Sustainable Development
Code Assessment:
St. Louis County Municipal
How-To Manual

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Introduction

The Sustainable Subdivision and Zoning Ordinance Revisions project was designed to make St. Louis County a more sustainable and energy efficient place to live, play, and do business, supporting the goals of the county’s 2010 Green and Growing Initiative. The sustainable ordinance revisions are updates and additions to the county’s land development regulations that have been created to promote sustainable development in St. Louis County. This project is funded by a grant from the U.S. Department of Energy through the Energy Efficiency and Conservation Block Grant Program.

As a first step in the process, the St. Louis County Department of Planning, with the assistance of a team led by Clarion Associates, with the support of Farr Associates and Spencer Fane Britt & Browne, completed a diagnostic report and recommendations. This diagnosis included a detailed analysis of St. Louis County’s current regulations, a comparison to the adopted county sustainability goals, recommendations for code changes, and sustainable zoning best practices from around the region and nation that the community might consider. The report, Sustainable Zoning and Subdivision Ordinance Revisions, was completed in September 2011.

The report focuses on five main topics: (1) energy production and conservation (alternative energy); (2) urban form and transportation (sustainable development patterns, infill development, walkability, and green spaces); (3) water quality and stormwater management (landscaping and green infrastructure); (4) housing (diverse mix of housing types, both in types of structures and price points); and (5) local food production (community gardens, farmer’s markets, and urban agriculture). Based on the analysis and recommendations of the diagnosis report, St. Louis County has instructed Clarion to prepare a series of model ordinances that address the following:

- Renewable energy,
- Green infrastructure and landscaping,
- Accessory dwelling units,
- Mixed-use development,
- Lighting, and
- Parking.

Production of the St. Louis County diagnostic report entailed a three-step process:

- Step One - review of background documents and several days of stakeholder interviews to identify issues and barriers in county regulations.
- Step Two - review of current county policies and programs that are supportive of sustainability goals; review and inventory of current regulations that address each of the identified topics.
- Step Three - detailed analysis of current regulations to identify and prioritize a series of recommended changes to existing codes and practices in order to enhance sustainability.

Based on the analysis in the diagnostic report, the consultant team created a series of model ordinances for adoption by the county and use as resources for local municipalities.
In addition to providing the model ordinances for municipal use, it is also the goal of the county to provide the municipalities with a straightforward method to assess their current regulations to determine and set priorities for which code changes are necessary or important to establish sustainable regulations. This Municipal How-To Manual is designed to provide step-by-step instructions for communities to prepare a localized code assessment.
Purpose of this Manual

As part of the Sustainable Subdivision and Zoning Ordinance Revisions Project, St. Louis County commissioned the preparation of this Code Assessment Manual, to be used as a guide to assist municipalities within St. Louis County and elsewhere in the region to conduct their own tailored sustainability diagnosis of development codes and regulations.

The primary purpose of this manual is to serve as a step-by-step guide for incorporating sustainability into local government development codes and regulations. It outlines a three-step process: (1) inventorying current land use regulations; (2) identifying barriers, incentives, and gaps in those regulations; and (3) determining priority code amendments to achieve community sustainability goals.

Sustainable Development Code Overview

PLANNING AND SUSTAINABILITY – AN INTRODUCTION

Exactly what is sustainability, and what is meant by a sustainable community? The United Nations Brundtland Commission in 1987 defined sustainability as ...“meeting the needs of the present while ensuring that future generations have the same or better opportunities”.

Thomas Jefferson, our original Renaissance man, in 1789 could have been speaking about sustainable communities when he wrote, “Then I say the earth belongs to each generation during its course, fully and in its own right, [but] no generation can contract debts greater than can be paid during the course of its own existence.”

While the specifics about sustainability will inevitably vary from community to community, it really is a straightforward and essentially conservative notion: preserving choices for the future. And while many

“Then I say the earth belongs to each generation during its course, fully and in its own right, [but] no generation can contract debts greater than can be paid during the course of its own existence.”
- Thomas Jefferson (1789)
associate sustainability with “green” and environmental issues, in fact it is much broader covering issues such as economics and social issues. For example, how can a community be sustainable if people do not have jobs or housing, or if its residents do not have access to healthy food or live in a safe environment?

Communities across the country are approaching planning and sustainability in a variety of ways. Some are preparing a separate sustainability plan as a guiding document for community-wide action. Others are incorporating the concept of sustainability in their comprehensive plans, either by adding an element to an existing plan, or by making sustainability the overarching theme for a complete revamping of their plan. Still others are looking closely at their development regulations and amending them to remove barriers and address new topics.

As in most things related to planning, there is no single right answer. Planners and communities must follow the path that best meets their needs and tailor their approach to the specific issues and characteristics of their community. Most importantly, they should do this in a comprehensive, integrated way that focuses on tangible results. This manifests itself in several different ways.

First is a stronger focus on the linkages between environmental, economic, and social issues, recognizing that policies or actions in one area have impacts on another. Good sustainable community plans and codes focus on integrating land use, housing, transportation, and other core topics with energy use, community health and well-being, a resilient economy, and local food production.

The second is incorporating new approaches and new topics. Addressing sustainability in planning incorporates a wide range of topics that rarely, if ever, have been mentioned in traditional comprehensive plans and codes. These topics include global issues such as climate change and energy resources, which are affected by planning’s core areas of housing, land use, and transportation. Policies calling for compact growth patterns that use land efficiently and make travel choices viable, a broader mix and variety of housing types to meet the changing needs of our communities, and multiple travel modes that create more walkable and transit-accessible communities all contribute significantly to community sustainability.
Finally, sustainability introduces a variety of new topics such as renewable energy, greenhouse gas reduction, community health, waste stream reduction and recycling, and food production and security into the planning dialogue.

**WHY FOCUS ON DEVELOPMENT CODES?**

Many communities have undertaken revisions to their development codes over the past decade. These laudable efforts often focus on design (e.g., form-based codes), landscaping, environmental protection, and more efficient procedures. Many new, award-winning development codes devote pages to architectural design, and arcane topics like non-conforming uses and structures...but often do not even mention key sustainability topics like alternative energy, energy conservation, green infrastructure, community health, and local food systems.

The sustainable code preparation process identified in this manual charts three paths to sustainability. First, it focuses on removing barriers to sustainable development in land use regulations, which is welcomed message in most communities, especially during tough economic times. Second, it looks to incentives that could be added to zoning codes to promote sustainable development. Third, it recognizes that there are regulatory gaps in most development regulations that must be filled to address key sustainability goals, since codes are often out of date when it comes to contemporary sustainable concepts.

**DOES THE COMMUNITY EMBRACE THE CONCEPT OF SUSTAINABILITY?**

Just as all communities are different, sustainability topics embraced by communities will differ, too. Some communities are well along the path of addressing sustainability in their plans and codes.¹ There is a broad range of communities across the country that are embracing sustainability concepts – from major cities and counties such as Seattle, Denver, Miami-Dade, Chicago, and New York City – to mid-sized and smaller communities such as Boise, Omaha, Kansas City, and Albany. In the St. Louis region, a number of communities, including Ferguson, Creve Coeur, University City, and Clayton, have started the process of updating plans and codes to encourage sustainable

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development. As a community begins a sustainability initiative, it must take into consideration local politics and culture, and the extent to which the community is ready to address the wide variety of topics described in this manual. In some cases, it may be best to start small by focusing on a few topics that might be less controversial, such as urban agriculture or energy conservation. Other communities may be ready to tackle all aspects of sustainability, including topics that can often be more controversial such as climate change. Both approaches are acceptable – the most important thing is to tailor the approach to fit the needs, wishes, and values of the community.
How-To Guide

INCORPORATING SUSTAINABILITY INTO THE DEVELOPMENT CODES

This section will guide local officials and planners through a process of review, analysis, identification of barriers, and development of recommendations for incorporating sustainability into development regulations. It essentially is a three-step process:

Step 1: Prepare an inventory of key sustainability topics of interest to the community, including current initiatives, goals, and policies;

Step 2: Assess the current codes to identify key existing code provisions that address sustainability topics, identify barriers, possible incentives, and regulatory gaps; and

Step 3: Set Priorities by identifying a set of recommended code changes that realistically can be implemented in the near and longer-term given existing staff resources, costs and benefits, and political considerations.

The following is a detailed description of the steps to follow in the process.

Step One: Inventory of Existing Sustainability Goals and Programs

The purpose of this step is to answer the following questions:

- To what extent does the community embrace or have interest in sustainability?
- What are the community’s key sustainability topics?
- What does the community focus on when discussing sustainability?
- How do the leadership and public address sustainability?

The first step in the process is to conduct an inventory of community sustainability goals and initiatives. If the community has not begun a conversation at all about sustainability, it may be necessary to take a step back and start with more basic discussions about the community’s sustainability goals before beginning a development code diagnosis effort. This should be accomplished through a process that aims to be inclusive and representative of the views, interests, priorities, goals, and perspectives of the community at large.

Sustainability goals can be identified by reviewing existing plans and policy documents, through discussions with elected officials, planning commission members, or other community leaders, by conducting stakeholder interviews with a wide variety of community members and interest groups; and by reviewing other information sources such as websites.
Based on this type of review, St. Louis County created an inventory that identified the following sustainability goals:

- Reduce greenhouse gases and improve air quality;
- Improve water quality and stormwater management;
- Increase housing accessibility, diversity, and affordability;
- Encourage alternative energy production and energy conservation;
- Increase mobility and multi-modal transportation options;
- Promote tree and landscaping preservation and enhancements;
- Encourage local food production;
- Provide incentives for green building concepts; and
- Promote efficient land use patterns.

The product of this effort should be a **concise summary of community sustainability topics** (2-3 pages per topic) that briefly summarizes existing goals and programs/initiatives, perspectives from staff and stakeholders, and provides a list of references and sources for current policies and initiatives.

The list should be reviewed to identify the most important sustainability topics that will be addressed in the code diagnosis process (Step Two). In some cases, it may be possible to group a number of similar issues into a broader topic. For example, if greenhouse gas reduction is one of the community’s priority topics, this might include a variety of issues such as recycling, compact development patterns, tree protection, mobility and alternative transportation, and other topics that are related to the goal of reducing greenhouse gas emissions.

At this stage, it would be appropriate to develop a draft list and review it with community leaders and elected officials to confirm that the sustainability topics identified are appropriate for the community. The list should include no more than 8-10 topics in order to keep the diagnosis manageable. Three or four might be more realistic in many communities.
Step Two: Assessing the Codes and Regulations

The next step in the process (and the most complex and time-consuming) is to conduct a methodical chapter-by-chapter assessment of zoning and other development codes to determine how they promote or inhibit accomplishing community sustainability goals. This should include a review of all regulations related to land use, including:

- Zoning ordinances;
- Subdivision regulations;
- Design review standards;
- Historic preservation code and guidelines; and
- Landscape and tree protection regulations.

Some communities choose to include buildings and infrastructure in their sustainability assessment. Where that is the case, regulatory review should also include: streets and public works specifications; utility and district regulations (water, sewer, electricity, stormwater), and building and energy codes. There may be some overlap between these regulations and the list identified above and it will be important to determine a consistent method of making changes to both.


First, staff should prepare an inventory of key code provisions that are related to sustainability. The will provide a good starting point for understanding the relationship between the current regulations and the community’s sustainability goals. For each of the broad topics, the inventory should include a brief description of the current regulation, and a reference to its source document. The table below is an example of an inventory of existing regulations relating to energy production and conservation for St. Louis County.

**Table 1: Example of Current Regulations Analysis**

<table>
<thead>
<tr>
<th>Regulations Addressing Energy Production and Conservation</th>
<th>Reference</th>
<th>Regulation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Zoning</td>
<td>1003.111-1003.155</td>
<td>Devices for the generation of energy – such as solar panels, wind generators, and similar devices permitted as accessory use in PS, NU, KP, residential, commercial, and industrial districts; in all residential districts they are limited to cover no more than 7% of the lot area.</td>
</tr>
<tr>
<td></td>
<td>1003.111 – 1003.155</td>
<td>Height Limits – typically 45 ft., exception made for telecommunication towers; some exceptions to 60 ft. with</td>
</tr>
</tbody>
</table>
Regulations Addressing Energy Production and Conservation

<table>
<thead>
<tr>
<th>Reference</th>
<th>Regulation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1003.167.9</td>
<td><strong>Lighting Requirement</strong> – cut-off angle not greater than 85 degrees with footcandle regulations.</td>
</tr>
<tr>
<td>1003.170</td>
<td><strong>Nonconforming Uses, Lands, and Structures</strong> – no enlargement, extension, or alteration of nonconforming structures.</td>
</tr>
<tr>
<td>1003.187</td>
<td><strong>Planned Environmental Unit Procedure</strong> – allows creation of planned development with economic and energy efficient subdivision design; includes procedure for dedication of land for public schools and parks.</td>
</tr>
</tbody>
</table>

**Subdivision**

<table>
<thead>
<tr>
<th>Reference</th>
<th>Regulation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1005.160.5</td>
<td><strong>Lighting</strong> – Street lights required in non-residential subdivisions in accordance with street lighting standards (below); the alternate plan allows for variation in street light requirements.</td>
</tr>
<tr>
<td>1005.320</td>
<td><strong>Street Lighting</strong> – requires street lighting plan; establishes minimum illumination standards for residential and non-residential uses; lighting shall be designed to avoid unnecessary illumination of residential interiors; timing devices.</td>
</tr>
</tbody>
</table>

*Source: St. Louis County Diagnosis, September 2011*

The inventory should be as thorough as possible and should include a review of the following elements of the regulatory documents:

- Definitions
- Purpose statements
- Zone districts and use tables
- Accessory uses and nonconforming uses
- Special planned districts and planned unit developments
- Dimensional standards
- Supplemental regulations – lighting, home occupations, off-street parking, etc.
- Roadway and other utility standards and specifications (optional, see above)

**Diagnose the Code by Thinking B-I-G**

The next step in the diagnosis process is to diagnose the development and building codes by thinking B-I-G, where “B” stands for identifying **barriers** in the regulations that are preventing sustainability measures from being implemented; “I” stands for identifying possible **incentives** that could help to encourage more sustainable development patterns; and “G” stands for...
identifying **gaps** in the code that, if plugged, would help promote more sustainable development. In preparing this section of the diagnosis, it is not enough to just identify the aspects of the code that are restricting sustainability. Staff should identify possible revisions that could be made to the code to resolve the problem that the current regulations are causing. It may also be helpful to identify examples or “best practices” of other communities, locally and nationally, that have addressed similar problems in their codes. These can be identified by looking at examples of sustainable codes prepared by other communities. The last section of this document includes a list of resources that might be helpful in this research. Appendix A contains a list of possible sustainable code provisions for a variety of topics that can be used as a resource for preparing a diagnosis.

**Barriers**

Simply stated, a barrier is something in the code that obstructs or impedes an aspect of sustainability from being implemented. For example, if the goal as a community is to encourage more locally grown food, one barrier that is commonly found in many communities is that the sale of produce from community gardens is not allowed in most zoning districts, limiting the areas where community gardens that seek to sell excess produce to offset costs and make produce available to area residents could be located. If the goal is to promote alternative energy use, a common barrier in many codes is that alternative energy such as wind and solar systems are subject to restrictive height and locational limitations that render them infeasible. This was the situation in St. Louis County, where a 45-foot height limit (Section 1003.111) would preclude the height necessary for a functional wind turbine in many cases.

**Incentives**

In some cases, simply removing barriers may not be enough to encourage developers or other users of the code to move in a more sustainable direction. Many communities are looking to create incentives for sustainability provisions, either by streamlining approval procedures, reducing costs, providing density or height bonuses, or other measures. During the diagnosis process, staff should determine if incentives could be added to the code to encourage the implementation of more sustainable development. Using the previous topic of community gardens as an example, some communities are amending their codes to allow community gardens to count as credit towards open space requirements for new development. This can result in several benefits -- allowing community garden space to count towards open space credit, as a marketing feature for their project, and providing residents of the development with a community garden facility for growing some of their own food. As an incentive to encourage construction of mixed-use development to reduce
greenhouse gas emissions, St. Louis County is considering regulations that allow both increased density and reduced parking requirements for mixed-use projects.
Gaps

Finally, many codes contain gaps that inadvertently restrict sustainability measures simply by the lack of provisions that allow them to be used. Oftentimes this is the case because at the time that the code was prepared, many of the topics that sustainability addresses were not commonly included in development codes. Again using the community gardens example, many codes do not define what a community garden is, or identify it as a permitted use in its zoning districts. The solution is to clearly define a community garden, and identify it as a permitted use in appropriate locations in the community.

As identified in Table 2 below, which is an example of a diagnosis for water quality and stormwater management from the St. Louis County Zoning and Subdivision Ordinance Revisions Project Diagnosis, St. Louis County’s current regulations do not address the provision of private open space – places like pedestrian plazas for commercial projects or recreation areas for multifamily development. The county’s proposed new green infrastructure regulations intend to address this regulatory gap with new landscaping requirements.

Table 2: Example of Code Diagnosis and Recommendations from St. Louis County

<table>
<thead>
<tr>
<th>Diagnosis: Water Quality and Stormwater Management</th>
<th>Existing Provisions</th>
<th>Possible Revisions</th>
<th>Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Filling Regulatory Gaps</strong></td>
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</tbody>
</table>
| WQ-G1: Current regulations do not reserve any of the ROW or address the use of “green” infrastructure. | Require that certain portion of ROW be reserved for trees and other “green” infrastructure to avoid conflicts with utilities and other grey infrastructure. | • Creve Coeur, MO, requires a three-foot green strip between sidewalks and the street/parking areas.  
• Liberty, MO, requires street trees based on street size and building size and requires protection of existing trees and vegetation.  
• Carson City, NV, requires public streets in downtown mixed-use districts to have a minimum of six feet for street tree/furniture area with minimum landscaping requirements.  
• Miami, FL, requires public frontages in certain zones to be lined with predominantly native and drought tolerant trees. |          |
| WQ-G2: Current regulations do not include provisions for pervious parking | Require that excess parking (over 100% of minimum parking) use pervious | • Asheville, NC, requires porous pavement used for parking exceeding the maximum number of spaces. |          |
## Diagnosis: Water Quality and Stormwater Management

<table>
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<tr>
<th>Existing Provisions</th>
<th>Possible Revisions</th>
<th>Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>pavement</td>
<td>pavement</td>
<td>• Ft. Wayne, IN, allows porous pavement spaces to replace required off-street parking at a ratio of 2 off-street: 1 porous space.</td>
</tr>
</tbody>
</table>

**WQ-G3:** Zoning and subdivision regulations do not establish standards for the provision of open space.

- Revise zoning and subdivision regulations to add clear, numeric standards regarding minimum private common open space set aside for all developments. Consider public lands dedication for neighborhood and community regional parks.

- Franklin, TN, has specific land set-aside requirements for all new development, including types of open space.

- Arlington, TX, is considering private, common open space standards for all new development.

- National Parks and Recreation Association has established standards for the amount of park and open space lands as well as developed park facilities to meet the needs of population/thousand. ([http://www.nrpa.org/](http://www.nrpa.org/))

*Source: St. Louis County Diagnosis, September 2011*
Step Three: Identify Priorities

The code diagnosis process will identify a wide range of ideas for code revisions; in some cases, there may be multiple options to address individual revisions. Not all are equal, and some may be more challenging than others to prepare and to implement. The diagnosis might also identify more changes than can realistically be accomplished at one time.

In order to get the process underway and to build some momentum, it may be useful to identify an initial set of changes that can be implemented in the near, mid, and long-term. This part of the process typically will be staff driven with direction from elected officials, as well as input from the public and other stakeholders as appropriate to the community. The objective of this process is to determine which changes to the codes will make the most difference to achieve the community’s goals.

As a first step, staff will need to review the recommendations for each of the topic areas and evaluate them in terms of their feasibility, potential effectiveness in addressing the issues identified, and resources required to implement. Priority recommendations might be sorted into three categories:

**Proceed** – means the recommendation is ready to be drafted into a development code amendment in the near-term.

**Consider After More Research** – means the recommendation may be a viable idea, but more information about the details of implementing the recommendation is needed before time is invested in creating a text amendment.

**Postpone** – means the recommendation may be too complicated or a low priority right now.

The goal at this stage should be to identify a reasonable list of priority code changes, for which it is possible to set timelines and goals for preparing amendments and getting them adopted. Depending on the extent of changes needed, the community may be able to accomplish all of the objectives in one package, as a full sweep of code amendments, or may want to consider a strategic multi-year approach, with amendments organized in achievable “bundles”.

The planning commission, elected officials, and other stakeholders as appropriate should review the preliminary set of priority recommendations to provide their comments and feedback before staff starts the drafting process.

As staff begins the process of drafting code amendments, it is important to process them in digestible bundles so that they are not overwhelming to other staff and elected/appointed officials who will be reviewing the draft regulations, or to the public as they become involved in the code update.

**Considerations will include the following:**

- Which of the changes are likely to be the most difficult to accomplish due to political or other considerations?
- Are there “low-hanging fruit” amendments that are non-controversial that can be showcased as early successes?
- What are the potential costs and benefits from an economic perspective?
Some of the topics related to sustainability delve into areas of unfamiliar subject matter for many, and it may take some time to get up to speed on new topics that are not commonly found in development codes.
Resources for Sustainable Codes

There are a number of resources that can be a helpful starting place to begin the process of diagnosing and updating the development codes. These are listed below. New resources are becoming available all the time, so check online frequently.

**U.S. EPA web site and publications**
- [www.epa.gov/smartgrowth/partnership/tools.html](http://www.epa.gov/smartgrowth/partnership/tools.html)
- EPA Essential Smart Growth Fixes for Urban and Suburban Zoning Codes
  - [www.epa.gov/smartgrowth/essential_fixes.htm](http://www.epa.gov/smartgrowth/essential_fixes.htm)
- Rocky Mountain Land Use Institute Model Sustainable Development Code
- LEED For Neighborhood Development (US Green Building Council)

**Projects completed or underway by other communities:**
- Mid-America Regional Council’s Creating Sustainable Places
  - [www.marc.org/sustainableplaces/](http://www.marc.org/sustainableplaces/)
- Salt Lake City Sustainable Code Revision Project
  - [www.slcclassic.com/slcgreen/code/](http://www.slcclassic.com/slcgreen/code/)
- Tucson Sustainable Code Integration Project
- Omaha Sustainability Initiative
- Miami-Dade County Sustainable Development and Building Code Project
- Washington, D.C., Sustainability Working Group
## Appendix A

### POTENTIAL TOPICS TO ADDRESS IN SUSTAINABLE CODES

<table>
<thead>
<tr>
<th>Energy and Resource Management</th>
<th><strong>RENEWABLE ENERGY</strong></th>
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| Solar Facilities              | • Consolidation of solar facility regulations in one section in the code  
                                 • Standards for solar facilities in residential and non-residential areas  
                                 • Standards and processes to address various sizes of solar facilities  
                                 • Solar-orientation standards to apply to new residential developments  
                                 • Solar-ready requirements for new buildings  
                                 • Regulations to protect solar access of existing development  
                                 • Expedited review processes or permitting of small-scale solar facilities as a use-by-right or as an accessory use in some/all zoning districts  
                                 • Fee reductions or waivers on development/permit fees for solar facilities  
                                 • Prohibiting homeowner covenants as part of a PUD approval process from banning residential solar facilities |
| Wind Energy Systems           | • Consolidation of wind energy system regulations in one section in the code  
                                 • Standards for wind energy systems in residential and non-residential areas  
                                 • Standards and processes to address various sizes of wind energy systems  
                                 • Expedited review processes for small-scale wind energy systems or permitting small-scale solar facilities as a use-by-right or as an accessory use in some/all zoning districts  
                                 • Fee reductions or waivers on development/permit fees for wind energy systems  
                                 • Allowing large-scale wind energy systems on open space/agricultural lands  
                                 • Prohibiting homeowner covenants from banning small-scale residential wind energy systems |
| Geothermal Energy Systems     | • Consolidation of geothermal energy system regulations in one location of code  
                                 • Standards for geothermal energy systems in residential and non-residential areas  
                                 • Standards and processes to address individual and shared geothermal energy systems or districts  
                                 • Expedited review processes for geothermal energy systems or permitting individual geothermal energy systems as a use-by-right or as an accessory use in some/all zoning districts  
                                 • Fee reductions or waivers on development/permit fees for geothermal energy systems  
                                 • Prohibiting homeowner covenants from banning residential geothermal energy systems |
## ENERGY CONSERVATION

### Site Design
- Passive solar design requirements to apply to new subdivisions (e.g., solar orientation of streets, lot layout)
- Regulations to protect solar access of existing developments (e.g., height limitations for nearby buildings)
- Allowing “green” roofs to count towards landscaping or open space requirements
- Standards requiring shade trees in parking lots
- Requirements for shade tree plantings along major roadways
- Maximum outdoor illumination (lighting) standards (including streetlights, building exterior lighting, landscape lighting, and signs)
- Requirements for high-efficiency outdoor lighting fixtures, bulbs, and/or automated controls
- Parking regulations to address electric vehicle charging
- Provision of priority parking spaces for alternative fuel vehicles, carpool vehicles, and shuttles

### Building Performance
- Passive solar design requirements to apply to new buildings (e.g., window quality and placement, thermal mass, window shading, roofing materials, natural lighting, etc.)
- Requirements for high albedo (reflective) coatings or materials for large roofs
- Requirements for energy efficiency upgrades at time of building sale, occupancy, major renovation, and/or change of use
- Requirements for pre-wiring of buildings to accommodate charging of electric vehicles
- Standards to address energy efficiency/conservation for historic properties
- Incentives for installation of high-efficiency fixtures and heating/cooling systems in existing buildings (e.g., rebates, reduced permit fees, etc.)
- Incentives for buildings that pursue/achieve Energy Star or LEED certification (e.g., fee waivers/reimbursement, property tax abatement, expedited review process, etc.)

## WATER SYSTEMS

### Irrigation/Landscaping
- Requirements for native, water-efficient landscaping and/or street tree plantings
- Requirements for automatic irrigation systems with rain gauges
- Allowing non-irrigated or “natural” areas to count towards landscaping requirements
- Standards for use of greywater (water recycling) systems for irrigation purposes
- Standards for rainwater collection structures (e.g., rain barrels)
- Allowing rainwater collection structures as permitted accessory uses in all zoning districts

### Stormwater Management
- Allowing “green” roofs to count towards landscaping or stormwater requirements
- Incorporation of stormwater best management practices (BMPs) (e.g., bio-swales, rain gardens, etc.)
- Standards allowing for use of pervious/porous pavement and surfacing systems
- Standards for proper grading techniques to improve quality of stormwater runoff
<table>
<thead>
<tr>
<th>Indoor Conservation</th>
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<tbody>
<tr>
<td>• Requirements for water-conserving plumbing fixtures (e.g., non-water urinal, efficient showerheads, faucets, toilets, etc.)</td>
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<tr>
<td>• Standards for use of greywater (water recycling) systems for indoor use</td>
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<tr>
<td>• Requirements for water conserving fixture upgrades at time of building sale, occupancy, major renovation, and/or change of use</td>
</tr>
<tr>
<td>• Requirements for pre-plumbing of buildings to accommodate greywater systems</td>
</tr>
<tr>
<td>• Incentives for installation of water-conserving fixtures in existing buildings (e.g., rebates, reduced permit fees, etc.)</td>
</tr>
<tr>
<td>• Incentives for buildings that pursue/achieve LEED or other “green building” certification (e.g., fee waivers/reimbursement, property tax abatement, expedited review process, etc.)</td>
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<tr>
<th>WASTE MANAGEMENT</th>
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<tr>
<td>Recycling</td>
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<tr>
<td>• Requirements for recycling enclosures/bins for commercial and multi-family residential uses</td>
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<tr>
<td>• Standards for the appropriate size of outdoor refuse enclosures (large enough to accommodate both trash and recycling containers)</td>
</tr>
<tr>
<td>• Options for use of recycled-content landscaping or groundcover materials (e.g., recycled tire mulch etc.)</td>
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<th>Composting</th>
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<tr>
<td>• Consolidation of composting facility regulations in one section in the code</td>
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<tr>
<td>• Standards for composting facilities in residential and non-residential areas</td>
</tr>
<tr>
<td>• Standards for various sizes of composting facilities (e.g., backyard/small-scale, commercial-scale composting operations, etc.)</td>
</tr>
<tr>
<td>• Permitting small-scale composting bins/facilities as a use-by-right or an accessory use in some/all zoning districts</td>
</tr>
<tr>
<td>• Prohibiting homeowner covenants in the PUD process from banning residential composting bins/piles</td>
</tr>
<tr>
<td>• Incentives for non-residential uses to provide an on-site composting facility or use an off-site service (e.g., reduced parking requirements, allow additional seating, etc.)</td>
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<tr>
<th>Construction Debris</th>
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<tbody>
<tr>
<td>• Incentives for the reuse and rehabilitation of existing buildings (e.g., tax credits, expedited review processes, etc.)</td>
</tr>
<tr>
<td>• Requirements for construction management plans that detail handling of construction waste (for projects of a certain size)</td>
</tr>
<tr>
<td>• Requirements for a minimum percentage of construction waste recycling</td>
</tr>
<tr>
<td>• Standards for the deconstruction (rather than demolition) of existing buildings and requirements for the sorting/recycling of materials</td>
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<tr>
<th>Development Patterns</th>
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<tbody>
<tr>
<td>Mix of land uses</td>
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<tr>
<td>• Include provisions for mixed-use development in all zoning districts as a primary use type</td>
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<tr>
<td>• Streamlined review process for mixed use development projects</td>
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<tr>
<td>• Fee reductions for mixed use development projects</td>
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<tr>
<td>• Requiring a mix of housing types as part of residential developments</td>
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<tr>
<td>• Allowing accessory dwelling units as a use by right, with standards to address size, parking, etc.</td>
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<th>Compact</th>
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<tr>
<td>• Establish minimum densities in residential, commercial, and mixed-use developments in areas where compact development is desired</td>
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</table>
### Development
- Allow for a full range of housing types in all residential districts
- Modify nonresidential district lot sizes and setback development standards to allow development that is not auto-oriented
- Provide incentives for the placement of parking to the side or rear of buildings
- Density bonuses as incentives for mixed-use development
- Reduced parking standards and adopt maximum parking limits
- Allow alternative parking plans and expanded options for shared parking, allowance for off-site parking, on-street parking, and other approaches

### Infill Development
- Adopt development standards (landscaping, parking, open space) that are tailored to urban development patterns
- Grant automatic reductions in off-street parking requirements in mixed-use projects
- Streamlined review process and/or fee reductions for infill development projects
- Clarify that renovations or expansions related to “green building” design (e.g. adding solar panels) may be made without bringing entire site into compliance with development standards

### Mobility and Connectivity
#### Multi-modal Transportation
- Ensure that zoning and other standards include provisions for low and moderate speed urban vehicles
- Ensure that fueling and charging facilities for alternative fuel vehicles are included as permitted uses in all districts as appropriate
- Require construction of pedestrian connections to public sidewalks and adjoining property and development

#### Context-sensitive Design
- Adopt standards for complete streets, with design standards to accommodate auto, transit, pedestrian, and bicycle travel

#### Connectivity
- Connectivity standards for pedestrian and bicycle travel (e.g., minimum # of connections and maximum spacing of connections between developments and neighborhoods)
- Standards for road connectivity, such as a connectivity index that requires new development to achieve a minimum connectivity score based on the number of intersections and road links provided

### Urban Agriculture
#### Small-scale Activities
- Standards to allow the keeping of backyard chickens for personal use in all residential districts, with appropriate limits on size of structures and number of hens
- Permit small-scale farm stands in single-family residential and agricultural districts; to allow for the sale of produce raised on-site only (limited parking)
- Allowing community gardens (on both public and private lands) as a permitted use-by-right in all districts
- Allow community gardens as an alternative open space amenity; allow them to qualify as a percentage of required open space for residential and non-residential development
- Modify home occupation regulations to allow limited food production uses from home as a permitted use
- Include food-bearing trees on list of permitted trees in landscaping plans
- Make provisions for rooftop gardens as a permitted use in all districts
| **Commercial activities** | • Provide for community-supported agriculture uses (CSA) as a permitted use in appropriate locations  
• Allow roadside farm stands with parking and permanent structures in appropriate locations (e.g., agricultural districts, commercial and industrial districts) |

**Disclaimer**

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