

**ORDINANCE NO. 10-1316**

**AN ORDINANCE OF THE CITY OF HERMOSA BEACH, CALIFORNIA, ADOPTING BY REFERENCE PART 11 OF TITLE 24 OF THE CALIFORNIA CODE OF REGULATIONS, KNOWN AS THE CALIFORNIA GREEN BUILDING STANDARDS CODE (CALGREEN), AMENDING PORTIONS OF SAID TITLE, AND AMENDING TITLE 15 OF THE HERMOSA BEACH MUNICIPAL CODE**

**WHEREAS**, on January 12, 2010, the California Building Standards Commission approved the California Green Building Standards Code (Part 11 of Title 24 of the California Code of Regulations, referred to herein as “CALGreen”), which will become effective on January 1, 2011 and which incorporates standards requiring all new buildings in the state to be more energy and resource efficient and environmentally advanced; and

**WHEREAS**, green building design, siting, construction, and operation can have a significant positive effect on energy and resource efficiency, reduction of waste and pollution generation, and the health and productivity of a building’s occupants over the life of the building; and

**WHEREAS**, pursuant to action by the California Building Standards Commission and Health and Safety Code Sections 17958 and 18938, CALGreen will become applicable to all cities and counties throughout California, including the City of Hermosa Beach, on January 1, 2011; and

**WHEREAS**, Health and Safety Code Section 17958.5 permits cities to make modifications to the requirements contained in CALGreen if they are found to be reasonably necessary because of local climatic, geographic or topographic conditions, and Health and Safety Code Section 17958.7 requires that the City Council, before making modifications to such requirements, make an express finding that such modifications are reasonably necessary because of local climatic, geographic or topographic conditions; and

**WHEREAS**, City staff has recommended certain modifications to CALGreen provisions as reasonably necessary due to local conditions in the City of Hermosa Beach; and

**WHEREAS**, the City Council conducted a duly noticed public hearing to consider and review the Uniform Codes and local amendments, at which testimony and evidence was presented to and considered by the City Council.

**NOW, THEREFORE, BASED ON THE FOREGOING, THE CITY COUNCIL OF THE CITY OF HERMOSA BEACH DOES HEREBY ORDAIN AS FOLLOWS:**

**SECTION 1.** The City Council finds that certain modifications to CALGreen provisions are found reasonably necessary due to the following local climatic, geographic and topographic conditions:

1. The City of Hermosa Beach is subject to a semi-arid climate, including hot/dry periods which result in peak energy load demands that can cause power outages affecting public safety and causing adverse local economic impacts. Green building practices enhanced over the basic requirements of CALGreen will encourage greater energy efficiency and reduction in peak energy demand.
2. Hermosa Beach is located in a climate zone with precipitation averaging approximately 14 inches per year. Most precipitation falls during the months of November through April, leaving a relatively dry period of approximately six months each year. The City's potable water, storm water collection, and waste collection and treatment systems are designed to accommodate and make use of consistent weather patterns and supplies, which may, in fact, be unreliable, as evidenced by recent periods of drought. Enhanced green building practices will encourage water conservation and sustainable efforts that lower the carbon footprint.
3. The total square footage of air-conditioned habitable space within residential and nonresidential buildings in the City has been increasing, using more

energy and resources than in the past. Enhanced green building practices will encourage greater energy efficiency and mitigation of energy demands from air conditioning use.

4. Because of more intensive development in the City in recent years, energy usage has increased. Reduction of total and peak energy use as a result of enhanced energy efficiency measures required by this Ordinance will have local benefits in the cost-effective reduction of energy costs for building owners in the City, additional available system energy capacity, and a reduction in greenhouse gas emissions.
5. Hermosa Beach is a hillside community that is substantially builtout. The remaining open space is generally located in sloping terrain. New development often requires substantial grading, which may impact adjacent land and results in unintended consequences, such as run-off and drainage impacts. Enhanced green building practices will encourage minimal grading and the siting of buildings in harmony with the natural topography, rather than attempting to alter it.
6. Hermosa Beach is an older community with a large number of mature trees. Enhanced green building practices will encourage minimal disruption of the natural flora and strategic placement of trees for shading; and
7. As a beach community, the City of Hermosa Beach is concerned about the increase in greenhouse gas generation which is associated with sea level rise, increased storm events, flooding, coastal erosion, and alterations to Hermosa's Mediterranean climate. The adoption of local provisions to reduce urban heat gain, nonrenewable energy use, and the generation and landfilling of waste are positive steps toward reducing greenhouse gases.
8. The City of Hermosa Beach's identity and economy are dependent on the health of its beach and ocean resources and Santa Monica Bay has been listed

by the State Water Resources Control Board as impaired due to bacteria and marine debris. Adoption of local provisions which increase surface permeability and reduce stormwater and urban runoff will therefore assist in improving the health of the beach and marine environment and in implementing Total Maximum Daily Load (TMDL) plans.

**SECTION 2.** Chapter 15.48 of Title 15 of the Hermosa Beach Municipal Code is hereby added as set out in Exhibit “A” attached hereto and incorporated herein. Based on the preceding findings, the modifications to CALGreen set out in Exhibit “A” are hereby adopted as reasonably necessary due to local conditions in the City of Hermosa Beach.

**SECTION 3.** Nothing in this ordinance is intended to duplicate, contradict, or infringe upon provisions of state law, including the California Building Standards Code (*Title 24 of the California Code of Regulations*), and this ordinance is intended to ensure that all building subject to this ordinance will consume no more energy that what is permitted by the *California Building Energy Efficiency Standards of the (Part 6 of the California Building Standards Code)*.

**SECTION 4.** If any section, subsection, subdivision, paragraph, sentence, clause or phrase of this Ordinance or any part hereof or exhibit hereto is for any reason held to be invalid, such invalidity shall not affect the validity of the remaining portions of this Ordinance or any part thereof or exhibit thereto. The City Council of the City of Hermosa Beach hereby declares that it would have passed each section, subsection, subdivision, paragraph, sentence, clause or phrase hereof, irrespective of the fact that any one or more sections, subsections, subdivisions, paragraphs, sentences, clauses or phrases be declared invalid.

**SECTION 5.** Prior to the expiration of fifteen (15) days after the date of its adoption, the City Clerk shall cause this ordinance to be published in the Easy Reader, a weekly newspaper of general circulation published and circulated in the City of Hermosa Beach in the manner provided by law.

**SECTION 6.** The City Clerk shall certify to the passage and adoption of this ordinance, shall enter the same in the book of original ordinances of the City of Hermosa Beach, and shall make minutes of the passage and adoption thereof in the records of the proceedings of the City Council as which the same is passed and adopted.

**SECTION 7.** The Community Development Director shall file copies of this ordinance with the California Building Standards Commission as required by Health and Safety Code Section 17958.7

**SECTION 8.** This ordinance shall become effective and be in full force and effect on January 1, 2011.

**PASSED, APPROVED and ADOPTED** this \_\_\_\_ day of \_\_\_\_, 2010, by the following vote:

AYES:

NOES:

ABSTAIN:

ABSENT:

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PRESIDENT of the City Council and Mayor of the City of Hermosa Beach, California

ATTEST:

APPROVED AS TO FORM:

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CITY CLERK

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CITY ATTORNEY

**EXHIBIT A:  
ADDITION TO TITLE 15 OF THE HERMOSA BEACH MUNICIPAL CODE**

***Chapter 15.48, derived from the California Green Building Standards Code (“CALGreen”, Part 11 of Title 24 of the California Code of Regulations), is hereby added to Title 15 as shown hereinafter.***

**TITLE 15  
CHAPTER 15.48  
GREEN BUILDING STANDARDS**

**15.48.010. Adoption of CALGreen Code.**

Except as hereinafter provided in this Chapter 15.48 and as provided elsewhere in Title 15, the California Green Building Standards Code, referred to herein as “CALGreen” 2010 Edition (Part 11 of Title 24 of the California Code of Regulations), is hereby adopted by reference and made a part of this Chapter as though set forth in this Chapter in full. A copy of this Chapter shall be maintained in the office of the City Clerk and shall be made available for public inspection while the Chapter is in force.

**15.48.020. Modifications to CALGreen Code.**

Notwithstanding the provisions of Section 15.48.010, the provisions of CALGreen are hereby modified to read as shown hereinbelow.

**RESIDENTIAL CONSTRUCTION**

**SECTION A4.106  
SITE DEVELOPMENT**

**A4.106.4 Water permeable surfaces.**

1. Utilize water permeable surfaces (e.g., permeable paving or landscaping) on not less than 50% of the exterior surface areas (excluding building footprints) that are disturbed by the project. Subsurface infiltration alternatively may be used, designed to infiltrate the volume of runoff produced by a 0.75 inch storm event. A maintenance agreement for infiltration or an annual fee for postconstruction treatment control measures in lieu of infiltration may be required in an amount established by resolution of the City Council.
  
2. Direct runoff from the remainder of all impermeable surfaces on the project site, including roof runoff and downspouts from roofs, onto permeable areas or into a subsurface infiltration system designed to infiltrate the volume of runoff produced by a 0.75 inch storm event. A maintenance agreement for infiltration or an annual fee for postconstruction treatment control measures in lieu of infiltration may be required in an amount established by resolution of the City Council.

**Exception:**

Required accessible routes for persons with disabilities as required by *California Code of Regulations*, Title 24, Part 2, Chapter 11A and/or Chapter 11B as applicable.

**A4.106.5 Cool roof.** Roofing materials shall comply with this section.

**Exception:** Install roof constructions that have a thermal mass over the roof membrane with a weight of at least 25 lb per square feet.

**A4.106.5.1 Solar reflectance.** Roofing materials shall have a minimum 3-year aged solar reflectance equal to or greater than the values specified in Table A4.106.5(1).

If CRRC testing for 3-year aged reflectance is not available for any roofing products, the 3-year aged value shall be determined using the Cool Roof Rating Council (CRRC) certified initial value using the equation  $R_{aged} = [0.2 + 0.7[\rho_{initial} - 0.2]]$ , Where  $\rho_{initial}$  = the initial Solar Reflectance.

Solar reflectance may also be certified by other supervisory entities approved by the Commission pursuant to Title 24, Part 1, Section 10-113.

**A4.106.5.2 Thermal emittance.** Roofing materials shall have a CRRC initial or 3-year aged thermal emittance equal to or greater than those specified in Table A4.106.5(1).

Thermal emittance may also be certified by other supervisory entities approved by the Commission pursuant to Title 24, Part 1, Section 10-113.

**A4.106.5.3 Solar reflectance index alternative.** Solar Reflectance Index (SRI) equal to or greater than the values specified in Table A4.106.5(1) may be used as an alternative to compliance with the 3-year aged solar reflectance values and thermal emittance.

SRI values used to comply with this section shall be calculated using the Solar Reflective Index (SRI) Calculation Worksheet (SRI-WS) developed by the California Energy Commission or in compliance with ASTM E1980-01 as specified in Title 24, Part 6, Section 118(i)3. Solar reflectance values used in the SRI-WS shall be based on the 3-year aged reflectance value of the roofing product or the equation in Section A4.106.5.1 if the CRRC certified aged solar reflectance are not available. Certified Thermal emittance used in the SRI-WS may be either the initial value or the three year aged value listed by the CRRC.

Solar reflectance and thermal emittance may also be certified by other supervisory entities approved by the Commission pursuant to Title 24, Part 1, Section 10-113.

**TABLE A4.106.5(1)**

<b>ROOF SLOPE</b>	<b>ROOF WEIGHT</b>	<b>CLIMATE ZONE</b>	<b>Minimum 3-year Aged Solar Reflectance</b>	<b>Thermal Emittance</b>	<b>SRI</b>
> 2 : 12	≤ 5 lb/ft <sup>2</sup>	6	0.15	0.75	10

**A4.106.5.4 Verification.** Inspection shall be conducted to ensure roofing materials meet cool roof aged solar reflectance and thermal emittance or SRI values.

**SECTION A4.203  
PERFORMANCE APPROACH**

**A4.203.1 Energy performance.** Using an Alternative Calculation Method (ACM) approved by the California Energy Commission, calculate each building's energy and CO<sub>2</sub> emissions, and compare it to the standard or "budget" building to exceed the *California Energy Code* based on the 2008 energy standards requirements by 15 percent.

**SECTION A4.207  
HVAC DESIGN, EQUIPMENT AND INSTALLATION**

**A4.207.6 Cooling equipment.** When cooling equipment is installed, select cooling equipment with a Seasonal Energy Efficiency Ratio (SEER) higher than 13.0 and an Energy Efficiency Ratio (EER) of at least 11.5. The exterior components of cooling equipment (e.g. condensers) shall not exceed 45 decibels at any property line located adjacent to a residential zone. Condensers located at least 10 feet from any property line or on the roof shall be exempt from this requirement.

**A4.207.10 Ceiling fans.** If ceiling fans are installed, they shall be ENERGY STAR rated.

**SECTION A4.208  
WATER HEATING DESIGN, EQUIPMENT AND INSTALLATION**

**A4.208.1 Tank type water heater efficiency.** If a gas fired storage water heater is installed, the Energy Factor (EF) shall be higher than 0.60.

**A4.208.2 Tankless water heater efficiency.** If a gas-fired tankless water heater is installed, the Energy Factor (EF) shall be 0.80 or higher.

**A4.208.3 Distribution systems.** Where the hot water source is more than 10 feet from a fixture, the potable water distribution system shall convey hot water using one of the following methods:

1. A central manifold plumbing system with parallel piping configuration ("home-run system") is installed using the smallest diameter piping allowed by the *California Plumbing Code* or an approved alternate.
2. The plumbing system design incorporates the use of a demand controlled circulation pump.
3. A gravity-based hot water recirculation system is used.
4. A timer-based hot water recirculation system is used.
5. Other methods approved by the City.

**SECTION A4.210  
APPLIANCES**

**A4.210.1 Appliance rating.** Each appliance provided by the builder meets ENERGY STAR if an ENERGY STAR designation is applicable for that appliance.

**SECTION A4.303  
INDOOR WATER USE**

**A4.303.1 Kitchen faucets and dishwashers.**

1. The maximum flowrate at a kitchen sink faucet shall not be greater than 1.5 gallons per minute at 60 psi.

**Note:** Rated flowrates for the default function of the faucet shall be used to demonstrate compliance with this section.

2. Dishwashers shall be ENERGY STAR qualified and not use more than 5.8 gallons of water per cycle.

## **SECTION A4.403 FOUNDATION SYSTEMS**

**A4.403.2 Reduction in cement use.** Cement used in foundation mix design shall be reduced by not less than 20 percent. Products commonly used to replace cement in concrete mix designs include, but are not limited to fly ash, slag, silica fume or rice hull ash.

## **SECTION A4.408 CONSTRUCTION WASTE DISPOSAL REDUCTION, DISPOSAL AND RECYCLING**

**A4.408.1 Enhanced construction waste reduction.** At least 65 percent of all nonhazardous construction and demolition debris generated at the site is diverted to recycle or salvage.

**A4.408.1.1 Documentation.** Documentation shall be provided to the City which demonstrates compliance with this section.

## **NONRESIDENTIAL CONSTRUCTION**

### **SECTION A5.106 SITE DEVELOPMENT**

**A5.106.2 Storm water design.** Design storm water runoff rate and quantity in conformance with Section A5.106.2.1 and storm water runoff quality by Section A5.106.3.2.

**A5.106.2.1 Storm water runoff rate and quantity.** Implement a storm water management plan resulting in no net increase in rate and quantity of storm water runoff from existing to developed conditions. **Exception:** If the site is already greater than 50 percent impervious, implement a storm water management plan resulting in a 25 percent decrease in runoff rate and quantity. This requirement may be met by demonstrating a 25 percent decrease in site impermeability, or retention of 25 percent of the design storm as indicated in Section A5.106.2.2.

**A5.106.2.2 Storm water runoff quality.** Use postconstruction treatment control best management practices (BMPs) to mitigate (infiltrate, filter or treat) stormwater runoff from a 0.75 inch storm event (for volume-based BMPs) or the runoff produced by a rain event equal to the flow of runoff produced from a rain event equal to at least 0.2 inches per hour intensity (for flow-based BMPs). Infiltration is preferred over filter, treat and release to the public storm drain system. A maintenance agreement for infiltration or an annual fee for postconstruction treatment control measures in lieu of infiltration may be required in an amount established by resolution of the City Council.

**A5.106.3 Low impact development (LID).** Reduce peak runoff in compliance with Section 5.106.3.1. Employ at least two of the following methods or other best management practices to

allow rainwater to soak into the ground, evaporate into the air or collect in storage receptacles for irrigation or other beneficial uses. LID strategies include, but are not limited to:

1. Bioretention (rain gardens);
2. Cisterns and rain barrels;
3. Green roofs meeting the structural requirements of the building code;
4. Roof leader disconnection directing downspouts to permeable surfaces or retention devices;
5. Permeable and porous paving;
6. Vegetative swales and filter strips; tree preservation; and
7. Volume retention suitable for previously developed sites.

**A5.106.3.1 Implementation.** If applicable, coordinate Low Impact Development (LID) projects with the local Regional Water Quality Control Board, which may issue a permit or otherwise require LID.

**A5.106.3.2 Greyfield or infill site.** Manage 40 percent of the average annual rainfall on the site's impervious surfaces through infiltration, reuse or evapotranspiration. This section shall be effective on January 1, 2012. A maintenance agreement for infiltration or an annual fee for postconstruction treatment control measures in lieu of infiltration may be required in an amount established by resolution of the City Council.

**A5.106.11.2 Cool roof.** Use roofing materials having a minimum 3-year aged solar reflectance and thermal emittance complying with Sections A5.106.11.2.1 and A5.106.11.2.2 or a minimum aged Solar Reflectance Index (SRI)<sup>3</sup> complying with Section A5.106.11.2.3 and as shown in Table A5.106.11.2.1 or A5.106.11.2.2.

**A5.106.11.2.1 Solar reflectance.** Roofing materials shall have a minimum 3-year aged solar reflectance equal to or greater than the values specified in Table A5.106.11.2.1.

If CRRC testing for 3-year aged reflectance is not available for any roofing products, the 3-year aged value shall be determined using the Cool Roof Rating Council (CRRC) certified initial value using the equation  $R_{aged} = [0.2 + 0.7[\rho_{initial} - 0.2]]$ , where  $\rho_{initial}$  = the initial Solar Reflectance. Solar reflectance may also be certified by other supervisory entities approved by the Commission pursuant to Title 24, Part 1, Section 10-113.

**A5.106.11.2.2 Thermal emittance.** Roofing materials shall have a CRRC initial or 3-year aged thermal emittance equal to or greater than those specified in Table A5.106.11.2.1. Thermal emittance may also be certified by other supervisory entities approved by the Commission pursuant to Title 24, Part 1, Section 10-113.

**A5.106.11.2.3 Solar reflectance index alternative.** Solar Reflectance Index (SRI) equal to or greater than the values specified in Table A5.106.11.2.1 may be used as an alternative to compliance with the 3-year aged solar reflectance values and thermal emittance. SRI values used to comply with this section shall be calculated using the Solar Reflective Index (SRI) Calculation Worksheet (SRI-WS) developed by the California Energy Commission or in compliance with ASTM E 1980-01 as specified in Title 24, Part 6, Section 118(i)<sup>3</sup>. Solar reflectance values used in the SRI-WS shall be based on the 3-year aged reflectance value of the roofing product or the equation in section A5.106.11.2.1 if the CRRC certified aged solar reflectance are not available. Certified Thermal emittance used in the SRI-WS may be either the initial value or the three year aged value listed by the CRRC.

**TABLE A5.106.11.2.1**

<b>ROOF SLOPE</b>	<b>ROOF WEIGHT</b>	<b>CLIMATE ZONE</b>	<b>Minimum 3-year Aged Solar Reflectance</b>	<b>Thermal Emittance</b>	<b>SRI</b>
> 2 : 12	≤ 5 lb/ft <sup>2</sup>	6	0.15	0.75	10

Solar reflectance and thermal emittance may also be certified by other supervisory entities approved by the Commission pursuant to Title 24, Part 1, Section 10-113.

**A5.106.11.3 Verification of compliance.** If no documentation is available, an inspection shall be conducted to ensure roofing materials meet cool roof aged solar reflectance and thermal emittance or SRI values.

**SECTION A5.203  
PERFORMANCE APPROACH**

**A5.203.1 Energy performance.** For the purposes of energy efficiency standards in this code the California Energy Commission will continue to adopt mandatory building standards. It is the intent of this code to encourage green buildings to achieve exemplary performance in the area of energy efficiency. Specifically, a green building should achieve more than a 15 percent reduction in energy usage when compared to the State’s mandatory energy efficiency standards.

Using an Alternative Calculation Method approved by the California Energy Commission, calculate each nonresidential building’s TDV energy and CO2 emissions and compare it to the standard or “budget” building.

**A5.203.1.1 Energy efficiency – 15 percent above Title 24, Part 6.** -Exceed *California Energy Code* requirements, based on the 2008 *Energy Efficiency Standards*, by 15 percent and meet the requirements of Division A45.6.

Field verify and document the measures and calculations used to reach the desired level of efficiency following the requirements specified in the Title 24 Reference Appendices.

**A5.405.5 Cement and concrete.** Use cement and concrete made with recycled products and complying with the following sections.

**A5.405.5.1 Cement.** Meet the following standards for cement:

1. Portland cement shall meet ASTM C 150, *Standard Specification for Portland Cement*
2. Blended cement shall meet ASTM C 595, *Standard Specification for Blended Hydraulic Cement* or ASTM C 1157, *Standard Performance Specification for Hydraulic Cement*.

**A5.405.5.2 Concrete.** Unless otherwise directed by the engineer, use concrete manufactured with cementitious materials in accordance with Sections A5.405.5.2.1 and A5.405.5.2.1.1, as approved by the City.

**A5.405.5.2.1 Supplementary cementitious materials (SCMs).** Use concrete made with one or more of the following supplementary cementitious materials (SCMs):

1. Fly ash meeting ASTM C 618, *Specification for Coal Fly Ash and Raw or Calcined Natural Pozzolan for Use in Concrete*.
2. Ultra-fine fly ash (UFFA) meeting ASTM C 618, *Specification for Coal Fly Ash and Raw or Calcined Natural Pozzolan for Use in Concrete and CalTrans Standard Specification, Section 90-2.01B*.
3. Metakaolin meeting ASTM C 618, *Specification for Coal Fly Ash and Raw or Calcined Natural Pozzolan for Use in Concrete and CalTrans Standard Specification, Section 90-2.01B*.
4. Natural pozzolan meeting ASTM C 618, *Specification for Coal Fly Ash and Raw or Calcined Natural Pozzolan for Use in Concrete*.
5. Slag cement (GGBFS) meeting ASTM C 989, *Specification for Ground Granulated Blast-Furnace Slag for Use in Concrete and Mortars*.
6. Silica fume meeting ASTM C 1240, *Specification for Silica Fume Used in Cementitious Mixtures*.
7. Other materials with comparable or superior environmental benefits, as approved by the engineer and enforcing authority.

Note: CalTrans specifications for UFFA and metakaolin may be found in the 2009-09 updates to the 2006 CalTrans specifications.

**A5.405.5.2.1.1 Mix design equation.** Use any combination of one or more SCMs, satisfying Equation A5.4-1:

$$F/25 + SL/50 + UF/12 = 1 \quad \text{Equation A5.4-1}$$

where:

*F* = Fly ash, natural pozzolan or other approved SCM, percent of total cementitious material for concrete on the project

*SL* = GGBFS, including the amount in blended cement percent of total cementitious material for concrete on the project

*UF* = Silica fume, metakaolin or UFFA, including the amount in blended cement, percent of total cementitious material for concrete on the project

**Exception:** Minimums for concrete products requiring high early strength may be lower as directed by the engineer.

**A5.405.5.3 Additional means of compliance.** Any of the following measures may be employed for the production of cement or concrete, depending on their availability and suitability, in conjunction with Section A5.405.5.2.

**A5.405.5.3.1 Cement.** The following measures may be used in the manufacture of cement.

**A5.405.5.3.1.1 Alternative fuels.** Where permitted by state or local air quality standards, use alternative fuels.

**A5.405.5.3.1.2 Alternative power.** Use alternate electric power generated at the cement plant and/or green power purchased from the utility meeting the requirements of Section A5.211.

**A5.405.5.3.1.3 Alternative ingredients.** Use inorganic processing additions and limestone meeting ASTM C 150, *Standard Specifications for Portland Cement*.

**A5.405.5.3.2 Concrete.** The following measures may be used in the manufacture of concrete,

**A5.405.5.3.2.1 Alternative energy.** Use renewable or alternative energy meeting the requirements of Section A5.211.

**A5.405.5.3.2.2 Recycled aggregates.** Use concrete made with one or more of the following materials:

1. Blast furnace slag as a lightweight aggregate in nonreinforced concrete.
2. Recycled concrete that meets grading requirements of ASTM C 33, *Standard Specification for Concrete Aggregates*.
3. Other materials with comparable or superior environmental benefits, as approved by the engineer and enforcing authority.

**A5.405.5.3.2.3 Mixing water.** Use water meeting ASTM C 1602, *Standard Specification for Mixing Water Used in the Production of Hydraulic Cement Concrete*, either recycled water provided by the local water purveyor or water reclaimed from manufacturing processes.

## **SECTION A5.408**

### **CONSTRUCTION WASTE REDUCTION, DISPOSAL AND RECYCLING**

#### **A5.408.3.1 Enhanced construction waste reduction.**

Divert to recycle or salvage at least 65% of nonhazardous construction and demolition debris generated at the site.

**A5.408.3.1.1 Verification of compliance.** A copy of the completed waste management report shall be provided to the City.

#### **Exceptions:**

1. Excavated soil and land-clearing debris.
2. Alternate waste reduction methods developed by working with local agencies if diversion or recycle facilities capable of compliance with this item do not exist.