COLUMBIA COUNTY BUILDING DEPARTMENT 6-25-09
RESIDENTIAL CHECK LIST REQUIRMENTS

MINIMUM PLAN REQUIREMENTS FOR THE FLORIDA BUILDING CODE RESIDENTIAL 2007 EFFECTIVE 1 MARCH 2009 & 2009 SUPPLEMENTS EFFECTIVE 1 MARCH 2009, ONE (1) AND TWO (2) FAMILY DWELLINGS with Supplements and Revision, OF THE NATIONAL ELECTRICAL 2008

COLUMBIA COUNTY BUILDING DEPARTMENT Received for FILE COPY Code Compliance PLANS EXAMINER

ALL REQUIREMENTS ARE SUBJECT TO CHANGE

ALL BUILDING PLANS MUST INDICATE COMPLIANCE with the Current 2007 FLORIDA BUILDING CODES RESIDENTIAL EFFECTIVE 1 MARCH 2009 & 2009 SUPPLEMENTS EFFECTIVE 1 MARCH 2009. ALL PLANS OR DRAWINGS SHALL PROVIDE CALCULATIONS AND DETAILS THAT HAVE THE SEAL AND SIGNATURE OF A CERTIFIED ARCHITECT OR ENGINEER REGISTERED IN THE STATE OF FLORIDA, OR ALTERNATE METHODOLOGIES, APPROVED BY THE STATE OF FLORIDA BUILDING COMMISSION FOR ONE-AND-TWO FAMILY DWELLINGS.

FOR DESIGN PURPOSES THE FOLLOWING BASIC WIND SPEEDS ARE PER FIGURE R301.2(4) of the FLORIDA BUILDING CODES RESIDENTIAL (Florida Wind speed map) **SHALL BE USED.**

WIND SPEED LINE SHALL BE DEFINED AS FOLLOWS: THE CENTERLINE OF INTERSTATE 75.

ALL BUILDINGS CONSTRUCTED EAST OF SAID LINE SHALL BE -------- 100 MPH
ALL BUILDINGS CONSTRUCTED WEST OF SAID LINE SHALL BE --------110 MPH
NO AREA IN COLUMBIA COUNTY IS IN A WIND BORNE DEBRIS REGION

	GENERAL REQUIREMENTS: APPLICANT – PLEASE CHECK ALL APPLICABLE BOXES BEFORE SUBMITTAL			Items to Include- Each Box shall be Circled as Applicable		
				Yes	No	N/A
1	Two (2) complete sets of plans containing the following:			✓		
2	All drawings must be clear, concise, drawn to scale, details that are not used shall be marked void			✓		
3	Condition space (Sq. Ft.) 1567		Total (Sq. Ft.) under roof 2304	IIIIIIII	IIIIIIII	IIIII

Designers name and signature shall be on all documents and a licensed architect or engineer, signature and official embossed seal shall be affixed to the plans and documents as per the FLORIDA BUILDING CODES RESIDENTIAL R101.2.1

Site Plan information including:

4	Dimensions of lot or parcel of land	✓		
5	Dimensions of all building set backs	✓		
6	Location of all other structures (include square footage of structures) on parcel, existing or proposed well and septic tank and all utility easements.	✓		
7	Provide a full legal description of property.	✓		

Wind-load Engineering Summary, calculations and any details required

	GENERAL REQUIREMENTS: APPLICANT – PLEASE CHECK ALL APPLICABLE BOXES BEFORE SUBMITTAL	Items to Include- Each Box shall be Circled as Applicable		
8	**Plans or specifications must show compliance with FBCR Chapter 3**	IIIIII	IIIII	IIIIII
		YES	NO	N/A
9	Basic wind speed (3-second gust), miles per hour	✓		
10	(Wind exposure – if more than one wind exposure is used, the wind exposure and applicable wind direction shall be indicated)	✓		
11	Wind importance factor and nature of occupancy	✓		
12	The applicable internal pressure coefficient, Components and Cladding	✓		
13	The design wind pressure in terms of psf (kN/m²), to be used for the design of exterior component, cladding materials not specifally designed by the registered design professional.	✓		

Elevations Drawing including:

14	All side views of the structure	✓		
15	Roof pitch	✓		
16	Overhang dimensions and detail with attic ventilation	✓		
17	Location, size and height above roof of chimneys	✓		✓
18	Location and size of skylights with Florida Product Approval			✓
18	Number of stories	✓		
20A	Building height from the established grade to the roofs highest peak	✓		

Floor Plan including:

20	Dimensioned area plan showing rooms, attached garage, breeze ways, covered porches, deck, balconies	✓		
21	Raised floor surfaces located more than 30 inches above the floor or grade	✓		
22	All exterior and interior shear walls indicated	✓		
23	Shear wall opening shown (Windows, Doors and Garage doors)	✓		
24	Show compliance with Section FBCR 310 Emergency escape and rescue opening shown in each bedroom (net clear opening shown) and Show compliance with Section FBCR 613.2 where the opening of an operable window is located more than 72 inches above the finished grade or surface below, the lowest part of the clear opening of the window shall be a minimum of 24 inches above the finished floor of the room in which the window is located. Glazing between the floor and 24 inches shall be fixed or have openings through which a 4-inch-diameter sphere cannot pass.	✓		
25	Safety glazing of glass where needed	✓		
26	Fireplaces types (gas appliance) (vented or non-vented) or wood burning with Hearth (see chapter 10 of FBCR)	✓		✓
27	Show stairs with dimensions (width, tread and riser and total run) details of guardrails, Handrails	✓		
28	Identify accessibility of bathroom (see FBCR SECTION 322)	✓		

All materials placed within opening or onto/into exterior walls, soffits or roofs shall have Florida product approval number and mfg. installation information submitted with the plans (see Florida product approval form)

GENERAL REQUIREMENTS: APPLICANT – PLEASE CHECK ALL APPLICABLE BOXES BEFORE SUBMITTAL	Items to Include- Each Box shall be Circled as Applicable

FBCR 403: Foundation Plans

		YES	NO	N/A
29	Location of all load-bearing walls footings indicated as standard, monolithic, dimensions, size and type of reinforcing.	✓		
30	All posts and/or column footing including size and reinforcing	✓		
31	Any special support required by soil analysis such as piling.	✓		✓
32	Assumed load-bearing valve of soil 1000 Pound Per Square Foot	✓		
33	Location of horizontal and vertical steel, for foundation or walls (include # size and type) **For** structures with foundation which establish new electrical utility companies service connection a Concrete Encased Electrode will be required within the foundation to serve as an grounding electrode system. Per the National Electrical Code article 250.52.3	✓		

FBCR 506: CONCRETE SLAB ON GRADE

34	Show Vapor retarder (6mil. Polyethylene with joints lapped 6 inches and sealed)	✓		
35	Show control joints, synthetic fiber reinforcement or welded fire fabric reinforcement and Supports	✓		

FBCR 320: PROTECTION AGAINST TERMITES

36	Indicate on the foundation plan if soil treatment is used for subterranean termite prevention or Sub mit other approved termite protection methods. **Protection shall be provided by registered termiticides**	✓		

FBCR 606: Masonry Walls and Stem walls (load bearing & shear Walls)

37	Show all materials making up walls, wall height, and Block size, mortar type			✓
38	Show all Lintel sizes, type, spans and tie-beam sizes and spacing of reinforcement			✓

Metal frame shear wall and roof systems shall be designed, signed and sealed by Florida Prof. Engineer or Architect

Floor Framing System: First and/or second story

39	Floor truss package shall including layout and details, signed and sealed by Florida Registered Professional Engineer			✓
40	Show conventional floor joist type, size, span, spacing and attachment to load bearing walls, stem walls and/or priers			✓
41	Girder type, size and spacing to load bearing walls, stem wall and/or priers			✓
42	Attachment of joist to girder			✓
43	Wind load requirements where applicable			✓
44	Show required under-floor crawl space			✓

45	Show required amount of ventilation opening for under-floor spaces			
46	Show required covering of ventilation opening			
47	Show the required access opening to access to under-floor spaces			
48	Show the sub-floor structural panel sheathing type, thickness and fastener schedule on the edges & inter of the areas structural panel sheathing			
49	Show Draftstopping, Fire caulking and Fire blocking			
50	Show fireproofing requirements for garages attached to living spaces, per FBCR section 309			
51	Provide live and dead load rating of floor framing systems (psf).			

FBCR CHAPTER 6 WOOD WALL FRAMING CONSTRUCTION

	GENERAL REQUIREMENTS: APPLICANT – PLEASE CHECK ALL APPLICABLE BOXES BEFORE SUBMITTAL	Items to Include- Each Box shall be Circled as Applicable		
		YES	NO	N/A
52	Stud type, grade, size, wall height and oc spacing for all load bearing or shear walls			
53	Fastener schedule for structural members per table FBCR 602.3 are to be shown			
54	Show Wood structural panel's sheathing attachment to studs, joist, trusses, rafters and structural members, showing fastener schedule attachment on the edges & intermediate of the areas structural panel sheathing			
55	Show all required connectors with a max uplift rating and required number of connectors and oc spacing for continuous connection of structural walls to foundation and roof trusses or rafter systems			
56	Show sizes, type, span lengths and required number of support jack studs, king studs for shear wall opening and girder or header per FBCR Table 502.5 (1)			
57	Indicate where pressure treated wood will be placed			
58	Show all wall structural panel sheathing, grade, thickness and show fastener schedule for structural panel sheathing edges & intermediate areas			
59	A detail showing gable truss bracing, wall balloon framing details or/ and wall hinge bracing detail			

FBCR :ROOF SYSTEMS:

60	Truss design drawing shall meet section FBCR 802.10 Wood trusses			
61	Include a layout and truss details, signed and sealed by Florida Professional Engineer			
62	Show types of connector's assemblies' and resistance uplift rating for all trusses and rafters			
63	Show gable ends with rake beams showing reinforcement or gable truss and wall bracing details			
64	Provide dead load rating of trusses			

FBCR 802:Conventional Roof Framing Layout

65	Rafter and ridge beams sizes, span, species and spacing			
66	Connectors to wall assemblies' include assemblies' resistance to uplift rating			
67	Valley framing and support details			
68	Provide dead load rating of rafter system			

FBCR Table 602,3(2) & FBCR 803 ROOF SHEATHING

69	Include all materials which will make up the roof decking, identification of structural panel sheathing, grade, thickness	✓		
70	Show fastener Size and schedule for structural panel sheathing on the edges & intermediate areas	✓		

FBCR ROOF ASSEMBLIES FRC Chapter 9

71	Include all materials which will make up the roof assembles covering	✓		
72	Submit Florida Product Approval numbers for each component of the roof assembles covering	✓		

FBCR Chapter 11 Energy Efficiency Code for residential building

Residential construction shall comply with this code by using the following compliance methods in the FBCR chapter11 Residential buildings compliance methods. **Two of the required forms are to be submitted**, *N1100.1.1.1 As an alternative to the computerized Compliance Method A, the Alternate Residential Point System Method hand calculation, Alternate Form 600A, may be used. All requirements specific to this calculation are located in Sub appendix C to Appendix G. Buildings complying by this alternative shall meet all mandatory requirements of this chapter. Computerized versions of the Alternate Residential Point System Method shall not be acceptable for code compliance.*

	GENERAL REQUIREMENTS: APPLICANT – PLEASE CHECK ALL APPLICABLE BOXES BEFORE SUBMITTAL	Items to Include- Each Box shall be Circled as Applicable		
		YES	NO	N/A
73	Show the insulation R value for the following areas of the structure	✓		
74	Attic space	✓		
75	Exterior wall cavity	✓		✓
76	Crawl space			✓

HVAC information

77	Submit two copies of a Manual J sizing equipment or equivalent computation study	✓		
78	Exhaust fans shown in bathrooms **Mechanical exhaust capacity of 50 cfm intermittent or 20 cfm continuous required**	✓		
79	Show clothes dryer route and total run of exhaust duct	✓		

Plumbing Fixture layout shown

80	All fixtures waste water lines shall be shown on the foundation plan	✓		
81	Show the location of water heater	✓		

Private Potable Water

82	Pump motor horse power 1.5	✓		
83	Reservoir pressure tank gallon capacity	✓		
84	Rating of cycle stop valve if used	✓		

Electrical layout shown including

85	Show Switches, receptacles outlets, lighting fixtures and Ceiling fans	✓		
86	Show all 120-volt, single phase, 15- and 20-ampere branch circuits outlets required to be protected by **Ground-Fault Circuit Interrupter (GFCI) Article 210.8 A**	✓		
87	Show the location of smoke detectors & Carbon monoxide detectors	✓		
88	Show service panel, sub-panel, location(s) and total ampere ratings	✓		
89	On the electrical plans identify the electrical service overcurrent protection device for the main electrical service. This device shall be installed on the exterior of structures to serve as a disconnecting means for the utility company electrical service. Conductors used from the exterior disconnecting means to a panel or sub panel shall have four-wire conductors, of which one conductor shall be used as an equipment ground. Indicate if the utility company service entrance cable will be of the overhead or underground type. **For structures** with foundation which establish new electrical utility companies service connection a Concrete Encased Electrode will be required within the foundation to serve as an Grounding electrode system. Per the National Electrical Code article 250.52.3	✓		
90	Appliances and HVAC equipment and disconnects	✓		
91	Show all 120-volt, single phase, 15- and 20-ampere branch circuits supplying outlets installed in dwelling unit family rooms, dining rooms, living rooms, parlors, libraries, dens, bedrooms, sunrooms, recreation rooms, closets, hallways, or similar rooms or areas shall be protected by a listed **Combination arc-fault circuit interrupter,** Protection device.	✓		

Disclosure Statement for Owner Builders *If you as the applicant will be acting as an owner/builder under section 489.103(7) of the Florida Statutes, submit the required owner builder disclosure statement form.*

Notice Of Commencement

A notice of commencement form **recorded** in the Columbia County Clerk Office is required to be filed with the building department Before Any Inspections can be preformed.

GENERAL REQUIREMENTS: APPLICANT – PLEASE CHECK ALL APPLICABLE BOXES BEFORE SUBMITTAL	Items to Include- Each Box shall be Circled as Applicable

THE FOLLOWING ITEMS MUST BE SUBMITTED WITH BUILDING PLANS

		YES	NO	N/A
92	**Building Permit Application** A current Building Permit Application form is to be completed and submitted for all residential projects	✓		
93	**Parcel Number** The parcel number (Tax ID number) from the Property Appraiser (386) 758-1084 is required. A copy of property deed is also requested	✓		
94	**Environmental Health Permit or Sewer Tap Approval** A copy of a approved Columbia County Environmental Health (386) 758-1058	✓		
95	**City of Lake City** A permit showing an approved waste water sewer tap			✓
96	**Toilet facilities shall be provided for all construction sites**	✓		
97	**Town of Fort White** (386) 497-2321 If the parcel in the application for building permit is within the Corporate city limits of Fort White an approval land use development letter issued by the Town of Fort is required to be submitted with the application for a building permit.			✓

98	**Flood Information:** All projects within the Floodway of the Suwannee or Santa Fe Rivers shall require permitting through the Suwannee River Water Management District, before submitting a application to this office. Any project located within a flood zone where the base flood elevation (100 year flood) has been established shall meet the requirements of Section 8.5.2 of the Columbia County Land Development Regulations. Any project located within a flood zone where the base flood elevation has not been established (Zone A) shall meet the requirements of Section 8.5.3 of the Columbia County Land Development Regulations	✓		
99	CERTIFIED FINISHED FLOOR ELEVATIONS will be required on any project where the base flood elevation (100 year flood) has been established	✓		
100	A development permit will also be required. Development permit cost is **$50.00**			
101	**Driveway Connection:** If the property does not have an existing access to a public road, then an application for a culvert permit (**$25.00**) must be made. If the applicant feels that a culvert is not needed, they may apply for a culvert waiver (**$50.00**). All culvert waivers are sent to the Columbia County Public Works Department for approval or denial.	✓		
102	**911 Address:** If the project is located in an area where a 911 address has not been issued, then application for a 911address must be applied for and **received** through the Columbia County Emergency Management Office of 911 Addressing Department (386) 758-1125	✓		

Section R101.2.1 of the Florida Building Code Residential:

The provisions of Chapter 1, Florida Building Code, Building shall govern the administration and enforcement of the Florida Building Code, Residential.

Section 105 of the Florida Building Code defines the:

Time limitation of application.

An application for a permit for any proposed work shall be deemed to have been abandoned 180 days after the date of filing, unless such application has been pursued in good faith or a permit has been issued; except that the building official is authorized to grant one or more extensions of time for additional periods not exceeding 90 days each. The extension shall be requested in writing and justifiable cause demonstrated.

Single-family residential dwelling.

Section 105.3.4 A building permit for a single-family residential dwelling must be issued within 30 working days of application therefor unless unusual circumstances require a longer time for processing the application or unless the permit application fails to satisfy the Florida Building Code or the enforcing agency's laws or ordinances.

Permit intent.

Section 105.4.1: A permit issued shall be constructed to be a license to proceed with the work and not as authority to violate, cancel, alter or set aside any of the provisions of the technical codes, nor shall issuance of a permit prevent the building official from thereafter requiring a correction of errors in plans, construction or violations of this code. Every permit issued shall become invalid unless the work authorized by such permit is commenced within six months after its issuance, or if the work authorized by such permit is suspended or abandoned for a period of six months after the time the work is commenced.

Janice Williams

From: Bryan Zecher [bczecher@comcast.net]
Sent: Friday, February 10, 2012 4:02 PM
To: Janice Williams
Subject: Mikes aluminum

Hi Janice…here is what I found, I understand you need a copy though.

nption Details

	Title	Effective Date	*Termination Date	Exemption Type	**Business Activities	Employer Name
CHAEL R NICHOLSON	SP	Dec 6 2001	Dec 6 2003	Construction	Click Here to View Activities Listed on Exemption	MIKE ALUMINUM
ICHAEL R CHOLSON	**PR**	**Jan 27 2012**	**Jan 26 2014**	**Construction**	**Click Here to View Activities Listed on Exemption**	**MIKES ALUMINU OF LAK CITY IN**
CHAEL R NICHOLSON	PR	Jan 10 2010	Jan 10 2012	Construction	Click Here to View Activities Listed on Exemption	MIKES ALUMINUM OF CITY INC
CHAEL R NICHOLSON	PR	Jan 11 2008	Jan 10 2010	Construction	Click Here to View Activities Listed on Exemption	MIKES ALUMINUM OF CITY INC
CHAEL R NICHOLSON	PR	Jan 11 2006	Jan 11 2008	Construction	Click Here to View Activities Listed on Exemption	MIKES ALUMINUM OF CITY INC
CHAEL R NICHOLSON	PR	Jan 1 2004	Dec 4 2005	Construction	Click Here to View Activities Listed on Exemption	MIKES ALUMINUM OF CITY INC
CHAEL R NICHOLSON	PR	Dec 5 2003	Dec 31 2003	Construction	Click Here to View Activities Listed on Exemption	MIKES ALUMINUM OF CITY INC
CHAEL R NICHOLSON	PT	Jan 11 2000	Jan 10 2002	Construction	Click Here to View Activities Listed on Exemption	MITCH ALUMINUM
CHAEL R NICHOLSON	PT	Nov 6 1995	Jan 11 2000	Construction	Click Here to View Activities Listed on Exemption	MITCH ALUMINUM

nination may be through the revocation of the exemption, or expiration of the exemption.
e exemption only applies to the business activities listed on the exemption.

Attn: Connie

Columbia County Building Department
Culvert Permit

Culvert Permit No.
000001930

DATE 02/14/2012 PARCEL ID # 33-3S-16-02438-141

APPLICANT BRYAN ZECHER PHONE 386.752.8653

ADDRESS POB 815 LAKE CITY FL 3056

OWNER SHERRILL COLEMAN PHONE 386.623.2304

ADDRESS 158 SW WOODLEAF COURT LAKE CITY FL 32024

CONTRACTOR BRYAN ZECHER PHONE 386.752.8653

LOCATION OF PROPERTY 90-W TO EMERALD COVE S.D.,TL TO WOODLEAF COURT,TR AN IT'S THE FIRST LOT ON R.

SUBDIVISION/LOT/BLOCK/PHASE/UNIT EMERALD COVE 41 1

INSTALLATION INFORMATION

SIGNATURE

(A) A culvert shall be required to be installed as part of any newly constructed private driveway or road, or public road, which connects to a county road in Columbia County. Culvert installation for residential use shall require a permit issued by the Building and Zoning Department. Prior to any culvert permit being issued, an inspection by the Public Works Department shall be required to determine the proper size, length, and location for installation. Culvert installation for commercial, industrial, and other uses shall conform to the approved site plan or to the specifications of a registered engineer. Joint use culverts will comply with Florida Department of Transportation specifications.

(B) The culvert shall comply and be installed in accordance with Columbia County Land Development Regulation, Access Control: Section 4.2.3 standards. Proper installation of the culvert shall be verified by a final inspection performed by the Public Works Department.

(C) All culverts required by this policy shall be installed prior to the Building Department granting permission to connect permanent electrical service to the facility or facilities being serviced by newly constructed private driveway or road. In cases where no electrical service exists, installation shall be completed prior to final inspection approval.

(D) Mitered-end culverts shall be used in the following applications:
(1) When the culvert is to be placed giving access to a paved street.; (2) When the road is contained within a subdivision (recorded or unrecorded) that has not reached a "build out" of fifty percent (50%) or more.; (3) In all new subdivisions for residential use. New subdivisions shall be required as part of the final plat to specify culvert diameter and length.; (4) When the predominant use already established by the use of mitered-end culverts period.

☐ Culvert installation shall conform to the approved site plan standards.

☐ Department of Transportation Permit installation approved standards.

☒ Shall conform to Public Works Determinations as Stated Below:
18" x 32' CMP with mitred ends poured concrete

P W Inspectors Name: James Durrance Date: 2-15-12

Final Inspection Date: P W Inspectors Name: Signature:

CONTACT FOR REQUIREMENTS AND INSPECTIONS:

PUBLIC WORKS DEPARTMENT

Phone: 386-758-1019

Amount Paid 25.00

Check No.

All Proper Safety Requirements Should Be Followed During The Installation Of The Culvert

#29935

Cal-Tech Testing, Inc.

- Engineering
- Geotechnical
- Environmental

LABORATORIES

P.O. Box 1625 • Lake City, FL 32056 Tel. (386) 755-3633 • Fax (386) 752-5456

450 SR 13N, Suite 106-308, Jacksonville, FL 32259 Tel. (904) 381-8901 • Fax (904) 381-8902

February 17, 2012

Bryan Zecher Construction
P.O. Box 815
Lake City, Florida 815

Attention: Mr. Bryan Zecher

Subject: Record Site Observation
Sherrilla Coleman Residence – Parcel 33-3S-16-02438-141)
Lake City, Columbia County, Florida
Cal-Tech Project No. 12-00058-01

Dear Mr. Zecher:

As requested by you, Cal-Tech Testing's engineer visited the subject site on February 17, 2012 and met with you. The purpose of this visit was to visually evaluate the soil conditions encountered within the footing excavations at the subject site. The following was noted at the time of our visit:

1. The footings had been excavated to about 2 feet below the existing ground surface;
2. Reinforcing steel was noted in the footing excavations;
3. Soils in the footing excavations consisted of gray sand with silt (SP-SM) to about 6 inches, yellowish tan clayey sand (SC) to about 18 inches, and tan with gray and reddish brown mottles sandy clay (CL) to about 24 inches below the existing ground surface.

Probing of the bottom of the main frame footings indicated about 1 to 2 feet of loose fine sands. We note that due to the presence of about 3 feet of rain water in the footing excavations, we could only probe an arms-length from the edge of the footings. Stock piles of excavated soils disclosed grayish brown fine sand with silt (SP-SM) containing few to some organic matter consisting of fine roots. We were informed by Mr. Perdue that the water table is at or near 12 inches below the designed bottom of footings elevation.

Based on our visual observations, we recommend the footings be overexcavated a minimum of 12 inches below the designed (current) bottom of footing elevation. The exposed subgrade in the footing excavations should then be compacted and the footings bearing elevation be reestablished using ASTM No. 57 stone. The stone should be compacted using a plate tamper with a minimum of 4 full coverages. No density testing is needed to verify compaction, however, visual inspection is required to confirm the compaction coverage.

For the floor slab area, we recommend the exposed subgrade be cleaned of organic matter (root, etc.) and compacted prior to placement of any grade raise fill. Once the exposed subgrade is properly prepared, structural fill may be placed in thin loose lifts not exceeding 6 inches in thickness and compacted with walk-behind equipment. Each lift should be thoroughly compacted to provide densities equivalent to at least 95 percent of the modified Proctor maximum dry density (ASTM D-1557). All structural fill should consist of an inorganic, non-plastic, granular soil containing less than 12 percent material passing the No. 200 mesh sieve (relatively clean sand with a Unified Soil Classification of SP or SP-SM).

We appreciate the opportunity to be of service on this project and look forward to serving you for the remainder of this and future projects. Should you have any questions concerning this correspondence, please contact our office at 386-755-3633.

Respectfully submitted,
Cal-Tech Testing, Inc.

2/17/2012

Nabil O. Hmeidi, P.E.
Senior Geotechnical Engineer
Licensed, Florida No. 57842

Residential System Sizing Calculation

Summary

Project Title:
1201054

Class 3 Rating
Registration No. 0
Climate: North

Coleman Res

Lake City, FL

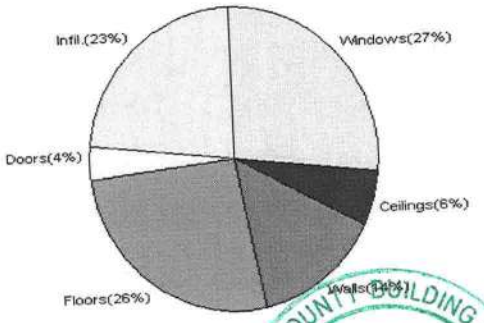
2/1/2012

Location for weather data: Gainesville - Defaults: Latitude(29) Altitude(152 ft.) Temp Range(M)			
Humidity data: Interior RH (50%) Outdoor wet bulb (77F) Humidity difference(54gr.)			
Winter design temperature	33 F	Summer design temperature	92 F
Winter setpoint	70 F	Summer setpoint	75 F
Winter temperature difference	37 F	Summer temperature difference	17 F
Total heating load calculation	**33525 Btuh**	**Total cooling load calculation**	**25838 Btuh**
Submitted heating capacity	% of calc Btuh	Submitted cooling capacity	% of calc Btuh
Total (Electric Heat Pump)	119.3 40000	Sensible (SHR = 0.75)	142.7 30000
Heat Pump + Auxiliary(0.0kW)	119.3 40000	Latent	208.0 10000
		Total (Electric Heat Pump)	154.8 40000

WINTER CALCULATIONS

Winter Heating Load (for 1567 sqft)

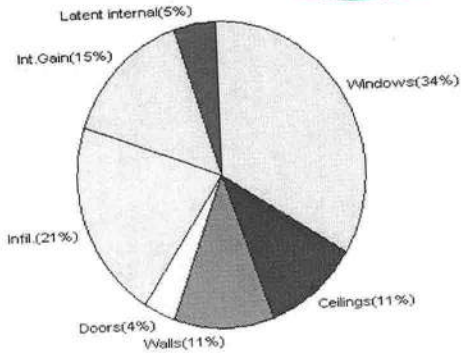
Load component			Load	
Window total	282	sqft	9087	Btuh
Wall total	1451	sqft	4765	Btuh
Door total	95	sqft	1228	Btuh
Ceiling total	1668	sqft	1965	Btuh
Floor total	203	sqft	8863	Btuh
Infiltration	188	cfm	7617	Btuh
Duct loss			0	Btuh
Subtotal			**33525**	**Btuh**
Ventilation	0	cfm	0	Btuh
TOTAL HEAT LOSS			**33525**	**Btuh**



SUMMER CALCULATIONS

Summer Cooling Load (for 1567 sqft)

Load component			Load	
Window total	282	sqft	8784	Btuh
Wall total	1451	sqft	2938	Btuh
Door total	95	sqft	929	Btuh
Ceiling total	1668	sqft	2762	Btuh
Floor total			0	Btuh
Infiltration	99	cfm	1837	Btuh
Internal gain			3780	Btuh
Duct gain			0	Btuh
Sens. Ventilation	0	cfm	0	Btuh
Total sensible gain			**21030**	**Btuh**
Latent gain(ducts)			0	Btuh
Latent gain(infiltration)			3608	Btuh
Latent gain(ventilation)			0	Btuh
Latent gain(internal/occupants/other)			1200	Btuh
Total latent gain			**4808**	**Btuh**
TOTAL HEAT GAIN			**25838**	**Btuh**



EnergyGauge® System Sizing
PREPARED BY: _____
DATE: 2012-02-01

For Florida residences only

System Sizing Calculations - Winter

Residential Load - Whole House Component Details

Coleman Res

Project Title:
1201054

Class 3 Rating
Registration No. 0
Climate: North

Lake City, FL

2/1/2012

Reference City: Gainesville (Defaults) Winter Temperature Difference: 37.0 F

Component Loads for Whole House

Window	Panes/SHGC/Frame/U	Orientation	Area(sqft) X	HTM=	Load
1	2, Clear, Metal, 0.87	N	64.0	32.2	2060 Btuh
2	2, Clear, Metal, 0.87	E	32.0	32.2	1030 Btuh
3	2, Clear, Metal, 0.87	N	72.0	32.2	2318 Btuh
4	2, Clear, Metal, 0.87	W	16.0	32.2	515 Btuh
5	2, Clear, Metal, 0.87	E	3.0	32.2	97 Btuh
6	2, Clear, Metal, 0.87	S	21.3	32.2	686 Btuh
7	2, Clear, Metal, 0.87	S	32.0	32.2	1030 Btuh
8	2, Clear, Metal, 0.87	S	32.0	32.2	1030 Btuh
9	2, Clear, Metal, 0.87	W	10.0	32.2	322 Btuh
	Window Total		282(sqft)		9087 Btuh
Walls	Type	R-Value	Area X	HTM=	Load
1	Frame - Wood - Ext(0.09)	13.0	1297	3.3	4259 Btuh
2	Frame - Wood - Adj(0.09)	13.0	154	3.3	506 Btuh
	Wall Total		1451		4765 Btuh
Doors	Type		Area X	HTM=	Load
1	Insulated - Adjacent		40	12.9	518 Btuh
2	Insulated - Exterior		13	12.9	166 Btuh
3	Insulated - Adjacent		18	12.9	233 Btuh
4	Insulated - Exterior		24	12.9	311 Btuh
	Door Total		95		1228Btuh
Ceilings	Type/Color/Surface	R-Value	Area X	HTM=	Load
1	Vented Attic/D/Shin)	30.0	1668	1.2	1965 Btuh
	Ceiling Total		1668		1965Btuh
Floors	Type	R-Value	Size X	HTM=	Load
1	Slab On Grade	0	203.0 ft(p)	43.7	8863 Btuh
	Floor Total		203		8863 Btuh
			Zone Envelope Subtotal:		25909 Btuh
Infiltration	Type	ACH X	Zone Volume	CFM=	
	Natural	0.80	14103	188.0	7617 Btuh
Ductload	No ducts, R6.0, Supply(Attic), Return(Attic)			(DLM of 0.00)	0 Btuh
Zone #1			**Sensible Zone Subtotal**		**33525 Btuh**

Manual J Winter Calculations

Residential Load - Component Details (continued)

Coleman Res

Lake City, FL

Project Title:
1201054

Class 3 Rating
Registration No. 0
Climate: North

2/1/2012

WHOLE HOUSE TOTALS

	Subtotal Sensible	33525 Btuh
	Ventilation Sensible	0 Btuh
	Total Btuh Loss	33525 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)

Powered by ACCA MANUAL J

For Florida residences only

System Sizing Calculations - Summer

Residential Load - Whole House Component Details

Coleman Res

Project Title:
1201054

Class 3 Rating
Registration No. 0
Climate: North

Lake City, FL

Reference City: Gainesville (Defaults) Summer Temperature Difference: 17.0 F

2/1/2012

Component Loads for Whole House

Window	Type* Pn/SHGC/U/InSh/ExSh/IS	Ornt	Overhang Len	Hgt	Window Area(sqft) Gross	Shaded	Unshaded	HTM Shaded	Unshaded	Load
1	2, Clear, 0.87, None,N,N	N	1.5ft	7ft.	64.0	0.0	64.0	29	29	1854 Btuh
2	2, Clear, 0.87, None,N,N	E	99ft.	7ft.	32.0	32.0	0.0	29	80	927 Btuh
3	2, Clear, 0.87, None,N,N	N	11ft.	8ft.	72.0	0.0	72.0	29	29	2085 Btuh
4	2, Clear, 0.87, None,N,N	W	99ft.	7ft.	16.0	16.0	0.0	29	80	463 Btuh
5	2, Clear, 0.87, None,N,N	E	1.5ft	2.5ft	3.0	0.5	2.5	29	80	214 Btuh
6	2, Clear, 0.87, None,N,N	S	12ft.	8ft.	21.3	21.3	0.0	29	34	617 Btuh
7	2, Clear, 0.87, None,N,N	S	5.5ft	7ft.	32.0	32.0	0.0	29	34	927 Btuh
8	2, Clear, 0.87, None,N,N	S	1.5ft	9ft.	32.0	32.0	0.0	29	34	927 Btuh
9	2, Clear, 0.87, None,N,N	W	1.5ft	6ft.	10.0	0.5	9.5	29	80	770 Btuh
	Window Total				282 (sqft)					8784 Btuh

Walls	Type	R-Value/U-Value	Area(sqft)	HTM	Load
1	Frame - Wood - Ext	13.0/0.09	1297.0	2.1	2705 Btuh
2	Frame - Wood - Adj	13.0/0.09	154.0	1.5	232 Btuh
	Wall Total		1451 (sqft)		2938 Btuh

Doors	Type	Area (sqft)	HTM	Load
1	Insulated - Adjacent	40.0	9.8	392 Btuh
2	Insulated - Exterior	12.8	9.8	125 Btuh
3	Insulated - Adjacent	18.0	9.8	176 Btuh
4	Insulated - Exterior	24.0	9.8	235 Btuh
	Door Total	95 (sqft)		929 Btuh

Ceilings	Type/Color/Surface	R-Value	Area(sqft)	HTM	Load
1	Vented Attic/DarkShingle	30.0	1668.0	1.7	2762 Btuh
	Ceiling Total		1668 (sqft)		2762 Btuh

Floors	Type	R-Value	Size	HTM	Load
1	Slab On Grade	0.0	203 (ft(p))	0.0	0 Btuh
	Floor Total		203.0 (sqft)		0 Btuh

			Zone Envelope Subtotal:		15413 Btuh
Infiltration	Type	ACH	Volume(cuft)	CFM=	Load
	SensibleNatural	0.42	14103	98.7	1837 Btuh
Internal gain		Occupants	Btuh/occupant	Appliance	Load
		6	X 230 +	2400	3780 Btuh
Duct load	No ducts, R6.0, Supply(Attic), Return(Attic)			DGM = 0.00	0.0 Btuh
			Sensible Zone Load		**21030 Btuh**

Manual J Summer Calculations

Residential Load - Component Details (continued)

Coleman Res

Lake City, FL

Project Title:
1201054

Class 3 Rating
Registration No. 0
Climate: North

2/1/2012

WHOLE HOUSE TOTALS

Whole House Totals for Cooling	**Sensible Envelope Load All Zones**	**21030 Btuh**
	Sensible Duct Load	0 Btuh
	Total Sensible Zone Loads	**21030 Btuh**
	Sensible ventilation	0 Btuh
	Blower	0 Btuh
	Total sensible gain	**21030 Btuh**
	Latent infiltration gain (for 54 gr. humidity difference)	3608 Btuh
	Latent ventilation gain	0 Btuh
	Latent duct gain	0 Btuh
	Latent occupant gain (6 people @ 200 Btuh per person)	1200 Btuh
	Latent other gain	0 Btuh
	Latent total gain	**4808 Btuh**
	TOTAL GAIN	**25838 Btuh**

*Key: Window types (Pn - Number of panes of glass)
(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(B), Draperies(D) or Roller Shades(R))
(ExSh - Exterior shading device: none(N) or numerical value)
(BS - Insect screen: none(N), Full(F) or Half(H))
(Ornt - compass orientation)

For Florida residences only

FORM 600A-08

FLORIDA ENERGY EFFICIENCY CODE FOR BUILDING CONSTRUCTION

Alternate Residential Points System Method

NORTH 1 2 3

PROJECT NAME: AND ADDRESS:	1201054 Emerald Cove Lake City, FL	BUILDER: Bryan Zecher PERMITTING OFFICE: Columbia	CLIMATE ZONE: 1 ☐ 2 ☐ 3 ☑
OWNER:	Coleman Res	PERMIT NO.: 29935	JURISDICTION NO.: 221000

		Please Type	CK
1.	New construction or addition	1. new	
2.	Single-family detached or Multiple-family attached	2. single	
3.	If Multiple-family–No. of units covered by this submission	3.	
4.	Is this a worst case? (yes/no)	4. yes	
5.	Conditioned floor area (sq. ft.)	5. 1567 sq. ft.	
6.	Predominant eave overhang (ft.)	6. 1.5 ft.	
7.	Glass type[1] and area: (Label required by 13-104.4.5 if not default)	Description / Area	
	a. *U*-factor: (or Single- or Double-Pane DEFAULT)	7a. double clear 282.3 sq. ft.	
	b. SHGC: (or Clear or Tint DEFAULT)	7b. sq. ft.	
8.	Floor type and insulation:		
	a. Slab-on-grade (*R*-value + perimeter)	8a. R = 0 , 203 l. ft.	
	b. Wood, raised (*R*-value + sq. ft.)	8b. R = , sq. ft.	
	c. Concrete, raised (*R*-value)	8c. R = , sq. ft.	
9.	Net wall type, area and insulation:		
	a. Exterior: 1. Concrete block (Insulation *R*-value)	9a-1 R = , sq. ft.	
	2. Wood frame (Insulation *R*-value)	9a-2 R = 13 , 1297 sq. ft.	
	3. Steel frame (Insulation *R*-value)	9a-3 R = , sq. ft.	
	4. Log (Insulation *R*-value)	9a-4 R = , sq. ft.	
	5. Other:		
	b. Adjacent: 1. Concrete block (Insulation *R*-value)	9b-1 R = , sq. ft.	
	2. Wood frame (Insulation *R*-value)	9b-2 R = 13 , 154 sq. ft.	
	3. Steel frame (Insulation *R*-value)	9b-3 R = , sq. ft.	
	4. Log (Insulation *R*-value)	9b-4 R = , sq. ft.	
10.	Ceiling type, area and insulation:		
	a. Under attic (Insulation *R*-value)	10a. R=30 1668 sq. ft.	
	b. Single assembly (Insulation *R*-value)	10b. sq. ft.	
	c. Radiant barrier, IRCC or white roof installed?	10c.	
11.	Air distribution system:		
	a. Ducts (Insulation + Location)	11a. R = 6 , attic (cond./uncond.)	
	b. Air Handler (Location)	11b. R = , int (cond./uncond.)	
12.	Cooling system: (Types: central-split, central-single pkg., room unit, PTAC, gas, none)	12a. Type: central-split	
		12b. SEER/EER/COP: 13	
		12c. Capacity: 40 kBtu/hr	
13.	Heating system: (Types: heat pump, elec. strip, nat. gas, LP gas, gas h.p., room or PTAC, none)	13a. Type: heat pump	
		13b. HSPF/COP/AFUE: 7.8	
		13c. Capacity: 40 kBtu/hr	
14.	Hot water system: (Types: elec., natural gas, solar, LP gas, none)	14a. Type: elec.	
		14b. EF: .94	
15.	Hot water credits		
	a. Heat Recovery (HR)	15a.	
	b. Dedicated Heat Pump (DHP)	15b.	
	c. Solar	15c.	
16.	HVAC Credits (Use: CF-ceiling fan, CV-cross vent, PT-programmable thermostat, HF-whole house fan, MZ-Multizone)	16. PT	
17.	COMPLIANCE STATUS: (PASS if As-Built Pts. are less than Base Pts.)	17. PASS	
	a. Total As-Built points	17a. 19705	
	b. Total Base points	17b. 20093	

COLUMBIA COUNTY BUILDING DEPARTMENT
Received for FILE COPY
Code Compliance
PLANS EXAMINER

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

PREPARED BY: Evan Beamsley DATE: 2012-2-01

I hereby certify that this building is in compliance with the Florida Energy Code:

OWNER AGENT: _____ DATE: _____

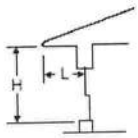
Review of plans and specifications covered by this calculation indicates compliance with the Florida Energy Code. Before construction is completed, this building will be inspected for compliance in accordance with Section 553.908, F.S.

BUILDING OFFICIAL: _____

DATE: _____

[1] Predominant glass type. For actual glass type and areas, see summer and winter glass output on Pages 2 and 4.

GLASS	ORIENTATION	OVERHANG LENGTH OH (FEET)	GLASS AREA (SQ. FT)	SINGLE-PANE SUMMER POINT MULTIPLIER		DUBLE-PANE SUMMER POINT MULTIPLER		SUMMER OH FACTOR (from 6A-1)	AS-BUILT GLASS SUMMER PTS
				CLEAR	TINT (2)	CLEAR	TINT (2)		
	N	1.5	64			19.2	19.2	0.971	1193
	E	99	32			42.06	42.06	0.357	480
	N	11	72			19.2	19.2	0.681	941
	W	99	16			38.52	38.52	0.375	231
	E	1.5	3			42.06	42.06	0.675	85
	S	12	21.3			35.87	35.87	0.493	377
	S	5.5	32			35.87	35.87	0.575	660
	S	1.5	32			35.87	35.87	0.931	1069
	W	1.5	10			38.52	38.52	0.963	371
		0	0				0		0
		0	0				0		0
		0	0				0		0
		0	0				0		0
		0	0				0		0
		0	0				0		0
		0	0				0		0
		0	0				0		0
		0	0				0		0
		0	0				0		0
		0	0				0		0
		0	0				0		0
		0	0				0		0



OVERHANG RATIO = $\frac{\text{OH LENGTH}}{\text{OH HEIGHT}}$

GLASS	COND FLOOR AREA	WEIGHTED GLASS MULTIPLIER	BASE GLASS SUBTOTAL
0.18	0.18	1567	18.59	5243

AS-BUILT GLASS SUBTOTAL
5408

	COMPONENT DESCRIPTION	AREA	BASE SUMMER POINT MULT.	BASE SUM POINTS	COMPONENT DESCRIPTION	AREA	SUMMER POINT MULT. (6A-2 - 6A-6)	AS BUILT SUMMER POINTS
WALL	EXTERIOR	1297	1.5	1946	EXT FRAME R13	1297	1.5	1946
	ADJACENT	154	0.6	92	ADJ FRAME R13	154	0.6	92
						0		0
						0		0
DOORS	EXTERIOR	36.8	6.1	224	EXT INSULATED	36.8	4.1	151
	ADJACENT	58	2.4	139	ADJ INSULATED	58	1.6	93
						0		0
CEILING	UNDER ATTIC OR SINGLE ASSEMBLY	1567	1.73	2711	ATTIC R30	1668	1.73	2886
					RBS/IECC/white roof (3)	0	1.03	0
	BASE CEILING AREA EQUALS FLOOR AREA DIRECTLY UNDER CEILING. AS-BUILT CEILING AREA EQUALS ACTUAL CEILING SQUARE FOOTAGE							
FLOOR	SLAB (PERIMETER)	203	-41.2	-8364	SLAB	203	-41.2	-8363.6
	RAISED (AREA)	0	-0.98	0		0	0	0
	FOR SLAB-ON-GRADE USE PERIMITER LENGTH AROUND CONDITIONED FLOOR, FOR RAISED FLOORS USE AREA OVER UNCONDITIONED SPACE							
INFILTRATION & INTERNAL GAINS		1567	10.21	15999		1567	10.21	15999
	USE TOTAL FLOOR AREA OF CONDITIONED SPACE							

TOTAL COMPONENT BASE SUMMER POINTS	17991	TOTAL COMPONENT AS-BUILT SUMMER POINTS	18210

	BASE COOLING SYSTEM MULTIPLIER	TOTAL BASE SUMMER POINTS	BASE COOLING POINTS	TOTAL AS-BUILT SUM. PTS.	AS-BUILT DM (6A-8)	AS-BUILT DSM (6A-20)	AS-BUILT AHU (6A-7)	AS-BUILT CMS (6A-9)	AS-BUILT CCM (6A-19)	AS-BUILT COOLING POINTS
COOLING SYSTEM	0.325	17991	**5847**	18210	1.09	0.95	0.95	0.26	0.95	**4425**

	NUMBER OF BEDROOMS	BASE HOT WATER MULTIPLIER	BASE HOT WATER POINTS	AS-BUILT HOT WATER SYSTEM DESCRIPTION	NUMBER OF BED-ROOMS	AS-BUILT HWM (6A-23)	AS-BUILT HWCM (6A-23)	AS-BUILT HOT WATER POINTS
HOT WATER SYSTEM	3	2635	**7905**	elec .94	3	2571	1	**7713**

(1) H = HORIZONTAL GLASS (SKYLIGHTS)

(2) FOR GLASS WITH KNOW SHGC, SEE SEC. 2.1.1 OF APPENDIX G-C of the *FBC, Residential.* TINT MULTIPLIERS MAY BE USED FOR GLASS WITH SOLAR SCREENS, FILM, OR TINT

(3) MUST MEET CRITERIA OF APPENDIX G-C4.2.1.5 of the *FBC, Residential.*

6A-1 SUMMER OVERHANG FACTORS (SOF) FOR SINGLE-AND DOUBLE-PANE GLASS

SELECT BY OR

OH Ratio	.00-.11	.12-.17	.18-.26	.27-.35	.36-.46	.47-.57	.58-.70	.71-.83	.84-1.18	1.19-1.72	1.73-2.73	2.74 & up
North	1.00	0.993	0.971	0.930	0.888	0.842	0.803	0.766	0.736	0.681	0.634	0.593
Northeast	1.00	0.996	0.967	0.907	0.845	0.775	0.717	0.662	0.619	0.545	0.487	0.441
East	1.00	0.994	0.963	0.898	0.827	0.745	0.675	0.609	0.558	0.470	0.405	0.357
Southeast	1.00	0.998	0.952	0.864	0.777	0.689	0.623	0.566	0.525	0.459	0.413	0.379
South	1.00	0.989	0.931	0.835	0.751	0.675	0.620	0.575	0.543	0.493	0.458	0.432
Southwest	1.00	0.998	0.953	0.866	0.779	0.691	0.623	0.565	0.522	0.453	0.404	0.368
West	1.00	0.994	0.963	0.899	0.828	0.748	0.681	0.617	0.569	0.485	0.422	0.375
Northwest	1.00	0.996	0.968	0.913	0.858	0.797	0.748	0.702	0.667	0.605	0.556	0.516
OH Length	0.0'	1.0'	1.5'	2.0'	3.0'	3.5'	4.5'	5.5'	6.5'	9.5'	14.0'	20.0'

6A-2 WALL SUMMER POINT MULTIPLIERS (SPM)

FRAME					CONCRETE BLOCK (NORMAL WT)				FACE BRICK				LOG		
	WOOD		STEEL			INTERIOR INSULATION		EXT. INSUL.	*R*-VALUE	WOOD FR	*R*-VALUE	BLOCK		6 INCH	8 INCH
R-VALUE	EXT	ADJ	EXT	ADJ	*R*-VALUE	EXT	ADJ	EXT	0-6.9	2.4	0-2.9	1.0	*R*-VALUE	EXT	EXT
0-6.9	5.5	2.2	7.6	2.8	0-2.9	2.2	1.1	2.2	7-10.9	.6	3-6.9	.6	0-2.9	1.5	1.0
7-10.9	2.1	.8	3.5	1.3	3-4.9	1.3	.8	.8	11-18.9	.4	7-9.9	.4	3-6.9	1.0	.7
11-12.9	1.7	.7	2.7	1.0	5-6.9	1.0	.7	.5	19-25.9	.2	10 & UP	.2	7 & UP	.8	.6
13-18.9	1.5	.6	2.5	0.9	7-10.9	.7	.5	.3	26 & UP	.1					
19-25.9	.9	.4	2.2	0.8	11-18.9	.4	.4	0							
26 & UP	.6	.2	1.2	0.4	19-25.9	.2	.2								
					26 & UP	.1	.1								

6A-3 DOOR SUMMER POINT MULTIPLIERS (SPM)

DOOR TYPE	EXTERIOR	ADJACENT
WOOD	6.1	2.4
INSULATED	4.1	1.6

6A-4 CEILING SUMMER POINT MULTIPLIERS (SPM)

UNDER ATTIC		SINGLE ASSEMBLY		CONCRETE DECK ROOF		
					CEILING TYPE	
R-VALUE	SPM	*R*-VALUE	SPM	*R*-VALUE	EXPOSED	DROPPED
19-21.9	2.34	10-10.9	8.49	10-13.9	9.13	8.47
22-25.9	2.11	11-12.9	7.97	14-20.9	6.80	6.45
26-29.9	1.89	13-18.9	7.14	21 & UP	4.92	4.63
30-37.9	1.73	19-25.9	5.64			
38 & UP	1.52	26-29.9	4.75			
RBS Credit	0.700	30 & UP	4.40			
IRCC Credit	0.849					
White Roof Credit	0.550					

6A-5 FLOOR SUMMER POINT MULTIPLIERS (SPM)

SLAB-ON-GRADE EDGE INSULATION		RAISED CONCRETE		RAISED WOOD			
					POST OR PIER CONSTRUCTION	STEM WALL w/UNDER FLOOR INSULATION	ADJACENT
R-VALUE	SPM	*R*-VALUE	SPM	*R*-VALUE	SPM	SPM	SPM
0-2.9	-41.2	0-2.9	-.8	0-6.9	2.80	-4.7	2.2
3-4.9	-37.2	3-4.9	-1.3	7-10.9	1.34	-2.3	.8
5-6.9	-36.2	5-6.9	-1.3	11-18.9	1.06	-1.9	.7
7 & UP	-35.7	7 & UP	-1.3	19 & UP	.77	-1.5	.4

6A-6 INFILTRATION & INTERNAL GAINS (SPM)

Air Infiltration	3.44
Internal Gains	+6.77
Infiltration/Internal Gains (Combined)	10.21

6A-7 AIR HANDLER MULTIPLIERS (SPM)

Located in garage	1.00
Located in conditioned area	0.91
Located on exterior of building	1.02
Located in attic	1.11

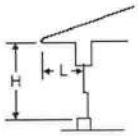
6A-8 DUCT MULTIPLIERS (DM)

SUPPLY DUCTS IN:	DUCT *R*-VALUE	RETURN DUCTS IN:				
		Unconditioned space	Attic/ RBS	Attic/ IRCC	Attic/ Cool roof	Conditioned space
Unconditioned Space	4.2	1.118	1.111	1.112	1.089	1.107
	6.0	1.090	1.084	1.085	1.066	1.081
	8.0	1.071	1.066	1.067	1.051	1.064
Attic/Radiant Barrier (RBS)	4.2	1.072	1.066	—	—	1.061
	6.0	1.056	1.051	—	—	1.047
	8.0	1.045	1.041	—	—	1.037
Attic/Interior Radiation Control Coatings (IRCC)	4.2	1.099	—	1.092	—	1.084
	6.0	1.076	—	1.071	—	1.065
	8.0	1.061	—	1.057	—	1.052
Attic/Cool Roof	4.2	1.068	—	—	1.096	1.057
	6.0	1.051	—	—	1.071	1.043
	8.0	1.040	—	—	1.055	1.034
Conditioned Space	4.2	1.006	1.005	1.007	1.008	1.000
	6.0	1.005	1.004	1.005	1.006	1.000
	8.0	1.004	1.003	1.004	1.005	1.000

6A-9 COOLING SYSTEM MULTIPLIERS (CSM)

SYSTEM TYPE		COOLING SYSTEM MULTIPLIERS (CSM)										
Central Units (SEER)	Rating		7.5-7.9	8.0-8.4	8.5-8.8	8.9-9.4	9.5-9.9	10.0-10.4	10.5-10.9	11.0-11.4	11.5-11.9	12.0-12.4
	CSM		.45	.43	.40	.38	.36	.34	.32	.31	.30	.28
PTAC & Room Units (EER)	Rating	12.5-12.9	13.0-13.4	13.5-13.9	14.0-14.4	14.5-14.9	15.0-15.4	15.5-15.9	16.0-16.4	16.5-16.9	17.0-17.4	17.5 & UP
	CSM	.27	.26	.25	.24	.24	.23	.22	.21	.21	.20	.19

GLASS	ORIENTATION	OVERHANG LENGTH OH (FEET)	GLASS AREA (SQ. FT)	SINGLE-PANE WINTER POINT MULTIPLIER		DUBLE-PANE WINTER POINT MULTIPLER		WINTER OH FACTOR (from 6A-10)	AS-BUILT GLASS WINTER PTS
				CLEAR	TINT (2)	CLEAR	TINT (2)		
	N	1.5	64			24.58	24.58	1.001	1575
	E	99	32			18.79	18.79	1.507	906
	N	11	72			24.58	24.58	1.021	1807
	W	99	16			20.73	20.73	1.238	411
	E	1.5	3			18.79	18.79	1.15	65
	S	12	21.3			13.3	13.3	3.042	862
	S	5.5	32			13.3	13.3	2.175	926
	S	1.5	32			13.3	13.3	0.994	423
	W	1.5	10			20.73	20.73	1.01	209
	0	0	0						0
	0	0	0						0
	0	0	0						0
	0	0	0						0
		0	0						0
		0	0						0
		0	0						0
		0	0						0
		0	0						0
		0	0						0
		0	0						0
		0	0						0
		0	0						0



OVERHANG RATIO = $\frac{\text{OH LENGTH}}{\text{OH HEIGHT}}$

GLASS	0.18	COND FLOOR AREA	WEIGHTED GLASS MULTIPLIER	BASE GLASS SUBTOTAL
	0.18	1567	20.17	5689

AS-BUILT GLASS SUBTOTAL
7183

	COMPONENT DESCRIPTION	AREA	BASE SUMMER POINT MULT.	BASE WINTER POINTS	COMPONENT DESCRIPTION	AREA	WINTER POINT MULT. (6A-11 - 6A-15)	AS BUILT WINTER POINTS
WALL	EXTERIOR	1297	3.4	4410	EXT FRAME R13	1297	3.4	4410
	ADJACENT	154	3.3	508	ADJ FRAME R13	154	3.3	508
						0		0
						0		0
DOORS	EXTERIOR	36.8	12.3	453	EXT INSULATED	36.8	8.4	309
	ADJACENT	58	11.5	667	ADJ INSULATED	58	8	464
						0		0
CEILING	UNDER ATTIC OR SINGLE ASSEMBLY	1567	2.05	3212	ATTIC R30	1668	2.05	3419
					RBS/IECC/white roof (3)	0	1.2	0
	BASE CEILING AREA EQUALS FLOOR AREA DIRECTLY UNDER CEILING. AS-BUILT CEILING AREA EQUALS ACTUAL CEILING SQUARE FOOTAGE							
FLOOR	SLAB (PERIMETER)	203	18.8	3816	SLAB	203	18.8	3816.4
	RAISED (AREA)	0	1.38	0		0		0
	FOR SLAB-ON-GRADE USE PERIMITER LENGTH AROUND CONDITIONED FLOOR, FOR RAISED FLOORS USE AREA OVER UNCONDITIONED SPACE							
	INFILTRATION & INTERNAL GAINS	1567	-0.58	-909		1567	-0.58	-909
	USE TOTAL FLOOR AREA OF CONDITIONED SPACE							

TOTAL COMPONENT BASE WINTER POINTS	17847	**TOTAL COMPONENT AS-BUILT WINTER POINTS**	19201

HEATING SYSTEM	BASE HEATING SYSTEM MULTIPLIER	TOTAL BASE WINTER POINTS	BASE HEATING POINTS	TOTAL AS-BUILT WIN. PTS.	AS-BUILT DM (6A-17)	AS-BUILT DSM (6A-20)	AS-BUILT AHU (6A-16)	AS-BUILT CMS (6A-18)	AS-BUILT CCM (6A-21)	AS-BUILT HEATING POINTS
	0.554	17847	**9887**	19201	1.069	0.95	0.95	0.43	0.95	**7567**

TOTAL	BASE COOLING POINTS (From P2)	BASE HEATING POINTS	BASE H/W PTS. (From P2)	0.85	TOTAL BASE PTS. (Enter on P1)	AS-BUILT COOLING POINTS (From P2)	AS-BUILT HEATING POINTS	AS-BUILT H/W PTS. (From P2)	TOTAL AS-BUILT PTS. (Enter on P1)
	5847	9887	7905	23639	**20093**	4425	7567	7713	**19705**

(1) H = HORIZONTAL GLASS (SKYLIGHTS)

(2) FOR GLASS WITH KNOW SHGC, SEE SEC. 2.1.1 OF APPENDIX G-C of the *FBC, Residential.* TINT MULTIPLIERS MAY BE USED FOR GLASS WITH SOLAR SCREENS, FILM, OR TINT

(3) MUST MEET CRITERIA OF APPENDIX G-C4.2.1.5 of the *FBC, Residential.*

6A-10 WINTER OVERHANG FACTORS (WOF)

SELECT BY OR	OH Ratio	.00-.11	.12-.17	.18-.26	.27-.35	.36-.46	.47-.57	.58-.70	.71-.83	.84-1.18	1.19-1.72	1.73-2.73	2.74 & up
	North	1.00	1.000	1.001	1.003	1.005	1.009	1.011	1.014	1.016	1.021	1.024	1.027
	Northeast	1.00	0.998	1.001	1.008	1.015	1.023	1.029	1.035	1.040	1.049	1.056	1.061
	East	1.00	1.007	1.018	1.040	1.069	1.109	1.150	1.198	1.242	1.338	1.429	1.507
	Southeast	1.00	1.014	1.043	1.111	1.202	1.332	1.472	1.635	1.787	2.113	2.412	2.650
	South	1.00	0.994	1.032	1.142	1.308	1.563	1.845	2.175	2.471	3.042	3.450	3.661
	Southwest	1.00	1.006	1.025	1.070	1.131	1.217	1.308	1.413	1.508	1.708	1.888	2.031
	West	1.00	1.002	1.010	1.027	1.049	1.077	1.102	1.128	1.149	1.187	1.217	1.238
	Northwest	1.00	0.999	1.000	1.004	1.008	1.012	1.016	1.019	1.022	1.028	1.032	1.036
	OH Length	0.0'	1.0'	1.5'	2.0'	3.0'	3.5'	4.5'	5.5'	6.5'	9.5'	14.0'	20.0'

6A-11 WALL WINTER POINT MULTIPLIERS (WPM)

FRAME					CONCRETE BLOCK (NORMAL WT)				FACE BRICK				LOG		
	WOOD		STEEL			INTERIOR INSULATION		EXT. INSUL.	R-VALUE	WOOD FR	R-VALUE	BLOCK		6 INCH	8 INCH
R-VALUE	EXT	ADJ	EXT	ADJ	R-VALUE	EXT	ADJ	EXT	0-6.9	12.6	0-2.9	7.9	R-VALUE	EXT	EXT
0-6.9	11.1	10.4	15.1	13.1	0-2.9	11.2	6.8	11.2	7-10.9	4.2	3-6.9	5.7	0-2.9	4.5	3.0
7-10.9	4.4	4.4	7.3	6.6	3-4.9	7.3	5.1	5.6	11-18.9	3.5	7-9.9	3.8	3-6.9	2.8	2.2
11-12.9	3.7	3.6	5.7	5.2	5-6.9	5.7	4.2	4.3	19-25.9	2.2	10 & UP	3.0	7 & UP	2.1	1.7
13-18.9	3.4	3.3	5.2	4.9	7-10.9	4.6	3.5	3.3	26 & UP	1.4					
19-25.9	2.2	2.2	4.6	4.4	11-18.9	3.0	2.6	2.2							
26 & Up	1.5	1.5	2.7	2.6	19-25.9	1.9	1.7								
					26 & UP	1.3	1.2								

6A-12 DOOR WINTER POINT MULTIPLIERS (WPM)

DOOR TYPE	EXTERIOR	ADJACENT
WOOD	12.3	11.5
INSULATED	8.4	8.0

6A-13 CEILING WINTER POINT MULTIPLIERS (WPM)

UNDER ATTIC		SINGLE ASSEMBLY		CONCRETE DECK ROOF		
					CEILING TYPE	
R-VALUE	WPM	R-VALUE	WPM	R-VALUE	EXPOSED	DROPPED
19-21.9	2.70	10-10.9	2.87	10-13.9	3.16	2.91
22-25.9	2.45	11-12.9	2.70	14-20.9	2.31	2.14
26-29.9	2.22	13-18.9	2.40	21 & UP	1.47	1.47
30-37.9	2.05	19-25.9	1.86			
38 & UP	1.81	26-29.9	1.54			
RBS Credit	0.850	30 & UP	1.43			
IRCC Credit	0.912					
White Roof Credit	1.044					

6A-14 FLOOR WINTER POINT MULTIPLIERS (WPM)

SLAB-ON-GRADE EDGE INSULATION		RAISED CONCRETE		RAISED WOOD			
					POST OR PIER CONSTRUCTION	STEM WALL w/UNDER FLOOR INSULATION	ADJACENT
R-VALUE	WPM	R-VALUE	WPM	R-VALUE	WPM	WPM	WPM
0-2.9	18.8	0-2.9	9.9	0-6.9	5.77	3.5	10.4
3-4.9	9.3	3-4.9	5.1	7-10.9	2.20	1.6	4.4
5-6.9	7.6	5-6.9	3.6	11-18.9	1.55	1.2	3.6
7 & UP	7.0	7 & UP	2.9	19 & UP	0.88	.8	2.2

6A-15 INFILTRATION & INTERNAL GAINS (WPM)

Air Infiltration	2.13
Internal Gains	-2.72
Infiltration/Internal Gains (Combined)	-0.58

6A-16 AIR HANDLER MULTIPLIERS (WPM)

Located in garage	1.00
Located in conditioned area	0.93
Located on exterior of building	1.07
Located in attic	1.10

6A-17 DUCT MULTIPLIERS (DM)

SUPPLY DUCTS IN:	DUCT R-VALUE	RETURN DUCTS IN:				
		Unconditioned space	Attic/ RBS	Attic/ IRCC	Attic/ Cool roof	Conditioned space
Unconditioned Space	4.2	1.093	1.086	1.088	1.089	1.081
	6.0	1.069	1.064	1.065	1.066	1.060
	8.0	1.053	1.049	1.051	1.051	1.046
Attic/Radiant Barrier (RBS)	4.2	1.067	1.059	—	—	1.052
	6.0	1.051	1.045	—	—	1.040
	8.0	1.040	1.036	—	—	1.032
Attic/Interior Radiation Control Coatings (IRCC)	4.2	1.096	—	1.088	—	1.077
	6.0	1.072	—	1.066	—	1.057
	8.0	1.056	—	1.052	—	1.045
Attic/Cool Roof	4.2	1.104	—	—	1.096	1.083
	6.0	1.076	—	—	1.071	1.061
	8.0	1.059	—	—	1.055	1.048
Conditioned Space	4.2	1.008	1.007	1.010	1.008	1.000
	6.0	1.006	1.005	1.007	1.006	1.000
	8.0	1.005	1.004	1.006	1.005	1.000

6A-18 HEATING SYSTEM MULTIPLIERS (HSM) All Climate Zones

SYSTEM TYPE		HEATING SYSTEM MULTIPLIERS (HSM)							
Central Heat Pump Units	HSPF	7.4-7.6	7.7-7.8	7.9-8.3	8.4-8.8	8.9-9.3	9.4-9.8	9.9-10.3	10.4-10.8
	HSM	.46	.44	.43	.41	.38	.36	.34	.33
PTHP	COP	2.50-1.69	2.70-2.89	2.90-3.09	3.10-3.29	3.30-3.49	3.50-3.69	3.70-3.89	3.90-4.19
	HSM	.40	.37	.34	.32	.30	.29	.27	.26
Gas Heating	AFUE	76-.77	78	79-.82	83-.85	86-.89	90-.92	93-.95	96-.98
	HSM	.46	.44	.43	.41	.38	.36	.34	.33
Electric Strip	1.0								

6A-19 COOLING CREDIT MULTIPLIERS

SYSTEM TYPE	Cooling credit multipliers (CCM)
Ceiling Fans	.95*
Cross Ventilation	.95*
Whole House Fan	.95*
Multizone	.95
Programmable Thermostat	.95

*Credit may be taken for only one system type concurrently.

6A-20 AIR DISTRIBUTION SYSTEM CREDIT MULTIPLIERS

TYPE CREDIT	Prescriptive requirements	Multiplier
Air-tight Duct Credit[1]	Appx G-C5.2.2.1.1	1.00
Factory-sealed AHU Credit[2]	Appx G-C5.2.2.1.2	0.95

[1]Duct Sealing Multiplier (DSM) shall be 1.15 (summer) or 1.17 (winter) unless Air-tight Duct Credit is demonstrated by test report.
[2]Multiply Factory-sealed AHU credit by summer (Table 6A-7) or winter (Table 6A-16) AHU multiplier. Insert total in the "As-Built AHU" box on page 2 or 4.

6A-21 HEATING CREDIT MULTIPLIERS (HCM)

SYSTEM TYPE		HEATING CREDIT MULTIPLIERS (HCM)
Programmable Thermostat	HCM	.95
Multizone	HCM	.95

6A-22 HOT WATER MULTIPLIERS (HWM)

SYSTEM TYPE									
Electric Resistance	EF	.80-.81	.82-.83	.84-.85	.86-.87	.88-.90	.91-.93	.94-.96	.97 &Up
	HWM	3020	2946	2876	2809	2746	2655	2571	2491
Gas Water Heating	EF	.54	.55	.56	.57	.58	.59	.60	.61
	HWM	3020	2946	2876	2809	2746	2655	2571	2491
	EF	.62-.63	.64-.65	.66-.70	.71-.75	.76-.80	.81-.83	.84-.86	.87 & Up
	HWM	2346	2217	2101	1738	1456	1196	1055	933

6A-23 HOT WATER CREDIT MULTIPLIERS (HWCM)

SYSTEM TYPE		HOT WATER CREDIT MULTIPLIERS (HWCM)				
Heat Recovery Unit	With	Air Conditioner		Heat Pump		
	HWCM	.84		.78		
Add-on Dedicated Heat Pump (without tank)	EF	2.0-2.49	2.5-2.99	3.0-3.49	3.5 & Up	
	HWCM	.44	.35	.29	.25	
Add-on Solar Water Heater (without tank)	EF	1.0-1.9	2.0-2.9	3.0-3.9	4.0-4.9	5.0 & Up
	HWCM	.84	.42	.28	.21	.17

NOTE: An HWM must be used in conjunction with all HWCM. See Table 6A-22. EF Means Energy Factor.

6A-24 INFILTRATION REDUCTION COMPLIANCE CHECKLIST

COMPONENTS	SECTION	REQUIREMENTS FOR EACH PRACTICE	CHECK
Exterior Windows & Doors	N1106.AB.1.1	Max: 3 cfm/sq. ft. window area; .5cfm/sq. ft. door area.	
Exterior & Adjacent Walls	N1106.AB.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; CFM utility penetrations; between wall panels & top/bottom plates; between walls & floor. EXCEPTION: Frame walls where a continous infiltration barrier is installed that extends from, and is sealed to, the foundation to the top plate.	
Floors	N1106.AB.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	N1106.AB.1.2.3	Seal: 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	N1106.AB.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.	
Multiple Story Houses	N1106.AB.1.2.5	Air barrier on perimeter of floor cavity between floors.	
Additional Infiltration reqts	N1106.AB.1.3	Exhaust fans vented to outdoors, dampers; combustion space heaters comply with NFPA, have combustion air.	

6A-25 OTHER PRESCRIPTIVE MEASURES (must be met or exceeded by all residences.)

COMPONENTS	SECTION	REQUIREMENTS	CHECK
Water Heaters	N1112.AB.3	Comply with efficiency requirements in Table N1112.AB.3. Switch or clearly marked circuit breaker (electric) or cutoff (gas) must be provided. External or built-in heat trap required for vertical pipe risers.	
Swimming Pools & Spas	N1112.AB.2.3	Spas & heated pools must have covers (except solar heated). Noncommercial pools must have a pump timer. Gas spa & pool heaters must have a minimum thermal efficiency of 78%.	
Shower Heads	N1112.AB.2.4	Water flow must be restricted to no more than 2.5 gallons per minute at 80 psig.	
Air Distribution Systems	N1110.AB	All ducts, fittings, mechanical equipment and plenum chambers shall be mechanically attached, sealed, insulated, and installed in accordance with the criteria of Section N1110. Ducts in unconditioned attics: R-6 minimum insulation.	
HVAC Controls	N1107.AB.2	Separate readily accessible manual or automatic thermostat for each system.	
Insulation	N1104.AB.1 N1102.B.1.1	Ceilings–Min. R-19. Common walls–Frame R-11 or CBS R-3 both sides. Common ceiling & floors R-11.	

ESTIMATED ENERGY PERFORMANCE INDEX* =
The lower the Energy Performance Index, the more efficient the home.

.	New Home or addition	new	11.	Ducts, Location & Insulation Level	
.	Single family or multiple family	single		a. Supply ducts: attic	R= 6
.	Number of units, (if multi-family)			b. Return ducts: attic	R= 6
.	Number of bedrooms	3	12.	Cooling systems	Capacity: 40 kBtu/hr
.	Is this a worst case? (yes or no)	yes		a. Split system	SEER: 13
.	Conditioned floor area	1567 sq. ft.		b. Single package	SEER:
.	Glass type & area			c. Ground/water source	COP:
	a. U-Factor: Double Default	282.3 sq. ft.		d. Room unit	EER:
	(Or single or double Default)	sq. ft.		e. PTAC	EER:
	b. SHGC: Clear	sq. ft.		f. Gas-driven	COP:
	(Or clear or tint Default)	sq. ft.	13.	Heating Systems	Capacity: 40 kBtu/hr
.	Floor types, Insulation level			a. Split system heat pump	HSPF: 7.8
	a. Slab-on-grade, edge insulation	R= 0		b. Single package heat pump	HSPF:
	b. Wood, raised	R=		c. Electric resistance	COP:
	c. Concrete, raised	R=		d. Gas furnace, natural gas	AFUE:
.	Wall types, Insulation level			e. Gas furnace, LPG	AFUE:
	Exterior			f. Gas-driven heat pump	Recov. EFF.:
	a. Wood frame	R= 13	14.	Water heating systems	
	b. Metal frame	R=		a. Electric resistance	EF: .94
	c. Concrete block	R=		b. Gas fired, natural gas	EF:
	d. Log	R=		c. Gas fired, LPG	EF:
	e. Other	R=		d. Solar System with tank	EF:
	Adjacent			e. Dedicated heat pump with tank	EF:
	a. Wood frame	R= 13		f. Heat recovery unit	HeatRec%
	b. Metal frame	R=		g. Other:	
	c. Concrete block	R=	15.	HVAC credits claimed (Alternate Point System Method only)	
	d. Log	R=		a. Ceiling fans	
	e. Other	R=		b. Cross ventilation	
0.	Ceiling types, Insulation level			c. Whole house fan	
	a. Under attic	R= 30		d. Multizone cooling credit	
	b. Single assembly	R=		e. Multizone heating credit	
	c. Knee walls/skylight walls	R=		f. Programmable thermostat	PT
	d. Radiant barrier installed	R=			

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

Builder Signature: _____ Date: 2/6/12

Address of New Home: 158 SW Woodleaf Ct City/FL Zip LC, FL 32055