



**Sacramento  
Housing &  
Redevelopment  
Agency**

**CONSTRUCTION STANDARDS**

**Sacramento Housing and Redevelopment Agency  
Sacramento Vacant Properties Program**

**REV: 5.1.09**

# CONSTRUCTION STANDARDS

## Sacramento Housing and Redevelopment Agency Sacramento Vacant Properties Program Existing Home Checklist Revised 5.1.09

SHRA's Construction Standards for the rehabilitation of single-family homes in the Vacant Properties Program (Program) are incorporated with selected portions of Build It Green's "GreenPoint Rated Existing Home Checklist" (see below), as well as applicable SMUD and PG&E incentive programs, with particular emphasis in three areas: energy efficiency, indoor environmental quality, and durability. The Program does not require GreenPoint Rated certification. However, it is based upon and incorporates many of the same principles as the GreenPoint Rated system. The intent of the following checklist is to familiarize builders and developers with the "GreenPoint Rated Existing Home Rating System" as SHRA's standard for implementing baseline green building measures, while at the same time prescribing the minimum Scope of Work for the construction repairs required to qualify and participate in the Vacant Properties Program. For more information on Build It Green's services, and the full checklist, which includes minimum point count thresholds for achieving certification for various levels of compliance (again, certification is not required under this program), visit [www.builditgreen.org](http://www.builditgreen.org).

Project Name/Address	Points Achieved	Community	Energy	IAQ/Health	Resources	Water
		Possible Points				
<p><b>1. Hazardous Materials:</b> The residence shall be inspected by a licensed Environmental Consultant, who shall prepare a Hazardous Materials Assessment (HMA). This HMA shall identify the presence of the following: LCM (Lead-Containing Materials), ACM (Asbestos-Containing Materials), and visible mold. Contractor shall perform the renovations enumerated below such that the <u>hazards are removed</u> (but not necessarily all of the hazardous materials) to enable safe re-occupancy of the dwelling. Provide a clearance report from the Environmental Consultant, including a Lead Based Paint clearance, indicating that the house is safe for re-occupancy;</p> <p>a. If the existing flooring material is VAT (vinyl asbestos tile), whether it be the base layer or top layer, it shall be removed, along with its accompanying mastic.</p> <p>b. If the existing flooring material is VCT (vinyl composition tile), with an asbestos content of 5% or less, and there is no VAT beneath it, the flooring may remain, and new flooring materials (carpet and/or vinyl) may be installed over it.</p> <p>c. If ceiling texture is acoustic with asbestos content, and in poor condition (where portions of the texture are crumbling and/or falling), abatement contractor to scrape and remove it.</p> <p>d. Wallboard and/or associated joint compound with asbestos content, and where disturbed as a part of the rehabilitation of the structure, shall be handled as described in the HMA.</p> <p>e. Lead-based paint, and other lead-containing items identified in the HMA, shall be handled as described in the HMA. Where allowed to remain in place, these materials shall be stabilized by certified workers (as required in the HMA).</p>				2		
<p><b>2. Pest Report:</b> The residence shall be inspected by a firm licensed by the State of California Structural Pest Control Board. Complete all items detailed on the resulting Pest Report (Wood Destroying Pest and Organisms Inspection Report), including, but not limited to treatment of the structure to remove wood destroying pests and construction repairs to remove and replace items destroyed by dry-rot. All Section 1 and Section 2 findings must be cleared. Provide a clear Pest Report at the end of the project.</p>					1	
<p>a. Inspect crawl space and foundation area for signs of moisture and water related issues and correct as necessary.</p>						

		Points Achieved	Community	Energy	IAQ/Health	Resources	Water
	<p><b>3. Demolition:</b> Recycle Construction and Demolition (C&amp;D) waste. Contractor shall follow the City of Sacramento's Construction and Demolition Debris Recycling Ordinance. Materials required to be recycled include: Scrap metal, inert materials (dirt, soil, rocks, concrete, asphalt paving, etc.), corrugated cardboard, wood pallets, and clean wood waste (unpainted, untreated lumber and plywood, etc.). Recycle a minimum of 50% of other construction debris.</p> <p>Recycled waste must be taken to an approved sorting facility or solid waste disposal site</p>						
	a. Contractor to keep and submit a "waste log" of all materials hauled away from the project site, as well as all weight tickets of disposed and recycled material. Permit fees associated with this requirement shall be borne by the contractor, and are projected to be 0.04% of the project valuation (\$40 min.)						
	b. Hazardous materials shall be disposed of separately as required by law.			1			
	<b>4. Windows and Sliding Glass Doors:</b>						
	a. If the home contains dual-pane windows, and they have less than a 5-year remaining useful life, remove and replace with new ENERGYSTAR rated windows (e.g. vinyl, fiberglass, etc.) as outlined in SMUD's High Performance Window Program. "Retrofit" windows may be used where applicable and allowed by the Building Department.			0.5			
	b. If single pane windows, regardless of condition, remove and replace with new ENERGYSTAR rated windows (e.g. vinyl, fiberglass, etc.) as outlined in SMUD's High Performance Window Program. "Retrofit" windows may be used where applicable and allowed by the Building Department.			0.5			
	c. If sliding glass doors exist, and if they are single pane and/or have less than a 5-year remaining useful life, remove and replace with new ENERGYSTAR rated sliding glass doors (e.g. vinyl, fiberglass, etc.) as outlined in SMUD's High Performance Window Program.			0.5			
	<b>5. Gates and Fencing:</b> Remove and replace gates and fencing where necessary (at missing or damaged fence sections). New fencing shall match existing in materials and design. If existing fencing is chain-link, and must be replaced in its entirety, consider replacing with new redwood fencing.						
	<b>6. HVAC system:</b>						
	a. If an HVAC system already exists, and has a remaining useful life of five years or less, remove and replace the entire system. See below for more information on new systems.						
	b. If an HVAC system exists and is in good condition, and has more than 5 years of useful life left, perform diagnostic testing of the unit including refrigerant charge and air flow verification, and a duct leakage test. Repair the unit as necessary to ensure refrigerant charge and air flows are adequately adjusted, seal ducts to less than 15% leakage and/or replace ducts as recommended (see f. below).			2			
	c. If wall furnaces exist, remove and dispose of them, properly cap utility connections, and patch walls as necessary.						
	d. If a new system is installed, furnaces shall have a 92 AFUE rating and be qualified for a PG&E rebate for installation of energy efficient furnace. The Air Conditioning equipment shall be compliant with SMUD's Equipment Replacement Program and ACCA Manuals J, D and S. Air conditioners shall be high efficiency type, using environmentally responsible refrigerants where feasible (but not at the expense of the energy efficiency requirements).			4			
	e. Install a programmable thermostat when not already present.			0.5			
	f. New Ductwork:						
	i. will be installed per the manual D, minimize equivalent lengths and transitions, and eliminate restrictions.			1			
	ii. Use duct mastic on all ducts, joints and seams			1			
	iii. Where feasible, install within conditioned space. If in attic, and where possible, install under attic insulation			1			

		Points Achieved	Community	Energy	IAQ/Health	Resources	Water
	<b>7. Water Heater:</b>						
	a. If existing water heater is more than five years old or otherwise in need of replacement, then replace with new high efficiency unit (at least 0.62 for gas units and 0.93 for electric units)						
	b. Insulate all accessible hot water pipes			1			1
	c. Seismically strap existing or new water heater (to meet current code)						
	d. Consider the installation of Solar Domestic Hot Water Heating that qualifies for SMUD rebates where appropriate.			4			
	e. Consider the installation of a Tankless water heater that complies with PG&E rebates.			2			
	<b>8. Plumbing:</b> See Kitchens and Baths for items not covered in this section						
	a. Check for plumbing leaks and repair as necessary						
	b. Other miscellaneous plumbing items (not identified in other sections)						
	c. Consider installation of on-demand circulation control pumps at fixtures located greater than 15 feet from the water heater to reduce wait time and conserve hot water			1			1
	d. Other miscellaneous plumbing items (not identified in other sections)						
	<b>9. Electrical:</b> General Electrical scope shall consist of removing and replacing light fixtures, ceiling fans (if applicable), electrical outlets, switches, and telephone/cable TV jacks.						
	a. If existing main electrical service panel is unsatisfactory, replace it.						
	b. Retain licensed electrician to inspect any knob and tube system for integrity and correct as necessary. Consider replacement. When installing insulation, follow proper protocols.						
	c. If Kitchen and bathrooms are not GFCI protected, provide new GFCI protection where required						
	d. If Kitchen and bathrooms are not GFCI protected, provide new GFCI protection where required						
	e. Light fixtures shall be in conformance with current California Title 24 requirements for energy efficiency.						
	f. When SMUD replacement programs are available, replace incandescent fixtures with ENERGYSTAR rated fixtures, or at a minimum, meet current Title 24 requirements			1		1	
	g. Replace all T-12 linear fluorescent with high efficiency T -5 or T-8 lamps with high efficient ballasts			1			
	h. Install lighting controls per Title 24						
	i. Where possible, install Energy Star ceiling fans with light kits in bedrooms and living areas			1			
	<b>10. Interior walls and ceilings:</b>						
	a. If necessary, prep and retexture walls and ceilings prior to painting (this work to include all required patching of wallboard)						
	b. If any lead-based paint exists, lead-certified painter to abate and/or stabilize as necessary						

	Points Achieved	Community	Energy	IAQ/Health	Resources	Water
c. If any asbestos exists in wallboard and/or ceilings, abatement contractor to handle repairs that disturb the asbestos surface and the removed materials as specified in the Hazardous Materials Assessment.						
<b>11. Painting and sealants:</b>						
a. Repaint entire interior and exterior with Low-VOC or No-VOC paints, and where possible, recycled-content paints				1		
b. If any lead-based paint exists, lead-certified painter to abate and/or stabilize as necessary				1		
c. Where applicable, utilize Low-VOC caulks and construction adhesives				2		
<b>12. Fireplaces/chimneys</b> (as occur): Provide inspection report from certified professional with property submittal, identifying any structural deficiencies in the fireplace and/or chimney;						
a. New Insert: If inspection report indicates no structural repairs or <u>minor</u> structural repairs necessary, perform structural repairs and install new EPA-approved "retrofit" fireplace insert (gas-fired where practicable).				1		
b. Removal/Patch-back: If inspection report indicates <u>major</u> structural repairs necessary, provide cost analysis comparing complete removal of fireplace and chimney (and associated patching of affected roof, walls and floors) vs. repairs-plus-fireplace-insert; and proposed solution				1		
<b>13. Exterior doors</b> (including Garage door):						
a. If in need of replacement, remove existing and replace with new energy efficient doors and frames.					1	
<b>14. Flooring:</b>						
a. Unless in nearly new (mint) condition, remove and replace any existing carpeting at Bedrooms, Halls and Living/Family rooms.						
b. If existing flooring is hardwood in good condition, re-finish as necessary (with Low or No-VOC products)					4	
c. If Entry (Foyer) area does not currently have resilient (i.e. vinyl or linoleum) flooring, provide at least a 42" x 42" area at Entry door area.				1		
d. If existing Kitchen and Bath flooring is resilient flooring in need of replacement, remove and replace with new.						
e. Where feasible (cost effective), install rapidly renewable and/or recycled-content flooring					4	
<b>15. Baseboards:</b>						
a. If necessary, replace with new wood baseboards at carpeted areas, and rubber topset base at resilient flooring.						
<b>16. Sewer lines:</b> Professionally "scope" the lines from house to point of utility connection:						
a. If repairs necessary, provide most cost-efficient method possible (consider "trenchless" vs. conventional replacement methods)						
<b>17. New smoke detectors:</b> Where required by code.						
<b>18. Interior doors and frames:</b>						
a. If in need of replacement (damaged beyond reasonable repair), remove existing and replace with new pre-hung six-panel hollow core doors and related hardware.						
<b>19. Window blinds:</b>						

	Points Achieved	Community	Energy	IAQ/Health	Resources	Water
a. If none exist, or if existing are not in mint condition, install new 1" horizontal mini-blinds (2" verticals at sliding glass doors)						
<b>20. Concrete flatwork:</b>						
a. If tripping hazards (vertical displacement of ¼" or greater) exist, and/or if severely deteriorated, remove and replace as required.						
<b>21. Kitchens:</b>						
a. If necessary (where existing is damaged/deteriorated beyond reasonable repair), remove and replace kitchen cabinetry and countertops. Materials shall be chosen with the goal of reducing formaldehyde content. Replace damaged sheetrock as necessary.					1	
b. Replace Kitchen sink with new dual-compartment stainless steel sink and new garbage disposer, including angle stops and fixture supply lines						
c. Appliances: If existing are in disrepair or are not Energy Star rated, then replace with new Energy Star rated appliances using the criteria set forth in SMUD's appliance replacement incentive program, and PG&Es appliance replacement incentive program.					1	
d. Range hood to be vented to outside				1		
<b>22. Bathrooms:</b> Provide bathroom renovations as necessary, including, where applicable: remove and replace tub and surround (including mixer valve and shower head), vanity, countertop and sink/faucet, low flow toilet, angle stops and fixture supply lines, etc. Replace damaged sheetrock as necessary.						
a. Where possible, install Energy Star exhaust fans vented to outside				1		
b. Replace all toilets with greater than 1.6 gal flush with high efficiency toilet of 1.28 gal flush or better using criteria set in local water utility program.						1
c. Install low flow shower heads (2.0 gal/min) and fixtures (1.5 gal/min)						1
<b>23. Exterior siding:</b>						
a. If existing is in salvageable condition, replace damaged areas with new to match existing.						
b. If existing is in failing condition (and must be removed), replace with new 1 coat stucco with 1" foam board R-4.2 substrate. If wall cavities are opened, inspect for any existing wall insulation. Where none exists or requires replacement, fill the stud cavities with insulation (eg. 2X4- R13 Batt and 2X6 R19 Batt). Insulation shall be installed (defect free) without gaps, voids or compressions and inspected prior to covering.						
c. If in design review area or historical neighborhood, coordinate acceptable façade materials with planning staff and/or design review staff.						
<b>24. Landscaping:</b>						
a. Grade yards as necessary to divert surface water away from house and towards the natural drainage path.						
b. If landscaping is salvageable:						
• Trim trees and plantings						
• Check and repair irrigation system as necessary. Test for leaks and repair. system						
• Install 3" of mulch to planted areas.						
b. Consider cost effective water efficient measures below when upgrading front and back yard landscaping						
• Install weather base irrigation controller						3

		Points Achieved	Community	Energy	IAQ/Health	Resources	Water
	<ul style="list-style-type: none"> <li>Employ high-efficiency irrigation systems with zones to separate plants with low and high watering needs</li> </ul>						3
	<ul style="list-style-type: none"> <li>Install 3" of mulch to planted areas.</li> </ul>						
	<ul style="list-style-type: none"> <li>Minimize turf areas</li> </ul>						
	<ul style="list-style-type: none"> <li>Install native drought tolerant plants (at least 50% of total)</li> </ul>						3
	<ul style="list-style-type: none"> <li>Maintain existing and/or plant new shade trees (from SMUD's Shade tree program)</li> </ul>		1	1			1
	<ul style="list-style-type: none"> <li>Remove any invasive species and replace with low water plants</li> </ul>						1
<b>25. Roofing:</b>							
	a. Conduct visual survey of home interior and attic for signs of water intrusion and correct as necessary.						
	b. If existing roofing has less than ten years of useful life remaining, replace with new 30 year minimum composition asphalt shingles. Provide 3-year roof certification from roofing contractor (or General contractor). Where feasible, install approved "cool roof" colored asphalt shingles.					2	
	c. If roof decking needs to be replaced install roof deck that incorporates radiant barrier.						
	d. If existing roofing has ten or more years of useful life left, perform repairs as required to obtain 3-year roof certification from roofing contractor (or General contractor).						
	e. If damaged beyond reasonable repair, remove and replace gutters and downspouts. Gutters shall be installed at all eaves.						
	f. Replace damaged fascias and barge rafters.						
	g. in the event that roof is replaced consider the installation of Solar PV utilizing SMUD's incentives program outlined in attachment to offset 25-40% of electrical needs annually.						
	h. When roof is replaced gain access to the attic to install attic insulation prior to roof being applied.						
	<b>26. Miscellaneous items:</b>						
	a. Miscellaneous Carpentry						
	b. Other miscellaneous items						
	<b>27. Final Cleaning:</b> Professionally clean unit and grounds after renovation is complete.						
<b>28. Envelope improvement:</b>							
	a. Conduct visual survey of home for signs of water intrusion and moisture related issues and correct exterior envelope if required.						
	b. If wall framing is exposed or drywall is removed, fill the stud cavities with insulation (2X4- R15 Batt and 2X6 R19 Batt). To be installed (defect free) without gaps, voids or compressions and inspected prior to covering.						
	c. Weatherize and caulking to be used at any wall penetrations to reduce air infiltration.						
	d. Any accessible ceiling areas will be insulated with a target level of R38.						
	e. Retrofit radiant barrier where available						
	<b>29. Permits:</b> Signed-off Building permit and any other required permits						
<b>Summary</b>	Total Available Points	68	1	24	11	17	15
	Total Points Achieved						