Sustainability

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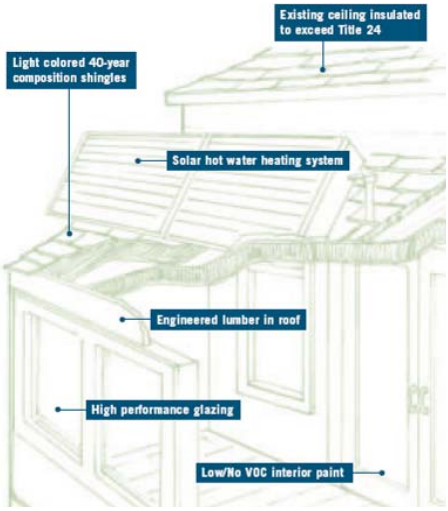

Contents

Sustainability is a core principle of the Mill Site Reuse Plan. The Reuse Plan includes policies and development standards meant to support the creation of a healthy and lasting place to live, work, and play. This chapter addresses energy, water, and green building. The remaining topics related to sustainability are addressed throughout the Reuse Plan as described below.

4.1 Sustainable Approach to Design and Development

As a sustainable community, Fort Bragg seeks to achieve the following goals:

- Facilitate environmental, social, and economic well-being for all Fort Bragg residents;
- Look to the past, and honor and use the time-tested strategies of simpler, less resource-intensive ways of living;
- Look to the future, and anticipate and minimize potential stresses on our community—be they changing resource supplies, changing climate, or changing economic conditions;
- Look to the natural setting of our community, and protect and emulate the natural processes occurring in our community; and
- Bring people out of their homes and cars, encouraging them to be active, healthy, and connected to their environment and each other.

4.1.1 Response to Context and Location

The Reuse Plan responds to issues of local importance, such as open space, habitat protection, visual resources, jobs and economic growth, water use, and stormwater management; and regional issues, such as energy use and climate change. These issues are addressed as follows in the Reuse Plan.

Open space and habitat protection are addressed in Chapter 5, as well as in the Coastal Land Use and Development Code (Coastal LUDC) as it applies to the Plan Area. The Reuse Plan takes full advantage of the site's coastal location by providing a continuous network of habitat, views, and pleasant community aesthetics and experiences. Open spaces, many of which provide habitat protection, have been incorporated into the

Land Use Plan (see Chapters 2 and 5) to connect neighborhoods and facilities to the coast and nature while improving habitat and restoring natural systems.

Visual resources are addressed in Chapters 3 and 5, as well as in the Citywide Design Guidelines. The visual resources of the site are preserved in part through the open space components of Chapter 5. The implementation of the Citywide Design Guidelines, along with the streetscape design standards provided in Chapter 3 of the Reuse Plan, will ensure high-quality design of both public and private spaces.

Solar roof on a residence.

Jobs and economic growth are provided for in Chapter 2, as the Reuse Plan will rezone 76 acres of the Plan Area for job-generating uses. At buildout, the Plan Area will house businesses that will provide approximately 1,800 new jobs in the community.

Stormwater management is addressed in Chapter 3, which describes state-of-the-art Low Impact Development (LID) techniques that will be incorporated into all public rights of way. The Coastal Land Use and Development Code regulates stormwater management for private projects in the Plan Area.

Energy and water use and the environmental impacts of development are addressed in this chapter, below.

4.2 Energy

The Reuse Plan recognizes the importance of energy conservation and production at the local level and is committed to creating a model community for energy conservation and local sustainable energy production. The Reuse Plan's intent for energy is to:

- Minimize fossil fuel-based transportation and energy generation;
- Increase on-site distributed energy generation to promote energy independence; and
- Advance the market for renewable energy sources; and
- Optimize savings of both energy and water.

The Reuse Plan addresses energy use through policies that decrease demand in buildings, infrastructure, and transportation.

4.2.1 ENERGY AND TRANSPORTATION

The transportation system planned for the Plan Area consists of facilities for vehicles, pedestrians, and bicycles—a truly multi-modal system that will allow people to live without a car if they choose. Chapter 3 includes policies to ensure a multi-modal transportation system, which will reduce energy use and greenhouse gas emissions.

4.2.2 LOCAL ENERGY PRODUCTION AND CONSERVATION

On-site renewable energy generation can dramatically increase energy efficiency and decrease dependence on fossil fuel-based or nuclear energy generation and long-distance transmission. Active technologies include on-site distributed generation and cogeneration, wherein energy is generated by systems such as fuel cells, micro turbines, gas turbines, biomass power generation, and waste-to-energy conversion.

On-site energy generation is another opportunity for Fort Bragg, as natural conditions favor a number of different strategies for renewable energy generation. Solar energy generation has a long track record of pioneering success in Northern California and is increasingly efficient and affordable. In addition, typically moderate and steady winds off of the ocean provide good conditions for wind energy generation. Passive solar design strategies[1] include siting and design of buildings to take advantage of natural light and heat from the sun for lighting and space and water heating and cooling.

Local Energy Policies:

Policy SD-1. Passive Solar Design Strategies. *Building and site design shall use passive solar design strategies for space and water heating and lighting to reduce energy demand, to the extent feasible.*

Policy SD-2. Minimize Energy Use. *Reduce Energy Demand with a Goal of Net Zero Energy Buildings. All new construction shall minimize energy use. Net zero buildings and homes are encouraged. These homes produce as much energy (through conservation, photovoltaic panels, solar hot water, and wind, geothermal) as they consume. The following strategies are encouraged to achieve this goal:*

- ***Modify the CLUDC to include planning incentives for projects that achieve net zero energy use.*** *Incentives could include reduction in parking requirements, additional lot coverage, reduction in setbacks, etc.*

- ***Use of Local and Renewable Energy.*** *Buildings and infrastructure that create and/or use locally and renewably generated energy are encouraged.*
- ***Reducing Energy Demand.*** *Building systems that include active strategies to reduce energy demand, such as the use of high-performance heating, ventilation, and air conditioning (HVAC) systems, glazing, and hot water systems are encouraged.*
- ***Photovoltaic and Wind Energy Systems.*** *Because of the significant solar and wind resources available in the Plan Area, photovoltaic and wind energy systems are encouraged. To preserve scenic views, smaller wind energy infrastructure is preferred.*
- ***District Heating.*** *District heating (i.e., heat generated in a central location) is encouraged. District heating is preferred for large development projects of more than 15 acres or 20,000 square feet.*

4.3 Water

The Reuse Plan features a systems-based approach to minimize consumption of potable water. Reducing water use can also save energy, since water and wastewater treatment and pumping require significant amounts of energy. The Reuse Plan's intent for water conservation is to:

- Minimize water demand indoors and out;
- Use potable water for potable purposes; and
- Encourage reuse of water on-site.

Methods and systems for the careful and judicious use of potable water, graywater, and rainwater are detailed below.

Water Conservation Policies:

Policy SD-3. Policy SD-3. Design for Low Water Use*. Development projects shall be designed and constructed to minimize water use through the installation of best available water conservation technology, fixtures and practices.*

Policy SD-4. No Potable Water Use for Landscape Irrigation. *Development projects in the Plan Area shall not use potable water for landscape irrigation. Landscape irrigation can be provided through rainwater capture or use of graywater systems, or landscaping that does not require irrigation can be used. Graywater systems shall meet all health and safety standards. Potable water use is permitted only for irrigation of vegetable gardens and fruit trees.*

Policy SD-5. Rainwater Capture. *Rainwater cisterns may be sized and located throughout the Plan Area in order to encourage active rainwater collection, storage, and use. The installation of cisterns is encouraged to capture rainwater from roofs for all water needs and for flood control during heavy storms. Cisterns may be located above or below ground.*

4.4 Green Building

Green Building consists of utilizing building design, construction techniques, and building materials intended to improve building operating costs and reduce the negative impacts of buildings on the environment and its occupants. Green building techniques are applied to the treatment of the building site, to improve water efficiency and energy efficiency, in the selection of materials and resources, and to improve indoor environmental quality.

The California Green Building Standards Code (CALGREEN) requires all new buildings in the state to be more energy-efficient and environmentally responsible. These regulations include a mix of prescriptive and performance-based standards to achieve major reductions in greenhouse gas emissions, energy consumption, and water use to create a greener California. All projects on the Mill Site will have to conform with the CALGREEN Standard.

Construction practices, building technologies, and best practices are likely to evolve, and new practices and technologies are likely to be developed during the life of the Reuse Plan. Consequently, the Reuse Plan focuses on performance-based requirements for achieving sustainability.

Green Building Policies:

Policy SD-6. LEED for Large Projects. *All new development projects of more than 10,000 square feet shall achieve the LEED Gold rating.*

Policy SD-7. Preferred Green Techniques. *All green building techniques are encouraged, with preference given to techniques that address local issues, such as use of locally produced natural materials, water and energy conservation measures, and techniques that respond appropriately to Fort Bragg's cool, rainy environment, such as passive solar design and low impact development (LID) strategies.*

Policy SD-8. Recycling. *All development in the Plan Area shall provide a centralized location for all recyclables, including compostable materials.*