2005 New Home Guidelines References ©

Community Design & Planning

i. Develop Infill Sites Local Government Commission Publications (www.lgc.org) Urban Land Institute (www.uli.org) Northeast-Midwest Institute's "Strategies for Successful Infill Development" (www.nemw.org/infillbook.htm)
ii. Cluster Homes & Keep Size in Check California Integrated Waste Management Board, "Designing With Vision: A Technical Manual For Material Choices In Sustainable Construction" Home Energy Magazine article "Design Secrets for Affordable Efficiency", Jan/Feb 2000 (www.homeenergy.org)
iii. Subdivision Layout & Orientation to Improve Natural Cooling and Passive Solar Attributes Environmental Building News article "Getting to Know a Place: Site Evaluation as a Starting Point for Green Design", Volume 7, Number 3 (www.buildinggreen.com)
iv. Design for Walking & Bicycling Walkable Communities: www.walkable.org Local Government Commission Publications (www.lgc.org)
v. Design for Safety & Social Gathering Project for Public Spaces (http://pps.org/buildings) Local Government Commission Publications (www.lgc.org)
vi. Design for Diverse Households American Association of Retired Peoples (AARP) has information on universal design (www.aarp.org/universalhome) North Carolina State University's Center for Universal Design has many useful features anf adaptable housing (www.design.ncsu.edu/cud)

A. Site

1. Protect Native Soil and Minimize Disruption of Existing Plants & Trees California Stormwater Quality Association, California Stormwater Best Management Practice Handbook: Construction Handbook (www.cabmphandbooks.com/Construction.asp) CA Regional Water Quality Control Board, SF Bay Region, Erosion and Sediment Control Field Manual, August 2002, pp. A-17, B-3. (available at www.swrcb.ca.gov/stormwtr/training.html)
2. Deconstruct Instead of Demolishing Existing Buildings On Site Building Materials Reuse Association: www.ubma.org Environmental Protection Agency Deconstruction and Reuse: www.epa.gov/epaoswer/non-hw/debris-new/reuse.htm
3. Recycle Job Site Construction Waste (Including Green Waste) California Integrated Waste Management Board's C&D Debris Recyclers' Database: www.ciwmb.ca.gov/Condemo/Recyclers/default.asp
4. Use Recycled Content Aggregate (Minimum 25%) Full description of recycled aggregate and resources at: www.ciwmb.ca.gov/condemo/Aggregate/default.htm

B. Landscaping

1. Construct Resource-Efficient Landscapes

Ash, Tom, Landscape Management for Water Savings, Muncipal Water District of Orange County et al, 1998.
California Integrated Waste Management Board, Sustainable Landscaping(http://www.ciwmb.ca.gov/publications/default.asp?pubid=840)
Bornstein, Fross, O'Brien. California Native Plants for the Garden, Cachuma Press, 2005
Sunset Western Garden Book, Sunset Books, 2001
Bossard, Randall and Hoshovsky, Invasive Plants of California Wildlands, UC Press, 2003.

Thompson and Sorvig. Sustainable Landscape Construction: A Guide to Green Building Outdoors, Island Press, 2000.

Sources of California native plants, seeds & information are listed by the CA Native Plant Society (www.cnps.org), the CA Native Plant LINK EXCHANGE (www.cnplx.info), and the CA Invasive Plant Council (www.cal-ipc.org).

2. Use Fire Safe Landscaping Techniques

CA Dept of Forestry & Fire Protection (www.fire.ca.gov/php/)
California Forest Stewardship, Fire Prevention: Options for Managing Fire Fuel Load, http://ceres.ca.gov/foreststeward/html/fueloption.html
Moritz and Svihra, Pyrophytic vs Fire Resistant Plants,UC Cooperative Extension, October 1998.
Gilmer, Maureen, California Wildfire Landscaping, Taylor Publishing Company, 1994.
California Native Plant Society, San Diego chapter's fire page (www.cnpssd.org/fire)

3. Minimize Turf Areas in Landscape Installed by Builder

Western Region Builder's News, Turf's Up, July 2004 (http://www.buildernewsmag.com/viewnews.pl?id=5)
California Department Water Resources, Landscape Water Use Conservation Methods, http://www.owue.water.ca.gov/landscape/conserv/conserv.cfm

4. Plant Shade Trees

McPherson, Gregory. Benefits of Trees Watershed, Energy and Air, Arborist News, Dec 2004, www.isa-arbor.com
Landscaping for Energy Savings, http://www.greenbuilder.com/sourcebook/LandscapingEnergy.html
Center for Urban Forest Research, Fact Sheets on Benefits of Urban Forest, http://wcufre.ucdavis.edu

5. Implement Hydrozoning: Group Plants by Water Needs

California Department Water Resources, Model Water Efficient Landscape Ordinance (http://www.owue.water.ca.gov/docs/WaterOrdIndex.cfm)

6. Install High-Efficiency Irrigation Systems

California Department Water Resources, Landscape Water Use Conservation Methods, http://www.owue.water.ca.gov/landscape/conserv/conserv.cfm

Thompson and Sorvig. Sustainable Landscape Construction: A Guide to Green Building Outdoors, Island Press, 2000.
Riley, Michael, The Cutting Edge of Residential Smart Irrigation Technology, California Landscaping, CA Landscape Contractors Association, July/August 2005

7. Apply 2 Inches Compost in the Top 6 to 12 Inches of Soil

Craul, Phillip. Urban Soils: Applications and Practices, John Wiley & Sons, 1999.

Thompson and Sorvig. Sustainable Landscape Construction: A Guide to Green Building Outdoors, Island Press, 2000.
Washington Dept of Environment, Guidelines and Resources for Implementing Soil Quality and Depth BMP T5.13, 2005 (http://compostwashington.org/PDF/SOIL_MANUAL.pdf)

8. Mulch All Planting Beds to the Greater of 2 Inches or Local Water Ordinance Requirement CA Integrated Waste Management Board, A Landscaper's Guide To Mulch: Save Money, Control Weeds, and Create Healthy Landscapes, July 2002 (http://www.ciwmb.ca.gov/Publications/default.asp?pubid=958) California Department Water Resources, Landscape Water Use Conservation Methods, http://www.owue.water.ca.gov/landscape/conserv/conserv.cfm Ash, Tom, Landscape Management for Water Savings, Muncipal Water District of Orange County et al, 1998. Washington Dept of Environment, Guidelines and Resources for Implementing Soil Quality and Depth BMP T5.13, 2005 (http://compostwashington.org/PDF/SOIL_MANUAL.pdf)
9. Use 50% Salvaged or Recycled-Content Materials for 50% of Non-Plant Landscape Elements
CA Integrated Waste Management Board, Recycled Product Directory, Construction section www.ciwmb.ca.gov/RCP/Product.asp?VW=CAT&CATID=257
10. Reduce Light Pollution by Shielding Fixtures and/or Directing Light Downward International Dark Sky Association (www.darksky.org/)

C. Foundation

1. Incorporate Recycled Flyash in Concrete Fly Ash Resource Center (www.geocities.com/CapeCanaveral/Launchpad/2095/flyash.html) NAHB Research Center PATH Toolbase Fly Ash fact page (www.toolbase.org/techinv/techDetails.aspx?technologyID=217#jumpInstallation) King County Environmental Purchasing Bulletin #63; Fly Ash in Concrete (www.metrokc.gov/procure/green/bul63.htm)
2. Use Frost-Protected Shallow Foundation in Cold Areas (Climate Zone 16) NAHB Research Center PATH Toolbase Frost Protected Shallow Foundation fact page (www.toolbase.org/secondaryT.asp?TrackID=&CategoryID=1844)
3. Use Radon Resistant Construction (In At-Risk Locations Only) US EPA Radon Program (www.epa.gov/radon) CA Dept of Health Services Indoor Air Quality Program, radon page (www.cal-iaq.org/RADON/)

D. Structural Frame and Building Envelope

1. Apply Optimal Value Engineering 2001 CA Building Code Section 2320.11.2 and Table 23-IV-B EEBA Builders Guides by Joe Lstiburek (www.buildingscience.com) Efficient Wood Use in Residential Construction, 1998, by Natural Resources Defense Council (www.nrdc.org/cities/building/rwoodus.asp)
2. Use Engineered Lumber APA-The Engineered Wood Association (www.apawood.org) NAHB Research Center, Engineered Wood Wall Framing Fact Page (www.toolbase.org/techinv/techDetails.aspx?technologyID=193)
3. Use FSC Certified Wood Forest Stewardship Council (www.fscus.org)
4. Design Energy Heels on Trusses (75% of Attic Insulation Height at Outside Edge of Exterior Wall) EEBA Builders Guides by Joe Lstiburek (www.buildingscience.com) Oregon Residential Energy Code, Advanced Framing for Walls and Ceilings, (http://oregon.gov/ENERGY/CONS/Codes/docs/res10.pdf) states that compressed ceiling insulation area on non-raised-heel truss can account for 25% of ceiling area.
5. Design Trusses to Accommodate Ductwork CA Energy Commission, Home Builders Guide to Ducts in the Conditioned Space (www.energy.ca.gov/reports/2003-11-17_500-03-082_A-16.PDF) EEBA Builders Guides by Joe Lstiburek (www.buildingscience.com)

6. Use Oriented Strand Board (OSB) APA-The Engineered Wood Association (www.apawood.org)
7. Use Recycled-Content Steel Studs for 90% of Interior Wall Framing Steel Framing Alliance (www.steelframingalliance.com) NAHB Research Center, Residential Light Gauge Steel Fact Page, (www.toolbase.org/techinv/techDetails.aspx?technologyID=110 and www.toolbase.org/secondaryT.asp?TrackID=&CategoryID=1893)
8. Use Solid Wall Systems (Includes SIPs, ICFs, and Any Non-Stick Frame Assembly) A side-by-side Louisville, KY study by the Florida Solar Energy Center & US DOE ("Field Research: Energy Use of Wood Frame and Structural Insulated Panels" October 1997) and a side by side study by Oak Ridge National Laboratories found SIPs to be 12-16% superior in energy performance to stick frame construction. (www.fsec.ucf.edu) Oak Ridge National Labs' "Whole Wall R-value Calculator" calculates insulation effectiveness of solid wall systems. (www.ornl.gov/sci/roofs+walls)
9. Thermal Mass Walls: 5/8-Inch Drywall on All Interior Walls or Walls Weigh more than 40 lb/ft3 Benefits of thermal mass on improving building performance: http://www.ornl.gov/sci/roofs+walls/research/detailed_papers/thermal/ California Energy Commission Title 24 Residential Compliance Manual definition of heavy mass walls: http://www.energy.ca.gov/title24/2005standards/residential_manual.html
10 Design and Build Structural Pest Controls State of California's California School Integrated Pest Management Program, Pest Prevention Construction Guidelines and Practices (www.cdpr.ca.gov/docs/pmap/pubs/casbo_article.pdf) UC Davis Integrated Pest Management Program (www.ipm.ucdavis.edu/index.html) NAHB Research Center, Alternative Termite Control Measures Fact Page (www.toolbase.org/techinv/techDetails.aspx?technologyID=257) US Dept of Housing and Urban Development, The Rebab Guide, Vol 2, Exterior Walls (www.huduser.org/publications/pdf/walls.pdf)
11. Reduce Pollution Entering the Home from the Garage Built Green Colorado, The Garage to House Issue (www.builtgreen.org/articles/0402_carbonmonoxide.htm) Iowa State University, Carbon Monoxide Poisoning and Garages (www.abe.iastate.edu/human_house/aen207.asp) and Thomas H. Greiner, Ph.D., P.E., Charles V. Schwab, Ph.D, Carbon Monoxide Exposure from a Vehicle in a Garage, (http://resourcecenter.ashrae.org/store/ashrae/newstore.cgi?itemid=8099&view=item&categoryid=171&categoryparent=171&page=1&loginid=4306302) Canada Mortgage & Housing Corporation, Garage Performance Testing, Technical Series 04-108, April 2004, #63542 (www03.cmhc-schl.gc.ca/b2c/b2c/mimes/pdf/63542.pdf)
12. Install Overhangs and Gutters NAHB Research Center, Partnership for Advancing Technology in Housing, Durability by Design, (www.pathnet.org/si.asp?id=308) US HUD, Partnership for Advancing Technology in Housing; Roof Overhangs (www.pathnet.org/sp.asp?id=14037)

E. Exterior Finish

1. Use Recycled-Content (No Virgin Plastic) or FSC-Certified Wood Decking Forest Stewardship Council (www.fscus.org) NAHB Research Center, Compisite Decking Fact Page (www.toolbase.org/techinv/techDetails.aspx?technologyID=214)

2. Install a Drainage Plane (Rain Screen Wall System)
EEBA Builders Guides by Joe Lstiburek (www.buildingscience.com)

NAHB Research Center, Rain Screen Exterior Walls Fact Page, (www.toolbase.org/techinv/techDetails.aspx?technologyID=231)

3. Use Durable and Non-Combustible Siding Materials
The Firesafe Council has recommendation on building materials and fire safety (www.firesafecouncil.org)
This US State website lists fire ratings of common building products
(www.dps.state.la.us/sfm/planreview/Flame-Spread%20Ratings.htm)

4. Select Durable and Non-Combustible Roofing Materials
The Firesafe Council has recommendation on building materials and fire safety (www.firesafecouncil.org)
This US State website lists fire ratings of common building siding and roofing materials
(www.dps.state.la.us/sfm/planreview/Flame-Spread%20Ratings.htm)

F. Plumbing

1. Distribute Domestic Hot Water Efficiently
a. Insulate Hot Water Pipes from Water Heater to Kitchen
CA Energy Commission, Hot Water Distribution Research, Phase 1, Nov 2005 (http://energy.ca.gov/2005publications/CEC-500-2005-161/CEC-500-2005-161.PDF)
b. Insulate All Hot Water Pipes OR Install On-Demand Hot Water Circulation System

NAHB Research Center, Hot Water Recirculation Systems Fact Page (www.toolbase.org/techinv/techDetails.aspx?technologyID=142
c. Locate the Water Heater within 25 feet of All Hot Water Fixtures and Appliances
CA Energy Commission, Hot Water Distribution Research, Phase 1, Nov 2005 (http://energy.ca.gov/2005publications/CEC-500-2005-161/CEC-500-2005-161.PDF)
d. Use Engineered Parallel Piping
Current Title 24 standards award energy credit for parallel piping based on studies completed by Davis Energy Group for the 1992 and 2005 standards rulemakings, which included a hot water distribution model called HWSIM. The unpublished report is available from Davis Energy Group. A recent field study completed by Rick Chitwood on 60 new homes found problems with the way that both parallel piping systems and demand recirculation systems were being installed and implemented. This study is ongoing and is funded by the CEC PIER program. There is a great deal of current discussion about whether demand recirculation or parallel piping is better from and energy and water use standpoint. Davis Energy Group's view is that either system is an improvement over trunk-and-branch piping provided it is well engineered to reduce the volume of water in the piping. Development of a new HWSIM hot water distribution model is also being supported by the CEC PIER project.

2. Install Only High Efficiency Toilets (Dual-Flush or <=1.3 gpf)
CA Urban Water Conservation Council (www.cuwcc.org)

G. Appliances

1. Install ENERGY STAR Dishwasher
a. ENERGY STAR
EPA/DOE Energy Star Program (www.energystar.gov)
b. Dishwasher Uses No More than 6.5 Gallons/Cycle
Oregon Dept. of Energy, dishwasher rebate list (www.oregon.gov/ENERGY/CONS/RES/tax/appdish.shtml)

2. Install ENERGY STAR Clothes Washing Machine with Water Factor of 6 or Less
Qualifying Products are listed in SEHA Tier 3 from the Consortium for Energy Efficiency (www.cee1.org)

3. Install ENERGY STAR Refrigerator a. ENERGY STAR: 15% above Federal Minimum EPA/DOE Energy Star Program (www.energystar.gov) b. Super-Efficient Home Appliance Tier 2: 25% above Federal Minimum To obtain a list of SEHA-qualified refrigerators, link to the ENERGY STAR Web site and sort by efficiency. Models that are at least 20 percent more efficient than the federal minimum standard (NAECA) comply with the SEHA Tiers 2 performance level. (www.energystar.gov & www.cee1.org)
4. Install Built-In Recycling Center

H. Insulation

1. Install Insulation with 75% Recycled Content Environmental Protection Agency's Comprehensive Procurement Guidelines www.epa.gov/cpg/products/building.htm
CA Integrated Waste Management Board, Recycled Product Directory, Construction section www.ciwmb.ca.gov/RCP/Product.asp?VW=CAT&CATID=257
2. Install Insulation that is Low-Emitting (Certified Section 01350) CA Integrated Waste Management Board (www.ciwmb.ca.gov/GreenBuilding/Specs/Section01350)
3. Pre-Drywall Inspection Shows Quality Installation of Insulation CA Energy Commission (www.energy.ca.gov/title24 and www.energy.ca.gov/efficiency/qualityhomes/insulation.html)

I. Heating, Ventilation & Air Conditioning

1. Design and Install HVAC System to ACCA Manual J, D, and S Recommendations Air Conditioning Contractors of America (www.acca.org) NAHB Research Center, HVAC Sizing Practice Fact Page (www.toolbase.org/techinv/techDetails.aspx?technologyID=184)
2. Install Sealed Combustion (Direct Vent) Units in Conditioned Space a. Furnaces b. Water Heaters DOE Energy Efficiency & Renewable Energy Clearinghouse, Combustion Safety Equipment fact sheet (www.eere.energy.gov/buildings/documents/pdfs/26464.pdf)
3. No Fireplace or Sealed Gas Fireplace with Efficiency Rating Not Less Than 60% The minimum federal efficiency standard for furnaces is 0.78 (AFUE). Any appliance used for heating that has a lower efficiency compromises overall house heating efficiency. Some gas fireplaces have efficiencies lower than 10%, but units with 60% efficiency or better are available. There are no U.S. or California standards for gas fireplaces yet, but a Canadian standard (CSA P.4.1-02) provides for testing and listing of efficiency. Listings can be found at http://oee.nrcan.gc.ca/equipment/english/fireplace-search.cfm?text=N&printview=N
4. Install ENERGY STAR Ceiling Fans with CFLs in Living Areas and Bedrooms EPA/DOE Energy Star Program (www.energystar.gov)
5. Install Ventilation System for Nighttime Cooling a. Whole House Fan Energy Efficiency & Renewable Energy Clearinghouse, Installing and Using a Whole House Fan Fact Page (www.eere.energy.gov/buildings/info/homes/wholehousefan.html) b. Automatically Controlled Integrated System NAHB Research Center, Whole House Mechanical Ventilation Strategies Fact Page, (www.toolbase.org/techinv/techDetails.aspx?technologyID=202 and www.toolbase.org/tertiaryT.asp?TrackID=&CategoryID=1311&DocumentID=3176 and www.toolbase.org/techinv/techCAD.aspx?technologyID=122 and www.toolbase.org/techinv/techDetails.aspx?technologyID=272) c. Integrated System with Variable Speed Control Ventilation cooling technology was developed under the California Energy Commission PIER program. The final report for this study can be found at http://www.energy.ca.gov/pier/final_project_reports/500-04-009.html Springer, DA, L.I. Rainer, W.L. Dakin. 2005. Development and Testing of an Integrated Residential Night Ventilation Cooling System. ASHRAE Transactions 2005, Vol. 111, Part 2. Atlanta, GA.

6. Install Air Conditioning with Non-HCFC Refrigerants US Environmental Protection Agency's Significant New Alternatives Policy (SNAP) Program (www.epa.gov/ozone) NAHB Research Center, High Efficiency Air Conditioners without HCFC Fact Page, (www.toolbase.org/techinv/techDetails.aspx?technologyID=172)
7. Design and Install Effective Ductwork CA Energy Commission, Home Builders Guide to Ducts in the Conditioned Space, Field Tests, and Cost Issues (www.energy.ca.gov/reports/2003-11-17_500-03-082_A-16.PDF and www.energy.ca.gov/reports/2003-11-17_500-03-082_A-31.PDF and www.energy.ca.gov/reports/2003-11-17_500-03-082_A-29.PDF) NAHB Research Center, HVAC Equipment and Duct Installation within Conditioned Space Fact Page (www.toolbase.org/techinv/techDetails.aspx?technologyID=120) e. Protect Ducts during Construction and Clean all Ducts before Occupancy EEBA Builders Guides by Joe Lstiburek (www.buildingscience.com) Sheet Metal and Air Conditioning Contractors National Association (www.smacna.org) National Air Duct Cleaners Association (www.nadca.com)
8. Install High Efficiency HVAC Filter (MERV 6+) American Society for Heating Refrigeration and Air-Conditioning Engineering, ASHRAE Standard 52.2-1999 (www.ashrae.org) National Institute for Occupational Safety and Health (NIOSH) (www.cdc.gov/niosh/docs/2003-136/2003-136c.html)
9. Install Zoned, Hydronic Radiant Heating with Slab Edge Insulation Slab edge insulation fact sheet from State of Oregon (http://oregon.gov/ENERGY/CONS/Codes/docs/res8.pdf)
10. Install Mechanical Ventilation System a. Any Whole House Ventilation System That Meets ASHRAE 62.2 American Society for Heating, Refrigeration and Air Conditioning Engineers (www.ashrae.org) NAHB Research Center, Whole House Mechanical Ventilation Strategies Fact Page, (www.toolbase.org/techinv/techDetails.aspx?technologyID=202) b. Install ENERGY STAR Bathroom Fan ENERGY STAR (www.energystar.gov) c. All Bathroom Fans Are on Timer or Humidistat NAHB Research Center, Humidity Sensing control Device Fact Page (www.toolbase.org/techinv/techDetails.aspx?technologyID=183 and www.toolbase.org/Docs/MainNav/Energy/3947_spotventilation1.pdf?TrackID=&CategoryID=1004&DocumentID=3947)
11. Use Low-Sone Range Hood Vented to the Outside Home Ventilating Institute (www.hvi.org)
12. Install Carbon Monoxide Alarm(s) US EPA, Carbon Monoxide Fact Page (www.epa.gov/iaq/co.html) Canada Mortgage & Housing Corporation, Carbon Monoxide Fact Page (www.cmhc-schl.gc.ca/en/co/maho/yohoyohe/inaiqu/inaiqu_002.cfm)

J. Building Performance

1. Design and Build High Performance Homes (2 points each 1% energy efficiency above T-24) CA Energy Commission (www.energy.ca.gov/title24/)
2. House Obtains ENERGY STAR with Indoor Air Package Certification Energy Star Program, Indoor Air Package Specifications (www.energystar.gov/ia/partners/bldrs_lenders_raters/downloads/IAQ_Specification_093005.pdf)

3. Inspection and Diagnostic Evaluations a. Third Party Energy and Green Building Review of Home Plans b. Blower Door Test Performed CA Energy Commission (www.energy.ca.gov/title24) Blower Door Testing (Section 4.2.5) National HERS Accreditation Standards (RESNET) (www.natresnet.org) ASTM E1554-03 Standard Test Methods for Determining External Air Leakage of Air Distribution Systems by Fan Pressurization and ASTM E779-03. Standard Test Method for Determining Air Leakage Rate by Fan Pressurization.
c. House Passes Combustion Safety Backdraft Test Conduct worst-case depressurization test (ASTM E1998 "Guide for Assessing Backdrafting and Spillage from Vented Combustion Appliances" or equivalent)

K. Renewable Energy

1. Pre-Plumb for Solar Hot Water Heating
2. Install Solar Water Heating System
3. Install Wiring Conduit for Future Photovoltaic (PV) Installation and Provide 200 sq. feet of South-facing Roof
4. Install Photovoltaic (PV) Panels (1.2 kw - 6 points; 2.4 kw - 12 points; 3.6 kw - 18 pts)

L. Finishes

1. Provide Permanent Walk-Off Mats and Shoe Storage at Home Entrances US Dept of Agriculture, Mediating Exposure to Environmental Hazards Indoors (http://txnc170.human.cornell.edu/indoors.html) US EPA (www.epa.gov) cites studies on human exposure to chemicals and the transport of those chemicals to the indoors via shoes
2. Use Low/No-VOC Paint a. Low-VOC Interior Wall/Ceiling Paints (<50 gpl VOCs (Flat) and <150 gpl VOCs (Non-Flat)) b. Zero-VOC: Interior Wall/Ceiling Paints (<5 gpl VOCs (Flat)) Scientific Certification Systems (www.scscertified.org) Green Seal GS-11 Standards (www.greenseal.org)
3. Use Low VOC, Water-Based Wood Finishes (<150 gpl VOCs)
4. Use Low-VOC Construction Adhesives (<70 gpl VOCs) for All Adhesives South Coast Air Quality Management District (www.aqmd.gov/rules/reg/reg11/r1168.pdf) Collaborative for High Performance Schools (www.chps.net)
5. Use Recycled-Content Paint CA Integrated Waste Management Board (www.ciwmb.ca.gov/ConDemo/Paint) Minnesota Office of Environmental Assistance (www.moea.state.mn.us/lc/purchasing/latexpaint.cfm)
6. Use Environmentally Preferable Materials for Interior Finish: A) FSC-Certified Wood, B) Reclaimed Lumber, C) Rapidly Renewable D) Recycled-Content or E) Finger-Jointed a. Cabinets (50% Minimum) b. Interior Trim (50% Minimum) c. Shelving (50% Minimum) d. Doors (50% Minimum) e. Countertops (50% Minimum)
7. Reduce Formaldehyde in Interior Finish (Section 01350) CA Integrated Waste Management Board (www.ciwmb.ca.gov/GreenBuilding/Specs/Section01350) CA Air Resources Board's Formaldehyde page (www.arb.ca.gov/research/indoor/formaldehyde.htm)
8. After Installation of Finishes, Test of Indoor Air Shows Formaldehyde Level <27ppb CA Air Resources Board's Formaldehyde page (www.arb.ca.gov/research/indoor/formaldehyde.htm and www.arb.ca.gov/research/indoor/formaldGL08-04.pdf)

M. Flooring

1. Use Environmentally Preferable Flooring: A) FSC-Certified or Reclaimed Wood, B) Rapidly Renewable Flooring Materials, C) Recycled-Content Ceramic Tiles, D) Exposed Concrete as Finished Floor or E) Recycled-Content Carpet. Flooring Adhesives must have <50gpl VOCs.
2. Thermal Mass Floors: Floor Covering Other than Carpet on 50% or More of Concrete Floors Davis Energy Group and Florida Solar Energy Center evaluated the energy impact of leaving floors uncarpeted for an unpublished Zero Energy Homes study. This is a low or no-cost way to add thermal mass. Contact Davis Energy Group for more information. www.davisenergy.com
3. Flooring Meets Section 01350 or CRI Green Label Plus Requirements (50% Minimum) CA Integrated Waste Management Board (www.ciwmb.ca.gov/GreenBuilding/Specs/Section01350) Carpet and Rug Institute's Green Label Plus Program (www.carpet-rug.org)