7000 PART 7 – SUSTAINABILITY ELEMENT, PORTOLA VALLEY GENERAL PLAN (1/28/09)

INTRODUCTION

Sustainability in the broadest sense involves managing all aspects of our relationship with the environment so that survival of life on the planet as we know it will be sustained. This involves assessment of the current status of the environment, analysis of trends, and management of our future to ensure survivability.

The environment consists of air, water, land, plants and animals, each of which needs to be addressed when considering the sustainability of the earth. Gradually, countries around the world are starting to take actions to protect this environment. As a part of this undertaking, Portola Valley can influence much of its own environment and in so doing be a part of the much larger global effort to promote sustainability.

Fortunately, the concept of protecting the natural environment is addressed throughout the fourteen elements of the general plan and has been a fundamental objective of the town since incorporation. These plan provisions provide a strong foundation for the sustainability element. A good example of the town's philosophy is found in the first Major Community Goal in the general plan, which is:

> To preserve and enhance the natural features and open space of the planning area because they are unusual and valuable assets for the planning area, the Peninsula and the entire Bay Area.

While many provisions of the general plan support sustainability of the town's environment, more specific provisions are needed to address particular aspects of sustainability. The many relevant provisions in the plan are summarized below to provide a context for the sustainability element.

EXISTING PROVISIONS OF THE GENERAL PLAN THAT SUPPORT SUSTAINABILITY

General Policy Section (Section 1010 et seq)

This section addresses natural features, open space, development within natural physical constraints, a quiet environment, public trails and paths, protection from natural and human-created hazards, conservation of water and energy, use of renewable resources, protection of native vegetation and natural habitats, provision of civic and recreation facilities, provision for locally needed goods and services, protection of the heritage of the town and control of development so as to be subservient to the natural environment.

Land Use Element (Section 2000 et seq)

The land use element provides for the grouping of community and commercial activities in central locations and along major routes of travel. This design in turn results in convenience for residents and can result in reducing trip generation, air pollution and consumption of energy.

Open Space Element (Section 2200 et seq)

The open space element calls for the preservation of major parts of the town in a natural state. This contributes to a reduction in air pollution through the carbon absorption of plants, and to a healthy environment for residents by providing natural views, recreational opportunities, a sense of quiet, and clear night skies. Further, protection of open space preserves the habitat of animals and plant species.

Recreation Element (Section 2300 et seq)

The recreation element provides ample opportunities for active and passive recreation in the town thus reducing the need to travel out-of-town for these resources with a consequent reduction of trips by cars, reduction of air pollution and conservation of energy. These recreation resources also contribute to the physical and mental health of residents.

Housing Element (Section 2400 et seq)

The housing element seeks to provide affordable housing. To the extent that this housing is for persons employed locally, related policies lead to a reduction of traffic and consequent air pollution.

Historic Element (Section 2500 et seq)

The historic element is intended to help preserve the rich history of the town. This can lead to a population that appreciates the local history. A population that appreciates its historical environment is more likely to support measures that lead to protection of the environment including its sustainability.

Circulation Element (Section 3100 et seq)

The street system is designed to provide efficient access to the most frequently visited locations in the town. It also provides for a wide range of types of transportation: motor vehicles, bikes, horses and pedestrians. The design of the circulation system and provision for multiple forms of transportation results in savings in energy consumption and reduction of local air pollution.

Trails and Paths Element (Section 3200 et seq)

The trails and paths element provides a comprehensive system of hiking trails, equestrian/hiking trails, pedestrian paths, bicycle paths, multiple use corridors, bicycle routes and bicycle lanes. The system provides facilities that access major destinations including schools, and civic and commercial areas. The multi-modal system helps reduce reliance on motor vehicles. The system provides for recreation and accordingly for the pleasure and health of residents.

Scenic Roads and Highways Element (Section 3300 et seq)

The scenic roads and highways element is intended to help retain the natural qualities of the nearby roadsides. The element addresses Skyline Blvd, Highway 280, Portola Road

and Alpine Road. These roads and roadsides are a feature that residents value and to some extent contribute to residents spending more time in the town.

Safety Element (Section 4100 et seq)

The safety element addresses the major threats to the environment from geologic hazards, fire and flooding. The element therefore leads to a decrease in these hazards with the resultant retention of natural features that contribute to sustainability.

Conservation Element (Section 4200 et seq)

The conservation element provides for the conservation of the natural resources of the town including: water in the form of creeks, ponds, ground water and imported water; native vegetation; soils and geology; and wildlife. Accordingly, this element provides for the most comprehensive review, of all general plan elements, of development in the town with respect to the natural environment. The element stipulates that new development will be carried out in a manner that will help ensure conservation goals are met. The element provides a programmatic approach for the conservation, restoration, development and utilization of natural resources.

Noise Element (Section 4300 et seq)

The noise element provides for maintaining an acoustical environment that is consistent with a rural and largely natural setting. Control of noise contributes to health, well-being and the desire of residents to stay in the town because of the quietude rather than seeking this quality in trips to distant places.

Nathhorst Triangle Plan (Section 6100 et seq)

The Nathhorst Triangle plan provides for the grouping of the major commercial and business establishments in the town in central locations readily accessible to residents. The grouping of businesses reduces trips by residents when they combine shopping with other business activities.

Alpine Scenic Corridor Plan (Section 6200 et seq)

The Alpine Scenic Corridor plan has as its objective the protection of the rich natural environment along Alpine Road, and Los Trancos and Corte Madera creeks. Attractive paths are a part of the plan. The plan emphasizes the town's priority of ensuring structures are subservient to the native environment.

Town Center Area Plan (Section 6300 et seq)

The town center area plan seeks to combine civic functions along with commercial and office uses and several churches. The grouping of these facilities contributes to residents being able to accomplish several missions on a single trip and thereby reduce automobile traffic. A full range of trail and path facilities also serves this area. The town center helps instill a sense of pride in the community and its values which in turn can help lead to community consensus on sustainability programs.

SUSTAINABILITY GOALS AND OBJECTIVES

A major goal of the community is to ensure the sustainability of our environment. The provisions of this element, in addition to the above-referenced provisions in other parts of the general plan, are intended to help the community realize this goal. The element includes broad goals and objectives. In addition, the appendix to the element lists "Illustrative Policies and Practices" that the town could consider in furthering the goals and objectives of the element.

Following are the goals and objectives. The goals address: reduction of greenhouse gas emissions in the air, green building for new and existing structures, protection of water resources, protection of the natural environment, and community education and involvement. Each of the categories involves activities that can increase sustainability. The major goals are not mutually exclusive since sustainability is affected by many activities that occur in the town.

Overarching Goals –

To encourage and provide community education about sustainable principles and applications.

To encourage the use of renewable resources and minimize the use of nonrenewable resources.

To strive for an optimum balance among the activities of residents, the built environment and the natural environment so as to maintain and improve the condition of life for future generations.

To encourage and provide for enhanced resource efficiency and the use of sustainable materials in all building projects.

To employ the principles of "green" building.

To reduce carbon emissions to 1990 levels by the year 2020 and to 80% below 1990 levels by the year 2050.

To consider impacts on sustainability in all town decision-making.

Goal: *Community Education and Involvement* - Encourage broad community participation in programs to promote sustainability and provide the information people need to live in a sustainable way.

Objectives

1. To inform the community about sustainability and measures they can take to make sustainable choices and further sustainable goals.

2. To encourage education about sustainability in local schools.

3. To provide models of sustainability in town buildings and practices for purposes of education and demonstration.

4. To link interested residents with sustainable products and practices such as energy efficient products, water conservation measures, and waste reduction practices such as composting so that people have the tools they need to implement sustainable lifestyles.

5. To involve the community in shaping sustainability policies and in determining which measures are essential, which are desirable, and which are possible to further sustainability within our town.

Goal: *Existing Building Stock* – Encourage the use of energy efficient features and practices and the use of "green" building design standards in remodeling projects.

Objectives

1. To encourage residents to undertake energy audits of their homes.

2. To encourage an increase in energy efficiency of existing homes when they are remodeled.

3. To encourage reuse and recycling of materials when buildings are deconstructed or torn down.

4. To encourage property owners to make existing buildings more energy efficient.

Goal: *New Buildings* - Encourage, and where feasible, require new buildings to adhere to "green" building design standards.

Objectives

1. To require all new buildings to achieve a minimum level of sustainability based on an accepted "green" rating system.

   The above objective addresses many topics including: use of passive and active solar energy as well as geothermal energy in the siting, design and construction of buildings; conservation of water through the use of drought-tolerant plant materials and recycling; reduced use of non-renewable resources in design and construction of buildings.

2. To balance in development projects the objectives of sustainability and conservation of resources with the objectives of the applicant in terms of the extent and design of site improvements.

Goal: *Transportation* – Provide for transportation needs by methods that reduce greenhouse gas emissions.

Objectives

1. To cluster community-serving land uses in centralized locations well served by transportation facilities in order to help minimize the number and length of vehicular trips.

2. To encourage means of transportation that do not rely on non-renewable sources of energy (for example, biking and walking) and to reduce the amount of vehicular traffic in town that relies on non-renewable sources of energy.

3. To reduce motor vehicle trips in the town.

4. To encourage and enable use of energy efficient low or zero emission vehicles and /or those powered by non-petroleum based alternative fuels.

Goal: *Water Resources* - Protect and conserve water resources in the town including imported water.

Objectives

1. To protect the watershed from pollution, debris, excess sediment and invasive plants.

2. To reduce consumption of water through conservation and more efficient appliances and fixtures.

3. To use drought resistant native plants in developments.

4. To maximize the collection and recycling of natural-sourced and public water.

5. To protect and preserve ground water resources and aquifer recharge areas.

Goal: *Living Environment* - Protect the natural environments for plants, animals and humans.

Objectives

1. To protect the interdependent plants and animals that together comprise a balanced ecosystem in our forests, grasslands, chaparral areas, and creek systems.

2. To protect extensive areas of native vegetation that support wildlife.

3. To protect forests and forms of vegetation that help contribute to air quality by absorbing carbon dioxide.

4. To protect the creek systems in the town.

5. To promote rehabilitation of ecosystems.

6. To control, reduce and eliminate invasive species

APPENDIX TO SUSTAINABILITY ELEMENT

This appendix contains a list of policies and practices that represent possible ways to achieve the Goals and Objectives in the sustainability element. Prior to implementation, each would need to be discussed by the town. The list is not meant to be all-inclusive, for additional policies and procedures may be suggested.

Goal: ***Community Education and Involvement***

Illustrative Policies and Practices

Town Staff:

1. Coordinate the sustainability program of the town and develop an information source for use by all residents and public and private institutions in the town.

2. Develop a procedure to ensure all projects that come before the town are reviewed with respect to sustainability and make recommendations to help achieve sustainability objectives.

3. Develop ways that in the normal performance of duties staff can help ensure sustainability.

4. Provide technical assistance regarding sustainability.

5. Prepare an annual report on the status of the sustainability programs in the town and provide it to residents and elected officials.

6. Continue to research and to inform residents about new sustainability ideas applicable to the town.

Incorporated Town:

1. Maintain a sustainability and resource efficiency coordinator.

2. Maintain a policy that encourages sustainability of all town buildings and facilities.

3. Maintain a procurement policy that encourages sustainability.

4. Participate in appropriate waste conversion programs.

5. Support climate-friendly products and services.

6. Develop information for assistance to residents for energy audits and in determining the cost/benefit of capital outlays for sustainable practices.

7. Be alert to technical changes such as fuel cells and new solar panel designs and consider ways to take advantage of these changes.

8. Limit wood burning fireplaces, outdoor fire rings and burning of agricultural waste.

9. Add a section addressing sustainability to regularly distributed town publications such as the Newsletter as well as the town web site.

10. Encourage residents and businesses to go off the electric power grid when feasible.

11. Consider the relative advantages and disadvantages of harnessing wind power.

Town Outreach:

1. Use the new town center, including the library, as a display source for information on sustainability.

2. Use the town web site as a place for residents to convey information on sustainability to the town and other residents.

3. Assist in organizing group purchasing of sustainable products or energy efficient home improvements.

4. Establish cooperative networks in the town for energy conservation.

5. Encourage and work with residents to develop alternate forms of energy.

6. Announce and coordinate “green home” tours of houses in Portola Valley for residents.

7. Organize and implement community events focused on sustainability.

Resident Actions:

1. Encourage the use of energy efficient appliances.

2. Encourage adoption of energy saving measures including but not limited to the use of energy efficient lighting, solar panels and energy efficient vehicles.

3. Encourage the community to turn off unused electrical devices and when replacing such devices to acquire those that are energy efficient and, for example, do not consume energy when in a “standby” mode.

4. Encourage residents to institute energy use accounts and provide instructions on how to do this.

5. Encourage waste reduction through composting, recycling and when shopping to bring your own bag and choose products with reduced packaging.

6. Encourage community members to develop individual sustainability action plans.

7. Encourage the considerate and discreet drying of clothes out-of-doors.

8. Encourage residents to operate their cars efficiently (keep tires inflated, keep engine tuned, minimize idling of engines).

9. Consider colors for aesthetics vs. colors and materials for energy conservation.

10. Encourage water conservation through drought resistant native plants, efficient irrigation systems and rainwater collection.

11. Encourage residents to retrofit homes with low-flow toilets and showerheads.

Resident Group Actions:

1. In residential developments, where homes have great similarities, consider a coordinated effort to develop green building ideas that can apply to multiple residences.

2. Encourage local production of food in “kitchen gardens” and community gardens.

Goal: *Existing Building Stock*

Illustrative Policies and Practices

1. Establish a display at town center that provides information on products, materials and services that can be used in retrofitting existing homes.

2. Encourage persons to consider making their homes more energy efficient and to employ cost-benefit analyses to assist in making decisions.

3. Encourage residents who have remodeled their homes to make them more energy efficient to make their homes available at times for the education of other residents, or to provide data on their homes that can be posted on or linked by the town web site.

4. Encourage residents to consider remodeling instead of tearing down a home in order to replace it with a new building. A cost-benefit analysis may be helpful in deciding between a complete teardown and a remodel.

5. Encourage persons considering tearing down their homes for replacement to reutilize building materials in the house.

6. Work with local utilities to take advantage of programs that assist in conserving water and/or energy.

Goal: *New Buildings*

Illustrative Policies and Practices

1. Establish baseline data on greenhouse gas emissions and energy use related to buildings and periodically update with feedback into the green building program.

2. Study recent home construction trends to show the correlation between the extent of site improvements, greenhouse gas emissions and the consumption of non-renewable resources.

3. Evaluate aspects of construction projects other than buildings such as grading, landscaping and other outside improvements to help implement the conservation of non-renewable resources including but not limited to water and asphalt.

4. Encourage those building new homes to analyze how much time they will likely spend in each room and potential multiple uses of rooms in deciding how much house they really need to build.

5. Work with local utilities to take advantage of programs that assist in conserving water and/or energy.

Goal: *Transportation*

Illustrative Policies and Practices

1. Establish baseline data on greenhouse gas emissions and energy use related to motor vehicles and periodically update with feedback to monitor reduction of energy usage.

2. Analyze the feasibility of establishing a school-busing program or other local transportation program in order to significantly reduce the amount of in-town vehicular traffic and resulting greenhouse gas emissions. Involve the school district and parents in this program. Consider joining with other jurisdictions in such a program.

3. Consider possible linkages between existing bus services, such as the services of The Sequoias, the Priory, Stanford's Marguerite service and others.

4. Encourage and facilitate the use of the Internet for telecommuting to help reduce the need to travel.

5. Undertake a study of the trails, paths and bike lanes in town with the objective of increasing use by providing all-weather routes for children going to school as well as for the convenience and pleasure of other residents.

6. Consider ways to develop a ride-sharing program and shuttle system for residents for a variety of types of trips, particularly for older residents.

7. Consider encouraging or requiring contractors to consolidate trips by employees, trips for the delivery of materials, and trips for the removal of waste and recycling.

8 Be alert to innovation in electric vehicles and other alternative fuel vehicles and consider a program to encourage their use. As a part of this consider any needed changes with respect to road design and safety such as speed limits and signage.

9. When appropriate, consider establishing an electrical charging station for vehicles at town center and encouraging stations in homes as electric vehicles become increasingly available.

10. Provide for the conversion of town operated vehicles and equipment to vehicles relying on renewable energy.

11. Consider whether it would be advisable to encourage the establishment of sources of alternative fuels and electric stations for charging cars in town.

12. Consider cooperative programs with SamTrans, Caltrans and the Transportation Committee of Silicon Valley to improve bus service and/or create shuttle service.

Goal: *Water Resources*

Illustrative Policies and Practices

1. Consider measures to prevent the pollution of all sources of water.

2. Encourage the collection of rainwater for reuse.

3. Encourage the recycling of water when feasible.

4. Limit the scope of new impervious surfaces and encourage reduction of existing impervious surfaces for all new developments in order to reduce runoff.

5. Study the relative merits of on-site and off-site sewage disposal systems including consideration of soils and density of development. Determine which systems on balance better assist in sustainability in different environments.

6. In order to protect the aquifer, survey, in concert with San Mateo County, current well use in the town and provide for continuing monitoring.

Goal: *Living Environment*

Illustrative Policies and Practices

1. Support local programs to encourage the protection of the natural environment by purchasing open space and conservation easements.

2. Enforce creek setback regulations.

3. Adopt provisions to discourage the pollution of creeks.

4. Administer regulations so as to limit the potential for erosion and sedimentation.

5. Establish a fire safety mapping and fuel reduction program that will help sustain a healthy and safe natural environment.

6. Investigate policies concerning preservation of trees vs. solar access.

7. To conserve water, replace lawns with draught tolerant plants, update irrigation systems and hydro-zone planting areas.