4 GAGE NAILS HAVE A DIAMETER OF 0.131 INCHES.

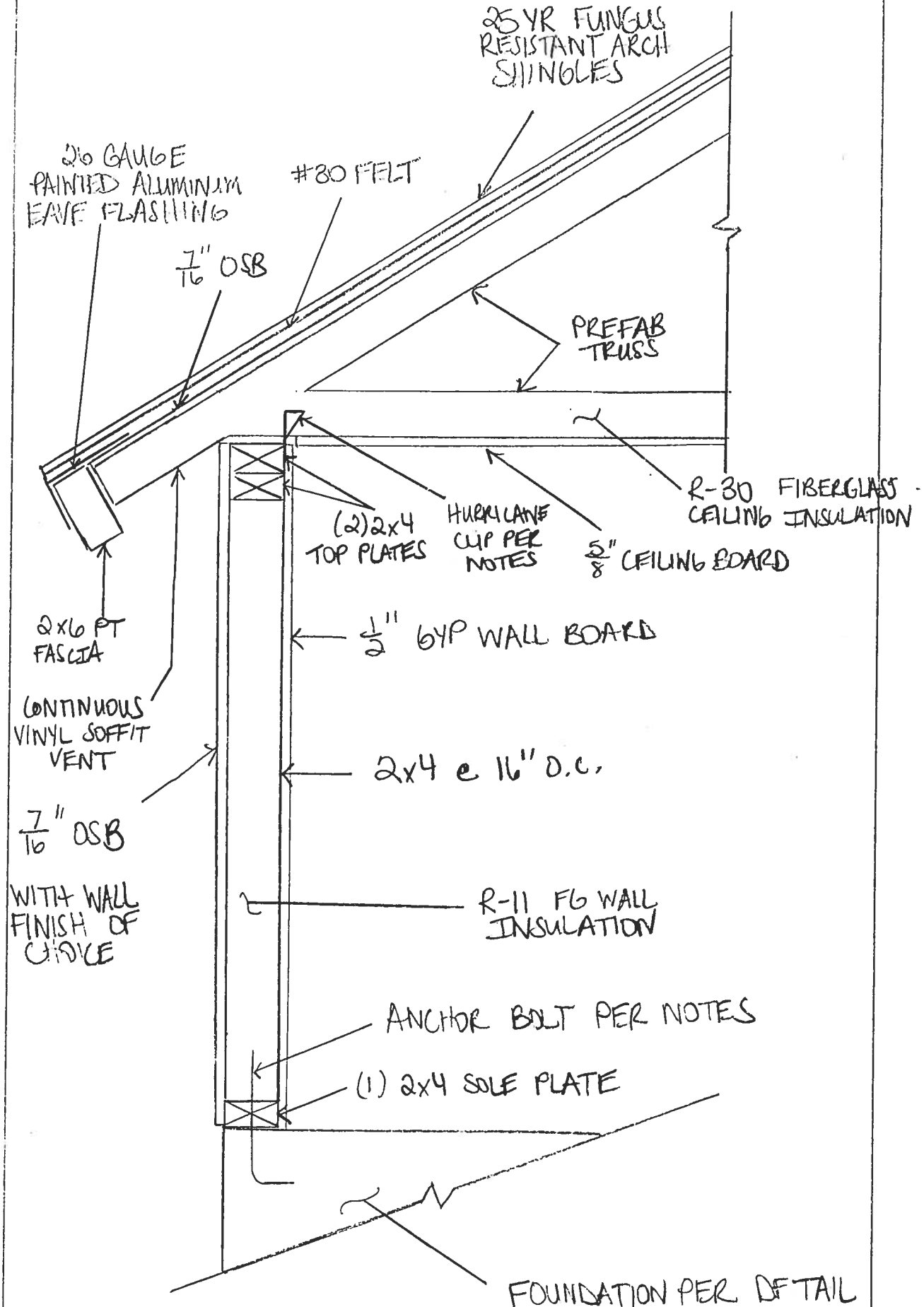
ASSUMED SOIL BEARING PRESSURE = 2000 PSF

2004 Florida Building Code Section 1603.1.4 Information

Basic Wind Speed	=	110 mph
Importance Factor	=	1.00
Building Category	=	II
Wind Exposure	=	B
Internal Pressure Coefficient	=	+- 0.18
C & C Pressures	=	Zone 4 = 22.6 psf
		Zone 5 = 27.2 psf

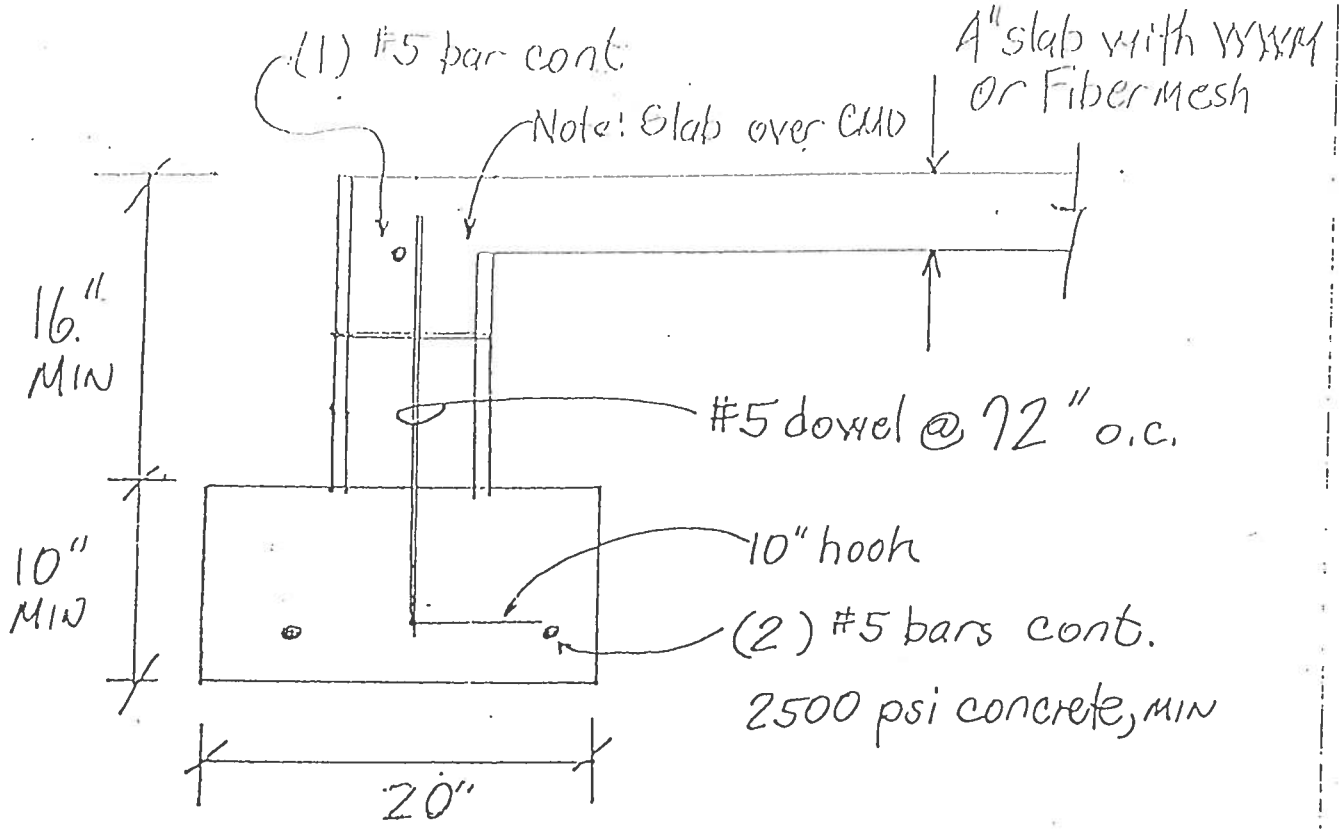

5' SW TRANS
9' SW TRANS
4'-4"
8'-11"
24'-0"
10'-9"
3'-0" x 6'-8"
2'-6"
4'-11"
2'-0" x 3'-0"
3'-0" x 6'-8"
2'-5"
2'-7"
11'-0"
11'-0"
30'-0"
3'-0" x 4'-0"
3'-0" x 4'-0"
17' SW LONG
19'-0"
3'-0" x 6'-8"
4'-4"
19'-1"
16'-6"
6'-0" x 6'-8" OHD
12'-0"
12'-0"
9' SW TRANS
9' SW TRANS

SHEAR WALLS

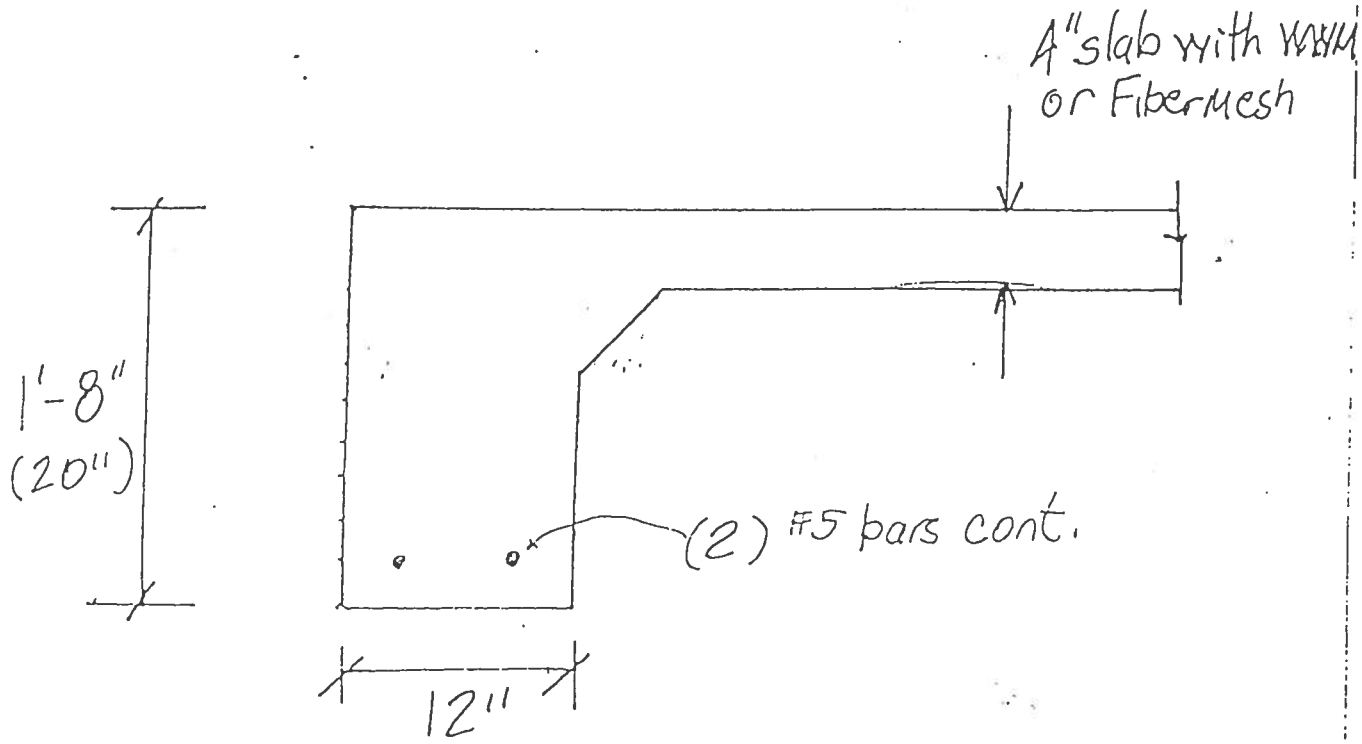

25 YR FUNGUS RESISTANT ARCH SHINGLES
26 GAUGE PAINTED ALUMINUM EAVE FLASHING
#30 FELT
7/16" OSB
PREFAB TRUSS
R-30 FIBERGLASS CEILING INSULATION
(2) 2x4 TOP PLATES
HURRICANE CLIP PER NOTES
5/8" CEILING BOARD
2x6 PT FASCIA
1/2" GYP WALL BOARD
CONTINUOUS VINYL SOFFIT VENT
2x4 @ 16" O.C.
7/16" OSB
WITH WALL FINISH OF CHOICE
R-11 FG WALL INSULATION
ANCHOR BOLT PER NOTES
(1) 2x4 SOLE PLATE
FOUNDATION PER DETAIL

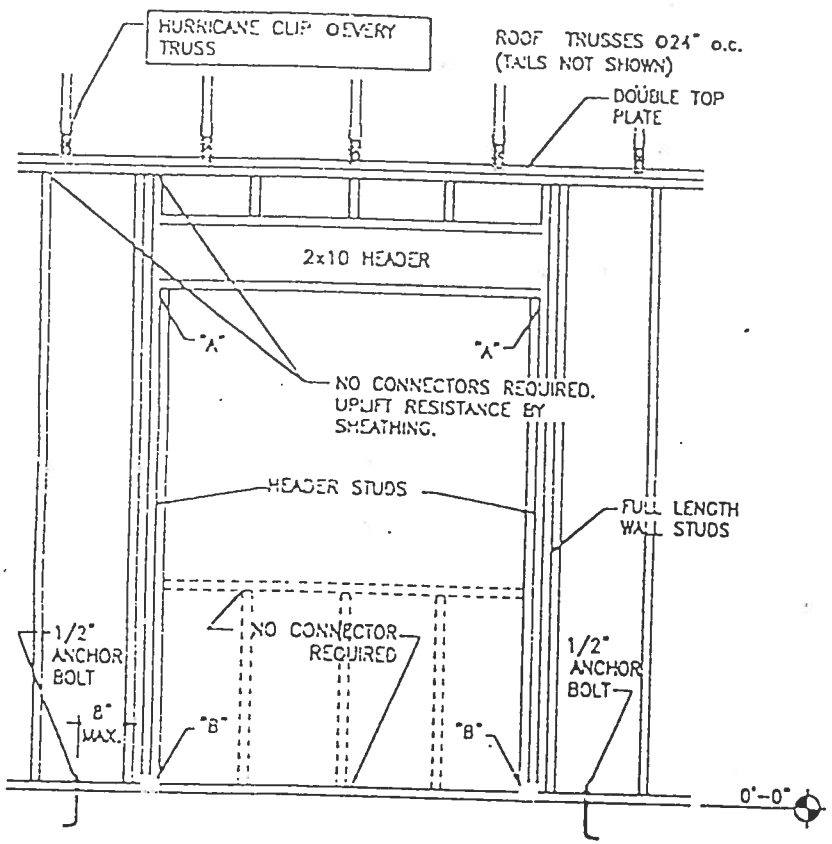
All rebar - Grade 40
All concrete - 3000 psi MIN

Foundation Alternatives



ASSUMED SOIL BEARING PRESSURE = 2000 PSF





OPENING FRAMING DETAIL

CONNECTOR SELECTION

SPAN •	'A'	'B'	ANCHOR BOLTS
9'-0" AND UNDER	(1) LSTA24	(1) SP4 •	(1) EACH END
OVER 9'-0"	(2) LSTA24	(2) SP4 •	(1) EACH END

• USE SP6 ON 2X6 WALLS

NOTES:

1. CONNECTORS INDICATED ARE BY SIMPSON STRONG TIE CO., INC. PRE-APPROVED EQUAL MAY BE USED.

2. STANDARD WALL HEIGHT SHOWN. WALL HEIGHT MAY VARY. ADJUST HEAD AND SILL HEIGHT WITH CRIPPLES AS REQUIRED.

3. REFER TO HEADER HOLD DOWN CHART FOR NUMBER OF FULL-LENGTH AND HEADER STUDS REQUIRED FOR DIFFERENT OPENING WIDTHS.

4. SHEAR AND UPLIFT RESISTANCE PROVIDED BY SHEATHING. REFER TO STRUCTURAL ENGINEER'S NOTES ON THIS SHEET.

HEADER HOLD DOWNS

		MAXIMUM HEADER SPAN (IL)					
		3	6	9	12	15	18
		NUMBER OF HEADER STUDS SUPPORTING END OF HEADER					
		1	1	2	2	2	2
UNSUPPORTED WALL HEIGHT	STUD SPACING	NUMBER OF FULL-LENGTH STUDS AT EACH END OF HEADER					
10'-0" OR LESS	12 in.	2	2	3	3	3	3
	16 in.	2	2	3	3	3	3
	24 in.	1	2	2	2	2	2
GREATER THAN 10'-0"	12 in.	2	2	3	4	5	5
	16 in.	2	2	3	3	4	4
	24 in.	1	2	2	2	3	3

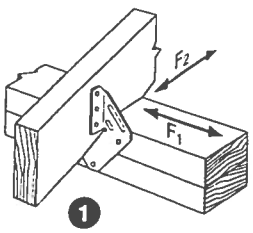
H Seismic & Hurricane Ties

SIMPSON Strong-Tie

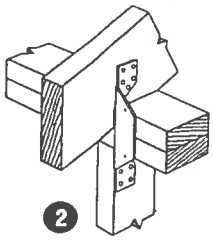
Available with additional corrosion protection. Check with factory.

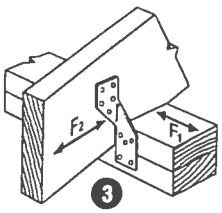
Model No.	Ga	Fasteners: To Rafters/ Truss	Fasteners: To Plates	Fasteners: To Studs	DF/SP Allowable Loads: Uplift (133)	DF/SP Allowable Loads: Uplift (160)	DF/SP Allowable Loads: Lateral (133/160) F_1	DF/SP Allowable Loads: Lateral (133/160) F_2	Uplift Load with 8dx1½" Nails (133 & 160)	SPF/HF Allowable Loads: Uplift (133)	SPF/HF Allowable Loads: Uplift (160)	SPF/HF Allowable Loads: Lateral (133/160) F_1	SPF/HF Allowable Loads: Lateral (133/160) F_2	Uplift Load with 8dx1½" Nails (133 & 160)	Code Ref.
H1	18	6-8dx1½	4-8d	—	490	585	485	165	455	400	400	415	140	370	2, 40, 82, 121, 140
H2	18	5-8d	—	5-8d	335	335	—	—	335	230	230	—	—	230	
H2.5	18	5-8d	5-8d	—	415	415	150	150	415	365	365	130	130	365	
H2.5A	18	5-8d	5-8d	—	600	600	110	110	480	520	535	110	110	480	122
H2.5T	18	5-8d	5-8d	—	545	545	135	145	425	545	545	135	145	425	
H3	18	4-8d	4-8d	—	455	455	125	160	415	320	320	105	140	290	2, 40, 82, 121, 140
H4	20	4-8d	4-8d	—	360	360	165	160	360	235	235	140	135	235	2, 40, 121, 140
H5	18	4-8d	4-8d	—	455	465	115	200	455	265	265	100	170	265	2, 40, 82, 121, 140
H5A	18	3-8d	3-8d	—	350	420	115	180	290	245	245	100	120	170	10
H6	16	—	8-8d	8-8d	915	950	650	—	—	785	820	560	—	—	5, 41, 121, 140
H7Z	16	4-8d	2-8d	8-8d	930	985	400	—	—	800	845	345	—	—	
H8	18	5-10dx1½	5-10dx1½	—	620	745	75	—	—	530	565	75	—	—	125
H9KT	18	4-SDS¼x1½	5-SDS¼x1½	—	875	875	680	125	—	755	755	680	125	—	170
H10	18	8-8dx1½	8-8dx1½	—	905	990	585	525	—	780	850	505	450	—	9, 121
H10R	18	8-8dx1½	8-8dx1½	—	905	990	585	525	—	780	850	505	450	—	
H10-2	18	6-10d	6-10d	—	760	760	455	395	—	655	655	390	340	—	6, 121
H11Z	18	6-16dx2½	6-16dx2½	—	830	830	525	760	—	715	715	450	655	—	170
H14	18	[1] 12-8dx1½	13-8d	—	1350	1350	515	265	—	1050	1050	480	245	—	125
		[2] 12-8dx1½	15-8d	—	1350	1350	515	265	—	1050	1050	480	245	—	

1. Loads have been increased 33% and 60% for earthquake or wind loading with no further increase allowed, reduce where other loads govern.
2. Allowable loads are for one anchor. A minimum rafter thickness of 2½" must be used when framing anchors are installed on each side of the joist and on the same side of the plate [illegible].
3. Allowable uplift load for stud to bottom plate installation is 400 lbs (H2.5); 390 lbs (H2.5A); 360 lbs (H4) and 310 lbs (H8).
4. Allowable loads in the F_1 direction are not intended to replace diaphragm boundary members or prevent cross grain bending of the truss or rafter members. Additional shear transfer elements [illegible].
5. Hurricane Ties are shown installed on the outside of the wall for clarity. Installation on the inside of the wall is acceptable. For a [illegible] Continuous Load Path, connections [illegible] must be on same side of the wall.
6. Southern Pine allowable loads for H14: 1465 lbs *(133/160)*, 560 lbs *(F1 Lateral 133/160)* and 285 lbs *(F2 Lateral 133/160)*.
7. Refer to T-NITIGEAR16 for selected hurricane ties allowable bearing enhancement loads.
8. NO. 16 (0.162" dia. x 2½" long; 10d = 0.148" dia. x 3" long; 10dx1½ = 0.148" dia. x 1½" long; 8d = 0.131" dia. x 2½" long; 8dx1½ = 0.131" dia. x 1½" long. See page 16-17 for other nail sizes [illegible].

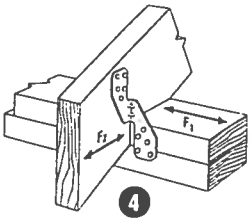


1 H1 Installation

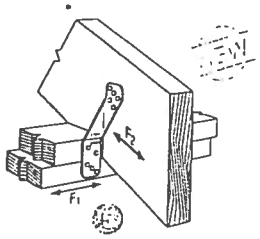

2 H2 Installation



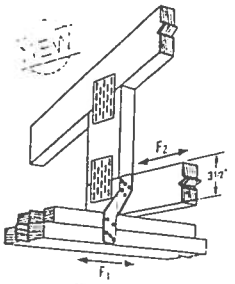
3 H2.5 Installation
(Nails into both top plates)

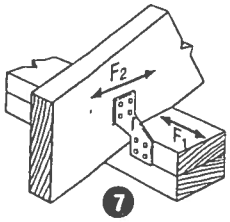


4 H2.5A Installation
(Nails into both top plates)

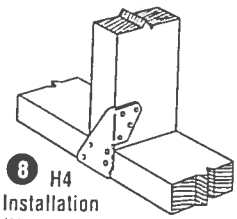


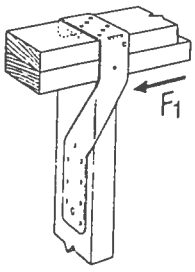
H2.5T Installation
(Nails into both top plates)



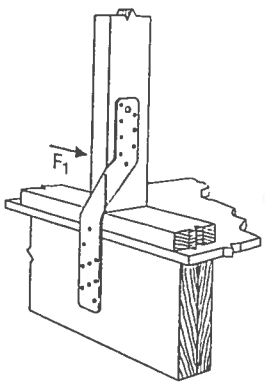


7 H3 Installation
(Nails into upper top plate)

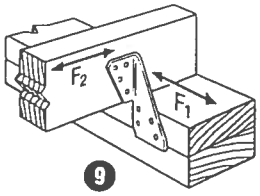

8 H4 Installation
(H2.5 similar)
(see footnote 3, page 142)



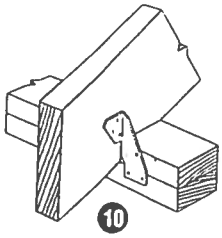
12 H6 Stud to Top Plate Installation

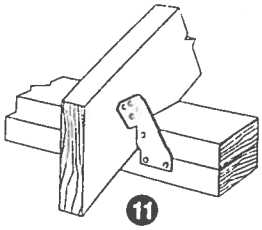


13 H6 Stud to Band Joist Installation



9 H4 Installation
(Nails into upper top plate)


10 H5 Installation
(Nails into both top plates)


11 H5A Installation
(Nails into both top plates)

HRS/ST/FHA/PS/HST/LSTA/LSTI/MST/MSTA/MSTC/MSTI *Strap Ties*

SIMPSON

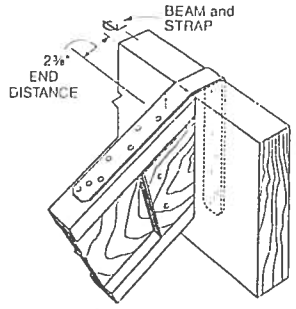
CODES: See page 12 for Code Listing Key Chart.

Available with additional corrosion protection. Check with factory.

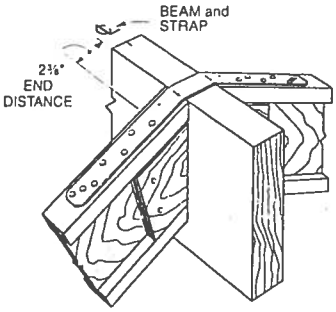
Model No.	Ga	Dimensions W	Dimensions L	Fasteners (Total) Nails	Allowable Tension Loads (DF/SP) (133)	Allowable Tension Loads (DF/SP) (160)	Allowable Tension Loads (SPF/HF) (133)	Allowable Tension Loads (SPF/HF) (160)	Code Ref.
LSTA9	20	1¼	9	8-10d	645	775	555	665	7, 62, 90, 128
LSTA12		1¼	12	10-10d	805	970	695	830	
LSTA15		1¼	15	12-10d	970	1160	830	1000	
LSTA18		1¼	18	14-10d	1130	1235	970	1165	
LSTA21		1¼	21	16-10d	1235	1235	1110	1235	
LSTA24		1¼	24	18-10d	1235	1235	1235	1235	
ST292		2 1/16	9 5/16	12-16d	1120	1265	970	1160	3, 39, 88, 104, 121, 128
ST2122		2 1/16	12 13/16	16-16d	1505	1535	1290	1535	
ST2115		¾	16 5/16	8-16d	665	665	665	665	
ST2215		2 1/16	16 5/16	20-16d	1880	1880	1625	1880	
LSTA30	18	1¼	30	22-10d	1640	1640	1555	1640	7, 62, 90, 128
LSTA36		1¼	36	24-10d	1640	1640	1640	1640	
LSTI49		3¾	49	32-10dx1½	2580	3100	2220	2660	9, 121, 128
LSTI73		3¾	73	48-10dx1½	3870	4215	3330	3995	9, 128
MSTA9		1¼	9	8-10d	650	780	565	680	7, 62, 90, 123, 128
MSTA12		1¼	12	10-10d	815	975	705	850	
MSTA15		1¼	15	12-10d	975	1170	850	1020	
MSTA18		1¼	18	14-10d	1140	1365	990	1185	
MSTA21		1¼	21	16-10d	1300	1560	1130	1355	7, 62, 90, 128
MSTA24		1¼	24	18-10d	1465	1640	1270	1525	
MSTA30	16	1¼	30	22-10d	1835	2050	1585	1900	
MSTA36		1¼	36	26-10d	2050	2050	1870	2050	
ST6215		2 1/16	16 5/16	20-16d	1895	2095	1640	1970	3, 39, 88, 104, 121, 128
ST6224		2 1/16	23 5/16	28-16d	2540	2540	2315	2540	
ST9		1¼	9	8-16d	755	910	655	785	3, 39, 88, 104, 121, 128
ST12		1¼	11⅝	10-16d	945	1135	820	985	3, 39, 88, 121, 128
ST18		1¼	17¾	14-16d	1325	1420	1150	1380	
ST22		1¼	21⅝	18-16d	1420	1420	1420	1420	
MSTC28		3	28¼	36-16d sinkers	3000	3600	2590	3110	9, 23, 121, 128
MSTC40		3	40¼	52-16d sinkers	4335	4585	3745	4495	9, 23, 128
MSTC52		3	52¼	62-16d sinkers	4585	4585	4465	4585	
MSTC66	14	3	65¾	76-16d sinkers	5660	5660	5660	5660	
MSTC78		3	77¾	76-16d sinkers	5660	5660	5660	5660	
ST6236		2 1/16	33 13/16	40-16d	3845	3845	3465	3845	3, 39, 88, 121, 128
HRS6	12	1⅜	6	6-10d	525	630	455	545	128
HRS8		1⅜	8	10-10d	875	1050	760	910	
HRS12		1⅜	12	14-10d	1225	1465	1065	1275	
FHA6		1 7/16	6⅜	8-16d	810	975	705	845	3, 39, 88, 121, 128
FHA9		1 7/16	9	8-16d	810	975	705	845	
FHA12		1 7/16	11⅝	8-16d	810	975	705	845	
FHA18		1 7/16	17¾	8-16d	810	975	705	845	
FHA24		1 7/16	23⅞	8-16d	810	975	705	845	
FHA30		1 7/16	30	8-16d	810	975	705	845	
MSTI26		2 1/16	26	26-10dx1½	2355	2830	2045	2455	
MSTI36		2 1/16	36	36-10dx1½	3265	3915	2830	3400	
MSTI48		2 1/16	48	48-10dx1½	4350	5080	3775	4530	
MSTI60		2 1/16	60	60-10dx1½	5080	5080	4720	5080	
MSTI72		2 1/16	72	64-10dx1½	5080	5080	5080	5080	3, 39, 121, 128

1. Loads include a 33% or 60% load duration increase on the fasteners for earthquake or wind loading, but DO NOT include a 33% stress increase on the steel capacity. Refer to page 13 for further explanation.
2. 10dx1½" nails may be substituted where 16d sinkers are specified at of the table loads.
3. 10d commons may be substituted where 16d sinkers are specified at 100% of table loads.
4. 16d sinkers or 10d commons may be substituted where 16d commons are specified at 0.85 of the table loads.
5. Use half of the nails in each member being connected to achieve the listed loads.
6. PS strap design loads must be determined by the for each installation. Bolts are installed both perpendicular and parallel-to-grain. Hole diameter in the part may be oversized to accommodate the HDG. Designer must determine if the oversize creates an unacceptable installation.
7. For overlap splice details, refer to T-CMST.

, with no reduction in load
= 3" long

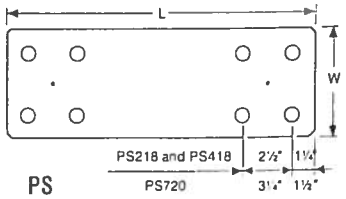


Typical LSTA Installation
(hanger not shown)

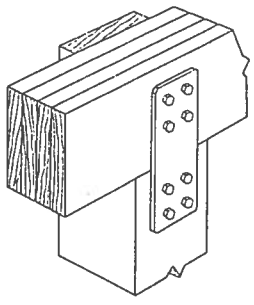


Typical LSTA Installation
(hanger not shown)

Model No.	Material Thickness mil (ga)	Dim. W	Dim. L	Bolts Qty	Bolts Dia	Code Ref.
PS218[6]	171 mil (7 ga)	2	18	4		180
PS418[6]		4	18	4		
PS720[5]		6¾	20	8	½	



PS



Typical PS720 Installation

DSP/SSP/SP/SPH/RSP4 Stud Plate Ties

SIMPSON Strong-Tie

This product is preferable to similar connectors because of a) easier installation, b) higher loads, c) lower installed cost, or a combination of these features.

DSP and SSP provide flexibility in the field – can be used as a plate to stud connection AND top plate to stud connection.

The RSP4 is a reversible stud plate tie with locating tabs, which aid placement on double top plates or a single bottom plate.

MATERIAL: DSP/SSP/SPH–18 gauge, all others–20 gauge

FINISH: Galvanized. Some products available in Z-MAX; see Corrosion-Resistance, page 6-7.

INSTALLATION: • Use all specified fasteners; see General Notes.
- DSP/SSP–sill plate installation-fill all round holes.
- DSP/SSP–top plate installation-fill all round and triangle holes
- SP–one of the 10d common stud nails is driven at a 45° angle through the stud into the plate.

CODES: See page 12 for Code Listing Key Chart.

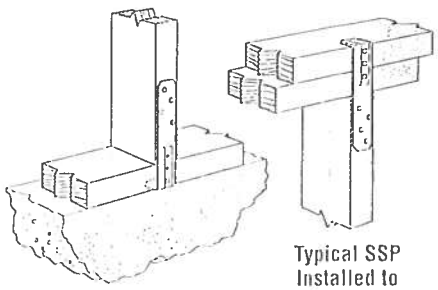
Available with additional corrosion protection. Check with factory.

Model No.	Dim. W	Dim. L	Fasteners: Studs	Fasteners: Double Top Plate	Fasteners: Single Sill Plate	Allowable Uplift Loads (133/160): Double Top Plate DF/SP/SPF	Single Sill Plate DF/SP	Single Sill Plate SPF/HF	Code Ref.
SSP	1⅜	6¹⁵⁄₁₆	4-10dx1½	3-10dx1½	—	350	—	—	62, 125
				—	1-10dx1½	—	420	325	
			4-10d	3-10d	—	435	—	—	
				—	1-10d	—	455	420	
DSP	2¾	6¹⁵⁄₁₆	8-10dx1½	6-10dx1½	—	775	—	—	
				—	2-10dx1½	—	660	545	
			8-10d	6-10d	—	825	—	—	
				—	2-10d	—	825	600	

1. Allowable loads have been increased 33⅓% and 60% for earthquake or wind loading; no further increase allowed.
2. When cross-grain bending or cross-grain tension cannot be avoided, mechanical reinforcement to resist such forces should be considered.
3. Allowable loads for DSP installed to a rim joist are 660 lbs (DF/SP), 545 lbs (SPF/HF).
4. NAILS: 10d = 0.148" dia. x 3" long. 10dx1½ = 0.148" dia. x 1½" long. See page 16-17 for other nail sizes and information.

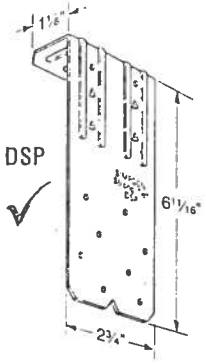
Model No.	Dim. W	Dim. L	Stud	Plate Width	Fasteners: Stud[1]	Fasteners: Plate	Allowable Uplift Loads DF/SP (133)[2]	DF/SP (160)[2]	SPF (133)	SPF (160)	Code Ref.
SP1	3½	5¹⁵⁄₁₆	2x	—	6-10d	4-10d	585	585	535	535	6, 121
SP2	3½	6⅝	2x	—	6-10d	6-10d	890	1065	605	605	
SP3	4½	6⅝	3x	—	6-10d	6-10d	890	1065	605	605	160
SP4	3⁹⁄₁₆	7¼	2x	4x	6-10dx1½	—	735	885	630	760	7, 121
SP5	4½	5¹⁵⁄₁₆	3x	—	6-10d	4-10d	585	585	535	535	160
SP6	5⁹⁄₁₆	7¾	2x	6x	6-10dx1½	—	735	885	630	760	7, 121
SP8	7⁹⁄₁₆	8⁹⁄₁₆	2x	8x	6-10dx1½	—	735	885	630	760	
SPH4	3⁹⁄₁₆	8¾	2x	4x	10-10dx1½	—	1240	1240	1065	1065	62, 123
					12-10dx1½	—	1360	1360	1170	1170	
SPH6	5⁹⁄₁₆	9¼	2x	6x	10-10dx1½	—	1240	1240	1065	1065	
					12-10dx1½	—	1360	1360	1170	1170	
SPH8	7⁹⁄₁₆	8⅜	2x	8x	10-10dx1½	—	1240	1240	1065	1065	
					12-10dx1½	—	1360	1360	1170	1170	
RSP4(1)	2⅛	4½	2x	—	4-8dx1½	4-8dx1½	315	315	285	285	6, 30, 99, 121
RSP4(2)	2⅛	4½	2x	—	4-8dx1½	4-8dx1½	450	450	370	370	

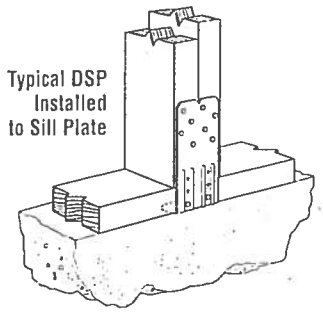
1. SP1, 2, 3 and SP5: drive one stud nail at an angle through the stud into the plate to achieve the table load *(see illustration)*.
2. Allowable loads have been increased for earthquake or wind loading; no further increase allowed. Reduce where other loads govern.
3. RSP4–see installation details (1) and (2) for reference.
4. RSP4 F2 is 280 lbs *(installation 1)* and 305 lbs *(installation 2)*. F1 load is 210 lbs for both installations.
5. Maximum load for SPH in Southern Yellow Pine is 1490 lbs.
6. When cross-grain bending or cross-grain tension cannot be avoided, mechanical reinforcement to resist such forces should be considered.
7. For retrofit application see T-STRAP.



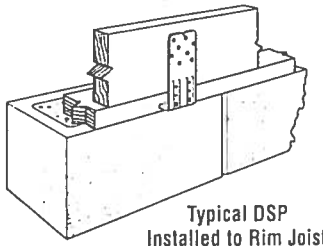
Typical SSP Installed to Sill Plate

Typical SSP Installed to Top Plate

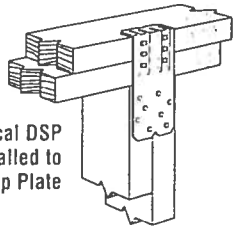




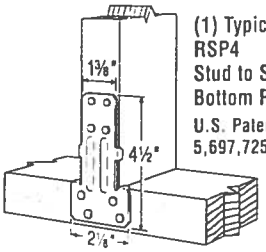
Typical DSP Installed to Sill Plate



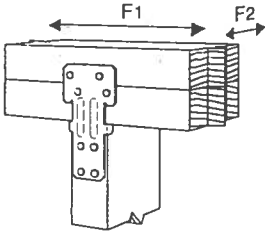
Typical DSP Installed to Rim Joist



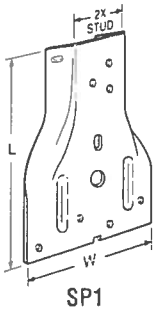
Typical DSP Installed to Top Plate



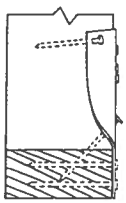
(1) Typical RSP4 Stud to Single Bottom Plate
U.S. Patent 5,697,725



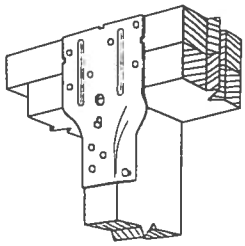
(2) Typical RSP4 Stud to Double Top Plate *(See footnote 4)*



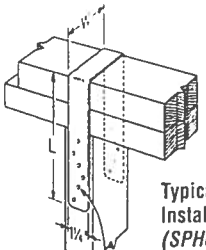
SP1



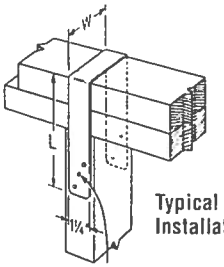
SP1 Nailing Profile



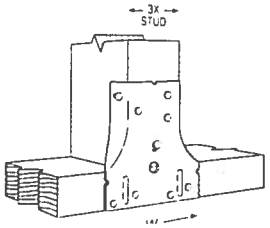
Typical SP2 Installation



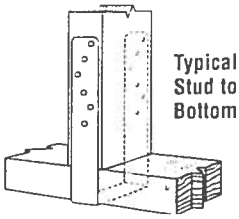
Typical SPH4 Installation *(SPH6 and SPH8 similar)*



Typical SP4 Installation



Typical SP5 Installed *(SP3 similar installed at double top plate)*



Typical SPH4 Stud to Single Bottom Plate

WIND LOAD DESIGN PER 2004 FBC (1609.6)

SINGLE STORY BUILDING

BUILDING DIMENSIONS:

L =	30	FEET			STORAGE SHED
W =	24	FEET			
EAVE =	8.08	FEET			
PITCH =	7	/12	=	30.3 DEG.	
O'HANG =	1.5	FEET			
RIDGE =	15.08	FEET			
MEAN RF =	11.58	FEET			

WIND EXPOSURE:

VELOCITY =	110	MPH
I =	1.00	(IMPORTANCE FACTOR)
EXPOSURE =	B	
ADJUSTMENT	1.00	(PER TABLE 1609.6D)

MWFRS PRESSURE PER TABLE 1609.6A (BASE PRESSURE W/O ADJUSTMENT)
(PRESSURES IN PSF)

TRANSVERSE WIND DIRECTION

	END ZONE		INTERIOR ZONE	
HORIZONTAL LOADS				
	WALL	ROOF	WALL	ROOF
	21.6	14.8	17.2	11.8
VERTICAL LOADS				
	WINDWD	LEEWD	WINDWD	LEEWD
	8.3	-13.1	7.2	-11.3
O'HANG	-7.6		-8.7	

LONGITUDINAL WIND DIRECTION

	END ZONE		INTERIOR ZONE	
HORIZONTAL LOADS				
	WALL	ROOF	WALL	ROOF
	19.2	-10.0	12.7	-5.9
VERTICAL LOADS				
	WINDWD	LEEWD	WINDWD	LEEWD
	-23.1	-13.1	-16.0	-10.1
O'HANG	-32.3		-25.3	

CALCULATE EDGE STRIPS:

2.4	FEET	(10% OF LEAST DIM)		
3.232	FEET	(40% OF EAVE)		
			Least =	2.4 FEET
0.96	FEET	(4% OF LEAST DIM)		
3	FEET	(3 FEET)		
			Max =	3 FEET

A =	3	FEET
2A =	6	FEET

HORIZONTAL TRANSVERSE LOAD

ROOF	2730	LBS.

WALL	4596	LBS.

LONGITUDINAL TRANSVERSE LOAD

ROOF	1203	LBS.
WALL	3093	LBS.

ROOF DIAPHRAM — 7/16" OSB

TRANSVERSE — 8d COMMON OR 0.131" DIA. P-NAIL

				6"/12"	4"/12"	3"/12"	
TOTAL DRAGSTRUT LENGTH =			48 FEET				
LOAD RESISTED =	2730	ROOF		357	476	707	PINE
	2298	WALL		OK	OK	OK	
	5028	TOTAL					
	104.7	*PLF*					

LONGITUDINAL

				6"/12"	4"/12"	3"/12"	
TOTAL DRAGSTRUT LENGTH =			60 FEET				
LOAD RESISTED =	1203	ROOF		357	476	707	PINE
	1547	WALL		OK	OK	OK	
	2750	TOTAL					
	45.8	*PLF*					

SHEARWALLS — 7/16" OSB

TRANSVERSE — 8d COMMON OR 0.131" DIA. P-NAIL

				6"/12"	4"/12"	3"/12"	
TOTAL SHEARWALL LENGTH =			32 FEET				
LOAD RESISTED =	2730	ROOF		364	532	686	PINE
	2298	WALL		OK	OK	OK	
	5028	TOTAL					
	157.1	*PLF*		298	436	563	SPRUCE
				OK	OK	OK	

LONGITUDINAL

				6"/12"	4"/12"	3"/12"	
TOTAL SHEARWALL LENGTH =			17 FEET				
LOAD RESISTED =	1203	ROOF		364	532	686	PINE
	1547	WALL		OK	OK	OK	
	2750	TOTAL					
	161.8	*PLF*		298	436	563	SPRUCE
				OK	OK	OK	

WALL TENSION TIE USING SHEATHING

WALL TO WALL	O'HANG		UPLIFT LOAD		3/8" MINIMUM SHEATHING 8d COMMON NAIL SPACING SPRUCE	PINE	
24	1.5		158	PLF	7.1	8.9	INCHES

ANCHOR BOLT SPACING

WALL TO WALL	UPLIFT LOAD	1634 2" ROUND WASHER		3173 3" SQ WASHER	
24	158	124.1	IN. MAX	241.1	IN. MAX

SHEARWALL ANCHORAGE

			1634 2" ROUND WASHER	3173 3" SQ WASHER
TRANSVERSE				
CHORD FORCE =	1270	LBS		
ANCHOR BOLT =	48	INCHES O.C.		
REQUIRED FORCE =	1585	LBS	OK	OK
LONGITUDINAL				
CHORD FORCE =	1307	LBS		
REQUIRED FORCE =	1307	LBS	OK	OK

WALL STUD DESIGN

DESIGN PRESSURES: 22.6 PSF INTERIOR ZONE
27.2 PSF END ZONE

INTERIOR ZONE STUDS

STUD LENGTH FEET	SPACING INCHES	INTERIOR MOMENT IN-#		#2 SPF 2X4	#2 PINE 2X4	#2 SPF 2X6	#2 PINE 2X6	#2 PINE 3X4
			Sx	3.06	3.06	7.56	7.56	5.11
			Fb allow	2415	2760	2093	2300	2760
8	16	2893		945	945	383	383	566
				OK	OK	OK	OK	OK
0	0	0		0	0	0	0	0
				OK	OK	OK	OK	OK
0	0	0		0	0	0	0	0
				OK	OK	OK	OK	OK
0	0	0		0	0	0	0	0
				OK	OK	OK	OK	OK

END ZONE STUDS WITHIN	3 FEET OF CORNERS	END ZONE MOMENT IN-#					
8	16	3482	1138 OK	1138 OK	461 OK	461 OK	681 OK
0	0	0	0 OK	0 OK	0 OK	0 OK	0 OK
0	0	0	0 OK	0 OK	0 OK	0 OK	0 OK
0	0	0	0 OK	0 OK	0 OK	0 OK	0 OK

SHEARWALL CAPACITIES PER 2004 FBC

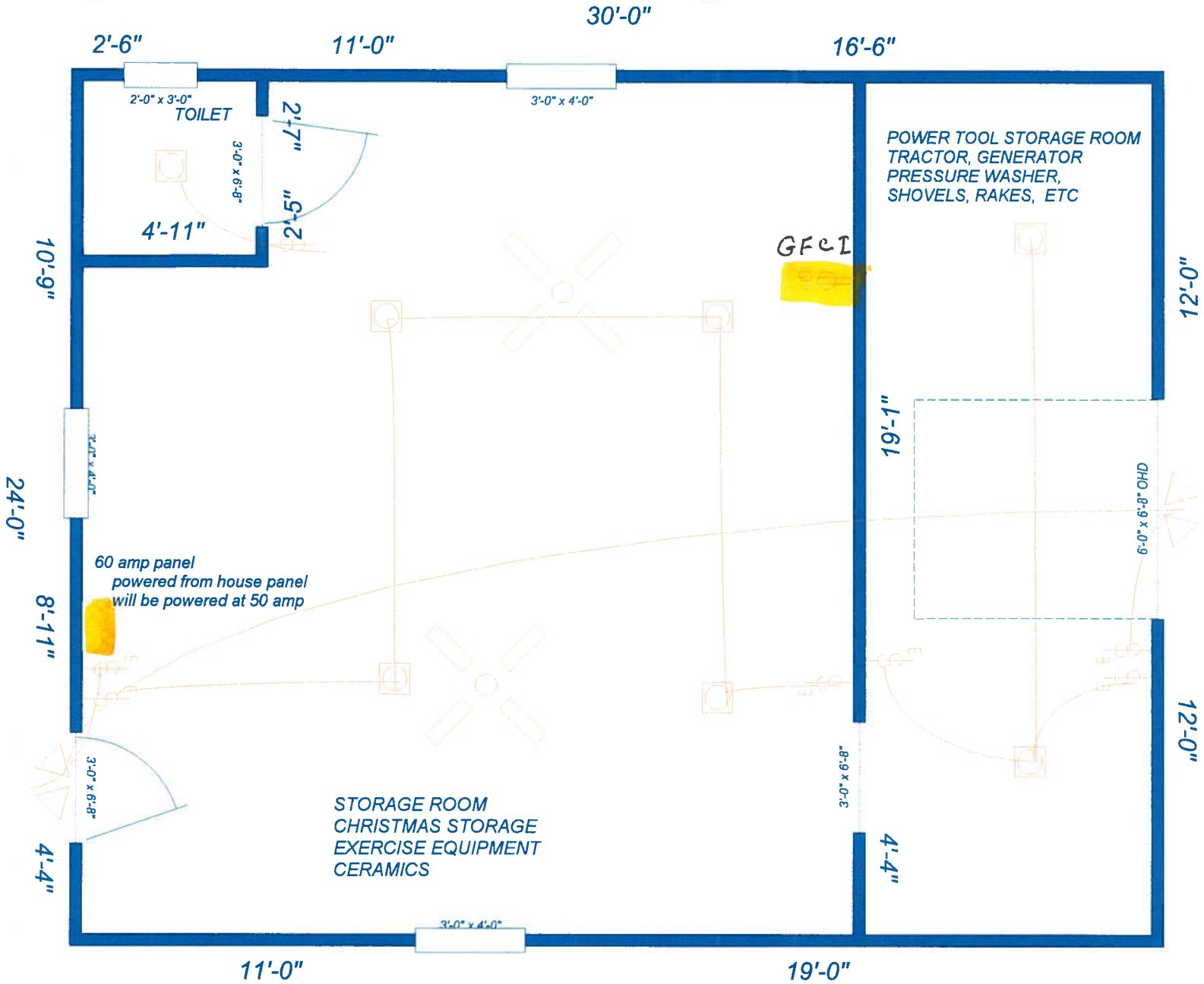
NAIL = 8d COMMON OR 0.131" POWER NAIL
SHEATHING = 7/16" OSB

6"/12"	4"/12"	3"/12"	
260	380	490	Per Table 2306.4.1, using 15/32" sheathing as allowed by para 2306.4.1
0.82	0.82	0.82	1.00 = Pine, 0.82 = SPF
1.4	1.4	1.4	Increase per para 2306.4.1
298	436	563	

SHEARWALL CAPACITIES PER 2001 SBC

NAIL = 8d COMMON OR 0.131" POWER NAIL
SHEATHING = 7/16" OSB

6"/12"	4"/12"	3"/12"	
260	380	490	Per Table 2310.2B, using 15/32" sheathing as allowed by para 2310.4.6
1	1	1	1.00 = Pine, 0.82 = SPF
1.4	1.4	1.4	Increase per para 2313.2.5
364	532	686	



OLSZAK STORAGE SHED
720 SQUARE FEET
scale: 1/4 inch = 1 foot
ELECTRICAL

DISCLOSURE STATEMENT

FOR OWNER/BUILDER WHEN ACTING AS THER OWN CONTRACTOR AND CLAIMING EXEMPTION OF CONTRACTOR LICENSING REQUIREMENTS IN ACCORDANCE WITH FLORIDA STATUTES, ss. 489.103(7).

State law requires construction to be done by licensed contractors. You have applied for a permit under an exemption to that law. The exemption allows you, as the owner of your property, to act as your own contractor with certain restrictions even though you do not have a license. You must provide direct, onsite supervision of the construction yourself. You may build or improve a one-family or two-family residence or a farm outbuilding. You may also build or improve a commercial building, provided your costs do not exceed $25,000. The building or residence must be for your own use or occupancy. It may not be built or substantially improved for sale or lease. If you sell or lease a building you have built or substantially improved yourself within 1 year after the construction is complete, the law will presume that you built or substantially improved it for sale or lease, which is a violation of this exemption. You may not hire an unlicensed person to act as your contractor or to supervise people working on your building. It is your responsibility to make sure that people employed by you have licenses required by state law and by county or municipal licensing ordinances. You may not delegate the responsibility for supervising work to a licensed contractor who is not licensed to perform the work being done. Any person working on your building who is not licensed must work under your direct supervision and must be employed by you, which means that you must deduct F .I.C.A. and withholding tax and provide workers' compensation for that employee, all as prescribed by law. Your construction must comply with all applicable laws, ordinances, building codes, and zoning regulations.

TYPE OF CONSTRUCTION

( ) Single Family Dwelling
( ) Farm Outbuilding
( ) New Construction
( ) Two-Family Residence
(X) Other Out Building /SHed
( ) Addition, Alteration, Modification or other Improvement

NEW CONSTRUCTION OR IMPROVEMENT

I RONALD R & MARCIA A. OLSZAK **, have been advised of the above disclosure statement for exemption from contractor licensing as an owner/builder. I agree to comply with all requirements provided for in Florida Statutes ss.489.103(7) allowing this exception for the construction permitted by Columbia County Building Permit Number** 0602-100

Marcia A. Olszak 3-14-2006
Ronald R. Olszak 3/15/2006
Signature **Date**

FOR BUILDING USE ONLY

I hereby certify that the above listed owner/builder has been notified of the disclosure statement in Florida Statutes ss 489.103(7).

Date_____ **Building Official/Representative**_____

NOTICE OF COMMENCEMENT FORM
COLUMBIA COUNTY, FLORIDA

THIS DOCUMENT MUST BE RECORDED AT THE COUNTY CLERKS OFFICE BEFORE YOUR FIRST INSPECTION.

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.

Tax Parcel ID Number 30-7S-17-10058-594 / Permit # 0602-100

1. **Description of property: (legal description of the property and street address or 911 address)**
Lot 4, A Replat of Lots 38, 45 and 46 of Santa Fe River Plantations, According to the plat thereof as Recorded in Plat Book 5, Page 13 of the public Records of Columbia County, Florida

2. **General description of improvement:** New Construction Storage Shed

3. **Owner Name & Address** Ronald R & Marcia A. Olszak PO Box 2277, High Springs, FL 32655 **Interest in Property** Owners

4. **Name & Address of Fee Simple Owner (if other than owner):** Same

5. **Contractor Name** Owner/Builder **Phone Number** 386-454-8450
Address

6. **Surety Holders Name** N/A **Phone Number**
Address
Inst:2006006124 Date:03/13/2006 Time:15:08
Amount of Bond $0 DC,P.DeWitt Cason,Columbia County B:1077 P:69

7. **Lender Name** N/A
Address

8. **Persons within the State of Florida designated by the Owner upon whom notices or other documents may be served as provided by section 718.13 (1)(a) 7; Florida Statutes:**
Name **Phone Number**
Address

9. **In addition to himself/herself the owner designates** _____ **of** _____ **to receive a copy of the Lienor's Notice as provided in Section 713.13 (1) –**
(a) 7. Phone Number of the designee

10. **Expiration date of the Notice of Commencement (the expiration date is 1 (one) year from the date of recording, (Unless a different date is specified)**

NOTICE AS PER CHAPTER 713, Florida Statutes:
The owner must sign the notice of commencement and no one else may be permitted to sign in his/her stead.

Marcia A. Olszak
Ronald R. Olszak
Signature of Owner

Sworn to (or affirmed) and subscribed before day of 13TH of MARCH, **20** 06

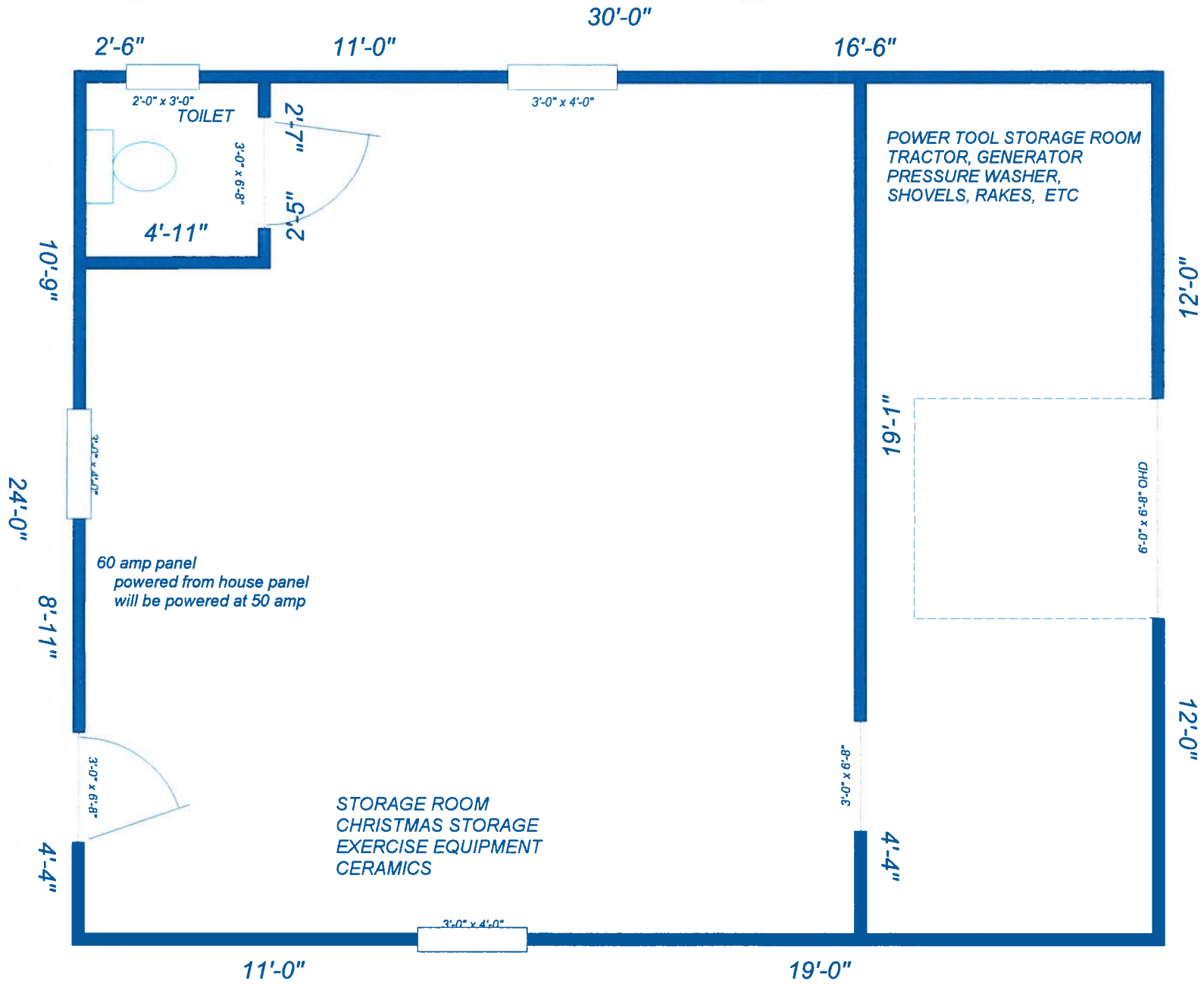
NOTARY STAMP/SEAL

EVA M. DE SALVO
MY COMMISSION # DD 192764
EXPIRES: March 12, 2007
Bonded Thru Notary Public Underwriters

Eva M. De Salvo
Signature of Notary

5. See section #2 for labled floor plan.

WE HAVE DECIDED TO INCLUDE A TOILET IN THE STORAGE SHED. INCLUDED IN THIS SECTION IS THE APPROVAL BY THE HEALTH DEPT FOR A SITE 2 FEED INTO THE SEPTIC SYSTEM.

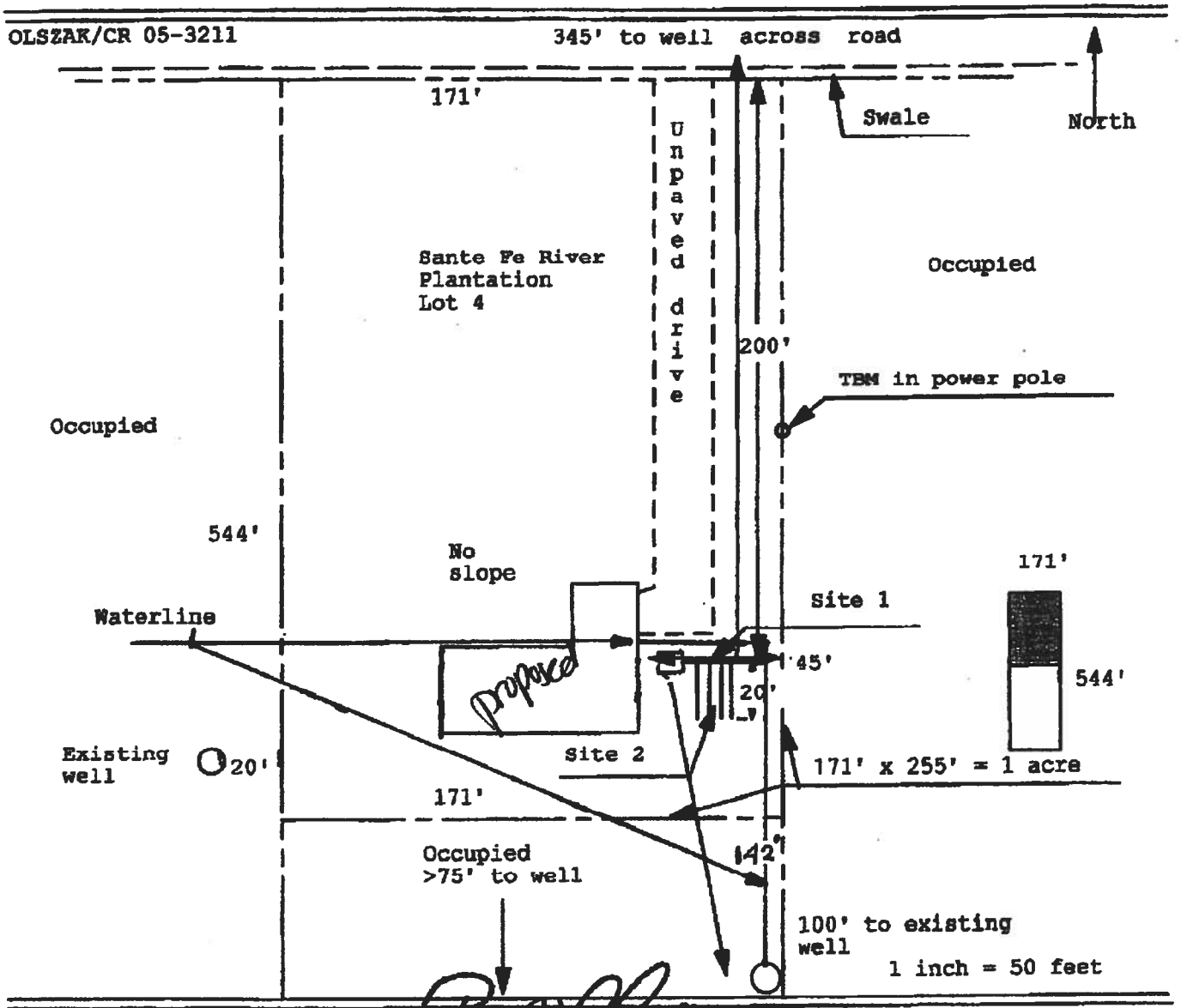


OLSZAK STORAGE SHED
720 SQUARE FEET
scale: 1/4 inch = 1 foot
PLUMBING

Application for Onsite Sewage Disposal System Construction Permit. Part II Site Plan

Permit Application Number: 06-0152N

ALL CHANGES MUST BE APPROVED BY THE COUNTY HEALTH UNIT

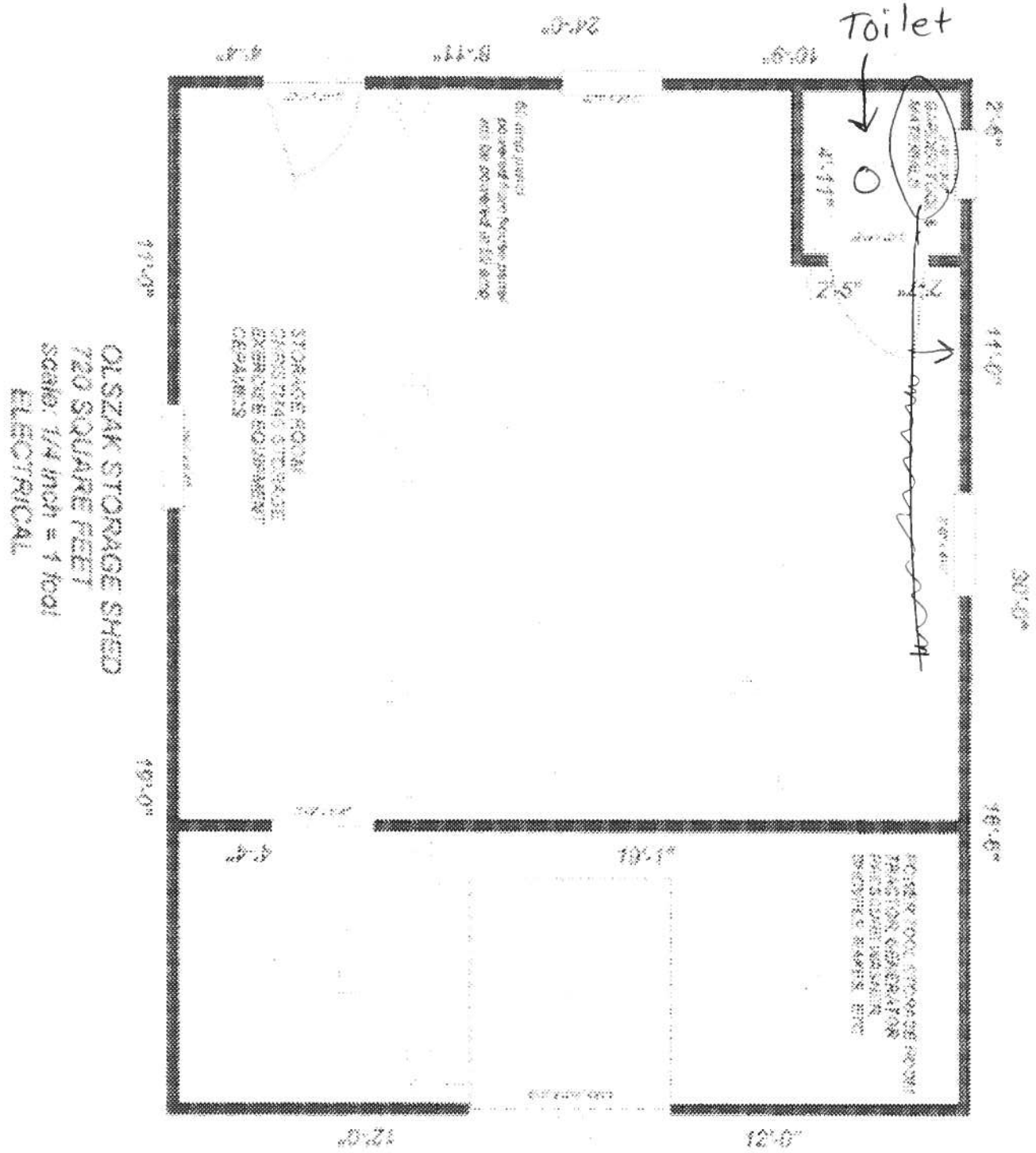


Site Plan Submitted By Paul Floyd **Date** 11/20/06

Plan Approved ✓ **Not Approved** ____ **Date** 2-20-06

By Sallie Bradley - ESI - Columbia **CPHU**

Notes: _____


Toilet
OLSZAK STORAGE SHED
720 SQUARE FEET
Scale: 1/4 inch = 1 foot
ELECTRICAL

Classic PhoneTools

BVRP software

Phone: 8638535512
Fax: 8638535512

Message :

Sallie,
Per our conversation, here is the layout of our storage shed. If possible we would like to put a toilet in the gardening closet which is approximately 5 x 5. If this is OK'd what will I need to give to the building dept. Thanks for your call.

Name: Ronald R. & Marcia A. Olszak
Address: P.O. Box 2277
Phone: 386-454-8450
Email: Olszak2 @alltel.net

From:	**To:** Columbia county
Ronald Olszak	Sallie Graddy
Date: 3/14/2006	**Page(s):** 2

7. **See section #2 for GFCI electrical Receptacle.**

ALACHUA
PEST CONTROL inc.

"If we can't trap 'em, we'll rope 'em"

Household Pests • Termites
Fumigation

14900 NW 140th St. / P.O. Box 1132 / Alachua, Florida 32616-1132
(386) 462-2958 (352) 375-1555 (386) 462-1310 Fax

24297

Certificate of Protective Treatment for Prevention of Subterranean Termites

1) Applicators Name Greg Dryer

2) Time and Date of Treatment 4-13-06 9:00 AM

3) Site Location 200 SW Bay ST
High Springs, Fl

4) Chemical used and % of Concentration Termidor W.G. .06%

5) Number of Gallons of Finish Product and Type of Slab 75gal
Monolithic

All above information is accurate and product was used strictly by label recommendations to the best of my knowledge.

Alachua Pest Control Application Technician.

Wade Hodge 4-13-06

Signature Date

CERTIFICATE OF OCCUPANCY

COLUMBIA COUNTY, FLORIDA

Department of Building and Zoning Inspection

This Certificate of Occupancy is issued to the below named permit holder for the building and premises at the below named location, and certifies that the work has been completed in accordance with the Columbia County Building Code.

Parcel Number 30-7S-17-10058-594

Building permit No. 000024297

Use Classification STORAGE SHED

Fire: 0.00

Permit Holder OWNER BUILDER

Waste: 0.00

Owner of Building MARCIA OLSZAK

Total: 0.00

Location: 200 SW BAY PLACE,FT. WHITE, FL

Date: 02/27/2007

Building Inspector

POST IN A CONSPICUOUS PLACE
(Business Places Only)