

**RESOLUTION ADOPTING THE CITY OF LAS VEGAS
GREEN BUILDING PROGRAM**

WHEREAS, the City has identified as strategic priorities to create, integrate, and manage orderly and sustainable development and growth of the community; to support and encourage sustainability, livability, and pride in the City's neighborhoods; and to promote healthy lifestyles for all segments of the community; and

WHEREAS, the City has adopted a Climate Protection Resolution calling for the City to establish programs and incentives to encourage builders and developers to implement green building practices, which incorporate building design, construction, and maintenance to promote more energy-efficient, environmentally friendly, and sustainable building practices; and

WHEREAS, the City has adopted the 2003 International Energy Conservation Code, which establishes energy use requirements; and

WHEREAS, the City in the near future will adopt the 2006 version of the International Energy Conservation Code, which will establish some of the most stringent energy use requirements in the United States; and

WHEREAS, the City is an active member of the United States Green Building Council (USGBC); and

WHEREAS, the City is a leader in the reduction of greenhouse gas emissions through the use of alternative fuel vehicles, with 87% of the City's non-emergency fleet running on alternative fuels and comprising a significant portion of the 7,000 alternative fuel vehicles operating in Southern Nevada; and

WHEREAS, the City provides incentives and subsidies to employees who commute by mass transit, van pool or car pool; has increased employee enrollment in the Club Ride Program in May of 2006 by 18%; and is recognized by the EPA as one of America's "Best Workplaces for Commuters"; and

WHEREAS, the City actively promotes the development of mass transit options throughout the City and the Southern Nevada region including light rail, monorail, Bus Rapid Transit and a Super Speed Train connecting Las Vegas with Primm, Nevada and ultimately with Barstow and

1 Anaheim, California; and

2 WHEREAS, the City actively promotes the creation and maintenance of open space
3 through the implementation of the Conservation, Parks and Recreational Trails Elements of the Las
4 Vegas Master Plan 2020; and

5 WHEREAS, the City actively promotes the planting of trees, and for thirteen years has
6 been recognized as a "Tree City USA" by the National Arbor Day Foundation; and

7 WHEREAS, it is the intent of the City Council that the construction of all new public
8 facilities by or for the City will meet or exceed the standards of the LEED-Silver rating scale, as
9 promulgated by the USGBC, or standards that are deemed equivalent; and

10 WHEREAS, establishing a "Green Building Program" for development within the City
11 furthers the City's commitment to achieving a sustainable community; and

12 WHEREAS, over 700 homes will be built in the City by the end of 2006 as part of the
13 Southern Nevada Water Authority's Water Smart Home Program; and

14 WHEREAS, the Nevada Energy Star Partners are currently developing more than 50
15 active subdivisions in the City; and

16 WHEREAS, the Southern Nevada Home Builders Association has developed the
17 Southern Nevada Green Building Partnership to encourage residential builders to adopt and expand
18 green building practices; and

19 WHEREAS, the City has partnered with the Southern Nevada Home Builders
20 Association throughout the planning and development of the Southern Nevada Green Building
21 Partnership; and

22 WHEREAS, homes built as part of the Southern Nevada Green Building Partnership
23 will be built to exceed the energy and water use requirements of the City; and

24 WHEREAS, homes built as part of the Southern Nevada Green Building Partnership
25 will further include a quantifiable volume of renewable and recycled-content materials used in
26 construction; and

27 WHEREAS, those who purchase a home that is part of the Southern Nevada Green
28 Building Partnership will receive educational materials to help them achieve an even more sustainable

1 lifestyle; and

2 WHEREAS, the City should further commit to a policy of green building for all public
3 buildings built by and for the City.

4 NOW, THEREFORE BE IT RESOLVED by the City Council of the City of Las Vegas
5 as follows:

- 6 1. The City of Las Vegas Green Building Program is hereby adopted.
- 7 2. All homes built in the City and certified as meeting the requirements of the Southern Nevada
8 Green Building Partnership will be recognized in the City's Green Building Program.
- 9 3. Builders participating in the Southern Nevada Green Building Partnership will be listed in a
10 Green Building section on the City's website and will be provided with information on the
11 City's Green Building program for their sales offices and model homes.
- 12 4. Each participating home will be given a certificate and window sticker to authenticate its
13 participation.
- 14 5. The City will continue to work with the Southern Nevada Green Building Partnership to
15 ensure that this remains a dynamic and responsive program for the City, its residents and the
16 development community.
- 17 6. The City will use its best efforts to ensure that all public buildings built by and for the City
18 are built to USGBC's LEED-Silver level or other equivalent standard, as identified by the
19 Director of the Nevada State Office of Energy.
- 20 7. Beginning with Fiscal Year 2008, the City will dedicate 25% of any incremental increase in
21 the aggregate amount of franchise fees collected from providers of electricity, gas, and solid
22 waste collection services over the aggregate amount of those fees collected in 2007, not to
23 exceed \$2,500,000 in any single year, in order to fund any increased costs associated with the
24 construction of new public buildings, costs for the renovation or maintenance of existing
25 facilities to LEED-Silver level or other equivalent standard, and the funding of green building
26 and sustainability incentives and the development of public education programs. This revenue
27 will be designated as the City's "Green Building Fund."
- 28 8. The City Manager is directed and authorized to take necessary actions to implement all

1 aspects of the City's Green Building Program as set forth in this Resolution, including the
2 establishment of a budget for the utilization of the Green Building Fund.

- 3 9. The City will prepare an annual report documenting achievements in increasing the number
4 of green buildings in the City and the resulting environmental benefits, to include savings in
5 energy, reduction in consumptive use of water, reduction in green house gas production, and
6 conservation of natural resources.

7 PASSED, ADOPTED, AND APPROVED this 18TH day of OCTOBER, 2006.

8 CITY OF LAS VEGAS

9
10 BY 
11 OSCAR B. GOODMAN, Mayor

12 ATTEST:

13 
14 BARBARA JO RONECUS, City Clerk

15 APPROVED AS TO FORM

16 Val Weed 10-4-06
Date

SOUTHERN NEVADA GREEN BUILDING PARTNERSHIP

PROGRAM REQUIREMENTS

Resource Efficiency

1.1	Reduce Quantity of Materials and Waste
1.1.1	Create a detailed framing plan and detailed material takeoffs. Provide an onsite cut list for all framing and sheathing materials.
1.2	Enhance Durability and Reduce Maintenance
1.2.1	Provide a covered primary entry (e.g., awning, covered porch) to prevent water intrusion and subsequent rotting of joists, sills and finishes.
1.2.2	Install drip edge at eave and gable roof edges.
1.2.3	Install gutter and downspout system to divert water a minimum of 2' away from foundation and from there into the overall onsite drainage area. (In expansive soils conditions, refer to International Residential Code and Southern Nevada Regional Interpretation dated November 10, 2004 for additional requirements.)
1.2.4	Divert surface water from all sides of building.
1.2.5	Provide a water-resistive barrier (WRB) or a drainage plane system behind the exterior veneer system or the exterior siding.
1.3	Use Recycled Content Materials
1.3.1	Use recycled-content building materials (i.e., OSB, MDF, etc.)
1.4	Use Renewable Materials
1.4.1	Use materials manufactured from renewable resources (e.g., agricultural byproduct based products such as soy-based insulation; bamboo; wood-based products).
1.4.2	Use certified wood for wood and wood-based materials and products from all credible third party certified sources, including SFI, ATFS, CAN/CSA, FSC or other programs approved by Program Administrator.
1.5	Recycle Waste Materials During Construction
1.5.1	Develop and implement a construction and demolition (C&D) waste management plan that is posted at jobsite.

Energy Efficiency

2.1	Energy Efficiency
2.1.1	Home is equivalent to or greater than 15% above the current International Energy Conservation Code or local energy code, whichever is more stringent. Conformance to this threshold shall be based on plan analysis using software such as MICROPAS or other as approved by Program Administrator.
2.1.2	If offered by builder, install Energy Star-labeled appliances (refrigerator, dishwasher, washing machine). Refer to Water Efficiency section for specific appliance requirements.
2.1.3	Provide a stamped HVAC design by a Nevada Licensed Mechanical Engineer using the latest ACCA Manual J, S & D calculation methods or other approved methods by Program Administrator.

Water Efficiency

3.1	Landscape Design
3.1.1	All landscapes and irrigation work performed by the homebuilder or their subcontractor is guaranteed to comply with applicable laws and codes in effect at the time of installation.
3.1.2	No turf will be used in front yards. Front yards have water-smart landscaping, including trees, flowers and groundcover.
3.1.3	If the builder offers backyard landscaping, turf will not exceed 50 percent of the total landscapable area of the back yard, or 1,000 square feet whichever is less. If a pool and/or spa are installed prior to owner occupancy, the water surface area will be deducted from the turf allowance. Homebuyers will have an option to select turf varieties with greater water efficiency, such as improved varieties of Bermuda, Zoysia, Buffalo and other warm-season grasses. Ryegrass, Bluegrass, Bentgrass and Dichondra lawns are prohibited.
3.1.4	Builders will not install or facilitate installation of ornamental water features except as allowable components of a swimming pool or spa.
3.2	Irrigation System Standards
3.2.1	Contractor guarantees that all irrigation systems, if properly operated and maintained, can sustain the landscape without creating flow or spray that leaves the property. (See attached compliance criteria)
3.2.2	On all new landscape installations, separate control zones (valves) will be used for each type of watering device. For example, drip emitters will operate separately from sprinkler heads.
3.2.3	Sprinkler heads will be used only to water turfgrass (where allowed) and will have a 4 inch or greater pop-up height and matched precipitation nozzles.
3.2.4	Drip irrigation systems will be equipped with a pressure regulator, filter, and flush end assembly and other appropriate components. Components will be accessible for maintenance.
3.2.5	Contractor-provided irrigation controllers will have the following minimum features: - Two or more programs - Three or more start times per program - One-minute incremental watering time - Even/odd day scheduling - Day interval scheduling - Day of week scheduling

	- Capable of accepting external soil moisture and/or rain sensors - Non-volatile memory or self-charging battery circuit
3.2.6	An owner's manual will be provided for all irrigation controllers and other irrigation components.
3.2.7	A seasonal watering schedule for each zone will be posted at the controller.
3.2.8	Non-turf areas will include a minimum 2-inch layer of mulching material. If weed barrier fabric is used, it will be permeable to air and water. Permeable grade artificial turf may be used to meet the mulch requirements.
3.2.9	A one-year limited warranty will be offered on builder-installed landscaping. Terms of the warranty are at the discretion of the builder. The warranty must be provided to the homebuyer.
3.3	Swimming Pools and Spas
3.3.1	Even if no pool or spa is installed by the builder, all homes must be equipped to facilitate the draining of pool and spa water to the sanitary sewer.
3.3.2	Each dwelling shall have an exterior sewer cleanout downstream of all other sewer connections for the structure and located inside an enclosure. Enclosures must be adequately sized and shaped to allow reasonable access to use tools to remove the cap from the pipe. The enclosure lid must be clearly and permanently marked "SEWER". The words "POOL DRAIN" may be added at the Contractor's discretion.
3.3.3	If offered by Builder, pool and spa water surface area will be deducted from the maximum allowable turf area. The combined area of turf and open water may not exceed 1,000 square feet.
3.3.4	If offered by Builder, pools may not feature decorative water features that drop or propel water more than 24 inches above the main water surface.
3.4	Plumbing and Equipment Standards
3.4.1	Service pressure for all uses (indoor and outdoor) must be 60 psi or less. Compliance may be achieved by use of a pressure-regulating valve (PRV) downstream of the water meter. In the event static water pressure is at or below 60 psi, no PRV is necessary. All fixtures and irrigation system connections must be downstream of the pressure regulator.
3.4.2	All plumbing fixtures must be UPC approved.
3.4.3	Homes must include high-efficiency indoor plumbing fixtures: - Toilets 1.6 gallons maximum per flush

	- Kitchen faucets 2.2 gallons per minute (gpm) maximum - Bathroom faucets 1.5 gallons per minute (gpm) maximum - Shower fixtures – total water output for shower heads and similar devices may not exceed 2.5 gallons per minute (gpm) maximum. If the device has multiple nozzles (such as a body spray unit), the collective volume of all nozzles the user may operate simultaneously may not exceed 2.5 gallons per minute. If the contractor intends to design a shower facility for more than one person, the design and fixtures must be reviewed and approved. Under no circumstance will any facility be approved where water flow may exceed 2.5 gpm per user. - Hot water recirculating systems, point of use water heating devices or manifold systems are required to minimize water loss during hot water delivery.
3.4.4	All air conditioning systems must be non-evaporative systems with zero net consumptive water use.
3.4.5	If the following types of appliances are offered, finances, installed or sold as upgrades through the Contractor, they must meet these standards:
	Dishwasher – may not exceed 6.5 gallons or per normal cycle) (JANUARY 1, 2007 REQUIREMENT)
	Washing machines – Must be high-efficiency models with Energy Star Water Factor (WF) not to exceed 7.0 (JANUARY 1, 2007 REQUIREMENT)
	Water Softener – All devices must be certified to meet the NSF/ANSI 44 standard. All water softeners must be demand-initiated regeneration. Devices that use autoinitiated regeneration (fixed schedule) are prohibited. If the device uses an ion exchange technology, it must be capable of using potassium rather than sodium salt.
3.4.6	Drinking water treatment systems using distillation, adsorption, reverse osmosis or ultraviolet processes must be certified to meet applicable NSF/ANSI certifications. Such systems must have an efficiency rate of not less than 85 percent (minimum of 85 gallons of water available for beneficial use within the home for every 100 gallons of water input to the device). Discharge water diverted for another code-approved use within the home may be considered a beneficial use at the discretion of the Program Administrator.

Indoor Environmental Quality

4.1	Minimize Potential Sources of Pollutants
4.1.1	Install direct-vent, sealed-combustion gas fireplace, sealed wood fireplace or sealed woodstove OR No fireplace or woodstove installed.
4.1.2	Ensure particleboard, medium density fiberboard (MDF) and hardwood plywood substrates are certified to low formaldehyde emission standards ANSI A208.1, ANSI A208.2 and ANSI/HPVA HP1, respectively. Composite wood/agrifiber panel products must either contain no added urea-formaldehyde resins or must be third party certified for low formaldehyde emissions. THIS WOULD BE VERIFIED BY THE MANUFACTURERS SPEC AND CERTIFICATION FROM SUPPLIER
4.1.3	Install carpet and carpet pad that hold "Green Label" from Carpet and Rug Institute's indoor air quality testing program or meet equivalent thresholds verified by a third party. THIS WOULD BE VERIFIED BY THE MANUFACTURERS SPEC AND CERTIFICATION FROM SUPPLIER
4.2	Manage Potential Pollutants Generated in the Home
4.2.1	Provide mechanical exhaust fan to the outside from kitchen range, bath and laundry.
4.2.2	Provide mechanical ventilation at a rate of 7.5 cfm per bedroom + 7.5 cfm and controlled automatically or continuous with manual override. The ventilation equipment may be: A. Exhaust or supply fan(s), or B. Balanced exhaust and supply fans, or C. Heat-recovery ventilator, or D. Energy-recovery ventilator
4.2.3	Design HVAC system to use minimum MERV 6 filters
4.3	Moisture Management (Vapor, Rainwater, Plumbing, HVAC)
4.3.1	Install moisture resistant backerboard – not paper-faced sheathing – under tiled surfaces in wet areas.
4.3.2	Install vapor retarder directly under slab (6-mil) or on crawl space floor (8-mil). In crawl spaces, extend poly up wall and affix with glue and furring strips or damp-proof wall below grade. Joints lapped 12 inches.

Operation, Maintenance and Homeowner Education

5.1	Provide Home Manual to owners/occupants on the use and care of the home.
	A. Narrative detailing the importance of maintenance and operation to keep a green build home green.
	B. Local Green Building Program certificate.
	C. Warranty, operation and maintenance instructions for equipment and appliances. INFORMATION PROVIDED BY MANUFACTURER
	D. Household recycling opportunities. INFORMATION PROVIDED BY LOCAL TRASH COLLECTION COMPANY
	E. Explanation of the benefits of using compact fluorescent light bulbs in high usage areas.
	F. A list of habits/actions to optimize water and energy use. INFORMATION PROVIDED BY LOCAL WATER UTILITY
	G. Local public transportation options (if applicable) INFORMATION PROVIDED BY LOCAL TRANSIT AUTHORITY
	H. Clearly labeled diagram showing safety valves and controls for major house systems. OWNER IS TYPICALLY SHOWN BY BUILDER DURING WALK THRU – COULD BE PUT ON DIAGRAM FOR FUTURE REFERENCE
	I. Use low VOC emitting wallpaper. POSSIBLY PROVIDE WEBSITE IF THERE IS SUCH A THING
5.2	Optional information to include in the Home Manual
	A. List of Green Home Building Guidelines items included in the home.
	B. User-friendly maintenance checklist.
	C. Information about native or low water landscape INFORMATION FROM LOCAL WATER UTILITY
5.3	Solid Waste
	A. Encourage homeowners/occupants to recycle by providing built-in space in the home's design (e.g., kitchen, garage covered outdoor space) for recycling containers. INFORMATION FROM LOCAL TRASH COLLECTION COMPANY

It is intended that material provided in this section be reference material provided by local utility providers, trash collection company, etc. on “How to Live Green”.

Need to consider including some type of disclaimer regarding “implied warranty”.

Global Impact

6.1	Products
6.1.1	Choose low- or no-VOC indoor paints. VOC concentrations (grams/liter) of interior paints should be equal to or less than those specified by the EPA's Environmentally Preferable Purchasing Program: • Interior latex coatings: Flat – 100 grams/liter Non-flat - 150 grams/liter • Interior oil-based paints: 380 grams/liter

Additional Requirements

	Home enrolled in the SNHBA endorsed Green Builder Program will require field verification by a Certified HERS rater and will follow the home inspection sampling guidelines endorsed by the DOE/EPA and RESNET.
	Certification and Verification of Approved HERS Raters
	SNHBA Program Administrator will create approved classroom and onsite training program for implementation of Green Builder program.
	Certified HERS inspection will be subject to random quality control inspections to ensure program guidelines are being met. Repeated failure by the HERS company can lead to program participation disqualification