LEED for Homes Project Checklist

for Homes

Builder Name:	***Florida Crystals***
Project Team Leader:	***J. Stace McGee, Environmental Dynamics Inc***
Home Address (Street/City/State):	***West Sample Rd, Coconut Creek, Florida***

Project Description

Building Type: ***Multi-family*** Project type: ***Multi-family Developer***

# of Units: ***308*** Avg. Home Size Adjustment: ***-9***

Adjusted Certification Thresholds

Certified: ***36.5*** Gold: ***66.5*** Silver: ***51.5*** Platinum: ***81.5***

Project Point Total

Prelim: ***64 + 10 maybe pts*** **Final:** ***25.5***

Certification Level

Prelim: ***Silver*** **Final:** ***Not Certified***

Final Credit Category Point Totals

ID: 0 ***SS: 5*** ***EA: 18.5*** ***EQ: 0***

LL: 0 ***WE: 0*** ***MR: 2*** ***AE: 0***

Minimum Point Thresholds Not Met for Final Rating

Date Most Recently Updated: *2/3/2014* *Updated by:* *J. Stace McGee, EDI*

✍ ***Indicates that an Accountability Form is required.***

		Max Pts. Available	Preliminary Rating Y / Pts	Maybe	No	Notes	Project Points
Innovation & Design Process (ID)	(Minimum 0 ID Points Required)	**Max: 11**	**Y:4**	M:4			**Final: 0**
1. Integrated Project Planning							
1.1	Preliminary Rating	Prereq.	Y			BEFORE CONSTRUCTION	Y
	Target performance tier: ***Silver***						
1.2	Integrated Project Team *(meet all of the following)*	1	1	0		BEFORE CONSTRUCTION	0
	☑a) Individuals or organizations with necessary capabilities		☑c) Regular meetings held with project team				
	☑b) All team members involved in various project phases						
1.3	Professional Credentialed with Respect to LEED for Homes	1	1	0			0
1.4	Design Charrette	1	1	0		BEFORE CONSTRUCTION	0
1.5	Building Orientation for Solar Design *(meet all of the following)*	1	0	0	N		0
	☐a) Glazing area on north/south walls 50% greater than on east/west walls		☐c) At least 450 sq. ft. of south-facing roof area, oriented for solar applications				
	☐b) East-west axis is within 15 degrees of due east-west		☐d) 90% of south-facing glazing is shaded in summer, unshaded in winter				
2. Quality Management for Durability							
2.1	Durability Planning *(meet all of the following)*	Prereq.	Y			BEFORE CONSTRUCTION	Y
	☑a) Durability evaluation completed		☑c-v) Install drain and drain pans for clothes washers in/over living spaces; OR				
	☑b) Strategies developed to address durability issues		☐ no clothes washers in/over living spaces				
	☑c-i) Nonpaper-faced backer board in tub, shower, spa areas		☑c-vi) Exhaust conventional clothes dryers directly to outdoors				
	☑c-ii) No carpet in kitchen, bathroom, laundry, and spa areas		☑c-vii) Install drain and drain pan for condensing clothes dryers				
	☑c-iii) No carpet within 3 ft of each entryway		☑d) Durability strategies incorporated into project documentation				
	☑c-iv) Install drain and drain pans in tank water heaters in/over living spaces; OR		☑e) Durability measures listed in durability inspection checklist				
	☐ no tank water heaters in/over living spaces						

2.2	Durability Management *(meet one of the following)*	*Prereq.*	*Y*				*Y*
	☐ Builder has a quality management process in place		☑ Builder conducted inspection using durability inspection checklist				
2.3	Third-Party Durability Management Verification	*3*	*0*	*3*			*0*

3. Innovative or Regional Design

3.1	✍ Innovation 1 (ruling #):	***Exemplary Performance WE 2.1***	*1*	*1*	*0*		*0*
3.2	✍ Innovation 2 (ruling #):	***Bike Racks***	*1*	*0*	*1*		*0*
3.3	✍ Innovation 3 (ruling #):		*1*	*0*	*0*		*0*
3.4	✍ Innovation 4 (ruling #):		*1*	*0*	*0*		*0*

Location & Linkages (LL) (Minimum 0 LL Points Required)

Max: 10 *Y:2* *M:1* **Notes** *Final: 0*

1. LEED for Neighborhood Development

1	LEED for Neighborhood Development	*10*	*0*	*0*	*N*		*0*

2. Site Selection

2	✍ Site Selection *(meet all of the following)*	*2*	*0*	*0*	*N*		*0*

☐ a) Built above 100-year floodplain defined by FEMA
☐ b) Not built on habitat for threatened or endangered species
☐ c) Not built within 100 ft of water, including wetlands
☐ d) Not built on land that was public parkland prior to acquisition
☐ e) Not built on land with prime soils, unique soils, or soils of state significance

3. Preferred Locations

3.1	Edge Development	*1*	*0*	*0*	*N*		*0*
OR 3.2	Infill	*2*	*0*	*0*	*N*		*0*
AND/OR 3.3	Previously Developed	*1*	*0*	*1*			*0*

4. Infrastructure

4	Existing Infrastructure	*1*	*1*	*0*			*0*

5. Community Resources / Transit

5.1	Basic Community Resources / Transit *(meet one of the following)*	*1*	*1*	*0*			*0*

☐ a) Within 1/4 mile of 4 basic community resources
☐ b) Within 1/2 mile of 7 basic community resources
☐ c) Within 1/2 mile of transit services providing 30 rides per weekday

OR 5.2	Extensive Community Resources / Transit *(meet one of the following)*	*2*	*0*	*0*	*N*		*0*

☐ a) Within 1/4 mile of 7 basic community resources
☐ b) Within 1/2 mile of 11 basic community resources
☐ c) Within 1/2 mile of transit services providing 60 rides per weekday

OR 5.3	Outstanding Community Resources / Transit *(meet one of the following)*	*3*	*0*	*0*	*N*		*0*

☐ a) Within 1/4 mile of 11 basic community resources
☐ b) Within 1/2 mile of 14 basic community resources
☐ c) Within 1/2 mile of transit services providing 125 rides per weekday

6. Access to Open Space

6	Access to Open Space	*1*	*0*	*0*			*0*

Sustainable Sites (SS) (Minimum 5 SS Points Required)	Max: 22	Y:13	M:2	Notes	Final: 5

1. Site Stewardship

1.1	Erosion Controls During Construction *(meet all of the following)*	Prereq.	Y			Y

☑ a) Stockpile and protect disturbed topsoil from erosion.
☑ b) Control the path and velocity of runoff with silt fencing or equivalent.
☑ c) Protect sewer inlets, streams, and lakes with straw bales, silt fencing, etc.
☑ d) Provide swales to divert surface water from hillsides
☑ e) Use tiers, erosion blankets, compost blankets, etc. on sloped areas.

1.2	Minimize Disturbed Area of Site *(meet the appropriate requirements)*	1	1	0	BEFORE CONSTRUCTION	0

Where the site is not previously developed, meet all the following:
☐ a) Develop tree / plant preservation plan with "no-disturbance" zones
☐ b) Leave 40% of buildable lot area, not including area under roof, undisturbed

OR Where the site is previously developed, meet all the following:
☐ c) Develop tree / plant preservation plan with "no-disturbance" zones AND
☐ Rehabilitate lot; undo soil compaction and remove invasive plants AND
☐ Meet the requirements of SS 2.2

OR ☑ d) Build on a lot of 1/7 acre or less, or 7 units per acre.

2. Landscaping

2.1	✍ No Invasive Plants	Prereq.	Y			Y
2.2	✍ Basic Landscaping Design *(meet all of the following)*	2	2	0		0

☑ a) Any turf must be drought-tolerant.
☑ b) Do not use turf in densely shaded areas.
☑ c) Do not use turf in areas with slope of 25%
☑ d) Add mulch or soil amendments as appropriate.
☑ e) All compacted soil must be tilled to at least 6 inches.

AND/OR 2.3	✍ Limit Conventional Turf	3	2	0		0

90% Percentage of designed landscape softscape area that is turf

AND/OR 2.4	✍ Drought-Tolerant Plants	2	1	0		1

70% Percentage of installed plants that are drought-tolerant

OR 2.5	✍ Reduce Overall Irrigation Demand by at Least 20%	6	0	0	N	0

☐ Percentage reduction in estimated irrigation water demand (calculate)

3. Reduce Local Heat Island Effects

3	✍ Reduce Local Heat Island Effects *(meet one of the following)*	1	0	0		0

☐ a) Locate trees / plantings to provide shade for 50% of hardscapes
☐ b) Install light-colored, high-albedo materials for 50% of sidewalks, patios, and driveways

4. Surface Water Management

4.1	✍ Permeable Lot	4	1	0	BEFORE CONSTRUCTION	0

[ ] vegetative landscape

[ ] permeable paving

[ ] impermeable surfaces directed to infiltration features

[ ] other impermeable surfaces (areas not counted towards credit)

4.2	Permanent Erosion Controls *(meet one of the following)*	1	0	0	0

[ ] a) For portions of lot on steep slope, use terracing and retaining walls

[ ] b) Plant trees, shrubs, or groundcover

4.3	✍ Management of Runoff from Roof *(meet any, see Rating System for pts)*	2	0	2	0

[ ] a) Install permanent stormwater controls to manage runoff from the home

[ ] b) Install vegetated roof to cover 50% of roof area

[ ] c) Install vegetated roof to cover 100% of roof area

[✓] d) Have lot designed by professional to manage runoff from home on-site

5. Nontoxic Pest Control

5	Pest Control Alternatives *(meet any of the following, 1/2 pt each)*	2	2	0	0

[✓] a) Keep all exterior wood at least 12" above soil

[✓] b) Seal external cracks, joints, etc. with caulking and install pest-proof screens

[✓] c) Include no wood-to-concrete connections, or separate connections with dividers

[ ] d) Install landscaping so mature plants are 24" from home

e) In 'moderate' to 'very heavy' termite risk areas:

[ ] i) Treat all cellulosic material with borate product to 3' above foundation

[ ] ii) Install sand or diatomaceous earth barrier

[ ] iii) Install steel mesh barrier termite control system

[ ] iv) Install non-toxic termite bait system

[✓] v) Use noncellulosic wall structure

[ ] vi) Use solid concrete foundation walls or pest-proof masonry wall design

6. Compact Development

	6.1 Moderate Density	2	0	0	N	0

305 # of total units on the lot | 12.0 lot size (acres) | 25.4 density (units/acre)

OR	6.2 High Density	3	0	0	N	0
OR	6.3 Very High Density	4	4	0		4

Water Efficiency (WE) (Minimum 3 WE Points Required)

Max: 15 Y:8 M:3 Notes Final: 0

1. Water Reuse

	1.1 Rainwater Harvesting System	4	0	0	N	0

[ ] Percentage of roof area used for harvesting

[ ] Application

AND/OR	1.2 Graywater Reuse System	1	0	0	N	0
OR	1.3 Use of Municipal Recycled Water System	3	0	3		0

2. Irrigation System

2.1	✍ High-Efficiency Irrigation System *(meet any of the following, 1 pt each)*	3	3	0		0

- ☐ a) Irrigation system designed by EPA Water Sense certified professional
- ☐ b) Irrigation system with head-to-head coverage
- ☑ c) Install central shut-off valve
- ☑ d) Install submeter for the irrigation system
- ☑ e) Use drip irrigation for 50% of planting beds
- ☑ f) Create separate zones for each type of bedding
- ☑ g) Install timer or controller for each watering zone
- ☑ h) Install pressure-regulating devices
- ☐ i) High-efficiency nozzles with distribution uniformity of at least 0.70.
- ☐ j) Install check valves in heads
- ☑ k) Install moisture sensor or rain delay controller

AND/OR 2.2	Third-party Inspection	1	1	0		0
OR 2.3	✍ Reduce Overall Irrigation Demand by at Least 45%	4	0	0	N	0

☐ Percentage reduction in estimated irrigation water demand *(calculate)*

3. Indoor Water Use

3.1	High-Efficiency Fixtures and Fittings *(meet any of the following, 1 pt each)*	3	2	0		0

- ☐ a) Average flow rate of lavatory faucets is ≤ 2.00 gpm
- ☑ b) Average flow rate for all showers is ≤ 2.00 gpm per stall
- ☑ c) Average flow rate for all toilets is ≤ 1.30 gpf; OR
  - ☐ Toilets are dual-flush; OR
  - ☐ Toilets meet the EPA Water Sense specification

3.2	Very High-Efficiency Fixtures and Fittings *(meet any, 2 pts each)*	6	2	0		0

- ☑ a) Average flow rate of lavatory faucets is ≤ 1.50 gpm; OR
  - ☐ Lavatory faucets meet the EPA Water Sense specification
- ☐ b) Average flow rate for all showers ≤ 1.75 gpm per stall
- ☐ c) Average flow rate for all toilets is ≤ 1.10 gpf

Energy & Atmosphere (EA) (Minimum 0 EA Points Required)

Max: 38 Y:19.5 M:0 **Notes** ***Final: 18.5***

1. Optimize Energy Performance

1.1	Performance of ENERGY STAR for Homes	Prereq.	Y			Y
1.2	Exceptional Energy Performance	34	18.5	0		18.5

2 IECC climate zone 60 HERS Index

7. Water Heating

7.1	✍ Efficient Hot Water Distribution System *(meet one of the following)*	2	0	0	N	0

- ☐ a) Structured plumbing system
- ☐ b) Central manifold distribution system
- ☐ c) Compact design of conventional system

7.2	Pipe Insulation	1	0	0	N	0

11. Residential Refrigerant Management

11.1	Refrigerant Charge Test	Prereq.	Y			Y
11.2	Appropriate HVAC Refrigerants *(meet one of the following)*	1	1	0	BEFORE CONSTRUCTION	0

- ☐ a) Use no refrigerants
- ☑ b) Use non-HCFC refrigerants
- ☐ c) Use refrigerants that complies with global warming potential equation

Materials & Resources (MR) (Minimum 2 MR Points Required)

Max: 16 | Y:5.5 | M:0 | Notes | Final: 2

1. Material-Efficient Framing

1.1	Framing Order Waste Factor	Prereq.	Y			Y
1.2	Detailed Framing Documents	1	0	0	BEFORE CONSTRUCTION	0
AND/OR 1.3	Detailed Cut List and Lumber Order	1	0	0	BEFORE CONSTRUCTION	0

- ☐ Requirements of MR 1.2 have been met
- ☐ Detailed cut list and lumber order corresponding to framing plans or scopes

AND/OR 1.4	Framing Efficiencies *(meet any of the following, see Rating System for pts)*	3	0	0		0

- ☐ Precut framing packages
- ☐ Open-web floor trusses
- ☐ Structural insulated panel walls
- ☐ Structural insulated panel roof
- ☐ Structural insulated panel floors
- ☐ Stud spacing greater than 16" on center
- ☑ Ceiling joist spacing greater than 16" on center
- ☐ Floor joist spacing greater than 16" on center
- ☑ Roof rafter spacing greater than 16" on center
- ☐ Two of the following: Size headers for loads; ladder blocking; drywall clips; 2-stud corners

OR 1.5	Off-site Fabrication *(meet one of the following)*	4	0	0		0

- ☐ a) Panelized construction
- ☐ b) Modular, prefabricated construction

2. Environmentally Preferable Products

2.1	FSC Certified Tropical Wood *(meet all of the following)*	Prereq.	Y		BEFORE CONSTRUCTION	Y

- ☑ a) Provide suppliers with a notice of preference for FSC products; AND
- ☑ Request country of manufacture for each wood product
- ☑ b) No tropical wood installed (exceptions for FSC-certified or reclaimed wood)

2.2	Environmentally Preferable Products *(meet any, 1/2 pt each)*	8	3.5	0		0

Assembly : component	(a) EPP			(b) Low emission		(c) Local production	
Exterior wall: framing	☐		type:			☐	
Exterior wall: siding or masonry	☐		type: Stucco			☑	
Floor: flooring	☐	(45%)	type:	☐	90% hard flooring	☐	(45%)
Floor: flooring	☐	(90%)	type:	☐	SCS FloorScore	☐	(90%)
Floor: flooring				☑	Green Label Plus		
Floor: framing	☐		type:			☐	
Foundation: aggregate	☐		type:			☑	
Foundation: cement	☐		type:			☐	
Interior wall: framing	☐		type:			☐	
Interior wall, ceiling: gypsum board	☐		type:			☐	
Interior wall, ceiling, millwork: paint	☐		type:	☑	type: Low VOC		
Landscape: decking and patio	☐		type:			☐	
Other: cabinet	☐		type:			☐	
Other: counter	☐		type:			☐	
Other: door	☐		type:			☐	
Other : interior trim	☐		type:			☐	
Other : adhesive, sealant				☑	type: Low VOC		
Other : window frame	☐		type:			☐	
Roof: framing	☐		type:			☐	
Roof: roofing	☐		type:			☐	
Roof, floor, wall: cavity insulation	☑		type: Certainteed or Ownes Corning	☑	type: Owens	☐	
Roof, floor, wall (2 of 3): sheathing	☐		type:			☐	
Other: water supply piping	☐		type:				
Other: driveway	☐		type:				

3. Waste Management

3.1	Construction Waste Management Planning *(meet both of the following)*	*Prereq.*	*Y*			*Y*

☑ a) Investigate local options for waste diversion

☑ b) Document diversion rate for construction waste

3.2	Construction Waste Reduction *(use one of the following methods)*	*3*	*2*	*0*		*2*

☐ a) pounds waste / square foot

☐ cubic yards waste / 1,000 square feet

65% b) percentage of waste diverted

Indoor Environmental Quality (EQ) (Minimum 6 EQ Points Required)

Max: 21 *Y:9* *M:0* **Notes** *Final: 0*

1. ENERGY STAR with Indoor Air Package

1	ENERGY STAR with Indoor Air Package	*13*	*0*	*0*	*N*	*0*

2. Combustion Venting

2.1	Basic Combustion Venting Measures (meet all of the following)	*Prereq.*	*Y*			*Y*

☑ a) no unvented combustion appliances

☑ b) carbon monoxide monitors on each floor (of each unit, if applicable)

☑ c) no fireplace installed, OR

☐ all fireplaces and woodstoves have doors

☑ d) space, water heating equipment designed with closed combustion; OR

☐ space and water heating equipment has power-vented exhaust; OR

☐ space and water heating equipment located in detached or open-air facility; OR

☐ no space- or water-heating equipment with combustion

2.2	Enhanced Combustion Venting Measures (meet one of the following)	*2*	*2*	*0*		*0*

Type of Fireplace or stove	*Better practice (1 pt)*	*Best practice (2 pts) (must also meet Better Practice)*
None		☑ granted automatically
Masonry wood-burning fireplace	☐ masonry heater	☐ back-draft potential test
Factory-built wood-burning fireplace	☐ listed by testing lab and meets EPA standards	☐ back-draft potential test
Woodstove and fireplace insert	☐ listed by testing lab and meets EPA standards	☐ back-draft potential test
Natural gas, propane, or alcohol stove	☐ listed, power- or direct-vented, fixed doors	☐ electronic pilot
Pellet stove	☐ EPA certified or meets safety requirements	☐ power- or direct-venting

3. Moisture Control

3	Moisture Load Control (meet one of the following)	*1*	*0*	*0*		*0*

☐ a) Additional dehumidification system

☐ b) Central HVAC system equipped with additional dehumidification mode

4. Outdoor Air Ventilation

4.1	Basic Outdoor Air Ventilation (meet one of the following)	*Prereq.*	*Y*			*Y*

☐ a) Qualifies under ASHRAE Std. 62.2-2007 climate exemption.

☐ b) Continuous ventilation

☑ c) Intermittent ventilation

☐ d) Passive ventilation

4.2	Enhanced Outdoor Air Ventilation *(meet one of the following)*	*2*	*0*	*0*		*0*

☐ a) Meets EQ 4.1 part (a), active ventilation system installed

☐ b) Install heat recovery system

4.3	Third-Party Performance Testing	*1*	*0*	*0*		*0*

5. Local Exhaust

5.1	✍	Basic Local Exhaust (meet all of the following)	*Prereq.*	*Y*		*Y*

- ☑ a) Bathroom and kitchen exhaust meets ASHRAE Std. 62.2 air flow requirement
- ☑ b) Fans and ducts designed and installed to ASHRAE Std. 62.2
- ☑ c) Air exhausted to outdoors
- ☑ d) ENERGY STAR labeled bathroom exhaust fans

5.2		Enhanced Local Exhaust *(meet one of the following)*	*1*	*1*	*0*	*0*

- ☐ a) Occupancy sensor
- ☐ b) Automatic humidistat controller
- ☑ c) Automatic timer tied to switch to operate fan for 20+ minutes post-occupancy
- ☐ d) Continuously operating exhaust fan

5.3		Third-Party Performance Testing	*1*	*1*	*0*	*0*

6. Distribution of Space Heating and Cooling

6.1	✍	Room-by-Room Load Calculations	*Prereq.*	*Y*	*BEFORE CONSTRUCTION*	*Y*
6.2		Return Air Flow / Room-by-Room Controls (meet one of the following)	*1*	*0*	*0*	*0*

A. Forced-Air Systems

- ☐ a) Return air opening of 1 sq. inch per cfm of supply
- ☐ b) Limited pressure differential between closed room and adjacent spaces

B. Nonducted HVAC Systems

- ☐ Flow control valves on every radiator; OR
- ☐ Radiant floor system with thermostatic controls in every room

6.3		Third-Party Performance Test / Multiple Zones (meet one of the following)	*2*	*0*	*0*	*0*

A. Forced-Air Systems

- ☐ Have supply air flow rates in each room tested and confirmed

B. Nonducted HVAC Systems

- ☐ Install at least two distinct zones with independent thermostat control

7. Air Filtering

	7.1		Good Filters	*Prereq.*	*Y*		*Y*
	7.2		Better Filters	*1*	*0*	*0*	*0*
OR	7.3		Best Filters	*2*	*0*	*0*	*0*

8. Contaminant Control

8.1	✍	Indoor Contaminant Control during Construction	*1*	*1*	*0*	*0*
8.2		Indoor Contaminant Control *(meet any of the following, 1 pt each)*	*2*	*0*	*0*	*0*

- ☐ a) Design and install permanent walk-off mats at each entry
- ☐ b) Design shoe removal and storage space near primary entryway
- ☐ c) Install central vacuum system with exhaust to outdoors

8.3	✍	Preoccupancy Flush	*1*	*0*	*0*	*0*

9. Radon Protection

9.1	✍	Radon-Resistant Construction in High-Risk Areas	*Prereq.*	*Y*		*Y*
9.2	✍	Radon-Resistant Construction in Moderate-Risk Areas	*1*	*1*	*0*	*0*

10. Garage Pollutant Protection

10.1	No HVAC in Garage	*Prereq.*	*Y*			*Y*
10.2	Minimize Pollutants from Garage (meet all of the following)	*2*	*0*	*0*	*N*	*0*

a) In conditioned spaces above garage:
- ☐ Seal all penetrations and connecting floor and ceiling joist bays

b) In conditioned spaces next to garage
- ☐ Weather-strip all doors
- ☐ Carbon monoxide detectors in rooms that share a door with garage
- ☐ Seal all penetrations and cracks at the base of walls

AND/OR 10.3	Exhaust Fan in Garage (meet one of the following)	*1*	*0*	*0*		*0*

- ☐ a) Fan runs continuously
- ☐ b) Fan designed with automatic timer control

OR 10.4	Detached Garage or No Garage	*3*	*3*	*0*		*0*

Awareness & Education (AE) (Minimum 0 AE Points Required)

Max: 3 *Y:3* *M:0* *Notes* *Final: 0*

1. Education of the Homeowner or Tenant

1.1	✍ Basic Operations Training *(meet both of the following)*	*Prereq.*	*Y*			*Y*

- ☑ a) Operations and training manual
- ☑ b) One-hour walkthrough with occupant(s)

1.2	✍ Enhanced Training	*1*	*1*	*0*		*0*
1.3	Public Awareness *(meet three of the following)*	*1*	*1*	*0*		*0*

- ☑ a) Open house on at least four weekends
- ☑ b) Website about features and benefits of LEED homes
- ☑ c) Newspaper article on the project
- ☑ d) Display LEED signage on the exterior of the home

2. Education of the Building Manager

2	✍ Education of the Building Manager *(meet both of the following)*	*1*	*1*	*0*		*0*

- ☑ a) Operations and training manual
- ☑ b) One-hour walkthrough with building manager

USGBC LEGAL DISCLAIMER

USGBC makes no warranty with respect to any LEED certified project, including any warranty of habitability, merchantability, or fitness for a particular purpose. There are no warranties, express or implied, written or oral, statutory or otherwise, with respect to the certifications provided by USGBC. By way of example only, and without limiting the broad scope of the foregoing, it is understood that LEED certification, whether at the Certified level or any other level, does not mean that the project is structurally sound or safe, constructed in accordance with applicable laws, regulations or codes, free of mold or mildew, free of volatile organic compounds or allegens, or free of soil gases including radon.

SIGNATURES BY RESPONSIBLE PARTIES

By affixing my signature below, the undersigned does hereby declare and affirm to the USGBC that the LEED for Homes requirements, as specified in the LEED for Homes Rating System, have been met for the indicated credits and will, if audited, provide the necessary supporting documents.

Project Team Leader	***J. Stace McGee***	Company	***Environmental Dynamics Inc***
Signature		Date	

By affixing my signature below, the undersigned does hereby declare and affirm to the USGBC that the required inspections and performance testing for the LEED for Homes requirements, as specified in the LEED for Homes Rating System, have been completed. I have evaluated this project's documentation package and conducted the necessary QA/QC procedures with the Green Rater, and I hereby declare and affirm to USGBC that the homes included in this submittal are ready to earn LEED for Homes certification, as per the attached checklist.

Provider QAD	***Cody Gatland***	Company	***Green Insight LLC***
Signature		Date	

By affixing my signature below, the undersigned does hereby declare and affirm to the USGBC that the required inspections and performance testing for the LEED for Homes requirements, as specified in the LEED for Homes Rating System, have been completed.

I also hereby confirm that all verification services were performed in accordance with the LEED for Homes Verification & Submittal Guidelines and Addendum.

Green Rater	***Ryan Moore***	Company	***Green Insight LLC***
Signature		Date	

By affixing my signature below, the undersigned does hereby declare and affirm to the USGBC that the required inspections and performance testing for the LEED for Homes requirements, as specified in the LEED for Homes Rating System, have been completed.

I also hereby confirm that all verification services were performed in accordance with the LEED for Homes Verification & Submittal Guidelines and Addendum.

Green Rater		Company	
Signature		Date	

LEED for Homes Project Checklist

Addendum: Prescriptive Approach for Energy and Atmosphere (EA) Credits

Points cannot be earned in both the Prescriptive (below) and the Performance paths of the EA section.

		Max Pts. Available	Preliminary Rating Y / Pts	Maybe	No	Notes	Project Points
Energy & Atmosphere (EA) (Minimum 0 EA Points Required)		***Max: 38***	***Y:19.5***	***M:0***		***Notes***	***Final: 18.5***
2. Insulation							
	2.1 Basic Insulation *(meet both of the following)*	***Prereq.***					
	☐ a) Insulation meets R-value requirements of IECC	☐ b) Insulation meets HERS Grade II specifications for installation					
	2.2 Enhanced Insulation *(meet both of the following)*	***2***	***0***	*0*			***0***
	☐ a) Insulation exceeds R-value requirements of IECC by 5%	☐ b) Insulation meets HERS Grade I specifications for installation					
3. Air Infiltration							
	3.1 Reduced Envelope Leakage	***Prereq.***					
	☐ Air leakage rate in ACH50						
	3.2 Greatly Reduced Envelope Leakage	***2***	***0***	*0*			***0***
OR	**3.3** Minimal Envelope Leakage	***3***	***0***	*0*			***0***
4. Windows							
	4.1 Good Windows *(meet all of the following)*	***Prereq.***					
	☐ a) Windows and glass doors meet ENERGY STAR BOP window specifications	☐ b) Skylight glazing area is ≤ 3% of floor area AND ☐ Skylights meet ENERGY STAR requirements for skylights					
	4.2 Enhanced Windows	***2***	***0***	*0*			***0***
OR	**4.3** Exceptional Windows	***3***	***0***	*0*			***0***
5. Heating and Cooling Distribution System							
	5.1 Reduced Distribution Losses *(meet all of the following, as appropriate)*	***Prereq.***					
	A. Forced-Air Systems	B. Nonducted HVAC Systems					
	☐ a) Duct leakage of ≤ 4.0 CFM at 25 Pascals per 100 sq.ft.	☐ At least R-3 insulation around pipes in unconditioned spaces					
	☐ b) No ducts in exterior walls unless extra insulation is added						
	☐ c) At least R-6 insulation around ducts in unconditioned spaces						
	5.2 Greatly Reduced Distribution Losses *(meet the following, as appropriate)*	***2***	***0***	*0*			***0***
	A. Forced-Air Systems	B. Nonducted HVAC Systems					
	☐ Duct leakage of ≤ 3.0 CFM at 25 Pascals per 100 sq.ft.	☐ Keep the boiler and pipes entirely within conditioned envelope					
OR	**5.3** Minimal Distribution Losses *(meet one of the following, as appropriate)*	***3***	***0***	*0*			***0***
	A. Forced-Air Systems	B. Nonducted HVAC Systems					
	☐ a) Duct leakage of ≤ 1.0 CFM at 25 Pascals per 100 sq.ft.	☐ Outdoor reset control to set distribution temp. based on outdoor temp.					
	☐ b) Air-handler and all ductwork is within conditioned envelope and EA 3.3 is met						
	☐ c) Air-handler and all ductwork visibly within conditioned spaces (not in walls, etc.)						

6. Space Heating and Cooling Equipment

6.1	✍ Good HVAC Design and Installation *(meet all of the following)*	*Prereq.*			
	☐ a) Design and size HVAC equipment using ACCA Manual J or equivalent	☐ c) Install ENERGY STAR programmable thermostat OR			
	☐ b) Install efficient heating AND cooling equipment (see Table)	☐ Heat pump or hydronic installed and exempted from part (c)			
	☐ Type of cooling system	☐ Type of heating system			
	☐ Cooling efficiency (SEER / EER)	☐ Heating Efficiency (AFUE / HSPF / COP)			
6.2	High-Efficiency HVAC	*2*	*0*	*0*	*0*
OR 6.3	Very High Efficiency HVAC	*4*	*0*	*0*	*0*

7. Water Heating

7.1	✍ Efficient Hot Water Distribution System *(meet one of the following)*	*2*	*0*	*0*	*0*
	☐ a) Structured plumbing system	☐ c) Compact design of conventional system			
	☐ b) Central manifold distribution system				
7.2	Pipe Insulation	*1*	*0*	*0*	*0*
7.3	Efficient Domestic Hot Water Equipment	*3*	*0*	*0*	*0*
	☐ Type of DHW system				
	☐ Efficiency ☐ Solar: Percentage of annual DHW load				

8. Lighting

8.1	ENERGY STAR Lights	*Prereq.*			
8.2	Improved Lighting *(meet one of the following, see Rating System for pts)*	*1.5*	*0*	*0*	*0*
	☐ a) Indoor lighting - 3 additional ENERGY STAR lights in high-use rooms	☐ b) Exterior lighting - motion sensor controls or integrated PV			
OR 8.3	Advanced Lighting Package *(meet one of the following)*	*3*	*0*	*0*	*0*
	☐ a) 60% of fixtures are ENERGY STAR fixtures	☐ b) 80% of lamps are ENERGY STAR CFLs			

9. Appliances

9.1	High-Efficiency Appliances *(meet any, see Rating System for pts)*	*2*	*0*	*0*	*0*
	☐ a) ENERGY STAR labeled refrigerator	☐ c) ENERGY STAR labeled dishwasher using 6.0 gallons per cycle or less			
	☐ b) ENERGY STAR labeled ceiling fans in living/family room and all bedrooms	☐ d) ENERGY STAR clothes washer			
9.2	Water-Efficiency Clothes Washer	*1*	*0*	*0*	*0*

10. Renewable Energy

10	✍ Renewable Energy System	*10*	*0*	*0*	*0.0*
	☐ Reference electric load, kWh/yr (based on HERS model)	☐ Electricity supplied by renewable system, kWh/yr			
	0.0% Percentage of annual reference electric load met by renewable system				

11. Residential Refrigerant Management

11.1	Refrigerant Charge Test	*Prereq.*			
11.2	Appropriate HVAC Refrigerants *(meet one of the following)*	*1*	*0*	*0*	*0*
	☐ a) Use no refrigerants	☐ c) Use refrigerants that complies with global warming potential equation			
	☐ b) Use non-HCFC refrigerants				

LEED for Homes Project Checklist, Project Notes

This section was created to give project teams additional space to make internal notes on the progress of the project. It does not need to be used and it **should not** be submitted to USGBC. This section is unlocked, so project teams are welcome to make changes to the format as necessary. Any comments or directions provided below have not been created or endorsed by the US Green Building Council.

Date project began:	1/21/2014
Initiated by:	Beatrize Hernandez

*redits		*Responsible Party*	*Last Updated*	*Additional Notes*
ID 1. Integrated Project Planning				
	1.1	JSM, Beatrize, Matt and Developer	1/31/2014	
	1.2	Beatrize	1/31/2014	list of project team members, capabilities, and meeting dates,MSA Architects - Beatrize, Consulting Engineering and Science - Civil, Architectural Alliance - Landscape, Green Insight- LEED for Homes Provider & HERS Rater, EDI-LEED AP+Homes,
	1.3	JSM	1/31/2014	Send Beatrize Credential
	1.4	Beatrize	1/31/2014	documentation for charette(s) including date, # hrs, participants (meeting minutes are acceptable)
	1.5	None	1/31/2014	Not possible - Buildings have numerous orientations
ID 2. Quality Mgmt for Durability				
	2.1	Beatrize	1/31/2014	Complete Durability Checklist and Durability Evaluation Form

	2.2	General Contractor	1/31/2014	Sign off on durability checklist items as construction proceeds.
	2.3	JSM	1/31/2014	Only if required - Field/Visually verify
3. Innovative or Regional Design				
	3.1	JSM	2/3/2014	
	3.2	Beatrize	2/3/2014	
	3.3			
	3.4			

Credits	***Responsible Party***	***Last Updated***	***Additional Notes***
LL 1. LEED for Neighborhood Development			
1	JSM	1/31/2014	Not possible - not a LEED ND project
LL 2. Site Selection			
2	JSM	1/31/2014	not possible - built on farm land
LL 3. Preferred Locations			
3.1	JSM	1/31/2014	not possible in a farm
3.2	JSM	1/31/2014	not possible in a farm
3.3	JSM	1/31/2014	not possible in a farm
LL 4. Infrastructure			
4	JSM	1/31/2014	
LL 5. Community Resources			
5.1	JSM	2/3/2014	check the bus route, not many communityt resources yet
5.2	JSM	1/31/2014	not many communityt resources yet
5.3	JSM	1/31/2014	
LL 6. Access to Open Space			
6	Beatrize	1/31/2014	????? Is there anythinig around 3/4 acre in size within 1/2 mile?

Credits	Responsible Party	Last Updated	Additional Notes
SS 1. Site Stewardship			
1.1	Beatrize	1/31/2014	Get us the SWPPP and monthly inspection reports. Maintain erosion controls throughout construction. Ryan Moore to field verify at each site visit.
1.2	JSM	1/31/2014	Done 25 units per acre
SS 2. Landscaping			
2.1	Architectural Alliance	2/3/2014	Provide landscape plans with plant list including quantity of each plant and water usage (low, med, or high).
2.2	Architectural Alliance	2/3/2014	Provide landscape plans with plant list including quantity of each plant and water usage (low, med, or high).
2.3	Architectural Alliance	2/3/2014	Provide landscape plans with plant list including quantity of each plant and water usage (low, med, or high).
2.4	Architectural Alliance	2/3/2014	Provide landscape plans with plant list including quantity of each plant and water usage (low, med, or high).
2.5	NA	2/3/2014	
SS 3. Reduce Local Heat Island Effects			
3	Consulting Engineering and Science	2/3/2014	Provide landscape plans with plant list including quantity of each plant and water usage (low, med, or high).

SS 4. Surface Water Management				
	4.1	Consulting Engineering and Science	2/3/2014	Provide calculations of permeable and impermeable surfaces per credit requirements.
	4.2	Architectural Alliance	2/3/2014	
	4.3	Consulting Engineering and Science	2/3/2014	Indicate stormwater controls on plans and/or have lot designed by professional to manage runoff. Ryan Moore to visually verify stormwater controls.
SS 5. Nontoxic Pest Control				
	5	Beatrize	2/3/2014	Install pest control alternatives per credit requirements. Take photos of borate spraying. Ryan moore to visually verify other items.
SS 6. Compact Development				
	6.1	JSM	2/3/2014	Done
	6.2	JSM	2/3/2014	
	6.3	JSM	2/3/2014	Done 25 per acre

:redits	***Responsible Party***	***Last Updated***	***Additional Notes***
WE 1. Water Reuse			
1.1	JSM and Beatrize	2/3/2014	Define locations and design of cistern, Stace to assist with calculation, Provide plans and cistern calculations.
1.2	JSM	2/3/2014	too expensive to incorprate
1.3	Beatrize	2/3/2014	Is there a purple pipe system?

WE 2. Irrigation System				
	2.1	Architectural Alliance	2/3/2014	Install all components that are indicated as checked.
	2.2	Green Rater	2/3/2014	Irrigation verification and testing.
	2.3	JSM	2/3/2014	N/A doing credits above
WE 3. Indoor Water Use				
	3.1	Beatrize	2/3/2014	Ensure proper components are installed. Provide cut sheets/submittals before installation. Ryan Moore to field verify.
	3.2	Beatrize	2/3/2014	Ensure proper components are installed. Provide cut sheets/submittals before installation. Ryan Moore to field verify.

:redits	***Responsible Party***	***Last Updated***	***Additional Notes***
EA 1. Optimize Energy Performance			
1.1	Ryan Moore	2/3/2014	Fill out ENERGY STAR checklist properly. Field verify.
1.2	Ryan Moore	2/3/2014	Fill out HERS assessment worksheet. Test and Verify.
EA 7. Water Heating			
7.1	JSM	2/3/2014	N/A - Not all units have ability for compact design and other options are expensive.provide calculations of compliance with either b) or c)
7.2	JSM	2/3/2014	Install minimum R-4 pipe insulation with all seams and connections taped. Ryan Moore to field verify.
EA 11. Residential Refrigerant Management			
11.1	Mechanical Subcontractor	2/3/2014	Fill out the ENERGY STAR HVAC System Quality Installation Contractor Checklist. Provide documentation of correct refrigerant charge for all mechanical equipment.
11.2	Mechanical Subcontractor	2/3/2014	Provide cut sheets for all mechanical equipment prior to purchase. Provide docuementation of refrigerant type.

Credits	Responsible Party	Last Updated	Additional Notes
MR 1. Material-Efficient Framing			
1.1	General Contractor	2/3/2014	Provide documentation (incoice, letter, or equivalent) of complicance with credit requirements that framing order waste factor does not exceed 10%.
1.2	JSM	2/3/2014	CMU or cast in place therefore system not applicable to this credit
1.3	JSM	2/3/2014	CMU or cast in place therefore system not applicable to this credit
1.4	Beatrize	2/3/2014	Trusses for roof and floor? Any under framing? Comply with credit requirements. Ryan Moore to field verify.
1.5	Beatrize	2/3/2014	IF it is panelized concrete will it be made off site?
MR 2. Environmentally Preferable Products			
2.1	General Contractor	2/3/2014	Provide copy of letters sent to all wood suppliers. Use EDI-provided template if desired.
2.2	Beatrize	2/3/2014	Provide documentation for all materials listed. CIR MR 02-146 applies to 1 story slab on grade projects we often see in New Mexico. MR 02-146 says that if the slab itself meets the EPP requirement which would usually be done with 25% fly ash content, then you can also check the boxes for foundation aggregate and floor framing EPP.

MR 3. Waste Management				
	3.1	General Contractor	2/3/2014	Document diversion rate as construction proceeds (exclude demolition waste) Track all waste by weight and/or volume whether it is landfilled, recycled, or reused.
	3.2	General Contractor	2/3/2014	Provide final waste diversion calculations and corresponding documentation. Track all waste by weight and/or volume whether it is landfilled, recycled, or reused.

Credits	*Responsible Party*	*Last Updated*	*Additional Notes*
EQ 1. ENERGY STAR w/ IAP			
1	JSM	2/3/2014	not applicable very expensive
EQ 2. Combustion Venting			
2.1	MEP Engineers	2/3/2014	Provide cut sheets for all mechanical equipment prior to purchase.Field verify
2.2	JSM	2/3/2014	Completed - Provide cut sheet for fireplace.
EQ 3. Moisture Control			
3	Beatrize	2/3/2014	in the budget?
EQ 4. Outdoor Air Ventilation			
4.1	Ryan Moore	2/3/2014	Provide mechanical plans including ventilation system and cut sheets for all ventilation equipment. Field verify
4.2	Beatrize	2/3/2014	How wil l ventilation be provided to the units? Provide mechanical plans including ventilation system and cut sheets for all ventilation equipment. Field verify
4.3	Ryan Moore	2/3/2014	Field testing and verification.

EQ 5. Local Exhaust				
	5.1	MEP Engineers	2/3/2014	Provide mechanical plans including ventilation system and cut sheets for all ventilation equipment. Field verify
	5.2	MEP Engineers	2/3/2014	Provide mechanical plans including ventilation system and cut sheets for all ventilation equipment. Field verify
	5.3	Ryan Moore	2/3/2014	Field testing and verification.
EQ 6. Distribution of Space Heating and Cooling				
	6.1	Ryan Moore or MEP	2/3/2014	Provide room-by-room and duct calculations that are compliant with credit requirements
	6.2	JSM	2/3/2014	This is easy to design but it has to be tested and work in the filed - epensive. Ryan to test pressure differential at final verification & testing visit. Credit may or may not be earned.
	6.3	JSM	2/3/2014	this is usually too expensive due to CFM not balancing per the Manual J. At end of project, determine whether this credit should be pursued. EDI will charge an additional service estimated at $250 (actuall charges will depend on mechancical plans and number of registers tested)
EQ 7. Air Filtering				
	7.1	JSM	2/3/2014	MERV 8 requiired. Investigate options for system filter capacity
	7.2	JSM	2/3/2014	Too expensive. Provide documentation of MERV for the air filter. Ryan to field verify.
	7.3	JSM	2/3/2014	Too expensive. Provide documentation of MERV for the air filter. Ryan to field verify.
EQ 8. Contaminant Control				
	8.1	General Contractor	2/3/2014	Ensure ducts are properly sealed throughout the construction process. Protect ducts from contamination by dust or other materials at all stages of construction.
	8.2	JSM	2/3/2014	All doors open to outside - too expensive. Field verify.
	8.3	General Contractor	2/3/2014	Perform/document a building flush per credit requirements. Provide documentation of process, dates, & duration of flush out. Use EDI-provided Flush Out Log if desired.
EQ 9. Radon Protection				
	9.1	JSM	2/3/2014	No system required. Install a radon mitigation system that meets credit requirements. Ryan Moore to field verify.
	9.2	JSM	2/3/2014	do this already vent out first floor

EQ 10. Garage Pollutant Protection				
	10.1	JSM	2/3/2014	Provide plans showing HVAC unit within the conditioned boundary.
	10.2	JSM	2/3/2014	N/A no attached garages. Comply with credit requirements. Ryan to field verify.
	10.3	JSM	2/3/2014	Not good idea in Florida brings in a ll humid hot air. Install a fan in the garage equipped with an automatic control. Ryan to field test control operation and fan flow.
	10.4	JSM	2/3/2014	garages are detached

Credits	*Responsible Party*	*Last Updated*	*Additional Notes*
AE 1. Education of Home Owner / Tenant			
1.1	General Contractor	2/3/2014	Show(do not provide) Ryan a copy of completed O&M Manual and agenda for tenant walk-through. Use EDI-provided template and instructions if desired.
1.2	Building Manager	2/3/2014	Provide documentation of compliance.
1.3	Florida Crystals	2/3/2014	a) Provide documentation of participation in home tour b) Provide link to website (minimum 2 pages info on LEED features of building(s)) c) Provide copy of newspaper article d) Ryan to field verify sign is posted minimum 6 weeks continuously during construction
AE 2. Education of the Building Manager			
2	Florida Crystals	2/3/2014	Show(do not provide) Ryan copy of completed O&M Manual and agenda for tenant walk-through. Use EDI-provided template and instructions.

		:redits	*Responsible Party*	*Last Updated*	*Additional Notes*
EA 2. Insulation					
	2.1				
	2.2				
EA 3. Air Infiltration					
	3.1				
	3.2				
OR	3.3				
EA 4. Windows					
	4.1				
	4.2				
OR	4.3				
EA 5. Heating and Cooling Distribution					
	5.1				
	5.2				
OR	5.3				

EA 6. Space Heating and Cooling Equipment				
	6.1			
	6.2			
OR	6.3			
EA 7. Water Heating				
	7.1			
	7.2			
	7.3			
EA 8. Lighting				
	8.1			
	8.2			
OR	8.3			
EA 9. Appliances				
	9.1			
	9.2			
EA 10. Renewable Energy				
	10			
EA 11. Residential Refrigerant Management				
	11.1			
	11.2			