Talked to Linda 3-28-06

Columbia County Building Permit Application 2986 ck# 2987 Revised 9-23-04

For Office Use Only Application # 0602-87 Date Received LH By 2/24/06 Permit # 1028/24311

Application Approved by - Zoning Official BLK Date 20.03.06 Plans Examiner OKJTH Date 3-6-05

Flood Zone X Development Permit N/A Zoning A-3 Land Use Plan Map Category A3

Comments ~~Check Deed~~ CALL MIKE AT 623-3820

Applicants Name Linda or Melanie Roder Phone 386-752-2281

Address 387 S.W. Kemp Ct. Lake City FL 32024

Owners Name Marc and Tammy Iuen Phone

911 Address 1149 S.W. Faulkner Dr. Ft. White, FL 32038

Contractors Name Mike McClellan Phone 623-3820

Address 381 S.W. Carpenter Rd Lake City, FL 32024

Fee Simple Owner Name & Address NA

Bonding Co. Name & Address NA

Architect/Engineer Name & Address Nick Geisler

Mortgage Lenders Name & Address NA

Circle the correct power company - FL Power & Light - (Clay Elec.) - Suwannee Valley Elec. - Progressive Energy

Property ID Number 31-55-16-03744-312 Estimated Cost of Construction 225.00

Subdivision Name Lot Block Unit Phase

Driving Directions 47 S. to Columbia City, R on 240, go 4 mi, L on Ichetucknee Ave. go 3 miles to Faulkner Ave, go Left less than 1/2 mile, Lot on left at gate

Type of Construction SFD Number of Existing Dwellings on Property 0

Total Acreage 5.01 Lot Size Do you need a - Culvert Permit or (Culvert Waiver) or Have an Existing Drive

Actual Distance of Structure from Property Lines - Front 551' ✓ Side 168' ✓ Side 121' ✓ Rear 76' ✓

Total Building Height 22'-6" Number of Stories 2 Heated Floor Area 2090 Roof Pitch 12-12

Porches 700 Open Deck 384 TOTAL 3174.6

Application is hereby made to obtain a permit to do 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 be performed to meet the standards of all laws regulating construction in this jurisdiction.

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

WARNING TO OWNER: YOUR FAILURE TO RECORD A NOTICE OF COMMENCMENT MAY RESULT IN YOU PAYING TWICE FOR IMPROVEMENTS TO YOUR PROPERTY. IF YOU INTEND TO OBTAIN FINANCING, CONSULT WITH YOUR LENDER OR ATTORNEY BEFORE RECORDING YOUR NOTICE OF COMMENCEMENT.

Owner Builder or Agent (Including Contractor) X Contractor Signature

STATE OF FLORIDA
COUNTY OF COLUMBIA

Linda R. Roder
Commission #DD301295
Expires: Mar 24, 2008
Bonded Thru
Atlantic Bonding Co., Inc.

Contractors License Number RR 2828 11872

Competency Card Number

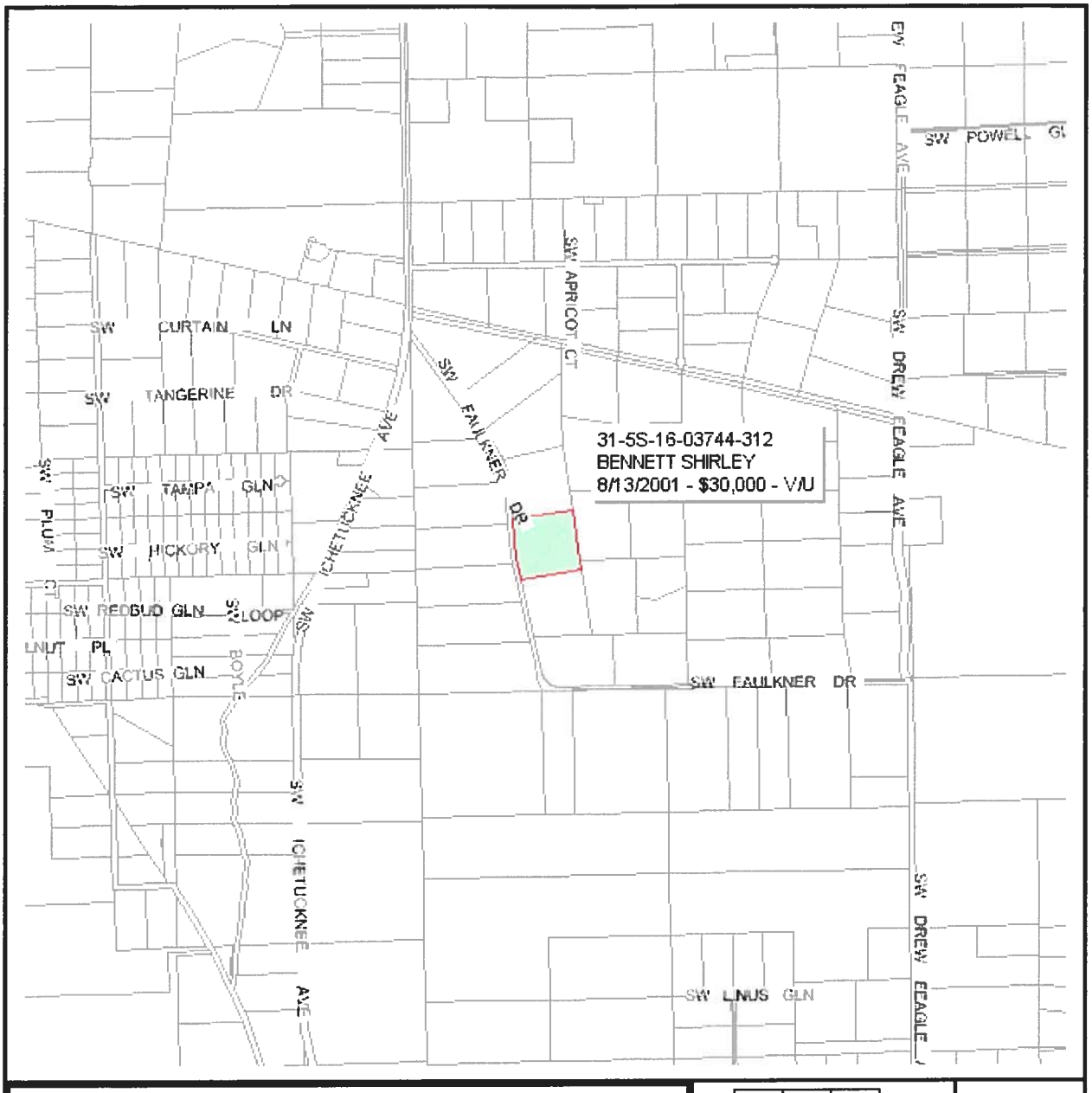
NOTARY STAMP/SEAL

Sworn to (or affirmed) and subscribed before me

this _____ day of _____ 20____.

Personally known_____ or Produced Identification_____

Notary Signature



Columbia County Property Appraiser

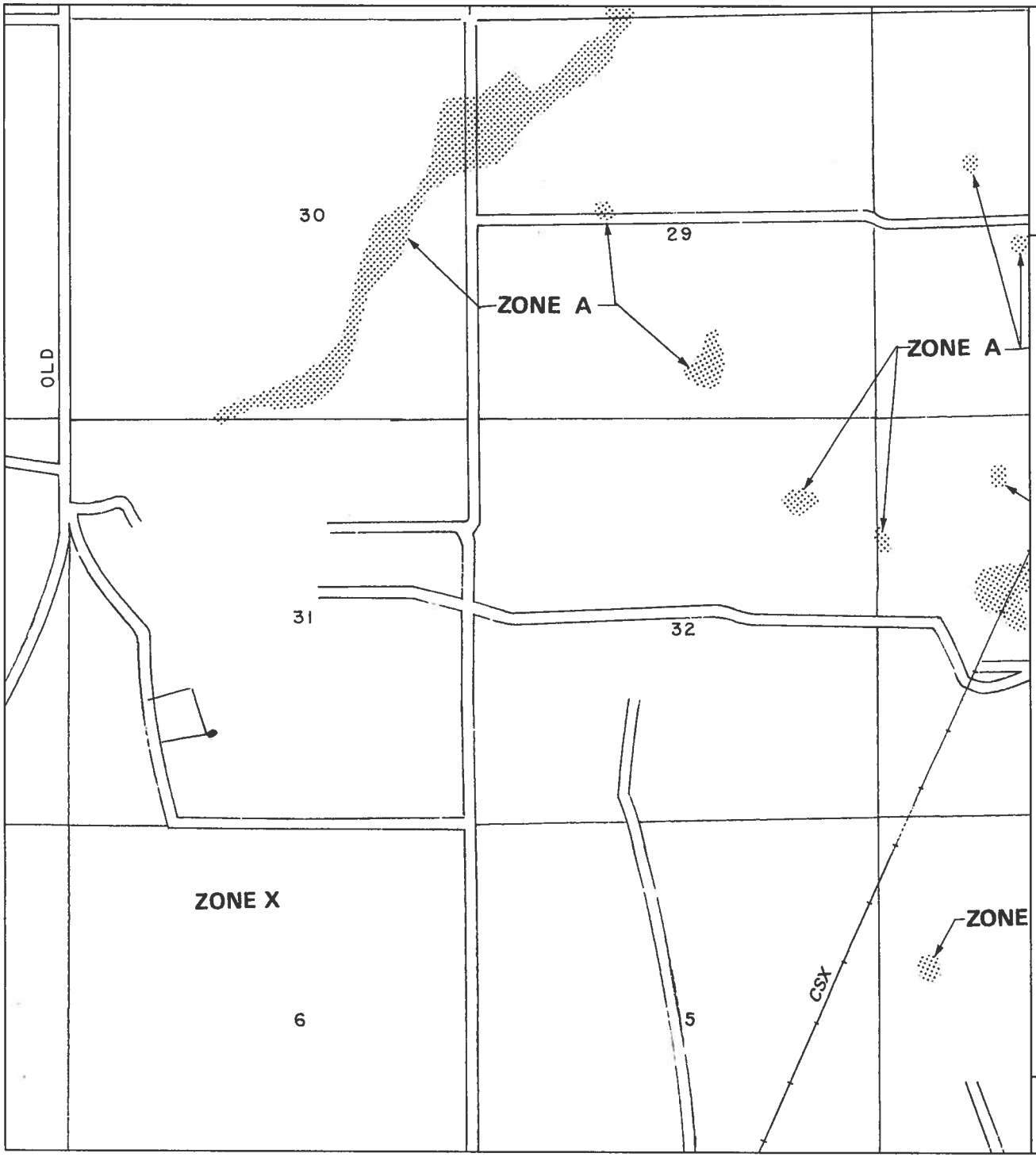
J. Doyle Crews, CFA - Lake City, Florida - 386-758-1083

PARCEL: 31-5S-16-03744-312 - NO AG ACRE (009900)

AKA S1/2 OF LOT 12 PINE ACRES S/D UNREC OR PRCL B OF LOT 12: COMM SW COR OF SE1/4, RUN E

Name:	IUEN MARC F & TAMIYRA	LandVal	$39,575.00
Site:	PINE ACRES S/D	BldgVal	$0.00
Mail:	1700 NE 57TH ST FT LAUDERDALE, FL 333345913	ApprVal	$39,575.00
		JustVal	$39,575.00
Sales Info	1/16/2005 $26,800.00 V / U	Assd	$39,575.00
	8/13/2001 $30,000.00 V / U	Exmpt	$0.00
	5/28/1999 $28,000.00 V / U	Taxable	$39,575.00

This information, GIS Map Updated: 8/3/2005, was derived from data which was compiled by the Columbia County Property Appraiser Office solely for the governmental purpose of property assessment. This information should not be relied upon by anyone as a determination of the ownership of property or market value. No warranties, expressed or implied, are provided for the accuracy of the data herein, it's use, or it's interpretation. Although it is periodically updated, this information may not reflect the data currently on file in the Property Appraiser's office. The assessed values are NOT certified values and therefore are subject to change before being finalized for ad valorem assessment purposes.



N

APPROXIMATE SCALE IN FEET

2000 0 2000

NATIONAL FLOOD INSURANCE PROGRAM

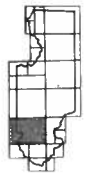
FIRM

FLOOD INSURANCE RATE MAP

COLUMBIA COUNTY, FLORIDA
(UNINCORPORATED AREAS)

PANEL 225 OF 290

PANEL LOCATION



COMMUNITY-PANEL NUMBER
120070 0225 B

EFFECTIVE DATE:
JANUARY 6, 1988

Federal Emergency Management Agency

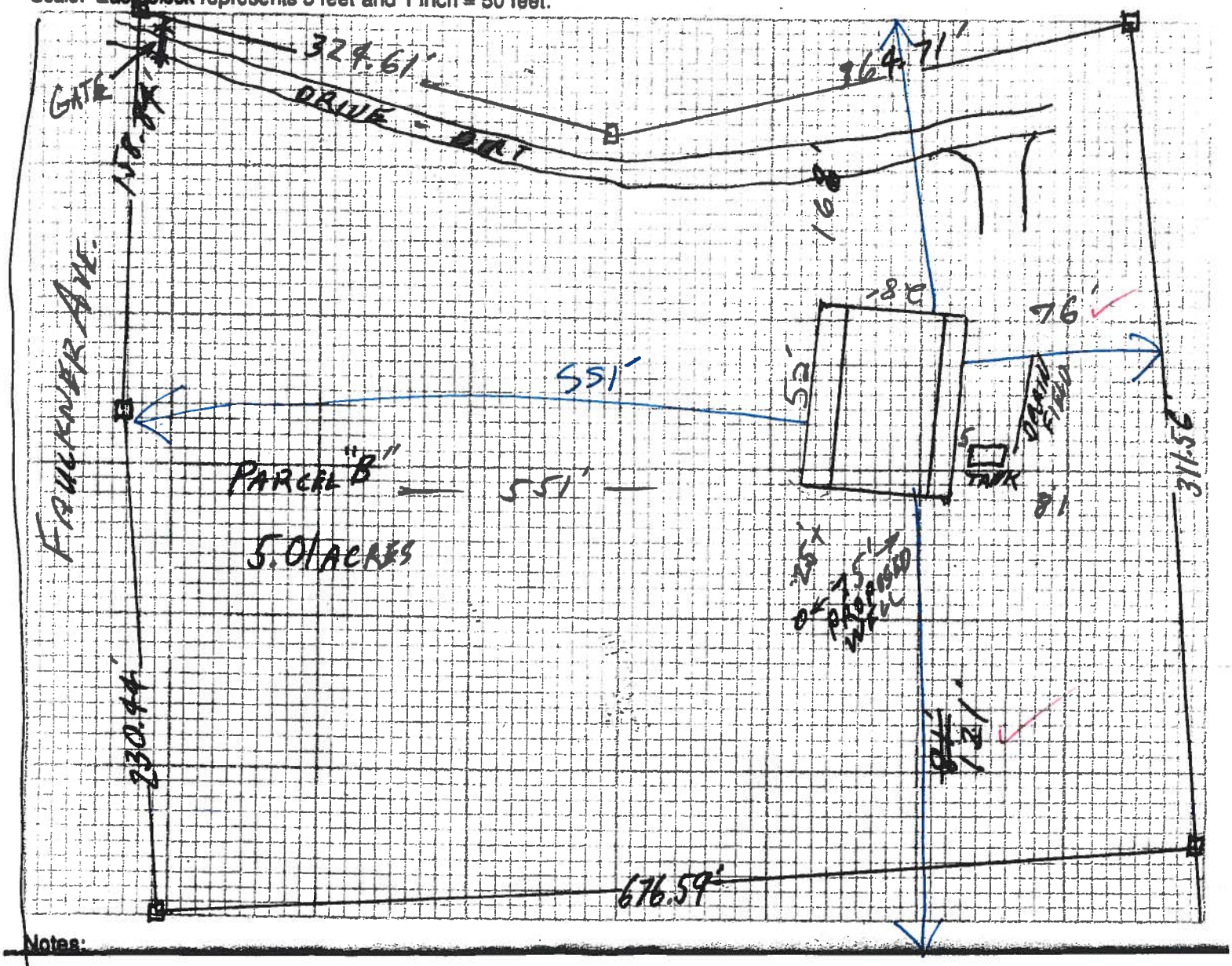
This is an official copy of a portion of the above referenced flood map. It was extracted using F-MIT Version 1.0. This map does not reflect changes or amendments which may have been made subsequent to the date on the title block. Futher information about National Flood Insurance Program flood hazard maps is available at www.fema.gov/mit/tsd.

Print Date: 3/8/2006 (printed at scale and type A)

Site Plan: Marc Iuen

5.01 acres

Scale: Each block represents 5 feet and 1 inch = 50 feet.



Notes:

Prepared by and return to:
Shirley Bennett
3108 SW Old Wire Rd
Ft White, FL 32038

Property Appraiser's Identification No.
31-5S-16-03744-312
Purchaser's S.S. #
Marc F. luen: 266-98-3496
Tamiyra k. luen: 265-11-6094

Inst:2005025686 Date:10/14/2005 Time:16:58
Doc Stamp-Deed : 187.60
Doc Stamp-Mort : 76.30
Intang. Tax : 43.50
DC,P.DeWitt Cason,Columbia County B:1061 P:2608

THIS CONTRACT FOR DEED, made this 16th day of January, A.D. 2005, Shirley Bennett, whose mailing address is 3108 SW Old Wire Rd., Ft White, Florida 32038, hereinafter referred to as "Seller", and Marc F. & Tamiyra K.luen, whose mailing address is 1700 N.E. 57th St, Ft Lauderdale, FL 33334-5913, hereinafter referred to "Purchasers".

WITNESSETH, that if the Purchasers shall first make the payments and perform the covenants hereinafter mentioned on their part to be made and performed, the Seller hereby covenants and agrees to convey and assure to said purchasers their heirs, executors, administrators or assigns, in fee simple, clear of all encumbrances whatever, by a good and sufficient Warranty Deed, the following described property, situated in the County of Columbia, State of Florida, known and described as follows, to wit:

THE SOUTH ½ OF Lot # 12B Pine Acres, an unrecorded subdivision in Section 31, Township 5 South, Range 16 East, Columbia County, Florida.

COMMENCE AT THE SW CORNER OF THE SE ¼ OF SECTION 31, TOWNSHIP 5 SOUTH, RANGE 16 EAST, COLUMBIA COUNTY, FLORIDA AND RUN THENCE N.89°18'21" E., ALONG THE SOUTH LINE OF SAID SECTION 31, 248.36 FEET; THENCE N.00° 24'47" W., 605.74 FEET; THENCE S.89° 19'13" W., 1013.93 FEET; THENCE N.08° 00'23" W., 720.25 FEET TO THE POINT OF BEGINNING; THENCE CONTINUE N.08°00'23" W., 311.56 FEET; THENCE S.78°49'51" W., 371.34 FEET; THENCE N.80°27'24" W., 324.61 FEET TO A POINT ON THE EASTERLY RIGHT-OF-WAY LINE OF FAULKNER ROAD (A COUNTY MAINTAINED GRADE ROAD); THENCE S.04°24'47" E., ALONG SAID EASTERLY RIGHT-OF-WAY LINE, 158.95 FEET; THENCE S.11°43'40" E., ALONG SAID EASTERLY RIGHT-OF-WAY LINE, 230.58 FEET; THENCE N. 81°59'37" E., 668.65 FEET TO THE POINT OF BEGINNING. PARCEL CONTAINS 5.01 ACRES, MORE OR LESS.

This Contract for Deed is given subject to the oil, gas and mineral rights and easements of record, if any.

The total agreed upon purchase price of the property shall be Twenty-six Thousand, ~~Six Hundred~~ and No/100——— ($26,750.00) Dollars, payable at the times and in the manner following: Five Thousand and No/100 Dollars ($5,000.00) non-refundable down-payment, receipt of which is hereby acknowledged, and the balance of 21,750.00, shall be paid over a period of 144 months with the sum of $298.98 becoming due on February 15, 2005, and a like sum of $298.98 shall be due on the fifteenth day of each month thereafter until principal and interest are paid in full with interest at the rate 13 per centum per annum. Price does not include any improvements, i.e.: well & septic system, power pole, or culvert. Purchasers shall have the right to make prepayment at any time without penalty. Purchasers shall pay all expenses related to closing costs, including Title Insurance, related to a new mortgage from another lender. Interest beginning January 16, 2005.

At such time as the Purchasers shall have paid the full amount due and payable under this Contract, or at such other times as provided herein, the Seller promises and agrees to convey the above described property to the Purchasers by good and sufficient Warranty Deed, subject to restrictions s set forth in this Contract For Deed.

The Seller warrants that the title to the property can be fully insured by a title company authorized to do business in the State of Florida. Purchasers may obtain such insurance at their own expense.

The Purchasers shall be permitted to go into possession of the property covered by this contract immediately, and shall assume all liability for taxes from and after that date. Purchasers acknowledge receipt of this Contract.

Purchasers may not cut or remove any merchantable timber from the property without the written consent of the Seller during the term of this Contract or during the term of any mortgage given to Seller as provided herein. In the event Seller grants permission to cut or remove timber, all money derived from the sale thereof shall be applied against the remaining balance in inverse order.

The time of payment shall be of the essence and in the event of any default of payment of any of the purchase money as and when it becomes due, or in performance of any other obligations assumed by Purchasers in this Contract, including the payment of taxes, and in the event that the default shall continue for a period of Fifteen (15) days, then the Seller may consider the whole of the balance due under this Contract immediately due and payable and collectible, or the Seller may rescind this Contract, retaining the cash consideration paid for it as liquidation damages, and this Contract than shall become null and void and the Seller have the right to re-enter and immediately take possession of the property covered by this Contract. In the event that iris necessary for the Seller to enforce this Contract by foreclosure proceedings, or otherwise, all costs of the proceedings, including a reasonable attorney's fee, shall be paid by the Purchasers. Installments not paid within Ten (10) days after becoming due under the terms of this Contract shall be subject to, and it is agreed Sell shall collect a late charge in the amount of Ten Percent (10% of the monthly payment per month upon such delinquent installments. ANY PAYMENT MADE BY CHECK AND WHICH IS RETURNED UNPAID BY THE BANK WILL REQUIRE PURCHASERS TO PAY A $25.00 PENALTY FOR SUCH DISHONORED CHECK.

In the event this Contract is assigned, sold, devised, transferred, quit-claimed or in any way conveyed to another by the Purchasers, then in that event, all the then remaining balance shall become immediately due and payable and collectible.

Purchasers acknowledge that they have personally inspected subject property and found it to be as represented. Purchasers further agrees that the property is suitable for the purpose for which it is being purchased.

RESTRICTIONS

For a period of twenty years from date thereof, no junk of any kind or description, including junk automobiles, junk electrical appliances, or worn out or discarded machinery, can be kept/stored or placed on upon this property.

No campers, motor homes, tents, buses, or similar type temporary housing may be occupied as a permanent residence. Mobile homes may not be placed on this property solely for rental purposes. No defacement of property, such as a borrow pit, is allowed. Swine are not allowed. The developer may waive any of these restrictions for sufficient cause and good reason, provided the land owners of adjacent lots give their consent. These restrictions terminate 20 years unless in writing unanimously by the owners within the subdivision to extend for another 20 years.

IT IS MUTUALLY AGREED, by and between the parties hereto, that the time of each payment shall be an essential part of this Contract, and that all covenants and agreements herein contained shall extend to and be obligatory upon heirs, executors, administrators and assigns of the respective parties.

IN WITNESS WHEREOF, the parties of these presents have hereunto set their hands and seals the day and year first above written. Before we signed this Contract, we received a copy of the restrictions and we personally inspected the above referenced property.

WITNESS AS TO SELLER

SELLER

WITNESS AS TO SELLER

WITNESS AS TO BUYER

BUYER

WITNESS AS TO BUYER

BUYER

STATE OF FLORIDA
COUNTY OF COLUMBIA

The foregoing instrument was acknowledged before me this 18th day of Jan. 2005, by [illegible]. He/She is personally known to me.

Notary Public, State of Florida

My Commission Expires:

STATE OF FLORIDA
COUNTY OF COLUMBIA

The foregoing instrument was acknowledged before me this 18th day of Jan., 2005, [illegible] who is personally known to me.

Notary Public, State of Florida

(Print or Type Name)
My Commission Expires:

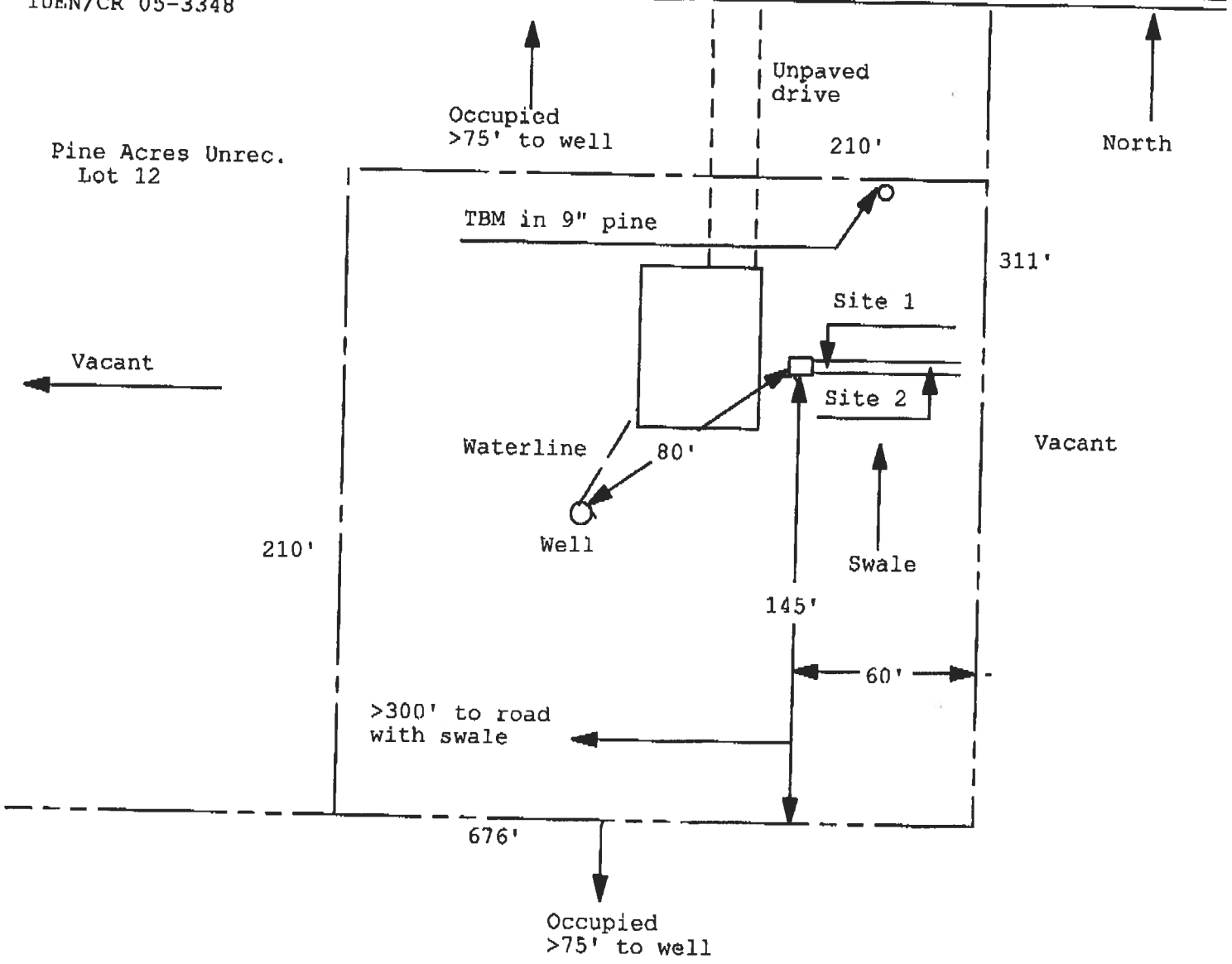
Inst:200502568B Date:10/14/2005 Time:16:58
Doc Stamp-Deed : 187.60
Doc Stamp-Mort : 76.30
Intang. Tax : 43.50
DC,P.DeWitt Cason,Columbia County B:1061 P:2610

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

Permit Application Number: 06-0143N

ALL CHANGES MUST BE APPROVED BY THE COUNTY HEALTH UNIT

IUEN/CR 05-3348



1 inch = 50 feet

Site Plan Submitted By Paul Lloyd **Date** 2/8/06

Plan Approved ✓ **Not Approved** ____ **Date** 2-17-06

By Marsha Lee Columbia **CPHU**

Notes: ____

Prepared by & return to
North Florida Permit Service
387 S.W. Kemp Ct.
Lake City FL 32024

NOTICE OF COMMENCEMENT FORM
COLUMBIA COUNTY, FLORIDA

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 31-5S-16-03744-312

1. Description of property: (legal description of the property and street address or 911 address)
911 – 1149 S.W. Faulkner Dr. Ft. White, FL 32038

2. General description of improvement: Single Family Dwelling

3. Owner Name & Address Marc & Tammy Iuen

Interest in Property home site

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

5. Contractor Name Mike McClellan Phone Number 623-3820
Address 387 S.W. Carpenter Rd Lake City FL 32024

6. Surety Holders Name NA Phone Number
Address
Amount of Bond

7. Lender Name NA Phone Number
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 NA Phone Number
Address

9. In addition to himself/herself the owner designates NA 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 (Unless a different date is specified) A.P.

Inst:2006004630 Date:02/24/2006 Time:14:36
DC,P.DeWitt Cason,Columbia County B:1075 P:717

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.

X Marc F. Iuen
FL# I500-546-55-327-0

X Tamiya L. Iuen
Signature of Owner
I 500-807-54-596-0

Sworn to (or affirmed) and subscribed before day of 17 February, 20 06

NOTARY STAMP/SEAL

PAULA BAILEY
MY COMMISSION # DD 233978
EXPIRES: July 23, 2007
Bonded Thru Notary Public Underwriters

Paula Bailey

HALL'S PUMP & WELL SERVICE, INC.

SPECIALIZING IN 4"-6" WELLS

DONALD AND MARY HALL
OWNERS

PHONE (904) 752-1554
FAX (904) 755-7022
LAKE CITY, FLORIDA 32055
904 NW Main Blvd.

June 12, 2002

NOTICE TO ALL CONTRACTORS

Please be advised that due to the new building codes we will use a large capacity diaphram tank on all new wells. This will insure a minimum of one (1) minute draw down or one (1) minute refill. If a smaller diaphram tank is used then we will install a cycle stop valve which will produce the same results.

If you have any questions please feel free to call our office anytime.

Thank you,

Donald D. Hall
DDH/jk

Strictly Wholesale, Inc.
PO Box 7500
Tallahassee, FL 32314

Simpson®

DP rating +48.3 PSF, -58.5 PSF

Installation Instructions:
The Main frame was secured to the test buck using forty-two (#10 x 2-1/2) flat head screws. Two were used at each hinge; 9 at each jamb; and 8 at the head. The dead bolt striker was quadruple screwed to the jamb frame and the cylindrical strike plate was double screwed to the jamb frame.

NATIONAL CERTIFIED TESTING LABORATORIES

1464 GEMINI BOULEVARD • ORLANDO, FLORIDA 32837
PHONE (407) 240-1356 • FAX (407) 240-8882

STRUCTURAL PERFORMANCE TEST REPORT

REPORT NO.: NCTL-210-1642-4,5,6 (S)
TEST DATE: 08-16-94
REPORT DATE: 09-12-94

LABORATORY CERTIFICATION NO.: 94-0323.47

CLIENT: Simpson/Mastermark
400 Simpson Avenue
P.O. Box 210
McCleary, Washington 98557

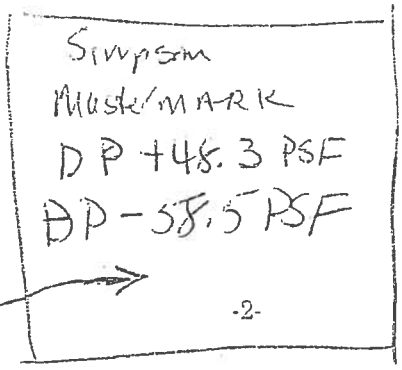
TEST SPECIMEN: Simpson/Mastermark's Series "1501" Dual Panel Full-Lite Double Wood Patio Door Entry System (Type OX)

TEST SPECIFICATIONS: ASTM E283-91, "Test Method for Determining the Rate of Air Leakage Through Exterior Windows, Curtain Walls and Doors under Specified Pressure Difference Across the Specimen. ASTM E330-90, "Structural Performance of Exterior Windows, Curtain Walls, and Doors by Uniform Static Air Pressure Difference." AAMA/NWWDA/101/I.S. 2-97, "Voluntary Specifications for Aluminum, Vinyl (PVC) and Wood Windows and Glass Doors." North Carolina State Building Code, 1997 Edition, Section 613.

TEST SPECIMEN DESCRIPTION

GENERAL: The specimen tested was a two (2) panel type (OX) inswinging wood full lite french patio door system, consisting of a wood main frame and wood door panels. The patio door measured 6'3-1/4" wide by 8'2-3/4" high overall. Both panels measured 3'0" wide by 8'0" high by 1-3/4" thick. The fixed panel was interior adhered directly to the main frame using an adhesive bond and interior wood stops stapled-in-place on 12" centers. The fixed panel employed a rigid vinyl bottom rail that was sealed in place at the exterior. The active panel employed four (4) 4" butt hinges. One (1) cylindrical lock set was located at 36" from the bottom edge at the active panel with the dead bolt security lock at 42". Keepers were fastened to the wood jamb frame at lock positions. A dual durometer sweep was triple sealed and stapled to the bottom edge of the active panel. A secondary 9" slide bolt was located at 1-1/2" from the top left hand interior corner of the active panel with the keeper double screwed to the head at lock position. The main frame jamb/head corners were of six (6) staple corner construction. The jamb/sill corners were of triple screw coped corner construction. Panel top rail/stile corners were of glued double dowel rabbeted corner construction. The panel bottom rail/stile corners were of quadruple dowel rabbeted corner construction. The fixed jamb frame was double lag bolted at the head and sill.

WEATHERSTRIP: A single strip of dual durometer weatherseal was used at the head, hinge jamb and fixed jamb frame. A dual durometer sweep was triple sealed and continuously stapled to the bottom of the active panel. Vinyl wrapped foam dust pads were used at the hinge jamb/sill corner and the jamb frame/sill corner.



GLAZING: Both panels were interior glazed using 1/8" thick clear tempered glass using an adhesive bedding and a naile in place interior wood bead stop. Each lite provided a viewing area of 22" x 81".

INTERIOR & EXTERIOR SURFACE FINISH: Clear sealed wood.

SEALANT: The main frame was triple siliconed sealed at the perimeter to the test buck. A small-joint sealant wa applied to the jamb/sill corners at the dust pad locations.

INSTALLATION FASTENERS: The main frame was secured to the test buck using forty-two (# 10 x 2-1/2") flat hea screws. Two (2) were used at each hinge; nine (9) at each jamb; and eight (8) at the head. The dead bolt striker wa quadruple screwed to the jamb frame and the standard cylindrical strike plate was double screwed to the jamb frame. (See fastener location diagram)

TEST RESULTS SPECIMEN NO 4 (S)

PARAGRAPH NO.	TITLE OF TEST	MEASURED	ALLOWED
5.2.7	Air Infiltration (ASTM E-283)		
	1.57 psf (25 mph)	0.02 CFM/FT^2	0.20" CFM/FT^2
5.2.4	Uniform Static Loads		
	1/2 of Full Load		
	32.4 psf Exterior	0.064"	0.384"
	42.9 psf Interior	0.078"	0.384"
	Uniform Static Loads		
	Design Loads		
	43.2 psf Exterior	0.030"	0.384"
	57.2 psf Interior	0.038"	0.384"
5.2.6	Water Resistance (5.0 GPH/FT^2)		
	WTP = 6.50 psf	No Entry	No Entry
5.2.5	Uniform Static Loads		
	Full Loads		
	64.8 psf Exterior	0.132"	0.384"
	85.5 psf Interior	0.156"	0.384"

TEST RESULTS SPECIMEN NO 5 (S)

PARAGRAPH NO.	TITLE OF TEST	MEASURED	ALLOWED
5.2.7	Air Infiltration (ASTM E-283) 1.57 psf (25 mph)	0.02 CFM/FT^2	0.20" CFM/FT^2
5.2.4	Uniform Static Loads 1/2 of Full Load		
	32.4 psf Exterior	0.008"	0.384"
	42.9 psf Interior	0.038"	0.384"
	Uniform Static Loads Design Loads		
	43.2 psf Exterior	0.042"	0.384"
	57.2 psf Interior	0.057"	0.384"
5.2.6	Water Resistance (5.0 GPH/FT^2) WTP = 6.50 psf	No Entry	No Entry
5.2.5	Uniform Static Loads Full Loads		
	64.8 psf Exterior	0.090"	0.384"
	85.5 psf Interior	0.056"	0.384"

TEST RESULTS SPECIMEN NO 6 (S)

PARAGRAPH NO.	TITLE OF TEST	MEASURED	ALLOWED
5.2.7	Air Infiltration (ASTM E-283) 1.57 psf (25 mph)	0.02 CFM/FT^2	0.20" CFM/FT^2
5.2.4	Uniform Static Loads 1/2 of Full Load		
	32.4 psf Exterior	0.074"	0.384"
	42.9 psf Interior	0.080"	0.384"
	Uniform Static Loads Design Loads		
	43.2 psf Exterior	0.083"	0.384"
	57.2 psf Interior	0.060"	0.384"

5.2.6	Water Resistance (5.0 GPH/FT^2) WTP = 6.50 psf	No Entry	No Entry
5.2.5	Uniform Static Loads Full Loads 64.8 psf Exterior 85.8 psf Interior	 0.146" 0.125"	 0.384" 0.384"

ALL TEST COMPLETED: 08-16-94

Permanent set measured readings recorded using a shaft encoder - digital deflection measurer.

NOTE: At the conclusion of the testing no damage to the specimen was observed.

Structural Test Pressures of 64.8 psf exterior and 85.8 interior were achieved. (30 second durations)

The products tested meets the criteria for Chapter 2309 of the South Florida Building Code and Protocol P 202-94.

Two (2) mill visqueen was used for uniform static loads and did not effect the specimen performance.

Detailed drawings were available for laboratory records and compared to the test specimen at the time of th report. A copy of this report along with representative sections of the test specimen will be retained by NCT for a period of four (4) years. The results obtained apply only to the specimen tested.

NATIONAL CERTIFIED TESTING LABORATORIES, INC.

MICHAEL E. LANE
Division Manager

9/27/94

Professional Engineer
Mr. Barry Portnoy
5767 Major Blvd.
Orlando, FL 32819

MEL/ld

TAMKO®
ROOFING PRODUCTS

FEB - 4 RECD

January 31, 2002

TO: OUR FLORIDA CUSTOMERS:

Effective February 1, 2002, the following TAMKO shingles, as manufactured at TAMKO's Tuscaloosa, Alabama, facility, comply with ASTM D-3161, Type I modified to 110 mph. Testing was conducted using four nails per shingle. These shingles also comply with Florida Building Code TAS 100 for wind driven rain.

- Glass-Seal AR
- Elite Glass-Seal AR
- ASTM Heritage 30 AR (formerly ASTM Heritage 25 AR)
- Heritage 40 AR (formerly Heritage 30 AR)
- Heritage 50 AR (formerly Heritage 40 AR)

All testing was performed by Florida State certified independent labs.

Please direct all questions to TAMKO's Technical Services Department at 1-800-641-4691.

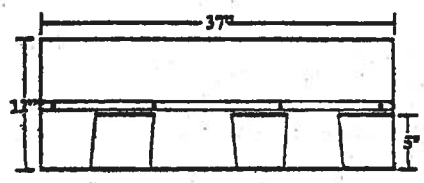
TAMKO Roofing Products, Inc.

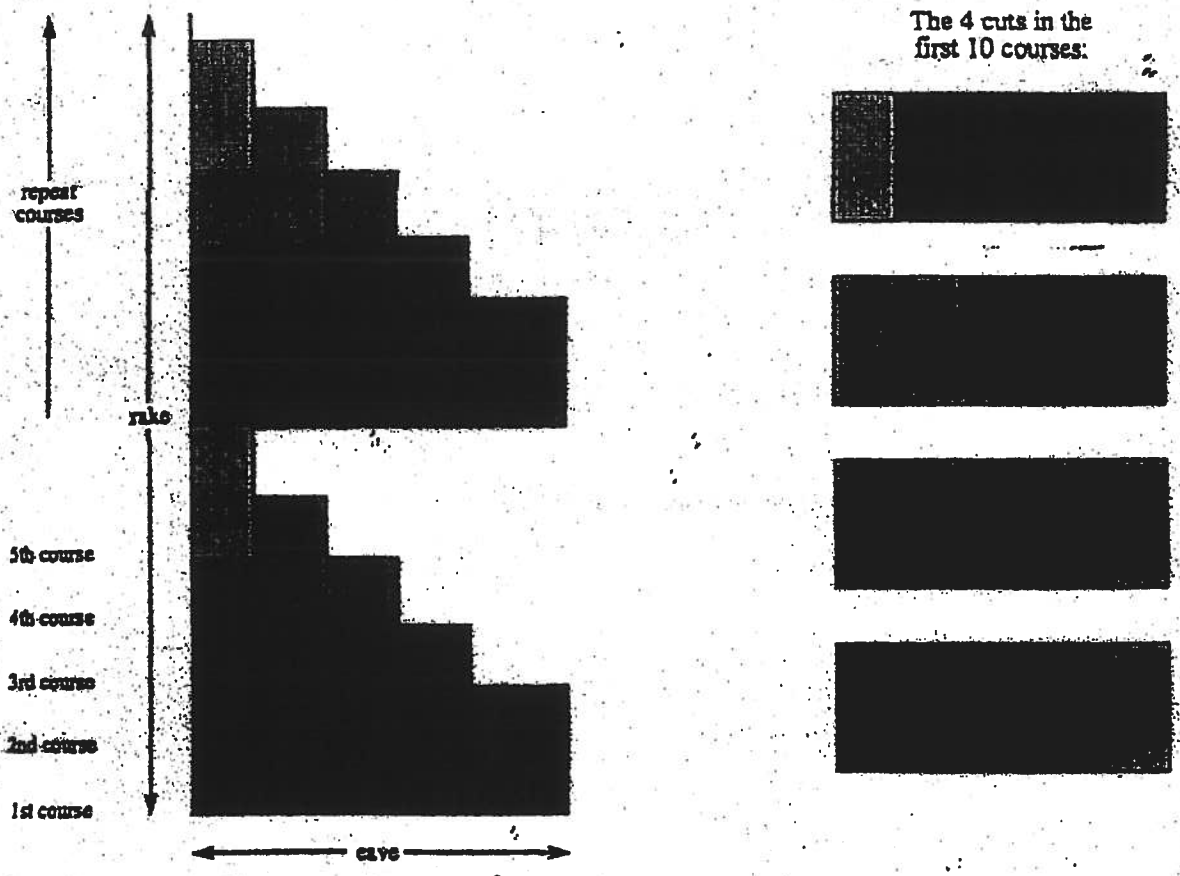
CORPORATE HEADQUARTERS
220 W. FOURTH STREET P.O. BOX 1404 JOPLIN, MO 64802-1404 800-641-4691 FAX 800-641-1925

TAMKO
ROOFING PRODUCTS

Application Instructions For Heritage® 25 Series Shingles

SPECIFICATIONS (APPROX.)	
Length	37"
Width	12"
Bundles per Sq.	3
Shingles per Sq.	78
Shingles per Bundle	26
Coverage per Sq. (Sq. Ft.)	100
Exposure	5"





In the first 10 courses, there are 4 cuts and no waste.

When you reach the other side of the roof, whatever has to be trimmed off can be used in the field of roofing.

For additional application information consult the application instructions printed on the product package.

NOTE: These application instructions apply only to Heritage 25 and Heritage 25 AR shingles.

TAMKO ROOFING PRODUCTS

Application Instructions for

- Glass-Seal
- Glass-Seal AR
- Elite Glass-Seal®
- Elite Glass-Seal® AR

THREE-TAB 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. thick, nails 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.

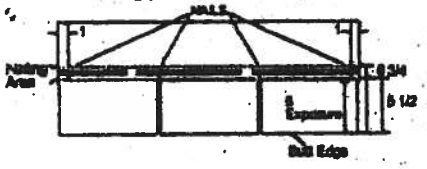
3. FASTENING

NAILS: TAMKO recommends the use of nails as the preferred method of application.
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.

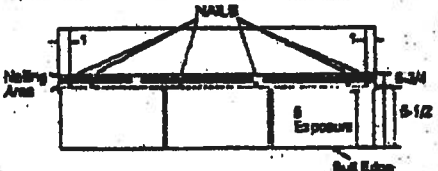
Correct placement of the fasteners is critical to the performance of the shingle. If the fasteners are not placed as shown in the diagram and described below, TAMKO will not be responsible for any shingles blown off or displaced. TAMKO will not be responsible for damage to shingles caused by winds or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

FASTENING PATTERNS: Fasteners must be placed above or below the factory applied sealant in an area between 5-1/2" and 6-3/4" from the butt edge of the shingle. Fasteners should be located horizontally according to the diagram below. Do not nail into the sealant. TAMKO recommends nailing below the sealant whenever possible for greater wind resistance.

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).



2) Mansard or High Wind 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 fastener per shingle. (See Mansard fastening pattern illustrated below.)



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.

(Continued)

(CONTINUED from Pg. 2)

TAMKO ROOFING PRODUCTS

- Glass-Seal
- Glass-Seal AR
- Elite Glass-Seal®
- Elite Glass-Seal® AR

THREE-TAB ASPHALT SHINGLES

with quick setting asphalt adhesive cement immediately upon installation. Spots of cement must be equivalent in size to a 3.25 piece and applied to shingles with a 5 in. exposure, use 6 fasteners per shingle. See Section 3 for the Mansard Fastening Pattern.

5. 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.

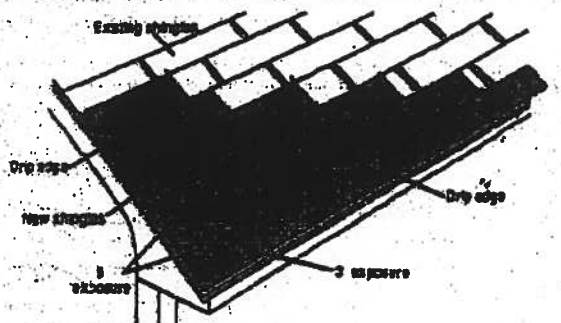
If re-roofing over an existing roof where new flashing is required to protect against ice dams (freeze/thaw cycle of water and/or the backup of water in frozen or clogged gutters), remove the old roofing to a point at least 24 in. beyond the interior wall line and apply TAMKO's Moisture Guard Plus® waterproofing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

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

Starter Course: Begin by using TAMKO Shingle Starter or 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.



6. 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.

- 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.
- Do not trim if the shingle length exceeds 12 in. Lengths should vary.
- Press the shingles tightly into the valley.
- Use normal shingle fastening methods.

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 extending it over previously applied shingles and trim a minimum of 2 in. back from the centerline of the valley.

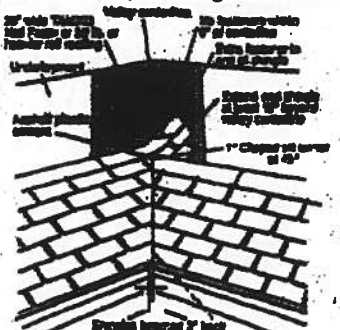
Note: For a neater installation, snap a chalkline over the shingles for guidance.

- Clip the upper corner of each shingle at a 45-degree angle and embed the end of the shingle in a 3 in. wide strip of asphalt plastic cement. This will prevent water from penetrating between the courses by directing it into the valley.

- *CAUTION: Adhesive must be applied in smooth, thin, even layers.*

Excessive use of adhesive will cause blistering to this product.

TAMKO assumes no responsibility for blistering.



(Continued)

(CONTINUED from Pg. 3)

TAMKO ROOFING PRODUCTS

- Glass-Seal
- Glass-Seal AR
- Elite Glass-Seal®
- Elite Glass-Seal® AR

THREE-TAB ASPHALT SHINGLES

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 5-1/2 in. back from the exposed end and 1 in. up from the edge. Do not nail directly into the sealant.

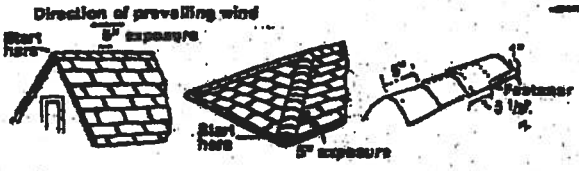
TAMKO recommends the use of TAMKO Hip & Ridge shingle products. Where matching colors are available, it is acceptable to use TAMKO's Glass-Seal or Elite Glass-Seal shingles cut down to 12 in. pieces.

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

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.

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; or (b) that shingles which are not installed strictly in accordance with the instructions printed on this wrapper are sold "AS IS" and 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.

Residential System Sizing Calculation

Summary

M/M M. IUEN
-
COLUMBIA COUNTY, FL

Project Title:
IUEN Residence

Code Only
Professional Version
Climate: North

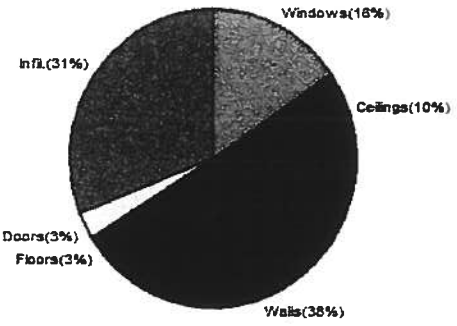
2/1/2006

Location for weather data: Gainesville - Defaults: Latitude(29) Temp Range(M)					
Humidity data: Interior RH (50%) Outdoor wet bulb (77F) Humidity difference(51gr.)					
Winter design temperature	31	F	Summer design temperature	93	F
Winter setpoint	70	F	Summer setpoint	75	F
Winter temperature difference	39	F	Summer temperature difference	18	F
Total heating load calculation	**39598**	**Btuh**	**Total cooling load calculation**	**38248**	**Btuh**
Submitted heating capacity	% of calc	Btuh	Submitted cooling capacity	% of calc	Btuh
Total (Electric Heat Pump)	100.0	39600	Sensible (SHR = 0.75)	103.7	28650
Heat Pump + Auxiliary(10.0kW)	186.2	73730	Latent	90.0	9550
			Total (Electric Heat Pump)	99.9	38200

WINTER CALCULATIONS

Winter Heating Load (for 1986 sqft)

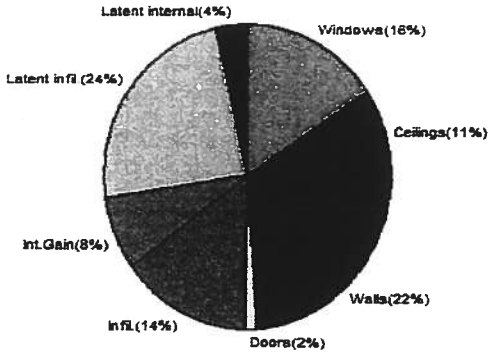
Load component			Load	
Window total	286	sqft	6149	Btuh
Wall total	2641	sqft	15112	Btuh
Door total	64	sqft	1148	Btuh
Ceiling total	1723	sqft	3962	Btuh
Floor total	1223	sqft	1100	Btuh
Infiltration	283	cfm	12126	Btuh
Subtotal			**39598**	**Btuh**
Duct loss			0	Btuh
TOTAL HEAT LOSS			**39598**	**Btuh**



SUMMER CALCULATIONS

Summer Cooling Load (for 1986 sqft)

Load component			Load	
Window total	286	sqft	6052	Btuh
Wall total	2641	sqft	8375	Btuh
Door total	64	sqft	639	Btuh
Ceiling total	1723	sqft	4306	Btuh
Floor total			0	Btuh
Infiltration	266	cfm	5268	Btuh
Internal gain			3000	Btuh
Subtotal(sensible)			**27640**	**Btuh**
Duct gain			0	Btuh
Total sensible gain			**27640**	**Btuh**
Latent gain(infiltration)			9228	Btuh
Latent gain(internal)			1380	Btuh
Total latent gain			**10608**	**Btuh**
TOTAL HEAT GAIN			**38248**	**Btuh**



EnergyGauge® System Sizing based on ACCA Manual J.
PREPARED BY: _____
DATE: 02 Feb 2006 AK7005

System Sizing Calculations - Winter

Residential Load - Component Details

M/M M. IUEN
-
COLUMBIA COUNTY, FL

Project Title:
IUEN Residence

Code Only
Professional Version
Climate: North

Reference City: Gainesville (Defaults) Winter Temperature Difference: 39.0 F

2/1/2006

Window	Panes/SHGC/Frame/U	Orientation	Area X	HTM=	Load
1	2, Clear, Wood, DEF	S	24.0	21.5	516 Btuh
2	2, Clear, Wood, DEF	S	6.0	21.5	129 Btuh
3	2, Clear, Wood, DEF	S	24.0	21.5	516 Btuh
4	2, Clear, Wood, DEF	S	20.0	21.5	430 Btuh
5	2, Clear, Wood, DEF	S	12.0	21.5	258 Btuh
6	2, Clear, Wood, DEF	S	12.0	21.5	258 Btuh
7	2, Clear, Wood, DEF	E	12.0	21.5	258 Btuh
8	2, Clear, Wood, DEF	NE	8.0	21.5	172 Btuh
9	2, Clear, Wood, DEF	SE	8.0	21.5	172 Btuh
10	2, Clear, Wood, DEF	N	20.0	21.5	430 Btuh
11	2, Clear, Wood, DEF	N	10.0	21.5	215 Btuh
12	2, Clear, Wood, DEF	N	9.0	21.5	194 Btuh
13	2, Clear, Wood, DEF	N	9.0	21.5	194 Btuh
14	2, Clear, Wood, DEF	N	24.0	21.5	516 Btuh
15	2, Clear, Wood, DEF	N	24.0	21.5	516 Btuh
16	2, Clear, Wood, DEF	N	6.0	21.5	129 Btuh
17	2, Clear, Wood, DEF	N	24.0	21.5	516 Btuh
18	2, Clear, Wood, DEF	W	12.0	21.5	258 Btuh
19	2, Clear, Wood, DEF	W	12.0	21.5	258 Btuh
20	2, Clear, Wood, DEF	W	10.0	21.5	215 Btuh
	Window Total		286		6149 Btuh
Walls	Type	R-Value	Area X	HTM=	Load
1	Log (6 inch) - Exterior	0.0	1834	6.7	12287 Btuh
2	Frame - Exterior	11.0	807	3.5	2825 Btuh
	Wall Total		2641		15112 Btuh
Doors	Type		Area X	HTM=	Load
1	Wood - Exter		14	17.9	251 Btuh
2	Wood - Exter		20	17.9	359 Btuh
3	Wood - Exter		20	17.9	359 Btuh
4	Wood - Exter		10	17.9	179 Btuh
	Door Total		64		1148Btuh
Ceilings	Type	R-Value	Area X	HTM=	Load
1	Single Assembly	15.5	1723	2.3	3962 Btuh
	Ceiling Total		1723		3962Btuh
Floors	Type	R-Value	Size X	HTM=	Load
1	Raised Wood/Enclosed	19	1222.5 sqft	0.9	1100 Btuh
	Floor Total		1223		1100 Btuh
Infiltration	Type	ACH X	Building Volume	CFM=	Load
	Natural	0.40	19860(sqft)	133	5691 Btuh
	Mechanical			150	6435 Btuh
	Infiltration Total			283	12126 Btuh

Manual J Winter Calculations

Residential Load - Component Details (continued)

M/M M. IUEN
-
COLUMBIA COUNTY, FL

Project Title:
IUEN Residence

Code Only
Professional Version
Climate: North

2/1/2006

Totals for Heating	**Subtotal**	**39598 Btuh**
	Duct Loss(using duct multiplier of 0.00)	**0 Btuh**
	Total Btuh Loss	**39598 Btuh**

Key: Window types (SHGC - Shading coefficient of glass as SHGC numerical value or as clear or tint)
(Frame types - metal, wood or insulated metal)
(U - Window U-Factor or 'DEF' for default)
(HTM - ManualJ Heat Transfer Multiplier)

Key: Floor size (perimeter(p) for slab-on-grade or area for all other floor types)

System Sizing Calculations - Summer

Residential Load - Component Details

M/M M. IUEN
-
COLUMBIA COUNTY, FL

Project Title:
IUEN Residence

Code Only
Professional Version
Climate: North

Reference City: Gainesville (Defaults) Summer Temperature Difference: 18.0 F 2/1/2006

Window	Type Panes/SHGC/U/InSh/ExSh	Ornt	Overhang Len	Hgt	Window Area(sqft) Gross	Shaded	Unshaded	HTM Shaded	Unshaded	Load
1	2, Clear, DEF, B, N	S	10	5	24.0	24.0	0.0	15	24	360 Btuh
2	2, Clear, DEF, B, N	S	10	4.30	6.0	6.0	0.0	15	24	90 Btuh
3	2, Clear, DEF, B, N	S	10	5	24.0	24.0	0.0	15	24	360 Btuh
4	2, Clear, DEF, B, N	S	2	5.90	20.0	20.0	0.0	15	24	300 Btuh
5	2, Clear, DEF, B, N	S	1.29	7.30	12.0	12.0	0.0	15	24	180 Btuh
6	2, Clear, DEF, B, N	S	1.29	7.30	12.0	12.0	0.0	15	24	180 Btuh
7	2, Clear, DEF, B, N	E	0.30	4.80	12.0	0.0	12.0	15	46	552 Btuh
8	2, Clear, DEF, B, N	NE	0.30	4.80	8.0	0.0	8.0	15	32	256 Btuh
9	2, Clear, DEF, B, N	SE	0.30	4.80	8.0	0.0	8.0	15	40	320 Btuh
10	2, Clear, DEF, B, N	N	2	5.90	20.0	0.0	20.0	15	15	300 Btuh
11	2, Clear, DEF, B, N	N	10	6.69	10.0	0.0	10.0	15	15	150 Btuh
12	2, Clear, DEF, B, N	N	10	3.70	9.0	0.0	9.0	15	15	135 Btuh
13	2, Clear, DEF, B, N	N	10	3.70	9.0	0.0	9.0	15	15	135 Btuh
14	2, Clear, DEF, B, N	N	10	5	24.0	0.0	24.0	15	15	360 Btuh
15	2, Clear, DEF, B, N	N	2	5.30	24.0	0.0	24.0	15	15	360 Btuh
16	2, Clear, DEF, B, N	N	2	3.79	6.0	0.0	6.0	15	15	90 Btuh
17	2, Clear, DEF, B, N	N	2	5.30	24.0	0.0	24.0	15	15	360 Btuh
18	2, Clear, DEF, B, N	W	2	13.3	12.0	0.0	12.0	15	46	552 Btuh
19	2, Clear, DEF, B, N	W	2	13.3	12.0	0.0	12.0	15	46	552 Btuh
20	2, Clear, DEF, B, N	W	2	12.3	10.0	0.0	10.0	15	46	460 Btuh
	Window Total				286					6052 Btuh

Walls	Type	R-Value	Area	HTM	Load
1	Log (6 inch) - Exterior	0.0	1833.9	3.7	6809 Btuh
2	Frame - Exterior	11.0	807.2	1.9	1566 Btuh
	Wall Total		2641.1		8375 Btuh

Doors	Type	Area	HTM	Load
1	Wood - Exter	14.0	10.0	140 Btuh
2	Wood - Exter	20.0	10.0	200 Btuh
3	Wood - Exter	20.0	10.0	200 Btuh
4	Wood - Exter	10.0	10.0	100 Btuh
	Door Total	64.0		639 Btuh

Ceilings	Type/Color	R-Value	Area	HTM	Load
1	Single Assembly/Dark	15.5	1722.5	2.5	4306 Btuh
	Ceiling Total		1722.5		4306 Btuh

Floors	Type	R-Value	Size	HTM	Load
1	Raised Wood	19.0	1222.5 sqft	0.0	0 Btuh
	Floor Total		1222.5		0 Btuh

Manual J Summer Calculations

Residential Load - Component Details (continued)

M/M M. IUEN
-
COLUMBIA COUNTY, FL

Project Title:
IUEN Residence

Code Only
Professional Version
Climate: North

2/1/2006

Infiltration	Type	ACH	Volume	CFM=	Load
	Natural	0.35	19860	116.1	2298 Btuh
	Mechanical			150	2970 Btuh
	Infiltration Total			266	5268 Btuh

Internal gain	Occupants	Btuh/occupant		Appliance	Load
	6	X 300	+	1200	3000 Btuh

Totals for Cooling	**Subtotal**	**27640 Btuh**
	Duct gain(using duct multiplier of 0.00)	**0 Btuh**
	Total sensible gain	**27640 Btuh**
	Latent infiltration gain (for 51 gr. humidity difference)	**9228 Btuh**
	Latent occupant gain (6 people @ 230 Btuh per person)	**1380 Btuh**
	Latent other gain	**0 Btuh**
	TOTAL GAIN	**38248 Btuh**

Key: Window types (SHGC - Shading coefficient of glass as SHGC numerical value or as clear or tint)
(U - Window U-Factor or 'DEF' for default)
(InSh - Interior shading device: none(N), Blinds/Daperies(B) or Roller Shades(R))
(ExSh - Exterior shading device: none(N) or numerical value)
(Ornt - compass orientation)

FORM 600A-2004

EnergyGauge® 4.0

FLORIDA ENERGY EFFICIENCY CODE FOR BUILDING CONSTRUCTION

Florida Department of Community Affairs

Residential Whole Building Performance Method A

Project Name:	IUEN Residence	Builder:	McClellan
Address:	-	Permitting Office:	COLUMBIA
City, State:	COLUMBIA COUNTY, FL	Permit Number:	24311
Owner:	M/M M. IUEN	Jurisdiction Number:	221000
Climate Zone:	North		

1. New construction or existing	New	12. Cooling systems	
2. Single family or multi-family	Single family	a. Central Unit	Cap: 38.2 kBtu/hr
3. Number of units, if multi-family	1		SEER: 13.00
4. Number of Bedrooms	3	b. N/A	
5. Is this a worst case?	Yes	c. N/A	
6. Conditioned floor area (ft²)	1986 ft²	13. Heating systems	
7. Glass type[1] and area: (Label reqd. by 13-104.4.5 if not default)		a. Electric Heat Pump	Cap: 39.6 kBtu/hr
a. U-factor: (or Single or Double DEFAULT)	7a. (Dble Default) 286.0 ft²		HSPF: 8.70
b. SHGC: (or Clear or Tint DEFAULT)	7b. (Clear) 286.0 ft²	b. N/A	
8. Floor types		c. N/A	
a. Raised Wood, Stem Wall	R=19.0, 1222.5ft²	14. Hot water systems	
b. N/A		a. Electric Resistance	Cap: 50.0 gallons
c. N/A			EF: 0.93
9. Wall types		b. N/A	
a. Log, 6 inch, Exterior	R=0.0, 1833.9 ft²	c. Conservation credits (HR-Heat recovery, Solar DHP-Dedicated heat pump)	
b. Frame, Wood, Exterior	R=11.0, 807.2 ft²	15. HVAC credits (CF-Ceiling fan, CV-Cross ventilation, HF-Whole house fan, PT-Programmable Thermostat, MZ-C-Multizone cooling, MZ-H-Multizone heating)	CF,
c. N/A			
d. N/A			
e. N/A			
10. Ceiling types			
a. Single Assembly	R=15.5, 1722.5 ft²		
b. N/A			
c. N/A			
11. Ducts			
a. Sup: Con. Ret: Unc. AH: Outdoors	Sup. R=6.0, 125.0 ft		
b. N/A			

Glass/Floor Area: 0.14

Total as-built points: 31155

Total base points: 31570

PASS

I hereby certify that the plans and specifications covered by this calculation are in compliance with the Florida Energy Code.

PREPARED BY: _____

DATE: 02 Feb 2006 AR 2005

I hereby certify that this building, as designed, is in compliance with the Florida Energy Code.

OWNER/AGENT: _____

DATE: 2-07-06

Review of the plans and specifications covered by this calculation indicates compliance with the Florida Energy Code. Before construction is completed this building will be inspected for compliance with Section 553.908 Florida Statutes.

BUILDING OFFICIAL: _____

DATE: _____

1 Predominant glass type. For actual glass type and areas, see Summer & Winter Glass output on pages 2&4.

Code Compliance Checklist

Residential Whole Building Performance Method A - Details

ADDRESS: -, **COLUMBIA COUNTY, FL,** PERMIT #:

6A-21 INFILTRATION REDUCTION COMPLIANCE CHECKLIST

COMPONENTS	SECTION	REQUIREMENTS FOR EACH PRACTICE	CHECK
Exterior Windows & Doors	606.1.ABC.1.1	Maximum:.3 cfm/sq.ft. window area; .5 cfm/sq.ft. door area.	
Exterior & Adjacent Walls	606.1.ABC.1.2.1	Caulk, gasket, weatherstrip or seal between: windows/doors & frames, surrounding wall; foundation & wall sole or sill plate; joints between exterior wall panels at corners; utility penetrations; between wall panels & top/bottom plates; between walls and floor. EXCEPTION: Frame walls where a continuous infiltration barrier is installed that extends from, and is sealed to, the foundation to the top plate.	
Floors	606.1.ABC.1.2.2	Penetrations/openings >1/8" sealed unless backed by truss or joint members. EXCEPTION: Frame floors where a continuous infiltration barrier is installed that is sealed to the perimeter, penetrations and seams.	
Ceilings	606.1.ABC.1.2.3	Between walls & ceilings; penetrations of ceiling plane of top floor; around shafts, chases, soffits, chimneys, cabinets sealed to continuous air barrier; gaps in gyp board & top plate; attic access. EXCEPTION: Frame ceilings where a continuous infiltration barrier is installed that is sealed at the perimeter, at penetrations and seams.	
Recessed Lighting Fixtures	606.1.ABC.1.2.4	Type IC rated with no penetrations, sealed; or Type IC or non-IC rated, installed inside a sealed box with 1/2" clearance & 3" from insulation; or Type IC rated with < 2.0 cfm from conditioned space, tested.	
Multi-story Houses	606.1.ABC.1.2.5	Air barrier on perimeter of floor cavity between floors.	
Additional Infiltration reqts	606.1.ABC.1.3	Exhaust fans vented to outdoors, dampers; combustion space heaters comply with NFPA, have combustion air.	

6A-22 OTHER PRESCRIPTIVE MEASURES (must be met or exceeded by all residences.)

COMPONENTS	SECTION	REQUIREMENTS	CHECK
Water Heaters	612.1	Comply with efficiency requirements in Table 612.1.ABC.3.2. Switch or clearly marked circuit breaker (electric) or cutoff (gas) must be provided. External or built-in heat trap required.	
Swimming Pools & Spas	612.1	Spas & heated pools must have covers (except solar heated). Non-commercial pools must have a pump timer. Gas spa & pool heaters must have a minimum thermal efficiency of 78%.	
Shower heads	612.1	Water flow must be restricted to no more than 2.5 gallons per minute at 80 PSIG.	
Air Distribution Systems	610.1	All ducts, fittings, mechanical equipment and plenum chambers shall be mechanically attached, sealed, insulated, and installed in accordance with the criteria of Section 610. Ducts in unconditioned attics: R-6 min. insulation.	
HVAC Controls	607.1	Separate readily accessible manual or automatic thermostat for each system.	
Insulation	604.1, 602.1	Ceilings-Min. R-19. Common walls-Frame R-11 or CBS R-3 both sides. Common ceiling & floors R-11.	

WATER HEATING & CODE COMPLIANCE STATUS

Residential Whole Building Performance Method A - Details

ADDRESS: -, COLUMBIA COUNTY, FL, PERMIT #:

BASE				AS-BUILT							
WATER HEATING											
Number of Bedrooms	X	Multiplier	= Total	Tank Volume	EF	Number of Bedrooms	X Tank Ratio	X Multiplier	X Credit Multiplier	= Total	
3		2635.00	7905.0	50.0	0.93	3	1.00	2606.67	1.00	7820.0	
				As-Built Total:						**7820.0**	

CODE COMPLIANCE STATUS

BASE				AS-BUILT			
Cooling Points +	Heating Points +	Hot Water Points =	Total Points	Cooling Points +	Heating Points +	Hot Water Points =	Total Points
12610	**11056**	**7905**	**31570**	**11916**	**11418**	**7820**	**31155**

PASS

WINTER CALCULATIONS

Residential Whole Building Performance Method A - Details

ADDRESS: -, COLUMBIA COUNTY, FL, PERMIT #:

BASE				AS-BUILT						
CEILING TYPES	Area X	BWPM	= Points	Type	R-Value	Area X	WPM	X WCM	=	Points
Under Attic	1222.5	2.05	2506.1	Single Assembly	15.5	1722.5	2.17	X 1.00		3746.4
Base Total:	**1222.5**		**2506.1**	**As-Built Total:**		**1722.5**				**3746.4**
FLOOR TYPES	Area X	BWPM	= Points	Type	R-Value	Area X	WPM		=	Points
Slab	0.0(p)	0.0	0.0	Raised Wood, Stem Wall	19.0	1222.5	0.80			978.0
Raised	1222.5	0.96	1173.6							
Base Total:			**1173.6**	**As-Built Total:**		**1222.5**				**978.0**
INFILTRATION	Area X	BWPM	= Points			Area X	WPM		=	Points
	1986.0	-0.59	-1171.7			1986.0	-0.59			-1171.7
Winter Base Points:			**17621.6**	**Winter As-Built Points:**						**23151.3**
Total Winter Points	X System Multiplier	= Heating Points		Total Component (System - Points)	X Cap Ratio	X Duct Multiplier (DM x DSM x AHU)	X System Multiplier	X Credit Multiplier	= Heating Points	
				(sys 1: Electric Heat Pump 39600 btuh ,EFF(8.7) Ducts:Con(S),Unc(R),Out(AH),R6.0						
				23151.3	1.000	(1.006 x 1.169 x 1.07)	0.392	1.000		11418.5
17621.6	**0.6274**	**11055.8**		**23151.3**	**1.00**	**1.258**	**0.392**	**1.000**		**11418.5**

WINTER CALCULATIONS

Residential Whole Building Performance Method A - Details

ADDRESS: -, COLUMBIA COUNTY, FL, PERMIT #:

BASE				AS-BUILT							
GLASS TYPES .18 X Conditioned Floor Area	X BWPM	= Points		Type/SC	Overhang Ornt	Len	Hgt	Area X	WPM X	WOF	= Points
.18	1986.0	12.74	4554.3	Double, Clear	S	10.0	5.0	24.0	13.30	3.51	1118.7
				Double, Clear	S	10.0	4.3	6.0	13.30	3.57	285.2
				Double, Clear	S	10.0	5.0	24.0	13.30	3.51	1118.7
				Double, Clear	S	2.0	5.9	20.0	13.30	1.27	337.9
				Double, Clear	S	1.3	7.3	12.0	13.30	1.03	164.7
				Double, Clear	S	1.3	7.3	12.0	13.30	1.03	164.7
				Double, Clear	E	0.3	4.8	12.0	18.79	1.00	226.4
				Double, Clear	NE	0.3	4.8	8.0	23.57	1.00	188.4
				Double, Clear	SE	0.3	4.8	8.0	14.71	1.01	118.5
				Double, Clear	N	2.0	5.9	20.0	24.58	1.00	494.0
				Double, Clear	N	10.0	6.7	10.0	24.58	1.02	251.3
				Double, Clear	N	10.0	3.7	9.0	24.58	1.03	227.2
				Double, Clear	N	10.0	3.7	9.0	24.58	1.03	227.2
				Double, Clear	N	10.0	5.0	24.0	24.58	1.03	604.6
				Double, Clear	N	2.0	5.3	24.0	24.58	1.01	593.4
				Double, Clear	N	2.0	3.8	6.0	24.58	1.01	148.9
				Double, Clear	N	2.0	5.3	24.0	24.58	1.01	593.4
				Double, Clear	W	2.0	13.3	12.0	20.73	1.01	250.2
				Double, Clear	W	2.0	13.3	12.0	20.73	1.01	250.2
				Double, Clear	W	2.0	12.4	10.0	20.73	1.01	208.7
				As-Built Total:				**286.0**			**7572.2**

WALL TYPES	Area X	BWPM	= Points	Type	R-Value	Area X	WPM	= Points
Adjacent	0.0	0.00	0.0	Log, 6 inch, Exterior	0.0	1833.9	4.50	8252.5
Exterior	2641.1	3.70	9772.1	Frame, Wood, Exterior	11.0	807.2	3.70	2986.6
Base Total:	**2641.1**		**9772.1**	**As-Built Total:**		**2641.1**		**11239.2**

DOOR TYPES	Area X	BWPM	= Points	Type	Area X	WPM	= Points
Adjacent	0.0	0.00	0.0	Exterior Wood	14.0	12.30	172.2
Exterior	64.0	12.30	787.2	Exterior Wood	20.0	12.30	246.0
				Exterior Wood	20.0	12.30	246.0
				Exterior Wood	10.0	12.30	123.0
Base Total:	**64.0**		**787.2**	**As-Built Total:**	**64.0**		**787.2**

SUMMER CALCULATIONS

Residential Whole Building Performance Method A - Details

ADDRESS: -, COLUMBIA COUNTY, FL, PERMIT #:

BASE				AS-BUILT					
CEILING TYPES	Area X	BSPM	= Points	Type	R-Value	Area X	SPM X SCM	=	Points
Under Attic	1222.5	1.73	2114.9	Single Assembly	15.5	1722.5	6.51 X 1.00		11222.1
Base Total:	**1222.5**		**2114.9**	**As-Built Total:**		**1722.5**			**11222.1**
FLOOR TYPES	Area X	BSPM	= Points	Type	R-Value	Area X	SPM	=	Points
Slab	0.0(p)	0.0	0.0	Raised Wood, Stem Wall	19.0	1222.5	-1.50		-1833.8
Raised	1222.5	-3.99	-4877.8						
Base Total:			**-4877.8**	**As-Built Total:**		**1222.5**			**-1833.8**
INFILTRATION	Area X	BSPM	= Points			Area X	SPM	=	Points
	1986.0	10.21	20277.1			1986.0	10.21		20277.1
Summer Base Points: 29558.4				**Summer As-Built Points:**					**40633.7**
Total Summer Points	X System Multiplier	=	Cooling Points	Total Component (System - Points)	X Cap Ratio	X Duct Multiplier (DM x DSM x AHU)	X System Multiplier	X Credit Multiplier	= Cooling Points
				(sys 1: Central Unit 38200 btuh ,SEER/EFF(13.0) Ducts:Con(S),Unc(R),Out(AH),R6.0(INS)					
				40634	1.00	(1.00 x 1.147 x 1.02)	0.263	0.950	11916.0
29558.4	**0.4266**		**12609.6**	**40633.7**	**1.00**	**1.176**	**0.263**	**0.950**	**11916.0**

SUMMER CALCULATIONS

Residential Whole Building Performance Method A - Details

ADDRESS: -, COLUMBIA COUNTY, FL, PERMIT #:

BASE				AS-BUILT								
GLASS TYPES .18 X Conditioned Floor Area	X BSPM	= Points		Type/SC	Overhang Ornt	Len	Hgt	Area X	SPM X	SOF	= Points	
.18	1986.0	20.04	7163.9	Double, Clear	S	10.0	5.0	24.0	35.87	0.45	388.3	
				Double, Clear	S	10.0	4.3	6.0	35.87	0.44	95.2	
				Double, Clear	S	10.0	5.0	24.0	35.87	0.45	388.3	
				Double, Clear	S	2.0	5.9	20.0	35.87	0.77	552.2	
				Double, Clear	S	1.3	7.3	12.0	35.87	0.93	400.8	
				Double, Clear	S	1.3	7.3	12.0	35.87	0.93	400.8	
				Double, Clear	E	0.3	4.8	12.0	42.06	1.00	503.2	
				Double, Clear	NE	0.3	4.8	8.0	29.56	1.00	236.0	
				Double, Clear	SE	0.3	4.8	8.0	42.75	1.00	341.7	
				Double, Clear	N	2.0	5.9	20.0	19.20	0.90	344.4	
				Double, Clear	N	10.0	6.7	10.0	19.20	0.65	125.8	
				Double, Clear	N	10.0	3.7	9.0	19.20	0.59	102.8	
				Double, Clear	N	10.0	3.7	9.0	19.20	0.59	102.8	
				Double, Clear	N	10.0	5.0	24.0	19.20	0.62	287.2	
				Double, Clear	N	2.0	5.3	24.0	19.20	0.88	405.2	
				Double, Clear	N	2.0	3.8	6.0	19.20	0.82	94.5	
				Double, Clear	N	2.0	5.3	24.0	19.20	0.88	405.2	
				Double, Clear	W	2.0	13.3	12.0	38.52	0.98	452.6	
				Double, Clear	W	2.0	13.3	12.0	38.52	0.98	452.6	
				Double, Clear	W	2.0	12.4	10.0	38.52	0.97	375.1	
				As-Built Total:				**286.0**				**6454.8**

WALL TYPES	Area X	BSPM	= Points	Type	R-Value	Area X	SPM	= Points
Adjacent	0.0	0.00	0.0	Log, 6 inch, Exterior	0.0	1833.9	1.50	2750.9
Exterior	2641.1	1.70	4489.9	Frame, Wood, Exterior	11.0	807.2	1.70	1372.2
Base Total:	**2641.1**		**4489.9**	**As-Built Total:**		**2641.1**		**4123.1**

DOOR TYPES	Area X	BSPM	= Points	Type	Area X	SPM	= Points
Adjacent	0.0	0.00	0.0	Exterior Wood	14.0	6.10	85.4
Exterior	64.0	6.10	390.4	Exterior Wood	20.0	6.10	122.0
				Exterior Wood	20.0	6.10	122.0
				Exterior Wood	10.0	6.10	61.0
Base Total:	**64.0**		**390.4**	**As-Built Total:**	**64.0**		**390.4**

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1758 NW Brown Road
Lake City, FL 32055
386/755-9021

LOG HOME WIND LOAD ANALYSIS, PER FBC 1609

FLORIDA BUILDING CODE 2004, OCTOBER 2005 EDITION

PROJECT: Iven Residence - 2K544

PROJECT LOCATION: Columbia County, FL

ALL WIND LOADS ARE IN ACCORDANCE WITH SECTION 1609, FLORIDA BUILDING CODE, 2004 EDITION.	
BASIC WIND SPEED:	110 MPH
WIND IMPORTANCE FACTOR (I):	I = 1.00
BUILDING CATAGORY:	CATAGORY II
WIND EXPOSURE:	"B"
INTERNAL PRESSURE COEFFICIENT:	+/- 0.18
MWFRS PER TABLE 1609.2A (FBC 2004) DESIGN WIND PRESSURES:	ROOF: - 23.1 PSF WALLS: + 26.6 PSF EAVES: - 32.3 PSF
COMPONENTS & CLADDING PER TABLES 1609.2B & 1609.2C (FBC 2004) DESIGN WIND PRESSURES:	OP'NGS: + 21.8 / - 29.1 PSF EAVES: - 68.3 PSF ROOF: + 19.9 / - 25.5 PSF

NOTE:
MANY LOADING CONDITIONS REQUIRE ONLY A FRACTION OF THE ABOVE WORST CASE LOADING, HOWEVER, THIS DESIGN SHALL EMPLOY ONLY THESE WORST CASE LOADS NOTED ABOVE.

JOINTS UNDER CONSIDERATION:

- ☒ 1. PORCH RAFTER TO BEAM
- ☒ 2. PORCH BEAM TO POST
- ☒ 3. PORCH POST TO FOUNDATION
- ☒ 4. PORCH RAFTER TO MAIN ROOF
- ☒ 5. MAIN ROOF TO LOG WALL
- ☒ 6. MAIN ROOF TO FRAME WALL
- ☒ 7. PORCH RAFTER TO FRAME WALL
- ☒ 8. FRAME WALL TO LOG WALL
- ☒ 9. LOG WALL TO FOUNDATION
- ☒ 10. PORCH SHEATHING
- ☒ 11. MAIN ROOF SHEATHING
- ☐ 12. _____
- ☐ 13. _____
- ☐ 14. _____
- ☐ 15. _____
- ☐ 16. _____
- ☐ 17. _____

DESIGN DEAD LOADS:

PORCH ROOF	9.6 PSF
6X8 BEAMS	12.0 PLF
6X6 POSTS	6.0 PLF
PORCH DECK	8.6 PSF
TIMBER ROOF	10.0 PSF
LUMBER ROOF	9.2 PSF
TRUSS ROOF	9.2 PSF
2nd FLOOR	9.9 PSF
1st FLOOR (WOOD)	6.9 PSF
STEM WALL	410 PLF
LOG WALL	12.5 PSF
FRAME WALL/LOG SIDING	10.1 PSF
REINFORCED CONCRETE	150 PCF
SOIL	120 PCF
NOMINAL 6" LOGS	12.5 PSF
_____	_____
_____	_____

ANDOS 02 Feb 2K5

Rev'd 18 JUN 2K2
Rev'd 24 APR 2K2
Rev'd 24 DEC 2K1
11 AUG 98

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1758 NW Brown Road
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386/755-9021

NATIONAL FOREST PRODUCTS ASSOCIATION:
National Design Specifacation for Stress Grade Lumber
and its Fastenings

LAG SCREW DESIGN VALUES for
GROUP III SOUTHERN CYPRESS S.G.=0.49

Lags develop full strength in this group @ 10 diameters of threaded penetration.

¼"ϕ LAGS = 0.25 x 10 = 2.5"
⅜"ϕ LAGS = 0.375 x 10 = 3¾"
½"ϕ LAGS = 0.50 x 10 = 5"
⅝"ϕ LAGS = 0.625 x 10 = 6¼"
¾"ϕ LAGS = 0.75 x 10 = 7½"

} maximum working penetration

Side Grain Withdrawal: Normal Duration x 1.33 = wind design load.

¼"ϕ @ 218#/in x 2.50" = 545# x 133% = 725# wind design load
⅜"ϕ @ 296#/in x 3.75" = 1110# x 133% = 1480# wind design load
½"ϕ @ 366#/in x 5.0" = 1830# x 133% = 2439# wind design load
⅝"ϕ @ 432#/in x 6.25" = 2700# x 133% = 3599# wind design load
¾"ϕ @ 497#/in x 7.50" = 3728# x 133% = 4969# wind design load

End Grain Withdrawal: 75% Side Grain Withdrawal - NO INCREASE

Laterial Loads w/ Metal Side Plates, 3"/5" Lags, Normal Duration

Lag Dia.	Parallel to grain	Perpendicular to grain
⅜"ϕ	230/470	140/295
½"ϕ	295/610	155/315
⅝"ϕ	350/720	170/345
⅞"ϕ	- /855	- /375

Side Plate maximum thickness = 1/2"

NOTE ! ! !
Calculations for FBC 2001 Section 1606 Compliance use Normal Duration values for lag screw fasteners, unless noted otherwise.

Rev'd 18 JUN 2K2
Rev'd 24 DEC 2K1
Ø2 FEB 98

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NATIONAL FOREST PRODUCTS ASSOCIATION:
National Design Specifacation for Stress Grade Lumber and its Fastenings

BALDCYPRESS MECHANICAL PROPERTIES / STRUCTURAL DATA

SPECIFIC GRAVITY	MODULUS OF RUPTURE	MODULUS OF ELASTICITY	COMPRESSION PARALLEL TO GRAIN - MAXIMUM	SHEAR PARALLEL TO GRAIN - MAXIMUM	TENSION PERPENDICULAR TO GRAIN - MAXIMUM
0.42	6600 PSI	1.18 MPSI	3580 PSI	810 PSI	300 PSI
0.46	10600 PSI	1.44 MPSI	6360 PSI	1000 PSI	270 PSI
95th %	6800 PSI	1.193 MPSI	3719 PSI	820 PSI	272 PSI

WORKING STRESSES - 95th PERCENTILE - JOIST/BEAM/GIRDER DESIGN
BALDCYPRESS - GRADE 2 OR BETTER

Fb •	E	Fc •	Fv ••	T •
1360 PSI	1.193 MPSI	744 PSI	75 PSI	54 PSI

• 95th PERCENTILE / 5
•• 95th PERCENTILE / 11

ALLOWABLE LOADS for SPLIT RING CONNECTORS
BALDCYPRESS - DRY INSIDE LOCATION

	LOAD @ 0° ANGLE TO GRAIN	LOAD @ 90° ANGLE TO GRAIN
2½"ϕ SPLIT RING, ½"ϕ BOLT	2085 LBS	1230 LBS
4"ϕ SPLIT RING, ¾"ϕ BOLT	3985 LBS	2310 LBS

FIRE RESISTANCE
U.L. FLAME SPREAD

RED OAK	100
CYPRESS	145 - 150

SAFE LATERAL STRENGTH OF COMMON NAILS *

	SIZE OF NAIL						
	6d	8d	10d	12d	16d	20d	30d
LENGTH OF NAIL **	2	2½	3	3¼	3½	4	4½
WESTERN RED CEDAR	28	35	41	43	48	63	69
CYPRESS / EASTERN HEMLOCK	48	59	70	72	81	106	117
SOUTHERN PINE	63	78	92	95	107	139	154
EASTERN SPRUCE	40	49	58	60	67	87	97

CLINCHED NAILS (MIN. 3 NAIL DIAMETERS): 2.0 X ABOVE
NAILS THROUGH METAL SIDE PLATES: 1.25 X ABOVE
NAILS DRIVEN INTO END GRAIN: 0.67 X ABOVE
TOENAILS (45° TO 55° ANGLE): 0.83 X ABOVE
SAFE WITHDRAWL LOADS (TENSION PARALLEL TO SHANK)
0.33 X ABOVE PER INCH OF PENETRATION.

* MEASURED IN POUNDS PER NAIL DRIVEN NORMAL TO SIDE GRAIN OF WOOD.
** LENGTH OF PENETRATION OF NAIL INTO PARENT WOOD, IN INCHES.

Rev'd 24 DEC 2K1
Rev'd 12 JAN 96
27 APR 95

1. Porch Rafters to Beam:

Load = 4'x6' x -32.3# = -775.2#

DL = 24 sf @ 9.6# = 230.4#

-544.8# net uplift

use: as per detail A/A.13

allowable: 2(1110) = 2220# > -544.8# ∴ OK

2. Porch Beams to Post:

Load = 2(#1, above) = 2(544.8) = -1089.6#

DL = 8 x 12# = 96.0#

-993.6# net uplift

use: as per detail A/A.13

allowable w/ "Simpson" 12127 = 4(1110)(.75) + 315 = 3645# > -993.6# ∴ OK

3. Porch Post to Foundation:

Load from #2, above: -993.6#

DL @ post = 8' @ 6# = 48.0#

-945.6# net uplift

use as per detail A/A.13

allowable w/ "Simpson" ABU66 = 2300# > -945.6# ∴ OK

4. Porch Rafters to Main Roof:

Load = #1, above = -544.8#

use: as per detail A/A.13

allowable: 2(1110) = 2220# > -544.8# ∴ OK

5. Main Roof to Log Wall:

Load$_1$ = # 4, above = -544.8#

Load$_2$ = 4' x 14' x -23.1# = -1293.6#

DL = 52 sf @ 10.0# = 520.0#

-1278.4# net uplift

USE as per detail A/A.13

allowable = 2(1110) = 2220# > -1278.4# ∴ OK

6. Main Roof to Frame Wall:

Load$_1$ = 2' x 4' x -32.3# = -258.4#

Load$_2$ = 4' x 14' x -23.1# = -1293.6#

DL = 4' x 16' x 10.0# = 640.0#

-912.0# @ 48" o/c

USE as per detail C.1/A.14

allowable w/ 2(1110) = 2220# > -912.0# ∴ OK

Load/stud = 912.0/3 = -304#

anchor Plate to studs w/ "Simpson" RSP4 (2)

allowable = 450# > 304# ∴ OK

7. Porch Roof Loads to Frame wall:

Load = 4' x 4' x -32.3# = -515.2#

DL = 16 sf @ 9.6# = 153.6#

-361.6# net uplift

USE as per detail D.1/A.16

allowable w/ 2(1110) = 2220# > -361.6# ∴ OK

anchor dbl Plate to adjoining studs w/ 2-A34 clips as per "Simpson": 2(240) = 480(2) = 960# > -361.6# ∴ OK

8. Framewall to Logwall:

Load, = " 6, above/stud = - 304.0 #
Load, = " 7, above/stud = - 180.8 #
DL = 8.08' × 1.33 × 10.1 # = 108.5 #
- 376.3 #/stud uplift

USE: "Simpson" SP1
allowable = 585 # > -376.3 # ∴ OK
anchor bolt to logs w/ 1-3/8" ø × 8" L S. & 2" ø washer @ 24" o/c thru-out.
allowable = 1110/2 = 555 #/LF > 376.3/1.33 ∴ OK

9. Log Wall to Foundation:

use greatest load: Rearwall: 376.3/1.33 = 282.7 #/LF
front wall: 1278.4/4 = 319.6 #/LF ←
DL = 8.75' @ 12.5 # = 109.4 #
net uplift: - 210.2 #/LF

USE: as per details C/A.12 & B/A.8
allowable @ C/A.12 = 1110/2 = 555 #/LF > -210.2 # ∴ OK
" " B/A.8 = 1880/4 = 470 #/LF > -210.2 # ∴ OK
DL @ stem wall: > 422.0 # > -210.2 # ∴ OK

10. Porch Sheathing:

Load = .42 × 4' × -68.3 # = -114.7 #/board/Rafter
16d nails in CYP = 81(.33) = 26.7 #/inch of penetration
16d nails = 3 1/2" - 1 1/2 (26.7) = 53.4 #/nail pullout resistance
nails Req'd = 114.7/53.6 = 2.14 or 3 nails
USE = 3-16d nails ea. board, ea Rafter
allowable = 3(53.4) = 160.2 # > -114.7 ∴ OK

11. Main Roof Sheathing:

Load = 4'×8'×-25.5# = -816#

8d nails in SYP = 78(.33) = 25.7#/inch penetration

8d nails = 2½" - ½" (25.7) = 51.4#/nail pullout resistance

nails Req'd = 816/51.4 = 15.9 ≈ 16 nails

Use 8d nails @ 4" o/c ends, 8" o/c field

total nails (48/4 + 1)(7) + (48/8 + 1)(3) = 47 nails

allowable = 47(51.4) = 2415.8# > -816.0# ∴ OK

12 Truss to Frame Wall:

Load, = 2'×2'×-32.3 = -129.2#

Load 2 = 2'×12'×-23.1 = -554.4#

DL = 2'×14'×9.6# = 268.8#

-414.8# net uplift

Use "Simpson" H2PT2 w/ 4-10d nails

allowable 640# > -414.8# ∴ OK

anchor Top Plate to Stud: use plywood sheathing

sheathing w/ 8d nails @ 4" o/c ends, 8" o/c field.

allowable = 9(28)(2) = 1404# > 2(414.8) ∴ OK

13. Frame Wall to Foundation:

Load from #12, above = 2(414.8)/3 = -276.13#/stud

DL @ wall = 8'@ 10.1 = 80.80#

-195.33 net uplift

Use: plywood sheathing w/ 8d nails @ 4" o/c ends, 8" o/c field.

to anchor studs to sill plate:

anchor sill plate to conc. w/ ½" ø A.B. @ 48" o/c

allowable = 4800/4 = 1200# > -195.33# ∴ OK

ENERGY PERFORMANCE LEVEL (EPL) DISPLAY CARD

ESTIMATED ENERGY PERFORMANCE SCORE* = 82.9

The higher the score, the more efficient the home.

M/M M. IUEN, -, COLUMBIA COUNTY, FL,

1.	New construction or existing	New			
2.	Single family or multi-family	Single family			
3.	Number of units, if multi-family	1			
4.	Number of Bedrooms	3			
5.	Is this a worst case?	Yes			
6.	Conditioned floor area (ft²)	1986 ft²			
7.	Glass type [1] and area: (Label reqd. by 13-104.4.5 if not default)				
a.	U-factor: (or Single or Double DEFAULT)	7a.	Description Area (Dble Default) 286.0 ft²		
b.	SHGC: (or Clear or Tint DEFAULT)	7b.	(Clear) 286.0 ft²		
8.	Floor types				
a.	Raised Wood, Stem Wall		R=19.0, 1222.5ft²		
b.	N/A				
c.	N/A				
9.	Wall types				
a.	Log, 6 inch, Exterior		R=0.0, 1833.9 ft²		
b.	Frame, Wood, Exterior		R=11.0, 807.2 ft²		
c.	N/A				
d.	N/A				
e.	N/A				
10.	Ceiling types				
a.	Single Assembly		R=15.5, 1722.5 ft²		
b.	N/A				
c.	N/A				
11.	Ducts				
a.	Sup: Con. Ret: Unc. AH: Outdoors		Sup. R=6.0, 125.0 ft		
b.	N/A				
12.	Cooling systems				
a.	Central Unit			Cap: 38.2 kBtu/hr	
				SEER: 13.00	
b.	N/A				
c.	N/A				
13.	Heating systems				
a.	Electric Heat Pump			Cap: 39.6 kBtu/hr	
				HSPF: 8.70	
b.	N/A				
c.	N/A				
14.	Hot water systems				
a.	Electric Resistance			Cap: 50.0 gallons	
				EF: 0.93	
b.	N/A				
c.	Conservation credits (HR-Heat recovery, Solar DHP-Dedicated heat pump)				
15.	HVAC credits (CF-Ceiling fan, CV-Cross ventilation, HF-Whole house fan, PT-Programmable Thermostat, MZ-C-Multizone cooling, MZ-H-Multizone heating)			CF,	

I certify that this home has complied with the Florida Energy Efficiency Code For Building Construction through the above energy saving features which will be installed (or exceeded) in this home before final inspection. Otherwise, a new EPL Display Card will be completed based on installed Code compliant features.

Builder Signature: _____ Date: _____

Address of New Home: _____ City/FL Zip: _____

**NOTE: The home's estimated energy performance score is only available through the FLA/RES computer program. This is not a Building Energy Rating. If your score is 80 or greater (or 86 for a US EPA/DOE EnergyStar™ designation), your home may qualify for energy efficiency mortgage (EEM) incentives if you obtain a Florida Energy Gauge Rating. Contact the Energy Gauge Hotline at 321/638-1492 or see the Energy Gauge web site at www.fsec.ucf.edu for information and a list of certified Raters. For information about Florida's Energy Efficiency Code For Building Construction, contact the Department of Community Affairs at 850/487-1824.*

1 Predominant glass type. For actual glass type and areas, see Summer & Winter Glass output on pages 2&4.

ATTENTION: WEEGIE

Columbia County Building Department
Culvert Waiver

Culvert Waiver No. 000001028

DATE: 03/28/2006 BUILDING PERMIT NO. 24311

APPLICANT LINDA RODER PHONE 752-2281

ADDRESS 387 SW KEMP CT LAKE CITY FL 32024

OWNER MARC & TAMMY IUEN PHONE

ADDRESS 1149 SW FAULKNER DR FT WHITE FL 32038

CONTRACTOR MIKE MCCLELLAN PHONE 623-3820

LOCATION OF PROPERTY 47 S, R 240, L ICHETUCKNEE AVE, L FAULKNER AVE,

ABOUT .5 MILES ON LEFT AT GATE

SUBDIVISION/LOT/BLOCK/PHASE/UNIT PINE ACRES UNREC 12 B

PARCEL ID # 31-5S-16-03744-312

I HEREBY CERTIFY THAT I UNDERSTAND AND WILL FULLY COMPLY WITH THE DECISION OF THE COLUMBIA COUNTY PUBLIC WORKS DEPARTMENT IN CONNECTION WITH THE HEREIN PROPOSED APPLICATION.

SIGNATURE: [signature]

A SEPARATE CHECK IS REQUIRED
MAKE CHECKS PAYABLE TO BCC

Amount Paid 50.00

PUBLIC WORKS DEPARTMENT USE ONLY

I HEREBY CERTIFY THAT I HAVE EXAMINED THIS APPLICATION AND DETERMINED THAT THE CULVERT WAIVER IS:

✓ APPROVED _____ NOT APPROVED - NEEDS A CULVERT PERMIT

COMMENTS: No Culvert Needed No Ditches Along Roadway at Drive

SIGNED: Ken Sweat DATE: 04-04-06

ANY QUESTIONS PLEASE CONTACT THE PUBLIC WORKS DEPARTMENT AT 386-752-5955.

135 NE Hernando Ave., Suite B-21
Lake City, FL 32055
Phone: 386-758-1008 Fax: 386-758-2160

RECEIVED
MAR 30 2006
BY:

COLUMBIA COUNTY GATEWAY TO FLORIDA

Notice of Treatment 11927

Applicator: Florida Pest Control & Chemical Co. (www.flapest .com)
Address: Baya Ave.
City L.C. Phone 752-1703

Site Location: Subdivision
Lot # Block# Permit # 24311
Address

Product used	Active Ingredient	% Concentration
☒ Premise	Imidacloprid	0.1%
☐ Termidor	Fipronil	0.12%
☐ Bora-Care	Disodium Octaborate Tetrahydrate	23.0%

Type treatment: ☐ Soil ☐ Wood

Area Treated	Square feet	Linear feet	Gallons Applied
DWL	2.142	168	145

As per Florida Building Code 104.2.6 – If soil chemical barrier method for termite prevention is used, final exterior treatment shall be completed prior to final building approval.

If this notice is for the final exterior treatment, initial this line _____.

5-17-06	9:35	F. Zeb D.C.
Date	Time	Print Technician's Name

Remarks:

Applicator - White Permit File - Canary Permit Holder - Pink

10/05 ©

FLORIDA PEST CONTROL & CHEMICAL CO.
Since 1949

FOUNDED 1949

CORPORATE HEADQUARTERS:

P.O. BOX 5369
116 N.W. 16TH AVENUE
GAINESVILLE, FL 32602-5369

(352) 376-2661
FAX (352) 376-2791

SCIENTIFIC PEST CONTROL DIRECTED BY GRADUATE ENTOMOLOGISTS

Complete Pest Control Service
Member Florida & National Pest Control Associations

Reply to: 536 SE Baya Dr
Lake City, FL 32025
Phone (386) 752-1703 Fax (386) 752-0171

F-11927

TERMITE TREATMENT CERTIFICATION

Owner: Mark Iuen	Permit Number: 24311
Lot:	Block:
Subdivision:	Street Address: 1149 SW Faulkner Dr
City: Fort White	County: Columbia
General Contractor: McClellan	Area Treated: exterior perimeter
Date: 12/11/06	Time:
Name of applicator James Parker	Applicator ID Number: JE 55238
Product Used: Active Ingredient: % Concentration Premise: Imidacloprid 0.1%	Number of gallons used: 40

Method of termite prevention treatment: Soil Treatment

The building has received a complete treatment for the prevention of subterranean termites. Treatment is in accordance with rules and laws established by the Florida Department of Agriculture and Consumer Services.

This form is proof of complete treatment for Certificate of Occupancy or Closing.

THIS IS PROOF OF WARRANTY

Warranty and Treatment Certifications Have Been Issued.

Authorized Signature:	Date:
Denise Wood	1-18-07

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 31-5S-16-03744-312 **Building permit No.** 000024311

Use Classification SFD, UTILITY **Fire:** 0.00

Permit Holder MIKE MCCLELLAN **Waste:** 0.00

Owner of Building MARC & TAMMY IUEN **Total:** 0.00

Location: 1149 SW FAULKNER DR

Date: 01/17/2007

Harry Dicks

Building Inspector

POST IN A CONSPICUOUS PLACE
(Business Places Only)