
6. ENVIRONMENTAL RESOURCES

6.1 ENVIRONMENTAL STEWARDSHIP

Introduction

Environmental stewardship implies the responsibility to manage environmental resources and property in a beneficial manner with proper regard to the rights of others. Environmental stewardship as addressed in this Specific Plan not only includes land use (see Chapter 4, Land Use and Planning), but also environmental conditions pertaining to community visual quality, vegetation and wildlife resources, hydrology and water quality, soils and geologic conditions, air quality and noise. These subject areas are addressed in this Chapter of the Specific Plan, *Environmental Resources*.

Goals and Implementation Policies

ENVIRONMENTAL STEWARDSHIP GOAL ER-6.1: Environmental stewardship shall be the primary goal for land use and planning.

ENVIRONMENTAL STEWARDSHIP POLICY ER-6.1A

Ensure the environmental protection of land, air, water, soil, and wildlife and fisheries habitat.

ENVIRONMENTAL STEWARDSHIP POLICY ER-6.1B

Prohibit construction projects within riparian corridors where feasible.

The various goals and policies contained in this chapter are directed toward protecting environmental conditions and resources enjoyed by Brooktrails residents. In addition, it is also noted that one of the principle vehicles designed toward the objective of maintaining environmental stewardship is *Future Planning Policy LU-4.3A* in Chapter 4, *Land Use and Planning*, which calls for the continuous collection of environmental data and preparation of an Annual State of the Environment Report to the Board of Directors with

recommendations. The Advisory Committee would be responsible for formulating programs for the systematic collection of data relating to environmental conditions and planning data, in addition to preparing the annual reports. Environmental data would include data relating to vegetative and wildlife resources, drainage, air quality, noise, hydrology and water quality, visual quality and community character, traffic and safety and other areas of concern to the community.

Planning data would relate to the amount of new construction occurring in any given year. In addition, Chapter 10 of this Specific Plan, *Community Design*, contains specific provisions for protecting environmental resources and the prohibition of construction within streams and water bodies and associated riparian vegetation.

The Specific Plan will not operate to change land use or existing standards and criteria by which development is undertaken within the Spring Creek and Sylvandale subdivisions. Included in the planning process as it relates to the two subdivisions are the distribution and extent of Greenbelt and the distribution of infrastructure and other essential facilities such as fire fighting and prevention facilities.

Implementation

In addition to implementing *Future Planning Policy LU-4.3A*, the Environmental Advisory Committee may, at its discretion, promote volunteer environmental stewardship programs, such as the Earth Day Street Clean-up, "Adopt A Block" program, and additional environmental public awareness.

- Year: Ongoing.
- Implementing Agency/Entity: Township Board of Directors through the Environmental Advisory Committee.

ENVIRONMENTAL STEWARDSHIP POLICY ER-6.1C

Develop and implement the "Redwood Park Management Plan."

When Brooktrails was originally subdivided into 6,605 lots ranging in size from one-sixth to 230 acres (see Chapter 3, *Brooktrails Township Development*, section 3.1, *Historical Perspective*, for additional information), considered critical to the project was the dedication of 2,820 acres to the Brooktrails Resort Improvement District. In a New York Times article published on December 17, 1967, the philosophy of this dedicated area was expressed by entrepreneurs of the subdivision concept: "*Brooktrails is the first community in the United States to blend a four square mile redwood and mixed growth forest conservation park with a contiguous, fully improved residential area.*"¹

1. *Brooktrails Redwood Park Master Plan*, Chapter I - *The Hyleopolis*, no date.

Within the framework of this historical and philosophical background, the *Brooktrails Redwood Park Master Plan* represents an effort to establish policy to provide continuity in accomplishing the broad goals of the original development concept. The Master Plan itself contains two key appendices. The first, *Brooktrails Conservation Areas Study Report*, contains a fairly complete analysis of plant cover in the area and initial key policy recommendations on protection from fire, insects, plant diseases and hunters. It also outlines use policy recommendations including such subjects as demonstration gardens, trails and lakes.

The second appendix, *Land Development and the Hyleopolitan Concept*, provides further insight into the forest concept and the results of a survey of property owners in the early period of Township development. Within the framework of this historical and philosophical background, the Master Plan represents an effort to establish policy which provides continuity in the effort to accomplish the broad goals of the original development.

Ordinance No. 63 adopted by the Township Board of Directors on June 23, 1988, established the Brooktrails Redwood Park. That ordinance spells out the purpose and use of the Park which constitute the major policies of the Master Plan, including: "...the protection, conservation and management of trees, other vegetation and wildlife, in order to retain and create a natural environment readily available for the passive enjoyment of the property owners and residents of the District." In 1984 a management plan for the passive use area was prepared and included an extensive inventory of existing timber and conditions in the Park.²

The Master Plan states: "Efforts will be made by the District to develop forest protection and maintenance programs keeping in mind the suggestions contained in the Management Plan for the Brooktrails Community Services District." The Management Plan addressed reforestation, forest thinning, insect control, disease control, reduction of erosion hazard, and decisions necessary prior to implementation of the Management Plan.

The Management Plan notes: "This management plan is focused on the timber resources of the Greenbelt area. It, in conjunction with the timber inventory report previously submitted to the Board of Directors should enable the Board to begin the development of management policies for the Greenbelt."³

2. Lawrence D. Camp and Associates, *Management Plan for the Brooktrails Community Services District Greenbelt Area*, and *Timber Inventory for Brooktrails Community Services District Greenbelt Area*, September 11, 1984.

3. Op. Cit., page 1.

Implementation

The *Timber Inventory and Management Plan* is now 12 years old. Therefore, the Township is undertaking a program to update the Timber Inventory and develop a meaningful Management Plan in order for the Board of Directors to develop and institute a set of management policies for the Greenbelt that will benefit flora and fauna, improve fire safety and public use of the Greenbelt. As part of the update, correlate the Capital Improvement Program and acreage planned for future facilities such as the proposed reservoir plus the easement for the raw water main which would connect to the existing main at Lake Emily. Rezone the area not required for Public Facilities as Open Space at the discretion of the Board of Directors.

- Year: By the year 2000.
- Implementing Agency/Entity: Township Board of Directors.

6.2 VISUAL QUALITY AND AESTHETICS

Introduction

The visual character of the landscape surrounding the Township is one of rolling hills and steep land forms. Due to sparse development, rugged terrain, extensive coniferous forests, and inland woodland hills and valleys, the dominant character of the Brooktrails area and its surroundings today are rural to semirural (see Figures 6-1A and 6-1B, *Township Area Photographs*).

Figure 6-1A: Township Area Photographs

Figure 6-1B: Township Area Photographs

Elevations range from a low of about 1500 feet above sea level near the entry point into Brooktrails at Sherwood Road and Brooktrails Drive, to about 2700 feet at the tops of hills and ridges in the Township's interior. This landscape character continues for a considerable distance from the site in all directions, eventually giving way to the Pacific Coast, 24 miles directly to the west.

Comprising 4,943 acres of surface area, the Township (Specific Plan area), is bounded by a jurisdictional line of varying configuration. Although the Township may be limited by boundaries, the Township's apparent area, particularly towards the west, is visually increased because of the redwood and mixed evergreen forests, open meadows/marshland areas, lakes and curving roadways extending into the distance visible from ridgetops; these are features which are characteristic of much of the regional setting.

The western portion of the site contains some of the highest elevations and longest ridgelines, creating strong focal points. Because of the steep slopes, vision is directed upward to hilltops from many locations within and outside of the Township. Ridgelines and hilltops viewed against the sky and cloud formations, elements of continual change, then become part of the setting. More intimate views are available in meadow and valley areas in the northeastern portion of the Township that focus toward a unique feature, for example a marshland, isolated stands of trees, or geologic outcroppings.

Some second growth forest clearing has occurred within the Township to accommodate the area's internal circulation system and residential sites. However, extensive clearing is not evident because only about 20% of the Brooktrails subdivision as originally planned is built out. To retain visual quality implies avoiding and mitigating the visual impacts of site grading and development. The Visual Quality goals and policies generally seek to encourage a balance between human-built features and the natural landscape.

Goals and Implementation Policies

VISUAL QUALITY GOAL ER-6.2: Preserve and enhance the natural and semi-rural character of Brooktrails Township to the extent feasible through appropriate zoning ordinances and design standards for all housing, commercial, and other uses.

To preserve the visual character of the Township, specific community design issues are described in Chapter 10, *Community Design*. Chapter 10 includes both design guidelines and site development standards. The site development standards are regulatory and thus become part of the Mendocino County Zoning Ordinance when the Specific Plan is adopted. Zoning issues are addressed in Chapter 4 of this Specific Plan, *Land Use and Planning*.

VISUAL QUALITY POLICY ER-6.2A

Ensure desirable community appearances are achieved through the provision of updated community design standards and criteria.

VISUAL QUALITY POLICY ER-6.2B

Ensure adequate landscaping of all new commercial development to enhance the scenic qualities of the Township.

VISUAL QUALITY POLICY ER-6.2C

Establish design standards for private parcels which encourage developing sites in a manner that considers existing visual resources.

The intent of *Visual Quality Policies ER-6.2A through ER-6.2C* is addressed in Chapter 10 of this Specific Plan, *Community Design*.

Implementation

Refer to the provisions of Chapter 10, *Community Design*.

VISUAL QUALITY POLICY ER-6.2D

Establish conservation easements on portions of lots that are deemed to be environmental sensitive or that possess visual qualities that characterize the natural and semi-rural character of the Township.

Conservation easements are addressed in Chapter 11 of this Specific Plan, *Capital Improvements and Financing*. See also Chapter 4, *Land Use and Planning* for implementing conservation easements.

VISUAL QUALITY POLICY ER-6.2E

Ensure that new development and new road linkages are in keeping with the natural terrain.

Two new access roads are planned for the Township. Refer to Chapter 7 of this Specific Plan, *Community Facilities and Services*, section 7.1, *Transportation and Circulation*.
Implementation

Adherence to the provisions of the Township Site Development Standards.

- Year: Ongoing.
- Implementing Agency/Entity: Brooktrails Architectural Review Commission and District Architect.

VISUAL QUALITY POLICY ER-6.2F
Minimize light pollution and nuisance light to residents.

Implementation

Adherence to the provisions of the Township Site Development Standards.

- Year: Ongoing.
- Implementing Agency/Entity: Brooktrails Architectural Review Commission and District Architect.

6.3 VEGETATION AND WILDLIFE

Introduction

The predominant vegetation types in the Township consist of mixed evergreen/Douglas fir forest, early successional stage, dominated by tanbark oak. Douglas fir, coast redwood, Pacific madrone and manzanita occur in varied densities within the forest. In addition, the area supports montane riparian and riverine habitats, oak woodlands/savannah and chaparral. Several small areas of serpentine soils (serpentine rock breaks down into magnesium rich soils which are favored by an identifiable suite of rare plants) are scattered throughout the Township. The oak woodlands/savannah represent a diminishing habitat with increasing pressures to preserve remaining associations.

A number of special-status plants occur in Brooktrails. The majority of the plants are typically associated with a specific habitat element such as moisture, exposure, or

serpentine soils. In addition, a number of special status wildlife types are likely to occur in Brooktrails. Sensitive reptile and amphibian species with potential to occur in the area are all highly aquatic species. The creeks and ponds represent potential habitat for the foothill yellow-legged frog, the California red-legged frog and the northwestern pond turtle. The foothill yellow-legged frog was observed during 1990 field studies. The Township also falls within the range of the northern spotted owl, a federally-listed threatened species. The Cooper's hawk and sharp-shinned hawk are widespread woodland and forest species. They are considered species of special concern to the California Department of Fish and Game. The yellow warbler is associated with riparian habitats and is also a species of special concern to the Department of Fish and Game.

Several special status plants known to occur in the area--Serpentine collomia, Gresus buckwheat, Purdy's fulillary and Bolander's lily--are on the California Native Plant List 4, a "watch" list of plant species with a limited distribution whose vulnerability appears low at this time. In the future, constraints to development may result from status changes.

The North Coast semaphore grass is listed as rare. It is typically found in moist areas and meadows.

Goals and Implementation Policies

VEGETATION AND WILDLIFE GOAL ER-6.3-1: Protect and enhance the township's native vegetation and wildlife resources.

VEGETATION AND WILDLIFE POLICY ER-6.3-1A

Protect and enhance botanical resources including native plants, trees, and wild flowers.

VEGETATION AND WILDLIFE POLICY ER-6.3-1B

Promote the protection of rare and unique vegetation through appropriate management prescriptions.

As noted previously, one of the principle vehicles designed toward the objective of maintaining environmental stewardship is *Future Planning Policy LU-4.3A* in Chapter 4, *Land Use and Planning*, which calls for the continuous collection of environmental data and preparation of an Annual State of the Environment Report with recommendations for

submittal to the Brooktrails Board of Directors. The Advisory Committee would be responsible for formulating programs for the systematic collection of data relating to environmental conditions, in addition to preparing the annual reports.

Implementation

As part of the Environmental Advisory Committee data collection effort, identify and create an inventory of representative plant communities and rare/endangered plant species. Preserve areas of special biological significance for education and scientific research, including areas of representative plant communities and rare/endangered plant species. The serpentine areas, in particular, should be further surveyed and mapped due to the unique habitat they provide. Within the Greenbelt, preservation is more assured because of limitations on development and use. However, on private properties, coordination with the owners of record would be required. Adhere to state and federal regulations regarding endangered species.

- Year: Ongoing.
- Implementing Agency/Entity: Township Board through the Environmental Advisory Committee.

VEGETATION AND WILDLIFE POLICY ER-6.3-1C

Establish a Brooktrails subdivision-wide tree cutting policy. Trees shall not be harvested for the primary purpose of obtaining revenue.

Implementation

Create a heritage tree ordinance that protects specified trees and tree groves. Generally, such an ordinance includes a definition of the purpose of the Heritage Tree Ordinance, the particular tree species of concern, the criteria to determine heritage status (condition, trunk diameter at breast height), under what conditions heritage trees may be removed, and tree placement ratios to compensate heritage tree removal.

- Year: Prior to the year 2000.
- Implementing Agency/Entity: Township Board through the Environmental Advisory Committee.

VEGETATION AND WILDLIFE POLICY ER-6.3-1D

Encourage native landscaping within the Township and the use of flowering native plants and wild flowers in landscaping. Discourage the introduction of non-native plant species.

Implementation

Implement the goals and policies of Specific Plan Chapter 10 *Community Design*.

- Year: Ongoing.
- Implementing Agency/Entity: Brooktrails Architectural Review Commission and District Architect.

VEGETATION AND WILDLIFE POLICY ER-6.3-1E

Incorporate landscaping as part of any transportation corridor improvements.

Streetscapes for the Township's primary streets are addressed in Chapter 7 of this Specific Plan, *Community Facilities and Services*, section 7.1, *Transportation and Circulation*.

Implementation

Implement the goals and policies of Specific Plan Chapter 7, *Transportation and Circulation*.

- Year: Ongoing.
- Implementing Agency/Entity: Brooktrails Architectural Review Commission and District Architect.

VEGETATION AND WILDLIFE POLICY ER-6.3-1F

Protect and enhance parklands and their biological diversity.

The protection of parklands is discussed under *Environmental Stewardship Goal ER-6.1*. Protecting and enhancing biological diversity is discussed under *Vegetation and Wildlife Policies ER-6.3-1A* and *ER-6.3-1B*.

Implementation

- Implement *Vegetation and Wildlife Policies ER-6.3-1A* and *ER-6.3-1B*, and *Future Planning Policy LU-4.3A*.

VEGETATION AND WILDLIFE GOAL ER-6.3-2: Ensure the survival and longevity of native wildlife and habitat.

VEGETATION AND WILDLIFE POLICY ER-6.3-2A

Manage the deer population to be in balance with the ecosystem. Discourage feeding of all wild animals by residents and visitors by education.

VEGETATION AND WILDLIFE POLICY ER-6.3-2B

Provide protection for any animal species officially listed on the State and Federal Rare and Endangered Species Lists.

The Brooktrails Property Owners Association (BPOA), annually compiles a *Welcome to Brooktrails Township* booklet. The booklet provides information on Township organizations, Fire Department, recreation facilities, local phone numbers and reference to various Township rules regarding hunting, camping, use of the lakes and other matters. At the discretion of the BPOA, the booklet could be expanded to include a discussion of existing wildlife within the Township and how to treat wildlife with respect to *Vegetation and Wildlife Policies ER-6.3-2A* and *ER-6.3-2B*. Federal and state laws protecting endangered species should be noted. In matters involving the deer population, the booklet should note that any problems in this area should be referred to the California Department of Fish and Game for resolution, and specifically discourage residents from feeding deer.

Implementation

Encourage the expansion of the BPOA *Welcome to Brooktrails Township* booklet to include a discussion of local wildlife and how wildlife should be treated. Consult with the California Department of Fish and Game prior to publication, and have the department review the draft text. Use pictures or drawings where necessary to illustrate concepts. Coordinate with the Environmental Advisory Committee as needed (see *Future Planning Policy LU-4.3A*, Chapter 4, *Land Use and Planning*). Post the published text at the Community Center for public review. Given adequate funding, the booklet could be provided to all residents annually with updated information. Alternatively, this information could be developed by the Environmental Advisory Committee for dissemination to all Township residents.

- Year: 1996-1997 booklet.
- Implementing Agency/Entity: Brooktrails Property Owners Association in cooperation with the Environmental Advisory Committee.

VEGETATION AND WILDLIFE POLICY ER-6.3-2C

Minimize the impact of domestic animals on native wildlife.

Implementation

The BPOA *Welcome to Brooktrails Township* booklet provides a discussion on leash laws and fines for violation thereof. At the discretion of the BPOA, the discussion regarding cats could be expanded to include providing collar bells on a voluntary basis to warn songbirds.

- Year: 1996-1997 booklet.

- ☐ Implementing Agency/Entity: Brooktrails Property Owners Association in cooperation with the Environmental Advisory Committee.

VEGETATION AND WILDLIFE POLICY ER-6.3-2D

Encourage the re-establishment and maintenance of a healthy salmon and steelhead population and spawning environment within the Township waterways. Improve the bass population in Township lakes.

The Township has an agreement with the California Department of Fish and Game to protect and preserve the fishery resources of Willits Creek, as affected by the diversion of water and construction and operation of dams under Water Right Application 23038, Permit 15913 (as amended).⁴ The amendment to the Agreement calls for the Township to annually establish and replenish stream gravels in Willits Creek below Lake Emily Dam. The gravel is placed as directed by the Department and retained in the area where placed by logs, boulders or other structures. Annual improvement of the fish habitat also calls for erosion control and the planting of redwoods, willows, alders and other riparian plant materials. All plans for the fish habitat are developed jointly between the Township and the Department of Fish and Game.

Improving the bass population in the Township lakes would be as recommended by the Environmental Advisory Committee (see Chapter 4, *Land Use and Planning, Future Planning Policy LU-4.3A*), as necessary.

Implementation

- ☐ Year: Ongoing.
- ☐ Implementing Agency/Entity: Environmental Advisory Committee at the direction of the Township Board of Directors.

VEGETATION AND WILDLIFE POLICY ER-6.3-2E

Encourage the preservation and enhancement of Beeler Pond as a neighborhood ecological park, and ensure the maintenance of small pond biological life.

Enhancing environmental conditions of Beeler Pond would be as recommended by the

4. Before the State Water Resources Control Board, *An Amendment To Memorandum of Agreement For Protection and Preservation of Fishery Resources of Willits Creek, Mendocino County, As Affected By The Diversion of Water and Construction and Operation of Dams Under Water Right Application 23038, Permit 15913 (As Amended)*, October 21, 1988.

Enhancing environmental conditions of Beeler Pond would be as recommended by the Environmental Advisory Committee in their annual reports to the Board of Directors (see Chapter 4, *Land Use and Planning, Future Planning Policy LU-4.3A*). Recommended enhancements would be as presented by the Committee.

Implementation

- Year: Ongoing.
- Implementing Agency/Entity: Environmental Advisory Committee at the direction of the Township Board of Directors. Actual improvements would be at the direction of the Board.

6.4 HYDROLOGY AND WATER QUALITY

Introduction

Brooktrails Township lies predominantly within the Eel River drainage basin. The two main streams in the Township are Willits Creek and Dutch Henry Creek. Both flow southeasterly and traverse the central and eastern areas of the Township. Both drain to Outlet Creek which flows into the Eel River.

Willits Creek is delineated as the main drainage basin for the Township and is further subdivided into subbasins. The subbasins represent individual drainage areas that feed the two existing reservoirs that provide the Township's water supply.

Lake Emily (see Figure 6-1), is located on Willits Creek in the central portion of the Township. It has a surface area of about 17 acres, drains about 4.9 square miles and has a storage capacity of about 275 acre-feet. Lake Ada Rose is located on a tributary to Willits Creek in the southern part of the Township. It has a surface area of about 7 acres, drains about a 0.7 square-mile area and has a storage capacity of 138 acre-feet. The proposed new reservoir (see Chapter 7, *Community Facilities and Services* for a description), is to be located on Willits Creek 0.5 mile upstream (north and west) of Lake Emily; the 1600 acre-foot storage reservoir would drain an area of approximately 3.5 square miles.

The overall drainage network in the Township is in roughly a dendritic (branching) pattern. Dendritic stream patterns are characterized by numerous small tributaries joining at right angles into higher-order streams that eventually form major rivers. The drainage is by overland sheet flow, shallow subsurface flow, swales and channelized flows into the drainages or streams. There are a number of localized springs throughout the Township. There are also a few naturally occurring ponds and lakes in the northern section as well as a wetlands at and surrounding Swamp Gulch. The quality of water is generally good.

There are no floodways in the Township designated by the Federal Emergency Management Agency. The only floodplain is associated with Sherwood Creek just outside the Township boundary in the northeast. Mendocino County zoning ordinances require a 20-foot setback from the banks of watercourses absent a floodway. Due to the steep slopes present throughout the Township, this construction setback requirement is overcome by the terrain characteristics.

Goals and Implementation Policies

HYDROLOGY AND WATER QUALITY GOAL ER-6.4: Ensure existing and future development does not degrade Township water quality or cause sedimentation of Township waterways and reservoirs.

HYDROLOGY AND WATER QUALITY POLICY ER-6.4A

Protect the Township's water supply by controlling future construction around lakes, creeks and other water supply sources.

HYDROLOGY AND WATER QUALITY POLICY ER-6.4B

Protect the Willits Creek watershed from erosion and sedimentation. Stabilize stream banks with vegetation and other low impact restoration techniques as necessary.

Controlling erosion in site development is discussed in Chapter 10, *Community Design*. However, it is not only erosion and sedimentation that could potentially affect the water supply; with increased development, there is also the increased use of hazardous materials. Hydrocarbon compounds and other chemicals associated with vehicle use find their way into the environment as well, including street surfaces which drain into the local creeks and drainages at Brooktrails. Therefore, controlling the use and disposal of hazardous wastes is important to maintaining water quality.

Implementation

Implement the goals and policies of Specific Plan Chapter 10, *Community Design* regarding erosion control. Ensure new development proposals are consistent with the Township Site Development Standards (Section 10.2). Establish a program for disposing and recycling hazardous waste materials so that such materials do not find their way into the Township's water supply. Caution all residents not to dispose of oil or other manufactured products into the street drainage system.

- Year: Ongoing.
- Implementing Agency/Entity: Architectural Review Commission and District Architect to review new development proposals. Recycling program as established by the Township Board of Directors (see Chapter 7, *Community Facilities and Services*, regarding solid waste collection).

6.5 SOILS AND GEOLOGY

Introduction

Brooktrails Township is located in the northern Coastal Range's geologic province, a seismically active region of northern California. The active northwest-trending Maacama fault traverses through the northeastern portion of the Township. The maximum credible earthquake on the Maacama fault is considered to be a Richter-magnitude 6.75 to 7.0 event. The potential primary earthquake effects in the Township include earthquake ground-shaking and ground fault rupture. The Maacama fault zone in this region is also locally undergoing tectonic creep, which is the slight, seemingly continuous movement along a fault, usually not felt by humans.

The topography of the Township is moderately to steeply sloping hillsides over most of the area, with gently sloping to flat-lying ridge crests and valleys. Between 25% and 30% of the Township contains slopes of 40% and over. The Township elevation ranges from a high of 2680 feet at the western boundary to a low of 1480 feet in the southeast corner.

There are identified landslides in the Township ranging from ancient and dormant to active and recently active landslides. There are also generally unstable hillside areas

characterized by steep to very steep topography, colluvium-filled swales, soil creep, and small-scale, dormant-to-active shallow debris flows and slumps (movement of a relatively intact mass of near surface material on a generally concave upward failure surface). Active erosion occurs locally throughout the Township and non-engineered fill (fill that has not been engineered; fill placed incorrectly and/or placed without benefit of minimum criteria and/or that does not meet generally accepted standards), appears to exist on many of the undeveloped parcels in the Township.

The geologic and seismic conditions in Brooktrails, while complex, do not differ significantly from other areas in the Coast Range of northern California.

Goals and Implementation Policies

SOILS AND GEOLOGY GOAL ER-6.5-1: Ensure that slopes, soils, geotechnical conditions and seismic constraints are adequately considered for all development within Brooktrails Township.

SOILS AND GEOLOGY POLICY ER-6.5-1A

Discourage development or ensure adequate mitigation for development within areas characterized by steep slopes and soil limitations, including high erosion hazard, severe soil pressure variations, severe shrink-swell potential and septic system unsuitability.

SOILS AND GEOLOGY POLICY ER-6.5-1B

Minimize the potential for soil erosion from all development, particularly in the vicinity of natural waterways and reservoirs.

SOILS AND GEOLOGY POLICY ER-6.5-1C

Establish guidelines and criteria for development of areas with steep slopes and areas having soil limitations.

Slopes and soil erosion prevention is discussed under *Hydrology and Water Quality Policies ER-6.4A and ER-6.4B*. See also Chapter 10, *Community Design*.

Implementation

Implement the goals and policies of Specific Plan Chapter 10 *Community Design*, regarding constructing on slopes and erosion control. Ensure that new development proposals are consistent with the Township Site Development Standards (Section 10.2).

- Year: Ongoing.
- Implementing Agency/Entity: Architectural Review Commission and District Architect.

SOILS AND GEOLOGY GOAL ER-6.5-2: Avoid construction in areas that are not geotechnically or seismically suitable for development.

SOILS AND GEOLOGY POLICY ER-6.5-2A

Within the Maacama Alquist-Priolo Earthquake Fault Zone, recommend geotechnical studies for those structures exempt from the provisions of the Alquist-Priolo Earthquake Fault Zoning Act to demonstrate feasibility of construction where buildings for human occupation are proposed.

There are 490 residential lots (includes C-1 commercially zoned lots), within the Maacama Alquist-Priolo Earthquake Fault Zone in the Township. One hundred of these lots are currently developed with homes. Thus, 390 lots within the Fault Zone are undeveloped.

The Alquist-Priolo Earthquake Fault Zoning Act, California Public Resources Code, Division 2, Chapter 7.5, requires, prior to approval of a project within a delineated Fault Zone, a geologic report defining and delineating any hazard of surface fault rupture.⁵ The geologic report required by Section 2623 of the Act shall be in sufficient detail to meet the criteria and policies established by the State Mining and Geology Board for individual parcels of land. The Mendocino County Zoning Ordinance, Chapter 20.144, requires that development within the Alquist Priolo Earthquake Fault Zone be subject to the regulations set forth in Chapter 7.5, Division 2 of the California Public Resources Code.

However, single-family wood-frame or steel-frame dwellings not exceeding two stories when those dwellings are not part of a development of four or more dwellings are excluded from the requirement for a geologic report.

5. Known as the Alquist-Priolo Special Studies Zones Act prior to January 1, 1994.

Implementation

SOILS AND GEOLOGY POLICY ER-6.5-2B

Establish voluntary lot merger, conservation easement, and financial incentive programs to encourage the consolidation of lots that are characterized by steep slopes (40% or greater), or are not geotechnically or seismically suitable for development.

Refer to the discussion above under *Soils and Geology Policy ER-6.5-2A* regarding the Maacama Fault Zone. Lot mergers, conservation easements and financial incentive programs to encourage the consolidation of lots are discussed in *Land Use Goal LU-4.5*, *Land Use Policy LU-4.5A*, and Specific Plan Chapter 11, *Capital Improvements and Financing*.

6.6 AIR QUALITY AND NOISE

Introduction

Brooktrails Township is located on the eastern side of the Coastal Range. The orientation of the ridges of Willits Creek canyon parallel to the coast minimizes the climatic effect of the ocean. Plentiful sunshine prevails in the summer and fall and inland valleys, and the Township can experience hot and dry conditions. The average annual precipitation is about 52 inches. The prevailing wind pattern is typical of valley and mountain areas. Winds move along the axis of the valley blowing uphill/up-valley during the day and can reach up to 15 miles per hour on southerly slopes. The downhill/down-valley or "mountain wind" at night is typically 9 mph.

Air quality in Brooktrails Township is considered excellent. The closest monitoring stations for air quality is in Willits, and Ukiah, some 23 miles south. With the exception of PM₁₀, a measurement of particulate matter, all criteria pollutants are well below state and federal standards in Willits. The existing excellent air quality is a community value which should be protected at a higher standard than under State and Federal laws, due to the many residents who have moved here for this important resource.

Because Brooktrails is hot and dry during the summer, fire hazard is an important issue. The California Department of Forestry classifies the majority of the Brooktrails area as "Very High" for fire hazard.

The few noise sources that exist in Brooktrails are limited to traffic along the major transportation arterial, Sherwood Road, and associated with aircraft operations at the airport, Eells Field. No factual noise measurement data exists for either Sherwood Road or Eells Field. However, Brooktrails is generally perceived by residents to be a quiet, rural setting. The lack of background noise levels thus tends to increase the perception of intermittent noise events, such as traffic and aircraft noise. As the area develops, intermittent noises may become more intrusive and may require nuisance mitigation.

Goals and Implementation Policies

AIR QUALITY GOAL ER-6.6-1: Ensure the continuance of good air quality conditions within the Township.

AIR QUALITY POLICY ER-6.6-1A

Establish a project approval process with the City of Willits and Airport Land Use Commission to avoid potential air polluting commercial uses at the Eells Field airport,

Specific Plan Chapter 4, *Land Use and Planning, Zoning Policy LU-4.1D*, discusses the land use planning of Eells Field and coordination with the City of Willits and Airport Land Use Commission. New development review would include assessing potential air polluting commercial land uses. Under the provisions of the California Environmental Quality Act (CEQA), proposed land uses would be required to undergo environmental review unless listed as Categorical Exemptions. Air quality is normally one of a number of subject areas of study for proposed projects under CEQA.

AIR QUALITY POLICY ER-6.6-1B

Encourage non-motorized travel within the Township and the use of regional transit for commuting.

Trails for pedestrians and bicycles are a recognized alternative to use of the automobile. Non-motorized travel and regional transit are discussed in Specific Plan Chapter 7, *Community Facilities and Services*, section 7.1, *Transportation and Circulation*.

NOISE GOAL ER-6.6-2: Minimize potential noise pollution within the Township to maintain the tranquility that currently characterizes Brooktrails Township.

NOISE POLICY ER-6.6-2A

Ensure community consistency with the Mendocino County General Plan Noise Element, Land Use Compatibility for Community Noise Environments.

The *Mendocino County General Plan Noise Element*, contains a table of land use and noise compatibility guidelines.⁶ In a general Planning sense, the guidelines point out where the existing noise environment may conflict with a proposed land use and vice versa. Based on a given site's noise exposure and the compatibility criteria, a determination of whether a land use is appropriate or not can be made. In this way, it is possible to avoid locating residential areas and residences next to major noise sources such as roads and highways. It should also be noted that state-imposed noise insulation standards apply to all new multiple-family dwellings. The *Mendocino County General Plan* recommends that local jurisdictions be encouraged to join with the County by adopting parallel noise elements and noise control ordinances.

Implementation

As the Township grows and develops up to 3,815 residential units (4,000 SFRs), noise control will become more important to minimize the potential for noise pollution. Toward this end, the Township Board of Directors may request that the County consider development and adoption of a noise control ordinance applicable to the Township. The ordinance would include provisions for the control of barking dogs and establishing limits on electronically amplified noise sources to minimize community noise disruption.

- ☐ Year: By the year 2000.
- ☐ Implementing Agency/Entity: County of Mendocino.

6. *Mendocino County General Plan Noise Element*, adopted by the Mendocino County Board of Supervisors, January 22, 1976, Revised September, 24, 1981; March 14, 1983; November 26, 1984; and December 9, 1991.