

# New Jersey Green Home Remodeling Guidelines Green Products and Services Guide


## Project Type : Finished Basement and Major Addition

### Building System: Site

Product	Product Features	Certifications	Product Directory/Service Resources
<b>Block Pavers</b>	Allow water to infiltrate to subsoil for driveways, entryways, walkways, or terraces. Use block pavers that are made of recycled content, or salvaged from previous construction.		<p>PATH (Partnership for Advancing Technology in Housing). ToolBase. TechSpecs. Permeable Pavement.  <a href="http://www.upperchartierscreek.org/Porous_Pavement/PermeablePavement_TechSpec.pdf">http://www.upperchartierscreek.org/Porous_Pavement/PermeablePavement_TechSpec.pdf</a></p>
<b>Native plants, species, and trees</b>	Native plants and trees to provide shade and reduce watering needs.		<p>Rutgers University. New Jersey Agricultural Experiment Station. If Plants Could Talk, A Gardening Television Series.  <a href="http://www.ifplantscouldtalk.rutgers.edu">www.ifplantscouldtalk.rutgers.edu</a></p> <p>United States Department of Agriculture. Natural Resources Conservation Service. Native Plant Database.  <a href="http://www.plants.usda.gov/checklist.html">www.plants.usda.gov/checklist.html</a></p> <p>Native Plant Society of New Jersey, List of NJ Native Plants. 2013  <a href="http://www.npsnj.org/pages/nativeplants_Plant_Lists.html">http://www.npsnj.org/pages/nativeplants_Plant_Lists.html</a></p> <p>Rutgers University. New Jersey Agricultural Experiment Station. Incorporating Native Plants in Your Residential Landscape.  <a href="https://njaes.rutgers.edu/fs1140/">https://njaes.rutgers.edu/fs1140/</a></p>


## New Jersey Green Home Remodeling Guidelines Green Products and Services Guide

### Project Type : Finished Basement and Major Addition

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<b>Pavement</b>	Porous pavement materials and/or materials that reflect sunlight to reduce heat gain.		<p>US EPA. Heat Island Effect. 2019.  <a href="https://www.epa.gov/heat-islands">https://www.epa.gov/heat-islands</a></p> <p>The Encyclopedia of Earth. Cool Paving. 2016.  <a href="https://editors.eol.org/eoearth/wiki/Cool_paving">https://editors.eol.org/eoearth/wiki/Cool_paving</a></p> <p>Using Cool Pavements to Reduce Heat Islands. US EPA. 2016  <a href="https://www.epa.gov/heat-islands/using-cool-pavements-reduce-heat-islands">https://www.epa.gov/heat-islands/using-cool-pavements-reduce-heat-islands</a></p>
<b>Porous Paving Materials</b>	Porous asphalt or concrete can be used in pedestrian-only areas and areas with low traffic volumes with reduced speed including overflow parking areas, residential driveways, alleys, and parking stalls.		<p>National Asphalt Pavement Association Research and Education Foundation (NAPAREF). Pavegreen. 2019  <a href="http://www.pavegreen.com">http://www.pavegreen.com</a></p> <p>National Ready Mixed Concrete Association. Pervious Pavement. Pervious Concrete Pavement. 2011  <a href="http://www.perviouspavement.org/">www.perviouspavement.org/</a></p> <p>PATH (Partnership for Advancing Technology in Housing). ToolBase. TechSpecs. Permeable Pavement.  <a href="http://www.upperchartierscreek.org/Porous_Pavement/PermeablePavement_TechSpec.pdf">http://www.upperchartierscreek.org/Porous_Pavement/PermeablePavement_TechSpec.pdf</a></p> <p>National Asphalt Pavement Association (NAPA). Porous Asphalt  <a href="http://www.asphaltpavement.org/index.php?option=com_content&amp;task=view&amp;id=507&amp;Itemid=1100">http://www.asphaltpavement.org/index.php?option=com_content&amp;task=view&amp;id=507&amp;Itemid=1100</a></p>
<b>Storm water control – rain garden</b>	Select appropriate rain garden plants to give rainwater runoff the opportunity to be absorbed into ground.		<p>Rain Garden Network. What is a Rain Garden? 2019  <a href="http://www.raingardennetwork.com">www.raingardennetwork.com</a></p> <p>Rutgers University. New Jersey Agricultural Experiment Station. Stormwater Management in Your Backyard. 2019  <a href="https://njaes.rutgers.edu/environment/rain-garden-manual.php">https://njaes.rutgers.edu/environment/rain-garden-manual.php</a></p>

## New Jersey Green Home Remodeling Guidelines Green Products and Services Guide

### Project Type : Finished Basement and Major Addition

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			<p>Rutgers University. New Jersey Agricultural Experiment Station. Water Resources Program. Rain Garden Manual of New Jersey. 2017  <a href="http://water.rutgers.edu/Rain_Gardens/RGWebsite/RainGardenManualofNJ.html">http://water.rutgers.edu/Rain_Gardens/RGWebsite/RainGardenManualofNJ.html</a></p>
<p><b>Roofing</b></p>	<p>Roof design minimize heat island effects. Two types are cool roofs and green roofs. Cool roofs use reflective materials including metals and lightly colored shingles to decrease heat transfer into the indoor environment, reducing need for cooling. Green roofs use plants, shrubs, and small trees to replace heat-absorbing surfaces. The plants cool the air through the process of evapotranspiration. Low- slope roofs should have an initial solar reflectance of <math>\geq 0.65</math>. After 3 years, the solar reflectance must be <math>\geq 0.50</math>. Steep-slope roofs must have an initial solar reflectance of <math>\geq 0.25</math>. After 3 years, the solar reflectance must be <math>\geq 0.15</math>.</p>		<p>US EPA. Energy Star. Certified Products. Roof Products. 2017  <a href="https://www.energystar.gov/products/building_products/roof_products">https://www.energystar.gov/products/building_products/roof_products</a></p> <p>US EPA. Heat Island Effect. 2019.  <a href="https://www.epa.gov/heat-islands">https://www.epa.gov/heat-islands</a></p> <p>US EPA. Heat Islands. Using Cool Roofs to Reduce Heat Islands. 2016  <a href="https://www.epa.gov/heat-islands/using-cool-roofs-reduce-heat-islands">https://www.epa.gov/heat-islands/using-cool-roofs-reduce-heat-islands</a></p> <p>Lawrence Berkeley National Laboratory. Heat Island Group. 2019  <a href="https://heatisland.lbl.gov">https://heatisland.lbl.gov</a></p> <p>Office of Energy Efficiency and Renewable Energy. Energy 101: Cool Roofs.  <a href="https://www.energy.gov/eere/videos/energy-101-cool-roofs">https://www.energy.gov/eere/videos/energy-101-cool-roofs</a></p> <p>Cool Roof Rating Council.  <a href="https://coolroofs.org/">https://coolroofs.org/</a></p>

## New Jersey Green Home Remodeling Guidelines Green Products and Services Guide



### Project Type : Finished Basement and Major Addition

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<b>Erosion Control</b>	Soil erosion is reduced and dirt is stabilized on construction site by using one or a combination of the following: socks filled with chipped or ground wood, silt fencing, or seeding.		North Carolina Department of Environmental Quality. Erosion and Sediment Control Planning and Design Manual. 2013. <a href="https://deq.nc.gov/about/divisions/energy-mineral-land-resources/energy-mineral-land-permit-guidance/erosion-sediment-control-planning-design-manual">https://deq.nc.gov/about/divisions/energy-mineral-land-resources/energy-mineral-land-permit-guidance/erosion-sediment-control-planning-design-manual</a>

## New Jersey Green Home Remodeling Guidelines Green Products and Services Guide

### Project Type : Finished Basement and Major Addition

#### Building System: Foundation

Product	Product Features	Certifications	Product Directory/Service Resources
<b>Bio-based form-release agents</b>	Bio-based form-release agents are made from vegetable oils, biodegrade naturally, and are less harmful in indoor air than traditional form-release agents.		Nox Crete - Form Release Agents: <a href="https://www.nox-crete.com/products/bio-nox-vs/">https://www.nox-crete.com/products/bio-nox-vs/</a>  SPOT Products Catalog. Form Release Agents. GrenGuard Certification <a href="https://spot.ul.com/main-app/products/catalog/?keywords=form+release+agents">https://spot.ul.com/main-app/products/catalog/?keywords=form+release+agents</a>
<b>Concrete</b>	Fly ash concrete uses waste product of coal fired power plants to replace up to 50 percent of cement in concrete mixes, improving its strength.		United States Department of Transportation, Federal Highway Administration. Pavements. Fly Ash Facts for Highway Engineers. 2017 <a href="https://www.fhwa.dot.gov/PAVEMENT/recycling/fach00.cfm">https://www.fhwa.dot.gov/PAVEMENT/recycling/fach00.cfm</a>  Perkins+Will White Paper. Fly Ash in Concrete. 2011 <a href="https://assets.ctfassets.net/t0qcl9kymnlu/1Tx57nRsWYYMEC824CkOal/38239c5e0fb2044af10bc2b1fac38cf8/FlyAsh_WhitePaper.pdf">https://assets.ctfassets.net/t0qcl9kymnlu/1Tx57nRsWYYMEC824CkOal/38239c5e0fb2044af10bc2b1fac38cf8/FlyAsh_WhitePaper.pdf</a>
<b>Concrete Footings</b>	Use prefabricated flexible form footings that include a capillary break between the footing and the soil and provide a moisture barrier membrane.		ConcreteNetwork.com. Concrete Footing Fundamentals. 2019 <a href="https://www.concretenetwork.com/concrete/footing_fundamentals/">https://www.concretenetwork.com/concrete/footing_fundamentals/</a>  Fab-Form Sustainable Foundations. Fast Foot. 2017 <a href="https://www.fab-form.com/fastfoot/fastfootOverview.php">https://www.fab-form.com/fastfoot/fastfootOverview.php</a>






## New Jersey Green Home Remodeling Guidelines Green Products and Services Guide

### Project Type : Finished Basement and Major Addition

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<b>Radon Test Kit</b>	Some test kits include charcoal canisters, alpha-track detectors, and charcoal liquid scintillation devices. Depending on results, a second short-term test or a long-term test may be needed.		<p>United States Environmental Protection Agency. Radon  <a href="http://www.epa.gov/radon/">http://www.epa.gov/radon/</a></p> <p>United States Environmental Protection Agency. Radon. Radon Hotlines and Information Resources  <a href="https://www.epa.gov/radon/radon-hotlines-and-information-resources">https://www.epa.gov/radon/radon-hotlines-and-information-resources</a></p> <p>Consult the State Radon Office (800) 648-0394 or call EPA’s Drinking Water Hotline (800) 426-4791 for additional information on testing.  <i>New Jersey State Radon Office</i> - This office can provide homeowners with information about testing for radon in homes. Call (800) 648-0394 for more information.</p>
<b>Flooring</b>	Green flooring contains low to zero amounts of formaldehyde or VOCs. Look for durable and easy to clean materials. Green choices include hard durable surfaces, hardwood flooring from certified well-managed forests, reclaimed and recycled wood flooring, bamboo and cork. Always try to use low or no VOC finishes.	  	<p>SPOT. Hard Surface Flooring. GreenGuard Certification  <a href="https://spot.ul.com/main-app/products/catalog/?keywords=hard+surface+flooring">https://spot.ul.com/main-app/products/catalog/?keywords=hard+surface+flooring</a></p> <p>California Environmental Protection Agency. Air Resources Board (ARB). Indoor Air Quality Guideline. Formaldehyde in the Home. 2004  <a href="http://www.arb.ca.gov/research/indoor/formaldeg108-04.pdf">www.arb.ca.gov/research/indoor/formaldeg108-04.pdf</a></p> <p>SCS (Scientific Certification Systems) Global Services. Floor Score. Indoor Air Quality Certification for Flooring.  <a href="https://www.scsglobalservices.com/services/floorscore?scscertified=1">https://www.scsglobalservices.com/services/floorscore?scscertified=1</a></p> <p>FSC (Forest Stewardship Council). Market. Find Products.2019  <a href="http://www.fscus.org/faqs/fsc_products.php">http://www.fscus.org/faqs/fsc_products.php</a></p> <p>Green Floors. Environmentally Friendly Flooring-Recycled Carpeting. 2012  <a href="http://www.greenfloors.com/">http://www.greenfloors.com/</a></p> <p>Sustainable Forestry Initiative. Find SFI Products. 2019.  <a href="https://www.sfiprogram.org/findsfiproducts">https://www.sfiprogram.org/findsfiproducts</a></p>

## New Jersey Green Home Remodeling Guidelines Green Products and Services Guide

### Project Type : Finished Basement and Major Addition

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<b>Insulating Concrete Forms (ICFs)</b>	Insulating concrete forms of plastic foam with an R Value of at least 38 hold the concrete while it is curing and remain in place afterwards, serving as a thermal insulator for the concrete.		<p>Insulating Concrete Forms Manufacturers Association  <a href="http://icf-ma.org/?s=insulating+concrete+forms">http://icf-ma.org/?s=insulating+concrete+forms</a></p> <p>Seal and Insulate with ENERGY STAR® Program Draft Definitions and Testing Requirements for Residential Insulation. Version 1.0 (Rev. Feb-2013)  <a href="https://www.energystar.gov/sites/default/files/specs/Draft%20Insulation_DefsTesting_R eqs%20%28Rev%20Feb-2013%29%20%282013-01-23%29.pdf">https://www.energystar.gov/sites/default/files/specs/Draft%20Insulation_DefsTesting_R eqs%20%28Rev%20Feb-2013%29%20%282013-01-23%29.pdf</a></p>
<b>Exterior Paint</b>	Thermal ceramic paint has little or no VOC content, certified for fire safety, environmental and related efficiency standards with high R-values.	  	<p>Treehugger.com: Ceramic Paint-On Insulation: Does it Work?  <a href="http://www.treehugger.com/files/2008/07/ceramic-insulating-paints.php">http://www.treehugger.com/files/2008/07/ceramic-insulating-paints.php</a></p> <p>ASTM – American Society for Testing and Materials  <a href="http://www.astm.org">www.astm.org</a></p> <p>SPOT. Products Catalog. Exterior Paint. GreenGuard Certification  <a href="https://spot.ul.com/main-app/products/catalog/?keywords=exterior+paint">https://spot.ul.com/main-app/products/catalog/?keywords=exterior+paint</a></p> <p>Green Seal. Certified Products and Services  <a href="https://www.greenseal.org/products-services/products/">https://www.greenseal.org/products-services/products/</a></p>

## New Jersey Green Home Remodeling Guidelines Green Products and Services Guide

### Project Type : Finished Basement and Major Addition


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<p><b>Beneficial Insects</b></p>	<p>Beneficial insects include predators, parasites, and pollinators that control pests by feeding off other insects that harm plants including praying mantises, certain species of beetles, and ladybugs. Others can be used to target different species of insects harmful to plants.</p>		<p>Rutgers Cooperative Research &amp; Extension. Fact Sheet: Natural Pest Control. Using beneficial insects to control landscape pests. 2017  <a href="http://www.cpe.rutgers.edu/hgs/docs/2017/Workshop-12-Natural-Pest-Control.pdf">http://www.cpe.rutgers.edu/hgs/docs/2017/Workshop-12-Natural-Pest-Control.pdf</a></p> <p>Virginia Cooperative Extension. Virginia Tech. Virginia State University. Resources for Garden Insects Pests. 2019  <a href="https://www.pubs.ext.vt.edu/tags.resource.html?tag=pubs_ext_vt_edu:garden-insects-pests">https://www.pubs.ext.vt.edu/tags.resource.html?tag=pubs_ext_vt_edu:garden-insects-pests</a></p> <p>Plant &amp; Pest Advisory. Beating the Bugs in the Bogs: Attracting Beneficial Insects. 2019  <a href="https://plant-pest-advisory.rutgers.edu/beating-the-bugs-in-the-bogs-attracting-beneficial-insects/">https://plant-pest-advisory.rutgers.edu/beating-the-bugs-in-the-bogs-attracting-beneficial-insects/</a></p>



## New Jersey Green Home Remodeling Guidelines Green Products and Services Guide


### Project Type : Finished Basement and Major Addition

#### Building System: Building Envelope

Product	Product Features	Certifications	Product Directory/Service Resources
<b>Home Performance Audit</b>	Save up to 30% on energy costs, increase the comfort, safety, and durability of your home (NJ Office of Clean Energy). Contact NJ Office of Clean Energy to find certified contractors.		New Jersey Board of Public Utilities. Office of Clean Energy. Home Performance with Energy Star <a href="http://www.njcleanenergy.com/residential/programs/home-performance-energy-star/home-performance-energy-star-r">http://www.njcleanenergy.com/residential/programs/home-performance-energy-star/home-performance-energy-star-r</a>
<b>Concrete Admixture</b>	Water and corrosion-proofing admixture makes concrete hydrophobic; eliminating the need for an external waterproofing membrane. Select products with little or no VOC (volatile organic compound) content.		ConcreteNetwork.com: Concrete Admixtures. 2019 <a href="https://www.concretenetwork.com/concrete/concrete_admixtures/">https://www.concretenetwork.com/concrete/concrete_admixtures/</a>  McDonough Braungart Design Chemistry (MBDC) Cradle to Cradle Certification <a href="https://www.c2ccertified.org/">https://www.c2ccertified.org/</a>
<b>Foam Sealers</b>	Ozone-safe flame-retardant foam		Family Handyman. Insulate Basement Rim Joists. 2019 <a href="https://www.familyhandyman.com/basement/insulate-basement-rim-joists/">https://www.familyhandyman.com/basement/insulate-basement-rim-joists/</a>



## New Jersey Green Home Remodeling Guidelines Green Products and Services Guide

### Project Type : Finished Basement and Major Addition

Product	Product Features	Certifications	Product Directory/Service Resources
	sealants come in a reusable dispenser.		Smarter House. Home Systems + Energy. Building Envelope. Find and Seal Air Leaks. 2015 <a href="https://smarterhouse.org/building-envelope/find-and-seal-air-leaks">https://smarterhouse.org/building-envelope/find-and-seal-air-leaks</a>
<b>House Wrap</b>	Tear-resistant house wraps; non-perforated to resist water with a surface texture that provides a drainage plane.		WBDG (Whole Building Design Guide). A program of the National Institute of Building Sciences. Residential Building Enclosure. 2017 <a href="http://www.wbdg.org/resources/residential-building-enclosure">http://www.wbdg.org/resources/residential-building-enclosure</a>  The Balance Small Business. Juan Rodriguez. House Wrap Types and Installation Tips. The Basics of Water-Resistive Barrier. 2018 <a href="https://www.thebalancesmb.com/how-to-install-house-wrap-845067">https://www.thebalancesmb.com/how-to-install-house-wrap-845067</a>
<b>Insulation</b>	Look for products that are flame retardant, formaldehyde-free, contain no VOCs, and use a non-ozone depleting blower agent. Products that are thermally efficient with high R-values (measure of thermal resistance), noncorrosive, have sound control, and moisture control that aids in resisting water vapor transmission preventing mildew.		US EPA Energy Star. Why Seal and Insulate? <a href="https://www.energystar.gov/campaign/seal_insulate/why_seal_and_insulate">https://www.energystar.gov/campaign/seal_insulate/why_seal_and_insulate</a>  US EPA Energy Star. Look for Energy Star Certified Insulation <a href="https://www.energystar.gov/campaign/seal_insulate/certified_insulation">https://www.energystar.gov/campaign/seal_insulate/certified_insulation</a>  US Department of Energy. Save Energy, Save Money. Weatherize. Insulation <a href="https://www.energy.gov/energysaver/weatherize/insulation">https://www.energy.gov/energysaver/weatherize/insulation</a>  SPOT. Products Catalog. Insulation. GreenGuard Certification <a href="https://spot.ul.com/main-app/products/catalog/?keywords=insulation">https://spot.ul.com/main-app/products/catalog/?keywords=insulation</a>




## New Jersey Green Home Remodeling Guidelines Green Products and Services Guide

### Project Type : Finished Basement and Major Addition

Product	Product Features	Certifications	Product Directory/Service Resources
<b>Structural Insulated Panels (SIPS)</b>	Structural Insulated Panels (SIPS) use low/no formaldehyde glue such as marine glue to hold the plywood together.		Structural Insulated Panel Association (SIPA). What Are SIPs? 2019 <a href="https://www.sips.org/about/what-are-sips">https://www.sips.org/about/what-are-sips</a>
<b>Windows &amp; Window Glazings</b>	Several types of window glazing are gas filled, heat-absorbing tint, insulated (double-glazed, triple-glazed, and quad-glazed), low emissivity (low-E) coatings, reflective coatings, and spectrally selective coatings. Select Windows that are Low-E (Low-Emittance), have high-performance U-factor (measure of the rate of heat loss) and a Solar Heat Gain Coefficient (SHGC) rated for New Jersey.	 	<p>National Fenestration Rating Council <a href="http://www.nfrc.org/">http://www.nfrc.org/</a></p> <p>Efficient Windows Collaborative <a href="https://www.efficientwindows.org/">https://www.efficientwindows.org/</a></p> <p>US EPA Energy Star. Residential Windows, Doors and Skylights <a href="https://www.energystar.gov/products/building_products/residential_windows_doors_and_skylights/">https://www.energystar.gov/products/building_products/residential_windows_doors_and_skylights/</a></p> <p>US EPA Energy Star. Certified Products. Energy Efficient Window and Door Performance Criteria <a href="https://www.energystar.gov/products/building_products/residential_windows_doors_and_skylights/key_product_criteria">https://www.energystar.gov/products/building_products/residential_windows_doors_and_skylights/key_product_criteria</a></p> <p>US Department of Energy. Window Types and Technologies. <a href="https://www.energy.gov/energysaver/window-types-and-technologies">https://www.energy.gov/energysaver/window-types-and-technologies</a></p>




**New Jersey Green Home Remodeling Guidelines Green Products and Services Guide**  
**Project Type : Finished Basement and Major Addition**

**Building System: HVAC**

Product	Product Features	Certifications	Product Directory/Service Resources
<p><b>Air Conditioning System</b></p>	<p>Meets or exceeds Energy Star standards. Choose a model with a Seasonal Energy Efficiency Ratio (SEER) of at least 14 for ductless mini-split or central air conditioning.</p>		<p>New Jersey Board of Public Utilities. Clean Energy Program. COOLAdvantage Program. <a href="http://www.njcleanenergy.com/residential/programs/cooladvantage/cooladvantage-program">http://www.njcleanenergy.com/residential/programs/cooladvantage/cooladvantage-program</a></p> <p>US EPA Energy Star. Certified Products. Central Air Conditioner. 2019 <a href="https://www.energystar.gov/products/heating_cooling/air_conditioning_central">https://www.energystar.gov/products/heating_cooling/air_conditioning_central</a></p> <p>US EPA Energy Star. Certified Products. Room Air Conditioner <a href="https://www.energystar.gov/productfinder/product/certified-room-air-conditioners/">https://www.energystar.gov/productfinder/product/certified-room-air-conditioners/</a></p> <p>The Consortium for Energy Efficiency (CEE) and the Air-Conditioning and Refrigeration Institute (ARI) online database. US EPA Energy Star. Central Air Conditioner <a href="http://www.ceedirectory.org">http://www.ceedirectory.org</a></p> <p>American Council for an Energy-efficient Economy. Smarter House. Buying Tips. Should I replace my existing System? 2015 <a href="https://smarterhouse.org/cooling-systems/buying-tips">https://smarterhouse.org/cooling-systems/buying-tips</a></p>
<p><b>Duct Mastic Sealant</b></p>	<p>Low- to zero-VOC content. Sealing ducts helps to prevent air from escaping the system and reduces its heating and cooling loads.</p>	 	<p>US EPA Energy Star. Energy Savings at Home. Why Seal and Insulate? <a href="https://www.energystar.gov/index.cfm?c=home_sealing.hm_improvement_sealing">https://www.energystar.gov/index.cfm?c=home_sealing.hm_improvement_sealing</a></p> <p>SPOT.Caulks and Sealants. GreenGuard Certification <a href="https://spot.ul.com/main-app/products/catalog/?keywords=caulks+and+sealants">https://spot.ul.com/main-app/products/catalog/?keywords=caulks+and+sealants</a></p>


## New Jersey Green Home Remodeling Guidelines Green Products and Services Guide

### Project Type : Finished Basement and Major Addition

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<b>Fan: Attic</b>	Choose models with features including self- flash, curb mount, and gable mount for pitched or flat roof applications.		<p>US EPA Energy Star <a href="http://www.energystar.gov">www.energystar.gov</a></p> <p>US EPA. Energy Star. About Attic Ventilation <a href="https://www.energystar.gov/index.cfm?c=diy.diy_attic_ventilation">https://www.energystar.gov/index.cfm?c=diy.diy_attic_ventilation</a></p> <p>BuildingGreen.com <a href="http://www.Buildinggreen.com">www.Buildinggreen.com</a></p> <p>Home Ventilating Institute. Home Ventilation &amp; Indoor Air Quality Guide. 2019 <a href="https://www.hvi.org/publications/VentLivingAreas.cfm">https://www.hvi.org/publications/VentLivingAreas.cfm</a></p>
<b>Fan: Bathroom</b>	Reduces moisture in the bathroom that can cause mold growth. Select models with a built-in Energy Star light fixture that are programmable, produce low noise, and can have a high CFM (Cubic Feet per Minute).		<p>US EPA Energy Star. Certified Products. Ventilation Fans. 2019 <a href="https://www.energystar.gov/products/heating_cooling/fans_ventilating">https://www.energystar.gov/products/heating_cooling/fans_ventilating</a></p> <p>Home Ventilating Institute. Home Ventilation &amp; Indoor Air Quality Guide . 2019 <a href="https://www.hvi.org/publications/VentLivingAreas.cfm">https://www.hvi.org/publications/VentLivingAreas.cfm</a></p>
<b>Fan: Ceiling</b>	Meet or exceed Energy Star standards. Choose a model that has both clockwise and counter clockwise motion.		<p>US EPA. Energy Star. Certified Products. Ceiling Fans. 2019 <a href="https://www.energystar.gov/products/lighting_fans/ceiling_fans">https://www.energystar.gov/products/lighting_fans/ceiling_fans</a></p> <p>US EPA. Energy Star. Certified Products. Find and compare Products. Ceiling Fans. <a href="https://www.energystar.gov/productfinder/product/certified-ceiling-fans/results">https://www.energystar.gov/productfinder/product/certified-ceiling-fans/results</a></p> <p>Home Ventilating Institute - Home Ventilation &amp; Indoor Air Quality Guide –2019</p>

## New Jersey Green Home Remodeling Guidelines Green Products and Services Guide


### Project Type : Finished Basement and Major Addition

Product	Product Features	Certifications	Product Directory/Service Resources
<b>Programmable Thermostat</b>	Install a programmable thermostat that meets or exceeds Energy Star standards to save energy and money by reducing wasted cooling or heating when no one is home. The model should be compatible with your system and have features including battery operation and indicator, settings options that allow for vacation overrides and weekends, an energy monitor, and filter change indicator.		<p><a href="https://www.hvi.org/publications/VentLivingAreas.cfm">https://www.hvi.org/publications/VentLivingAreas.cfm</a></p> <p>US EPA. Energy Star. Certified Products. Programmable Thermostats  <a href="https://www.energystar.gov/products/heating_cooling/programmable_thermostats">https://www.energystar.gov/products/heating_cooling/programmable_thermostats</a></p> <p>US Department of Energy. Office of Energy Efficiency and Renewable Energy. Thermostats. Energy Saver. Setting Your Thermostat for Comfort and Savings.  <a href="https://www.energy.gov/energysaver/thermostats">https://www.energy.gov/energysaver/thermostats</a></p>

## New Jersey Green Home Remodeling Guidelines Green Products and Services Guide


### Project Type : Finished Basement and Major Addition

#### Building System: Lighting and Electrical

Product	Product Features	Certifications	Product Directory/Service Resources
<b>Compact Fluorescent Lamps (CFL)</b>	Compact Fluorescent Lamps (CFLs) use less energy, last longer, and contain less mercury than incandescent lamps. Choose lamps with a Color Rendering Index (CRI) suitable for the task. For ambient lighting, select a lamp that produces a warm or yellowish hue. Task lighting requires lamps that produce a bluish or cool hue.		<p>US EPA. Energy Star: Compact Fluorescent Light Bulbs  <a href="http://www.energystar.gov/index.cfm?c=cfls.pr_cfls">http://www.energystar.gov/index.cfm?c=cfls.pr_cfls</a></p> <p>US Department of Energy. Lighting Choices to Save You Money.  <a href="https://www.energy.gov/energysaver/save-electricity-and-fuel/lighting-choices-save-you-money">https://www.energy.gov/energysaver/save-electricity-and-fuel/lighting-choices-save-you-money</a></p> <p>Rensselaer Polytechnic Institute: Lighting Research Center. 2019  <a href="https://www.lrc.rpi.edu/">https://www.lrc.rpi.edu/</a></p>
<b>Recessed Lighting</b>	IC (Insulation Contact)-rated housing can make direct contact with the insulation. Light output for these models can reach up to 100 watts.		<p>WBDG (Whole Building Design Guide). A program of the National Institute of Building Sciences. Energy Efficient Lighting. 2016  <a href="http://www.wbdg.org/resources/energy-efficient-lighting">http://www.wbdg.org/resources/energy-efficient-lighting</a></p>

## New Jersey Green Home Remodeling Guidelines Green Products and Services Guide


### Project Type : Finished Basement and Major Addition

Product	Product Features	Certifications	Product Directory/Service Resources
<b>Light-Emitting Diode (LED) Light Fixture</b>	LED light fixtures use less energy, produce less heat, and are more durable than incandescent and even fluorescent lamps.		<p>US EPA. Energy Star. Certified Products. Light Fixtures <a href="https://www.energystar.gov/products/lighting_fans/light_fixtures">https://www.energystar.gov/products/lighting_fans/light_fixtures</a></p> <p>US Department of Energy. Lighting Choices to Save You Money. <a href="https://www.energy.gov/energysaver/save-electricity-and-fuel/lighting-choices-save-you-money">https://www.energy.gov/energysaver/save-electricity-and-fuel/lighting-choices-save-you-money</a></p> <p>Rensselaer Polytechnic Institute: Lighting Research Center. 2019 <a href="https://www.lrc.rpi.edu/">https://www.lrc.rpi.edu/</a></p>
<b>Wiring raceways</b>	Use on the surface of interior walls to simplify wiring tasks and to prevent wall penetrations that can compromise a building's thermal performance.		<p>Electrical Installation &amp; Energy Efficiency. Electrical Engineering Community. Raceways in internal installations. 2017 <a href="http://engineering.electrical-equipment.org/panel-building/raceways-internal-installations.html">http://engineering.electrical-equipment.org/panel-building/raceways-internal-installations.html</a></p> <p>Electrical Construction and Maintenance (EC&amp;M). Choosing the Right Raceway. 2011 <a href="https://www.ecmweb.com/code-basics/choosing-right-raceway">https://www.ecmweb.com/code-basics/choosing-right-raceway</a></p>
<b>Fiberglass-Faced Drywall</b>	Fiberglass surfaces replace typical paper surfaces and are moisture resistant.		<p>Gypsum Association. Exterior Gypsum Sheathing. 2109 <a href="https://www.gypsum.org/commercial-applications/exterior-gypsum-sheathing/">https://www.gypsum.org/commercial-applications/exterior-gypsum-sheathing/</a></p> <p>International Association of Certified Home inspectors (InterNACHI). Nick Gromicko. Paperless Drywall. 2019 <a href="https://www.nachi.org/paperless-drywall.htm">https://www.nachi.org/paperless-drywall.htm</a></p>
<b>Monolithic Drywall</b>	Has cellulose fibers dispersed through the board and is moisture resistant.		<p>What is Gypsum Board? – Gypsum Association. 2019 <a href="https://www.gypsum.org/about/gypsum-101/gypsum-board/">https://www.gypsum.org/about/gypsum-101/gypsum-board/</a></p>



## New Jersey Green Home Remodeling Guidelines Green Products and Services Guide

### Project Type : Finished Basement and Major Addition

Product	Product Features	Certifications	Product Directory/Service Resources
<b>Paints and Finishes</b>	Paints with natural pigments and oils and with low or no VOC's,	 	<p>SPOT. Paints. GreenGuard Certification  <a href="https://spot.ul.com/main-app/products/catalog/?keywords=paints">https://spot.ul.com/main-app/products/catalog/?keywords=paints</a></p> <p>Green Seal - Product Search –Paints &amp; Coatings  <a href="http://www.greenseal.org/FindGreenSealProductsandServices.aspx?vid=ViewProductDetail&amp;cid=10">http://www.greenseal.org/FindGreenSealProductsandServices.aspx?vid=ViewProductDetail&amp;cid=10</a></p>
<b>Paper-faced Drywall Containing Gypsum</b>	Uses recycled paper, gypsum and other materials. Produces a low off-gassing of pollutants.		<p>Gypsum Association  <a href="http://www.gypsum.org">www.gypsum.org</a></p> <p>Gypsum Association. Using Gypsum Board for Walls and Ceilings. 2019  <a href="https://www.gypsum.org/technical/using-gypsum-board-for-walls-and-ceilings/">https://www.gypsum.org/technical/using-gypsum-board-for-walls-and-ceilings/</a></p>
<b>Wall Board</b>	Products that are moisture resistant, non-paper faced, and mold resistant will improve indoor air quality and prevent premature replacement and repair.		<p>Interior Ceiling Gypsum Board. American Gypsum. 2019  <a href="https://www.americangypsum.com/products/interior-ceiling-gypsum-board">https://www.americangypsum.com/products/interior-ceiling-gypsum-board</a></p> <p>What is Gypsum Board? Gypsum Association. 2019  <a href="https://www.gypsum.org/about/gypsum-101/gypsum-board/">https://www.gypsum.org/about/gypsum-101/gypsum-board/</a></p>

## New Jersey Green Home Remodeling Guidelines Green Products and Services Guide

### Project Type : Finished Basement and Major Addition

#### Building System: Furniture and Fittings

Product	Product Features	Certifications	Product Directory/Service Resources
<b>Cabinetry and Furniture: rapidly renewable materials</b>	Bamboo products as it is fast growing, highly renewable resource and can be used for many things in the home including furniture, flooring, and window blinds.		Sustainable Furnishings Council. 2019 <a href="https://sustainablefurnishings.org/">https://sustainablefurnishings.org/</a>
<b>Used Furniture</b>	Reduces the need to produce new furniture and the pollution from the manufacturing and transportation processes.		Craigslist <a href="http://www.craigslist.org">www.craigslist.org</a>  Freecycle <a href="https://www.freecycle.org/">https://www.freecycle.org/</a>  Habitat for Humanity ReStore <a href="https://www.habitat.org/restores?place=us">https://www.habitat.org/restores?place=us</a>
<b>Cabinetry and Furniture: Certified Sustainable Wood</b>	Responsibly harvested products promote resource stewardship.	Forest Stewardship Council (FSC) Certified  	Forest Stewardship Council (FSC) <a href="https://us.fsc.org/en-us">https://us.fsc.org/en-us</a>  Rainforest Alliance. Forest Products Certification. Find Certified products. 2019 <a href="https://www.rainforest-alliance.org/find-certified?location=&amp;category=131&amp;keyword=">https://www.rainforest-alliance.org/find-certified?location=&amp;category=131&amp;keyword=</a>

## New Jersey Green Home Remodeling Guidelines Green Products and Services Guide

### Project Type : Finished Basement and Major Addition

Product	Product Features	Certifications	Product Directory/Service Resources
<b>Furniture: reclaimed, recycled, and durable materials</b>	Furniture made with materials from old furniture, houses, factory scraps, and recycled products. Choose longer lasting products to avoid using resources.		<p>GreenGuard <a href="http://www.greenguard.org">www.greenguard.org</a></p> <p>Scientific Certification Systems: Buildings and Interiors <a href="https://www.scsglobalservices.com/services/buildings-and-interiors">https://www.scsglobalservices.com/services/buildings-and-interiors</a></p> <p>SPOT. Products Catalog. Furniture. GreenGuard Certification <a href="https://spot.ul.com/main-app/products/catalog/?keywords=furniture">https://spot.ul.com/main-app/products/catalog/?keywords=furniture</a></p> <p>Sustainable Furnishings Council. 2019 <a href="https://sustainablefurnishings.org/">https://sustainablefurnishings.org/</a></p> <p>Rainforest Alliance. Forest Products Certification. Find Certified products. 2019 <a href="https://www.rainforest-alliance.org/find-certified?location=&amp;category=131&amp;keyword=">https://www.rainforest-alliance.org/find-certified?location=&amp;category=131&amp;keyword=</a></p>
<b>Low-toxicity furniture</b>	Avoid products that off-gas volatile organic compounds (VOCs) and that are made from synthetic materials including fire retardants and formaldehyde.		<p>SPOT. Products Catalog. Furniture. GreenGuard Certification <a href="https://spot.ul.com/main-app/products/catalog/?keywords=furniture">https://spot.ul.com/main-app/products/catalog/?keywords=furniture</a></p> <p>Scientific Certification Systems: Buildings and Interiors <a href="https://www.scsglobalservices.com/services/buildings-and-interiors">https://www.scsglobalservices.com/services/buildings-and-interiors</a></p> <p>California Environmental Protection Agency. Air Resources Board (ARB). Indoor Air Quality Guideline. Formaldehyde in the Home. 2004 <a href="http://www.arb.ca.gov/research/indoor/formaldbg108-04.pdf">www.arb.ca.gov/research/indoor/formaldbg108-04.pdf</a></p>