PRODUCT APPROVAL SPECIFICATION SHEET

As required by Florida Statute 553.842 and Florida Administrative Code 9B-72, please provide the information and approval numbers on the building components listed below if they will be utilized on the construction project for which you are applying for a building permit. We recommend you contact your local product supplier should you not know the product approval number for any of the applicable listed products.

Category/Subcategory	Manufacturer	Product Description	Approval Number(s)
1. EXTERIOR DOORS			
A. SWINGING	Dyke	Inswing/outswing steel	FL4904-R5
B. SLIDING			
C. SECTIONAL			
D. ROLL UP			
E. AUTOMATIC			
F. OTHER			
2. WINDOWS			
A. SINGLE HUNG	MI	Vinyl Single Hung	~~FL12250-R11~~ 15217
B. HORIZONTAL SLIDER			
C. CASEMENT			
D. DOUBLE HUNG			
E. FIXED			
F. AWNING			
G. PASS THROUGH			
H. PROJECTED			
I. MULLION			
J. WIND BREAKER			
K. DUAL ACTION			
L. OTHER			
3. PANEL WALL			
A. SIDING	Certainteed	Fibercement siding	5734-R3
B. SOFFITS			
C. EIFS			
D. STOREFRONTS			
E. CURTAIN WALLS			
F. WALL LOUVER			
G. GLASS BLOCK			
H. MEMBRANE			
I. GREENHOUSE			
J. OTHER			
4. ROOFING PRODUCTS			
A. ASPHALT SHINGLES			
B. UNDERLAYMENTS			
C. ROOFING FASTENERS			
D. NON-STRUCTURAL METAL ROOFING	Gulf Coast Supply	26 G.A Tuff Rib	11651.22 R1
E. WOOD SHINGLES AND SHAKES			
F. ROOFING TILES			
G. ROOFING INSULATION			
H. WATERPROOFING			
I. BUILT UP ROOFING ROOF SYSTEMS			
J. MODIFIED BITUMEN			
K. SINGLE PLY ROOF SYSTEMS			
L. ROOFING SLATE			
M. CEMENTS-ADHESIVES COATINGS			

COLUMBIA COUNTY BUILDING DEPARTMENT
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Code Compliance
PLANS EXAMINER

Category/Subcategory	Manufacturer	Product Description	Approval Number(s)

N. LIQUID APPLIED ROOF SYSTEMS			
O. ROOF TILE ADHESIVE			
P. SPRAY APPLIED POLYURETHANE ROOF			
Q. OTHER			
5. SHUTTERS			
A. ACCORDION			
B. BAHAMA			
C. STORM PANELS			
D. COLONIAL			
E. ROLL-UP			
F. EQUIPMENT			
G. OTHERS			
6. SKYLIGHTS			
A. SKYLIGHT			
B. OTHER			
7. STRUCTURAL COMPONENTS			
A. WOOD CONNECTORS/ ANCHORS	Simpson	LSTA-MSTA-ESP4	FL 13872-R1
B. TRUSS PLATES			
C. ENGINEERED LUMBER			
D. RAILING			
E. COOLERS-FREEZERS			
F. CONCRETE ADMIXTURES			
G. MATERIAL			
H. INSULATION FORMS			
I. PLASTICS			
J. DECK-ROOF			
K. WALL			
L. SHEDS			
M. OTHER			
8. NEW EXTERIOR ENVELOPE PRODUCTS			
A.			
B.			

The products listed below did not demonstrate product approval at plan review. I understand that at the time of inspection of these products, the following information must be available to the inspector on the jobsite; 1) copy of the product approval, 2) the performance characteristics which the product was tested and certified to comply with, 3) copy of the applicable manufacturers installation requirements. Further, I understand these products may have to be removed if approval cannot be demonstrated during inspection.

_____

_____

_____ APPLICANT SIGNATURE

_____ DATE

COLUMBIA COUNTY BUILDING DEPARTMENT

RESIDENTIAL CHECK LIST

MINIMUM PLAN REQUIREMENTS: FLORIDA BUILDING CODE RESIDENTIAL 2014 EFFECTIVE 1 JULY 2015 AND THE NATIONAL ELECTRICAL 2011 EFFECTIVE 1 JULY 2015

ALL REQUIREMENTS ARE SUBJECT TO CHANGE

ALL BUILDING PLANS MUST INDICATE COMPLIANCE WITH THE CURRENT 2014 FLORIDA BUILDING CODES RESIDENTIAL, EFFECTIVE 1 JULY 2015. NATIONAL ELECTRICAL CODE 2011 EFFECTIVE 1 JULY 2015. 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 FLORIDA BUILDING CODE FIGURE 1609-A THROUGH 1609-C ULTIMATE DESIGN WIND SPEEDS FOR RISK CATEGORY AND BUILDINGS AND OTHER STRUCTURES

Revised 7/1/15

	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.)**	2128	**Total (Sq. Ft.) under roof** 3238.70	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 are 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 FBC 1405.13.2 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 and chapter 24 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 320)	✓		

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_____ 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 318: PROTECTION AGAINST TERMITES

36	Indicate on the foundation plan if soil treatment is used for subterranean termite prevention or Submit 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 & intermediate 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 302.6			✓
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 IRC 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 FBCB 2308.9.5	✓		
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 802.1.7.1 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 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	✓		

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 Energy Conservation R.401

Residential construction shall comply with this code by using the following compliance methods in the Residential buildings compliance methods. **Two of the required forms are to be submitted**, *R 402-2014 As an alternative to the computerized Compliance Method A, the Alternate Residential Point System Method hand calculation, Alternate Form R 402-2014, 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	✓		
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. NEC 210.12A	✓		

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 is to be completed, by following the Checklist all supporting documents must be submitted. There is a **$15.00** application fee. The completed application with attached documents and application fee can be mailed.	✓		
93	**Parcel Number** The parcel number (Tax ID number) from the Property Appraisers Office (386) 758-1083 is required. A copy of property deed is also required. www.columbiacountyfla.com	✓		
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 City Water and/or Sewer letter. Call 386-752-2031			✓
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 approved FIRM Flood Maps show the property is in a AE, Floodway, and AH flood zones. Additionally One Foot Rise letters are required for AE and AH zones. In the Floodway Flood zones a Zero Rise letter is required.	✓		
100	A Flood development permit is also required for AE, Floodway & AH. 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. County Public Works Dept. determines the size and length of every culvert before instillation and completes a final inspection before permanent power is granted. If the applicant feels that a culvert is not needed, they may apply for a culvert waiver (**$50.00**) Separate Check when issued. If the project is to be located on an F.D.O.T. maintained road, then an F.D.O.T. access permit is required.	✓		
102	**911 Address:** An application for a 911address must be applied for and **received** through the Columbia County Emergency Management Office of 911 Addressing Department (386) 758-1125.	✓		

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.

Section R101.2.1 of the Florida Building Code Residential:

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

Manual S Compliance Report
Entire House

Job: 1
Date: Jun 06, 2016
By: Derick Williams
Plan: 1

Project Information

For: Morgan, Mike Todd Const
Lake City, Fl

Cooling Equipment

Design Conditions

Outdoor design DB:	92.0°F	Sensible gain:	16963	Btuh	Entering coil DB:	75.0°F
Outdoor design WB:	76.3°F	Latent gain:	3533	Btuh	Entering coil WB:	62.5°F
Indoor design DB:	75.0°F	Total gain:	20496	Btuh		
Indoor RH:	50%	Estimated airflow:	776	cfm		

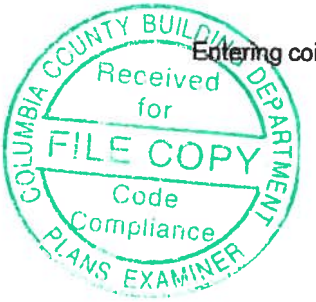
Manufacturer's Performance Data at Actual Design Conditions

Equipment type:	Split ASHP				
Manufacturer:	Generic		Model:	SEER 14.0, HSPF 8.1	
Actual airflow:	776	cfm			
Sensible capacity:	0	Btuh	0% of load		
Latent capacity:	0	Btuh	0% of load		
Total capacity:	0	Btuh	0% of load	SHR:	0%

Heating Equipment

Design Conditions

Outdoor design DB:	33.4°F	Heat loss:	18314	Btuh	Entering coil DB:	68.0°F
Indoor design DB:	68.0°F					



Manufacturer's Performance Data at Actual Design Conditions

Equipment type:	Split ASHP						
Manufacturer:	Generic			Model:	SEER 14.0, HSPF 8.1		
Actual airflow:	776	cfm					
Output capacity:	24000	Btuh	131% of load				
Supplemental heat required:		0	Btuh				

Capacity balance:	23	°F			
Economic balance:	-99	°F			

Backup equipment type:	Elec strip					
Manufacturer:			Model:			
Actual airflow:	776	cfm				
Output capacity:	5.4	kW	100% of load	Temp. rise:	0	°F

The above equipment was selected in accordance with ACCA Manual S.

Residential Plans Examiner Review Form for HVAC System Design (Loads, Equipment, Ducts)

Form RPER 1 15 Mar 09

Columbia
Header Information

Contractor:

Mechanical license:

Building plan #: 1

Home address (Street or Lot#, Block, Subdivision): , Entire House

REQUIRED ATTACHMENTS	ATTACHED
Manual J1 Form (and supporting worksheets):	Yes ☐ No ☐
or MJ1AE Form* (and supporting worksheets):	Yes ☐ No ☐
OEM performance data (heating, cooling, blower):	Yes ☐ No ☐
Manual D Friction Rate Worksheet:	Yes ☐ No ☐
Duct distribution sketch:	Yes ☐ No ☐

HVAC LOAD CALCULATION (IRC M1401.3)

Design Conditions

Winter Design Conditions

Outdoor temperature:	33	°F
Indoor temperature:	68	°F
Total heat loss:	18314	Btuh

Summer Design Conditions

Outdoor temperature:	92	°F
Indoor temperature:	75	°F
Grains difference:	47 gr/lb @ 50% RH	
Sensible heat gain:	17488	Btuh
Latent heat gain:	3642	Btuh
Total heat gain:	21130	Btuh

Building Construction Information

Building

Orientation: Front Door faces North
North, East, West, South, Northeast, Northwest, Southeast, Southwest

Number of bedrooms:	1	
Conditioned floor area:	1968	ft²
Number of occupants:	4	

Windows

Eave overhang depth:	2.0	ft
Internal shade: (Blinds, drapes, etc.)	blinds	
Number of skylights:	0	

HVAC EQUIPMENT SELECTION (IRC M1401.3)

Heating Equipment Data

Equipment type: (Furnace, Heat pump, Boiler, etc.)	Split ASHP
Model:	Generic SEER 14.0, HSPF 8.1
Heating output capacity: (Heat pumps - capacity at winter design outdoor conditions)	0 Btuh
Aux. heating output capacity:	18314 Btuh

Cooling Equipment Data

Equipment type: (Air Conditioner, Heat pump, etc.)	Split ASHP
Model:	Generic SEER 14.0, HSPF 8.1+
Total cooling capacity:	0 Btuh
Sensible cooling capacity:	0 Btuh
Latent cooling capacity:	0 Btuh

Blower Data

Heating cfm:	776
Cooling cfm:	776
Static pressure: (Fan's rated external static pressure for design airflow)	0.50 in H2O

HVAC DUCT DISTRIBUTION SYSTEM DESIGN (IRC M1601.1)

Design airflow:	776	cfm	Longest supply duct:	290	ft	Duct Materials Used	
Equipment design ESP:	0.50	in H2O	Longest return duct:	0	ft	Trunk duct:	Round flex vinyl
Total device pressure losses:	0	in H2O	**Total effective length (TEL):**	290	ft		
Available static pressure (ASP):	0.50	in H2O	**Friction rate:** (Friction Rate = ASP ÷ (TEL x 100))	0.173	in/100ft	Branch duct:	Round flex vinyl

I declare the load calculation, equipment, equipment selection and duct design were rigorously performed based on the building plan listed above. I understand the claims made on these forms will be subject to review and verification.

Contractor's printed name: _____

Contractor's signature: _____ Date: _____

Reserved for County, Town Municipality or Authority having jurisdiction use.

*Home qualifies for MJ1AE Form based on Abridged Edition Checklist

Load Short Form
Entire House

Job: 1
Date: Jun 06, 2016
By: Derick Williams
Plan: 1

Project Information

For: Morgan, Mike Todd Const
Lake City, Fl

Design Information

	Htg	Clg
Outside db (°F)	33	92
Inside db (°F)	68	75
Design TD (°F)	35	17
Daily range	-	M
Inside humidity (%)	50	50
Moisture difference (gr/lb)	29	47

Infiltration

Method	Simplified
Construction quality	Average
Fireplaces	0

HEATING EQUIPMENT

Make	Generic
Trade	
Model	SEER 14.0, HSPF 8.1
AHRI ref	
Efficiency	8.1 HSPF
Heating input	
Heating output	23881 Btuh @ 47°F
Temperature rise	28 °F
Actual air flow	776 cfm
Air flow factor	0.042 cfm/Btuh
Static pressure	0.50 in H2O
Space thermostat	

COOLING EQUIPMENT

Make	Generic
Trade	
Cond	SEER 14.0, HSPF 8.1
Coil	
AHRI ref	
Efficiency	12.2 EER, 14 SEER
Sensible cooling	16800 Btuh
Latent cooling	7200 Btuh
Total cooling	24000 Btuh
Actual air flow	776 cfm
Air flow factor	0.046 cfm/Btuh
Static pressure	0.50 in H2O
Load sensible heat ratio	0.83

ROOM NAME	Area (ft²)	Htg load (Btuh)	Clg load (Btuh)	Htg AVF (cfm)	Clg AVF (cfm)
br1	238	2342	1150	99	53
living	210	2729	3993	116	183
mech	45	497	200	21	9
utility	72	96	519	4	24
toilet	20	464	185	20	8
bath1	55	711	655	30	30
bath2	36	48	22	2	1
hall	54	363	148	15	7
hall2	44	58	27	2	1
kitchen	210	2364	2940	100	134
loft2	304	3390	2812	144	129
clos2	50	280	123	12	6
clos6	20	209	88	9	4
clos5	20	15	11	1	1
loft1	340	3514	2870	149	131
bath3	50	391	502	17	23

Calculations approved by ACCA to meet all requirements of Manual J 8th Ed.

bath4	50	391	502	17	23
utilty	25	19	14	1	1
clos4	40	224	98	9	5
clos3	30	168	74	7	3
stor	25	19	14	1	1
hall3	30	22	16	1	1
Entire House	1968	18314	16963	776	776
Other equip loads		0	0		
Equip. @ 0.97 RSM			16454		
Latent cooling			3533		
TOTALS	1968	18314	19987	776	776

Calculations approved by ACCA to meet all requirements of Manual J 8th Ed.

Duct System Summary
Entire House

Job: 1
Date: Jun 06, 2016
By: Derick Williams
Plan: 1

Project Information

For: Morgan, Mike Todd Const
Lake City, Fl

	Heating	Cooling
External static pressure	0.50 in H2O	0.50 in H2O
Pressure losses	0 in H2O	0 in H2O
Available static pressure	0.50 in H2O	0.50 in H2O
Supply / return available pressure	0.250 / 0.250 in H2O	0.250 / 0.250 in H2O
Lowest friction rate	0.173 in/100ft	0.173 in/100ft
Actual air flow	776 cfm	776 cfm
Total effective length (TEL)	290 ft	

Supply Branch Detail Table

Name		Design (Btuh)	Htg (cfm)	Clg (cfm)	Design FR	Diam (in)	H x W (in)	Duct Matl	Actual Ln (ft)	Ftg.Eqv Ln (ft)	Trunk
bath1	h	711	30	30	0.314	4.0	0x0	VlFx	29.0	130.0	st6
bath2	h	48	2	1	0.379	4.0	0x0	VlFx	22.0	110.0	st6
bath3	c	502	17	23	0.209	4.0	0x0	VlFx	39.0	200.0	st4
bath4	c	502	17	23	0.258	4.0	0x0	VlFx	34.0	160.0	st4
br1	h	2342	99	53	0.286	6.0	0x0	VlFx	25.0	150.0	st6
clos2	h	280	12	6	0.190	4.0	0x0	VlFx	43.0	220.0	st4
clos3	h	168	7	3	0.177	4.0	0x0	VlFx	43.0	240.0	st4
clos4	h	224	9	5	0.254	4.0	0x0	VlFx	37.0	160.0	st5
clos5	h	15	1	1	0.252	4.0	0x0	VlFx	38.0	160.0	st5
clos6	h	209	9	4	0.246	4.0	0x0	VlFx	43.0	160.0	st5
hall	h	363	15	7	0.243	4.0	0x0	VlFx	26.0	180.0	st6A
hall2	h	58	2	1	0.294	4.0	0x0	VlFx	30.0	140.0	st2
hall3	h	22	1	1	0.237	4.0	0x0	VlFx	31.0	180.0	st4
kitchen	c	2940	100	134	0.287	7.0	0x0	VlFx	34.1	140.0	st2
living	c	3993	116	183	0.286	8.0	0x0	VlFx	34.7	140.0	st2
loft1	h	3514	149	131	0.235	7.0	0x0	VlFx	43.0	170.0	st5
loft2	h	3390	144	129	0.173	7.0	0x0	VlFx	39.5	250.0	st4
mech	h	497	21	9	0.286	4.0	0x0	VlFx	35.0	140.0	st2
stor	h	19	1	1	0.215	4.0	0x0	VlFx	32.0	200.0	st4
toilet	h	464	20	8	0.220	4.0	0x0	VlFx	37.0	190.0	st6A
utility	c	519	4	24	0.292	4.0	0x0	VlFx	31.0	140.0	st2
utilty	h	19	1	1	0.267	4.0	0x0	VlFx	27.0	160.0	st4

Project Summary
Entire House

Job: 1
Date: Jun 06, 2016
By: Derick Williams
Plan: 1

Project Information

For: Morgan, Mike Todd Const
Lake City, Fl

Notes:

Design Information

Weather: Gainesville Regional AP, FL, US

Winter Design Conditions

Outside db	33 °F
Inside db	68 °F
Design TD	35 °F

Summer Design Conditions

Outside db	92 °F
Inside db	75 °F
Design TD	17 °F
Daily range	M
Relative humidity	50 %
Moisture difference	47 gr/lb

Heating Summary

Structure	18314 Btuh
Ducts	0 Btuh
Central vent (0 cfm)	0 Btuh
Humidification	0 Btuh
Piping	0 Btuh
Equipment load	18314 Btuh

Sensible Cooling Equipment Load Sizing

Structure	16963 Btuh
Ducts	0 Btuh
Central vent (0 cfm)	0 Btuh
Blower	0 Btuh
Use manufacturer's data	n
Rate/swing multiplier	0.97
Equipment sensible load	16454 Btuh

Infiltration

Method	Simplified
Construction quality	Average
Fireplaces	0

	Heating	Cooling
Area (ft²)	1968	1968
Volume (ft³)	19680	19680
Air changes/hour	0.50	0.26
Equiv. AVF (cfm)	164	85

Latent Cooling Equipment Load Sizing

Structure	3533 Btuh
Ducts	0 Btuh
Central vent (0 cfm)	0 Btuh
Equipment latent load	3533 Btuh
Equipment total load	19987 Btuh
Req. total capacity at 0.70 SHR	2.0 ton

Heating Equipment Summary

Make	Generic
Trade	
Model	SEER 14.0, HSPF 8.1
AHRI ref	
Efficiency	8.1 HSPF
Heating input	
Heating output	23881 Btuh @ 47°F
Temperature rise	28 °F
Actual air flow	776 cfm
Air flow factor	0.042 cfm/Btuh
Static pressure	0.50 in H2O
Space thermostat	

Cooling Equipment Summary

Make	Generic
Trade	
Cond	SEER 14.0, HSPF 8.1
Coil	
AHRI ref	
Efficiency	12.2 EER, 14 SEER
Sensible cooling	16800 Btuh
Latent cooling	7200 Btuh
Total cooling	24000 Btuh
Actual air flow	776 cfm
Air flow factor	0.046 cfm/Btuh
Static pressure	0.50 in H2O
Load sensible heat ratio	0.83

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Supply Trunk Detail Table

Name	Trunk Type	Htg (cfm)	Clg (cfm)	Design FR	Veloc (fpm)	Diam (in)	H x W (in)	Duct Material	Trunk
st2	Peak AVF	609	677	0.173	485	16.0	0 x 0	VinlFlx	st1
st6	Peak AVF	166	99	0.220	477	8.0	0 x 0	VinlFlx	st1
st1	Peak AVF	776	776	0.173	556	16.0	0 x 0	VinlFlx	
st6A	Peak AVF	35	15	0.220	401	4.0	0 x 0	VinlFlx	st6
st3	Peak AVF	366	326	0.173	466	12.0	0 x 0	VinlFlx	st2
st4	Peak AVF	198	185	0.173	568	8.0	0 x 0	VinlFlx	st3
st5	Peak AVF	168	140	0.235	481	8.0	0 x 0	VinlFlx	st3

Return Branch Detail Table

Name	Grill Size (in)	Htg (cfm)	Clg (cfm)	TEL (ft)	Design FR	Veloc (fpm)	Diam (in)	H x W (in)	Stud/Joist Opening (in)	Duct Matl	Trunk
rb1	0x 0	776	776	0	0	0	0	0x 0		VlFx	

FLORIDA BUILDING CODE, ENERGY CONSERVATION

Residential Building Thermal Envelope Approach

FORM R402-2014 — **Climate Zone ☐**

Scope: Compliance with Section R402.1.1 of the *Florida Building Code, Energy Conservation*, shall be demonstrated by the use of Form R402 for single- and multiple-family residences of three stories or less in height, additions to existing residential buildings, alterations, renovations, and building systems in existing buildings, as applicable. To comply, a building must meet or exceed all of the energy efficiency requirements on Table R402A and all applicable mandatory requirements summarized in Table R402B of this form. If a building does not comply with this method, or by the UA Alternative method, it may still comply under Section R405 of the *Florida Building Code, Energy Conservation*.

PROJECT NAME: AND ADDRESS:	BUILDER:
OWNER: DAVID & BRYN MORGAN	PERMITTING OFFICE:
	JURISDICTION NUMBER:
	PERMIT NUMBER:

General Instructions:

1. Fill in all the applicable spaces of the "To Be Installed" column on Table R402A with the information requested. All "To Be Installed" values must be equal to or more efficient than the required levels.
2. Complete page 1 based on the "To Be Installed" column information.
3. Read the requirements of Table R402B and check each box to indicate your intent to comply with all applicable items.
4. Read, sign and date the "Prepared By" certification statement at the bottom of page 1. The owner or owner's agent must also sign and date the form.

1.	New construction, addition, or existing building	1.	NEW
2.	Single-family detached or multiple-family attached	2.	SF
3.	If multiple-family, number of units covered by this submission	3.	—
4.	Is this a worst case? (yes/no)	4.	NO
5.	Conditioned floor area (sq. ft.)	5.	1,064 Per floor
6.	Windows, type and area		
	a) *U*-factor:	6a.	0.65
	b) Solar Heat Gain Coefficient (SHGC)	6b.	0.25
	c) Area	6c.	135
7.	Skylights		
	a) *U*-factor:	7a.	—
	b) Solar Heat Gain Coefficient (SHGC)	7b.	—
8.	Floor type, area or perimeter, and insulation:		
	a) Slab-on-grade (*R*-value)	8a.	—
	b) Wood, raised (*R*-value)	8b.	1064
	c) Wood, common (*R*-value)	8c.	—
	d) Concrete, raised (*R*-value)	8d.	—
	e) Concrete, common (*R*-value)	8e.	—
9.	Wall type and insulation:		
	a) Exterior: 1. Wood frame (Insulation *R*-value)	9a1.	13
	2. Masonry (Insulation *R*-value)	9a2.	—
	b) Adjacent: 1. Wood frame (Insulation *R*-value)	9b1.	—
	2. Masonry (Insulation *R*-value)	9b2.	—
10.	Ceiling type and insulation		
	a) Attic (Insulation R-value)	10a.	30
	b) Single assembly (Insulation *R*-value)	10b.	—
11.	Air distribution system:		
	a) Duct location, insulation	11a.	ATTIC CONDITIONED
	b) AHU location	11b.	
	c) Total duct leakage. Test report attached	11c.	cfm/100 s.f. Yes ☐ No ☐
12.	Cooling system: a) type	12a.	CENTRAL
	b) efficiency	12b.	SEER 14.0
13.	Heating system: a) type	13a.	HEAT PUMP
	b) efficiency.	13b.	8.2
14.	HVAC sizing calculation: attached	14.	Yes ☐ No ☒
15.	Water heating system: a) type	15a.	ELECTRIC
	b) efficiency	15b.	0.90

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

I hereby certify that the plans and specifications covered by this form are in compliance with the *Florida Building Code, Energy Conservation*.
PREPARED BY: Curtis Kuen Date 5/10/16
I hereby certify that this building is in compliance with the *Florida Building Code, Energy Conservation*.
OWNER/AGENT:_____ Date:_____

Review of plans and specifications covered by this form indicate compliance with the *Florida Building Code, Energy Conservation*. Before construction is complete, this building will be inspected for compliance in accordance with Section 553.908, F.S.
CODE OFFICIAL:_____
Date:_____

TABLE R402A

BUILDING COMPONENT	PRESCRIPTIVE REQUIREMENTS[1]		INSTALLED VALUES
	Climate Zone 1	Climate Zone 2	
Windows: Skylights	*U*-Factor = 0.65[2] SHGC = 0.25 *U*-factor = 0.75 SHGC = 0.30	*U*-Factor = 0.40[2] SHGC = 0.25 *U*-factor = 0.65 SHGC = 0.30	*U*-Factor = SHGC = *U*-factor = SHGC =
Doors: Exterior door	*U*-factor = 0.65[3]	*U*-factor = 0.40[3]	*U*-factor=
Floors: Slab-on-Grade Over unconditioned spaces[4]	 NR R-13	 NR R-13	 *R*-Value =
Walls[4] : Ext. and Adj. Frame Mass Insulation on wall interior: Insulation on wall exterior	 R-13 R-4 R-3	 R-13 R-6 R-4	 *R*-Value = *R*-Value = *R*-Value =
Ceilings[4]:	R=30	R=38	*R*-Value =
Air infiltration:	Blower door test is required on the building envelope to verify leakage ≤ 5 ACH; test report provided to code official.		Total leakage = ACH Test report Attached? Yes ☐ No ☐
Air distribution system[5]: Air handling unit Duct *R*-value Air leakage[5] Duct test Ducts in conditioned space	 Not allowed in attic *R*-value ≥ R-8 (supply in attics) or ≥ R-6 (all other duct locations)- Postconstruction test: Total leakage ≤ 4 cfm/100 s.f. Rough-in test Total leakage ≤ 3 cfm/100 s.f. Test not required if all ducts and AHU are in conditioned space		 Location: *R*-Value = 8 Total leakage = _____ cfm/100s.f. Test report Attached? Yes ☐ No ☐ Location:
Air conditioning system: Central system ≤ 65,000 Btu/h Room unit or PTAC Other:	Minimum federal standard required by NAECA[6]. SEER 13.0 EER [from Table C403.2.3(3)] See Tables C403.2.3(1)-(11)		 SEER= 14.0 EER = —
Heating system: Heat pump ≤ 65,000 Btu/h Gas furnace, non-weatherized Oil furnace, non-weatherized Other:	Minimum federal standard required by NAECA[6] HSPF 7.7 (before 1/1/15); HSPF 8.2 (as of 1/1/15) AFUE 80% AFUE 83%		 HSPF = 8.2 AFUE = — AFUE = —
Water heating system (storage type): Electric[7] Gas fired[8] Other (describe):	Minimum federal standard required by NAECA[6] 40 gal: EF = 0.92 50 gal: EF = 0.90 40 gal: EF = 0.59 50 gal: EF = 0.58		 Gallons = EF = Gallons = EF =

NR = No requirement.

(1) Each component present in the As Proposed home must meet or exceed each of the applicable performance criteria in order to comply with this code using this method.

(2) For impact rated fenestration complying with Section R301.2.1.2 of the *Florida Building Code, Residential* or Section 1609.1.2 of the *Florida Building Code, Building* the maximum *U*-factor shall be 0.75 in Climate Zone 1 and 0.65 in Climate Zone 2. An area-weighted average of *U*-factor and SHGC shall be accepted to meet the requirements, or up to 15 square feet of glazed fenestration area are exempted from the *U*-factor and SHGC requirement based on Sections R402.3.1, R402.3.2 and R402.3.3.

(3) One side-hinged opaque door assembly up to 24 square feet is exempted from this *U*-factor requirement.

(4) *R*-values are for insulation material only as applied in accordance with manufacturers' installation instructions. For mass walls, the "interior of wall" requirement must be met except if at least 50 percent of the insulation required for the "exterior of wall" is installed exterior of, or integral to, the wall.

(5) Ducts & AHU installed "substantially leak free" per Section R403.2.2. Test required by an energy rater certified in accordance with Section 553.99, *Florida Statutes*, or as authorized by *Florida Statutes*. The total leakage test is not required for ducts and air handlers located entirely within the building thermal envelope.

(6) Minimum efficiencies are those set by the *National Appliance Energy Conservation Act* of 1987 for typical residential equipment and are subject to NAECA rules and regulations. For other types of equipment, see Tables C403.2.3(1-11) of the Commercial Provisions of the *Florida Building Code, Energy Conservation*.

(7) For other electric storage volumes, min. EF = 0.97 - (0.00132 * volume).

(8) For other natural gas storage volumes, min. EF = 0.67 - (0.0019 * volume).

TABLE R402B MANDATORY REQUIREMENTS			
Component	**Section**	**Summary of Requirement(s)**	**Check**
Air leakage	R402.4	To be caulked, gasketed, weatherstripped or otherwise sealed per Table R402.4.1.1. Recessed lighting: IC-rated as having ≤ 2.0 cfm tested to ASTM E 283. Windows and doors: 0.3 cfm/sq.ft (swinging doors: 0.5 cfm/sf) when tested to NFRC 400 or AAMA/WDMA/CSA 101/I.S. 2/A440. Fireplaces: Tight-fitting flue dampers & outdoor combustion air.	✓
Programmable thermostat	R403.1.2	Where forced-air furnace is primary system, a programmable thermostat is required.	✓
Air distribution system	R403.2.2 R403.2.4	Ducts shall be tested to Section 803 of the RESNET standards by an energy rater certified in accordance with Section 553.99, *Florida Statutes*, or as authorized by *Florida Statutes*. Air handling units are not allowed in attics.	
Water heaters	R403.4	Comply with efficiencies in Table C404.2. Hot water pipes insulated to ≥ R-3 to kitchen outlets, other cases. Circulating systems to have an automatic or accessible manual OFF switch. Heat trap required for vertical pipe risers.	✓
Swimming pools & spas	R403.9	Spas and heated pools must have vapor-retardant covers or a liquid cover or other means proven to reduce heat loss except if 70% of heat from site-recovered energy. Off/timer switch required. Gas heaters minimum thermal efficiency is 82%. Heat pump pool heaters minimum COP is 4.0.	—
Cooling/heating equipment	R403.6	Sizing calculation performed & attached. Special occasion cooling or heating capacity requires separate system or variable capacity system.	
Lighting equipment	R404.1	At least 75% of permanently installed lighting fixtures shall be high-efficacy lamps.	✓