

## **Sustainability Goals: Addressing Council Resolution 1793**

Resolution 1793, adopted in August of 2007, outlines the City of Golden's city-wide sustainability goals for the next ten years. Many of these sustainability goals are affected by land use practices addressed by Planning Commission and administered in the City's departments of Planning & Development and Public Works. These goals primarily involve the City's Building Code (Title 15), Subdivision Code (Title 17), and Zoning Code (Title 18).

### **List of Sustainability Ideas**

What follows is not a formal proposal, but a list of ideas that Planning Commission may wish to consider regarding sustainability as it pertains to land use regulation. Through research and internal brainstorming involving staff from both Planning & Development and Public Works, this list was assembled to begin to address the specific goals found in Council Resolution 1793 (attached).

At this point in the process, staff's intention is to use this list as a launching point for discussion of what should and should not be on the list going forward. Future discussions would involve more specifics and take a closer look at each of the Council goals in subsequent meetings.

#### **1. Ensure that within ten years 90% of all new buildings constructed in Golden each year are built to green building standards.**

- This category includes everything that has to do with the building itself, from the materials used and the standards for appliances, to the installation of rooftop solar panels.
- Golden has already adopted the latest (2006) International Energy Conservation Code (IECC), for commercial and multifamily buildings. The IECC addresses the thermal envelope of the building as well as other components of the structure, such as energy efficient appliances. The baseline version of the IECC code is thought to be roughly equivalent to the LEED "Certified" level.
- Golden has also adopted the latest (2006) International Residential Code (IRC) to address energy conservation requirements for one and two family structures and townhomes. The International Code Council (ICC) and the National Association of Home Builders (NAHB) are now working together with the American National Standards Institute (ANSI) to develop energy efficiency standards for low density residential buildings. This new voluntary standard is scheduled to be released in May 2008, when Golden staff will be able to review it and make recommendations regarding adoption.
- The new ICC/ANSI standards will feature tighter regulations than the current IRC standards and are intended to supplant more customized codes, such as Boulder's Green Points program. These new standards will cover commercial as well as all residential

structures, from multifamily to single family, as well as remodels. Applicants would be able to choose from a variety of design options, and energy analysis software would be able to verify that the required standards have been met. Classifications achieving a percentage above the 2006 IECC baseline are proposed to be point based, and include Bronze (15%), Silver (30%), Gold (50%) and Emerald (60%).

- Staff feels that using tough new International Building Code standards is preferable to a more customized approach as long as the outcome achieves similar goals in energy efficiency and sustainability. The advantages of using the IECC code and the forthcoming ICC/ANSI standards is that they are easier to administer, simpler for the development community, and a panel of experts is always working on the next updated versions of these codes for communities to adopt.

**2. Ensure that within ten years 50% of all remodels in Golden each year are built to green building standards.**

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**3. Reduce overall community energy usage in Golden by 20% and increase to 20% the proportion of its energy use derived from renewable energy sources within ten years (20x20 in 10).**

Phase 1

- Wind regulations for both residential and commercial wind turbines. Issues include height, noise and setback requirements.
- Solar equipment regulations for both roof and pole mounted versions. Considerations include height requirements.
- Outdoor lighting – reduce overall lighting amount and energy used by requiring new parking and street lights to be Solar/LED.
- Traffic signals were converted to LED in 2007, and any new development should be required to integrate with this new LED system
- Require percentage of new homes in a development to be oriented for maximum solar gain (e.g. Ft. Collins requires 65%)

Phase 2

- Carbon neutral development (carbon offset requirements, such as tree planting)
- Net zero energy and water usage for HOA common areas so that developers are setting up a sustainable system for owners (e.g. solar lighting and water-wise landscaping)

**4. Reduce our solid waste stream contribution by 25% in ten years.**

- Require reclamation/recycling of demolition materials
- Use of recycled asphalt for new paving that has 20% recycled product. Evidence shows it to maintain durability with reduced cost.
- Use of recycled materials for fill (eliminate any barriers to acceptable fill materials)
- Urban composting regulations to address odor and animal proofing
- Single stream recycling with municipal contract to make it easier and cheaper to increase participation rate

**5. Reduce the community's total Vehicle Miles Traveled by 15% in ten years.**

## Phase 1

- Narrow streets – makes the area more walkable and bike friendly by slowing traffic and creating a more human scale
- Narrow lots – compress the distances between destinations and make an area more walkable
- Parking maximum – capping the number of spaces allowed in addition to having a minimum. Reduces the parking lot footprint and makes an area more walkable.
- Safer sidewalks (detached, buffers, width, streetlights)
- Street connectivity standards – establish maximum block lengths so that intersections provide multiple routes for all modes of transportation to reduce travel distances and congestion
- Ped Connectivity -- open pedestrian routes to shorten walking distances (e.g. paths through cul de sacs)
- Bike facilities (racks, lockers, showers)
- Public Bike Share System – stations where citizens can conveniently pick up and drop off bicycles all over town to promote bicycle travel between destinations. Most systems around the world are free or almost free. A group of CSM students is currently trying to start one in Golden.
- “Complete Streets” – developing/designing streets to adequately accommodate all four main modes of transportation (pedestrians, bikes, transit, cars)
- Higher densities (Accessory Dwelling Units, multifamily, small house/lot) – compresses distances, creates demand for retail and other nearby neighborhood services, and makes walking, biking and mass transit more viable.
- Mixed use – along with higher density, this makes walking to destinations easier by reducing distances between office, retail and residential structures
- Home based business regulations to make it easier to work from home
- Percentage of local materials used in construction to reduce shipping (LEED identifies local as within 500 miles of site)
- Consolidated municipal trash service to eliminate overlapping routes

## Phase 2

- Impact fee for a transit circulator service (e.g. GUS) – development fee to help pay for transit service to offset affect of adding more vehicles to city streets
- Allow and encourage neighborhood scale commercial within walking distances of residential (e.g. small coffee shop, corner store). May want to limit it to collector streets and above. May want to require SUP for closer review of impact.

- Form based code – emphasis on the design and the feel of the public realm in order to provide a more safe, comfortable and aesthetically pleasing pedestrian environment

## **6. Reduce Golden’s per capita water use by 15% in 5 years.**

### Phase 1

- Water wise landscaping required (some % of landscaping) to reduce outdoor demand
- Stormwater irrigation for landscaping – channel run-off using swales and other techniques to convey stormwater to landscaping on site, such as sunken islands with curb cuts, to reduce irrigation needs
- Require some percentage of porous pavement to reduce stormwater runoff and capture more water on site
- Irrigation system regulations (drip, subsurface) to reduce loss to evaporation

### Phase 2

- Irrigation tap fee structure for non-potable water as incentive to conserve treated water (more research required)
- Rate structure for water costs to offer financial incentives for conservation (like Denver Water)

### Not Recommended

- Gray water systems – legal and water quality issues. The use of gray water is not currently feasible and is not recommended. First, the County Health Department requires an Individual Sewage Disposal System (ISDS) for gray water systems. However, an ISDS will not be permitted within city limits for a city providing sewer service. Second, western water law prohibits the use of gray water for irrigation. Finally, gray water is not a “safe” product—it contains bacteria and other potential pathogens, in addition to numerous chemicals associated with household products. CSU identifies the use of gray water as a public health issue, and not a water conservation priority.

## **7. Improve the health of the ecosystem associated with Golden waterways.**

### Phase 1

- Enforce soil amendments to condition soil for more effective growth and health of landscaped areas
- Stormwater reduction – requirements for percentage of stormwater runoff reduced during two year storm events. Investigation of similar, local practices is being conducted to determine the feasibility level for Golden.

- Encourage green roof design (using water wise landscaping) for efficient use and management of stormwater. Also helps to cool the structure and reduce energy demand in warmer months
- Adopt a “green area ratio” for new or redeveloping sites. Requires a target amount of landscaping on the site with a menu of options to reach this goal. Seattle has adopted this flexible approach to creating an urban ecosystem, which can include green roofs, permeable paving and other landscaping techniques that preserve water quality, reduce stormwater runoff and use water more efficiently.

#### Phase 2

- Stream buffer/setback - 3 zones – model ordinances. Riparian area protection is an excellent, cost-effective strategy for water-quality protection. However, buffers are best for areas not yet built to provide protection for sensitive streams not yet impaired. Further investigation, such as a rapid stream assessment, may be useful to evaluate the extent of city streams not yet impacted that would benefit from stream buffer protection in the land development codes.