



Worksheet- All Climate Zones

**Preliminary Certification by Architect of Record -10/13/17  
based on my professional review of the documents and requirements**

Builder Company: _____	House Address: <u>1008 Railroad Avenue</u>
Contact Person: _____	City, State: <u>Falls Church, Virginia</u>
Phone: _____	Zip Code: <u>22046</u>
Plan Name: <u>Tinner+Whitney+Commonhouse</u>	Lot #: <u>Lots 1-10 + Commonhouse</u>
Technical Advisor: _____	Community: <u>Railroad Cottages</u>
Permit Date: _____	Pre-Drywall Inspection Date: _____
Design Review Date: _____	Final Inspection Date: _____

<b>EarthCraft Program Levels:</b>	<b>Certified</b>	<b>Gold</b>	<b>Platinum</b>
	75	100	125

Project Points	Project Score	
	Planned	Actual
SITE PLANNING (SP)	15	0
CONSTRUCTION WASTE MANAGEMENT (CW)	4	0
RESOURCE EFFICIENCY (RE)	10	0
DURABILITY & MOISTURE MANAGEMENT (DU)	8	0
INDOOR AIR QUALITY (IAQ)	23	0
HIGH PERFORMANCE BUILDING ENVELOPE (BE)	12	0
ENERGY EFFICIENT SYSTEMS (ES)	34	0
WATER EFFICIENCY (WE)	9	0
EDUCATION AND OPERATIONS (EO)	2	0
INNOVATION (INN)	0	0
<b>Totals</b>	<b>117</b>	<b>0</b>

EarthCraft House Level: **GOLD**

**Builder** - By accepting the EarthCraft House certification, I pledge that this house has been constructed to the standards listed within this EarthCraft Worksheet.

  
 \_\_\_\_\_  
 Architect of Record



Jack Wilbern, RA  
 \_\_\_\_\_  
 Printed Name

\_\_\_\_\_  
 EarthCraft Technical Advisor Signature

\_\_\_\_\_  
 Printed Name

\_\_\_\_\_  
 EarthCraft Administrator Signature

\_\_\_\_\_  
 Printed Name

## EarthCraft House Worksheet

1008 Railroad Ave **Most recently updated version: 09/04/15**

	Points	Planned	Status	Notes	Responsible Party
<b>SITE PLANNING (SP)</b>					
<b>SP 1: SITE SELECTION</b>					
<b>OPTIONAL</b>					
<b>SP 1.0</b> Type of site	Select all that apply:				
1. Previously developed site	1				Site/Civil
2. Infill site	2				Site/Civil
<b>SP 1.1</b> Lot size ≤1/4 acre	1				Site/Civil
<b>SP 1.2</b> Located within a community that provides municipal recycling pick-up or within 10 miles of a recycling center drop-off	1	1			Site/Civil
<b>SP 2: SITE DESIGN</b>					
<b>OPTIONAL</b>					
<b>SP 2.0</b> Connectivity	Select all that apply:				
1. Walking distance to bus line (≤1/4 mile)	3				Site/Civil
2. Walking distance to rail/rapid transit (≤1/2 mile)	4				Site/Civil
3. Biking distance to bike path (≤1/2 mile)	2	2			Site/Civil
4. Walking distance to public openspace or greenspace ≥3/4 acre in size (≤1/4 mile)	2				Site/Civil
5. Walking distance to 4 or more mixed uses (≤1/4 mile)	4				Site/Civil
<b>SP 2.1</b> Permanent stormwater control	Select one:				
A. ≥25% of onsite impervious surface areas	2				Site/Civil
B. ≥75% of onsite impervious surface areas	5				Site/Civil
<b>SP 3: SITE PREPARATION AND PRESERVATION MEASURES</b>					
<b>REQUIRED</b>					
<b>SP 3.0</b> Workshop on erosion and sediment control (site super w/current certification)	-	-			Site Super
<b>SP 3.1</b> Site assessment identifying all greenspace features	-	-			Site/Civil
<b>SP 3.2</b> Erosion and sedimentation control plan with implementation	-	-			Site/Civil
<b>SP 3.3</b> Do not install invasive plant species	-	-			Landscaping
<b>OPTIONAL</b>					
<b>SP 3.4</b> Design and implement tree protection plan	3	3			Site Super
<b>SP 3.5</b> Leave ≥25% of site undisturbed	2				Site Super
<b>SP 3.6</b> Mill cleared logs	1				Landscaping
<b>SP 3.7</b> Grind stumps and limbs for mulch	1				Site/Civil
<b>SP 3.8</b> Remove 100% of invasive plants from 100% of site	2	2			Landscaping
<b>SP 3.9</b> Tree planting (36" total caliper of trees per acre; trees ≥2" diameter)	2	2			Landscaping
<b>SP 3.10</b> Certified wildlife habitat (development or lot)	2				Landscaping
<b>SP 3.11</b> Home built within EarthCraft Community	5	5			Site/Civil
<b>SITE PLANNING TOTAL</b>	15		0		
<b>CONSTRUCTION WASTE MANAGEMENT (CW)</b>					
<b>REQUIRED</b>					
<b>CW 1.0</b> No construction materials burned or buried on site	-	-			Site Super
<b>CW 1.1</b> Proper cleaning and disposal of paint supplies	-	-			Drywall/Paint
<b>OPTIONAL</b>					
<b>CW 1.2</b> Infill or previously developed lot building deconstruction with ≥25% material re-use on site	2				Site Super
<b>CW 1.3</b> Post waste management plan and divert ≥75% from landfill	Select all that apply:				
1. Wood	2	2			Site Super
2. Cardboard	2	2			Site Super
3. Metal	2				Site Super
4. Drywall (recycle or grind and spread on site)	3				Site Super
5. Plastics	1				Site Super
<b>CONSTRUCTION WASTE TOTAL</b>	4		0		

# EarthCraft House Worksheet

1008 Railroad Ave Most recently updated version: 09/04/15

	Points	Planned	Status	Notes	Responsible Party
<b>RESOURCE EFFICIENCY (RE)</b>					
<b>RE 1: RESOURCE EFFICIENT DESIGN</b>					
<b>REQUIRED</b>					
<b>RE 1.0</b> Minimum stud spacing: 16" centers for 2x4 walls and 2x6 walls	-	-			Framer
<b>REQUIRED AT GOLD, OPTIONAL AT CERTIFIED</b>					
<b>RE 1.1</b> Advanced framing				Select all that apply:	Framer
1. 2-stud corners at all locations	2				Framer
2. Ladder T-walls at all locations	3				Framer
<b>OPTIONAL</b>					
<b>RE 1.2</b> Site framing plan with precut framing package	2	2			Framer
<b>RE 1.3</b> Floor joists centers at (all floors)				Select one:	Framer
A. 24"	3				Framer
B. 19.2"	1				Framer
<b>RE 1.4</b> Wall spacing at 24" centers for non-load bearing 2x4 walls	2				Framer
<b>RE 1.5</b> Exterior wall spacing at 24" centers for 2x6 walls with stacked framing	3				Framer
<b>RE 1.6</b> Size headers for loads (non-structural headers in non-load bearing walls)	1	1			Framer
<b>RE 1.7</b> Ground floor accessibility	4				Framer
<b>RE 2: ADVANCED FRAMING PRODUCTS</b>					
<b>OPTIONAL</b>					
<b>RE 2.0</b> Insulated concrete forms, precast autoclaved aerated concrete or precast insulated foundation walls	2				Framer
<b>RE 2.1</b> Engineered wall framing (≥90% of studs)	1				Framer
<b>RE 2.2</b> Deliver panelized construction or SIPs to the site pre-framed				Select all that apply:	Framer
1. Floors	2				Framer
2. Exterior walls	2	2			Framer
3. Roof	2	2			Framer
<b>RE 3: LOCAL, RECYCLED AND/OR NATURAL CONTENT MATERIALS</b>					
<b>OPTIONAL</b>					
<b>RE 3.0</b> Replace ≥25% of cement in slab and/or foundation wall concrete with fly ash or slag	1				Site Super
<b>RE 3.1</b> Use building materials extracted, processed and manufactured ≤500 miles of site (3 points per product max 12 points)	3-12				Site Super
<b>RE 3.2</b> Insulation (≥25% recycled content material)	2	2			Insulation/Rough Air Sealing
<b>RE 3.3</b> Engineered and no added urea-formaldehyde trim				Select all that apply:	Site Super
1. Interior (≥80%)	1				Site Super
2. Exterior (including soffit, fascia and trim (≥75%))	1	1			Site Super
<b>RE 3.4</b> Outdoor decking and porches (≥40% recycled content material on ≥90% area)	2				Framer
<b>RESOURCE EFFICIENCY TOTAL</b>	10		0		

# EarthCraft House Worksheet

1008 Railroad Ave Most recently updated version: 09/04/15

Points	Planned	Status	Notes	Responsible Party	
<b>DURABILITY &amp; MOISTURE MANAGEMENT (DU)</b>					
<b>DU 1: PRODUCTS &amp; APPLICATIONS</b>					
<b>REQUIRED</b>					
<b>DU 1.0</b>	All roof valleys direct water away from walls, dormers, chimneys, etc.	-	-		Framer
<b>DU 1.1</b>	Install drainage plane per manufacturer's specifications	-	-		Framer
<b>DU 1.2</b>	Integrate drainage plane with	All must comply:			Framer
	1. Window and door pan flashing at sills and side flashing	-	-		Framer
	2. Window and door head/top flashing	-	-		Framer
	3. Exterior wall cladding	-	-		Framer
<b>DU 1.3</b>	Double layer of building paper or housewrap behind cementitious stucco, stone veneer or synthetic stone veneer on framed walls	-	-		Framer
<b>DU 1.4</b>	Roof gutters that discharge water ≥5' from foundation	-	-		Site Super
<b>DU 1.5</b>	Flashing	All must comply:			Framer
	1. Self-sealing bituminous membrane or equivalent at valleys and roof deck penetrations	-	-		Framer
	2. Step and kick-out flashing at wall/roof and wall/porch or deck intersections, flashing ≥4" on wall surface and integrated with wall and roof/deck/porch drainage planes	-	-		Framer
<b>DU 1.6</b>	Maintain 2" clearance between wall siding and roof surface	-	-		Framer
<b>DU 1.7</b>	If installed, crawlspace must be closed (not required if project is located in 100 yr. flood plain)	-	-		Insulation/Rough Air Sealing
<b>OPTIONAL</b>					
<b>DU 1.8</b>	Alternative termite treatment with no soil pretreatment	Select one:			Framer
	A. Non-toxic pest treatment of all lumber in contact with foundation (≥36" above foundation)	3			Framer
	B. Continuous foundation termite flashing	2			Framer
<b>DU 1.9</b>	Vented rain screen behind exterior cladding	5			Framer
<b>DU 1.10</b>	Roofing warranty ≥40-year	1			Framer
<b>DU 1.11</b>	Outdoor deck material (≥25-year warranty)	1	1		Framer
<b>DU 1.12</b>	Install plants to maintain distance ≥2' from home at maturity	2			Landscaping
<b>DU 2: MOISTURE MANAGEMENT</b>					
<b>REQUIRED</b>					
<b>DU 2.0</b>	Gravel bed beneath sub-grade slabs	-	-		Site/Civil
<b>DU 2.1</b>	100% coverage of ≥6 mil vapor barrier beneath all slabs	-	-		Site/Civil
<b>DU 2.2</b>	Damp proofing of below-grade walls	-	-		Site/Civil
<b>DU 2.3</b>	Foundation drain on top of sub-grade footing	-	-		Site/Civil
<b>DU 2.4</b>	Patio slabs, walks and driveways sloped ≥1/4" per 1' away from home for ≥10' or to the edge of the surface, whichever is less	-	-		Site/Civil
<b>DU 2.5</b>	Final site grade sloped ≥1/2" per 1' away from home for ≥10' or to the edge of the site, whichever is less	-	-		Site/Civil
<b>DU 2.6</b>	100% coverage of ≥6 mil vapor barrier in crawlspace	-	-		Insulation/Rough Air Sealing
<b>DU 2.7</b>	Do not install wet or water-damaged building materials	-	-		
<b>DU 2.8</b>	Rigid, moisture-resistant backing material behind tubs and showers	-	-		Framer
<b>DU 2.9</b>	No wall-to-wall carpet within 3' of toilets, tubs and showers	-	-		Site Super
<b>REQUIRED AT GOLD, OPTIONAL AT CERTIFIED</b>					
<b>DU 2.10</b>	Foundation drain at outside perimeter edge of footing surrounded with 6" clean gravel and fabric filter	4			Site/Civil
<b>DU 2.11</b>	Drain or sump pump in basement/crawlspace with sealed cover	1	1		Site/Civil
<b>DU 2.12</b>	Install supplemental dehumidification	5	5		HVAC
<b>OPTIONAL</b>					
<b>DU 2.13</b>	Gravel bed beneath on-grade or raised slab	1			Site/Civil
<b>DU 2.14</b>	Slab or crawlspace vapor barrier ≥10 mil or reinforced	1	1		Insulation/Rough Air Sealing
<b>DU 2.15</b>	Wall cavity insulation without a vapor retarder or kraft paper	1			Insulation/Rough Air Sealing
<b>DURABILITY &amp; MOISTURE MANAGEMENT TOTAL</b>		8	0		

EarthCraft House Worksheet

1008 Railroad Ave Most recently updated version: 09/04/15

		Points	Planned	Status	Notes	Responsible Party
<b>INDOOR AIR QUALITY (IAQ)</b>						
<b>IAQ 1: COMBUSTION SAFETY</b>						
<b>REQUIRED</b>						
<b>IAQ 1.0</b>	No unvented combustion fireplaces, appliances or space heaters	-	-			HVAC
<b>IAQ 1.1</b>	Sealed-combustion furnace and/or water heater or isolate furnace/water heater from conditioned space	-	-			HVAC
<b>IAQ 1.2</b>	All fireplaces have outdoor combustion air supply and flue damper	-	-			HVAC
<b>IAQ 1.3</b>	Carbon monoxide detector (one per floor, hard wired with battery back-up)	-	-			HVAC
<b>IAQ 1.4</b>	All fireplaces have outdoor combustion air supply and masonry- built fireplaces have gasketed doors	-	-			
<b>REQUIRED AT GOLD, OPTIONAL AT CERTIFIED</b>						
<b>IAQ 1.5</b>	Garage ventilation	Select one:				HVAC
	<b>A.</b> Control attached garage exhaust fan by motion sensor or timer, or detached garage	2				HVAC
	<b>B.</b> Detached garage or no garage	3	3			Site Super
<b>IAQ 1.6</b>	Sealed combustion, direct-vent fireplace(s) or no fireplace	2	2			HVAC
<b>IAQ 2: INDOOR POLLUTANT CONTROL</b>						
<b>REQUIRED</b>						
<b>IAQ 2.0</b>	Protect all ducts until floor finishing is complete	-	-			Site Super
<b>IAQ 2.1</b>	Pleated filter installed during construction	-	-			HVAC
<b>IAQ 2.2</b>	All outdoor supply air crosses filter prior to distribution	-	-			HVAC
<b>IAQ 2.3</b>	Filter easily accessible for occupant	-	-			HVAC
<b>IAQ 2.4</b>	No HVAC ducts or equipment in garage and no conditioned air supplied to garage	-	-			HVAC
<b>IAQ 2.5</b>	Radon resistant construction compliant with IAQ 2.9.1, required if home is located in radon zone 1. Track points in IAQ 2.9.1	-	-			
<b>REQUIRED AT PLATINUM, OPTIONAL AT GOLD &amp; CERTIFIED</b>						
<b>IAQ 2.6</b>	Indoor airPLUS Certification	2				Site Super
<b>REQUIRED AT GOLD, OPTIONAL AT CERTIFIED</b>						
<b>IAQ 2.7</b>	Filters	Select all that apply:				HVAC
	<b>1.</b> ≥MERV 6	1	1			HVAC
	<b>2.</b> Builder supplies homeowner with 12 months of ≥ MERV 6 filters	1	1			HVAC
	<b>3.</b> Access panel includes gasket and fits snugly	2	2			HVAC
<b>IAQ 2.8</b>	Provide rodent and corrosion proof screens with mesh ≤0.5" for all openings not fully sealed or caulked	1				Site Super
<b>OPTIONAL</b>						
<b>IAQ 2.9</b>	Radon resistant construction	Select all that apply:				Plumbing
	<b>1.</b> Passive radon/soil gas vent system to exterior	2				Plumbing
	<b>2.</b> Radon test of home prior to occupancy or provide test kits to buyer	2	2			Site Super
<b>IAQ 2.10</b>	MERV 13 pleated filter ≥4" in thickness	1				HVAC
<b>IAQ 2.11</b>	Protect ducts until construction is completed	2	2			Site Super
<b>IAQ 2.12</b>	Flush home before occupancy	1	1			Site Super
<b>IAQ 2.13</b>	Certified low or no VOC materials meeting guidelines	Select all that apply:				Drywall/Paint
	<b>1.</b> Interior paints	2	2			Drywall/Paint
	<b>2.</b> Stains and finishes on wood floors	2	2			Site Super
	<b>3.</b> Sealants and adhesives	3	3			Drywall/Paint
	<b>4.</b> Carpet, carpet pad and carpet pad adhesive	2	2			Site Super
<b>IAQ 2.14</b>	No wall-to-wall carpet in entire home	4				Site Super
<b>IAQ 2.15</b>	No added urea-formaldehyde in all shelves and countertops	4				Site Super
<b>IAQ 2.16</b>	Install permanent walk-off mats, or permanent shoe removal area and storage, at each entry	3				Site Super
<b>INDOOR AIR QUALITY TOTAL</b>		23	0			

EarthCraft House Worksheet

1008 Railroad Ave Most recently updated version: 09/04/15

		Points	Planned	Status	Notes	Responsible Party
<b>HIGH PERFORMANCE BUILDING ENVELOPE (BE)</b>						
<b>BE 0: ENERGY CODE &amp; ENERGY PERFORMANCE</b>						
<b>REQUIRED</b>						
<b>BE 0.1</b>	IECC adopted by jurisdiction plus applicable state amendments whichever is more stringent	-	-			Site Super
<b>BE 0.2</b>	Confirmed HERS Rating Index ≤ ENERGY STAR HERS Index Target without SAF or follow ENERGY STAR prescriptive path requirements	-	-			Site Super
<b>REQUIRED AT PLATINUM, OPTIONAL AT GOLD &amp; CERTIFIED</b>						
<b>BE 0.3</b>	ENERGY STAR V3 New Home Certification	2				Site Super
<b>BE 0.4</b>	DOE Challenge Home	3				
<b>BE 1: AIR SEALING MEASURES</b>						
<b>REQUIRED</b>						
<b>BE 1.0</b>	Install vapor barriers only under slabs and on crawlspace floors	-	-			Insulation/Rough Air Sealing
<b>BE 1.1</b>	Seal bottom plates to subfloor or foundation	-	-			Insulation/Rough Air Sealing
<b>BE 1.2</b>	Block and seal joist cavities	All must comply:				Framer
	1. Above attached garage walls	-	-			Framer
	2. Above supporting walls at cantilevered floors	-	-			Framer
	3. Under attic kneewalls	-	-			Framer
<b>BE 1.3</b>	Block stud cavities at change in ceiling height	-	-			Framer
<b>BE 1.4</b>	Install blocking and baffles in insulated and vented vaulted ceilings	-	-			Insulation/Rough Air Sealing
<b>BE 1.5</b>	Seal penetrations through	All must comply:				Insulation/Rough Air Sealing
	1. Foundation and exterior wall assemblies	-	-			Insulation/Rough Air Sealing
	2. Top and bottom plates	-	-			Insulation/Rough Air Sealing
	3. Band and rim joists	-	-			Insulation/Rough Air Sealing
	4. Insulated subfloors	-	-			Insulation/Rough Air Sealing
	5. Sheathing	-	-			Insulation/Rough Air Sealing
	6. Walls and ceilings in attached garages	-	-			Insulation/Rough Air Sealing
	7. Insulated ceilings	-	-			Insulation/Rough Air Sealing
<b>BE 1.6</b>	Seal penetrations around	All must comply:				Insulation/Rough Air Sealing
	1. Shower and tub drains	-	-			Insulation/Rough Air Sealing
	2. HVAC supply and return boots sealed to subfloor or drywall (floors, walls or ceilings)	-	-			Insulation/Rough Air Sealing
	3. Window and door rough openings	-	-			Insulation/Rough Air Sealing
	4. All drywall penetrations in common walls between attached homes	-	-			Insulation/Rough Air Sealing
	5. Exhaust fans at drywall	-	-			Insulation/Rough Air Sealing
	6. Attic pull-down stairs, scuttle holes and kneewall doors	-	-			Insulation/Rough Air Sealing
	7. Chases	-	-			Insulation/Rough Air Sealing
<b>BE 1.7</b>	Seal seams and gaps in	All must comply:				Insulation/Rough Air Sealing
	1. Band joist sheathing	-	-			Insulation/Rough Air Sealing
	2. Exterior wall sheathing	-	-			Insulation/Rough Air Sealing
	3. All seams in SIPs	-	-			Insulation/Rough Air Sealing
	4. Marriage joints between modular home modules	-	-			Insulation/Rough Air Sealing
<b>BE 1.8</b>	Install rigid air barriers	All must comply:				Framer
	1. Behind tubs and showers on insulated walls	-	-			Framer
	2. At attic kneewall on attic-side (including skylight shafts)	-	-			Framer
	3. At chases in contact with the building envelope (including fireplace chases)	-	-			Framer
	4. Along staircases on insulated walls	-	-			Framer
	5. Along porch roofs	-	-			Framer
	6. At dropped ceiling/soffit	-	-			Framer
<b>BE 1.9</b>	Install weather-stripping at	All must comply:				Drywall/Paint
	1. All exterior doors	-	-			Drywall/Paint
	2. Attic kneewall doors, scuttle holes and pull down stairs	-	-			Drywall/Paint
<b>BE 1.10</b>	All recessed can lights must be airtight, gasketed and IC-rated in insulated ceilings; in Climate Zone 4, insulate exterior surface of fixture to ≥ R-10	-	-			Drywall/Paint

EarthCraft House Worksheet

1008 Railroad Ave Most recently updated version: 09/04/15

		Points	Planned	Status	Notes	Responsible Party
<b>OPTIONAL</b>						
<b>BE 1.11</b>	Seal top plate to drywall	1	1			Insulation/Rough Air Sealing
<b>BE 1.12</b>	Air seal all electrical boxes on exterior walls	1	1			Drywall/Paint
<b>BE 1.13</b>	Seal drywall penetrations in	Select all that apply:				Drywall/Paint
	1. Non-insulated walls	1				Drywall/Paint
	2. Insulated walls	1	1			Drywall/Paint
<b>BE 1.14</b>	Attic access with sealed attic-side cover or outside of building envelope	2	2			Insulation/Rough Air Sealing
<b>BE 1.15</b>	If ducts are in unconditioned attic; attic side radiant barrier or Energy Star roof	2				Insulation/Rough Air Sealing
<b>BE 2: BLOWER DOOR TEST RESULTS</b>						
<b>REQUIRED ***Indicates requirement for states that have adopted 2012 IECC</b>						
<b>BE 2.0</b>	Envelope leakage ratio <0.50 or 7 ACH50, whichever requires a lower CFM50	-	-			Insulation/Rough Air Sealing
<b>BE 2.1</b>	*** Envelope leakage ratio <0.40 or 5 ACH50, whichever requires a lower CFM50	-	-			
<b>OPTIONAL *** Indicates requirement for states that have adopted 2012 IECC</b>						
<b>BE 2.2</b>	Improved envelope leakage ratio	Select one:				
	<b>A.</b> ***Envelope leakage ratio ≤0.40 or 5 ACH50, whichever requires a lower CFM	2				Insulation/Rough Air Sealing
	<b>B.</b> Envelope leakage ratio ≤0.25 or 3 ACH50, whichever requires a lower CFM50	4				Insulation/Rough Air Sealing
<b>BE 3: INSULATION</b>						
<b>REQUIRED</b>						
<b>BE 3.0</b>	Floors	All must comply:				Insulation/Rough Air Sealing
	1. Framed ≥R-19	-	-			Insulation/Rough Air Sealing
	2. Cantilevered/Over exterior spaces ≥R-30	-	-			Insulation/Rough Air Sealing
<b>BE 3.1</b>	Walls	All must comply:				Insulation/Rough Air Sealing
	1. Exterior walls and band joist ≥R-13 Climate Zone 4 - R-13 +1 continuous or R-15 cavity	-	-			Insulation/Rough Air Sealing
	2. Fireplace chases on exterior walls ≥R-13	-	-			Insulation/Rough Air Sealing
	3. Foundation walls: Climate Zone 2/3 ≥R-5 continuous or ≥R-13 cavity Climate Zone 4 ≥R-10 continuous or ≥R-15 cavity	-	-			Insulation/Rough Air Sealing
<b>BE 3.2</b>	Ceilings	All must comply:				Insulation/Rough Air Sealing
	1. Flat: Climate Zone 2/3 ≥R-30, Climate Zone 4 ≥R-49	-	-			Insulation/Rough Air Sealing
	2. Sloped: Climate Zone 2/3 ≥R-30, Climate Zone 4 ≥R-38	-	-			Insulation/Rough Air Sealing
<b>BE 3.3</b>	Attic/Roof	All must comply:				Insulation/Rough Air Sealing
	1. Install wind baffles at eaves in every vented bay, or equivalent air barrier at edge of ceiling	-	-			Insulation/Rough Air Sealing
	2. Energy heel trusses or raised top plate	-	-			Insulation/Rough Air Sealing
	3. Attic platforms allow for full-depth insulation below	-	-			Insulation/Rough Air Sealing
<b>BE 3.4</b>	Attic kneewall	All must comply:				Insulation/Rough Air Sealing
	1. Doors: Climate Zone 2/3 ≥R-18, Climate Zone 4 ≥R-19	-	-			Insulation/Rough Air Sealing
	2. Insulation and attic-side rigid air barrier: Climate Zone 2/3 ≥R-18, Climate Zone 4 ≥R-19	-	-			Insulation/Rough Air Sealing
<b>BE 3.5</b>	Attic pull-down/scuttle hole: Climate Zone 2/3 ≥R-30, Climate Zone 4 ≥R-38	-	-			Insulation/Rough Air Sealing
<b>BE 3.6</b>	If installed, whole house fan has sealed, insulated cover ≥R-19	-	-			Insulation/Rough Air Sealing
<b>BE 3.7</b>	If loose-fill attic insulation, card and rulers must be installed	-	-			Insulation/Rough Air Sealing
<b>REQUIRED IN CLIMATE ZONE 4 AT ALL LEVELS, OPTIONAL IN CLIMATE ZONES 2 &amp; 3 AT ALL LEVELS</b>						
<b>BE 3.8</b>	Slab edge insulation: Climate Zone 2/3 ≥R-4, Climate Zone 4 ≥R-10	3				Insulation/Rough Air Sealing
<b>REQUIRED GOLD, OPTIONAL AT CERTIFIED</b>						
<b>BE 3.9</b>	Grade I insulation installation quality (floors, walls and ceilings)	4				Insulation/Rough Air Sealing
<b>BE 3.10</b>	Corners ≥R-6	2				Insulation/Rough Air Sealing
<b>BE 3.11</b>	Headers ≥R-3	1				Insulation/Rough Air Sealing

# EarthCraft House Worksheet

1008 Railroad Ave Most recently updated version: 09/04/15

		Points	Planned	Status	Notes	Responsible Party
<b>OPTIONAL</b>						
<b>BE 3.12</b>	Insulate with spray applied insulation	Select one:				
	<b>A.</b> Band joist	2				Insulation/Rough Air Sealing
	<b>B.</b> Walls	2				Insulation/Rough Air Sealing
<b>BE 3.13</b>	Walls	Select all that apply:				
	<b>1.</b> Seal and insulate crawspace walls: Climate Zone 2/3 $\geq$ R-5 continuous Climate Zone 4 $\geq$ R-10 continuous	3	3			Insulation/Rough Air Sealing
	<b>2.</b> Insulate exterior walls and band joist $\geq$ R-20	3	3			Insulation/Rough Air Sealing
<b>BE 3.14</b>	No fireplaces on exterior walls	1	1			Framer
<b>BE 3.15</b>	Insulated wall sheathing	Select one:				
	<b>A.</b> $\geq$ R-3 (75%)	2				Insulation/Rough Air Sealing
	<b>B.</b> $\geq$ R-3 (100%)	3				Insulation/Rough Air Sealing
<b>BE 3.16</b>	Insulate roofline of attic with spray foam to create unvented attic $\geq$ R-19	3				Insulation/Rough Air Sealing
<b>BE 4: WINDOWS &amp; DOORS</b>						
<b>REQUIRED</b>						
<b>BE 4.0</b>	NFRC certified doors, windows and skylights with label	-	-			Site Super
<b>BE 4.1</b>	Window U-factor and SHGC	All must comply:				
	<b>1.</b> U-factor: Climate Zone 2 $\leq$ 0.45, Climate Zone 3 $\leq$ 0.35, Climate Zone 4 $\leq$ 0.32	-	-			Insulation/Rough Air Sealing
	<b>2.</b> SHGC: Climate Zone 2/3/4 $\leq$ 0.27	-	-			Insulation/Rough Air Sealing
<b>BE 4.2</b>	Skylight U-factor and SHGC	All must comply:				
	<b>1.</b> U-factor: Climate Zone 2 $\leq$ 0.70, Climate Zone 3 $\leq$ 0.57, Climate Zone 4 $\leq$ 0.55	-	-			Insulation/Rough Air Sealing
	<b>2.</b> SHGC: Climate Zone 2/3/4 $\leq$ 0.27	-	-			Insulation/Rough Air Sealing
<b>REQUIRED AT PLATINUM &amp; GOLD, OPTIONAL AT CERTIFIED</b>						
<b>BE 4.3</b>	Install ENERGY STAR certified door (s)	2				Site Super
<b>OPTIONAL</b>						
<b>BE 4.4</b>	Window U-factor and SHGC	Select all that apply:				
	<b>1.</b> U-factor: Climate Zone 2 $\leq$ 0.35, Climate Zone 3 $\leq$ 0.30, Climate Zone 4 $\leq$ 0.25	2				Site Super
	<b>2.</b> SHGC: Climate Zone 2/3/4 $\leq$ 0.24	2				Site Super
<b>HIGH PERFORMANCE BUILDING ENVELOPE TOTAL</b>		12	0			

EarthCraft House Worksheet

1008 Railroad Ave Most recently updated version: 09/04/15

		Points	Planned	Status	Notes	Responsible Party
<b>ENERGY EFFICIENT SYSTEMS (ES)</b>						
<b>ES 1: HEATING &amp; COOLING EQUIPMENT</b>						
<b>REQUIRED</b>						
<b>ES 1.0</b>	Size and select all HVAC equipment in accordance with <b>ACCA Manuals J and S</b>	All must comply:				HVAC
	1. Complete load calculation with accredited ACCA Manual J 8th Edition Software or stamp by a Professional Engineer	-	-			HVAC
	2. Base on actual house orientation	-	-			HVAC
	3. Use most current ASHRAE Handbook of Fundamentals Climate Design Information for outdoor design temperatures	-	-			HVAC
	4. Indoor temperatures 70°F for heating and 75°F for cooling	-	-			HVAC
	5. Base infiltration on "semi-tight" or tighter	-	-			HVAC
	6. Base duct tightness on "notably sealed" or tighter	-	-			HVAC
	7. Use actual area, U-factor and SHGC for windows and doors, actual area and R-values of floors, walls and ceilings	-	-			HVAC
	8. Base on ASHRAE 62.2-2007 ventilation loads or Building Science Corporation Standard 01-2013	-	-			HVAC
	9. Cooling equipment and/or single-stage heat pump between 95-115% (≤125% for heat pump in Climate Zone 4)	-	-			HVAC
<b>ES 1.1</b>	Programmable thermostat (all systems except heat pumps)	-	-			HVAC
<b>ES 1.2</b>	Adaptive recovery thermostat (all heat pumps)	-	-			HVAC
<b>ES 1.3</b>	AHRI performance match all indoor/outdoor coils	-	-			HVAC
<b>ES 1.4</b>	No electric resistant heat as primary heat source	-	-			HVAC
<b>ES 1.5</b>	Heating equipment efficiency	-	-			
	1. Furnace(s) ≥90% AFUE and within 40% of load calculation	-	-			
	2. Heat pump(s): Climate Zone 2/3 ≥8.2 HSPF and within 15% of load calculation, Climate Zone 4 ≥8.5 HSPF and within 25% of load calculation	-	-			
<b>ES 1.6</b>	Ground-source heat pump(s) of ≥15 EER (if installed)	-	-			
<b>ES 1.7</b>	Cooling equipment ≥14 SEER split system or ≥12 EER package unit in all Climate Zones	-	-			
<b>REQUIRED GOLD, OPTIONAL AT CERTIFIED</b>						
<b>ES 1.8</b>	Verify proper refrigerant charge and total system air flow within 20% of design air flow	5	5			HVAC
<b>ES 1.9</b>	Locate ducts within conditioned space (≥90%)	3	3			HVAC
<b>REQUIRED AT GOLD IN CLIMATE ZONES 2 AND 3, OPTIONAL AT CERTIFIED AND ALL LEVELS IN ZONE 4</b>						
<b>ES 1.10</b>	Cooling equipment ≥15 SEER or ≥13 EER	2	2			HVAC
<b>OPTIONAL</b>						
<b>ES 1.11</b>	Variable speed blower	3				HVAC
<b>ES 1.12</b>	Dual-stage compressor	3				HVAC
<b>ES 1.13</b>	Zone control (only available if used with variable speed air blower)	Select all that apply:				HVAC
	1. One system serves multiple zones, with dampers	1				HVAC
	2. Zoned returns or transfer grills between zones	2				HVAC
<b>ES 1.14</b>	High efficiency HVAC equipment	Select one:				HVAC
	A. Ground-source heat pump(s) ≥17 EER	3				HVAC
	B. Cooling equipment ≥16 SEER or ≥13 EER	4	3			HVAC
	C. Mini-split cooling equipment ≥16 SEER	4				HVAC
<b>ES 1.15</b>	Cooling equipment between 95-115% of load calculation (not next nominal size)	2	2			HVAC
<b>ES 2: DUCTWORK / AIR HANDLER</b>						
<b>REQUIRED</b>						
<b>ES 2.0</b>	Seal air handlers and duct systems with mastic	-	-			HVAC
<b>ES 2.1</b>	Code approved solid connector for all flex-to-flex connections	-	-			HVAC
<b>ES 2.2</b>	Install rigid ducts or pull all flex ducts with no pinches and support at intervals ≤5'	-	-			HVAC
<b>ES 2.3</b>	Fully duct all supply and return ducts	-	-			HVAC
<b>ES 2.4</b>	No ducts in exterior walls or vaulted ceilings	-	-			HVAC
<b>ES 2.5</b>	Ducts suspended above attic floor trusses to allow for full depth of attic floor insulation	-	-			HVAC
<b>ES 2.6</b>	Duct insulation	All must comply:				HVAC
	1. R-8: Unconditioned attics and exterior locations	-	-			HVAC
	2. R-3: All conditioned space	-	-			HVAC
<b>ES 2.7</b>	HVAC system and ductwork is dry and clean	-	-			HVAC

# EarthCraft House Worksheet

1008 Railroad Ave Most recently updated version: 09/04/15

		Points	Planned	Status	Notes	Responsible Party
<b>REQUIRED AT GOLD AND PLATINUM, OPTIONAL AT CERTIFIED</b>						
<b>ES 2.8</b>	Improved duct design	Select all that apply:				HVAC
	1. Install ducts per ACCA Manual D duct design	3	3			
	2. Measure and balance airflow for each duct run ( $\pm 20\%$ of design)	2				HVAC
	3. Verify supply and return duct static pressure	1				HVAC
<b>ES 2.9</b>	Install multiple return ducts, jumper ducts, transfer grills or measure pressure differential compliance ( $\leq 3$ Pa)	1				HVAC
<b>OPTIONAL</b>						
<b>ES 2.10</b>	Duct design and installation	Select all that apply:				HVAC
	1. No duct take-offs within 6" of supply plenum cap	1	1			HVAC
	2. Rigid metal supply trunk line	2	2			HVAC
	3. Space all supply duct take-offs at least 6" apart	1	1			HVAC
<b>ES 2.11</b>	Return duct take-off area at plenum is 120% of supply duct take-off area at plenum	3				HVAC
<b>ES 3: DUCT LEAKAGE TEST RESULTS</b>						
<b>REQUIRED</b>						
<b>ES 3.0</b>	Test duct leakage based on floor area served	All must comply:				HVAC
	1. Leakage to outside $\leq 4\%$ ( $\leq 5\%$ if conditioned floor area $< 1,200$ sq. ft.)	-	-			HVAC
	2. Total leakage $\leq 8\%$	-	-			HVAC
<b>OPTIONAL</b>						
<b>ES 3.1</b>	Test duct leakage based on floor area served	Select all that apply:				HVAC
	1. Leakage to outside $\leq 2\%$	2				HVAC
	2. Total leakage $\leq 4\%$	2				HVAC
<b>ES 4: VENTILATION</b>						
<b>REQUIRED</b>						
<b>ES 4.0</b>	Vent all bathroom exhaust fans and all dryer vents to outdoors; all bathrooms must have exhaust fans	-	-			HVAC
<b>ES 4.1</b>	Bath fans with rated airflow of 80 CFM or measured airflow within 10% of rated airflow	-	-			HVAC
<b>ES 4.2</b>	Vent kitchen exhaust fan to exterior with $\geq 100$ CFM airflow; gas ranges and gas cooktops	-	-			HVAC
<b>ES 4.3</b>	Back-draft dampers for kitchen, bathroom and dryer exhausts	-	-			HVAC
<b>ES 4.4</b>	Install intermittent or continuous ventilation system with damper and labeled controls meeting ASHRAE 62.2-2007 or Building Science Standard 01-2013 ventilation requirements; exhaust-only ventilation is not allowed	-	-			HVAC
<b>ES 4.5</b>	Locate all air intakes	All must comply:				HVAC
	1. $\geq 10'$ from exhaust outlets and vehicle idling zones	-	-			HVAC
	2. Above grade or roof deck: Climate Zone 2/3 $\geq 2'$ , Climate Zone 4 $\geq 4'$	-	-			HVAC
<b>ES 4.6</b>	No power roof vents	-	-			HVAC
<b>REQUIRED AT GOLD, OPTIONAL AT CERTIFIED</b>						
<b>ES 4.7</b>	If installed, ceiling fans are ENERGY STAR qualified	2	2			HVAC
<b>ES 4.8</b>	ENERGY STAR bath fans (all bath fans)	2	2			HVAC
<b>ES 4.9</b>	Vent kitchen exhaust fan to exterior with measured airflow $\geq 100$ CFM: electric ranges and electric cooktops	2	2			HVAC
<b>ES 4.10</b>	Verify outdoor air supply ventilation airflow test within 20% of design values	2				HVAC
<b>ES 4.11</b>	Install and label accessible ventilation controls, with override controls for continuously operating ventilation fans	2				HVAC
<b>OPTIONAL</b>						
<b>ES 4.12</b>	Duct all bath fans with rigid ducts	1				HVAC
<b>ES 4.13</b>	Automatic bathroom exhaust fan controls	1				HVAC
<b>ES 4.14</b>	Energy recovery ventilator	2				HVAC
<b>ES 4.15</b>	Vent attached storage rooms to outside any storage room attached to house	1				HVAC
<b>ES 5: WATER HEATER</b>						
<b>REQUIRED</b>						
<b>ES 5.0</b>	Heat trap on all storage water heaters	-	-			Plumbing
<b>ES 5.1</b>	High efficiency water heater (Energy Factor)	Select one:				
	A. 30 gallon storage: Gas .63, Electric .94	-	-			
	B. 40 gallon storage: Gas .61, Electric .93	-	-			
	C. 50 gallon storage: Gas .59, Electric .92	-	-			
	D. 60 gallon storage: Gas .57, Electric .90	-	-			
	E. 70 gallon storage: Gas .55, Electric .90	-	-			
	F. 80 gallon storage: Gas .53, Electric .89	-	-			
	G. Tankless: Gas .69, Electric .97	-	-			

## EarthCraft House Worksheet

1008 Railroad Ave Most recently updated version: 09/04/15

		Points	Planned	Status	Notes	Responsible Party
<b>REQUIRED AT GOLD, OPTIONAL AT CERTIFIED</b>						
<b>ES 5.2</b>	Hot water piping insulation $\geq$ R-4 (100%)	2				Plumbing
<b>OPTIONAL</b>						
<b>ES 5.3</b>	ENERGY STAR qualified heat pump water heater	3				Plumbing
<b>ES 6: LIGHTING/APPLIANCES</b>						
<b>REQUIRED AT PLATINUM, OPTIONAL AT GOLD &amp; CERTIFIED</b>						
<b>ES 6.0</b>	ENERGY STAR Advanced Lighting Package	2				Site Super
<b>OPTIONAL</b>						
<b>ES 6.1</b>	High-efficacy lighting in $\geq$ 80% of all permanent indoor and outdoor fixtures	2				
<b>ES 6.2</b>	If installed, ENERGY STAR qualified dishwasher	2	2			
<b>ES 6.3</b>	If installed, ENERGY STAR qualified refrigerator	2	2			
<b>ES 6.4</b>	If installed ENERGY STAR qualified clothes washer (water factor $\leq$ 6.0 gal)	2	2			
<b>ES 6.5</b>	Lighting control systems	Select all that apply:				Site Super
	1. Automatic outdoor lighting controls	2				Site Super
	2. Garage and storage lighting uses a timer switch or occupancy sensor	1				Site Super
<b>ENERGY EFFICIENT SYSTEMS TOTAL</b>		34	0			
<b>WATER EFFICIENCY (WE)</b>						
<b>WE 1: INDOOR WATER USE</b>						
<b>REQUIRED</b>						
<b>WE 1.0</b>	Detect no leaks at any water-using fixture, appliance or equipment	-	-			Plumbing
<b>WE 1.1</b>	WaterSense labeled toilets, showerheads, lavatory faucets and accessories (all must comply)	-	-			Plumbing
<b>REQUIRED AT PLATINUM, OPTIONAL AT GOLD AND CERTIFIED</b>						
<b>WE 1.2</b>	WaterSense New Home Certification	2				Site Super
<b>OPTIONAL</b>						
<b>WE 1.3</b>	Kitchen sink faucet and accessories ( $\leq$ 2.0 gpm)	2	2			Plumbing
<b>WE 1.4</b>	Store $\leq$ 0.5 gal of water between water heater and fixture	3				Plumbing
<b>WE 1.5</b>	Toilet ( $\leq$ 1.1 avg gal/flush)	3	3			Plumbing
<b>WE 2: OUTDOOR WATER USE</b>						
<b>REQUIRED</b>						
<b>WE 2.0</b>	Cover all exposed soil with 2"-3" mulch layer	-	-			Landscaping
<b>WE 2.1</b>	If installed, irrigation system	All must comply:				Landscaping
	1. Must have rain sensor shutoff switch	-	-			Landscaping
	2. Provide operating manual to homeowner	-	-			Landscaping
	3. Provide irrigation system layout to homeowner	-	-			Landscaping
	4. Does not water hard surfaces such as sidewalks and home foundation	-	-			Landscaping
<b>WE 2.2</b>	If installed, all pools or spas must have an appropriate cover	-	-			Landscaping
<b>WE 2.3</b>	If installed, ornamental water features must recirculate water and serve beneficial use	-	-			Landscaping
<b>REQUIRED GOLD, OPTIONAL AT CERTIFIED</b>						
<b>WE 2.4</b>	Irrigation	Select all that apply:				Landscaping
	1. Zone irrigation system for specific water needs in each planting area	2				Landscaping
	2. Provide weather station or soil moisture sensor on irrigation system	2				Landscaping

## EarthCraft House Worksheet

1008 Railroad Ave **Most recently updated version: 09/04/15**

	Points	Planned	Status	Notes	Responsible Party
<b>OPTIONAL</b>					
<b>WE 2.5</b> Test and amend soil	2				Landscaping
<b>WE 2.6</b> Landscape	Select all that apply:				Landscaping
<b>1.</b> Turf ≤40% of landscaped area	2	2			Landscaping
<b>2.</b> Drought-tolerant / native landscaping turf and plants (≥75%)	2	2			Landscaping
<b>WE 2.7</b> Vegetate slopes	2				Landscaping
<b>WE 2.8</b> If installed, irrigation system is (Max. 6 points)	Select all that apply:				Landscaping
<b>1.</b> Micro-irrigation system (e.g., drip irrigation) with pressure regulator, filter and flush end assemblies	2				Landscaping
<b>2.</b> Distribution uniformity ≥65% lower quarter	2				Landscaping
<b>3.</b> Install sprinklers only on turf grass, pop-up height ≥4"	1				Landscaping
<b>4.</b> Establish grow-in phase and post landscape seasonal water schedules at irrigation controller	2				Landscaping
<b>WE 2.9</b> Alternative irrigation (Max 4 points)	Select all that apply:				Landscaping
<b>1.</b> Greywater irrigation system	4				Landscaping
<b>2.</b> Advanced rainwater irrigation	4				Landscaping
<b>WE 2.10</b> Install rain barrel (≥150 gallon capacity) with hose bib	2				Landscaping
<b>WATER EFFICIENCY TOTAL</b>	9		0		
<b>EDUCATION AND OPERATIONS (EO)</b>					
<b>ED 1: EDUCATION</b>					
<b>REQUIRED</b>					
<b>EO 1.0</b> Provide homeowner with project-specific owner's manual	-	-			Site Super
<b>EO 1.1</b> EarthCraft House Certified Builder	-	-			Site Super
<b>EO 2: OPERATIONS AND MANAGEMENT</b>					
<b>OPTIONAL AT ALL LEVELS</b>					
<b>EO 2.0</b> Install built-in recycling center	2				Site Super
<b>EO 2.1</b> Provide all subcontractors with EarthCraft House worksheet	2	2			Site Super
<b>EO 2.2</b> Build and certify percentage of homes annually as EarthCraft House	Select one:				Site Super
<b>A.</b> 50%	1				Site Super
<b>B.</b> 100%	3				Site Super
<b>EO 2.3</b> Market EarthCraft House program	3				Site Super
<b>EO 2.4</b> Certified Professional Home Builder	2				Site Super
<b>EO 2.5</b> Certified EarthCraft HVAC Trade Contractor	2				Site Super
<b>EO 2.6</b> Certified EarthCraft Real Estate Professional	2				Site Super
<b>EDUCATION AND OPERATIONS TOTAL</b>	2		0		
<b>WORKSHEET TOTAL</b>	117		0		